

1STC804009D0201



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# Enclosures for automation

## General Catalogue

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Gemini switchboards

1

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SR Enclosures  
SR EMC Enclosures  
SR-E Enclosures without flanges

2

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AM2 Cabinets

3

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IS2 Enclosures  
IS2 EMC Enclosures

4

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CD Junction Boxes  
CD EMC Junction Boxes

5

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C Console

6

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In-depth technical information

7

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Selection and design tools

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Overall dimensions

9

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# ENCLOSURE FOR AUTOMATION. Great quality,



## **A solution for every application.**

The ABB range of metal structures for automation was conceived and designed based on many years' experience of working alongside the major switchboard and machine manufacturers in Italy and on the most highly industrialised and technological world markets. The metal structures conform to the CEI EN 62208 and CEI EN 60439-1 reference Standards. Their performances are the market reference ones: high IP degrees of protection (according to CEI EN 60529) and IK (according to CEI EN 50102), which allow installation in most industrial environments.

# unbeatable economically.

## **Ideal enclosures, special apparatus.**

Where the new enclosures for automation are the most advanced to be found on the market today, ABB's automation apparatus is also a synonym of technological innovation. The enclosure for automation are, of course, integrated with the various ABB control and operating apparatus, and all the electrical and mechanical values (dissipation, short-time withstand currents, insulation distances, etc.) have been analysed and checked by the manufacturer. They also offer a high level of preparation for assembly of the apparatus, with optimised hole drillings, fixings and overall dimensions.

And all this is to save you time!



# The safety provided by a certified product.

The law states that all the products must conform to the European Directives and to the reference product Standards, but this is not enough for ABB. We prefer an external organization to certify the quality of our products, especially with regard to the more critical aspects, both in technical and application terms.

All the products in the range are also UL approved to satisfy requests from markets where this mark is compulsory.

The technical characteristics and high degree of protection allow their use in environments with a potentially explosive atmosphere. In fact, the switchgear and enclosures conform to the ATEX 99/92/CE and 94/9/CE Directive (suitable for use in areas 2 and 22).

The IS2 panel board versions dedicated to uses where electromagnetic compatibility (EMC) is required, have also obtained the relative certification.



# Customized directly in the factory.

SERVICE CUSTOM MADE is ABB's new service for automation metalwork structures, which, on request, are supplied painted, drilled and if necessary assembled according to the customer's specific requirements. All the components in the catalogue marked with the following mark can use this service. Moreover, on page 4/33 of the price list (1STC007052P0901) you will find the methods for estimating and ordering your customized version, which can save you time and therefore give you the possibility of focusing your attention on your main activity.



## Painting

## Customized drilling

## Enclosure/Accessories assembly



A shade of color other than the standard one (grey orange peel RAL 7032) can be requested on the mounted versions of the panel board. For the various colors/finishes and for details of the painting cycle characteristics, please consult page 7/21 of this catalogue.

SERVICE CUSTOM MADE offers a drilling service complying with your own specific drawing, made using CAD dwg or dxf format drawings. The useful dimensions for drilling are indicated on page 9/21 and the following ones.

Should you prefer a solution ready to be worked, you can choose the Custom Made Service solution dedicated to battery assembly of several columns. The accessories can also be supplied ready factory-mounted by ABB.



## ABB SACE and its commitment towards safeguarding the environment



Among the companies in the Group, ABB SACE is up front in dedicating considerable resources to achieving sustainable development and environmental protection objectives. Confirmation of this is provided by all the company production sites having obtained ISO 9001 quality certification, ISO 14001 environmental management system certifications and, for most of them, certification of their integrated Quality, Environment and Safety management system.

All company sectors are, in fact, actively involved in implementing improvement policies for environmental management through rationalisation of consumption of raw materials and energy, prevention of pollution, respect of water and air, limitation of noise emission and reduction in waste from production processes, and carrying out periodic environmental audits at major suppliers' premises. Using analysis tools such as LCA (Life Cycle Analysis), ABB SACE's design activities already include assessment and improvement of the environmental performances of its products over their whole life cycle during the initial stage, in order to guarantee optimisation of the technical and energy performances during service, to control and reduce environmental impact during the production stage and to define the end of life management scenarios.

Each of these objectives and activities is the result of far-sightedness in adopting ecological policies and methods for reducing the environmental loads and, within the panorama of Italian companies, ABB SACE is a leader from this viewpoint, too, just as it is for the quality of its products.



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# Gemini switchboards

## General

ABB SACE's Gemini range is revolutionizing the market of low voltage electric insulating switchboards. The reason for this is that it is the first switchboard made in thermoplastic material, to which the co-injection molding technique gives the same mechanical characteristics as polyester. This means that it is extremely sturdy, with its rigid covering and expanded internal core. Moreover, it contains no fiberglass, a material that with time rises to the surface, jeopardizing the functioning and safety of switchboards made in polyester with which it is usually mixed.

Gemini switchboards have IP66 degree of protection (IP30 with the door open and with the appropriate components installed) and a very high resistance to chemical and atmospheric agents. This is the reason why Gemini guarantees excellent performances even in particularly severe operating conditions.

In distribution and mixed applications, the Gemini switchboard is designed to be fitted with System pro *M* modular devices and Tmax moulded-case circuit breakers.



Gemini switchboards are made with co-injection, which ABB SACE is the first manufacturer in the electric field to use as a molding technique. This process obtains a "sandwich" of two materials with a compact external covering and an expanded core, guaranteeing the highest level of mechanical protection against impacts (IK10) without the need to add hardening substances.



### Technical characteristics

Compliance with Standards	Compliance with IEC 62208 international reference Standard, qualification for the requirements of IEC 60439 Standard, IMQ mark according to EN 62208 Standard
Rated service voltage <b>U<sub>e</sub></b>	up to 690 V
Operating temperature	-25 °C ÷ +100 °C
Resistance to abnormal heat and fire	up to 750 °C
Degree of resistance to impacts <b>IK</b>	10
<b>IP</b> degree of protection	30 open door 66 closed door
Recyclable	100%

# Gemini switchboards

## General

Gemini switchboards are designed to be perfectly compatible with ABB components for low voltage control and monitoring.

For these applications they can be equipped with modular devices belonging to the System pro M range, with Tmax moulded-case circuit-breakers and control and signaling devices, creating a truly integrated automation system.

When deciding the Gemini layout for control and monitoring applications, not only is it possible to select the box and

door in the required size, but you can also select the base plate in one of the three versions in the range.

After wiring with the ducts and the Fix-O-Rapid device, the special standard adjustable feet and hooks must be fitted onto the base plate, allowing it to be inserted inside the box at up to seven different depths and three further levels of adjustment: no tools need to be used to carry out these operations.

To finish the job, the inner door can be mounted (reversible and in insulating material), guaran-

teeing IP30 degree of protection when the switchboard door is open.

No tools are needed unless the inner door is equipped with buttons, warning lights, etc.



1SLC895015F0001



1SLC89507F0001

The fixing hooks and feet supplied in the standard versions are applied without having to use tools, making it possible to install the base plate at seven different depths inside the switchboard. They can also be adjusted at three further positions.



1SLC895015F0001



1SLC89508F0001

Application of the inner door guarantees IP40 degree of protection when the switchboard door is open.



1SLC895021F0001

The base plate can be snap-mounted inside the switchboard.



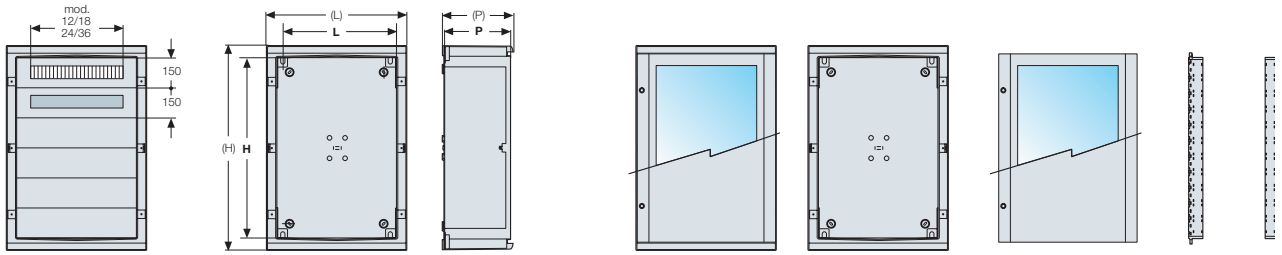
1SLC895021F0001

Example of the configuration of a switchboard for an automation application: some ABB control and protection devices are installed on the plate. The inner door is fitted with light-signaling devices.

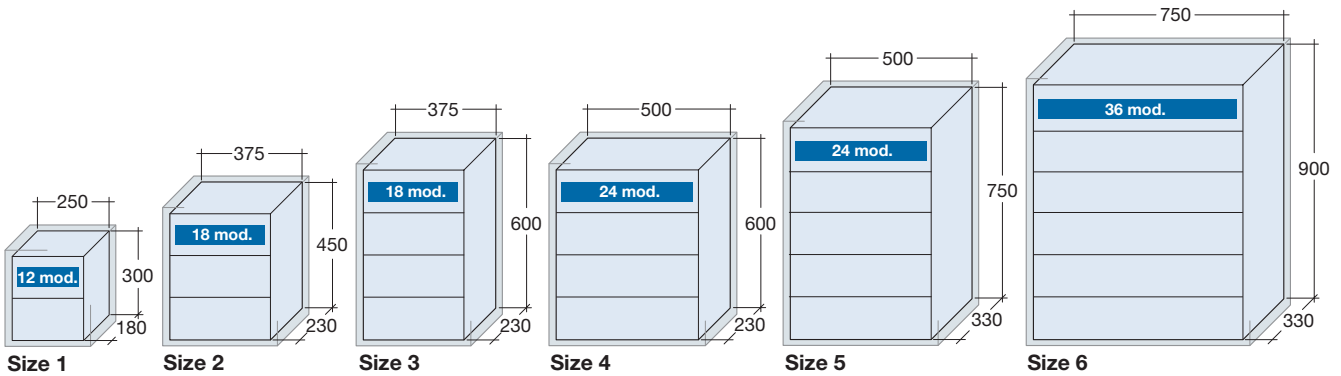
# Gemini switchboards

## Selection of the structure

### Structure

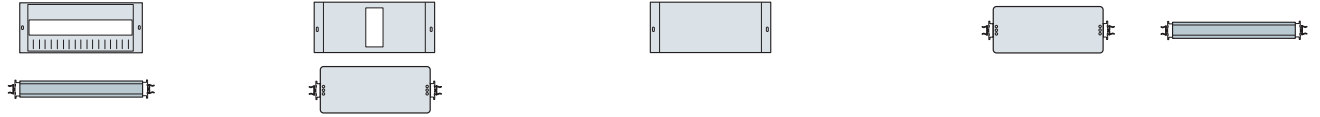


Size	No. of vertical mod. H=150mm	No. of installable DIN modules	External dimensions			Functional dimensions			Complete switchboard			Door		
			(H) mm	(W) mm	(D) mm	H mm	W mm	D mm	Transparent	Blind	Box	Transparent	Opaque	Uprights
1	2	24 (12x2)	400	335	210	300	250	180	1SL0211A00	1SL0201A00	1SL0221A00	1SL0241A00	1SL0231A00	1SL0283A00
2	3	54 (18x3)	550	460	260	450	375	230	1SL0212A00	1SL0202A00	1SL0222A00	1SL0242A00	1SL0232A00	1SL0284A00
3	4	72 (18x4)	700	460	260	600	375	230	1SL0213A00	1SL0203A00	1SL0223A00	1SL0243A00	1SL0233A00	1SL0285A00
4	4	96 (24x4)	700	590	260	600	500	230	1SL0214A00	1SL0204A00	1SL0224A00	1SL0244A00	1SL0234A00	1SL0285A00
5	5	120 (24x5)	855	590	360	750	500	330	1SL0215A00	1SL0205A00	1SL0225A00	1SL0245A00	1SL0235A00	1SL0286A00
6	6	216 (36x6)	1005	840	360	900	750	330	1SL0216A00	1SL0206A00	1SL0226A00	1SL0246A00	1SL0236A00	1SL0287A00



# Gemini switchboards

## Selection of the structure



1

DIN rail kit DIN rail+drilled panel		Kit for Tmax plate+drilled panel		Blank panel			Modular plate		DIN rail
1 mod. H=150mm	1+1/2 mod. H=225mm	1 mod. H=150mm	2 mod. H=300mm	1/2 mod. H=75mm	1 mod. H=150mm	2 mod. H=300mm	1 mod. H=150mm	2 mod. H=300mm	
1SL0307A00	-	-	-	1SL0318A00	1SL0324A00	1SL0330A00	1SL0296A00	-	1SL0290A00
1SL0308A00	1SL0313A00	1SL0336A00	1SL0370A00	1SL0319A00	1SL0325A00	1SL0331A00	1SL0297A00	1SL0302A00	1SL0291A00
1SL0308A00	1SL0313A00	1SL0336A00	1SL0370A00	1SL0319A00	1SL0325A00	1SL0331A00	1SL0297A00	1SL0302A00	1SL0291A00
1SL0309A00	1SL0314A00	1SL0337A00	1SL0371A00	1SL0320A00	1SL0326A00	1SL0332A00	1SL0298A00	1SL0303A00	1SL0292A00
1SL0309A00	1SL0314A00	1SL0337A00	1SL0371A00	1SL0320A00	1SL0326A00	1SL0332A00	1SL0298A00	1SL0303A00	1SL0292A00
1SL0310A00	1SL0315A00	1SL0338A00	1SL0372A00	1SL0321A00	1SL0327A00	1SL0333A00	1SL0299A00	1SL0304A00	1SL0293A00

### Installation of Tmax moulded-case circuit breakers

The table indicates the type of installation required for the different versions of Tmax moulded-case circuit breakers in Gemini switchboards. Before carrying out wiring operations check compliance with Standards on the basis of the technical characteristics of the switchboard and circuit breaker (CEI EN 60439-1).

Size	Installation	Tmax T1	Tmax T2	Tmax T3	Tmax T4	Tmax T5
1	D	•	•	•		
	O1	•	•			
	T	•	•	•	• (3)	• (3)
2	D	•	•	•		
	K1	•	• (1)			
	K2	•	• (2)	•		
	O1	•	•	•	• (4)	
	O2	•	•	•	•	• (3)
3	D	•	•	•		
	K1	•	• (1)			
	K2	•	• (2)	•		
	O1	•	•	•	• (4)	
	O2	•	•	•	•	• (3)
4	D	•	•	•		
	K1	•	• (1)			
	K2	•	• (2)	•		
	O1	•	•	•	• (4)	
	O2	•	•	•	•	•
5	D	•	•	•		
	K1	•	• (1)			
	K2	•	• (2)	•		
	O1	•	•	•	• (4)	
	O2	•	•	•	•	•
6	D	•	•	•		
	K1	•	• (1)			
	K2	•	• (2)	•		
	O1	•	•	•	• (4)	
	O2	•	•	•	•	•

Caption

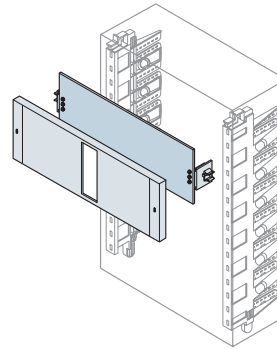
- D, installation on DIN rail
- K1, installation with Tmax kit H = 150 (holes made)
- K2, installation with Tmax kit H = 300 (holes made)
- O1, installation on modular plate (1 module, H = 150 mm)
- O2, installation on modular plate (2 modules, H = 300 mm)
- T, installation on total base plate
- • (1), Tmax T2 3 poles (with or without residual current release) and Tmax T2 4 poles (without residual current release)
- • (2), Tmax T2 4 poles (with residual current release)
- • (3), only version without residual current release
- • (4), only version with 3 poles

# Gemini switchboards

## Kits for installing apparatus

### Horizontal installation

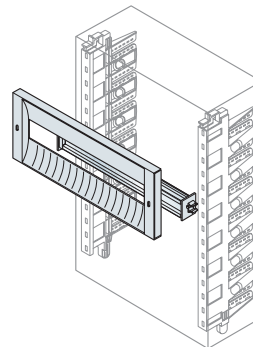
Kit for Tmax with pre-drilled holes



Fixed circuit-breaker with front terminals	No. of poles	Dimensions H (mm)	Size		
			2/3	4/5	6
Tmax T1	3-4	150	1SL0336A00	1SL0337A00	1SL0338A00
Tmax T2	3-4	150	1SL0336A00	1SL0337A00	1SL0338A00
Tmax T2+res.cur.	3	300	1SL0370A00	1SL0371A00	1SL0372A00
Tmax T3	3-4	300	1SL0370A00	1SL0371A00	1SL0372A00

### Vertical installation

Installation on DIN rail

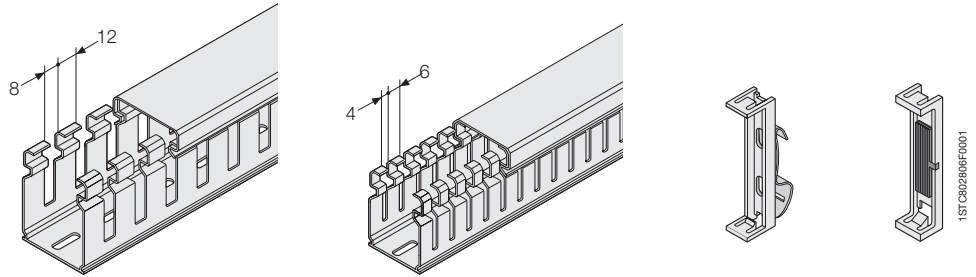


Fixed circuit-breaker with front terminals	No. of poles	Dimensions H (mm)	Size			
			1	2/3	4/5	6
System Pro <i>M</i> modular apparatus		150	1SL0307A00	1SL0308A00	1SL0309A00	1SL0310A00
		225		1SL0313A00	1SL0314A00	1SL0315A00
Tmax T1-T2-T3	3-4	225		1SL0313A00	1SL0314A00	1SL0315A00

# Gemini switchboards

## Kits for installing apparatus

### Wiring ducts



Base (mm)	H (mm)	Wiring ducts		Fix-O-rapid	
		8-12 mm slots	4-6 mm slots	Rapid snap-on bases for DIN rail	Rapid snap-on bases for plate
15	17	05 019	05 119	-	-
	30	05 033	05 133		
	40	05 043	05 143		
25	60	05 063	05 163	05 250	05 270
	80	05 083	05 183		
	100	05 094	05 194		
	30	05 035	05 135		
40	40	05 045	05 145		
	60	05 065	05 165	05 252	05 272
	80	05 085	05 185		
	100	05 095	05 195		
	30	05 037	05 137		
60	40	05 047	05 147		
	60	05 067	05 167	05 254	05 274
	80	05 087	05 187		
	100	05 096	05 196		
	40	05 049	05 149		
80	60	05 069	05 169		
	80	05 089	05 189	05 256	05 276
	100	05 097	05 197		
	40	05 051	05 151		
	60	05 071	05 171		
100	80	05 091	05 191	05 258	05 278
	100	05 098	05 198		
	40	05 053	05 153		
120	80	05 093	05 193	05 260	05 280
	100	05 099	05 199	05 262	05 282

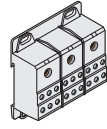
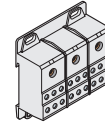
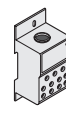
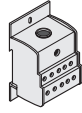
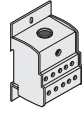
# Gemini switchboards

## Distribution systems

### Modular dividers

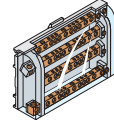
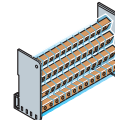
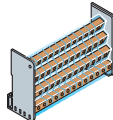
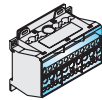
#### Single-pole

#### Three-poles



Code		AD1076	AD1080 <sup>(1)</sup>	AD1007	AD1081 <sup>(2)</sup>	AD1030	AD1031	AD1075	AD1006
In (A)		125	125	160	160	250	400	125	160
Icw (kA)		4.2	10	11	10	21	21	4.2	
Version	poli	1	1	1	1	1	1	3	3
Installation		DIN35/plate	DIN35/plate	DIN35/plate	DIN35/plate	DIN35/plate	DIN35/plate	DIN35/plate	DIN35/plate
Power supply Ø cable (mm <sup>2</sup> )	min.	10	6	16	10	35	95	10	16
	max	35	35	70	70	120	185	35	70
N° outgoing feeder Ø cable (mm <sup>2</sup> )	2.5÷10					4	4		
	2.5÷16	10	6	10	6	5	5	6	6
	2.5÷25					2	2		
	2.5÷35								
Dimensions HxWxD (mm)		71x45x42.5	75x25x47	71x45x42.5	92x35x49	96x45x49	96x45x49	80x71.5x42.5	80x71.5x42.5
N° DIN modules		2.5	1.5	2.5	2	3	3	4.5	4.5
Rated service voltage Ue (V)		690	500	690	500	500	500	690	690
Degree of protection	IP	20	20	20	20	20	20	20	20

#### Four-poles



Code		AD1004	AD1028	AD1029	AD1027
In (A)		125	125	125	160
Icw (kA)		10	4.2	4.2	6
Version	poles	4	4	4	4
Installation		DIN35/plate	DIN35/plate	DIN35/plate	DIN35
Power supply Ø cable (mm <sup>2</sup> )	min.	6	6	6	10
	max	35	25 with cable terminal 35 without cable terminal	25 with cable terminal 35 without cable terminal	50
N° outgoing feeder Ø cable (mm <sup>2</sup> )	5 holes/phase Ø1.5÷16		2xØ6÷25 + cable terminal	2xØ6÷25 + cable terminal	8xØ2.5÷16
	2 holes/phase Ø1.5÷16		2xØ6÷35 no cable terminal	2xØ6÷35 no cable terminal	3xØ6÷35
	6 holes/neutral Ø1.5÷16		9xØ6÷10	2xØ6÷16	
	4 holes/neutral Ø1.5÷16 <sup>2</sup>			9xØ6÷10	
Dimensions HxWxD (mm)		45x75x98	89x93x48	126x93x48	90x160x50
N° DIN modules		5.5	5	7	9
Rated service voltage Ue (V)		500	690	690	500
Degree of protection	IP	20	20	20	20

<sup>(1)</sup> possibility of putting in parallel with AD1083 connections.

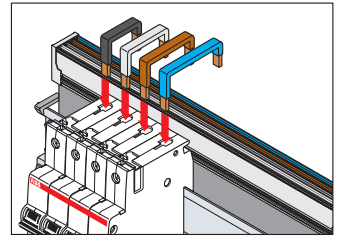
<sup>(2)</sup> possibility of putting in parallel with comb type connections (not supplied).

# Gemini switchboards

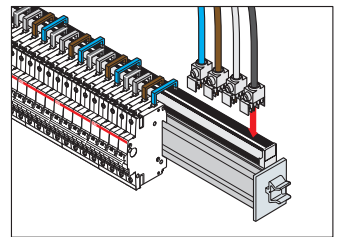
## Distribution systems

### Unifix L

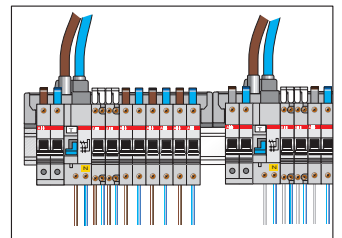
Technical characteristics		Unifix L
Rated service voltage ( $U_e$ )		400V AC
Rated insulation voltage ( $U_i$ )		500V AC
Rated impulse withstand voltage ( $U_{imp}$ )		6kV
Rated frequency		50/60Hz
Rated current ( $I_n$ )	central power supply	100A
	lateral power supply	80A
Rated short-time withstand current ( $I_{cw}$ )		
Maximum peak current ( $I_{pk}$ )		
Maximum installable circuit-breaker size		100A
Conditioned short-circuit current ( $I_{cs}$ )	Tmax T1	
	Tmax T2 N, S <sup>(1)</sup>	
	Tmax T3	
With circuit-breaker	S200	6kA-400V
	S200 H	10kA-400V
	S200 P	25kA-400V
Degree of protection		IP20
Characteristics of the insulating material		Self-extinguishing thermoplastic V1 (UL94)
Characteristics of the conductor material		Electrolytic copper
Width (N° modules/mm)		12/400
		18/500
		24/600
		36/800



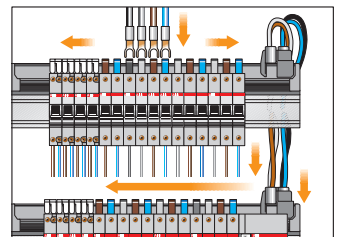
Connections (L1-L2-L3-N) for System Pro M modular apparatus..



Power supply of the busbar with 100A feeder module without cable. Terminal capacity 35mm<sup>2</sup>.



Direct power supply of the busbars by means of feeder module.



Power supply by means of modules and cables in parallel.

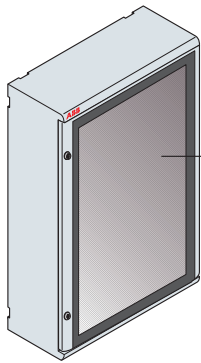
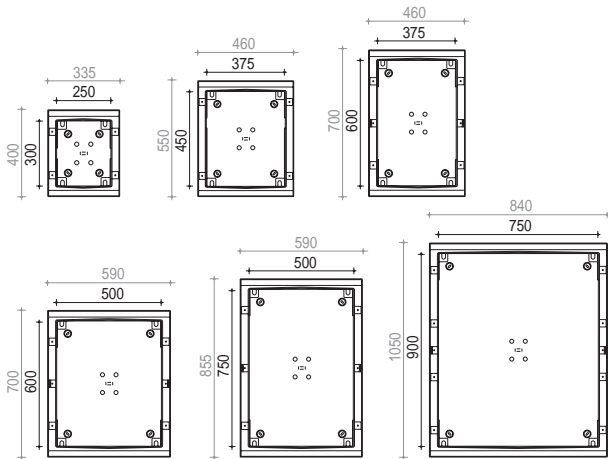
### Table for selecting connections according to the circuit-breaker

Circuit-breaker series	Unifix L
<b>S941 - S951 - S971</b> <b>DS941 - DS951 - DS971</b>	<b>ED3272</b> L1/N 40A <b>ED3280</b> L2/N 40A <b>ED3298</b> L3/N 40A
<b>S200 - DS 200</b> <b>F200 ≤ 63A</b>	<b>ED3033</b> L1 100A <b>ED3041</b> L2 100A <b>ED3058</b> L3 100A <b>ED3066</b> N 100A
<b>F660 - F670 - S280</b> (80-100A) <b>E200 ≤ 100A - RS370 - F 200</b> 80-100A (Unifix)	<b>ED3132</b> Power supply L1/L2/L3/N - 350mm <b>ED0026</b> Power supply L1/L2/L3/N - 1500mm <b>ED0025</b> Power supply L1/L2/L3/N - 2500mm
<b>MDRC - Various apparatus</b>	<b>ED3108</b> Power supply 2 cables L1/N 16A <b>ED3116</b> Power supply 3 cables L1/L2/L3 16A <b>ED3124</b> Power supply 4 cables L1/L2/L3/N 16A  <b>ED3355</b> Power supply 2 cables L1/N 40A <b>ED3363</b> Power supply 3 cables L1/L2/L3 40A <b>ED3371</b> Power supply 4 cables L1/L2/L3/N 71A

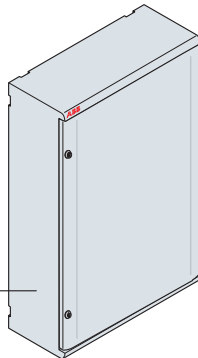
For the DDA locks, order the false module **ED2845** codes separately according to the size of the residual current lock.

# Gemini switchboards

## Order codes



1SL0211A00  
1SL0212A00  
1SL0213A00  
1SL0214A00  
1SL0215A00  
1SL0216A00



1SL0201A00  
1SL0202A00  
1SL0203A00  
1SL0204A00  
1SL0205A00  
1SL0206A00

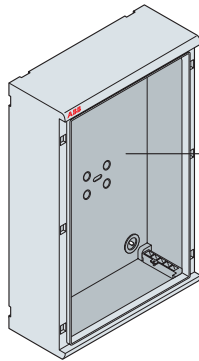
### Boxes and doors

- Available in 6 sizes
- Single order code combined with box and transparent and opaque door
- Pack with door dismantled and wrapped separately
- Door designed so that it can be hooked onto hinges at both vertical sides and mounted without the use of tools
- To be mounted to the wall using internal holes or fixing brackets supplied as accessories
- Door opening at an angle of more than 180°
- RAL 7035 grey color
- Doors supplied with 2 standard double bit locks (3 for sizes 5 and 6) that can be replaced with locks for ciphered key or with square/triangular impression (the standard triplex key is suitable for use with three types of impressions).

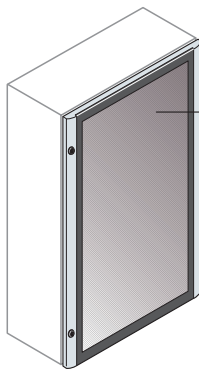
Size	Code	Description	N° vertical mod.	Useful dimensions WxHxD (mm)	Unit./Pack
		Transparent door			
		Opaque door			
			H=150mm		
1	1SL0211A00	1SL0201A00 Structure with door	2	250x300x180	1/1
2	1SL0212A00	1SL0202A00 Structure with door	3	375x250x230	1/1
3	1SL0213A00	1SL0203A00 Structure with door	4	375x600x230	1/1
4	1SL0214A00	1SL0204A00 Structure with door	4	500x600x230	1/1
5	1SL0215A00	1SL0205A00 Structure with door	5	500x750x330	1/1
6	1SL0216A00	1SL0206A00 Structure with door	6	750x900x330	1/1

# Gemini switchboards

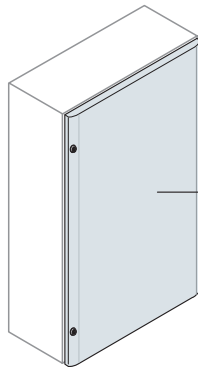
## Order codes



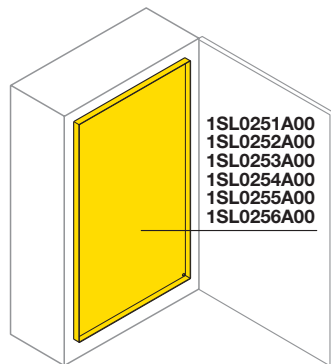
1SL0221A00  
1SL0222A00  
1SL0223A00  
1SL0224A00  
1SL0225A00  
1SL0226A00



1SL0241A00  
1SL0242A00  
1SL0243A00  
1SL0244A00  
1SL0245A00  
1SL0246A00



1SL0231A00  
1SL0232A00  
1SL0233A00  
1SL0234A00  
1SL0235A00  
1SL0236A00



1SL0251A00  
1SL0252A00  
1SL0253A00  
1SL0254A00  
1SL0255A00  
1SL0256A00

### Single box

Size	Code	Description	N° vertical mod. H=150mm	Useful dimensions WxHxD (mm)	Unit./Pack
1	1SL0221A00	Box without door	2	250x300x180	1/1
2	1SL0222A00	Box without door	3	375x250x230	1/1
3	1SL0223A00	Box without door	4	375x600x230	1/1
4	1SL0224A00	Box without door	4	500x600x230	1/1
5	1SL0225A00	Box without door	5	500x750x330	1/1
6	1SL0226A00	Box without door	6	750x900x330	1/1

### Single doors

Size	Code		Description	Box dimensions WxHxD (mm)	Unit./Pack
	Transparent door	Opaque door			
1	1SL0241A00	1SL0231A00	Frontal door	250x300x180	1/1
2	1SL0242A00	1SL0232A00	Frontal door	375x250x230	1/1
3	1SL0243A00	1SL0233A00	Frontal door	375x600x230	1/1
4	1SL0244A00	1SL0234A00	Frontal door	500x600x230	1/1
5	1SL0245A00	1SL0235A00	Frontal door	500x750x330	1/1
6	1SL0246A00	1SL0236A00	Frontal door	750x900x330	1/1

### Inner doors

- Made in insulating material
- IP30 degree of protection with door open
- Designed so that door can be hinged onto both vertical sides
- Snap-on mounting and fixing

Size	Code	Description	Useful dimensions WxHxD (mm)	Unit./Pack
1	1SL0251A00	Internal inner door	250x300x180	1/4
2	1SL0252A00	Internal inner door	375x250x230	1/4
3	1SL0253A00	Internal inner door	375x600x230	1/2
4	1SL0254A00	Internal inner door	500x600x230	1/2
5	1SL0255A00	Internal inner door	500x750x330	1/2
6	1SL0256A00	Internal inner door	750x900x330	1/1

### Fixing kit

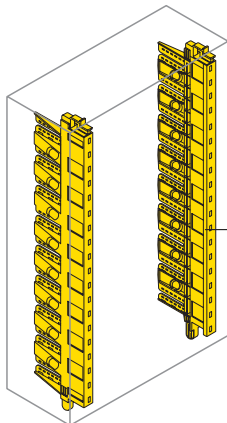
- For fixing inner doors with screws

Code	Description	Unit./Pack
1SL0400A00	Kit for fixing inner doors with screws	1/2

# Gemini switchboards

## Order codes

1

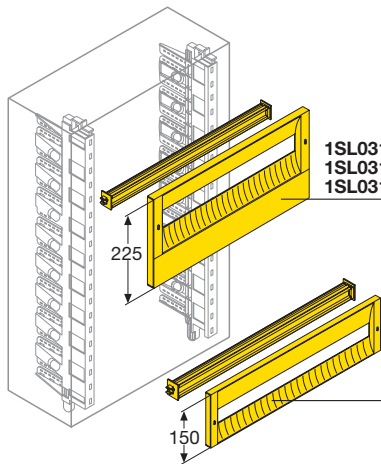


1SL0283A00  
1SL0284A00  
1SL0285A00  
1SL0286A00  
1SL0287A00

### Uprights

- Incorporated vertical wiring duct (ABB patent)
- Snap-on mounting of all components (installation pitch of 75 mm)
- Snap-on insertion into box
- Depth of installed components adjusted at a pitch of 12.5 mm (4 positions for uprights of size 1 and 6 positions for the remaining ones)
- Ergonomic grip to make it easy to insert and extract

Size	Code	Description	Useful dimen.	
			H (mm)	Unit/pack
1	1SL0283A00	Upright with incorporated wiring duct	300	1/4
2	1SL0284A00	Upright with incorporated wiring duct	450	1/4
3/4	1SL0285A00	Upright with incorporated wiring duct	600	1/4
5	1SL0286A00	Upright with incorporated wiring duct	750	1/2
6	1SL0287A00	Upright with incorporated wiring duct	900	1/1



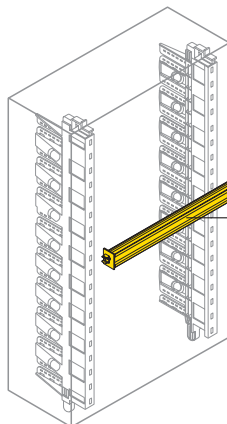
1SL0313A00  
1SL0314A00  
1SL0315A00

1SL0307A00  
1SL0308A00  
1SL0309A00  
1SL0310A00

### DIN rail Kit

- Front panel + DIN rail complete with supports for press-on fixing onto uprights and adjustable in depth
- Available in two dimensions - 1 module (H 150 mm) and 1+1/2 module (H 225 mm, sizes 2-6)
- Preset for hinging on the two vertical sides
- Snap-on assembly on the uprights (in conformity with the reference Standards, the panel can only be removed using a tool)
- Label-holder box for inserting descriptions of the installed apparatus

Code	Description	N° mod. orizz.	Dimensions		Unit/pack
			W (mm)	H (mm)	
1	1SL0307A00	1+1/2 modules	250	225	1/8
2/3	1SL0308A00 1SL0313A00	1 module	375	150	1/8
4/5	1SL0309A00 1SL0314A00		500	150	1/4
6	1SL0310A00 1SL0315A00		700	150	1/2



1SL0290A00  
1SL0291A00  
1SL0292A00  
1SL0293A00

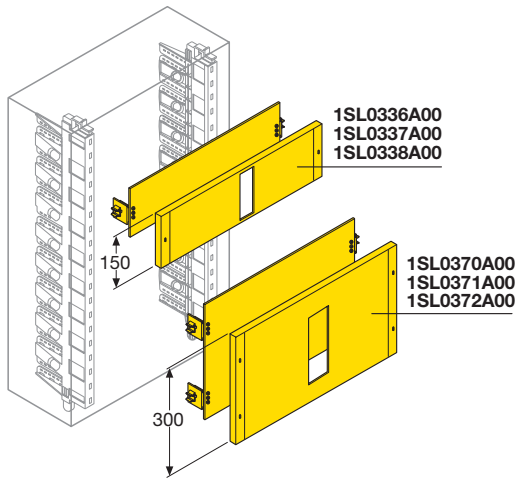
### DIN rail

- Two-sided version
- Supplied with mounting supports that snap onto uprights
- Depth adjustment on uprights
- Designed so that rapid Unifix L mounting bars can be snapped on

Size	Code	Description	N° mod. orizz.	Dimensions		Unit/pack
				W (mm)	H (mm)	
1	1SL0290A00	DIN rail	12	250	1/10	
2/3	1SL0291A00	DIN rail	18	375	1/10	
4/5	1SL0292A00	DIN rail	24	500	1/10	
6	1SL0293A00	DIN rail	36	700	1/10	

# Gemini switchboards

## Order codes

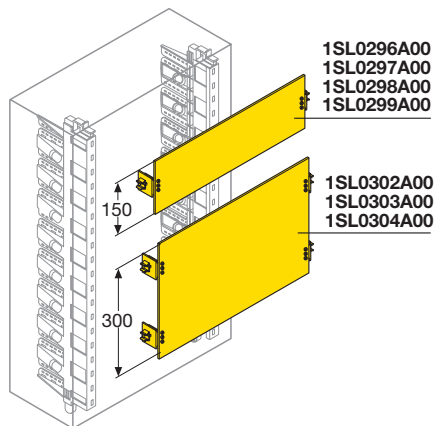


### Kit for installing Tmax moulded-case circuit breakers

- For installing Tmax moulded-case circuit breakers in fixed version with front terminals
- Composed of a plate with special drilled holes and a protection panel with vertical slots that can be hinged on both sides and snap-on mounted (in compliance with reference Standards a tool must be used for removing the panel)
- Available for sizes 2-6
- Version H 150 with drillings for Tmax T1 3 poles (with and without residual current releaser), Tmax T1 4 poles (with and without residual current releaser), Tmax T2 3 poles (with and without residual current releaser), Tmax T2 4 poles (without residual current releaser)
- Version H 300 with drillings for Tmax T2 4 poles (with residual current releaser), Tmax T3 3 poles (with and without residual current releaser), Tmax T3 4 poles (with and without residual current releaser)
- Snap-on mounting onto uprights with the possibility of adjusting the plate depth

Size	Code	Description	Dimensions W (mm)	Unit/pack
1 module	2 modules			
H=150mm	H=300mm			
2/3	1SL0336A00 1SL0370A00	Plate + panel	375	1/4
4/5	1SL0337A00 1SL0371A00	Plate + panel	500	1/4
6	1SL0338A00 1SL0372A00	Plate + panel	700	1/2

To choose the correct kit, see table at page 1/4.



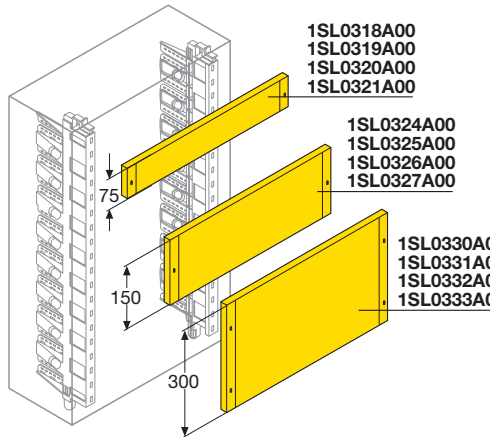
### Partial modular plates

- Available in 1 module (H 150 mm) and 2 module (H 300 mm, sizes 2-6) dimensions
- Snap-on mounting onto uprights with depth adjustment

Size	Code	Description	Dimensions W (mm)	Unit/pack
1 module H=150mm				
1	1SL0296A00	Modular base plate	250	1/6
2/3	1SL0297A00	Modular base plate	375	1/4
4/5	1SL0298A00	Modular base plate	500	1/4
6	1SL0299A00	Modular base plate	700	1/2
2 modules H=300mm				
2/3	1SL0302A00	Modular base plate	375	1/4
4/5	1SL0303A00	Modular base plate	500	1/4
6	1SL0304A00	Modular base plate	700	1/2

# Gemini switchboards

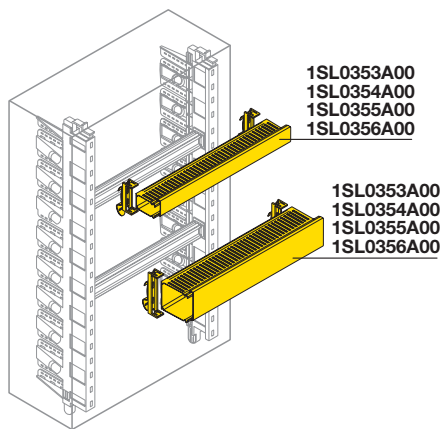
## Order codes



### Blank panels

- Available in 1/2 module (H 75 mm), 1 module (H 150 mm) and 2 modules (H 300 mm) dimensions
- H 150 mm and H 300 mm panels designed to be hinged onto both vertical sides
- Snap-on mounting onto uprights (in compliance with reference Standards a tool must be used for removing the panel)

Size	Code	Description	Dimensions	
			W (mm)	Unit./Pack
1/2 module H=75mm				
1	1SL0318A00	Blind front panel	250	1/10
2/3	1SL0319A00	Blind front panel	375	1/10
4/5	1SL0320A00	Blind front panel	500	1/6
6	1SL0321A00	Blind front panel	700	1/4
1 module H=150mm				
1	1SL0324A00	Blind front panel	250	1/8
2/3	1SL0325A00	Blind front panel	375	1/8
4/5	1SL0326A00	Blind front panel	500	1/4
6	1SL0327A00	Blind front panel	700	1/4
2 module H=200mm				
1	1SL0330A00	Blind front panel	250	1/6
2/3	1SL0331A00	Blind front panel	375	1/6
4/5	1SL0332A00	Blind front panel	500	1/4
6	1SL0333A00	Blind front panel	700	1/4



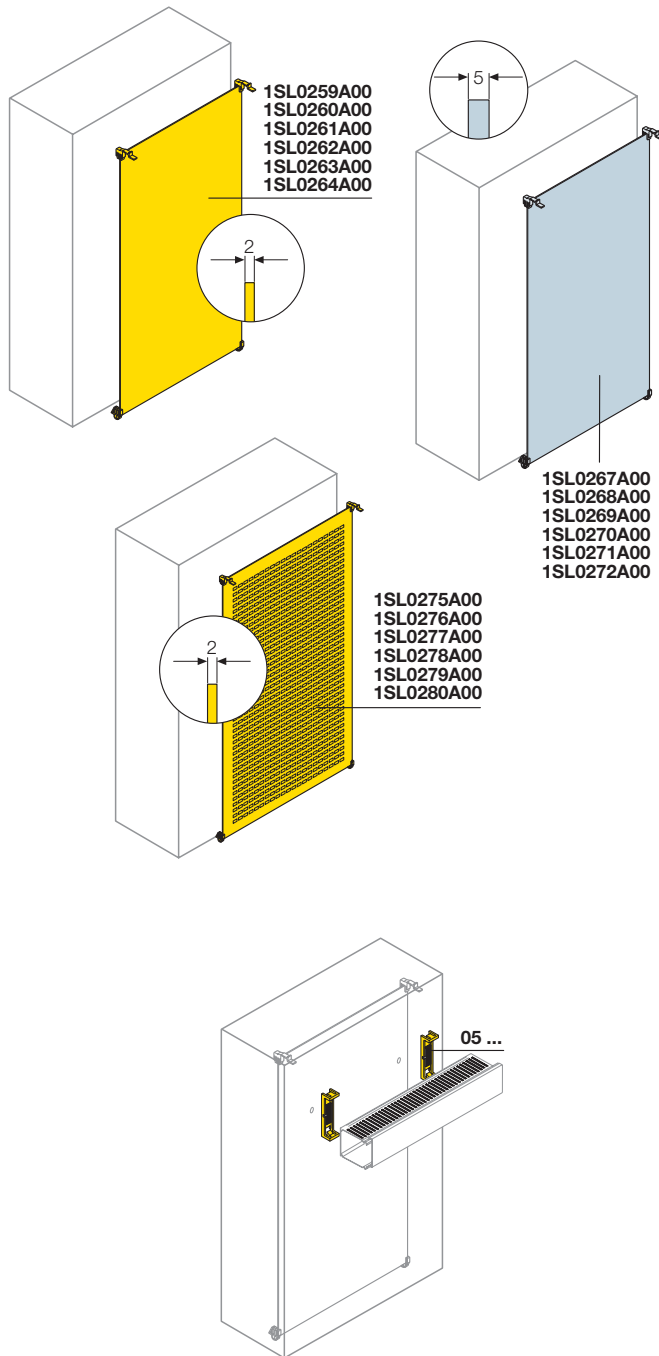
### Wiring kit

- Composed of wiring duct in versions 25x60 mm and 40x60 mm (WxH, 8-12 mm slots) and Fix-O-Rapid device for the rapid snap-on hooking of the ducts on the DIN rail
- Snap-on mounting on uprights with depth adjustment

Size	Code	Description	Dimensions	
			W (mm)	Unit./Pack
		Wiring duct 25x60mm		
		Wiring duct 40x60mm		
1	1SL0353A00 1SL0360A00	Wiring duct + Fix-O-Rapid	250	1/4
2/3	1SL0354A00 1SL0361A00	Wiring duct + Fix-O-Rapid	375	1/4
4/5	1SL0355A00 1SL0362A00	Wiring duct + Fix-O-Rapid	500	1/4
6	1SL0356A00 1SL0363A00	Wiring duct + Fix-O-Rapid	700	1/4

# Gemini switchboards

## Order codes



### Base plates

- Available in three versions in blank or drilled metal and insulating material
- Positioning at 3 different depths for size 1, 4 different depths for sizes 2-3-4 and 7 different depths for sizes 5-6 (adjustments with 30 mm pitch)
- Supplied with feet and hooks adjustable at three further positions (with 7.5 mm pitch)
- Snap-on mounting
- Plates can also be mounted directly on the base with the special kit

Size	Code	Description	Box dimensions WxHxD (mm)	Unit./Pack		
	In blank metal	In drilled metal	Insulating material			
1	1SL0259A00	1SL0275A00	1SL0267A00	Base plate	250x300x180	1/6
2	1SL0260A00	1SL0276A00	1SL0268A00	Base plate	375x250x230	1/6
3	1SL0261A00	1SL0277A00	1SL0269A00	Base plate	375x600x230	1/4
4	1SL0262A00	1SL0278A00	1SL0270A00	Base plate	500x600x230	1/4
5	1SL0263A00	1SL0279A00	1SL0271A00	Base plate	500x750x330	1/4
6	1SL0264A00	1SL0280A00	1SL0272A00	Base plate	750x900x330	1/2

Code	Description	Unit./Pack
1SL0383A00	Base mounting kit for metal plate	1/10

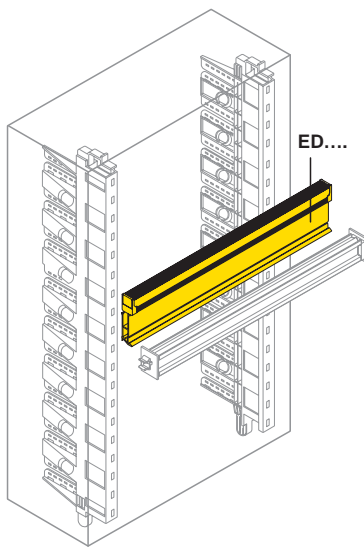
### Fix-O-Rapid

Rapid mounting device for attaching wiring ducts to the base plate: it snaps onto the plate after drilling a  $\varnothing$  7 mm hole. Two Fix-O-Rapid devices are enough for each wiring duct section. Fix-O-Rapid guarantees maximum insulation since it does not involve the use of any metal component inside the wiring duct. If the wrong wiring duct is selected, it can be dismantled and a version with the same base and a different height can be attached to the Fix-O-Rapid.

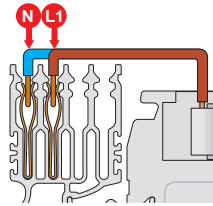
Code	Description	Unit./Pack
05 270	Rapid mounting device for wiring duct, W 25mm	20/600
05 272	Rapid mounting device for wiring duct, W 40mm	20/600
05 274	Rapid mounting device for wiring duct, W 60mm	20/600
05 276	Rapid mounting device for wiring duct, W 80mm	20/240
05 278	Rapid mounting device for wiring duct, W 100mm	20/240
05 280	Rapid mounting device for wiring duct, W 125mm	20/240
05 282	Rapid mounting device for wiring duct, W 150mm	20/240

# Gemini switchboards

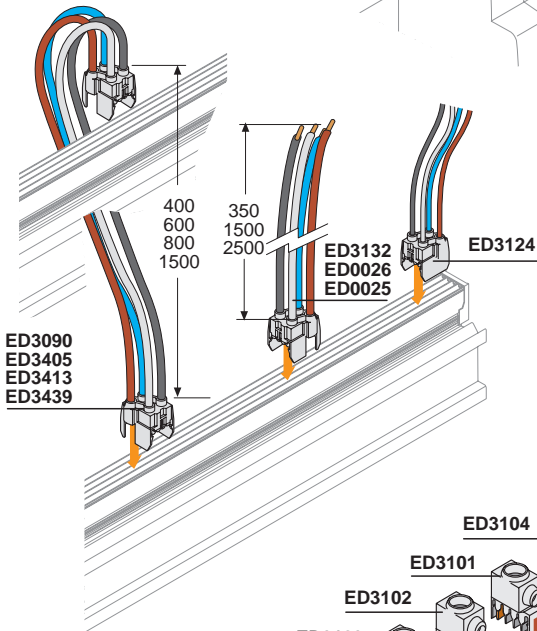
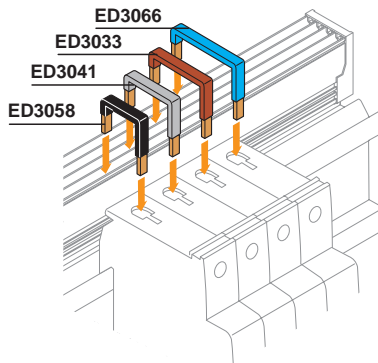
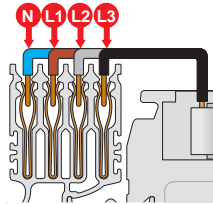
## Order codes



2 poles



4 poles



### Unifix L

#### 2-pole busbars

Code	Description	Dimensions W (mm)	Unit/pack
ED2993	100A 2P 12 module busbar	400	1/6
ED3009	100A 2P 18 module busbar	450	1/6
ED3017	100A 2P 24 module busbar	600	1/6
ED3025	100A 2P 36 module busbar	800	1/6

#### 4-pole busbars

Code	Description	Dimensions W (mm)	Unit/pack
ED2944	100A 4P 12 module busbar	400	1/6
ED2951	100A 4P 18 module busbar	450	1/6
ED2969	100A 4P 24 module busbar	600	1/6
ED2977	100A 4P 36 module busbar	800	1/6

#### Connections for various apparatus

Code	Description	Unit/pack
ED3108	Connection with 2 conductors L/N 16A	1/6
ED3116	Connection with 3 conductors L1/L2/L3 16A	1/6
ED3124	Connection with 4 conductors L1/L2/L3/N 16A single phase	1/6
ED3355	Connection with 2 conductors L1/N 40A	1/6
ED3363	Connection with 3 conductors L1/L2/L3 40A	1/6
ED3371	Connection with 4 conductors L1/L2/L3/N 40A	1/6

#### Connections for apparatus

Codice	Description	Unit/pack
ED3272	N°10 connections L1-N 40 A	1/10
ED3280	N°10 connections L2-N 40 A	1/10
ED3298	N°10 connections L3-N 40 A	1/10
ED3033	N°10 connections L 1 100A	1/10
ED3041	N°10 connections L 2 100A	1/10
ED3058	N°10 connections L 3 100A	1/10
ED3066	N°10 connections N 100A	1/10
ED3132	Feeder with 4P 100A cable (W=350mm)	1/10
ED0026	Feeder with 4P 100A cable (W=1500mm)	1/10
ED0025	Feeder with 4P 100A cable (W=1500mm)	1/10

#### Power supply modules with cable

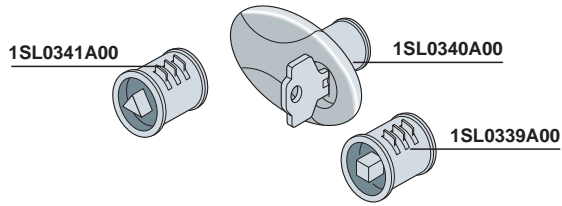
Codice	Description	Unit/pack
ED3082	Parallel module 2P 100A with cable	1/6
ED3405	Parallel module 4P 100A with cable	1/6
ED3090	Parallel module 4P 100A with cable	1/6
ED3413	Parallel module 4P 100A with cable	1/6
ED3439	Parallel module 4P 100A with cable	1/6

#### Power supply modules without cable in 100A

Codice	Description	Unit/pack
ED3101	N°10 single-pole power supply terminals L1	1/10
ED3102	N°10 single-pole power supply terminals L2	1/10
ED3103	N°10 single-pole power supply terminals L3	1/10
ED3104	N°10 single-pole power supply terminals N	1/10

# Gemini switchboards

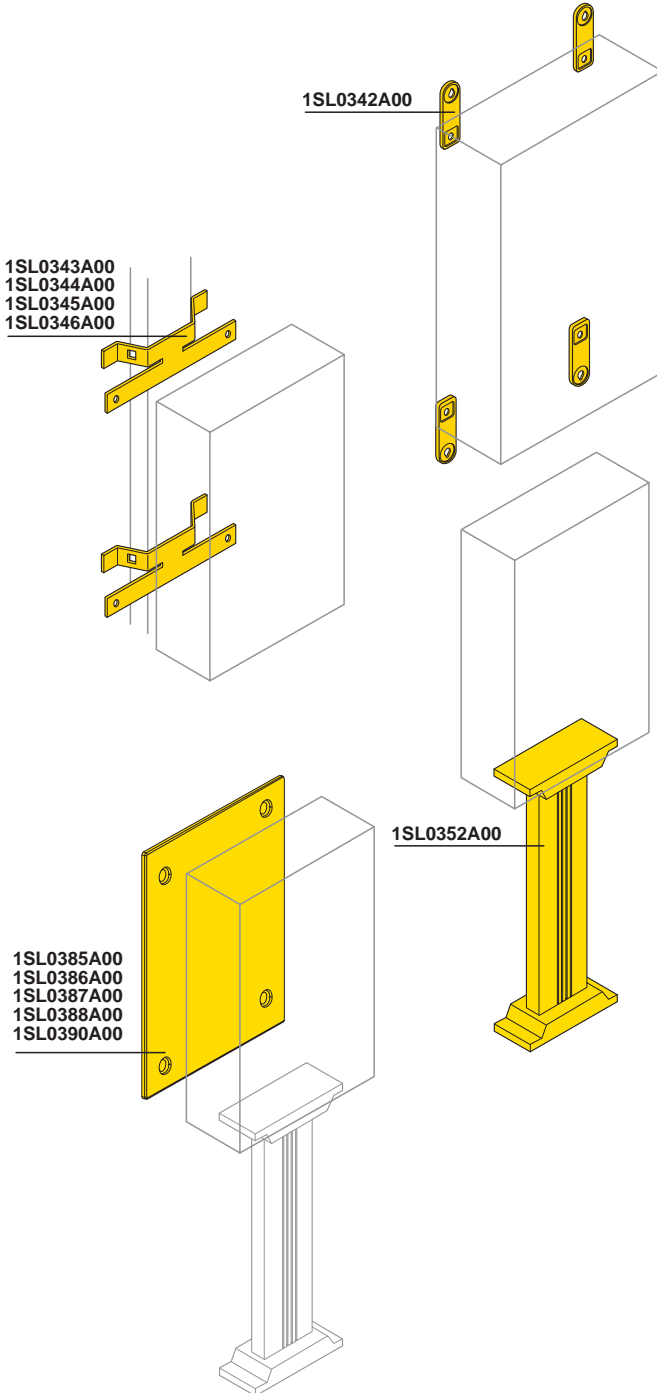
## Accessories



### Locks

Available in three versions with ciphered key and handle, with triangular and square impressions

Code	Description	Unit./Pack
1SL0340A00	Lock with Yale type ciphered key and handle	1/10
1SL0341A00	Lock with triangular impression	1/10
1SL0339A00	Lock with square impression	1/10



### Mounting elements

Guarantee optimum wall, pole and floor mounting conditions.

Code	Description	Unit./Pack
1SL0342A00	(4) horizontal and vertical wall brackets (*)	1/10
1SL0343A00	Pole mounting kit for sizes 1 switchboards	1/4
1SL0344A00	Pole mounting kit for sizes 2-3 switchboards	1/4
1SL0345A00	Pole mounting kit for sizes 4-5 switchboards	1/2
1SL0346A00	Pole mounting kit for size 6 switchboards	1/2
1SL0352A00	Floor mounting pedestal for sizes 1-4	1/1

(\*) Two types of inserts are provided to adapt the fixing brackets  $\varnothing$  6 and 8 mm.

### Base cover

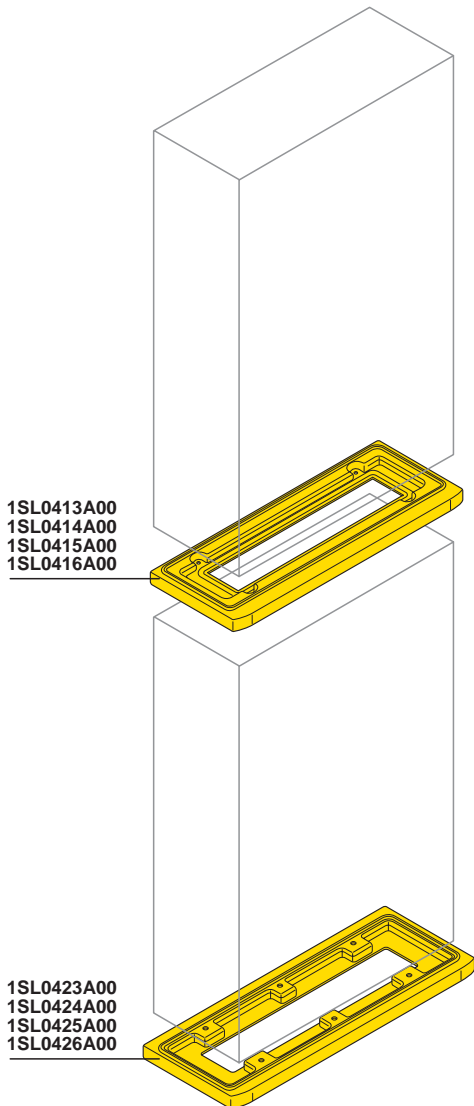
For aesthetic as well as functional purposes, in particular for pedestal installations.

Size	Code	Description	Unit./Pack
1	1SL0385A00	Back plugging plate	1/4
2	1SL0386A00	Back plugging plate	1/4
3	1SL0387A00	Back plugging plate	1/2
4	1SL0388A00	Back plugging plate	1/2
6	1SL0390A00	Back plugging plate	1/2

# Gemini switchboards

## Accessories

1



1SL0413A00  
1SL0414A00  
1SL0415A00  
1SL0416A00

1SL0423A00  
1SL0424A00  
1SL0425A00  
1SL0426A00

### Coupling kit

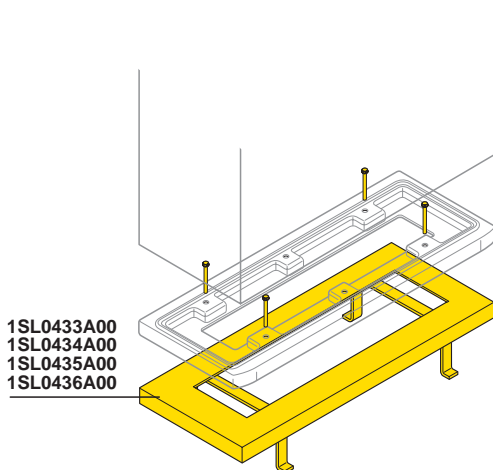
It follows the aesthetic outline of the boxes. Upon request, contact ABB for minimum order quantities.

Size	Code	Description	Unit./Pack
2/3	1SL0413A00	Vertical coupling kit for sizes	1/2
4	1SL0414A00	Vertical coupling kit for sizes	1/2
5	1SL0415A00	Vertical coupling kit for sizes	1/2
6	1SL0416A00	Vertical coupling kit for sizes	1/2

### Bottom base H 30

For fixing the Gemini switchboard directly to the floor. Upon request, contact ABB for minimum order quantities.

Size	Code	Description	Unit./Pack
2/3	1SL0423A00	Bottom base	1/2
4	1SL0424A00	Bottom base	1/2
5	1SL0425A00	Bottom base	1/2
6	1SL0426A00	Bottom base	1/2



1SL0433A00  
1SL0434A00  
1SL0435A00  
1SL0436A00

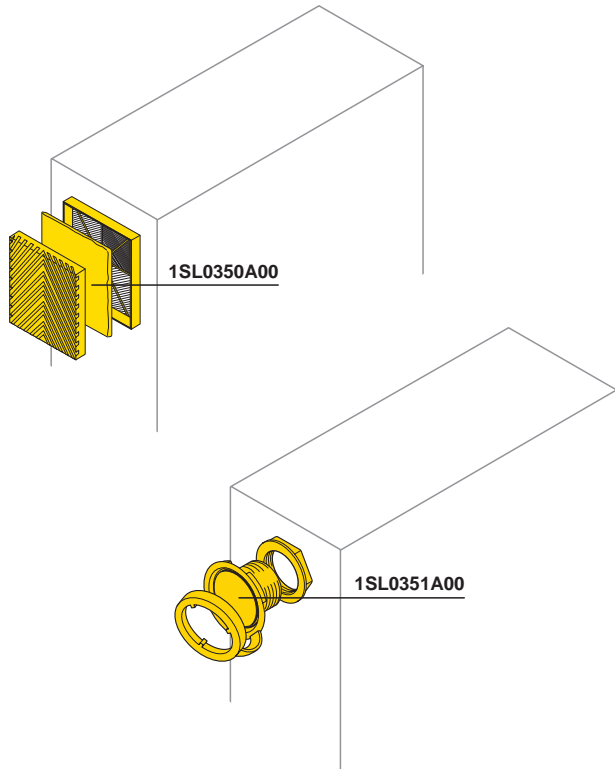
### Fixed frame

In combination with bottom base H 30. For fixing onto poured concrete floors and bases. Upon request, contact ABB for minimum order quantities.

Size	Code	Description	Unit./Pack
2/3	1SL0433A00	Frame for fixing to floor	1/2
4	1SL0434A00	Frame for fixing to floor	1/2
5	1SL0435A00	Frame for fixing to floor	1/2
6	1SL0436A00	Frame for fixing to floor	1/2

# Gemini switchboards

## Accessories



### Ventilation kit

- Composed of plastic grills and filter to ensure switchboard ventilation
- IP42
- The filter must be cleaned periodically

Code	Description	Unit./Pack
1SL0350A00	Ventilation kit	1/1

### Anti-condensation kit

- Kit in special material to prevent condensation from forming inside the switchboard: it include **GORE™ MEMBRANE VENTING**
- Impermeable to water (pressure): 1,5 bar
- Air flow: 68/h (dp = 70 mbar)
- 1 kit for sizes 1-2, 2 kits for sizes 3-4 and 3 kits for sizes 5-6 are recommended to guarantee adequate dissipation; in any case the number of kits to be installed depend on the number and type of devices installed inside the switchboard.

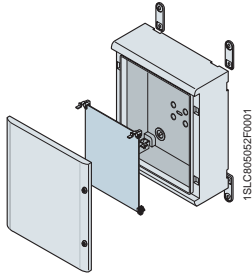
Code	Description	Unit./Pack
1SL0351A00	Anti-condensation kit	1/6

### Other accessories

Code	Description	Unit./Pack
12 849	Universal drill bit	1/30
12 863	Module covers in RAL 7035 grey, 4 modules	25/300
12 851	Deep adapters	10/80
1SL0380A00	Small bag for base plates	1/10
1SL0381A00	Small bag for DIN supports	1/10
1SL0382A00	Small bag for partial plate supports	1/10
1SL397A00	Small bag with screws and inserts	1/10

# Gemini switchboards

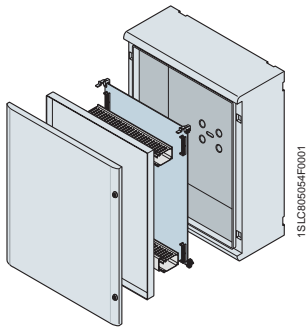
## Examples of configurations



### Gemini Switchboard Size 1

Dim.300x250x180 (400x335x210)mm (external hxwxd) IP66

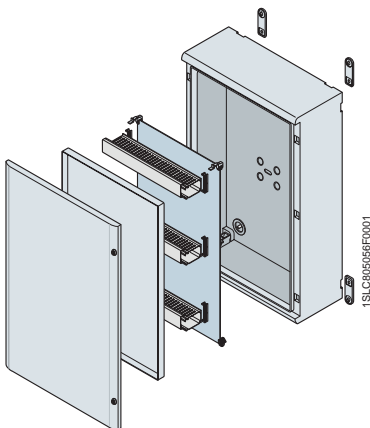
Code	Description	Q.ty
1SL0201A00	Enclosure + opaque door	1
1SL0259A00	Metal back plate	1
1SL0251A00	Counterdoor	1
1SL0342A00	Wall fixing brackets	1



### Gemini Switchboard Size 2

Dim.450x375x230 (550x460x260)mm (external hxwxd) IP66

Code	Description	Q.ty
1SL0202A00	Enclosure + opaque door	1
1SL0260A00	Metal back plate	1
1SL0252A00	Counterdoor	1



### Gemini Switchboard Size 3

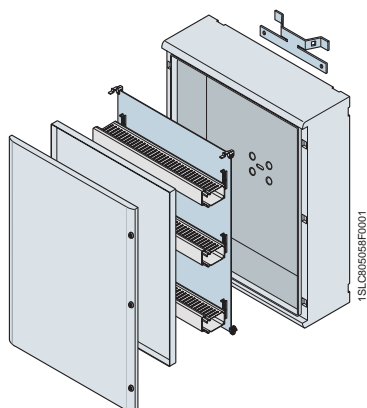
Dim.600x375x230 (700x460x260)mm (external hxwxd) IP66

Code	Description	Q.ty
1SL0203A00	Enclosure + opaque door	1
1SL0269A00	Insulating back plate	1
1SL0253A00	Counterdoor	1
1SL0342A00	Wall fixing brackets	1

Wiring ducts page 1/7

# Gemini switchboards

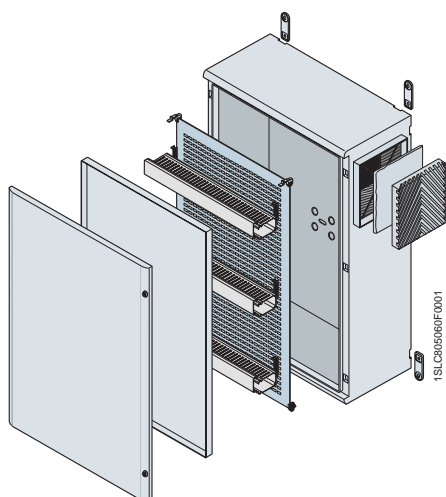
## Examples of configurations



### Gemini Switchboard Size 4

Dim.600x500x230 (700x590x260)mm (external hxwxd) IP66

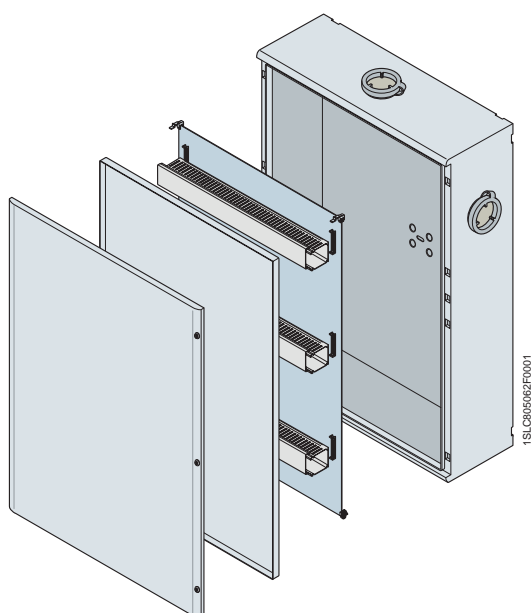
Code	Description	Q.ty
1SL0204A00	Enclosure + opaque door	1
1SL0262A00	Metal back plate	1
1SL0254A00	Counterdoor	1
1SL0345A00	Kit for fixing to pole	1



### Gemini Switchboard Size 5

Dim.750x500x330 (855x590x360)mm (external hxwxd) IP66

Code	Description	Q.ty
1SL0205A00	Enclosure + opaque door	1
1SL0279A00	Perforated back plate	1
1SL0255A00	Counterdoor	1
1SL0342A00	Wall fixing brackets	1
1SL0350A00	Ventilation Kit	1



### Gemini Switchboard Size 6

Dim.900x750x330 (1005x840x360)mm (external hxwxd) IP66

Code	Description	Q.ty
1SL0206A00	Enclosure + opaque door	1
1SL0264A00	Metal back plate	1
1SL0256A00	Counterdoor	1
1SL0341A00	Triangular lock	3
1SL0351A00	Anticondensation Kit	3

Wiring ducts page 1/7





**SR Enclosures**  
**SR EMC Enclosures**  
**SR-E Enclosures without flanges**

## Index

### SR Enclosures

General characteristics.....	2/2
Selection table.....	2/4
Ordering codes.....	2/5

### SR EMC Enclosures

General characteristics and ordering codes .....	2/11
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### SR-E Enclosures without flanges

General characteristics and selection table .....	2/12
Ordering codes.....	2/14



# SR Enclosures

## General characteristics

The SR range of enclosures represents a complete offer of monobloc containers for constructing small and medium-sized switchgear for automation, operation and control. The SR enclosures come from the experience ABB has gained over the years in construction of metalwork structures IP65 (in accordance with the CEI EN 60529 Standard), together with the innovative new production process used for construction and patented by ABB.

The most common use of SR enclosures is for construction of controlgear and switchgear for the most varied industrial machinery: from large machinery to automated production lines or parts of these, to the typical installations of on-board machine switchgear, to boilers, heating plants and so on. They conform to the EN 50298 Standard "Empty enclosures for low voltage protection switchgear and controlgear assemblies" and allow electrical equipment conforming to the prescriptions of the CEI EN 60204-1 Standard "Safety of machinery. Electrical equipment of machines" to be constructed. The degree of protection, in accordance with the CEI EN 60529 Standard "Degrees of protection of the enclosures (IP Code)", is IP65. The SR enclosures have also passed the checks required to obtain the UL (Underwriters Laboratories) and CSA (Canadian Standards Association) NEMA 250 Type 12 marks. SR enclosures also allow secondary distribution switchgear to be made, thanks to the possibility - in the 400, 600 and 800 mm widths - of installing the whole range of apparatus and modular circuit-breakers on DIN rails combined with special pre-drilled and hinged modular front panels, thereby allowing construction of electrical switchgear of the AS/ANS type conforming to EN 60439-1 Standards.



A single line of metalwork structures therefore allows construction of automation and secondary and terminal distribution switchgear thanks to the availability of a series of accessories (modular panels, DIN rails) and to the possibility of stacking the enclosures.

The SR enclosures have been designed to fulfil all the typical needs of the builder or installer of switchgear in the best way possible and the user is presented with a unique ensemble of functional characteristics:

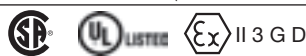
- wide dimensional range
- certified IP65 degree of protection
- internal galvanised sheet mounting plate with 20/10 thickness (made to allow threaded holes to be made easily), adjustable in depth by using a special accessory
- fairlead plate screwed on (at top and bottom) made of 12/10 thick galvanised sheet, with a sealing gasket applied inside
- complete reversibility of the enclosure, so the door can open either on the right or on the left-hand side
- possibility of installing all the apparatus and modular circuit-breakers on a DIN rail combined with a hinged modular panel.

The standard colour is RAL 7032 orange peel. On request, the SR enclosures can be ordered in a wide range of RAL colours (see page 7/12).

### Technical characteristics

Conformity with the Standard	CEI EN 62208
Degree of protection	IP65 (CEI EN 60529) NEMA 250 TYPE 12 (UL Standard)
Degree of mechanical strength	IK10 blind door IK09 glazed door (CEI EN 50102)

### Certifications



Type of material	Metallic
Installation site	Indoors
Fixing method	floor/wall

### Normal service conditions

- ambient temperature	from -5 to +40°C
Atmospheric conditions – relative humidity	50% at 40°C 90% at 20°C

# SR Enclosures

## General characteristics

### Construction criteria

The SR enclosures are constructed using an innovative production process patented by ABB which, starting from flat sheet steel, allows the finished product to be made, maximising the possibility of automating the bending and welding operations.

The SR enclosures are available in two versions (blind door or glazed door) and in 23 different dimensions, as well as a further 19 combinations obtained by stacking the enclosures, up to a maximum height of 2000 mm, which guarantee ample selection possibilities for the various end applications.

Either the enclosures with glazed door or the enclosures with blind door can be stacked: stacking is done simply by removing the fairlead plates and inserting the IP65 sealing gasket (GZ...), made of neoprene with closed cells.



Assembly of the stacked enclosures is carried out using the same holes as those used for the fairlead plates.

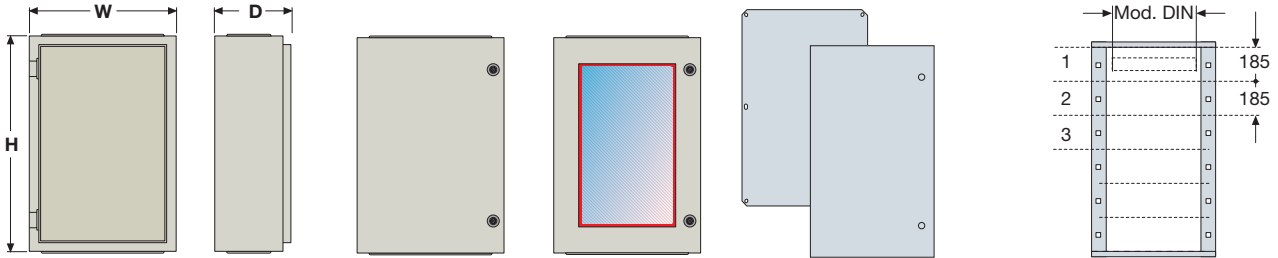
The door is supplied with the enclosure (single code) so as to reduce the number of articles and assembly times.

The range is completed with a series of accessories: brackets for wall assembly, rain shield top cover, locks of various types, internal document pocket, spacers, and spray paint for touching up. Installation on the floor is possible using the plinth ZA...

# SR Enclosures

## Selection table

### Selection table

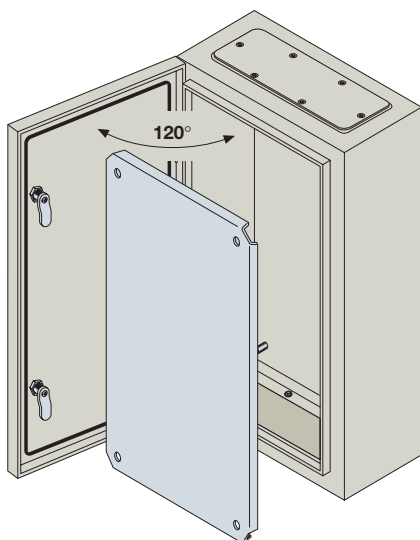


2

H mm	W mm	D mm	Enclosures with blind door + back plate	Enclosures with glazed door	Kit for automation		Kit for distribution			
					Blind counterdoor IP20	Back plate	Supports for mounting modular panels N° mod. vertical H=185mm			
						N° mod. vertical H=185mm	N° DIN modules per row	Total modules		
300	200	150	SR3215							
	300		SR3315							
	400		SR3415							
400	300	150	SR4315							
	300		SR4320							
	400		SR4420							
500	600	200	SR4620							
	300		SR5320							
	400		SR5420	SR5420V	KC5040	PF5040	2	14	28	KD5040
600	400	250	SR5425	SR5425V	KC5040	PF5040	2	14	28	KD5040
	400		SR6420	SR6420V	KC6040	PF6040	3	14	42	KD6040
	400		SR6425	SR6425V	KC6040	PF6040	3	14	42	KD6040
700	600	250	SR6625							
	500		SR7520	SR7520V	KC7050	PF7050				
	500		SR7525	SR7525V	KC7050	PF7050				
800	600	300	SR8625	SR8625V	KC8060	PF8060	4	25	100	KD8060
	600		SR8630	SR8630V	KC8060	PF8060	4	25	100	KD8060
	800		SR8830							
1000	600	300	SR10625	SR10625V	KC1060	PF1060	5	25	125	KD1060
	600		SR10630	SR10630V	KC1060	PF1060	5	25	125	KD1060
	800		SR10830	SR10830V	KC1080	PF1080	5	36	180	KD1080
1200	600	300	SR12630	SR12630V	KC1260	PF1260	6	25	150	KD1260
	800		SR12830	SR12830V	KC1280	PF1280	6	36	216	KD1280

# SR Enclosures

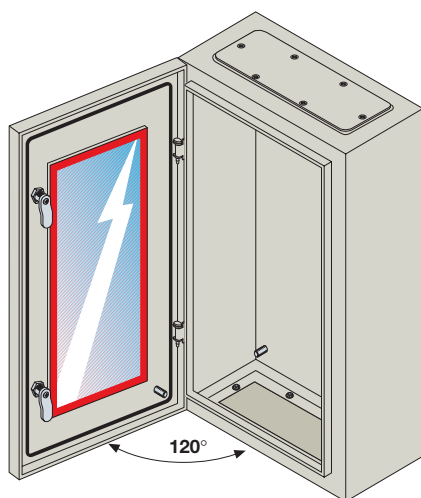
## Ordering codes



### SR Enclosures with blind door (internal plate included)

The enclosures with blind door, typically for making automation switchgear, are already fitted with the internal galvanised sheet mounting plate.

Code	Description	Dimensions mm (HxWxD)
SR3215	Enclosure with blind door + back plate	300x200x150
SR3315	Enclosure with blind door + back plate	300x300x150
SR3415	Enclosure with blind door + back plate	300x400x150
SR4315	Enclosure with blind door + back plate	400x300x150
SR4320	Enclosure with blind door + back plate	400x300x200
SR4420	Enclosure with blind door + back plate	400x400x200
SR4620	Enclosure with blind door + back plate	400x600x200
SR5320	Enclosure with blind door + back plate	500x300x200
SR5420	Enclosure with blind door + back plate	500x400x200
SR5425	Enclosure with blind door + back plate	500x400x250
SR6420	Enclosure with blind door + back plate	600x400x200
SR6425	Enclosure with blind door + back plate	600x400x250
SR6625	Enclosure with blind door + back plate	600x600x250
SR7520	Enclosure with blind door + back plate	700x500x200
SR7525	Enclosure with blind door + back plate	700x500x250
SR8625	Enclosure with blind door + back plate	800x600x250
SR8630	Enclosure with blind door + back plate	800x600x300
SR8830	Enclosure with blind door + back plate	800x800x300
SR10625	Enclosure with blind door + back plate	1000x600x250
SR10630	Enclosure with blind door + back plate	1000x600x300
SR10830	Enclosure with blind door + back plate	1000x800x300
SR12630	Enclosure with blind door + back plate	1200x600x300
SR12830	Enclosure with blind door + back plate	1200x800x300



### SR Enclosures with glazed door

The enclosures with glazed door are also used for distribution configurations.

The internal equipment is made, alternatively, by selecting the special kits:

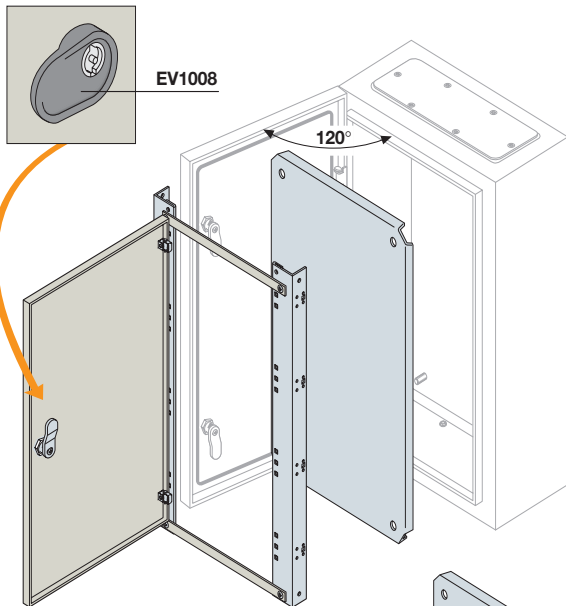
- **KA... (Automation Kit)** consisting of galvanised painted sheet internal counterdoor, complete with fixing uprights and galvanised internal plate (for automation, command and control configurations);
- **KD... (Distribution Kit)** consisting of a pair of functional uprights for assembly of the modular panels (to be ordered separately) and of any compensation panel (see page 2/8).

The modular panels, which can also be installed on the enclosures with blind door with the help of the KD.. kit itself, are all hinged and have vertical modularity of 185 mm.

Code	Description	Dimensions mm (HxWxD)
SR5420V	Enclosure with glazed door	500x400x200
SR5425V	Enclosure with glazed door	500x400x250
SR6420V	Enclosure with glazed door	600x400x200
SR6425V	Enclosure with glazed door	600x400x250
SR7520V	Enclosure with glazed door	700x500x200
SR7525V	Enclosure with glazed door	700x500x250
SR8625V	Enclosure with glazed door	800x600x250
SR8630V	Enclosure with glazed door	800x600x300
SR10625V	Enclosure with glazed door	1000x600x250
SR10630V	Enclosure with glazed door	1000x600x300
SR10830V	Enclosure with glazed door	1000x800x300
SR12630V	Enclosure with glazed door	1200x600x300
SR12830V	Enclosure with glazed door	1200x800x300

# SR Enclosures

## Ordering codes



### Counterdoor and blind back plate

Internal galvanised sheet mounting plate 20/10mm thick suitable for making threaded holes. Fixing with small items provided. Possibility of adjusting the depth with the help of a special spacer kit (to be ordered separately). Internal counterdoor guarantees the IP20 degree of protection. Sheet steel internal counterdoor 15/10mm thick galvanised and painted RAL 7032 colour orange peel.

Code	Description	Dimensions mm (HxW)
KA5040	Double blind door and back plate IP20	500x400
KA6040	Double blind door and back plate IP20	600x400
KA7050	Double blind door and back plate IP20	700x500
KA8060	Double blind door and back plate IP20	800x600
KA1060	Double blind door and back plate IP20	1000x600
KA1080	Double blind door and back plate IP20	1000x800
KA1260	Double blind door and back plate IP20	1200x600
KA1280	Double blind door and back plate IP20	1200x800

### Blind counterdoor

Internal counterdoor guarantees the IP20 degree of protection. Made of 15/10mm thick steel sheet, galvanized and painted orange peel RAL 7032 color, complete with ergonomic box and double tongue insert.

Code	Description	Dimensions mm (HxW)
KC5040	Blind counterdoor	500x400
KC6040	Blind counterdoor	600x400
KC7050	Blind counterdoor	700x500
KC8060	Blind counterdoor	800x600
KC1060	Blind counterdoor	1000x600
KC1080	Blind counterdoor	1000x800
KC1260	Blind counterdoor	1200x600
KC1280	Blind counterdoor	1200x800

### Blind internal mounting plate

Internal galvanised sheet mounting plate 20/10mm thick complete with fixing with small items provided. Possibility of adjusting the depth with the help of a special spacer kit (to be ordered separately).

Code	Description	Dimensions mm (HxW)
PF3020	Blind back plate for enclosure SR3215	300x200
PF3030	Blind back plate for enclosure SR3315	300x300
PF3040	Blind back plate for enclosure SR3415	300x400
PF4030	Blind back plate for enclosure SR4315-SR4320	400x300
PF4040	Blind back plate for enclosure SR4420	400x400
PF4060	Blind back plate for enclosure SR4620	400x600
PF5030	Blind back plate for enclosure SR5320	500x300
PF5040	Blind back plate for enclosure SR5420-SR5425	500x400
PF6040	Blind back plate for enclosure SR6420-SR6425	600x400
PF6060	Blind back plate for enclosure SR6625	600x600
PF7050	Blind back plate for enclosure SR7520-SR7525	700x500
PF8060	Blind back plate for enclosure SR8625-SR8630	800x600
PF8080	Blind back plate for enclosure SR8830	800x800
PF1060	Blind back plate for enclosure SR10625-SR10630	1000x600
PF1080	Blind back plate for enclosure SR10830	1000x800
PF1260	Blind back plate for enclosure SR12630	1200x600
PF1280	Blind back plate for enclosure SR12830	1200x800

### Clip nuts

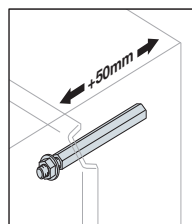
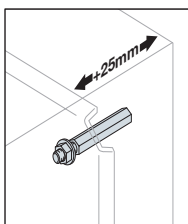
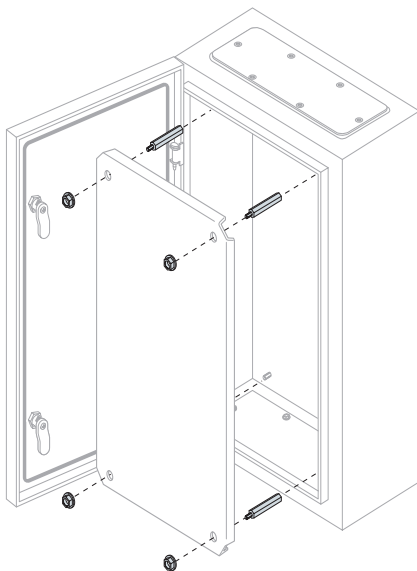
For slotted plates with M6x10mm hexagonal head screws.

Code	Description
TQ6610	N°20 clip nuts

### Spacer Kit for adjusting the depth of the back plates

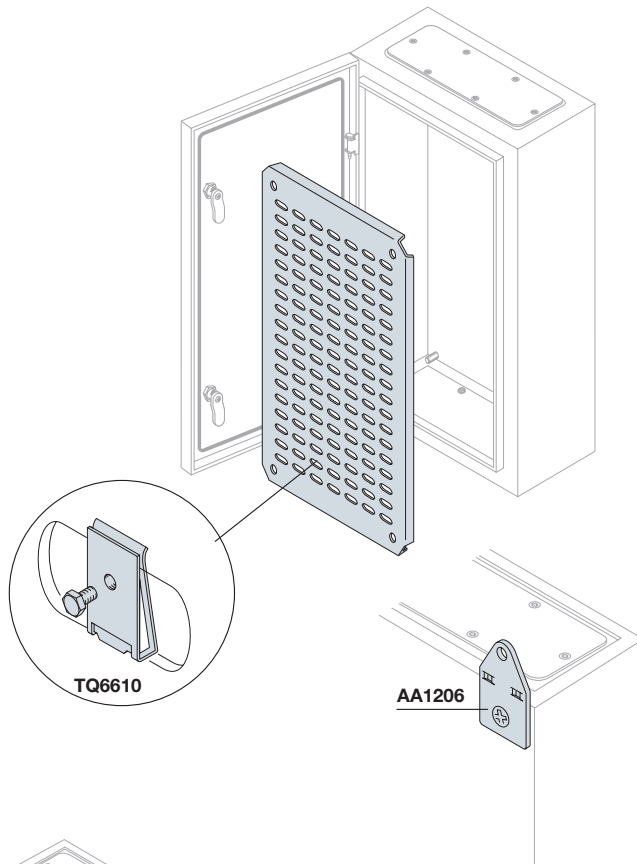
Kit consisting of 12 spacers for fixing the back plate with the possibility of adjusting the depth with 25 mm pitch.

Code	Description
AA8025	N°12 spacers 25mm long
AA8050	N°12 spacers 50mm long



# SR Enclosures

## Ordering codes



### Slotted internal mounting plate

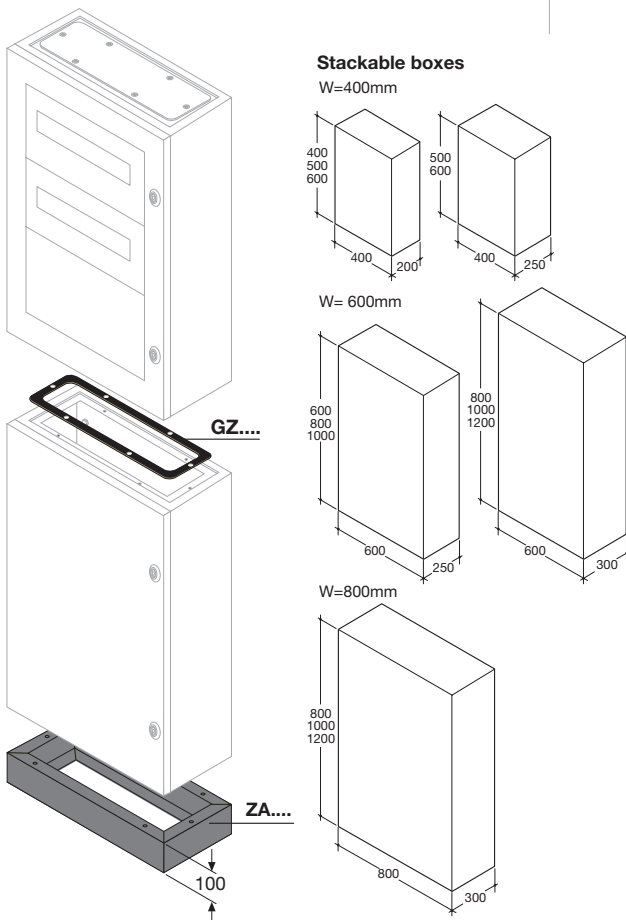
Fixing with small items provided. Possibility of adjusting the depth with the help of a special spacer kit (to be ordered separately).

Code	Description	Dimensions mm (HxW)
TQ3020	Back plate for enclosure SR3215	300x200
TQ3030	Back plate for enclosure SR3315	300x300
TQ3040	Back plate for enclosure SR3415	300x400
TQ4030	Back plate for enclosure SR4315-SR4320	400x300
TQ4040	Back plate for enclosure SR4420	400x400
TQ4060	Back plate for enclosure SR4620	400x600
TQ5030	Back plate for enclosure SR5320	500x300
TQ5040	Back plate for enclosure SR5420-SR5425	500x400
TQ6040	Back plate for enclosure SR6420-SR6425	600x400
TQ6060	Back plate for enclosure SR6625	600x600
TQ7050	Back plate for enclosure SR7520-SR7525	700x500
TQ8060	Back plate for enclosure SR8625-SR8630	800x600
TQ8080	Back plate for enclosure SR8830	800x800
TQ1060	Back plate for enclosure SR10625-SR10630	1000x600
TQ1080	Back plate for enclosure SR10830	1000x800
TQ1260	Back plate for enclosure SR12630	1200x600
TQ1280	Back plate for enclosure SR12830	1200x800

### Brackets for wall fixing

These allow wall installation of the enclosures and are mounted by using the special holes positioned on the rear of the enclosures. Construction in sheet steel 25/10mm thick and subjected to yellow passivated galvanisation treatment.

Code	Description
AA1206	N° 4 brackets for wall fixing



### Accessories for stacking

#### IP65 Gasket

Code	Description	Dimensions mm (WxDxH)
GZ4020	IP65 gasket	400x200
GZ4025	IP65 gasket	400x250
GZ6025	IP65 gasket	600x250
GZ6030	IP65 gasket	600x300
GZ8030	IP65 gasket	800x300

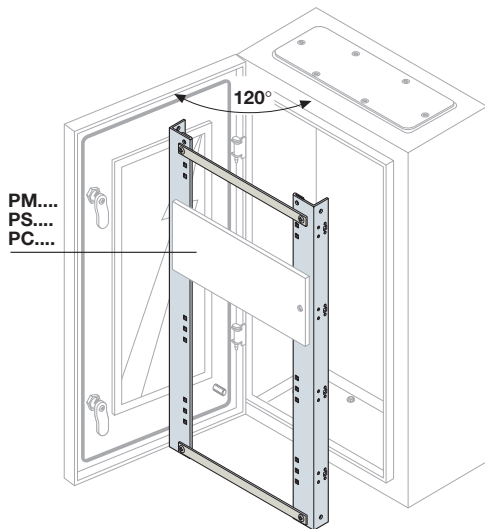
#### Plinth

Steel plinth 25/10 thick black RAL9005 color.

Code	Description	Dimensions mm (WxDxH)
ZA4020	Plinth	400x200x100
ZA4025	Plinth	400x250x100
ZA6025	Plinth	600x250x100
ZA6030	Plinth	600x300x100
ZA8030	Plinth	800x300x100

# SR Enclosures

## Ordering codes



### Frame for DIN rail

Internal supports for fixing modular panels and DIN rails.

Code	Description	Dimensions mm (HxW)
<b>KD5040</b>	Supports for assembly of DIN panels (14 DIN mod.) x 2 rows 28	500x400
<b>KD6040</b>	Supports for assembly of DIN panels (14 DIN mod.) x 3 rows 42	600x400
<b>KD8060</b>	Supports for assembly of DIN panels (25 DIN mod.) x 4 rows 100	800x600
<b>KD1060</b>	Supports for assembly of DIN panels (25 DIN mod.) x 5 rows 125	1000x600
<b>KD1260</b>	Supports for assembly of DIN panels (25 DIN mod.) x 6 rows 150	1200x600
<b>KD1080</b>	Supports for assembly of DIN panels (36 DIN mod.) x 5 rows 180	1000x800
<b>KD1280</b>	Supports for assembly of DIN panels (36 DIN mod.) x 6 rows 216	1200x800

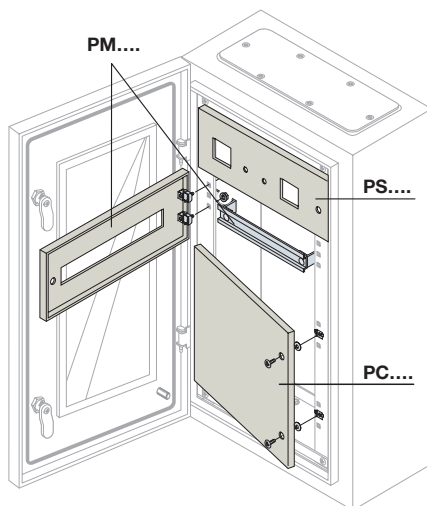
### Modular hinged panels for modular apparatus (DIN rail and fixing brackets included)

Modular panels made of 12/10mm thick sheet steel painted RAL 7032 colour orange peel. The modular hinged panels can be mounted on the enclosures by using the special kit (KD...) consisting of functional uprights and compensation panel. The hinges patented by ABB, allow automatic earthing for panel contact when it is closed and are also prepared for conventional earthing (with a cable).

Each modular panel (PM) has a DIN rail provided (adjustable in depth), the fixing brackets and the relative small items.

Modular and circuit-breakers and Tmax moulded-case circuit-breakers up to T3 can be placed side by side on the same DIN rail using the special depth adapter AP 6001. To install moulded-case circuit-breakers, it is necessary to fix the DIN rail in a position towards the back.

The fixing brackets of the DIN rail allow the wiring duct to be mounted up to a maximum size of 60 x 60 mm.



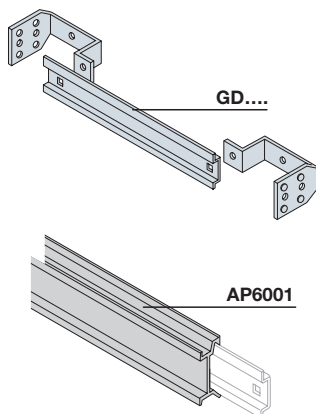
Code	Description	Dimensions mm (HxW)
<b>PM1414</b>	Mod. panel (14mod.) + DIN rail + fixing bracket .	185x400
<b>PM1625</b>	Mod. panel (25mod.) + DIN rail + fixing bracket	185x600
<b>PM1836</b>	Mod. panel (36mod.) + DIN rail + fixing bracket	185x800

### Modular hinged panels for measuring instruments

Code	Description	Dimensions mm (HxW)
<b>PS2476</b>	Mod. panel for 2 72x72mm instruments	185x400
<b>PS2676</b>	Mod. panel for 2 72x72mm instruments	185x600
<b>PS2876</b>	Mod. panel for 2 72x72mm instruments	185x800

### Modular hinged blind panels

Code	Description	Dimensions mm (HxW)
<b>PC1406</b>	Modular blind panel	185x400
<b>PC1606</b>	Modular blind panel	185x600
<b>PC1806</b>	Modular blind panel	185x800
<b>PC2606</b>	Modular blind panel	370x600
<b>PC2806</b>	Modular blind panel	370x800



### DIN rail and fixing brackets

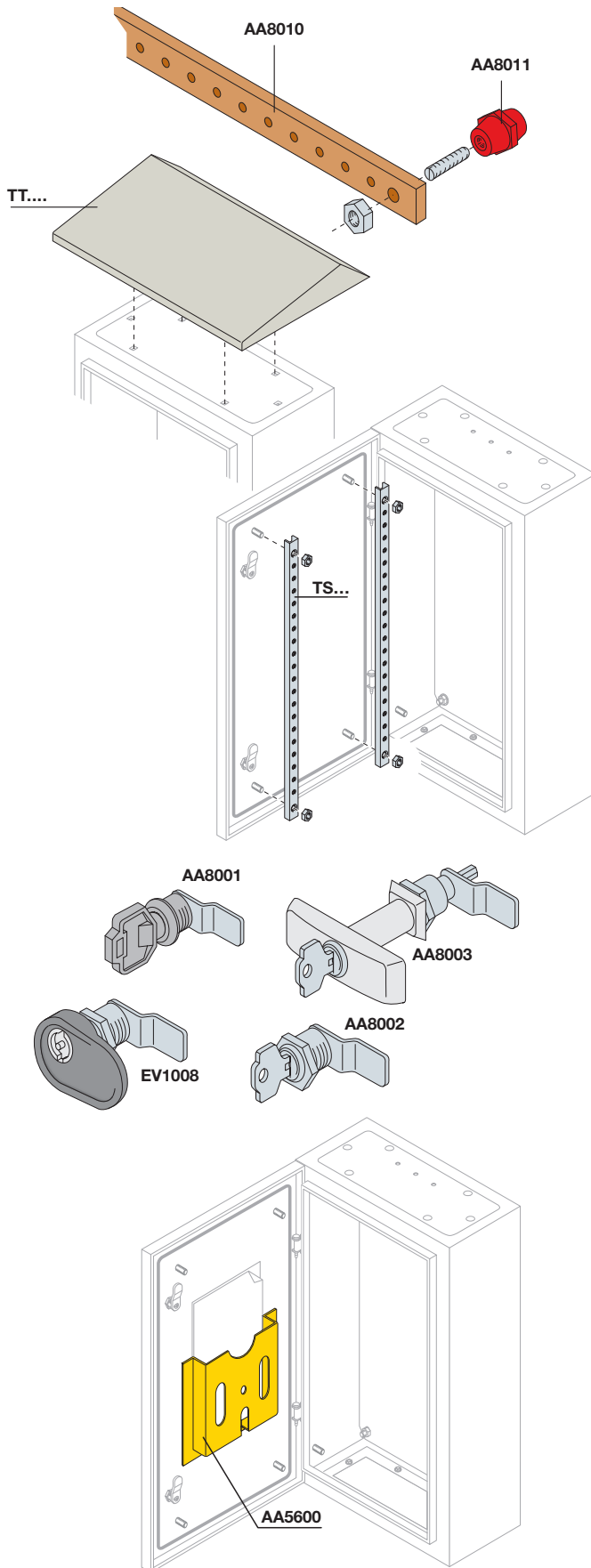
Code	Description	Dimensions mm (L)
<b>GD4006</b>	DIN rail and fixing brackets (14 mod.)	400
<b>GD6006</b>	DIN rail and fixing brackets (25 mod.)	600
<b>GD8006</b>	DIN rail and fixing brackets (36 mod.)	800

### Depth adapter

Code	Description	Dimensions mm (L)
<b>AP6001</b>	Depth adapter	600

# SR Enclosures

## Ordering codes



### Neutral or earthing busbars

The busbars, made of electrolytic copper with M6 threaded holes with 25 mm pitch, can be mounted on the back plates by means of the special supports. They must be sized according to the enclosure and the position they are installed in.

Code	Description	Dimensions mm (W)
AA8010	N° 4 busbars sect. 20x5mm	1000
AA8011	N° 5 supports for busbar	

### Spray protection roofs

To improve protection against entry of liquids and rain. Made of 15/10mm thick sheet steel, painted RAL 7032 colour orange peel.

Code	Description	Dimensions mm (WxD)
TT2015	Spray protection roof	200x150
TT3015	Spray protection roof	300x150
TT4015	Spray protection roof	400x150
TT3020	Spray protection roof	300x200
TT4020	Spray protection roof	400x200
TT5020	Spray protection roof	500x200
TT6020	Spray protection roof	600x200
TT4025	Spray protection roof	400x250
TT5025	Spray protection roof	500x250
TT6025	Spray protection roof	600x250
TT6030	Spray protection roof	600x300
TT8030	Spray protection roof	800x300

### Shaped sections for accessories

These allow fixing of accessories (e.g. wiring ducts) inside the blind doors. They consist of a pair of vertical crosspieces made of 15/10mm thick white galvanised sheet, pre-drilled with 2.5 mm pitch. In the enclosures with 1000 and 1200 mm height with blind door, the shaped sections are already provided.

Code	Description	Dimensions mm (H)
TS6006	N° 2 shaped sections for door	600
TS7006	N° 2 shaped sections for door	700
TS8006	N° 2 shaped sections for door	80

### Closing systems

These can replace the standard closures of the external doors. The inserts are interchangeable and easily replaced by loosening a single nut.

Code	Description
AA8001	Box Ø 19mm double tongue and plastic key (spare part)
AA8002	Box Ø 19mm with security insert and Yale type key
AA8003	Box Ø 19mm with handle and Yale type key
AA5200	Box Ø 19mm with triangular insert
AA5190	Plastic key for triangular insert AA5200
EV1008	Ergonomic box complete with double tongue insert
EV1036	Single code Yale insert for EV1008
EV1037	Ronis 455 insert for EV1008
EV1039	3mm Double tongue insert for EV1008

<sup>(1)</sup> Only for external door

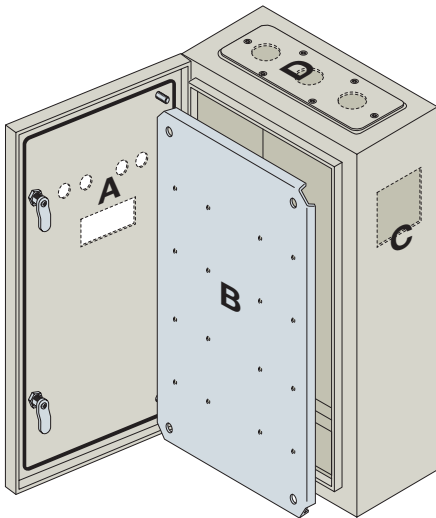
### Document pocket

Made of plastic, RAL 2004 colour, A4 size. The pocket can be glued inside the blind door with a width of more than 400 mm, using the adhesives provided.

Code	Description
AA5600	Document pocket

# SR Enclosures

## Ordering codes



### Special Painting Service

See page 7/12 for the colours available.

Code	Description
<b>VERNSR</b>	Overprice for special painting SR

Special painting service to manage with code of enclosure **SR..../1**.

### Special Drilling service

Code	Description
<b>FORSR</b>	Overprice for special drilling of door/plate/enclosure/flange SR

Special drilling service to manage with code of enclosure **SR..../2** It's necessary to include drawing of layout of drilling.

Special drilling and painting service to manage with code of enclosure **SR..../3** It's necessary to include drawing of layout of drilling.

### Spray paint

For touching up - grey RAL7032 colour.

Code	Description
<b>VB7032</b>	400ml can

### Spare parts

Code	Description
<b>AA1203</b>	N. 16 screws and nuts M6x14 for flange
<b>AA8001</b>	Double tongue closing and key
<b>FL3215</b>	N. 2 fairlead plates for SR3215
<b>FL3315</b>	N. 2 fairlead plates for SR3315-SR4315
<b>FL3415</b>	N. 2 fairlead plates for SR3415
<b>FL4320</b>	N. 2 fairlead plates for SR4320-SR5320
<b>FL4420</b>	N. 2 fairlead plates for SR4420-SR5420-SR6420
<b>FL4425</b>	N. 2 fairlead plates for SR5425-SR6425
<b>FL4620</b>	N. 2 fairlead plates for SR4620
<b>FL6625</b>	N. 2 fairlead plates for SR6625-SR8625-SR10625
<b>FL7520</b>	N. 2 fairlead plates for SR7520
<b>FL7525</b>	N. 2 fairlead plates for SR7525
<b>FL8630</b>	N. 2 fairlead plates for SR8630-SR10630-SR12630
<b>FL8830</b>	N. 2 fairlead plates for SR8830-SR10830-SR12830
<b>PR1066</b>	Blind door 1000x600mm (hwxw)
<b>PR1086</b>	Blind door 1000x800mm (hwxw)
<b>PR1266</b>	Blind door 1200x600mm (hwxw)
<b>PR1286</b>	Blind door 1200x800mm (hwxw)
<b>PR3026</b>	Blind door 300x200mm (hwxw)
<b>PR3006</b>	Blind door 300x300mm (hwxw)
<b>PR3046</b>	Blind door 300x400mm (hwxw)
<b>PR4036</b>	Blind door 400x300mm (hwxw)
<b>PR4046</b>	Blind door 400x400mm (hwxw)
<b>PR4066</b>	Blind door 400x600mm (hwxw)
<b>PR5036</b>	Blind door 500x300mm (hwxw)
<b>PR5046</b>	Blind door 500x400mm (hwxw)
<b>PR6046</b>	Blind door 600x400mm (hwxw)
<b>PR6066</b>	Blind door 600x600mm (hwxw)
<b>PR7056</b>	Blind door 700x500mm (hwxw)
<b>PR8066</b>	Blind door 800x600mm (hwxw)
<b>PR8086</b>	Blind door 800x800mm (hwxw)
<b>PT1066</b>	Glazed door 1000x600mm (hwxw)
<b>PT1086</b>	Glazed door 1000x800mm (hwxw)
<b>PT1266</b>	Glazed door 1200x600mm (hwxw)
<b>PT1286</b>	Glazed door 1200x800mm (hwxw)
<b>PT5046</b>	Glazed door 500x400mm (hwxw)
<b>PT6046</b>	Glazed door 600x400mm (hwxw)
<b>PT7056</b>	Glazed door 700x500mm (hwxw)
<b>PT8066</b>	Glazed door 800x600mm (hwxw)
<b>EV1008</b>	Ergonomic Box complete with double tongue insert

# SR EMC Enclosures

## General characteristics and ordering codes

The range of SR Enclosures has been enriched with the EMC (Electromagnetic Compatibility) version. The new version has undergone shielding efficiency tests with success according to the MIL STD 285: 1956 Standard.

This series of products is suitable for making small and medium-sized electric switchboards for automation, operation and control. The electromagnetic compatibility problem also requires attention when selecting enclosures and cabinets. The increased number of components in the operation and regulation electronics and the high processing speeds of signals increasingly often leave a possibility of introducing errors which can be attributed to electromagnetic interference.

These interferences may be caused continuously, periodically or at random, from internal or external sources, which generate electric, magnetic or electromagnetic fields.

The suitability tests according to MIL STD 285: 1956 ("Attenuation measurements for enclosures, electromagnetic shielding, for electronic test purposes, method of") have confirmed conformity of the SR EMC enclosure with the requirements of the standard. The attenuation level (measured in dB) remains at high levels for a wide spectrum of frequencies (from 30MHz to 10GHz). The SR galvanized sheet enclosures are painted externally with orange peel RAL 7032 color.

Furthermore, they do not have cable entry flanges on the roof and on the base.

### Technical characteristics

Conformity with the Standard	CEI EN 62208
Degree of protection	IP54 (CEI EN 60529)
Degree of mechanical strength	IK10 blind door (CEI EN 50102)

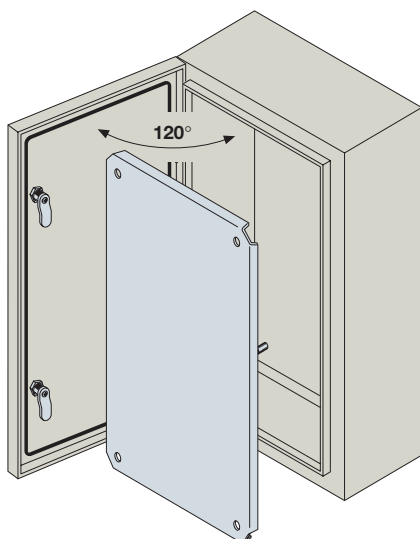
### Certifications



Type of material	Metallic
Installation site	Indoors
Fixing method	floor/wall
Normal service conditions	
- ambient temperature	from -5 to +40°C
Atmospheric conditions – relative humidity	50% at 40°C 90% at 20°C



2



### IP54 - EMC Enclosures with blind door

The enclosures with blind door, typically destined for making automation switchboards, are already provided with the internal galvanized sheet plate.

Code	Description	Dimensions mm (HxWxD)
SR4620EMC	Enclosure with blind door	400x600x200
SR6625EMC	Enclosure with blind door	600x600x250
SR10830EMC	Enclosure with blind door	1000x800x300

**For completion of the structure, see accessories on page 2/6**



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## SR-E Enclosures without flanges

### General characteristics and selection table

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The range of SR-E enclosures is an offer of monobloc containers for making essential automation, command and control and on-board machine electrical switchgear.



The SR-E enclosures have been designed to fulfil the typical needs of the builder or installer of electrical switchgear and have the following basic functional characteristics:

- certified IP66 degree of protection
- sturdy sheet steel structure painted with polyester epoxy powder paints
- internal galvanised sheet mounting plate 20/10mm thick (to allow the threaded holes to be made easily)
- complete reversibility of the enclosure so the door can open either on the right or on the left-hand side.

The SR-E enclosures are available with blind door and in six different dimensions, which go from 200x200 to 400x300mm (hwxw) and a single 150 mm depth.

The door is supplied with the enclosure, whereas the internal galvanised sheet mounting plate must be ordered separately.



# SR-E Enclosures without flanges

## General characteristics and selection table

### Junction boxes with hinged cover

These are available in the following dimensions (external), which means 6 different combinations are possible and in particular H:200/300/ 400mm, W: 200/300mm, D: 150mm. The cover is fitted with a sealing gasket and has double tongue key opening. It also allows 180° opening.

### Accessories:

- back plate made of 20/10mm galvanised sheet
- N.4 squares for wall fixing

These conform to the EN 50298 Standard "Empty enclosures for low voltage protection switchgear and controlgear assemblies" and allow electrical equipment conforming to prescriptions of the CEI EN 60204-1 Standard "Safety of machinery.

Electrical equipment of machines" to be constructed. The degree of protection, in accordance with the CEI EN 60529 Standard "Degrees of protection of the enclosures (IP Code)", is IP66. The SR-E enclosures have also passed the checks required to obtain the UL (Underwriters Laboratories) and CSA (Canadian Standards Association) NEMA 250 Type 12 marks. Made of 12/10 thick sheet, painted both internally and externally with RAL7032 colour orange peel, they are supplied as a single enclosure already prepared with supports for fixing the accessories and with 4 holes for mounting the wall fixing brackets.

The SR-E enclosures are constructed using an innovative production process patented by ABB which, starting from flat sheet steel, allows the finished product to be made with the need for any welding.


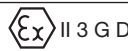
A series of accessories can be housed inside, among which the back plate, DIN rail and fixing brackets, exploiting the whole depth of the box.

The multiple protective edging prevents water and any impurities from entering the structure, thereby guaranteeing the IP66 degree of protection.

Finally, it makes the profile sturdier. Furthermore, earthing is guaranteed by two copper pins located inside the structure and on the cover respectively.

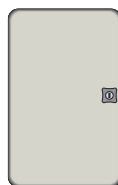
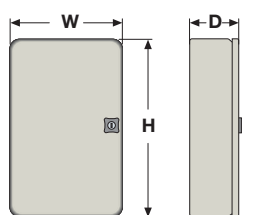


### Technical characteristics

Conformity with the Standard	CEI EN 62208
Degree of protection	IP65 (CEI EN 60529) NEMA 250 TYPE 4/12 (UL Standard)
Degree of mechanical strength	IK10 (CEI EN 50102)
Certifications	 
Type of material	Metallic
Installation site	Indoors
Fixing method	Wall
Normal service conditions	
- ambient temperature	from -5 to +40°C
Atmospheric conditions – relative humidity	50% at 40°C 90% at 20°C

2

### Selection table

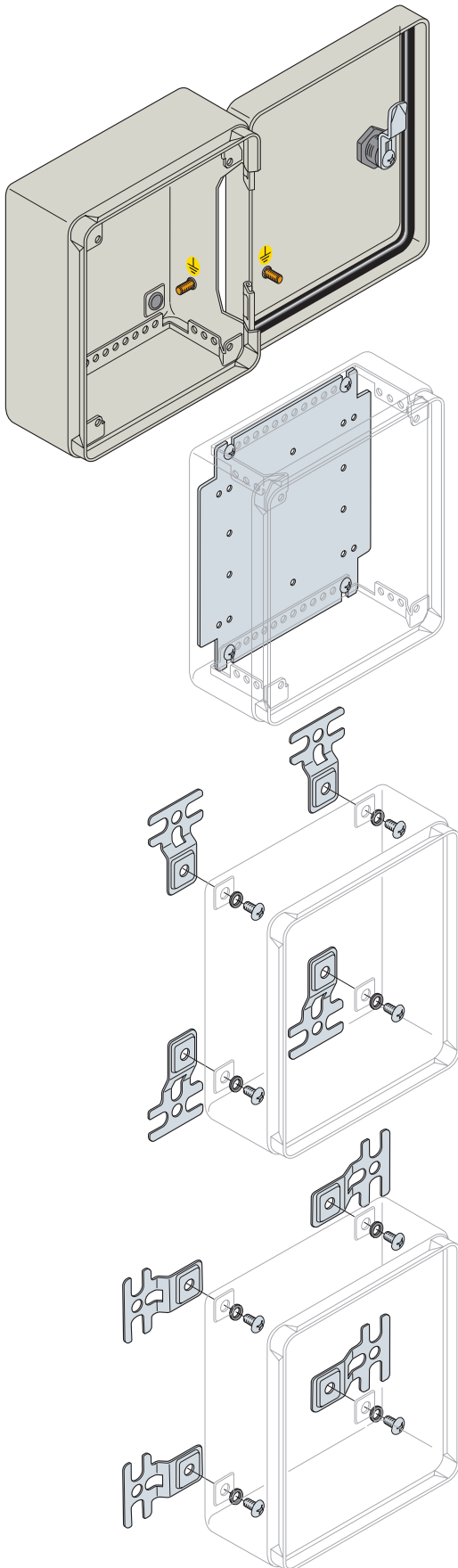


H	W	D	Hinged door	Back plate
mm	mm	mm		
200	200	150	SRE2215	CD2020
300	200		SRE3215	CD3020
300	300		SRE3315	CD3030
300	400		SRE3415	CD3040
400	200		SRE4215	CD4020
400	300		SRE4315	CD4030
400	400		SRE4415	CD4040
500	300		SRE5315	CD5030
500	400		SRE5415	CD5040
600	400		SRE6415	CD6040
400	400	200	SRE4420	CD4040
500	300		SRE5320	CD5030
500	400		SRE5420	CD5040
600	400		SRE6420	CD6040

# SR-E Enclosures without flanges

## Ordering codes

2



### SR-E Enclosures

Enclosure made of 12/10mm thick sheet painted RAL7032 orange peel, complete with hinged door fitted with box with double tongue closing and gasket.

Code	Description	Dimensions mm (HxWxD)
SRE2215	Enclosure with hinged door	200x200x150
SRE3215	Enclosure with hinged door	300x200x150
SRE3315	Enclosure with hinged door	300x300x150
SRE3415	Enclosure with hinged door	300x400x150
SRE4215	Enclosure with hinged door	400x200x150
SRE4315	Enclosure with hinged door	400x300x150
SRE4415	Enclosure with hinged door	400x400x150
SRE5315	Enclosure with hinged door	500x300x150
SRE5415	Enclosure with hinged door	500x400x150
SRE6415	Enclosure with hinged door	600x400x150
SRE4420	Enclosure with hinged door	400x400x200
SRE5320	Enclosure with hinged door	500x300x200
SRE5420	Enclosure with hinged door	500x400x200
SRE6420	Enclosure with hinged door	600x400x200

### Back plate

Plate made of 20/10mm thick galvanised steel which can be inserted from the front. Complete with relative fixing bolts and screws.

Code	Description	Dimensionsmm (HxW)
CD2020	Back plate	200x200
CD3020	Back plate	300x200
CD3030	Back plate	300x300
CD3040	Back plate	300x400
CD4020	Back plate	400x200
CD4030	Back plate	400x300
CD4040	Back plate	400x400
CD5030	Back plate	500x300
CD5040	Back plate	500x400
CD6040	Back plate	600x400

### Square for wall fixing

These allow the enclosure to be fixed to the wall in the four corners. Complete with relative fixing bolts and screws.

Code	Description
CD1001	N°4 Squares for wall fixing



## Index

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## AM2 Cabinets

### General characteristics and applications

The range of AM2 cabinets allows construction of electric switchboards for operation and control of technological plants, covering the middle market segment of automation switchboards in particular. These monobloc enclosures are suitable for making floor-mounted electric switchboards, offering numerous customization possibilities based on individual needs and habits.

The AM2 cabinets, within the range of ABB automation enclosures, take an intermediate position in terms of dimensions, functions and price, in between the SR enclosures and the IS2 cabinets, offering a unique ensemble of technical characteristics, along with simplicity of assembly.





#### Versions available

- Panel board with blind door (single for  $W \leq 1000\text{mm}$ , double with overlapping closure for  $W \leq 800\text{mm}$ );
- Panel board with glazed door;
- Panel board with 19" fixed rack frame;
- Distribution cabinet with DIN rails and panels;



#### Technical characteristics

Conformity with Standard	CEI EN 62208
Degree of protection	IP65 (CEI EN 60529) NEMA 250 TYPE 12 (UL Standard)
Degree of mechanical strength	IK10 blind door IK09 glazed door (CEI EN 50102)
Certifications	  II 3 G D
Type of material	Metallic
Installation site	Indoor
Fixing method	floor
Normal service conditions	
- ambient temperature	from - 5 to +40°C
Atmospheric conditions – relative humidity	50% to 40°C 90% to 20°C

# AM2 Cabinets

## General characteristics and applications

Their complete compliance with the CEI EN 62208 Standards (Empty enclosures for low voltage switchgear and controlgear assemblies) and the relative Technical characteristics, allow use of the AM2 cabinets in the very different application fields, as prescribed by the CEI EN 60204-1 Standard on Safety of Machinery or in environments with risk of explosion due to presence of dusts or (ATEX), as foreseen by the CEI EN 50281-3 Standard.

The whole range of AM2 cabinets features IP65 degree of protection, tested and verified according to the EN 60529 Standard. The AM2 cabinets have also passed the control needed to obtain the UL (Underwriters Laboratories) NEMA 250 TYPE 12 marks.

The degree of mechanical strength in Conformity with the CEI IEC 50102 Standard is IK10 for the versions with blind door and IK09 for those with glazed door. The standard colour is orange peel RAL 7032. On request, it is possible to order the AM2 cabinets in a wide range of RAL colours (see page 7/12) and to take advantage of the accessory mounting service.

The above-mentioned versatility features are such as to allow the use of AM2 cabinets as switchgear and controlgear of industrial processing machines and plants, air conditioning plants, up to application such as distribution switchboards for plants, buildings etc.



3



The range of AM2 cabinets is available with 36 different dimensions:



- Height from 1000 to 2000mm
- Width from 600 to 1600mm
- (the cabinets with width  $\geq$  1200mm are only supply at the front with double door)
- Depth 300, 400 and 500mm
- Two different versions: with blind door and with glazed door.

# AM2 Cabinets

## General characteristics and applications

Briefly, the main technical and functional characteristics of the AM2 cabinets and their components are as follows:

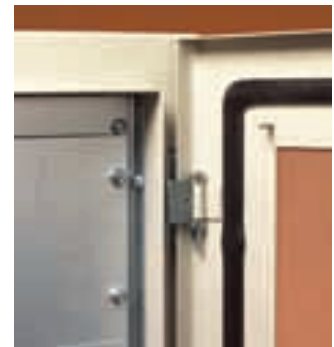
### Structure

- Made of steel sheet 15/10mm thick automatically welded by means of a robot, M6 pins for earthing applied inside
- IP65 degree of protection verified according to the CEI EN60529 Standard
- Mounting plate in galvanized sheet 25/10mm thick and such as to therefore guarantee protection even of the parts drilled by the user; the plate is adjustable in depth with a pitch of 25mm. Assembly of the plates in the cabinets height-wise is facilitated by the presence of two sliding supports at the back of the cabinet.



### Cable tightening plates and plinth

- The cable tightening plates, not included in the supply, are of the sliding type, fitted with tightness gasket on 400 and 500mm depths, whereas for the 300mm depth they are fixed.
- Palletisable plinths consisting of h=100mm four angle pieces already fixed onto the base of the structure. The four closing flanges must be ordered separately



### Doors

- Front doors with 120° opening made of steel sheet 15/10mm thick, with internal polyurethane foam gasket, laid using a continuous casting process. The blind doors are fitted with an internal tube section which increases the rigidity and allows easy assembly of wiring ducts and accessories. The version with glazed doors are fitted with hardened safety glass 4mm thick glued from the outside and such as to guarantee the IP65 degree of protection. Standard opening is from the left to right with the possibility of only inverting the direction of the handle.
- Lock with double tongue insert and hooking device from two (h=1400mm) to four (h=1600-1800-2000mm) closing points
- The versions with h=1000 and 1200mm are fitted with two closing points by means of a box with double tongue key
- Screwed rear panel, made of 15/10mm thick steel sheet, removable and replaceable with a door
- Internal counterdoor made of 15/10mm thick painted sheet, fixed onto a pair of internal uprights and positioned at a distance of 50mm from the external front door

# AM2 Cabinets

## General characteristics and applications

### Distribution switchboard

- The AM2 cabinets can be fitted with modular panels in 600 and 800mm widths made of 15/10mm thick steel sheet as accessories.

The modular panels are available in the version with DIN cut-out for one or three rows of modular apparatus, in the blind version and for 72x72mm and 96x96mm measuring instruments.

All the panels have vertical modularity of 200mm and are available in fixed or hinged version (by means of an accessory).

The panels with 600mm wide DIN cut-out, allow installation of 18 or 24 DIN modules, whereas those 800mm wide, allow installation of 29 or 36 DIN modules, according to whether the wiring duct is placed to the front or to the back in relation to the DIN rail.

Installation of the modular panels in the AM2 cabinets requires the use of special uprights for modular panels which are screwed onto the cabinet structure.

The useful space for installation of the modular panels is always 100mm less than the nominal dimension of the cabinet.

The DIN rails are ordered separately and the kit includes the rail, the supports and the small fixing items. Finally, the modular galvanized internal plates are available in the 600 and 800mm widths and in the heights from 200 to 800mm.

The modular plates are fixed using a kit of side crosspieces to be ordered separately according to the depth of the cabinet.



### Panel board with 19" rack frame

- The uprights with sections dedicated to assembly of the 19" rack panels and accessories are available for the whole range of AM2 cabinets for the various electronic applications or for making small cabinets for local networks (LAN).

The 19" rack uprights are made of 20/10mm thick galvanized sheet and are applied to the structure of the AM2 cabinets 600mm wide with special screws: they are available for all the AM2 cabinet heights, up to a maximum of 42 HE vertical modules.

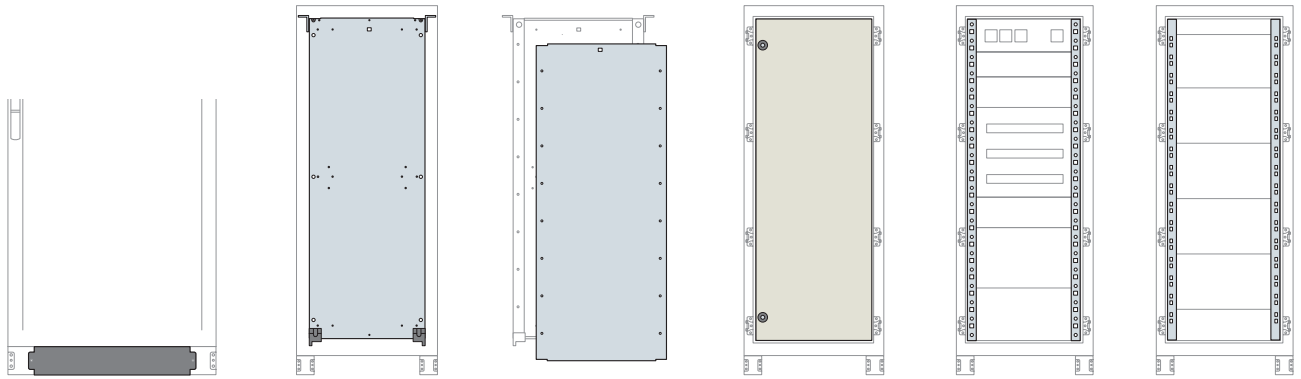
The buffer panels are available in the dimensions up to 20 HE modules, are blind and are made of natural opaque colour anodized aluminium 30/10mm thick.





# AM2 Cabinets

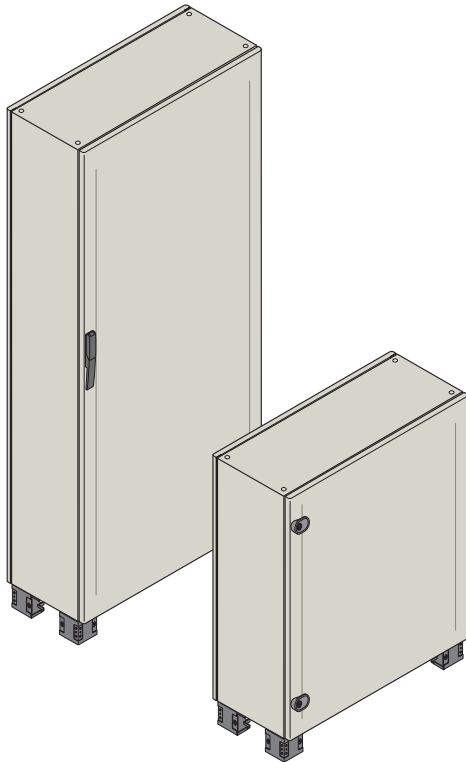
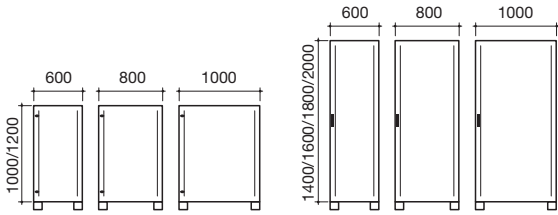
## Selection of the structure



Plinth Flanges		Mounting plate	Opposed plate	Counterdoor	DIN rail Uprights	19" rack frames
front/rear	side			RAL7032 orange peel colour		
EZ6000	EZ3011	EA1060	EA5060	TF1060	MD1000	TK1000
EZ8000		EA1080	EA5082	TF1080	MD1000	
EZ1000		EA1010	EA5010	TF1010		
EZ6000	EZ4011	EA1060	EA5060	TF1060	MD1000	TK1000
EZ8000		EA1080	EA5082	TF1080	MD1000	
EZ1000		EA1010	EA5010	TF1010		
EZ1200		EA1012				
2 x EZ8000		EA1016				
EZ6000	EZ3011	EA1260	EA5260	TF1260	MD1200	TK1200
EZ8000		EA1280	EA5280	TF1280	MD1200	
EZ1200		EA1213				
EZ6000	EZ4011	EA1260	EA5260	TF1260	MD1200	TK1200
EZ8000		EA1280	EA5280	TF1280	MD1200	
EZ1000		EA1210	EA5210	TF1210		
EZ1200		EA1213				
EZ6000	EZ3011	EA1460	EA5461	TF1460	MD1400	TK1400
EZ8000		EA1480	EA5480	TF1480	MD1400	
EZ1000		EA1411	EA5413	TF1410		
EZ6000	EZ4011	EA1460	EA5461	TF1460	MD1400	TK1400
EZ8000		EA1480	EA5480	TF1480	MD1400	
EZ1000		EA1411	EA5413	TF1410		
EZ1200		EA1412				
EZ6000	EZ5011	EA1460	EA5461	TF1460	MD1400	TK1400
EZ8000		EA1480	EA5480	TF1480	MD1400	
EZ1000		EA1411	EA5413	TF1410		
EZ1200		EA1412				
EZ6000	EZ3011	EA1616	EA5616	TF1660	MD1600	TK1600
EZ8000		EA1619	EA5620	TF1680	MD1600	
EZ6000		EA1616	EA5616	TF1660	MD1600	TK1600
EZ8000	EZ4011	EA1619	EA5620	TF1680	MD1600	
EZ1000		EA1610	EA5610	TF1610		
EZ1200		EA1612				
EZ6000	EZ5011	EA1616	EA5616	TF1660	MD1600	TK1600
EZ8000		EA1619	EA5620	TF1680	MD1600	
EZ1000		EA1610	EA5610	TF1610		
EZ1200		EA1612				
EZ6000	EZ4011	EA1860	EA5861	TF1860	MD1800	TK1800
EZ8000		EA1880	EA5883	TF1880	MD1800	
EZ1000		EA1810	EA5811	TF1810		
EZ1200		EA1812				
EZ6000	EZ5011	EA1860	EA5861	TF1860	MD1800	TK1800
EZ8000		EA1880	EA5883	TF1880	MD1800	
EZ1000		EA1810	EA5811	TF1810		
EZ1200		EA1812				
EZ6000	EZ4011	EA2060	EA5063	TF2060	MD2000	TK2000
EZ8000		EA2080	EA5083	TF2080	MD2000	
EZ1000		EA2010	EA5011	TF2010		
EZ1200		EA2013				
EZ6000	EZ5011	EA2060	EA5063	TF2060	MD2000	TK2000
EZ8000		EA2080	EA5083	TF2080	MD2000	
EZ1000		EA2010	EA5011	TF2010		
EZ1200		EA2013				

# Ordering codes

## Structures



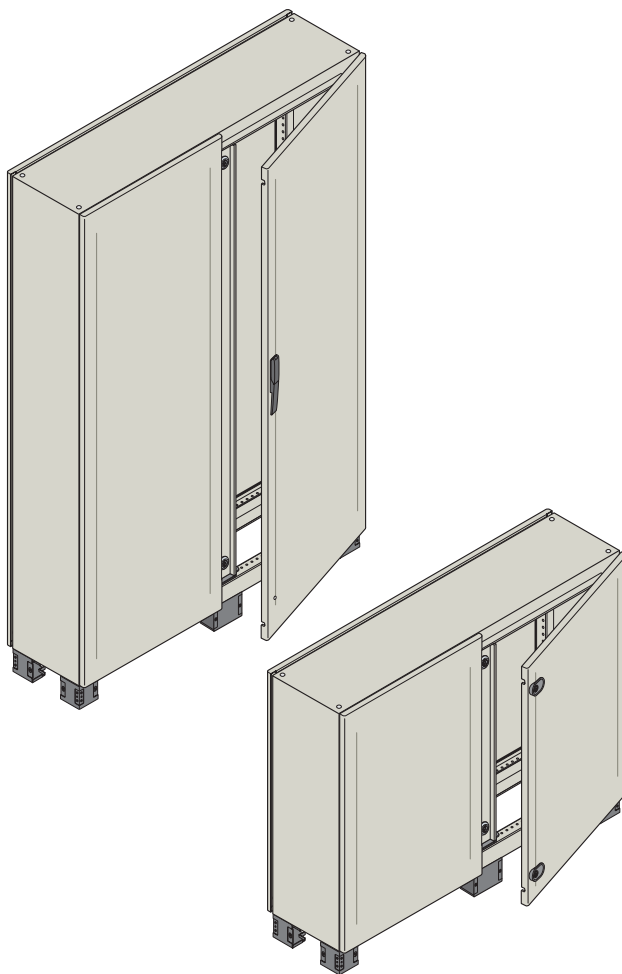
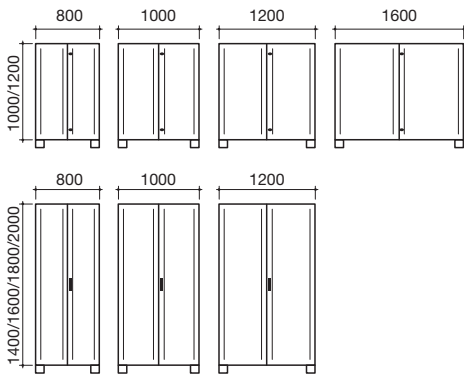
### Cabinets with blind door

Monobloc structure complete with non-removable side panels and roof, reversible blind door, rear panel, plinth H=100mm consisting of four angle pieces. To be completed with plinth flanges, cable entry flanges and mounting plate or other internal equipment.

Code	Description	Dimensions mm	
		H	W x D
TM2063	Cabinet with blind door	1000	600x300
TM2083	Cabinet with blind door		800x300
TM2064	Cabinet with blind door		600x400
TM2084	Cabinet with blind door	1200	800x400
TM2004	Cabinet with blind door		1000x400
TM2263	Cabinet with blind door		600x300
TM2264	Cabinet with blind door	1400	600x400
TM2284	Cabinet with blind door		800x400
TM2204	Cabinet with blind door		1000x400
TM2463	Cabinet with blind door	1600	600x300
TM2483	Cabinet with blind door		800x300
TM2403	Cabinet with blind door		1000x300
TM2464	Cabinet with blind door	1800	600x400
TM2484	Cabinet with blind door		800x400
TM2404	Cabinet with blind door		1000x400
TM2465	Cabinet with blind door	2000	600x500
TM2485	Cabinet with blind door		800x500
TM2405	Cabinet with blind door		1000x500
TM2663	Cabinet with blind door	1600	600x300
TM2683	Cabinet with blind door		800x300
TM2664	Cabinet with blind door		600x400
TM2684	Cabinet with blind door	1800	800x400
TM2604	Cabinet with blind door		1000x400
TM2665	Cabinet with blind door		600x500
TM2685	Cabinet with blind door	2000	800x500
TM2605	Cabinet with blind door		1000x500
TM2864	Cabinet with blind door		600x400
TM2884	Cabinet with blind door	1800	800x400
TM2804	Cabinet with blind door		1000x400
TM2865	Cabinet with blind door		600x500
TM2885	Cabinet with blind door	2000	800x500
TM2805	Cabinet with blind door		1000x500
TM2964	Cabinet with blind door		600x400
TM2984	Cabinet with blind door	1800	800x400
TM2904	Cabinet with blind door		1000x400
TM2965	Cabinet with blind door		600x500
TM2985	Cabinet with blind door	2000	800x500
TM2905	Cabinet with blind door		1000x500

# Ordering codes

## Structures



### Cabinets with double blind door with overlapping closure

Monobloc structure complete with non-removable side panels and roof, reversible double blind doors with overlapping closure, rear panel, plinth H=100mm consisting of four angle pieces.

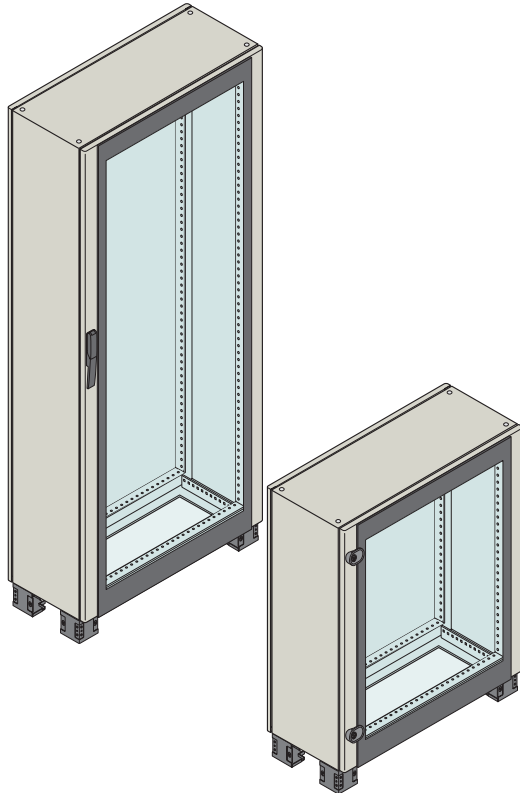
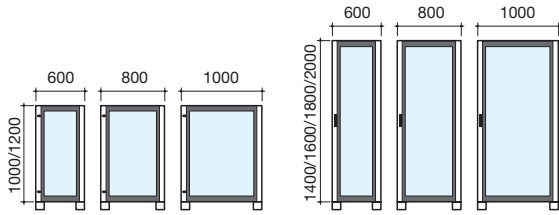
To be completed with flanges plinth, cable entry flanges and mounting plate or other internal equipment.

Code	Description	Dimensions mm	
		H	W x D
TM2083FV4	Cabinet with double blind door	1000	800x300
TM2003FV5	Cabinet with double blind door		1000x300
TM2084FV4	Cabinet with double blind door	1000	800x400
TM2004FV5	Cabinet with double blind door		1000x400
TM2024	Cabinet with double blind door	1200	1200x400
TM2074	Cabinet with double blind door		1600x400
TM2283FV4	Cabinet with double blind door	1200	800x300
TM2223	Cabinet with double blind door		1200x300
TM2204FV5	Cabinet with double blind door	1200	1000x400
TM2224	Cabinet with double blind door		1200x400
TM2483FV4	Cabinet with double blind door	1400	800x300
TM2484FV4	Cabinet with double blind door		800x400
TM2404FV5	Cabinet with double blind door	1400	1000x400
TM2424	Cabinet with double blind door		1200x400
TM2485FV4	Cabinet with double blind door	1600	800x500
TM2405FV5	Cabinet with double blind door		1000x500
TM2425	Cabinet with double blind door	1600	1200x500
TM2684FV4	Cabinet with double blind door		800x400
TM2604FV5	Cabinet with double blind door	1600	1000x400
TM2624	Cabinet with double blind door		1200x400
TM2685FV4	Cabinet with double blind door	1800	800x500
TM2605FV5	Cabinet with double blind door		1000x500
TM2625	Cabinet with double blind door	1800	1200x500
TM2884FV4	Cabinet with double blind door		800x400
TM2804FV5	Cabinet with double blind door	1800	1000x400
TM2824	Cabinet with double blind door		1200x400
TM2825	Cabinet with double blind door	2000	1200x500
TM2904FV5	Cabinet with double blind door		1000x400
TM2924	Cabinet with double blind door	2000	1200x400
TM2925	Cabinet with double blind door		1200x500

3

# Ordering codes

## Structures



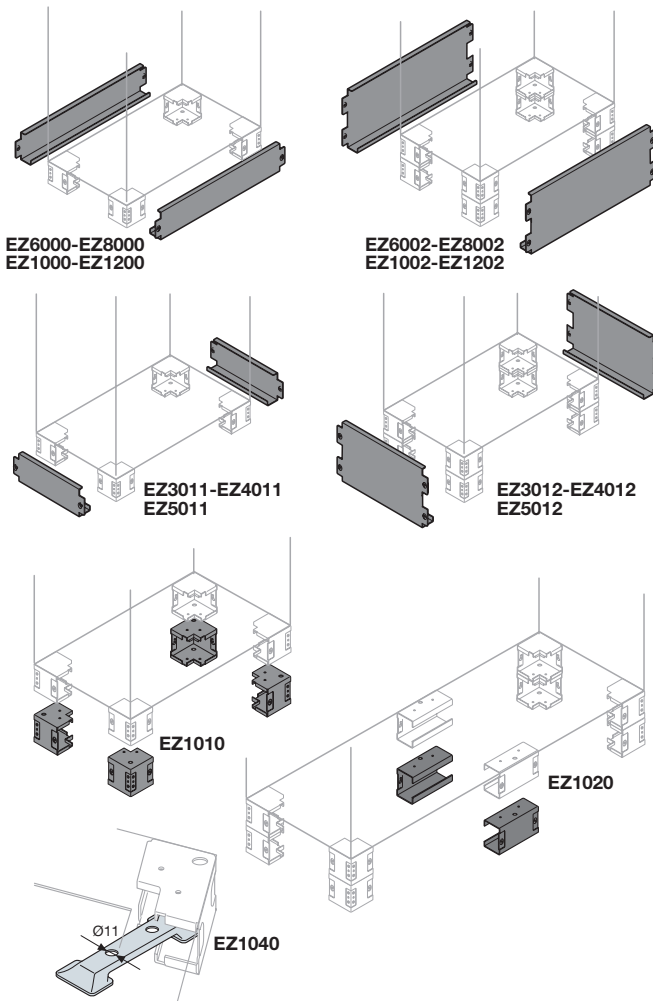
### Cabinets with glazed door

Monobloc structure complete with non-removable side panels and roof, reversible type glazed door, rear panel, plinth H=100mm consisting of four angle pieces. To be completed with plinth flanges, cable entry flanges and mounting plate or other internal equipment.

Code	Description	Dimensions mm	
		H	W x D
TM2064V	Cabinet with glazed door	1000	600x400
TM2084V	Cabinet with glazed door		800x400
TM2264V	Cabinet with glazed door	1200	600x400
TM2284V	Cabinet with glazed door		800x400
TM2204V	Cabinet with glazed door	1400	1000x400
TM2483V	Cabinet with glazed door		800x300
TM2464V	Cabinet with glazed door	1400	600x400
TM2484V	Cabinet with glazed door		800x400
TM2404V	Cabinet with glazed door	1600	1000x400
TM2664V	Cabinet with glazed door		600x400
TM2684V	Cabinet with glazed door	1600	800x400
TM2604V	Cabinet with glazed door		1000x400
TM2864V	Cabinet with glazed door	1800	600x400
TM2884V	Cabinet with glazed door		800x400
TM2804V	Cabinet with glazed door	1800	1000x400
TM2865V	Cabinet with glazed door		600x500
TM2885V	Cabinet with glazed door	2000	800x500
TM2805V	Cabinet with glazed door		1000x500
TM2964V	Cabinet with glazed door	2000	600x400
TM2984V	Cabinet with glazed door		800x400
TM2904V	Cabinet with glazed door	2000	1000x400
TM2965V	Cabinet with glazed door		600x500
TM2985V	Cabinet with glazed door	2000	800x500
TM2905V	Cabinet with glazed door		1000x500

# Ordering codes

## Completion of structures



### Plinth Covering Flanges

Removable flanges made of 15/10 sheet painted orange peel RAL 7012 colour (not self-supporting).

#### Flanges front/rear

Code	Description	Dimensions mm (W)
H=100 (mm)	H=200 (mm)	
<b>EZ6000</b>	<b>EZ6002</b> Pair of plinth flanges	600
<b>EZ8000*</b>	<b>EZ8002*</b> Pair of plinth flanges	800
<b>EZ1000</b>	<b>EZ1002</b> Pair of plinth flanges	1000
<b>EZ1200**</b>	<b>EZ1202**</b> Pair of plinth flanges	1200

\* for structures W=1600 order No.2 flanges EZ8000 or EZ8002 respectively.

\*\* for structures W=1200, as an alternative it is possible to order:  
N°2 flanges EZ6000 + N°1 angle piece EZ1020 for plinth H=100mm;  
N°2 flanges EZ6002 + N°2 angle pieces EZ1020 for plinth H=200mm.

#### Side Flanges

Code	Description	Dimensions mm (W)
H=100 (mm)	H=200 (mm)	
<b>EZ3011</b>	<b>EZ3012</b> Pair of side flanges	300
<b>EZ4011</b>	<b>EZ4012</b> Pair of side flanges	400
<b>EZ5011</b>	<b>EZ5012</b> Pair of side flanges	500

#### Additional Plinth

To make a plinth 200mm high, order a kit of angle pieces EZ1010 (25/10 thick) and relative covering flanges H=200mm.

Code	Description	Dimensions mm (H)
<b>EZ1010</b>	N°4 angle pieces	100
<b>EZ1020</b>	N°2 intermediate angle pieces for structures W ≥ 1200mm	100
<b>EZ1040</b>	N°4 brackets for fixing plinth to ground	

#### Cable entry flanges

Flanges in 20/10 galvanized sheet of sliding type for the 400/500mm depth and fixed for the 300mm depth.

Code	Mounted code *	Description	Dimensions mm (WxD)
<b>EF6032</b>	<b>EF6032MT</b>	Fixed flange <sup>(1)</sup>	600x300
<b>EF8032</b>	<b>EF8032MT</b>	Fixed flange <sup>(2)</sup>	800x300
<b>EF1032</b>	<b>EF1032MT</b>	Fixed flange	1000x300
<b>EF6040</b>	<b>EF6040MT</b>	Pair of sliding flanges <sup>(1)</sup>	600x400
<b>EF8040</b>	<b>EF8040MT</b>	Pair of sliding flanges <sup>(2)</sup>	800x400
<b>EF1040</b>	<b>EF1040MT</b>	Pair of sliding flanges	1000x400
<b>EF6050</b>	<b>EF6050MT</b>	Pair of sliding flanges <sup>(1)</sup>	600x500
<b>EF8050</b>	<b>EF8050MT</b>	Pair of sliding flanges <sup>(2)</sup>	800x500
<b>EF1053</b>	<b>EF1053MT</b>	Pair of sliding flanges	1000x500

\* Code only valid for factory-assembled panel boards.

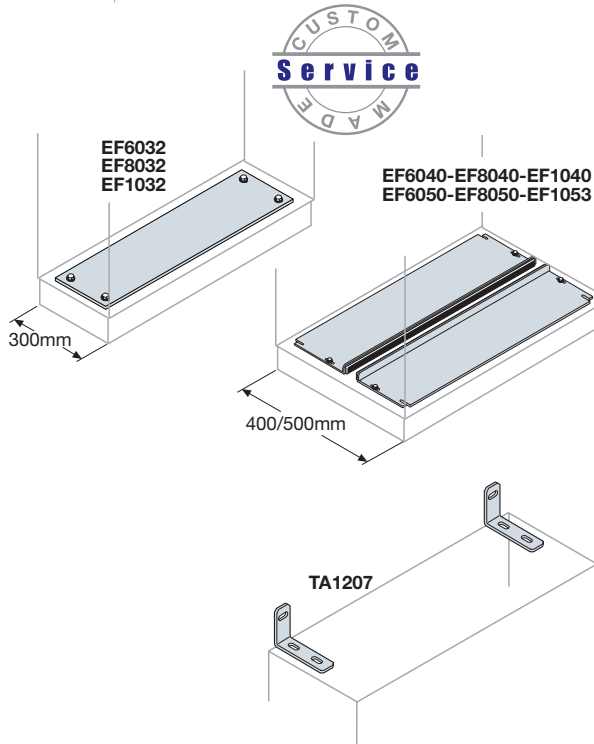
(1) For structures W = 1200mm order 2 pieces.

(2) For structures W = 1600mm order 2 pieces.

#### Brackets for wall fixing

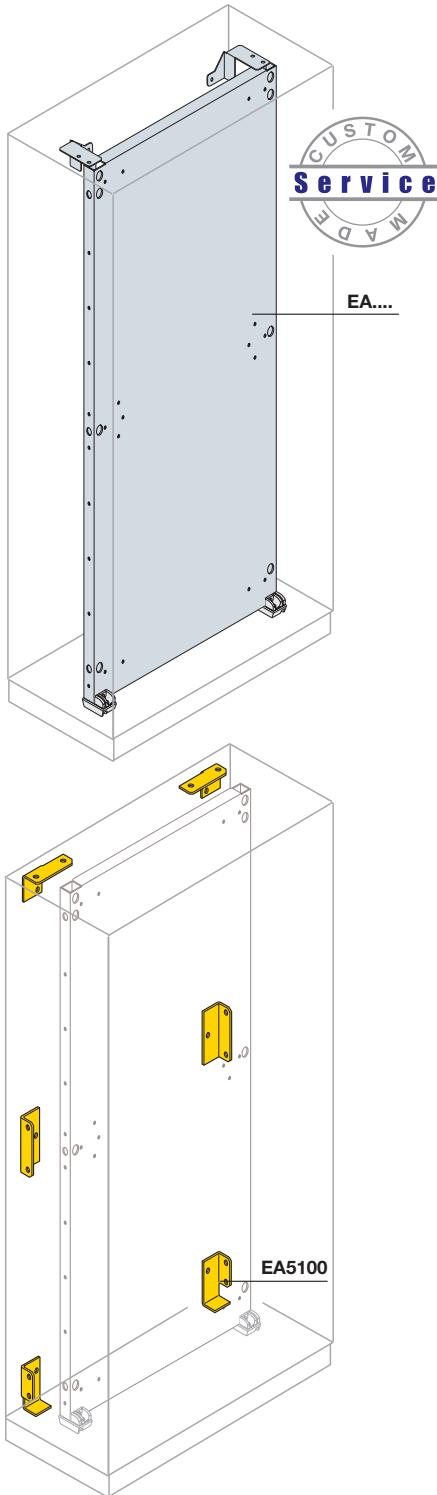
Allow installation on the wall of the more compact versions or wall fixing of the floor versions.

Code	Description
<b>TA1207</b>	N°2 brackets for wall fixing



# Ordering codes

## Completion of structures



### Mounting plate

Plates in 25/10 galvanized steel which can be inserted at the front and/or at the back.  
Complete with supports for sliding and fixing.

Code	Description	Mounted code *	Dimensions mm	
			H	W
EA1060	Mounting plate	EA1060MT	1000	600
EA1080	Mounting plate	EA1080MT		800
EA1010	Mounting plate	EA1010MT		1000
EA1012	Mounting plate	EA1012MT	1200	1200
EA1016	Mounting plate	EA1016MT		1600
EA1260	Mounting plate	EA1260MT		600
EA1280	Mounting plate	EA1280MT	1200	800
EA1210	Mounting plate	EA1210MT		1000
EA1213	Mounting plate	EA1213MT		1200
EA1460	Mounting plate	EA1460MT	1400	600
EA1480	Mounting plate	EA1480MT		800
EA1411	Mounting plate	EA1411MT		1000
EA1412	Mounting plate	EA1412MT	1600	1200
EA1616	Mounting plate	EA1616MT		600
EA1619	Mounting plate	EA1619MT		800
EA1610	Mounting plate	EA1610MT	1600	1000
EA1612	Mounting plate	EA1612MT		1200
EA1860	Mounting plate	EA1860MT		600
EA1880	Mounting plate	EA1880MT	1800	800
EA1810	Mounting plate	EA1810MT		1000
EA1812	Mounting plate	EA1812MT		1200
EA2060	Mounting plate	EA2060MT	2000	600
EA2080	Mounting plate	EA2080MT		800
EA2010	Mounting plate	EA2010MT		1000
EA2013	Mounting plate	EA2013MT	1200	

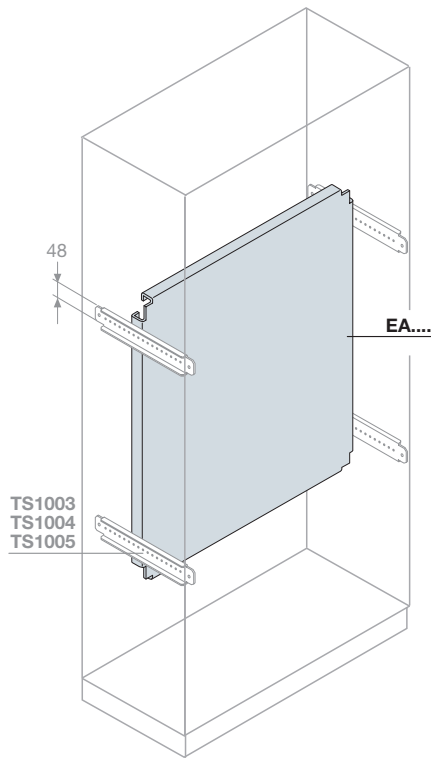
\* Code only valid for factory-assembled panel boards.

### Kit for recessing mounting plate

Code	Description
EA5100	Kit recessing mounting plate

# Ordering codes

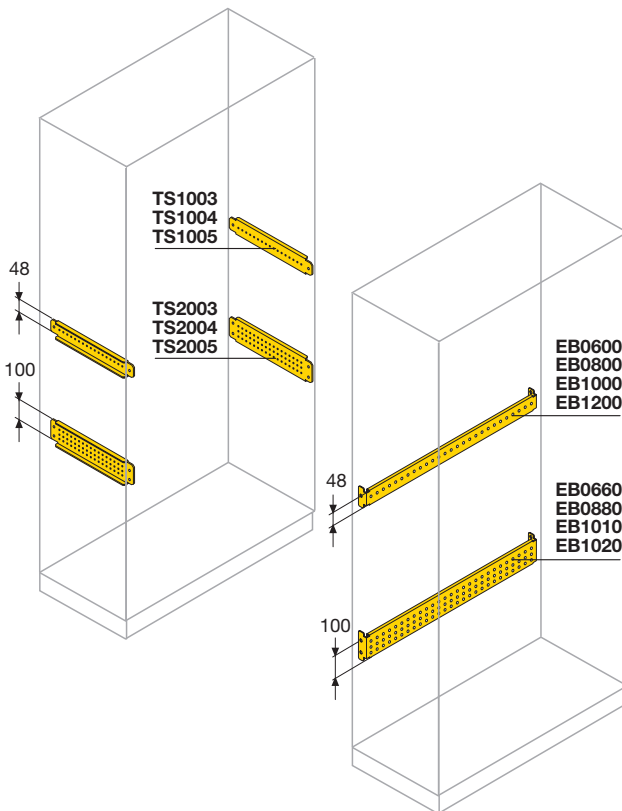
## Completion of structures



### Partial height Mounting plate

Plate made of 25/10 galvanized steel can be inserted on the front and/or rear according to the width of the cabinet. It is fixed to the structure by means of the crosspieces H=48mm (TS....).

Code	Description	Dimensions mm	
		W	H
EA2062	Partial height mounting plate		200
EA3061	Partial height mounting plate		300
EA4061	Partial height mounting plate	600	400
EA5061	Partial height mounting plate		500
EA6061	Partial height mounting plate		600
EA8061	Partial height mounting plate		800
EA1061	Partial height mounting plate		1000
EA2081	Partial height mounting plate		200
EA3081	Partial height mounting plate		300
EA4081	Partial height mounting plate	800	400
EA5081	Partial height mounting plate		500
EA6081	Partial height mounting plate		600
EA8081	Partial height mounting plate		800
EA1081	Partial height mounting plate		1000



### Side crosspieces H=48mm

Multi-purpose crosspieces made of 20/10 thick galvanized sheet H=48mm drilled with round hole and square hole with 25mm pitch. They are mounted on the side of the panel board according to the depth.

Code	Description	Dimensions mm (D)
TS1003	N°2 side crosspieces	300
TS1004	N°2 side crosspieces	400
TS1005	N°2 side crosspieces	500

### Side crosspieces H=100mm

Multi-purpose crosspieces made of 20/10 thick galvanized sheet H=100mm drilled with round hole and square hole with 25mm pitch. They are mounted on the side of the panel board according to the depth.

Code	Description	Dimensions mm (D)
TS2003	N°2 side crosspieces	300
TS2004	N°2 side crosspieces	400
TS2005	N°2 side crosspieces	500

### Back crosspieces H=48mm for fixing accessories

Multi-purpose crosspieces made of 20/10 thick galvanized sheet.

Code	Description	Dimensions mm (W)
EB0600	N°2 crosspieces for fixing accessories and partial plate on front/side	600
EB0800	N°2 crosspieces for fixing accessories and partial plate on front/side	800
EB1000	N°2 crosspieces for fixing accessories and partial plate on front/side	1000
EB1200	N°2 crosspieces for fixing accessories and partial plate on front/side	1200

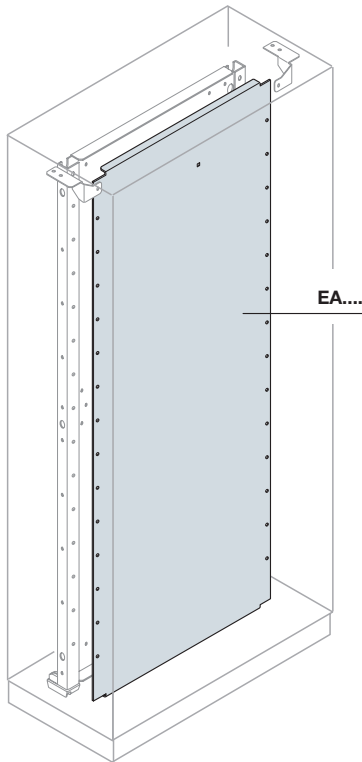
### Back crosspieces H=100mm for fixing accessories

Multi-purpose crosspieces made of 20/10 thick galvanized sheet.

Code	Description	Dimensions mm (W)
EB0660	N°2 crosspieces for fixing accessories on front/side	600
EB0880	N°2 crosspieces for fixing accessories on front/side	800
EB1010	N°2 crosspieces for fixing accessories on front/side	1000
EB1020	N°2 crosspieces for fixing accessories on front/side	1200

# Ordering codes

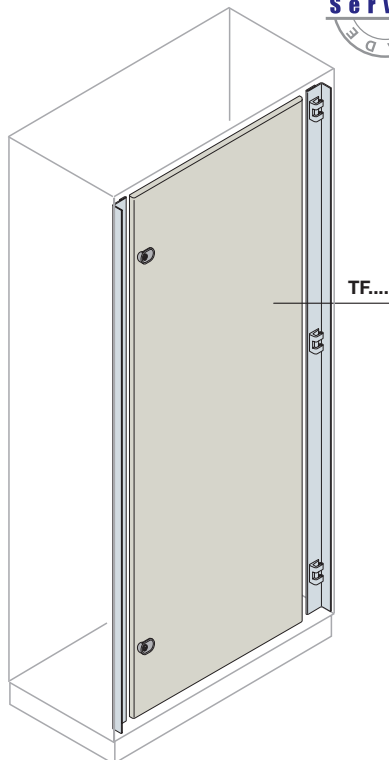
## Completion of structures



### Opposed mounting plate

Pair of mounting plates with extremely reduced overall dimensions in depth, able to mount components on both sides (front and rear). Made of 25/10 galvanized steel, they can be inserted on the front and/or rear. Complete with supports for sliding and fixing.

Code	Description	Dimensions mm	
		H	W
EA5060	Opposed mounting plate		600
EA5082	Opposed mounting plate	1000	800
EA5010	Opposed mounting plate		1000
EA5260	Opposed mounting plate		600
EA5280	Opposed mounting plate	1200	800
EA5210	Opposed mounting plate		1000
EA5461	Opposed mounting plate		600
EA5480	Opposed mounting plate	1400	800
EA5413	Opposed mounting plate		1000
EA5616	Opposed mounting plate		600
EA5620	Opposed mounting plate	1600	800
EA5610	Opposed mounting plate		1000
EA5861	Opposed mounting plate		600
EA5883	Opposed mounting plate	1800	800
EA5811	Opposed mounting plate		1000
EA5063	Opposed mounting plate		600
EA5083	Opposed mounting plate	2000	800
EA5011	Opposed mounting plate		1000



### Inner doors

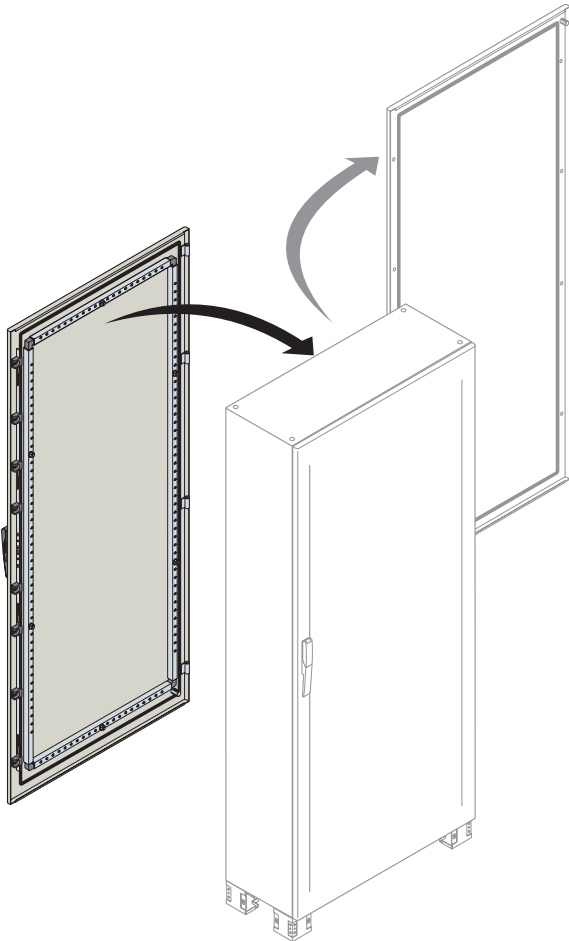
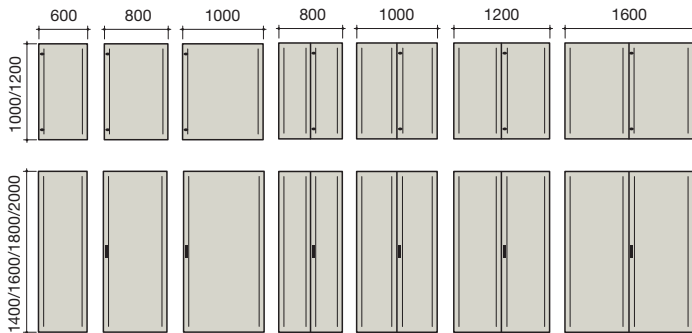
Internal door made of 15/10 thick steel sheet, complete with reinforcement tube, frame, hinges and n°2 boxes with interchangeable key with double tongue inserts (see page 3/24). Only for single door versions.

Code	Description	Mounted code *	Dimensions mm	
			H	W
TF1060	Internal counterdoor	TF1060MT		600
TF1080	Internal counterdoor	TF1080MT	1000	800
TF1010	Internal counterdoor	TF1010MT		1000
TF1260	Internal counterdoor	TF1260MT		600
TF1280	Internal counterdoor	TF1280MT	1200	800
TF1210	Internal counterdoor	TF1210MT		1000
TF1460	Internal counterdoor	TF1460MT		600
TF1480	Internal counterdoor	TF1480MT	1400	800
TF1410	Internal counterdoor	TF1410MT		1000
TF1660	Internal counterdoor	TF1660MT		600
TF1680	Internal counterdoor	TF1680MT	1600	800
TF1610	Internal counterdoor	TF1610MT		1000
TF1860	Internal counterdoor	TF1860MT		600
TF1880	Internal counterdoor	TF1880MT	1800	800
TF1810	Internal counterdoor	TF1810MT		1000
TF2060	Internal counterdoor	TF2060MT		600
TF2080	Internal counterdoor	TF2080MT	2000	800
TF2010	Internal counterdoor	TF2010MT		1000

\* Code only valid for factory-assembled panel boards.

# Ordering codes

## Completion of structures



### Replacement of rear panel with door

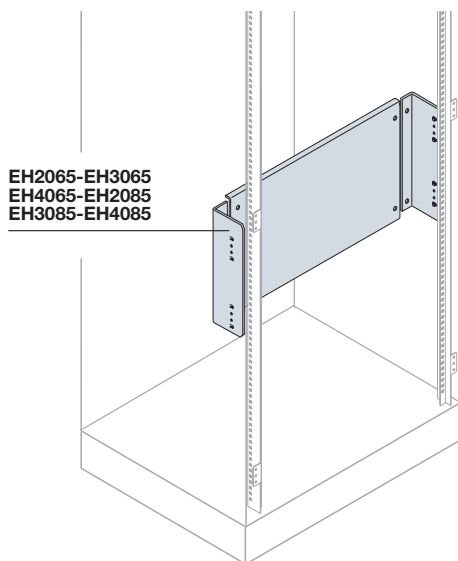
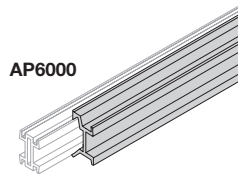
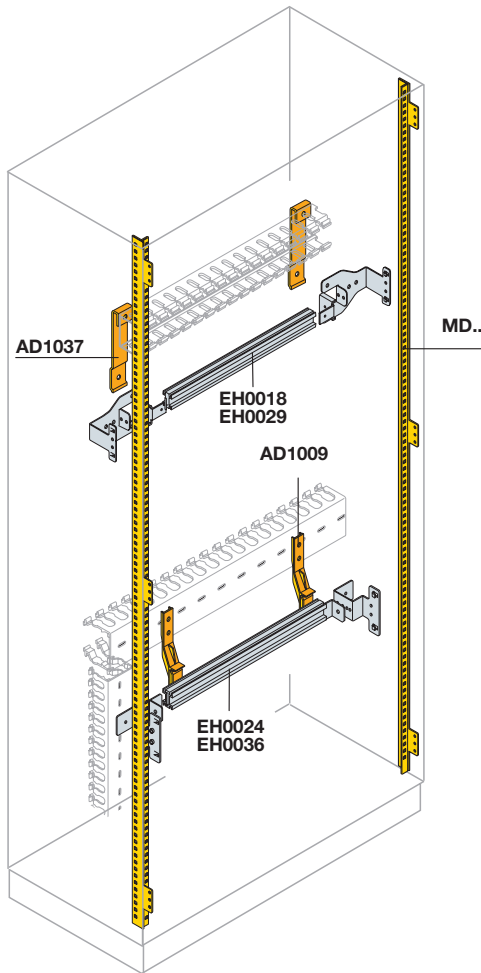
The supply foresees replacement of the rear panel with a blind door mounted directly in the factory (or double doors where this is foreseen).

Mounted code *	Description	Dimensions mm	
		H	W
TC1006MT	Replacement rear panel/blind door	1000	600
TC1008MT	Replacement rear panel/blind door		800
TC1010MT	Replacement rear panel/blind door		1000
TC1008DMT	Replacement rear panel/double blind door	1000	400+400
TC1010DMT	Replacement rear panel/double blind door		500+500
TC1012DMT	Replacement rear panel/double blind door		600+600
TC1016DMT	Replacement rear panel/double blind door	1200	800+800
TC1206MT	Replacement rear panel/blind door		600
TC1208MT	Replacement rear panel/blind door		800
TC1210MT	Replacement rear panel/blind door	1200	1000
TC1208DMT	Replacement rear panel/double blind door		400+400
TC1210DMT	Replacement rear panel/double blind door		500+500
TC1212DMT	Replacement rear panel/double blind door	1200	600+600
TC1406MT	Replacement rear panel/blind door		600
TC1408MT	Replacement rear panel/blind door		800
TC1410MT	Replacement rear panel/blind door	1400	1000
TC1408DMT	Replacement rear panel/double blind door		400+400
TC1410DMT	Replacement rear panel/double blind door		500+500
TC1412DMT	Replacement rear panel/double blind door	1400	600+600
TC1606MT	Replacement rear panel/blind door		600
TC1608MT	Replacement rear panel/blind door		800
TC1610MT	Replacement rear panel/blind door	1600	1000
TC1608DMT	Replacement rear panel/double blind door		400+400
TC1610DMT	Replacement rear panel/double blind door		500+500
TC1612DMT	Replacement rear panel/double blind door	1600	600+600
TC1806MT	Replacement rear panel/blind door		600
TC1808MT	Replacement rear panel/blind door		800
TC1810MT	Replacement rear panel/blind door	1800	1000
TC1808DMT	Replacement rear panel/double blind door		400+400
TC1810DMT	Replacement rear panel/double blind door		500+500
TC1812DMT	Replacement rear panel/double blind door	1800	600+600
TC2006MT	Replacement rear panel/blind door		600
TC2008MT	Replacement rear panel/blind door		800
TC2010MT	Replacement rear panel/blind door	2000	1000
TC2010DMT	Replacement rear panel/double blind door		500+500
TC2012DMT	Replacement rear panel/double blind door		600+600

\* Code only valid for factory-assembled panel boards.

# Ordering codes

## Structures for modular apparatus



### Uprights for DIN rails

The fixed uprights are made of 20/10 thick galvanized steel, and are fixed onto the front of the structure. Structures 600 and 800mm wide can be equipped.

Code	Description	Dimensions mm (H)
MD1000	N°2 uprights for modular apparatus	1000
MD1200	N°2 uprights for modular apparatus	1200
MD1400	N°2 uprights for modular apparatus	1400
MD1600	N°2 uprights for modular apparatus	1600
MD1800	N°2 uprights for modular apparatus	1800
MD2000	N°2 uprights for modular apparatus	2000

### DIN rail Kit

#### 18/29 DIN modules

Kit consisting of double aluminium section (DIN 35), complete with shaped brackets for fixing the wiring ducts (60x80mm max). The DIN rails are fixed directly onto the uprights MD.... and are able to hold 18 and 29 modules for 600 and 800mm width respectively guaranteeing front wiring access. Adjustable in depth it allows installation of moulded-case circuit-breakers up to T3.

The useful dimension of the panel board is still 100mm less in relation to the total height of the panel board.

Code	Description	Dimensions mm (W)
EH0018	DIN rail and fixing supports (18 DIN mod.)	600
EH0029	DIN rail and fixing supports (29 DIN mod.)	800

#### 24/36 DIN modules

These keep the characteristics of the previous ones, with the difference of the 24 and 36 module modular capacity and with rear assembly/access of the wiring ducts.

Code	Description	Dimensions mm (W)
EH0024	DIN rail and fixing supports (24 DIN mod.)	600
EH0036	DIN rail and fixing supports (36 DIN mod.)	800

### Supports for horizontal wiring ducts

Code	Description
AD1009	N°4 plastic supports for horizontal wiring ducts
AD1037	N°4 metal supports for horizontal wiring ducts

### Depth adapter

Code	Description	Dimensions mm (W)
AP6000	N°1 depth adapter for Tmax T1-T2-T3	600

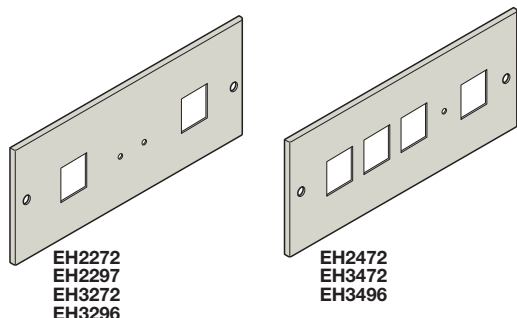
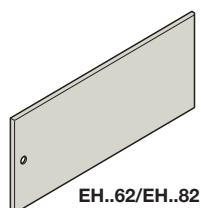
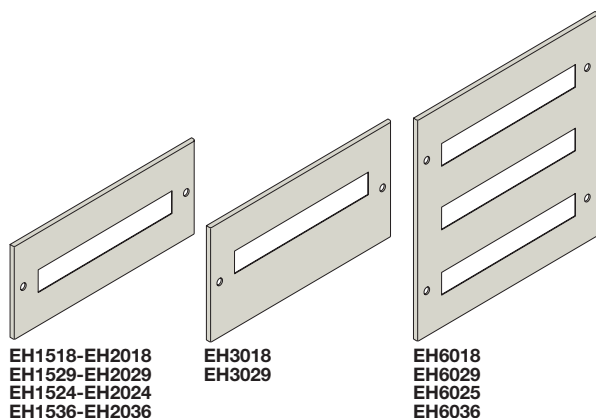
### Blind apparatus holder back plates

Blind apparatus holder back plate, 15/10 thick. It is fixed directly onto the uprights **EH1800**, **EH2000** or **EH2200**. The useful dimension is always 100mm less than the total height of the panel board.

Code	Description	Dimensions mm (HxW)
EH2065	Blind apparatus holder back plate	200x600
EH3065	Blind apparatus holder back plate	300x600
EH4065	Blind apparatus holder back plate	400x600
EH2085	Blind apparatus holder back plate	200x800
EH3085	Blind apparatus holder back plate	300x800
EH4085	Blind apparatus holder back plate	400x800

# Ordering codes

## Structures for modular apparatus



### Panels for modular apparatus

Panel with modular cut-out in sheet 12/10 (W=600mm) and 15/10 (W=800mm) painted RAL7032 colour with rapid fixing, prepared for hinges EH1889 (accessory). The useful dimension of the panel board is always 100mm less than the total height of the panel board.

Code	Description	Dimensioni mm (HxL)
EH1518	Panel 18 DIN mod.	150x600
EH2018	Panel 18 DIN mod.	200x600
EH3018	Panel 18 DIN mod. off-centre	300x600
EH6018	Panel 54 DIN mod. (3 rows x 18 DIN mod.)	600x600
EH1529	Panel 29 DIN mod.	150x800
EH2029	Panel 29 DIN mod.	200x800
EH3029	Panel 29 DIN mod. off-centre	300x800
EH6029	Panel 87 DIN mod. (3 rows x 29 DIN mod.)	600x800
EH1524	Panel 24 DIN mod.	150x600
EH2024	Panel 24 DIN mod.	200x600
EH6025	Panel 72 DIN mod. (3 rows x 24 DIN mod.)	600x600
EH1536	Panel 36 DIN mod.	150x800
EH2036	Panel 36 DIN mod.	200x800
EH6036	Panel 108 DIN mod. (3 rows x 36 DIN mod.)	600x800

### Blind panels for apparatus

Blind panel in 12/10 sheet (W=600mm) and 15/10 (W=800mm) painted RAL7032 colour with rapid fixing. The useful dimension of the panel board is always 100mm less than the total height of the panel board.

Code	Description	Dimensions mm (HxW)
EH0562	Blind panel	50x600
EH1062	Blind panel	100x600
EH1562	Blind panel	150x600
EH2062	Blind panel	200x600
EH3063	Blind panel	300x600
EH4062	Blind panel	400x600
EH5062	Blind panel	500x600
EH6062	Blind panel	600x600
EH0582	Blind panel	50x800
EH1082	Blind panel	100x800
EH1582	Blind panel	150x800
EH2082	Blind panel	200x800
EH3082	Blind panel	300x800
EH4082	Blind panel	400x800
EH5082	Blind panel	500x800
EH6082	Blind panel	600x800

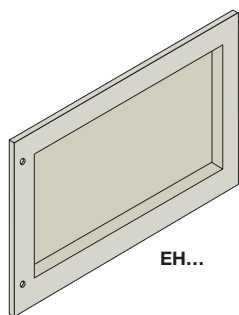
### Panel for square measuring instruments

Panel with cut-outs for measuring instruments made of 15/10 sheet painted RAL7032 colour with rapid fixing, prepared for EH1889 hinges (accessory). The useful dimension of the panel board is always 100mm less than the total height of the panel board.

Code	Description	Dimensions mm (HxW)
EH2272	Panel n°2 instruments 72x72mm	200x600
EH2472	Panel n°4 instruments 72x72mm	200x600
EH2297	Panel n°2 instruments 96x96mm	200x600
EH3272	Panel n°2 instruments 72x72mm	200x800
EH3296	Panel n°2 instruments 96x96mm	200x800
EH3472	Panel n°4 instruments 72x72mm	200x800
EH3496	Panel n°4 instruments 96x96mm	200x800

# Ordering codes

## Structures for modular apparatus

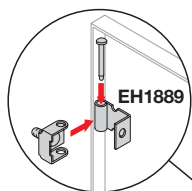


### Recessed blind panels

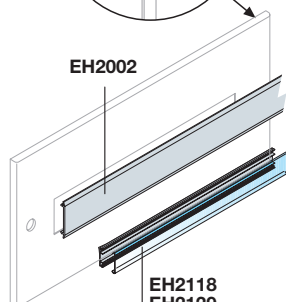
Blind panel in sheet 12/10 (W=600mm) and 15/10 (W=800mm) painted RAL7032 colour with rapid fixing, prepared for EH1889 hinges (accessory). The useful dimension of the panel board is always 100mm less than the total height of the panel board.

Code	Description	Dimensions mm (HxW)
EH2063	Recessed blind panel	200x600
EH2083	Recessed blind panel	200x800
EH3064	Recessed blind panel	300x600
EH3083	Recessed blind panel	300x800
EH4064	Recessed blind panel	400x600
EH4083	Recessed blind panel	400x800
EH5063	Recessed blind panel	500x600
EH5084	Recessed blind panel	500x800
EH6063	Recessed blind panel	600x600
EH6084	Recessed blind panel	600x800

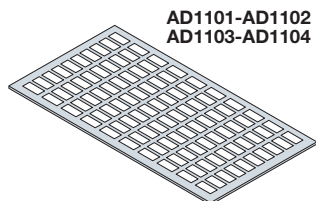
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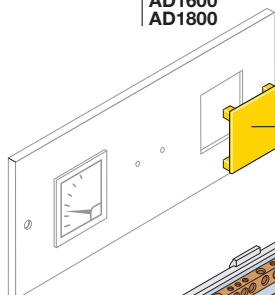
EH2002



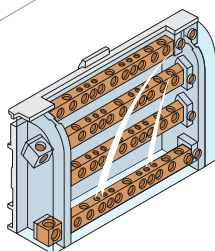
EH2118  
EH2129  
AD1600  
AD1800



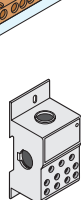
AD1101-AD1102  
AD1103-AD1104



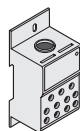
EV1135  
EV1136



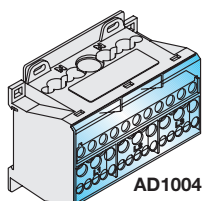
AD1028  
AD1029  
AD1027



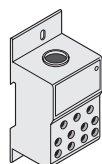
AD1081



AD1080



AD1004



AD1030  
AD1031

### Accessories for panels

#### Hinges and rapid closures for panels

Code	Description
EH1889 <sup>(1)</sup>	N°10 hinges for panels
EH1890	N°5 rapid closures for front panels

<sup>(1)</sup> Use n°2 hinges for panel H=150/200/300/400mm,  
N°3 hinges for panel H=500/600mm.

#### Hole covering strip

Code	Description
EH2002	N°10 hole covers W=2000mm, grey RAL7032 colour

#### Closing plug for instrument holder panels

Code	Description
EV1135	N°10 closing plug for instrument holder panels 72x72mm
EV1136	N°5 closing plug for instrument holder panels 96x96mm

#### Adhesive name label holders

Code	Description	Dimensions mm (W)
EH2118	N°20 label holders 18 DIN mod.	325
EH2129	N°20 label holders 29 DIN mod.	525
AD1600	N°20 label holders 24 DIN mod.	432
AD1800	N°20 label holders 36 DIN mod.	634

#### Labels

Code	Description
AD1101 <sup>(2)</sup>	N°288 labels 1 DIN mod.
AD1102 <sup>(2)</sup>	N°192 labels 2 DIN mod.
AD1103 <sup>(2)</sup>	N°96 labels 4 DIN mod.
AD1104 <sup>(2)</sup>	N°96 etichette 4 mod.DIN

TL1157 N.5 ABB-AM2 adhesive strips W=1000mm

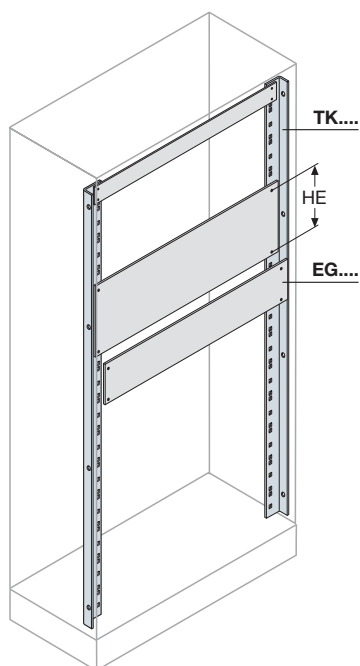
<sup>(2)</sup> Labels can be written using compatible Grafoplast system.

#### Divisions

Code	Description
AD1028	Four-pole modular division 80A
AD1029	Four-pole modular division 125A
AD1027	Four-pole modular division 160A
AD1004	Four-pole modular division 125A
AD1080	Single-pole division 125A
AD1081	Single-pole division 160A
AD1030	Single-pole division 250A
AD1031	Single-pole division 400A
AD1083	Accessory for connection between two AD1080

# Ordering codes

## 19" rack structures



### 19" rack frames

The fixed uprights are made of 20/10 galvanized steel and are fixed onto the front of the structure W=600mm.

Code	Description	Dimensions mm (H)
<b>TK1000</b>	Pair of uprights fixed rack	1000
<b>TK1200</b>	Pair of uprights fixed rack	1200
<b>TK1400</b>	Pair of uprights fixed rack	1400
<b>TK1600</b>	Pair of uprights fixed rack	1600
<b>TK1800</b>	Pair of uprights fixed rack	1800
<b>TK2000</b>	Pair of uprights fixed rack	2000

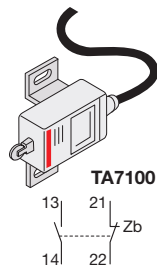
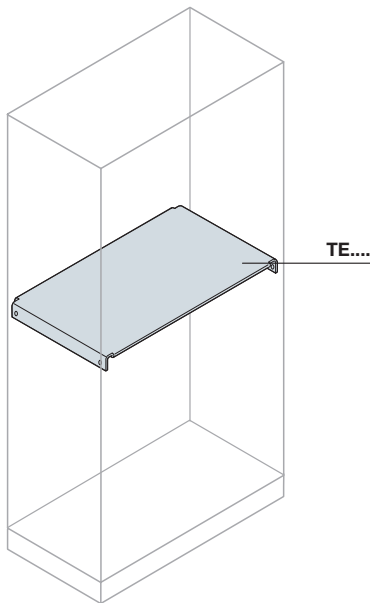
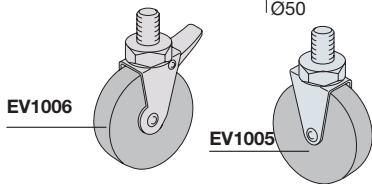
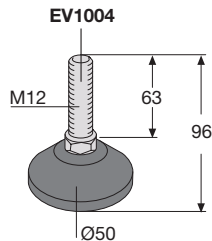
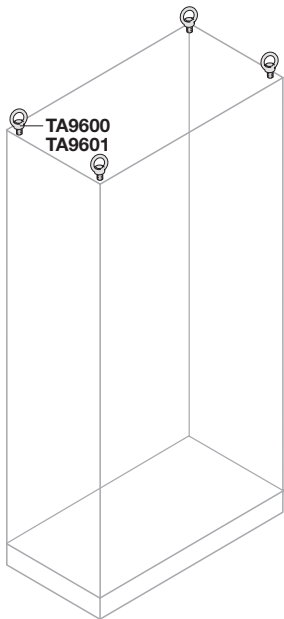
Blind compensation panels made of opaque colour natural anodized aluminium 30/10 thick, with 465mm centre distances between the holes.

Code	Description	Dimensions mm (H)
<b>EG1991</b>	Aluminium panel for 19" rack frame 1HE	44,45
<b>EG1902</b>	Aluminium panel for 19" rack frame 2HE	89
<b>EG1903</b>	Aluminium panel for 19" rack frame 3HE	133
<b>EG1904</b>	Aluminium panel for 19" rack frame 4HE	177,5
<b>EG1905</b>	Aluminium panel for 19" rack frame 5HE	222
<b>EG1906</b>	Aluminium panel for 19" rack frame 6HE	266,5
<b>EG1907</b>	Aluminium panel for 19" rack frame 7HE	311
<b>EG1908</b>	Aluminium panel for 19" rack frame 8HE	355,5
<b>EG1909</b>	Aluminium panel for 19" rack frame 9HE	400
<b>EG1910</b>	Aluminium panel for 19" rack frame 10HE	444,5
<b>EG1911</b>	Aluminium panel for 19" rack frame 11HE	488
<b>EG1912</b>	Aluminium panel for 19" rack frame 12HE	533
<b>EG1913</b>	Aluminium panel for 19" rack frame 13HE	577,5
<b>EG1914</b>	Aluminium panel for 19" rack frame 14HE	622
<b>EG1915</b>	Aluminium panel for 19" rack frame 15HE	666
<b>EG1916</b>	Aluminium panel for 19" rack frame 16HE	711
<b>EG1917</b>	Aluminium panel for 19" rack frame 17HE	755,5
<b>EG1918</b>	Aluminium panel for 19" rack frame 18HE	800
<b>EG1999</b>	Aluminium panel for 19" rack frame 19HE	844,5
<b>EG1920</b>	Aluminium panel for 19" rack frame 20HE	889

# Ordering codes

## Accessories

3



### Anti-closing device for door

Device which can only be mounted in the versions with blind door; in the case of double door versions, two devices are needed. Keeps the door in the open position.

Code	Description
TA5510	Anti-closing device for door

### Lifting eyebolts

Allow panel board handling by means of a bridge crane. They are fixed directly on the panel board roof. Made of steel and coated with white galvanization treatment.

Code	Description
TA9600	N°2 eyebolts M12 for structures D=300mm
TA9601	N°4 eyebolts M12 for structures D>300mm

### Feet and wheels

Code	Description
EV1004	N°4 anti-vibration levelling feet M12, 500kg capacity each
EV1005	N°4 free wheels Ø 80mm, 70kg capacity each
EV1006	N°4 braked wheels Ø 80mm, 70kg capacity each

### Horizontal division panels

Panel made of galvanized steel sheet 15/10 thick, allows the different components to be separated horizontally inside the structure.

Code	Description	Dimensions mm (LxD)
TE6031	Horizontal shelf	600x300
TE6041	Horizontal shelf	600x400
TE6051	Horizontal shelf	600x500
TE8031	Horizontal shelf	800x300
TE8041	Horizontal shelf	800x400
TE8051	Horizontal shelf	800x500
TE1031	Horizontal shelf	1000x300
TE1041	Horizontal shelf	1000x400
TE1051	Horizontal shelf	1000x500

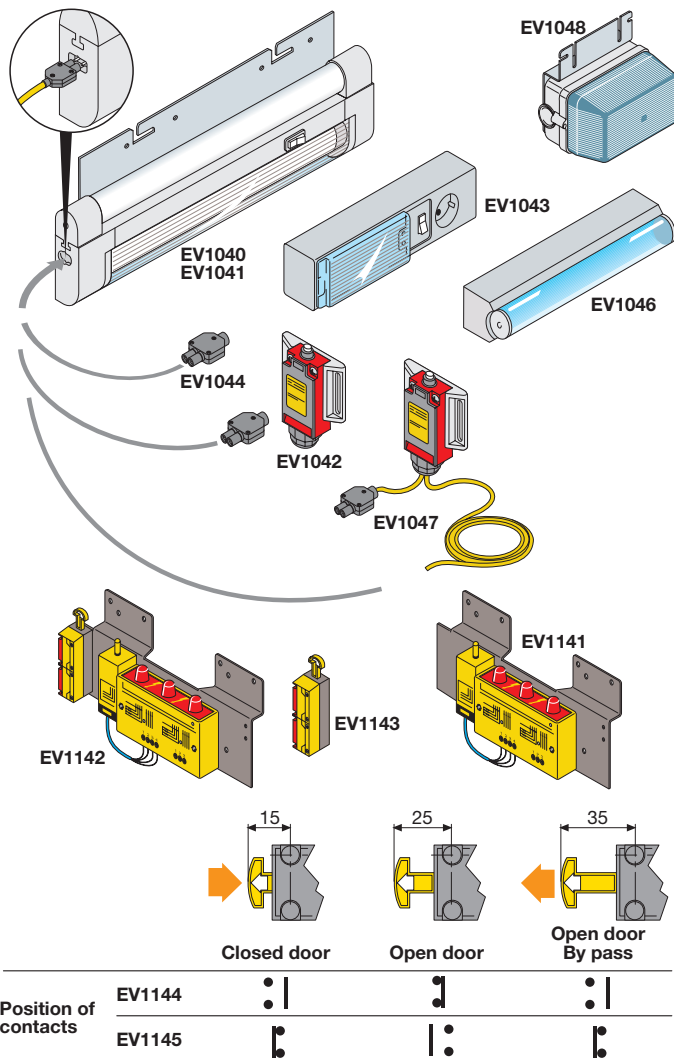
### Position switch

Conforming to the EN 50047 Standard, IP65 degree of protection, UL/CSA approved, can be assembled in all the positions directly on the panel board structure by means of the accessory supplied. Technical data:  $U_i=500V$   
Dimensions: 84x30x30mm.  
Aux. contact  $I_n=3A$  at 230V $\approx$  or 1.8A at 400V $\approx$  (in AC-15 EN 60947-5-1).

Code	Description
TA7100	Door position device

# Ordering codes

## Accessories



### Fluorescent lamps

The 8 and 13 W fluorescent lamps are complete with fixing bracket and can be integrated with the voltage detector devices; they have the following characteristics:

- can rotate 180 degrees around the axis of the aluminium bracket
- the shape of the lamp and the electronic tube ensure very wide luminous emission and an increase of 70% compared with traditional lamps. This means an 8W lamp is comparable to a 14W one, and the 13W version with an 18/21W one.
- possibility of being mounted in series up to 5 elements (fig.1); the chain of lamps can be controlled from a single micro switch, simplifying installation operations and reducing the number of cables for connection of the elements

Code	Description
EV1040	Fluorescent lamp 8W-220/240V W=342mm
EV1041	Fluorescent lamp 13W-220/240V W=574mm
EV1042	System for positioning limit switch + connector (to be cabled)
EV1044	N°5 two-pole connectors
EV1045	Two-pole cable L=10 metres
EV1047*	Limit switch and cabled two-pole connector
EV1043	Fluorescent lamp + socket 11W-230V l=355mm, complete with magnetic support
EV1046	Window lamp 35W-230V l=300mm
EV1048	Incandescent ceiling light on bracket

\* L Long wire = 1900 mm  
L Short wire = 380 mm

### Voltage detector device

Allows the passive safety level to be increased inside the electric panel boards, flashing when the door is opened. The basic version consists of a three-phase flashing light, three-pole limit switch and fixing bracket.

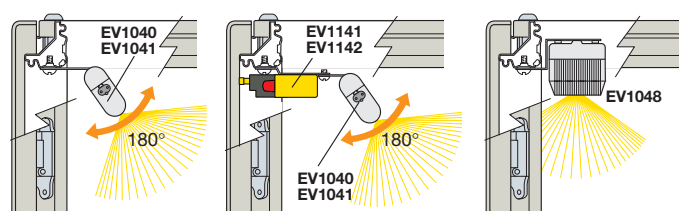
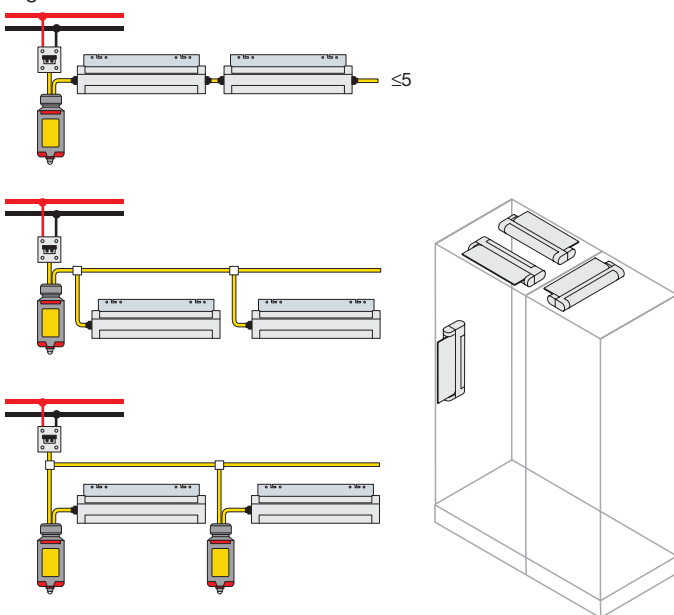
Compared to the basic version, the one with an auxiliary circuit is completed with a mechanical interlock which activates the electric contacts to control the auxiliary circuits. The interlock is always fitted with a NC contact code EV1145 (NO installed with door closed) which allows supply of a current launching coil. A NO contact can be added code EV1144 (NC installed with door closed) to allow opening of an undervoltage coil. With addition of other auxiliary contacts (2NC code EV1144; NO installed with door closed), it is also possible to supply circuits relative to internal lighting and/or to turn off fans/air conditioners. In this case order the fixing screws W=46mm code EV1146 separately.

Possibility of exclusion during the testing stage with relative automatic recover when the door has been closed. Conforms to the EN60947-5-1 Standards, CSA approved, operating temperature from -25 °C to +65 °C.

Flashing: terminal capacity max. 3mm<sup>2</sup>, Ue/Ie auxiliary contact capacity: 110V/6A, 230V/3A, 400V/2A, 600V/1.2A.

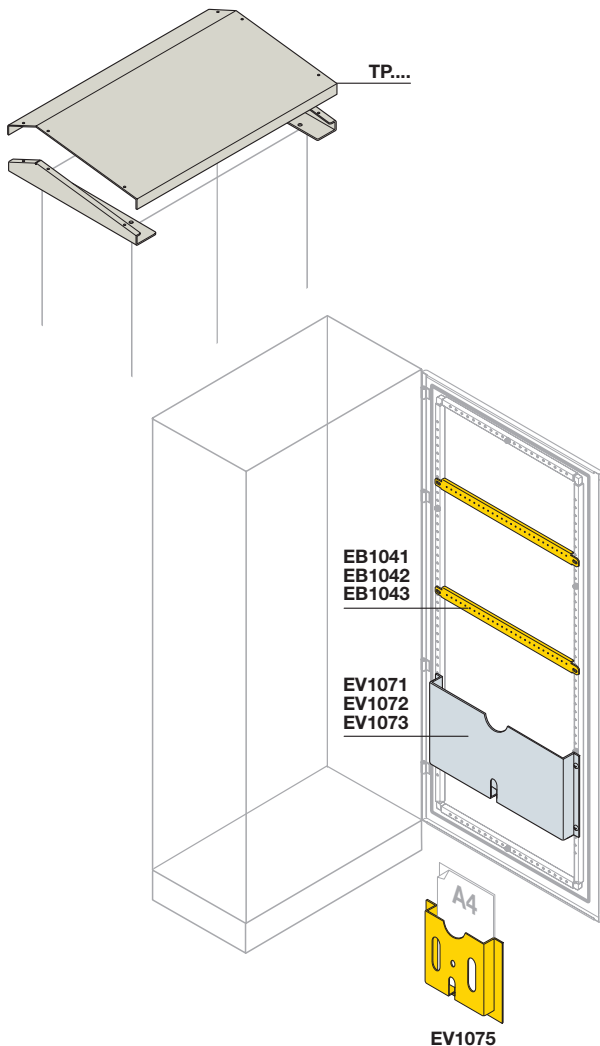
Code	Description	Ue (V)	Ui (V)
EV1141	Voltage detector device	380/600	690
EV1142	Voltage detector device + interlock + 1 NC contact	380/600	690
EV1143	Interlock + 1 NC contact		
EV1144	1 NC contact		
EV1145	1 NO contact		
EV1146	Screw W=46mm x 2 contacts		

Fig. 1



# Ordering codes

## Accessories



### Spray protection roofs

To improve protection against entry of liquids and rain. Made of 15/10mm thick sheet steel, painted RAL 7032 colour orange peel.

Code	Description	Dimensions mm (WxD)
TP6030	Spray protection roof	600x300
TP6040	Spray protection roof	600x400
TP6050	Spray protection roof	600x500
TP8030	Spray protection roof	800x300
TP8040	Spray protection roof	800x400
TP8050	Spray protection roof	800x500
TP1030	Spray protection roof	1000x300
TP1040	Spray protection roof	1000x400
TP1050	Spray protection roof	1000x500
TP1230	Spray protection roof	1200x300
TP1240	Spray protection roof	1200x400
TP1250	Spray protection roof	1200x500

### Diagram holder pockets RAL 7032

Fixed inside the door by means of adhesive parts in the case of the plastic version EV1075, or directly by means of screws to the sections of the door for the metal versions. Both versions are RAL 7032 colour.

Code	Description
EV1071	Metal diagram holder pocket for door l=600mm
EV1072	Metal diagram holder pocket for door l=800mm
EV1073	Metal diagram holder pocket for door l=1000mm
EV1075	Plastic diagram holder pocket for A4

### Horizontal reinforcement sections for door

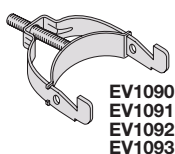
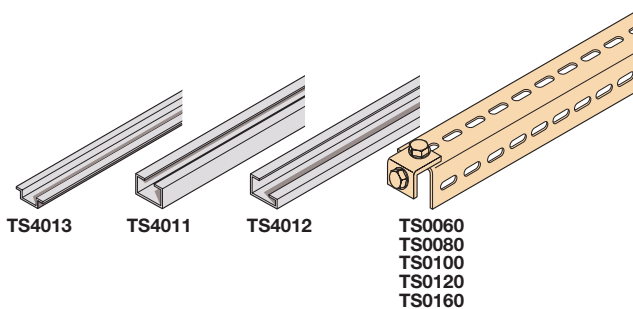
Crosspieces made of galvanized sheet with drilling with 25mm pitch, these allow fixing of accessories (e.g. wiring ducts) inside the blind doors. They are fixed on the door reinforcement tube.

Code	Description	Dimensions mm (W)
EB1041	N°2 horizontal sections h=35mm	600
EB1042	N°2 horizontal sections h=35mm	800
EB1043	N°2 horizontal sections h=35mm	1000

### Sections for accessories

Universal sections of different types for mounting any component or for cable locking.

Code	Description	Dimensions mm (W)
TS4011	N°2 EN sections 5002 C30	2000
TS4012	N°2 EN sections G32	2000
TS4013	N°2 DIN EN sections 5022 35x7.5	2000
TS0060	N°2 sections for structures	600
TS0080	N°2 sections for structures	800
TS0100	N°2 sections for structures	1000
TS0120	N°2 sections for structures	1200
TS0160	N°2 sections for structures	1600



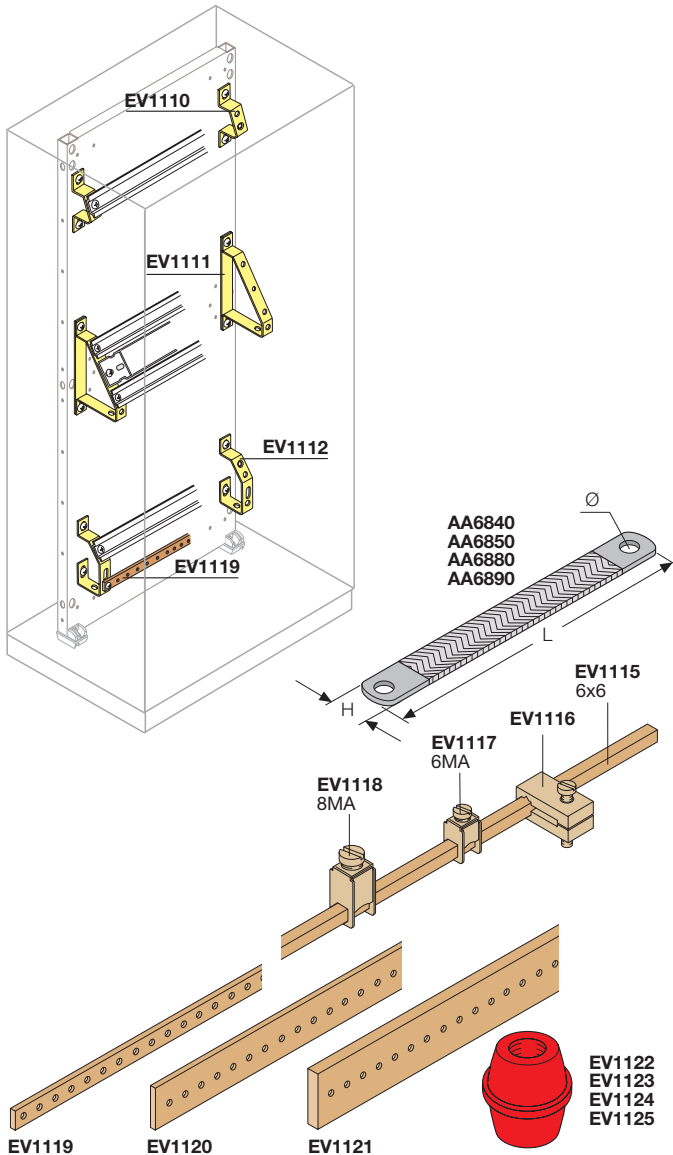
### Brackets for cable locking

Adjustable cable locking bracket, can be mounted on sections with 10mm slot EV1050.

Code	Description
EV1090	N°10 cable locking brackets ø9-16mm min-max
EV1091	N°10 cable locking brackets ø16-30mm min-max
EV1092	N°5 cable locking brackets ø30-48mm min-max
EV1093	N°5 cable locking brackets ø48-72mm min-max

# Ordering codes

## Accessories



### Angled supports for terminal boxes and earthing busbars

Code	Description
EV1110	N°50 angled supports 1 row of terminals
EV2110	N°10 angled supports 1 row of terminals
EV1112	N°50 angled supports 1 row of terminals + terra
EV2112	N°10 angled supports 1 row of terminals + terra
EV1111	N°10 angled supports double row of terminals

### Cables for earthing

Code	Description	Dimensions mm (W)
AA6840	N°5 earthing cables sect. 16mm	200
AA6850	N°5 earthing cables sect. 16mm	300
AA6880	N°5 earthing cables sect. 25mm	200
AA6890	N°5 earthing cables sect. 25mm	300

### Neutral/earthing copper busbars

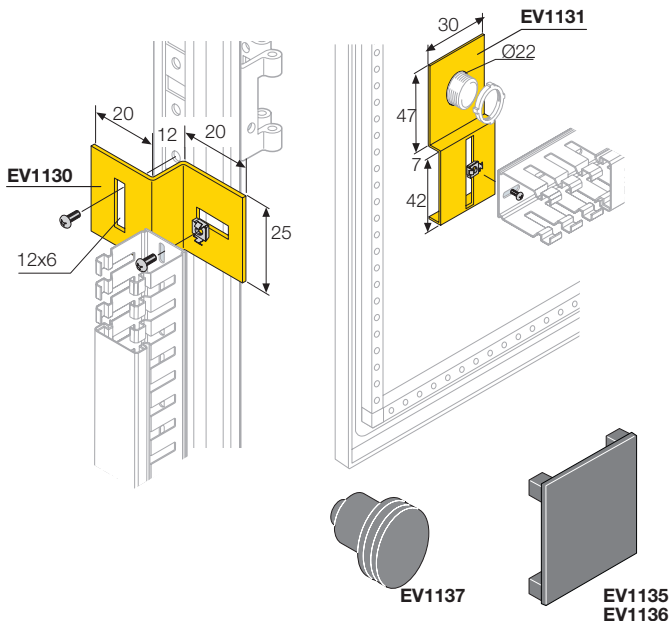
Code	Description
EV1115	Neutral/earthing busbar 6x6mm W=2000mm
EV1116	N°50 insulators for neutral/earthing busbar for EV1115
EV1117	N°100 terminals for cable ø0.5-16mm <sup>2</sup> for EV1115
EV1118	N°100 terminals for cable ø4-35mm <sup>2</sup> for EV1115
EV1119	N°2 drilled and threaded 20x5mm busbars M6 W=2000mm
EV1120	N°2 drilled and threaded 25x5mm busbars M6 W=2000mm
EV1121	N°2 drilled and threaded 50x5mm busbars M6 W=2000mm
EV1122	N°50 hexagonal insulators 30x30mm M6
EV1123	N°50 hexagonal insulators 30x30mm M8
EV1124	N°50 hexagonal insulators 36x50mm M6
EV1125	N°50 hexagonal insulators 36x50mm M8

### Screws for apparatus

Code	Description
EV1100	N°1000 perforating screws 4.2x13mm cross slotted head
EV1101	N°1000 perforating screws 4.2x19mm cross slotted head
AD1033	N°50 self-tapping screws L=16mm

### Wiring duct support brackets

Code	Description
EV1130	N°100 wiring duct support brackets on upright structure
EV1131	N°100 wiring duct support brackets on pushbuttons ø22

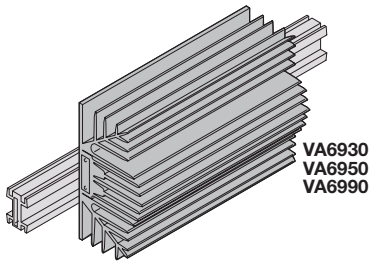


### Hole cover cap

Code	Description
EV1135	N°10 closing caps for instrument panel 72x72mm
EV1136	N°5 closing caps for instrument panel 96x96mm
EV1137	N°50 closing caps for pushbuttons ø22mm

# Ordering codes

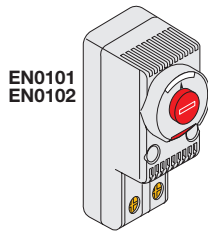
## Accessories



### Heater for IP20 electric panel boards

Eliminates condensation inside the panel boards and consists of a thermostat/PTC (with positive temperature coefficient) which does not give out constant a heat, but one proportional to the internal temperature of the panel board. For this reason it does not require a thermostat. Snap-on assembly on DIN rail.

Code	Description	Standard power supply V~/50-60Hz
VA6930	With anti-condensation heater with PTC - 30W - 88x100x35mm (HxWxD)	110÷240
VA6950	With anti-condensation heater with PTC - 50W - 88x130x35mm (HxWxD)	110÷240
VA6990	With anti-condensation heater with PTC - 90W - 88x155x35mm (HxWxD)	110÷240



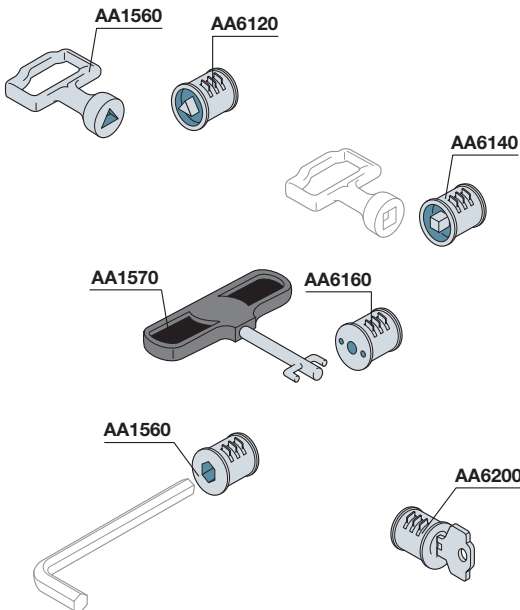
### IP30 Thermostat

Conforming to the EN 60730-1, EN 60730-2-9 Standard, UL 873 approved, IP20 degree of protection. Grey RAL 7032 colour; electrical life 100,000 cycles. Dimensions (hxwx) 61x29x45mm, can be mounted on all types of DIN rail.

The version with NO (normally open) contact allows a circuit to be closed activating ventilation, air conditioning, or alarms. The version with NC (normally closed) contact allows a circuit to be opened disconnecting any anti-condensation heaters.

Code	Description	Standard power supply V~/50-60Hz
EN0101	Thermostat	110/250
EN0102	Thermostat	110/250

	Power supply	Contact Capacity		Temperature scale	Type of contacts	Weight
		Load Ω	Load L			
EN0101	110/250~	10A	2A	-10 +80 °C	NO	48g
EN0102	110/250~	10A	2A	-10 +80 °C	NC	48g

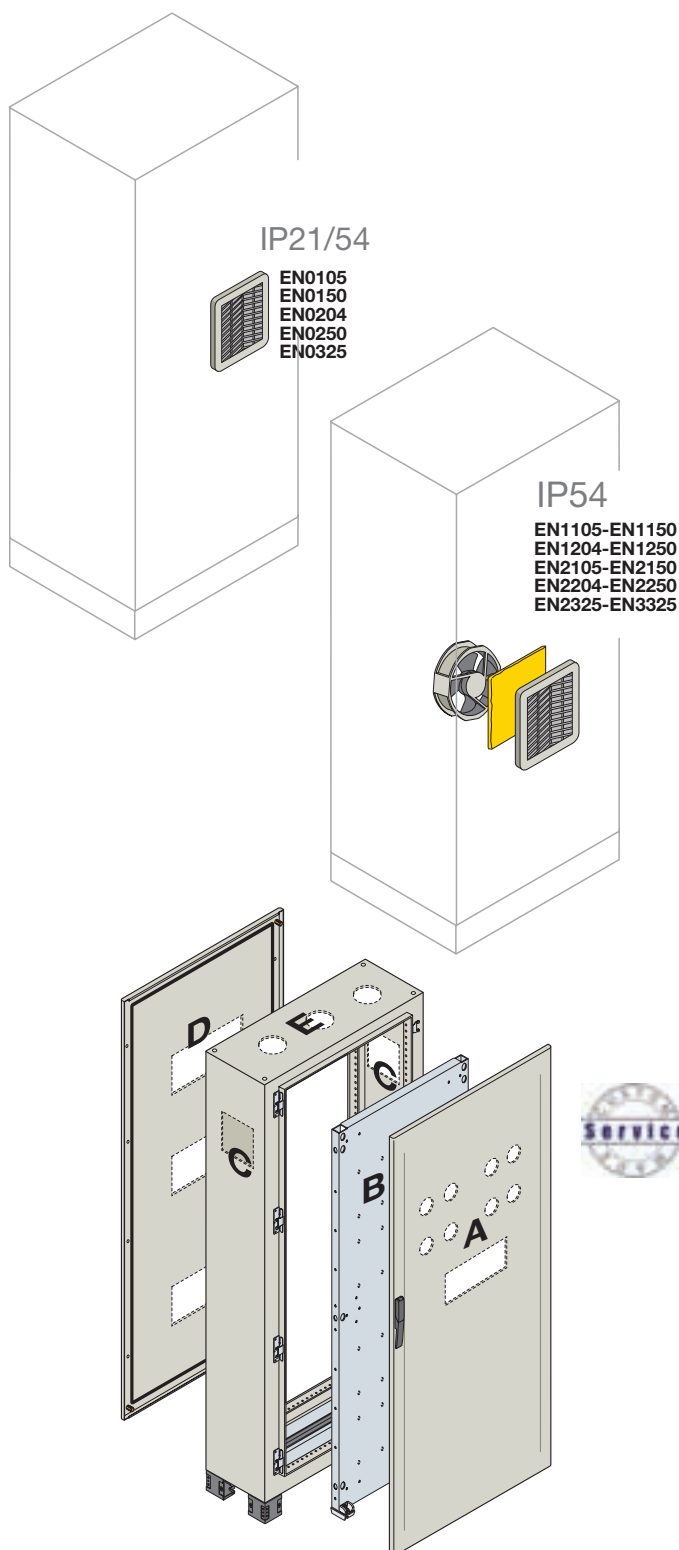


### Inserts and keys

Code	Description
AA6120	Triangular male insert 6.4 on ø7.6
AA1560	Triangular key made of iron
AA1570	FIAT type key
AA6140	Square male type insert 7
AA6180	Hexagonal 8 embedded type of insert
AA6200	Yale type insert
AA6160	FIST (FIAT) type insert

# Ordering codes

## Accessories



Type	Code	Description
A	FOR01	Drilling of the door
B	FOR01	Drilling of the mounting plate
C	FOR01	Drilling of sside
D	FOR01	Drilling of rear
E	FOR02	Drilling of roof

### IP21/54 Natural Ventilation Kit

Grilles made of insulating material (ABS self-extinguishing UL94V-0) RAL7032 colour, complete with filter cloth with high dust accumulation capacity (620g/m<sup>2</sup>), able to reduce maintenance interventions (cleaning by washing with water or beating). IP21 degree of protection without filter, IP54 with filter, fitted with pre-mounted tightness gasket.

Code	Description	Dimensions mm (WxW)
EN0105	Grille+air passage filter Kit	105x105
EN0150	Grille+air passage filter Kit	150x150
EN0204	Grille+air passage filter Kit	204x204
EN0250	Grille+air passage filter Kit	250x250
EN0325	Grille+air passage filter Kit	325x325

### IP54 forced ventilation Kit

Grilles made of insulating material (ABS self-extinguishing UL94V-0) RAL7032 colour, complete with filter cloth with high dust accumulation capacity (620g/m<sup>2</sup>), able to reduce maintenance interventions (cleaning by washing with water or beating). IP54 degree of protection with filter, fitted with pre-mounted tightness gasket. Operating temperature -20 °C + 70 °C, noise 50 dB (A). The fans allow reversible flow of air. UL507 approved.

Code	Description	Consumption [W]	Capacity [m <sup>3</sup> /h]
<b>With fan at 230V~ IP54</b>			
EN1105	Ventilation filter 105x105mm (LxL)	10	23
EN1150	Ventilation filter 150x150mm (LxW)	20	57
EN1204	Ventilation filter 204x204mm (LxW)	23	120
EN1250	Ventilation filter 250x250mm (LxW)	59	240
EN2325	Ventilation filter 325x325mm (LxW)	59/72	520/580

#### With fan at 115V~ IP54

EN2105	Ventilation filter 105x105mm (LxW) (LxL)	9	23
EN2150	Ventilation filter 150x150mm (LxL)	20	57
EN2204	Ventilation filter 204x204mm (LxL)	23	120
EN2250	Ventilation filter 250x250mm (LxL)	71	240
EN3325	Ventilation filter 325x325mm (LxL)	71/122	520/580

### Special Painting Service

See page 7/12 for the colours available.

Code	Description	Dimensions structure mm (W)
VERN01	Increase for special painting	600/800/1000
VERN02	Increase for special painting	1200/1600

Special painting service to manage with code of cabinet **T....SPEC**.

### Special Drilling service

For the overall dimensions see page 9/45.

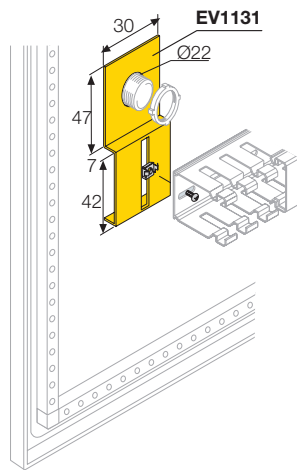
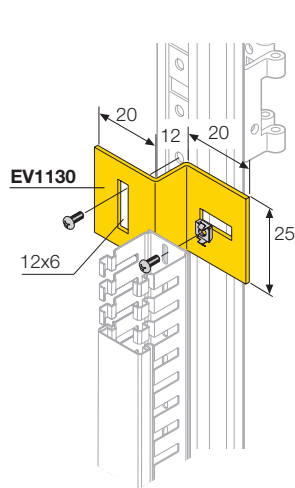
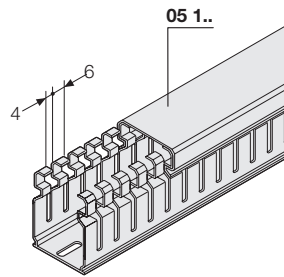
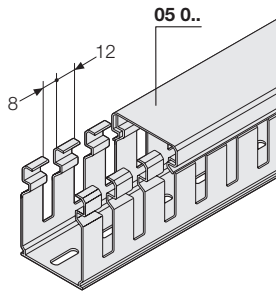
Code	Description
FOR01	Increase for special drilling of rear/side/door/plate panel
FOR02	Increase for special drilling of roof

Special drilling service to manage with code of cabinet **T....SPEC** It's necessary to include drawing of layout of drilling.

Special drilling and painting service to manage with code of cabinet **T....SPEC** It's necessary to include drawing of layout of drilling.

# Ordering codes

## Accessories



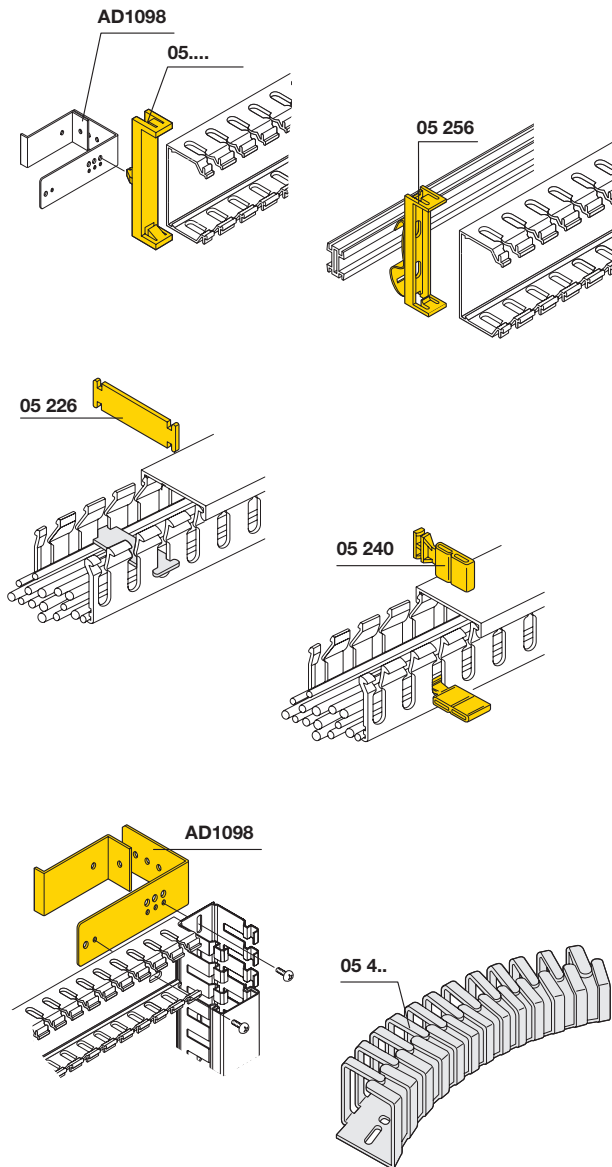
### Wiring ducts with slot colour grey RAL 7030

Code		Dimensions mm (BxH)	Pack/N°metres
Slot 8x12mm	Slot 4x6mm		
05 019	05 119	15x17	92
05 033	05 133	25x30	116
05 035	05 135	40x30	80
05 037	05 137	60x30	52
05 043	05 143	25x40	96
05 045	05 145	40x40	60
05 047	05 147	60x40	40
05 049	05 149	80x40	32
05 051	05 151	100x40	24
05 053	05 153	120x40	20
05 063	05 163	25x60	68
05 065	05 165	40x60	44
05 067	05 167	60x60	32
05 069	05 169	80x60	24
05 071	05 171	100x60	20
05 073	05 173	120x60	14
05 083	05 183	25x80	56
05 085	05 185	40x80	36
05 087	05 187	60x80	24
05 089	05 189	80x80	16
05 091	05 191	100x80	16
05 093	05 193	120x80	12
05 094	05 194	25x100	40
05 095	05 195	40x100	28
05 096	05 196	60x100	20
05 097	05 197	80x100	14
05 098	05 198	100x100	8
05 099	05 199	150x100	8

For further information about the steel wire trays and wiring ducts, please contact the Installation Products division of ABB SACE, (tel. 0424-478.200), or visit the Business on line site (<http://bol.it.abb.com>)

# Ordering codes

## Accessories



### Accessories for wiring ducts

Code	Description	Pack
05 214	N°100 rivets ø4mm	1
05 216	N°100 rivets ø6mm	1
05 224	N°100 small wire stop crosspieces for wiring ducts with 40mm base	1
05 226	N°100 small wire stop crosspieces for wiring ducts with 60mm base	1
05 228	N°100 small wire stop crosspieces for wiring ducts with 80mm base	1
05 230	N°100 small wire stop crosspieces for wiring ducts with 100mm base	1
05 240	N°100 plastic nameplates	1
05 250	N°20 rapid snap-on bases for wiring ducts with 25mm base horizontal on DIN rail	1
05 252	N°20 rapid snap-on bases for wiring ducts with 40mm base horizontal on DIN rail	1
05 254	N°20 rapid snap-on bases for wiring ducts with 60mm base horizontal on DIN rail	1
05 256	N°20 rapid snap-on bases for wiring ducts with 80mm base horizontal on DIN rail	1
05 258	N°20 rapid snap-on bases for wiring ducts with 100mm base horizontal on DIN rail	1
05 260	N°20 rapid snap-on bases for wiring ducts with 120mm base horizontal on DIN rail	1
05 262	N°20 rapid snap-on bases for wiring ducts with 150mm base horizontal on DIN rail	1
05 265	Shears for wiring ducts	1
05 266	Rivet gun	1

### Flexible wiring ducts W=500mm grey RAL 7040 colour

Code	Dimensions mm (BxH)	Pack N°metres
05 400	12,5x12,5	112
05 402	16x16	84
05 405	20x20	112
05 410	25x25	70
05 415	30x30	50
05 420	40x40	50
05 425	50x50	32

### Wiring ducts

The lamellar wiring ducts are made of self-extinguishing thermoplastic material complying with the UL 94V0 Standard, resistant to abnormal heat and fire up to 960 °C (glow wire test) according to the IEC 695-2-1 Standard. Dimensional stability is guaranteed from -20 °C to + 60 °C. The standard length of the wiring ducts is 2 metres and the colour is grey RAL 7030. Products with IMQ mark, UL and CSA approvals, approved by RINA.

### Flexible wiring ducts

Made of thermoplastic material resistant to a permanent temperature of 80 °C and peaks up to 110 °C, according to the IEC 216 Standard. Self-extinction complies with the UL 94V2 Standard. The standard length is 500mm and the colour is light grey RAL 7040.

Note: The wiring ducts are also available in the halogen-free version (see ABB catalogue: 1SLC800001D0901).

# Ordering codes

## Spare parts

### Doors for single door version

Code	Description	Dimensions mm	
		H	W
TC1006	Blind door	1000	600
TT1006	Glazed door		800
TC1008	Blind door	1000	600
TT1008	Glazed door		800
TC1010	Blind door	1200	600
TT1010	Glazed door		800
TC1206	Blind door	1200	600
TT1206	Glazed door		800
TC1208	Blind door	1200	600
TT1208	Glazed door		800
TC1210	Blind door	1400	600
TT1210	Glazed door		800
TC1406	Blind door	1400	600
TT1406	Glazed door		800
TC1408	Blind door	1400	600
TT1408	Glazed door		800
TC1410	Blind door	1600	600
TT1410	Glazed door		800
TC1606	Blind door	1600	600
TT1606	Glazed door		800
TC1608	Blind door	1600	600
TT1608	Glazed door		800
TC1610	Blind door	1800	600
TT1610	Glazed door		800
TC1806	Blind door	1800	600
TT1806	Glazed door		800
TC1808	Blind door	1800	600
TT1808	Glazed door		800
TC1810	Blind door	2000	600
TT1810	Glazed door		800
TC2006	Blind door	2000	600
TT2006	Glazed door		800
TC2008	Blind door	2000	600
TT2008	Glazed door		800
TC2010	Blind door	2000	600
TT2010	Glazed door		800

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# Ordering codes

## Spare parts

### Doors for double door version

Code	Description	Dimensions mm	
		H	W
TC1008D	Blind door with handle	1000	400
TC1008S	Blind door with overlapping closing		500
TC1010D	Blind door with handle	1000	600
TC1010S	Blind door with overlapping closing		800
TC1012D	Blind door with handle	1000	400
TC1012S	Blind door with overlapping closing		500
TC1016D	Blind door with handle	1000	600
TC1016S	Blind door with overlapping closing		800
TC1208D	Blind door with handle	1200	400
TC1208S	Blind door with overlapping closing		500
TC1210D	Blind door with handle	1200	600
TC1210S	Blind door with overlapping closing		800
TC1212D	Blind door with handle	1200	400
TC1212S	Blind door with overlapping closing		500
TC1408D	Blind door with handle	1400	400
TC1408S	Blind door with overlapping closing		500
TC1410D	Blind door with handle	1400	600
TC1410S	Blind door with overlapping closing		800
TC1412D	Blind door with handle	1400	400
TC1412S	Blind door with overlapping closing		500
TC1608D	Blind door with handle	1600	400
TC1608S	Blind door with overlapping closing		500
TC1610D	Blind door with handle	1600	600
TC1610S	Blind door with overlapping closing		800
TC1612D	Blind door with handle	1600	400
TC1612S	Blind door with overlapping closing		500
TC1808D	Blind door with handle	1800	400
TC1808S	Blind door with overlapping closing		500
TC1810D	Blind door with handle	1800	600
TC1810S	Blind door with overlapping closing		800
TC1812D	Blind door with handle	1800	400
TC1812S	Blind door with overlapping closing		500
TC2010D	Blind door with handle	2000	500
TC2010S	Blind door with overlapping closing		600
TC2012D	Blind door with handle	2000	600
TC2012S	Blind door with overlapping closing		



# Ordering codes

## Accessories

### Spare parts

#### Rear panels

Code	Description	Dimensions mm	
		H	W
TE1060	Rear panel		600
TE1080	Rear panel		800
TE1010	Rear panel	1000	1000
TE1012	Rear panel		1200
TE1016	Rear panel		1600
TE1260	Rear panel		600
TE1280	Rear panel		800
TE1210	Rear panel	1200	1000
TE1212	Rear panel		1200
TE1460	Rear panel		600
TE1480	Rear panel		800
TE1410	Rear panel	1400	1000
TE1412	Rear panel		1200
TE1660	Rear panel		600
TE1680	Rear panel		800
TE1610	Rear panel	1600	1000
TE1612	Rear panel		1200
TE1860	Rear panel		600
TE1880	Rear panel		800
TE1810	Rear panel	1800	1000
TE1812	Rear panel		1200
TE2060	Rear panel		600
TE2080	Rear panel		800
TE2010	Rear panel	2000	1000
TE2012	Rear panel		1200
AD1070	N°10 AM2 handle covers		
AD1022	AM2 handle complete with lock and cover		
EV1008	Door closing box complete with double tongue insert		
EV1036	Coded Yale insert unique to closing box		
EV1037	Ronis 455 insert for closing box		
EV1039	Double tongue 3mm insert for closing box		

AA8004	Ronis E739 insert for handle
AA6100	Double tongue insert for handle
AA6200	Yale type insert for handle
CA1401	N°2 hooking devices H=1400mm
CA1601	N°2 hooking devices H=1600mm
CA1801	N°2 hooking devices H=1800mm
CA2001	N°2 hooking devices H=2000mm



# IS2 Enclosures for Automation

## IS2 EMC Enclosures for Automation

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### IS2 EMC enclosure

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# IS2 Enclosures for Automation

## Main characteristics and applications

ABB has renewed its offer of cabinets for automation with the new IS2 series, now also available in the kit versions. The IS2 panel boards are suitable for making electrical automation, control and operation panel boards, with the possibility of constructing batteries of cabinets side by side to control complex industrial plants. They are suitable for floor mounting with the possibility of lateral and rear access and adjustment of the back plate position.



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### Versions available



The IS2 cabinets are available in the following versions:

- Cabinet with blind door
- Cabinet with glazed door
- Cabinet with 19" rack frame
- Cabinet for PC
- Cabinet with console
- Cabinet with compartments
- Cabinet for modular apparatus
- Cabinet for power factor correction



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#### Technical characteristics

Conformity with the Standard	CEI EN 62208
Degree of protection	IP65 (CEI EN 60529) TYPE 12 (UL Standard)
Degree of mechanical strength	IK10 blind door IK09 glazed door (CEI EN 50102)
Certifications	  II 3 G D
Type of material	Metallic
Installation site	Indoors
Fixing method	floor
Normal service conditions	
- ambient temperature	from -5 to +40°C
Atmospheric conditions – relative humidity	50% at 40°C 90% at 20°C

# IS2 Enclosures for Automation

## Main characteristics and applications

### Cabinet with blind or glazed door

The dimensions referred to conform to DIN 41488, and should be considered as external.

The main characteristics are listed below.

#### Structure

The skeleton of the panel board consists of galvanised sheet uprights and pickled sheet panelling with a min. thickness of 15/10. The parts made of pickled sheet are painted with 60÷70 micron thick polyester epoxy powder paint of standard medium orange peel grey RAL 7032. The painting can be worked (drilled) without chipping. Other colours are also available on request.

Equipotentiality of the structure is obtained automatically during the assembly stage.

Placing two or more structures side by side is a simple operation, using the least possible number of accessories.

The structure can be fitted with accessories as follows:

- Vertical blind separator between columns, which ensures the IP54 degree of protection
- Separator for 24-pole connectors (staggered assembly between the rows) and relative accessories (closure plates, reduction for the 16-10-6 pole versions).
- Lateral incoming cable structure  $w=300\text{mm}$   $d=500-600-800\text{mm}$  – can be fitted with the separators described above.



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#### Uprights

The upright section is of the closed type and provides excellent resistance to mechanical stresses whilst still keeping the max. dimensions of 47x47mm.

They are drilled with 25mm pitch (in conformity with the DIN 43660 Standard) and allow the accessories to be fixed using M6 self-threading screws and cage nuts. The multi-purpose hinges for fixing the doors allow several structures to be placed side by side, and also to make corner batteries.

There is also an intermediate upright, which allows structures with various compartments to be made (e.g. structure  $w=800$  divided into 600+200mm).

For the structures with width  $\geq 1000\text{mm}$ , the upright can be removed to facilitate access.

# IS2 Enclosures for Automation

## Main characteristics and applications

### Base, top and plinth

The base has openings which allow cable entry from below, and has different types of flanges:

- guillotine sliding, complete with gasket
- in several pieces of different sizes be removed or drilled
- completely closed by a single large flange (20/10 thickness), which can be drilled house fairlead membranes or for direct entry of large cable bundles.

It can also be fitted with supporting crosspieces for heavy users (e.g. transformers max. 500Kg)

The roof is of the removable type and can be fitted with the following accessories:

- air conditioner
- IP23 ventilation hoods
- top cable connection compartment



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The roof is of the removable type and can be fitted with the following accessories:

- air conditioner
- IP23 ventilation hoods
- top cable connection compartment

Various types of plinths are available:

- **Standard:** 25/10 angle pieces + 20/10 flange made of pickled sheet and painted grey orange peel RAL 7012 colour, h=100mm.

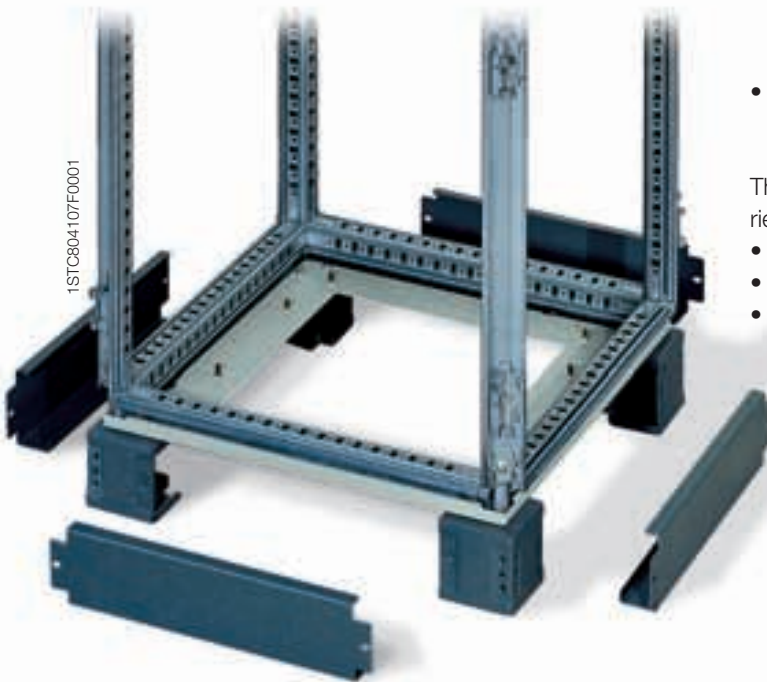
The flanges are supplied loose. Their assembly is carried out from the front of the panel board, using two self-threading screws. The angle pieces are fixed to the structure with two bolts placed diagonally to prevent any rotations during handling. Handling can be carried out using transpallets even when there are two structures side by side.

- **Raised** h=200mm: this keeps the same characteristics as the previous one and consists of two superimposed angle pieces h=100mm and relative cover flange h=200mm.
- **Supporting:** able to support the weight of the structure ( $\approx$  300kg loaded) and handle it by means of rollers. Versions h=100mm.

The plinth can be replaced by the following series of accessories:

- Levelling feet (400kg max. weight)
- Free and braked type wheels (400kg max. weight)
- Single: on request the plinth can be made in a single piece, equal to the whole perimeter of the panel boards mounted in a battery.

The angle pieces are provided with M12 holes for fixing to the floor; alternatively, this can be done by means of an optional accessory.



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# IS2 Enclosures for Automation

## Main characteristics and applications



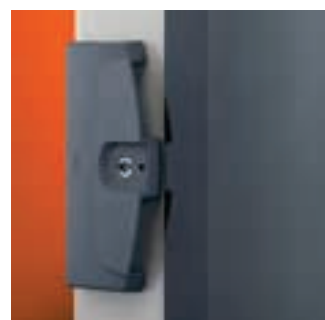
### Door

The reversible type doors (right or left opening) are made of 20/10 thick pickled sheet, and can be mounted on the four sides with an opening angle of 120° for the front ones, even in the case of several structures side by side. The side doors have a maximum opening angle of 100°.

- Blind door: fitted with reinforced galvanised tube and drilled with 25mm pitch, earthing pins (M6) located in the two corners close to the hinges.
- Glazed door: fitted with silk-screened 4mm thick safety glass.

Each of these solutions can be equipped with different types of handles which are interchangeable.

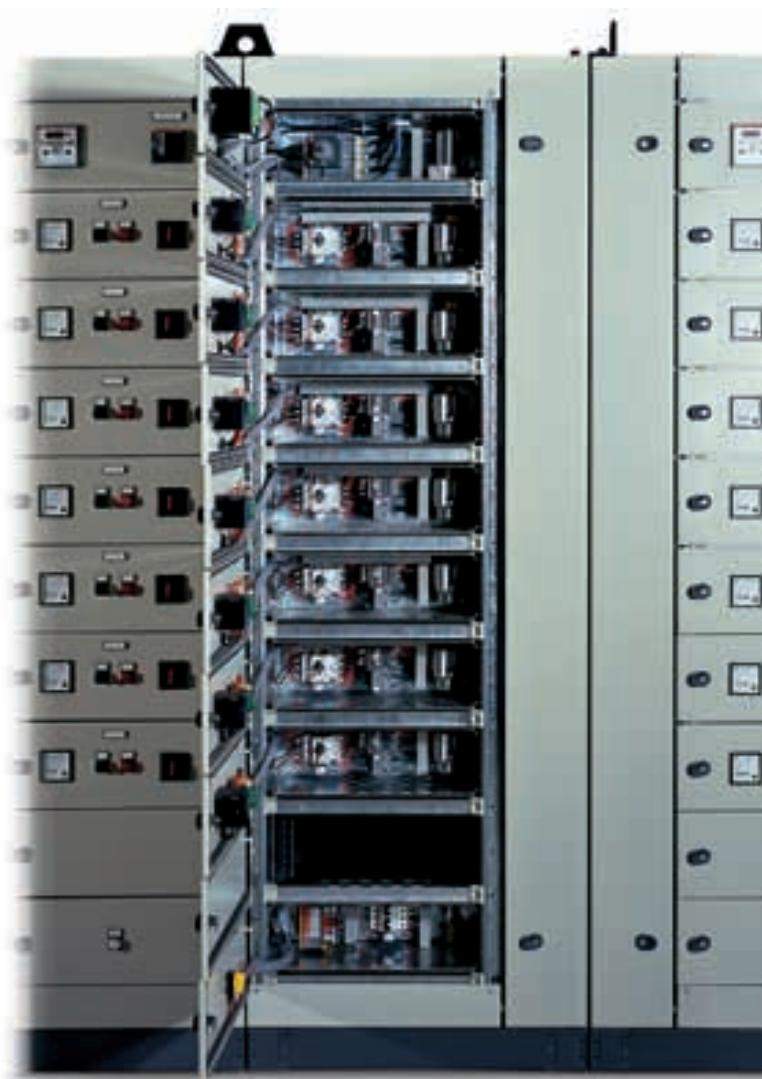
- Standard: of the monobloc type with a pleasing appearance. It is fitted with closure with a double tongue plastic key.



- Ergonomic: follows the aesthetics of the previous series. Functionally, opening takes place by rotating the lever which is released by the double tongue key.
- Both handles are fitted with various types of key locks.

Furthermore the doors are fitted with the following series of accessories:

- Hinges with 180° opening
- Door stop in the open position for the 180° version as well
- Release microswitch
- Voltage indication lamp
- Ventilation Kit
- Swivel work surface (only for doors w=600 and 800mm), which can be mounted on the reinforcement bar
- RAL7032 colour vertical and horizontal A3 format metal document pocket (only for doors w=600-800-1000mm), which can be mounted on the reinforcement bar.
- RAL7032 colour A4 format plastic document pocket
- Crosspieces on inside of door, for horizontal connection between reinforcement tubes for fixing the wiring duct or other accessories.
- Aluminium openable windows for control panels fitted with door and key.
- Counterdoor, to be mounted at the same time as the front door. This can house the main components, such as handles for switch-disconnectors/circuit-breakers, mushroom-head push-buttons and various different pushbuttons.



# IS2 Enclosures for Automation

## Main characteristics and applications

In the cabinets with glazed doors, the useful space between the glass and panels/counterdoor allows assembly of most of the components, among which: fixed circuit-breakers with transmitted rotary operation, OESA-OETL switch-disconnectors, Tmax circuit-breakers, and various pushbuttons.



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### Large functional plate

The structure of the large plate is particularly sturdy it can support loads up to a total of 300kg without undergoing any deformation. Made of galvanised sheet (25/10 thick), it is mounted on sliding blocks, which facilitate its insertion in the panel board in any one of the following ways:

- From the front
- From the side
- From the rear
- Two "back-to-back" plates
- Fully to the rear, placed inside the uprights on the same plane as these.

The plates, which can be adjusted in depth every 25mm, have the same heights and can be in one of the following versions:

- **Standard:** with insertion from the front or rear. Joining with another plate is carried out using the special kit. Insertion from the side is possible by means of sliding tracks.

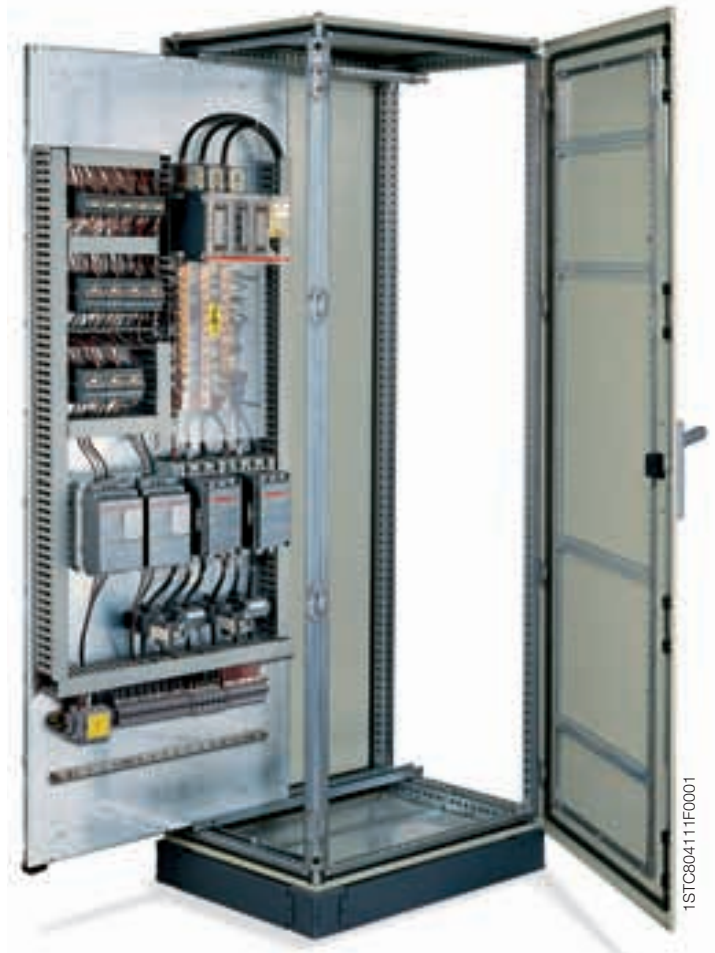
- **Oversized:** in this case the useful width is the same as the width of the structure. Assembly can only be from the side and is carried out thanks to the special tracks. The oversized plate can be adjusted in depth to exploit the useful space to the maximum without interfering with the side-by-side kit. It can be joined to other plates with the help of a few accessories which can be mounted from the front.

- **Partial:** adjustable in depth, this is installed using accessories. The back plates can be fitted with the following series of accessories:

- Rear reinforcement crosspieces
- Functional uprights for mounting DIN rail kits



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# IS2 Enclosures for Automation

## Main characteristics and applications



### Cabinet with compartments

The IS2 range also covers construction of versions with cells or compartments.

The compartments, available in heights multiples of 100mm up to a maximum of 800mm, allow Form 3 type segregation to be obtained. The galvanised sheet back plate can be removed to facilitate assembly of the apparatus. The side parts of the compartment are pre-sheared for passage of the conductors.

### Cabinet with 19" rack frame

The following types of frame are available:

- **Fixed:** adjustable in depth with 25mm pitch, able to support a maximum load of 150Kg. With 38, 42, 47 HE module capacity for panel boards 1800, 2000, 2200mm high respectively.
- **Swing:** in the versions for centred or eccentric assembly, with a maximum supportable load of 200Kg.
- **Partial swing:** with 9, 18, 27 HE module capacity, for frames 500, 900, 1300mm high respectively.

The rack frames are completed with the special blind closure panels with dimensions from 1 HE to 20 HE.



# IS2 Enclosures for Automation

## General characteristics and applications



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### Cabinet for PC

In this configuration, the cabinet is fitted with a glazed door for the video part and can take screens up to 17" in size. The window only regards the screen part. The part relative to the CPU is located behind the keyboard surface, accessible through a lift-up top fitted with a key lock.

The PC cabinet can be placed alongside the basic structures. Available in 1800/2000/2200mm heights, 600mm width, and 600/800mm depth.

### Cabinet with console

The structure is fitted with a section dedicated to a console. The versions available are with blind or glazed door.

### Cabinet for modular configurations

In the 600 and 800mm widths (24 and 36 DIN modules) without cable riser and in the 800/1000/1200mm widths with internal cable riser  $W=200$  or  $400$ mm, the IS2 cabinets can be fitted with modular panels. The modular panels are available in the version with DIN drilling (for one or three rows of modular apparatus), in the blind version and for  $72 \times 72$ mm and  $96 \times 96$ mm measuring instruments. All the panels have vertical modularity of 150 or 200mm and are available in the fixed or hinged version by means of an accessory. Installation of Tmax moulded-case circuit-breakers is possible by means of a back plate and blind panels.

Installation of the modular panels in the IS2 cabinets requires the use of the special uprights for modular panels which are screwed onto the structure of the cabinet. Alternatively assembly of the apparatus on an oversized back plate is possible by means of dedicated uprights.

The modular versions are also fitted with the following series of accessories:

- Hole cover  $W=2000$ mm grey RAL 7032 colour
- Adhesive circuit identification label holders
- Distribution frames



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1STC804119F0001

# IS2 Enclosures for Automation

## General characteristics and applications

### Cabinets for power factor correction

The structures for power factor correction can be made up by installation of the capacitor support plates in the pre-assembled cabinet structures or in a kit.

The door can be provided directly with the drillings relative to the RVC/RUT adjustment stations and to the handle of any switch-disconnector.

The assembly plate is prepared on one side with threaded inserts which can be used to fix the LVCP series capacitors, and on the other side with a series of holes for fixing the DIN rails for the control apparatus.

The IS2 solution for applications of power factor correction panel boards can be placed side by side with the other structures perfectly.



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### Air conditioners/fans

The following types of air conditioners are available:

- Air conditioners for wall assembly (door, side), IP54, 230V power supply @ 50/60Hz, RAL7032 colour; cooling powers: 550÷2100w
- Air conditioners for roof assembly, IP54, 230V power supply @ 50/60Hz, RAL7032 colour; cooling powers: 650÷1650w
- IP54 ventilation Kit, RAL7032 colour, 110-230V power supply @ 50/60Hz with reversible flow, 23÷360 m<sup>3</sup>/h capacity and IP43 ventilation hood with 480 m<sup>3</sup>/h capacity.
- IP21/54 filter Kit, RAL7032 colour, dimensions: 105x105÷250x250mm and IP43 ventilation hood.
- IP20 heater, 110-230V power supply @ 50/60Hz
- Thermostat with 110-250V power supply @ 50/60Hz



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1STC804121F0001

### Accessories

Apart from the accessories dedicated to making up some versions, the following are available for the whole range:

- Reinforcement crosspieces for transformers, able to support weights of 500kg. They are placed at the back of the structure in depth
- Reinforcement crosspieces/various applications, which can be mounted both in depth and in width (h=38-70mm). They are independent of the dimensions of the structure and can be positioned both inside and outside the uprights
- Guide a "C" guides in depth for mounting DIN rails and blind back plates
- Blind panels (h=50-100-150-200-400-600mm) and DIN cut-outs (h=150-200mm)
- Lamps for panel board internal lighting, to be installed directly on the upright placed under the roof. They can be of two types: 14-18-30W fluorescent tube with 110-230V 50/60Hz power supply, or 14W version with integrated UNEL socket
- "Duct" type accessory able to shield the power cables from the signal cables
- Wall fixing brackets
- Busbar system

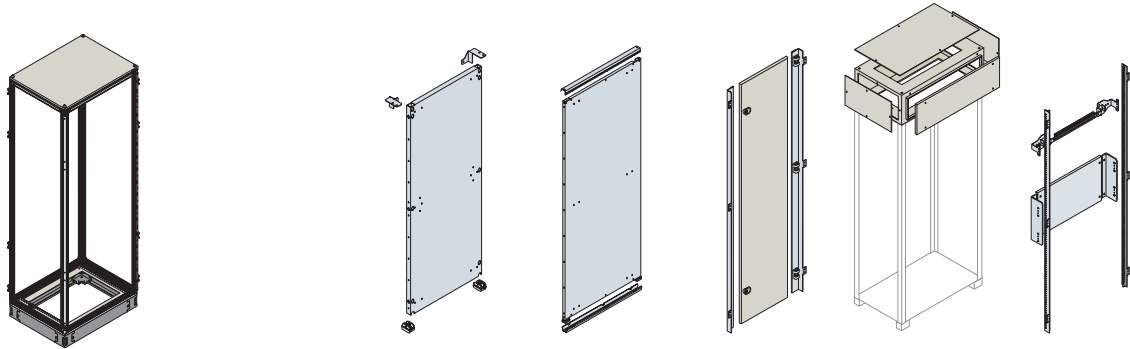


1STC804123F0001

# IS2 Enclosures for Automation

## General characteristics and applications

### Composition of the series

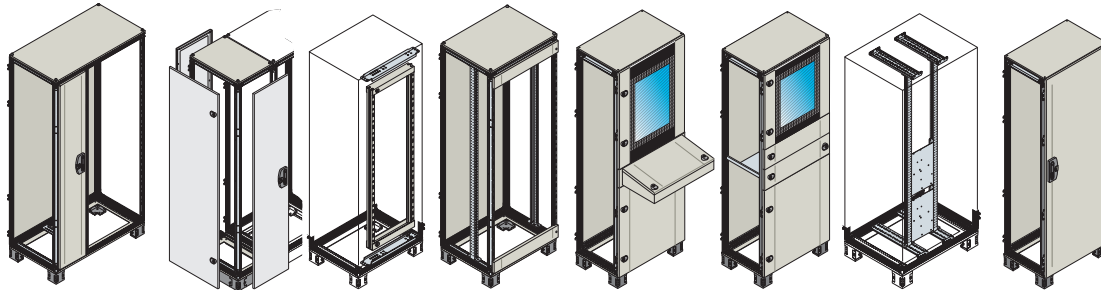


H	D	W	Back plates		Counterdoor	Top cable connection cont.	Modular DIN structure
			Standard	Oversized			
		300					
		400	•			•	
		600	•	•	•	•	•
	400	800	•	•	•	•	•
		1000	•	•	•	•	• + cable cont.
		1200	•	•		•	• + cable cont.
		300					
		400	•	•		•	
		600	•	•	•	•	•
	500	800	•	•	•	•	•
		1000	•	•	•	•	• + cable cont.
		1200	•	•		•	• + cable cont.
		1600	•			•	
		300					
1800		400	•	•		•	
2000		600	•	•	•	•	•
2200	600	800	•	•	•	•	•
		1000	•	•	•	•	• + cable cont.
		1200	•	•		•	• + cable cont.
		1600	•			•	
		300					
		400	•	•		•	
		600	•	•	•	•	•
	800	800	•	•	•	•	•
		1000	•	•	•	•	• + cable cont.
		1200	•	•		•	• + cable cont.
		1600	•			•	
		300					
		400	•	•		•	
		600	•	•	•	•	•
	1000	800	•	•	•	•	•
		1000	•	•	•	•	•

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# IS2 Enclosures for Automation

## General characteristics and applications



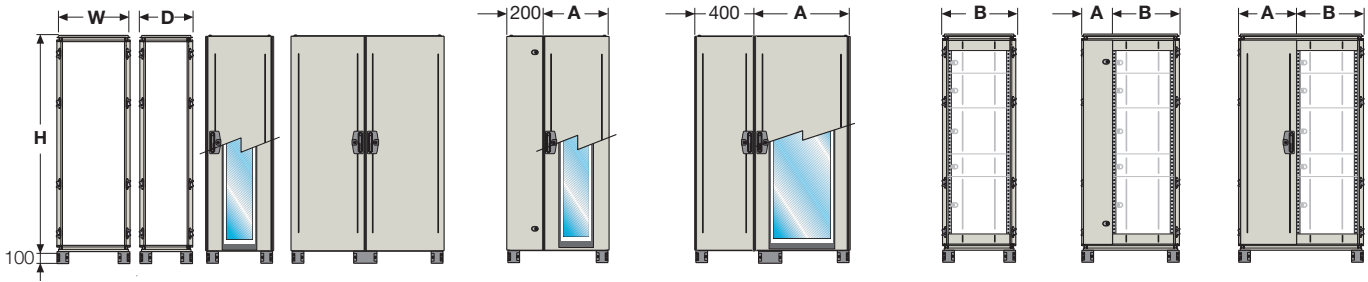
Cable container			19" rack structures	Structures with compartments	Cabinet with console	Cabinet for computer	Cabinet for power factor correction	IS2 EMC	Dimensions (mm)		
Internal W=200mm	Internal W=400mm	External W=300mm							W	D	H
		•							300		
		•							400		
			•	•	•				600		
•			•	•	•				800	400	
•	•			• + cable cont.					1000		
	•			• + cable cont.					1200		
		•							1600		
		•							300		
		•							400		
			•	•	•				600		
•			•	•	•			•	800	500	
•	•			• + cable cont.					1000		
	•			• + cable cont.					1200		
		•							1600		
		•							300		
		•							400		
			•	•	•	•		• <sup>(1)</sup>	600		1800
•			•	•	•			• <sup>(1)</sup>	800	600	2000
•	•			• + cable cont.					1000		
	•			• + cable cont.					1200		
		•							1600		
		•							300		
		•							400		
			•	•	•	•		• <sup>(1)</sup>	600		
•			•	•	•			• <sup>(1)</sup>	800	800	
•	•			• + cable cont.					1000		
	•			• + cable cont.					1200		
		•							1600		
		•							300		
		•							400		
			•	•	•				600		
•			•	•					800	1000	
•	•			• + cable cont.					1000		

<sup>(1)</sup> Only H=2000mm

# Pre-assembled IS2 Cabinets

## Selection of the structure - h 1800 mm

### Pre-assembled cabinets - h 1800mm



Overall dimensions			Cabinet with door				Cabinet with cable container				Cabinet with compartments							
H <sup>(*)</sup> mm	W mm	D mm	Blind	Double blind <sup>(**)</sup>	Double blind with overl. closure <sup>(**)</sup>	Glazed	Cable container W=200mm		Cable container W=400mm		Width mm		Width mm					
							blind door	glazed door	A	blind door	glazed door	A	A	B	A	B		
1800	400	400	ES1844															
	600		ES1864				ES1864V					ES1864MF	-	600				
	800	400	ES1884				ES1884V	ES1884FV2	ES1884VC2	600		ES1884MF2	200	600	ES1884MF	-	800	
	1000		ES1804	ES1814	ES1814B	ES1804V	ES1804FV2	ES1804VC2	800	ES1804FV4	ES1804VC4	600	ES1804MF4	400	600	ES1804MF2	200	800
	1200		ES1824	ES1824B	ES1824V <sup>(**)</sup>				ES1824FV4	ES1824VC4	800			ES1824MF4	400	800		
	400	500	ES1845															
	600		ES1865				ES1865V					ES1865MF	-	600				
	800		ES1885				ES1885V	ES1885FV2	ES1885VC2	600		ES1885MF2	200	600	ES1885MF	-	800	
	1000		ES1805	ES1815	ES1815B	ES1805V	ES1805FV2	ES1805VC2	800	ES1805FV4	ES1805VC4	600	ES1805MF4	400	600	ES1805MF2	200	800
	1200			ES1827	ES1827B	ES1825V <sup>(**)</sup>				ES1825FV4	ES1825VC4	800			ES1825MF4	400	800	
	1600		ES1875				ES1875B											
	400	600	ES1846															
	600		ES1866				ES1866V					ES1866MF	-	600				
	800		ES1886				ES1886V	ES1886FV2	ES1886VC2	600		ES1886MF2	200	600	ES1886MF	-	800	
	1000		ES1806	ES1816	ES1816B	ES1806V	ES1806FV2	ES1806VC2	800	ES1806FV4	ES1806VC4	600	ES1806MF4	400	600	ES1806MF2	200	800
	1200			ES1826	ES1826B	ES1826V <sup>(**)</sup>				ES1826FV4	ES1826VC4	800			ES1826MF4	400	800	
1600		ES1876				ES1876B												
400	800	ES1848																
600		ES1868				ES1868V					ES1868MF	-	600					
800		ES1888				ES1888V	ES1888FV2	ES1888VC2	600		ES1888MF2	200	600	ES1888MF	-	800		
1000		ES1808	ES1818	ES1818B	ES1808V	ES1808FV2	ES1808VC2	800	ES1808FV4	ES1808VC4	600	ES1808MF4	400	600	ES1808MF2	200	800	
1200			ES1828	ES1828B	ES1828V <sup>(**)</sup>				ES1828FV4	ES1828VC4	800			ES1828MF4	400	800		
1600		ES1878				ES1878B												
400	1000	ES1840																
600		ES1860				ES1860V					ES1860MF	-	600					
800		ES1880				ES1880V					ES1880MF2	200	600	ES1880MF	-	800		
1000		ES1800	ES1810	ES1810B	ES1800V						ES1800MF4	400	600	ES1800MF2	200	800		

<sup>(\*)</sup> The useful height is always 100mm less than the external dimension of the panel board. For the version with compartments, the useful height is 200mm less.

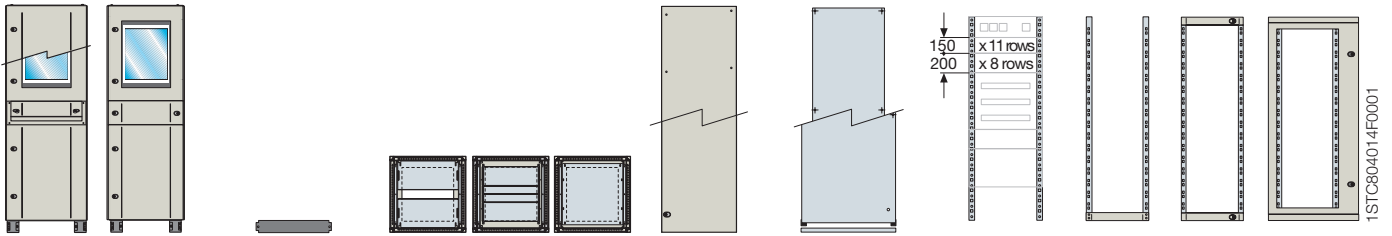
<sup>(\*\*)</sup> Implies mounting the intermediate upright. The doors have overlapping closure on the intermediate upright (removable) fixed onto the crosspieces mounted in depth.

<sup>(\*\*\*)</sup> Does not imply mounting the intermediate upright. The doors have overlapping closure with each other.

Note: for composition of the supply see page 4/25 and 4/30.

# Pre-assembled IS2 Cabinets

Selection of the structure - h 1800 mm



Cabinet with console <sup>(1)</sup>	Cabinet for PC	Completion accessories														
		Flanges for plinths		Incoming cable flanges			Side covers		Back plates		DIN rail uprights	Rack frames				
Glazed door		front/rear	size	Sliding	Modular	Fixed	Blind panel	Blind door	Standard <sup>(2)</sup>	Oversized + <sup>(3)</sup>		centred	n°HE	centred	eccentric	n°HE
ES1864L		EZ4000		EF4040	EF4041	EF4042			EA1841	EA1940						
		EZ6000		EF6040	EF6041	EF6043			EA1860	EA1960			EG1800	38	EG1801	36
ES1884L		EZ8000	EZ4000	EF8040	EF8041	EF8042	EL1840	EC1841	EA1880	EA1981	EH1800		EG1880	38	EG1803	36
		EZ1000		EF1040	EF1041	EF1042			EA1810	EA1910						
		2xEZ6000		2xEF6040	2xEF6041	2xEF6043			EA1812	EA1912						
ES1865L		EZ4000		EF4050	EF4051	EF4052			EA1841	EA1940						
		EZ6000		EF6050	EF6051	EF6052			EA1860	EA1960			EG1800	38	EG1801	36
ES1885L		EZ8000	EZ5000	EF8050	EF8051	EF8052	EL1850	EC1851	EA1880	EA1981	EH1800		EG1880	38	EG1803	36
		EZ1000		EF1053	EF1051	EF1052			EA1810	EA1910						
		2xEZ6000		2xEF6050	2xEF6051	2xEF6052			EA1812	EA1912						
		2xEZ8000		2xEF8050	2xEF8051	2xEF8052			EA1817	EA1916 <sup>(4)</sup>						
ES1866L	ES1866PC	EZ4000		EF4060	EF4061	EF4063			EA1841	EA1940						
		EZ6000		EF6060	EF6061	EF6062			EA1860	EA1960			EG1800	38	EG1801	36
ES1886L		EZ8000	EZ6000	EF8060	EF8061	EF8062	EL1860	EC1861	EA1880	EA1981	EH1800		EG1880	38	EG1803	36
		EZ1000		EF1060	EF1061	EF1062			EA1810	EA1910						
		2xEZ6000		2xEF6060	2xEF6061	2xEF6062			EA1812	EA1912						
		2xEZ8000		2xEF8060	2xEF8061	2xEF8062			EA1817	EA1916 <sup>(4)</sup>						
ES1868L	ES1868PC	EZ4000		EF4080	EF4081	EF4082			EA1841	EA1940						
		EZ6000		EF6080	EF6081	EF6082			EA1860	EA1960			EG1800	38	EG1801	36
ES1888L		EZ8000	EZ8000	EF8080	EF8081	EF8082	EL1880	EC1881	EA1880	EA1981	EH1800		EG1880	38	EG1803	36
		EZ1000		EF1080	EF1081	EF1082			EA1810	EA1910						
		2xEZ6000		2xEF6080	2xEF6081	2xEF6082			EA1812	EA1912						
		2xEZ8000		2xEF8080	2xEF8081	2xEF8082			EA1817	EA1916 <sup>(4)</sup>						
		EZ4000		EF4010	EF4011	EF4012			EA1841	EA1940						
		EZ6000	EZ1000	EF6010	EF6011	EF6012	EL1810	EC1811	EA1860	EA1960	EH1800		EG1800	38	EG1801	36
		EZ8000		EF8010	EF8011	EF8012			EA1880	EA1981			EG1880	38	EG1803	36
		EZ1000		EF1010	EF1011	EF1012			EA1810	EA1910						

<sup>(1)</sup> Also available with blind door (see page 4/30).

<sup>(2)</sup> EA1800: Kit for joining standard plates h=2000mm. Possibility of lateral insertion with tracks (see page 4/46)

<sup>(3)</sup> EA2113: Kit for joining oversized plates.

<sup>(4)</sup> Kit consisting of 2 oversized back plates W=800mm with relative insertion tracks and kit for joining plates.

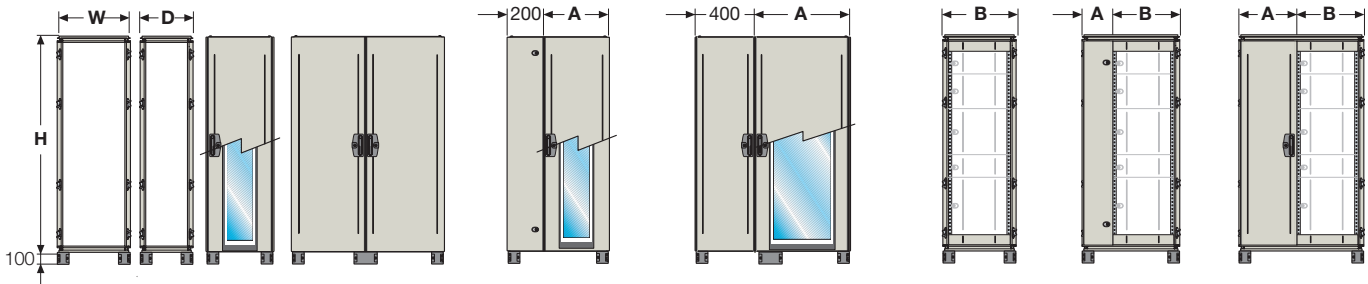
Kit for placing structures side by side EV0002/EV0003/EV0006 see page 4/59.

Other accessories from page 4/60.

# Pre-assembled IS2 Cabinets

## Selection of the structure - h 2000 mm

### Pre-assembled cabinets - h 2000mm



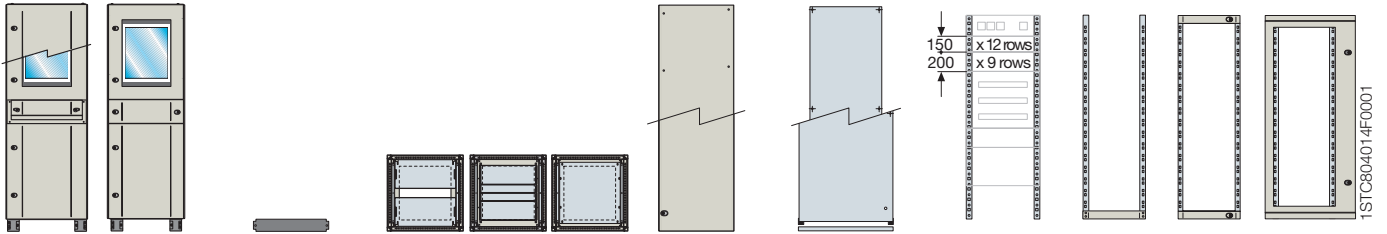
Overall dimensions			Cabinet with door				Cabinet with cable container				Cabinet with compartments							
H <sup>(*)</sup> mm	W mm	D mm	Double		Double blind with		Cable container W=200mm		Cable container W=400mm		Width mm		Width mm					
			Blind	blind <sup>(**)</sup>	overl. closure <sup>(***)</sup>	Glazed	blind door	glazed door	A mm	blind door	glazed door	A mm	A	B	A	B		
400			ES2044															
600			ES2064									ES2064MF	-	600				
800		400	ES2084									ES2084MF2	200	600	ES2084MF	-	800	
1000			ES2004	ES2014	ES2014B	ES2004V	ES2004FV2	ES2004VC2	800	ES2004FV4	ES2004VC4	600	ES2004MF4	400	600	ES2004MF2	200	800
1200			ES2024		ES2024B	ES2024V <sup>(*)</sup>				ES2024FV4	ES2024VC4	800			ES2024MF4	400	800	
400			ES2045															
600			ES2065										ES2065MF	-	600			
800		500	ES2085										ES2085MF2	200	600	ES2085MF	-	800
1000			ES2007	ES2015	ES2015B	ES2005V	ES2005FV2	ES2005VC2	800	ES2005FV4	ES2005VC4	600	ES2005MF4	400	600	ES2005MF2	200	800
1200			ES2025		ES2025B	ES2025V <sup>(*)</sup>				ES2025FV4	ES2025VC4	800			ES2025MF4	400	800	
1600			ES2075		ES2075B													
400			ES2046															
600			ES2066										ES2066MF	-	600			
800		600	ES2086										ES2086MF2	200	600	ES2086MF	-	800
1000			ES2006	ES2016	ES2016B	ES2006V	ES2006FV2	ES2006VC2	800	ES2006FV4	ES2006VC4	600	ES2006MF4	400	600	ES2006MF2	200	800
1200			ES2026		ES2026B	ES2026V <sup>(*)</sup>				ES2026FV4	ES2026VC4	800			ES2026MF4	400	800	
1600			ES2076		ES2076B													
400			ES2048															
600			ES2068										ES2068MF	-	600			
800		800	ES2089										ES2088MF2	200	600	ES2088MF	-	800
1000			ES2008	ES2018	ES2018B	ES2008V	ES2008FV2	ES2008VC2	800	ES2008FV4	ES2008VC4	600	ES2008MF4	400	600	ES2008MF2	200	800
1200			ES2028		ES2028B	ES2028V <sup>(*)</sup>				ES2028FV4	ES2028VC4	800			ES2028MF4	400	800	
1600			ES2078		ES2078B													
400			ES2040															
600		1000	ES2060										ES2060MF	-	600			
800			ES2080										ES2080MF2	200	600	ES2080MF	-	800
1000			ES2000	ES2010	ES2010B	ES2000V						ES2000MF4	400	600	ES2000MF2	200	800	

(\*) The useful height is always 100mm less than the external dimension of the panel board. For the version with compartments, the useful height is 200mm less.  
 (\*\*\*) Does not imply mounting the intermediate upright. The doors have overlapping closure with each other.

Note: for composition of the supply see page 4/25 and 4/30.

# Pre-assembled IS2 Cabinets

Selection of the structure - h 2000 mm



Cabinet with console <sup>(1)</sup>	Cabinet for PC	Completion accessories															
		Flanges for plinths		Incoming cable flanges			Side covers		Back plates		DIN rail uprights	Rack frames					
Glazed door		front/rear	side	Slide	Modular	Fixed	Blind panel	Blind door	Standard <sup>(2)</sup>	Oversized + tracks <sup>(3)</sup>		Fixed centred	n°HE	Fixed centred	Sliding eccentric	n°HE	
ES2064L		EZ4000		EF4040	EF4041	EF4042			EA2040	EA2140			EG2000	42	EG2001	40	
		EZ6000		EF6040	EF6041	EF6043			EA2060	EA2161			EG2080	42		EG2003	40
ES2084L		EZ8000	EZ4000	EF8040	EF8041	EF8042	EL2040	EC2041	EA2080	EA2180	EH2000						
		EZ1000		EF1040	EF1041	EF1042			EA2010	EA2110							
		2xEZ6000		2xEF6040	2xEF6041	2xEF6043			EA2013	EA2112							
ES2065L		EZ4000		EF4050	EF4051	EF4052			EA2040	EA2140			EG2000	42	EG2001	40	
		EZ6000		EF6050	EF6051	EF6052			EA2060	EA2161			EG2080	42		EG2003	40
ES2085L		EZ8000	EZ5000	EF8050	EF8051	EF8052	EL2050	EC2051	EA2080	EA2180	EH2000						
		EZ1000		EF1053	EF1051	EF1052			EA2010	EA2110							
		2xEZ6000		2xEF6050	2xEF6051	2xEF6052			EA2013	EA2112							
		2xEZ8000		2xEF8050	2xEF8051	2xEF8052			EA2016	EA2116 <sup>(4)</sup>							
ES2066L	ES2066PC	EZ4000		EF4060	EF4061	EF4063			EA2040	EA2140			EG2000	42	EG2001	40	
		EZ6000		EF6060	EF6061	EF6062			EA2060	EA2161			EG2080	42		EG2003	40
ES2086L		EZ8000	EZ6000	EF8060	EF8061	EF8062	EL2060	EC2061	EA2080	EA2180	EH2000						
		EZ1000		EF1060	EF1061	EF1062			EA2010	EA2110							
		2xEZ6000		2xEF6060	2xEF6061	2xEF6062			EA2013	EA2112							
		2xEZ8000		2xEF8060	2xEF8061	2xEF8062			EA2016	EA2116 <sup>(4)</sup>							
ES2068L	ES2068PC	EZ4000		EF4080	EF4081	EF4082			EA2040	EA2140			EG2000	42	EG2001	40	
		EZ6000		EF6080	EF6081	EF6082			EA2060	EA2161			EG2080	42		EG2003	40
ES2088L		EZ8000	EZ8000	EF8080	EF8081	EF8082	EL2080	EC2081	EA2080	EA2180	EH2000						
		EZ1000		EF1080	EF1081	EF1082			EA2010	EA2110							
		2xEZ6000		2xEF6080	2xEF6081	2xEF6082			EA2013	EA2112							
		2xEZ8000		2xEF8080	2xEF8081	2xEF8082			EA2016	EA2116 <sup>(4)</sup>							
		EZ4000		EF4010	EF4011	EF4012			EA2040	EA2140			EG2000	42	EG2001	40	
		EZ6000	EZ1000	EF6010	EF6011	EF6012	EL2012	EC2011	EA2060	EA2161	EH2000						
		EZ8000		EF8010	EF8011	EF8012			EA2080	EA2180			EG2080	42		EG2003	40
		EZ1000		EF1010	EF1011	EF1012			EA2010	EA2110							

<sup>(1)</sup> Also available with blind door (see page 4/30).

<sup>(2)</sup> EA2000: Kit for joining standard plates h=2000mm. Possibility of lateral insertion with tracks (see page 4/46)

<sup>(3)</sup> EA2113: Kit for joining oversized plates.

<sup>(4)</sup> Kit consisting of 2 oversized back plates W=800mm with relative insertion tracks and kit for joining plates.

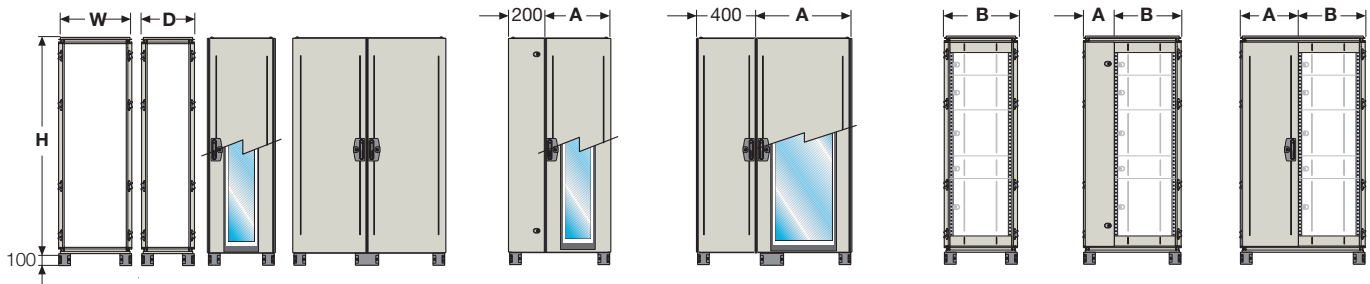
Kit for placing structures side by side EV0002/EV0003/EV0006 see page 4/59.

Other accessories from page 4/60.

# Pre-assembled IS2 Cabinets

## Selection of the structure - h 2200 mm

### Pre-assembled cabinets - h 2200mm



Overall dimensions			Cabinet with door				Cabinet with cable container				Cabinet with compartments						
H <sup>(*)</sup> mm	W mm	D mm	Double		Double blind with overf. closure <sup>(**)</sup>		Cable container W=200mm		Cable container W=400mm		Width mm		Width mm				
			Blind	blind <sup>(*)</sup>	Glazed	blind door	glazed door	A mm	blind door	glazed door	A mm	A	B	A	B		
2200	400	400	ES2244														
	600		ES2264			ES2264V					ES2264MF	-	600				
	800		ES2284			ES2284V	ES2284FV2	ES2284VC2	600		ES2284MF2	200	600	ES2284MF	-	800	
	1000		ES2204	ES2214	ES2214B	ES2204V	ES2204FV2	ES2204VC2	800	ES2204FV4	ES2204VC4	600	ES2204MF4	400	600	ES2204MF2	200
	1200	ES2224		ES2224B	ES2224V <sup>(*)</sup>				ES2224FV4	ES2224VC4	800			ES2224MF4	400	800	
	400	500	ES2245														
	600		ES2265			ES2265V					ES2265MF	-	600				
	800		ES2285			ES2285V	ES2285FV2	ES2285VC2	600		ES2285MF2	200	600	ES2285MF	-	800	
	1000		ES2205	ES2215	ES2215B	ES2205V	ES2205FV2	ES2205VC2	800	ES2205FV4	ES2205VC4	600	ES2205MF4	400	600	ES2205MF2	200
	1200	ES2225		ES2225B	ES2225V <sup>(*)</sup>				ES2225FV4	ES2225VC4	800			ES2225MF4	400	800	
	1600	ES2275		ES2275B													
	400	600	ES2246														
	600		ES2266			ES2266V					ES2266MF	-	600				
	800		ES2286			ES2286V	ES2286FV2	ES2286VC2	600		ES2286MF2	200	600	ES2286MF	-	800	
	1000		ES2206	ES2216	ES2216B	ES2206V	ES2206FV2	ES2206VC2	800	ES2206FV4	ES2206VC4	600	ES2206MF4	400	600	ES2206MF2	200
	1200	ES2226		ES2226B	ES2226V <sup>(*)</sup>				ES2226FV4	ES2226VC4	800			ES2226MF4	400	800	
1600	ES2276		ES2276B														
400	800	ES2248															
600		ES2268			ES2268V					ES2268MF	-	600					
800		ES2288			ES2288V	ES2288FV2	ES2288VC2	600		ES2288MF2	200	600	ES2288MF	-	800		
1000		ES2208	ES2218	ES2218B	ES2208V	ES2208FV2	ES2208VC2	800	ES2208FV4	ES2208VC4	600	ES2208MF4	400	600	ES2208MF2	200	800
1200	ES2228		ES2228B	ES2228V <sup>(*)</sup>				ES2228FV4	ES2228VC4	800			ES2228MF4	400	800		
1600	ES2279		ES2279B														
400	1000	ES2240															
600		ES2260			ES2260V					ES2260MF	-	600					
800		ES2280			ES2280V					ES2280MF2	200	600	ES2280MF	-	800		
1000	ES2200		ES2210	ES2210B	ES2200V					ES2200MF4	400	600	ES2200MF2	200	800		

(\*) The useful height is always 100mm less than the external dimension of the panel board. For the version with compartments, the useful height is 200mm less.

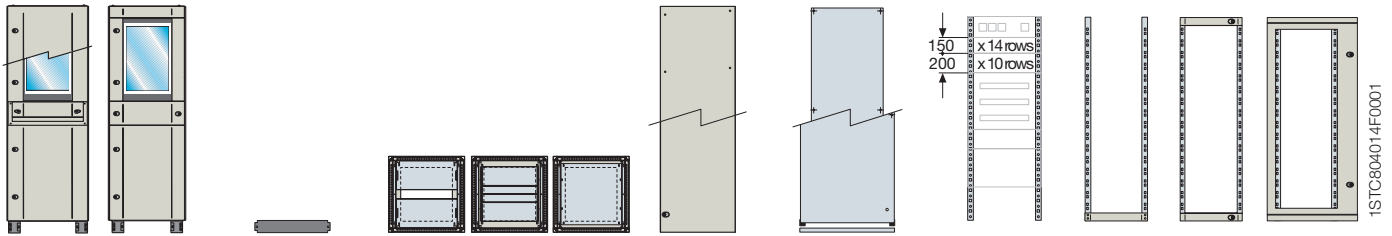
(\*\*) Implies mounting the intermediate upright. The doors have overlapping closure on the intermediate upright (removable) fixed onto the crosspieces mounted in depth.

(\*\*\*) Does not imply mounting the intermediate upright. The doors have overlapping closure with each other.

Note: for composition of the supply see page 4/25 and 4/30.

# Pre-assembled IS2 Cabinets

## Selection of the structure - h 2200 mm



Cabinet with console <sup>(1)</sup>		Cabinet for PC		Completion accessories													
Glazed door	front/rear	size	Flanges for plinths			Incoming cable flanges			Side covers		Back plates		DIN rail uprights	Telai Rack			
			front/rear	size	Slide	Modular	Fixed	Blind panel	Blind door	Standard <sup>(2)</sup>	Oversized + tracks <sup>(3)</sup>	Fixed centred		n°HE	Sliding centred	eccentric	n°HE
ES2264L	EZ4000	EZ6000	EZ4000	EF4040	EF4041	EF4042	EL2240	EC2241	EA2240	EA2340	EH2200	EG2200	47	EG2201	45		
				EF6040	EF6041	EF6043			EA2260	EA2360		EG2280	47	EG2203	45		
ES2284L	EZ8000	EZ1000	EZ4000	EF8040	EF8041	EF8042	EL2250	EC2251	EA2280	EA2380	EH2200	EG2280	47	EG2201	45		
				EF1040	EF1041	EF1042			EA2210	EA2310		EG2280	47	EG2203	45		
	2xEZ6000	2xEZ4000	EZ5000	2xEF6040	2xEF6041	2xEF6043			EA2212	EA2312							
ES2265L	EZ4000	EZ6000	EZ5000	EF4050	EF4051	EF4052	EL2250	EC2251	EA2240	EA2340	EH2200	EG2200	47	EG2201	45		
				EF6050	EF6051	EF6052			EA2260	EA2360		EG2280	47	EG2203	45		
ES2285L	EZ8000	EZ1000	EZ5000	EF8050	EF8051	EF8052	EL2250	EC2251	EA2280	EA2380	EH2200	EG2280	47	EG2201	45		
				EF1053	EF1051	EF1052			EA2210	EA2310		EG2280	47	EG2203	45		
	2xEZ6000	2xEZ4000	EZ5000	2xEF6050	2xEF6051	2xEF6052			EA2212	EA2312							
ES2266L	EZ4000	EZ6000	EZ6000	EF4060	EF4061	EF4063	EL2260	EC2261	EA2240	EA2340	EH2200	EG2200	47	EG2201	45		
				EF6060	EF6061	EF6062			EA2260	EA2360		EG2280	47	EG2203	45		
ES2286L	EZ8000	EZ1000	EZ6000	EF8060	EF8061	EF8062	EL2260	EC2261	EA2280	EA2380	EH2200	EG2280	47	EG2201	45		
				EF1060	EF1061	EF1062			EA2210	EA2310		EG2280	47	EG2203	45		
	2xEZ6000	2xEZ4000	EZ6000	2xEF6060	2xEF6061	2xEF6062			EA2212	EA2312							
ES2268L	EZ4000	EZ6000	EZ8000	EF4080	EF4081	EF4082	EL2280	EC2281	EA2240	EA2340	EH2200	EG2200	47	EG2201	45		
				EF6080	EF6081	EF6082			EA2260	EA2360		EG2280	47	EG2203	45		
ES2288L	EZ8000	EZ1000	EZ8000	EF8080	EF8081	EF8082	EL2280	EC2281	EA2280	EA2380	EH2200	EG2280	47	EG2201	45		
				EF1080	EF1081	EF1082			EA2210	EA2310		EG2280	47	EG2203	45		
	2xEZ6000	2xEZ4000	EZ8000	2xEF6080	2xEF6081	2xEF6082			EA2212	EA2312							
	2xEZ8000	2xEZ6000	EZ8000	2xEF8080	2xEF8081	2xEF8082			EA2216	EA2316 <sup>(4)</sup>							
	EZ4000	EZ6000	EZ1000	EF4010	EF4011	EF4012	EL2210	EC2211	EA2240	EA2340	EH2200	EG2200	47	EG2201	45		
				EF6010	EF6011	EF6012			EA2260	EA2360		EG2280	47	EG2203	45		
	EZ8000	EZ1000	EZ1000	EF8010	EF8011	EF8012	EL2210	EC2211	EA2280	EA2380	EH2200	EG2280	47	EG2201	45		
				EF1010	EF1011	EF1012			EA2210	EA2310		EG2280	47	EG2203	45		

<sup>(1)</sup> Also available with blind door (see page 4/30).

<sup>(2)</sup> EA2200: Kit for joining standard plates h=200mm. Possibility of lateral insertion with tracks (see page 4/46)

<sup>(3)</sup> EA2113: Kit for joining oversized plates.

<sup>(4)</sup> Kit consisting of 2 oversized back plates W=800mm with relative insertion tracks and kit for joining plates.

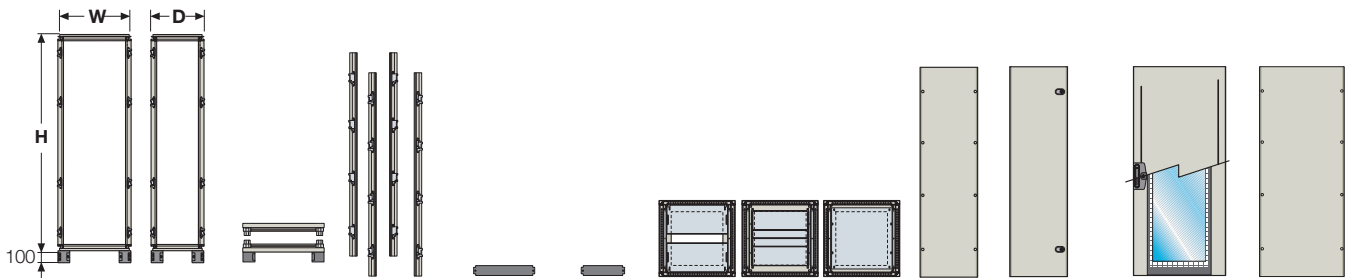
Kit for placing structures side by side EV0002/EV0003/EV0006 see page 4/59.

Other accessories from page 4/60.

# IS2 built-up cabinets

Selection of the structure - h 1800 mm

## Cabinets in kits - h 1800mm – Basic version

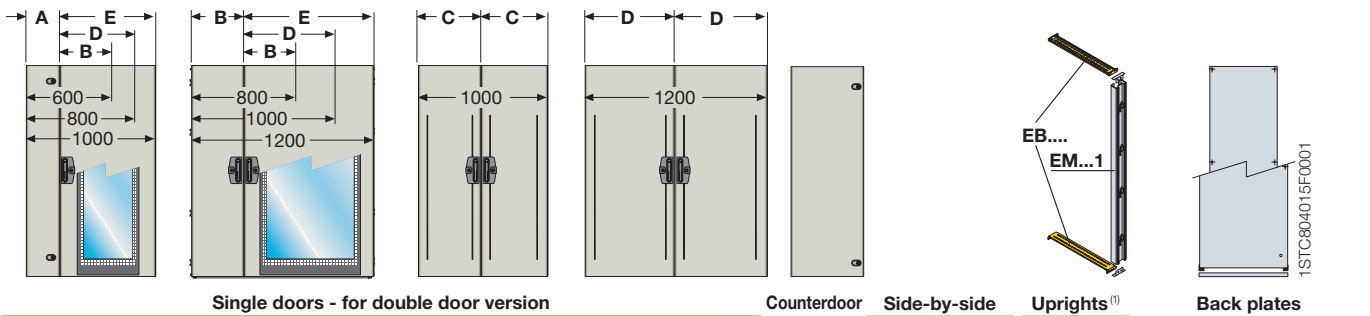


Overall dimensions			Base/top plinth	Uprights	Plinth flanges		Incoming cable flanges			Side covers		Front/rear covers		
H <sup>(*)</sup> mm	W mm	D mm		For structure	Front/rear flanges	Side flanges	Sliding	Removable	Back closure	Pair of IP65 blind panels	IP 65 blind door	IP65 blind door	IP65 glazed door	IP65 blind panel
1800	400		EK4040		EZ4000		EF4040	EF4041	EF4042			EC1840	-	EP1840
	600		EK6040		EZ6000		EF6040	EF6041	EF6043			EC1860	ET1860	EP1860
	800		EK8040		EZ8000		EF8040	EF8041	EF8042			EC1880	ET1880	EP1880
	1000	400	EK1040	EM1800	EZ1000	EZ4000	EF1040	EF1041	EF1042	EL1840	EC1841	EC1810	ET1810	EP1811
	1200		EK1240		2xEZ6000		2xEF6040	2xEF6041	2xEF6043			-	-	EP1812
	400		EK4050		EZ4000		EF4050	EF4051	EF4052			EC1840	-	EP1840
	600		EK6050		EZ6000		EF6050	EF6051	EF6052			EC1860	ET1860	EP1860
	800		EK8050		EZ8000		EF8050	EF8051	EF8052			EC1880	ET1880	EP1880
	1000	500	EK1050	EM1800	EZ1000	EZ5000	EF1053	EF1051	EF1052	EL1850	EC1851	EC1810	ET1810	EP1811
	1200		EK1250		2xEZ6000		2xEF6050	2xEF6051	2xEF6052			-	-	EP1812
	400		EK4060		EZ4000		EF4060	EF4061	EF4063			EC1840	-	EP1840
	600		EK6060		EZ6000		EF6060	EF6061	EF6062			EC1860	ET1860	EP1860
	800		EK8060		EZ8000		EF8060	EF8061	EF8062			EC1880	ET1880	EP1880
	1000	600	EK1060	EM1800	EZ1000	EZ6000	EF1060	EF1061	EF1062	EL1860	EC1861	EC1810	ET1810	EP1811
	1200		EK1260		2xEZ6000		2xEF6060	2xEF6061	2xEF6062			-	-	EP1812
	400		EK4080		EZ4000		EF4080	EF4081	EF4082			EC1840	-	EP1840
	600		EK6080		EZ6000		EF6080	EF6081	EF6082			EC1860	ET1860	EP1860
	800		EK8080		EZ8000		EF8080	EF8081	EF8082			EC1880	ET1880	EP1880
	1000	800	EK1080	EM1800	EZ1000	EZ8000	EF1080	EF1081	EF1082	EL1880	EC1881	EC1810	ET1810	EP1811
	1200		EK1280		2xEZ6000		2xEF6080	2xEF6081	2xEF6082			-	-	EP1812
	400		EK4010		EZ4000		EF4010	EF4011	EF4012			EC1840	-	EP1840
	600		EK6010		EZ6000		EF6010	EF6011	EF6012			EC1860	ET1860	EP1860
	800	1000	EK8010	EM1800	EZ8000		EF8010	EF8011	EF8012	EL1810	EC1811	EC1880	ET1880	EP1880
	1000		EK1010		EZ1000	EZ1000	EF1010	EF1011	EF1012			EC1810	ET1810	EP1811

<sup>(\*)</sup>The useful height is always 100mm less than the external dimension of the panel board. For the version with compartments, the useful height is 200mm less. For versions with compartments see page 4/53, for modular versions see page 4/54.

# IS2 built-up cabinets

Selection of the structure - h 1800 mm



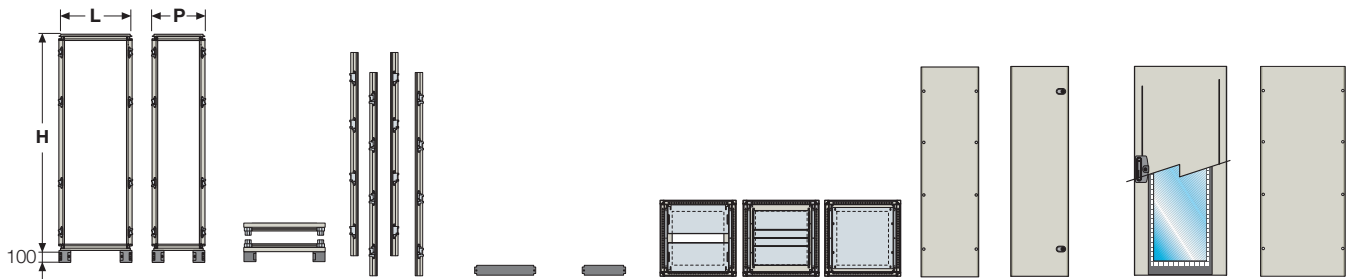
Cable container blind door		Double blind door <sup>(1)</sup>			Double glazed door <sup>(1)</sup>		Counterdoor	Side-by-side	Uprights <sup>(1)</sup>	Back plates	
W=200mm A	W=400mm B	W=500mm C	W=600mm D	W=800mm E	W=600mm D	W=800mm E	Counterdoor	Kit for placing struc. side by side <sup>(5)</sup>	Inter. double door/cable cont.+ crossp.	Standard <sup>(3)</sup>	Oversized + tracks <sup>(4)</sup>
-	-	-	-	-	-	-	-	-	-	EA1841	EA1940
-	-	-	-	-	-	-	EE1860	-	-	EA1860	EA1960
EC1880VC2 <sup>(1)</sup>	-	-	-	-	-	-	EE1880	-	-	EA1880	EA1981
ED1802S <sup>(2)</sup>	-	EC1880FC5 <sup>(1)</sup>	-	-	-	-	EE1810	EV0002	EM1801 + traversa EB4100	EA1810	EA1910
-	EC1880VC4 <sup>(1)</sup>	ED1810S <sup>(2)</sup>	EC1880FC6 <sup>(1)</sup>	EC1880FC8 <sup>(1)</sup>	EC1880FV6	-	-	EV0003	-	-	-
-	ED1804S <sup>(2)</sup>	-	ED1812S <sup>(2)</sup>	ED1816S <sup>(2)</sup>	-	EC1880FV8	-	EV0006	-	-	-
-	-	-	-	-	-	-	-	-	-	EA1812	EA1912
-	-	-	-	-	-	-	-	-	-	EA1841	EA1940
-	-	-	-	-	-	-	EE1860	-	-	EA1860	EA1960
-	-	-	-	-	-	-	EE1880	-	-	EA1880	EA1981
EC1880VC2 <sup>(1)</sup>	-	-	-	-	-	-	EE1810	EV0002	EM1801 + traversa EB5100	EA1810	EA1910
ED1802S <sup>(2)</sup>	-	EC1880FC5 <sup>(1)</sup>	-	-	-	-	EE1810	EV0003	-	-	-
-	EC1880VC4 <sup>(1)</sup>	ED1810S <sup>(2)</sup>	EC1880FC6 <sup>(1)</sup>	EC1880FC8 <sup>(1)</sup>	EC1880FV6	-	-	EV0006	-	-	-
-	ED1804S <sup>(2)</sup>	-	ED1812S <sup>(2)</sup>	ED1816S <sup>(2)</sup>	-	EC1880FV8	-	-	-	EA1812	EA1912
-	-	-	-	-	-	-	-	-	-	EA1841	EA1940
-	-	-	-	-	-	-	EE1860	-	-	EA1860	EA1960
-	-	-	-	-	-	-	EE1880	-	-	EA1880	EA1981
EC1880VC2 <sup>(1)</sup>	-	-	-	-	-	-	EE1810	EV0002	EM1801 + traversa EB8100	EA1810	EA1910
ED1802S <sup>(2)</sup>	-	EC1880FC5 <sup>(1)</sup>	-	-	-	-	EE1810	EV0003	-	-	-
-	EC1880VC4 <sup>(1)</sup>	ED1810S <sup>(2)</sup>	EC1880FC6 <sup>(1)</sup>	EC1880FC8 <sup>(1)</sup>	EC1880FV6	-	-	EV0006	-	-	-
-	ED1804S <sup>(2)</sup>	-	ED1812S <sup>(2)</sup>	ED1816S <sup>(2)</sup>	-	EC1880FV8	-	-	-	EA1812	EA1912
-	-	-	-	-	-	-	-	-	-	EA1841	EA1940
-	-	-	-	-	-	-	EE1860	-	-	EA1860	EA1960
-	-	-	-	-	-	-	EE1880	-	-	EA1880	EA1981
EC1880VC2 <sup>(1)</sup>	-	-	-	-	-	-	EE1810	EV0002	EM1801 + traversa EB1100	EA1880	EA1981
ED1802S <sup>(2)</sup>	-	EC1880FC5 <sup>(1)</sup>	ED1812S <sup>(2)</sup>	EC1880FC8 <sup>(1)</sup>	EC1880FV6	-	EE1810	EV0003	-	EA1810	EA1910
-	EC1880VC4 <sup>(1)</sup>	ED1810S <sup>(2)</sup>	EC1880FC6 <sup>(1)</sup>	ED1816S <sup>(2)</sup>	-	EC1880FV8	-	EV0006	-	-	-
-	ED1804S <sup>(2)</sup>	-	-	-	-	-	-	-	-	EA1812	EA1912
-	-	-	-	-	-	-	-	-	-	EA1841	EA1940
-	-	-	-	-	-	-	EE1860	-	-	EA1860	EA1960
-	-	-	-	-	-	-	EE1880	-	-	EA1880	EA1981
EC1880VC2 <sup>(1)</sup>	-	-	EC1880FC6 <sup>(1)</sup>	-	-	-	EE1880	EV0002	EM1801 + traversa EB1100	EA1880	EA1981
ED1802S <sup>(2)</sup>	-	-	ED1812S <sup>(2)</sup>	EC1880FC8 <sup>(1)</sup>	EC1880FV6	-	EE1880	EV0003	-	EA1880	EA1981
-	EC1880VC4 <sup>(1)</sup>	EC1880FC5 <sup>(1)</sup>	-	ED1816S <sup>(2)</sup>	-	EC1880FV8	EE1810	EV0006	-	EA1810	EA1910
-	ED1804S <sup>(2)</sup>	ED1810S <sup>(2)</sup>	-	-	-	-	-	-	-	EA1812	EA1912

<sup>(1)</sup> N°1 door to be completed with: door (EC....VC/FC/FV) for double door/cable container version, intermediate EM1801 upright and EB.... crosspieces.  
<sup>(2)</sup> N°1 blind door with overlap to be completed with: door (EC....VC/FC/FV) for double door/cable container version (without intermediate upright and crosspieces).  
<sup>(3)</sup> Possibility of lateral insertion with tracks (see page 4/42). Kit for joining standard plates h=1800mm EA1800.  
<sup>(4)</sup> Kit for joining oversized plate EA2113. <sup>(5)</sup> To select the kit to be used, see page 4/59.

# IS2 built-up cabinets

Selection of the structure - h 2000 mm

## Cabinets in kits - h 2000mm - Basic version

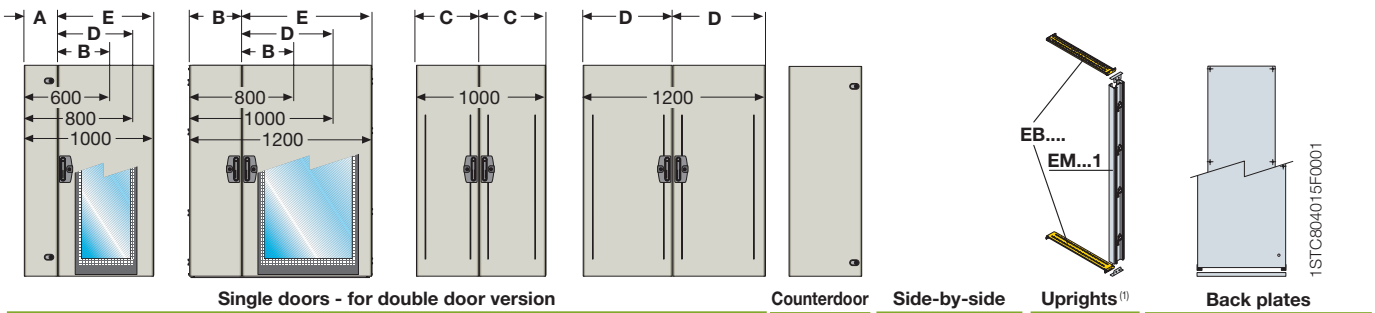


Overall dimensions			Base/top plinth	Uprights	Plinth flanges		Incoming cable flanges			Side covers		Front/rear covers		
H <sup>(1)</sup> mm	W mm	D mm		For structure	Front/rear flanges	Side flanges	Sliding	Removable	Back closure	Pair of IP65 blind panels	IP65 blind door	P65 blind door	IP65 glazed door	IP65 blind panel
2000	400		EK4040		EZ4000		EF4040	EF4041	EF4042			EC2040	-	EP2041
	600		EK6040		EZ6000		EF6040	EF6041	EF6043			EC2060	ET2060	EP2060
	800		EK8040		EZ8000		EF8040	EF8041	EF8042			EC2080	ET2080	EP2080
	1000	400	EK1040	EM2000	EZ1000	EZ4000	EF1040	EF1041	EF1042	EL2040	EC2041	EC2012	ET2010	EP2010
	1200		EK1240		2xEZ6000		2xEF6040	2xEF6041	2xEF6043			-	-	EP2012
	400		EK4050		EZ4000		EF4050	EF4051	EF4052			EC2040	-	EP2041
	600		EK6050		EZ6000		EF6050	EF6051	EF6052			EC2060	ET2060	EP2060
	800		EK8050		EZ8000		EF8050	EF8051	EF8052			EC2080	ET2080	EP2080
	1000	500	EK1050	EM2000	EZ1000	EZ5000	EF1053	EF1051	EF1052	EL2050	EC2051	EC2012	ET2010	EP2010
	1200		EK1250		2xEZ6000		2xEF6050	2xEF6051	2xEF6052			-	-	EP2012
	400		EK4060		EZ4000		EF4060	EF4061	EF4063			EC2040	-	EP2041
	600		EK6060		EZ6000		EF6060	EF6061	EF6062			EC2060	ET2060	EP2060
	800		EK8060		EZ8000		EF8060	EF8061	EF8062			EC2080	ET2080	EP2080
	1000	600	EK1060	EM2000	EZ1000	EZ6000	EF1060	EF1061	EF1062	EL2060	EC2061	EC2012	ET2010	EP2010
	1200		EK1260		2xEZ6000		2xEF6060	2xEF6061	2xEF6062			-	-	EP2012
	400		EK4080		EZ4000		EF4080	EF4081	EF4082			EC2040	-	EP2041
	600		EK6080		EZ6000		EF6080	EF6081	EF6082			EC2060	ET2060	EP2060
	800		EK8080		EZ8000		EF8080	EF8081	EF8082			EC2080	ET2080	EP2080
	1000	800	EK1080	EM2000	EZ1000	EZ8000	EF1080	EF1081	EF1082	EL2080	EC2081	EC2012	ET2010	EP2010
	1200		EK1280		2xEZ6000		2xEF6080	2xEF6081	2xEF6082			-	-	EP2012
	400		EK4010		EZ4000		EF4010	EF4011	EF4012			EC2040	-	EP2041
	600		EK6010		EZ6000		EF6010	EF6011	EF6012			EC2060	ET2060	EP2060
	800	1000	EK8010	EM2000	EZ8000	EZ1000	EF8010	EF8011	EF8012	EL2012	EC2011	EC2080	ET2080	EP2080
	1000		EK1010		EZ1000		EF1010	EF1011	EF1012			EC2012	ET2010	EP2010

<sup>(1)</sup>The useful height is always 100mm less than the external dimension of the panel board. For the version with compartments, the useful height is 200mm less. For versions with compartments see page 4/53, for modular versions see page 4/54.

# IS2 built-up cabinets

Selection of the structure - h 2000 mm



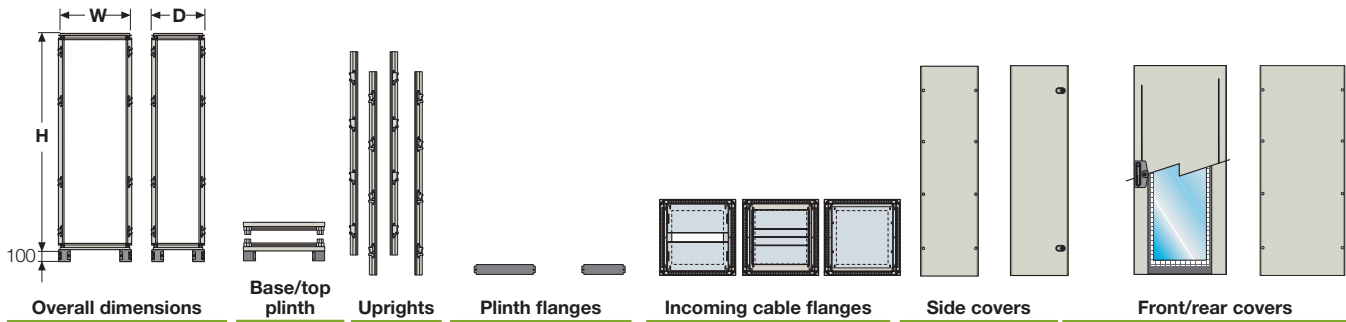
Cable container blind door		Double blind door <sup>(1)</sup>		Double glazed door <sup>(1)</sup>			Counterdoor	Kit for placing struc. side by side <sup>(5)</sup>	Inter. double door/cable cont.+ crossp.	Standard <sup>(3)</sup>	Oversized + tracks <sup>(4)</sup>
W=200mm A	W=400mm B	W=500mm C	W=600mm D	W=800mm E	W=600mm D	W=800mm E	Counterdoor				
-	-	-	-	-	-	-	-			EA2040	EA2140
-	-	-	-	-	-	-	EE2060			EA2060	EA2161
EC2080VC2 <sup>(1)</sup>	-	-	-	-	-	-	EE2080			EA2080	EA2180
ED2002S <sup>(2)</sup>	-	EC2080FC5 <sup>(1)</sup>	EC2080FC6 <sup>(1)</sup>	-	-	-	EE2010	EV0002	EM2001 + crosspiece	EA2010	EA2110
-	EC2080VC4 <sup>(1)</sup>	ED2010S <sup>(1)</sup>	ED2012S <sup>(2)</sup>	EC2080FC8	EC2080FV6	-	-	EV0003	EB4100	-	-
-	ED2004S <sup>(2)</sup>	-	-	-	-	EC2080FV8	-	EV0006	-	EA2013	EA2112
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	EA2040	EA2140
-	-	-	-	-	-	-	EE2060			EA2060	EA2161
EC2080VC2 <sup>(1)</sup>	-	-	-	-	-	-	EE2080			EA2080	EA2180
ED2002S <sup>(2)</sup>	-	EC2080FC5 <sup>(1)</sup>	EC2080FC6 <sup>(1)</sup>	EC2080FC8 <sup>(1)</sup>	EC2080FV6	-	EE2010	EV0002	EM2001 + crosspiece	EA2010	EA2110
-	EC2080VC4 <sup>(1)</sup>	ED2010S <sup>(1)</sup>	ED2012S <sup>(2)</sup>	ED2016S <sup>(2)</sup>	-	EC2080FV8	-	EV0003	EB5100	-	-
-	ED2004S <sup>(2)</sup>	-	-	-	-	-	-	EV0006	-	EA2013	EA2112
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	EA2040	EA2140
-	-	-	-	-	-	-	EE2060			EA2060	EA2161
EC2080VC2 <sup>(1)</sup>	-	-	-	-	-	-	EE2080			EA2080	EA2180
ED2002S <sup>(2)</sup>	-	EC2080FC5 <sup>(1)</sup>	EC2080FC6 <sup>(1)</sup>	EC2080FC8 <sup>(1)</sup>	EC2080FV6	-	EE2010	EV0002	EM2001 + crosspiece	EA2010	EA2110
-	EC2080VC4 <sup>(1)</sup>	ED2010S <sup>(1)</sup>	ED2012S <sup>(2)</sup>	ED2016S <sup>(2)</sup>	-	EC2080FV8	-	EV0003	EB8100	-	-
-	ED2004S <sup>(2)</sup>	-	-	-	-	-	-	EV0006	-	EA2013	EA2112
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	EA2040	EA2140
-	-	-	-	-	-	-	EE2060			EA2060	EA2161
EC2080VC2 <sup>(1)</sup>	-	-	-	-	-	-	EE2080			EA2080	EA2180
ED2002S <sup>(2)</sup>	-	EC2080FC5 <sup>(1)</sup>	EC2080FC6 <sup>(1)</sup>	EC2080FC8 <sup>(1)</sup>	EC2080FV6	-	EE2010	EV0002	EM2001 + crosspiece	EA2010	EA2110
-	EC2080VC4 <sup>(1)</sup>	ED2010S <sup>(1)</sup>	ED2012S <sup>(2)</sup>	ED2016S <sup>(2)</sup>	-	EC2080FV8	-	EV0003	EB1100	-	-
-	ED2004S <sup>(2)</sup>	-	-	-	-	-	-	EV0006	-	EA2013	EA2112
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	EA2040	EA2140
-	-	-	-	-	-	-	EE2060			EA2060	EA2161
EC2080VC2 <sup>(1)</sup>	-	-	-	-	-	-	EE2080			EA2080	EA2180
ED2002S <sup>(2)</sup>	EC2080VC4 <sup>(1)</sup>	EC2080FC5 <sup>(1)</sup>	EC2080FC6 <sup>(1)</sup>	EC2080FC8 <sup>(1)</sup>	EC2080FV6	-	EE2010	EV0002	EM2001 + crosspiece	EA2010	EA2110
-	ED2004S <sup>(2)</sup>	ED2010S <sup>(1)</sup>	ED2012S <sup>(2)</sup>	ED2016S <sup>(2)</sup>	-	EC2080FV8	-	EV0003	-	-	-
-	-	-	-	-	-	-	-	EV0006	-	EA2013	EA2112
-	-	-	-	-	-	-	-	-	-	-	-

<sup>(1)</sup> N°1 door to be completed with: door (EC...VC/FC/FV) for double door/cable container version, intermediate EM2001 upright and EB... crosspieces.  
<sup>(2)</sup> N°1 blind door with overlap to be completed with: door (EC...VC/FC/FV) for double door/cable container version (without intermediate upright and crosspieces).  
<sup>(3)</sup> Possibility of lateral insertion with tracks (see page 4/42). Kit for joining standard plates h=1800mm EA1800.  
<sup>(4)</sup> Kit for joining oversized plate EA2113. <sup>(5)</sup> To select the kit to be used, see page 4/59.

# IS2 built-up cabinets

Selection of the structure - h 2200 mm

## Cabinets in kits - h 2000mm - Basic version

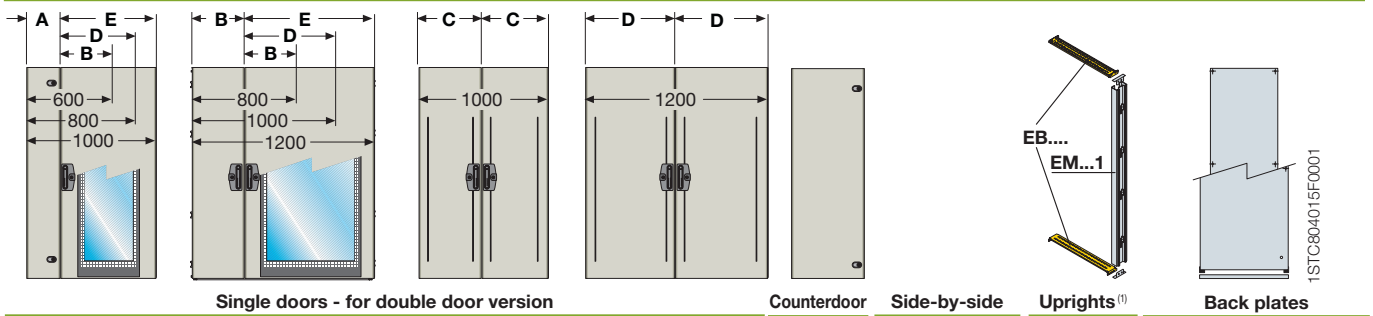


H <sup>1)</sup> mm	W mm	D mm	Base/top plinth	Uprights	Plinth flanges		Incoming cable flanges			Side covers		Front/rear covers			
					For structure	Front/rear flanges	Side flanges	Sliding	Removable	Back closure	Pair of IP65 blind panels	IP65 blind door	P65 blind door	IP65 glazed door	IP65 blind panel
2200	400		EK4040			EZ4000	EF4040	EF4041	EF4042			EC2240	-	EP2240	
	600		EK6040			EZ6000	EF6040	EF6041	EF6043			EC2260	ET2260	EP2260	
	800		EK8040			EZ8000	EF8040	EF8041	EF8042			EC2280	ET2280	EP2280	
	1000	400	EK1040	EM2200		EZ1000	EZ4000	EF1040	EF1041	EF1042	EL2240	EC2241	EC2210	ET2211	EP2210
	1200		EK1240			2xEZ6000		2xEF6040	2xEF6041	2xEF6043			-	-	EP2212
	400		EK4050			EZ4000		EF4050	EF4051	EF4052			EC2240	-	EP2240
	600		EK6050			EZ6000		EF6050	EF6051	EF6052			EC2260	ET2260	EP2260
	800		EK8050			EZ8000		EF8050	EF8051	EF8052			EC2280	ET2280	EP2280
	1000	500	EK1050	EM2200		EZ1000	EZ5000	EF1053	EF1051	EF1052	EL2250	EC2251	EC2210	ET2211	EP2210
	1200		EK1250			2xEZ6000		2xEF6050	2xEF6051	2xEF6052			-	-	EP2212
	400		EK4060			EZ4000		EF4060	EF4061	EF4063			EC2240	-	EP2240
	600		EK6060			EZ6000		EF6060	EF6061	EF6062			EC2260	ET2260	EP2260
	800		EK8060			EZ8000		EF8060	EF8061	EF8062			EC2280	ET2280	EP2280
	1000	600	EK1060	EM2200		EZ1000	EZ6000	EF1060	EF1061	EF1062	EL2260	EC2261	EC2210	ET2211	EP2210
	1200		EK1260			2xEZ6000		2xEF6060	2xEF6061	2xEF6062			-	-	EP2212
	400		EK4080			EZ4000		EF4080	EF4081	EF4082			EC2240	-	EP2240
	600		EK6080			EZ6000		EF6080	EF6081	EF6082			EC2260	ET2260	EP2260
	800		EK8080			EZ8000		EF8080	EF8081	EF8082			EC2280	ET2280	EP2280
	1000	800	EK1080	EM2200		EZ1000	EZ8000	EF1080	EF1081	EF1082	EL2280	EC2281	EC2210	ET2211	EP2210
	1200		EK1280			2xEZ6000		2xEF6080	2xEF6081	2xEF6082			-	-	EP2212
	400		EK4010			EZ4000		EF4010	EF4011	EF4012			EC2240	-	EP2240
	600		EK6010			EZ6000		EF6010	EF6011	EF6012			EC2260	ET2260	EP2260
	800	1000	EK8010	EM2200		EZ8000	EZ1000	EF8010	EF8011	EF8012	EL2210	EC2211	EC2280	ET2280	EP2280
	1000		EK1010			EZ1000		EF1010	EF1011	EF1012			EC2210	ET2211	EP2210

<sup>1)</sup>The useful height is always 100mm less than the external dimension of the panel board. For the version with compartments, the useful height is 200mm less. For versions with compartments see page 4/53, for modular versions see page 4/54.

# IS2 built-up cabinets

Selection of the structure - h 2200 mm



Cable container blind door		Double blind door <sup>(1)</sup>			Double glazed door <sup>(1)</sup>		Counterdoor	Kit for placing struc. side by side <sup>(5)</sup>	Inter. double door/cable cont. + crossp.	Back plates	
W=200mm A	W=400mm B	W=500mm C	W=600mm D	W=800mm E	W=600mm D	W=800mm E				Standard <sup>(3)</sup>	Oversized + tracks <sup>(4)</sup>
-	-	-	-	-	-	-	EE2260	-	-	EA2240	EA2340
-	-	-	-	-	-	-	EE2280	-	-	EA2260	EA2360
EC2280VC2 <sup>(1)</sup>	-	-	-	-	-	-	EE2280	-	-	EA2280	EA2380
ED2202S <sup>(2)</sup>	-	-	-	-	-	-	EE2210	EV0002 EV0003 EV0006	EM2201 + traversa EB4100	EA2210	EA2310
-	EC2280VC4 <sup>(1)</sup>	EC2280FC5 <sup>(1)</sup> ED2210S <sup>(2)</sup>	EC2280FC6 <sup>(1)</sup> ED2212S <sup>(2)</sup>	EC2280FC8 <sup>(1)</sup> ED2216S <sup>(2)</sup>	EC2280FV6	EC2280FV8	-	-	-	EA2212	EA2312
-	ED2204S <sup>(2)</sup>	-	-	-	-	-	-	-	-	EA2240	EA2340
-	-	-	-	-	-	-	EE2260	-	-	EA2260	EA2360
-	-	-	-	-	-	-	EE2280	-	-	EA2280	EA2380
EC2280VC2 <sup>(1)</sup>	-	-	-	-	-	-	EE2210	EV0002 EV0003 EV0006	EM2201 + traversa EB5100	EA2210	EA2310
ED2202S <sup>(2)</sup>	-	EC2280FC5 <sup>(1)</sup> ED2210S <sup>(2)</sup>	EC2280FC6 <sup>(1)</sup> ED2212S <sup>(2)</sup>	EC2280FC8 <sup>(1)</sup> ED2216S <sup>(2)</sup>	EC2280FV6	EC2280FV8	-	-	-	EA2212	EA2312
-	EC2280VC4 <sup>(1)</sup>	-	-	-	-	-	-	-	-	EA2240	EA2340
-	ED2204S <sup>(2)</sup>	-	-	-	-	-	EE2260	-	-	EA2260	EA2360
-	-	-	-	-	-	-	EE2280	-	-	EA2280	EA2380
EC2280VC2 <sup>(1)</sup>	-	-	-	-	-	-	EE2210	EV0002 EV0003 EV0006	EM2201 + traversa EB6100	EA2210	EA2310
ED2202S <sup>(2)</sup>	-	EC2280FC5 <sup>(1)</sup> ED2210S <sup>(2)</sup>	EC2280FC6 <sup>(1)</sup> ED2212S <sup>(2)</sup>	EC2280FC8 <sup>(1)</sup> ED2216S <sup>(2)</sup>	EC2280FV6	EC2280FV8	-	-	-	EA2212	EA2312
-	EC2280VC4 <sup>(1)</sup>	-	-	-	-	-	-	-	-	EA2240	EA2340
-	ED2204S <sup>(2)</sup>	-	-	-	-	-	EE2260	-	-	EA2260	EA2360
-	-	-	-	-	-	-	EE2280	-	-	EA2280	EA2380
EC2280VC2 <sup>(1)</sup>	-	-	-	-	-	-	EE2210	EV0002 EV0003 EV0006	EM2201 + traversa EB8100	EA2210	EA2310
ED2202S <sup>(2)</sup>	-	EC2280FC5 <sup>(1)</sup> ED2210S <sup>(2)</sup>	EC2280FC6 <sup>(1)</sup> ED2212S <sup>(2)</sup>	EC2280FC8 <sup>(1)</sup> ED2216S <sup>(2)</sup>	EC2280FV6	EC2280FV8	-	-	-	EA2212	EA2312
-	EC2280VC4 <sup>(1)</sup>	-	-	-	-	-	-	-	-	EA2240	EA2340
-	ED2204S <sup>(2)</sup>	-	-	-	-	-	EE2260	-	-	EA2260	EA2360
-	-	-	-	-	-	-	EE2280	EV0002 EV0003 EV0006	EM2201 + traversa EB1100	EA2280	EA2380
EC2280VC2 <sup>(1)</sup>	-	-	EC2280FC6 <sup>(1)</sup>	-	EC2280FV6	-	EE2210	-	-	EA2210	EA2310
ED2202S <sup>(2)</sup>	EC2280VC4 <sup>(1)</sup> ED2204S <sup>(2)</sup>	EC2280FC5 <sup>(1)</sup> ED2210S <sup>(2)</sup>	ED2212S <sup>(2)</sup>	EC2280FC8 <sup>(1)</sup> ED2216S <sup>(2)</sup>	EC2280FV6 EC2280FV8	EE2210	-	-	-	EA2212	EA2312

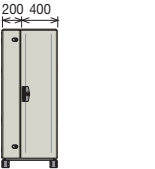
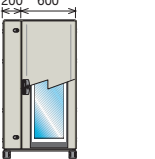
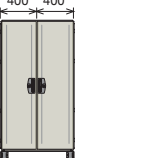
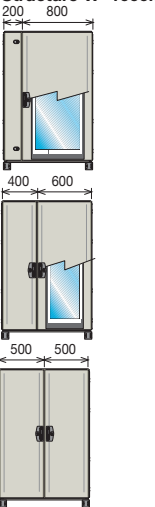
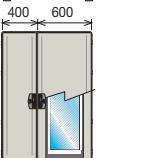
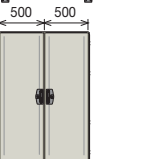
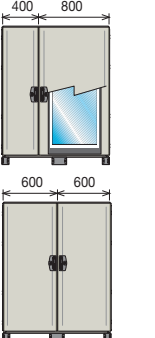
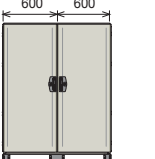
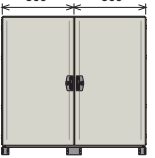
<sup>(1)</sup> N°1 door to be completed with: door (EC....VC/FC/FV) for double door/cable container version, intermediate EM2001 upright and EB... crosspieces.  
<sup>(2)</sup> N°1 blind door with overlap to be completed with: door (EC....VC/FC/FV) for double door/cable container version (without intermediate upright and crosspieces).  
<sup>(3)</sup> Possibility of lateral insertion with tracks (see page 4/42). Kit for joining standard plates h=1800mm EA1800.  
<sup>(4)</sup> Kit for joining oversized plate EA2113. <sup>(5)</sup> To select the kit to be used, see page 4/59.

# IS2 built-up cabinets

## Single doors for making the double door version

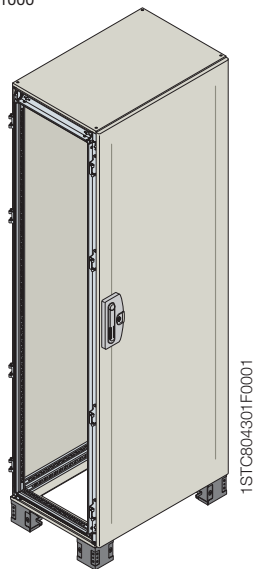
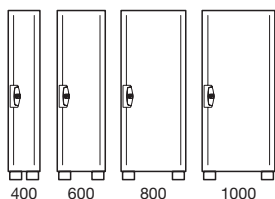
### Double doors Closure on door with overlapping (without intermediate upright)

### Double doors Closure on removable intermediate upright

Structure W=600mm 	Door		Intermediate upright	Crosspiece depth												
	W=200mm	W=400mm		D=400mm	D=500mm	D=600mm	D=800mm	D=1000mm								
H=1800mm blind glazed	ED1802S	EC1880VC4	+	EC1880VC2	+	EC1880VC4	+	EM1801	+							
H=2000mm blind vetro	ED2002S	EC2080VC4	+	EC2080VC2	+	EC2080VC4	+	EM2001	+	EB4100	EB5100	EB6100	EB8100	EB1100		
H=2200mm blind glazed	ED2202S	EC2280VC4	+	EC2280VC2	+	EC2280VC4	+	EM2201	+							
Structure W=800mm 	Door		Intermediate upright	Crosspiece depth												
	W=200mm	W=600mm		D=400mm	D=500mm	D=600mm	D=800mm	D=1000mm								
	H=1800mm blind glazed	ED1802S	EC1880FC6 EC1880FV6	+	EC1880VC2	+	EC1880FC6 EC1880FV6	+	EM1801	+						
	H=2000mm blind glazed	ED2002S	EC2080FC6 EC2080FV6	+	EC2080VC2	+	EC2080FC6 EC2080FV6	+	EM2001	+	EB4100	EB5100	EB6100	EB8100	EB1100	
	H=2200mm blind glazed	ED2202S	EC2280FC6 EC2280FV6	+	EC2280VC2	+	EC2280FC6 EC2280FV6	+	EM2201	+						
	Structure W=800mm 	Door		Intermediate upright	Crosspiece depth											
W=400mm		W=400mm	D=400mm		D=500mm	D=600mm	D=800mm	D=1000mm								
H=1800mm blind glazed		ED1804S	EC1880VC4	+	EC1880VC4	+	EC1880VC4	+	EM1801	+						
H=2000mm blind glazed		ED2004S	EC2080VC4	+	EC2080VC4	+	EC2080VC4	+	EM2001	+	EB4100	EB5100	EB6100	EB8100	EB1100	
H=2200mm blind glazed		ED2204S	EC2280VC4	+	EC2280VC4	+	EC2280VC4	+	EM2201	+						
Structure W=1000mm 		Door		Intermediate upright	Crosspiece depth											
	W=200mm	W=800mm	D=400mm		D=500mm	D=600mm	D=800mm	D=1000mm								
	H=1800mm blind glazed	ED1802S	EC1880FC8 EC1880FV8	+	EC1880VC2	+	EC1880FC8 EC1880FV8	+	EM1801	+						
	H=2000mm blind glazed	ED2002S	EC2080FC8 EC2080FV8	+	EC2080VC2	+	EC2080FC8 EC2080FV8	+	EM2001	+	EB4100	EB5100	EB6100	EB8100	EB1100	
	H=2200mm cieca glazed	ED2202S	EC2280FC8 EC2280FV8	+	EC2280VC2	+	EC2280FC8 EC2280FV8	+	EM2201	+						
	Structure W=1000mm 	Door		Intermediate upright	Crosspiece depth											
		W=400mm	W=600mm		D=400mm	D=500mm	D=600mm	D=800mm	D=1000mm							
		H=1800mm blind glazed	ED1804S	EC1880FC6 EC1880FV6	+	EC1880VC4	+	EC1880FC6 EC1880FV6	+	EM1801	+					
		H=2000mm blind glazed	ED2004S	EC2080FC6 EC2080FV6	+	EC2080VC4	+	EC2080FC6 EC2080FV6	+	EM2001	+	EB4100	EB5100	EB6100	EB8100	EB1100
		H=2200mm blind glazed	ED2204S	EC2280FC6 EC2280FV6	+	EC2280VC4	+	EC2280FC6 EC2280FV6	+	EM2201	+					
		Structure W=1000mm 	Door		Intermediate upright	Crosspiece depth										
	W=500mm		W=500mm	D=400mm		D=500mm	D=600mm	D=800mm	D=1000mm							
H=1800mm blind glazed	ED1810S		EC1880FC5	+	EC1880FC5	+	EC1880FC5	+	EM1801	+						
H=2000mm blind glazed	ED2010S		EC2080FC5	+	EC2080FC5	+	EC2080FC5	+	EM2001	+	EB4100	EB5100	EB6100	EB8100	EB1100	
H=2200mm blind glazed	ED2210S		EC2280FC5	+	EC2280FC5	+	EC2280FC5	+	EM2201	+						
Structure W=1200mm 	Door		Intermediate upright	Crosspiece depth												
	W=400mm	W=800mm		D=400mm	D=500mm	D=600mm	D=800mm	D=1000mm								
	H=1800mm blind glazed	ED1804S	EC1880FC8 EC1880FV8	+	EC1880VC4	+	EC1880FC8 EC1880FV8	+	EM1801	+						
	H=2000mm blind glazed	ED2004S	EC2080FC8 EC2080FV8	+	EC2080VC4	+	EC2080FC8 EC2080FV8	+	EM2001	+	EB4100	EB5100	EB6100	EB8100	EB1100	
	H=2200mm blind glazed	ED2204S	EC2280FC8 EC2280FV8	+	EC2280VC4	+	EC2280FC8 EC2280FV8	+	EM2201	+						
	Structure W=1200mm 	Door		Intermediate upright	Crosspiece depth											
		W=600mm	W=600mm		D=400mm	D=500mm	D=600mm	D=800mm	D=1000mm							
		H=1800mm blind glazed	ED1812S	EC1880FC6 EC1880FV6	+	EC1880FC6 EC1880FV6	+	EC1880FC6 EC1880FV6	+	EM1801	+					
		H=2000mm blind glazed	ED2012S	EC2080FC6 EC2080FV6	+	EC2080FC6 EC2080FV6	+	EC2080FC6 EC2080FV6	+	EM2001	+	EB4100	EB5100	EB6100	EB8100	EB1100
		H=2200mm blind glazed	ED2212S	EC2280FC6 EC2280FV6	+	EC2280FC6 EC2280FV6	+	EC2280FC6 EC2280FV6	+	EM2201	+					
		Structure W=1600mm 	Door		Intermediate upright	Crosspiece depth										
	W=600mm		W=600mm	D=400mm		D=500mm	D=600mm	D=800mm	D=1000mm							
H=1800mm blind glazed	ED1816S		EC1880FC8 EC1880FV8	+	EC1880FC8 EC1880FV8	+	EC1880FC8 EC1880FV8	+	EM1801	+						
H=2000mm blind glazed	ED2016S		EC2080FC8 EC2080FV8	+	EC2080FC8 EC2080FV8	+	EC2080FC8 EC2080FV8	+	EM2001	+	EB4100	EB5100	EB6100	EB8100	EB1100	
H=2200mm blind glazed	ED2216S		EC2280FC8 EC2280FV8	+	EC2280FC8 EC2280FV8	+	EC2280FC8 EC2280FV8	+	EM2201	+						

# Ordering codes

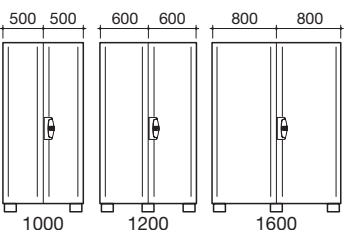
## Pre-assembled structures



### Cabinets with blind door

Structure with removable roof, complete with blind door and rear panel, plinth h=100mm consisting of four angle pieces. To be completed with plinth flanges, cable entry flanges and side panels.

Code	Description	Dimensions mm (WxD)
Height mm		
1800	2000	2200
<b>ES1844</b>	<b>ES2044</b> <b>ES2244</b>	Cabinet with blind door 400x400
<b>ES1864</b>	<b>ES2064</b> <b>ES2264</b>	Cabinet with blind door 600x400
<b>ES1884</b>	<b>ES2084</b> <b>ES2284</b>	Cabinet with blind door 800x400
<b>ES1804</b>	<b>ES2004</b> <b>ES2204</b>	Cabinet with blind door 1000x400
<b>ES1845</b>	<b>ES2045</b> <b>ES2245</b>	Cabinet with blind door 400x500
<b>ES1865</b>	<b>ES2065</b> <b>ES2265</b>	Cabinet with blind door 600x500
<b>ES1885</b>	<b>ES2085</b> <b>ES2285</b>	Cabinet with blind door 800x500
<b>ES1805</b>	<b>ES2007</b> <b>ES2205</b>	Cabinet with blind door 1000x500
<b>ES1846</b>	<b>ES2046</b> <b>ES2246</b>	Cabinet with blind door 400x600
<b>ES1866</b>	<b>ES2066</b> <b>ES2266</b>	Cabinet with blind door 600x600
<b>ES1886</b>	<b>ES2086</b> <b>ES2287</b>	Cabinet with blind door 800x600
<b>ES1806</b>	<b>ES2006</b> <b>ES2206</b>	Cabinet with blind door 1000x600
<b>ES1848</b>	<b>ES2048</b> <b>ES2248</b>	Cabinet with blind door 400x800
<b>ES1868</b>	<b>ES2068</b> <b>ES2268</b>	Cabinet with blind door 600x800
<b>ES1888</b>	<b>ES2089</b> <b>ES2288</b>	Cabinet with blind door 800x800
<b>ES1808</b>	<b>ES2008</b> <b>ES2208</b>	Cabinet with blind door 1000x800
<b>ES1840</b>	<b>ES2040</b> <b>ES2240</b>	Cabinet with blind door 400x1000
<b>ES1860</b>	<b>ES2060</b> <b>ES2260</b>	Cabinet with blind door 600x1000
<b>ES1880</b>	<b>ES2080</b> <b>ES2280</b>	Cabinet with blind door 800x1000
<b>ES1800</b>	<b>ES2000</b> <b>ES2200</b>	Cabinet with blind door 1000x1000



### Cabinets with blind overlapping closure

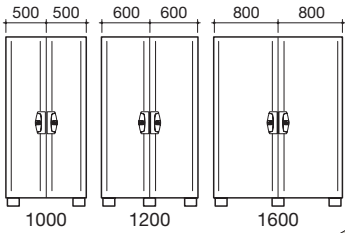
Structure with removable roof, complete with glazed door and rear panel, plinth h=100mm consisting of four angle pieces. The cabinets 1200/1600 mm width include the intermediate plinth. To be completed with plinth flanges, cable entry flanges and side panels.

Code	Description	Dimensions mm (WxD)
Height mm		
1800	2000	2200
<b>ES1814B</b>	<b>ES2014B</b> <b>ES2214B</b>	Cabinets with blind overlapping closure 1000x400
<b>ES1824B</b>	<b>ES2024B</b> <b>ES2224B</b>	Cabinets with blind overlapping closure 1200x400
<b>ES1815B</b>	<b>ES2015B</b> <b>ES2215B</b>	Cabinets with blind overlapping closure 1000x500
<b>ES1827B</b>	<b>ES2025B</b> <b>ES2225B</b>	Cabinets with blind overlapping closure 1200x500
<b>ES1875B</b>	<b>ES2075B</b> <b>ES2275B</b>	Cabinets with blind overlapping closure 1600x500
<b>ES1816B</b>	<b>ES2016B</b> <b>ES2216B</b>	Cabinets with blind overlapping closure 1000x600
<b>ES1826B</b>	<b>ES2026B</b> <b>ES2226B</b>	Cabinets with blind overlapping closure 1200x600
<b>ES1876B</b>	<b>ES2076B</b> <b>ES2276B</b>	Cabinets with blind overlapping closure 1600x600
<b>ES1818B</b>	<b>ES2018B</b> <b>ES2218B</b>	Cabinets with blind overlapping closure 1000x800
<b>ES1828B</b>	<b>ES2028B</b> <b>ES2228B</b>	Cabinets with blind overlapping closure 1200x800
<b>ES1878B</b>	<b>ES2078B</b> <b>ES2279B</b>	Cabinets with blind overlapping closure 1600x800
<b>ES1810B</b>	<b>ES2010B</b> <b>ES2210B</b>	Cabinets with blind overlapping closure 1000x1000

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# Ordering codes

## Pre-assembled structures



### Cabinets with double blind door with overlapping closure on intermediate upright

Structure with removable roof complete with double blind door and rear panel, plinth H=100mm made up of four angle pieces. The versions with double door include a pair of crosspieces mounted in depth and an intermediate upright (removable) for door closure. The cabinets 1200/1600mm wide include the intermediate plinth. To be completed with plinth flanges, cable entry flanges and side panels.

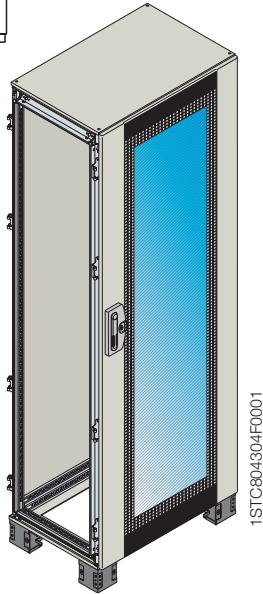
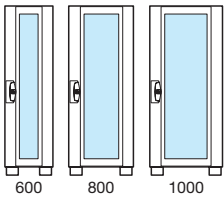
Code	Description	Dimensions mm (WxD)
Height mm		
1800	2000	2200
<b>ES1814</b>	<b>ES2014</b> <b>ES2214</b>	Cabinet with double blind door
<b>ES1824</b>	<b>ES2024</b> <b>ES2224</b>	Cabinet with double blind door
<b>ES1815</b>	<b>ES2015</b> <b>ES2215</b>	Cabinet with double blind door
<b>ES1827</b>	<b>ES2025</b> <b>ES2225</b>	Cabinet with double blind door
<b>ES1875</b>	<b>ES2075</b> <b>ES2275</b>	Cabinet with double blind door
<b>ES1816</b>	<b>ES2016</b> <b>ES2216</b>	Cabinet with double blind door
<b>ES1826</b>	<b>ES2026</b> <b>ES2226</b>	Cabinet with double blind door
<b>ES1876</b>	<b>ES2076</b> <b>ES2276</b>	Cabinet with double blind door
<b>ES1818</b>	<b>ES2018</b> <b>ES2218</b>	Cabinet with double blind door
<b>ES1828</b>	<b>ES2028</b> <b>ES2228</b>	Cabinet with double blind door
<b>ES1878</b>	<b>ES2078</b> <b>ES2279</b>	Cabinet with double blind door
<b>ES1810</b>	<b>ES2010</b> <b>ES2210</b>	Cabinet with double blind door

4

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# Ordering codes

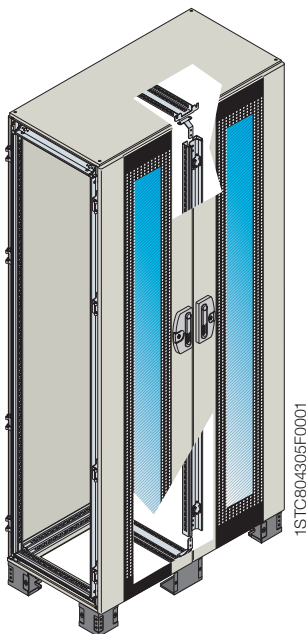
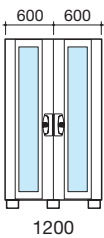
## Pre-assembled structures



### Cabinet with glazed door

Structure with removable roof, complete with glazed door and rear panel, plinth h=100mm consisting of four angle pieces. To be completed with plinth flanges, cable entry flanges and side panels.

Code	Descrizione	Dimensions mm (WxD)		
Height mm				
1800	2000	2200		
<b>ES1864V</b>	<b>ES2064V</b>	<b>ES2264V</b>	Cabinet with glazed door	600x400
<b>ES1884V</b>	<b>ES2084V</b>	<b>ES2284V</b>	Cabinet with glazed door	800x400
<b>ES1804V</b>	<b>ES2004V</b>	<b>ES2204V</b>	Cabinet with glazed door	1000x400
<b>ES1865V</b>	<b>ES2065V</b>	<b>ES2265V</b>	Cabinet with glazed door	600x500
<b>ES1885V</b>	<b>ES2085V</b>	<b>ES2285V</b>	Cabinet with glazed door	800x500
<b>ES1805V</b>	<b>ES2005V</b>	<b>ES2205V</b>	Cabinet with glazed door	1000x500
<b>ES1866V</b>	<b>ES2066V</b>	<b>ES2266V</b>	Cabinet with glazed door	600x600
<b>ES1886V</b>	<b>ES2086V</b>	<b>ES2286V</b>	Cabinet with glazed door	800x600
<b>ES1806V</b>	<b>ES2006V</b>	<b>ES2206V</b>	Cabinet with glazed door	1000x600
<b>ES1868V</b>	<b>ES2068V</b>	<b>ES2268V</b>	Cabinet with glazed door	600x800
<b>ES1888V</b>	<b>ES2088V</b>	<b>ES2288V</b>	Cabinet with glazed door	800x800
<b>ES1808V</b>	<b>ES2008V</b>	<b>ES2208V</b>	Cabinet with glazed door	1000x800
<b>ES1860V</b>	<b>ES2060V</b>	<b>ES2260V</b>	Cabinet with glazed door	600x1000
<b>ES1880V</b>	<b>ES2080V</b>	<b>ES2280V</b>	Cabinet with glazed door	800x1000
<b>ES1800V</b>	<b>ES2000V</b>	<b>ES2200V</b>	Cabinet with glazed door	1000x1000



### Cabinets with double glazed door with overlapping closure on intermediate upright

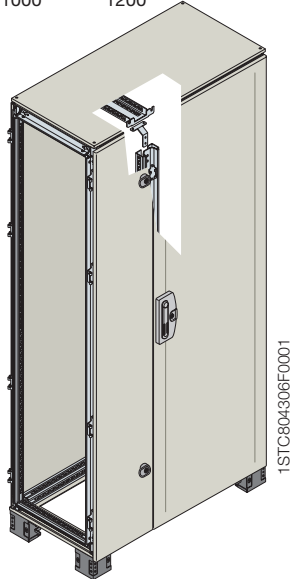
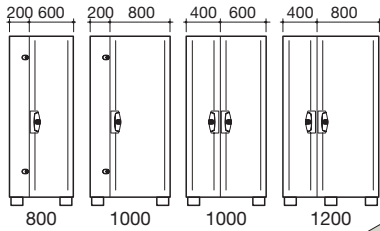
Structure with removable roof complete with glazed door and rear panel, plinth H=100mm made up of six angle pieces. The versions with double door include a pair of crosspieces mounted in depth and an intermediate upright (removable) for door closure. To be completed with plinth flanges, cable entry flanges and side panels.

Code	Description	Dimensions mm (WxD)		
Height mm				
1800	2000	2200		
<b>ES1824V</b>	<b>ES2024V</b>	<b>ES2224V</b>	Cabinet with double glazed door	1200x400
<b>ES1825V</b>	<b>ES2025V</b>	<b>ES2225V</b>	Cabinet with double glazed door	1200x500
<b>ES1826V</b>	<b>ES2026V</b>	<b>ES2226V</b>	Cabinet with double glazed door	1200x600
<b>ES1828V</b>	<b>ES2028V</b>	<b>ES2228V</b>	Cabinet with double glazed door	1200x800

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# Ordering codes

## Pre-assembled structures



### Blind door cabinets with cable container W=200-400mm

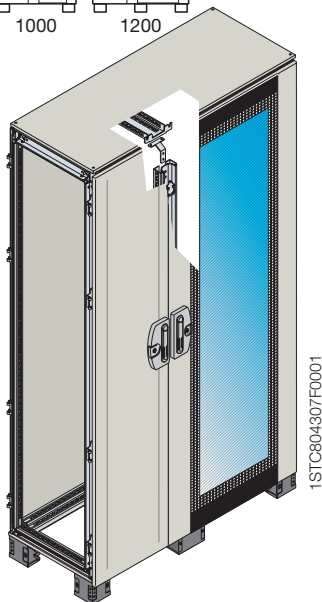
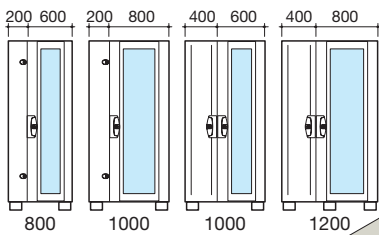
Structure with removable roof, complete with blind door, + cable container door, upright, intermediate crosspiece and rear panel, plinth h=100mm consisting of four angle pieces. The cabinets with 1200mm width include the intermediate plinth. To be completed with plinth flanges, cable entry flanges and side panels.

Code			Description	Dimensions mm (WxD)	
Height mm	Internal cable container W=mm				
1800	200	2200			
<b>ES1884FV2</b>	<b>ES2084FV2</b>	<b>ES2284FV2</b>	Cabinet with blind door	200	800x400
<b>ES1804FV2</b>	<b>ES2004FV2</b>	<b>ES2204FV2</b>	Cabinet with blind door	200	1000x400
<b>ES1885FV2</b>	<b>ES2085FV2</b>	<b>ES2285FV2</b>	Cabinet with blind door	200	800x500
<b>ES1805FV2</b>	<b>ES2005FV2</b>	<b>ES2205FV2</b>	Cabinet with blind door	200	1000x500
<b>ES1886FV2</b>	<b>ES2086FV2</b>	<b>ES2286FV2</b>	Cabinet with blind door	200	800x600
<b>ES1806FV2</b>	<b>ES2006FV2</b>	<b>ES2206FV2</b>	Cabinet with blind door	200	1000x600
<b>ES1888FV2</b>	<b>ES2088FV2</b>	<b>ES2288FV2</b>	Cabinet with blind door	200	800x800
<b>ES1808FV2</b>	<b>ES2008FV2</b>	<b>ES2208FV2</b>	Cabinet with blind door	200	1000x800
<b>ES1804FV4</b>	<b>ES2004FV4</b>	<b>ES2204FV4</b>	Cabinet with blind door	400	1000x400
<b>ES1824FV4</b>	<b>ES2024FV4</b>	<b>ES2224FV4</b>	Cabinet with blind door	400	1200x400
<b>ES1805FV4</b>	<b>ES2005FV4</b>	<b>ES2205FV4</b>	Cabinet with blind door	400	1000x500
<b>ES1825FV4</b>	<b>ES2025FV4</b>	<b>ES2225FV4</b>	Cabinet with blind door	400	1200x500
<b>ES1806FV4</b>	<b>ES2006FV4</b>	<b>ES2206FV4</b>	Cabinet with blind door	400	1000x600
<b>ES1826FV4</b>	<b>ES2026FV4</b>	<b>ES2226FV4</b>	Cabinet with blind door	400	1200x600
<b>ES1808FV4</b>	<b>ES2008FV4</b>	<b>ES2208FV4</b>	Cabinet with blind door	400	1000x800
<b>ES1828FV4</b>	<b>ES2028FV4</b>	<b>ES2228FV4</b>	Cabinet with blind door	400	1200x800

### Glazed door cabinets with cable container W=200-400mm

Structure with removable roof, complete with blind door, + cable container door, upright, intermediate crosspiece and rear panel, plinth h=100mm consisting of four angle pieces. The cabinets with 1200mm width include the intermediate plinth. To be completed with plinth flanges, cable entry flanges and side panels.

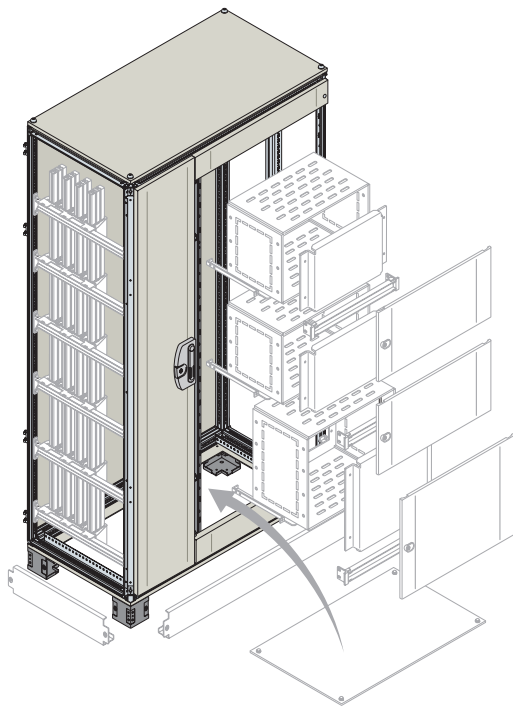
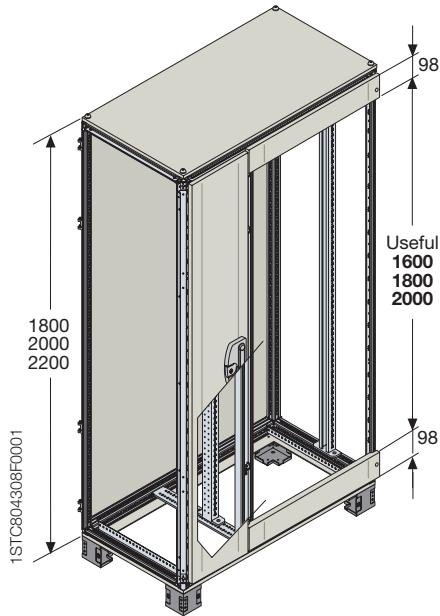
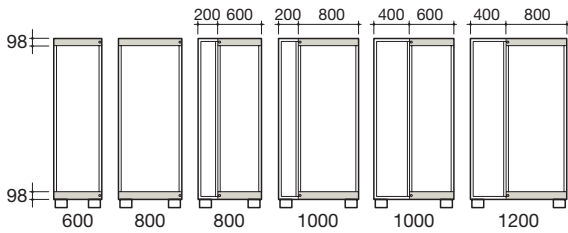
Code			Description	Dimensions mm (WxD)	
Height mm	Internal cable container W=mm				
1800	200	2200			
<b>ES1884VC2</b>	<b>ES2084VC2</b>	<b>ES2284VC2</b>	Cabinet with glazed door	200	800x400
<b>ES1804VC2</b>	<b>ES2004VC2</b>	<b>ES2204VC2</b>	Cabinet with glazed door	200	1000x400
<b>ES1885VC2</b>	<b>ES2085VC2</b>	<b>ES2285VC2</b>	Cabinet with glazed door	200	800x500
<b>ES1805VC2</b>	<b>ES2005VC2</b>	<b>ES2205VC2</b>	Cabinet with glazed door	200	1000x500
<b>ES1886VC2</b>	<b>ES2086VC2</b>	<b>ES2286VC2</b>	Cabinet with glazed door	200	800x600
<b>ES1806VC2</b>	<b>ES2006VC2</b>	<b>ES2206VC2</b>	Cabinet with glazed door	200	1000x600
<b>ES1888VC2</b>	<b>ES2088VC2</b>	<b>ES2288VC2</b>	Cabinet with glazed door	200	800x800
<b>ES1808VC2</b>	<b>ES2008VC2</b>	<b>ES2208VC2</b>	Cabinet with glazed door	200	1000x800
<b>ES1804VC4</b>	<b>ES2004VC4</b>	<b>ES2204VC4</b>	Cabinet with glazed door	400	1000x400
<b>ES1824VC4</b>	<b>ES2024VC4</b>	<b>ES2224VC4</b>	Cabinet with glazed door	400	1200x400
<b>ES1805VC4</b>	<b>ES2005VC4</b>	<b>ES2205VC4</b>	Cabinet with glazed door	400	1000x500
<b>ES1825VC4</b>	<b>ES2025VC4</b>	<b>ES2225VC4</b>	Cabinet with glazed door	400	1200x500
<b>ES1806VC4</b>	<b>ES2006VC4</b>	<b>ES2206VC4</b>	Cabinet with glazed door	400	1000x600
<b>ES1826VC4</b>	<b>ES2026VC4</b>	<b>ES2226VC4</b>	Cabinet with glazed door	400	1200x600
<b>ES1808VC4</b>	<b>ES2008VC4</b>	<b>ES2208VC4</b>	Cabinet with glazed door	400	1000x800
<b>ES1828VC4</b>	<b>ES2028VC4</b>	<b>ES2228VC4</b>	Cabinet with glazed door	400	1200x800



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# Ordering codes

## Pre-assembled structures



### Cabinets for configuration with compartments

Pre-assembled self-supporting structure made of galvanised steel, consisting of a closed section drilled with 25mm pitch preset for mounting the compartment cubicles and partial doors. Removable roof, plinth h=100mm (consisting of four angle pieces 25/10), complete with rear panel. The structures with internal compartment W=200mm are supplied complete with blind door with opposite opening (standard hinging on the left), double box with double tongue key.

The structures with internal compartment W=400mm are supplied complete with blind door with opposite opening (standard hinging on the left), fixed handle with double tongue key. Both versions are complete with removable intermediate upright and pair of top/bottom crosspieces and uprights.

The useful dimension is always 200mm less than the total height of the panel board.

To be completed with plinth flanges, cable entry flanges and side panels. Compensation panels H=100mm are included in the supply.

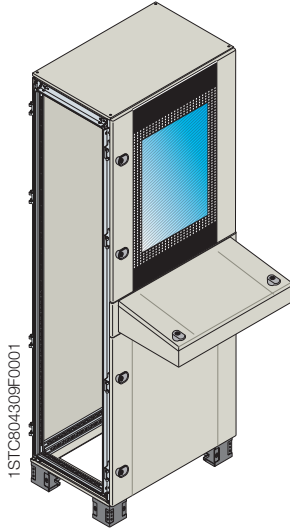
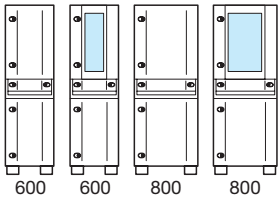
Code		Description/Dimensions mm				
1800	Height mm 2000	2200	Cabinets for			Cable cont.* W=mm
			compart. DxW=mm	Compart. W=mm		
ES1864MF	ES2064MF	ES2264MF	400x600	600	-	
ES1884MF	ES2084MF	ES2284MF	400x800	800	-	
ES1884MF2	ES2084MF2	ES2284MF2	400x800	600	200	
ES1804MF2	ES2004MF2	ES2204MF2	400x1000	800	200	
ES1804MF4	ES2004MF4	ES2204MF4	400x1000	600	400	
ES1824MF4	ES2024MF4	ES2224MF4	400x1200	800	400	
ES1865MF	ES2065MF	ES2265MF	500x600	600	-	
ES1885MF	ES2085MF	ES2285MF	500x800	800	-	
ES1885MF2	ES2085MF2	ES2285MF2	500x800	600	200	
ES1805MF2	ES2005MF2	ES2205MF2	500x1000	800	200	
ES1805MF4	ES2005MF4	ES2205MF4	500x1000	600	400	
ES1825MF4	ES2025MF4	ES2225MF4	500x1200	800	400	
ES1866MF	ES2066MF	ES2266MF	600x600	600	-	
ES1886MF	ES2086MF	ES2286MF	600x800	800	-	
ES1886MF2	ES2086MF2	ES2286MF2	600x800	600	200	
ES1806MF2	ES2006MF2	ES2206MF2	600x1000	800	200	
ES1806MF4	ES2006MF4	ES2206MF4	600x1000	600	400	
ES1826MF4	ES2026MF4	ES2226MF4	600x1200	800	400	
ES1868MF	ES2068MF	ES2268MF	800x600	600	-	
ES1888MF	ES2088MF	ES2288MF	800x800	800	-	
ES1888MF2	ES2088MF2	ES2288MF2	800x800	600	200	
ES1808MF2	ES2008MF2	ES2208MF2	800x1000	800	200	
ES1808MF4	ES2008MF4	ES2208MF4	800x1000	600	400	
ES1828MF4	ES2028MF4	ES2228MF4	800x1200	800	400	
ES1860MF	ES2060MF	ES2260MF	1000x600	600	-	
ES1880MF	ES2080MF	ES2280MF	1000x800	800	-	
ES1880MF2	ES2080MF2	ES2280MF2	1000x800	600	200	
ES1800MF2	ES2000MF2	ES2200MF2	1000x1000	800	200	
ES1800MF4	ES2000MF4	ES2200MF4	1000x1000	600	400	

\* Versions inclusive of pair of crosspieces mounted depth-wise and of intermediate upright for door closure

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# Ordering codes

## Pre-assembled structures



### Cabinets with console

Structure with removable roof, plinth h=100mm consisting of four angle pieces, complete with glazed or blind top door + blind bottom door, console, rear panel and box with key.

To be completed with plinth flanges, cable entry flanges and side panels.

Code	Description	Dimensions mm (WxD)
Height mm		
1800	2000	2200
<b>Top glazed door</b>		
<b>ES1864L ES2064L ES2264L</b>	Cabinet with glazed door with console	600x400
<b>ES1884L ES2084L ES2284L</b>	Cabinet with glazed door with console	800x400
<b>ES1865L ES2065L ES2265L</b>	Cabinet with glazed door with console	600x500
<b>ES1885L ES2085L ES2285L</b>	Cabinet with glazed door with console	800x500
<b>ES1866L ES2066L ES2266L</b>	Cabinet with glazed door with console	600x600
<b>ES1886L ES2086L ES2286L</b>	Cabinet with glazed door with console	800x600
<b>ES1868L ES2068L ES2268L</b>	Cabinet with glazed door with console	600x800
<b>ES1888L ES2088L ES2288L</b>	Cabinet with glazed door with console	800x800

### Top blind door

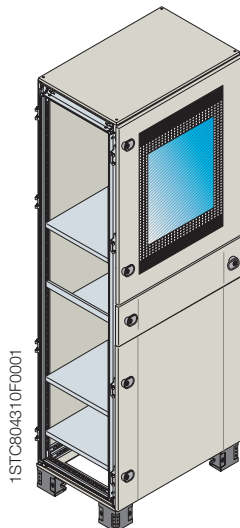
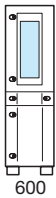
<b>ES1864C ES2064C ES2264C</b>	Cabinet with blind door with console	600x400
<b>ES1884C ES2084C ES2284C</b>	Cabinet with blind door with console	800x400
<b>ES1865C ES2065C ES2265C</b>	Cabinet with blind door with console	600x500
<b>ES1885C ES2085C ES2285C</b>	Cabinet with blind door with console	800x500
<b>ES1866C ES2066C ES2266C</b>	Cabinet with blind door with console	600x600
<b>ES1886C ES2086C ES2286C</b>	Cabinet with blind door with console	800x600
<b>ES1868C ES2068C ES2268C</b>	Cabinet with blind door with console	600x800
<b>ES1888C ES2088C ES2288C</b>	Cabinet with blind door with console	800x800

### PC cabinets

Structure with removable roof, plinth h=100mm consisting of four angle pieces, complete with glazed top door (able to hold monitors up to 17") + blind bottom door, slide-out computer shelf and rear panel.

Complete with 4 shelves for monitor, keyboard, printer and paper. To be completed with plinth flanges, cable entry flanges and side panels.

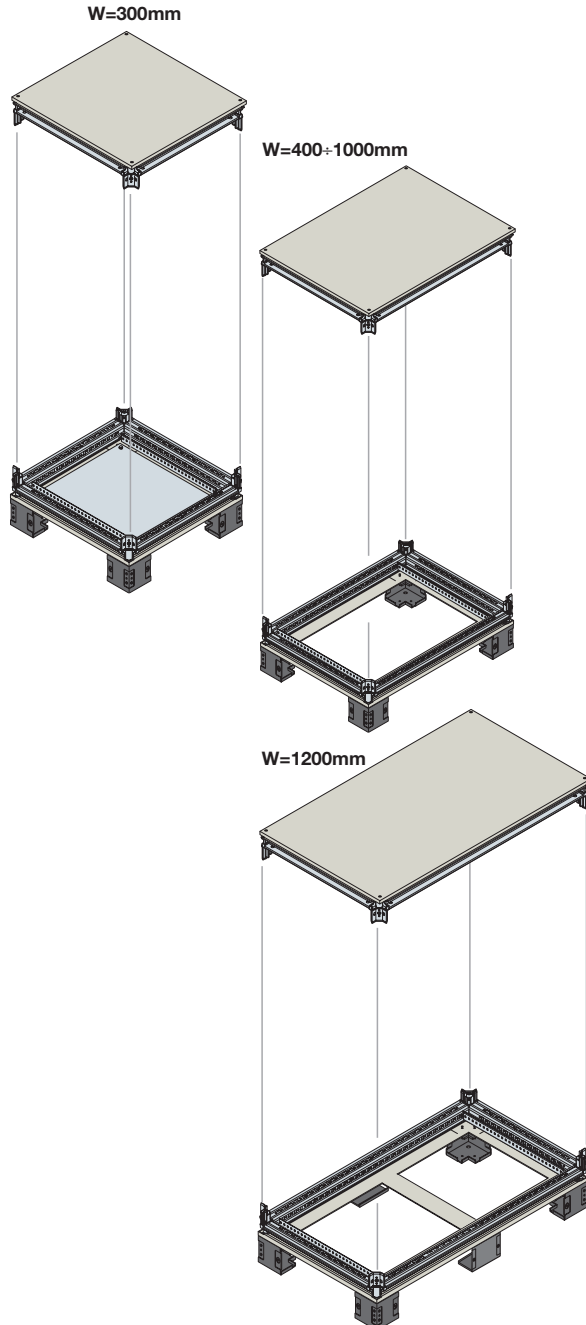
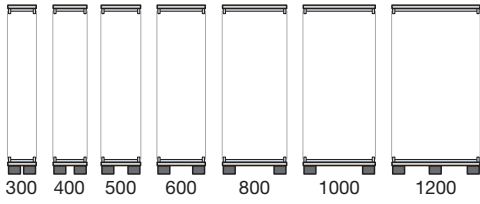
Code	Description	Dimensions mm (WxD)
Height mm		
1800	2000	2200
<b>ES1866PC ES2066PC ES2266PC</b>	PC cabinet	600x600
<b>ES1868PC ES2068PC ES2268PC</b>	PC cabinet	600x800



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# Ordering codes

## Kit versions structures



### Base/Top

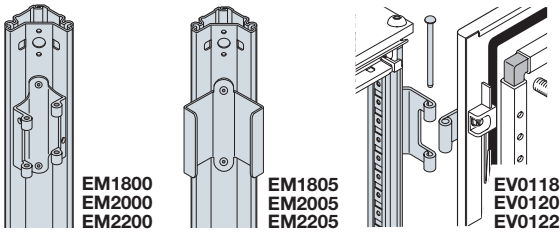
Base, top and plinth angle pieces H=100mm, to be completed with cable entry flanges and plinth flanges. The bases with 1200mm width include the intermediate plinth. The bases W= 300mm are suitable for constructing side container for cable connection and include bottom closure flanges.

Code	Description	Dimensions mm (WxD)
EK3040	Base/Top external base container	300x400
EK3050	Base/Top external base container	300x500
EK3060	Base/Top external base container	300x600
EK3080	Base/Top external base container	300x800
EK3010	Base/Top external base container	300x1000
EK4040	Base/Top	400x400
EK4050	Base/Top	400x500
EK4060	Base/Top	400x600
EK4080	Base/Top	400x800
EK4010	Base/Top	400x1000
EK6040	Base/Top	600x400
EK6050	Base/Top	600x500
EK6060	Base/Top	600x600
EK6080	Base/Top	600x800
EK6010	Base/Top	600x1000
EK8040	Base/Top	800x400
EK8050	Base/Top	800x500
EK8060	Base/Top	800x600
EK8080	Base/Top	800x800
EK8010	Base/Top	800x1000
EK1040	Base/Top	1000x400
EK1050	Base/Top	1000x500
EK1060	Base/Top	1000x600
EK1080	Base/Top	1000x800
EK1010	Base/Top	1000x1000
EK1240	Base/Top	1200x400
EK1250	Base/Top	1200x500
EK1260	Base/Top	1200x600
EK1280	Base/Top	1200x800

Plinth flanges .....page 4/40      Uprightsp ..... page 4/32  
 Cable entry flanges.....page 4/39      Accessories.....page 4/59

# Ordering codes

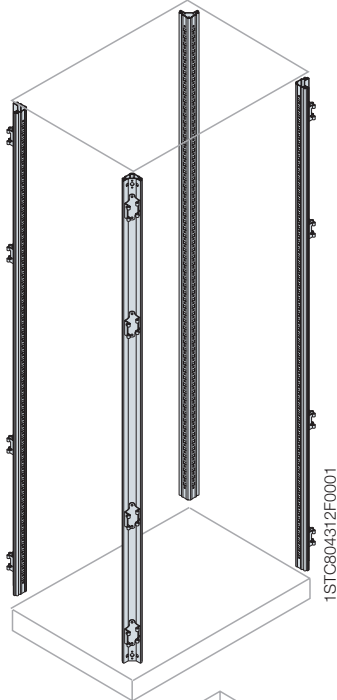
## Kit versions structures



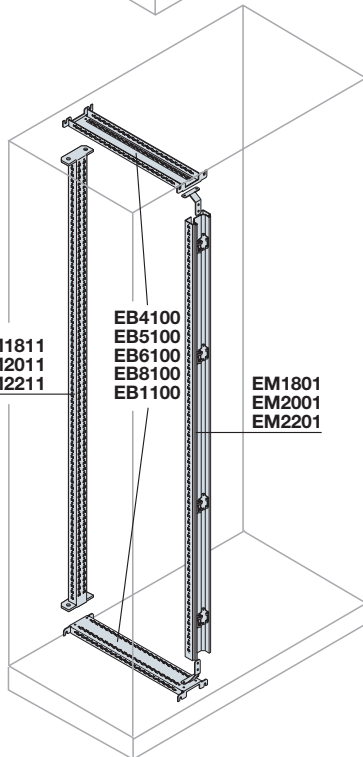
EM1800  
EM2000  
EM2200

EM1805  
EM2005  
EM2205

EV0118  
EV0120  
EV0122



1STC804312F0001



1STC804313F0001

EM1811  
EM2011  
EM2211

EB4100  
EB5100  
EB6100  
EB8100  
EB1100

EM1801  
EM2001  
EM2201

### Structure upright

#### Uprights for standard structures

Structure of the closed section type, drilled with 25mm pitch, galvanised, complete with n°4 multi-purpose hinges already mounted.

Code	Description	Dimensions mm (H)
EM1800	Uprights with hinges	1800
EM2000	Uprights with hinges	2000
EM2200	Uprights with hinges	2200

#### Uprights for corner structures

Mounted on standard base and top, these allow batteries of corner panel boards to be built.

Code	Description	Dimensions mm (H)
EM1805	Uprights with hinges	1800
EM2005	Uprights with hinges	2000
EM2205	Uprights with hinges	2200

#### Uprights for structure with hinges for 180° door opening

Mounted on standard base and top, these allow the door to be opened 180° (door to be drilled).

Code	Description	Dimensions mm (H)
EV0118	Uprights + hinges opening 180°	1800
EV0120	Uprights + hinges opening 180°	2000
EV0122	Uprights + hinges opening 180°	2200

#### Intermediate uprights for cable container or double door

These allow the structure to be divided into two parts.

Code	Description	Dimensions mm (H)
EM1801	Intermediate upright for structure W=1200/1600mm	1800
EM2001	Intermediate upright for structure W=1200/1600mm	2000
EM2201	Intermediate upright for structure W=1200/1600mm	2200

EM1811	Intermediate tear upright for cable container	1800
EM2011	Intermediate tear upright for cable container	2000
EM2211	Intermediate tear upright for cable container	2200

<sup>(1)</sup> To be fixed directly on the structure.

#### Intermediate crosspieces for cable container (mounted depth-wise)

Code	Description
EB4100	Pair of crosspieces for base D=400mm
EB5100	Pair of crosspieces for base D=500mm
EB6100	Pair of crosspieces for base D=600mm
EB8100	Pair of crosspieces for base D=800mm
EB1100	Pair of crosspieces for base D=1000mm

Doors .....page 4/33 Base/top .....page 2/31  
Crosspieces .....page 4/46 Accessories.....page 2/59

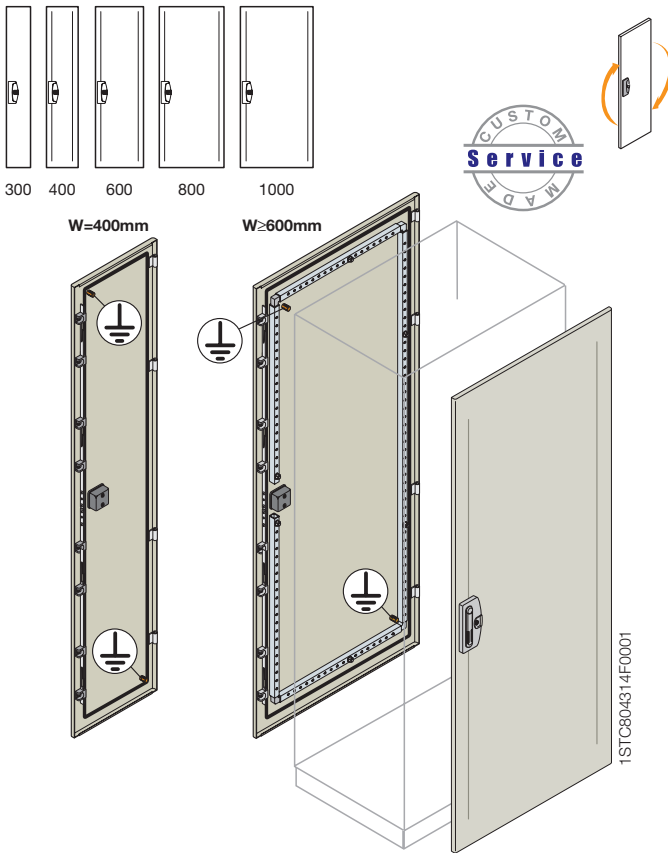
Rapid selection tables .....page 4/12

In-depth technical information .....page 7/1

Overall dimensions .....page 9/14

# Ordering codes

## Completion of structures



### IP65 blind front or rear doors

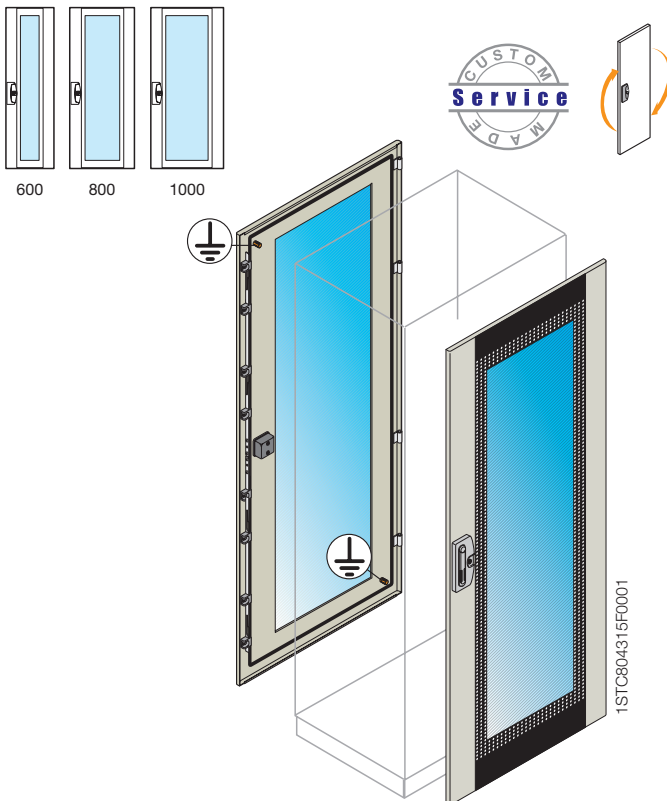
Door made of 20/10 thick sheet, fitted with polyurethane gasket, complete with handle with double tongue keys (interchangeable with other types of inserts, see page 4/36). Reversible (standard hinging on the right), with 4 closure points and complete with internal reinforcement frame and earthing pins.

Code	Service Custom Made *	Description	Dimensions mm (HxW)
EC1831 <sup>(1)</sup>		Blind front/rear door external cable container	1800x300
EC1840 <sup>(1)</sup>	....Assembled	Blind door	1800x400
EC1860	....Assembled	Blind door	1800x600
EC1880	....Assembled	Blind door	1800x800
EC1810	....Assembled	Blind door	1800x1000
EC2031 <sup>(1)</sup>		Blind front/rear door external cable container	2000x300
EC2040 <sup>(1)</sup>	....Assembled	Blind door	2000x400
EC2060	....Assembled	Blind door	2000x600
EC2080	....Assembled	Blind door	2000x800
EC2012	....Assembled	Blind door	2000x1000
EC2232 <sup>(1)</sup>		Blind front/rear door external cable container	2200x300
EC2240 <sup>(1)</sup>	....Assembled	Blind door	2200x400
EC2260	....Assembled	Blind door	2200x600
EC2280	....Assembled	Blind door	2200x800
EC2210	....Assembled	Blind door	2200x1000

<sup>(1)</sup> The versions with W=400mm do not foresee the internal reinforcement frame.

\* Replacement of rear panel with rear door, only valid for factory pre-assembled panel boards.

4



### IP65 glazed front or rear doors

Door made of 20/10 thick sheet with 4 mm thick safety glass, fitted with polyurethane gasket, complete with handle with double tongue key (interchangeable with other types of inserts, see page 4/36). Reversible (standard hinging on the right) with 4 closing points and complete with earthing pins.

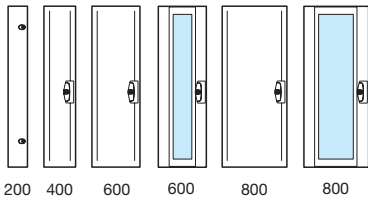
Code	Service Custom Made *	Description	Dimensions mm (HxW)
ET1860	....Assembled	Glazed door	1800x600
ET1880	....Assembled	Glazed door	1800x800
ET1810	....Assembled	Glazed door	1800x1000
ET2060	....Assembled	Glazed door	2000x600
ET2080	....Assembled	Glazed door	2000x800
ET2010	....Assembled	Glazed door	2000x1000
ET2260	....Assembled	Glazed door	2200x600
ET2280	....Assembled	Glazed door	2200x800
ET2211	....Assembled	Glazed door	2200x1000

\* Replacement of rear panel with rear door, only valid for factory pre-assembled panel boards.

Handles..... page 4/36      Door reinforcement profiles... page 4/37  
 Key inserts..... page 4/36      Ventilation/air conditioning .... page 4/67  
 Protective windows ..... page 4/36      Accessories..... page 4/59

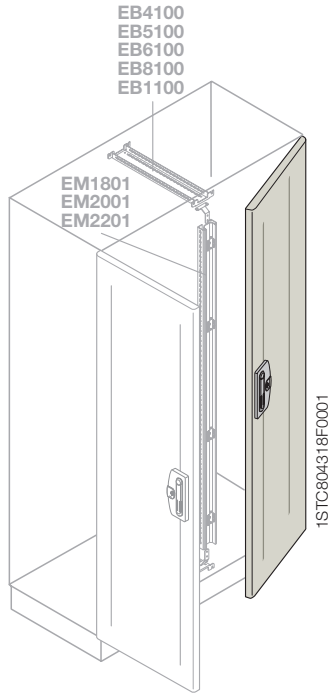
# Ordering codes

## Completion of structures



### Blind/glazed door for double door and cable container version/replacement rear panel with door

Blind/glazed door without overlap to make panel board versions with double door or with cable container. The supply includes n°1 door to be completed with other door **EC....VC/FV/FC** (page 4/35) + intermediate upright **EM....1** + crosspiece EB. ... (page 4/36).



Code	Service Custom Made *	Description	Dimensions mm (HxW)
------	-----------------------	-------------	---------------------

#### Blind door for cable container W=200mm

<b>EC1880VC2</b> <sup>(1)</sup>		Cable container blind door	1800x200
<b>EC2080VC2</b> <sup>(1)</sup>		Cable container blind door	2000x200
<b>EC2280VC2</b> <sup>(1)</sup>		Cable container blind door	2200x200

#### Blind door for cable container W=400mm

<b>EC1880VC4</b> <sup>(1)</sup>	<b>....Assembled</b>	Cable container blind door	1800x400
<b>EC2080VC4</b> <sup>(1)</sup>	<b>....Assembled</b>	Cable container blind door	2000x400
<b>EC2280VC4</b> <sup>(1)</sup>	<b>....Assembled</b>	Cable container blind door	2200x400

#### Double blind door W=500mm

<b>EC1880FC5</b> <sup>(1)</sup>	<b>....Assembled</b>	Double blind door	1800x500
<b>EC2080FC5</b> <sup>(1)</sup>	<b>....Assembled</b>	Double blind door	2000x500
<b>EC2280FC5</b> <sup>(1)</sup>	<b>....Assembled</b>	Double blind door	2200x500

#### Double blind door W=600mm

<b>EC1880FC6</b>	<b>....Assembled</b>	Double blind door	1800x600
<b>EC2080FC6</b>	<b>....Assembled</b>	Double blind door	2000x600
<b>EC2280FC6</b>	<b>....Assembled</b>	Double blind door	2200x600

#### Double blind door W=800mm

<b>EC1880FC8</b>	<b>....Assembled</b>	Double blind door	1800x800
<b>EC2080FC8</b>	<b>....Assembled</b>	Double blind door	2000x800
<b>EC2280FC8</b>	<b>....Assembled</b>	Double blind door	2200x800

#### Glazed blind door W=600mm

<b>EC1880FV6</b>	<b>....Assembled</b>	Double glazed door	1800x600
<b>EC2080FV6</b>	<b>....Assembled</b>	Double glazed door	2000x600
<b>EC2280FV6</b>	<b>....Assembled</b>	Double glazed door	2200x600

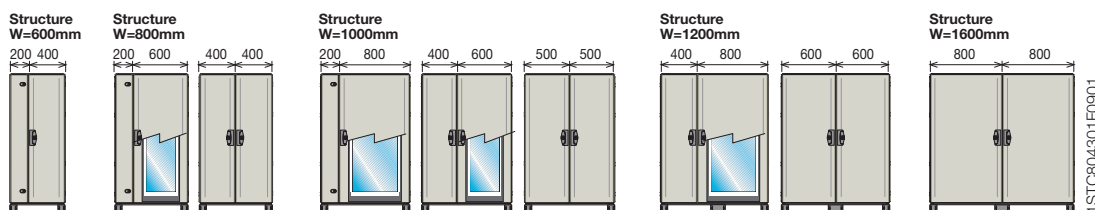
#### Glazed blind door W=800mm

<b>EC1880FV8</b>	<b>....Assembled</b>	Double glazed door	1800x800
<b>EC2080FV8</b>	<b>....Assembled</b>	Double glazed door	2000x800
<b>EC2280FV8</b>	<b>....Assembled</b>	Double glazed door	2200x800

<sup>(1)</sup> The versions with W=300/400/500mm do not foresee the internal reinforcement frame.

\* Replacement of rear panel with n°1 double blind/glazed door, only valid for factory pre-assembled panel boards.

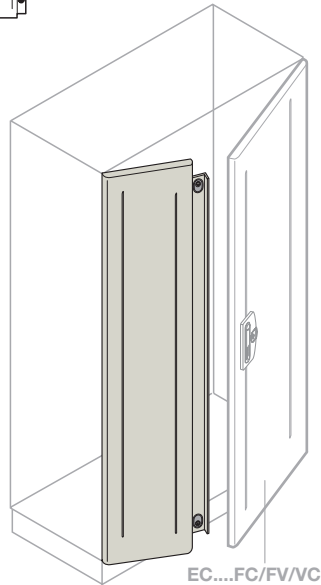
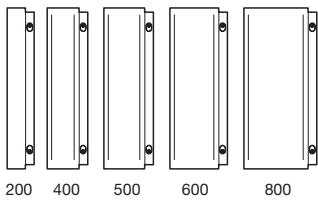
### Possible combinations



Key inserts..... page 4/36      Ventilation/air conditioning .... page 4/67  
 Protective windows ..... page 4/36      Accessories..... page 4/59  
 Door reinforcement profiles... page 4/37

# Ordering codes

## Completion of structures



### Blind door with overlap for double door version/ replacement rear panel with door

Blind door with overlap side by side with other blind or glazed door without overlap **EC....FC/FV/VC**. Allows the panel board with double door to be made without the use of the upright.

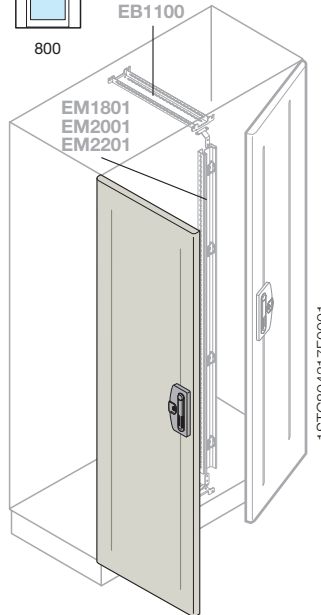
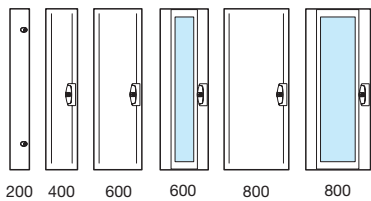
Code	Service Custom Made *	Description	Dimensions mm (HxW)
ED1802S <sup>(1)</sup>		Blind door with overlap	1800x200
ED1804S <sup>(1)</sup>	ED1808DP Assembled	Blind door with overlap	1800x400
ED1810S <sup>(1)</sup>	ED1810DP Assembled	Blind door with overlap	1800x500
ED1812S	ED1812DP Assembled	Blind door with overlap	1800x600
ED1816S	ED1816DP Assembled	Blind door with overlap	1800x800
ED2002S <sup>(1)</sup>		Blind door with overlap	2000x200
ED2004S <sup>(1)</sup>	ED2008DP Assembled	Blind door with overlap	2000x400
ED2010S <sup>(1)</sup>	ED2010DP Assembled	Blind door with overlap	2000x500
ED2012S	ED2012DP Assembled	Blind door with overlap	2000x600
ED2016S	ED2016DP Assembled	Blind door with overlap	2000x800
ED2202S <sup>(1)</sup>		Blind door with overlap	2200x200
ED2204S <sup>(1)</sup>	ED2208DP Assembled	Blind door with overlap	2200x400
ED2210S <sup>(1)</sup>	ED2210DP Assembled	Blind door with overlap	2200x500
ED2212S	ED2212DP Assembled	Blind door with overlap	2200x600
ED2216S	ED2216DP Assembled	Blind door with overlap	2200x800

<sup>(1)</sup> The versions with W=400/500mm do not foresee the internal reinforcement frame.

\* Replacement of rear panel with n°2 blind/glazed doors with overlapping closure, only valid for factory pre-assembled panel boards.

### Blind/glazed door for double door and cable container version/replacement rear panel with door

Blind/glazed door without overlap to make panel board versions with double door or with cable container. The supply includes n°1 door to be completed with other door **EC....VC/FV/FC** (page 4/34) +intermediate upright **EM....1** + crosspiece **EB....** (page 4/32).



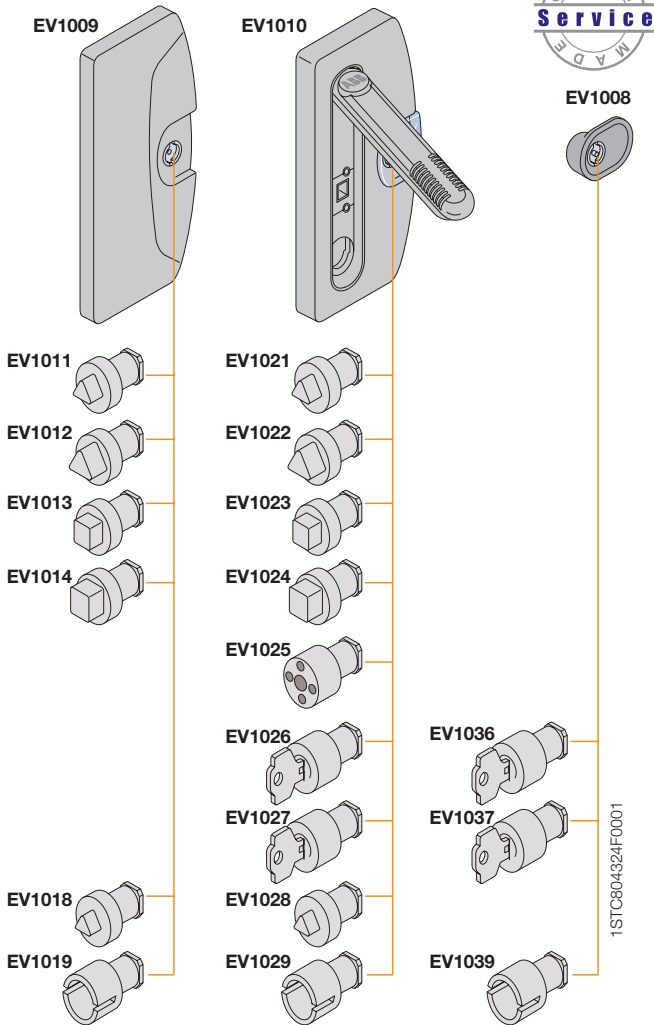
Code	Service Custom Made *	Description	Dimensions mm (HxW)
<b>Blind door for cable container W=200mm</b>			
EC1880VC2 <sup>(1)</sup>		Blind door cable container	1800x200
EC2080VC2 <sup>(1)</sup>		Blind door cable container	2000x200
EC2280VC2 <sup>(1)</sup>		Blind door cable container	2200x200
<b>Blind door for cable container W=400mm</b>			
EC1880VC4 <sup>(1)</sup>	....Assembled	Blind door cable container	1800x400
EC2080VC4 <sup>(1)</sup>	....Assembled	Blind door cable container	2000x400
EC2280VC4 <sup>(1)</sup>	....Assembled	Blind door cable container	2200x400
<b>Blind door W=500mm for double door version</b>			
EC1880FC5 <sup>(1)</sup>	....Assembled	Blind door for double door version	1800x500
EC2080FC5 <sup>(1)</sup>	....Assembled	Blind door for double door version	2000x500
EC2280FC5 <sup>(1)</sup>	....Assembled	Blind door for double door version	2200x500
<b>Blind door W=600mm for double door version</b>			
EC1880FC6	....Assembled	Blind door for double door version	1800x600
EC2080FC6	....Assembled	Blind door for double door version	2000x600
EC2280FC6	....Assembled	Blind door for double door version	2200x600
<b>Blind door W=800mm for double door version</b>			
EC1880FC8	....Assembled	Blind door for double door version	1800x800
EC2080FC8	....Assembled	Blind door for double door version	2000x800
EC2280FC8	....Assembled	Blind door for double door version	2200x800
<b>Glazed door W=600mm for double door version</b>			
EC1880FV6	....Assembled	Glazed door for double door version	1800x600
EC2080FV6	....Assembled	Glazed door for double door version	2000x600
EC2280FV6	....Assembled	Glazed door for double door version	2200x600
<b>Glazed door W=800mm for double door version</b>			
EC1880FV8	....Assembled	Glazed door for double door version	1800x800
EC2080FV8	....Assembled	Glazed door for double door version	2000x800
EC2280FV8	....Assembled	Glazed door for double door version	2200x800

<sup>(1)</sup> The versions W=300/400/500mm do not foresee the internal reinforcement frame.  
\* Replacement of rear panel with n°1 double blind/glazed door, only valid for factory pre-assembled panel boards.

Handles .....page 4/36  
Key inserts.....page 4/36  
Intermediate uprights.....page 4/32  
Intermediate crosspieces.....page 4/34  
Protective windows .....page 4/36  
Door reinforcement profiles.....page 4/37  
Ventilation/air conditioning .....page 4/67  
Accessories.....page 4/59

# Ordering codes

## Completion of structures



### Handles

Code	Service Custom Made *	Description
EV1008		Door closure box
EV1009		Standard handle
EV1010	....Assembled	Ergonomic handle (standard)

\* Replacement handle with box with ergonomic handle with double tongue insert. Service only valid for factory pre-assembled panel boards.

### Key inserts

Inserts interchangeable with the one with double tongue supplied as standard, complete with relative key.

#### Handle with box

Code	Service Custom Made *	Description
EV1011	....Assembled	7mm triangular insert
EV1012	....Assembled	8mm triangular insert
EV1013	....Assembled	7mm square insert
EV1014	....Assembled	8mm square insert
EV1018	....Assembled	6,5mm CNOMO delta insert
EV1019	....Assembled	3mm double tongue insert
EV1095		Key with electronic keypad + actuator
EV1097		12V c.c. feeder for actuator EV1095

\* Replacement standard inserts with double tongue with special inserts. Service only valid for factory pre-assembled panel boards.

#### Ergonomic handle

Code	Service Custom Made *	Description
EV1021	....Assembled	7mm triangular insert
EV1022	....Assembled	8mm triangular insert
EV1023	....Assembled	7mm square insert
EV1024	....Assembled	8mm square insert
EV1025	....Assembled	Fiat insert
EV1026	....Assembled	Single code Yale Insert
EV1027	....Assembled	Ronis 455 insert
EV1028	....Assembled	6.5mm CNOMO delta insert
EV1029	....Assembled	3mm double tongue insert

\* Replacement handles with ergonomic box special insert. Service only valid for factory pre-assembled panel boards.

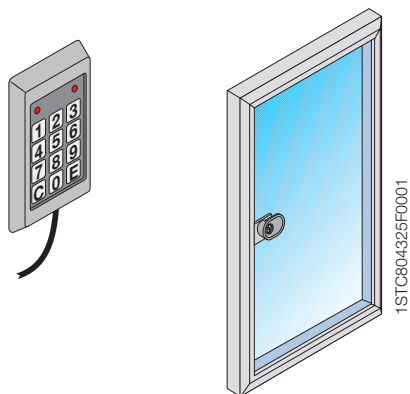
#### BOX

Code	Description
EV1036	Single code Yale insert
EV1037	Ronis 455 insert
EV1039	3mm double tongue insert

### IP54 protective windows with glass

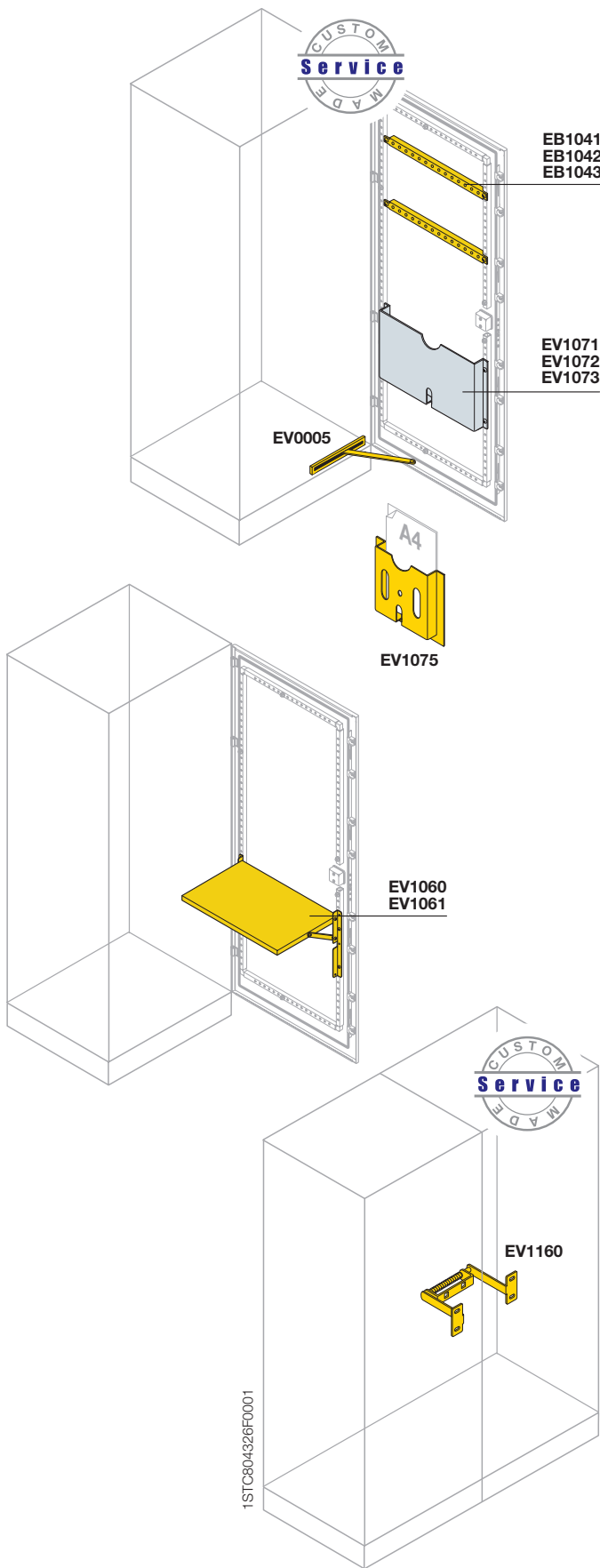
Made of aluminium, complete with pre-assembled gasket and closure box with interchangeable double tongue key. Can hold components with 38 and 69mm depth. 140° door opening.

Code	Description	Dimensions mm (HxWxD)
EV1080	Protection windows	400x400x46
EV1081	Protection windows	400x400x77
EV1082	Protection windows	600x200x46
EV1083	Protection windows	600x200x77
EV1084	Protection windows	600x400x46
EV1085	Protection windows	600x400x77
EV1086	Protection windows	600x600x46
EV1087	Protection windows	600x600x77



# Ordering codes

## Completion of structures



### Horizontal reinforcement profiles for door

Crosspieces made of galvanised sheet with 25 mm pitch drilling, allow accessories to be fixed inside the blind doors. They are fixed onto the door reinforcement tube.

Service Custom	Codice	Descrizione	Dimensioni mm (L)
Made *	EB1041	N°2 horizontal profiles h=35mm	600
....Assembled	EB1042	N°2 horizontal profiles h=35mm	800
....Assembled	EB1043	N°2 horizontal profiles h=35mm	1000

\* Service only valid for factory pre-assembled panel boards.

### Folding shelves for door

Code	Description
EV1060	Shelf 280x250mm (wxd) for door w=600mm
EV1061	Shelf 480x250mm (wxd) for door w=800mm

### Document pockets RAL 7032

Code	Description
EV1071	Metal document pocket for door w=600mm
EV1072	Metal document pocket for door w=800mm
EV1073	Metal document pocket for door w=1000mm
EV1075	Plastic document pocket for A4

### Door anti-closure and locking device

Service Custom	Code	Description
Made *	EV0005	Door anti-closure device

Cannot be mounted with glazed doors or when there is a counterdoor.

\* Service only valid for factory pre-assembled panel boards.

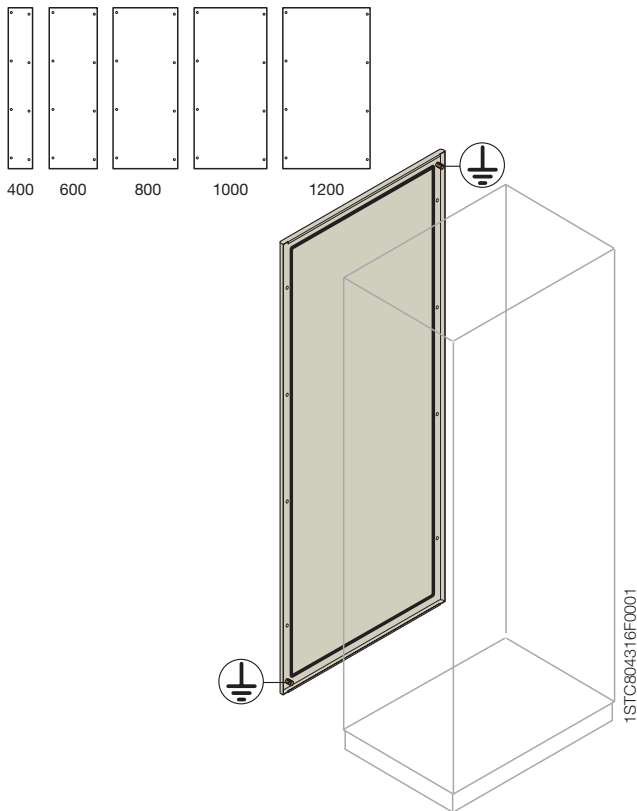
### Door lock

In the case of several cabinets side by side, this prevents a door being opened before the adjacent door has been opened. It is therefore possible to bind opening the doors of an entire battery of cabinets side by side to opening of a single door.

Code	Description
EV1160	Door lock

# Ordering codes

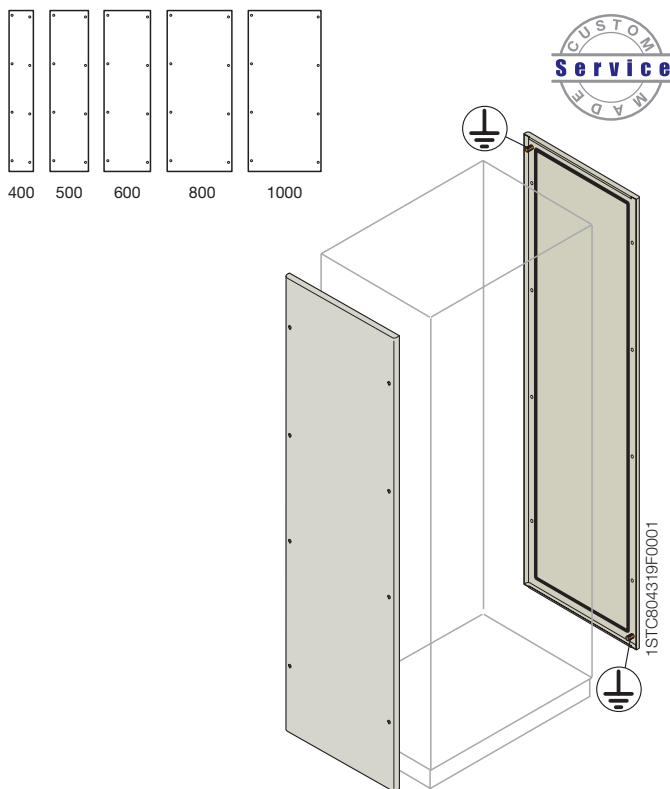
## Completion of structures



### IP65 Rear panels

Panel made of 15/10 thick sheet, fitted with polyurethane basket, complete with earthing pins. Can be replaced with front/rear doors.

Code	Description	Dimensions mm (HxW)
EP1830	Front/rear panel external cable container	1800x300
EP1840	Rear panel	1800x400
EP1860	Rear panel	1800x600
EP1880	Rear panel	1800x800
EP1811	Rear panel	1800x1000
EP1812	Rear panel	1800x1200
EP2030	Front/rear panel external cable container	2000x300
EP2041	Rear panel	2000x400
EP2060	Rear panel	2000x600
EP2080	Rear panel	2000x800
EP2010	Rear panel	2000x1000
EP2012	Rear panel	2000x1200
EP2231	Front/rear panel external cable container	2200x300
EP2240	Rear panel	2200x400
EP2260	Rear panel	2200x600
EP2280	Rear panel	2200x800
EP2210	Rear panel	2200x1000
EP2212	Rear panel	2200x1200



### IP65 blind side panels

Panel made of 15/10 thick sheet, fitted with polyurethane gasket, complete with earthing pins. Replaceable with side doors.

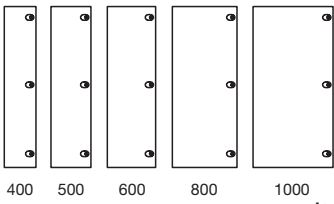
N°1 panel	N°2 panels	Service Custom Made *	Descrizione	Dimensioni mm (HxP)
EL1841	EL1840	....Assembled	Blind panel/s	1800x400
EL1851	EL1850	....Assembled	Blind panel/s	1800x500
EL1861	EL1860	....Assembled	Blind panel/s	1800x600
EL1881	EL1880	....Assembled	Blind panel/s	1800x800
EL1811	EL1810	....Assembled	Blind panel/s	1800x1000
EL2041	EL2040	....Assembled	Blind panel/s	2000x400
EL2051	EL2050	....Assembled	Blind panel/s	2000x500
EL2061	EL2060	....Assembled	Blind panel/s	2000x600
EL2081	EL2080	....Assembled	Blind panel/s	2000x800
EL2011	EL2012	....Assembled	Blind panel/s	2000x1000
EL2241	EL2240	....Assembled	Blind panel/s	2200x400
EL2251	EL2250	....Assembled	Blind panel/s	2200x500
EL2261	EL2260	....Assembled	Blind panel/s	2200x600
EL2281	EL2280	....Assembled	Blind panel/s	2200x800
EL2211	EL2210	....Assembled	Blind panel/s	2200x1000

\* Service only valid for factory pre-assembled panel boards.

Doors ..... page 4/33  
 Ventilation/air conditioning .... page 4/67  
 Accessories ..... page 4/59

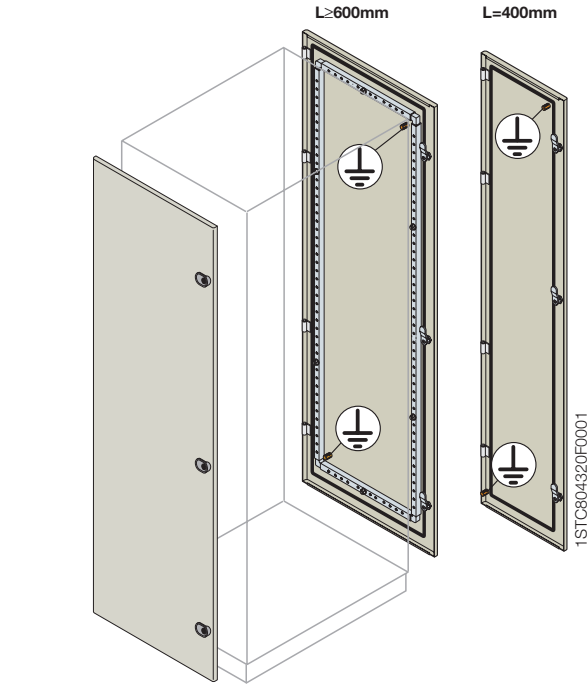
# Ordering codes

## Completion of structures



### IP65 blind side doors

Reversible 15/10 thick sheet door, fitted with polyurethane gasket, complete with n 2 box with key-with double tongue (interchangeable with other types of inserts, see page 4/36) complete with internal reinforcement frame and earthing pins.



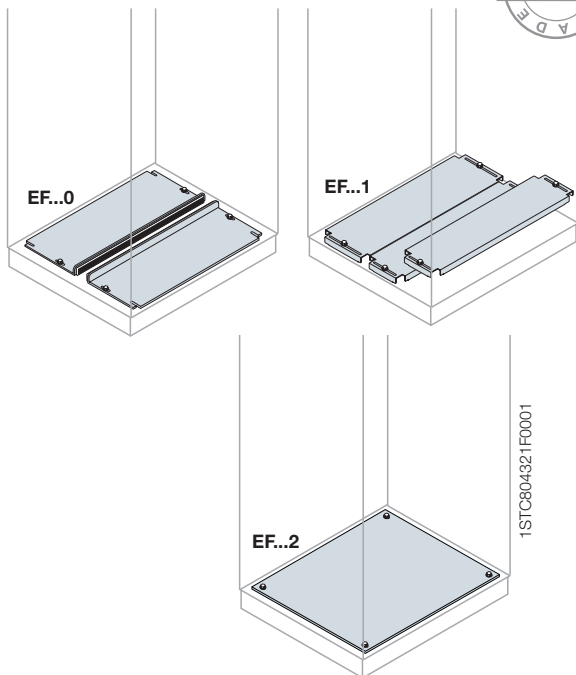
Code	Service Custom Made *	Description	Dimensions mm (HxD)
EC1841	....Assembled	Blind side door	1800x400
EC1851	....Assembled	Blind side door	1800x500
EC1861	....Assembled	Blind side door	1800x600
EC1881	....Assembled	Blind side door	1800x800
EC1811	....Assembled	Blind side door	1800x1000
EC2041	....Assembled	Blind side door	2000x400
EC2051	....Assembled	Blind side door	2000x500
EC2061	....Assembled	Blind side door	2000x600
EC2081	....Assembled	Blind side door	2000x800
EC2011	....Assembled	Blind side door	2000x1000
EC2241	....Assembled	Blind side door	2200x400
EC2251	....Assembled	Blind side door	2200x500
EC2261	....Assembled	Blind side door	2200x600
EC2281	....Assembled	Blind side door	2200x800
EC2211	....Assembled	Blind side door	2200x1000

\* Service only valid for factory pre-assembled panel boards.



### Cable entry flanges

Galvanised 20/10 sheet flanges



Code	Sliding Service Custom Made *	Code	Built-up Service Custom Made *	Code	Fixed Service Custom Made *	Dimensions mm (LxD)
EF4040	... Assembled	EF4041	... Assembled	EF4042	... Assembled	400x400
EF6040 <sup>(1)</sup>	... Assembled	EF6041 <sup>(1)</sup>	... Assembled	EF6043 <sup>(1)</sup>	... Assembled	600x400
EF8040 <sup>(2)</sup>	... Assembled	EF8041 <sup>(2)</sup>	... Assembled	EF8042 <sup>(2)</sup>	... Assembled	800x400
EF1040	... Assembled	EF1041	... Assembled	EF1042	... Assembled	1000x400
EF4050	... Assembled	EF4051	... Assembled	EF4052	... Assembled	400x500
EF6050 <sup>(1)</sup>	... Assembled	EF6051 <sup>(1)</sup>	... Assembled	EF6052 <sup>(1)</sup>	... Assembled	600x500
EF8050 <sup>(2)</sup>	... Assembled	EF8051 <sup>(2)</sup>	... Assembled	EF8052 <sup>(2)</sup>	... Assembled	800x500
EF1053	... Assembled	EF1051	... Assembled	EF1052	... Assembled	1000x500
EF4060	... Assembled	EF4061	... Assembled	EF4063	... Assembled	400x600
EF6060 <sup>(1)</sup>	... Assembled	EF6061 <sup>(1)</sup>	... Assembled	EF6062 <sup>(1)</sup>	... Assembled	600x600
EF8060 <sup>(2)</sup>	... Assembled	EF8061 <sup>(2)</sup>	... Assembled	EF8062 <sup>(2)</sup>	... Assembled	800x600
EF1060	... Assembled	EF1061	... Assembled	EF1062	... Assembled	1000x600
EF4080	... Assembled	EF4081	... Assembled	EF4082	... Assembled	400x800
EF6080 <sup>(1)</sup>	... Assembled	EF6081 <sup>(1)</sup>	... Assembled	EF6082 <sup>(1)</sup>	... Assembled	600x800
EF8080 <sup>(2)</sup>	... Assembled	EF8081 <sup>(2)</sup>	... Assembled	EF8082 <sup>(2)</sup>	... Assembled	800x800
EF1080	... Assembled	EF1081	... Assembled	EF1082	... Assembled	1000x800
EF4010	... Assembled	EF4011	... Assembled	EF4012 <sup>(1)</sup>	... Assembled	400x1000
EF6010 <sup>(1)</sup>	... Assembled	EF6011 <sup>(1)</sup>	... Assembled	EF6012 <sup>(1)</sup>	... Assembled	600x1000
EF8010 <sup>(2)</sup>	... Assembled	EF8011 <sup>(2)</sup>	... Assembled	EF8012 <sup>(2)</sup>	... Assembled	800x1000
EF1010	... Assembled	EF1011	... Assembled	EF1012	... Assembled	1000x1000

<sup>(1)</sup> For structures w = 1200mm order 2 pieces.

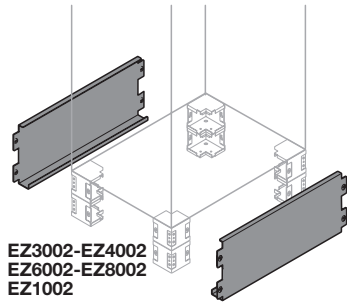
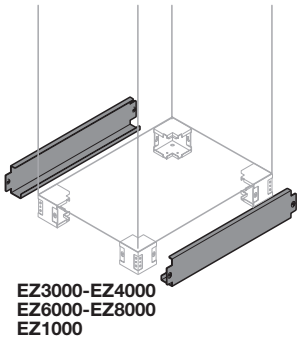
<sup>(2)</sup> For structures w = 1600mm order 2 pieces.

\* Service only valid for factory pre-assembled panel boards.

Bases and tops ..... page 4/31  
Pre-assembled structure ..... page 4/25

# Ordering codes

## Completion of structures



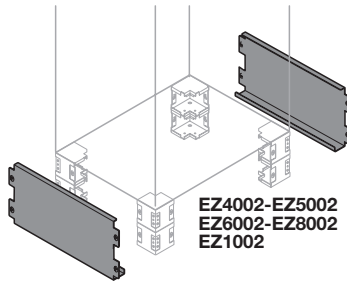
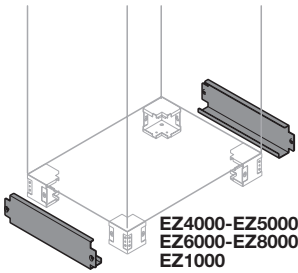
### Plinth covering flanges

Removable flanges made of 15/10 sheet painted orange peel RAL 7012 (not self-supporting).

#### Front/rear flanges

Code	Description	Dimensions mm (W)
Height mm		
100	200	
<b>EZ3000</b>	<b>EZ3002</b>	Pair of plinth flanges 300
<b>EZ4000</b>	<b>EZ4002</b>	Pair of plinth flanges 400
<b>EZ6000</b> <sup>(1)</sup>	<b>EZ6002</b> <sup>(1)</sup>	Pair of plinth flanges 600
<b>EZ8000</b> <sup>(1)</sup>	<b>EZ8002</b> <sup>(1)</sup>	Pair of plinth flanges 800
<b>EZ1000</b>	<b>EZ1002</b>	Pair of plinth flanges 1000

(1) For structures W=1200/1600mm order 2 pieces.

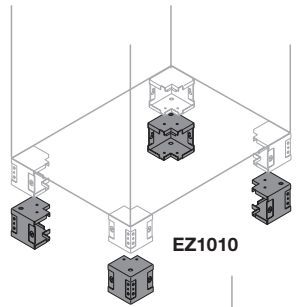


### Lateral flanges

Code	Description	Dimensions mm (D)
Height mm		
100	200	
<b>EZ4000</b>	<b>EZ4002</b>	Pair of plinth flanges 400
<b>EZ5000</b>	<b>EZ5002</b>	Pair of plinth flanges 500
<b>EZ6000</b>	<b>EZ6002</b>	Pair of plinth flanges 600
<b>EZ8000</b>	<b>EZ8002</b>	Pair of plinth flanges 800
<b>EZ1000</b>	<b>EZ1002</b>	Pair of plinth flanges 1000

1STC804322F0001

1STC804323F0001

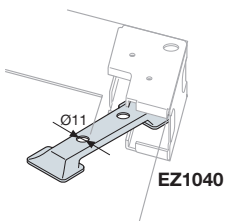
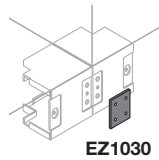
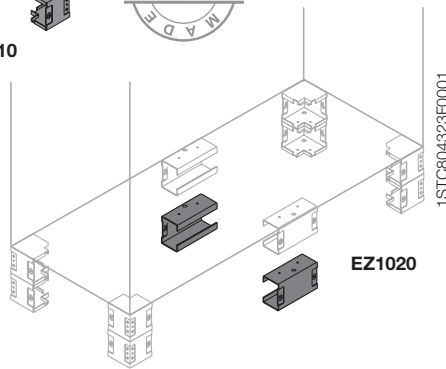


### Additional plinth

To make a 200mm high plinth, order a Kit of angle pieces EZ1010 (25/10 thick) and relative covering flanges H=200mm.

Code	Service Custom Made *	Description	Dimensions mm (H)
<b>EZ1010</b>	...Assembled	N°4 angle pieces	100
<b>EZ1020</b>	...Assembled	N°2 intermediate angle	100
<b>EZ1030</b>		N°10 plinth joining plates	

\* Service only valid for factory pre-assembled panel boards.

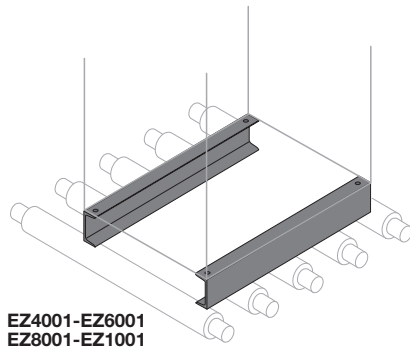


### Fixing to floor

Code	Description
<b>EZ1040</b>	N°4 brackets for fixing plinth to ground

# Ordering codes

## Completion of structures

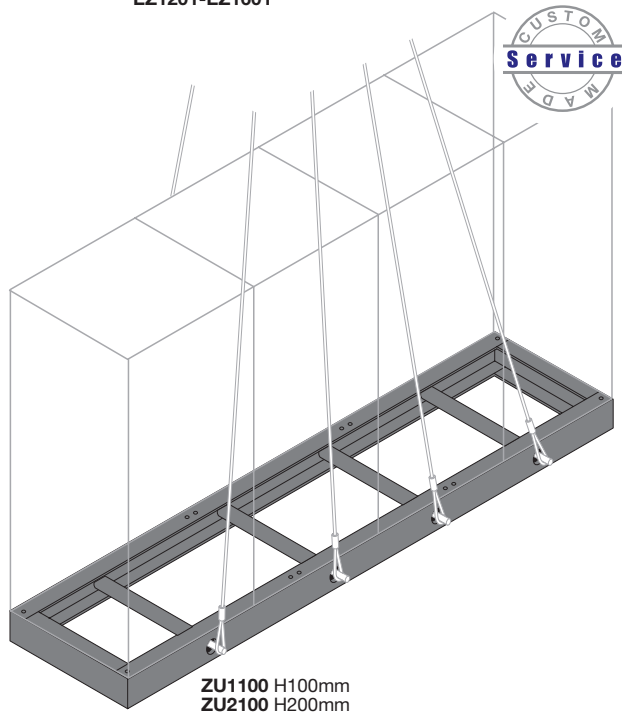


EZ4001-EZ6001  
EZ8001-EZ1001  
EZ1201-EZ1601

### Reinforced plinth H=100mm

Shaped steel beam, to be mounted in replacement of the angle pieces. Allows handling by means of rollers. The lateral covering flanges cannot be mounted. Grey RAL 7012 colour.

Code	Description	Dimensions mm (W)
EZ4001	N°2 steel beams H=100mm	400
EZ6001	N°2 steel beams H=100mm	600
EZ8001	N°2 steel beams H=100mm	800
EZ1001	N°2 steel beams H=100mm	1000
EZ1201	N°2 steel beams H=100mm	1200
EZ1601	N°2 steel beams H=100mm	1600



### Single plinth

Plinth in a single piece fitted with reinforcement tubes mounted in depth, allows lifting of side-by-side panel boards and those fitted with particularly heavy accessory components. Height: 100/200mm, length up to 6 metres. Black RAL 9005 colour orange peel. The number of reinforcement tubes depends on the width of the battery (see page 9/35).

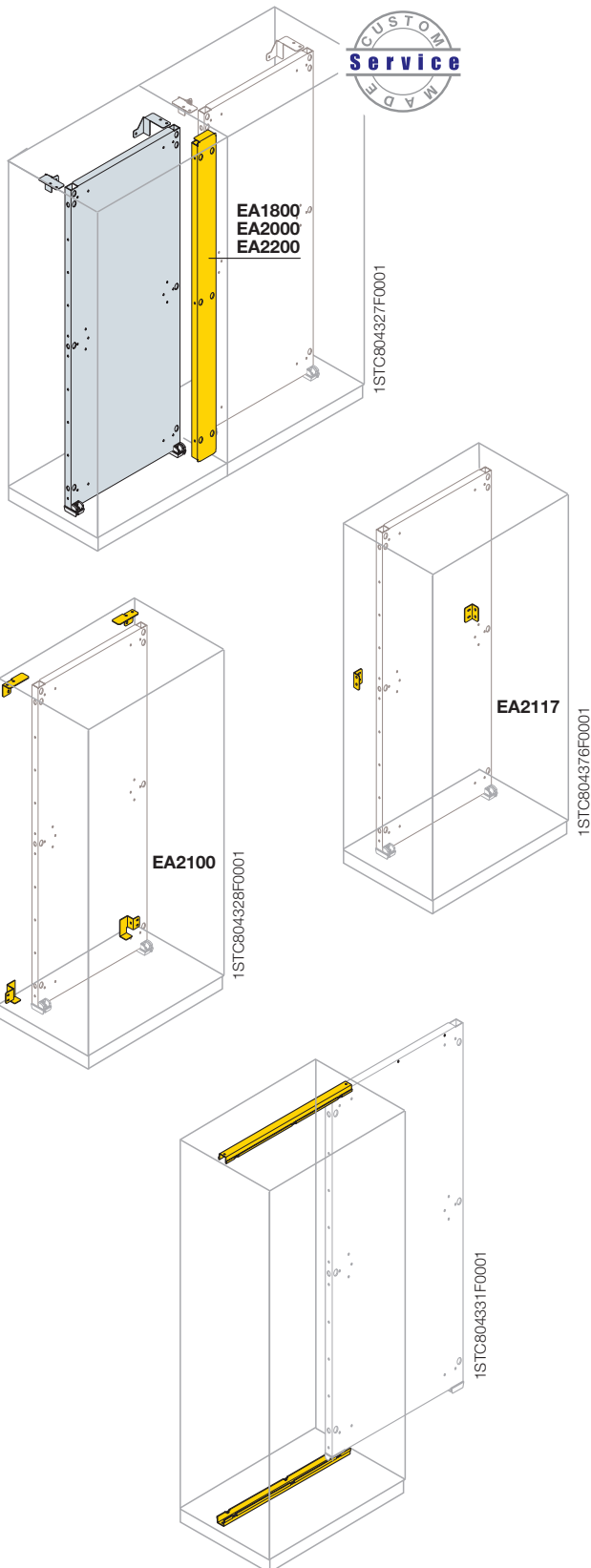
Code	Description
ZU1100	Single plinth H=100mm for panel boards side by side
ZU2100	Single plinth H=200mm for panel boards side by side
ZU1101	Single plinth H=100mm for panel board side by side
ZU2101	Single plinth H=200mm for panel board side by side

- The drawing of the front view of the panel board battery must always be enclosed, specifying the width, depth and sequence of the panel boards for each column.
- Unit of measurement for the order: METRE.
- Available starting from a minimum width of 1.8m up to a maximum width of 6m.



# Ordering codes

## Completion of structures



### Standard back plates

Galvanised 25/10 steel plate, can be inserted from the front (standard) or from the side with tracks (to be ordered separately). Complete with supports for sliding and fixing. Possibility of being placed side by side and further to the rear by means of the special kits.

Code	Service Custom Made *	Description	Dimensions mm (HxW)
EA1841	....Assembled	Back plate	1800x400
EA1860	....Assembled	Back plate	1800x600
EA1880	....Assembled	Back plate	1800x800
EA1810	....Assembled	Back plate	1800x1000
EA1812	....Assembled	Back plate	1800x1200
EA1817	....Assembled	Back plate	1800x1600
EA1800		Kit for joining plates, height 1800mm	
EA2040	....Assembled	Back plate	2000x400
EA2060	....Assembled	Back plate	2000x600
EA2080	....Assembled	Back plate	2000x800
EA2010	....Assembled	Back plate	2000x1000
EA2013	....Assembled	Back plate	2000x1200
EA2016	....Assembled	Back plate	2000x1600
EA2000		Kit for joining plates, height 2000mm	
EA2240	....Assembled	Back plate	2200x400
EA2260	....Assembled	Back plate	2200x600
EA2280	....Assembled	Back plate	2200x800
EA2210	....Assembled	Back plate	2200x1000
EA2212	....Assembled	Back plate	2200x1200
EA2216	....Assembled	Back plate	2200x1600
EA2200		Kit for joining plates, height 2200mm	
EA2100		Kit for moving back plates back H=1800-2000-2200mm	
EA2102		Kit for mounting back plates at reduced height	
EA2117		N°6 intermediate reinforcements for fixing back plate	

\* Service only valid for factory pre-assembled panel boards.

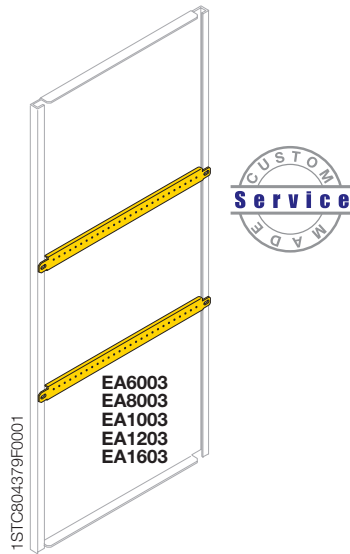
### Tracks for plate insertion

These allow lateral insertion of the standard and oversized mounting plates. They consist of two sections (one top and one bottom one).

Code	Description	Dimensions mm (W)
EA0400	Tracks for plate insertion	400
EA0600	Tracks for plate insertion	600
EA0802	Tracks for plate insertion	800
EA1000	Tracks for plate insertion	1000
EA1200	Tracks for plate insertion	1200
EA1602	Tracks for plate insertion	1600

# Ordering codes

## Completion of structures



### Back plate reinforcement sections

#### Standard

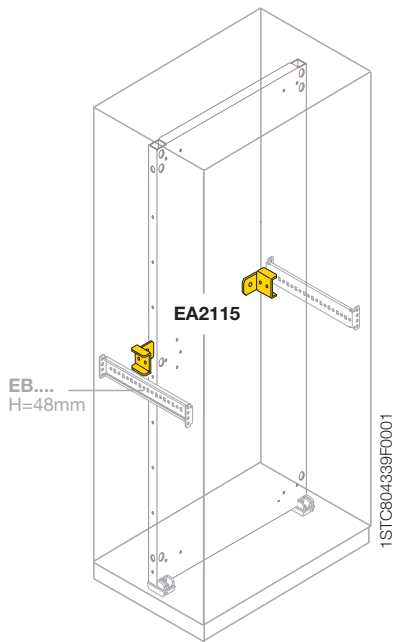
Galvanised 20/10 thick sections to be used as reinforcement on the standard back plates, recommended in the case of particularly heavy components fixed onto the back plate.

Code	Service Custom Made *	Description	Dimensions mm (W)
EA6003	....Assembled	N°2 plate horizontal reinforcement	600
EA8003	....Assembled	N°2 plate horizontal reinforcement	800
EA1003	....Assembled	N°2 plate horizontal reinforcement	1000
EA1203	....Assembled	N°2 plate horizontal reinforcement	1200
EA1603	....Assembled	N°2 plate horizontal reinforcement	1600
EA2117		N°6 plate fixing intermediate reinforcement	

\* Service only valid for factory pre-assembled panel boards.

### Kit for fixing back plate in the middle

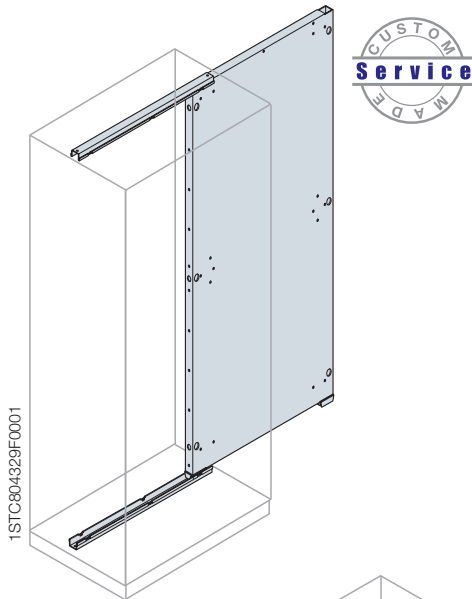
This allows further fixing of the back plate in the middle as well, in addition to side crosspieces H=48mm (see page 4/46).



Codice	Descrizione
EA2115	Kit for fixing standard back plate

# Ordering codes

## Completion of structures



### Oversized back plates

Galvanised 25/10 steel plate, can only be inserted laterally by sliding, by means of balls with tracks included in the Kit. Possibility of being placed side by side by means of the special Kit.

#### Including tracks for lateral insertion

Code	Service Custom Made *	Description	Dimensions mm (HxW)
EA1940	....Assem-	Oversized back plates+tracks	1800x400
EA1960	....Assem-	Oversized back plates+tracks	1800x600
EA1981	....Assem-	Oversized back plates+tracks	1800x800
EA1910	....Assem-	Oversized back plates+tracks	1800x1000
EA1912	....Assem-	Oversized back plates+tracks	1800x1200
EA1916	....Assem-	N° 2 oversized back plates. W=800mm + track + joining kit	1800x1600
EA2140	....Assem-	Oversized back plates+tracks	2000x400
EA2161	....Assem-	Oversized back plates+tracks	2000x600
EA2180	....Assem-	Oversized back plates+tracks	2000x800
EA2110	....Assem-	Oversized back plates+tracks	2000x1000
EA2112	....Assem-	Oversized back plates+tracks	2000x1200
EA2116	....Assem-	N° 2 oversized back plates. W=800mm + track + joining kit	2000x1600
EA2340	....Assem-	Oversized back plates+tracks	2200x400
EA2360	....Assem-	Oversized back plates+tracks	2200x600
EA2380	....Assem-	Oversized back plates+tracks	2200x800
EA2310	....Assem-	Oversized back plates+tracks	2200x1000
EA2312	....Assem-	Oversized back plates+tracks	2200x1200
EA2316	....Assem-	N° 2 oversized back plates. W=800mm + track + joining kit	2200x1600

EA2113 Kit for joining oversized plates

\* Service only valid for factory pre-assembled panel boards.

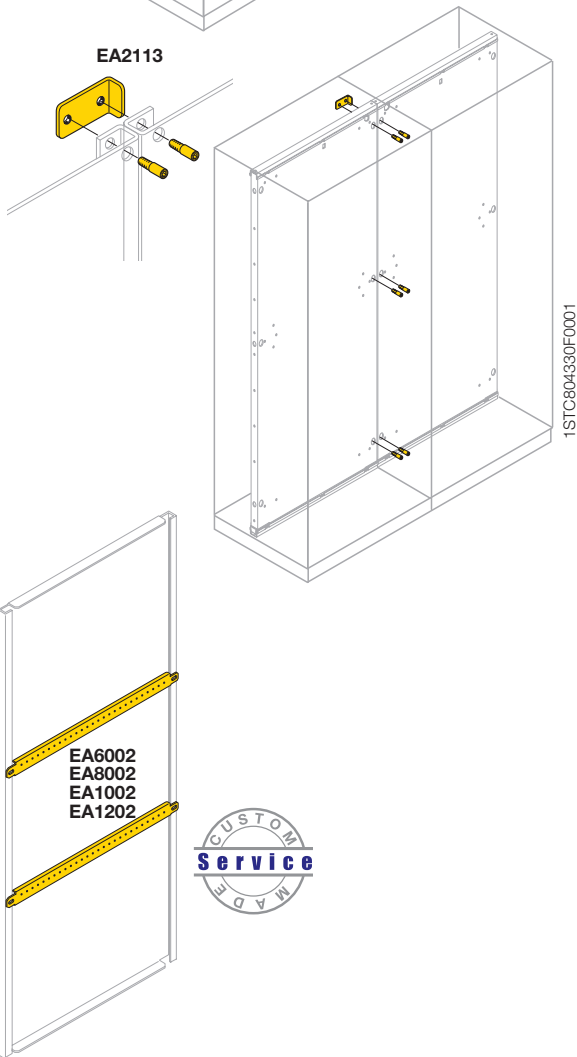
### Back plate reinforcement sections

#### Oversized

Galvanised 20/10 thick sections to be used as reinforcement on the oversized back plates, recommended in the case of particularly heavy components fixed onto the back plate.

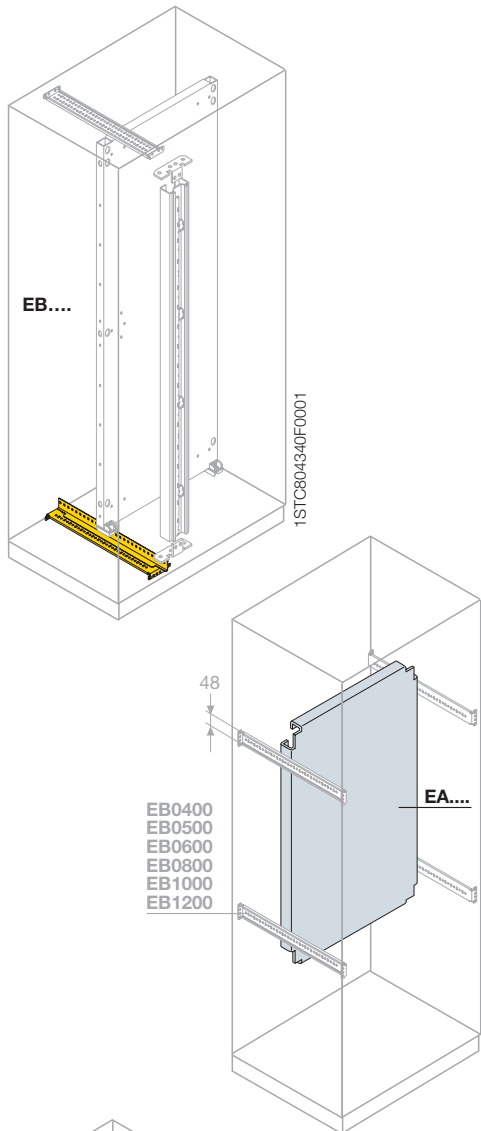
Code	Service Custom Made *	Description	Dimensions mm (W)
EA6002	....Assembled	N°2 horizontal sections for oversized plate reinforcement	600
EA8002	....Assembled	N°2 horizontal sections for oversized plate reinforcement	800
EA1002	....Assembled	N°2 horizontal sections for oversized plate reinforcement	1000
EA1202	....Assembled	N°2 horizontal sections for oversized plate reinforcement	1200

\* Service only valid for factory pre-assembled panel boards.



# Ordering codes

## Completion of structures



### Sliding guides for insertion of back plate with partial width

These allow insertion from the front of the standard back plate in structures with cable container or in the case of partial use of the structure with double door by means of a special sliding track inserted into the bottom crosspiece.

Code	Description	Dimensions mm (D)
EB4101	N°2 sliding guides of back plate	400
EB5101	N°2 sliding guides of back plate	500
EB6101	N°2 sliding guides of back plate	600
EB8101	N°2 sliding guides of back plate	800
EB1101	N°2 sliding guides of back plate	1000

### Partial back plates

Galvanised 25/10 thick back plates. These are fixed onto the crosspieces H=48mm

Code	Description	Dimensions mm (WxH)
EA2062	Partial back plate	600x200
EA3061	Partial back plate	600x300
EA4061	Partial back plate	600x400
EA5061	Partial back plate	600x500
EA6061	Partial back plate	600x600
EA8061	Partial back plate	600x800
EA2081	Partial back plate	800x200
EA3081	Partial back plate	800x300
EA4081	Partial back plate	800x400
EA5081	Partial back plate	800x500
EA6081	Partial back plate	800x600
EA8081	Partial back plate	800x800
EA2101	Kit for moving partial back plates back	

### Back plate for condensers

Galvanised 20/10 thick back plate complete with threaded inserts for fixing the LVCP condensers.

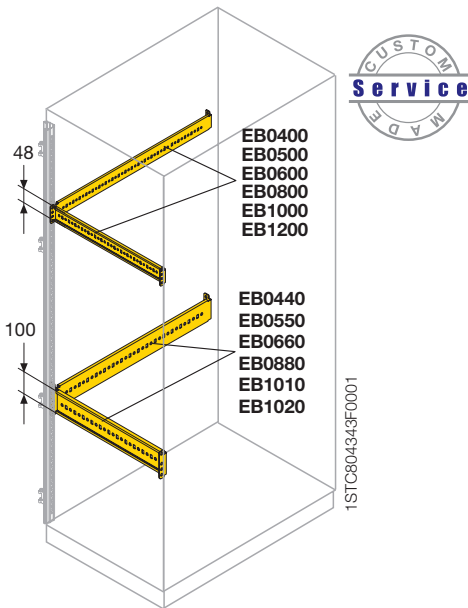
They are fixed directly onto the structure uprights.

Code	Description	Dimensions mm (WxH)
EA4002	Back plates for condensers LVCS	250x450
EA4001	Back plate for isolators OT from 315 A to 1600 A	350x240
EA4018	Upright H=1800mm for condenser plates	
EA4020	Upright H=2000mm for condenser plates	
EA4022	Upright H=2200mm for condenser plates	

For structures W=600mm with one row of plates, order 2 pieces, for structures W=800mm with two rows of plates, order 3 pieces

# Ordering codes

## Completion of structures



### Crosspieces H=48mm for fixing accessories

Multi-purpose galvanised 20/10 thick sheet crosspieces, these are fixed between the uprights and allow the partial back plates and busbar holders for flat and shaped section busbars (to be drilled).

Code	Service Custom Made *	Description	Dimensions mm (W/D)
EB0400	....Assembled	N°2 crosspieces for fixing accessories and partial plate	400
EB0500	....Assembled	N°2 crosspieces for fixing accessories and partial plate	500
EB0600	....Assembled	N°2 crosspieces for fixing accessories and partial plate	600
EB0800 <sup>(1)</sup>	....Assembled	N°2 crosspieces for fixing accessories and partial plate	800
EB1000	....Assembled	N°2 crosspieces for fixing accessories and partial plate	1000
EB1200	....Assembled	N°2 crosspieces for fixing accessories and partial plate	1200

<sup>(1)</sup> For structures W=1600mm, order 2 pieces

\* Service only valid for factory pre-assembled panel boards.

### Crosspieces H=100mm for fixing accessories

Multi-purpose galvanised 20/10 thick sheet crosspieces.

Code	Service Custom Made *	Description	Dimensions mm (W/D)
EB0440	....Assembled	N°2 crosspieces for fixing accessories	400
EB0550	....Assembled	N°2 crosspieces for fixing accessories	500
EB0660	....Assembled	N°2 crosspieces for fixing accessories	600
EB0880 <sup>(1)</sup>	....Assembled	N°2 crosspieces for fixing accessories	800
EB1010	....Assembled	N°2 crosspieces for fixing accessories	1000
EB1020	....Assembled	N°2 crosspieces for fixing accessories	1200

<sup>(1)</sup> For structures W=1600mm, order 2 pieces

\* Service only valid for factory pre-assembled panel boards.

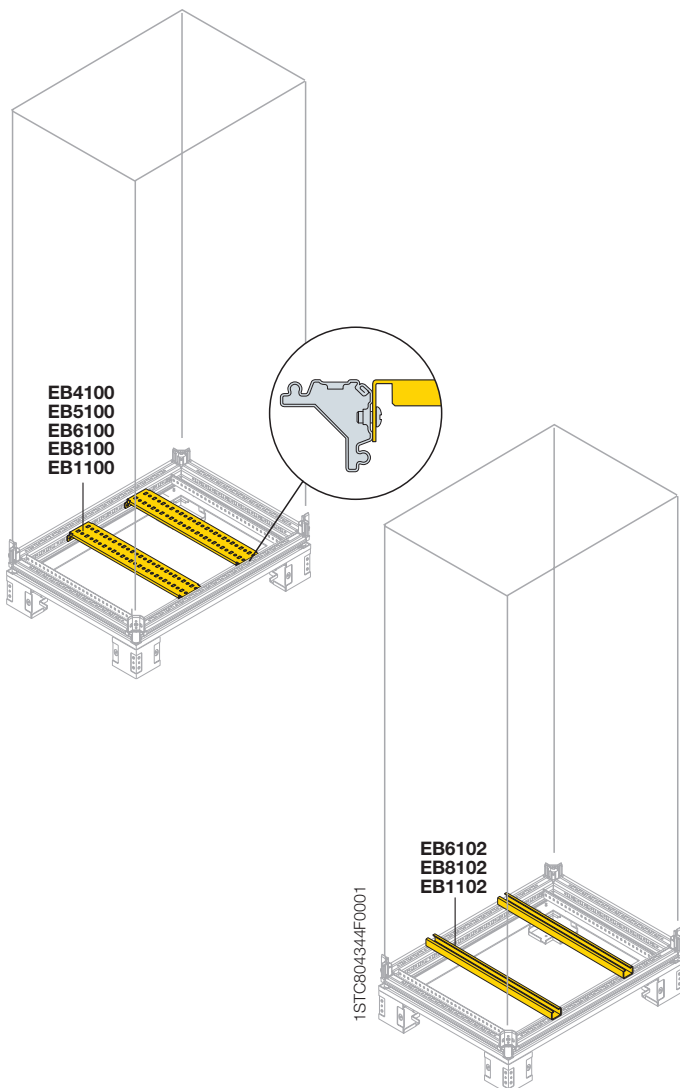
### Crosspieces for fixing heavy accessories (mounted in depth)

Code	Description	Dimensions mm (D)
EB4100	N° 2 crosspieces mounted for base	400
EB5100	N° 2 crosspieces mounted for base	500
EB6100	N° 2 crosspieces mounted for base	600
EB8100	N° 2 crosspieces mounted for base	800
EB1100	N° 2 crosspieces mounted for base	1000

### Transformer holder crosspieces

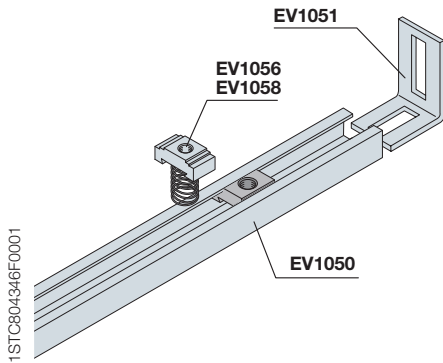
Transformer holder crosspieces made of 35/10 steel treated with white galvanization, complete of n°4 Lifting eyebolts M12, W=50mm.

Code	Description	Dimensions mm (D)
EB6102	Pair of transformer holder crosspieces	600
EB8102	Pair of transformer holder crosspieces	800
EB1102	Pair of transformer holder crosspieces	1000



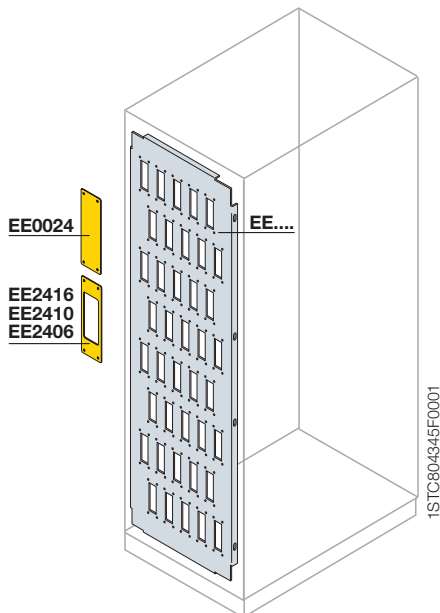
# Ordering codes

## Completion of structures



### Aluminium sliding guides for all uses

Code	Description	Dimensions mm (W)
<b>EV1050</b>	10 self-supporting aluminium sections 30x15x1,8	2000
<b>EV1051</b>	N° 25 fixing brackets for EV1050	
<b>EV1056</b>	N° 100 M6 aluminium nuts for EV1050	
<b>EV1058</b>	N° 100 M8 aluminium nuts for EV1050	



### Connector holder panel

Panel made of 20/10 thick galvanised steel sheet prepared with drillings for 24-pole connectors.

Code	Description	total N°holes	N°lines/holes	Dimensions mm (HxD)
<b>EE1852</b>	Connector holder panel	36 holes	9/4	1800x500
<b>EE1862</b>	Connector holder panel	45 holes	9/5	1800x600
<b>EE2052</b>	Connector holder panel	40 holes	10/4	2000x500
<b>EE2062</b>	Connector holder panel	50 holes	10/5	2000x600
<b>EE2252</b>	Connector holder panel	48 holes	12/4	2200x500
<b>EE2262</b>	Connector holder panel	60 holes	12/5	2200x600

### Connector plates

These allow closure of the unused holes on the connector holder panels.

Code	Description
<b>EE0024</b>	N°10 24-pole connector closure plates
<b>EE2416</b>	N°5 plates for reducing connectors from 24 to 16 poles
<b>EE2410</b>	N°5 plates for reducing connectors from 24 to 10 poles
<b>EE2406</b>	N°5 plates for reducing connectors from 24 to 6 poles

4

# Ordering codes

## Completion of structures

### Vertical partition panels for side-by-side structures

Panel made of 20/10 thick galvanised steel sheet. This allows IP54 degree of protection between the columns. When there is the lateral crosspiece H=48mm, use pre-shearing.

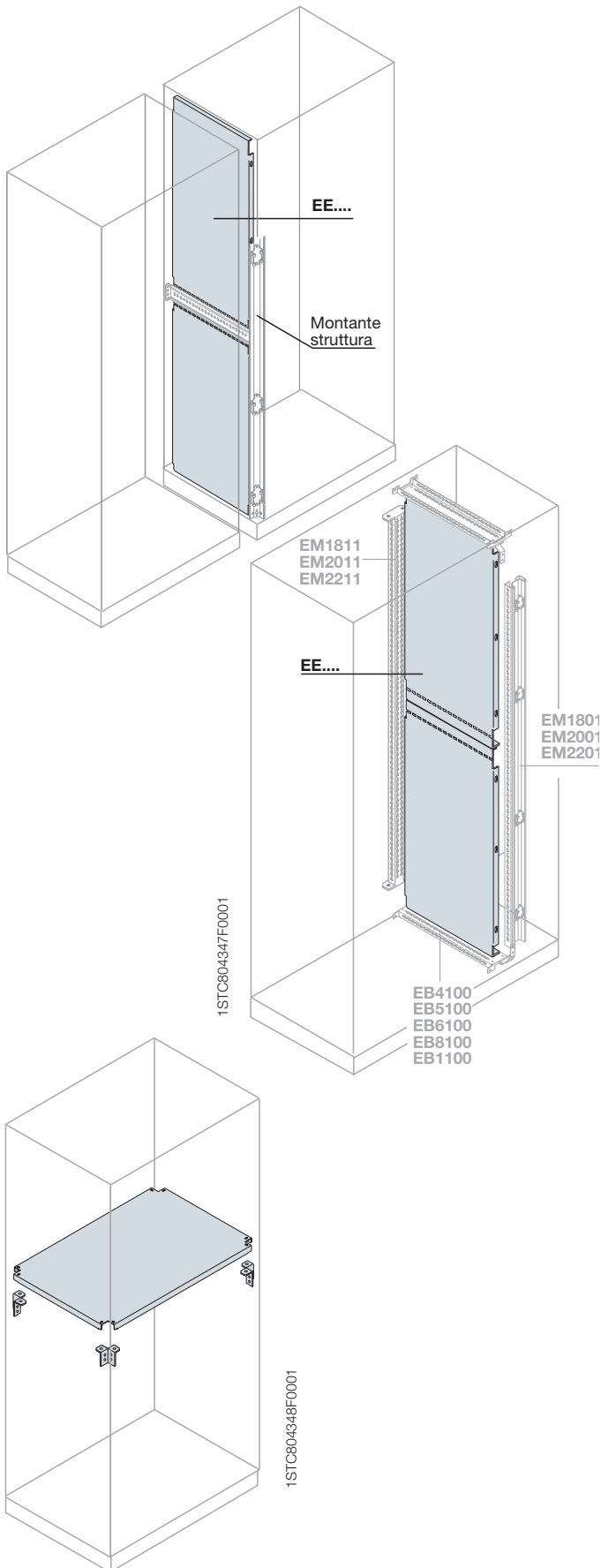
Code	Description	Dimensions mm (HxD)
EE1841	Vertical partition panels	1800x400
EE1851	Vertical partition panels	1800x500
EE1861	Vertical partition panels	1800x600
EE1881	Vertical partition panels	1800x800
EE1811	Vertical partition panels	1800x1000
EE2041	Vertical partition panels	2000x400
EE2051	Vertical partition panels	2000x500
EE2061	Vertical partition panels	2000x600
EE2081	Vertical partition panels	2000x800
EE2011	Vertical partition panels	2000x1000
EE2241	Vertical partition panels	2200x400
EE2251	Vertical partition panels	2200x500
EE2261	Vertical partition panels	2200x600
EE2281	Vertical partition panels	2200x800
EE2211	Vertical partition panels	2200x1000

### Horizontal partition panels

Panel made of 15/10 thick galvanised steel sheet. This allows horizontal separation of the different components inside the structure.

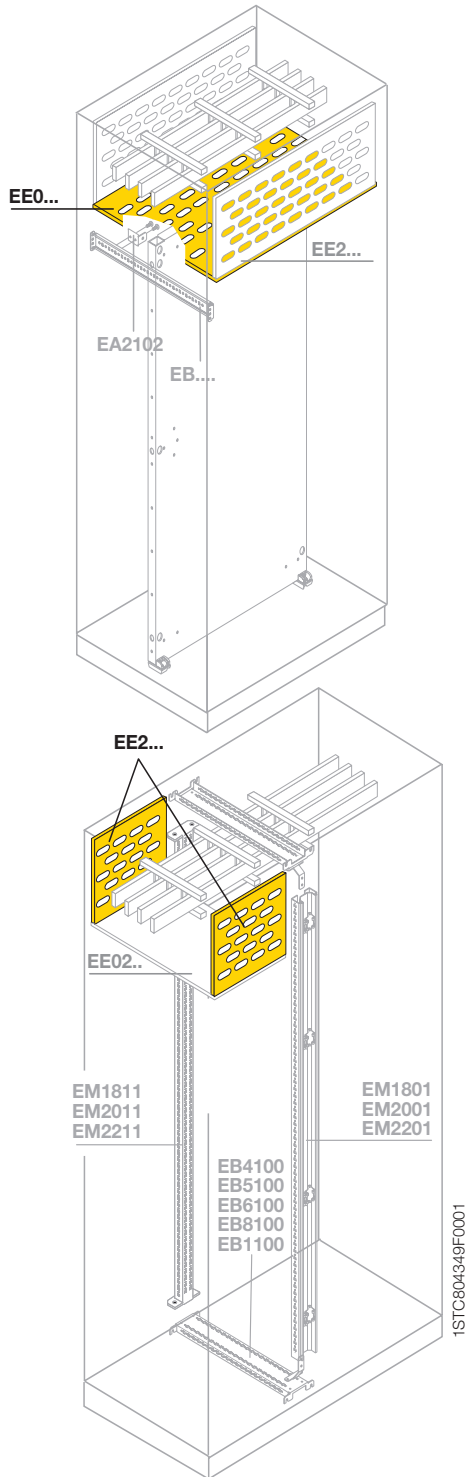
Code	Description	Dimensions mm (WxD)
EE4041	Horizontal fixed partition panels	400x400
EE6041	Horizontal fixed partition panels	600x400
EE8041	Horizontal fixed partition panels	800x400
EE1041	Horizontal fixed partition panels	1000x400
EE4051	Horizontal fixed partition panels	400x500
EE6051	Horizontal fixed partition panels	600x500
EE8051	Horizontal fixed partition panels	800x500
EE1051	Horizontal fixed partition panels	1000x500
EE6061	Horizontal fixed partition panels	600x600
EE8061	Horizontal fixed partition panels	800x600
EE1061	Horizontal fixed partition panels	1000x600
EE8081	Horizontal fixed partition panels	800x800
EE1081	Horizontal fixed partition panels	1000x800
EE1011	Horizontal fixed partition panels	1000x1000
EE1003	Horizontal sliding partition panels <sup>(1)</sup>	600x600
EE1001	Horizontal sliding partition panels <sup>(1)</sup>	600x800
EE1004	Horizontal sliding partition panels <sup>(1)</sup>	800x600
EE1002	Horizontal sliding partition panels <sup>(1)</sup>	800x800

<sup>(1)</sup>Including the crosspieces for fixing and relative accessories.



# Ordering codes

## Completion of structures



### Horizontal busbar segregations

Drilled sheet panels (IP20). Allow segregation of the busbar system. Cannot be mounted in cabinets with compartments.

Code	Description	Dimensions mm (WxD)
EE0240	Horizontal busbar segregation internal cable container W=200mm	200x400
EE0250	Horizontal busbar segregation internal cable container W=200mm	200x500
EE0260	Horizontal busbar segregation internal cable container W=200mm	200x600
EE0280	Horizontal busbar segregation internal cable container W=200mm	200x800
EE0440	Horizontal busbar segregation internal cable container W=400mm	400x400
EE0450	Horizontal busbar segregation internal cable container W=400mm	400x500
EE0460	Horizontal busbar segregation internal cable container W=400mm	400x600
EE0480	Horizontal busbar segregation internal cable container W=400mm	400x800
EE0340	Horizontal busbar segregation internal cable container W=300mm	300x400
EE0355	Horizontal busbar segregation internal cable container W=300mm	300x500
EE0360	Horizontal busbar segregation internal cable container W=300mm	300x600
EE0380	Horizontal busbar segregation internal cable container W=300mm	300x800
EE0640	Horizontal busbar segregation W=600mm	600x400
EE0650	Horizontal busbar segregation W=600mm	600x500
EE0660	Horizontal busbar segregation W=600mm	600x600
EE0680	Horizontal busbar segregation W=600mm	600x800
EE0840	Horizontal busbar segregation W=800mm	800x400
EE0850	Horizontal busbar segregation W=800mm	800x500
EE0860	Horizontal busbar segregation W L=800mm	800x600
EE0880	Horizontal busbar segregation W L=800mm	800x800
EE1040	Horizontal busbar segregation W=1000mm	1000x400
EE1050	Horizontal busbar segregation W=1000mm	1000x500
EE1060	Horizontal busbar segregation W=1000mm	1000x600
EE1080	Horizontal busbar segregation W=1000mm	1000x800

<sup>(1)</sup> To be used with rear upright **EM..11**.

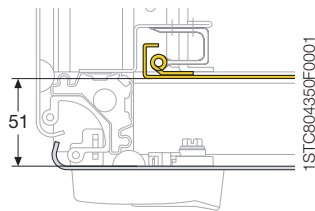
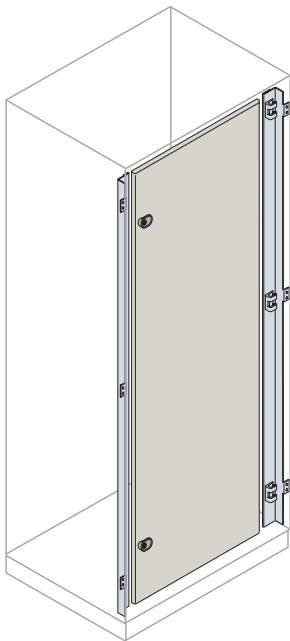
### Vertical busbar segregations

Drilled sheet panels (IP20). Allow segregation of the busbar system.

Code	Description	Dimensions mm (HxW)
EE2020	Vertical busbar segregation internal cable container W=200mm	200x200
EE2040	Vertical busbar segregation internal cable container W=400mm	200x400
EE2030	Vertical busbar segregation internal cable container W=300mm	200x300
EE2600	Vertical busbar segregation W=600mm	200x600
EE2800	Vertical busbar segregation W=800mm	200x800
EE2100	Vertical busbar segregation W=1000mm	200x1000

# Ordering codes

## Completion of structures



### Counterdoors

Internal door made of 15/10 thick galvanised steel sheet, complete with reinforcement tube, frame, hinges and n°2 boxes with double tongue key interchangeable with inserts (see page 4/36). Maximum opening angle of 100°.

Code	Service Custom Made *	Description	Dimensions mm (HxW)
EE1860	....Assembled	Counterdoor	1800x600
EE1880	....Assembled	Counterdoor	1800x800
EE1810	....Assembled	Counterdoor	1800x1000
EE2060	....Assembled	Counterdoor	2000x600
EE2080	....Assembled	Counterdoor	2000x800
EE2010	....Assembled	Counterdoor	2000x1000
EE2260	....Assembled	Counterdoor	2200x600
EE2280	....Assembled	Counterdoor	2200x800
EE2210	....Assembled	Counterdoor	2200x1000

\* Service only valid for factory pre-assembled panel boards.

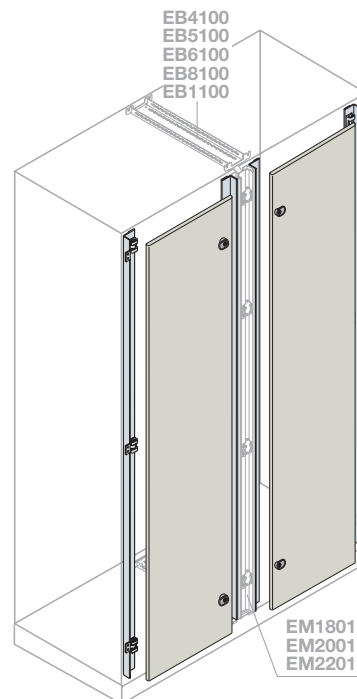
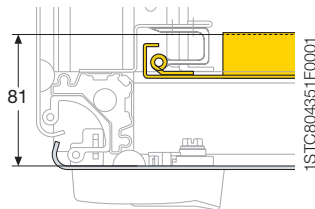
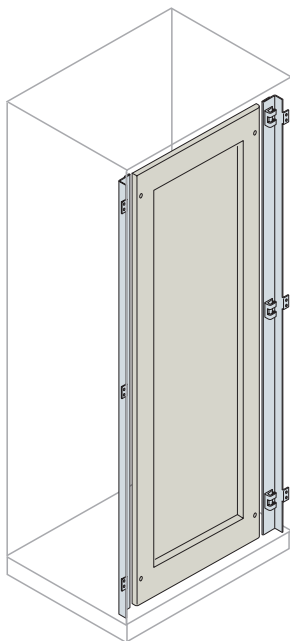
### Recessed counterdoors

Internal door made of 15/10 thick steel sheet, complete with frame, hinges and n°2 boxes with double tongue key interchangeable with inserts (see page 4/36). Maximum opening angle of 100°.

Code	Description	Dimensions mm (HxW)
EE1906	Recessed counterdoor	1800x600
EE1908	Recessed counterdoor	1800x800
EE1910	Recessed counterdoor	1800x1000
EE2106	Recessed counterdoor	2000x600
EE2108	Recessed counterdoor	2000x800
EE2110	Recessed counterdoor	2000x1000
EE2306	Recessed counterdoor	2200x600
EE2308	Recessed counterdoor	2200x800
EE2310	Recessed counterdoor	2200x1000

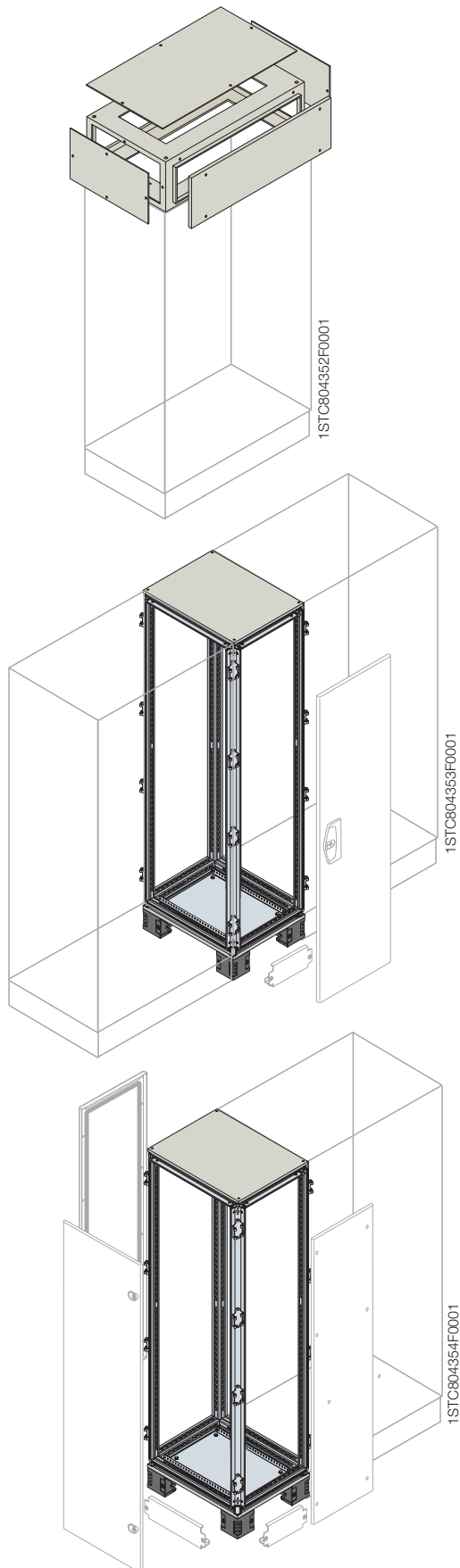
\* Service only valid for factory pre-assembled panel boards.

For structures W=1200/1600mm, mount two counterdoors with W=600mm and W=800mm respectively plus intermediate upright EM... as overlap.



# Ordering codes

## Completion of structures



### Top container for cable connection

This is a completely segregated container H=200mm to be mounted on the roof of the structure, dedicated to circulation of conductors. Fully accessible from all sides. Degree of protection IP41.

Code	Description	Dimensions mm (WxD)
<b>Height 200mm</b>		
ER4040	Top container for cable connection	400x400
ER6040 <sup>(1)</sup>	Top container for cable connection	600x400
ER8040 <sup>(1)</sup>	Top container for cable connection	800x400
ER1041	Top container for cable connection	1000x400
ER4050	Top container for cable connection	400x500
ER6050 <sup>(1)</sup>	Top container for cable connection	600x500
ER8050 <sup>(1)</sup>	Top container for cable connection	800x500
ER1050	Top container for cable connection	1000x500
ER4060	Top container for cable connection	400x600
ER6060 <sup>(1)</sup>	Top container for cable connection	600x600
ER8061 <sup>(1)</sup>	Top container for cable connection	800x600
ER1060	Top container for cable connection	1000x600
ER4080	Top container for cable connection	400x800
ER6080 <sup>(1)</sup>	Top container for cable connection	600x800
ER8080 <sup>(1)</sup>	Top container for cable connection	800x800
ER1080	Top container for cable connection	1000x800
ER4011	Top container for cable connection	400x1000
ER6010 <sup>(1)</sup>	Top container for cable connection	600x1000
ER8010 <sup>(1)</sup>	Top container for cable connection	800x1000
ER1010	Top container for cable connection	1000x1000

ER1000 <sup>(1)</sup> Kit for placing cable connection container at side

<sup>(1)</sup> For structures with W=1200/1600mm, order two pieces with W=600 and W=800mm respectively plus relative joining Kit **ER1000**.

### Container for external cable connection W=300mm

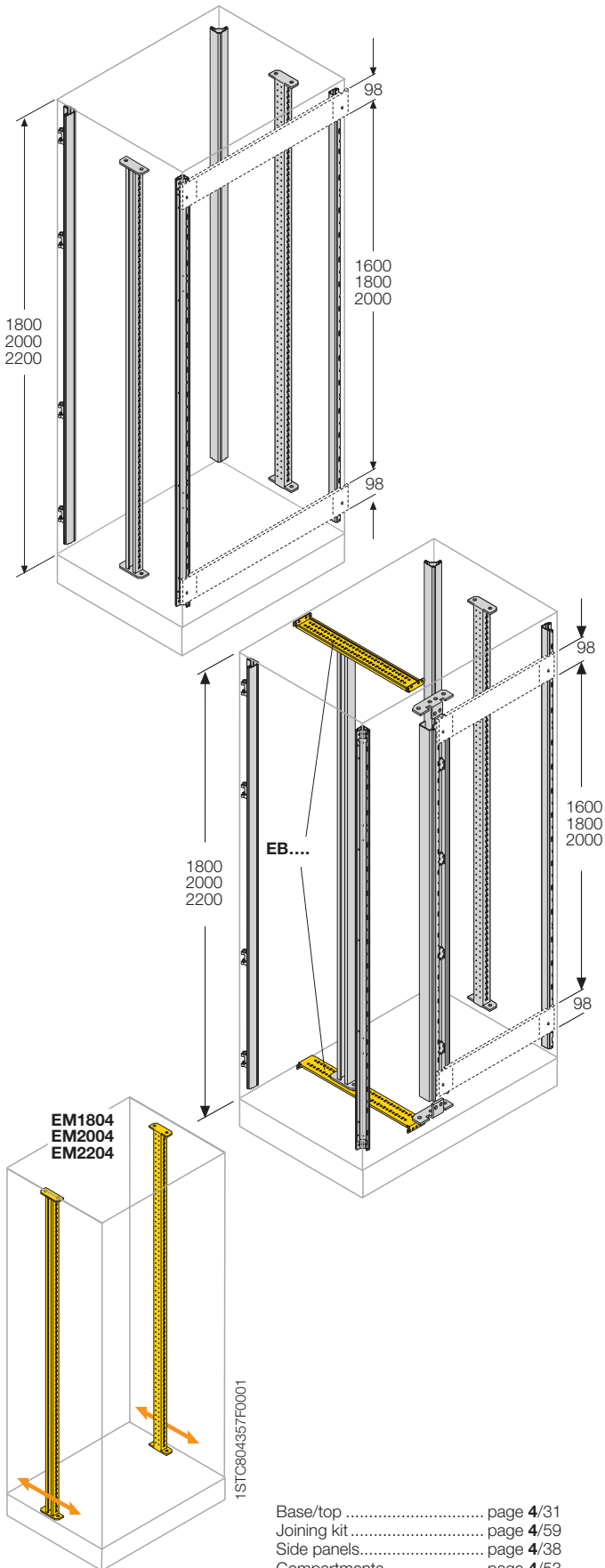
Structure to be completed with blind door placed frontally or laterally, front and rear panel, plinth and relative flanges. Can be placed side-by-side with the basic structure by means of side-by-side positioning Kit **EV0002-EV0006**.

Code	Description	Dimensions mm (WxD)
ER3040	Container for external cable container	1800x300x400
ER3050	Container for external cable container	1800x300x500
ER3060	Container for external cable container	1800x300x600
ER3080	Container for external cable container	1800x300x800
ER3010	Container for external cable container	1800x300x1000
ER3041	Container for external cable container	2000x300x400
ER3051	Container for external cable container	2000x300x500
ER3061	Container for external cable container	2000x300x600
ER3081	Container for external cable container	2000x300x800
ER3011	Container for external cable container	2000x300x1000
ER3042	Container for external cable container	2200x300x400
ER3052	Container for external cable container	2200x300x500
ER3062	Container for external cable container	2200x300x600
ER3082	Container for external cable container	2200x300x800
ER3012	Container for external cable container	2200x300x1000

4

# Ordering codes

## Configuration with compartments



### Uprights for configuration with compartments

Uprights made of galvanised steel, consisting of a closed section drilled with 25 mm pitch preset for mounting compartment cubicles and partial doors. Can be assembled on base and top (see page 2/33)  
The useful dimension is always 200mm less than the total height of the panel board.

#### Uprights for structures

Code	Description	Dimensions mm (H)
EM1802	Uprights for configuration with compartments	1800
EM2002	Uprights for configuration with compartments	2000
EM2202	Uprights for configuration with compartments	2200

Order compensation panels H=100mm (EH6010/EH8010). See page 4/53.

### Uprights for configuration with compartments + internal cable container

N°7 uprights made of galvanized steel, consisting of a closed section drilled with 25 mm pitch preset for mounting compartment cubicles and internal cable container W=200/400 mm.  
The useful dimension is always 200mm less than the total height of the panel board.

Code	Description	Dimensions mm (H)
EM1803	Uprights for configuration with compartments + int. cable container	1800
EM2003	Uprights for configuration with compartments + int. cable container	2000
EM2203	Uprights for configuration with compartments + int. cable container	2200

For the version with cable container, both the code of the uprights (EM1803-EM2003-EM2203) and the code of the crosspieces (EB...) must be ordered.

Order compensation panels H=100mm (EH6010/EH8010). See page 4/53.

### Crosspieces for intermediate uprights (mounted depth-wise)

Code	Description	Dimensions mm (D)
EB4100	Couple of crosspieces for base	400
EB5100	Couple of crosspieces for base	500
EB6100	Couple of crosspieces for base	600
EB8100	Couple of crosspieces for base	800
EB1100	Couple of crosspieces for base	1000

For the version with cable container, both the code of the crosspieces (EB...) and the code of the uprights (EM1803-EM2003-EM2203) must be ordered.

### Intermediate uprights (mounted in depth)

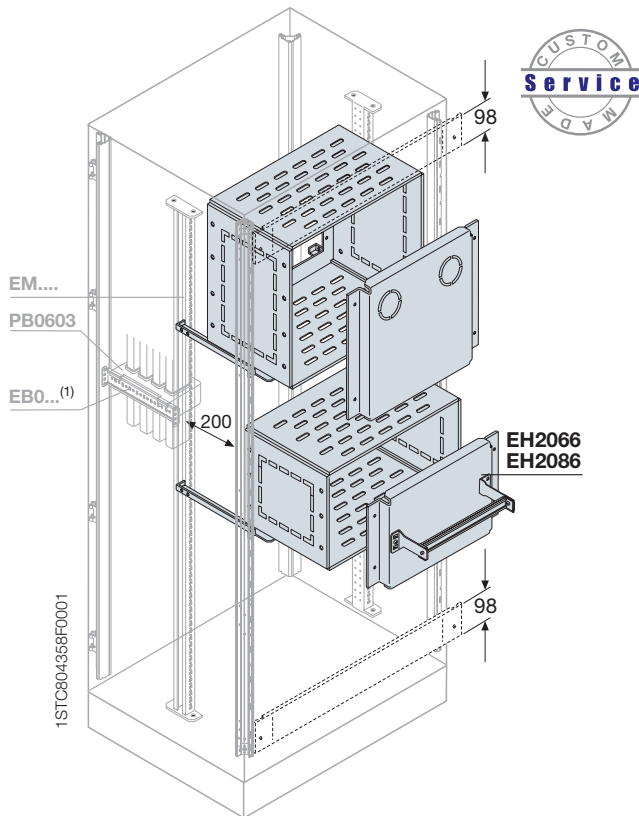
N°2 uprights made of galvanized steel, consisting of a closed section drilled with 25 mm pitch preset for mounting compartment cubicles.

Code	Description	Dimensions mm (H)
EM1804	Pair of uprights for mounting compartment cubicles in depth	1800
EM2004	Pair of uprights for mounting compartment cubicles in depth	2000
EM2204	Pair of uprights for mounting compartment cubicles in depth	2200

Base/top ..... page 4/31  
Joining kit ..... page 4/59  
Side panels ..... page 4/38  
Compartments ..... page 4/53

# Ordering codes

## Configuration with compartments



### Compartment cubicle

Made of 15/10 galvanised sheet, able to construct Form 3 segregations, it is pre-sheared on the sides and bottom for use as conductor passage. Complete with withdrawable back plate for bench assembly of the apparatus, reversible, to obtain 2 different depths. The useful dimension is always 200mm less than the total height of the panel board.

Code	Service Custom Made *	Description	Dimensions mm (HxW)
EH2060	....Assembled	Compartment cubicle	200x600
EH3060	....Assembled	Compartment cubicle	300x600
EH4063	....Assembled	Compartment cubicle	400x600
EH5060	....Assembled	Compartment cubicle	500x600
EH6060	....Assembled	Compartment cubicle	600x600
EH8060	....Assembled	Compartment cubicle	800x600
EH1060	....Assembled	Compartment cubicle	1000x600
EH2180	....Assembled	Compartment cubicle	200x800
EH3080	....Assembled	Compartment cubicle	300x800
EH4080	....Assembled	Compartment cubicle	400x800
EH5080	....Assembled	Compartment cubicle	500x800
EH6080	....Assembled	Compartment cubicle	600x800
EH8080	....Assembled	Compartment cubicle	800x800
EH1080	....Assembled	Compartment cubicle	1000x800

EH2066	Compartment cubicle with DIN rai	200x600
EH2086	Compartment cubicle with DIN rai	200x800

(1) The dimension of the crosspieces EBO... (see page 2/48) is always 200mm less than the total height of the panel board.

\* Service only valid for factory pre-assembled panel boards.

### Front panels for compartments

Made of 20/10 painted steel colour RAL 7032, complete with box with double tongue key interchangeable with inserts (see page 4/36).

Code	Service Custom Made *	Description	Dimensions mm (HxW)
EH2061	....Assembled	Front panels for compartments	200x600
EH3061	....Assembled	Front panels for compartments	300x600
EH4061	....Assembled	Front panels for compartments	400x600
EH5061	....Assembled	Front panels for compartments	500x600
EH6061	....Assembled	Front panels for compartments	600x600
EH8062	....Assembled	Front panels for compartments	800x600
EH1061	....Assembled	Front panels for compartments	1000x600
EH6010 (1)		N°2 compensation panels	100x600
EH2081	....Assembled	Front panels for compartments	200x800
EH3081	....Assembled	Front panels for compartments	300x800
EH4081	....Assembled	Front panels for compartments	400x800
EH5081	....Assembled	Front panels for compartments	500x800
EH6083	....Assembled	Front panels for compartments	600x800
EH8081	....Assembled	Front panels for compartments	800x800
EH1081	....Assembled	Front panels for compartments	1000x800
EH8010 (1)		N°2 compensation panels	100x800

EH2067	Front panels 18 mod. DIN	200x600
EH2087	Front panels 29 mod. DIN	200x800

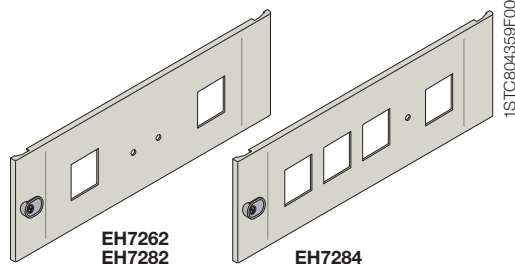
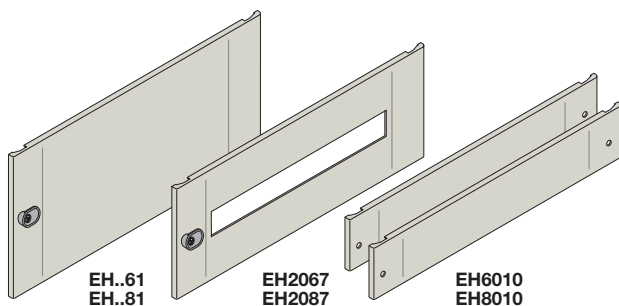
(1) Finishing elements to be fixed at double end of the structure.

\* Service only valid for factory pre-assembled panel boards.

### Panels for square measuring instruments

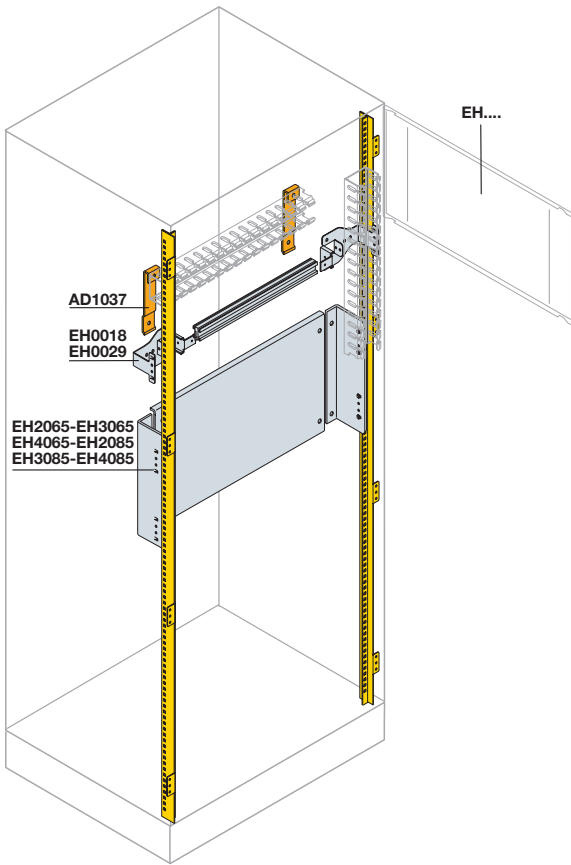
Made of 20/10 painted steel colour RAL 7032, complete with box with double tongue key interchangeable with inserts (see page 4/36).

Code	Description	Dimensions mm (HxW)
EH7262	N°2 72x72mm instrument panels for compartments	200x600
EH7282	N°2 72x72mm instrument panels for compartments	200x800
EH7284	N°4 72x72mm instrument panels for compartments	200x800



# Ordering codes

## Structures for modular apparatus



### Uprights for modular panels

Uprights made of in galvanised steel drilled with 50mm pitch, preset for mounting apparatus holder blind plates, DIN rails and front panels. To be fixed onto the front uprights of the structure.

The useful dimension is always 100mm less than the total height of the panel board.

Code	Description	Dimensions mm (H)	N°DIN rows/centre dist. mm
<b>EH1800</b>	N°2 uprights for modular panels	1800	8/200 o 11/150
<b>EH2000</b>	N°2 uprights for modular panels	2000	9/200 o 12/150
<b>EH2200</b>	N°2 uprights for modular panels	2200	10/200 o 14/150

### DIN rail Kit with front wiring duct

Kit consisting of double aluminium section (DIN 35), complete with shaped brackets for front fixing of the wiring duct (max. 60x80mm). It is fixed directly onto the uprights **EH1800**, **EH2000** or **EH2200**.

The useful dimension is always 100mm less than the total height of the panel board.

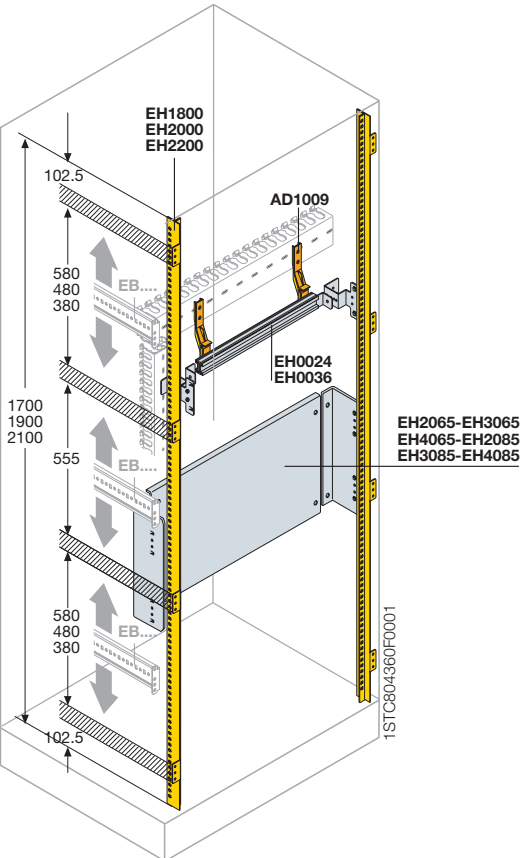
Code	Description	Dimensions mm (W)
<b>EH0018</b>	DIN rail and fixing supports (18 DIN mod.)	600
<b>EH0029</b>	DIN rail and fixing supports (29 DIN mod.)	800

### Depth adapters

<b>AP6001</b>	N°1 depth adapters for Tmax T1-T2-T3	600
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### Supports for wiring duct

<b>AD1009</b>	N°4 plastic supports for horizontal wiring duct
<b>AD1037</b>	N°4 metal supports for horizontal wiring duct



### DIN rail Kit with rear wiring duct

Kit consisting of double aluminium section (DIN 35), complete with shaped brackets for rear fixing of the wiring duct (We40mm) and total exploitation of the space for apparatus. It is fixed directly onto the uprights **EH1800**, **EH2000** or **EH2200**. The useful dimension is always 100mm less than the total height of the panel board.

Code	Description	Dimensions mm (W)
<b>EH0024</b>	DIN rail and fixing supports (24 DIN mod.)	600
<b>EH0036</b>	DIN rail and fixing supports (36 DIN mod.)	800

### Depth adapters

<b>AP6001</b>	N°1 depth adapters for Tmax T1-T2-T3	600
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### Supports for wiring duct

<b>AD1009</b>	N°4 plastic supports for horizontal wiring duct
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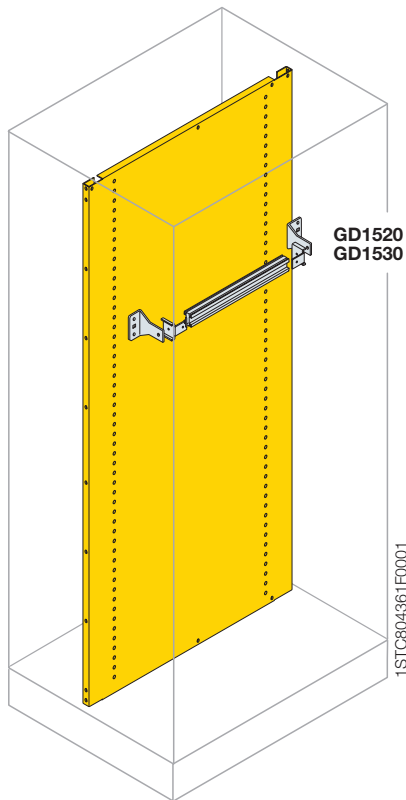
### Blind apparatus holder back plates

Blind apparatus holder back plate, 15/10 thick. It is fixed directly onto the uprights **EH1800**, **EH2000** or **EH2200**. The useful dimension is always 100mm less than the total height of the panel board.

Code	Description	Dimensions mm (HxW)
<b>EH2065</b>	Blind apparatus holder back plate	200x600
<b>EH3065</b>	Blind apparatus holder back plate	300x600
<b>EH4065</b>	Blind apparatus holder back plate	400x600
<b>EH2085</b>	Blind apparatus holder back plate	200x800
<b>EH3085</b>	Blind apparatus holder back plate	300x800
<b>EH4085</b>	Blind apparatus holder back plate	400x800

# Ordering codes

## Structures for modular apparatus



### Back plate for bench cabling

Back plate drilled with 25mm pitch for direct fixing of the **GD1520, GD1530** DIN rails. Insertion takes place from the front of the panel boards and the position in depth is also adjustable at a pitch of 25mm. The centre distance between the DIN rails can be either 150 or 200mm. This solution is completed with the front panels with 24 and 36 modules for W=600mm and 800mm respectively.

Code	Description	Dimensions mm (HxW)
<b>EX1860</b>	Back plate for bench cabling	1800x600
<b>EX2060</b>	Back plate for bench cabling	2000x600
<b>EX2260</b>	Back plate for bench cabling	2200x600
<b>EX1880</b>	Back plate for bench cabling	1800x800
<b>EX2080</b>	Back plate for bench cabling	2000x800
<b>EX2280</b>	Back plate for bench cabling	2200x800

### DIN rail Kit on back plate (bench cabling)

Kit consisting of double aluminium section (DIN 35), complete with shaped brackets for fixing the wiring duct Kit.

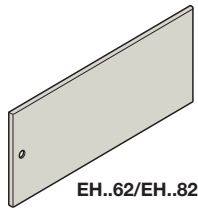
The useful dimension is always 100mm less than the total height of the panel board.

Code	Description	Dimensions mm (W)
<b>GD1520</b>	DIN rail and fixing supports (24 DIN mod.)	600
<b>GD1530</b>	DIN rail and fixing supports (36 DIN mod.)	800

For all the components which cannot be mounted on DIN rails, e.g. T3, T4, OT and OETL, mounting is made directly on a plate.

# Ordering codes

## Structures for modular apparatus

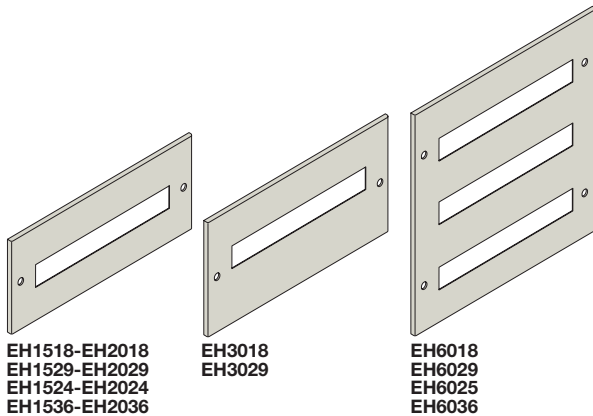


EH..62/EH..82

### Blind panels for apparatus

Blind panel made of 12/10 (W=600mm) and 15/10 sheet (W=800mm) painted RAL7032 colour with rapid fixing. The useful dimension is always 100mm less than the total height of the panel board.

Code	Description	Dimensions mm (H)
Width mm		
600	800	
<b>EH0562</b>	<b>EH0582</b>	Blind panel 50
<b>EH1062</b>	<b>EH1082</b>	Blind panel 100
<b>EH1562</b>	<b>EH1582</b>	Blind panel 150
<b>EH2062</b>	<b>EH2082</b>	Blind panel 200
<b>EH3063</b>	<b>EH3082</b>	Blind panel 300
<b>EH4062</b>	<b>EH4082</b>	Blind panel 400
<b>EH5062</b>	<b>EH5082</b>	Blind panel 500
<b>EH6062</b>	<b>EH6082</b>	Blind panel 600



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### Panels for modular apparatus

Panel with modular cut-out made of 12/10 (W=600mm) and 15/10 (W=800mm) sheet painted colour RAL7032 with rapid fixing, preset for hinges **EH1889**. The useful dimension is always 100mm less than the total height of the panel board.

Code	Description	Dimensions mm (HxW)
<b>EH1518</b>	Panel 18 DIN mod.	150x600
<b>EH2018</b>	Panel 18 DIN mod.	200x600
<b>EH3018</b>	Panel 18 DIN mod. decentrato	300x600
<b>EH6018</b>	Pannello 54 mod. DIN (3x18 DIN mod.)	600x600
<b>EH1529</b>	Panel 29 DIN mod.	150x800
<b>EH2029</b>	Panel 29 DIN mod.	200x800
<b>EH3029</b>	Panel 29 DIN mod. decentrato	300x800
<b>EH6029</b>	Panel 87 DIN mod. DIN (3x29 DIN mod.)	600x800
<b>EH1524</b>	Panel 24 DIN mod.	150x600
<b>EH2024</b>	Panel 24 DIN mod.	200x600
<b>EH6025</b>	Panel 72 DIN mod. (3x24 DIN mod.)	600x600
<b>EH1536</b>	Panel 36 DIN mod.	150x800
<b>EH2036</b>	Panel 36 DIN mod.	200x800
<b>EH6036</b>	Panel 108 DIN mod. (3x36 DIN mod.)	600x800

### Closures for panel

Code	Description
<b>EH1889</b> <sup>(1)</sup>	N°10 hinges for panels
<b>EH1890</b>	N°5 rapid closures for front panels

<sup>(1)</sup> N° 2 hinges for panel H=150/200/300/400mm; n°3 hinges for panel H=500/600mm.

### Depth adapters

Code	Description
<b>AP6001</b>	Depth adapter for Tmax T1-T2-T3

### Supports for wiring duct

Code	Description
<b>AD1009</b>	N°4 plastic supports for horizontal wiring duct
<b>AD1098</b>	N°4 metal supports for wiring duct horizontal/vertical

### Hole-covering strip

Code	Description
<b>EH2002</b>	N°10 hole covers W=2000mm, grey RAL 7032 colour

### Adhesive label holder

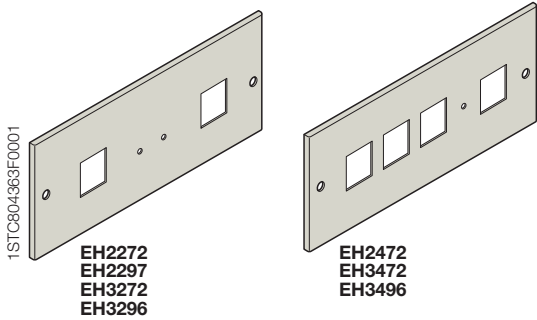
Code	Description
<b>EH2118</b>	N°20 label holders 18 DIN mod. W=325mm
<b>EH2129</b>	N°20 label holders 29 DIN mod. W=525mm
<b>AD1600</b>	N°20 label holders 24 DIN mod. W=525mm
<b>AD1800</b>	N°20 label holders 36 DIN mod. W=525mm

<b>AD1101</b> <sup>(2)</sup>	N°288 labels 1 DIN mod.
<b>AD1102</b> <sup>(2)</sup>	N°192 labels 2 DIN mod.
<b>AD1103</b> <sup>(2)</sup>	N°96 labels 3 DIN mod.
<b>AD1104</b> <sup>(2)</sup>	N°96 labels 4 DIN mod.

<sup>(2)</sup> Labels can be written using Grafoplast compatible plotter system.

# Ordering codes

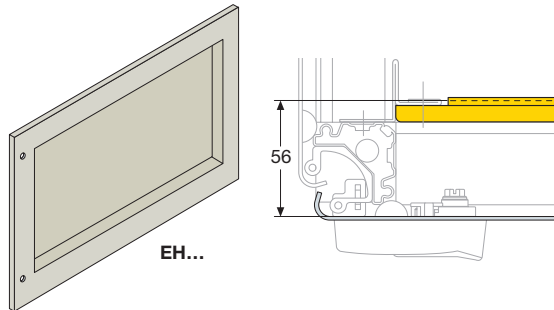
## Structures for modular apparatus



### Panels for square measuring instruments

Panel with cut-outs for measuring instruments, made of 15/10 sheet painted RAL7032 colour with rapid fixing, preset for hinges **EH1889**. The useful dimension is always 100mm less than the total height of the panel board.

Code	Description	Dimensions mm (HxW)
<b>EH2272</b>	Panel for n°2 instruments 72x72mm	200x600
<b>EH2472</b>	Panel for n°4 instruments 72x72mm	200x600
<b>EH2297</b>	Panel for n°2 instruments 96x96mm	200x600
<b>EH3272</b>	Panel for n°2 instruments 72x72mm	200x800
<b>EH3296</b>	Panel for n°2 instruments 96x96mm	200x800
<b>EH3472</b>	Panel for n°4 instruments 72x72mm	200x800
<b>EH3496</b>	Panel for n°4 instruments 96x96mm	200x800
<b>EV1135</b>	N°10 closing plugs for 72x72mm instrument panel	
<b>EV1136</b>	N°5 closing plugs for 96x96mm instrument panel	

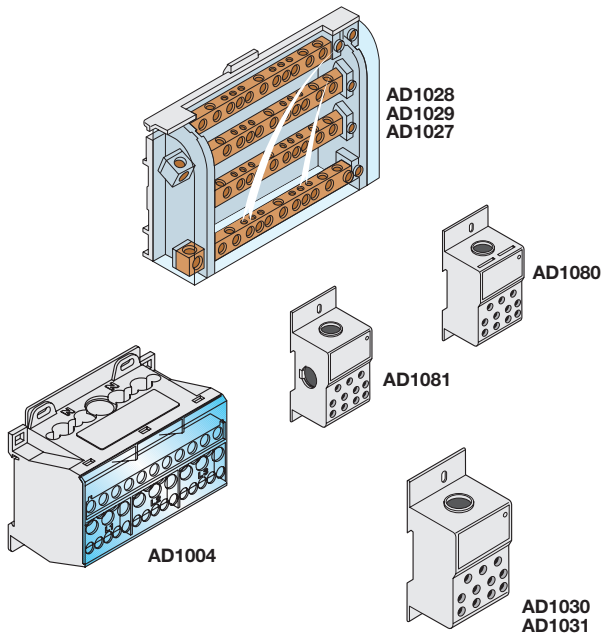


### Blind recessed panel

Blind panel made of 12/10 sheet (W=600mm) and 15/10 sheet (W=800mm) painted RAL7032 colour with rapid fixing. The useful height is always 100mm less than the total height of the panel board.

Code	Description	Dimensions mm (HxW)
<b>EH2063</b>	Blind recessed panel	200x600
<b>EH2083</b>	Blind recessed panel	200x800
<b>EH3064</b>	Blind recessed panel	300x600
<b>EH3083</b>	Blind recessed panel	300x800
<b>EH4064</b>	Blind recessed panel	400x600
<b>EH4083</b>	Blind recessed panel	400x800
<b>EH5063</b>	Blind recessed panel	500x600
<b>EH5084</b>	Blind recessed panel	500x800
<b>EH6063</b>	Blind recessed panel	600x600
<b>EH6084</b>	Blind recessed panel	600x800

The panels with a height of 200 or 300mm, can be used for fixed Tmax T1-T2-T3 with front terminals with direct rotary handle operating mechanism, where the panels with a height of 400-500-600mm can be used for OETL switch-disconnectors from 1000 to 1600 A.



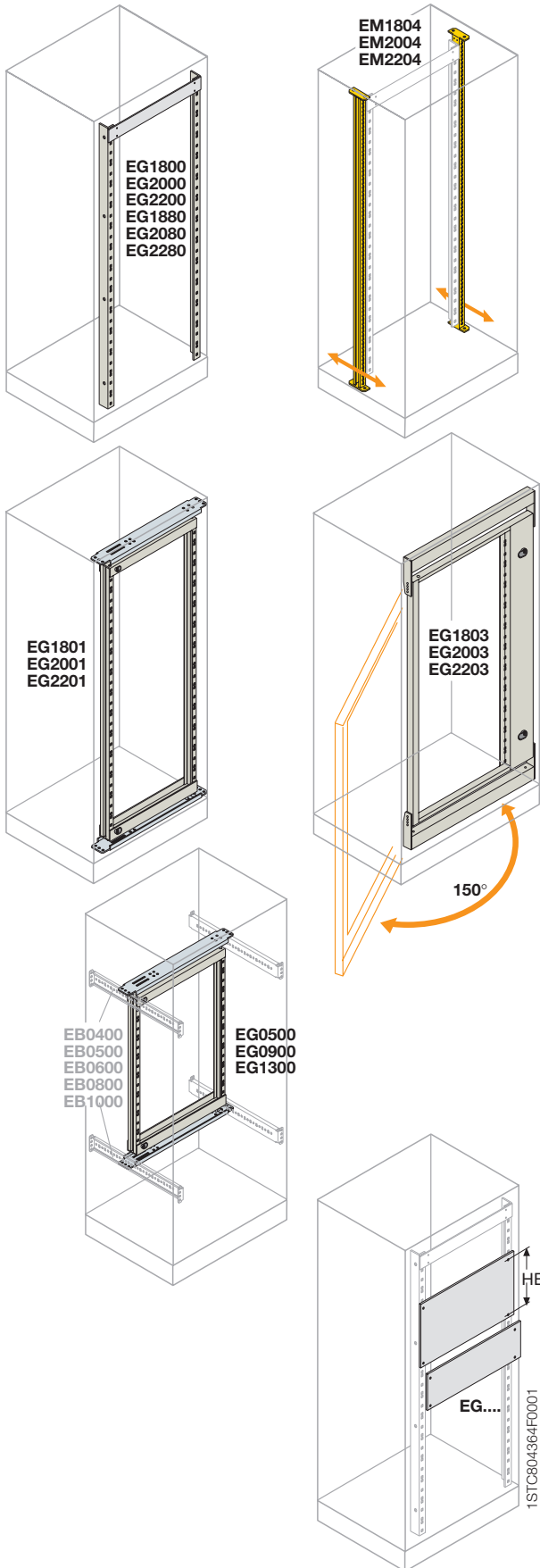
### Distribution frames

Code		Description	
Single-pole	Three-pole	Four-pole	
<b>AD1076</b> <sup>(1)</sup>	<b>AD1075</b>	<b>AD1004</b>	Modular 125A
<b>AD1080</b> <sup>(2)</sup>			
		<b>AD1028</b>	Modular 125A-medium-89x93x48 (WxLxH)
		<b>AD1029</b>	Modular 125A-large-126x93x48 (WxLxH)
<b>AD1007</b> <sup>(1)</sup>	<b>AD1006</b>	<b>AD1027</b>	Modular 160A
<b>AD1081</b> <sup>(2)</sup>			
<b>AD1030</b>			Modular 250A
<b>AD1031</b>			Modular 400A

<sup>(1)</sup> 10 ways out - <sup>(2)</sup> 6 ways out

# Ordering codes

## 19" rack frames



### 19" rack frames

The fixed frames are made of 20/10 galvanised steel. The centred and off-centre swing frames are made of 20/10 galvanised steel painted RAL 7032 and are complete with handle and lock with double tongue key. For the swing frames, standard opening is 150° hinged on the right or on the left.

Code	Service Custom Made *	N°HE	Description	Dimensions mm (HxW)
EG1800	....Assembled	38	Fixed rack frame	1800x600
EG2000	....Assembled	42	Fixed rack frame	2000x600
EG2200	....Assembled	47	Fixed rack frame	2200x600
EG1880		38	Fixed rack frame	1800x800
EG2080		42	Fixed rack frame	2000x800
EG2280		47	Fixed rack frame	2200x800

Code	Dimensions mm (H)
EM1804	N°2 uprights for depth adjustment of the fixed rack frame 1800
EM2004	N°2 uprights for depth adjustment of the fixed rack frame 2000
EM2204	N°2 uprights for depth adjustment of the fixed rack frame 2200

Code	Service Custom Made *	N°HE	Description	Dimensions mm (HxW)
EG1801	....Assembled	36	Centred swing rack frame	1800x600
EG2001	....Assembled	40	Centred swing rack frame	2000x600
EG2201	....Assembled	45	Centred swing rack frame	2200x600
EG1803	....Assembled	34	Eccentric swing rack frame	1800x800
EG2003	....Assembled	38	Eccentric swing rack frame	2000x800
EG2203	....Assembled	43	Eccentric swing rack frame	2200x800

\* Service only valid for factory pre-assembled panel boards.

### Partial 19" rack frames

Code	Description	Per column W=mm		
EG0500	EG0900	EG1300		
N° HE 9	N° HE 18	N° HE 27	Partial swing rack frame	600

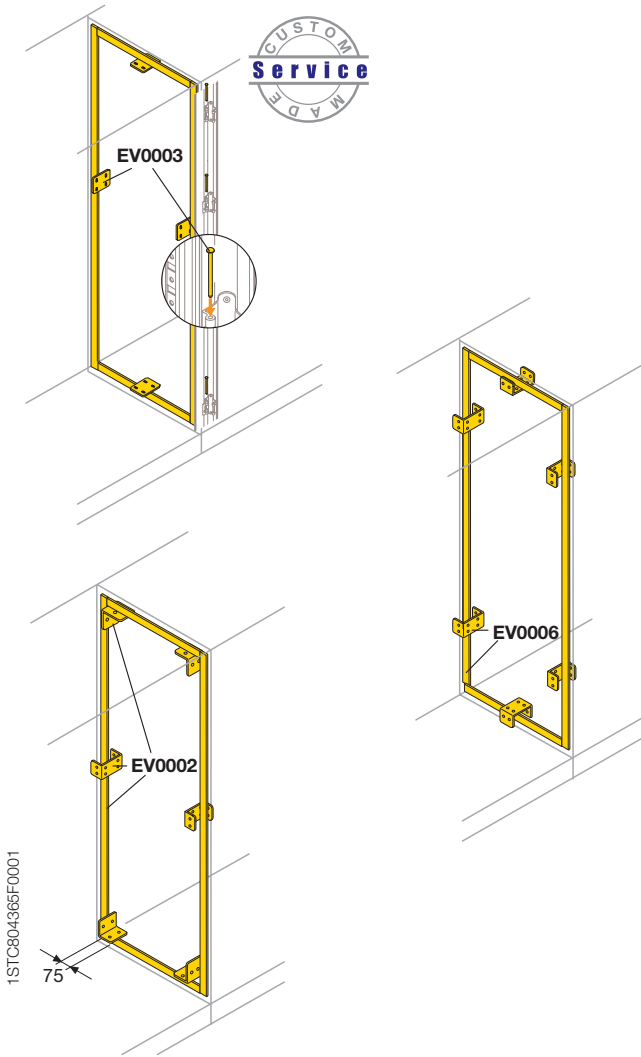
### Panel for 19" rack frames

Panels made of 30/10 galvanised steel.

Code	Description	Dimensions mm (H)
EG1991	Aluminium panel for 19" rack frame 1HE	44,45
EG1902	Aluminium panel for 19" rack frame 2HE	89
EG1903	Aluminium panel for 19" rack frame 3HE	133
EG1904	Aluminium panel for 19" rack frame 4HE	177,5
EG1905	Aluminium panel for 19" rack frame 5HE	222
EG1906	Aluminium panel for 19" rack frame 6HE	266,5
EG1907	Aluminium panel for 19" rack frame 7HE	311
EG1908	Aluminium panel for 19" rack frame 8HE	355,5
EG1909	Aluminium panel for 19" rack frame 9HE	400
EG1910	Aluminium panel for 19" rack frame 10HE	444,5
EG1911	Aluminium panel for 19" rack frame 11HE	488
EG1912	Aluminium panel for 19" rack frame 12HE	533
EG1913	Aluminium panel for 19" rack frame 13HE	577,5
EG1914	Aluminium panel for 19" rack frame 14HE	622
EG1915	Aluminium panel for 19" rack frame 15HE	666
EG1916	Aluminium panel for 19" rack frame 16HE	711
EG1917	Aluminium panel for 19" rack frame 17HE	755,5
EG1918	Aluminium panel for 19" rack frame 18HE	800
EG1999	Aluminium panel for 19" rack frame 19HE	844,5
EG1920	Aluminium panel for 19" rack frame 20HE	889

# Ordering codes

## Accessories



### Kit for placing structures side by side

Adhesive high density polyurethane gasket – guarantees the degree of protection on several columns side by side.

Code	Service Custom Made *	Description
EV0002 <sup>(1)</sup>	....Assembled	Kit for joining reinforcement angle piece for lifting
EV0003	....Assembled	Cabinet joining kit
EV0006 <sup>(1)</sup>	....Assembled	Internal cabinet joining kit
EV0008		N°8 small pins for placing structures side by side

<sup>(1)</sup> Can be fitted with **EV0008** accessory.

\* Service only valid for factory pre-assembled panel boards.

### EV0003 internal external panel board joining Kit

The kit is made up of 4 squares, adhesive gasket and 8 small pins.

Joining takes place:

- from the inside using the 4 squares which can be mounted the whole height or depth of the panel boards
- from the outside using the 8 small pins inserted in the hinges (they require the rear panel to be dismantled).

### EV0006 internal panel board joining Kit

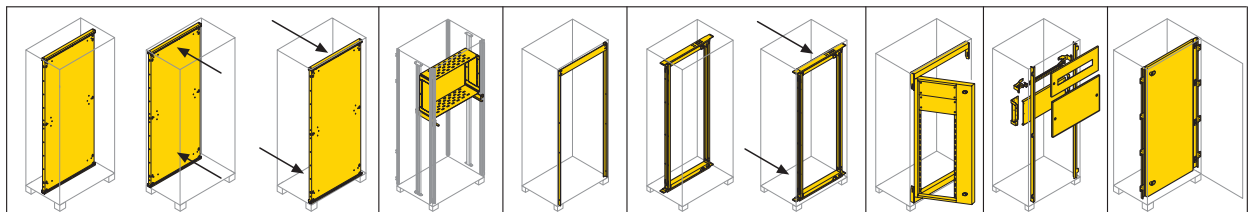
The kit is made up of 6 squares and an adhesive gasket.

Joining takes place from the inside using the 6 squares which can be mounted the whole height or depth of the panel board.

### EV0002

The kit is made up of 6 squares (4 "L"-shaped and two "C"-shaped) and an adhesive gasket.

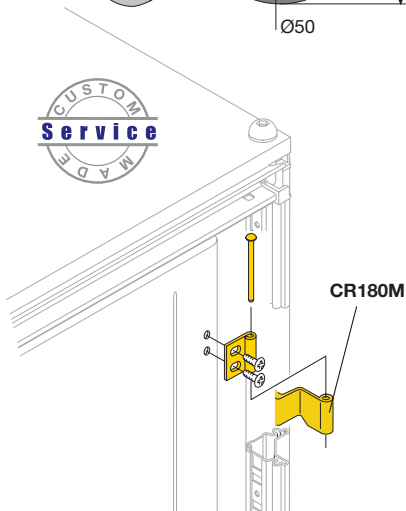
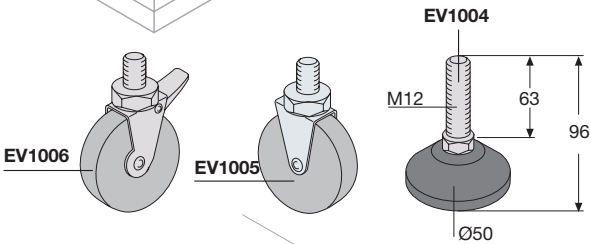
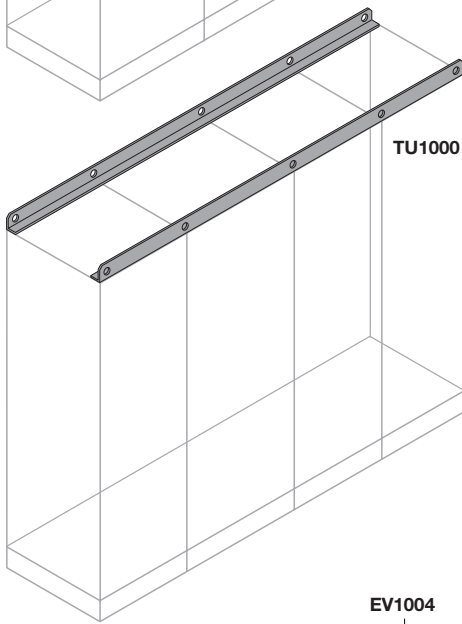
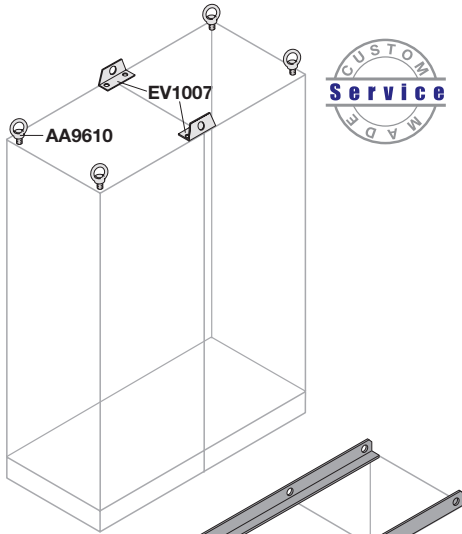
Joining takes place from the inside using the 4 "L"-shaped squares which can be mounted in the corners and the 2 "C"-shaped squares for the whole height of the panel board.



EV0003	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
EV0002	OK			OK	OK	OK		OK	OK	OK
EV0006	OK	OK	OK			OK				

# Ordering codes

## Accessories



### Lifting eyebolts and lifting reinforcements

These allow the cabled panel boards to be handled. The lifting eyebolts are made of steel treated with white passivated galvanisation, the lifting reinforcements are painted black RAL 9005 colour.

Code	Service Custom Made *	Description
AA9610	....Assembled	N°4 lifting eyebolts M12
EV1007	....Assembled	N°2 lifting reinforcements

\* Service only valid for factory pre-assembled panel boards.

### Lifting beams

The beam is prepared with holes for lifting tools. Length up to 6 metres. Black RAL 9005 colour orange peel.

Code	Description
TU1000	A pair of lifting beams for panel boards side by side
TU1001	A pair of lifting beams for panel boards side by side - Assembled

- The drawing of the front view of the panel board battery must always be enclosed, specifying the width, depth and sequence of the panel boards for each column.
- Unit of measurement for the order: METRE.
- Available starting from a minimum width of 1.8m up to a maximum width of 6m.

\* Service only valid for factory pre-assembled panel boards.

### Feet and wheels

Code	Description
EV1004	N°4 M12 levelling feet (500kg each)
EV1005	N°4 Ø 80mm free wheels (70kg each)
EV1006	N°4 Ø 80mm braked wheels (70kg each)

### Hinges opening 180°

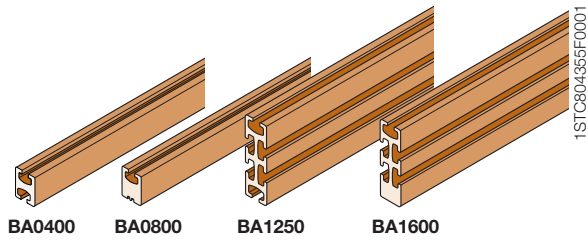
Made of 25/10mm thick sheet, allow the door to be opened 180° also for battery assembled panel boards.

Code assembled *	Description
CR180 Assembled	N°4 hinges opening 180° - assembled

\* Service only valid for factory pre-assembled panel boards.

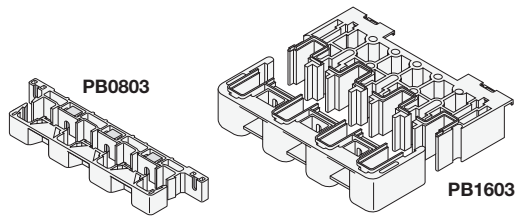
# Ordering codes

## Accessories



### Distribution busbars with shaped section

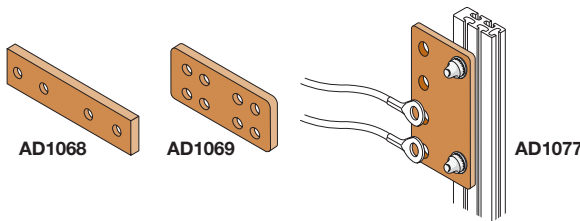
Code	Description	Dimensions mm (W)
BA0400	Busbar In=400A	1730
BA0800	Busbar In=800A	1730
BA1250	Busbar In=1250A	1730
BA1600	Busbar In=1600A	1730



### Busbars holder for busbar with shaped section

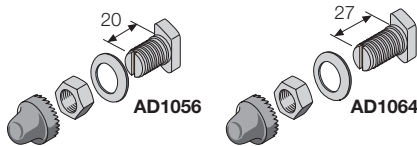
To be used with crosspieces H 48mm to be drilled (see page. 2/48).

Code	Description
<b>Linear</b>	
PB0803	Linear busbar holder In=800A - 35kA
PB1603	Linear busbar holder In=1600A - 65kA



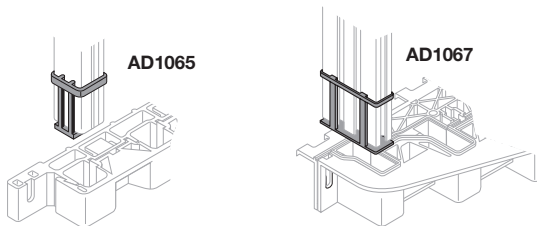
### Joints for busbars

Code	Description
AD1068	N°4 800A joints for busbars with shaped section (with 800/1250/1600A busbars)
AD1069	N°4 1250/1600A joints for busbars with shaped section (with 1250/1600A busbars)
AD1077	N°4 400A copper branch joints



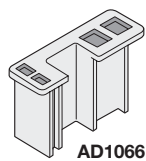
### Hammer seal screws

Code	Description
AD1056	N°12 screws M8 - W=20mm for cable terminal
AD1064	N°12 screws M8 - W=27mm for flats up to 10mm, complete with screw-covering cap



### Resting bases

Code	Description
AD1065	N°4 400/800A busbar resting bases
AD1067	N°4 1250/1600A busbar resting bases

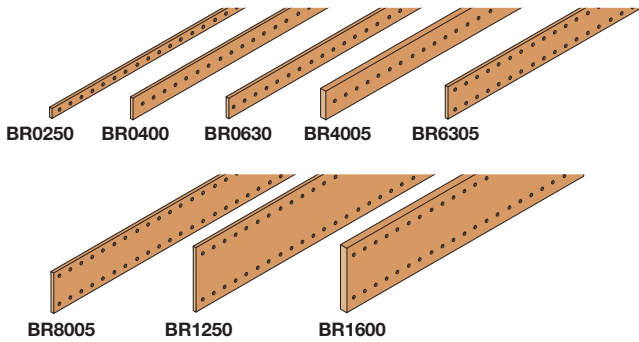


### Adapters for busbars

Code	Description
AD1066	N°4 adapters for busbars In =400/800A with busbar holder (PB1603)

# Ordering codes

## Accessories



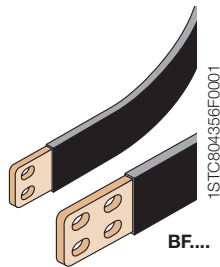
### Flat busbars

Code	Description	Dimensions mm (W)
<b>BR0250</b>	N°2 busbars In=250A section: 15x5mm	1750
<b>BR0400</b>	N°2 busbars In=400A section: 25x5mm	1750
<b>BR0630</b>	N°2 busbars In=630A section: 30x10mm	1750
<b>BR4005</b>	N°2 busbars In=400A, section: 32x5mm	1750
<b>BR6305</b>	N°2 busbars In=630A, section: 50x5mm	1750
<b>BR8005</b>	N°2 busbars In=800A, section: 63x5mm	1750
<b>BR1250</b>	N°2 busbars In=1250A, section: 100x5mm	1750
<b>BR1600</b>	N°2 busbars In=1600A, section: 100x10mm	1750

### Flat busbars

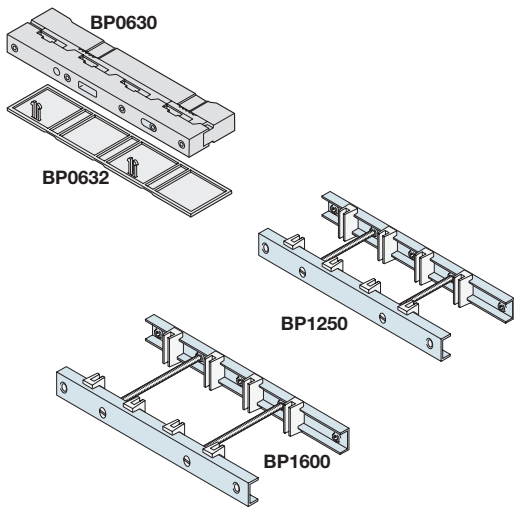
Code	Description	Dimensions mm (W)
<b>BR0250</b>	N°2 busbars In=250A section: 15x5mm	1750
<b>BR0400</b>	N°2 busbars In=400A section: 25x5mm	1750
<b>BR0630</b>	N°2 busbars In=630A section: 30x10mm	1750
<b>BR4005</b>	N°2 busbars In=400A, section: 32x5mm	1750
<b>BR6305</b>	N°2 busbars In=630A, section: 50x5mm	1750
<b>BR8005</b>	N°2 busbars In=800A, section: 63x5mm	1750
<b>BR1250</b>	N°2 busbars In=1250A, section: 100x5mm	1750
<b>BR1600</b>	N°2 busbars In=1600A, section: 100x10mm	1750

<sup>(1)</sup> Only for circuit-breakers with extended front terminals or rear terminals.



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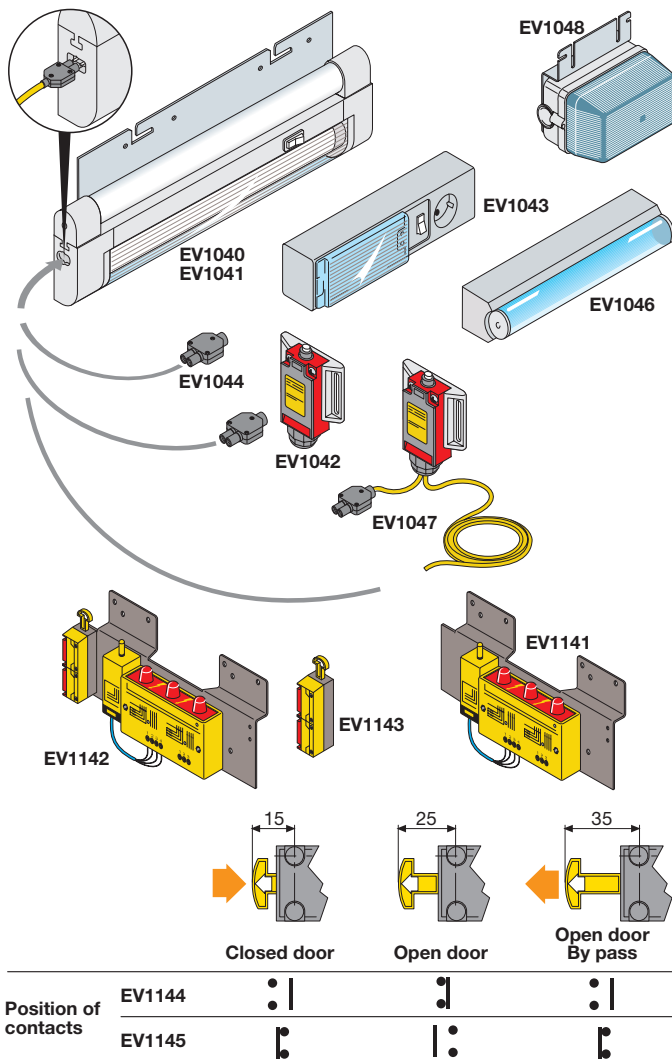


### Busbar holder

Code	Description
<b>BP0630</b>	N°2 linear busbar holders In=630A - 32kA
<b>BP0632</b>	N°2 terminal covers for linear busbar holders BP0630
<b>BP1250</b>	N°2 busbar holder for busbars 5mm thick
<b>BP1600</b>	N°2 busbar holder for busbars 10mm thick

# Ordering codes

## Accessories



### Fluorescent lamps

The 8 and 13 W fluorescent lamps are complete with fixing bracket and can be integrated with the voltage detector devices; they have the following characteristics:

- can rotate 180 degrees around the axis of the aluminum bracket
- the shape of the lamp and the electronic tube ensure very wide luminous emission and an increase of 70% compared with traditional lamps. This means an 8W lamp is comparable to a 14W one, and the 13W version with an 18/21W one.
- possibility of being mounted in series up to 5 elements (fig.1); the chain of lamps can be controlled from a single micro switch, simplifying installation operations and reducing the number of cables for connection of the elements

Code	Description
EV1040	Fluorescent lamp 8W-220/240V W=342mm
EV1041	Fluorescent lamp 13W-220/240V W=574mm
EV1042	System for positioning limit switch + connector (to be cabled)
EV1044	N°5 two-pole connectors
EV1045	Two-pole cable L=10 meters
EV1047*	Limit switch and cabled two-pole connector
EV1043	Fluorescent lamp + socket 11W-230V l=355mm, complete with magnetic support
EV1046	Window lamp 35W-230V l=300mm
EV1048	Incandescent ceiling light on bracket

\* L Long wire = 1900 mm  
L Short wire = 380 mm

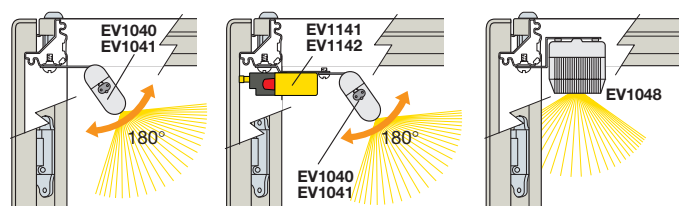
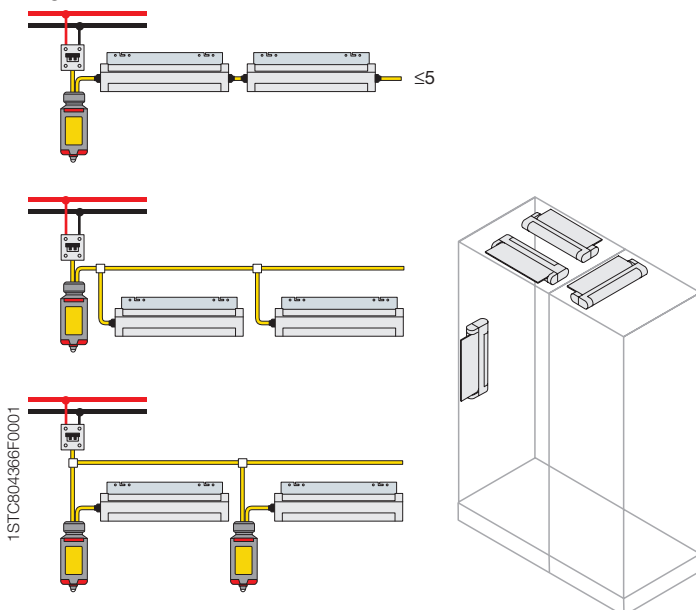
### Voltage indicators

The voltage indicator allows the passive safety level inside the electric panel boards to be increased by flashing when the door is opened. The basic version consists of a three-phase flashing lamp, three-pole limit switch and bracket for fixing. The version with auxiliary, compared to the basic one, is completed with a mechanical interlock which activates some electrical contacts to control auxiliary circuits. The interlock is always fitted with a NC contact code EV1145 (NO installed with door closed) which allows power supply of a current launching coil. A NO contact code EV1144 can be added (NC installed with door closed) to allow opening of an undervoltage coil. With the addition of other auxiliary contacts (2NC code EV1144; NO installed with door closed), it is also possible to supply circuits relative to the internal lighting and/or turn off fans/air conditioners. In this case, order the fixing screws W=46mm code EV1146 separately.

Possibility of exclusion during the testing stage with relative automatic recovery when door closure has taken place. Conforms to the EN60947-5-1 Standards, CSA approved, operating temperature between -25 °C and +65 °C. Flashing lamp:  $U_i=690V\sim$ ,  $U_e=380-600V\sim$ , terminal capacity: max 3mm<sup>2</sup>, auxiliary contact capacity  $U_e/I_e$ : 110V/6A, 230V/3A, 400V/2A, 600V/1.2A.

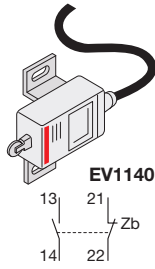
Code	Description	$U_e$ (V)	$U_i$ (V)
EV1141	Voltage indicator	380/600	690
EV1142	Voltage indicator + interblocco + 1 contact NC	380/600	690
EV1143	Interlock + 1 contact NC		
EV1144	1 contact NC		
EV1145	1 contact NO		
EV1146	Screw W=46mm x 2 contacts		

Fig. 1



# Ordering codes

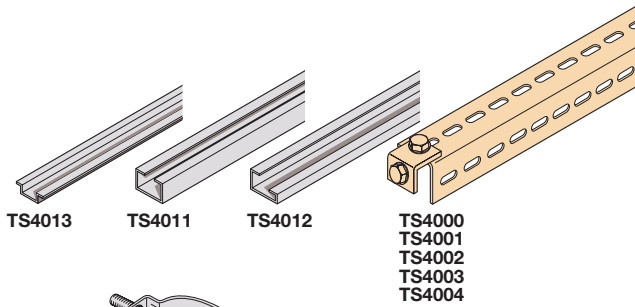
## Accessories



### Position switch

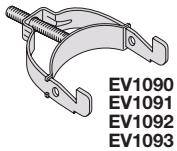
Conforms to the IEC 50047 Standard, IP65 degree of protection, UL/CSA approved, can be mounted in all positions by means of the accessory provided.  $U_i=500V$ , Aux. contact  $I_n=3A$  a  $230V\sim$ ,  $1.8A$  at  $400V\sim$  (in AC-15 IEC 60947-5-1). Dimensions (h $\times$ w $\times$ d) 84 $\times$ 30 $\times$ 30mm.

Code	Description
EV1140	Position switch



### Section of accessories

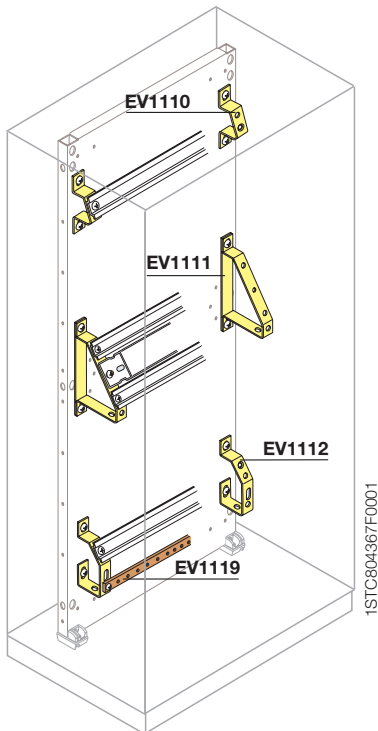
Code	Description	Dimensions mm (W)
TS4011	N°2 section EN 5002 C30 30x16	2000
TS4012	N°2 section EN G32 32x15	2000
TS4013	N°2 section DIN EN 5022 35x7,5	2000
TS4000	N°2 section for structures	600
TS4001	N°2 section for structures	800
TS4002	N°2 section for structures	1000
TS4003	N°2 section for structures	1200
TS4004	N°2 section for structures	1600



### Brackets for anchoring cables

Adjustable cable clamping bracket. Can be mounted on sections with 10mm slot EV1050.

Code	Description
EV1090	N°10 cable clamping brackets $\phi 9-16$ mm min-max
EV1091	N°10 cable clamping brackets $\phi 16-30$ mm min-max
EV1092	N°5 cable clamping brackets $\phi 30-48$ mm min-max
EV1093	N°5 cable clamping brackets $\phi 48-72$ mm min-max

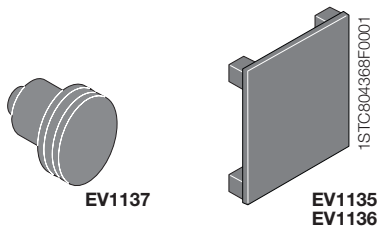
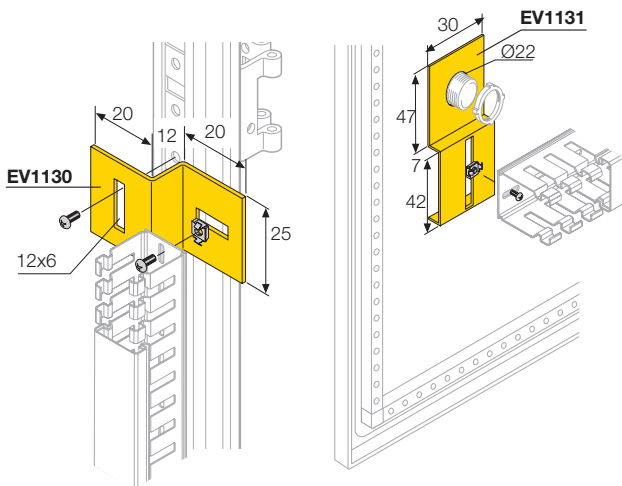
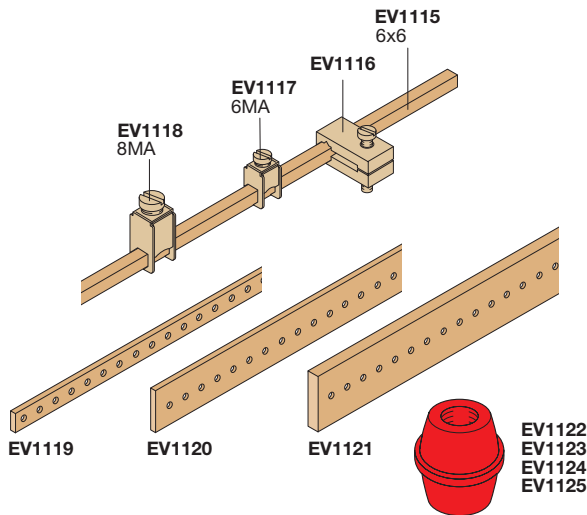
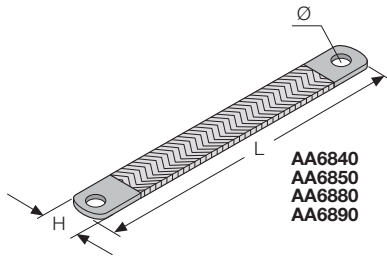


### Angled supports for terminal boxes and earthing busbars

Code	Description
EV1110	N°50 angled supports 1 row of terminals
EV2110	N°10 angled supports 1 row of terminals
EV1112	N°50 angled supports 1 row of terminals + earth
EV2112	N°10 angled supports 1 row of terminals + earth
EV1111	N°10 angled supports double row of terminals

# Ordering codes

## Accessories



### Cables for earthing

Code	Description	Dimensions mm (HxW)
AA6840	N°5 cables, cross-section: 16mm <sup>2</sup> ø7mm	17x200
AA6850	N°5 cables, cross-section: 16mm <sup>2</sup> ø7mm	17x300
AA6880	N°5 cables, cross-section: 25mm <sup>2</sup> ø9mm	22x200
AA6890	N°5 cables, cross-section: 25mm <sup>2</sup> ø9mm	22x300

### Copper neutral/earthing busbars

Code	Description
EV1115	Neutral/earthing busbar 6x6mm W=2000mm
EV1116	N°50 insulators for neutral/earthing busbar for EV1115
EV1117	N°100 terminals for cable ø0.5-16mm <sup>2</sup> for EV1115
EV1118	N°100 terminals for cable ø4-35mm <sup>2</sup> for EV1115
EV1119	N°2 busbars 20x5mm drilled and threaded M6 W=2000mm
EV1120	N°2 busbars 25x5mm drilled and threaded M6 W=2000mm
EV1121	N°2 busbars 50x5mm drilled and threaded M6 W=2000mm
EV1122	N°50 M6 hexagonal insulators 30x30mm
EV1123	N°50 M8 hexagonal insulators 30x30mm
EV1124	N°50 M6 hexagonal insulators 36x50mm
EV1125	N°50 M8 hexagonal insulators 36x50mm

### Screws for apparatus

Code	Description
EV1100	N°1000 cross-cut head piercing screws 4.2x13mm
EV1101	N°1000 cross-cut head piercing screws 4.2x19mm
AD1036	N°20 M6 cage nuts
AD1033	N°50 self-tapping screws W=16mm

### Wiring duct support brackets

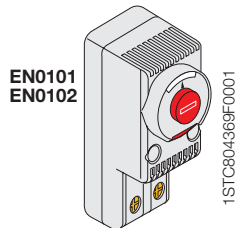
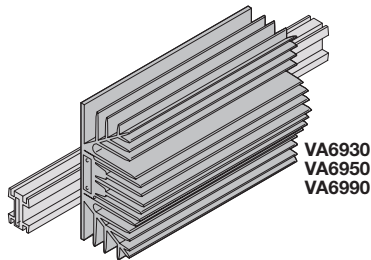
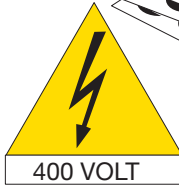
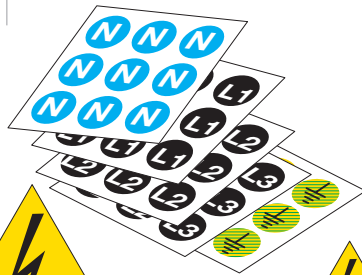
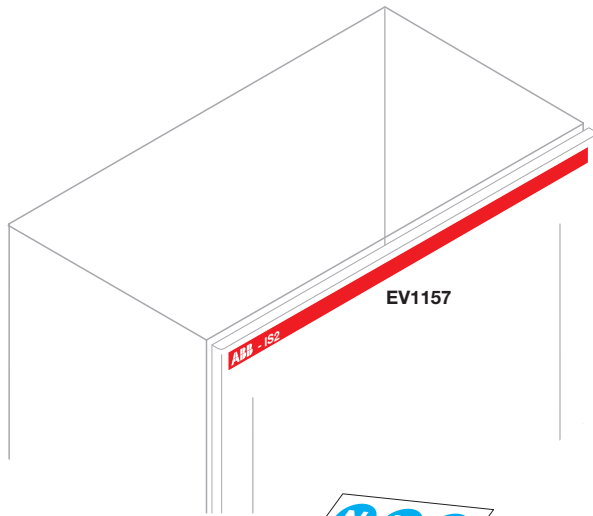
Code	Description
EV1130	N°100 wiring duct support brackets on uprights structure
EV1131	N°100 wiring duct support brackets on pushbuttons ø22

### Hole covering plugs

Code	Description
EV1135	N°10 closing plugs for 72x72mm instrument panel
EV1136	N°5 closing plugs 96x96mm instrument panel
EV1137	N°50 closing plugs for pushbuttons ø22mm

# Ordering codes

## Accessories



### Marking

Code	Description
EV1157	N°5 adhesive labels ABB-IS2 W=1000mm
EV1150	N°490 adhesive labels Ø 12mm N symbol
EV1151	N°490 adhesive labels Ø 12mm L1 symbol
EV1152	N°490 adhesive labels Ø 12mm L2 symbol
EV1153	N°490 adhesive labels Ø 12mm L3 symbol
EV1154	N°490 adhesive labels Ø 12mm T symbol
EV1155	N°10 triangular adhesive labels 125mm with 400V lightning arrow symbol
EV1156	N°100 triangular adhesive labels 50mm with lightning arrow symbol

### Heater for IP20 electric panel boards

Eliminates condensation inside the panel boards and consists of a thermostat/PTC (with positive temperature coefficient) which does not give out constant a heat, but one proportional to the internal temperature of the panel board. For this reason it does not require a thermostat. Snap-on assembly on DIN rail.

Code	Description	Standard supply V~/50-60Hz
VA6930	With anti-condensation heater with PTC - 30W - 88x100x35mm (HxWxD)	110/240
VA6950	With anti-condensation heater with PTC - 50W - 88x130x35mm (HxWxD)	110/240
VA6990	With anti-condensation heater with PTC - 90W - 88x155x35mm (HxWxD)	110/240

### IP30 Thermostat

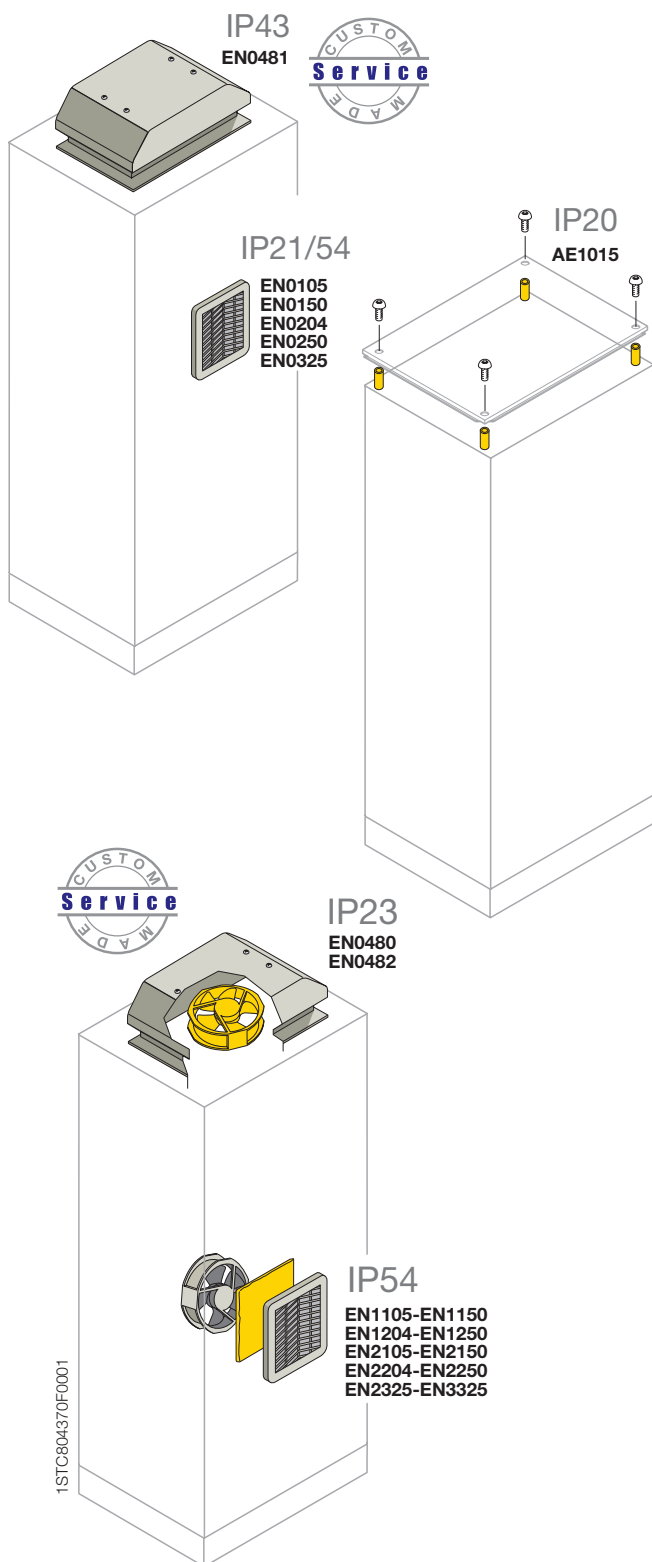
Conforms to the IEC 60730-1, IEC 60730-2-9 Standards, UL approved, IP20 degree of protection. Grey RAL 7032 colour, contact capacity: 10A (with resistive load; electrical life: 100,000 cycles). Dimensions (hxwx) 61x29x45mm, can be mounted on all types of DIN rail. The version with NO (normally open) contact allows closure of a circuit activating ventilation, air conditioning or alarms. The version with NC (normally closed) contact allows opening of a circuit disconnecting any anticondensation heaters.

Code	Description	Standard supply V~/50-60Hz
EN0101	Thermostat/Ventilation NA	110/250
EN0102	Thermostat/Heater NC	110/250

	Power	Contact capacity		Scale of temperature contact	Type of supply	Weight
		Load Q	Load L			
EN0101	110/250~	10A	2A	-10 +80 °C	NO	48g
EN0102	110/250~	10A	2A	-10 +80 °C	NC	48g

# Ordering codes

## Ventilation and air conditioning



### IP21/54 natural aeration Kit

Gratings made of insulating material (self-extinguishing ABS UL94V-0) RAL7032 colour, complete with high dust collection capacity filter cloth (620g/m<sup>2</sup>), able to reduce maintenance interventions (cleaning by means of washing in water or by beating). Degree of protection without filter IP21, with filter IP54, fitted with pre-assembled gasket seal. UL Approval 508 (type 1,12)

Code	Description	Dimensions mm (WxW)
EN0105	Grating+air passage filter Kit	105x105
EN0150	Grating+air passage filter Kit	150x150
EN0204	Grating+air passage filter Kit	204x204
EN0250	Grating+air passage filter Kit	250x250
EN0325	Grating+air passage filter Kit	325x325

\* Without UL Approval.

### IP43 aeration hood

Structure made of steel painted RAL7032 colour, complete with self-adhesive gasket seal. Useful aeration section 200 cm<sup>2</sup>.

Code	Service Custom Made *	Description	Dimensions mm (WxWxD)
EN0481	....Assembled	Roof aeration kit	375x295x119

\* Service only valid for factory pre-assembled panel boards.

### IP20 natural aeration Kit

Allows the roof of the cabinet to be raised, increasing natural ventilation, keeping the IP20 degree of protection. This Kit must not be mounted when the lifting eyebolts are mounted for handling the panel board.

Code	Description
AE1015	Roof aeration Kit (IP20)

### IP54 forced ventilation Kit

Gratings made of insulating material (self-extinguishing ABS UL94V-0) RAL7032 colour, complete with high dust collection capacity filter cloth (620g/m<sup>2</sup>), able to reduce maintenance interventions (cleaning by means of washing in water or by beating). IP54 degree of protection with filter, fitted with pre-assembled gasket seal. Operating temperature: -20 °C + 70 °C, noise: 50 dB (A). The fans allow reversible air flow. UL507 approved.

Code	Description	Consumption [W]	Capacity [m <sup>3</sup> /h]
<b>With IP54 230V ~ fan</b>			
EN1105	Ventilation filter 105x105mm (LxW)	10	23
EN1150	Ventilation filter 150x150mm (LxW)	20	57
EN1204	Ventilation filter 204x204mm (LxW)	23	120
EN1250	Ventilation filter 250x250mm (LxW)	59	240
EN2325	Ventilation filter 325x325mm (LxW)	59/72	520/580

#### With IP 54 1150V~ fan

EN2105	Ventilation filter 105x105mm (LxW)	9	23
EN2150	Ventilation filter 150x150mm (LxW)	20	57
EN2204	Ventilation filter 204x204mm (LxW)	23	120
EN2250	Ventilation filter 250x250mm (LxW)	71	240
EN3325	Ventilation filter 325x325mm (LxW)	71/122	520/580

\* Without UL Approval.

### IP43 forced ventilation hood

Allows suction from the roof of the cabinet. RAL 7032 colour, power supply voltage: 230V-50/60Hz, consumption 58W, capacity 480m<sup>3</sup>/h. Operating temperature between -10 °C and + 60 °C, noise 61dB(A).

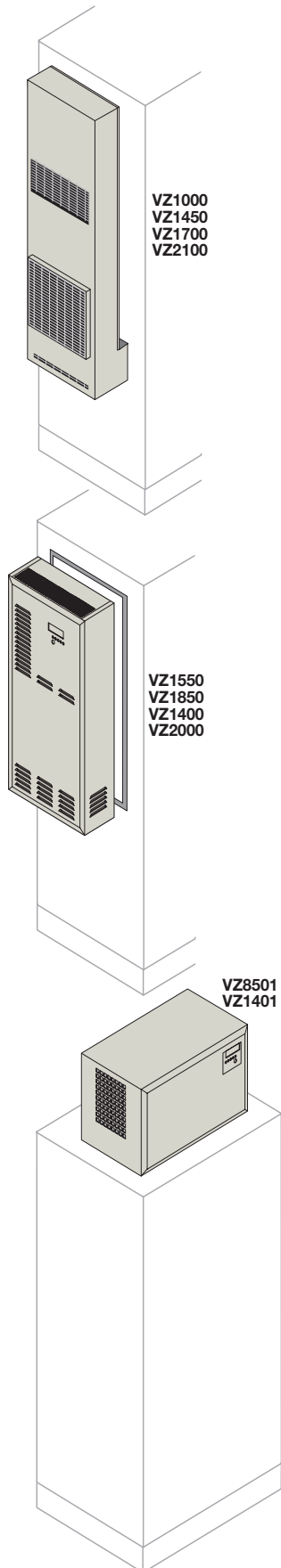
Code	Service Custom Made *	Description	Dimensions mm (WxWxD)
EN0480	....Assembled	Ventilation hoods 230V - 50/60Hz	375x295x119
EN0482	....Assembled	Ventilation hoods 115V - 50Hz/60Hz	375x295x119

\* Service only valid for factory pre-assembled panel boards.

For a more detailed selection of the air conditioning products, heat exchangers and ventilation, please refer to the in-depth technical information on page 7/33.

# Ordering codes

## Ventilation and air conditioning



### IP54 super thin air conditioners for wall mounting

Code	Description	Refrigerating yield (W)	Capacity (m³/h)	
<b>Power supply 230V AC</b>			Evaporat.	
	Condens.			
<b>VZ1000</b>	Wall mounting 1510x380x105mm (HxWxD)	1000	200	400
<b>VZ1450</b>	Wall mounting 1510x380x105mm (HxWxD)	1450	200	600
<b>VZ1700</b>	Wall mounting 1510x380x105mm (HxWxD)	1700	400	800
<b>VZ2100</b>	Wall mounting 1510x380x105mm (HxWxD)	2100	400	1400

### IP54 air conditioners for wall mounting

Code	Description	Refrigerating yield (W)	Capacity (m³/h)		Assorbed power (W)
<b>Power supply 230V AC</b>			Evaporat.	Condens.	
<b>VZ1550</b>	Wall mounting 1025x380x198mm (HxWxD)	605	380	400	330
<b>VZ1850</b>	Wall mounting 1025x380x198mm (HxWxD)	810	350	400	400
<b>VZ1400</b>	Wall mounting+switchboard 1025x380x198mm (HxWxD)	1300	350	600	650
<b>VZ2000</b>	Wall mounting+switchboard 1200x380x230mm (HxWxD)	1926	500	950	800

### IP54 air conditioners for roof mounting\*

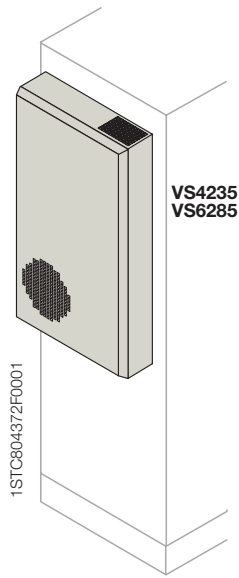
Code	Description	Refrigerating yield (W)	Capacity (m³/h)	
<b>Power supply 230V AC</b>			Evaporat.	
	Condens.			
<b>VZ8501</b>	Roof mounting 350x600x400mm (HxWxD)	810	350	400
<b>VZ1401</b>	Roof mounting+switchboard 350x600x400mm (HxWxD)	1300	350	600

\* Not suitable for enclosure W=600 mm

For a more detailed selection of the air conditioning products, heat exchangers and ventilation, please refer to the in-depth technical information on page 4/68.

# Ordering codes

## Ventilation and air conditioning



### IP54 heat exchangers (air-air) for wall mounting

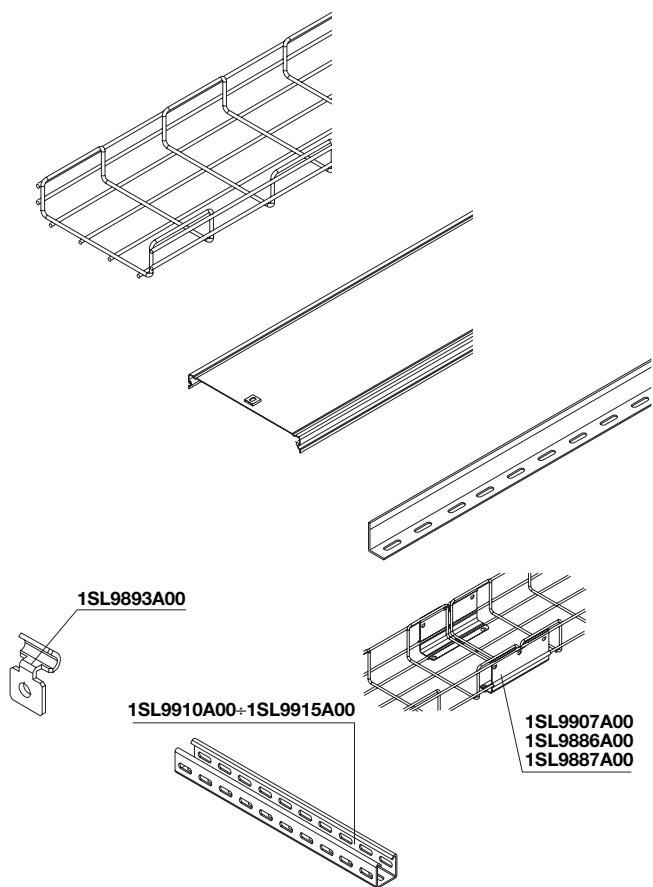
Code	Description	Refrigerating yield (W)	Capacity (m³/h)
<b>Power supply 230V AC</b>		Internal	External
<b>VS4235</b>	Wall mounting 710x370x130mm (HxWxD)	35	200
<b>VS6285</b>	Wall mounting 900x435x175mm (HxWxD)	85	300

For a more detailed selection of the air conditioning products, heat exchangers and ventilation, please refer to the in-depth technical information on page 7/33.

# Ordering codes

## Wiring ducts

4



### Steel wire sendzimir painted trays W=3000mm

Code			Description	Pack/metres
H=35mm	H=50mm	H=75mm		
1SL9816A00	1SL9836A00	1SL9860A00	Straight element B 75mm	24
1SL9817A00	1SL9037A00	1SL9861A00	Straight element B 100mm	24
1SL9818A00	1SL9838A00	1SL9862A00	Straight element B 150mm	24
1SL9819A00	1SL9839A00	1SL9863A00	Straight element B 200mm	12
1SL9820A00	1SL9840A00	1SL9864A00	Straight element B 300mm	12
	1SL9841A00	1SL9865A00	Straight element B 400mm	6
	1SL9842A00	1SL9866A00	Straight element B 500mm	6

### Sendzimir covers

Code	Description	Pack/metres
07241	Straight cover B 75mm x W 3000mm	48
07242	Straight cover B 100mm x W 3000mm	48
07243	Straight cover B 150mm x W 3000mm	48
07244	Straight cover B 200mm x W 3000mm	36
07245	Straight cover B 300mm x W 3000mm	36
07246	Straight cover B 400mm x W 3000mm	30
07247	Straight cover B 500mm x W 3000mm	24

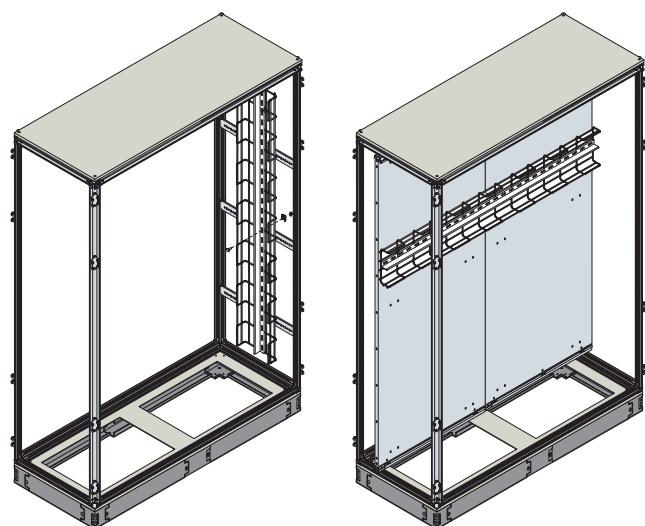
### Straight sendzimir separator sections

Code	Description	Pack/metres
1SL9904A00	Separator section W 2000 mm for trays H 35 mm	20
06652	Separator section W 2000 mm for trays H 50 mm	20
07855	Separator section W 2000 mm for trays H 75 mm	20

### Sendzimir accessories

Codice	Descrizione	Pack/metres
1SL9880A00	Linear joint	2
1SL9907A00	Snap-on linear joint for trays H 35mm	2
1SL9886A00	Snap-on linear joint for trays H 50mm	2
1SL9887A00	Snap-on linear joint for trays H 75mm	2
1SL9893A00	Fixing element for shelf complete with screws	10
1SL9910A00	Crosspiece L 150mm for trays B 75-100mm	10
1SL9911A00	Crosspiece L 200mm for trays B 150mm	10
1SL9912A00	Crosspiece L 250mm for trays B 200mm	10
1SL9913A00	Crosspiece L 350mm for trays B 300mm	10
1SL9914A00	Crosspiece L 450mm for trays B 400mm	10
1SL9915A00	Crosspiece L 550mm for trays B 500mm	10

1STC804373F0001

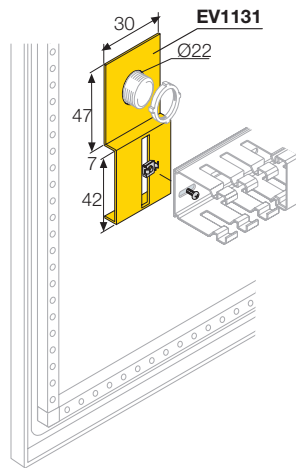
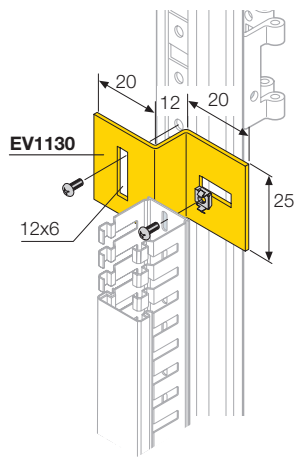
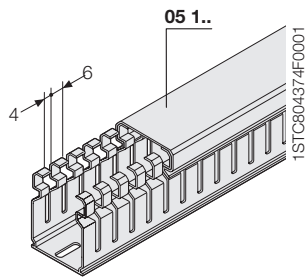
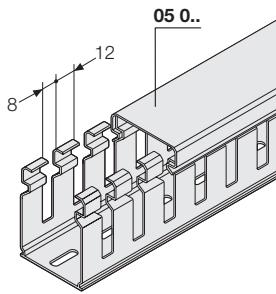


Note: The steel wire trays are also available in the following versions: unpainted sendzimir; electro-galvanisation; hot galvanisation after processing (see ABB 1SLC810001D0901 catalogue).

For further information on the steel wire trays and wiring ducts, please contact ABB SACE's Products for Installation division, tel. +39-0424-478.200, or visit: [www.abb.com](http://www.abb.com)

# Ordering codes

## Wiring ducts



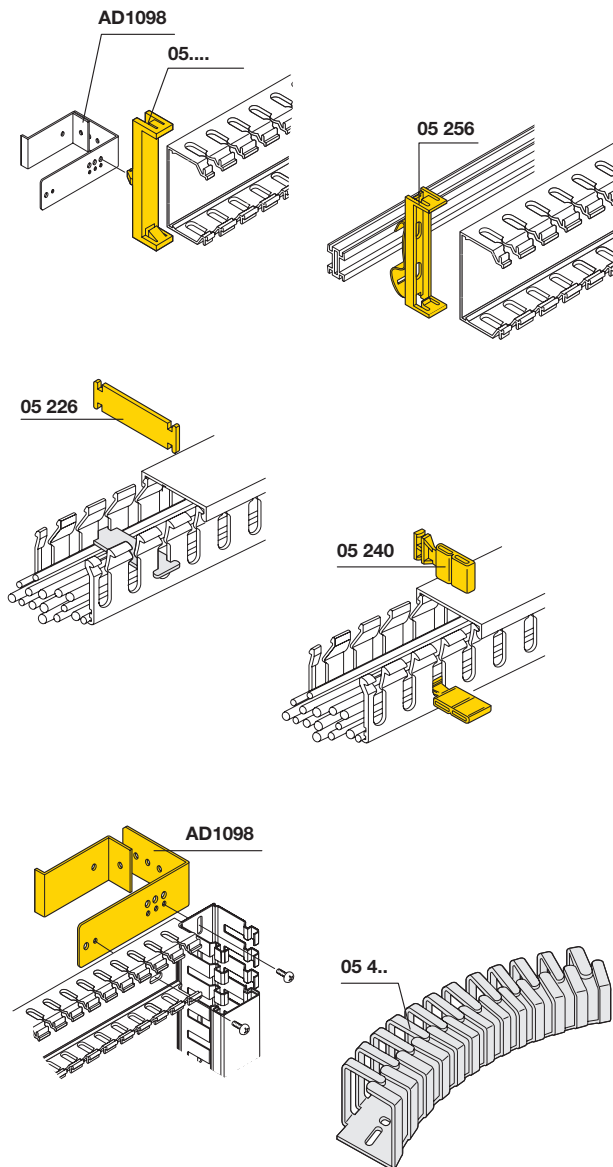
### Grey RAL 7030 colour wiring ducts with slot

Code		Dimensions mm (BxH)	Pack/metres
Slot	Slot		
8x12mm	4x6mm		
05 019	05 119	15x17	92
05 033	05 133	25x30	116
05 035	05 135	40x30	80
05 037	05 137	60x30	52
05 043	05 143	25x40	96
05 045	05 145	40x40	60
05 047	05 147	60x40	40
05 049	05 149	80x40	32
05 051	05 151	100x40	24
05 053	05 153	120x40	20
05 063	05 163	25x60	68
05 065	05 165	40x60	44
05 067	05 167	60x60	32
05 069	05 169	80x60	24
05 071	05 171	100x60	20
05 073	05 173	120x60	14
05 083	05 183	25x80	56
05 085	05 185	40x80	36
05 087	05 187	60x80	24
05 089	05 189	80x80	16
05 091	05 191	100x80	16
05 093	05 193	120x80	12
05 094	05 194	25x100	40
05 095	05 195	40x100	28
05 096	05 196	60x100	20
05 097	05 197	80x100	14
05 098	05 198	100x100	8
05 099	05 199	150x100	8

For further information on the steel wire trays and wiring ducts, please contact ABB SACE's Products for Installation division, tel. +39-0424-478.200, or visit: [www.abb.com](http://www.abb.com)

# Ordering codes

## Wiring ducts



### Accessories for wiring ducts

Code	Description	Pack
05 214	N°100 rivets ø4mm	1
05 216	N°100 rivets ø6mm	1
05 224	N°100 small wire stop crosspieces for wiring ducts 40mm base	1
05 226	N°100 small wire stop crosspieces for wiring ducts 60mm base	1
05 228	N°100 small wire stop crosspieces for wiring ducts 80mm base	1
05 230	N°100 small wire stop crosspieces for wiring ducts 100mm base	1
05 240	N°100 plastic nameplates	1
05 250	N°20 rapid snap-on bases for wiring duct base 25mm in horizontal on DIN rail	1
05 252	N°20 rapid snap-on bases for wiring duct base 40mm in horizontal on DIN rail	1
05 254	N°20 rapid snap-on bases for wiring duct base 60mm in horizontal on DIN rail	1
05 256	N°20 rapid snap-on bases for wiring duct base 80mm in horizontal on DIN rail	1
05 258	N°20 rapid snap-on bases for wiring duct base 100mm in horizontal on DIN rail	1
05 260	N°20 rapid snap-on bases for wiring duct base 120mm in horizontal on DIN rail	1
05 262	N°20 rapid snap-on bases for wiring duct base 150mm in horizontal on DIN rail	1
05 265	Shears for ducts	1
05 266	Rivet gun	1

### Grey RAL 7040 colour flexible wiring ducts W=500mm

Code	Dimensions mm (BxH)	Pack/metres
05 400	12,5x12,5	112
05 402	16x16	84
05 405	20x20	112
05 410	25x25	70
05 415	30x30	50
05 420	40x40	50
05 425	50x50	32

### Wiring ducts

The lamellar wiring ducts are made of self-extinguishing thermoplastic material complying with the UL 94V0 Standard, resistant to abnormal heat and fire up to 960 °C (glow wire test) according to the IEC 695-2-1 Standard. Dimensional stability is guaranteed from -20 °C to + 60 °C. The standard length of the wiring ducts is 2 metres and the colour is grey RAL 7030. Products with IMQ mark, UL and CSA approvals, approved by RINA.

### Flexible wiring ducts

Made of thermoplastic material resistant to a permanent temperature of 80 °C and peaks up to 110 °C, according to the IEC 216 Standard. Self-extinction complies with the UL 94V2 Standard. The standard length is 500mm and the colour is light grey RAL 7040.

Note: The wiring ducts are also available in the halogen free version (see ABB 1SLC80001D0901)

# Ordering codes

## Spare parts

### Spare parts

Code	Description
<b>EK4040R</b>	Top 400x400mm (WxD)
<b>EK4050R</b>	Top 400x500mm (WxD)
<b>EK4060R</b>	Top 400x600mm (WxD-DxW)
<b>EK4080R</b>	Top 400x800mm (WxD-DxW)
<b>EK4010R</b>	Top 400x1000mm (WxD-DxW)
<b>EK6050R</b>	Top 600x500mm (WxD)
<b>EK6060R</b>	Top 600x600mm (WxD)
<b>EK6080R</b>	Top 600x800mm (WxD-DxW)
<b>EK6010R</b>	Top 600x1000mm (WxD-DxW)
<b>EK8050R</b>	Top 800x500mm (WxD)
<b>EK8080R</b>	Top 800x800mm (WxD)
<b>EK8010R</b>	Top 800x1000mm (WxD-DxW)
<b>EK1050R</b>	Top 1000x500mm (WxD)
<b>EK1010R</b>	Top 1000x1000mm (WxD)
<b>EK1240R</b>	Top 1200x400mm (WxD)
<b>EK1250R</b>	Top 1200x500mm (WxD)
<b>EK1260R</b>	Top 1200x600mm (WxD)
<b>EK1280R</b>	Top 1200x800mm (WxD)
<b>EV1800</b>	Door closing lever mechanisms H=1800mm
<b>EV2000</b>	Door closing lever mechanisms H=2000mm
<b>EV2200</b>	Door closing lever mechanisms H=2200mm
<b>EV1008</b>	Door closing box complete with double tongue insert
<b>EV1009</b>	Standard handle complete with double tongue insert
<b>EV1010</b>	Ergonomic handle complete with double tongue insert
<b>VB7032</b>	Spray paint colour grey RAL7032 for structure
<b>VB7012</b>	Spray paint colour grey RAL7012 for plinth
<b>EL1841</b>	Blind side panel 1800x400 (hwxw)
<b>EL1851</b>	Blind side panel 1800x500 (hwxw)
<b>EL1861</b>	Blind side panel 1800x600 (hwxw)
<b>EL1881</b>	Blind side panel 1800x800 (hwxw)
<b>EL1811</b>	Blind side panel 1800x1000 (hwxw)
<b>EL2041</b>	Blind side panel 2000x400 (hwxw)
<b>EL2051</b>	Blind side panel 2000x500 (hwxw)
<b>EL2061</b>	Blind side panel 2000x600 (hwxw)
<b>EL2081</b>	Blind side panel 2000x800 (hwxw)
<b>EL2011</b>	Blind side panel 2000x1000 (hwxw)
<b>EL2241</b>	Blind side panel 2200x400 (hwxw)
<b>EL2251</b>	Blind side panel 2200x500 (hwxw)
<b>EL2261</b>	Blind side panel 2200x600 (hwxw)
<b>EL2281</b>	Blind side panel 2200x800 (hwxw)
<b>EL2211</b>	Blind side panel 2200x1000 (hwxw)
<b>EA0401</b>	Track for front plate insertion D=400mm
<b>EA0501</b>	Track for front plate insertion D=500mm
<b>EA0601</b>	Track for front plate insertion D=600mm
<b>EA0801</b>	Track for front plate insertion D=800mm
<b>EA1001</b>	Track for front plate insertion D=1000mm
<b>EV0001</b>	N°5 sliding back plate kits with front insertion
<b>EN3105</b>	Cloth for filter 105x105mm (hwxw)
<b>EN3150</b>	Cloth for filter 150x150mm (hwxw)
<b>EN3204</b>	Cloth for filter 204x204mm (hwxw)
<b>EN3250</b>	Cloth for filter 250x250mm (hwxw)
<b>EN3326</b>	Cloth for filter 325x325mm (hwxw)
<b>EV1057 <sup>(1)</sup></b>	"IS2 survival kit" accessories and spare part items

<sup>(1)</sup> Kit consisting of: n°10 mounting kits for plinth flanges H=100mm; n°10 kits for mounting uprights; n°10 mounting kits for rear/side panels; n°5 kits for mounting plate, n°10 kits for door accessories, n°4 hinges for IP on intermediate upright; n°10 squares box door with overlapping closure; n°5 kits of 50 pcs refill screws, n° 5 kits of 20 pcs cage nuts; n° 6 blocks for mounting door with overlapping closure.

# Examples of configurations

## Pre-assembled structures

### Composition of the supply

#### Width $\leq 1000\text{mm}$

- Self-supporting galvanised steel structure consisting of a closed section drilled with 25mm pitch
- Removable roof
- Plinth H=100mm consisting of four angle pieces (25/10)
- Rear panel
- Blind door made of 20/10 thick sheet, fitted with polyurethane gasket, complete with fixed handle with double tongue key (interchangeable with ergonomic handle and other types of inserts, see page 8/41). Reversible (standard hinging on the right) with 4 closure points and complete with internal reinforcement frame and earthing pins.
- Glazed door made of 20/10 thick sheet, with 4mm thick safety glass, fitted with polyurethane gasket, complete fixed handle with double tongue key interchangeable with other types of inserts,

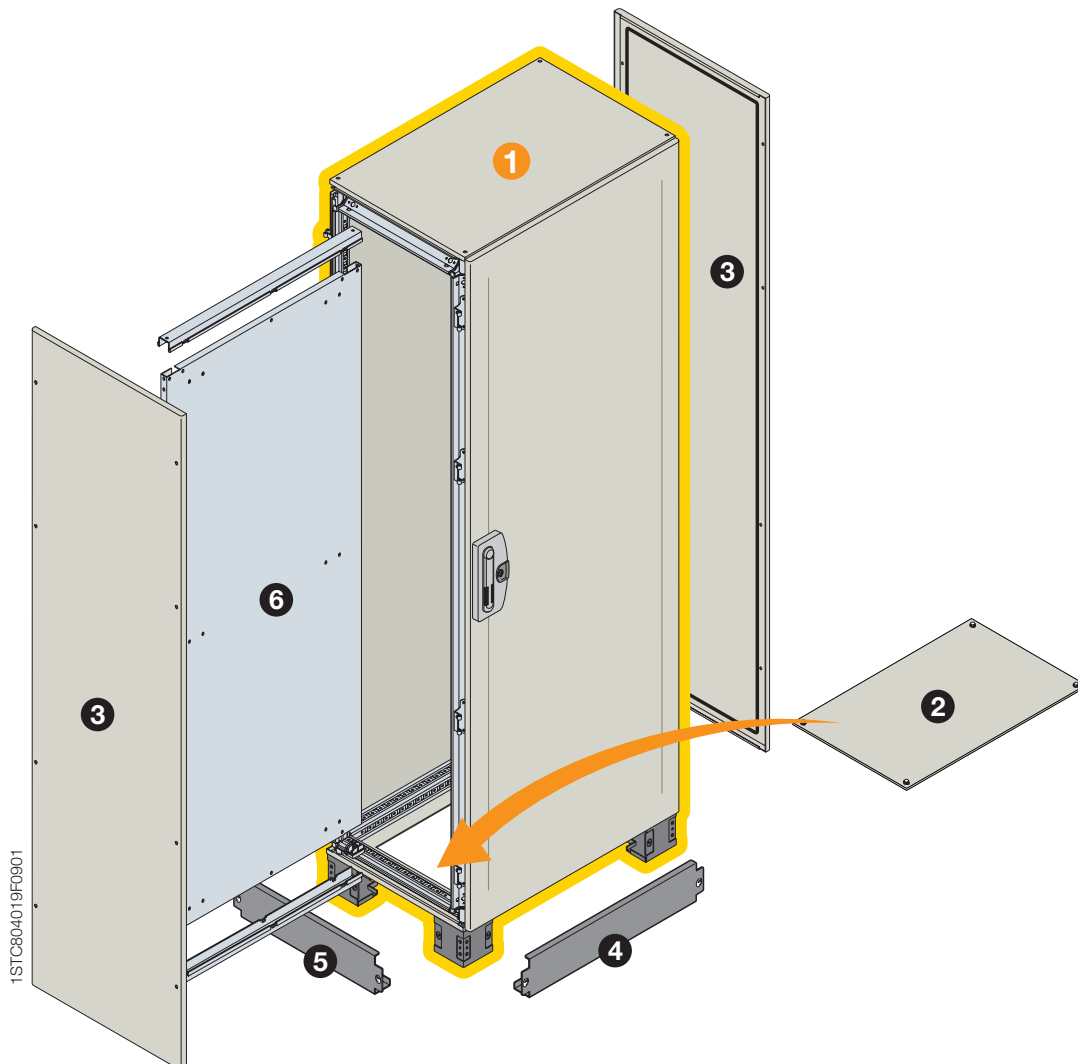
see page 8/41. Reversible (standard hinging on the right) with 4 closure points and complete with earthing pins.

- Cable container door (20/10) with opposite opening (standard hinging on the left) complete with double box with double tongue key (interchangeable) for cable container W=200mm or flange for cable container W=400mm, intermediate removable crosspiece and upright
- Packed separately

#### Width $\geq 1200\text{mm}$

- Self-supporting galvanised steel structure consisting of a closed section drilled with 25mm pitch
- Removable roof
- Plinth h=100mm consisting of four angle pieces plus intermediate support (30/10) and relative covering flanges
- Rear panel with 15/10 thickness (two panels with W=800mm for the version W=1600mm)

### Example of completion of pre-assembled structure



# Examples of configurations

## Pre-assembled structures

- Blind doors (20/10) with opposite opening complete with internal reinforcement frame and lever closing mechanisms in four points, removable intermediate crosspiece and upright for improved access
- Glazed doors (20/10) with 4mm thick safety glass and with opposite opening, complete with fixed handles with double tongue key (interchangeable) and lever closing mechanisms in four points, removable intermediate crosspiece and upright
- Packed separately
- Crosspieces .....page 4/46
- 19" rack frames .....page 4/58
- Lifting eyebolts and reinforcements .....page 4/60
- Key inserts .....page 4/36
- Fans, air conditioners.....page 4/67
- Uprights, panels and DIN rails.....page 4/54

### Completion items

- Standard and oversized back plates with front and lateral insertion .....page 4/42
- Cable entry flanges .....page 4/39
- Plinth covering flanges H=100/200mm and reinforced plinth .....page 4/40
- Side panels.....page 4/38

### Technical characteristics

Conformity with Standard	EN 50298
Degree of protection	IP65 (EN 60529)
Degree of mechanical strength	
blind door	IK10 (CEI EN 50102)
glazed door	IK9 (EN50102)
Colour:	
internal structure	galvanised white
external panelling	Orange peel RAL 7032
plinth	Orange peel RAL 7012



- 1 ES2065** Structure 2000x600x500 (hwxwd) complete with blind door and rear panel

### Completion items

- 2 EF6052** Bottom closure
- 3 EL2050** N°2 side panel
- 4 EZ6000** N°2 plinth flanges H=100mm front/rear
- 5 EZ5000** N°2 plinth flanges H=100mm side
- 6 EA2161** Oversize back plate + tracks for lateral insertion
- 7 VZ1000** Super thin wall-mounted IP54 air conditioned
- 8 EZ1010** N°4 plinth angle pieces H=100mm
- 9 EZ6002** N°2 plinth flanges H=200mm front/rear
- 10 EZ5002** N°2 plinth flanges H=200mm side

# Examples of configurations

## Pre-assembled structures

### Building the configuration with compartments

The cabinets with configuration with compartments can be constructed starting from pre-assembled structures, or from structure kits. The useful dimension is always 200mm less than the total height of the panel board.

### Composition of the supply with pre-assembled cabinet

- Pre-assembled self-supporting structure made of galvanised steel consisting of a closed section drilled with 25mm pitch preset for mounting the compartment cubicles and partial doors.
- Removable roof, plinth h=100mm (consisting of four angle pieces 25/10) and rear panel.
- The structures with internal compartment W=200mm are supplied complete with blind door with opposite opening (standard hinging on the left), double box with double tongue key. The structures with internal compartment W=400mm are supplied complete with blind door with opposite opening (standard hinging on the left), handle with double tongue key. Both versions are complete with removable intermediate upright and pair of crosspieces (top/bottom) for fixing the latter.

### Composition of the supply with built-up cabinet

For construction of the cabinet kits, the base, top, uprights, panelling, doors, plinth flanges, cable entry flanges and internal accessories must be ordered separately.

### Base and top:

completely pre-assembled by means of 3-way joint complete with plinth angle pieces (25/10) H=100mm. Removable roof.

### Uprights:

made of galvanised steel consisting of a closed section drilled with 25 mm pitch preset for mounting compartment cubicles and partial doors, which can be mounted with just 8 screws at the base/top.

### Partial blind doors:

made of 20/10 thick sheet, 90° opening angle fitted with polyurethane basket hinged at two points, complete with box and double tongue key.

### Rear panel:

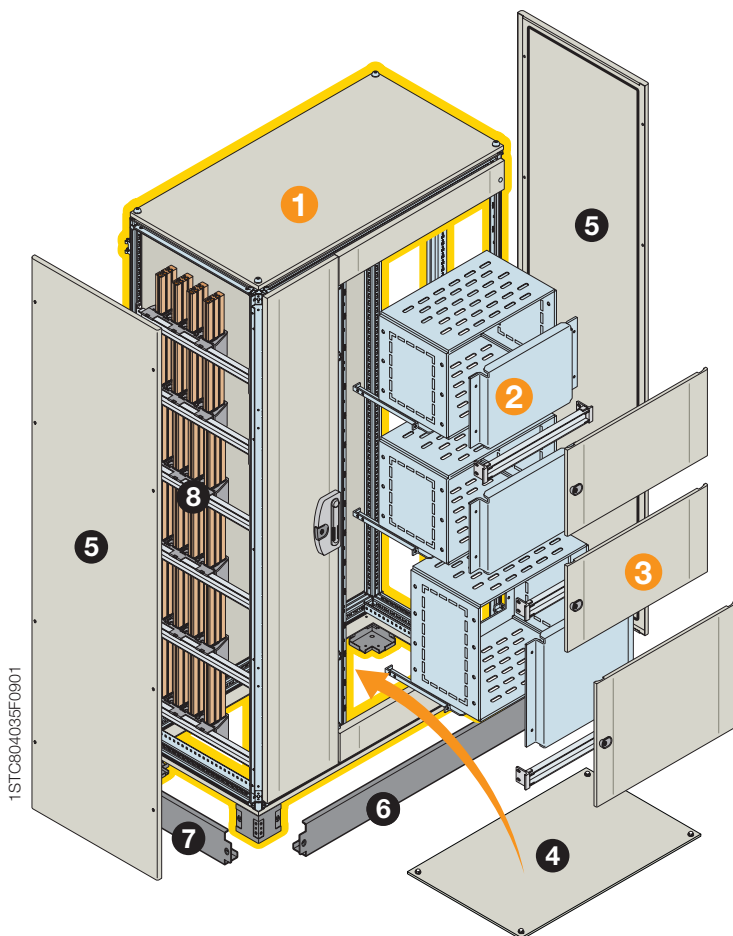
made of 15/10 thick sheet, fitted with polyurethane gasket

### Cable container door:

(20/10) opposite opening (standard hinging on the left) complete with double box with double tongue key (interchangeable), crosspiece and intermediate upright to be ordered separately for version with cable container

4

### Example of composition of a structure for configuration with compartments



### Composition of pre-assembled st 2000x800x600 (hxwxd)

- 1 ES2086MF2 Pre assembled cabinet with cable container and partial blind panels
- 2 EH... Cubicles for compartments
- 3 EH... Partial front panels for compartment

### Completion items

- 4 EF8062 Bottom closure
- 5 EL2060 N°2 side panels
- 6 EZ8000 N°2 plinth flanges H=100mm
- 7 EZ6000 N°2 plinth flanges H=100mm
- 8 Busbar system with shaped section

# Examples of configurations

## Pre-assembled structures

### Completion items


- Cubicle for compartments .....page 4/53
- Partial front doors.....page 4/53
- Distribution system.....page 4/61
- Cable entry flanges .....page 4/39
- Plinth covering flanges H=100/200mm and reinforced plinth.....page 4/40
- Side panels .....page 4/38
- Crosspieces .....page 4/46
- Lifting eyebolts and reinforcements .....page 4/60
- Key inserts .....page 4/36

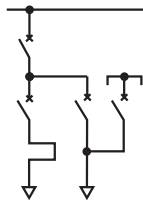
### Technical characteristics

Conformity with Standard	EN60439-1
Rated service voltage Ue	up to 690 V
Rated insulation voltage Ui	up to 1000 V
Rated impulse withstand voltage Uimp	8 kV
Rated current In	up to 1600 A
Rated short-time short-circuit withstand current Icw	up to 65 kA
Rated peak short-circuit current Ipk	143 kA
Degree of protection	IP41 (EN 60529)
Degree of mechanical strength	IK10 (EN50102)
Obtainable segregation forms	up to Form 3
Colour:	internal structure galvanised white
	external panelling Orange peel RAL 7032
	plinth Orange peel RAL 7012

## MCC version with fixed drawers

Compartment selection according to the type of starting/power

Type of starter	Power diagram	Power 400V - 50Hz		Type of circuit-breaker	Type of contactor	Type of thermal relay	Compartment dimensions HxW mm		
		kW	A				200x600	200x800	300x800
Direct		0.37÷11	1.1÷22	T2	A9÷A30	TA25÷TA42	•		
		15÷45	28.5÷83	T2	A50÷A95	TA75÷TA110		•	
		55÷90	98÷158	T3	A110÷A185	TA110÷TA200		•	
		110	193	T4	A210	TA450/E320			•
		132÷160	232÷282	T5	A260÷A300	TA4507E320			•

Type of starter	Power diagram	Power 400V - 50Hz		Type of circuit-breaker	Type of contactor	Type of thermal relay	Compartment dimensions HxW mm		
		kW	A				400x800	600x800	800x800
Star Delta		18.5÷55	36÷98	T2	A50+A26+A75+A40	TA75	•		
		75÷110	135÷193	T3	A95+A75+A145+A95	TA110÷TA200		•	
		132	232	T4	A145+A110	TA200			•
		160÷200	282÷349	T5	A210+A145+A210+A185	TA200÷TA450			•

## Segregated Form 3 PC version

Compartment selection according to the type of circuit-breaker

Type of circuit-breaker	Installation	H comp. (mm)	Version	
			fixed	plug-in
Tmax T1 - 3/4P	horizontal	200	•	
Tmax T2/T3 - 3P	horizontal	200	•	•
Tmax T2/T3 - 4P	horizontal	300	•	•
Tmax T3 - 3/4P	vertical	300	•	•
Tmax T4 - 3/4P	horizontal	300	•	•
Tmax T4 - 3/4P	vertical	400	•	•
Tmax T5 - 3/4P	horizontal	300	•	
Tmax T5 - 3P	horizontal	300		•
Tmax T5 - 4P	horizontal	400		•
Tmax T5 - 3/4P (400A)	vertical	400	•	•
Tmax T5 - 3/4P	vertical	500		•

# Examples of configurations

## Structures for modular apparatus

### Construction of modular configurations

Making up configurations with DIN panels and rails is possible by means of the pre-assembled cabinet or cabinet Kit solution. The useful dimension is always 100mm less than the total height of the panel board.

### Composition of the supply with pre-assembled cabinet

- Pre-assembled self-supporting structure made of galvanised steel consisting of a closed section drilled with 25mm pitch preset for mounting the modular uprights.
- Removable roof, plinth h=100mm (consisting of four angle pieces 25/10) and rear panel.
- Blind door made of 20/10 thick sheet, fitted with polyurethane gasket, complete with fixed handle with double tongue key (interchangeable with ergonomic handle and other types of inserts, see page 2/38). Reversible (standard hinging on the right) with 4 closure points and complete with internal reinforcement frame and earthing pins.
- Glazed door made of 20/10 thick sheet, with 4mm thick safety glass, fitted with polyurethane gasket, complete with fixed handle with double tongue key interchangeable with other types of

inserts, see page 4/36. Reversible (standard hinging on the right) with 4 closure points and complete with earthing pins.

- The structures with internal cable container W=200mm are supplied complete with blind door with opposite opening (standard hinging on the left), double box with double tongue key. The structures with internal cable container W=400mm are supplied complete with blind door with opposite opening (standard hinging on the left), handle with double tongue key. Both versions are complete with removable intermediate upright.

### Composition of the supply with built-up cabinet

For construction of the cabinet kits, the base, top, uprights, panelling, doors, plinth flanges, cable entry flanges and internal accessories must be ordered separately.

### Base, top and plinth:

completely pre-assembled by means of a 3-way joint complete with plinth angle pieces (25/10) H=100mm. Removable roof.

4

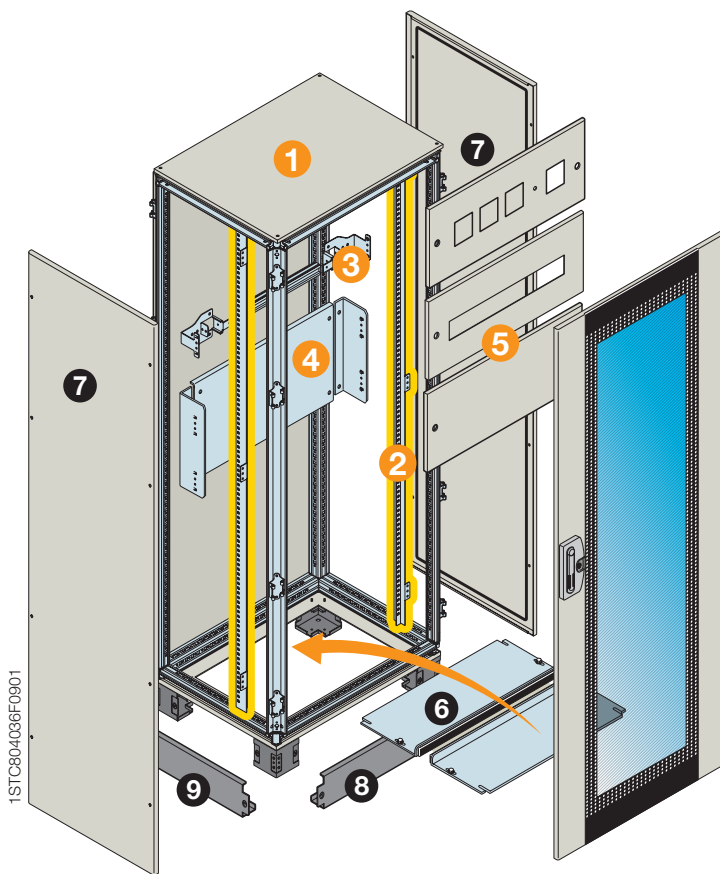
### Example of composition of a structure for power factor correction

### Composition of pre-assembled structure 2000x600x600 (hwxwd) for apparatus

- 1 ES2066V Pre-assembled cabinet with glazed door
- 2 EH2000 Uprights for apparatus
- 3 EH0018 Kit for modular apparatus
- 4 EH.... Blind back plates for apparatus
- 5 EH.... Blind front panels, with cut-outs for modular items and instrument holder

### Completion items

- 6 EF6060 Cable entry sliding flanges
- 7 EL2060 N°2 side panels
- 8 EZ6000 N°2 plinth flanges H=100mm front/rear
- 9 EZ6000 N°2 plinth flanges H=100mm side



# Examples of configurations

## Structures for modular apparatus

### Uprights:

made of galvanised steel consisting of a closed section drilled with 25 mm pitch preset for mounting compartment cubicles and partial doors, which can be mounted with just 8 screws at the base/top

### Rear panel:

made of 15/10 thick sheet, fitted with polyurethane gasket

### Cable container door

The doors for internal cable container W=200mm with opposite opening (standard hinging on the left) are complete with double box with double tongue key.

The doors for internal cable container W=400mm with opposite opening (standard hinging on the left) are complete with handle with double tongue key. Both versions require the removable intermediate upright

### Completion items

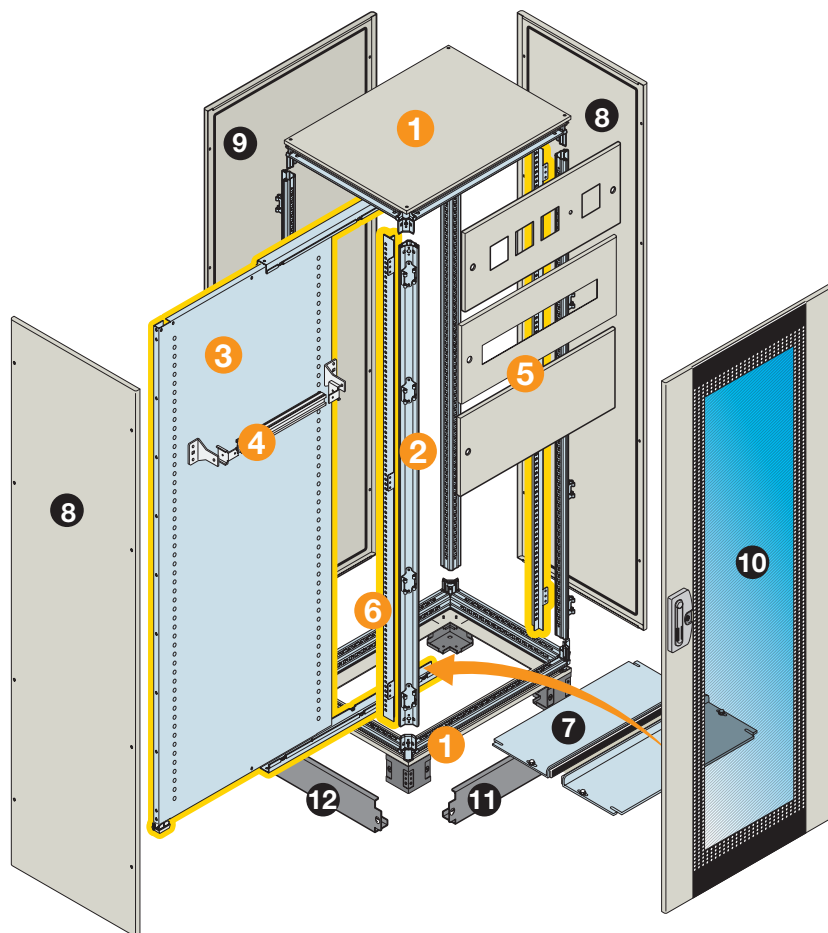
- Uprights for apparatus ..... page 4/54
- DIN rails and modular panels ..... page 4/54
- Distribution system ..... page 4/61

- Cable entry flanges ..... page 4/39
- Plinth covering flanges H=100/200mm and reinforced plinth ..... page 2/40
- Side panels ..... page 2/38
- Crosspieces ..... page 2/46
- Lifting eyebolts and reinforcements ..... page 2/60
- Key inserts ..... page 2/36

### Technical characteristics

Conformity with Standard	EN60439-1
Rated service voltage Ue	up to 690 V
Rated insulation voltage Ui	up to 1000 V
Rated impulse withstand voltage Uimp	8 kV
Rated current In	up to 1600 A
Rated short-time short-circuit withstand current Icw	up to 65 kA
Rated peak short-circuit current Ipk	143kA
Degree of protection	IP65 (EN 60529)
Degree of mechanical strength	
blind door	IK10 (EN50102)
glazed door	IK9 (EN50102)
Colour:	
internal structure	galvanised white
external panelling	Orange peel RAL 7032
plinth	Orange peel RAL 7012

4



### Composition of a structure Kit 2000x600x500 (hxd) for apparatus mounted on the back plate

- 1 EK6050 Base top
- 2 EM2000 Uprights
- 3 EX2060 Oversized back plate
- 4 EH1018 Kit for modular apparatus
- 5 EH.... Blind front panels with cut-outs for modular items and instruments holder
- 6 EH2000 Kit for modular apparatus

### Completion items

- 7 EF6050 Cable entry sliding flanges
- 8 EL2050 N°2 side panels
- 9 EP2060 Rear panel
- 10 ET2060 Glazed door
- 11 EZ6000 N°2 plinth flanges H=100mm front/rear
- 12 EZ5000 N°2 plinth flanges H=100mm side

# Examples of configurations

## 19" rack structures

### Constructing the 19" rack structures

Making up the 19" rack structures is possible by means of the pre-assembled or cabinet Kit solution

#### Composition of the supply with pre-assembled cabinet

- Pre-assembled self-supporting structure made of galvanised steel consisting of a closed section drilled with 25mm pitch.
- Removable roof, plinth h=100mm (consisting of four angle pieces 25/10) and rear panel.
- Blind door made of 20/10 thick sheet, fitted with polyurethane gasket, complete with handle with double tongue key interchangeable with other types of inserts, see page 4/36. Reversible (standard hinging on the right) with 4 closure points and complete with internal reinforcement frame and earthing pins.
- Glazed door made of 20/10 thick sheet, with 4mm thick safety glass, fitted with polyurethane gasket, complete with handle with double tongue key interchangeable with other types of inserts,

see page 4/36. Reversible (standard hinging on the right) with 4 closure points and complete with earthing pins.

#### Composition of the supply with built-up cabinet

For construction of the cabinet kits, the base, top, uprights, panelling, doors, plinth flanges, cable entry flanges and internal accessories must be ordered separately.

#### Base, top and plinth:

completely pre-assembled by means of 3-way joint complete with plinth angle pieces (25/10) H=100mm. Removable roof.

#### Uprights:

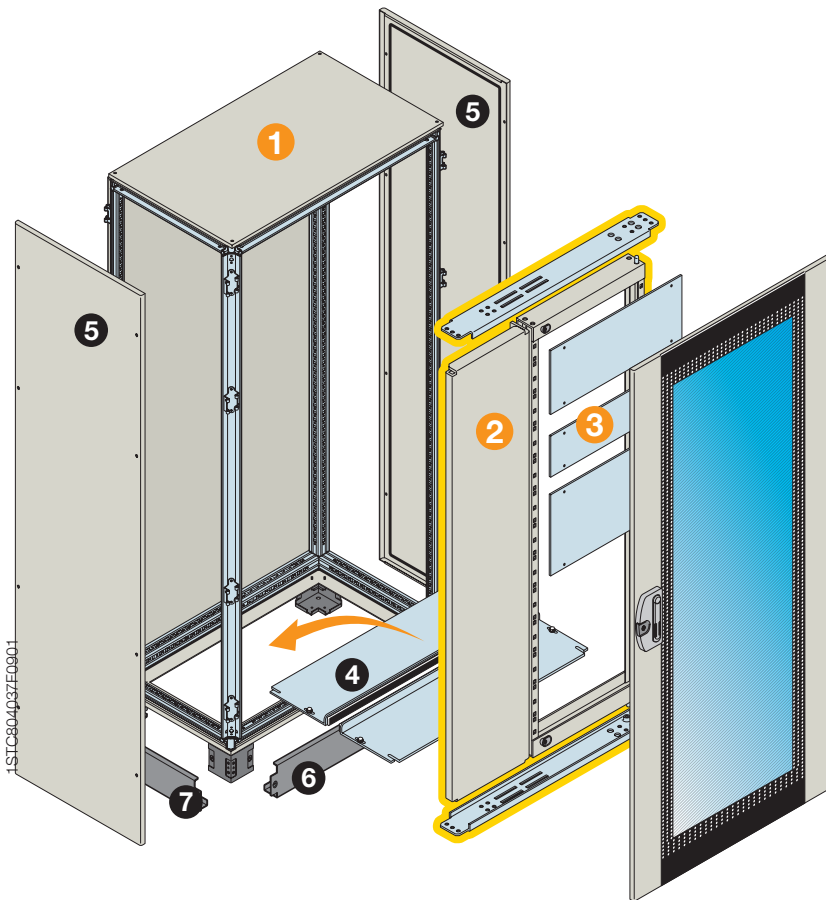
made of galvanised steel consisting of a closed section drilled with 25mm pitch preset for mounting the rack frames.

#### 19" rack frame:

made of galvanised steel, this is able to support a maximum load of

4

Example of composition of a structure with 19" rack frame



#### Making up a pre-assembled structure 2000x800x600 (hxwxd) for 19" rack frames

- 1 ES2086V Pre-assembled cabinet with blind door
- 2 EG2003 Eccentric swing rack frame
- 3 EG.... Panels for rack frame

#### Completion items

- 4 EF8060 Cable entry sliding flanges
- 5 EL2060 N°2 side panels
- 6 EZ8000 N°2 plinth flanges H=100mm front/rear
- 7 EZ6000 N°2 plinth flanges H=100mm side

# Examples of configurations

## 19" rack structures

100kg, and is available in the fixed and swing versions. It can hold 38 to 47 HE in the fixed version, 36 to 45 HE in the swing version and 9 to 27 HE in the partial version. The structure is completed with the aluminium dummy panels.

### Rear panel:

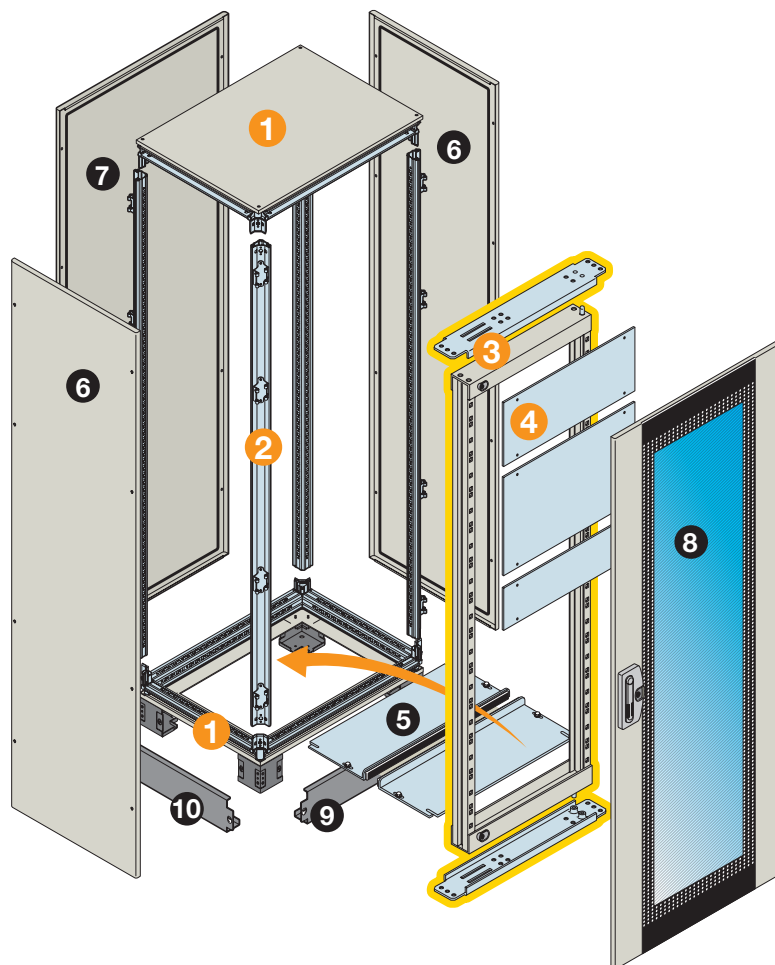
made of 15/10 thick sheet, fitted with polyurethane gasket.

### Completion items

- 19" rack frames.....page 4/58
- Dummy panels .....page 4/58
- Cable entry flanges .....page 4/39
- Plinth covering flanges H=100/200mm and reinforced plinth.....page 4/40
- Side panels .....page 4/38
- Crosspieces .....page 4/46
- Lifting eyebolts and reinforcements .....page 4/60
- Key inserts .....page 4/36

### Technical characteristics

Conformity with Standard	EN 50298
Degree of protection	IP65 (EN 60529)
Degree of mechanical strength	
blind door	IK10 (EN50102)
glazed door	IK9 (EN50102)
Colour:	
internal structure	galvanised white
external panelling	Orange peel RAL 7032
plinth	Orange peel RAL 7012



### Composition of a structure Kit 2000x600x500 (hwxwd) for 19" rack frames

- 1 EK6050 Base top
- 2 EM2000 Uprights
- 3 EG2000 Centred swing rack frame
- 4 EG.... Panels for rack frame

### Completion items

- 5 EF6050 Cable entry sliding flanges
- 6 EL2050 N°2 side panels
- 7 EP2060 Rear panel
- 8 ET2060 Glazed door
- 9 EZ6000 N°2 plinth flanges H=100mm front/rear
- 10 EZ5000 N°2 plinth flanges H=100mm side

# Examples of configurations

## Structures for power factor correction cabinets

### Building the structures for power factor correction

Making up the structures for power factor correction is possible by means of installing the condenser holder plates in the structures of pre-assembled or cabinet kits.

### Composition of the supply with pre-assembled cabinet

- Self-supporting galvanised steel structure consisting of a closed section drilled with 25mm pitch
- Removable roof
- Plinth h=100mm consisting of four angle pieces (25/10) and relative covering flanges
- Rear panel
- Partial or whole reversible blind doors (20/10) (standard hinging on the right), complete with box with double tongue key (interchangeable)

The door can be supplied directly with the drillings for the RVC/RUT regulation boxes and the handle of any switch-disconnector.

The mounting plate is preset on one side with threaded inserts which can be used to fix LVCP series of condensers, and on the other by a series of holes for fixing DIN rails for the control apparatus.

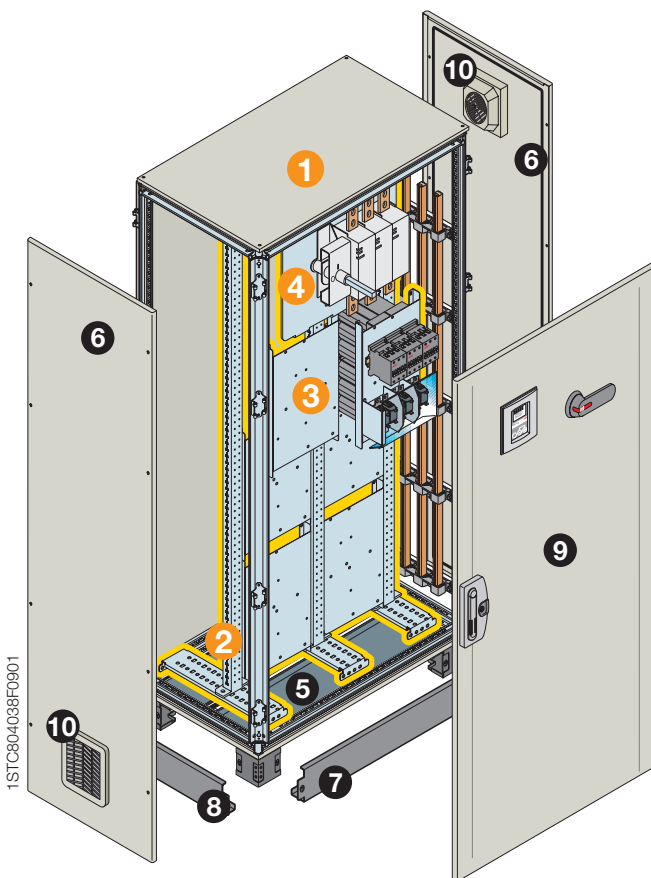
The IS2 solution for power factor correction panel board applications can be put together with the general switchgear perfectly. The LVCP condensers, together with a ventilation system, allow the maximum reactive power to be reached in the minimum space.

### Composition of the supply with built-up cabinet

For construction of the cabinet kits, the base, top, uprights, panelling, doors, plinth flanges, cable entry flanges and internal accessories must be ordered separately.

4

### Example of composition of a structure for power factor correction



### Composition of a pre-assembled structure 2000x800x600 (hxd) for power factor correction

- 1 ES2086 Pre-assembled cabinet with blind door
- 2 EA4020 Uprights and crosspieces
- 3 EA4002 Back plate for LVCP condensers
- 4 EA4001 Back plate for switch-disconnectors OETL

### Completion items

- 5 EF8060 Cable entry sliding flanges 5
- 6 EL2060 N°2 side panels
- 7 EZ8000 N°2 plinth flanges H=100mm front/rear
- 8 EZ6000 N°2 plinth flanges H=100mm side
- 9 EC2080 Blind door
- 10 EN0250 Grating + filter Kit 250x250mm

# Examples of configurations

## Structures for power factor correction cabinets

### Base, top and plinth:

completely pre-assembled by means of 3-way joint, complete with angle pieces, plinth (25/10) H=100mm. Removable roof

### Uprights:

made of galvanised steel consisting of a closed section drilled with 25 mm pitch preset for mounting compartment cubicles and partial doors, which can be mounted with just 8 screws at the base/top

### Rear panel:

made of 15/10 thick sheet, fitted with polyurethane gasket

### Completion items

- Plate for condensers ..... page 4/47
- Fans, air conditioners ..... page 4/69
- Cable entry flanges ..... page 4/41
- Plinth covering flanges H=100/200mm and reinforced plinth..... page 4/42
- Side panels ..... page 4/40
- Crosspieces ..... page 4/48

- Lifting eyebolts and reinforcements ..... page 4/62
- Key inserts ..... page 4/38

### Technical characteristics

Conformity with Standard	EN 60439-1
Degree of protection	IP65 (EN 60529)
Degree of mechanical strength	
blind door	IK10 (EN50102)
glazed door	IK9 (EN50102)
Colour:	
internal structure	galvanised white
external panelling	Orange peel RAL 7032
plinth	Orange peel RAL 7012



Cabinet dimension (h x w) mm	EA4002 N° plates installable <sup>(1)</sup>	OETL type switch-disc.	Power kVAR
1800x600	3	315	135
1800x600	2	315/1250	135/480
2000/2200x600	3	≤ 1250	≤ 480
1800x800	6	315	135
1800x800	5	630	300
1800x800	4	1250/1600	480/600
2000/2200x600	6	≤ 1250/1600	≤ 480/600

# Examples of configurations

## Built-up structures

### Construction of cabinet kits

For construction of the cabinet kits, the base, top, uprights, paneling, door, plinth flanges, cable entry flanges and internal accessories must be ordered separately.

#### Components to be ordered:

##### Base, top and plinth:

completely pre-assembled by means of 3-way joint complete with plinth angle pieces (25/10) H=100mm; removable roof

##### Uprights:

made of galvanised steel consisting of a closed section drilled with 25 mm pitch, which can be mounted with just 8 screws at the base/top

##### Rear/side panel:

made of 15/10 thick sheet, fitted with polyurethane gasket

##### Blind door:

made of 20/10 thick sheet, fitted with polyurethane gasket, complete with fixed handle with double tongue key (interchangeable

with ergonomic handle and other types of inserts, see page 4/36). Reversible (standard hinging on the right) with 4 closing points, and complete with internal reinforcement frame and earthing pins.

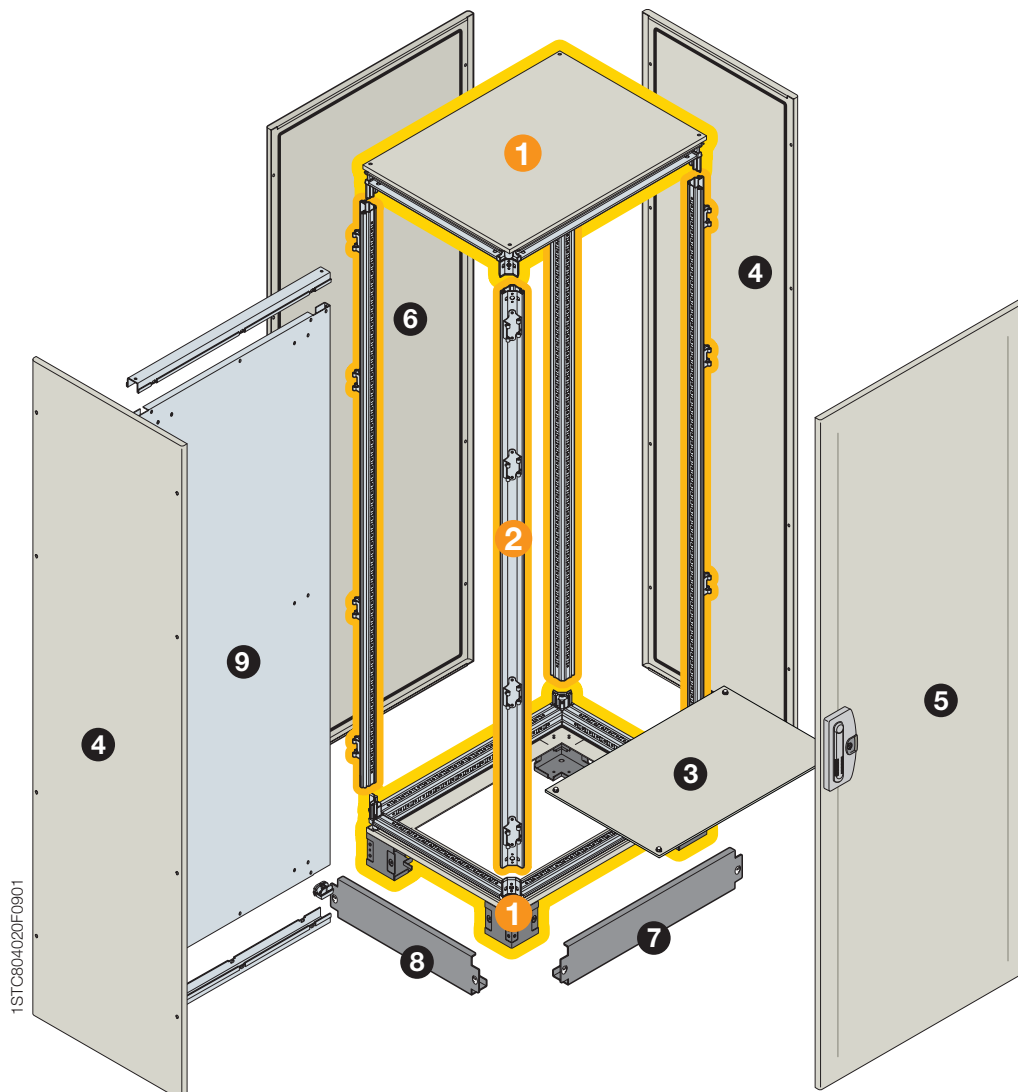
##### Glazed door:

made of 20/10 thick sheet with 4 mm thick safety glass, fitted with polyurethane gasket, complete with handle with double tongue key interchangeable with other types of inserts, see page 4/36. Reversible (standard hinging on the right) with 4 closure points and complete with earthing pins.

##### Cable container door:

(20/10) opposite opening (standard hinging on the left) complete with double box with double tongue key (interchangeable), intermediate removable crosspiece and upright.

### Example of composition of a structure Kit



1STC804020F0901

# Examples of configurations

## Built-up structures

### Completion items

- Standard and oversized back plates with front and lateral insertion .....page 4/42
- Cable entry flanges .....page 4/39
- Plinth covering flanges H=100/200mm and reinforced plinth.....page 4/40
- Crosspieces .....page 4/46
- 19" rack frames.....page 4/58
- Lifting eyebolts and reinforcements .....page 4/60
- Key inserts .....page 4/36
- Fans, air conditioners .....page 4/67
- Uprights, panels and DIN rails .....page 4/54

### Technical characteristics

Conformity with Standard	EN 50298
Degree of protection	IP65 (EN 60529)
Degree of mechanical strength	
blind door	IK10 (EN50102)
glazed door	IK9 (EN50102)
Colour:	
internal structure	galvanised white
external panelling	Orange peel RAL 7032
plinth	Orange peel RAL 7012



### Composition of a structure 2000x600x500 (hxwxd)

- 1 EK6050 Base, top and plinth
- 2 EM2000 N°4 uprights

### Completion items

- 3 EF6052 Bottom closure
- 4 EL2050 N°2 side panels
- 5 EC2060 Blind door
- 6 EP2060 Rear panel
- 7 EZ6000 N°2 plinth flanges H=100mm front/rear
- 8 EZ5000 N°2 plinth flanges H=100mm side
- 9 EA2161 Oversized back plate + tracks for lateral insertion
- 10 VZ1000 Super thin wall air conditioner IP54
- 11 EZ1010 N°4 plinth angle pieces H=100mm
- 12 EZ6002 N°2 plinth flanges H=200mm front/rear
- 13 EZ5002 N°2 plinth flanges H=200mm side

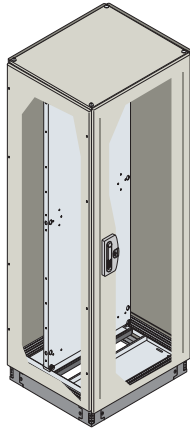
# Examples of Configurations

## Pre-assembled structures



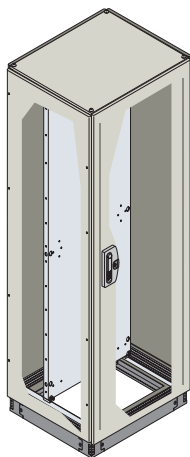
IS2 series pre-assembled structure dim.: 1800x600x400 (1905x594x410)mm (external hxwxd) IP65 with blind door, back plate and plinth h=100mm (side panels, cable entry flanges and plinth flanges excluded).

Code	Description	Qty.
ES1864	Blind door cabinet 1800x600x400mm	1
EA1860	Back plate 1800x600mm (hxw)	1



IS2 series pre-assembled structure dim.: 1800x600x500 (1905x610x510)mm. (external hxwxd) IP65 with blind door, back plate, side panels, cable entry flanges and plinth flanges h=100mm

Code	Description	Qty.
ES1865	Blind door cabinet 1800x600x500mm	1
EA1860	Back plate 1800x600mm (hxw)	1
EL1850	n°2 blind side panels 1800x500mm (hxd)	1
EZ6000	n°2 plinth flanges w=600mm	1
EZ5000	n°2 plinth flanges d=500mm	1
EF6050	Sliding cable entry flanges 600x500	1

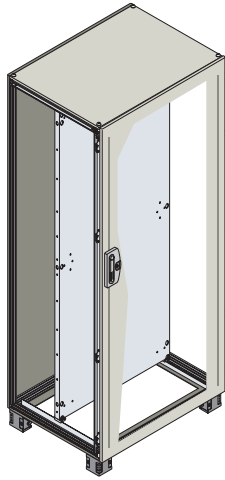


IS2 series pre-assembled structure dim.: 2000x600x500 (2105x610x510)mm. (external hxwxd) IP65 with blind door, back plate, side panels, plinth and flange h=100mm (cable entry flanges excluded)

Code	Description	Qty.
ES2065	Blind door cabinet 2000x600x500mm	1
EA2060	Back plate 2000x600mm (hxw)	1
EL2050	n°2 blind side panels 2000x500mm (hxd)	1
EZ6000	n°2 plinth flanges w=600mm	1
EZ5000	n°2 plinth flanges d=500mm	1

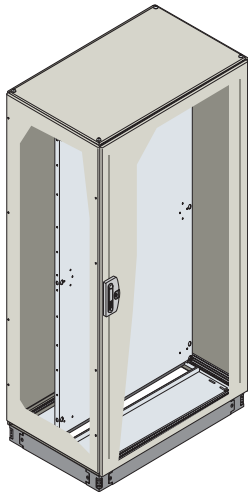
# Examples of Configurations

## Pre-assembled structures



IS2 series pre-assembled structure dim.: 2000x800x600 (2105x794x610)mm. (external hxwx d) IP65 with blind door, back plate and plinth h=100mm (flange excluded)

Code	Description	Qty.
ES2086	Blind door cabinet 2000x800x600mm	1
EA2080	Back plate 2000x800mm (hxw)	1



IS2 series pre-assembled structure dim.: 2000x1000x600 (2105x1010x610)mm. (external hxwx d) IP65 with blind door, back plate, side panels, sliding cable entry flanges and plinth h=100mm (flanges included)

Code	Description	Qty.
ES2006	Blind door cabinet 2000x1000x600mm	1
EL2060	n°2 blind side panels 2000x600mm (hxd)	1
EF1060	Sliding flanges 1000x600mm	1
EZ1000	n°2 plinth flanges w=1000mm	1
EZ6000	n°2 plinth flanges d=600mm	1

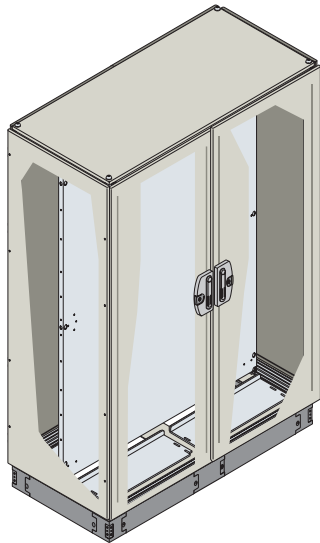


N°2 IS2 series pre-assembled structures dim.: 2000x600x600 (2105x1204x610)mm. (external hxwx d) IP65 with blind door, back plate, side panels, sliding cable entry flanges, structure/plates and plinth joining kit h=100mm (flanges included).

Code	Description	Qty.
ES2066	Blind door cabinet 2000x600x600mm	2
EA2060	Back plate 2000x600mm (hxw)	2
EL2060	n°2 blind side panels 2000x600mm (hxd)	1
EF6060	Sliding flanges 600x600mm	2
EA2000	Back plate joining kit h=2000mm	1
EV0003	Kit for joining cabinets	1
EZ6000	n°2 plinth flanges w=600mm	3

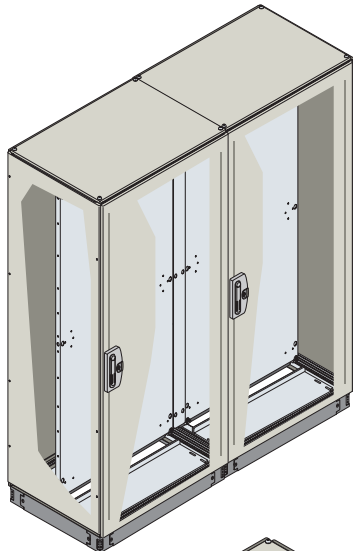
# Examples of Configurations

## Pre-assembled structures



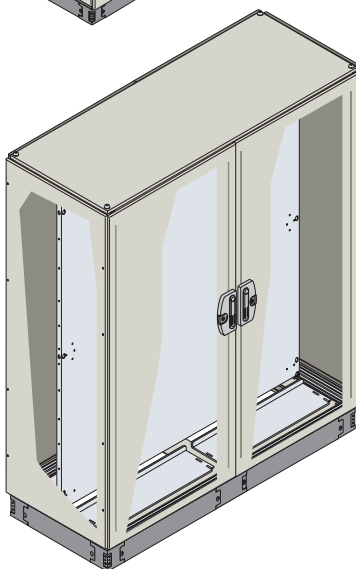
IS2 series pre-assembled structure dim.: 2000x1200x600 (2105x1210x610)mm. (external hxwxh) IP65 with blind door, back plate, side panels, sliding cable entry flanges and plinth h=100mm (flanges included).

Code	Description	Q.ty
ES2026	Cabinets with blind door 2000x1200x600mm	1
EA2013	Black plate 2000x1200mm (hxw)	1
EL2060	n°2 side blind panels 2000x600mm (hxd)	1
EF6060	Sliding flanges 600x600mm	2
EZ6000	n°2 plinth flanges w=600mm	3



N°2 IS2 series pre-assembled structures dim.: 2000x800x600 (2105x1604x610)mm. (external hxwxh) IP65 with blind door, back plate, side panels, sliding cable entry flanges, structure/plates and plinth joining kit h=100mm (flanges included).

Code	Description	Qty.
ES2086	Blind door cabinet 2000x800x600mm	2
EA2080	Back plate 2000x800mm (hxw)	2
EA2000	Back plate joining kit h=2000mm	1
EL2060	n°2 blind side panels 2000x600mm (hxd)	1
EF8060	Sliding flanges 800x600mm	2
EV0003	Kit for joining cabinets	1
EZ8000	n°2 plinth flanges w=800mm	2
EZ6000	n°2 plinth flanges d=600mm	1

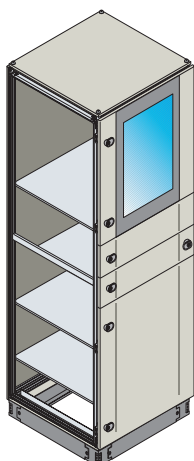


IS2 series pre-assembled structure dim.: 2000x1600x600 (2105x1610x610)mm (external hxwxh) IP65 with blind door, back plate, side panels, sliding cable entry flanges and plinth h=100mm (flanges included).

Code	Description	Qty.
ES2076	Blind door cabinet 2000x1600x600mm	1
EA2016	Back plate 2000x1600mm (hxw)	1
EL2060	n°2 blind side panels 2000x600mm (hxd)	1
EF8060	Sliding flanges 800x600mm	2
EZ8000	n°2 plinth flanges w=800mm	2
EZ6000	n°2 plinth flanges d=600mm	1

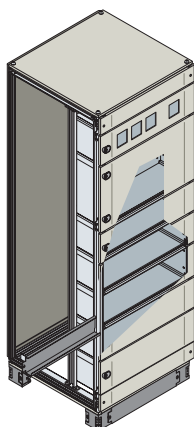
# Examples of Configurations

## Pre-assembled structures



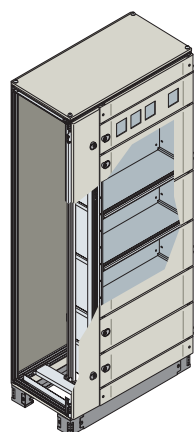
IS2 series pre-assembled structure dim.: 2000x600x600 (2105x610x610)mm (external hxwxd) IP65 PC version with glazed door for monitor, keyboard shelf, CPU module, side panels and plinth h=100mm (flanges included)

Code	Description	Qty.
ES2066PC	Cabinet for computer 2000x600x600mm	1
EL2060	n°2 blind side panels 2000x600mm (hxd)	1
EZ6000	n°2 plinth flanges w=600mm	2



IS2 series pre-assembled structure dim.: 1800x600x600 (1805x594x610)mm (external hxwxd) IP65 version with Form 3 segregated compartments, with instrument panel and blind doors for PC-MCC, plinth h=100mm (flanges included)

Code	Description	Qty.
ES1866MF	Cabinet with compartments 1800x600x600mm (hxwxd)	1
EZ6000	n°2 plinth flanges 100x600mm (hxw)	1
EH4060	Back plate x compartments 400x600mm (hxw)	1
EH2060	Back plate x compartments 200x600mm (hxw)	6
EH7262	Panel for n°2 72x72 instruments - 200x600mm(hxw)	1
EH4061	Front panel for compartments 400x600mm (hxw)	1
EH2061	Front panel for compartments 200x600mm (hxw)	5



IS2 series pre-assembled structure dim.: 1800x800x400 (1805x794x410)mm. (external hxwxd) IP65 version with Form 3 segregated compartments, cable riser w=200mm, with instrument panel and blind doors for PC-MCC, plinth h=100mm (flanges included)

Code	Description	Qty.
ES1884MF2	Cabinet with compartments 1800x800x400+cable cont. w=200	1
EH4060	Back plate x compartments 400x600mm (hxw)	1
EH3060	Back plate x compartments 300x600mm (hxw)	2
EH2060	Back plate x compartments 200x600mm (hxw)	3
EH7262	Panel for n°2 72x72 instruments - 200x600mm(hxw)	1
EH2061	Front panel for compartments 200x600mm (hxw)	2
EH3061	Front panel for compartments 300x600mm (hxw)	2
EH4061	Front panel for compartments 400x600mm (hxw)	1
EZ8000	n°2 plinth flanges 100x800mm (hxw)	1

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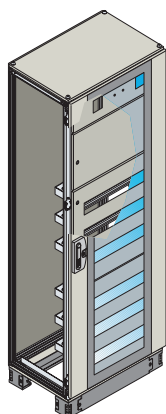
# Examples of Configurations

## Pre-assembled structures



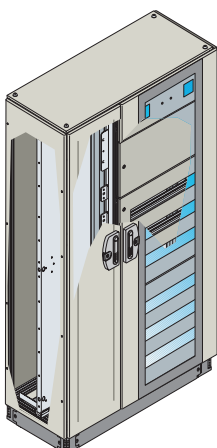
IS2 series pre-assembled structure dim.: 1800x1000x400 (1805x994x410)mm. (external hxwxd) IP65 version with Form 3 segregated compartments, cable riser w=400mm, with instrument panel and blind doors for PC-MCC, plinth h=100mm (flanges included).

Code	Description	Qty.
ES1804MF4	Cabinet with compartments 1800x1000x400+cable cont. w=400	1
EH4060	Back plate x compartments 400x600mm (hxw)	1
EH3060	Back plate x compartments 300x600mm (hxw)	2
EH2060	Back plate x compartments 200x600mm (hxw)	3
EH7262	Panel for n°2 72x72 instruments - 200x600mm(hxw)	1
EH2061	Front panel for compartments 200x600mm (hxw)	2
EH3061	Front panel for compartments 300x600mm (hxw)	2
EH4061	Front panel for compartments 400x600mm (hxw)	1
EZ1000	n°2 plinth flanges 100x1000mm (hxw)	1



IS2 series pre-assembled structure dim.: 1800x600x400 (1805x594x410)mm. (external hxwxd) IP65 modular version, with instrument panel and glazed door, DIN panels, plinth h=100mm (flanges included).

Code	Description	Qty.
ES1864V	Glazed door cabinet 1800x600x400mm	1
EZ6000	n°2 plinth flanges 100x600mm (hxw)	1
EH1800	n°2 uprights h=1800mm x DIN panels	1
EH2272	Panel for n°2 72x72 instruments - 200x600mm(hxw)	1
EH3062	Blind panel 300x600mm (hxw)	1
EH0018	DIN rail w=600mm (18 mod.)+front supp.	6
EH6018	Panel 3x18 DIN mod. 600x600mm (hxw)	2
E2004	Back plate x fixed T3 300x600mm (hxw)	1

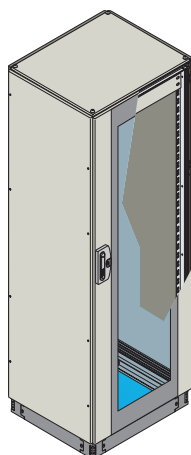


IS2 series pre-assembled structure dim.: 1800x1000x400 (1805x1010x410)mm. (external hxwxd) IP65 modular version with cable riser w=400mm, instrument panel, Kit for Tmax T3, side panels, glazed door, DIN panels, cabling on back plate and plinth h=100mm (flanges included).

Code	Description	Qty.
ES1824VC4	Cabinet+cable cont. w=400 glazed door 1800x1200x400	1
EZ1000	n°2 plinth flanges 100x1000mm (hxw)	1
EZ4000	n°2 plinth flanges 100x400mm (hxw)	1
EA1980	Oversized back plate+tracks 1800x800mm(hxw)	1
EH1801	n°2 mounted on plate h=1800mm x DIN panel	1
EH1018	DIN rail w=600mm (18 mod.)+back supp.	6
EH2272	Panel for n°2 72x72 instruments - 200x600mm(hxw)	1
EA2004	Back plate x fixed T3 300x600mm (hxw)	1
EH3062	Blind panel 300x600mm (hxw)	1
EH6018	Panel 3x18 DIN mod. 600x600mm (hxw)	2
EL1840	n°2 blind side panels 1800x400mm (hxd)	1

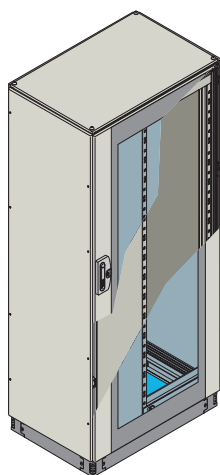
# Examples of Configurations

## Pre-assembled structures



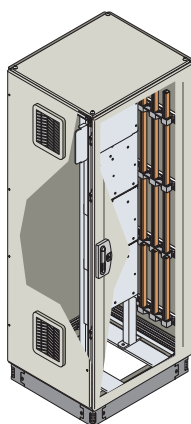
IS2 series pre-assembled structure dim.: 2000x600x500 (2105x610x510)mm. (external hxwxd) IP65 version 19" rack with 42 fixed HE, side panels, glazed door, plinth h=100mm (flanges included).

Code	Description	Qty.
ES2065V	Glazed door cabinet 2000x600x500mm	1
EG2000	19" rack frame 2000x600mm 42 fixed HE	1
EL2050	n°2 blind side panels 2000x500mm (hxd)	1
EZ6000	n°2 plinth flanges 100x600mm (hwx)	1
EZ5000	n°2 plinth flanges 100x500mm (hwx)	1



IS2 series pre-assembled structure dim.: 2000x800x500 (2105x810x510)mm. (external hxwxd) IP65 version 19" swing eccentric rack with 40 HE, side panels, glazed door, plinth h=100mm (flanges included).

Code	Description	Qty.
ES2085V	Glazed door cabinet 2000x800x500mm	1
EG2003	19" swing eccentric rack frame 40 HE	1
EL2050	n°2 blind side panels 2000x500mm (hxd)	1
EZ8000	n°2 plinth flanges 100x800mm (hwx)	1
EZ5000	n°2 plinth flanges 100x500mm (hwx)	1

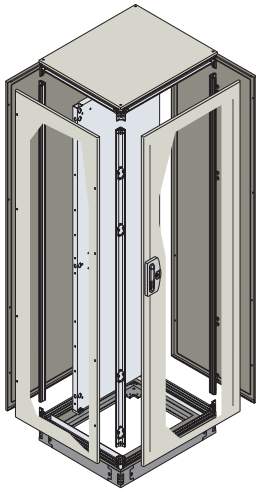


IS2 series pre-assembled structure dim.: 1800x600x500 (1805x610x510)mm. (external hxwxd) IP21 power factor correction panel board version, side panels, blind door, back plates for switch-disconnector and condensers, 400A busbar system, natural ventilation, plinth.

Code	Description	Qty.
ES1865	Blind door cabinet 1800x600x500mm	1
EA4018	Uprights h=1800mm x condenser plate	2
EA4001	OETL switch-disconnector holder back plate	1
EA4000	LVCP condenser holder back plate	3
EL1860	n°2 blind side panels 1800x600mm (hxd)	1
EZ6000	n°2 plinth flanges 100x600mm (hwx)	1
EZ5000	n°2 plinth flanges 100x500mm (hwx)	1
EN0250	Aeration kit+filter 250x250mm (wxw)	2
BA0400	Busbar In=400A	4
EB0500	n°2 side crosspieces h=48mm x plates d=500mm	2
PB0803	Linear busbar holder In=800A (35kA)	4

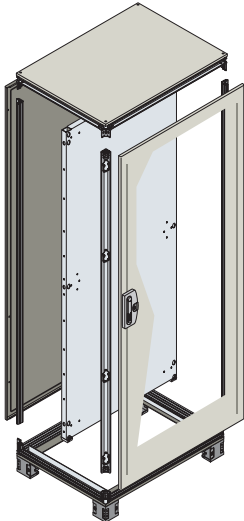
# Examples of Configurations

## Built-up structures



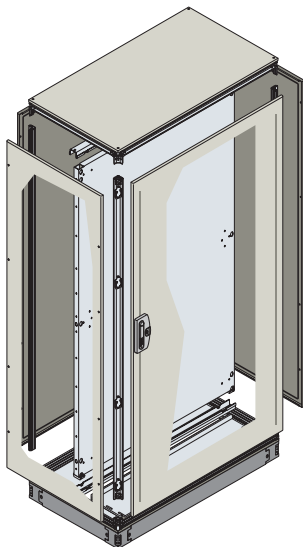
IS2 series structure kit dim.: 2000x600x500 (2105x610x510)mm.  
(external hxwxd) IP65 with blind door, back plate, side panels, plinth and flange h=100mm (cable entry flanges excluded).

Code	Description	Qty.
EK6050	Base/Top 600x500mm (wxd)	1
EM2000	n°4 uprights h=2000mm	1
EA2060	Back plate 2000x600mm (hxw)	1
EL2050	n°2 blind side panels 2000x500mm (hxd)	1
EZ6000	n°2 plinth flanges w=600mm	1
EZ5000	n°2 plinth flanges d=500mm	1
EC2060	Blind door 2000x600mm (hxw)	1
EP2060	Rear panel 2000x600mm (hxw)	1



IS2 series structure kit dim.: 2000x800x600 (2105x794x610)mm.  
(external hxwxd) IP65 with blind door, back plate and plinth h=100mm (flange excluded).

Code	Description	Qty.
EK8060	Base/Top 800x600mm (wxd)	1
EM2000	n°4 uprights h=2000mm	1
EA2080	Back plate 2000x800mm (hxw)	1
EC2080	Blind door 2000x800mm (hxw)	1
EP2080	Rear panel 2000x800mm (hxw)	1

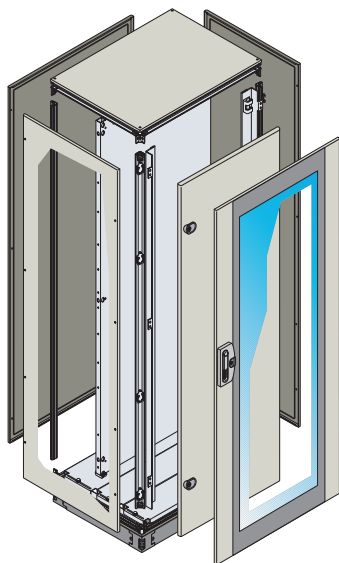


IS2 series structure kit dim.: 2000x1000x600 (2105x1010x610)mm.  
(external hxwxd) IP65 with blind door, oversized back plate, side panels, sliding cable entry flanges and plinth h=100mm (flanges included).

Code	Description	Qty.
EK1060	Base/Top 1000x600mm (wxd)	1
EM2000	n°4 uprights h=2000mm	1
EA2110	Oversized back plate+tracks 2000x1000mm(hxw)	1
EL2060	n°2 blind side panels 2000x600mm (hxd)	1
EF1060	Sliding flanges 1000x600mm	1
EZ1000	n°2 plinth flanges w=1000mm	1
EZ6000	n°2 plinth flanges d=600mm	1
EC2010	Blind door 2000x1000mm (hxw)	1
EP2010	Rear panel 2000x1000mm (hxw)	1

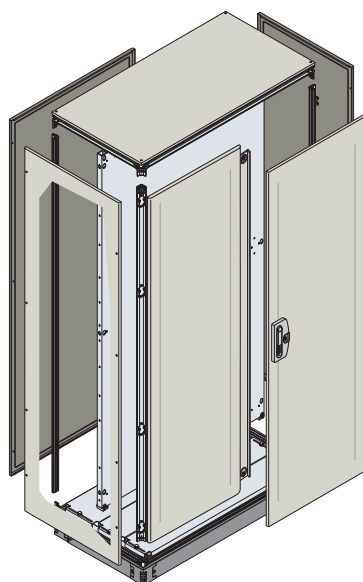
# Examples of Configurations

## Built-up structures



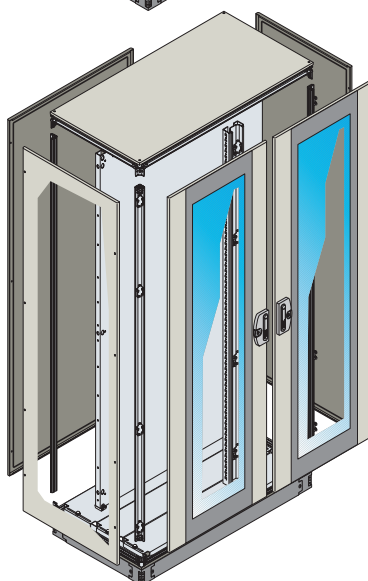
IS2 series structure kit dim.: 2200x800x600 (2305x810x610)mm. (external hxwxd) IP65 with glazed door, counterdoor, back plate, side panels, removable cable entry flanges and plinth h=100mm (flanges included).

Code	Description	Qty.
EK8060	Base/Top 800x600mm (wxd)	1
EM2200	n°4 uprights h=2200mm	1
EL2260	n°2 blind side panels 2200x600mm (hxd)	1
ET2280	Glazed door 2200x800mm (hxw)	1
EE2280	Counterdoor 2200x800mm (hxw)	1
EA2280	Back plate 2200x800mm (hxw)	1
EF8061	Removable flanges 800x600mm	1
EZ8000	n°2 plinth flanges w=800mm	1
EZ6000	n°2 plinth flanges d=600mm	1
EP2280	Rear panel 2200x800mm (hxw)	1



IS2 series structure kit dim.: 2000x1000x600mm (2105x1010x610mm external hxwxd) IP65 with double doors closing with overlap, back plate, side panels, built-up cable entry flanges and plinth h=100mm (flanges included).

Code	Description	Qty.
EK1060	Base/Top 1000x600mm (wxd)	1
EM2000	n°4 uprights h=2000mm	1
EL2060	n°2 blind side panels 2000x600mm (hxd)	1
EC2080FC6	Blind door for double door version	1
ED2012S	Blind door with overlap	1
EA2010	Back plate 2000x1000mm (hxw)	1
EF1061	Removable flanges 1000x600mm	1
EZ1000	n°2 plinth flanges w=1000mm	1
EZ6000	n°2 plinth flanges d=600mm	1
EP2060	Rear panel 2000x600mm (hxw)	1



IS2 series structure kit dim.: 2000x1000x600mm (2105x1010x610mm external hxwxd) IP65 with double doors closing with overlap on intermediate upright, back plate, side panels, built-up cable entry flanges and plinth h=100mm (flanges included).

Code	Description	Qty.
EK1060	Base/Top 1000x600mm (wxd)	1
EM2000	n°4 uprights h=2000mm	1
EL2060	n°2 blind side panels 2000x600mm (hxd)	1
EC2080FV6	Glazed door for double door version	2
EM2001	Intermediate upright h=2000mm	1
EB6100	Pair of intermediate crosspieces	1
EA2010	Back plate 2000x1000mm (hxw)	1
EF1061	Removable flanges 1000x600mm	1
EZ1000	n°2 plinth flanges w=1000mm	1
EZ6000	n°2 plinth flanges d=600mm	1
EP2060	Rear panel 2000x600mm (hxw)	1



## IS2 EMC Enclosures

### General characteristics and applications

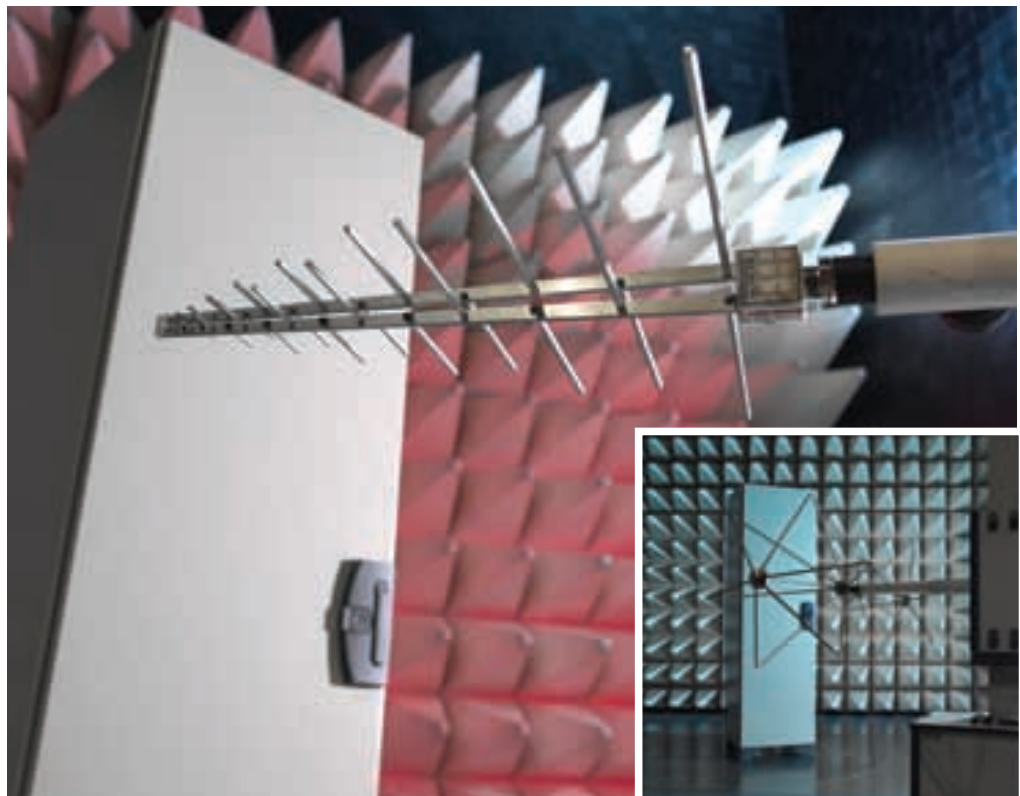
The range of IS2 enclosures has been enriched with the EMC (Electromagnetic Compatibility) version. The new version has undergone shielding efficiency tests with success according to the MIL STD 285: 1956 Standard.

This series of products is suitable for making small and medium-sized electric switchboards installed on the floor, whose range is available in 4 different dimensions:

- height 2000mm
- width 600 and 800mm
- depth 600 and 800mm
- version: with blind door/glazed door

The electromagnetic compatibility problem also requires attention when selecting enclosures and cabinets. The increased number of components in the operation and regulation electronics and the high processing speeds of signals increasingly often leave a possibility of introducing errors which can be attributed to electromagnetic interference. These interferences may be caused continuously, periodically or at random, from internal or external sources, which generate electric, magnetic or electromagnetic fields.

The suitability tests according to MIL STD 285: 1956 ("Attenuation measurements for enclosures, electromagnetic shielding, for electronic test purposes, method of") have confirmed conformity of the IS2 metalwork structures with the requirements of the standard. The attenuation level (measured in dB) remains at high levels for a wide spectrum of frequencies (from 30MHz to 10GHz).



#### Technical characteristics

Conformity with the Standard	CEI EN 62208
Degree of protection	IP54 (CEI EN 60529)
Degree of mechanical strength	IK10 blind door (CEI EN 50102) IK08 glazed door (CEI EN 50102)

#### Certifications



Type of material	Metallic
Installation site	Indoors
Fixing method	floor
Normal service conditions	
- ambient temperature	from -5 to +40°C
Atmospheric conditions – relative humidity	50% at 40°C 90% at 20°C

# IS2 EMC Enclosures

## General characteristics and applications



The range of IS2 EMC enclosures is characterized by the IP54 degree of protection, tested and checked according to the EN 60529 Standard.

The steel sheet enclosures are particularly suited to making EMC version operating mechanisms and plants. The panel board is painted both externally and internally to guarantee greater resistance to oxidation. The standard colour is orange peel RAL7032, and on request it is possible to order the IS2 EMC panel boards in orange peel RAL 7035 colour. Special attention has been paid in selecting the conductible materials for the gaskets and in making the conductive connection, as free of holes and slots as possible which can considerably reduce the efficiency value of the cabinet shielding.

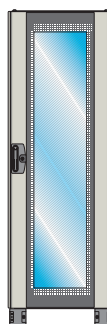
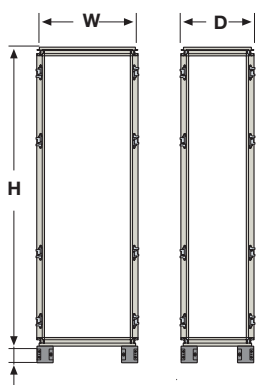
The high shielding characteristics are such as to allow the use of the IS2 EMC enclosures in the telephone, aerospace, naval, medical, military and information technology fields, as well as in all uses where there are active components sensitive to electromagnetic pollution.



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### Versions available

- Cabinet with blind/glazed door
- Panel board with fixed and swing 19" rack frame
- Distribution panel board with DIN rails and panels



#### Overall dimensions

#### Cabinet with blind door

#### Cabinet with glazed door

#### Blind side panel IP54

H mm	W mm	D mm			
2000	600	600	ES2066EMC	ES2066VEMC	2 x EL2060EMC
	800		ES2086EMC	ES2086VEMC	
	600	800	ES2068EMC	ES2068VEMC	2 x EL2080EMC
	800		ES2089EMC	ES2089VEMC	

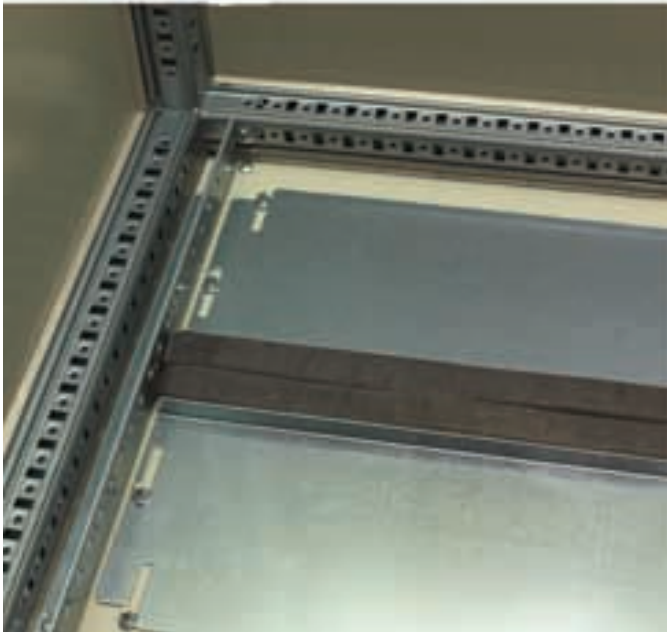
# IS2 EMC Enclosures

## General characteristics and applications

Briefly, the main technical and functional characteristics of the IS2 EMC panel boards and the components making them up are:

### Structure

- Made of galvanized steel sheet.
- Painted steel panelling 15/10mm thick and 20/10mm doors.
- IP54 degree of protection verified according to the CEI EN 60529 Standard.
- Galvanized sheet internal plate 25/10mm thick. The plate can be adjusted in depth with a pitch of 25mm.
- Placing two or more structures side by side is possible using a special conductive basket able to guarantee both the degree of protection and continuity of the conductive electrical parts.



### Cable entry and plinth

- The cable entry flanges are of the sliding type and are fitted with a basket coated with a special conductive netting to limit dispersions as far as possible even in the areas with possible openings.
- Palletisable plinths made up of four angle pieces  $h=100\text{mm}$  already fixed to the base of the structure. The four closing flanges must be ordered separately.

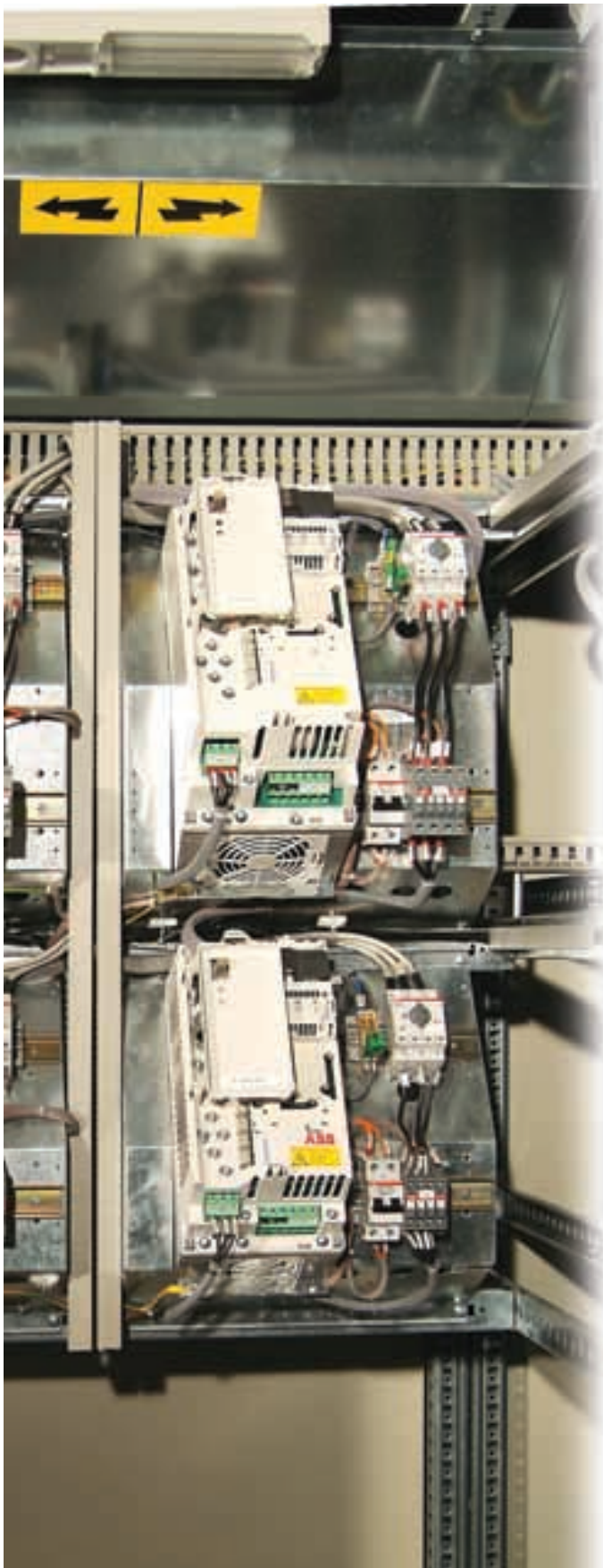


### Door

- Front doors with  $120^\circ$  opening made of galvanized and painted steel sheet 20/10mm thick. They have an internal conductive gasket made of neoprene foam coated with a conductive cloth.  
The blind doors are fitted with an internal tube section which increases the rigidity and allows simple assembly of wiring ducts and other accessories.  
The standard opening is from left to right, with the possibility of modification (inverting the assembly and changing the direction the handle opens).  
The glazed door is made up of standard glass, metallic mesh and hardened glass 3mm thick. The metallic mesh, placed between the two pieces of glass, guarantees high electromagnetic shielding thanks to contact with the metallic part of the door.
- Lock with double tongue insert and hooking device with four closing points.
- Screwed rear panel, made of galvanized and painted steel sheet 15/10mm thick. It has an internal conductive gasket made of neoprene foam coated with a conductive cloth. The panel can be removed and replaced with a door.

# IS2 EMC Enclosures

## General characteristics and applications



- Internal counterdoor made of galvanized painted steel sheet 20/10mm thick, fixed onto a pair of internal uprights and positioned at a distance of 74mm from the external front door. The door and the side panels can be fitted with natural and forced ventilation kits, which are EMC approved as well.

### Distribution panel board

- The IS2 EMC panel boards can be fitted with modular panel accessories in widths 600 and 800mm made of steel sheet 15/10mm thick.

The modular panels are available in the version with DIN cut-out for one or three rows of modular apparatus, in the blind version and for measuring instruments 72x72mm and 96x96mm.

All the panels have 200mm vertical modularity and are available in the fixed or hinged (using an accessory) version.

The panels with 600mm wide DIN cut-out allow installation of 18 or 24 DIN modules, whereas those 800mm wide allow installation of 29 or 36 DIN modules according to whether the wiring duct is placed at the front or rear in relation to the DIN rail.

Installation of the modular panels in the IS2 panel boards requires the use of special uprights for modular panels which are screwed onto the panel board structure. The useful space for installation of the modular panels is always 100mm less than the nominal dimension of the cabinet.

The DIN rails are ordered separately and the kit includes the rail, the supports and the small fixing items. Finally, the modular galvanized internal plates are available (in the 600 and 800mm widths and in the 200, 300 and 400mm heights). The modular plates are fixed using a kit of side crosspieces to be ordered separately according to the depth of the panel board.

### Panel board with 19" rack frame

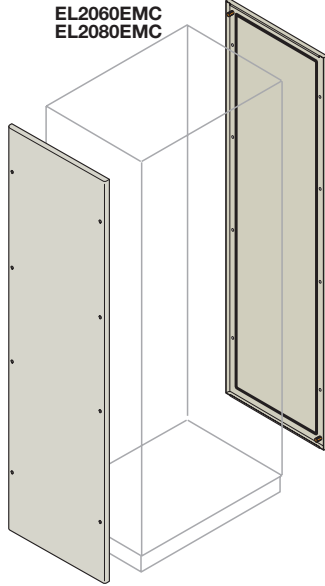
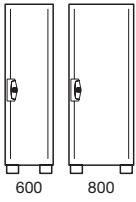
- For the range of IS2 EMC panel boards, the uprights with the section dedicated to mounting the panels and 19" Rack accessories are available, destined for various applications such as installation of electronic cards or to make small panel boards for local networks (LAN).

The fixed 19" rack uprights, swing type and of partial height are made of galvanized sheet 20/10mm thick and are applied onto the structure of the IS2 panel boards with 600-800mm width using special screws: it is possible to install up to a maximum of 40 HE vertical modules.

The buffer panels are available with dimensions up to 20 HE modules, are blind and made of opaque natural colour anodized aluminium 30/10mm thick.

# Ordering codes

## Structures



### IP54 - EMC Cabinets with blind door

Structure with removable roof complete with blind door, screwed-on rear panel, sliding fairlead flanges and plinth H=100mm made up of four angle pieces. Painted orange peel RAL 7032 colour inside/outside. To be completed with plinth flanges, cable tightening plates, side panels and internal equipment.

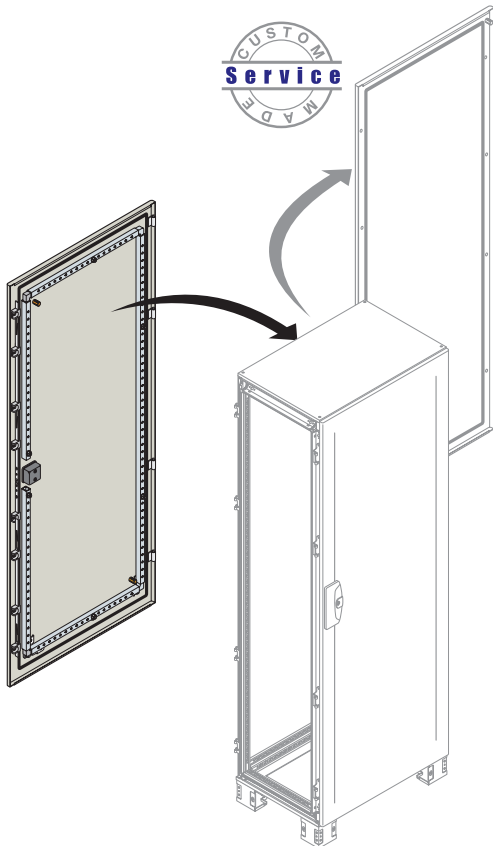
Code	Description	Dimensions mm (HxWxD)
ES2066EMC	Cabinet with blind door	600x600
ES2086EMC	Cabinet with blind door	800x600
ES2068EMC	Cabinet with blind door	2000 600x800
ES2089EMC	Cabinet with blind door	800x800

### IP54 - EMC Cabinets with glazed door

Structure with removable roof complete with glazed door, screwed-on rear panel, sliding fairlead flanges and plinth H=100mm made up of four angle pieces. Painted orange peel RAL 7032 colour inside/outside. To be completed with plinth flanges, cable tightening plates, side panels and internal equipment.

Code	Description	Dimensions mm (HxWxD)
ES2066VEMC	Cabinet with glazed door	600x600
ES2086VEMC	Cabinet with glazed door	800x600
ES2068VEMC	Cabinet with glazed door	2000 600x800
ES2089VEMC	Cabinet with glazed door	800x800

4



### IP54 - EMC Blind side panel

Panel made of sheet 15/10 thick, fitted with polyurethane gasket, painted orange peel RAL 7032 colour inside/outside, complete with earthing pins.

Code	Description	Dimensions mm (HxD)
EL2060EMC	Blind side panel	2000x600
EL2080EMC	Blind side panel	2000x800

### Replacement of rear panel with door

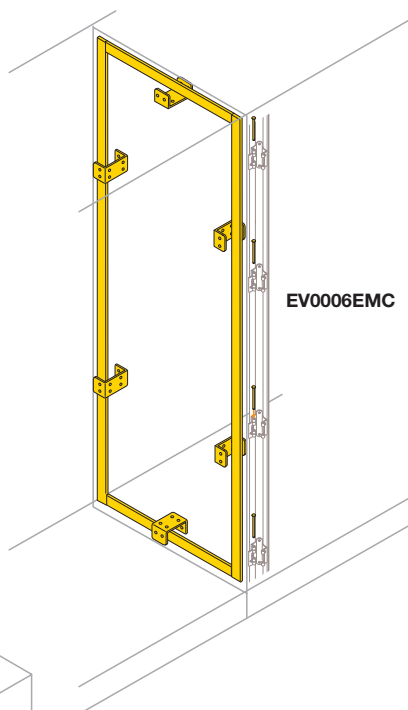
The supply foresees replacement of the rear panel with a blind/glazed door assembled directly in the factory..

Code	Description	Dimensions mm (HxD)
EC2060EMC Assembled	Replacement of rear panel with blind door	2000x600
EC2080EMC Assembled	Replacement of rear panel with blind door	2000x800
ET2060EMC Assembled	Replacement of rear panel with blind door	2000x600
ET2080EMC Assembled	Replacement of rear panel with blind door	2000x800

\* Service only valid for factory-assembled panel boards.

# Ordering codes

## Completion of structures



### Kit for joining cabinets - EMC

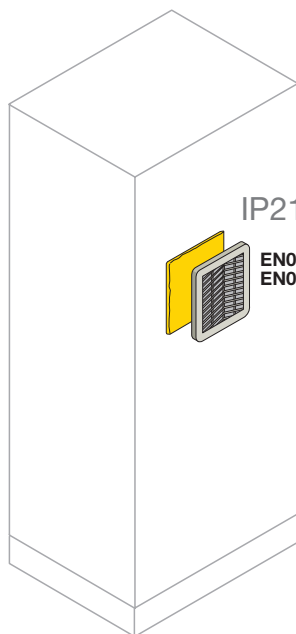
The kit consists of 6 squares and adhesive EMC conductive gasket. Joining is made from the inside by means of the 6 squares which can be mounted for the full height or depth of the panel board.

Code	Description
EV0006EMC	Kit for joining EMC cabinets

### IP21/54 shielded EMC natural ventilation Kit

Grilles made of insulating material (PC/ABS self-extinguishing UL94V-0) RAL7032 colour, complete with filter cloth with high dust accumulation capacity (600g/m<sup>2</sup>), able to reduce maintenance interventions (cleaning by washing with water or beating). IP21 degree of protection without filter, IP54 with filter, fitted with pre-mounted EMC tightness gasket.

Code	Description	Dimensions mm
		L x W
EN0150EMC	Panel + air passage filter kit	150x150
EN0250EMC	Panel + air passage filter kit	250x250



IP21/54

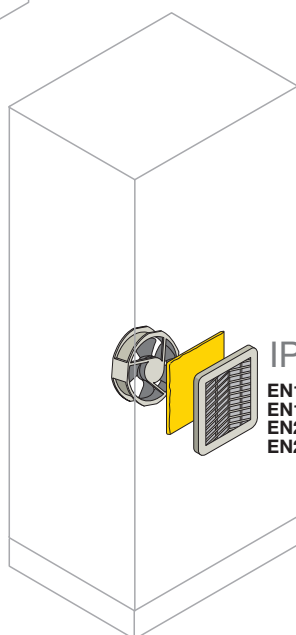


EN0150EMC  
EN0250EMC

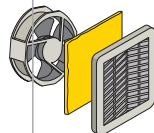
### IP54 shielded EMC forced ventilation Kit

Grilles made of insulating material (PC/ABS self-extinguishing UL94V-0), RAL7032 colour, complete with filter cloth with high dust accumulation capacity (600g/m<sup>2</sup>), able to reduce maintenance interventions (cleaning by washing with water or beating). IP54 degree of protection with filter, fitted with pre-mounted EMC tightness gasket. Operating temperature -20 °C + 70 °C, noise 50 dB (A). The fans allow reversible flow of air by means of the fan rotation.

Code	Description	Consumption (W)	Power (m <sup>3</sup> /h)	Dimensions mm
<b>With fan at 230V - IP54</b>				L x W
EN1150EMC	Grille+air passage filter Kit	20	57	150x150
EN1250EMC	Grille+air passage filter Kit	59	240	250x250
<b>With fan at 115V - IP54</b>				L x W
EN2150EMC	Grille+air passage filter Kit	20	57	150x150
EN2250EMC	Grille+air passage filter Kit	59	240	250x250



IP54



EN1150EMC  
EN1250EMC  
EN2150EMC  
EN2250EMC

### Spray paint – EMC

Conductive spray paint.

Code	Description
VB7032EMC	EMC version conductive spary paint

To complete the structure, see accessories from page 4/36





## Index

### CD Junction Boxes

General characteristics and selection table .....	5/2
Ordering codes .....	5/4

### CD EMC Junction Boxes

General characteristics and ordering codes .....	5/6
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## CD Junction Boxes

### General characteristics and selection table

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ABB enlarges its offer of automation enclosures with the new range of CD junction boxes, which find their application as junction boxes on-board machines or as pushbutton panels.



#### Available versions:

- **Junction box with screwed cover**  
The following dimensions (external) are available allow 16 different combinations:  
H: 150, 200, 300 and 400mm  
W: 150, 200, 300mm  
D: 80, 120, 150mm  
The cover is fitted with a sealing gasket and is fixed to the structure by means of four screws of the captive type.
- **Junction box with hinged door**  
The following dimensions (external) allow 10 different combinations:  
H: 200, 300 and 400mm  
W: 200, 300mm  
D: 120mm  
The cover is fitted with a sealing gasket and has double tongue key opening. It also allows 180° opening
- **Accessories:**
  - back plate made of 20/10 galvanised sheet
  - N° 4 squares for wall fixing



# CD Junction Boxes

## General characteristics and selection table

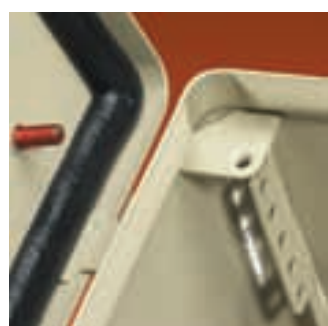
The range of CD junction boxes conforms to the CEI EN 50298 Standard "Empty enclosures for low voltage protection switchgear and controlgear assemblies".

Made of 12/10 thick sheet, painted both internally and externally with RAL7032 orange peel, they are supplied as a single enclosure already prepared with supports for fixing the accessories, among which the back plate, DIN rail and fixing brackets and are available in the different depths with blind screwed or hinged door.


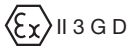
The multiple protective edging prevents water and any impurities from entering the structure, thereby guaranteeing the IP66 degree of protection. Finally, it makes the profile sturdier.

The boxes are prepared with 4 holes for mounting the wall fixing brackets.

Furthermore, earthing is guaranteed by two copper pins located inside the structure and on the cover respectively.



### Technical characteristics

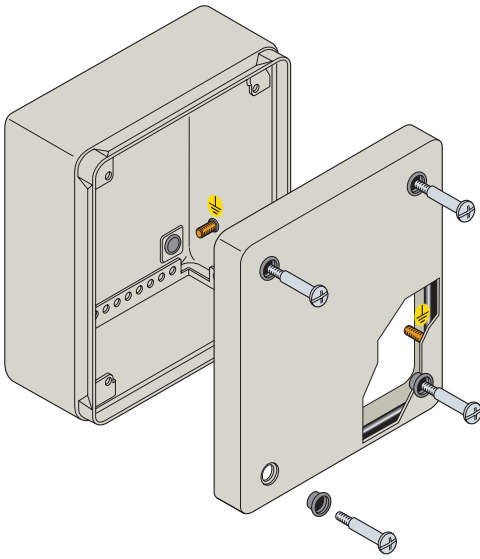
Conformity with the Standard	CEI EN 62208
Degree of protection	Hinged door: IP65 (CEI EN 60529) NEMA 250 Type 4/12 (UL Standard) Cover screwed on: IP66 (CEI EN 60529) NEMA 250 Type 4/12 (UL Standard)
Degree of mechanical strength	IK10 (CEI EN 50102)
Certifications	 
Type of material	Metallic
Installation site	Indoors
Fixing method	Wall
Normal service conditions	
- ambient temperature	from -5 to +40°C
Atmospheric conditions – relative humidity	50% at 40°C 90% at 20°C

### Selection table

Dimensions			Types		
H	W	D	Screwed cover	Hinged door	Back plate
mm	mm	mm			
150	150	80	CD15158		CD1515
200	200		CD20208		CD2020
300	200		CD30208		CD3020
300	300		CD30308		CD3030
400	200		CD40208		CD4020
400	300		CD40308		CD4030
150	150	120	CD15152		CD1515
200	200		CD20202	CD20202H	CD2020
300	200		CD30202	CD30202H	CD3020
300	300		CD30302	CD30302H	CD3030
400	200		CD40202	CD40202H	CD4020
400	300		CD40302	CD40302H	CD4030
400	400		CD40402	CD40402H	CD4040
500	300		CD50302	CD50302H	CD5030
500	400		CD50402	CD50402H	CD5040
600	400		CD60402	CD60402H	CD6040
200	200	150	CD20205		CD2020
300	200		CD30205		CD3020
300	300		CD30305		CD3030
400	200		CD40205		CD4020
400	300		CD40305		CD4030
400	400		CD40405		CD4040
500	300		CD50305		CD5030
500	400		CD50405		CD5040
600	400		CD60405		CD6040
400	400		CD40420		CD4040
500	300	200	CD50320		CD5030
500	400		CD50420		CD5040
600	400		CD60420		CD6040

# CD Junction Boxes

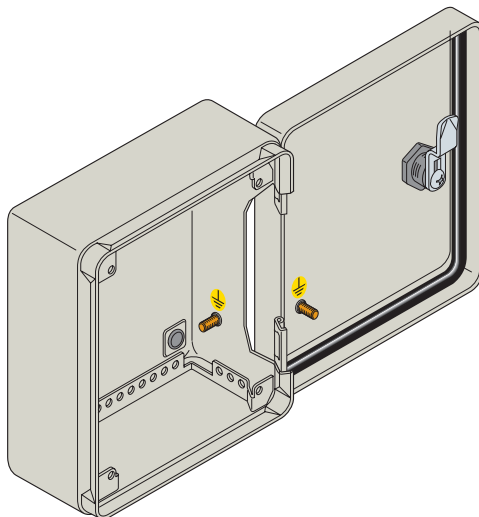
## Ordering codes



### Boxes with screwed cover

Box made of 12/10 thick sheet painted in RAL7032 orange peel, complete with screwed cover and fitted with gasket.

Code	Description	Dimensions mm (HxWxD)
CD15158	Box with screwed cover	150x150x80
CD20208	Box with screwed cover	200x200x80
CD30208	Box with screwed cover	300x200x80
CD30308	Box with screwed cover	300x300x80
CD40208	Box with screwed cover	400x200x80
CD40308	Box with screwed cover	400x300x80
CD15152	Box with screwed cover	150x150x120
CD20202	Box with screwed cover	200x200x120
CD30202	Box with screwed cover	300x200x120
CD30302	Box with screwed cover	300x300x120
CD40202	Box with screwed cover	400x200x120
CD40302	Box with screwed cover	400x300x120
CD40402	Box with screwed cover	400x400x120
CD50302	Box with screwed cover	500x300x120
CD50402	Box with screwed cover	500x400x120
CD60402	Box with screwed cover	600x400x120
CD20205	Box with screwed cover	200x200x150
CD30205	Box with screwed cover	300x200x150
CD30305	Box with screwed cover	300x300x150
CD40205	Box with screwed cover	400x200x150
CD40305	Box with screwed cover	400x300x150
CD40405	Box with screwed cover	400x400x150
CD50305	Box with screwed cover	500x300x150
CD50405	Box with screwed cover	500x400x150
CD60405	Box with screwed cover	600x400x150
CD40420	Box with screwed cover	400x400x200
CD50320	Box with screwed cover	500x300x200
CD50420	Box with screwed cover	500x400x200
CD60420	Box with screwed cover	600x400x200



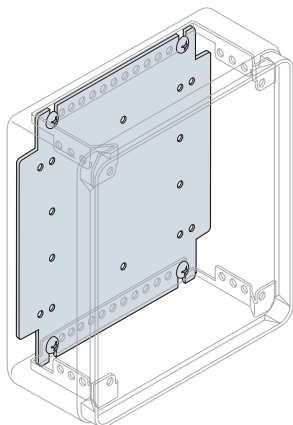
### Boxes with hinged door

Box made of 12/10 thick sheet painted in RAL7032 orange peel, complete with hinged door fitted with box with double tongue closing and gasket.

Code	Description	Dimensions mm (HxWxD)
CD20202H	Box with hinged door	200x200x120
CD30202H	Box with hinged door	300x200x120
CD30302H	Box with hinged door	300x300x120
CD40202H	Box with hinged door	400x200x120
CD40302H	Box with hinged door	400x300x120
CD40402H	Box with hinged door	400x400x120
CD50302H	Box with hinged door	500x300x120
CD50402H	Box with hinged door	500x400x120
CD60402H	Box with hinged door	600x400x120

# CD Junction Boxes

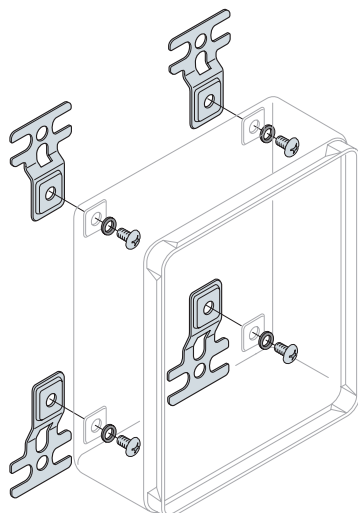
## Ordering codes



### Back plate

Plate made of 20/10 galvanised steel which can be inserted from the front. Complete with relative fixing bolts and screws.

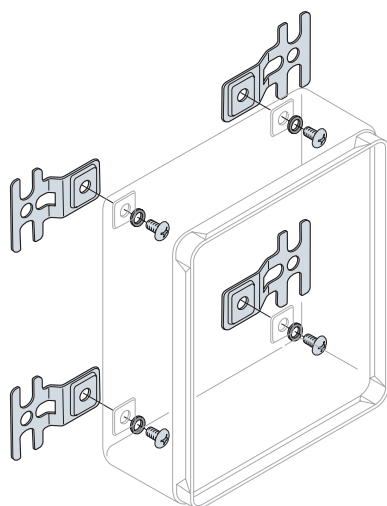
Code	Description	Dimensions mm (HxWxD)
<b>CD1515</b>	Back plate	150x150
<b>CD2020</b>	Back plate	200x200
<b>CD3020</b>	Back plate	300x200
<b>CD3030</b>	Back plate	300x300
<b>CD4020</b>	Back plate	400x200
<b>CD4030</b>	Back plate	400x300
<b>CD4040</b>	Back plate	400x400
<b>CD5030</b>	Back plate	500x300
<b>CD5040</b>	Back plate	500x400
<b>CD6040</b>	Back plate	600x400



### Wall fixing squares

These allow the box to be fixed to the wall in the four corners. Complete with relative fixing bolts and screws.

Code	Description
<b>CD1001</b>	N° 4 Wall fixing squares




# CD EMC Junction boxes

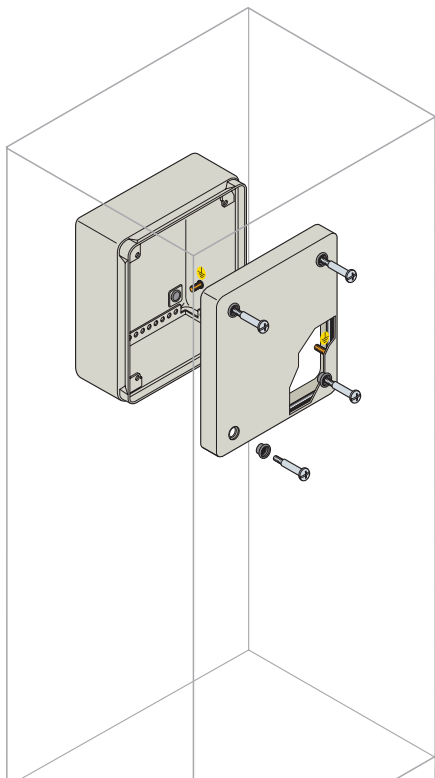
## General characteristics and ordering codes



The range of CD Junction boxes has been enriched with the EMC (Electromagnetic Compatibility) version. The new version has successfully undergone the shielding efficiency tests according to the MIL STD 285 Standard: 1956. This series of products is suitable for making small-sized electric switchboards for automation, operation and control. The electromagnetic compatibility problem also requires attention when selecting enclosures and cabinets. The increased number of components in the operation and regulation electronics and the high processing speeds of signals increasingly often leave a possibility of introducing errors which can be attributed to electromagnetic interference. These interferences can be caused continuously, periodically or at random, from internal or external sources, which generate electric, magnetic or electromagnetic fields. The suitability tests according to MIL STD 285: 1956 ("Attenuation measurements for enclosures, electromagnetic shielding, for electronic test purposes, method of") have confirmed conformity of the CD junction boxes with the requirements of the standard. The attenuation level (measured in dB) remains at high levels for a wide spectrum of frequencies (from 30MHz to 10GHz). The CD box made of galvanized sheet is only painted externally with orange peel RAL 7032 colour.

### Technical characteristics

Conformity with the Standard	CEI EN 62208
Degree of protection	Cover screwed on: IP54 (CEI EN 60529)
Degree of mechanical strength	IK10 (CEI EN 50102)
Certifications	
Type of material	Metallic
Installation site	Indoors
Fixing method	Wall
Normal service conditions	
- ambient temperature	from -5 to +40°C
Atmospheric conditions – relative humidity	50% at 40°C 90% at 20°C



### Boxes with screwed cover IP54 – EMC

Box made of 12/10 sheet painted orange peel RAL7032, complete with screwed cover and fitted with EMC gasket.

Code	Description	Dimensions mm (HxWxD)
CD30302EMC	Box with screwed cover	300x300x120
CD40305EMC	Box with screwed cover	400x300x150

**For completion of the structure, see accessories on page 5/5**



## **Index**

General characteristics .....	<b>6/2</b>
Selection of the structure.....	<b>6/4</b>
Ordering codes.....	<b>6/6</b>
Accessories.....	<b>6/10</b>



## C Console - IP 55

### General Characteristics

The ABB consoles are made of 15/10mm thick steel sheet.

The range is characterised by IP55 degree of protection, and has passed the checks required to obtain the UL (Underwriters Laboratories) and CSA (Canadian Standards Association) Type 12 marks.

All the doors and panels are fitted with a polyurethane foam gasket applied automatically by a robot in continuous casting.

The locks provided are of the type with double tongue.

The internal plates, to be ordered separately, are available in galvanized version with 20-25/10 mm thickness and are adjustable in depth on special guides with 25mm pitch.

Cable passage at the back of the consoles is by means of removable fairlead plates.

The standard colour is orange peel RAL 7032.

On request, the consoles can be ordered in a wide range of RAL colours (see page 7/13).



Gaskets made of polyurethane foam applied by means of a robot in continuous casting on all the small openable doors.





Internal plates made of 25/10mm



Supporting rod for the panels of the console and of the upper console.

#### Technical characteristics

Conformity with Standard	CEI EN 62208
Degree of protection	IP55 (CEI EN 60529) TYPE 12 (UL Standard)
Degree of mechanical strength	IK10 blind door (CEI EN 50102)
Certifications	 
Type of material	Metallic
Installation site	Indoors
Fixing method	floor
Normal service conditions	
- ambient temperature	from - 5 to +40°C
Atmospheric conditions - relative humidity	50% at 40°C 90% at 20°C

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# C Console - IP 55

## General Characteristics

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The range of ABB operating consoles consists of a monobloc version (CU) and four modular versions (CM, CN, CA, CD). The various versions differ from each other in the range of dimensions available, the presence of the upper console and the possibility of opening the rear panels.

Each series of consoles is characterised dimensionally by a height and a depth and is available in various standard widths from 600 to 1600mm (the consoles 1200 and 1600mm wide are provided with a double door at the front).

All the consoles are fitted with palletisable plinths consisting of four angle pieces made of sheet steel 100mm high, so the consoles can easily be handled using a fork-lift truck.

The plinth is completed with four 100mm high flanges (to be ordered separately) or, alternatively, with four additional angle pieces and four 200mm high flanges.

### Modularity

The offer of modular consoles allows the complete version to be ordered, pre-assembled, or to order the single elements to be assembled at a later time. The back plate and plinth must be ordered separately. For the bases and upper consoles used individually, special closure covers are available.

#### Upper console



Upper console with front (CA series) or

#### Desk console



Desk console which can be combined with base and upper console or base and top closure

#### Base



Base with front opening (CA and CN series) or rear (CD and CM series). Can be combined with desk console or a top cover. The door (W 1000 mm)

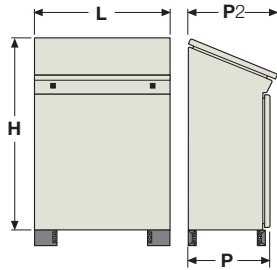


# C Console - IP 55

## Selection table

### Monobloc structure

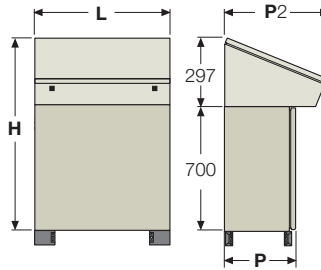
#### CU series



Operating console with console with front opening

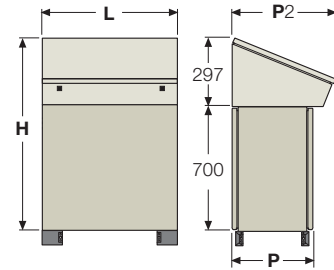
### Modular structures

#### CN series



Operating console with console with front opening

#### CM series



Operating console with console with front and rear opening

H (mm)	W (mm)	D (mm)	D2 (mm)	Operating console with console with front opening			Operating console with console with front opening			Operating console with console with front and rear opening		
				Single version	Pre-assembled version	Separate elements	Pre-assembled version	Separate elements	Pre-assembled version	Separate elements		
						Base	Desk console		Base	Desk console		
960	600	402	466	<b>CU6326</b>								
	800			<b>CU6328</b>								
	1000			<b>CU6330</b>								
	1200*			<b>CU6332</b>								
997	600	402	556		<b>CN1065</b>	<b>CN7064</b>	<b>CN6036</b>					
	800			<b>CN1085</b>	<b>CA7084</b>	<b>CN6038</b>						
	1000			<b>CN1005</b>	<b>CA7004</b>	<b>CN6040</b>						
	1200*			<b>CN1025</b>	<b>CA7024</b>	<b>CN6042</b>						
	800	514	556					<b>CM1841</b>	<b>CM7841</b>	<b>CM3841</b>		
	1000						<b>CM1141</b>	<b>CM7041</b>	<b>CM3041</b>			
	1200*						<b>CM1241</b>	<b>CM7241</b>	<b>CM3241</b>			
	800						<b>CM1851</b>	<b>CD7085</b>	<b>CM3851</b>			
1000				<b>CM1151</b>	<b>CD7005</b>	<b>CM3051</b>						
1200*				<b>CM1251</b>	<b>CD7025</b>	<b>CM3251</b>						
1350	800	402	874									
	1000											
	1200*											
	1600*											
	800	514	986									
	1000											
	1200*											
	1600*											

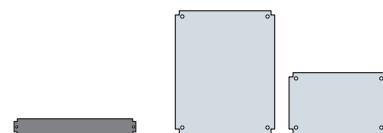
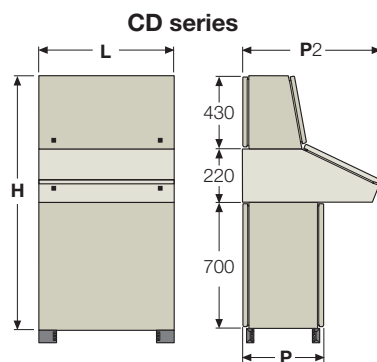
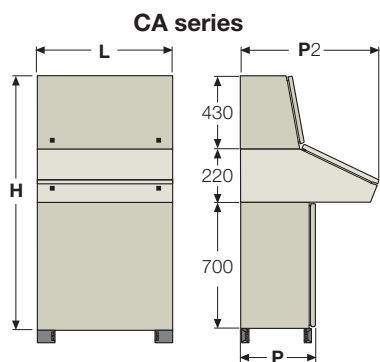
The heights are intended without plinth.

\* The W=1200/1600mm operating consoles are fitted with two front doors with overlapping closure

# C Console - IP 55

## Selection table

### Accessories



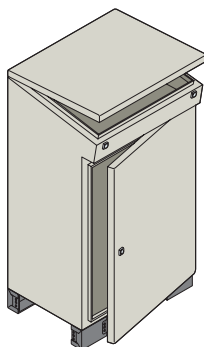
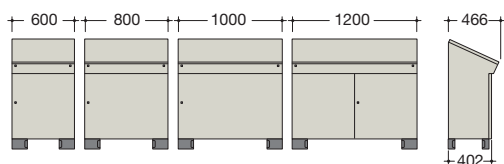
**Desk console with console and upper console with front opening**

**Desk console with console and upper console with front and rear opening**

Desk console with console and upper console with front opening				Desk console with console and upper console with front and rear opening				Flange plinth	Galvanized internal plates	
Pre-assembled version	Separate elements			Pre-assembled version	Separate elements			H=100mm	For upper cons.	
	Base	Desk console	Upper cons.		Base	Desk console	Upper cons.		For base	
								ZA1645	PF6346	
								ZA1845	PF6348	
								ZA1045	PF6350	
								ZA1245	PF6352	
								ZA1645	PF6256	
								ZA1845	PF6258	
								ZA1045	PF6260	
								ZA1245	PF6262	
								ZA1845	PF6258	
								ZA1045	PF6260	
								ZA1245	PF6262	
								ZA1851	PF6258	
								ZA1051	PF6260	
								ZA1251	PF6262	
CA1388	CA7084	CA6118	CA4383					ZA1845	PF6258	PF6278
CA1308	CA7004	CA6120	CA4303					ZA1045	PF6260	PF6280
CA1328	CA7024	CA6122	CA4323					ZA1245	PF6262	PF6282
CA1368	CA7064	CA6126	CA4363					ZA1145	PF6266	PF6286
				CD1389	CD7085	CD6228	CD4384	ZA1851	PF6258	PF6278
				CD1309	CD7005	CD6230	CD4304	ZA1051	PF6260	PF6280
				CD1329	CD7025	CD6232	CD4324	ZA1251	PF6262	PF6282
				CD1369	CD7065	CD6236	CD4364	ZA1151	PF6266	PF6286

# Ordering codes

## C Console - IP 55



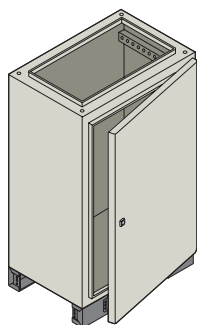
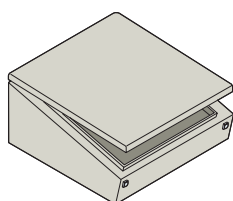
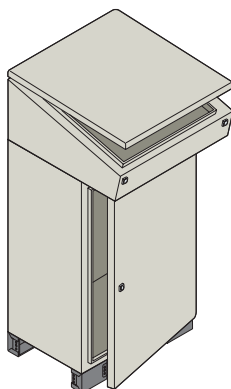
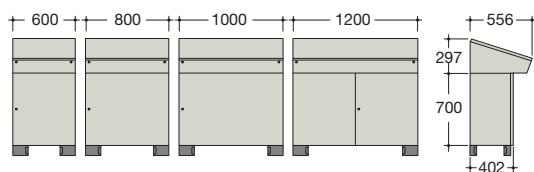
### Monobloc CU series console

#### Structure with console with front openings

The CU monobloc series is made up of a base and desk console without upper console, and is characterised by standard height of 960mm and depth of 466mm. The top closure panel is fitted with a special supporting rod to keep it open. Once the Code relative to the desired dimensions has been found, the order is completed with the galvanized internal plate and with possible plinth, 100 or 200mm high, to be ordered separately.

Code	Description	Dimensions m(HxWxD)
<b>CU6326</b>	Console with console	960x600x466
<b>CU6328</b>	Console with console	960x800x466
<b>CU6330</b>	Console with console	960x1000x466
<b>CU6332</b>	Console with console	960x1200* <sup>4</sup> x466

\* The W=1200/1600mm consoles are fitted with two front doors with overlapping closure



### Modular CN series consoles

#### Structure with console with front openings

The CN modular series is made up of base and desk console without upper console and is characterised by standard height of 1000 mm and depth of 556 mm. The top closure panel is fitted with a special supporting rod to keep it open. The series can be ordered in the complete version (pre-assembled base and desk console) or in single elements. The internal galvanized plate and the plinth, 100 or 200 mm high, must be ordered separately in both cases.

#### Pre-assembled structure

Code	Description	Dimensions mm (HxWD)
<b>CN1065</b>	Operating console with console	997x600x556
<b>CN1085</b>	Operating console with console	997x800x556
<b>CN1005</b>	Operating console with console	997x1000x556
<b>CN1025</b>	Operating console with console	997x1200* <sup>4</sup> x556

#### Separate elements

##### Desk console

Code	Description	Dimensions mm (HxWD)
<b>CN6036</b>	Desk console for CN7064	297x600x466
<b>CN6038</b>	Desk console for CA7084	297x800x466
<b>CN6040</b>	Desk console for CA7004	297x1000x466
<b>CN6042</b>	Desk console for CA7024	297x1200x466

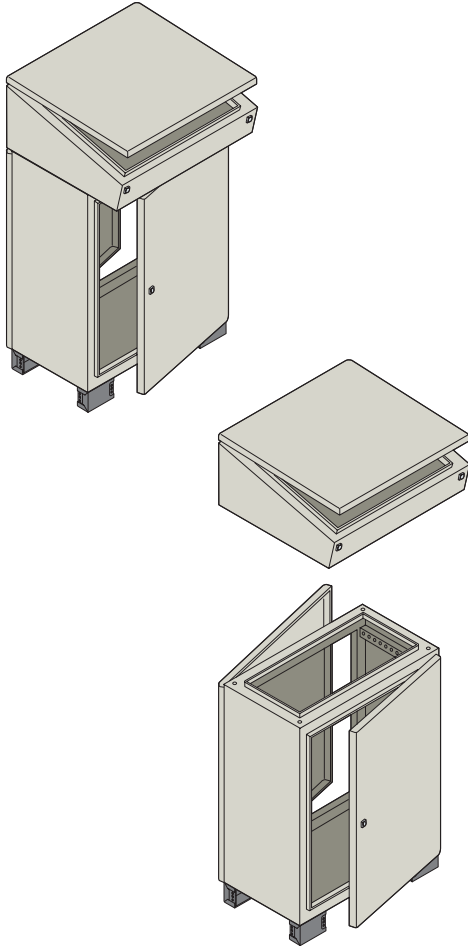
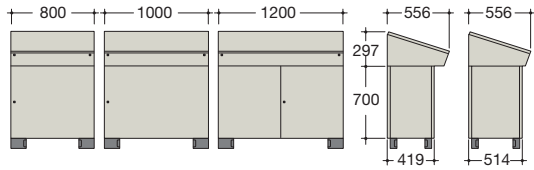
##### Base

Code	Description	Dimensions mm (HxWD)
<b>CN7064</b>	Base for CN6036	700x600x402
<b>CA7084</b>	Base for CN6038	700x800x402
<b>CA7004</b>	Base for CN6040	700x1000x402
<b>CA7024</b>	Base for CN6042	700x1200* <sup>4</sup> x402

\* The W=1200/1600mm consoles are fitted with two front doors with overlapping closure

# Ordering codes

## C Console - IP 55



### Modular CM series Console

#### Structure with console with front and rear openings

The modular CM series is made up of a base and desk console. The base has opening in the rear part as well. The top closure panel is fitted with a special supporting rod to keep it open.

The series can be ordered in the complete version (pre-assembled base and desk console) or in single elements. The internal galvanized plate and the plinth, 100 or 200 mm high, must be ordered separately in both cases.

#### Pre-assembled structure

Code	Description	Dimensions mm (HxWxD)
<b>CM1841</b>	Operating console with console - base D=419mm	997x800x556
<b>CM1141</b>	Operating console with console - base D=419mm	997x1000x556
<b>CM1241</b>	Operating console with console - base D=419mm	997x1200*x556
<b>CM1851</b>	Operating console with console - base D=514mm	997x800x556
<b>CM1151</b>	Operating console with console - base D=514mm	997x1000x556
<b>CM1251</b>	Operating console with console - base D=514mm	997x1200*x556

#### Separate elements

Desk console

Code	Description	Dimensions mm (HxWxD)
<b>CM3841</b>	Desk console for CM7841	297x800x556
<b>CM3041</b>	Desk console for CM7041	297x1000x556
<b>CM3241</b>	Desk console for CM7241	297x1200x556
<b>CM3851</b>	Desk console for CD7085	297x800x556
<b>CM3051</b>	Desk console for CD7005	297x1000x556
<b>CM3251</b>	Desk console for CD7025	297x1200x556

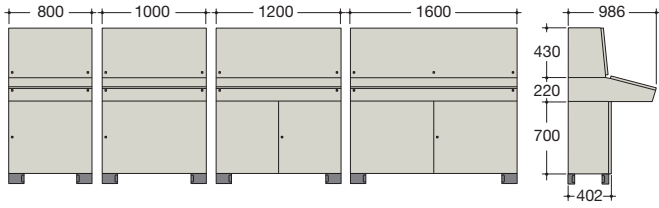
Base

Code	Description	Dimensions mm (HxWxD)
<b>CM7841</b>	Base for CM3841	700x800x419
<b>CM7041</b>	Base for CM3041	700x1000x419
<b>CM7241</b>	Base for CM3241	700x1200*x419
<b>CD7085</b>	Base for CM3851	700x800x514
<b>CD7005</b>	Base for CM3051	700x1000x514
<b>CD7025</b>	Base for CM3251	700x1200*x514

\* The W=1200/1600mm consoles are fitted with two front doors with overlapping closure

# Ordering codes

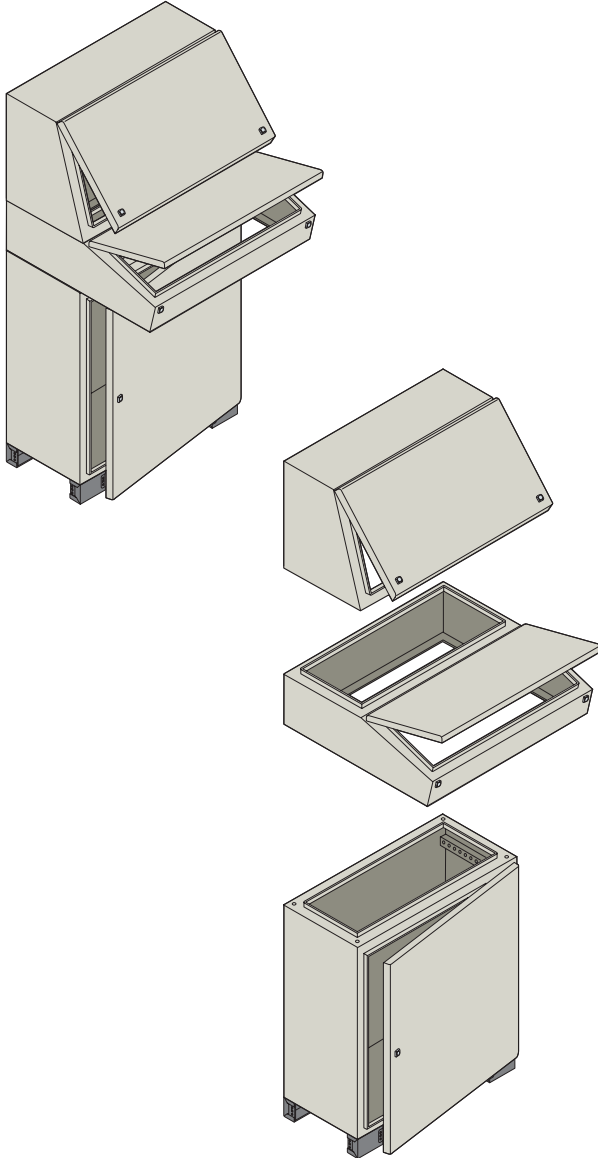
## C Console - IP 55



### Modular CA series Console

#### Structure with console and upper console with front openings

The modular CA series is made up of base, desk console and upper console. The standard dimensions are height of 1350mm and depth of 874 mm. The desk console panel is fitted with a special supporting rod to keep it open. The series can be ordered in the complete version (pre-assembled base and desk console) or in single elements. The internal galvanized plate and the plinth, 100 or 200 mm high, must be ordered separately in both cases.



#### Pre-assembled structure

Code	Description	Dimensions mm (HxWxD)
<b>CA1388</b>	Operating console with console and upper console	1350x800x874
<b>CA1308</b>	Operating console with console and upper console	1350x1000x874
<b>CA1328</b>	Operating console with console and upper console	1350x1200*x874
<b>CA1368</b>	Operating console with console and upper console	1350x1600*x874

#### Separate

Upper console

Code	Description	Dimensions mm (HxWxD)
<b>CA4383</b>	Upper console for CA7084	430x600x402
<b>CA4303</b>	Upper console for CA1308	430x800x402
<b>CA4323</b>	Upper console for CA1328	430x1000x402
<b>CA4363</b>	Upper console for CA1368	430x1200x402

Desk console

Code	Description	Dimensions mm (HxWxD)
<b>CA6118</b>	Desk console for CA7084	220x600x874
<b>CA6120</b>	Desk console for CA1308	220x800x874
<b>CA6122</b>	Desk console for CA1328	220x1000x874
<b>CA6126</b>	Desk console for CA1368	220x1200x874

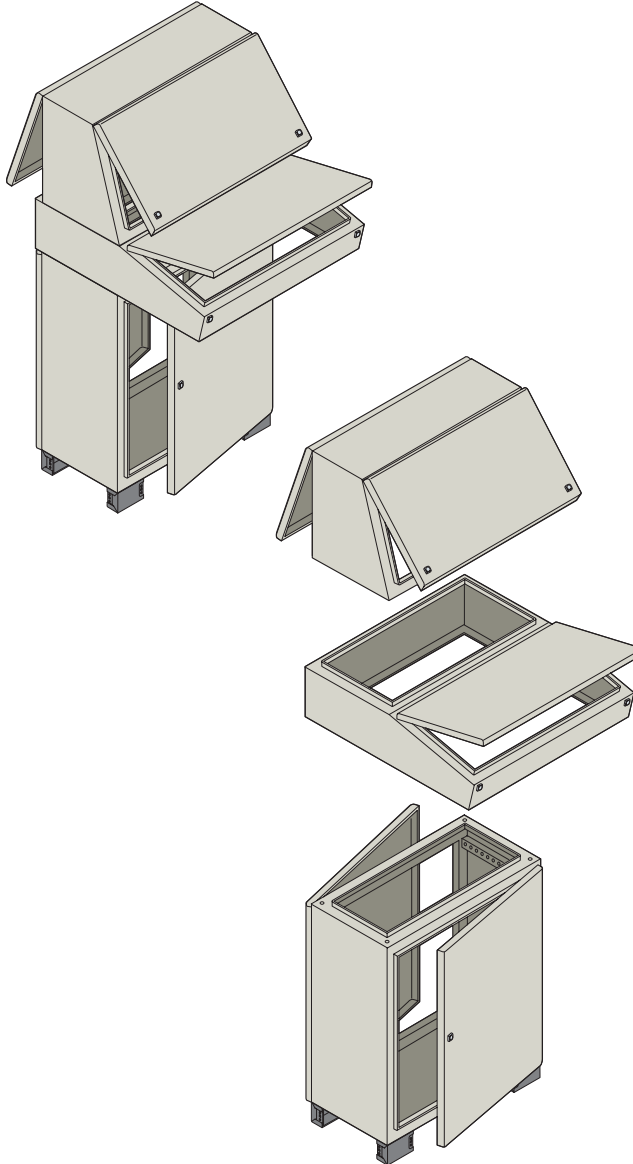
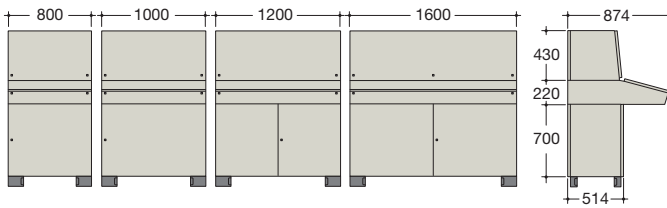
Base

Code	Description	Dimensions mm (HxWxD)
<b>CA7084</b>	Base for CA6118/CA4383	700x800x402
<b>CA7004</b>	Base for CA6120/CA4303	700x1000x402
<b>CA7024</b>	Base for CA6122/CA4323	700x1200*x402
<b>CA7064</b>	Base for CA6126/CA4363	700x1600*x402

\* The W=1200/1600mm consoles are fitted with two front doors with overlapping closure

# Ordering codes

## C Console - IP 55



### Modular CD series Console

#### Structure with console and upper console with front and rear openings

The modular CD series is made up of base, desk console and upper console. Unlike the CA series, the base and upper console also have an opening in the rear part. The standard dimensions are height of 1350mm and depth of 986 mm.

The desk console panel is fitted with a special supporting rod to keep it open. The CD series can be ordered in the complete version (pre-assembled base and desk console) or in single elements. The internal galvanized plate and the plinth, 100 or 200 mm high, must be ordered separately in both cases.

#### Pre-assembled structure

Code	Description	Dimensions mm (HxWxD)
<b>CD1389</b>	Operating console with console and upper console	1350x800x986
<b>CD1309</b>	Operating console with console and upper console	1350x1000x986
<b>CD1329</b>	Operating console with console and upper console	1350x1200*x986
<b>CD1369</b>	Operating console with console and upper console	1350x1600*x986

#### Separate elements

##### Upper console

Code	Description	Dimensions mm (HxWxD)
<b>CD4384</b>	Upper console for CD7085	430x600x514
<b>CD4304</b>	Upper console for CD7005	430x800x514
<b>CD4324</b>	Upper console for CD7025	430x1000x514
<b>CD4364</b>	Upper console for CD7065	430x1200x514

##### Desk console

Code	Description	Dimensions mm (HxWxD)
<b>CD6228</b>	Desk console for CD7085	220x600x986
<b>CD6230</b>	Desk console for CD7005	220x800x986
<b>CD6232</b>	Desk console for CD7025	220x1000x986
<b>CD6236</b>	Desk console for CD7065	220x1200x986

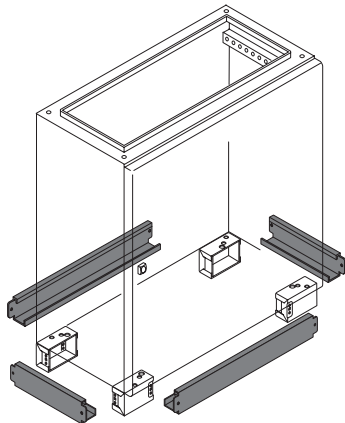
##### Base

Code	Description	Dimensions mm (HxWxD)
<b>CD7085</b>	Base for CD6228/CD4384	700x800x514
<b>CD7005</b>	Base for CD6230/CD4304	700x1000x514
<b>CD7025</b>	Base for CD6232/CD4324	700x1200*x514
<b>CD7065</b>	Base for CD6236/CD4364	700x1600*x514

\* The W=1200/1600mm consoles are fitted with two front doors with overlapping closure

# Ordering codes

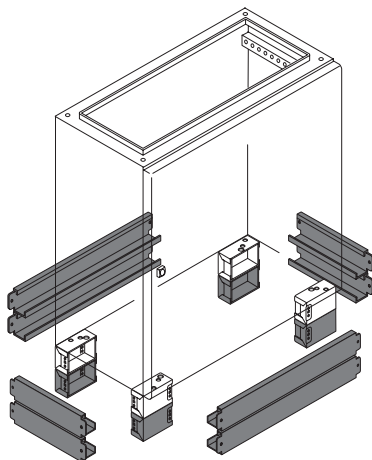
## Accessories



### Plinth covering flanges H=100mm

Removable 15/10 sheet flanges painted orange peel RAL 7012 (not self-

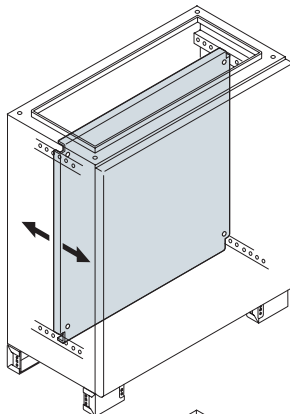
Code	Description	Dimensions base mm (WxD)
<b>ZA1645</b>	N°4 flanges H=100mm	600x402
<b>ZA1845</b>	N°4 flanges H=100mm	800x402/419
<b>ZA1045</b>	N°4 flanges H=100mm	1000x402/419
<b>ZA1245</b>	N°4 flanges H=100mm	1200x402/419
<b>ZA1145</b>	N°4 flanges H=100mm	1600x402
<b>ZA1851</b>	N°4 flanges H=100mm	800x514
<b>ZA1051</b>	N°4 flanges H=100mm	1000x514
<b>ZA1251</b>	N°4 flanges H=100mm	1200x514
<b>ZA1151</b>	N°4 flanges H=100mm	1600x514



### Additional plinth H=200mm

Kit consisting of 4 angle pieces and 6 removable 15/10 sheet flanges

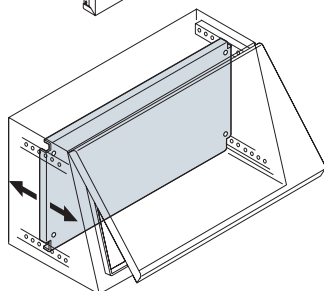
Code	Description	Dimensions base mm (WxD)
<b>ZA2645</b>	N°4 angles pieces + N°4 flanges H=100mm	600x402
<b>ZA2845</b>	N°4 angles pieces + N°4 flanges H=100mm	800x402/419
<b>ZA2045</b>	N°4 angles pieces + N°4 flanges H=100mm	1000x402/419
<b>ZA2245</b>	N°4 angles pieces + N°4 flanges H=100mm	1200x402/419
<b>ZA2851</b>	N°4 angles pieces + N°4 flanges H=100mm	800x514
<b>ZA2051</b>	N°4 angles pieces + N°4 flanges H=100mm	1000x514
<b>ZA2251</b>	N°4 angles pieces + N°4 flanges H=100mm	1200x514
<b>ZA2245</b>	N°4 angles pieces + N°4 flanges H=100mm	1600x402
<b>ZA2151</b>	N°4 angles pieces + N°4 flanges H=100mm	1600x514



### Back plates

#### Plates for bases

Code	Description	Dimensions base mm (WxD)
<b>PF6346</b>	Galvanized sheet plate for Cu series base	700x600
<b>PF6348</b>	Galvanized sheet plate for Cu series base	700x800
<b>PF6350</b>	Galvanized sheet plate for Cu series base	700x1000
<b>PF6352</b>	Galvanized sheet plate for Cu series base	700x1200
<b>PF6256</b>	Galvanized sheet plate	700x600
<b>PF6258</b>	Galvanized sheet plate	700x800
<b>PF6260</b>	Galvanized sheet plate	700x1000
<b>PF6262</b>	Galvanized sheet plate	700x1200
<b>PF6266</b>	Galvanized sheet plate	700x1600

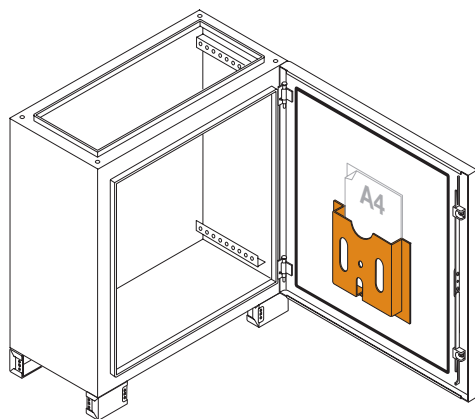


#### Plates for upper console

Code	Description	Dimensions base mm (WxD)
<b>PF6278</b>	Galvanized sheet plate	430x800
<b>PF6280</b>	Galvanized sheet plate	430x1000
<b>PF6282</b>	Galvanized sheet plate	430x1200
<b>PF6286</b>	Galvanized sheet plate	430x1600

# Ordering codes

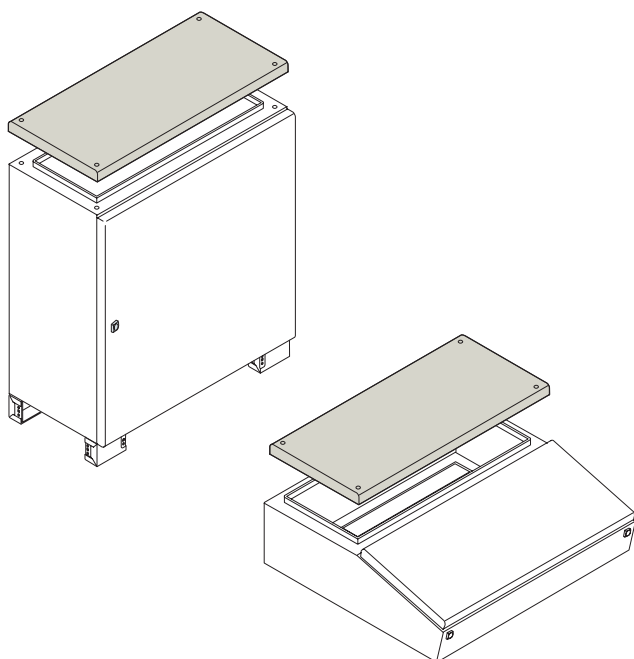
## Accessories



Code	Description
<b>AA5600</b>	Plastic diagram pocket

### Cover for base

Code	Description	Dimensions base mm (WxD)
<b>CA6140</b>	Cover for base CN7064	600x402
<b>CA6141</b>	Cover for base CA7084	8000x402
<b>CA6142</b>	Cover for base CA7004	1000x402
<b>CA6143</b>	Cover for base CA7024	1200x402
<b>CA6141</b>	Cover for base CA7084	800x402
<b>CA6142</b>	Cover for base CA7004	1000x402
<b>CA6143</b>	Cover for base CA7024	1200x402
<b>CA6144</b>	Cover for base CA7064	1600x402
<b>CD6293</b>	Cover for base CD7085	800x514
<b>CD6294</b>	Cover for base CD7005	1000x514
<b>CD6295</b>	Cover for base CD7025	1200x514
<b>CD6296</b>	Cover for base CD7065	1600x514



### Closure for desk console

Code	Description	Dimensions base mm (WxD)
<b>CA6161</b>	Closure for desk console CA6118	800x402
<b>CA6162</b>	Closure for desk console CA6120	1000x402
<b>CA6163</b>	Closure for desk console CA6122	1200x402
<b>CA6164</b>	Closure for desk console CA6126	1600x402
<b>CD6298</b>	Closure for desk console CA6228	800x514
<b>CD6299</b>	Closure for desk console CA6230	1000x514
<b>CD6300</b>	Closure for desk console CA6232	1200x514
<b>CD6301</b>	Closure for desk console CA6236	1600x514

### Spare parts

Code	Description
<b>AA1481</b>	Console double tongue closure
<b>AA1482</b>	Upper console double tongue closure
<b>AA1511</b>	Base hooking device double tongue closure
<b>AA1550</b>	Key with double tongue
<b>ZA3078</b>	N°4 angle pieces plinth H=100mm
<b>VB7012</b>	Grey RAL 7012 colour spray paint for touching up
<b>VB9005</b>	Grey RAL 9005 colour spray paint for touching up
<b>VB7035</b>	Grey RAL 7035 colour spray paint for touching up
<b>VB7032</b>	Grey RAL 7032 colour spray paint for touching up





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## In-depth technical information

### Gemini switchboards - Conformity with standards and technical characteristics

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#### Reference Standards

Standard IEC 62208 (“Empty enclosures for low voltage switch-gear and control gear assemblies. General requirements.”), that has implemented at an international level the Standard EN 50298, presently EN 62208, is the prescriptive reference for Gemini switchboards.

The object of Standard CEI EN 50298 is to formulate definitions, classifications, characteristics and test prescriptions for cases designed to be used as part of protection and operating equipment (switchboards) in compliance with the Standards of the EN 60439 series, that have a maximum rated voltage of 1000 V in alternating current for maximum frequencies of 1000 Hz or 1500 V in direct current and are suitable for general use in both internal and external applications.

The Standard applies to empty enclosures, before the user has installed protection and operating devices inside them.

The Standard does not apply to enclosures with structural and functional characteristics that make them subject to other prescriptions (e.g. cases for domestic installations and the like).

In this case Standards IEC 60670 – CEI 23-48 (“General requirements for enclosures for accessories for household and similar fixed electrical installations”) and CEI 23-49 (“Enclosures for accessories for household and similar fixed electrical installations. Part 2: particular requirements for enclosures for protection devices and accessories dissipating a considerable power in normal use”) apply.

On the basis of the indications of the ABB SACE technical characteristics’ table, the installer may have to certify compliance with Standards CEI 23-51 – EN 60439-1 – CEI 17-13-1 (“Part 1: standard equipment subject to type tests – AS – and non-standard equipment partially subject to type tests – ANS).

# In-depth technical information

## Gemini switchboards - Conformity with standards and technical characteristics

Table of Gemini switchboards' technical characteristics

Size	1	2	3	4	5	6
<b>Gemini with transparent door</b>	1SL0211A00	1SL0212A00	1SL0213A00	1SL0214A00	1SL0215A00	1SL0216A00
<b>Gemini with opaque door</b>	1SL0201A00	1SL0202A00	1SL0203A00	1SL0204A00	1SL0205A00	1SL0206A00
<b>External dimensions WxHxD (mm)</b>	335x400x210	460x550x260	460x700x260	590x700x260	590x855x360	840x1005x360
<b>Internal dimensions WxHxD (mm)</b>	250x300x180	375x450x230	375x600x230	500x600x230	500x750x330	750x900x330
<b>IP degree</b>	IP66	IP66	IP66	IP66	IP66	IP66
<b>Double isolation</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>IK degree</b>	10	10	10	10	10	10
<b>GWT (°C)</b>	750	750	750	750	750	750
<b>Operating temperature</b>	-25 °C ÷ +100 °C	-25 °C ÷ +100 °C	-25 °C ÷ +100 °C	-25 °C ÷ +100 °C	-25 °C ÷ +100 °C	-25 °C ÷ +100 °C
<b>No. of DIN modules</b>	24 (12x2)	54 (18x3)	72 (18x4)	96 (24x4)	120 (24x5)	216 (36x6)
<b>No. of vertical modules (H=150 mm)</b>	2	3	4	4	5	6
<b>Material</b>	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic
<b>Color</b>	Grey RAL7035	Grey RAL7035	Grey RAL7035	Grey RAL7035	Grey RAL7035	Grey RAL7035
<b>Fast wiring system</b>	Unifix L	Unifix L	Unifix L	Unifix L	Unifix L	Unifix L
<b>No. of locks</b>	2	2	2	2	3	3
<b>Rated frequency</b>	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz
<b>Maximum dissipation power <sup>(1)</sup></b>	45 W	72 W	85 W	102 W	156 W	248 W
<b>STANDARD CEI EN 60439-1</b>						
<b>Over-temperature (par. 8.2.1) <sup>(2)</sup></b>						
- Max. dispersible power with over-temperature of 25 °C	40 W	65 W	77 W	91 W	133 W	205 W
- Max. dispersible power with over-temperature of 30 °C	45 W	72 W	85 W	102 W	156 W	248 W
- Max. dispersible power with over-temperature of 35 °C	52 W	85 W	100 W	121 W	187 W	299 W
- Max. dispersible power with over-temperature of 40 °C	62 W	100 W	118 W	143 W	221 W	355 W
<b>Impulse withstand (par. 8.2.2)</b>						
- Rated service voltage	≤ 690 V	≤ 690 V	≤ 690 V	≤ 690 V	≤ 690 V	≤ 690 V
- Rated insulation voltage	AC 1000 V	1000 V	1000 V	1000 V	1000 V	1000 V
	DC 1500 V	1500 V	1500 V	1500 V	1500 V	1500 V
- Rated impulse withstand voltage	8 kV	8 kV	8 kV	8 kV	8 kV	8 kV
<b>Short circuit withstand (par. 8.2.3)</b>						
- Rated peak short-circuit current	-	-	-	-	-	-

**<sup>(1)</sup> Limits of applicability of the CEI 23-51 Standard1**

The Standard can only be applied if the cabled switchgear conforms to all the following conditions:

- fixed installation with average ambient temperature up to 25 °C, occasionally up to 35 °C;
- alternating current with rated voltage up to 440 V;
- rated input current up to 125 A;
- rated prospective short-circuit current up to 10 kA or protection with current limiting devices with limited current up to 15 kA in correspondence with their rated breaking capacity.

<sup>(1)</sup> Maximum dissipation power data was obtained following the indications of **Standard CEI 23-49**, with a temperature difference of  $\Delta t=30$  °C.

**<sup>(2)</sup> Note to paragraph 8.2.1 of Standard CEI EN 60439-1**

The table gives the thermal dissipation values of Gemini switchboards when they are wall-mounted. The dispersible power figures (in Watts) vary according to the overtemperature allowed in the accessible parts of the switchboard and must be compared with the total amount of power dissipated by all the components installed inside the switchboard taking into due account the factor of contemporaneity.

# In-depth technical information

## Gemini switchboards - Degree of protection IP

As indicated in the following table, the IP degree of protection is expressed by two characteristic numbers depending on the behavior of the product to which it refers according to the prescriptions of CEI 70-1 and IEC 529 Standards.

With IP66 degree of protection, Gemini switchboards are totally protected against the penetration of dusts and sprays of seawater.

### 1<sup>st</sup> figure: protection against solid bodies

<b>0</b>	No protection
<b>1</b>	Protection against the penetration of solid bodies with a diameter of over 50 mm
<b>2</b>	Protection against the penetration of solid bodies with a diameter of over 12 mm or a length of over 80 mm
<b>3</b>	Protection against the penetration of solid bodies with a diameter or thickness of over 2.5 mm
<b>4</b>	Protection against the penetration of solid bodies with a diameter or thickness of over 1.0 mm
<b>5</b>	Protection against the penetration of dusts
<b>6</b>	Total protection against the penetration of dusts

1<sup>st</sup> number defined by Standards CEI 70-1 – IEC 60529

### 2<sup>nd</sup> figure: protection against liquids

<b>0</b>	No protection
<b>1</b>	Protection against the penetration of drops of water falling vertically
<b>2</b>	Protection against the penetration of drops of water falling at an angle of up to 15° from vertical
<b>3</b>	Protection against the penetration of drops of water falling at an angle of up to 60° from vertical
<b>4</b>	Protection against the penetration of splashes of water from all directions
<b>5</b>	Protection against the penetration of water sprayed by a hose from all directions
<b>6</b>	Protection against the penetration of sea water
<b>7</b>	Protection against the penetration of water during temporary immersion
<b>8</b>	Protection against the penetration of water during continual immersion

2<sup>nd</sup> number defined by Standards CEI 70-1 - IEC 60529


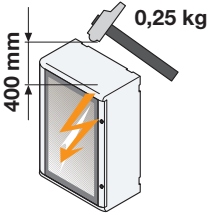
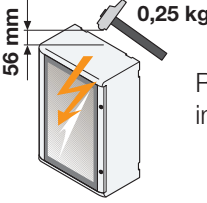
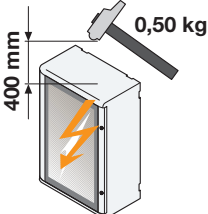
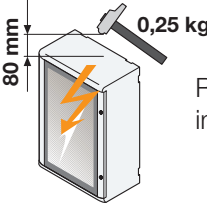
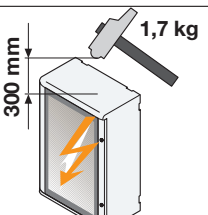
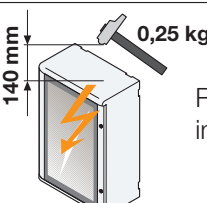
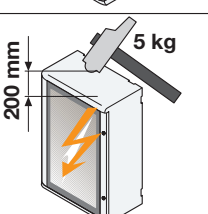
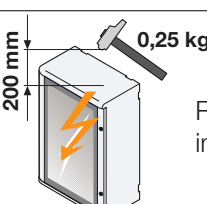
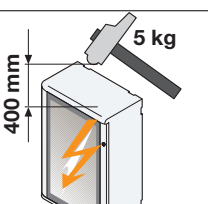
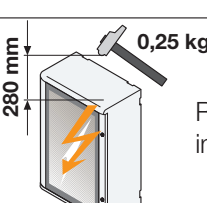
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# In-depth technical information

## Gemini switchboards - Mechanical impact strength IK

### IK degree of resistance to impacts

The IK degree is expressed in Joules in compliance with Standard CEI EN 50102.


<b>IK 0</b>		No protection against impacts	<b>IK 06</b>		Resistance to impacts with impact energy up to <b>1.00 J</b>
<b>IK 01</b>		Resistance to impacts with impact energy up to <b>0.150 J</b>	<b>IK 07</b>		Resistance to impacts with impact energy up to <b>2.00 J</b>
<b>IK 02</b>		Resistance to impacts with impact energy up to <b>0.200 J</b>	<b>IK 08</b>		Resistance to impacts with impact energy up to <b>5.00 J</b>
<b>IK 03</b>		Resistance to impacts with impact energy up to <b>0.350 J</b>	<b>IK 09</b>		Resistance to impacts with impact energy up to <b>10.00 J</b>
<b>IK 04</b>		Resistance to impacts with impact energy up to <b>0.500 J</b>	<b>IK 10</b>		<b>Gemini</b> Resistance to impacts with impact energy up to <b>20.00 J</b>
<b>IK 05</b>		Resistance to impacts with impact energy up to <b>0.700 J</b>			

# In-depth technical information

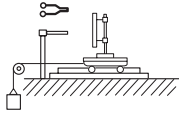
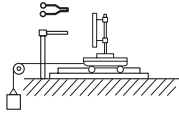
## Gemini switchboards - Double insulation and self-extinguishing tests

### Double insulation

Double insulation guarantees that Gemini is protected against indirect contacts on condition that the manufacturer's instructions are observed when carrying out mounting and wiring operations on the switchboard and that the appropriate accessories are used (e.g. screw-cover caps).

Double insulation is indicated by the graphic symbol 

### Self-extinguishing tests

Test text Characteristic	Equipment required	Compliance with Standards	Purpose	Test results of the test	Test conditions		
					Heat source	Length of test	Length elements
<b>GLOW-WIRE TEST</b> 		<b>IEC 695-2-1</b> <b>CEI 50-11</b>	To assess the danger of fire by simulating thermal stresses produced by heat sources or by ignition (e.g. glowing elements, resistances overloaded for short intervals)	If a flame is generated, it must go out within 30 seconds of removing the glow wire. The test is conducted at temperatures of: - 650 °C - 750 °C - 850 °C - 960 °C	Glow wire ø 4 mm	30 sec.	Assessment of the time it takes for the flame to go out

# In-depth technical information

## Gemini switchboards - Resistance to chemical agents

### Resistance to chemical agents

The behaviour of Gemini switchboard in the presence of chemical agents is indicated in the table with the following symbols:

	High resistance	Limited resistance
Cold water	●	
Hot water	●	
Sulfuric acid 50%	●	
Hydrochloric acid 36%	●	
Acetic acid al 60%	●	
Benzol		●
Gasoline		●
Acetone	●	
Ethyl alcohol	●	
Ammonia	●	
Dichloromethane		●
Diesel oil-naphtha		●
Minaral oils and greases	●	
Food oils and greases	●	
Perchloroethylene		●
Trichlorethene		●
Ethylether	●	
Toluene		●
Methanol	●	
Wine	●	
Fruit juices	●	
Laundry lye	●	
Detergent	●	

# In-depth technical information

## Gemini switchboards - Instruction for disposal

### Information about how to dispose of Gemini switchboards when they reach the end of their life




Instructions are given below about the procedures to adopt when disposing of Gemini switchboards at the end of their life cycle. The text is drafted in the form of a table referring to Standard CEI 308-1 "Information table concerning the end of life of electric and electronic products and a compilation guide", 2002-04, ed. 1, pamphlet number 308-1 6454.

### Section I – Global product specification

Name Size	Type of product			
	With transparent door	With opaque door	Rated weight (kg)	External dimensions WxHxD (mm)
1	1SL0211A00	1SL0201A00	4,3	335x400x210
2	1SL0212A00	1SL0202A00	7,9	460x550x260
3	1SL0213A00	1SL0203A00	9,5	460x700x260
4	1SL0214A00	1SL0204A00	12,0	590x700x260
5	1SL0215A00	1SL0205A00	17,8	590x855x360
6	1SL0216A00	1SL0206A00	21,1	840x1005x360

### Section II – Global product table

General code: CER 17 02 03 plastic (more than 95% of the product's weight)

No. of the component part (P1, P2, etc.)	Diagram	Quantity % over total weight	Material description	Symbol	Dangerousness (Yes/No)	CER Code
P1/BOX		~ 80%	Polypropylene	 >PP<	No	17 02 03
P2/ROOF			Polypropylene	 >PP<	No	17 02 03
P3/DOOR		~ 20%	Polycarbonate	 >PC<	No	17 02 03
P4/ACCESSORIES		< 5%	Steel	-	No	17 04 05
P5/ACCESSORIES		< 5%	Brass	-	No	17 04 01

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# In-depth technical information

## Gemini switchboards - Instruction for disposal

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### Section III – Components to be removed from the product and sent for separate treatment

Refer to section II of the table for a description of the materials.

#### Notes for recovery and disposal

At the end of its life, after separating it from components, the product can be sent to be recovered.

The product is not biodegradable: do not dispose of it in the environment.

The product/waste product is assimilable as solid urban waste. It must be incinerated or disposed of in compliance with current EEC, national and local regulations. You are recommended to check all reutilization possibilities.

#### Other recommendations

The information in this table relates to the product in the condition it was supplied. Assembled parts coming from different supplies must be treated separately according to the reference specifications of the respective manufacturers.

### Section IV – Safety instructions

#### Handling

No special instructions. Refer to the general regulations concerning hygiene on the workplace when using.

The product's main components contain mineral additives and coloring agents in concentrations that comply with current European Directives at the time this catalogue went to press: they do not contain substances classified as dangerous.

#### Transport

No special instructions.

#### Storage

No gas or harmful vapors are released during storage. Thermal decomposition in the event of fire or combustion may release dangerous products: if this should occur, specific means of protection must be used. In the event of fire, conventional fire extinguishing instruments are recommended (atomized water, foam, carbon dioxide, powder).

Empty packages are not contaminated by the product and can therefore be recycled or reused.

#### Utilization

No special instructions.

#### Other instructions

The information given in this section is based on current ABB SACE know-how and is aimed at describing the product only for environmental, health and safety purposes. It must not, therefore, be considered as a guarantee of specific properties. ABB SACE assumes no responsibility for the behavior of buyers that do not comply with the information given in this table and for incorrect or improper usages of the product or usages that cannot reasonably be envisaged.

# In-depth technical information

## Mechanical characteristics

### Mechanical characteristics

#### Material

	Structure	Panels	Doors	Plates
	Steel sheet [mm] thick	Steel sheet [mm] thick	Steel sheet [mm] thick	Safety glass external thickness [mm]
<b>SR Enclosures</b>	12÷15/10		12÷15/10	4
<b>SR-E Enclosures without flanges</b>	12/10		12/10	
<b>AM2 cabinets</b>	15/10		15/10	4
<b>IS2 - IS2 EMC Enclosures</b>	12/10	15/10	20/10	4
<b>CD Junction boxes</b>	12/10		12/10	
<b>C Console</b>	15/10		15/10	

#### Painting

Structure colour	Grey orange peel RAL 7032	
Plinth colour	Grey orange peel RAL 7012	
Standard cycle	Sheet washing	
	Phosphating with ferrous salt base	
	Tunnel drying at 100°C	
	External and internal painting with electrostatic application of powder thermosetting coat with epoxy polyester binders, orange peel RAL 7032 colour, 60/70 micron total thickness.	
	Oven polymerisation at 180°C.	
Characteristics of the paint	Binder:	epoxy polyester
	Specific gravity:	1,61g/cm <sup>3</sup>
	Theoretical spread:	10.4 m <sup>2</sup> /kg with 60 micron average film thickness
	Melting point:	85-95 °C (Kofler bench method)
	Granulometry:	standard distribution from 5 to 100 micron with average particle size between 30 and 40 micron. Hardening 12 min x 190 °C (object temperature).
	Hardness:	1H - 2H
	Bending elasticity DIN 53152:	unaltered on 1/4" spindle
	Reticle adhesion DIN 53151:	GT O (100%)
Erichem elasticity:	SEN DIN 53156: > 6mm	
Gardner impact strength:	25 Kg. x cm.	

Tests carried out on degreased and phosphated plates with 60/70 micron film thickness.

The painting has passed the saline mist resistance tests (193 hours).

#### Environmental characteristics according to the CEI EN 62208 Standard

Type of installation	indoor	
Installation conditions	floor	
Operating climate (t°/rh %)	constant	23°C/83% - 40°C/93%
	variable	23°C/98% - 40°C/98%
Environmental temperature limits	operating	-5°C +40°C
	storage	-25°C +55°C

# In-depth technical information

## Declaration of conformity

### ABB SACE declaration of conformity

#### Conformity with the CEI EN 62208 and EN 60439-1 Standards

The enclosures have undergone the type tests foreseen by the EN 62208 and EN 60439-1 standards at the ABB laboratories. The results of these tests guarantee the performances of the IS2 enclosures and allow the end panel board builder not to carry out any further type tests by respecting the selection criteria and assembly instructions of the various components. These results, given below, can be referred to for making out the declaration of conformity for the electric panel board.

#### CEI EN 62208 Standard

"Empty enclosures for low voltage switchgear and controlgear assemblies".

#### EN 60439-1 Standard

"Low voltage protection switchgear and controlgear assemblies".

#### IS2 Enclosures

Rated characteristics:

Rated service voltage	up to 690 V
Rated insulation voltage	up to 1000V
Degree of protection	IP65 with door IP54 with ventilated/air-conditioned door and panels - with EMC door version
Mechanical impact strength IK	10 with blind door 09 with glazed door - 08 EMC version glazed door

Efficiency of the protection circuit (Ref. par. 8.2.4. of the Standard)

(Ref. par. 8.2.4.1) By respecting the assembly indications for the metal components, the effective electrical continuity between the conductive electrical parts has been verified, with negligible resistance values.

Insulation distances (Ref. par. 8.2.5. of the Standard)

The insulation distances are guaranteed by following the ABB SACE metalwork structure and circuit-breaker assembly and mounting instruction.

Mechanical operation (Ref. par. 8.2.6. of the Standard)

By respecting the assembly instructions for the structures and ABB SACE circuit-breakers, mechanical operation is verified.

		SR Enclosures	SR-E Enclosures	CD Junction box	C Console	AM2 cabinets
Rated service voltage		up to 400 V	up to 400 V	up to 400 V	up to 400 V	up to 400 V
Rated insulation voltage		up to 500 V	up to 500 V	up to 500 V	up to 500 V	up to 500 V
IP Degree of protection	with door	65	65		55	65
	with hinged cover			65		
	with screwed cover			66		
	EMC version	54		54		
Mechanical impact strength IK	with blind door	10	10	10	10	10
	with glazed door	09				09
	with cover			10		

When correctly selected and assembled, as per the indications in the catalogue and instruction manual, these allow realization of electric switchgear according to the EN 60439-1 Standard on the basis of what is foreseen by the Low Voltage Directive of the European Community (Directive 73/23/CEE, Law 791/1977).

The above is valid if the electric switchgear is designed and built:

- selecting the materials on the basis of the performances indicated in the ABB catalogues;
- sizing the conductors according to the prescription in the EN 60439-1 and CEI 64-8 Standards;
- carrying out the individual tests foreseen by the EN 60439-1 Standard with a positive outcome.

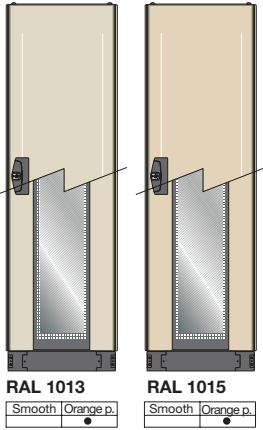
# In-depth technical information

## Standardised RAL colours (on request)

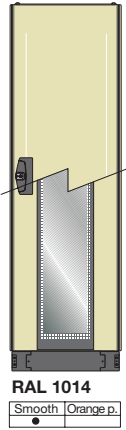
### Colours available

On request, colours other than the standard RAL 7032 one are available, using the same painting cycle (for other types of colours or paints, please contact ABB).

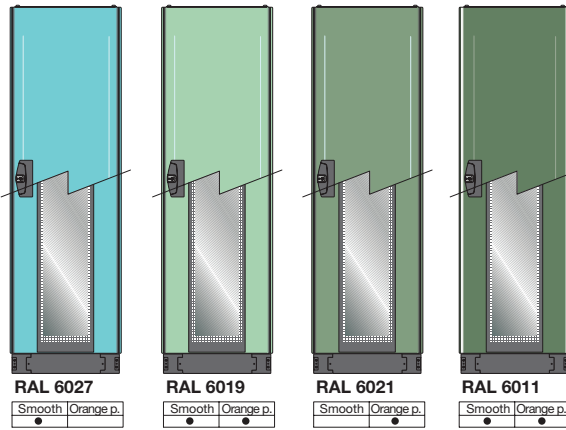
#### Beige



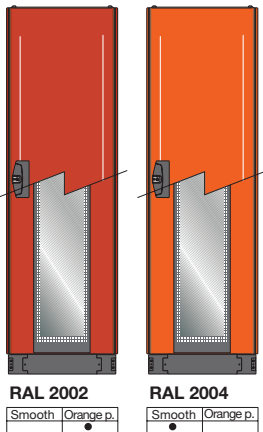
#### Ivory



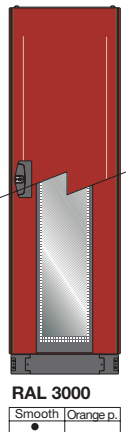
#### Green



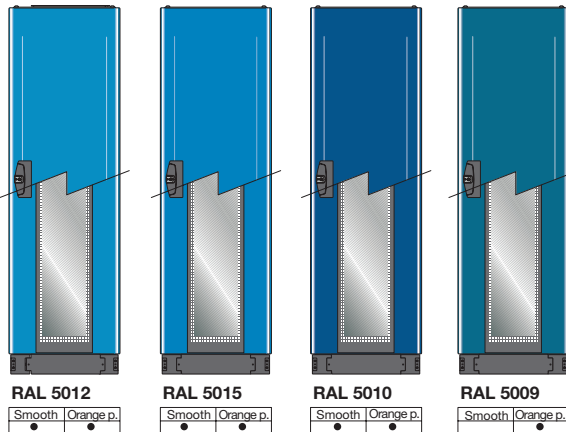
#### Orange



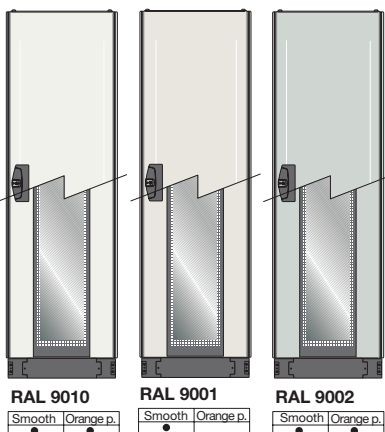
#### Red



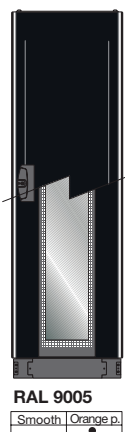
#### Blue



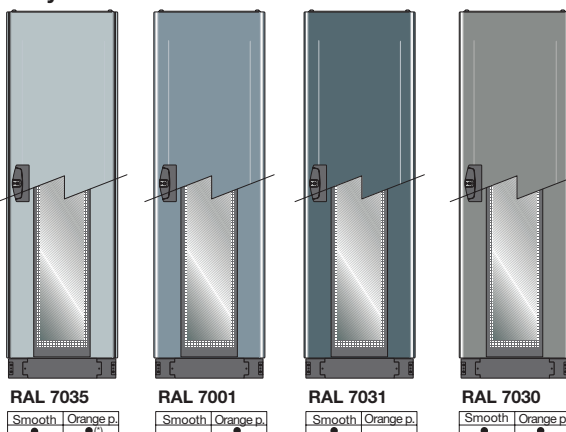
#### White



#### Black



#### Grey



(\*) except for IS2 EMC

Other types of colours are available on request.

### Corrosion test in saline mist (Ref. Standard UNI ISO 9227, CEI50-5/4, IEC 60068-2-30)

Treatment time (hours)	24	48	72	96	120	144	168	192
Rust penetration	no	no	no	no	no	no	no	193 <sup>(1)</sup>
Blistering	no	no	no	no	no	no	no	no

<sup>(1)</sup> Notes: When a tearing test with adhesive tape is carried out after 193 hours of exposure, about 3 mm of paint detachment can be noted from the notch area with 1-1.5 mm rust penetration.

# In-depth technical information

## Dissipating power – IS2/IS2EMC enclosures

### Overtemperature (Ref. Standard EN 60439-1 par. 8.2.1.)

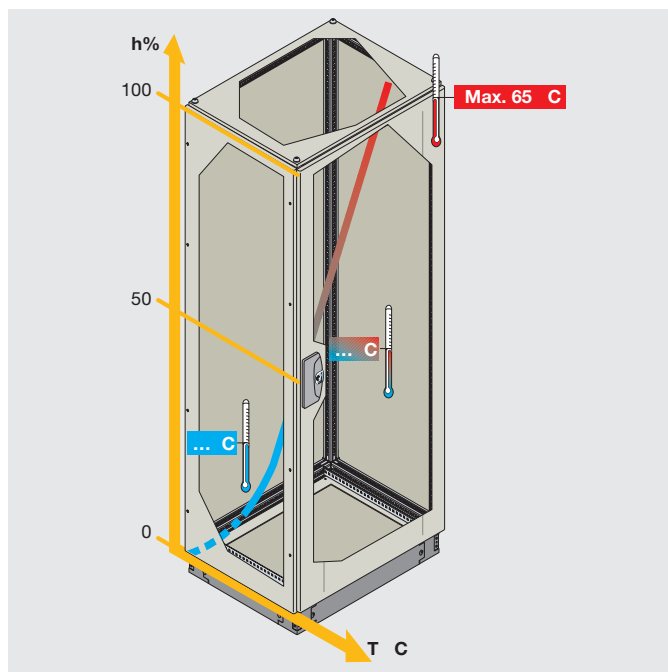
The tables below indicate the thermal dissipation values referring to the sizes of the enclosures and the type of installation, deriving from the type tests carried out. The dissipated power data (in Watt) are a function of the admissible overtemperature inside the switchgear in the upper part, and must be compared with the sum of the powers dissipated by all the components installed inside the switchboards.

### Using the dissipating power tables

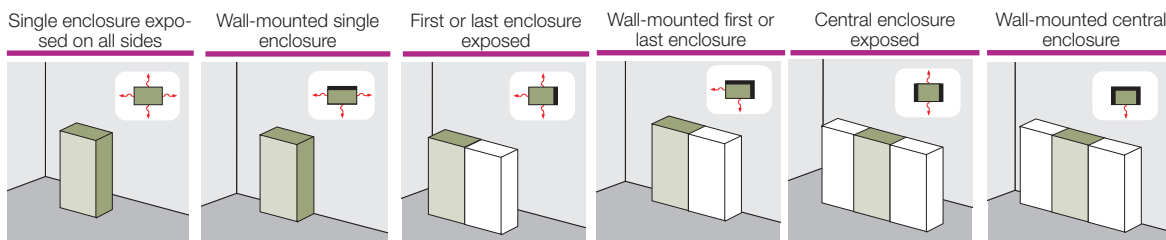
The dissipating power value from a cabinet depends on the maximum temperature (max **T**) and on the permissible overtemperatures (EN60439-1, par. 7.3, table 2 Standard).

### Example

If an ambient temperature of 35 °C is considered, the dissipation power value must be read in correspondence with the maximum admissible overtemperature ( $\Delta T$ ), which is 30 °C if a temperature at the top of the panel board of 65 °C is acceptable.



### H=1800mm



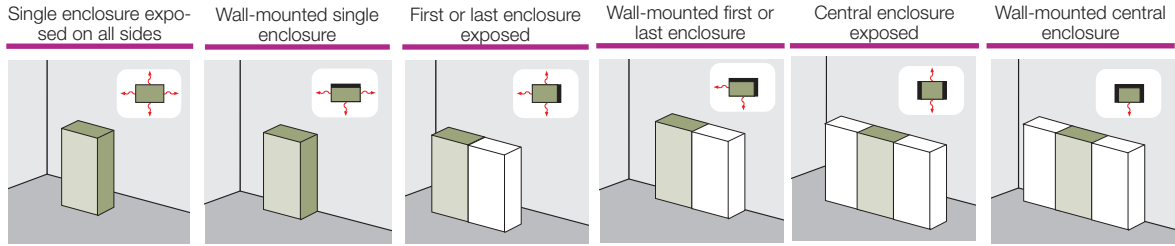
Code	Dimensions			Maximum dissipation power (W)																							
	H (mm)	W (mm)	D (mm)	Overtemperature values $\Delta T$																							
	25 °C	30 °C	35 °C	40 °C	25 °C	30 °C	35 °C	40 °C	25 °C	30 °C	35 °C	40 °C	25 °C	30 °C	35 °C	40 °C	25 °C	30 °C	35 °C	40 °C							
ES1844	1800	400	400	161	202	245	289	147	185	224	264	145	182	220	260	132	166	201	237	130	163	197	233	119	149	180	213
ES1845	1800	400	500	190	238	289	341	177	222	268	317	170	213	259	305	157	197	239	282	149	187	227	268	139	174	211	250
ES1846	1800	400	600	219	275	333	393	207	259	314	371	195	244	296	349	182	229	277	327	169	212	257	303	159	200	242	286
ES1848	1800	400	800	283	355	430	508	270	339	411	485	248	311	377	445	236	296	358	423	211	264	320	378	203	254	308	364
ES1840	1800	400	1000	346	435	526	621	336	421	510	602	301	377	457	540	289	363	439	519	252	317	384	453	247	310	375	443
ES1864	1800	600	400	219	275	333	393	197	247	300	354	204	256	310	366	182	229	277	327	188	235	285	337	169	212	257	304
ES1865	1800	600	500	256	321	389	460	233	293	355	419	236	296	359	423	214	268	325	383	214	268	325	383	196	246	298	351
ES1866	1800	600	600	292	367	444	524	269	337	409	483	267	335	406	479	244	306	371	438	239	299	362	428	221	278	337	397
ES1868	1800	600	800	367	461	558	659	346	434	526	621	328	412	499	589	309	387	469	554	292	366	443	523	277	347	420	496
ES1860	1800	600	1000	425	533	646	762	421	529	640	756	392	492	596	704	375	470	569	672	344	432	523	618	331	416	503	594
ES1884	1800	800	400	283	355	430	508	250	314	380	449	268	336	407	481	236	296	358	423	250	314	380	449	224	281	340	402
ES1885	1800	800	500	323	406	492	580	291	365	443	523	303	381	461	544	271	339	411	485	281	352	427	504	255	320	388	458
ES1886	1800	800	600	367	461	558	659	335	420	509	601	339	425	515	608	309	387	469	554	313	393	476	562	288	361	438	517
ES1888	1800	800	800	431	541	655	774	422	529	641	757	413	518	628	741	383	480	582	687	375	470	569	672	351	441	534	630
ES1880	1800	800	1000	482	605	733	865	471	590	715	844	454	570	691	815	450	565	684	808	435	546	661	780	413	518	627	741
ES1804	1800	1000	400	346	435	526	621	304	382	463	546	332	416	504	595	289	363	439	519	315	395	478	565	280	351	426	502
ES1805	1800	1000	500	395	496	601	709	353	443	537	634	373	468	567	669	333	417	506	597	353	443	537	634	319	400	484	572
ES1806	1800	1000	600	425	533	646	762	401	503	609	719	412	517	627	740	375	470	569	672	389	488	592	699	355	446	540	637
ES1808	1800	1000	800	482	605	733	865	464	583	706	833	461	578	700	826	450	565	684	808	446	560	678	801	425	534	646	763
ES1800	1800	1000	1000	543	681	825	974	520	653	791	934	509	639	774	913	496	622	754	890	485	609	737	870	485	608	737	870
ES1824	1800	1200	400	403	506	613	723	362	454	550	650	396	497	603	711	347	436	528	623	384	482	583	689	340	426	517	610
ES1825	1800	1200	500	438	549	665	786	415	520	630	744	427	536	650	767	395	495	600	708	423	530	642	758	382	480	581	686
ES1826	1800	1200	600	471	591	715	845	448	562	680	803	456	572	693	818	440	552	669	789	448	562	680	803	422	530	642	758
ES1828	1800	1200	800	538	674	817	964	508	637	772	911	511	642	777	918	491	616	747	882	494	620	751	886	487	611	740	873
ES1875	1800	1600	500	533	669	810	956	466	585	708	836	517	648	785	927	449	563	682	805	497	624	755	892	442	554	671	793
ES1876	1800	1600	600	592	743	900	1063	524	658	797	941	566	710	861	1016	502	630	763	901	546	685	829	979	491	615	745	880
ES1878	1800	1600	800	705	884	1071	1264	636	798	966	1141	667	837	1013	1197	603	757	917	1082	636	798	966	1141	582	730	885	1044

Values also valid for the versions with glazed door.

# In-depth technical information

## Dissipating power – IS2/IS2EMC Enclosures

H=2000mm



Code Dimensions

Code	Dimensions			Maximum dissipation power (W)																							
	H (mm)	W (mm)	D (mm)	25 °C				30 °C				35 °C				40 °C				Overtemperature values ΔT							
ES2044	2000	400	400	174	218	264	312	158	199	240	284	155	195	236	279	141	177	215	254	139	175	212	250	127	159	193	228
ES2045	2000	400	500	206	258	313	369	191	239	290	342	183	230	278	329	169	212	257	304	161	202	245	289	149	187	227	268
ES2046	2000	400	600	237	297	360	425	223	280	339	400	210	264	320	377	197	247	299	353	182	228	277	326	171	215	260	307
ES2048	2000	400	800	305	382	463	547	291	365	442	522	266	334	405	478	253	317	385	454	226	283	343	405	217	272	330	389
ES2040	2000	400	1000	372	467	566	668	361	453	549	648	324	407	493	582	311	391	473	559	270	339	411	485	264	331	401	473
ES2064	2000	600	400	237	297	360	425	213	267	323	382	221	277	335	396	197	247	299	353	202	254	308	363	182	228	277	327
ES2065	2000	600	500	275	346	419	494	251	315	381	450	253	318	385	454	229	287	348	411	229	288	348	411	209	263	318	376
ES2066 <sup>(1)</sup>	2000	600	600	315	395	479	565	290	364	440	520	287	360	436	515	262	329	399	471	257	322	390	460	237	298	361	426
ES2068 <sup>(2)</sup>	2000	600	800	387	486	588	694	370	464	562	663	351	440	533	629	329	413	500	591	311	390	473	558	294	369	447	528
ES2060	2000	600	1000	438	550	666	786	432	542	656	775	411	515	624	737	401	503	609	719	368	462	559	660	353	443	537	634
ES2084	2000	800	400	305	382	463	547	269	338	409	483	288	361	437	517	253	317	385	454	269	338	409	483	240	301	365	430
ES2085	2000	800	500	349	438	531	627	313	392	475	561	327	410	497	587	291	365	442	522	301	378	458	541	273	342	414	489
ES2086 <sup>(3)</sup>	2000	800	600	387	486	588	694	358	449	544	642	362	455	551	650	329	413	500	591	334	420	508	600	307	385	466	550
ES2088 <sup>(4)</sup>	2000	800	800	445	559	677	799	432	542	657	776	423	531	643	760	410	514	623	735	401	503	610	720	375	471	570	673
ES2080	2000	800	1000	506	635	769	908	489	613	743	877	471	591	716	845	463	581	703	830	446	560	678	801	442	554	671	792
ES2004	2000	1000	400	372	467	566	668	327	410	497	587	358	449	544	642	311	391	473	559	338	424	514	607	300	376	455	537
ES2005	2000	1000	500	404	507	614	725	378	474	574	678	393	494	598	706	355	446	540	637	378	474	574	678	340	426	516	610
ES2006	2000	1000	600	438	550	666	786	419	526	637	752	423	531	643	759	401	503	609	719	413	519	628	742	380	476	577	681
ES2008	2000	1000	800	506	635	769	908	481	604	732	864	479	601	727	859	463	581	703	830	460	577	699	825	456	572	693	819
ES2000	2000	1000	1000	579	726	880	1039	548	687	832	982	536	672	814	961	516	647	784	926	505	633	767	905	499	626	758	895
ES2024	2000	1200	400	414	519	628	742	387	486	589	695	405	508	616	727	371	466	564	666	401	504	610	720	363	455	551	651
ES2025	2000	1200	500	454	569	690	814	427	536	649	766	441	553	670	791	420	527	639	754	433	544	659	778	409	513	622	734
ES2026	2000	1200	600	493	618	749	884	462	580	702	829	474	595	720	850	451	566	686	809	462	580	702	829	451	566	686	810
ES2028	2000	1200	800	573	719	871	1028	533	668	810	956	539	677	820	968	511	641	776	916	516	647	784	925	502	629	762	900
ES2075	2000	1600	500	574	720	872	1030	499	625	758	895	556	697	845	997	481	604	732	864	532	668	809	955	471	591	715	845
ES2076	2000	1600	600	632	793	961	1135	558	700	848	1001	604	758	918	1084	533	669	811	957	581	729	883	1043	520	653	791	934
ES2078	2000	1600	800	755	947	1147	1354	679	851	1031	1218	713	895	1084	1279	643	806	976	1153	679	851	1031	1218	619	776	941	1110

<sup>(1)</sup> Values also valid for ES2066EMC.

<sup>(2)</sup> Values also valid for ES2086EMC.

<sup>(3)</sup> Values also valid for ES2068EMC.

<sup>(4)</sup> Values also valid for ES2089EMC.

H=2200mm

Code Dimensions

Code	Dimensions			Maximum dissipation power (W)																							
	H (mm)	W (mm)	D (mm)	25 °C				30 °C				35 °C				40 °C				Overtemperature values ΔT							
ES2244	2200	400	400	186	233	282	333	169	212	256	303	165	207	251	296	150	188	228	269	148	186	225	266	135	169	204	241
ES2245	2200	400	500	221	277	335	396	204	256	310	366	196	245	297	351	180	226	274	324	172	216	262	309	159	200	242	285
ES2246	2200	400	600	255	320	388	458	239	300	364	429	225	283	342	404	210	264	320	377	195	245	296	350	183	229	278	328
ES2248	2200	400	800	325	408	494	583	311	390	472	557	283	355	431	508	269	338	409	483	240	302	365	431	230	289	350	413
ES2240	2200	400	1000	381	478	580	684	379	476	576	680	346	435	526	622	333	417	506	597	289	362	439	518	281	352	427	504
ES2264	2200	600	400	255	320	388	458	228	286	347	409	236	296	359	424	210	264	320	377	217	272	330	389	195	244	296	349
ES2265	2200	600	500	293	368	446	526	267	335	406	479	270	339	411	485	244	307	371	439	244	306	371	438	223	279	338	399
ES2266	2200	600	600	336	422	511	604	309	388	470	555	306	384	465	549	280	351	425	502	274	343	416	491	253	317	384	453
ES2268	2200	600	800	397	498	603	712	388	486	589	696	379	475	575	679	351	440	533	629	330	414	502	592	311	390	473	558
ES2260	2200	600	1000	453	568	689	813	443	556	673	795	420	527	638	753	417	523	633	747	391	490	594	701	374	470	569	672
ES2284	2200	800	400	325	408	494	583	287	360	436	515	306	385	466	550	269	338	409	483	287	360	436	515	255	320	387	458
ES2285	2200	800	500	368	462	559	660	334	420	508	600	349	438	531	627	311	390	472	558	322	404	490	578	291	365	442	521
ES2287	2200	800	600	397	498	603	712	382	479	580	685	385	483	585	690	351	440	533	629	355	446	540	637	324	407	493	582
ES2288	2200	800	800	461	579	701	827	444	556	674	796	434	545	660	779	424	532	644	761	415	521	631	745	398	499	604	714
ES2280	2200	800	1000	532	668	809	955	509	639	774	914	490	614	744	879	476	598	724	855	459	575	697	823	459	575	697	823
ES2204	2200	1000	400	381	478	580	684	350	439	532	628	375	471	570	674	333	417	506	597	362	454	550	650	320	401	486	574
ES2205	2200	1000	500	416	521	631	746	393	493	597	705	406	509	616	728	376	472	572	675	393	493	597	705	359	451	546	645
ES2206	2200	1000	600	453	568	689	813	429	538	651	769	434	545	660	779	417	523	633	747	422	529	641	751	402	505	612	722
ES2208	2200	1000	800	532	668	809	955	500	627	760	897	499	625	758	895	476	598	724	855	474	595	721	851	466	584	708	836
ES2200	2200	1000	1000	621	779	943	1114	578	725	879	1037	566	710	860	1015	538	674	817	964	526	660						

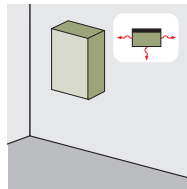
# In-depth technical information

## Dissipating power – SR enclosures/AM2 cabinets

### Dissipating power - SR enclosures

Dissipating power inside the SR enclosures according to the permissible overtemperature (external temperature plus overtemperature = 60 °C max).

Wall-mounted single enclosure



Code	Dimensions			Maximum dissipating power (W)			
	H (mm)	W (mm)	D (mm)	25 °C	30 °C	35 °C	40 °C
SR3215	300	200	150	18	22	26	31
SR3315	300	300	150	23	29	35	42
SR3415	300	400	150	34	42	51	60
SR4315	400	300	150	30	37	45	53
SR4320	400	300	200	33	42	51	60
SR4420	400	400	200	42	52	63	74
SR4620 <sup>(1)</sup>	400	600	200	59	74	89	105
SR5320	500	300	200	39	49	59	69
SR5420	500	400	200	47	59	72	85
SR5420V	500	400	200	47	59	72	85
SR5425	500	400	250	52	66	79	94
SR5425V	500	400	250	52	66	79	94
SR6420	600	400	200	54	67	82	96
SR6420V	600	400	200	54	67	82	96
SR6425	600	400	250	59	74	89	105
SR6425V	600	400	250	59	74	89	105
SR6625 <sup>(2)</sup>	600	600	250	79	99	120	141
SR7520	700	500	200	68	86	104	122
SR7520V	700	500	200	68	86	104	122
SR7525	700	500	250	74	93	113	133
SR7525V	700	500	250	74	93	113	133
SR8625	800	600	250	94	118	143	169
SR8625V	800	600	250	94	118	143	169
SR8630	800	600	300	107	134	162	191
SR8630V	800	600	300	107	134	162	191
SR8830	800	800	300	114	142	173	204
SR10625	1000	600	250	95	118	143	169
SR10625V	1000	600	250	95	118	143	169
SR10630	1000	600	300	103	130	156	185
SR10630V	1000	600	300	103	130	156	185
SR10830 <sup>(3)</sup>	1000	800	300	142	178	215	254
SR10830V	1000	800	300	142	178	215	254
SR12630	1200	600	300	123	155	187	220
SR12630V	1200	600	300	123	155	187	220
SR12830	1200	800	300	168	210	255	300
SR12830V	1200	800	300	168	210	255	300

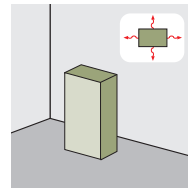
<sup>(1)</sup> Values also valid for SR4620EMC.

<sup>(2)</sup> Values also valid for SR6625EMC.

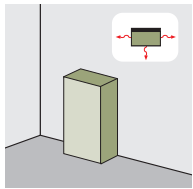
<sup>(3)</sup> Values also valid for SR10830EMC.

### Dissipating power - AM2 cabinets

Single enclosure exposed on all sides



Wall-mounted single enclosure



Code	Dimensions			Maximum dissipating power (W)				Maximum dissipating power (W)			
	H (mm)	W (mm)	D (mm)	25 °C	30 °C	35 °C	40 °C	25 °C	30 °C	35 °C	40 °C
TM2063	1000	600	300	110	137	166	197	102	128	155	183
TM2064	1000	600	400	137	171	208	245	129	162	196	231
TM2083	1000	800	300	146	184	222	263	139	174	211	250
TM2003FV5	1000	1000	300	190	238	289	341	177	223	270	319
TM2084	1000	800	400	179	224	272	321	171	215	260	308
TM2004	1000	1000	400	237	297	360	425	217	273	330	390
TM2024	1000	1200	400	285	358	434	512	262	329	399	471
TM2074	1000	1600	400	399	501	607	717	343	430	521	615
TM2263	1200	600	300	130	163	197	233	118	148	180	212
TM2283FV4	1200	800	300	176	221	268	317	161	202	245	290
TM2223	1200	1200	300	281	352	427	504	255	320	387	458
TM2264	1200	600	400	164	205	249	294	150	188	228	269
TM2284	1200	800	400	223	280	339	400	202	254	308	363
TM2204	1200	1000	400	272	341	413	488	253	317	385	454
TM2224	1200	1200	400	327	411	497	587	301	378	458	541
TM2463	1400	600	300	148	186	225	266	136	170	206	244
TM2464	1400	600	400	178	224	271	320	175	220	266	314
TM2465	1400	600	500	234	294	357	421	211	265	321	379
TM8483	1400	800	300	195	245	297	350	186	233	282	333
TM2484	1400	800	400	249	313	379	447	230	289	350	414
TM2485	1400	800	500	300	376	456	538	271	340	412	487
TM2403	1400	1000	300	257	323	391	461	236	297	359	424
TM2404	1400	1000	400	303	380	460	543	284	357	432	511
TM2424	1400	1200	400	354	444	538	635	332	417	505	596
TM2405	1400	1000	500	346	434	526	621	325	408	494	584
TM2425	1400	1200	500	390	489	592	699	362	454	551	650
TM2663	1600	600	300	176	221	268	316	151	190	230	272
TM2664	1600	600	400	220	277	335	396	194	244	295	349
TM2665	1600	600	500	259	325	394	465	234	293	355	420
TM2683	1600	800	300	244	307	371	439	209	263	318	376
TM2684	1600	800	400	284	357	432	510	253	317	384	453
TM2685	1600	800	500	317	398	483	570	295	371	449	530
TM2604	1600	1000	400	331	415	503	594	308	387	469	554
TM2624	1600	1200	400	379	476	577	681	347	435	527	622
TM2685FV4	1600	800	500	317	398	483	570	295	371	449	530
TM2605	1600	1000	500	366	460	557	657	342	429	520	614
TM2625	1600	1200	500	416	522	632	746	383	481	582	688
TM2864	1800	600	400	232	291	353	416	197	247	300	354
TM2865	1800	600	500	256	321	389	460	233	293	355	419
TM2884	1800	800	400	293	368	446	526	250	314	380	449
TM2885	1800	800	500	323	406	492	580	291	365	443	523
TM2804	1800	1000	400	346	435	526	621	304	382	463	546
TM2824	1800	1200	400	403	506	613	723	362	454	550	650
TM2805	1800	1000	500	395	496	601	709	353	443	537	634
TM2825	1800	1200	500	438	549	665	786	415	520	630	744
TM2964	2000	600	400	260	327	396	467	213	267	323	382
TM2965	2000	600	500	275	346	419	494	251	315	381	450
TM2984	2000	800	400	305	383	463	547	269	338	409	483
TM2985	2000	800	500	349	438	531	627	313	392	475	561
TM2904	2000	1000	400	372	467	566	668	327	410	497	587
TM2924	2000	1200	400	414	519	628	742	387	486	589	695
TM2905	2000	1000	500	404	507	614	725	378	474	574	678
TM2925	2000	1200	500	454	569	690	814	427	536	649	766

Values also valid for the versions with glazed door.

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# In-depth technical information

## Conformity with Standards

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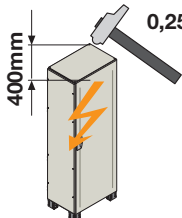
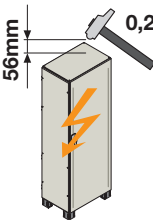
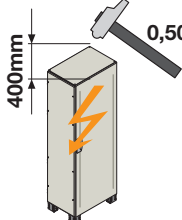
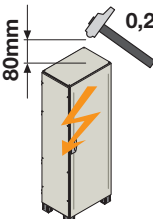
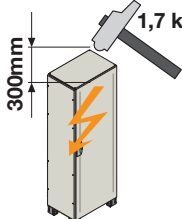
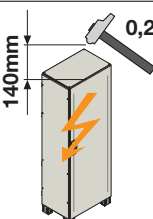
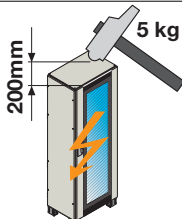
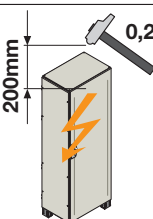
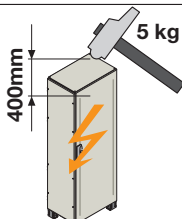
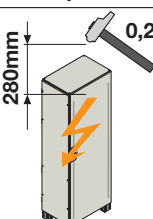
### Reference Standard

- CEI 17-70 “Guide to application of low voltage switchgear standards”
- CEI EN 60439-1 (IEC 60439-1) “Low voltage protection switchgear and controlgear assemblies (LV switchgear) Part 1: Type-tested (AS) and partially type-tested (ANS) assemblies”
- CEI EN 60529 (IEC 529-1) “Degrees of protection of enclosure ratings (IP Code)”
- CEI EN 50102 “Degrees of protection of the enclosures for electrical apparatus against external mechanical impacts (IK Code)”
- CEI 17-43 (IEC 60890) “Method for temperature-rise assessment by extrapolation, for low voltage protection switchgear and controlgear assemblies (LV switchgear) not produced in series (ANS)”
- CEI 17-52 “Method for determining the short-circuit withstand of the apparatus assemblies not produced in series (ANS)”
- CEI EN 62208 “Empty enclosures for low voltage protection switchgear and controlgear assemblies. General prescriptions”
- CEI EN 60204-1 (IEC 60204-1) “Safety of machinery. Electrical equipment of machines. Part 1: General instructions”

# In-depth technical information

## Mechanical impact strength

### IK mechanical strength

IK 0	 <p>No protected</p>	IK 06	 <p>Impact energy in Joule <b>1,00</b></p>
IK 01	 <p>Impact energy in Joule <b>0,140</b></p>	IK 07	 <p>Impact energy in Joule <b>2,00</b></p>
IK 02	 <p>Impact energy in Joule <b>0,200</b></p>	IK 08	 <p>Impact energy in Joule <b>5,00</b></p>
IK 03	 <p>Impact energy in Joule <b>0,350</b></p>	IK 09	 <p>Impact energy in Joule <b>10,00</b></p>
IK 04	 <p>Impact energy in Joule <b>0,500</b></p>	IK 10	 <p>Impact energy in Joule <b>20,00</b></p>
IK 05	 <p>Impact energy in Joule <b>0,700</b></p>		

Test performed according to the EN 50102 Standard

Degree of protection provided by enclosures for electrical equipment against external mechanical impacts (IK Code).

	Whit blind door	With glazed door	With cover
<b>SR Enclosures</b>	IK10	IK09	
<b>SR-E Enclosures without flanges</b>	IK10		
<b>AM2 cabinets</b>	IK10	IK09	
<b>IS2 Enclosures</b>	IK10	IK09	
<b>IS2 EMC Enclosures</b>	IK10	IK08	
<b>CD Junction boxes</b>			IK10
<b>C Console</b>	IK10		

# In-depth technical information

## Degrees of protection

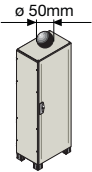
### 1<sup>st</sup> figure: protection against solid bodies

IP

0

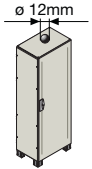
No protection

1



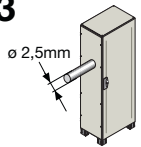
Protected against solid bodies larger than 50 mm (accidental contact with hands)

2



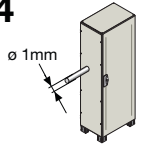
Protected against solid bodies larger than 12 mm (fingers)

3



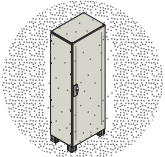
Protected against solid bodies larger than 2.5 mm (tools, wires)

4



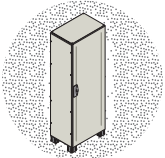
Protected against solid bodies larger than 1 mm

5



Protected against dust (no harmful deposits)

6



Totally protected against dust

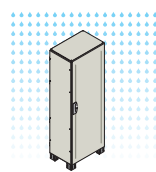
### 2<sup>nd</sup> figure: protection against liquids

IP

0

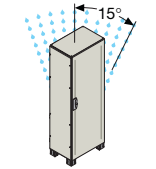
No protection

1



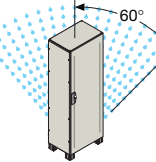
Protected against vertical fall of drops of water (condensation)

2



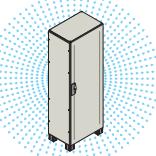
Protected against drops of water up to 15° from vertical

3



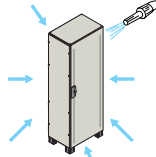
Protected against drops of rain water up to 60° from vertical

4



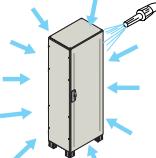
Protected against splashes of water from all directions

5



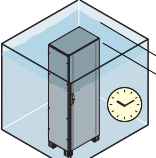
Protected against jets of water from all directions by means of a hose

6



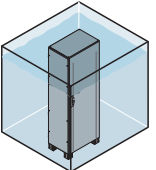
Protected against jets of water similar to sea waves

7



Protected against the effects of temporary immersion

8



Protected against the effects of continual immersion

Tests performed according to EN 60529 Standard  
Degrees of protection of the enclosures (IP Code).

	With door	With cover		With door and panel ventilated/air-condit.
		Hinged	Screwed	
SR Enclosures	IP65			
SR EMC Enclosures	IP54			
SR-E Enclosures without flanges	IP65			
AM2 cabinets	IP65			
IS2 Enclosures	IP65			IP54
IS2 EMC Enclosures	IP54			
CD Junction boxes		IP65		IP66
CD EMC Junction boxes		IP54		
C Console	IP55			

1STC80406F0001

# In-depth technical information

## Degrees of protection

### Protection against penetration of solid bodies

1 <sup>st</sup> characteristic number	Brief description	Complete description
0	Unprotected	No particular protection is provided
1	Protected against solid bodies larger than 50mm	No large surface of the human body must be able to penetrate, for example a hand (voluntary protection is not provided) or solid bodies larger than 50mm in diameter.
2	Protected against solid bodies larger than 12mm	Fingers or similar objects of length not exceeding 80mm or solid bodies of diameter higher than 12 mm must not penetrate
3	Protected against solid bodies larger than 2.5mm	Tools, wires, etc. with diameter or thickness greater than 2.5mm or solid bodies with diameter greater than 2.5mm must not be able to penetrate
4	Protected against solid bodies larger than 1.0mm	Wires or plates thicker than 1.0mm or solid bodies with diameter greater than 1.0mm must not be able to penetrate
5	Protected against dust	Penetration of dust is not totally excluded, but the amount penetrating is not enough to harm correct operation of the material
6	Totally protected against dust	No penetration of dust is allowed

### Protection against penetration of water

2 <sup>nd</sup> characteristic number	Brief description	Complete description
0	Unprotected	No particular protection is provided
1	Protected against vertical fall of drops of water	The drops of water which fall vertically must not cause harmful effects
2	Protected against drops of water up to 15° from vertical	The drops of water which fall vertically must not cause harmful effects when the housing is lean at any angle up to 15° in relation to its normal position
3	Protected against rain	The water which falls like rain from a direction with an angle of up to 60° to vertical must not cause harmful effects
4	Protected against splashes of water	Water splashed over the housing from all directions must not cause harmful effects
5	Protected against jets	Water sprayed with a nozzle onto the housing from all direction must not cause harmful effects
6	Protected against waves	In the case of waves or strong jets of water, the water must not enter the housing in a harmful amount
7	Protected against the effects of temporary immersion	Water in a harmful amount must not be able to penetrate inside the housing immersed in certain pressure and duration conditions
8	Protected against the effects of continual immersion	The material is suited to remaining immersed in water in the conditions specified by the manufacturer

7

### NEMA "National Electrical Manufacturers Association" Classification

Type	Description	Products classified
1	To be used mainly in indoor environments, to obtain a degree of protection against limited amounts of falling dirt.	
2	To be used mainly in indoor environments, to obtain a degree of protection against limited amounts of falling rain and dirt.	
3	To be used mainly in outdoor environments, to obtain a degree of protection against rain, sleet, and dust carried by the wind and against damage caused by ice forming externally.	
3R	To be used mainly in outdoor environments, to obtain a degree of protection against rain and sleet and against damage caused by ice forming externally.	
3S	To be used mainly in outdoor environments, to obtain a degree of protection against rain, sleet, and dust carried by the wind and to guarantee operation of the external mechanisms loaded with ice.	
4	To be used mainly in outdoor environments, to obtain a degree of protection against rain, sleet, and dust carried by the wind, water spray, jets of water and against damage caused by ice forming externally.	SRE, CD
4x	To be used mainly in indoor and outdoor environments, to obtain a degree of protection against dust and rain carried by the wind, water spray, jets of water and against damage caused by ice forming externally.	
5	To be used mainly in indoor environments, to obtain a degree of protection against dust carried on the air, against falling dirt and against drips of non-corrosive liquids.	
6	To be used mainly in indoor and outdoor environments, to obtain a degree of protection against jets of water and against water penetrating during occasional temporary immersions to limited depths and against damage caused by ice forming externally.	
6P	To be used mainly in indoor and outdoor environments, to obtain a degree of protection against jets of water and against water penetrating during prolonged immersions at limited depths and against damage caused by ice forming externally.	
12, 12K	To be used mainly in indoor environments, to obtain a degree of protection against circulating dust, against falling dirt and against drips of non-corrosive liquids.	AM2, SR, SRE, CD, IS2, C2
13	To be used mainly in indoor environments, to obtain a degree of protection against dust and water spray, and non-corrosive oil and cooling liquid.	

# In-depth technical information

## ATEX Certification

**TABLE 1 - GROUPS, CATEGORIES AND LEVELS OF PROTECTION**

(source: Atex Guide – first edition - European Commission DG Enterprises, May 2000)

Level of protection	Category		Protection performances	Operating conditions*
	Group I	Group II		
<b>Very high</b>	<b>M1</b>		Two independent means of protection or safety guaranteed even when two faults independent of each other occur	The apparatus remains supplied and in operation even in the presence of an explosive atmosphere
<b>Very high</b>		<b>1</b>	Two independent means of protection or safety guaranteed even when two faults independent of each other occur	The apparatus remains supplied and in operation even in areas 0, 1, 2 (G) and/or 20, 21, 22 (D)
<b>High</b>	<b>M2</b>		Protection suited to normal operation and heavy operating conditions <sup>(37)</sup>	The power supply is cut off to the apparatus in the presence of an explosive atmosphere
<b>High</b>		<b>2</b>	Protection suited to normal operation and to frequent disturbances during which the faults are normally taken into account	The apparatus remains supplied and in operation in areas 1, 2 (G) and/or 21, 22 (D)
<b>Normal</b>		<b>3</b>	Protection suited to normal operation	The apparatus remains supplied and in operation in areas 2 (G) and/or 22 (D)

SR Enclosures - SR-E Enclosures without flanges  
AM2 cabinets - IS2 Enclosures  
CD Junction boxes - C Console

\* Note: Also see directive 1999/92/CE regarding the minimum prescriptions for improving safety and health of the workers who may be exposed to the hazard of explosive atmospheres<sup>(38)</sup>.

<sup>(37)</sup> Although the wording of the requirements of apparatus belonging to categories M2 and 2 is different in the relative attachments to directive 94/9/CE, both categories are treated in parallel by the EN 50014 standard and by the specific regulations. The concepts of technical protection relative to electrical apparatus belonging to category M2 and 2G (gas) in conformity with the EN 50014 standard are identical. The requirements relative to category 2D (dusts) may, on the other hand, need to be considered separately.

<sup>(38)</sup> GU L23, of 28.1.2000.

# In-depth technical information

## ATEX Certification

**TABLE 2 - Characteristics and areas corresponding to equipment in group II**

(source: "Guide to certification - Directive 94/9/CE - Atex – on the subject of products destined to be used in potentially explosive atmospheres" - Ispesl)

MANUFACTURER					USER		
DPR 126/98 - Directive 94/9/CE Additional requirements for equipment (including the devices and components connected with it)					D.Lgs. 233/03 (Directive 1999/92/CE)		
Group	Category	Means of protection				Presence of explosive atmosphere	Area of use
		Level	Protection characteristics (Annex. I)	Construction characteristic (Annex. II)	Appli-cable RES		
<b>II</b>	<b>1</b>	<b>Very high</b>	In the case of a fault in a means of protection, the level of safety is guaranteed by at least one second independent means of protection. Furthermore, the level of safety is also guaranteed if two anomalies independent of each other occur	Must be designed and constructed so that the ignition sources are not activated, even in the case of anomalies	<b>1.0</b> <b>1.1</b> <b>1.2</b> <b>1.3</b> <b>1.4</b> <b>1.5</b> <b>1.6</b> <b>2.1</b>	Continuous or for long periods of time	<b>0</b> <b>1</b> <b>2</b>
	<b>2</b>	<b>High</b>	The level of safety is guaranteed even in the presence of recurring anomalies or operating defects of the equipment which must normally be taken into account	Must be designed and constructed so as to preclude the ignition sources even in the case of recurring anomalies or operating defects of the equipment which must normally be taken into account	<b>1.0</b> <b>1.1</b> <b>1.2</b> <b>1.3</b> <b>1.4</b> <b>1.5</b> <b>1.6</b> <b>2.2</b>	Intermediate situation between the previous and the following one	<b>1</b> <b>2</b>  <b>21</b> <b>22</b>
	<b>3</b>	<b>High</b>	The level of safety is guaranteed during normal operation	Must be designed and constructed so as to preclude the sources of ignition which can be anticipated during normal operation	<b>1.0</b> <b>1.1</b> <b>1.2</b> <b>1.3</b> <b>1.4</b> <b>1.5</b> <b>1.6</b> <b>2.3</b>	Scarce probability and if it occurs it is of short duration	<b>2</b>  <b>22</b>

SR Enclosures - SR-E Enclosures without flanges  
 AM2 cabinets - IS2 Enclosures  
 CD Junction boxes - C Console

# In-depth technical information

## Electrical continuity

### Electrical continuity of the structure and of the fixed and moving parts

**Fig.1**

Electrical continuity of the structure in the IS2 cabinets is automatically guaranteed just with assembly of the structure, without the use of dedicated accessories.

**Fig.2**

In the case of modular panels, electrical continuity is guaranteed in the closed position by the special shape of the hinge (ABB patent).

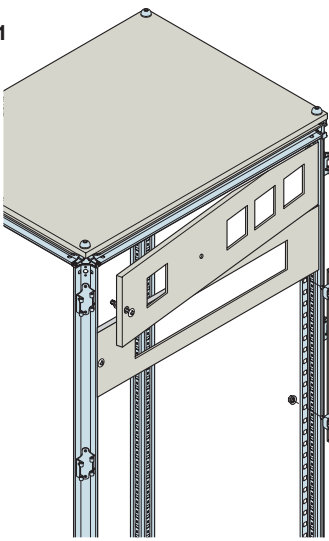
**Fig.3**

The special shape of the hinges also allows connection by means of traditional copper braids.

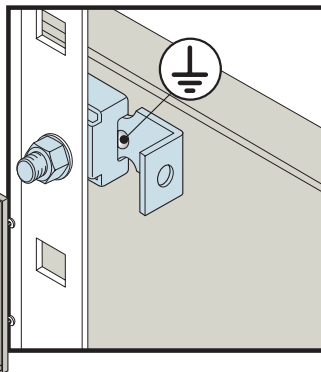
**Fig.4**

The blind and glazed doors, side panels, rear panels and roofs are fitted with M6 copper captive screws for earthing.

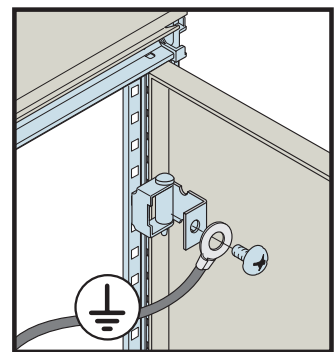
**Fig.1**



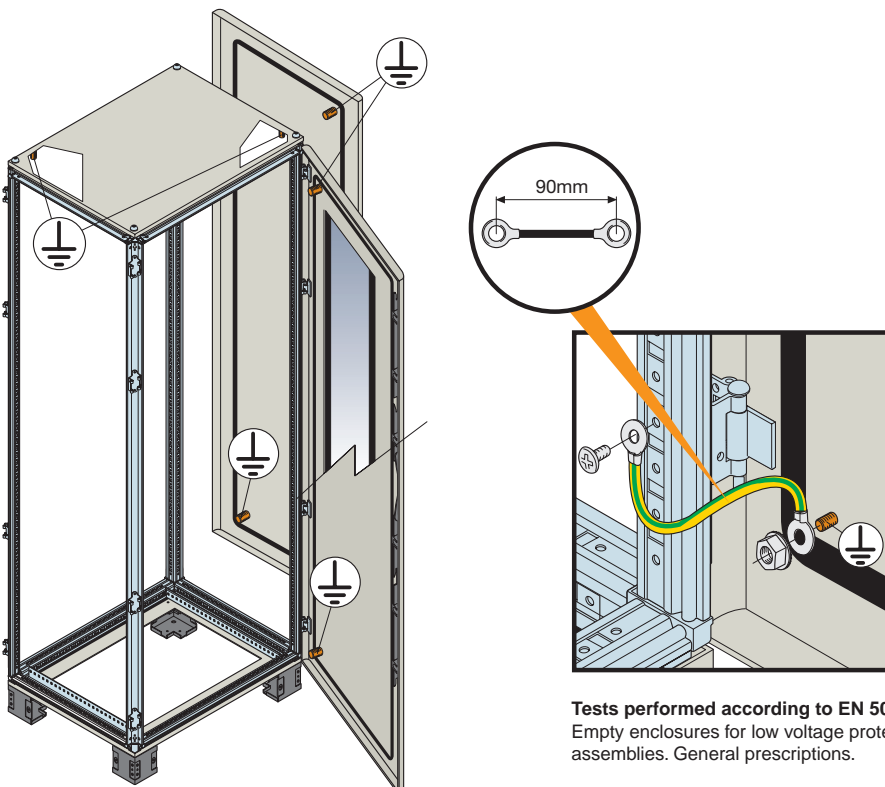
**Fig.2**



**Fig.3**



**Fig.4**



**Tests performed according to EN 50298 (par. 7.7) Standard**  
Empty enclosures for low voltage protection switchgear and controlgear assemblies. General prescriptions.

# In-depth technical information

## Electrical continuity

### Calculation of the PE protection conductor

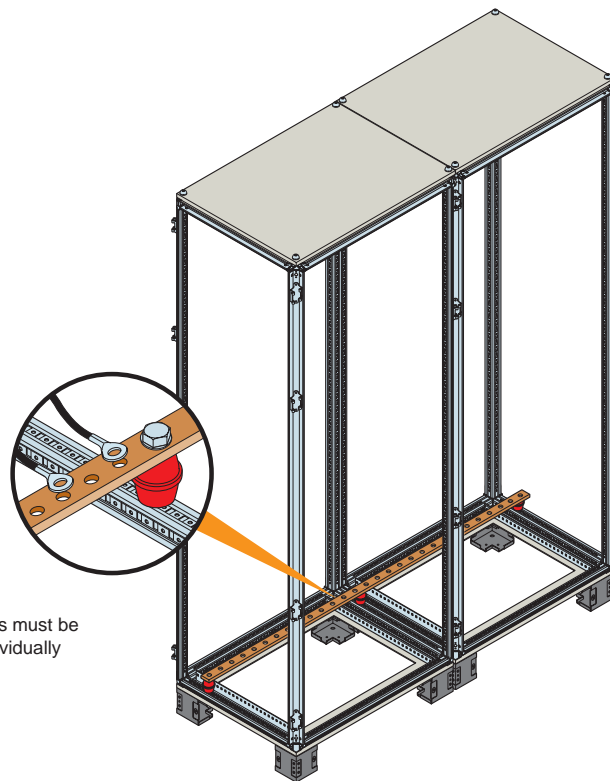
The EN 60439-1 Standard indicates the methods for calculating the cross-section of the PE protection conductor which must be suitably sized to withstand the thermal and dynamic components of the fault currents.

The following conditions must be verified when identifying the fixing position of the busbar:

- the busbar must be connected directly to the earthed parts of the panel board (structure);
- the busbar must be connected in an easily accessible position.

For sizing, use the values in the table, taken from the CEI EN60439-1 (P.7.4.3.1.7) Standard

Cross-section of the phase conductors		Minimum cross-section of the corresponding protection conductor	
S (mm <sup>2</sup> )		Sp (mm <sup>2</sup> )	
S	≤ 16	S	
16 <	S ≤ 35	16	
35 <	S ≤ 400	S/2	
400 <	S ≤ 800	200	
S	> 800	S/4	



The conductors must be connected individually

### Equipotentiality

The accessible conductive parts of a device, which cannot be connected to the protection circuit by means of its own means of connection, must be connected to the protection circuit of the apparatus for equipotentiality of the protection by means of an equipotential conductor, whose cross-section must be selected according to the table given below.

Rated service current		Minimum cross-section of the equipotential protection conductor	
I <sub>e</sub> (A)		(mm <sup>2</sup> )	
I <sub>e</sub> ≤	20	S	
20 <	I <sub>e</sub> ≤ 25	2,5	
25 <	I <sub>e</sub> ≤ 32	4	
32 <	I <sub>e</sub> ≤ 63	6	
63 <	I <sub>e</sub>	10	

S = cross-section of the phase conductor (mm<sup>2</sup>)

### PEN conductor

The cross-section of the PEN conductors of a piece of apparatus must be determined using the same procedure as the one followed for the neutral conductor (N).

The minimum cross-section of a copper conductor must be 10mm<sup>2</sup>.

The PEN conductor does not need to be insulated.

The parts of the structure must not be used as PEN conductors. However, the assembly tracks, either in copper or aluminium, can be used as PEN conductors.

For conductors not made of copper, the above cross-sections are replaced with cross-sections of equivalent conductivity, which may require larger sized terminals.

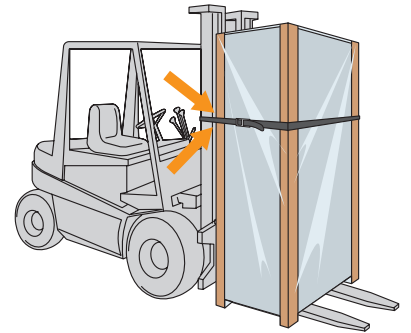
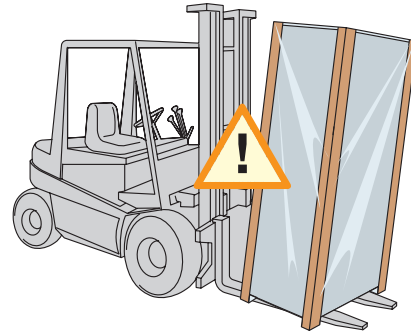
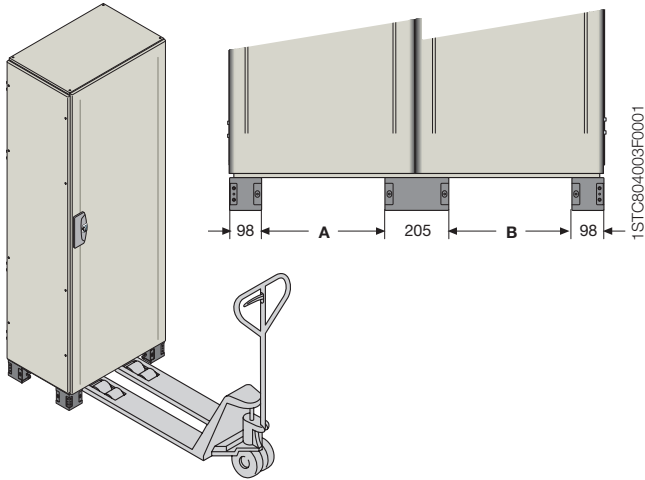
# In-depth technical information

## Handling

### Handling by means of transpallets

Palletisable plinth

For greater safety during transport by means of a fork-lift truck, it is advisable to anchor the panel board to the fork-lift truck:

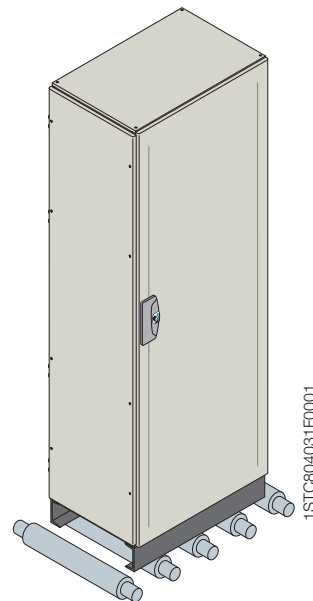
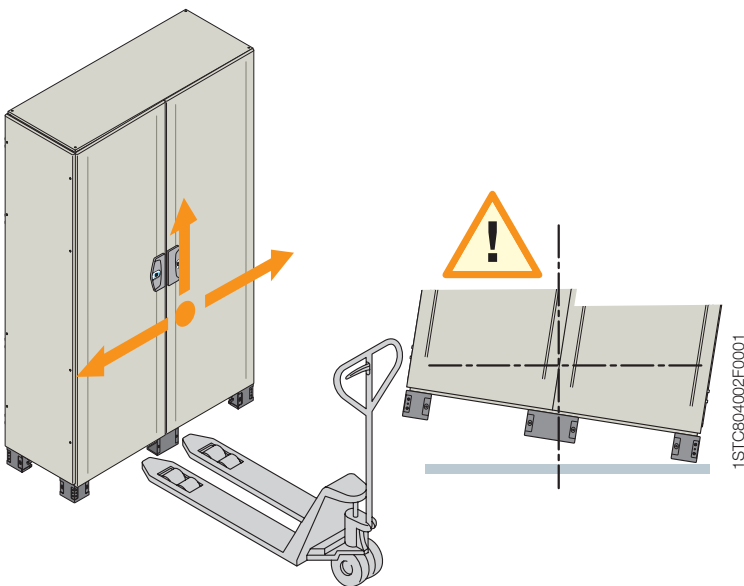


Structure	A (mm)	B (mm)
Width 400 mm	195	
Width 600 mm	395	
Width 800 mm	595	
Width 1000 mm	795	
Width 1200 mm	395	395
Width 1600 mm	595	595

In the case of W=800mm structures (with internal or external cable container) containing a busbar system, check the centre of gravity before handling.

Handling IS2 structures by means of rollers: only with **EZ...** reinforced plinth.

7



# In-depth technical information

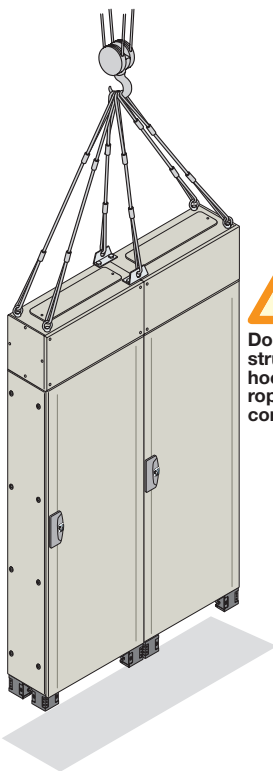
## Handling

### Handling by means of bridge crane

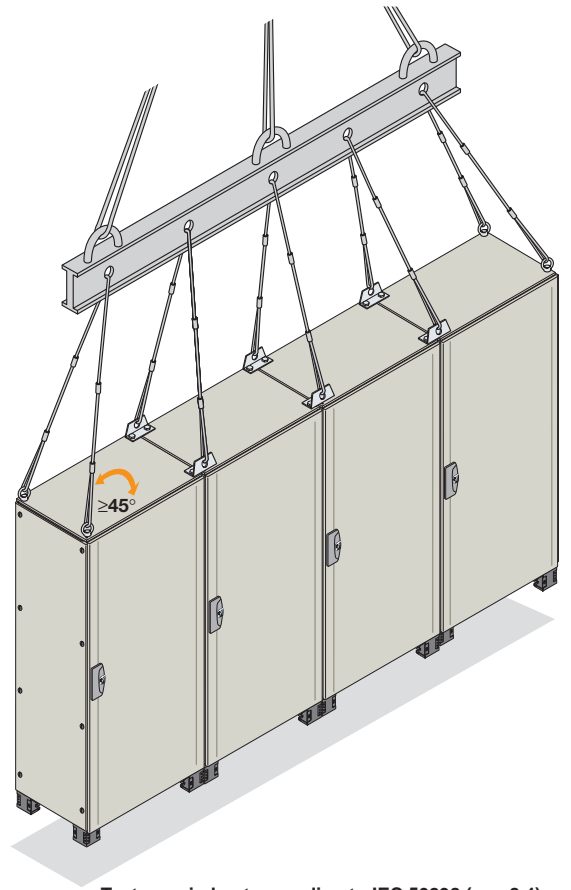
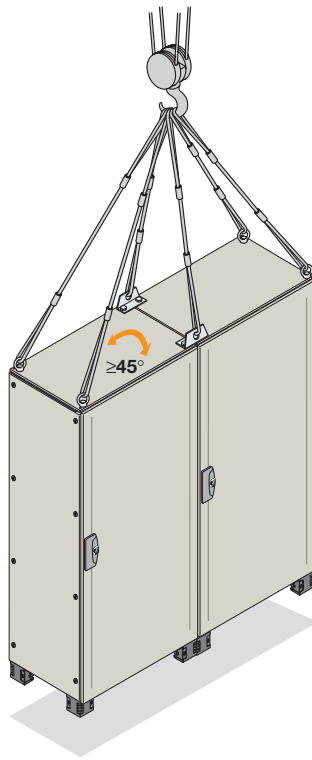
For handling by means of crane or bridge crane, check the following conditions before lifting the panel board:

- excellent state of the ropes or chains;
- the angle between the lifting ropes and the roof of the switchboard must be  $\geq 45^\circ$ ;
- maximum number of columns which can be transported see pages 7/24-25;
- maximum weight which can be lifted see pages 7/24-25.

When there are several columns placed side by side, to respect the above-mentioned conditions, a lifting beam with appropriate characteristics can be used.



**Do not lift the structures by hooking up the ropes to the connection box.**



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Tests carried out according to IEC 50298 (par. 8.4) Standard  
Empty enclosures for low voltage protection switchgear and controlgear assemblies. General prescriptions.

7

### DIN 580 Standard regarding mechanical connection elements (only for lifting eyebolts)

	Lifting eyebolts		Lifting reinforcements							
	A	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Load 1 kg	Load 2 kg	Tightening Nm
<b>Lifting eyebolts</b>	M12	54	12	28	10	22	30	340	240	8*
<b>Lifting reinforcements</b>	M12	ø20	30	60	28	ø10	40	510	350	40

\* Tighten manually without mechanical aids because the latter may cause over-tension in the stem, reducing the eyebolt capacity.

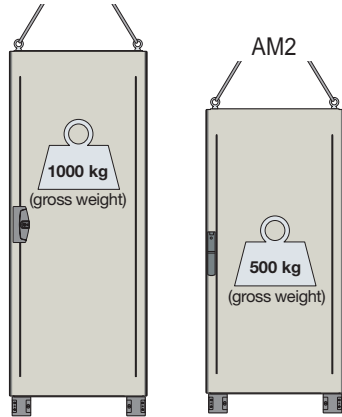
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# In-depth technical information

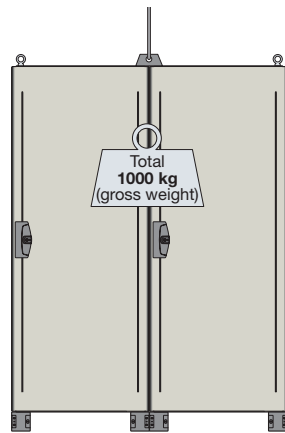
## Lifting tests - IS2 enclosures/AM2 cabinets

### Maximum capacities (in accordance with the EN 50298 Standard)

	IS2	AM2
Number of columns	1	1
Weight of single column Kg	1000	500
Total weight of columns Kg	1000	500
Joining Kit	-	-
Lifting Kit	AA9610	TA5510
Number of braces used	4	4



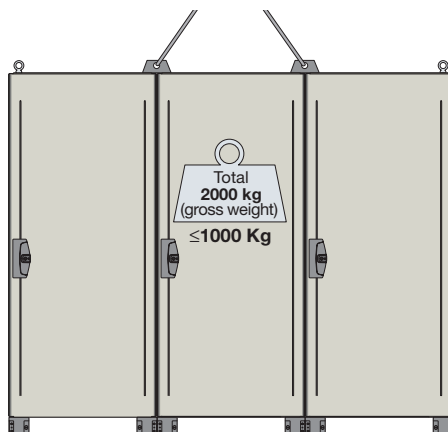
	IS2	IS2 EMC
Number of columns	2	2
Weight of single column Kg	500	500
Total weight of columns Kg	1000	1000
Joining Kit	EV0002	EV0002
	EV0003	EV0006EMC
	EZ1030	EZ1030
Lifting Kit	EV1007	EV1007
Number of braces used	2	2



	IS2	IS2 EMC
Number of columns	2	2
Weight of single column Kg	1000	1000
Total weight of columns Kg	2000	2000
Joining Kit	EV0002	EV0002
	EV0003	EV0006EMC
	EZ1030	EZ1030
Lifting Kit	AA9610	AA9610
Number of braces used	EV1007	EV1007



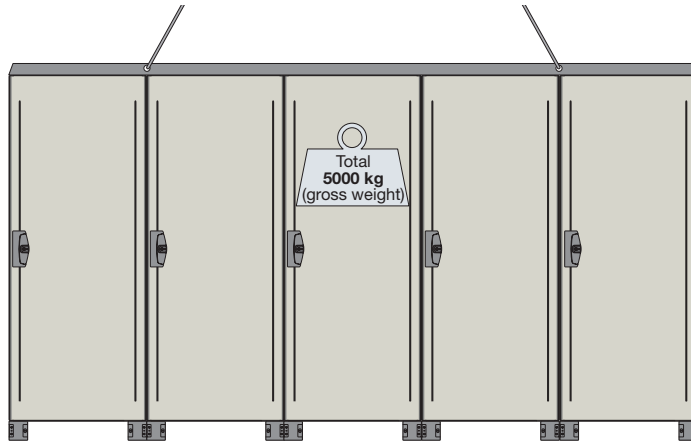
	IS2	IS2 EMC
Number of columns	3	3
Weight of single column Kg	500	500
Total weight of columns Kg	2000	2000
Joining Kit	EV0002	EV0002
	EV0003	EV0006EMC
	EZ1030	EZ1030
Lifting Kit	EV1007	EV1007
Number of braces used	4	4



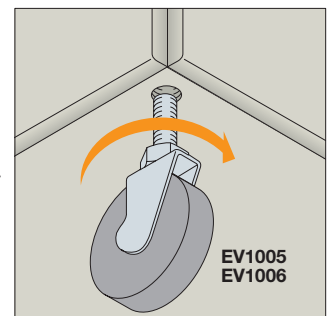
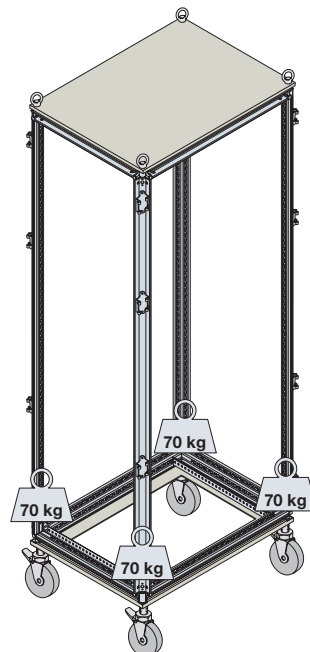
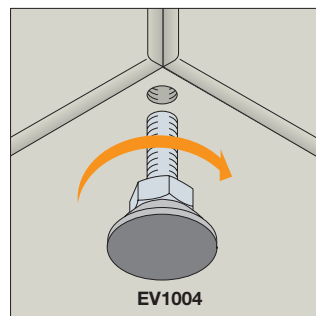
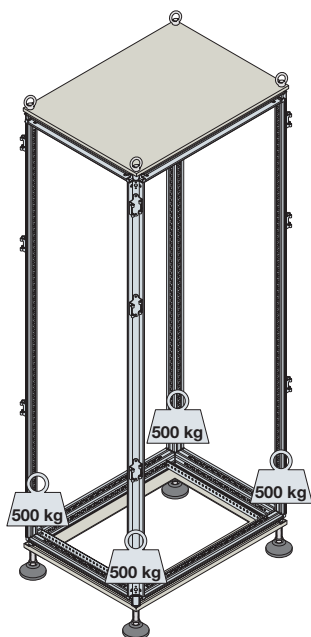
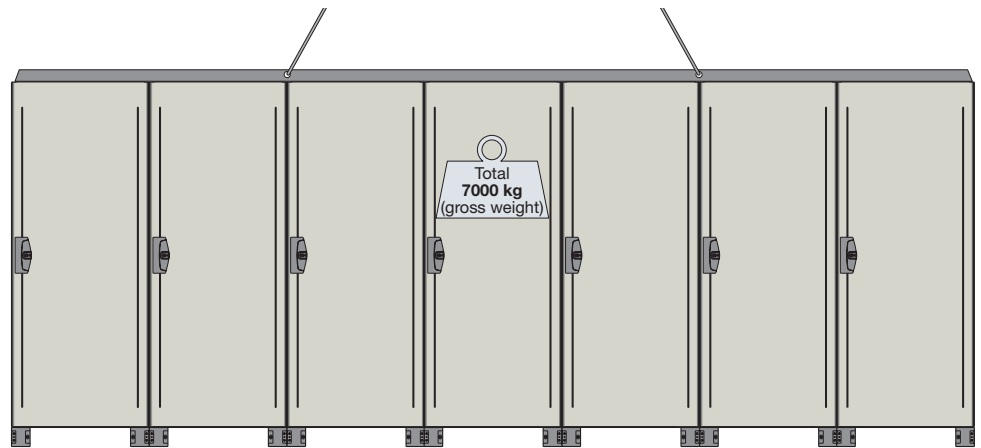
# In-depth technical information

## Lifting tests - IS2 enclosures/AM2 cabinets

	IS2	IS2 EMC
Number of columns	5	5
Weight of single column Kg	1000	1000
Total weight of columns Kg	5000	5000
Joining Kit	EV0003	EV0006EMC
	EZ1030	EZ1030
Lifting Kit	TU1000	TU1000
Number of braces used	4	4



	IS2	IS2 EMC
Number of columns	7	7
Weight of single column Kg	1000	1000
Total weight of columns Kg	7000	7000
Joining Kit	EV0003	EV0006EMC
	EZ1030	EZ1030
Lifting Kit	TU1000	TU1000
Number of braces used	4	4



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# Busbars with shaped section and flat busbars

## Mechanical and electrical characteristics

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### Conformity with CEI EN 60439-1 Standard





The IS2 cabinets have undergone the type tests foreseen by the EN 60439-1 Standard in ABB laboratories.

The results of these tests guarantee the performances of the IS2 cabinets and, by using ABB SACE metalwork structures and accessories, such as moulded-case and modular circuit-breakers, allow the end panel board builder not to carry out further type tests, as long as the selection criteria and assembly instructions of the various components are respected, just carrying out the individual tests foreseen by the CEI EN 60439 Standard. It is possible to make reference to these results, given below, to draw up the declaration of conformity of the electrical panel board.









### Characteristics of the materials

Components	Material
Busbars	electrolytic copper 99.9% CU-ETP
Busbar holder	self-extinguishing thermoplastic VO
Tightening screws	Material class 8.8
Tightening torque	M6 screws - 10N.m
	M8 screws - 20N.m
	M10 screws - 30N.m

### Technical characteristics of busbars with shaped section up to 1600A

Cross-section	In (A)	Code	N° busbars/phase	Capacity (A) IP65	Icw max (kA)	Ipk (kA)	WxW (mm)	Cross-section (mm <sup>2</sup> )	Lenght (mm)	Weight (kg)
	400	<b>BA0400</b>	1	400	35	74	20x20	200	1730	4
	800	<b>BA0800</b>	1	800	35	74	20x20	283	1730	4.4
	1250	<b>BA1250</b>	1	1250	65	143	20x60	603	1730	9.3
	1600	<b>BA1600</b>	1	1600	65	143	20x60	703	1730	10

### Technical characteristics of flat busbars up to 1600A


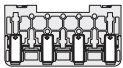
Cross-section	In (A)	Code	N° busbars/phase	Capacity (A) IP65	Icw max (kA)	Ipk (kA)	WxW (mm)	Lenght (mm)	Weight (kg)
	250	<b>BR0250</b>	1	250	23	48	15x5	1750	1.35
	400	<b>BR0400</b>	1	400	23	48	25x5	1750	3.4
	630	<b>BR0630</b>	1	630	32	68	30x10	1750	4.4
	400	<b>BR4005</b>	1	400	35	74	32x5	1750	2.1
	630	<b>BR6305</b>	1	630	50	105	50x5	1750	3.4
	800	<b>BR8005</b>	1	800	50	105	63x5	1750	4.4
	1250	<b>BR1250</b>	1	1250	50	105	100x5	1750	7.25
	1600	<b>BR1600</b>	1	1600	100	220	100x10	1750	14.5

# Busbars with shaped section and flat busbars

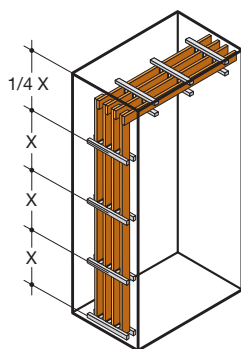
## Mechanical and electrical characteristics

### Busbar holders for busbars with shaped section

#### Busbars with shaped section

Type		I <sub>cc</sub> (kA)	I <sub>n</sub>	400A	800A	1250A	1600A
	Linear	35	<b>PB0803</b>	L1-L2-L3	3x BA0400	3x BA0800	
				N 100%	1x BA0400	1x BA0800	
				N° reduced		1x BA0400	
	Linear	65	<b>PB1603</b> <sup>(1)</sup>	L1-L2-L3		3x BA1250	3x BA1600
				N 100%		1x BA1250	1x BA1600
				N° reduced			1x BA1250

#### N° and distance of the busbar holder according to the max I<sub>cc</sub>



The distance between the first busbar holder and the end of the busbar must not exceed 1/4 of X.


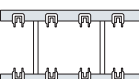
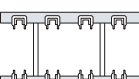
Busbar code	capacity	Busbar holder code	25 kA		35 kA		50 kA		65 kA	
			max X (mm)	max X (mm)	max X (mm)	max X (mm)	max X (mm)	max X (mm)		
<b>Linear</b>										
<b>BA0400</b>	400A	<b>PB0803</b>	4	550	5	425	-	-	-	-
		<b>PB1603</b> <sup>(1)</sup>	4	550	4	550	-	-	-	-
<b>BA0800</b>	800A	<b>PB0803</b>	4	550	5	425	-	-	-	-
		<b>PB1603</b> <sup>(1)</sup>	4	550	4	550	-	-	-	-
<b>BA1250</b>	1250A	<b>PB1603</b>	4	550	4	550	6	350	9	225
<b>BA1600</b>	1600A	<b>PB1603</b>	4	550	4	550	6	350	9	225

max X = maximum distance not to be exceeded between two consecutive busbar holders.

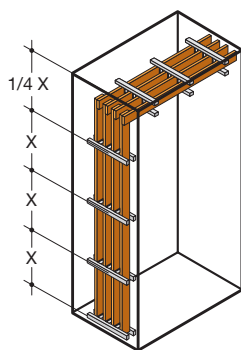
<sup>(1)</sup> It is possible to mount the 400/800A busbars with the special adapter **AD1066**, see example on page 8/32

### Busbar holder for flat busbars

#### Flat busbars

Type		I <sub>cc</sub> (kA)	I <sub>n</sub>	250A	400A	630	800A	1250A	1600A
	Linear	32	<b>BP0630</b>	L1-L2-L3	3xBR0250	3xBR0400	3xBR0630		
				N 100%	1xBR0250	1xBR0400	1xBR0630		
	Linear	50	<b>BP1250</b>	L1-L2-L3		3xBR4005	3xBR6305	3xBR8005	3xBR1250
				N 100%		1xBR4005	1xBR6305	1xBR8005	1xBR1250
	Linear	75	<b>BP1600</b>	L1-L2-L3					3xBR1600
				N 100%					1xBR1600

#### N° and distance of the busbar holder according to the max I<sub>cc</sub>



The distance between the first busbar holder and the end of the busbar must not exceed 1/4 of X.

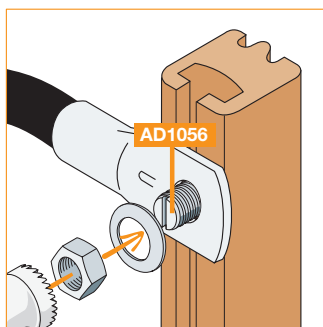
Busbar code	capacity	Busbar holder code	16 kA		20 kA		23 kA		32 kA	
			max X (mm)	max X (mm)	max X (mm)	max X (mm)	max X (mm)	max X (mm)		
<b>Linear</b>										
<b>BR0250</b>	250A	<b>BP0630</b>	4	500	6	350	10	200	-	-
			4	500	6	350	10	200	-	-
			-	-	4	600	4	600	9	210
<b>BR4005</b>	400A	<b>BP1250</b>	max X	max X	max X	max X	max X	max X	max X	max X
			25 kA	35 kA	50 kA	65 kA	(mm)	(mm)	(mm)	(mm)
			7	300	9	225	-	-	-	-
			6	375	7	275	9	225	-	-
<b>BR8005</b>	800A	<b>BP1250</b>	5	425	7	300	9	225	-	-
			4	500	6	375	8	250	-	-
<b>BR1250</b>	1250A	<b>BP1250</b>	4	500	6	375	8	250	-	-
<b>BR1600</b>	1600A	<b>BP1600</b>	3	1000	3	1000	4	600	6	375

max X = maximum distance not to be exceeded between two consecutive busbar holders.

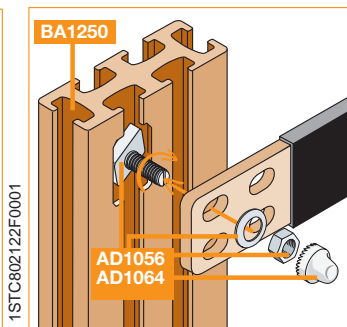
# Busbars with shaped section and flat busbars

## Mechanical and electrical characteristics

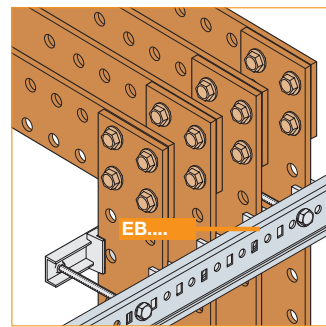
### Components



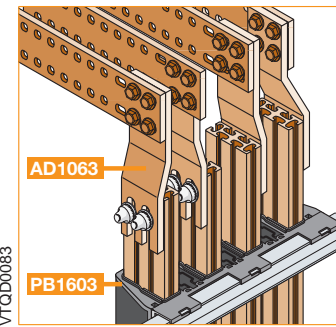
Direct branch by means of cable terminal for cross-section of cable up to 50mm<sup>2</sup>.



M8 self-locking hammer screw for fixing between conductors in any position along the busbar, guarantees a large contact surface.



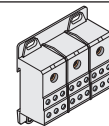
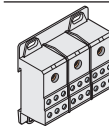
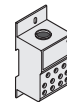
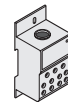
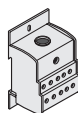
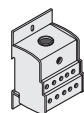
The 25mm drilling pitch allows branches between flat busbars at any point.



Branch between 1600A flat busbars and 1250/1600A busbars with shaped section.

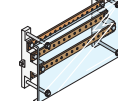
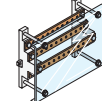
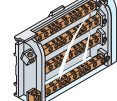
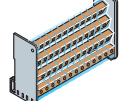
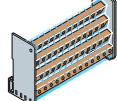
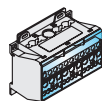
### Modular dividers

#### Single-pole



Code	AD1076	AD1080 <sup>(1)</sup>	AD1007	AD1081 <sup>(2)</sup>	AD1030	AD1031	AD1075	AD1006
In (A)	125	125	160	160	250	400	125	160
Icw (kA)	4.2	10	11	10	21	21	4.2	
Version	1	1	1	1	1	1	3	3
Installation	DIN35/plate	DIN35/plate	DIN35/plate	DIN35/plate	DIN35/plate	DIN35/plate	DIN35/plate	DIN35/plate
Power supply Ø cable (mm <sup>2</sup> )	min.	10	6	16	10	35	95	10
	max	35	35	70	70	120	185	35
N° outgoing feeder Ø cable (mm <sup>2</sup> )	2,5÷10				4	4		
	2,5÷16	10	6	10	6	5	6	6
	2,5÷25					2		
	2,5÷35					2		
dimensions HxWxD (mm)	71x45x42,5	75x25x47	71x45x42,5	92x35x49	96x45x49	96x45x49	80x71,5x42,5	80x71,5x42,5
N° DIN modules	2,5	1,5	2,5	2	3	3	4,5	4,5
Rated service voltage Ue (V)	690	500	690	500	500	500	690	690
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Approvals	UL	UL	UL	UL	UL	UL	UL	UL

#### Four-pole



Code	AD1004	AD1028	AD1029	AD1027	AD1034	AD1053
In (A)	125	125	125	160	250	250
Icw (kA)	10	4.2	4.2	6	15	15
Version	4	4	4	4	4	4
Installation	DIN35/plate	DIN35/plate	DIN35/plate	DIN35	plate	plate
Power supply Ø cable (mm <sup>2</sup> )	min.	6	6	10		
	max	35	25 with cable terminal 35 without cable term.	25 with cable terminal 35 without cable term.	50	
N° outgoing feeder Ø cable (mm <sup>2</sup> )	5 holes/phase Ø1÷6	2xØ6÷25 + cable term.	2xØ6÷25 + cable term.	8xØ2,5÷16	N°22 holes M5 with 17,5mm pitch per phase (threaded busbars 25x5mm)	N°32 holes M5 with 17,5mm pitch per phase (threaded busbars 25x5mm)
	2 holes/phase Ø1,5÷16	2xØ6÷35 no cable term.	2xØ6÷35 no cable term.	3xØ6÷35		
	6 holes/neutral Ø1,5÷16	9xØ6÷10	2xØ6÷16			
	4 holes/neutral Ø1,5÷6 <sup>2</sup>		9xØ6÷10			
Dimensions HxWxD (mm)	45x75x98	89x93x48	126x93x48	90x160x50	150x600x70	150x800x70
N° DIN modules	5,5	5	7	9	24	36
Rated service voltage Ue (V)	500	690	690	500	500	500
Degree of protection	IP 20	IP 20	IP 20	IP 20		

<sup>(1)</sup> possibility of putting in parallel with AD1083 connections.

<sup>(2)</sup> possibility of putting in parallel with comb type connections (not supplied).

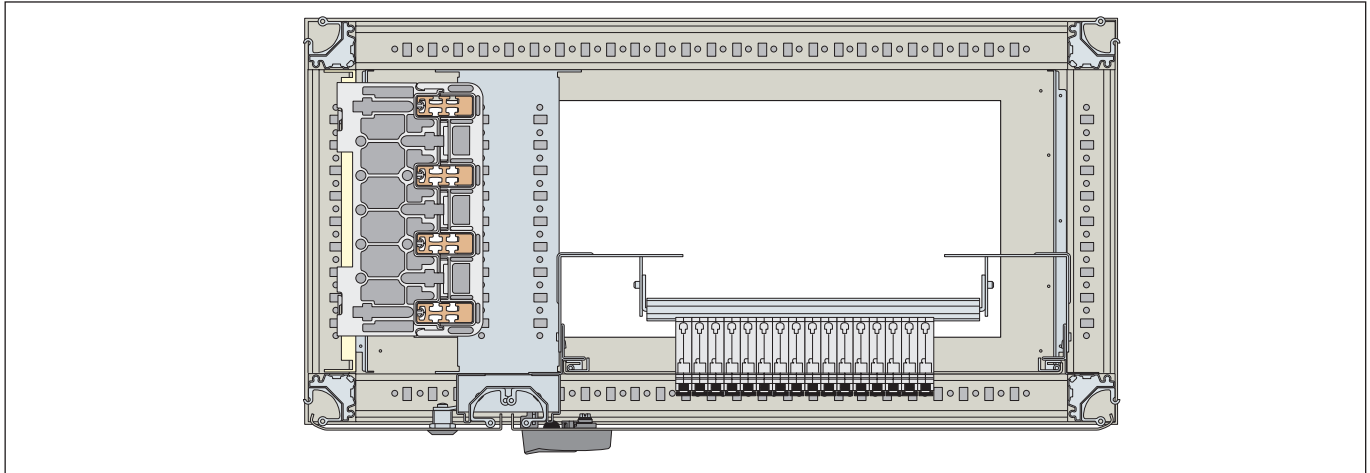
# Busbars with shaped section

## Examples of use - currents up to 1600A

### Linear busbar holder PB1603

#### IS2

Busbars in the internal cable container and DIN rail apparatus holder fixed on the front.

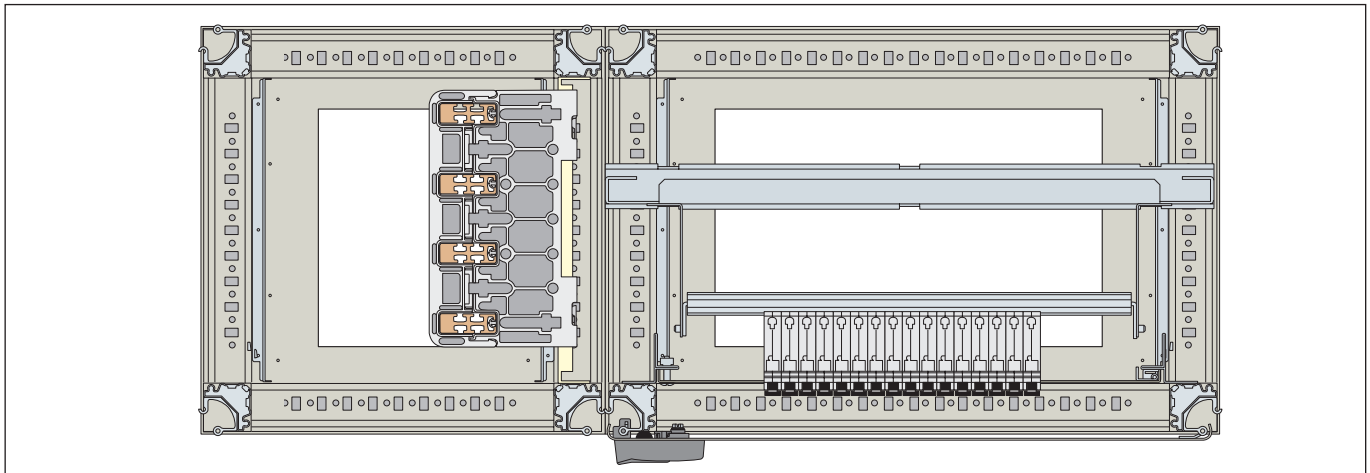


1STC804065F0001

### Linear busbar holder PB1603

#### IS2

Busbars in the additional structure W=400mm and DIN rail apparatus holder fixed on the back plate.

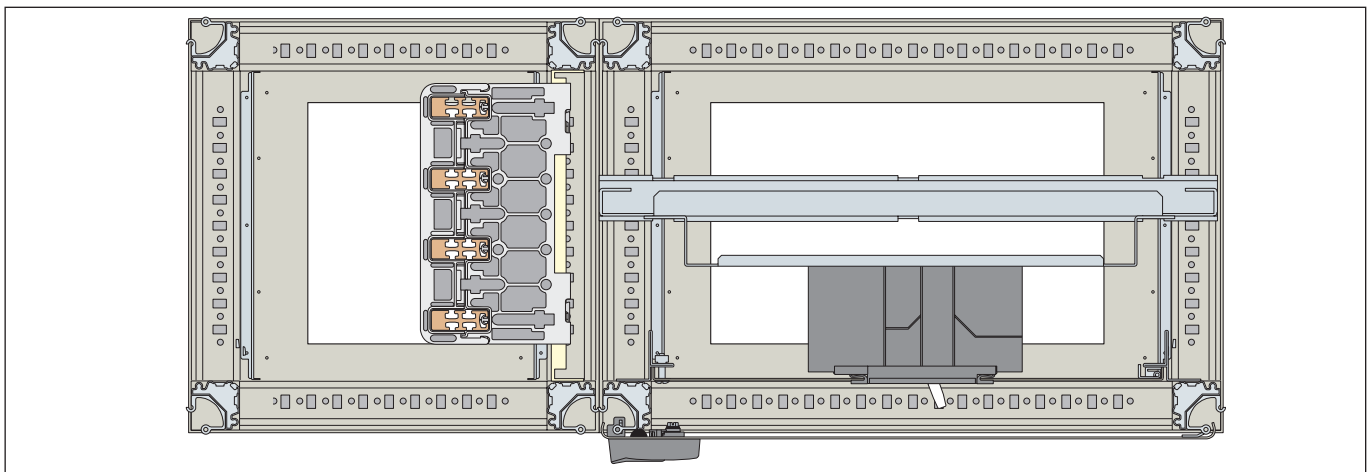


1STC804066F0001

### Linear busbar holder PB1603

#### IS2

Busbars in the additional structure W=400mm and kit for moulded-case apparatus fixed on the back plate.



1STC804067F0001

# Ventilation and air conditioning

## General characteristics and applications

Heat, dust and humidity are the major causes of incorrect operation of controls and settings in electrical equipment, especially considering the high sensitivity of electronic components which have to record the input of signals and working of logical parts.

There are several methods and products for cooling the electrical panel boards:

- air condensed air conditioners
- water condensed air conditioners
- air-air heat exchangers
- gas pipe heat exchangers
- air-water heat exchangers
- fans with or without filters.

Each of these systems is able to cool in a different way and with different application limits, and consequently with advantages and disadvantages depending on the type of application they are destined for.

To maintain the ideal climatic conditions inside a panel board, ABB has the following solutions:

### Ventilation

Natural ventilation together with forced ventilation is used when the temperature inside the electrical panel board exceeds the ambient temperature. Fans are economical and efficient, making it possible to keep degrees of protection up to IP54, in the case of use of a filter, or IP21 without the latter.

The only precaution needed is periodic cleaning of the filtering elements.

### Air conditioners

These systems are able to keep temperatures inside the electrical panel board lower than the ambient, ensuring a high degree of protection against dust and water (IP54).

According to the position of the air conditioner (on the door, wall, roof or side of the panel board) and to the type of installation (outdoor, indoor, or semi-embedded), ABB proposes a wide range of types based on the refrigeration yield required.

### Air-air heat exchangers

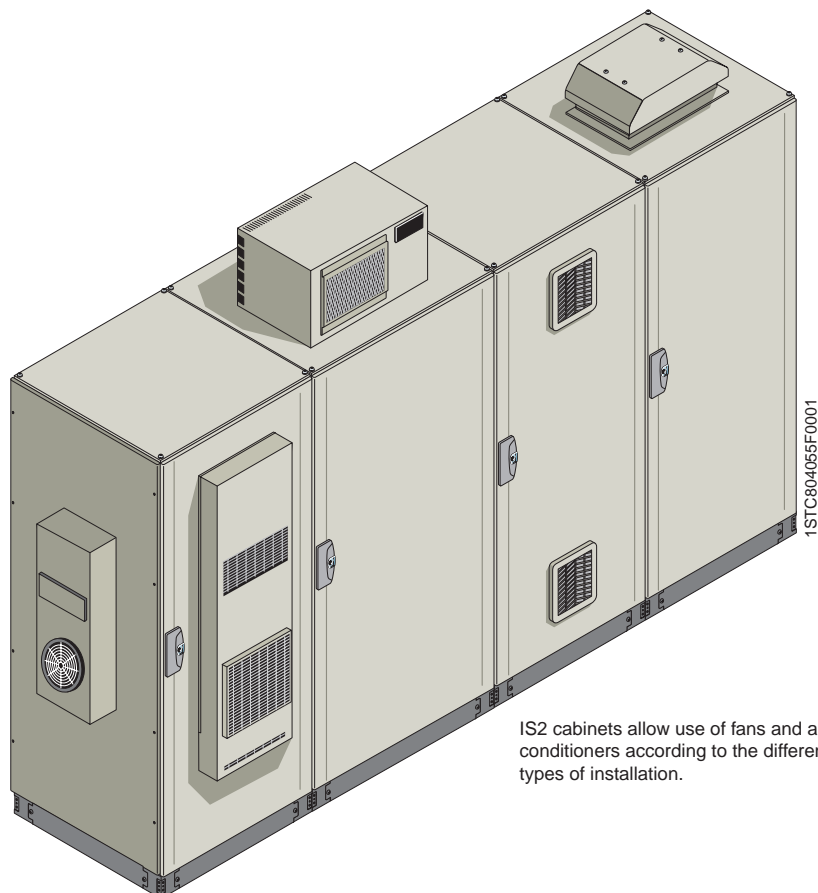
These systems are suitable when temperatures inside the electrical panel board can be kept higher than ambient temperature, guaranteeing an IP54 degree of protection.

The yield of heat exchangers is indicated in W/K (Watt/Kelvin) – a value which expresses the capacity of removing heat for each centigrade degree of difference between the ambient temperature and the temperature inside the electrical panel board. In some cases heat exchangers can be more expensive than air conditioners. Under the same conditions air conditioners obtain the same results with lower costs and overall dimensions.

### Heaters for panel boards

Formation of condensation inside the electrical panel boards is the cause of oxidation of the apparatus contained in it and the consequent loss of insulation and dielectric strength.

By keeping the optimal temperature for operation of the components, anti-condensation heaters eliminate the risk of oxidation.



IS2 cabinets allow use of fans and air conditioners according to the different types of installation.

# Ventilation and air conditioning

## Operation and selection of components

### Natural ventilation

Panel board cooling can be obtained by means of simple natural convection.

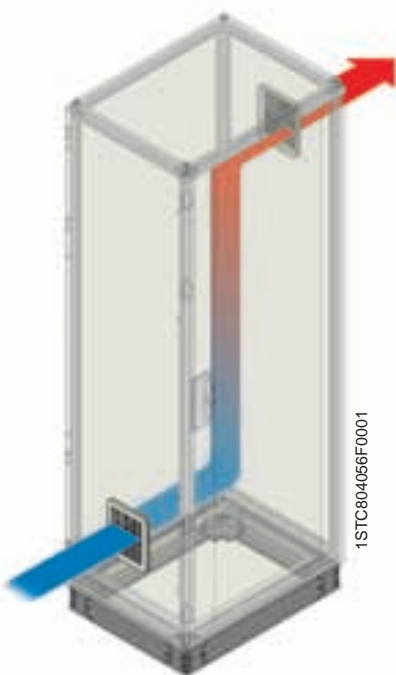
In fact, it is sufficient to install aeration kit (in the different ways shown in the diagram) to obtain a fair improvement in panel board cooling.

The following table indicatively provides the increase in percentage of the thermal power value dissipated by the enclosure in relation to the aeration kits used.

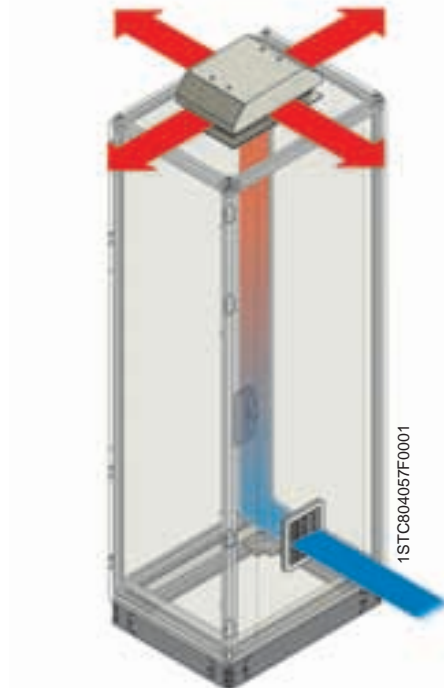
The result is obtained by multiplying the dissipation power value of the selected cabinet (page 7/13) by the coefficient indicated in the table corresponding with the size of the aeration grating selected.

### Multiplication coefficient of the dissipated power from the enclosure according to the dimensions of the aeration gratings

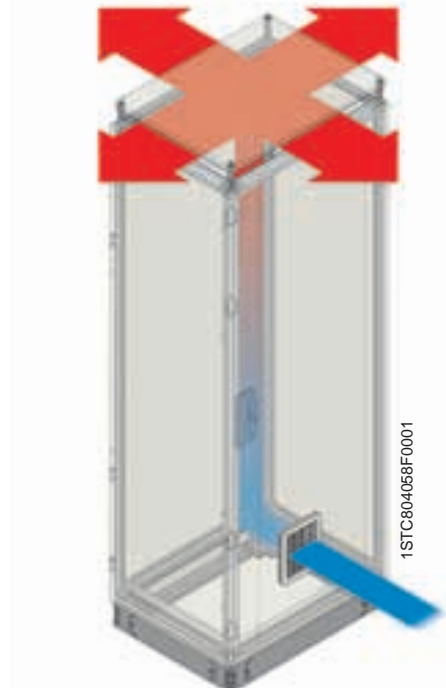
H (mm)	Cabinet dimensions W (mm)	D (mm)	Dimensions of the aeration grating WxW (mm)			
			105x105	150x150	204x204	250x250
1800	600-800-1000-1200	400-500-600-800-1000	1.2	1.5	2.1	3
2000						
2200	1600	400-500-600-800	-	1.3	1.7	2.2



Natural aeration with gratings (IP54 with filter or IP21 without filter).



Natural aeration with hood (IP43) and grating.



Natural aeration with roof lifting kit (IP20) and grating.

# Ventilation and air conditioning

## Operation and selection of components

### Forced ventilation

Operation of the ventilation kit is simple: the ambient air - in this case colder than the air inside the panel board - is sucked up from below, filtered of impurities and conveyed inside. It grazes the apparatus cooling it, whilst the warmer air flows towards the upper part and exits through the special air passage.

In this way a slight overpressure is created inside, which prevents dust from entering.

Even when the fan is not working, there is no formation of condensation and humidity, since the entry and exit fans are a guarantee of rapid heat exchange.

For correct operation, it is good practice to periodically clean the filtering part by shaking, compressed air or washing in water, or to replace it with a new cloth.

### How to calculate the capacities of the fans

Once the value of the power to be dissipated has been calculated, given by the sum of the dissipating power of each device, and by the conductors (taking into account the contemporaneity coefficient as well) and once the maximum temperature inside the panel board has been defined – compatibly with correct operation of the apparatus it contains – the following formula must be applied:

$$Q = \frac{P}{\Delta T} \cdot f$$

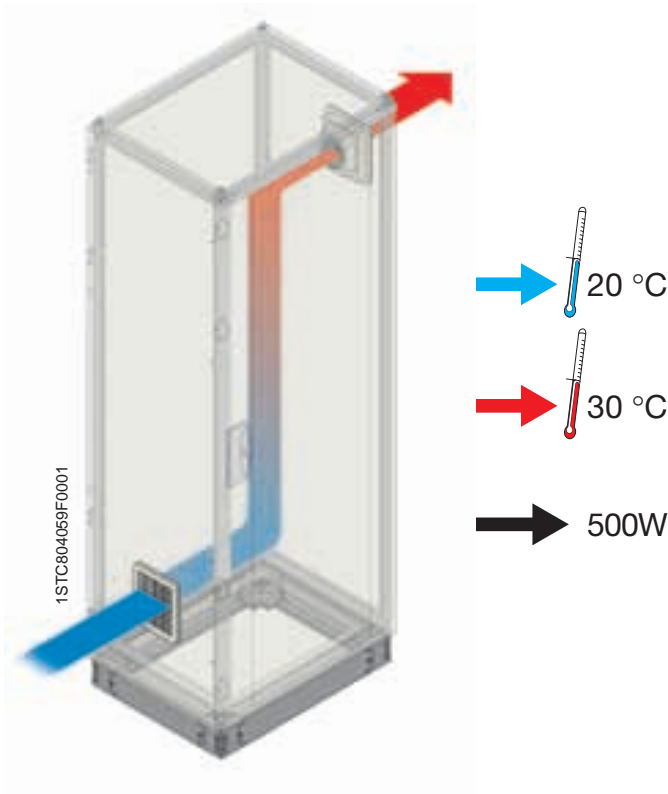
where:

$Q$  = fan capacity (m<sup>3</sup>/h)

$P$  = power to be dissipated (W)

$\Delta T$  = difference in the ambient temperature  $T_e$  and the temperature inside the panel board  $T_i$

$f$  = coefficient of thermal exchange



Height m/slm	$f$ m <sup>3</sup> °C/Wh
0 ÷ 100	3,1
100 ÷ 250	3,2
250 ÷ 500	3,3
500 ÷ 750	3,4
750 ÷ 1000	3,5

**example:**  $Q = \frac{500}{10} \cdot 3,2 = 160 \frac{m^3}{h}$

# Ventilation and air conditioning

## Operation and selection of components

### How to install the ventilation kit

Use of a ventilator as a means for extracting heat from a cabinet is recommended when an internal temperature higher than the ambient temperature is acceptable.

In both cases (A and B), to improve the thermal performances of the system, it is advisable to use the filter without a fan one size larger than the one with a fan.

The best thermal situations are obtained by installing the aeration kit in the following ways:

### Ventilation kit at the top and filter at the bottom on the opposite wall - Fig.1

The fan sucks in hot air from the top area of the cabinet towards the outside, whilst fresh air enters through the filter placed at the bottom. This configuration is recommended for cabinets fitted with gaskets as it is the condition which offers better temperature distribution.

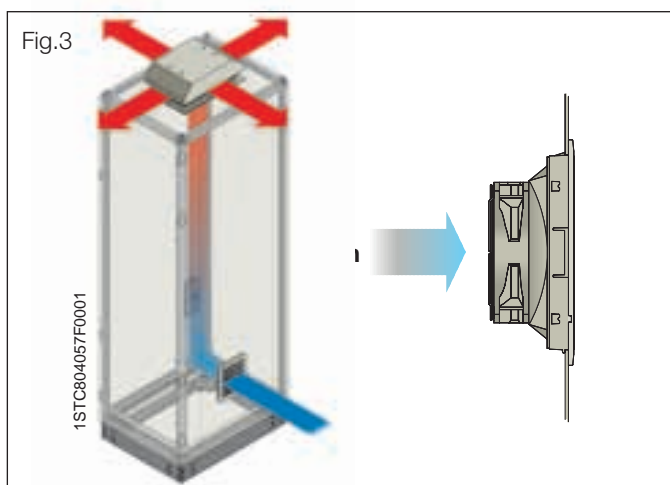
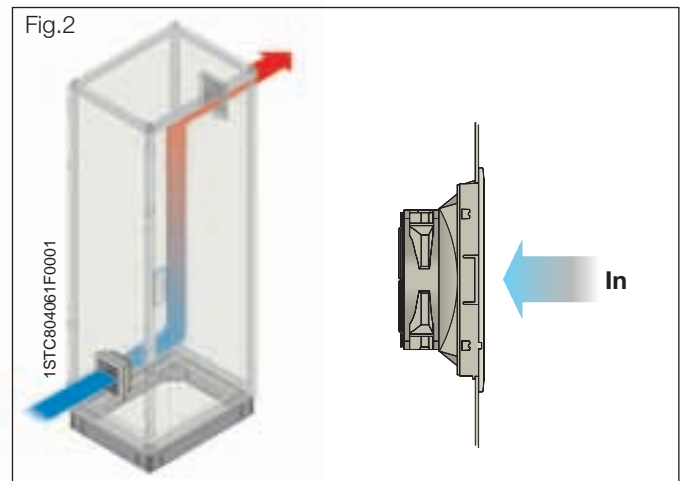
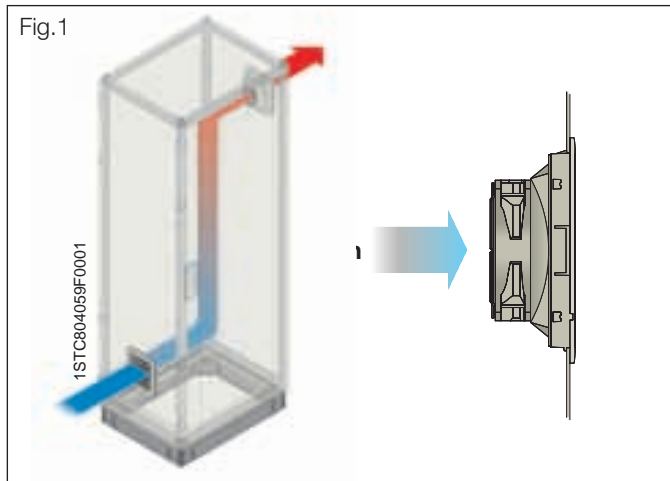
### Ventilation kit at the bottom and filter at the top on the opposite wall - Fig.2

The fan sucks in fresh air from the outside towards the bottom area inside the cabinet, whilst hot air exits through the filter placed at the top. This solution is particularly recommended when you want to avoid entry of dust as far as possible, using the delivery fan, so as to put the cabinet under pressure and prevent entry of dust through the gaps between the panels. Entry of dust is prevented by the fan filter.

### Hood with fan mounted on the cabinet roof and filter placed at the bottom on a wall - Fig.3

In this configuration, the air flow moves from the bottom towards the top: fresh air enters the cabinet through the filter placed at the bottom and hot air exits to the room through the hood. When the hood is used, what has already been said in the previous cases is valid with regard to selecting to mount the fan on delivery or on suction.

### Air flow



# Ventilation and air conditioning

## Operation and selection of components

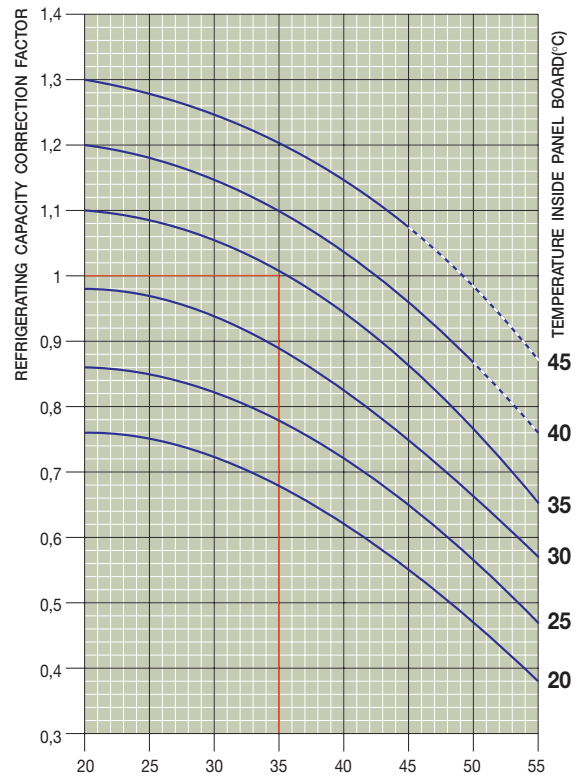
### Air conditioners

Air conditioners allow the temperature inside the panel board to be kept within an established range and are available in the versions for mounting on a wall or on the panel board roof. There are also four super thin versions available to be mounted on the wall with a thickness of 105mm.

To size the air conditioner, the following data are required:

- **power to be dissipated** (this depends on the type and number of pieces of apparatus and conductors contained in the panel board);
- **maximum internal temperature;**
- **ambient temperature** (referring to the place where the panel board is installed);
- **equivalent cooling surface** (sum of the external surfaces able to transmit heat from/towards the outside). To calculate this, the calculation method of the IEC 60890 Standard can be used;
- **thermal power** absorbed or dissipated by the surface of the cabinet, according to the difference in the existing internal/external temperature (if the external temperature is lower than the internal one, the heat flows towards the outside and vice versa);
- **nominal characteristics** of the air conditioner and refrigerating yield: in our case, the ABB air conditioners work with outside temperatures between 20 and 55 °C, keeping temperature values between 25 and 45 °C inside the panel board. The nominal reference condition is 35 °C inside and outside the panel board: as this condition varies, the yielded refrigerating capacity of the

air conditioner undergoes modifications which must be taken into account to size the air conditioner correctly (refer to the "Refrigerating capacity correction factor" table given here).



# Ventilation and air conditioning

## Operation and selection of components

### Example of selection of an air conditioner

Data:

Internal power to be dissipated 400 W

Internal temperature 35 °C

Foreseen ambient temperature 40 °C

Equivalent cooling surface (Ae)

(e.g. **ES2086** 2000x800x600mm) 5.7 m<sup>2</sup>

Note: in this case the cooling surface was considered in the hypothesis of installation exposed on all sides. For other types of installation, the effective cooling surface must be calculated using the method illustrated in the IEC 60890 Standard.

Since the internal temperature is lower than the external temperature, the heat is transmitted from the outside towards the inside of the panel board. To size the air conditioner, the total power to be dissipated derives from the sum of two components: power generated by the apparatus, including that of the copper conductors, (400 W in our example) and the power transmitted by the ambient towards the inside of the panel board through the external sheet steel surfaces, given by the following formula:

$$P = K \cdot Ae \cdot \Delta T = 5,5 \cdot 5,7 \cdot 5 = 156,75W$$

The total power to be dissipated is therefore:

$$P_{tot} = 400 + 156,75 = 556,75W$$

At this point the total power value obtained in this way could be used to select the air conditioner. However, correct sizing must also take into consideration the environmental effects where the conditioner is going to operate. In our example ( $T_{int} = 35^{\circ}C$  and  $T_{ext} = 40^{\circ}C$ ) the correction coefficient of the refrigerating capacity (0.94) is taken from table 1.

The power to be used for sizing the air conditioner is therefore:

$$P_{resa} = P_{tot} : 0,94 = 556,75 : 0,94 = 592,3 W$$

It should be noted how, in the case of an internal temperature higher than the external temperature, to calculate the total power to be dissipated, the heat naturally transmitted to the outside by the walls of the cabinet must be deducted from the power value deriving from the apparatus contained in the panel board, due to the condition of the internal temperature being higher than the external temperature.

## 7 Formula for calculating the power transmitted from (or towards) the ambient:

$$P = K \cdot Ae \cdot \Delta T$$

where:

**P** = power transmitted from the ambient (W)

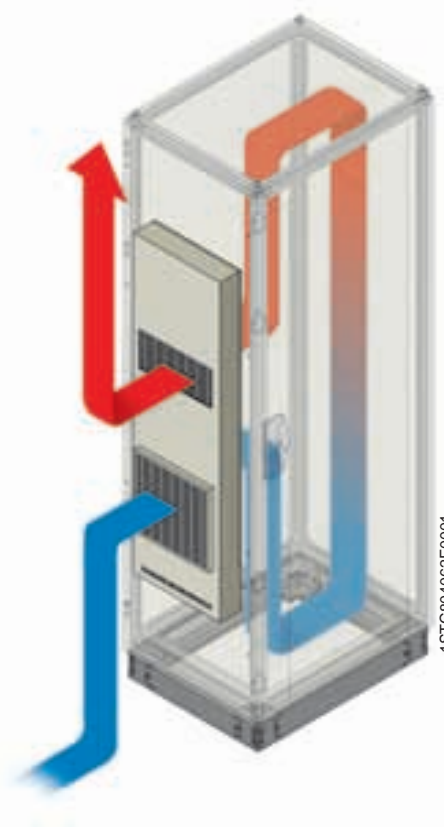
**K** = coefficient of thermal exchange for painted sheet  
K=5.5 W/m<sup>2</sup> · K

**Ae** = free surface of the cabinet (m<sup>2</sup>)

**ΔT** = (T<sub>i</sub> - T<sub>e</sub>)

**T<sub>i</sub>** = internal temperature

**T<sub>e</sub>** = external temperature



# Ventilation and air conditioning

## Operation and selection of components

### Air-air heat exchangers

Heat exchangers cool the hot air taken up inside the cabinet causing thermal exchange with the colder air coming from the outside, but keeping the two air flows isolated from each other.

For this reason, heat exchangers can only be used when the condition  $T_{int} > T_{ext}$  exists and their use is recommended in the case of panel board installation in industrial environments with presence of dust.

In fact, heat exchangers allow the air inside the panel board to be cooled without mixing it with the air coming from the outside, keeping an IP54 degree of protection and therefore preventing penetration of impurities into the electrical panel board.

The  $T_{int} > T_{ext}$  condition still being valid, the power generated by the apparatus installed inside the panel board is dissipated by the heat exchanger and by the surface of the cabinet.

The heat exchanger is sized by means of its specific power W/K (Watt/Kelvin) which expresses the power which can be exchanged for every degree of difference between the external and internal temperature.

### Example of selection of a heat exchanger

Data:

Internal power to be dissipated	640 W	
Internal temperature		35 °C
Foreseen ambient temperature	25 °C	

Equivalent cooling surface (Ae)  
(e.g. IS 2086 2000x800x600mm) 5.7 m<sup>2</sup>

Note: in this case the cooling surface was considered in the hypothesis of installation exposed on all sides. For other types of installation, the effective cooling surface must be calculated using the method illustrated in the IEC 60890 Standard.

Since the internal temperature is higher than the external temperature, the heat is transmitted from the inside towards the outside of the panel board and therefore naturally contributes towards a part of the necessary dissipation.

The power transmitted to the ambient through the external sheet surfaces of the panel board is calculated with the following formula:

$$P = K \cdot Ae \cdot \Delta T = 5,5 \cdot 5,7 \cdot 10 = 313,5W$$

The total power to be dissipated is therefore:

$$P_{tot} = 640 - 313,5 = 326,5W$$

The heat exchanger must dissipate:

$$P_{spec} = P_{tot} : \Delta T = 326,5 : 10 = 32,65W/K$$

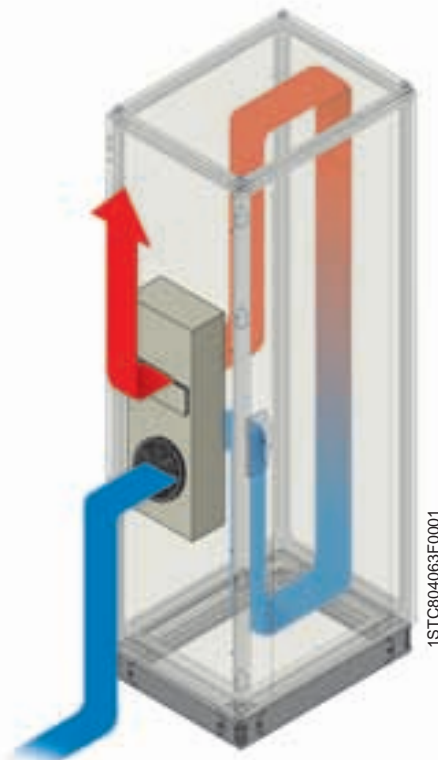
In this case, the heat exchanger suitable for the purpose is the one with 35W/K specific power (code VS 4233).

### Formula for calculating the power transmitted towards the ambient:

$$P = K \cdot Ae \cdot \Delta T$$

where:

- P** = power transmitted from the ambient (W)
- K** = coefficient of thermal exchange for painted sheet  
K=5.5 W/m<sup>2</sup> · K
- Ae** = free surface of the cabinet (m<sup>2</sup>)
- ΔT** = (T<sub>i</sub> - T<sub>e</sub>)
- T<sub>i</sub>** = internal temperature
- T<sub>e</sub>** = external temperature



1STC804063F0001

# Ventilation and air conditioning

## Operation and selection of components

### Heater for panel boards

Heater prevent condensation of the atmospheric humidity inside the electrical panel board – a phenomenon which can cause slow but progressive alteration of the of the surface of the materials, jeopardising the insulation.

The heater consist of heating elements with automatic power adjustment and therefore do not give out constant heat, but heat proportional to the temperature measured inside the electrical panel board (a thermostat is not needed).

Two versions, both of which can be installed on DIN EN50022 rails, allow all requirements to be fulfilled :

- VA6930 for wall-mounted panel boards (maximum height: 1200mm);
- VA6950 for floor-mounted panel boards or those of larger dimensions.

The dissipating element is made of material (Al Mg Si alloy) conforming to the UNI 3569 DIN 1725 Standards.

To obtain greater efficiency it is advisable to position the heaters in the lower part of the cabinet at a suitable distance from the back of the cabinet so as to allow convection.

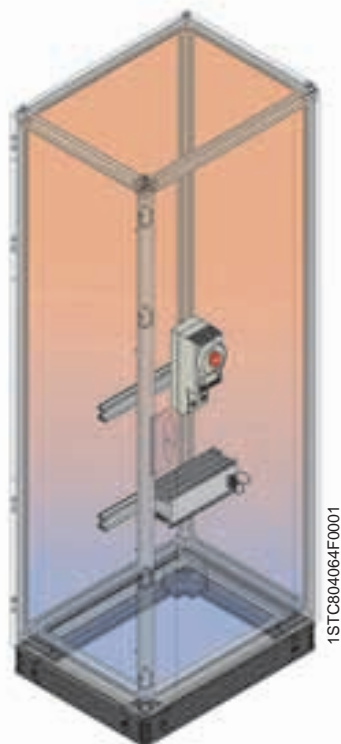
### Thermostats for regulating the temperature

The thermostat is used to control operation of the fans. It has a temperature adjustment range from 10 ÷ 60 °C, with intervention sensitivity of about 1 °C and can be snap-on mounted on DIN EN 50022 rails.

Inside the regulation knob of the thermostat there is a manual device which limits the setting scale (min-max) of the temperature.

For correct installation, mount the apparatus so that the ventilation passes from the bottom to the top, but never sideways. Furthermore, avoid the thermostat being close to direct heat sources and draughts of air.

Conforming to the IEC 60730-1, IEC 60730-2-9 Standards and UL approved, they have IP20 degree of protection. Grey RAL 7032, capacity of the 10 A contact and electrical life of 100000 cycles with resistive load. The version with NO (normally open) contact allows closure of a circuit activating ventilation, air conditioning or alarms. The version with NC (normally closed) contact allows opening of a circuit, disconnecting any anti-condensation heaters.



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# Ventilation and air conditioning

## Technical characteristics

### Air conditioners for wall or door mounting



Model		VZ1550		VZ1850		VZ1400		VZ2000	
Standard electrical power supply	V~(single-phase)	230		230		230		230	
Frequency	Hz	50	60	50	60	50	60	50	60
Refrigerating yield	W	605	670	810	900	1300	1480	1926	2200
Total power consumption	W	330	360	400	450	650	720	800	920
	on inrush	A		8		12,5		21	
	operating	A		2		2,5		4	
Current protection	A	4,9		5,9		8		10	
Air evaporator capacity	m <sup>3</sup> /h	380		350		350		500	
Air condenser capacity	m <sup>3</sup> /h	400		400		600		950	
Degree of protection on panel board side	IP	54		54		54		54	
Refrigerating gas (standard)		R 134 A		R 134 A		R 134 A		R 134 A	
Permissible external temperature	°C	55		55		55		55	
Noise	dB(A)	64		64		66		66	
Dimensions hxxwxd	mm	1025x380x198		1025x380x198		1025x380x198		1100x380x230	
Approximate weight	kg	33		33		36		42	
Standard painting	RAL	orange peel 7032		orange peel 7032		orange peel 7032		orange peel 7032	

### Super thin wall or door air conditioners



Model		VZ1000		VZ1450		VZ1700		VZ2100	
Refrigerating yield (standard)	W	1000		1450		1700		2100	
Total power consumption W		537		690		850		1000	
Standard electrical power supply	V~(single-phase)	230		230		230		230	
Frequency	Hz	50		50		50/60		50/60	
	on inrush	A		10,5		15,8		19	
	operating	A		3		3,8		4,3	
Current protection	A	4		6		6		6	
Air condenser capacity	m <sup>3</sup> /h	200		200		400		400	
Air evaporator capacity	m <sup>3</sup> /h	400		600		800		1400	
Degree of protection on panel board side		IP 54		IP 54		IP54		IP54	
Refrigerating gas (standard)		R 134 A		R 134 A		R 134 A		R 134 A	
Permissible external temperature	°C	20 ÷ 55		20 ÷ 55		20 ÷ 55		20 ÷ 55	
Dimensions hxxwxd	mm	1510x480x115+60		1510x480x115+60		1510x480x115+60		1510x480x115+60	
Noise	dB(A)	63		64		66		68	
Approximate weight	kg	50		52		56		60	
Standard painting	RAL	orange peel 7032		orange peel 7032		orange peel 7032		orange peel 7032	

# Ventilation and air conditioning

## Technical characteristics

### Air conditioner for mounting on roof



Model		VZ8501	VZ1401
Standard electrical power supply	V~(single-phase)	230	230
Frequency	Hz	50 60	50 60
Refrigerating yield	W	810 900	1300 1480
Total power consumption	W	400 450	650 720
	on inrush	A	12,5 21
Absorbed current	operating	A	2,5 4
Current protection	A	5,9	8
Air evaporator capacity	m <sup>3</sup> /h	350	350
Air condenser capacity	m <sup>3</sup> /h	400	600
Degree of protection on panel board side	IP	54	54
Refrigerating gas (standard)		R 134 A	R 134 A
Permissible external temperature	°C	55	55
Noise	dB(A)	64	66
Dimensions hxwx d	mm	350x600x400	350x600x400
Approximate weight	kg	33	34
Standard painting	RAL	7032 orange peel	7032 orange peel

### Heat exchangers



Model		VS4235	VS6285
Specific thermal yield	W/K	35	85
Total power consumption W		116/150	170/180
Power supply standard	V~(single-phase)	230	230
Frequency	Hz	50/60	50/60
Absorbed current	A	0,52/0,68	0,76/0,80
Internal circuit fan air capacity	m <sup>3</sup> /h	200	200
External circuit fan air capacity	m <sup>3</sup> /h	200	300
Degree of protection	IP	54	54
Range of application	°C	55	55
Dimensions hxwx d	mm	735x370x155	845x475x195
Approximate weight	kg	15	21
Standard painting	RAL	7032 orange peel	7032 orange peel

# Ventilation and air conditioning

## Technical characteristics

### Fans



Modello		EN1105/EN2105	EN1150/EN2150	EN1207/EN2204	EN1250/EN2250	EN2325/EN3325	EN0480	EN0482
Capacity air only of the fan	m <sup>3</sup> /h	23	57	120	240	520-580	480	480
Standard power supply (single-phase)	V~	230/115	230/115	230/115	230/115	230/115	230	115
Frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60	50
Total power consumption	W	10/9	20/20	23/23	29/29	72/122	60	71
Absorbed current	mA	70/140	125/210	160/320	126/250	370/1320	260	820
Rotation speed	revs/min	2700	2600	2700	2800	2770-3120	2535	2500
Noise	dB(A)	40	43	41	50	63-65	60	61
Operating temperature	°C	-10 +55	-10 +55	-10 +55	-10 +55	-10 +55	-20 +50	-20 +50
Electrical life	h	45.000	45.000	45.000	45.000	53.000	50.000	50.000
Degree of protection	IP	54	54	54	54	54	43	43
Weight	kg	0,5	0,8	1,1	1,7	3,62	5,8	5,8
Dimensions hxwxwd	mm	105x105x67	150x150x71	204x204x98	250x250x121	325x325x161	375x295x90	375x295x90
Colour	RAL	7032	7032	7032	7032	7032	7032	7032
Approvals		UL	UL	UL	UL			

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# Ventilation and air conditioning

## Declaration of conformity

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### **Air conditioners and heat exchanges**

Under their full and exclusive responsibility, ABB declares that the air conditioners and heat exchangers they market comply with the provisions of the following directives 89/392/EEC, 89/336/EEC, 91/368/EEC, and 93/44/EEC.

Reference Standards: UNI EN 292, UNI EN 294, EN 50081-2, EN 50082-2, EN 55011, IEC 60204-1.

### **Thermostats**

Under their full and exclusive responsibility, ABB declares that the thermostats for temperature regulation they market comply with the provisions of the following directives 73/23/CEE, 93/68/CEE, and 89/336/CEE.

Reference Standards: EN 60730, 60730-1 "Automatic electrical controls for household and similar use".



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## Selection and design tools

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### TCTWin 4.3 - Technical Collection Tools

The new 4.3 version of ABB Sace's TCTWin includes seven very useful pieces of technical software which make calculations, design and estimates easier, ensuring conformity of the installations with the Standards and reducing the risk of errors. It is also provided with ABB Software Desktop which, apart from being a useful console for launching all the software in the collection, allows access



to a series of convenient and practical functions which, over time, are enriched by updating via Internet. In fact, all the software can be updated over the net with just a simple click: the most convenient, simple and safe way to have the novelties ABB Sace makes available for professionals always to hand.

The software, collected on CD-Roms in a practical box, consists of the following:

**DOCWin 3.0**, for sizing electrical networks powered with low or medium voltage, offers: design and definition of the network, network calculations, conductor sizing, selection and coordination of switching and protection devices, representation of the curves, checks, printout of diagrams, diagrams and reports;

**DMBWin 4.6**, structured in interconnected modules which allow the project to be developed and to prepare the estimate for ABB Sace's ArTu and Gemini switchboard. It supports the user, from selection of the apparatus and metalwork structures, to designing the front of the switchgear, from making the estimate to documentation of the offer;

**SPECs 1.3**, to produce the specifications regarding the electrical installations of business structures, hotels, schools, hospitals, tunnels, garages, tourist ports, public entertainment rooms and other environments, constantly updated by means of an automatic procedure. With the internal text processor, it allows personalisation of the specifications and their exportation in the most commonly used text formats;

**CAT 6.0**, allows a product among the 25000 ABB Sace codes to be found and fitted with accessories, enriching the module for producing offers with management of discounts and mark-ups, personalised archives and detailed printouts;

**PICOWin 3.0**, to make out specifications and estimates for any civil, service sector or small industry electrical installation. It develops projects on layouts relative to lighting points, sockets, lamps, switches, and distribution channels, and allows configuration of control boxes (front and single-line) with ABB Sace apparatus up to 125A;

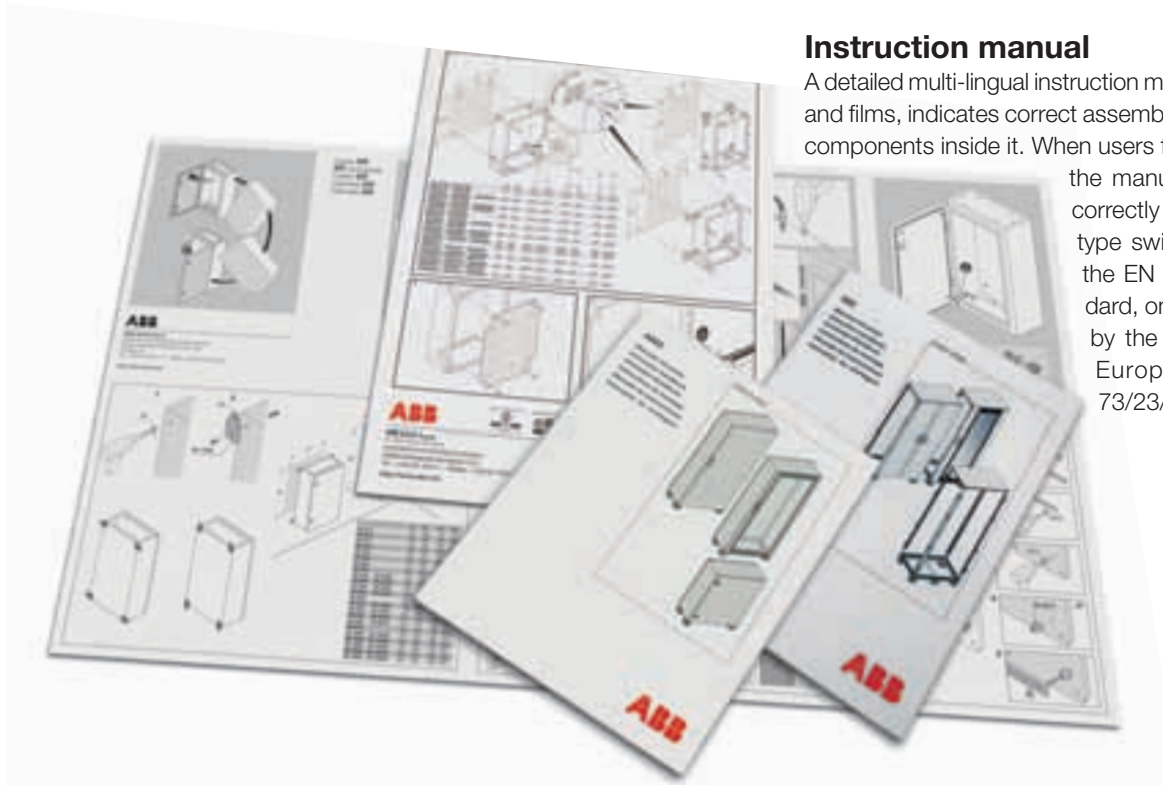
## Selection and design tools

**Prosoft 2.0**, dedicated to selection of the PSS and PST stepped starters. Once the load and ABB motor have been selected, the programme selects the most suitable soft starter, taking into consideration the current, the torque and the start-up time;

**DriveSize 2.4**, allows the optimal motor, frequency converter and transformer solution to be defined, especially when selection from a catalogue is not possible. It can also be used to calculate current and network harmonic values and to create documents relative to sizing on the basis of the effective load.



Some Screenshots of the DMBWin software for the design of ArTu



### Instruction manual

A detailed multi-lingual instruction manual, complete with drawings and films, indicates correct assembly of the switchgear and of the components inside it. When users follow the indications given by the manufacturer, they can construct correctly selected and assembled AS type switchgear which complies with the EN 60439-1 (CEI 17/13-1) Standard, on the basis of what is foreseen by the Low Voltage Directive of the European Community (Directive 73/23/EEC, Law 791/1977).

## Selection and design tools

### Training: an essential tool for professionals

ABB SACE makes the experience it has gained in more than 60 years' of activity available by means of technical training courses, which is an occasion for being brought up to date and comparing notes with expert professionals for all the operators in the sector. The aim is to meet all the requirements for information professionals may have, converting the technical-standard and legislative concepts into practical terms which can be applied directly to the different products and installations: in particular, the Tur1 (introductory) and Tur2 (advanced) courses, reserved for switchgear experts, installers and designers, aim at illustrating the procedure for designing and constructing low voltage switchgear on the basis of the CEI Standards and European Community Directives in force.



Business on line (<http://bol.it.abb.com>) is the portal created by ABB SACE to provide its customers with a work tool built around the requirements of professionals, offering an innovative approach to the world of low voltage electrical installations and industrial automation. By means of guided paths or by choosing free navigation, each user can easily reach the information wanted.

### Work tools

All the tools needed to make your daily work easier can be found on line: estimates and designing complex installations, software to select and correctly size motors and actuators, specific interactive catalogues for home automation and selection of the Élos wiring accessories series... and still a lot more.

### Guided paths

The "guided paths" which you can access from the home page facilitate navigations among ABB SACE products:

- Electrical distribution: particularly dedicated to those who design and install low voltage installations in the industrial and in the medium-to-large-sized service sector;
- Civil and service sector installation: ABB SACE's offer for installations in the residential and small service sectors;
- Automation and control: actuators, motors and control and protection apparatus for all industrial applications on machines and plants;
- Process measuring sensors: ABB's whole vast range of field instruments for industrial processes;
- Home and building automation, i.e. the most advanced solutions for integrated automation and management of buildings and home and service sector environments, as well as those of particular historical and artistic value.

Using the guided paths, centred on the product and its use, it is easy to orientate yourself among the offer of apparatus and systems which interest you and to find all the relevant information and work material: catalogues, certificates, and design tools.

### "Smart catalogue"

This is a virtual catalogue on line which, by means of selecting the technical characteristics, allows you to find each individual product rapidly and easily. Product cards and family cards are available with detailed descriptions and all the relative documentation. The cards can be printed and filed on your own PC so that you can consult the data at any time.

### "My Documentation"

A personalized collection of documents can be created: "My Documentation" allows you to add all the documentation you like to your own library, saving the documents you are interested in to a personalized directory to be able to use them again whenever needed. A registered user can check for any updates in the material in his own library, display the document, print it, or order the paper version. You must login to be able to use this function.

### Customer Care

The new Customer Care Service which allows specific and in-depth information to be obtained on subjects of interest in a rapid and competent way by filling in a form

### New Search Engine

The new search engine allows advanced type searches, by means of the "FILTER THE RESULTS FOR" section.





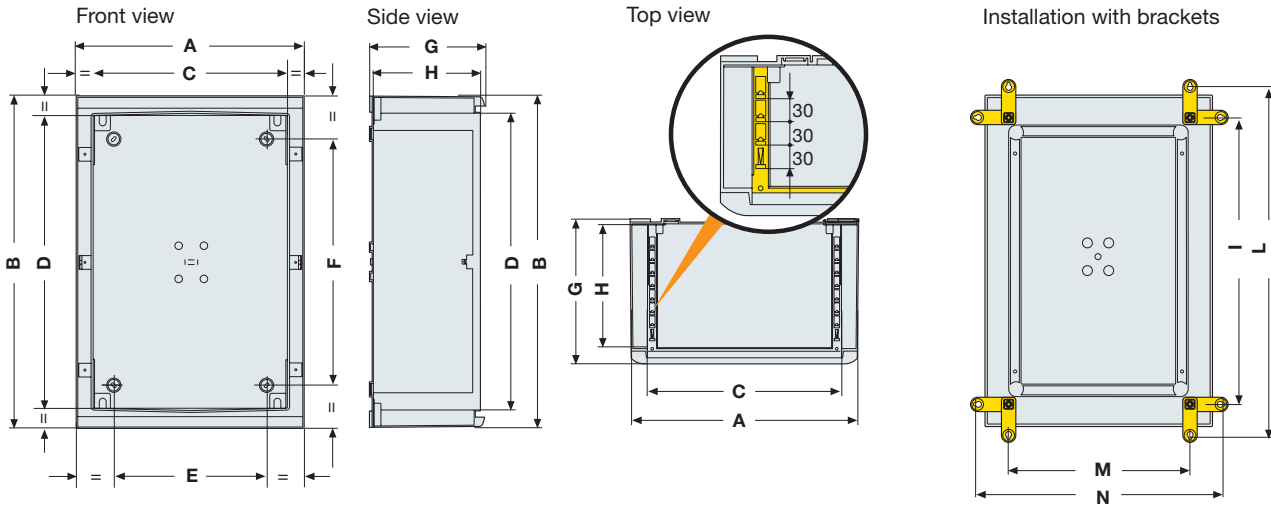
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# Overall dimensions

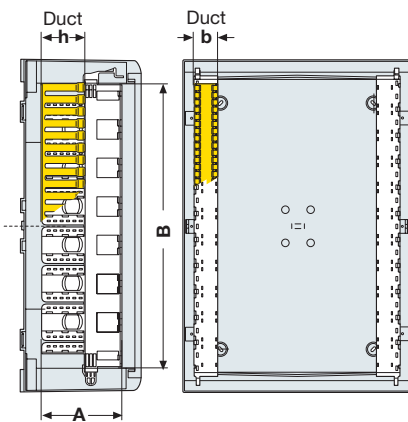
## Gemini switchboards

### Structures



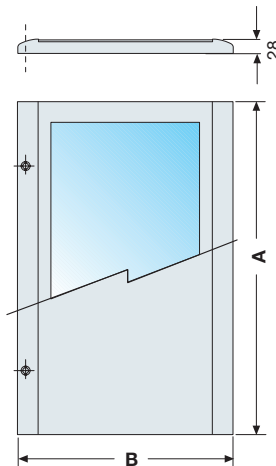
Size	Code	A	B	C	D	E	F	G	H	I	L	M	N
1	1SL0201A00-1SL0211A00-1SL0221A00	335	400	250	300	150	180	210	180	270	470	195	395
2	1SL0202A00-1SL0212A00-1SL0222A00	460	550	375	450	250	270	260	230	420	620	320	520
3	1SL0203A00-1SL0213A00-1SL0223A00	460	700	375	600	270	475	260	230	570	770	320	520
4	1SL0204A00-1SL0214A00-1SL0224A00	590	700	500	600	286	385	260	230	570	770	445	645
5	1SL0205A00-1SL0215A00-1SL0225A00	590	855	500	750	390	558	360	330	720	920	445	645
6	1SL0206A00-1SL0216A00-1SL0226A00	840	1005	750	900	640	706	360	330	870	1070	695	895

### Uprights



Size	Code	A	B	Duct	
				b	h
1	1SL0283A00	132	300	18	46
2	1SL0284A00	152	450	27	46
3	1SL0285A00	152	600	27	46
4	1SL0285A00	152	600	27	46
5	1SL0286A00	152	750	36	46
6	1SL0287A00	152	900	55	46

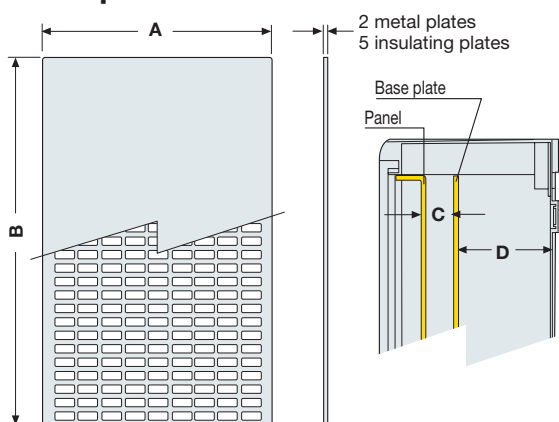
### Front opaque and transparent doors



Size	Code	A	B
1	1SL0241A00-1SL0231A00	349	325
2	1SL0242A00-1SL0232A00	499	450
3	1SL0243A00-1SL0233A00	649	450
4	1SL0244A00-1SL0234A00	649	575
5	1SL0245A00-1SL0235A00	799	575
6	1SL0246A00-1SL0236A00	949	825

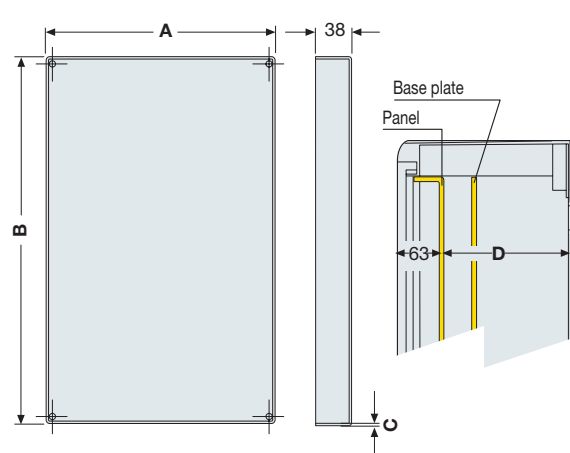
Measurements are in millimetres

## Base plates



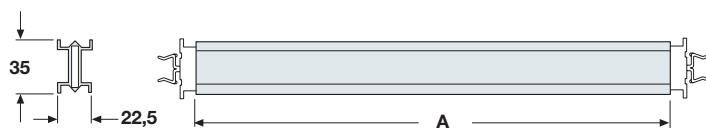
Size	Code	A	B	C	D
1	1SL0259A00-1SL0275A00-1SL0267A00	235	285	16.3+91	33.5+110
2	1SL0260A00-1SL0276A00-1SL0268A00	360	435	34.6+140	33.5+139
3	1SL0261A00-1SL0277A00-1SL0269A00	360	585	34.6+140	33.5+139
4	1SL0262A00-1SL0278A00-1SL0270A00	485	585	34.6+140	33.5+139
5	1SL0263A00-1SL0279A00-1SL0271A00	485	735	47+244	33.5+228
6	1SL0264A00-1SL0280A00-1SL0272A00	735	885	47+244	33.5+228

## Inner doors



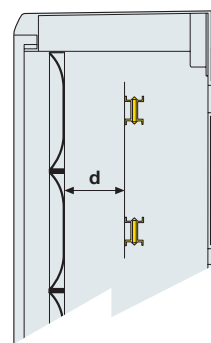
Size	Code	A	B	C	D
1	1SL0251A00	250	300	3	128
2	1SL0252A00	375	450	4	177
3	1SL0253A00	375	600	4	177
4	1SL0254A00	500	600	4	177
5	1SL0255A00	500	750	5	277
6	1SL0256A00	750	900	5	277

## DIN rail

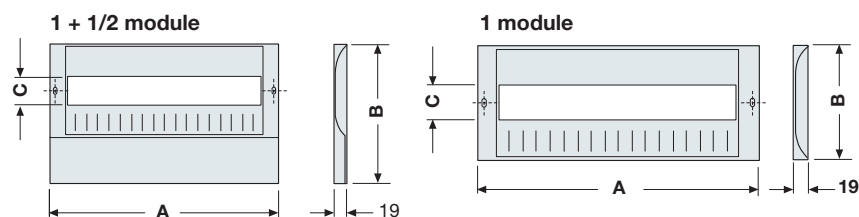


Size	Code	A	d = pos. 1	d = pos. 2	d = pos. 3	d = pos. 4	d = pos. 5	d = pos. 6
1	1SL0290A00	210	51	63,5	76	88,5	-	-
2	1SL0291A00	318	51	63,5	76	88,5	101	113,5
3	1SL0291A00	318	51	63,5	76	88,5	101	113,5
4	1SL0292A00	443	51	63,5	76	88,5	101	113,5
5	1SL0292A00	443	51	63,5	76	88,5	101	113,5
6	1SL0293A00	663	51	63,5	76	88,5	101	113,5

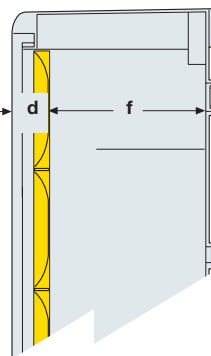
The distances of the DIN rail from the panel depend on the depth at which the DIN rail is regulated by using fixing devices.



## Panels for modular apparatus mounted on DIN rail



Size	Code	1 mod.		1+1/2 mod.		modules			
		A	B	A	B	C	DIN	d	f
1	1SL0307A00	250	150	-	-	46	12	44	145
2	1SL0308A00-1SL0313A00	375	150	375	225	46	18	44	197
3	1SL0308A00-1SL0313A00	375	150	375	225	46	18	44	197
4	1SL0309A00-1SL0314A00	500	150	500	225	46	24	44	197
5	1SL0309A00-1SL0314A00	500	150	500	225	46	24	44	297
6	1SL0310A00-1SL0315A00	750	150	750	225	46	36	44	297

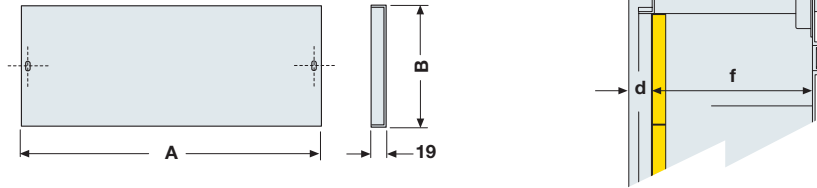


Measurements are in millimetres

# Overall dimensions

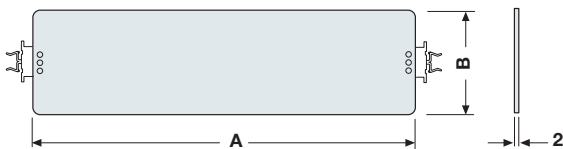
## Gemini switchboards

### Blank panels



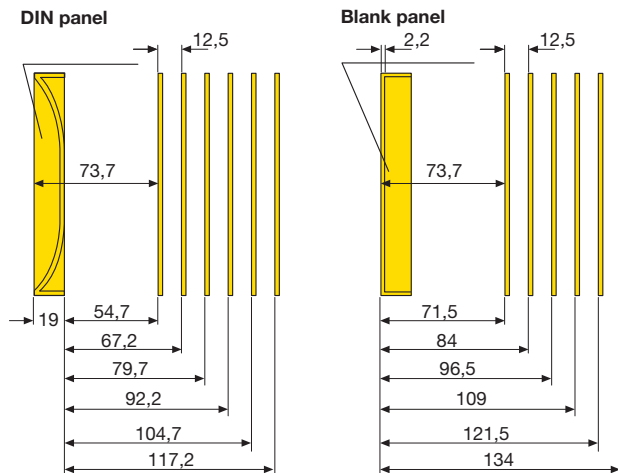
Size	Code	1/2 mod.		1 mod.		2 mod.		d	f
		A	B	A	B	A	B		
1	1SL0318A00-1SL0324A00-1SL0330A00	250	75	250	150	250	300	26,5	162
2	1SL0319A00-1SL0325A00-1SL0331A00	375	75	375	150	375	300	26,5	214
3	1SL0319A00-1SL0325A00-1SL0331A00	375	75	375	150	375	300	26,5	214
4	1SL0320A00-1SL0326A00-1SL0332A00	500	75	500	150	500	300	26,5	214
5	1SL0320A00-1SL0326A00-1SL0232A00	500	75	500	150	500	300	26,5	314
6	1SL0321A00-1SL0327A00-1SL0233A00	750	75	750	150	750	300	26,5	314

### Modular plates



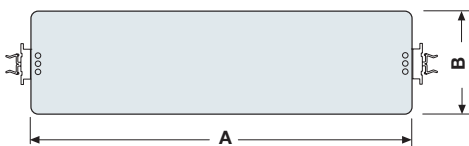
Size	Code	1 mod.		2 mod.	
		A	B	A	B
1	1SL0296A00	210	130	210	280
2	1SL0297A00-1SL0302A00	318	130	318	280
3	1SL0297A00-1SL0302A00	318	130	318	280
4	1SL0298A00-1SL0303A00	443	130	443	280
5	1SL0298A00-1SL0303A00	443	130	443	280
6	1SL0299A00-1SL0304A00	663	130	663	280

### Mounting distances between front panel and plate

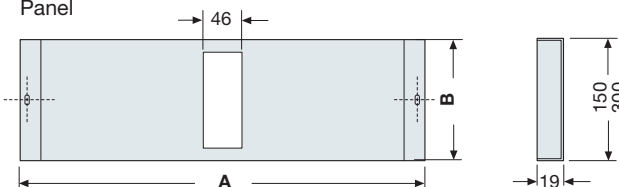


### Kit for Tmax

Plate



Panel



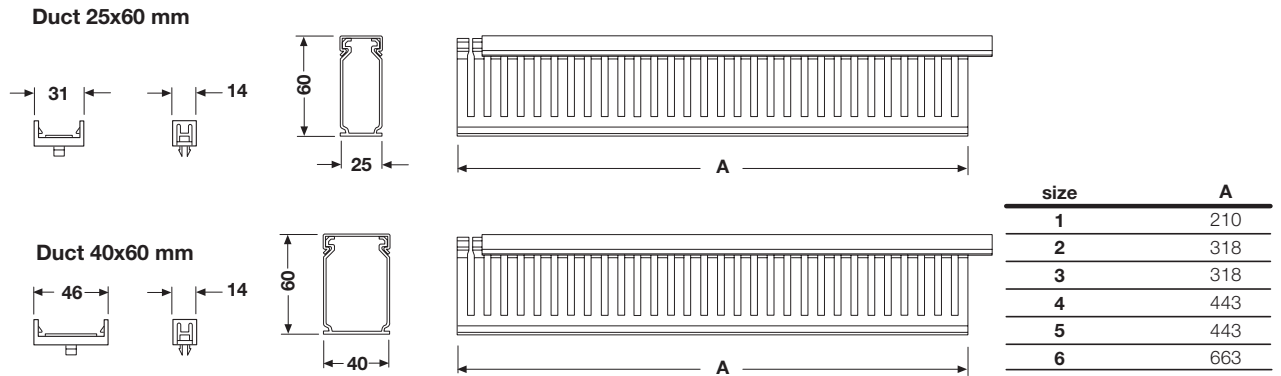
Size	Code	Plate				Panel			
		1 mod.		2 mod.		1 mod.		2 mod.	
		A	B	A	B	A	B	A	B
1									
2	1SL0336A00-1SL0370A00	318	130	318	280	318	150	318	300
3	1SL0336A00-1SL0370A00	318	130	318	280	318	150	318	300
4	1SL0337A00-1SL0371A00	443	130	443	280	443	150	443	300
5	1SL0337A00-1SL0371A00	443	130	443	280	443	150	443	300
6	1SL0338A00-1SL0372A00	663	130	663	280	663	150	663	300

Measurements are in millimetres

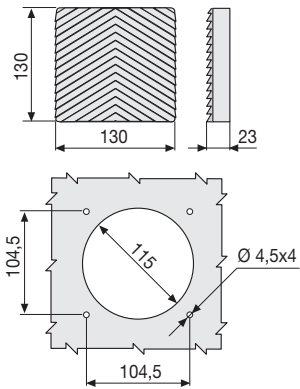
# Overall dimensions

## Gemini switchboards

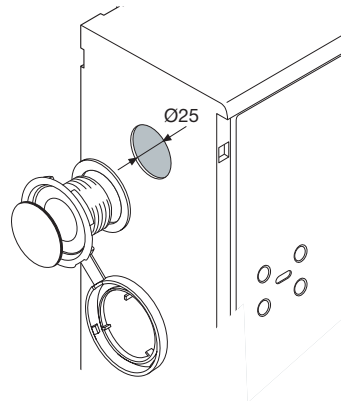
### Wiring kit



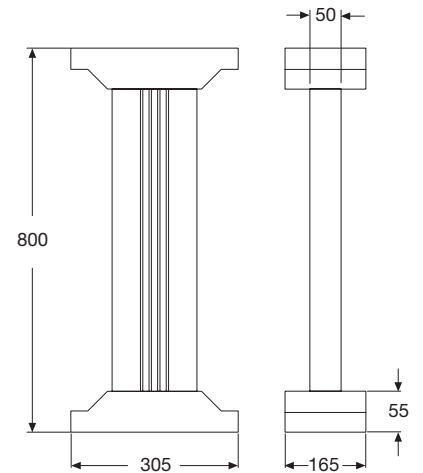
### Ventilation kit



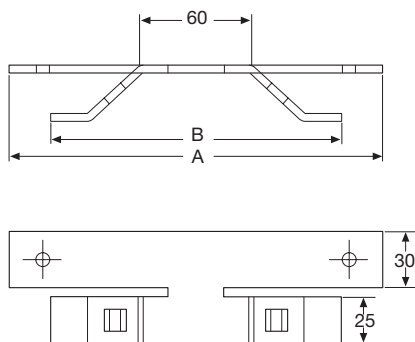
### Anti-condensation kit



### Pedestal



### Pole installation kit



size	A	B
1	232	206
2-3	358	332
4-5	483	457
6	733	707

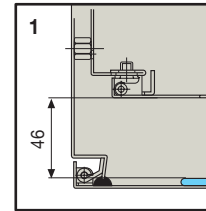
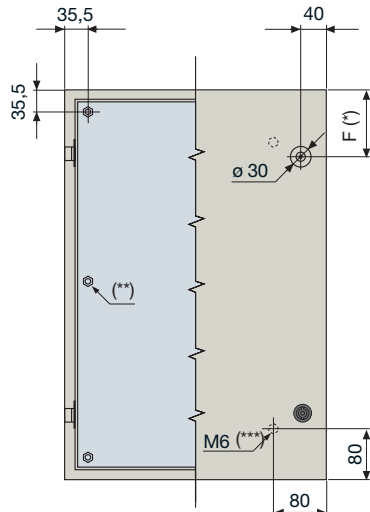
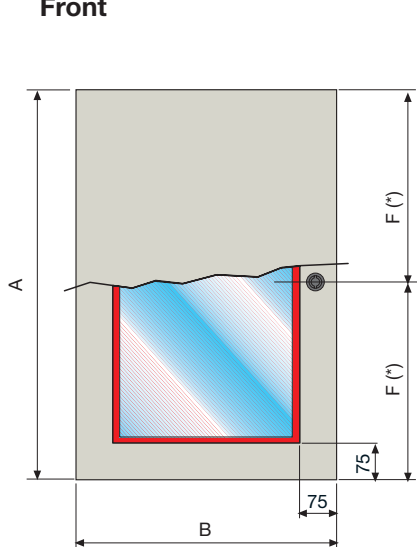
Measurements are in millimetres

# Overall dimensions

## SR Enclosures

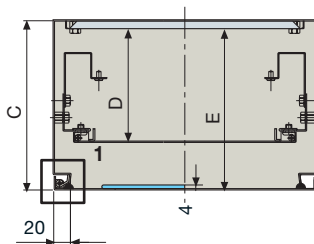
### Basic version

Front

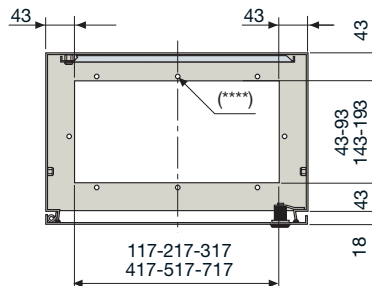


(\*) **Locks (F)**  
 n°1 central for enclosures from h=303 to 503 mm  
 n°2 for enclosures from h=603 to 703 mm (F=100mm)  
 n°2 for enclosures from h=803 to 1203 mm (F=150mm)

Modular panels and internal counterdoor



Fairlead flange



(\*\*) **Copper plated nut**  
 only for enclosures from h=1003 to 1203 mm

(\*\*\*) **Copper plated nut on door**  
 n° 1 for enclosures from h=303 to 503 mm  
 n° 4 for enclosures from h=603 to 803 mm  
 n° 6 for enclosures from h=1003 to 1203 mm

(\*\*\*\*) **Flange fixing holes**  
 n° 4 for enclosures from l=203mm  
 n° 6 for enclosures from l=303 to 403 mm  
 n° 8 for enclosures from l=503 to 1203 mm

	A	B	C	D	E	F(*)	G	H	I	L
SR3215	303	203	147	82	133,5	151,5	163	337	237	263
SR3315	303	303	147	82	133,5	151,5	263	337	337	263
SR3415	303	403	147	82	133,5	151,5	363	337	437	263
SR4315	403	303	147	82	133,5	201,5	263	437	337	363
SR4320	403	303	197	132	183,5	201,5	263	437	337	363
SR4420	403	403	197	132	183,5	201,5	363	437	437	363
SR4620	403	603	197	132	183,5	201,5	563	437	637	363
SR5320	503	303	197	132	183,5	251,5	263	537	337	463
SR5420	503	403	197	132	183,5	251,5	363	537	437	463
SR5425	503	403	247	182	233,5	251,5	363	537	437	463
SR6420	603	403	197	132	183,5	100	363	637	437	563
SR6425	603	403	247	182	233,5	100	363	637	437	563
SR6625	603	603	247	182	233,5	100	563	637	637	563
SR7520	703	503	197	132	183,5	100	463	737	537	663
SR7525	703	503	247	182	233,5	100	463	737	537	663
SR8625	803	603	247	182	233,5	150	563	837	637	763
SR8630	803	603	297	232	283,5	150	563	837	637	763
SR8830	803	803	297	232	283,5	150	763	837	837	763

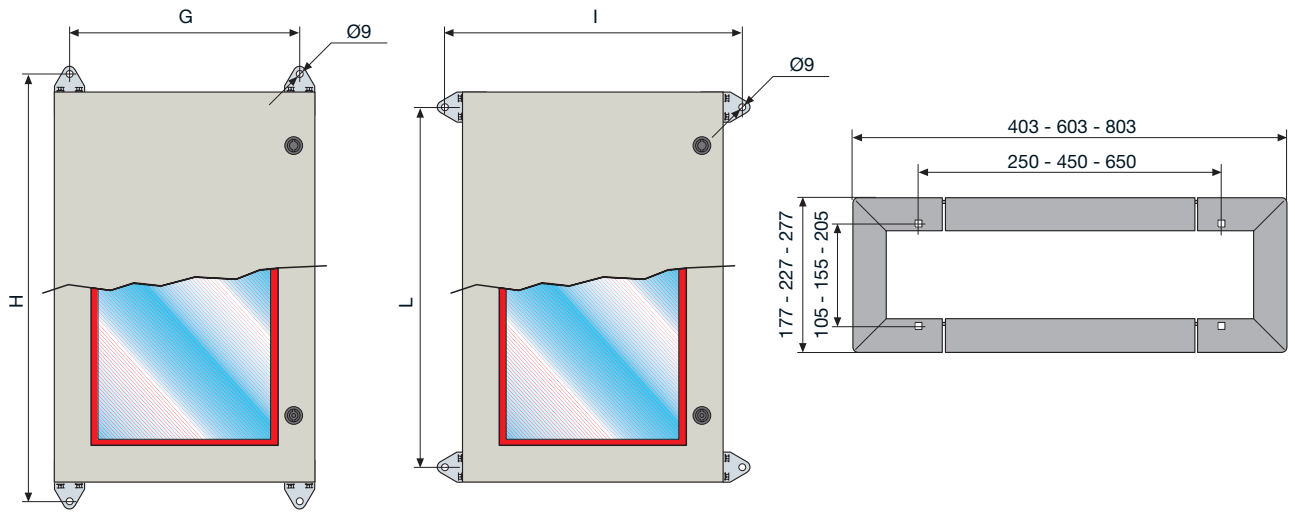
	A	B	C	D	E	F(*)	G	H	I	L
SR10625	1003	603	247	182	233,5	150	563	1037	637	963
SR10630	1003	603	297	232	283,5	150	563	1037	637	963
SR10830	1003	803	297	232	283,5	150	763	1037	837	963
SR12630	1203	603	297	232	283,5	150	563	1237	637	1163
SR12830	1203	803	297	232	283,5	150	763	1237	837	1163
SR5420V	503	403	197	132	183,5	150	363	537	437	463
SR5425V	503	403	247	182	233,5	150	363	537	437	463
SR6420V	603	403	197	132	183,5	150	363	637	437	563
SR6425V	603	403	247	182	233,5	150	363	637	437	563
SR7520V	703	503	197	132	183,5	150	463	737	537	663
SR7525V	703	503	247	182	233,5	150	463	737	537	663
SR8625V	803	603	247	182	233,5	150	563	837	637	763
SR8630V	803	603	297	232	283,5	150	563	837	637	763
SR10625V	1003	603	247	182	233,5	150	563	1037	637	963
SR10630V	1003	603	297	232	283,5	150	563	1037	637	963
SR10830V	1003	803	297	232	283,5	150	763	1037	837	963
SR12630V	1203	603	297	232	283,5	150	563	1237	637	1163
SR12830V	1203	803	297	232	283,5	150	763	1237	837	1163

Measurements are in millimetres

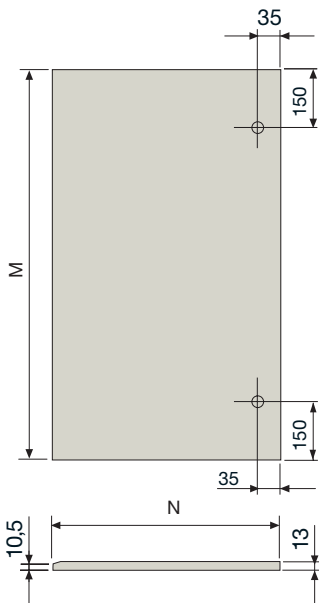
# Overall dimensions

## SR Enclosures

### Centre distances for wall fixing



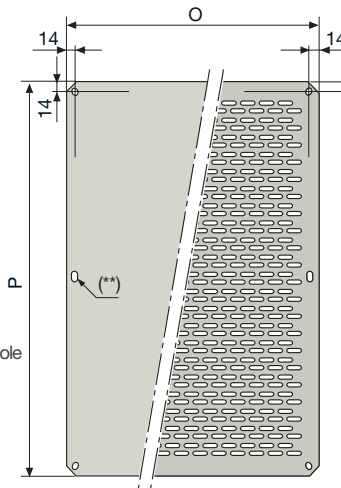
### Internal counterdoors



Code	M	N
KA5040*	456	360
KA6040*	556	360
KA7050*	656	460
KA8060	756	560
KA1060	956	560
KA1080	956	760
KA1260	1156	560
KA1280	1156	760

\* The counterdoors with H 500mm, 600mm and 700mm, only have one hole in the centre for the lock

### Internal plates



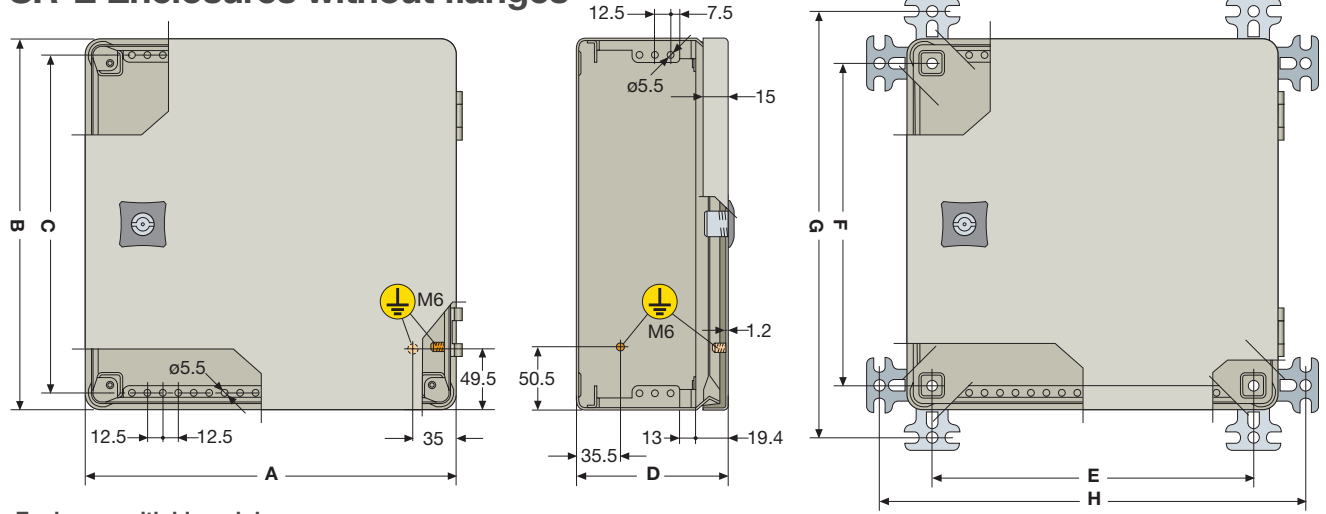
Code	O	P
PF3020	160	260
PF3030	260	260
PF3040 - PF4030	360	260
PF4040	360	360
PF5030	260	460
PF5040	360	460
PF6040 - PF4060	360	560
PF6060	560	560
PF7050	460	660
PF8060	560	760
PF8080	760	760
PF1060	560	960
PF1080	760	960
PF1260	560	1160
PF1280	760	1160

Measurements are in millimetres

# Overall dimensions

## SR-E Enclosures

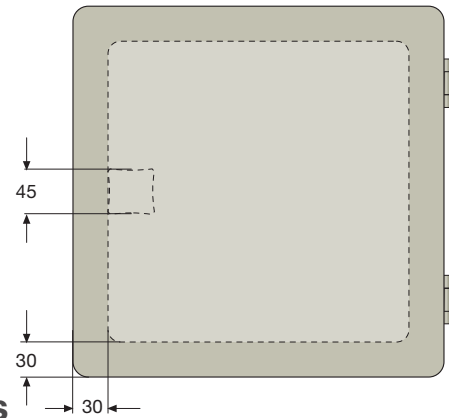
### SR-E Enclosures without flanges



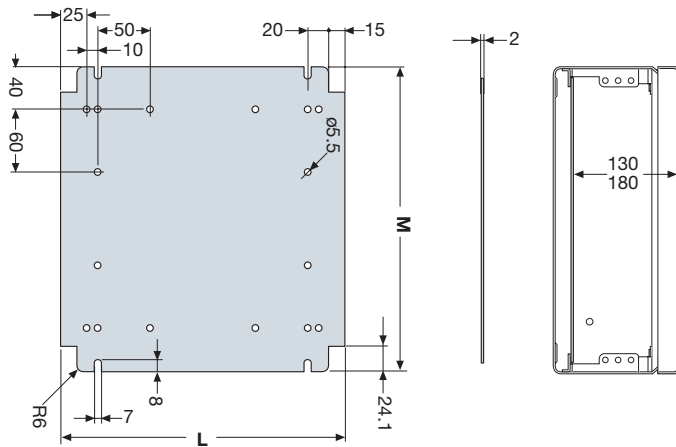
#### Enclosure with hinged door

Code	A	B	C	D	E	F	G	H
SRE2215	200	200	173.2	150	159.5	159.5	229	229
SRE3215	200	300	273.2	150	159.5	259.5	329	229
SRE3315	300	300	273.2	150	259.5	259.5	329	329
SRE3415	400	300	273.2	150	359.5	259.5	329	429
SRE4215	200	400	373.2	150	159.5	359.5	429	229
SRE4315	300	400	373.2	150	259.5	359.5	429	329
SRE4415	400	400	373.2	150	359.5	359.5	429	429
SRE4420	400	400	373.2	200	359.5	359.5	429	429
SRE5315	300	500	473.2	150	259.5	459.5	529	329
SRE5320	200	500	473.2	200	159.5	459.5	529	229
SRE5415	400	500	473.2	150	359.5	459.5	529	429
SRE4420	400	500	473.2	200	359.5	459.5	529	429
SRE6415	400	600	573.2	150	359.5	559.5	629	429
SRE6420	400	600	573.2	200	359.5	559.5	629	429

#### Maximum useful overall dimensions for the drillings



### Back plates for SR-E enclosures without flanges



Code	L	M
CD2020	188.2	170
CD3020	288.2	170
CD3030	288.2	270
CD4020	388.2	170
CD4030	388.2	270
CD4040	388.2	370
CD5030	488.2	270
CD5040	488.2	370
CD6040	588.2	470

Measurements are in millimetres

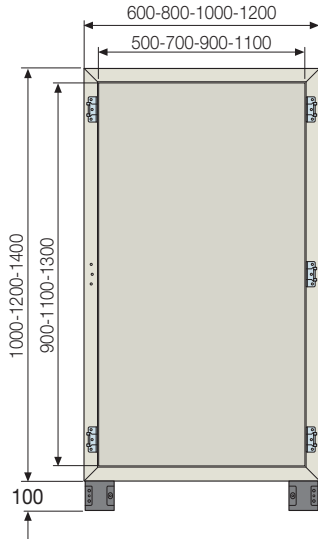
# Overall dimensions

## AM2 cabinets

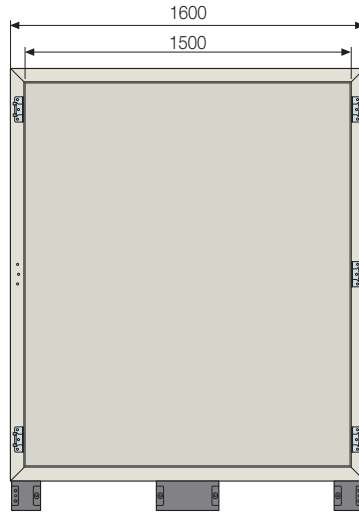
### Structure H=1000/1200/1400mm

Structure W ≤1200mm

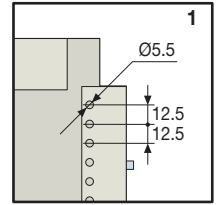
Front view



Structure W=1600mm



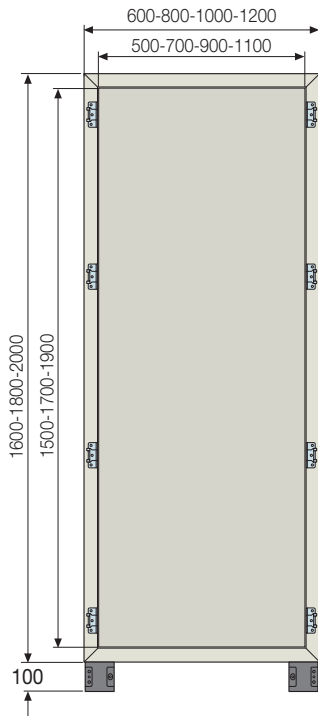
Side view



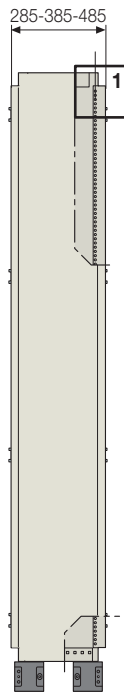
### Structure H=1600/1800/2000mm

Structure W ≤1200mm

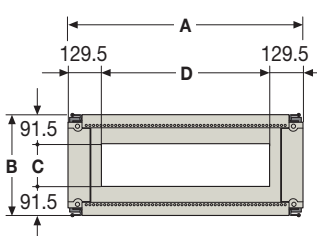
Front view



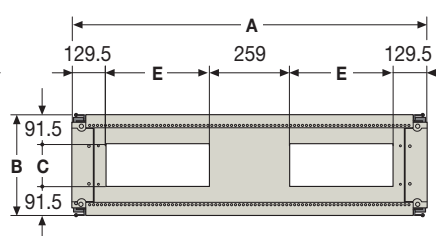
Side view



Basic structure W ≤1000mm



Basic structure W ≥1200mm



	A	B	C	D	E
600		285	102	341	
		385	202	341	
		485	302	341	
800		285	102	541	
		385	202	541	
		485	302	541	
1000		285	102	741	
		385	202	741	
		485	302	741	
1200		285	102		341
		385	202		341
		485	302		341
1600		285	102		541
		385	202		541
		485	302		541

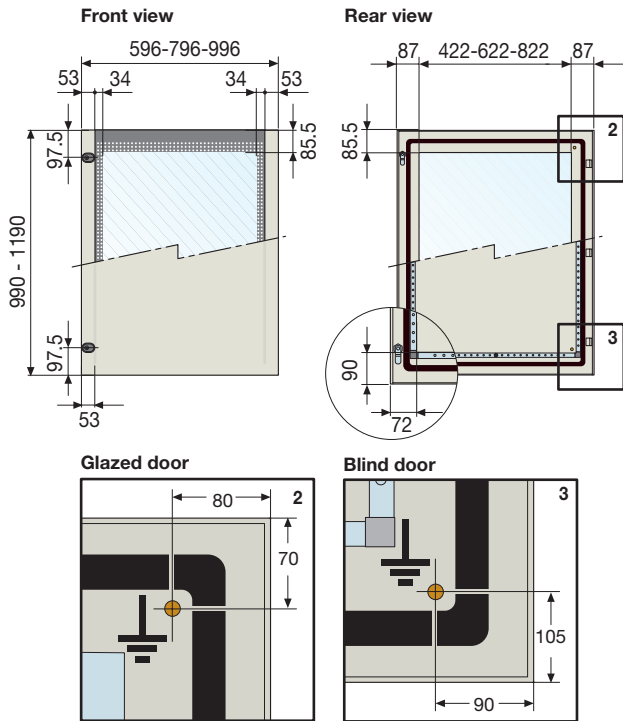
Measurements are in millimetres

# Overall dimensions

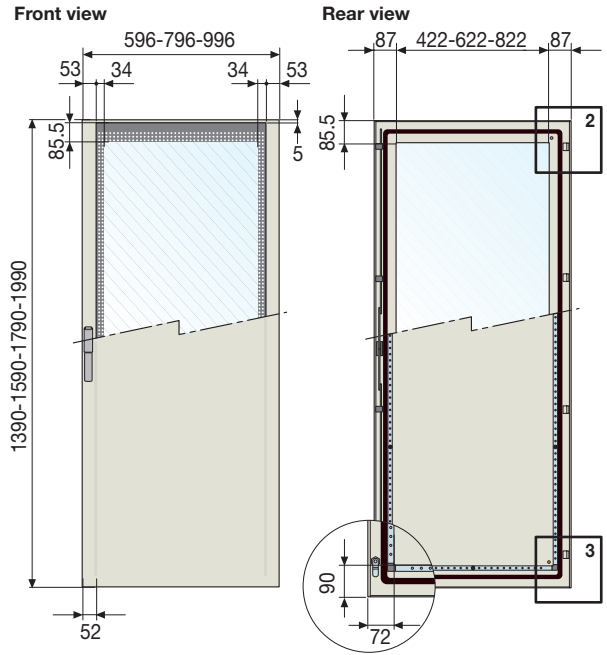
## AM2 cabinets

### Front/Rear covers

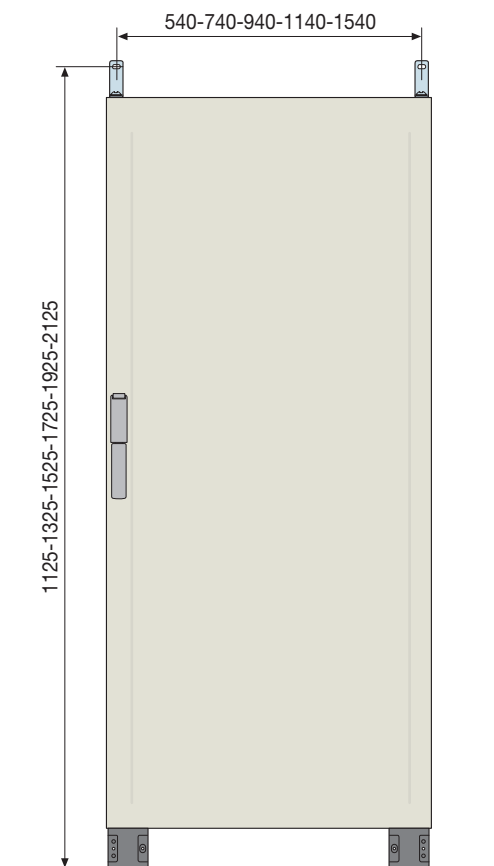
Blind or glazed door H = 1000/1200mm



Blind or glazed door H = 1400/1600/1800/2000mm



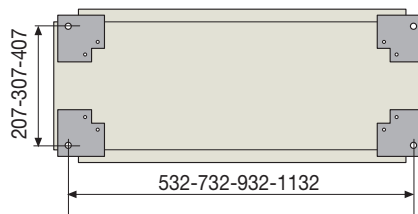
### Fixing to wall/floor



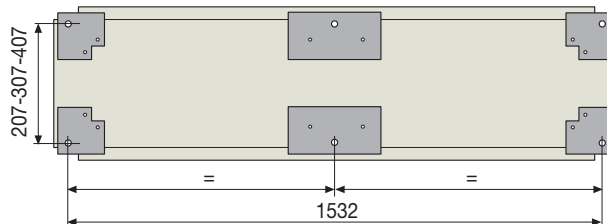
#### Fixing by means of plinth

For fixing, use M12 nut + dolly block

Basic structure ≤ 1200mm

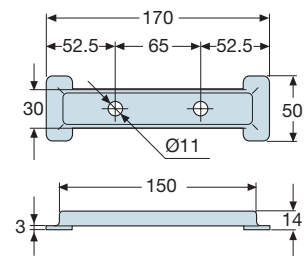
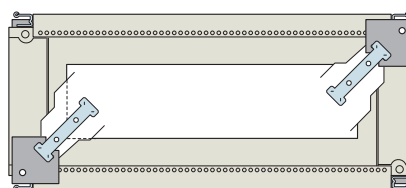


W=1600mm



#### Fixing by means of bracket

For fixing, use M10 nut + dolly block

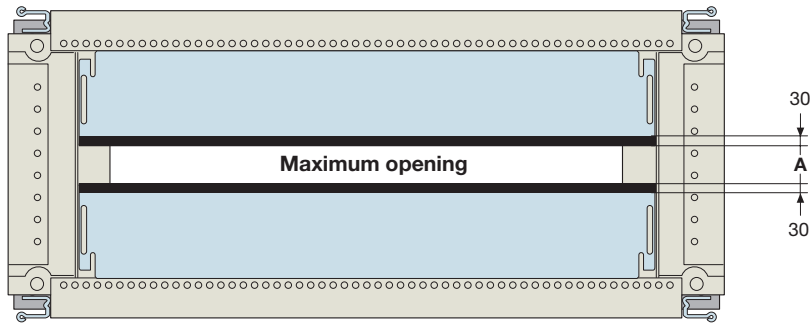


Measurements are in millimetres

# Overall dimensions

## AM2 cabinets

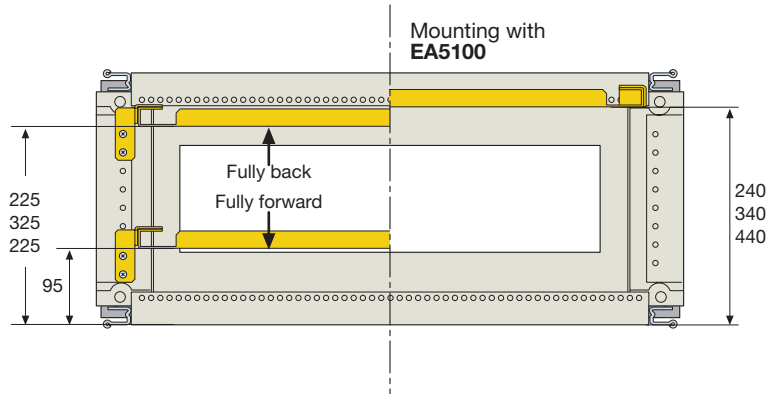
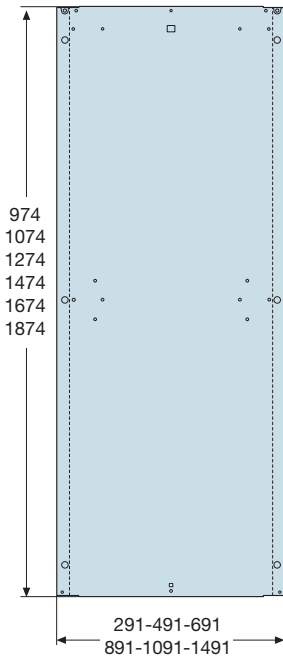
### Flanges for sliding cable passage



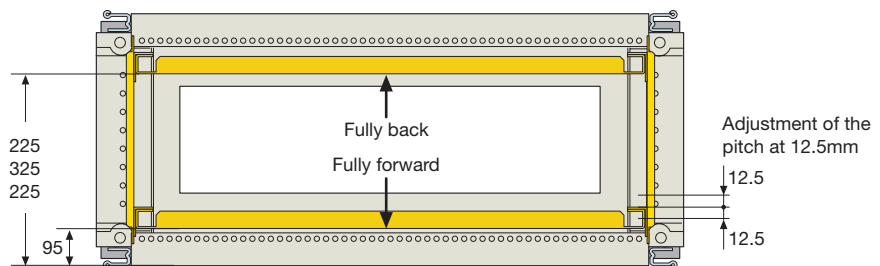
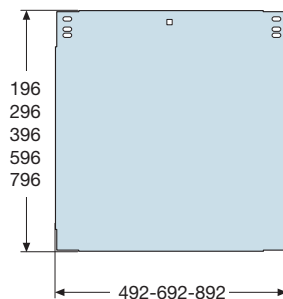
Structure W [mm]	A
400	40
500	60

### Mounting plates

#### Standard plate



#### Partial height plate

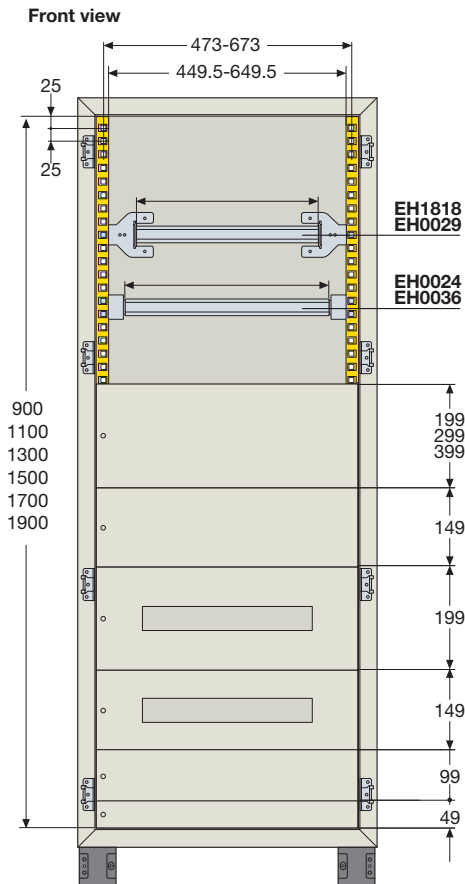


Measurements are in millimetres

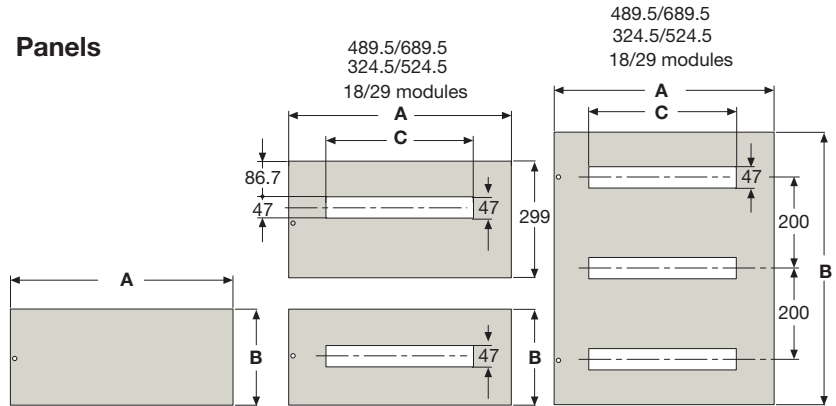
# Overall dimensions

## AM2 cabinets

### Kit modular apparatus



### Panels



### Blind panels

Code	A	B
EH0562	489.5	49
EH1062	489.5	99
EH1562	489.5	149
EH2062	489.5	199
EH3063	489.5	299
EH4062	489.5	299
EH5062	489.5	499
EH6062	489.5	599
EH0582	689.5	49
EH1082	689.5	99
EH1582	689.5	149
EH2082	689.5	199
EH3082	689.5	299
EH4082	689.5	299
EH5082	689.5	499
EH6082	689.5	599

### Panels for modular instruments

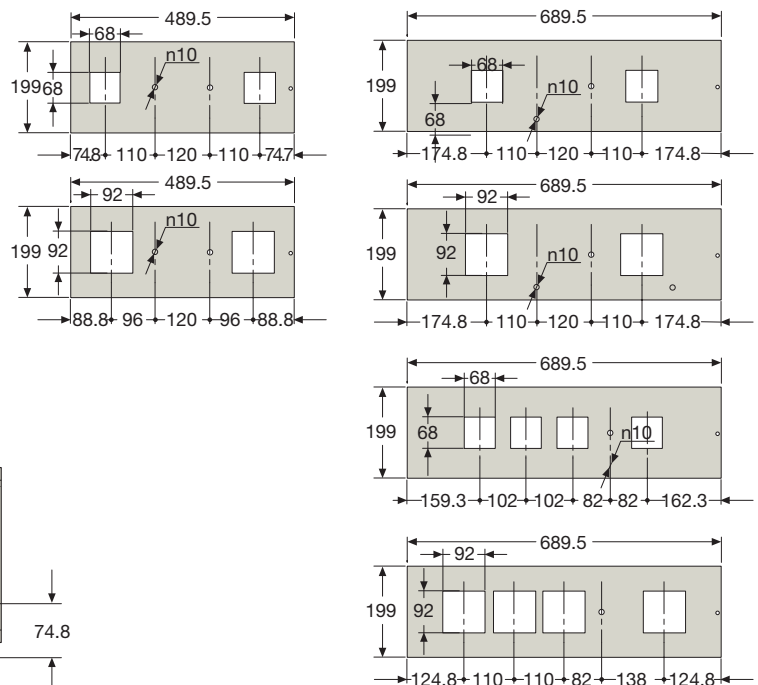
#### 1 DIN row

Code	A	B	C	N° mod.
EH1518	489.5	149	324.5	18
EH2018	489.5	199	324.5	18
EH3018	489.5	299	324.5	18
EH1529	689.5	149	524.5	29
EH2029	689.5	199	524.5	29
EH3029	689.5	299	524.5	29
EH1524	489.5	149	432	24
EH2024	489.5	199	432	24
EH1536	689.5	149	634	36
EH2036	689.5	199	634	36

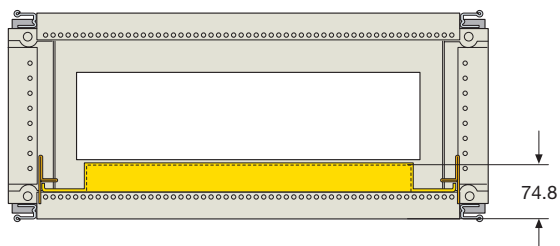
#### 3 DIN rows

Code	A	B	C	N° mod.
EH6018	489.5	599	324.5	18
EH6029	689.5	599	524.5	29
EH6025	489.5	599	324.5	24
EH6036	689.5	599	524.5	36

### Instrument panels



### Blind recessed panel



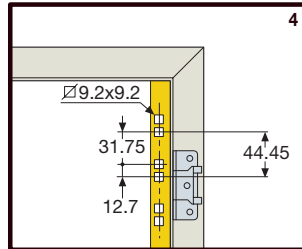
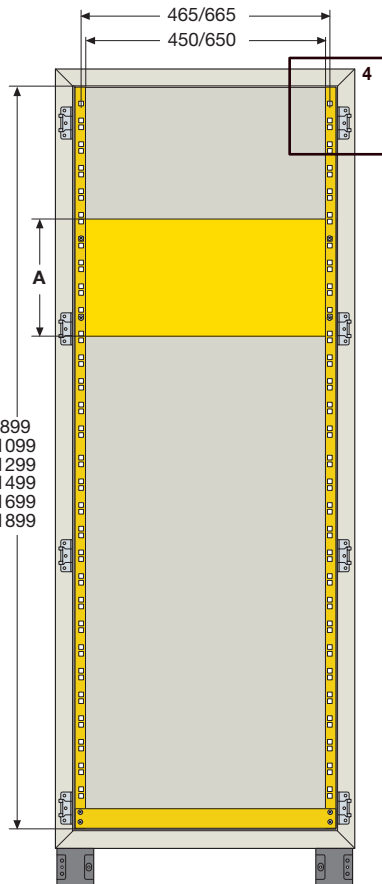
Measurements are in millimetres

# Overall dimensions

## AM2 cabinets

### 19" Rack frames

Front view



- (N° HE 20) 899
- (N° HE 24) 1099
- (N° HE 28) 1299
- (N° HE 34) 1499
- (N° HE 38) 1699
- (N° HE 42) 1899

### Panels for 19" rack frame

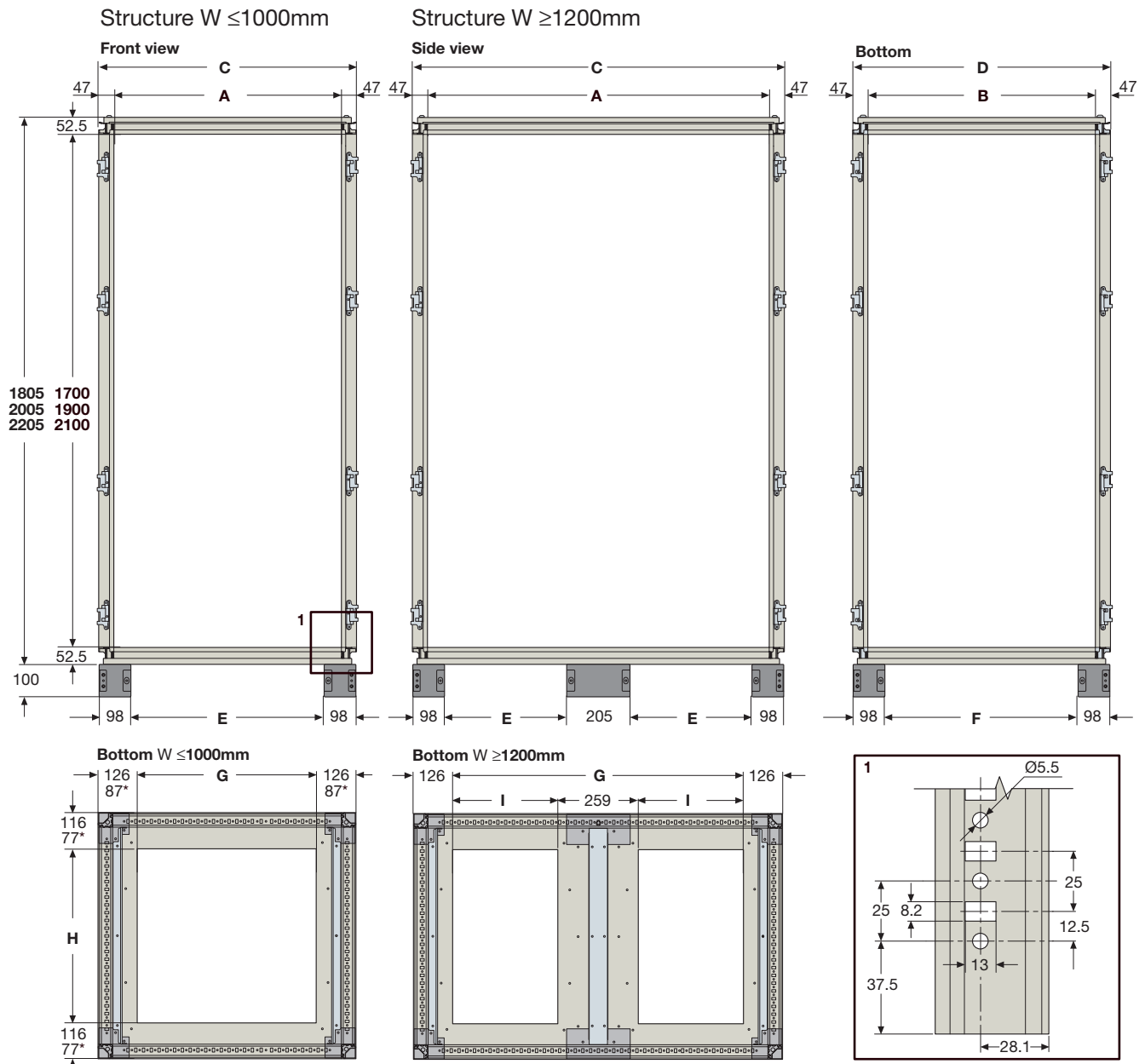
Code	A	N° HE
EG1991	44.45	1
EG1902	89	2
EG1903	133	3
EG1904	177.5	4
EG1905	222	5
EG1906	266.5	6
EG1907	311	7
EG1908	355.5	8
EG1909	400	9
EG1910	444.5	10
EG1911	488	11
EG1912	533	12
EG1913	577.5	13
EG1914	622	14
EG1915	666	15
EG1916	711	16
EG1917	755.5	17
EG1918	800	18
EG1919	844.5	19
EG1920	889	20

Measurements are in millimetres

# Overall dimensions - IS2 enclosures

Basic structure and versions available

## Basic structure/External cable container



A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H	I
	300		394		195		239		300		394		195		162	
	400		494		295		339		400		494		295		262	
200	500	294	594	95	395	120	439	900	500	994	594	795	395	742	362	
	700		794		595		639		700		794		595		562	
	900		994		795		839		900		994		795		762	
	300		394		195		162		300		394		195		162	
	400		494		295		262		400		494		295		262	
300	500	394	594	195	395	142	362	1100	500	1194	594	395	395	942	362	341.5
	700		794		595		562		700		794		595		562	
	900		994		795		762		900		994		795		762	
	300		394		195		162		300		394		195		162	
	400		494		295		262		400		494		295		262	
500	500	594	594	395	395	342	362	1500	500	1594	594	595	395	1342	362	541.5
	700		794		595		562		700		794		595		562	
	900		994		795		762		900		994		795		762	
	300		394		195		162		300		394		195		162	
	400		494		295		262		400		494		295		262	
700	500	794	594	595	395	542	362		500		594		395		362	
	700		794		595		562		700		794		595		562	
	900		994		795		762		900		994		795		762	

\* External cable container

Measurements are in millimetres

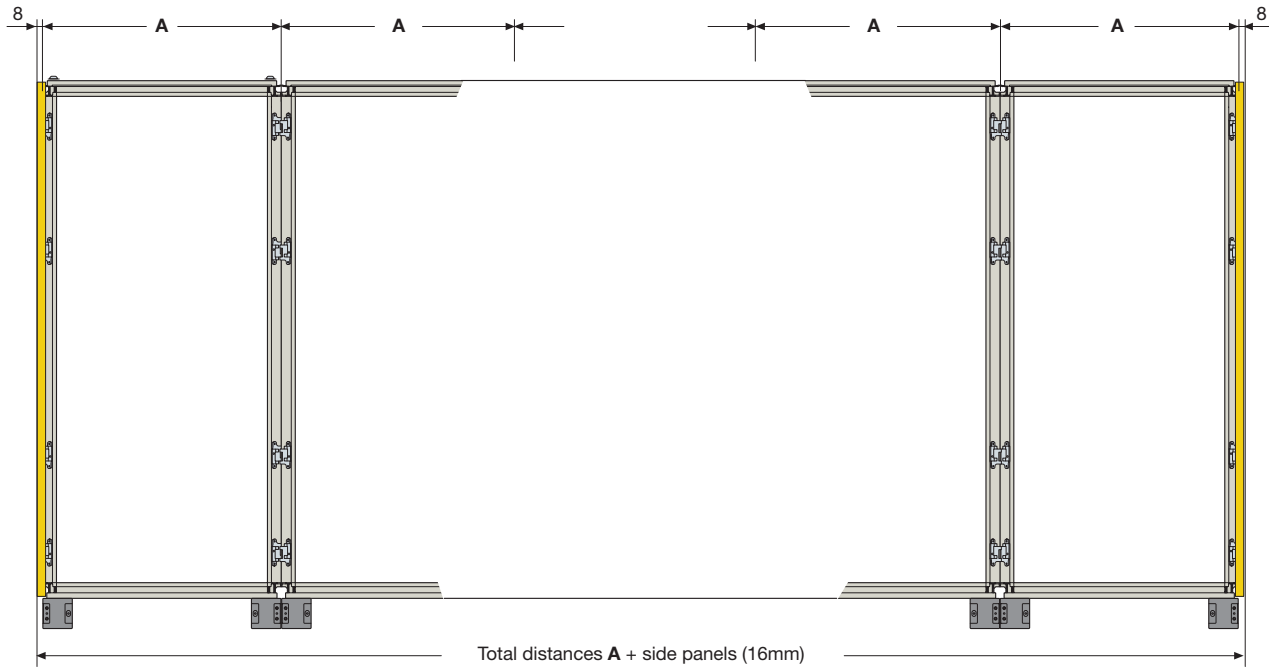
1STC804001F0901

# Overall dimensions - IS2 enclosures

Basic structure and versions available

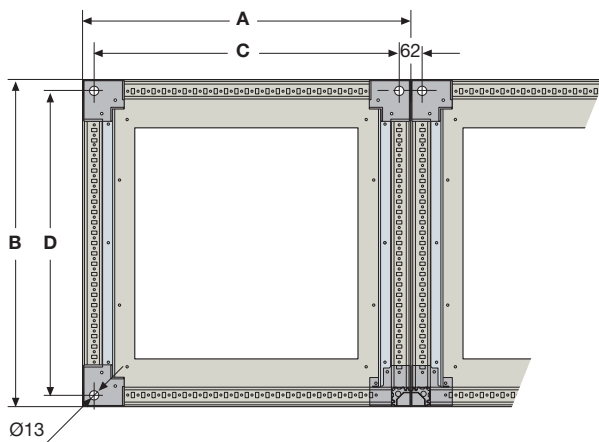
## Placing structures side by side and fixing to the floor

Overall dimensions of several structures side by side



### Fixing by means of plinth

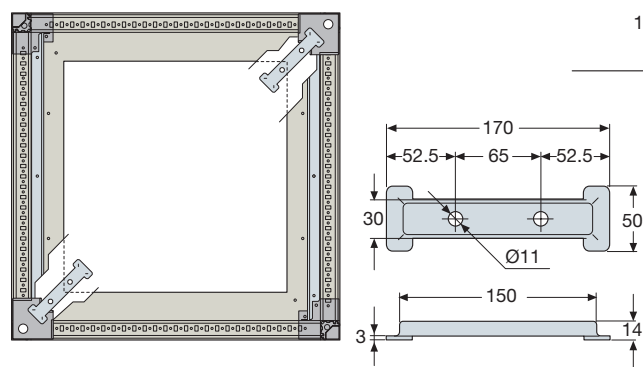
For fixing, use M12 nut + dolly block



A	B	C	D
394	394	332	332
	494		432
	594		532
	794		732
	994		932
594	394	532	332
	494		432
	594		532
	794		732
	994		932
794	394	732	332
	494		432
	594		532
	794		732
	994		932
994	394	932	332
	494		432
	594		532
	794		732
	994		932
1194	394	1132	332
	494		432
	594		532
	794		732
	994		932
1594	394	1532	332
	494		432
	594		532
	794		732

### Fixing by means of bracket

For fixing, use M10 nut + dolly block

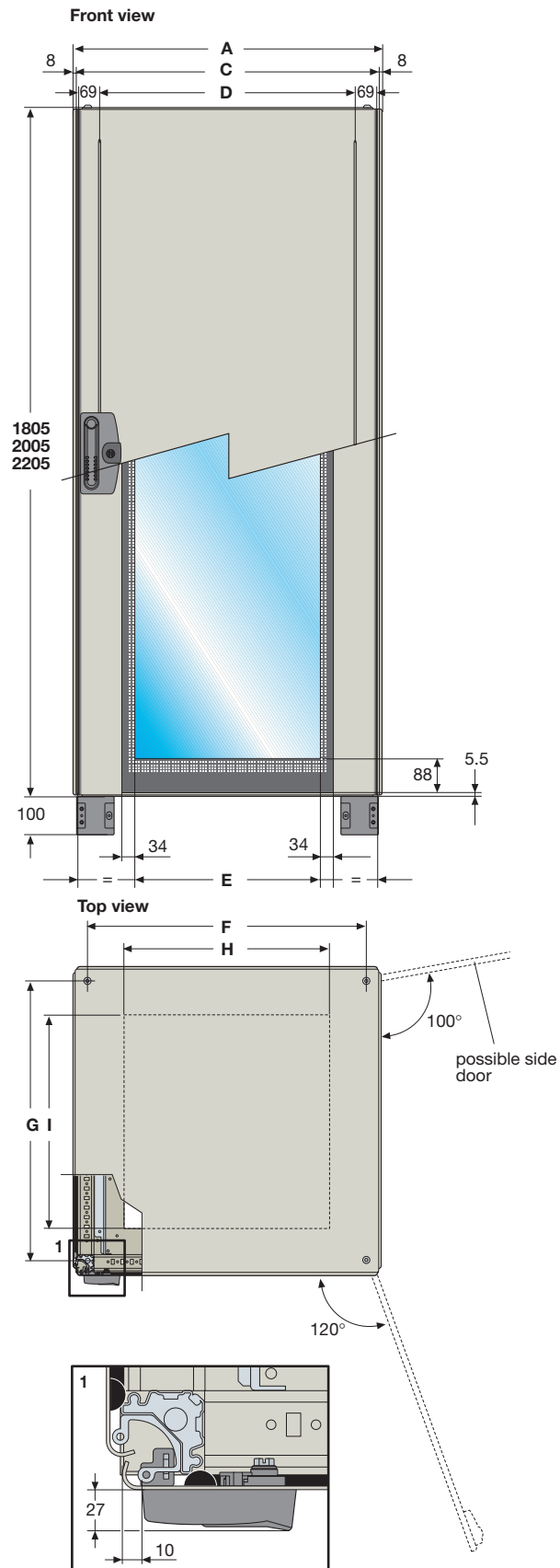


Measurements are in millimetres

# Overall dimensions - IS2 enclosures

Basic structure and versions available

## Version with blind or glazed door



A	B	C	D	E	F	G	H	I
410						332		162
510						432		262
410	610	394	251.5	-	332	532	142	362
	810					732		562
	1010					932		762
410						332		162
510						432		262
610	610	594	451.5	286	532	532	342	362
	810					732		562
	1010					932		762
410						332		162
510						432		262
810	610	794	651.5	486	732	532	542	362
	810					732		562
	1010					932		762
410						332		162
510						432		262
1010	610	994	871.5	686	932	532	742	362
	810					732		562
	1010					932		762

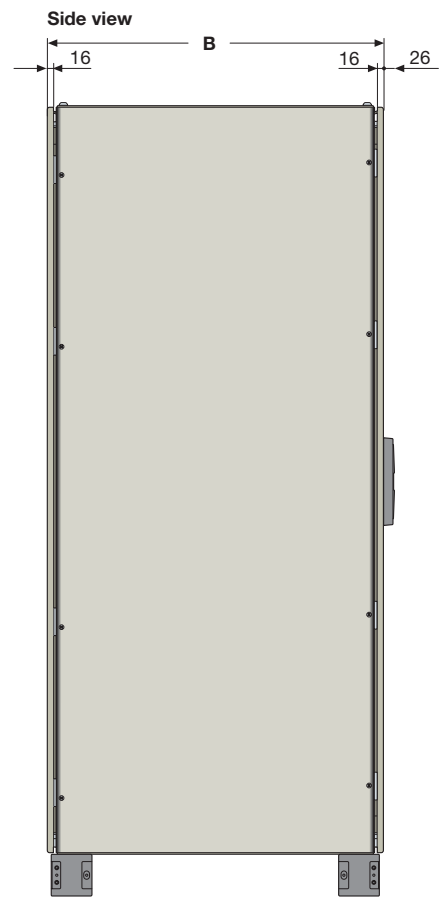
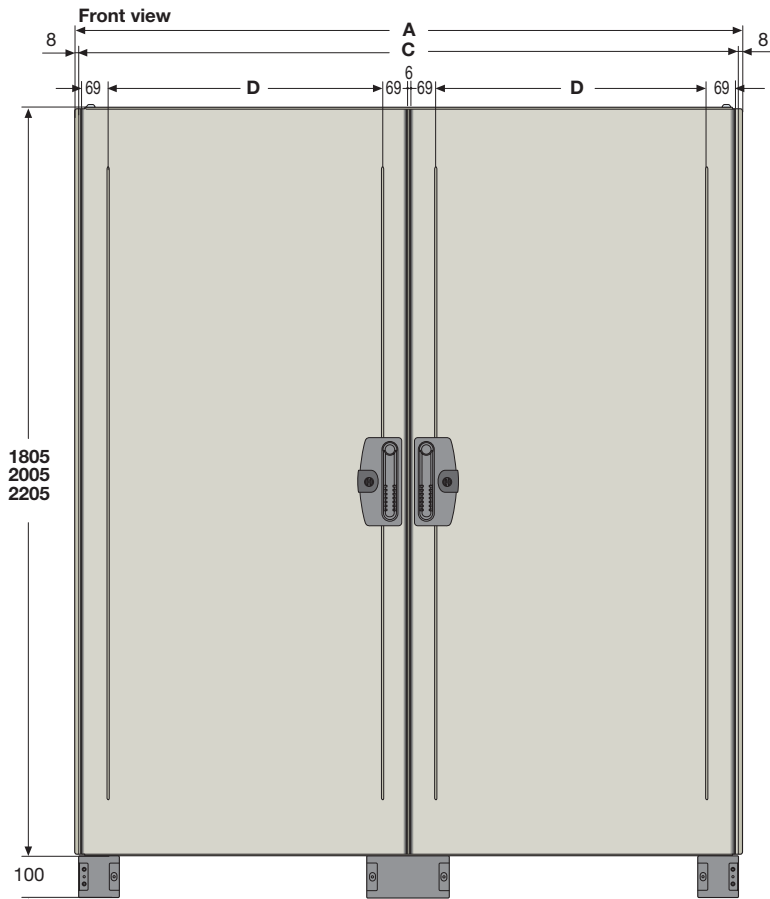
Measurements are in millimetres

1STC804007F0901

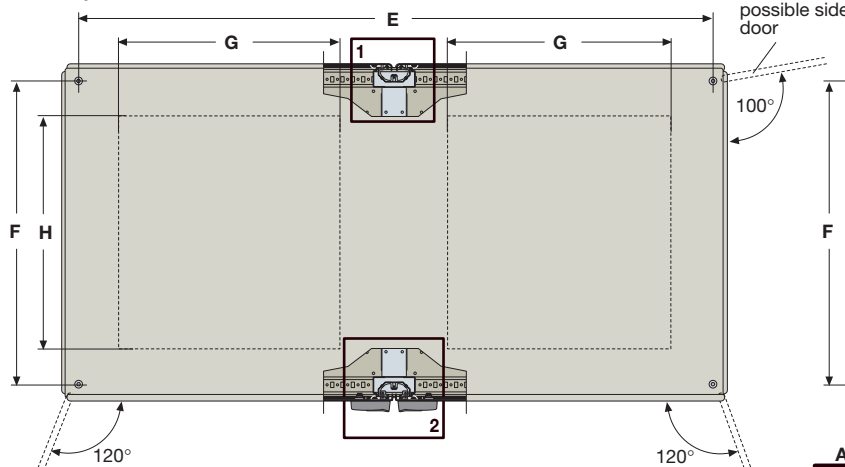
# Overall dimensions - IS2 enclosures

Basic structure and versions available

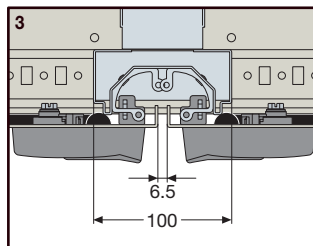
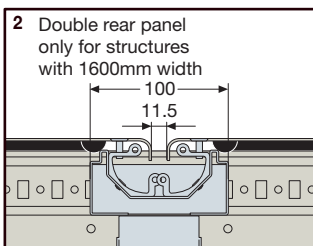
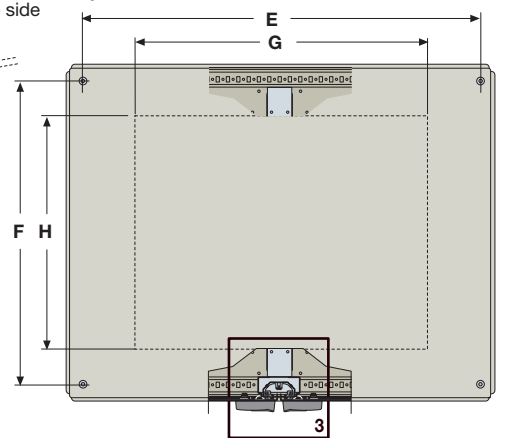
## Version with double blind door



Top view of structures with 1200/1600mm width



Top view of structures with 1000mm width



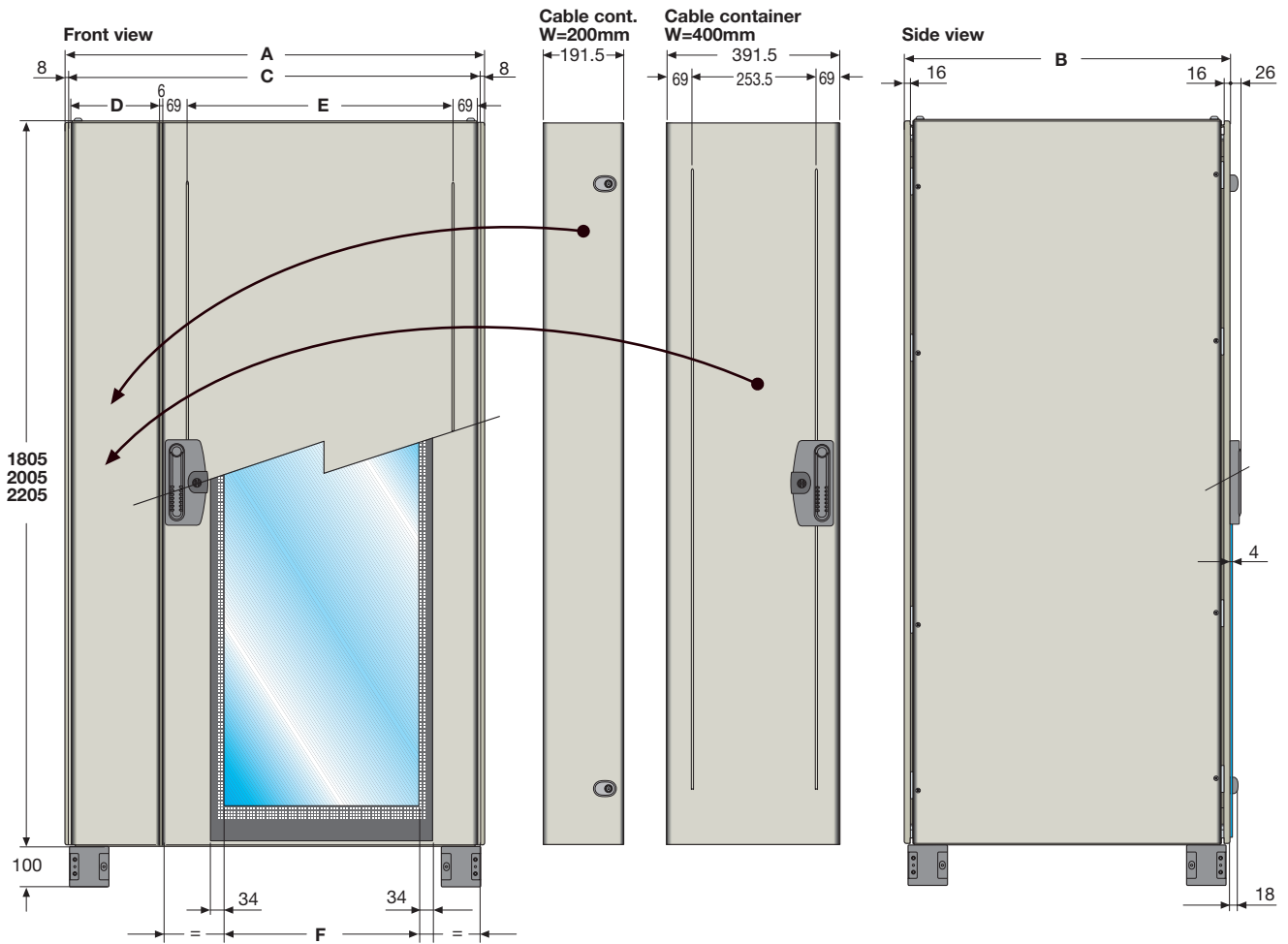
	A	B	C	D	E	F	G	H
	410					332		162
	510					432		262
1010	610	994	353.5	932	532	742		362
	810					732		562
	1010					932		762
	410					332		162
	510					432		262
1210	610	1194	453.5	1132	532	942		362
	810					732		562
	410					332		162
	510					432		262
1610	620	1594	653.5	1532	532	1342		362
	810					732		562

Measurements are in millimetres

# Overall dimensions - IS2 enclosures

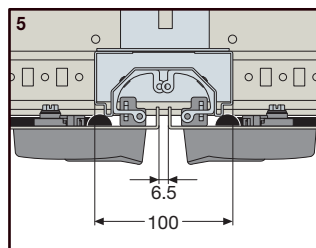
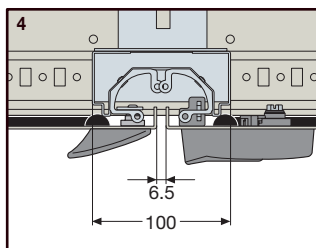
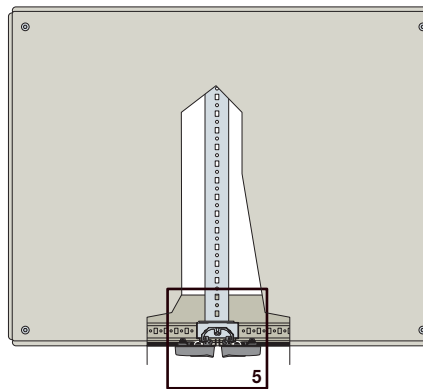
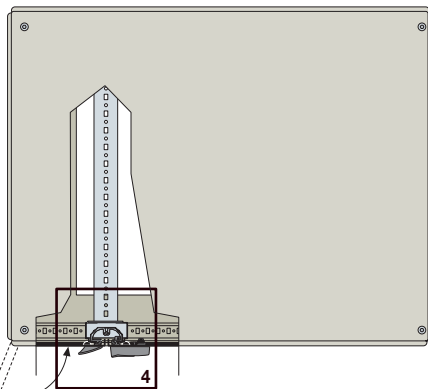
Basic structure and versions available

## Version with cable container



Top view of cable container W=200mm

Top view of cable container W=400mm



	A	B	C	D	E	F
		410				
810		510	794	191.5	651.5	532
		610		391.5	871.5	732
		810				
1010		410				
		510	994	191.5	651.5	532
		610		391.5	871.5	732
	810					
1210		410				
		510	1194	391.5	651.5	532
		610		871.5	732	
	810					

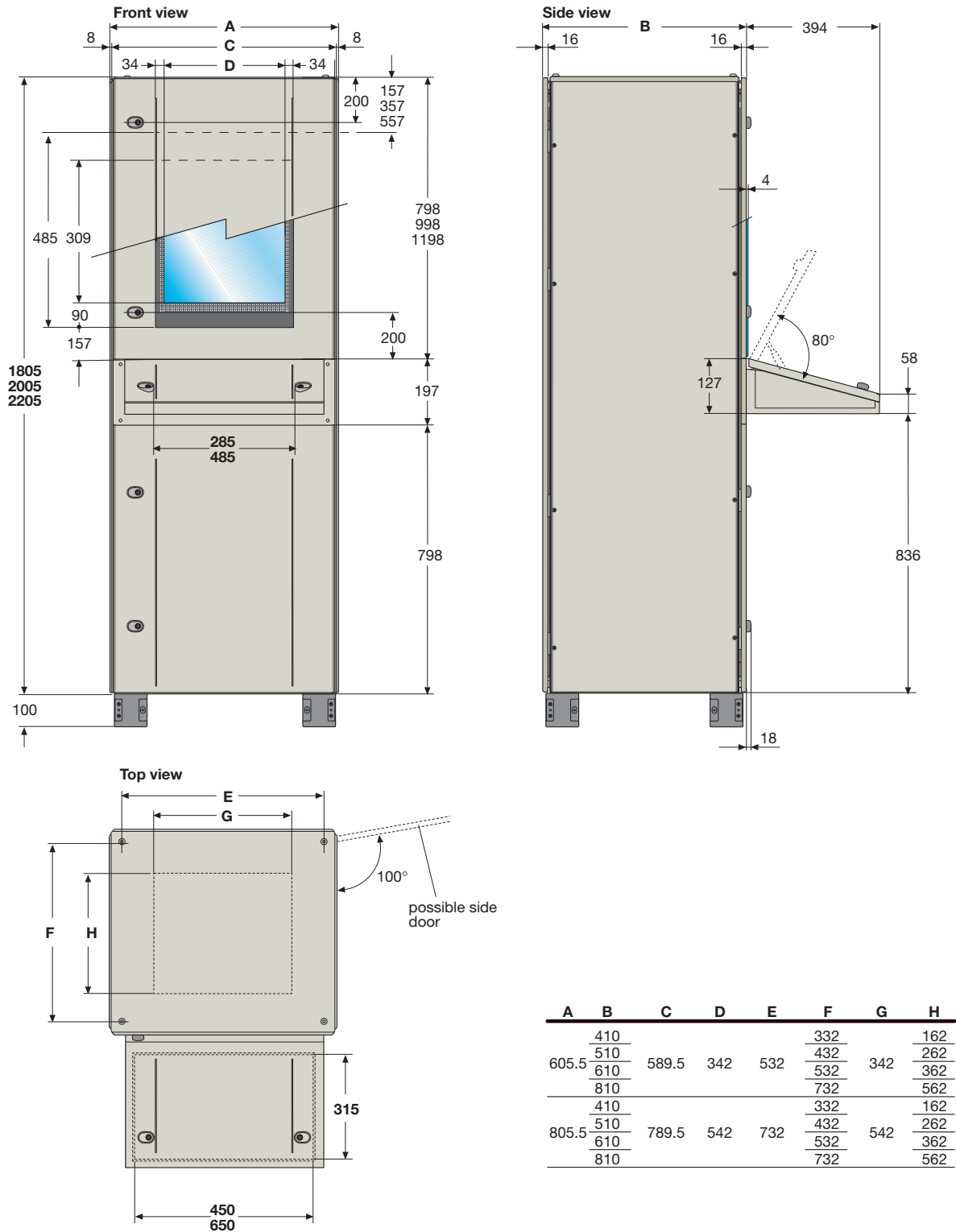
Measurements are in millimetres

1STC804009F0901

# Overall dimensions - IS2 enclosures

Basic structure and versions available

## Cabinet with console



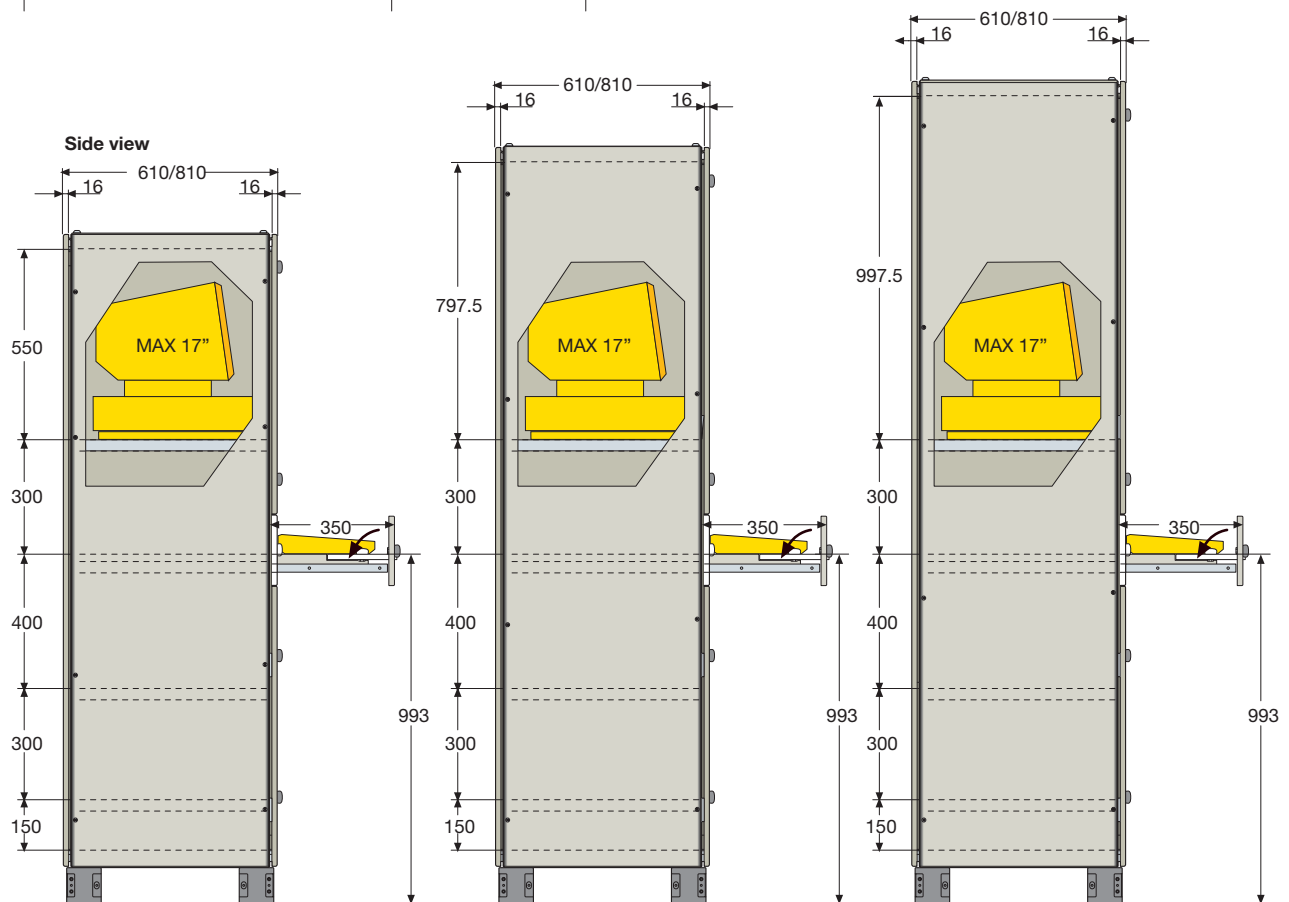
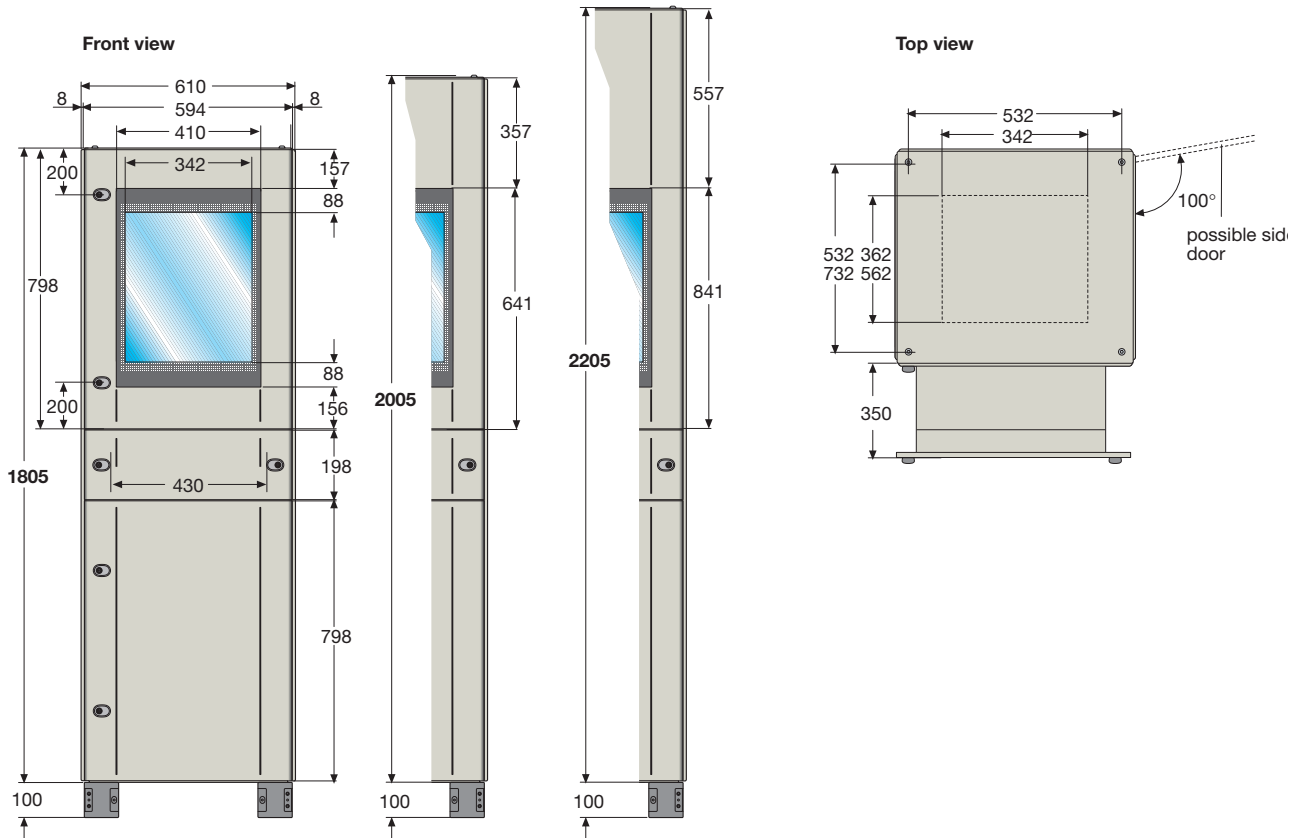
Measurements are in millimetres

1STC804010F0901

# Overall dimensions - IS2 enclosures

Basic structure and versions available

## PC cabinet



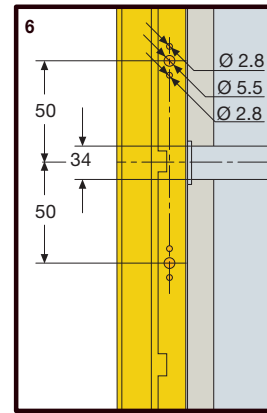
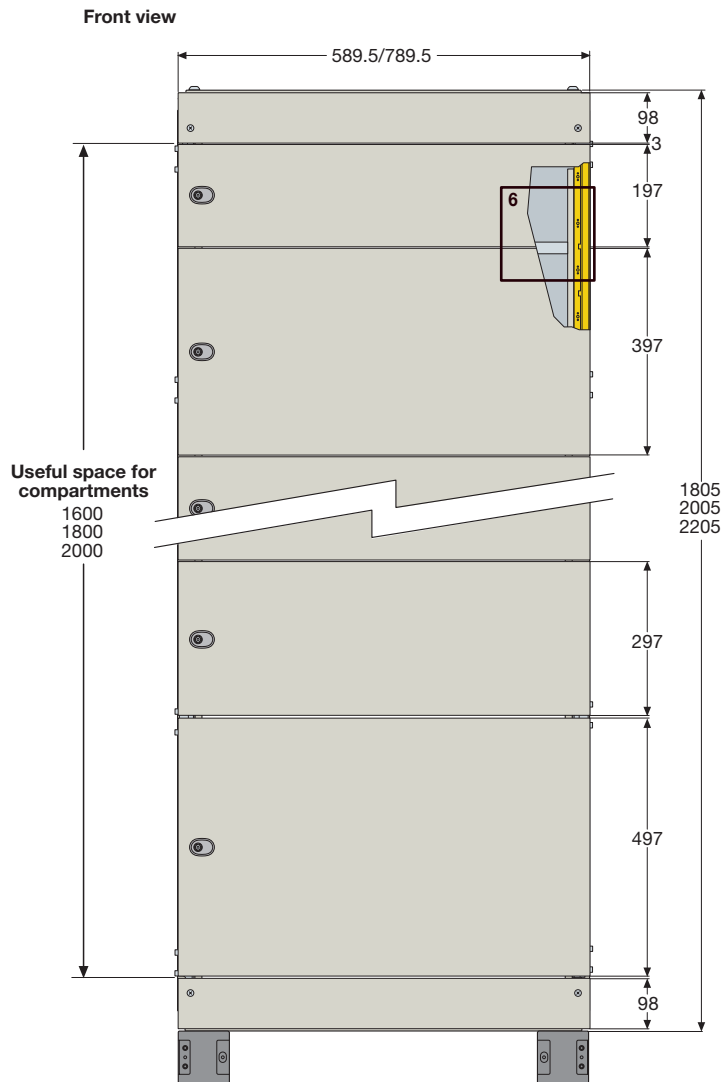
Measurements are in millimetres

1STC804011F0901

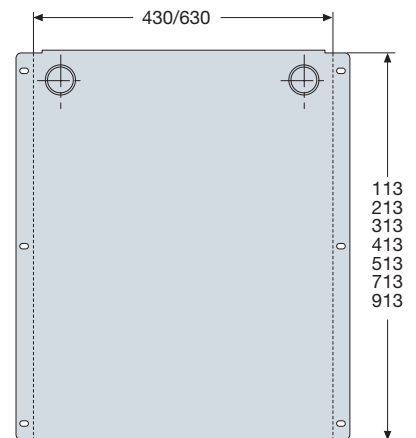
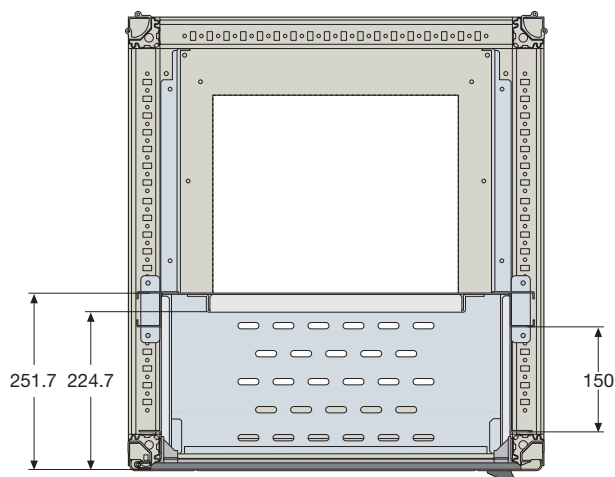
# Overall dimensions - IS2 enclosures

Basic structure and versions available

## Configuration Compartment



### Base



Measurements are in millimetres

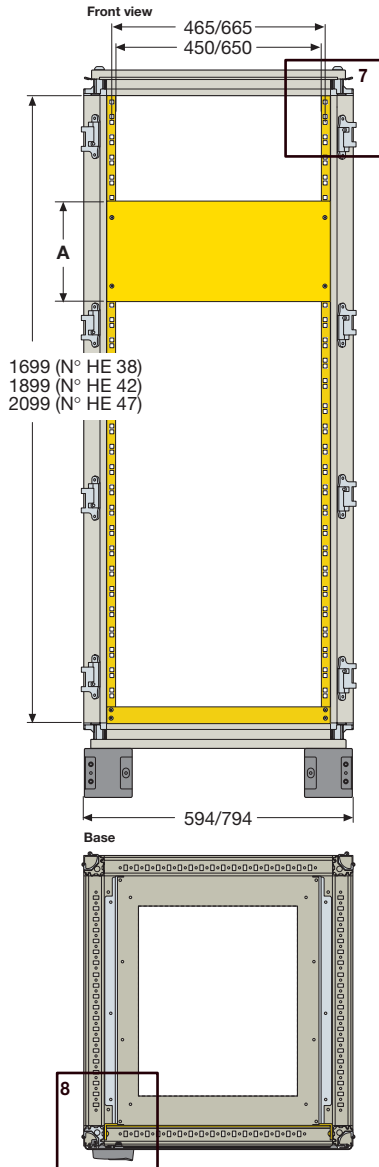
1STC804004F0901

# Overall dimensions - IS2 enclosures

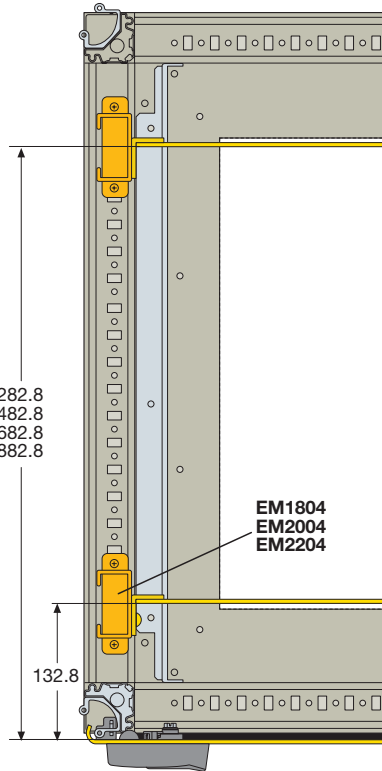
Basic structure and versions available

## 19" Rack frames

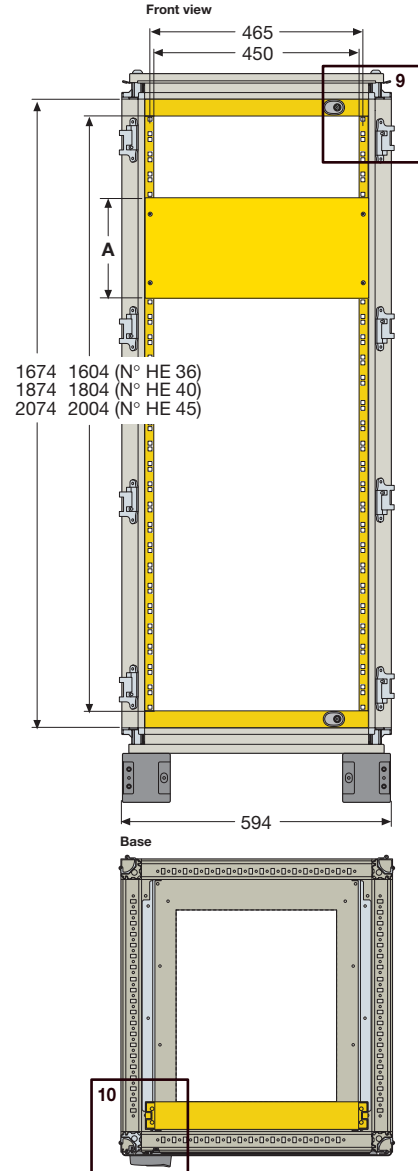
### Fixed rack frame



### Swing rack frame fixed rack frame

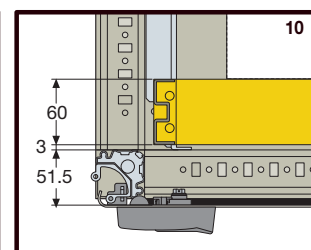
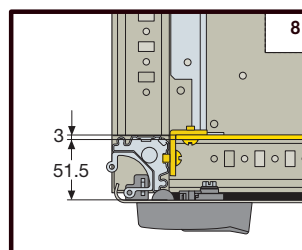
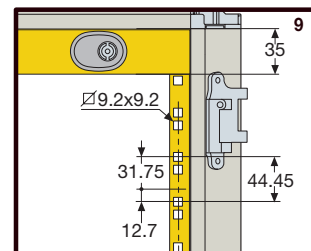
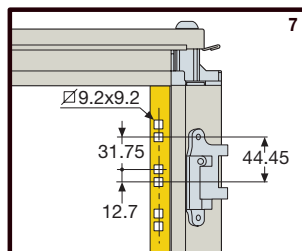


### Partial swing rack frame W=600mm



### Panels for 19" rack frames

Code	A	N° HE
EG1901	44.45	1
EG1902	89	2
EG1903	133	3
EG1904	177.5	4
EG1905	222	5
EG1906	266.5	6
EG1907	311	7
EG1908	355.5	8
EG1909	400	9
EG1910	444.5	10
EG1911	488	11
EG1912	533	12
EG1913	577.5	13
EG1914	622	14
EG1915	666	15
EG1916	711	16
EG1917	755.5	17
EG1918	800	18
EG1919	844.5	19
EG1920	889	20



Measurements are in millimetres

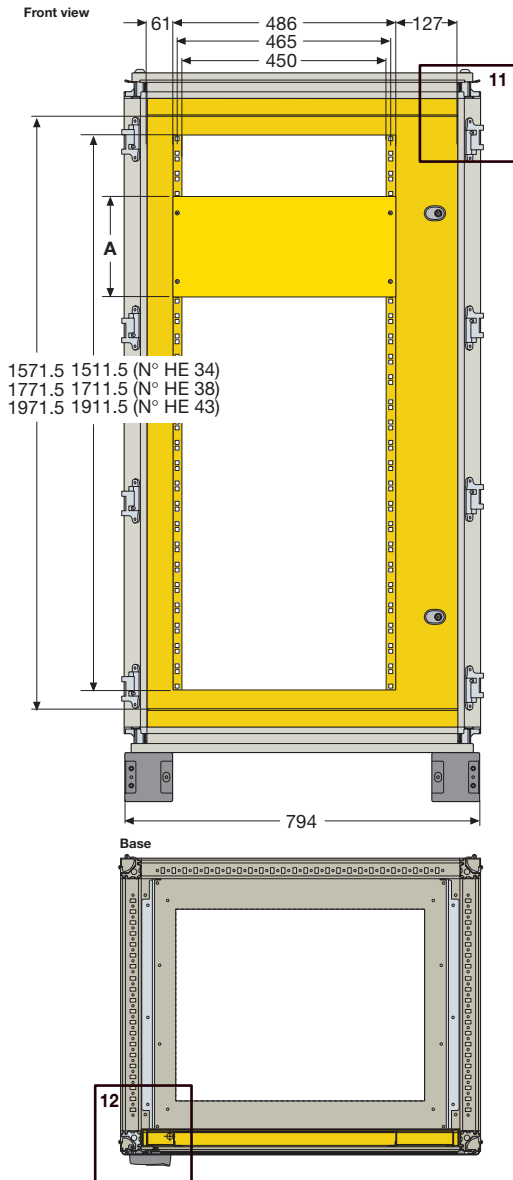
1STC804022F0901

# Overall dimensions - IS2 enclosures

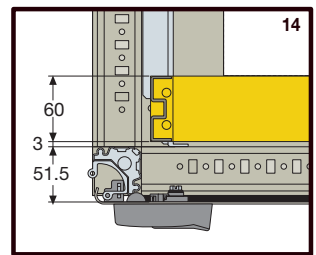
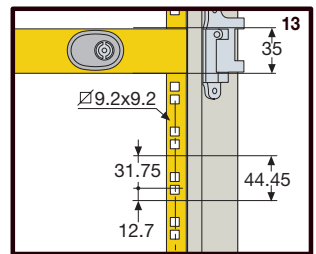
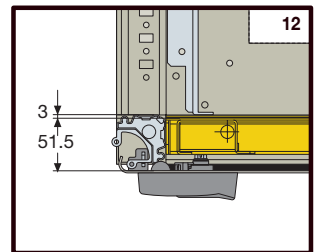
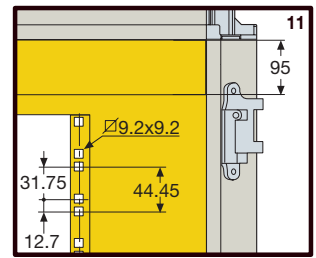
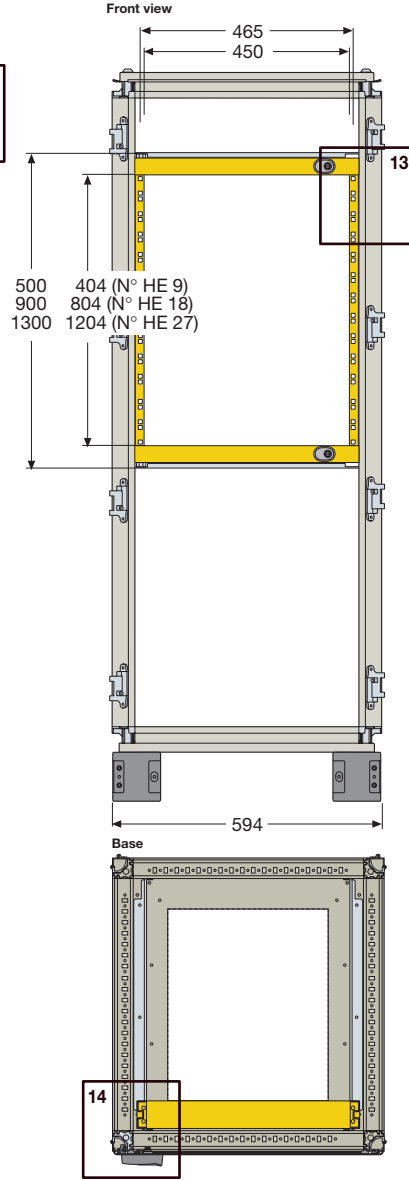
Basic structure and versions available

## 19" Rack frames

Rack frame in structure W=800mm



Partial swing rack frame



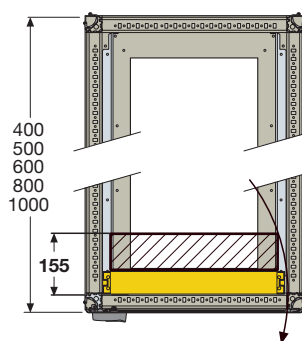
### Panels for 19" rack frames

Code	A	N° HE
EG1991	44.45	1
EG1902	89	2
EG1903	133	3
EG1904	177.5	4
EG1905	222	5
EG1906	266.5	6
EG1907	311	7
EG1908	355.5	8
EG1909	400	9
EG1910	444.5	10
EG1911	488	11
EG1912	533	12
EG1913	577.5	13
EG1914	622	14
EG1915	666	15
EG1916	711	16
EG1917	755.5	17
EG1918	800	18
EG1919	844.5	19
EG1920	889	20

### Maximum overall apparatus installation dimensions in 19" swing rack frames

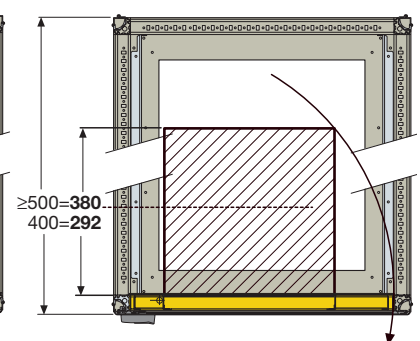
Swing rack frame with 90° opening

Rack frame in structure W=600mm



Swing rack frame with 150° opening

Rack frame eccentric in structure W=800mm

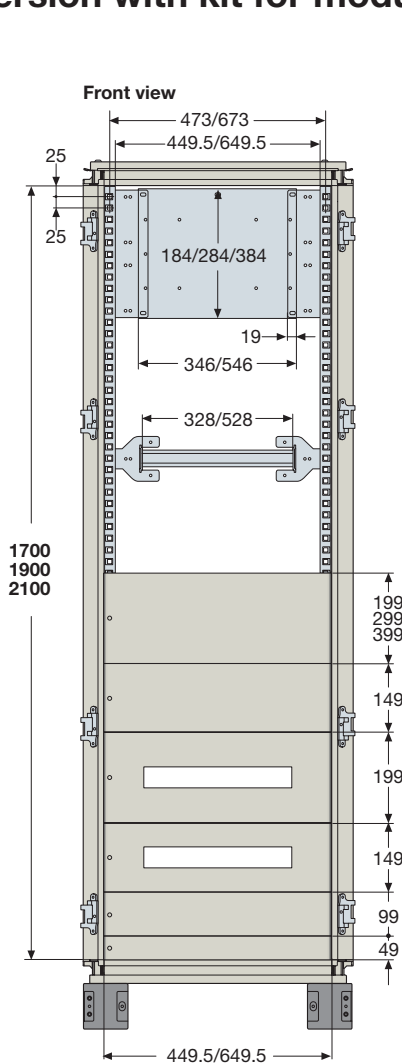


Measurements are in millimetres

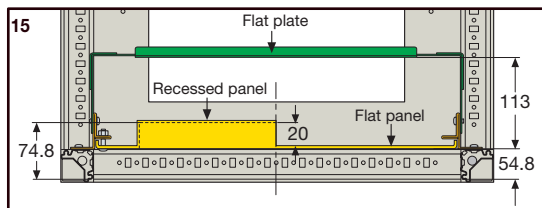
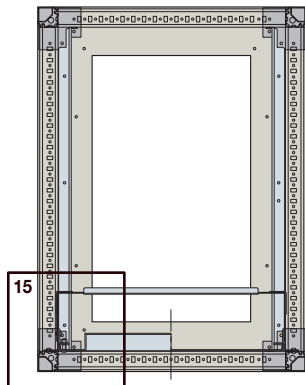
# Overall dimensions - IS2 enclosures

## Basic structure and versions available

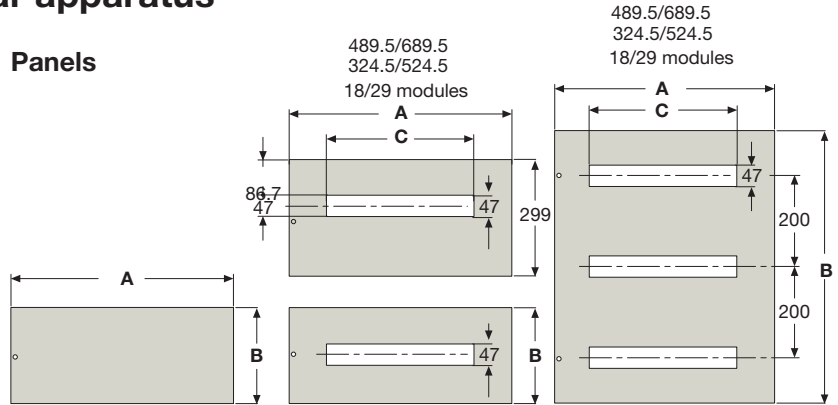
### Version with kit for modular apparatus



Base



### Panels



### Blind panels

Code	A	B
EH0562	489.5	49
EH1062	489.5	99
EH1562	489.5	149
EH2062	489.5	199
EH3063	489.5	299
EH4062	489.5	299
EH5062	489.5	499
EH6062	489.5	599
EH1082	689.5	49
EH1582	689.5	99
EH1582	689.5	149
EH2082	689.5	199
EH3082	689.5	299
EH4082	689.5	299
EH5082	689.5	499
EH6082	689.5	599

### Panel for modular instruments

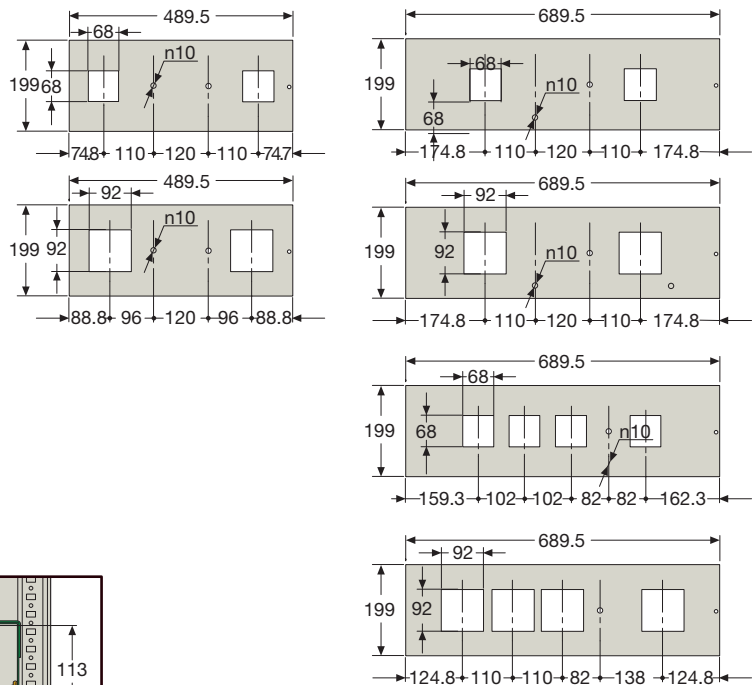
#### 1 DIN row

Code	A	B	C	N° mod.
EH1518	489.5	149	324.5	18
EH2018	489.5	199	324.5	18
EH3018	489.5	299	324.5	18
EH1529	689.5	149	524.5	29
EH2029	689.5	199	524.5	29
EH3029	689.5	299	524.5	29
EH1524	489.5	149	432	24
EH2024	489.5	199	432	24
EH1536	689.5	149	634	36
EH2036	689.5	199	634	36

#### 3 DIN rows

Code	A	B	C	N° mod.
EH6018	489.5	599	324.5	18
EH6029	689.5	599	524.5	29
EH6025	489.5	599	324.5	24
EH6036	689.5	599	524.5	36

### Instruments panels



Measurements are in millimetres

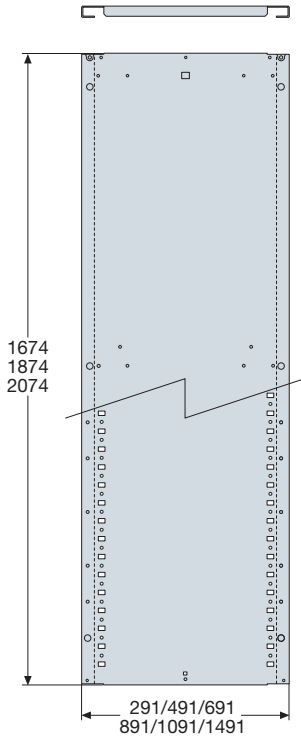
1STC804006F0901

# Overall dimensions - IS2 enclosures

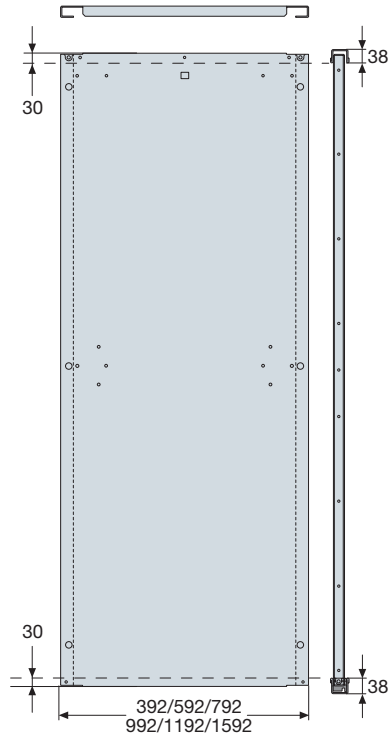
## Complementary items of the structure

### Back plates

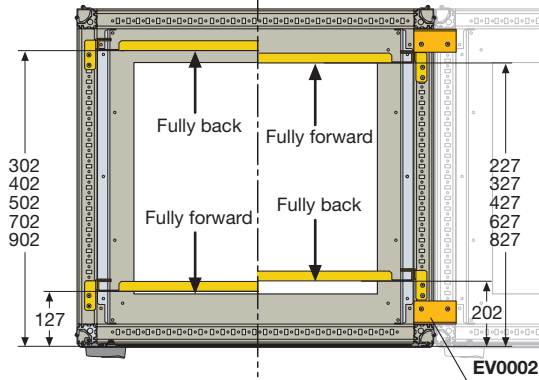
Standard



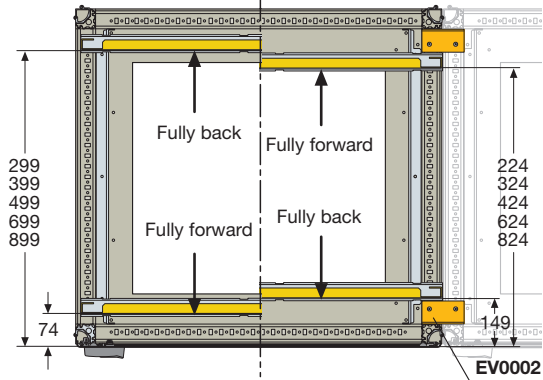
Oversized



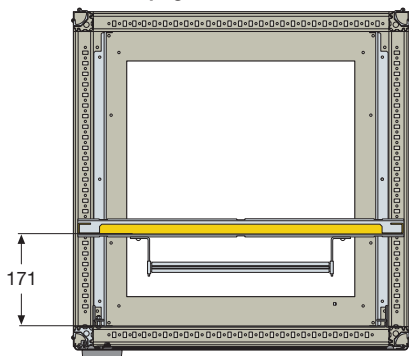
Standard plate



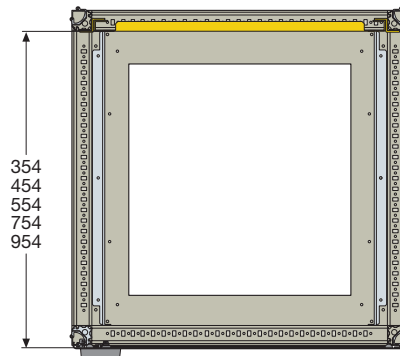
Oversize plate



Oversize plate with apparatus holder uprights



Kit for moving standard plate backwards



Measurements are in millimetres

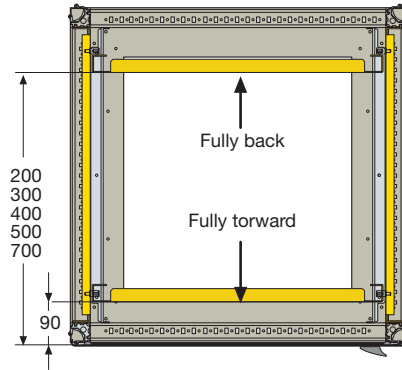
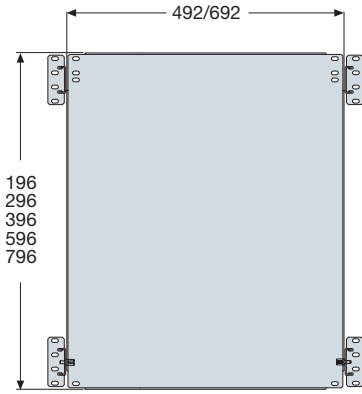
# Overall dimensions - IS2 enclosures

## Complementary items of the structure

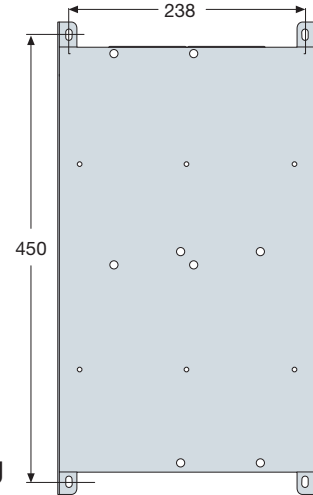
### Back plates

#### Partial back plates

Do not require the depth-wise upright

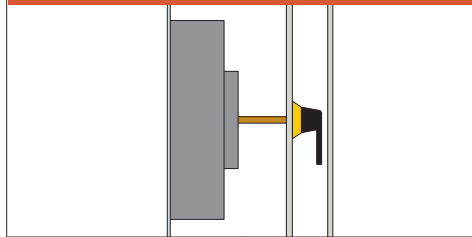


#### Back plates for condensers

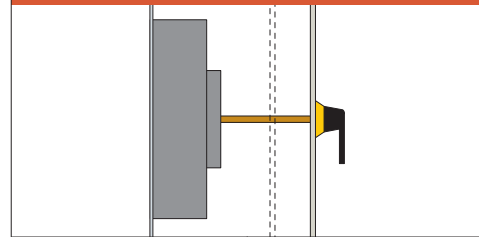


Selection of the partial back plate and of the panels according to the apparatus to be installed

#### Handle between panel and door



#### Handle transmitted onto the door



#### Switch-disconnectors

	Structures W=600mm			Structures W=800mm			Structures W=600mm			Structures W=800mm		
	Partial back plate	Panel	H (mm)	Partial back plate	Panel	H (mm)	Partial back plate	Panel	H (mm)	Partial back plate	Panel	H (mm)
OT200/250	EA2062	EH2062	200	EA2081	EH2082	200	EH2065 <sup>(2)</sup>	EH2062	200	EH2085 <sup>(2)</sup>	EH2082	200
OT315/400	EA3061	EH3063	300	EA3081	EH2082	300	EA3061	EH3063	300	EA3081	EH2082	300
OT630/800	EA4061	EH4062	400	EA4081	EH4082	400	EA4061	EH4062	400	EA4081	EH4082	400

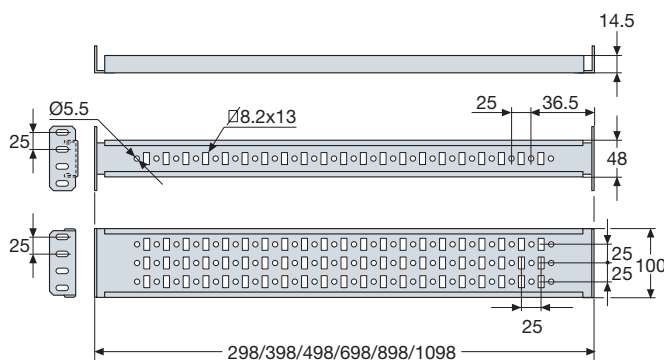
#### Circuit-breakers

Tmax T1 - T2 - T3	EA2062	EH2063 <sup>(1)</sup>	200	EA2083 <sup>(1)</sup>	EH2083	200	EH2065 <sup>(2)</sup>	EH2062	200	EH2085 <sup>(2)</sup>	EH2082	200
Tmax T4 - T5	EA4061	EH4062	400	EA4081	EH4082	200	EA4061	EH4062	400	EA4081	EH4082	200
Tmax T6	EA5061	EH5062	500	EA5081	EH5082	500	EA5061	EH5062	500	EA5081	EH5082	500

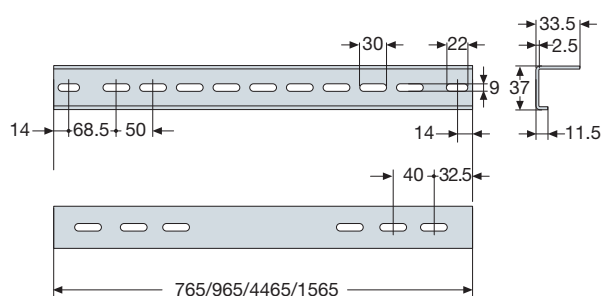
<sup>(1)</sup> Blind recessed panel

<sup>(2)</sup> Blind apparatus-holder back plate

#### Crosspieces for fixing accessories



#### Section for accessories

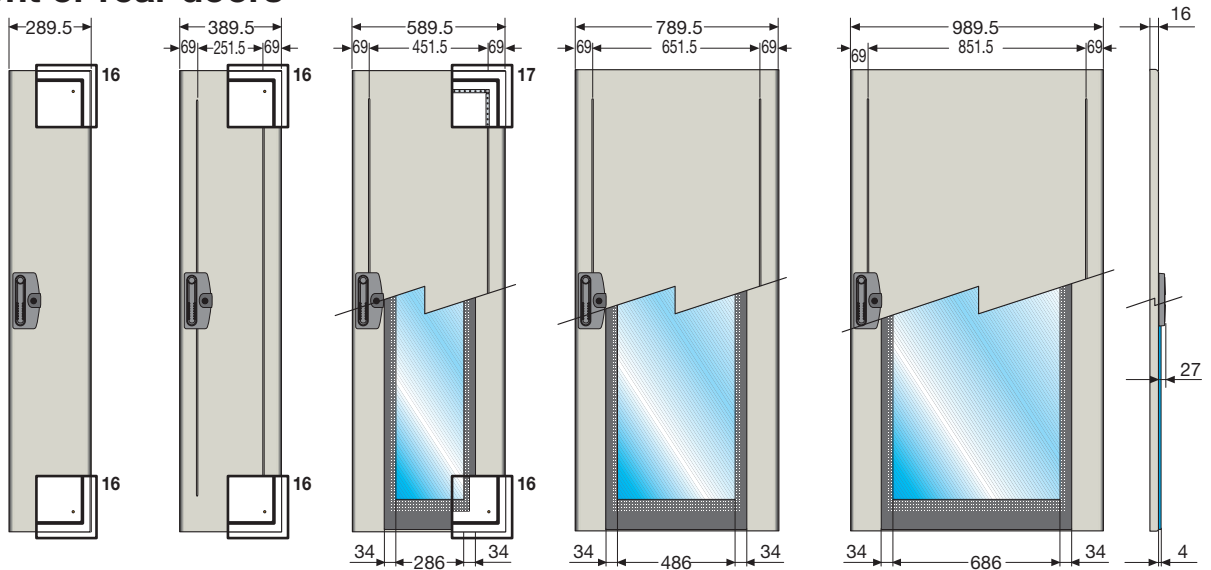


Measurements are in millimetres

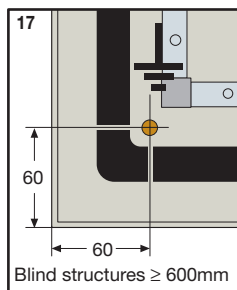
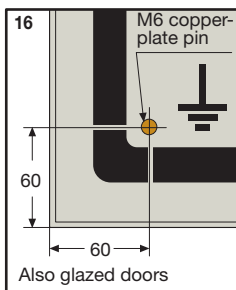
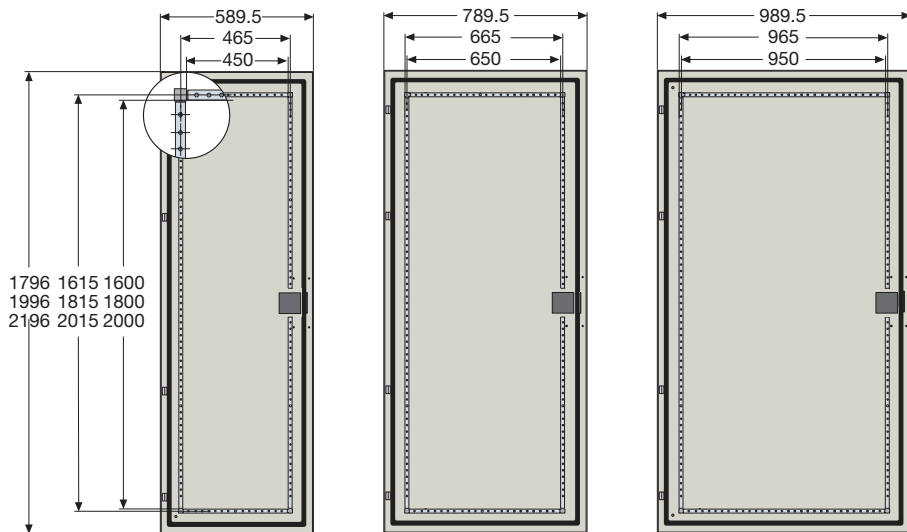
# Overall dimensions - IS2 enclosures

## Complementary items of the structure

### Front or rear doors



### Inside of blind door (W≥600mm)



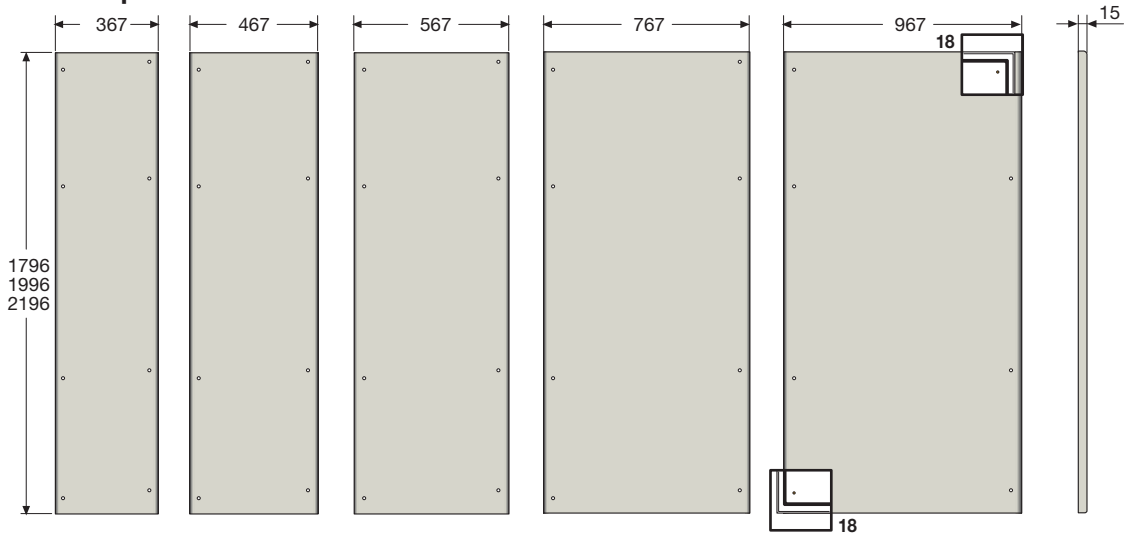
Measurements are in millimetres

# Overall dimensions - IS2 enclosures

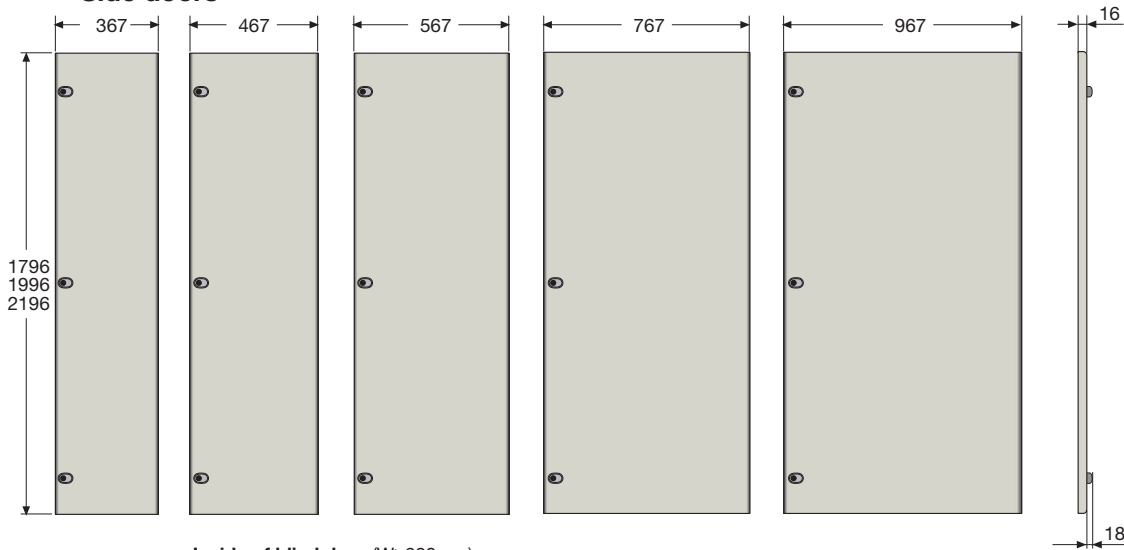
## Complementary items of the structure

### Side covers

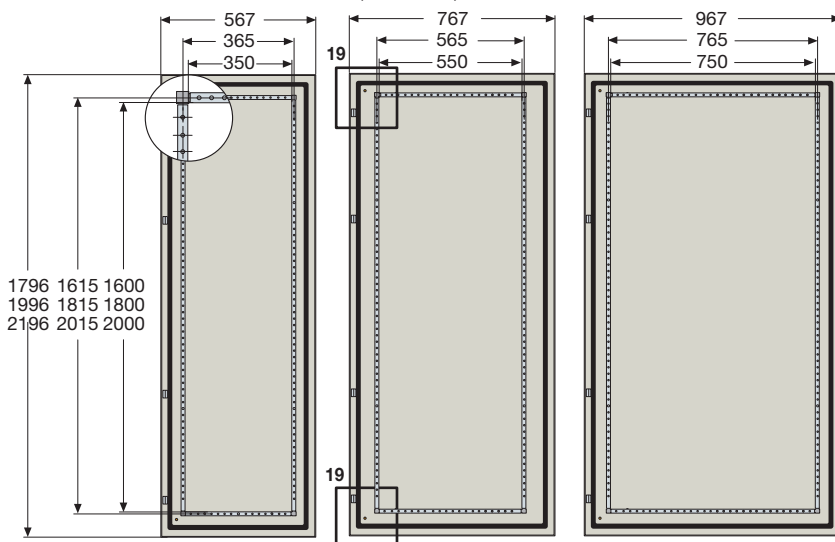
#### Side panels



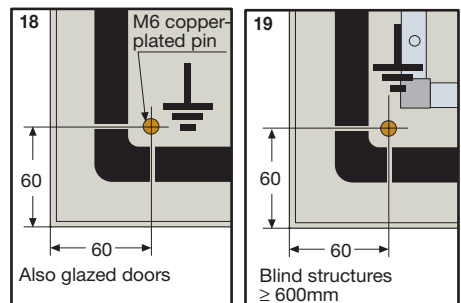
#### Side doors



#### Inside of blind door ( $W \geq 600\text{mm}$ )



1796 1615 1600  
1996 1815 1800  
2196 2015 2000



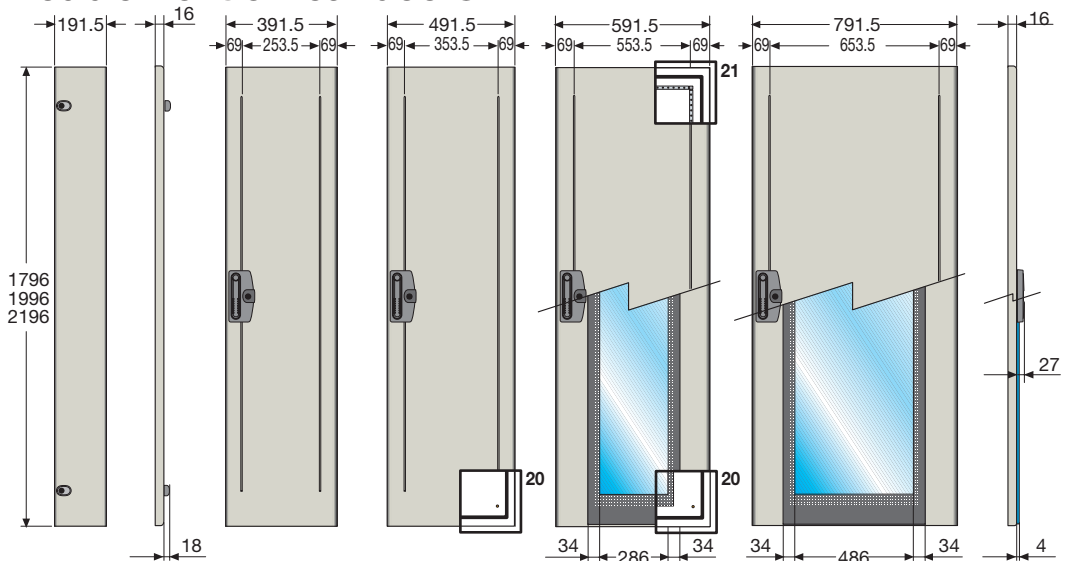
Measurements are in millimetres

1STC804009F0901

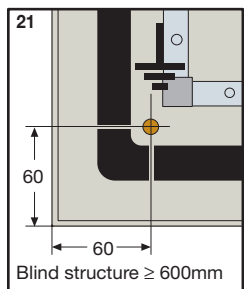
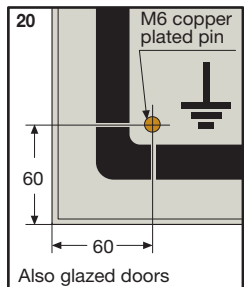
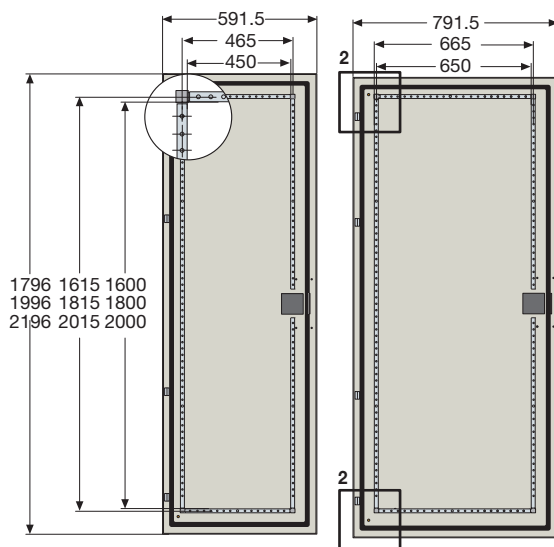
# Overall dimensions - IS2 enclosures

## Complementary items of the structure

### Double front or rear doors

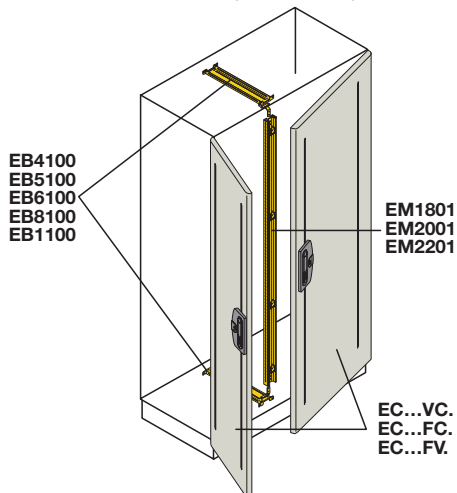


### Inside of double blind door (W≥600mm)

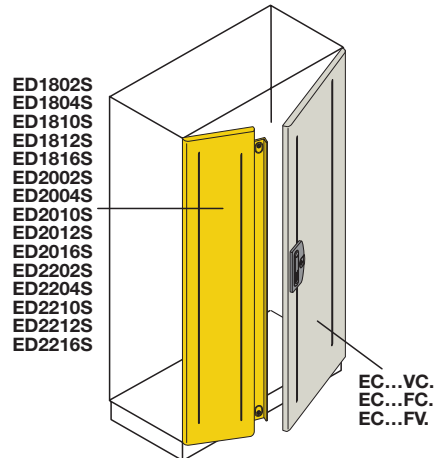


### Example of use double doors

Mounting with intermediate upright and crosspieces in depth



Mounting with blind doors with overlapping cosure (without intermediate upright and crosspieces in depth)

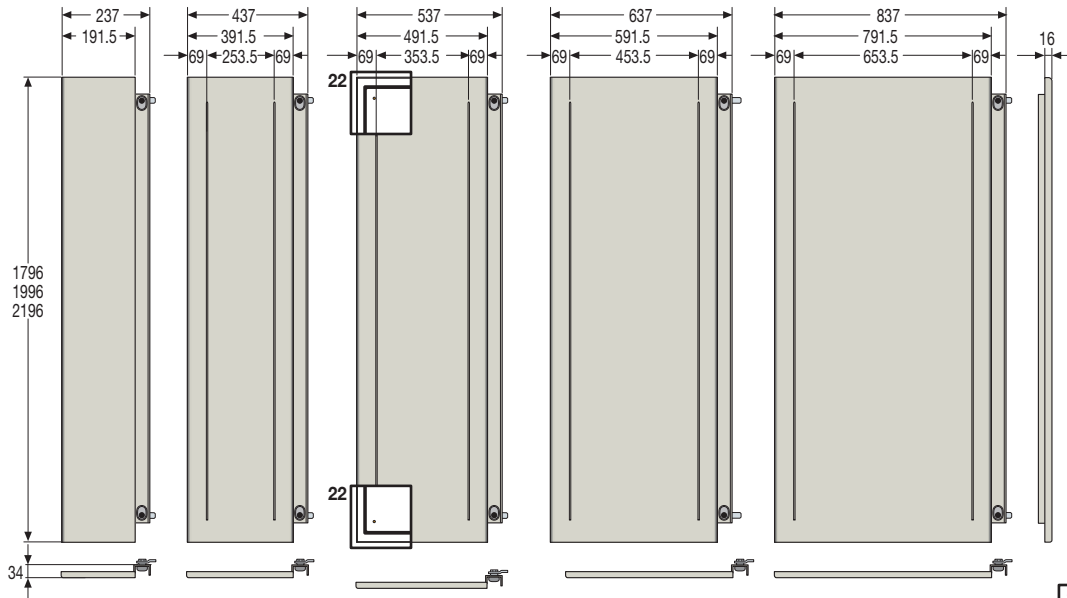


Measurements are in millimetres

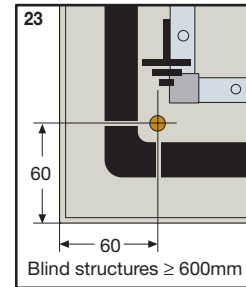
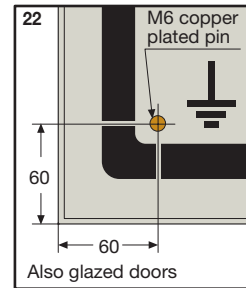
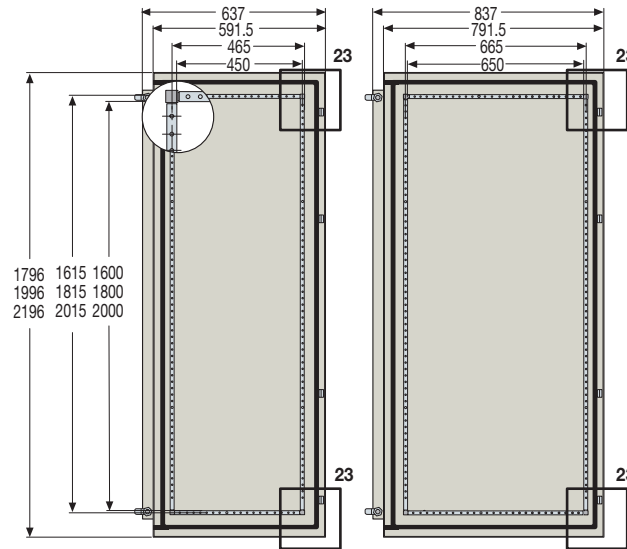
# Overall dimensions - IS2 enclosures

## Complementary items of the structure

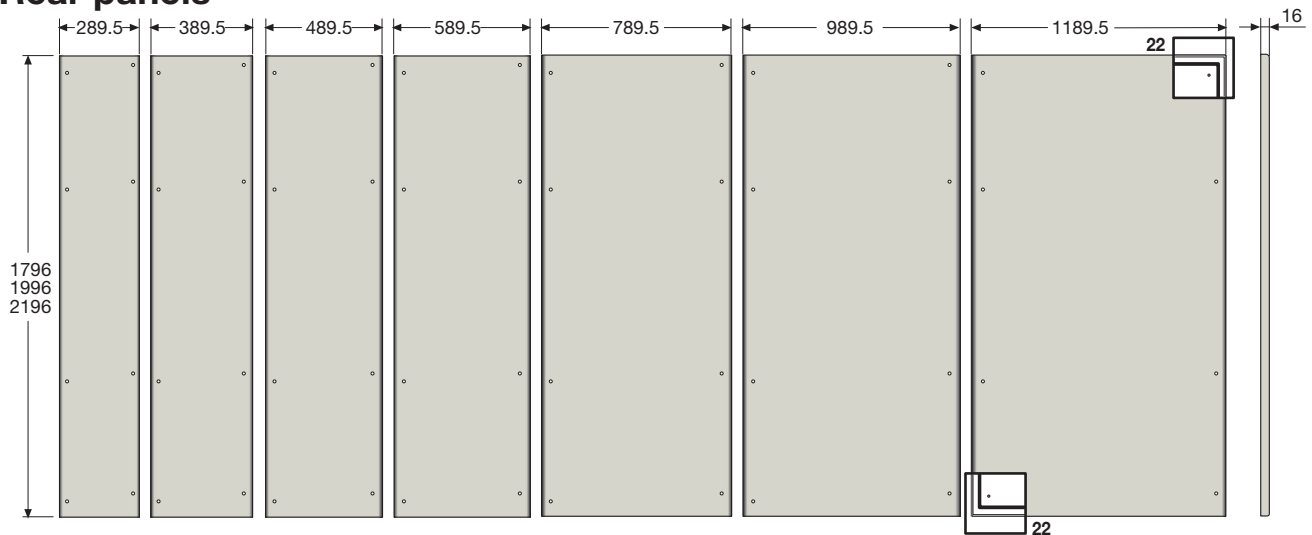
### Blind doors with overlapping closure



### Internal blind doors overlapping closure (W≥600mm)



### Rear panels



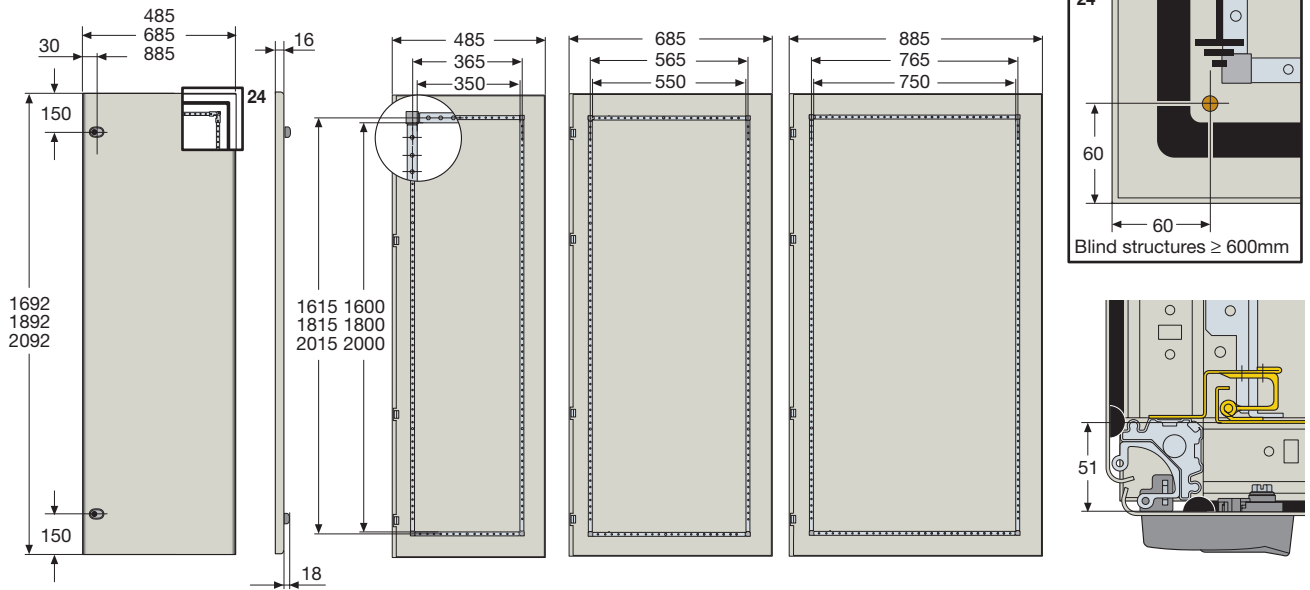
Measurements are in millimetres

1STC804049F0901

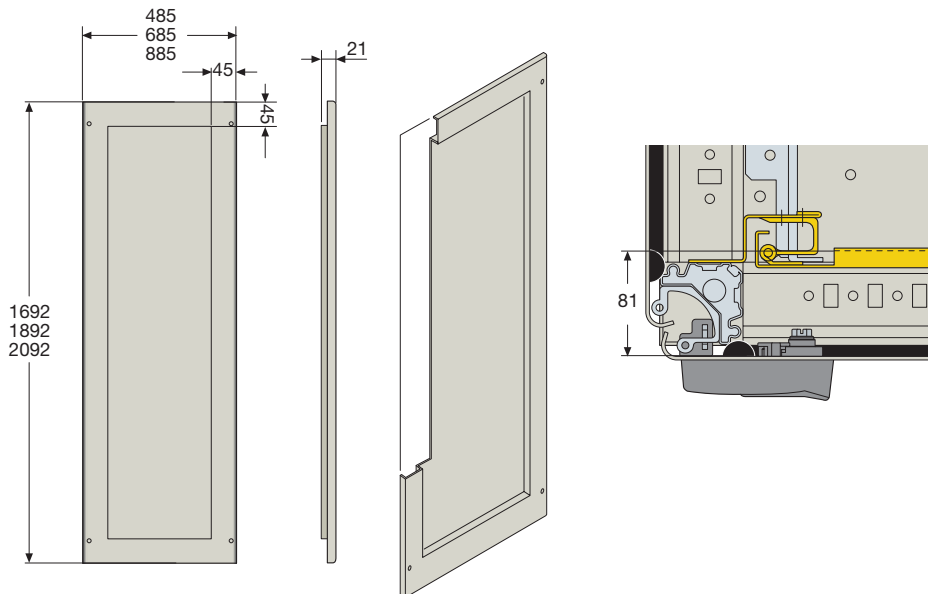
# Overall dimensions - IS2 enclosures

## Complementary items of the structure

### Internal counterdoor



### Internal edged counterdoor



Measurements are in millimetres

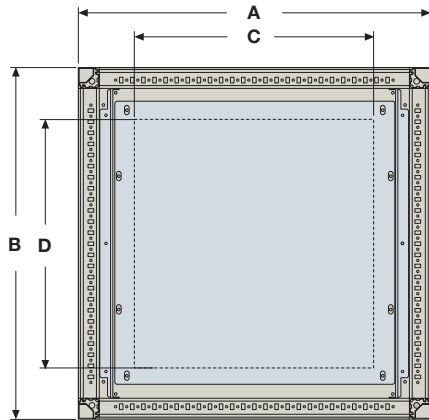
1STC804010F0901

# Overall dimensions - IS2 enclosures

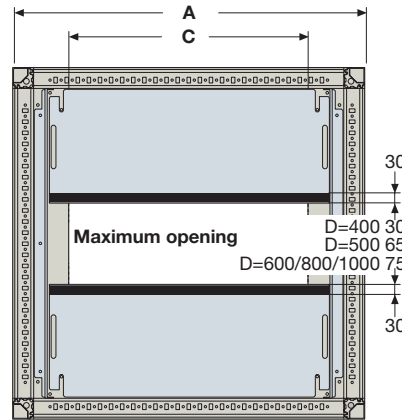
## Complementary items of the structure

### Flanges for cable passage

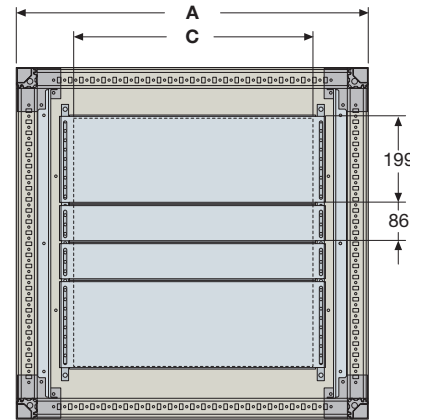
Fixed flange



Sliding flanges



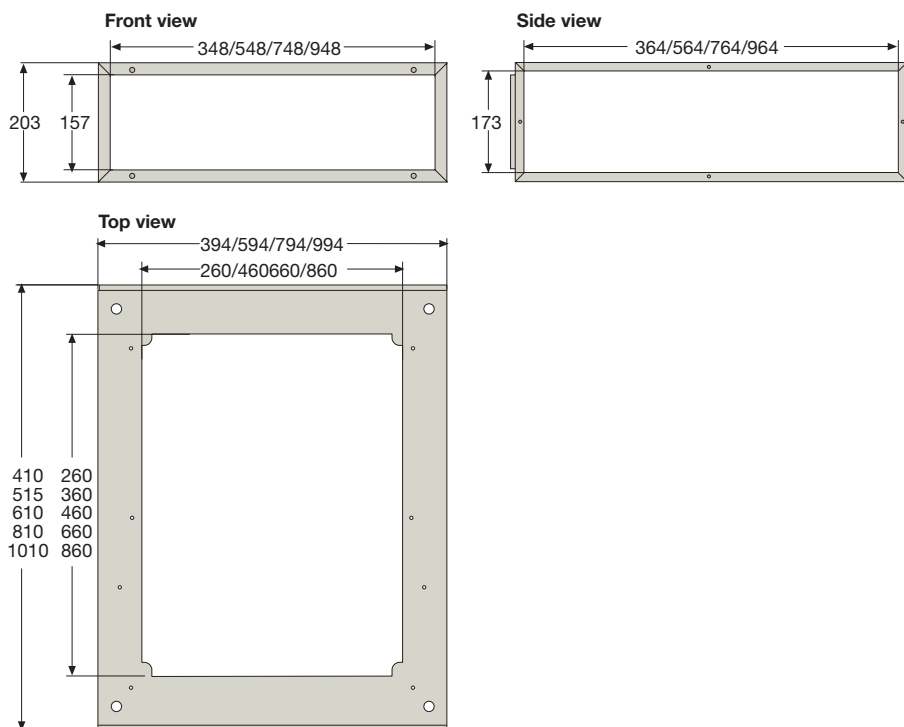
Built-up flanges



A	B	C	D	Built-up flanges	
				N° flanges H=199mm	N° flanges H=86mm
394	394	142	162	-	2
	494		262	1	1
	594		362	1	2
	794		562	2	2
	994		762	3	2
594	394	342	162	-	2
	494		262	1	1
	594		362	1	2
	794		562	2	2
	994		762	3	2
794	394	542	162	-	2
	494		262	1	1
	594		362	1	2
	794		562	2	2
	994		762	3	2

A	B	C	D	Built-up flanges	
				N° flanges H=199mm	N° flanges H=86mm
994	394	742	162	-	2
	494		262	1	1
	594		362	1	2
	794		562	2	2
	994		762	3	2
1194	394	942	162	-	2
	494		262	1	1
	594		362	1	2
	794		562	2	2
	994		762	3	2
1594	394	1342	162	-	2
	494		262	1	1
	594		362	1	2
	794		562	2	2

### Top container for cable connection



Measurements are in millimetres

1STC804023F0901

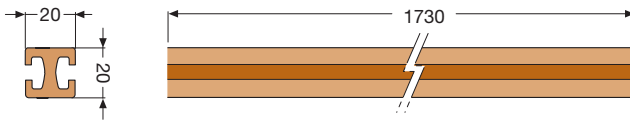
# Overall dimensions - IS2 enclosures

## Distribution system

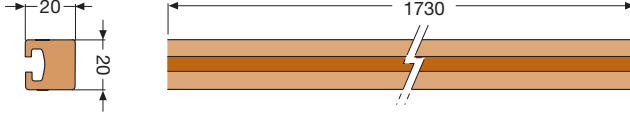
### Busbars with shaped section

#### Busbar

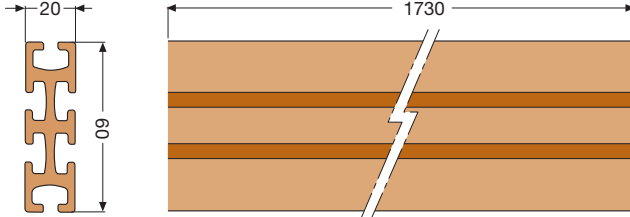
BA0400



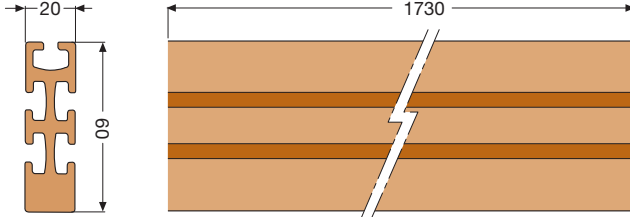
BA0800



BA1250

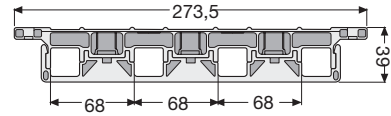


BA1600

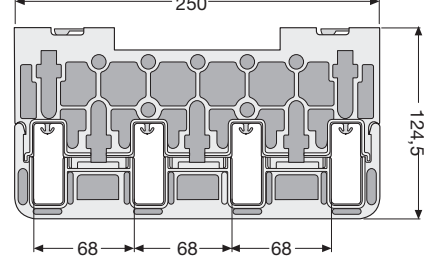


#### Insulator

PB 0803

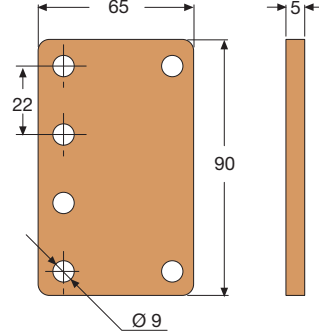


PB 1603



#### Accessories

AD1077



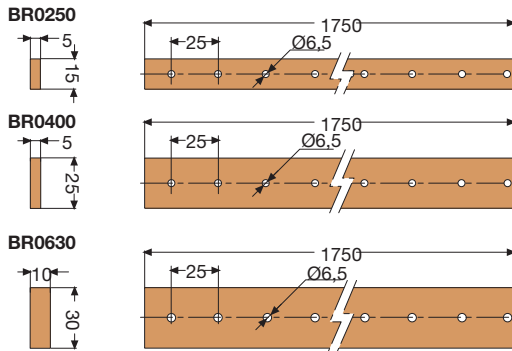
Measurements are in millimetres

# Overall dimensions - IS2 enclosures

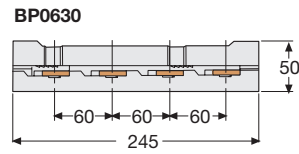
## Distribution system

### Flat busbars

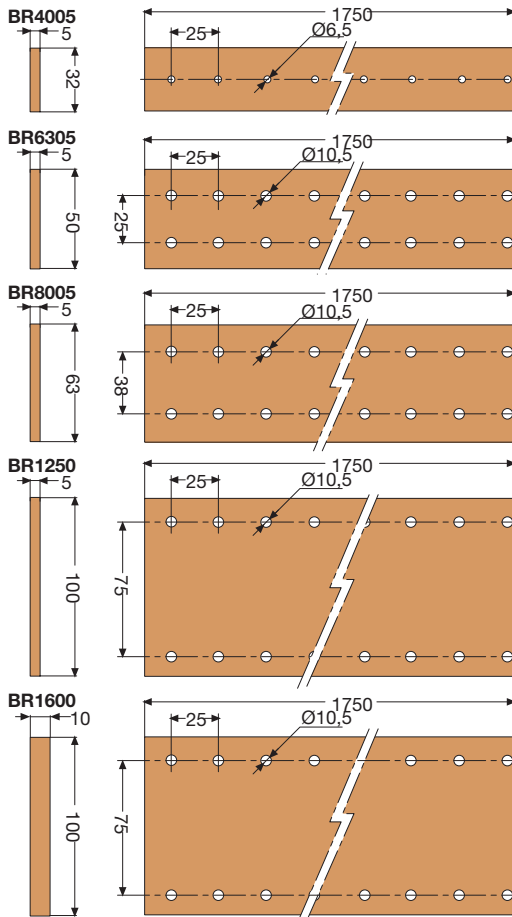
#### Busbar up to 630A



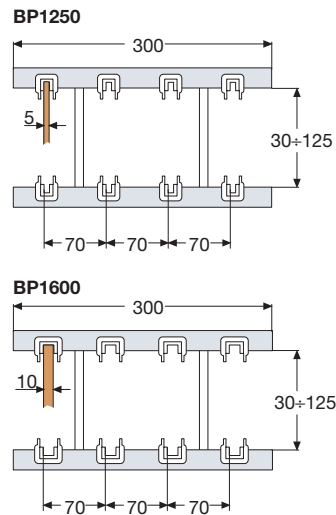
#### Insulators for busbars up to 630A



#### Busbar up to 1600A



#### Insulators for busbars up to 1600A



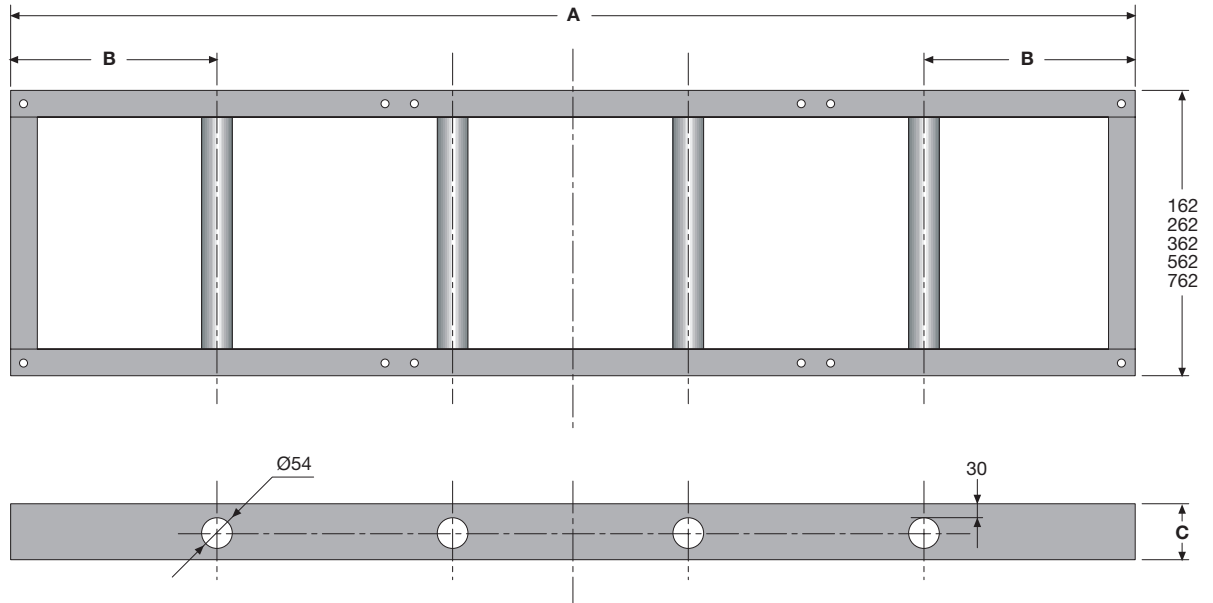
Measurements are in millimetres

1STC804028F0901

# Overall dimensions - IS2 enclosures

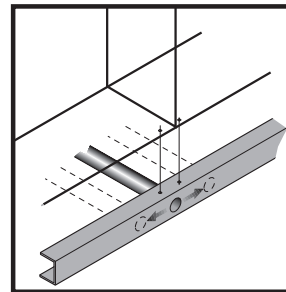
## Lifting

### Single plinth



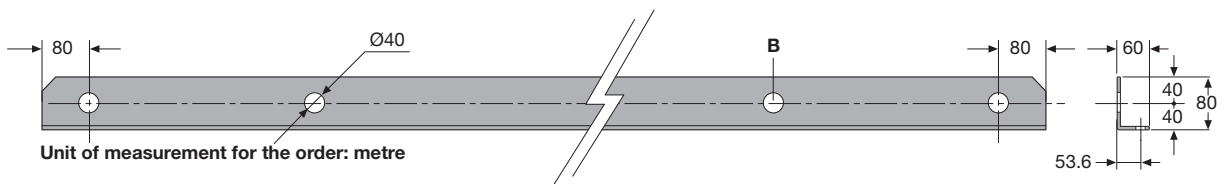
	A [metres]	B [mm]	C [mm]
2	1.78 + 2.78	665	100/200
2	2.78,1 + 3.78	865	100/200
3	3.78,1 + 4.78	950	100/200
4	4.78,1 + 5.78	1195	100/200

Unit of measurement for the order: metre



Should the reinforcement tube be in correspondence with switchgear fixing to the plinth, it will be moved at the execution stage

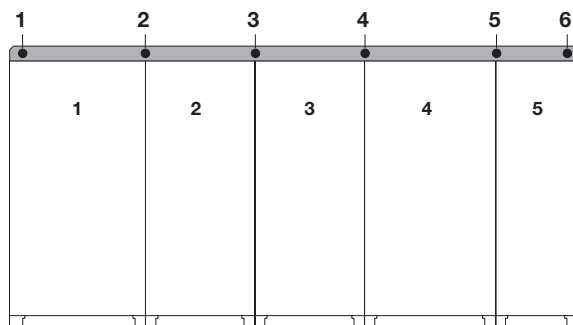
### Lifting beams



Unit of measurement for the order: metre

The holes for lifting are positioned in correspondence with the side-by-side position of the switchgear.  
The amount of B holes in the beam is equal to the number of structures + 1.

**Example:** n°5 structures side by side = n°6 holes for lifting.

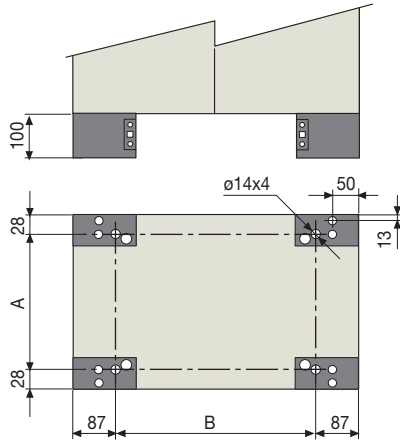


Measurements are in millimetres

# Overall dimensions

## C Consoles

### Dimensions for floor fixing



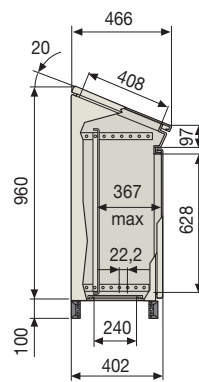
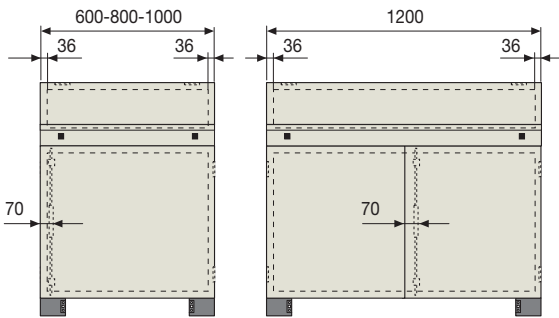
#### CD-CM series depth 514 mm

For consoles dimensions (wxd)	A	B
800x514	423	626
1000x514	423	826
1200x514	423	1026
1600x514	423	1426

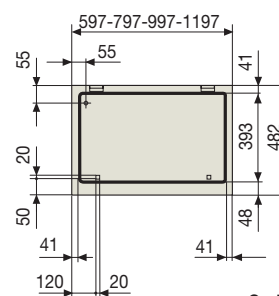
#### CA-CN-CM-CU series depth 419 mm

For consoles dimensions (wxd)	A	B
600x400	329	426
800x400	329	626
1000x400	329	826
1200x400	329	1026
1600x400	329	1426

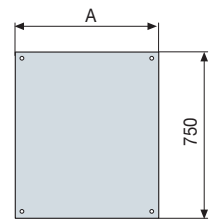
### Monobloc CU series



#### Desk door

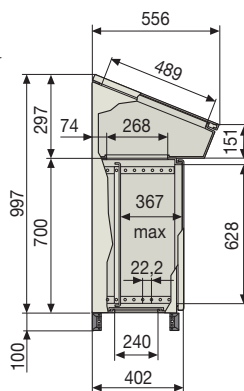
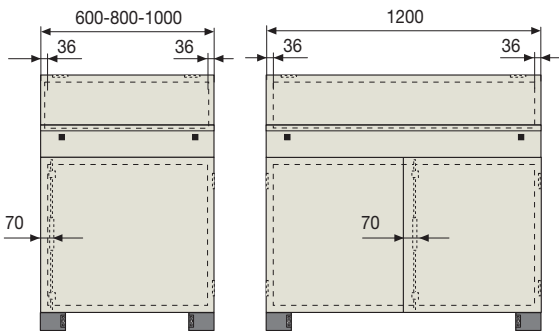


#### Mounting plate for base

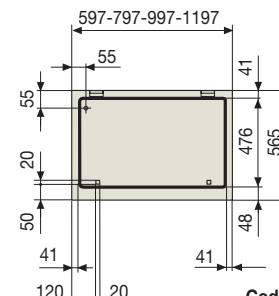


Code	A
PF6346	500
PF6348	700
PF6350	900
PF6352	1100

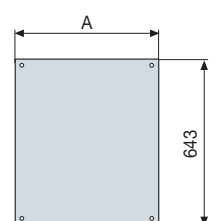
### Modular CN series



#### Desk door



#### Mounting plate for base



Code	A
PF6256	500
PF6258	700
PF6260	900
PF6262	1100

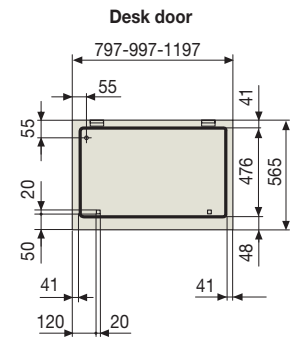
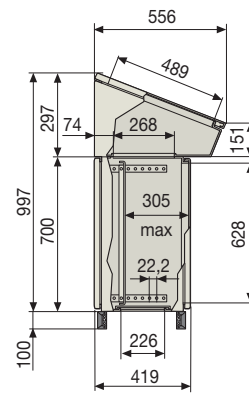
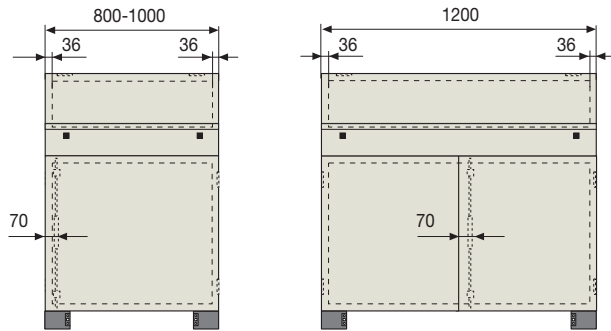
Measurements are in millimetres

# Overall dimensions

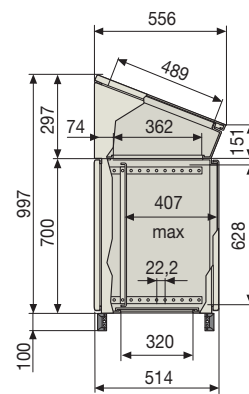
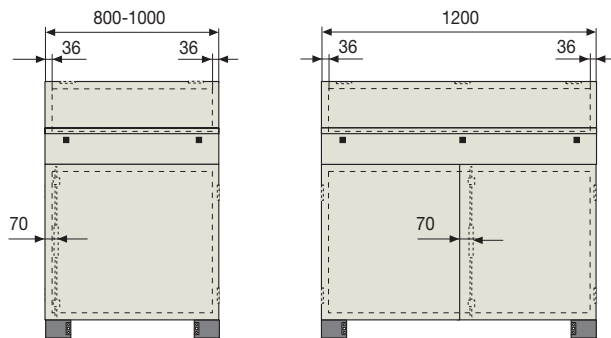
## C Consoles

### Modular CM series

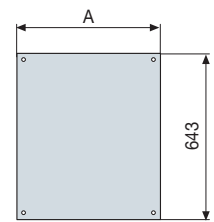
#### Structures depth 419



#### Structures depth 514



#### Mounting plate for base



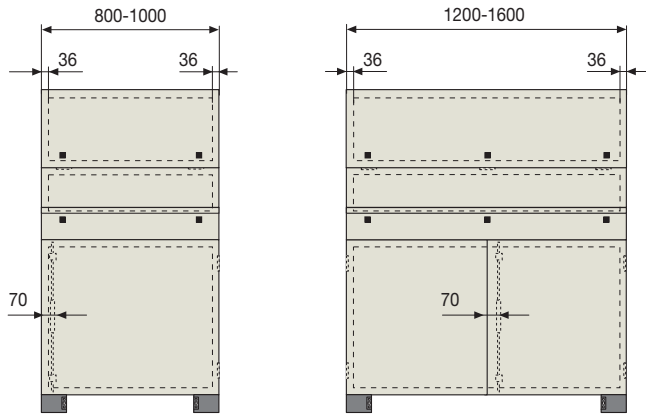
Code	A
PF6258	700
PF6260	900
PF6262	1100

Measurements are in millimetres

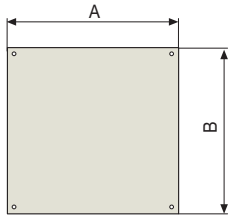
# Overall dimensions

## C Consoles

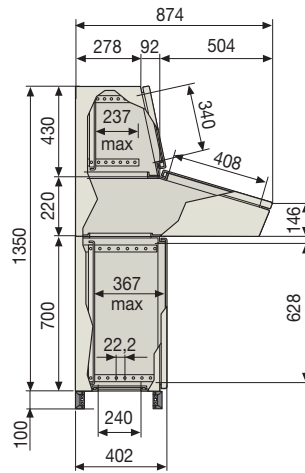
### Modular CA series



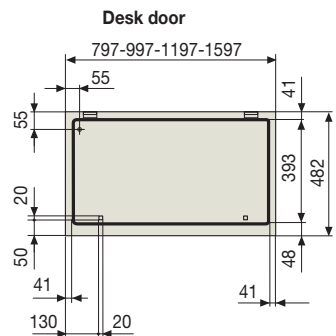
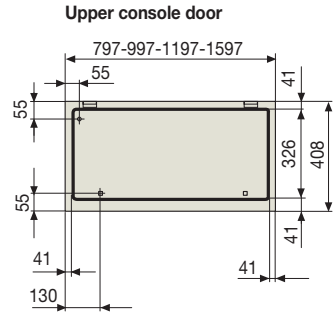
Mounting plate for base and upper console



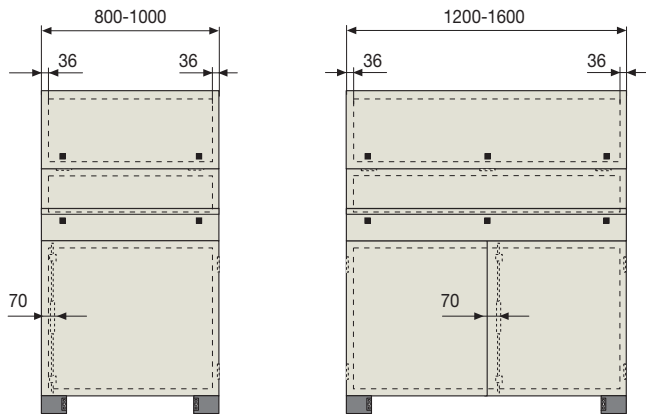
Code	A	B
PF6258	700	643
PF6260	900	643
PF6262	1100	643
PF6266	1500	643



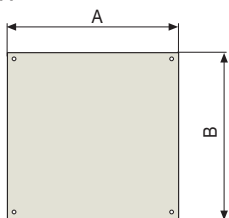
Code	A	B
PF6278	700	332
PF6280	900	332
PF6282	1100	332
PF6286	1500	332



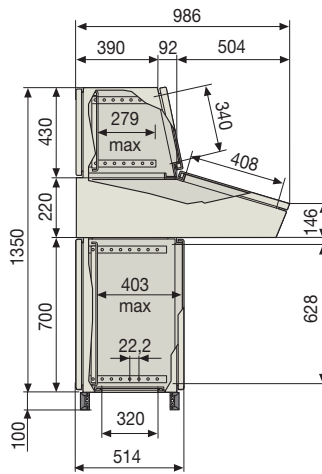
### Modular CD series



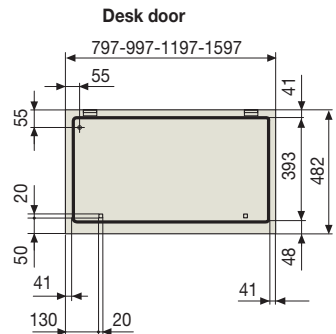
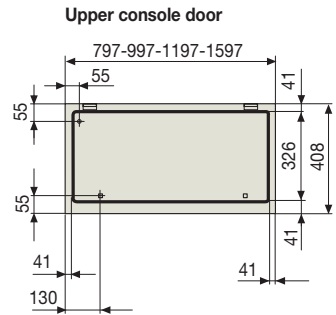
Mounting plate for base and upper console



Code	A	B
PF6258	700	643
PF6260	900	643
PF6262	1100	643
PF6266	1500	643



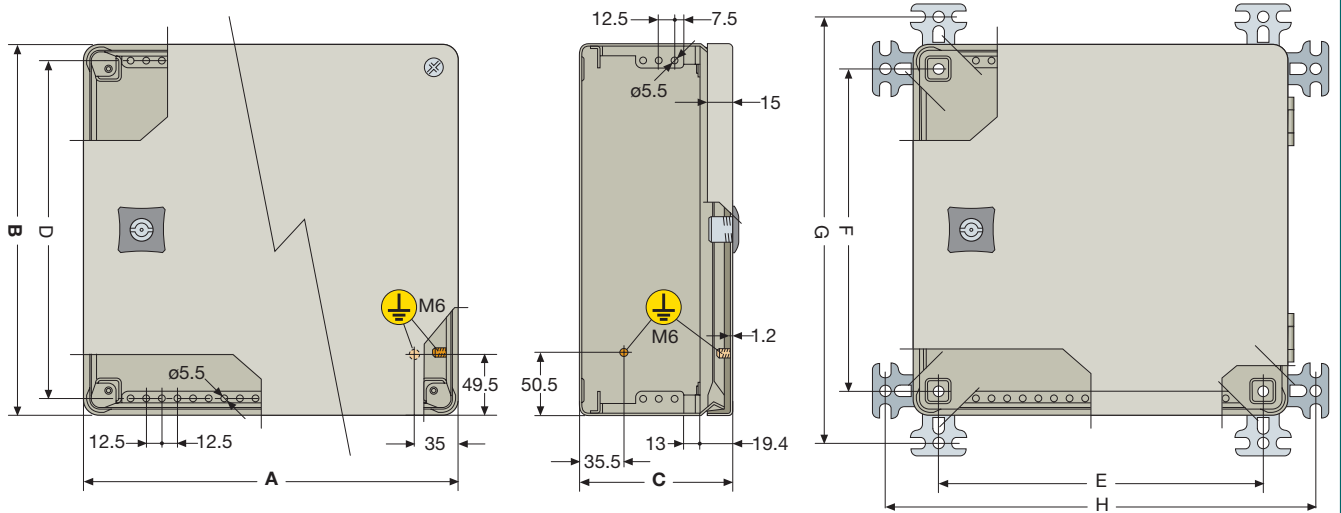
Code	A	B
PF6278	700	332
PF6280	900	332
PF6282	1100	332
PF6286	1500	332



Measurements are in millimetres

# Overall dimensions

## CD junction boxes

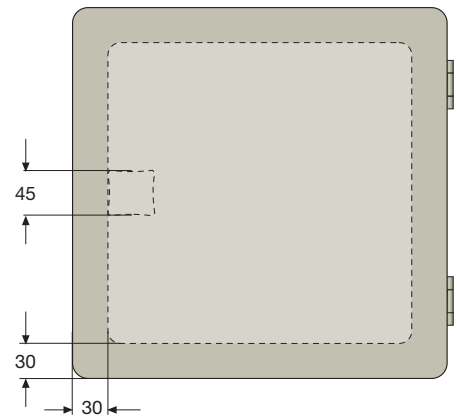


Code	A	B	C	D	E	F	G	H
CD15158	150	150	80	123.5	109.5	109.5	179	179
CD20208	200	200	80	173.2	159.5	159.5	229	229
CD30208	200	300	80	273.2	159.5	259.5	329	229
CD30308	300	300	80	273.2	259.5	259.5	329	329
CD40208	200	400	80	373.2	159.5	359.5	429	229
CD40308	300	400	80	373.2	259.5	359.5	429	329
CD15152	150	150	120	123.5	109.5	109.5	179	179
CD20202 CD20202H	200	200	120	173.2	159.5	159.5	229	229
CD30202 CD30202H	200	300	120	273.2	159.5	259.5	329	229
CD30302 CD30302H	300	300	120	273.2	259.5	259.5	329	329
CD40202 CD40202H	200	400	120	373.2	159.5	359.5	429	229
CD40302 CD40302H	300	400	120	373.2	259.5	359.5	429	329
CD40402 CD40402H	400	400	120	373.2	359.5	359.5	429	429
CD50302 CD50302H	300	500	120	473.2	259.5	459.5	529	329
CD50402 CD50402H	400	500	120	473.2	359.5	459.5	529	429
CD60402 CD60402H	400	600	120	573.2	359.5	559.5	629	429

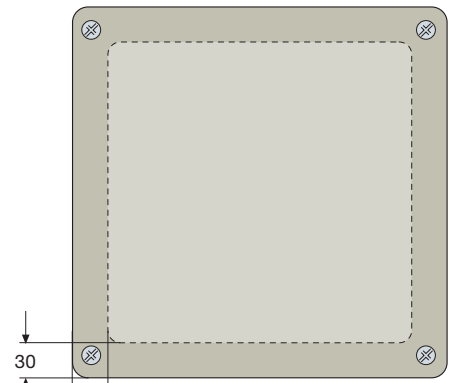
Code	A	B	C	D	E	F	G	H
CD20205	200	200	150	173.2	159.5	159.5	229	229
CD30205	200	300	150	273.2	159.5	259.5	329	229
CD30305	300	300	150	273.2	259.5	259.5	329	329
CD40205	200	400	150	373.2	159.5	359.5	429	229
CD40305	300	400	150	373.2	259.5	359.5	429	329
CD40405	400	400	150	373.2	359.5	359.5	429	429
CD50305	300	500	150	473.2	259.5	459.5	529	329
CD50405	400	500	150	473.2	359.5	459.5	529	429
CD60405	400	600	150	573.2	359.5	559.5	629	429
CD40420	400	400	200	373.2	359.5	359.5	429	429
CD50320	300	500	200	473.2	259.5	459.5	529	329
CD50420	400	500	200	473.2	359.5	459.5	529	429
CD60420	400	600	200	573.2	359.5	559.5	629	429

### Maximum useful overall dimensions for the drillings

hinged door

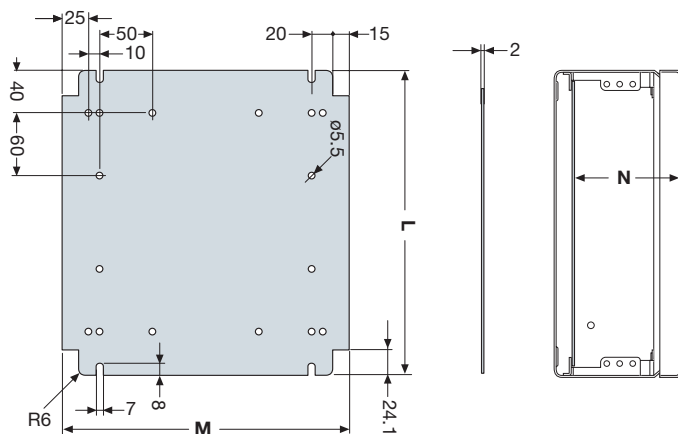


screwed door



Measurements are in millimetres

## Back plates

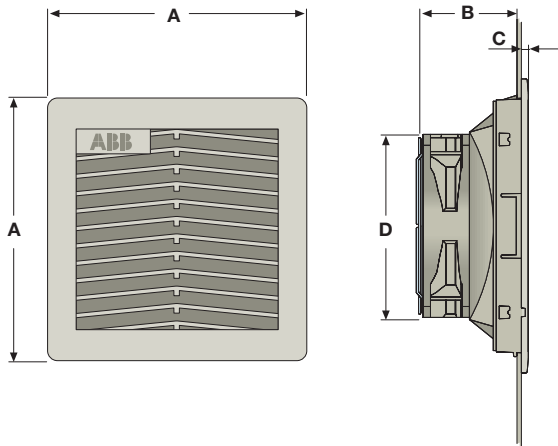


Code	L	M	depth 80 N	depth 120 N	depth 150 N	depth 200 N
CD1515	138.2	120	60	100	130	180
CD2020	188.2	170	60	100	130	180
CD3020	288.2	170	60	100	130	180
CD3030	288.2	270	60	100	130	180
CD4020	388.2	170	60	100	130	180
CD4030	388.2	270	60	100	130	180
CD4040	388.2	370	60	100	130	180
CD5030	488.2	270	60	100	130	180
CD5040	488.2	370	60	100	130	180
CD6040	588.2	370	60	100	130	180

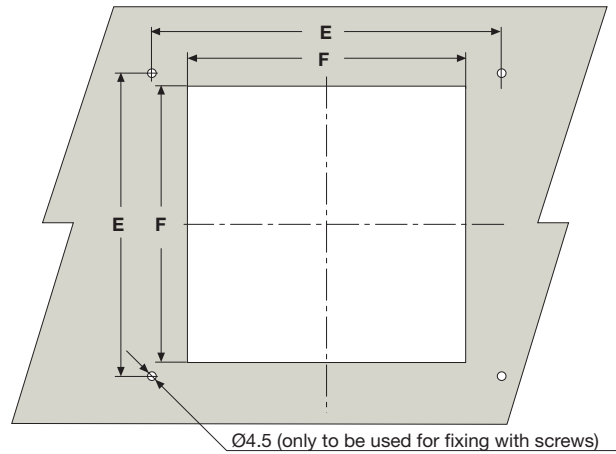
# Overall dimensions - Accessories

## Aeration/ventilation

### Gratings

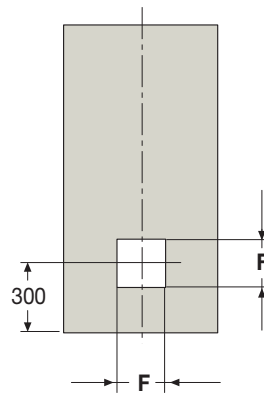


### Drilling template



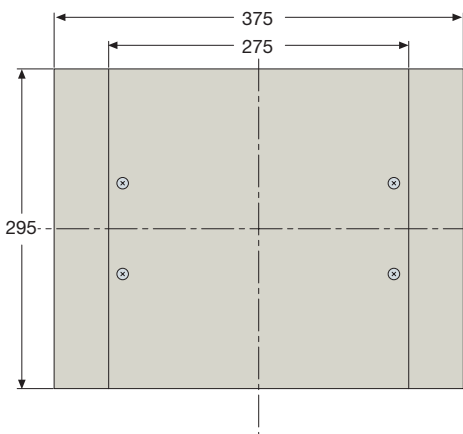
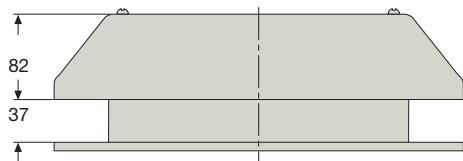
### Standard position of drillings

Side panel/Door

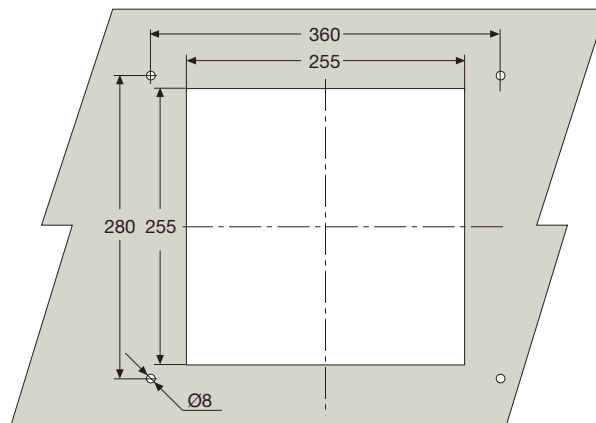


Code	A	B	C	D	E	F
EN0105						
EN1105	105	60	7	80	95	92
EN2105						
EN0150						
EN1150	150	64	7	120	131	125
EN2150						
EN0204						
EN1204	204	90	8	127	185	177
EN2204						
EN0250						
EN1250	250	113	8	172	230	223
EN2250						
EN0325	325	33	9	255	302	291
EN2325						
EN3325	325	152	9	218	302	291

### Hood EN0480-EN0481-EN0482



### Drilling template



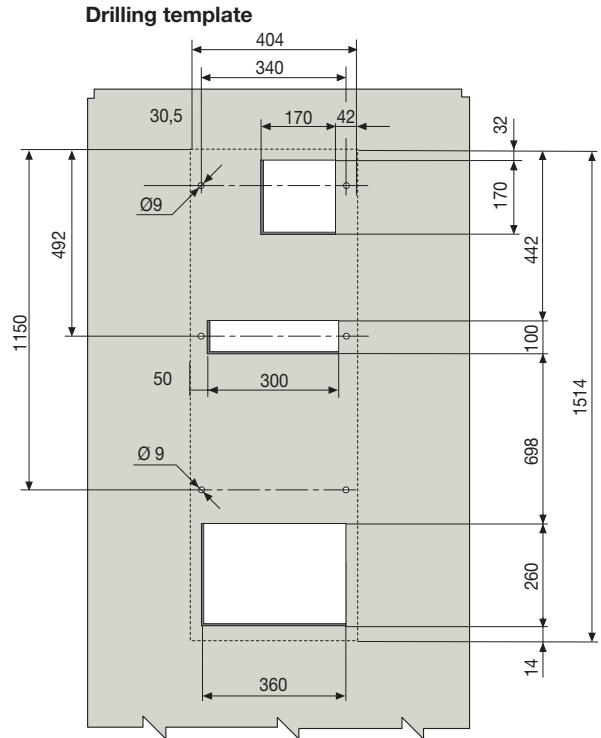
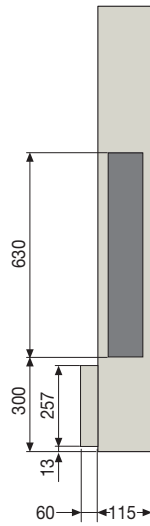
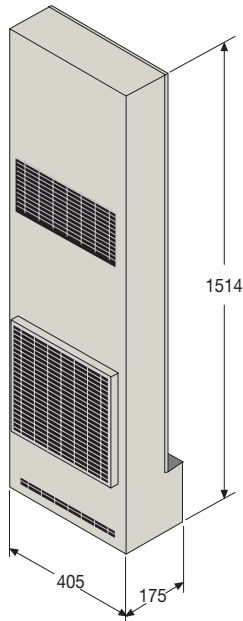
Measurements are in millimetres

1STC804034F0801

# Overall dimensions - Accessories

## Air conditioner

### Super thin air conditioners for wall or door mounting VZ1000 - VZ1450 - VZ1700 - VZ2100

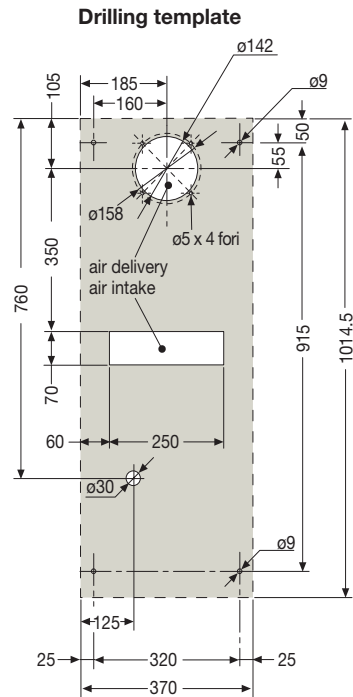
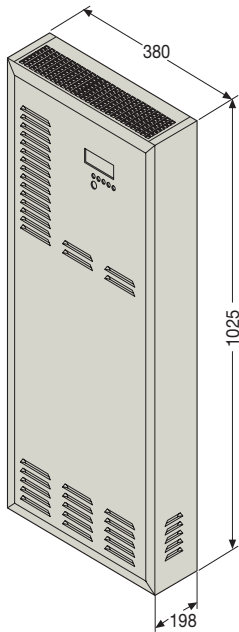


Measurements are in millimetres

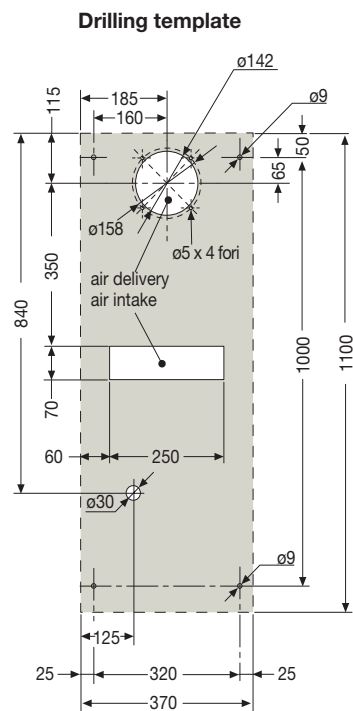
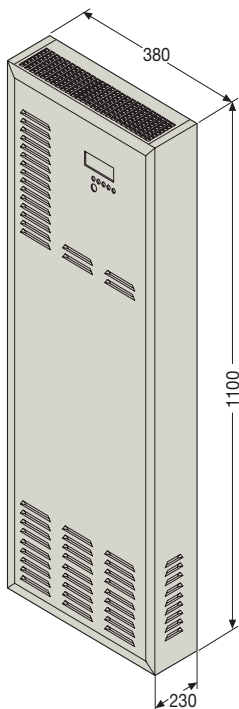
# Overall dimensions - Accessories

## Air conditioner

### Air conditioners for wall or door mounting VZ1550 - VZ1850 - VZ1400



### Air conditioners for wall or door mounting VZ2000

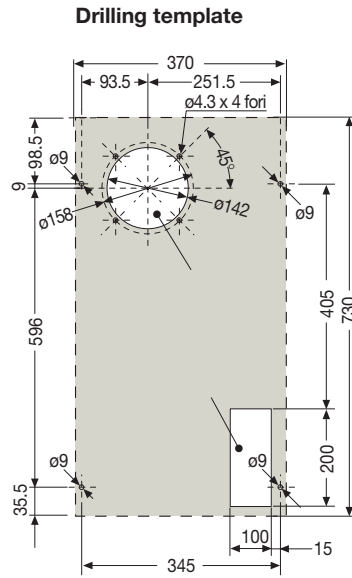
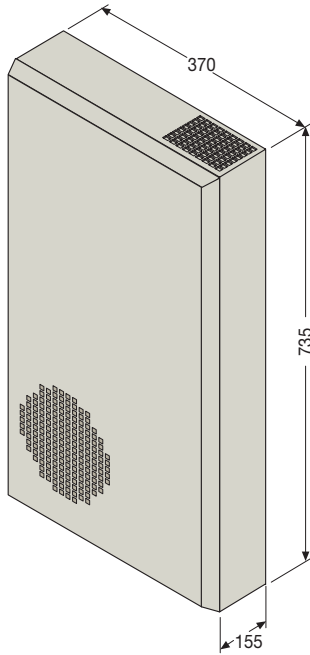


Measurements are in millimetres

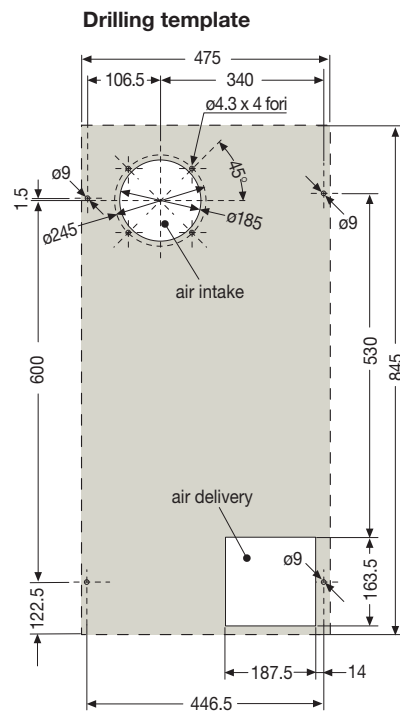
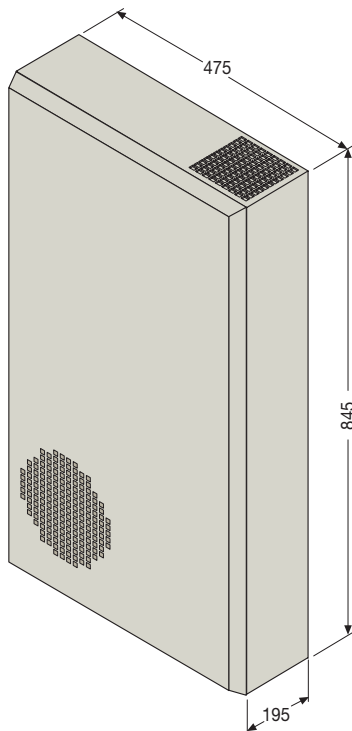
# Overall dimensions - Accessories

## Air conditioner

### Heat exchangers for wall or door mounting VS4235



### Heat exchangers for wall or door mounting VS6285

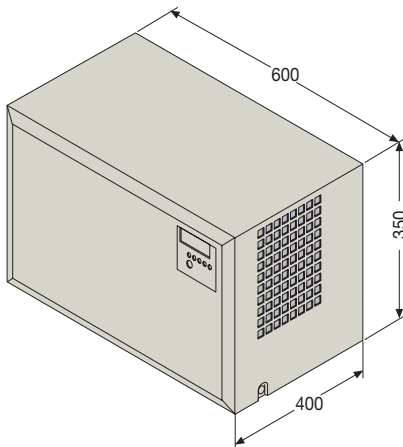


Measurements are in millimetres

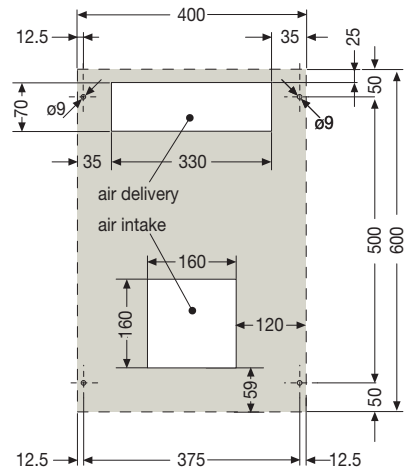
# Overall dimensions - Accessories

## Air conditioner

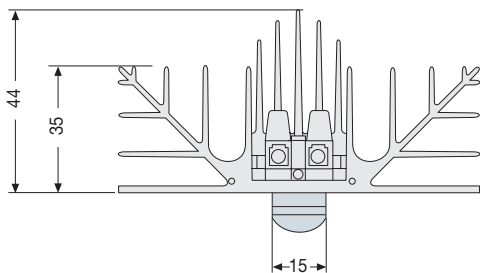
### Air conditioners for mounting on roof VZ8501-VZ1401



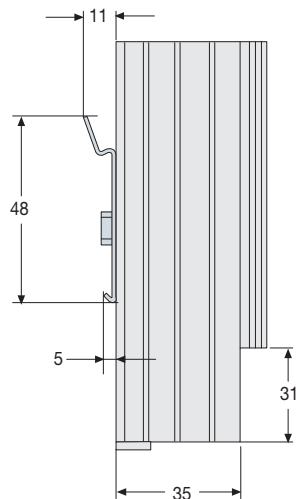
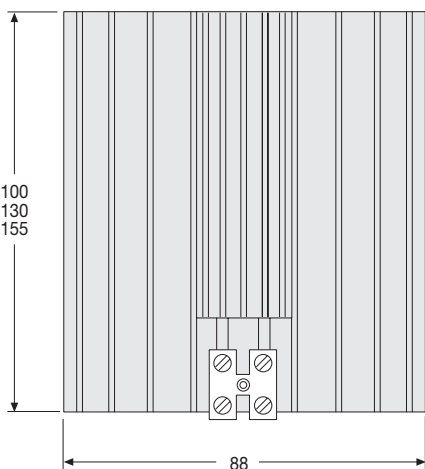
Drilling template



### IP20 heaters



VA6930=100  
VA6950=130  
VA6990=155



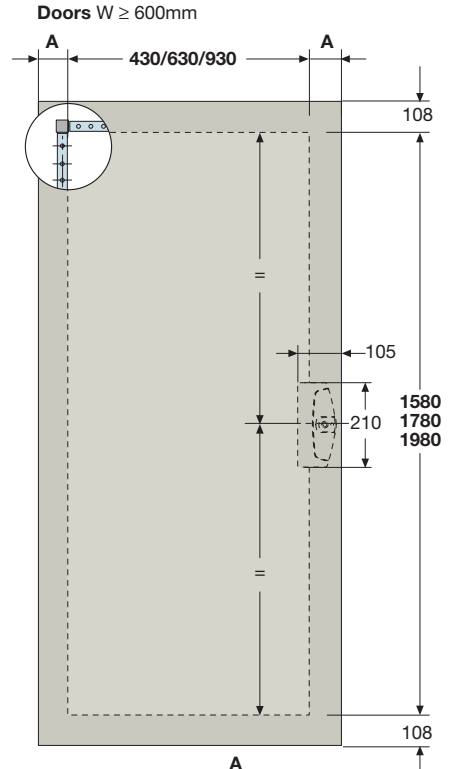
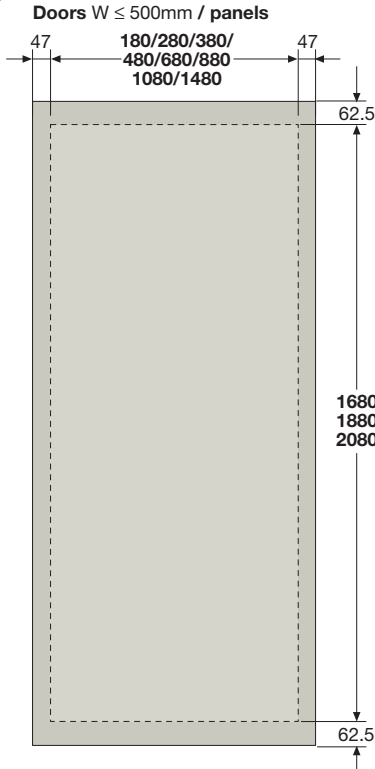
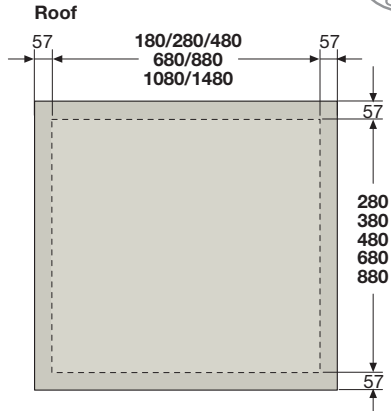
Measurements are in millimetres

# Overall dimensions - Accessories

## Drilling

### Drillings IS2

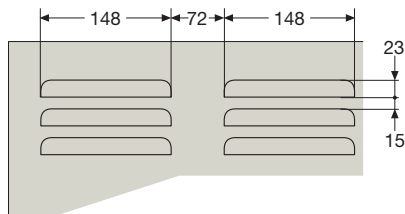
Maximum useful overall dimensions for the drillings



	A
Front door	75
Side door	118.5

### Finned roof/doors/panels

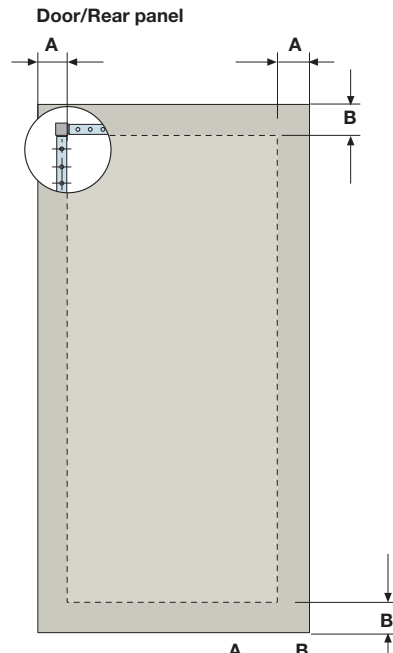
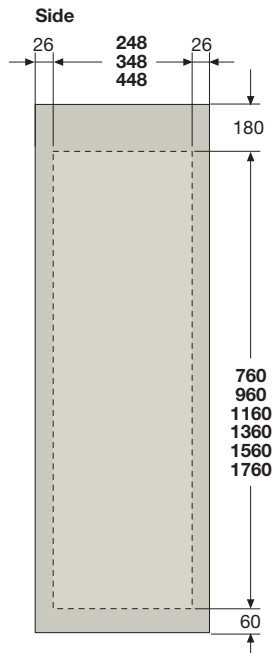
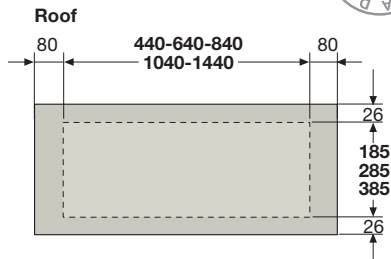
Enclosure the drawing with file n° and n° of fins per row with the order.



Aeration area per tongue inserts 8.4 mm<sup>2</sup>

### AM2 Drillings

Maximum useful overall dimensions for the drillings



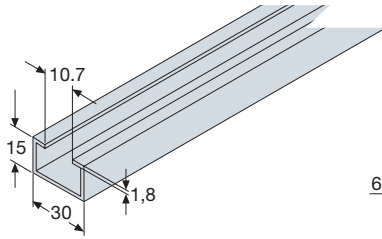
	A	B
Front door	100	115
Rear panel	118.5	90

Measurements are in millimetres

# Overall dimensions - Accessories

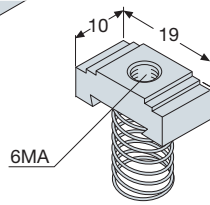
## Accessories

### Aluminium section EV1050

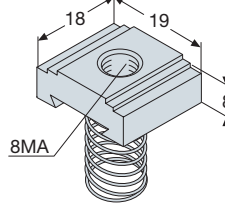


### Aluminium nuts for EV1050

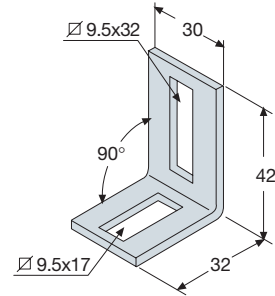
#### EV1056



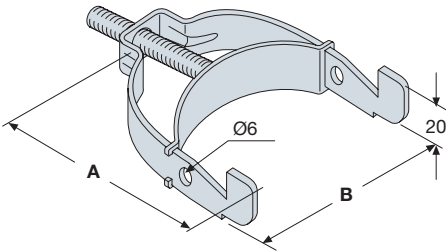
#### EV1058



### Angles for busbars EV1051



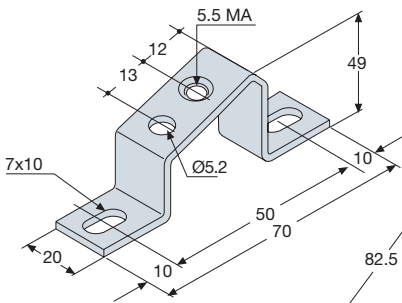
### Brackets for cables EV1090 / EV1091



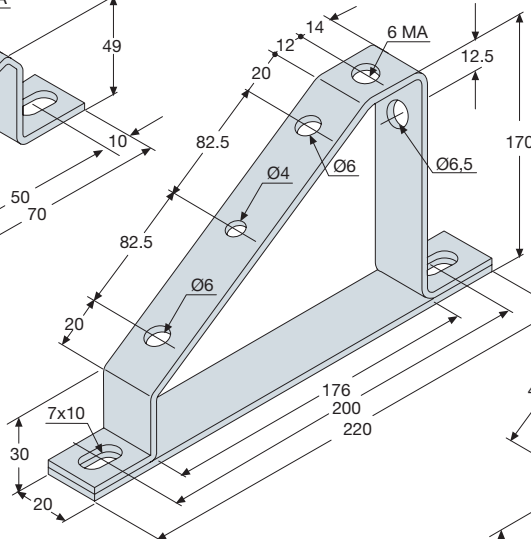
	A	B
EV1090	49	20
EV1091	65	36
EV1092	85	51
EV1093	106	80

### Terminal box supports

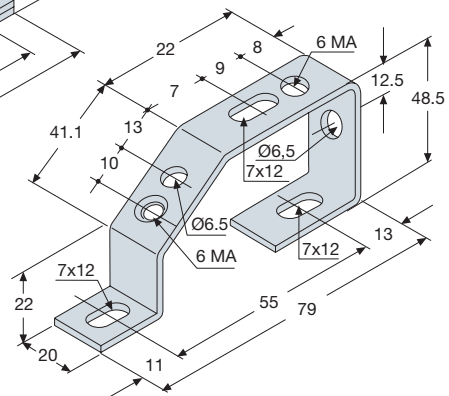
#### EV1110



#### EV1111



#### EV1112



Measurements are in millimetres

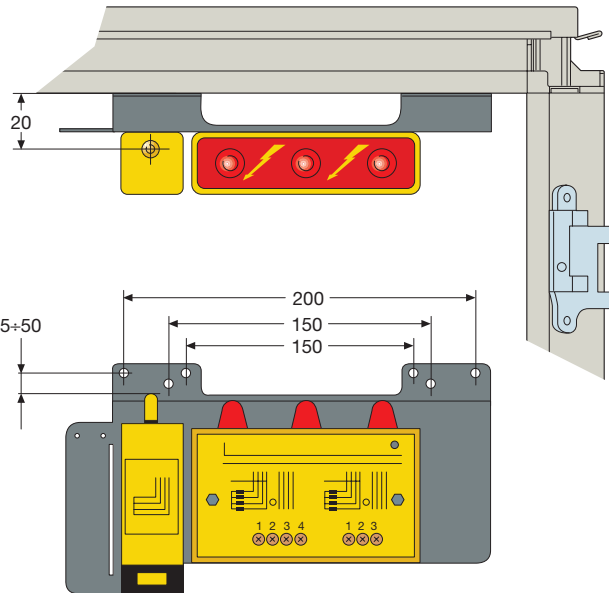
1STC804029F0901

# Overall dimensions - Accessories

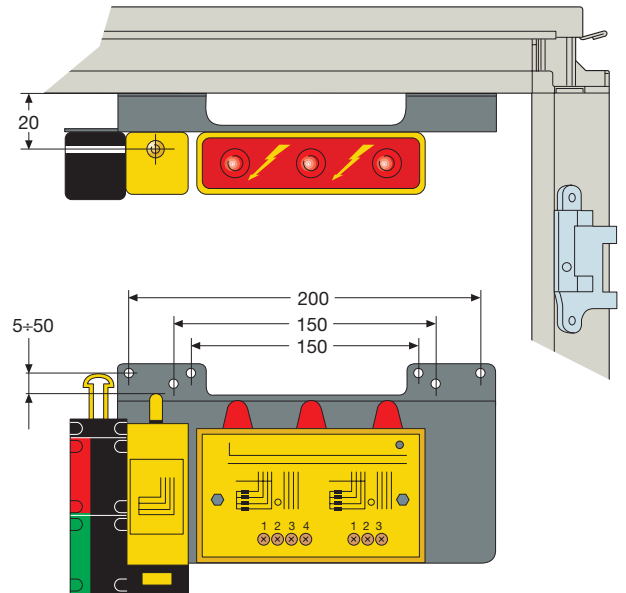
## Accessories

### Voltage indicator

EV1141

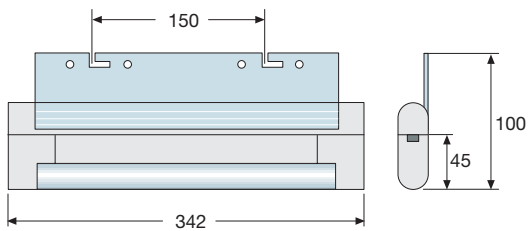


EV1142

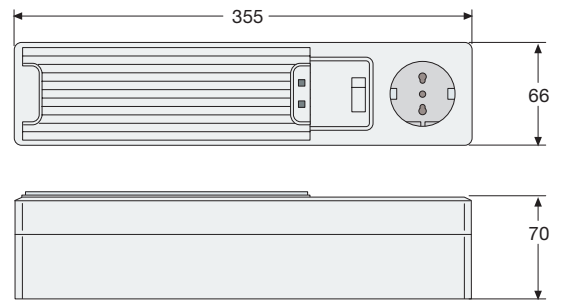


### Fluorescent lights

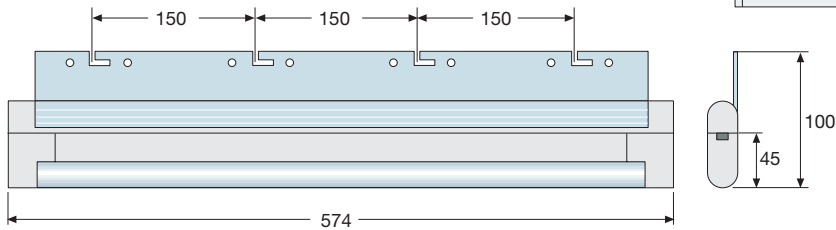
EV1040



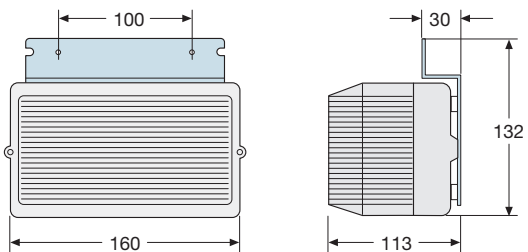
EV1043



EV1041



EV1048



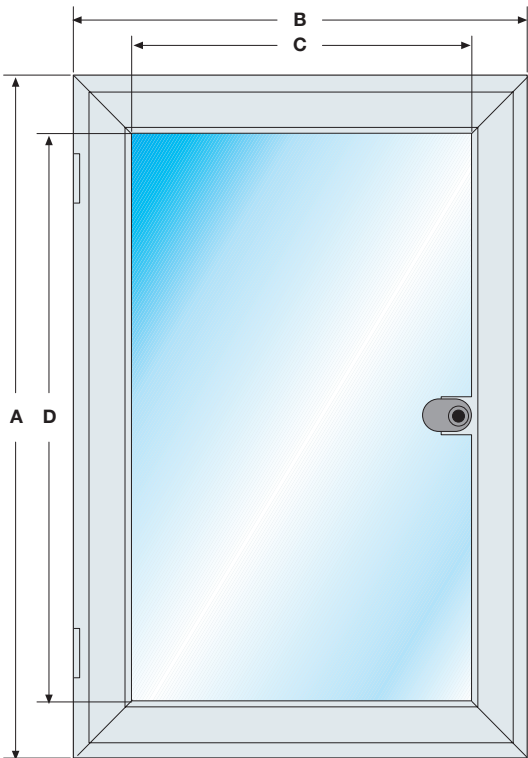
Measurements are in millimetres

1STC804046F0901

# Overall dimensions - Accessories

## Accessories

### IP54 protective window with glass



	A	B	C	D	E	F
<b>EV1080</b>	400	400	350	350	46	30
<b>EV1081</b>	400	400	350	350	77	61
<b>EV1082</b>	600	200	550	150	46	30
<b>EV1083</b>	600	200	550	150	77	61
<b>EV1084</b>	600	400	550	350	46	30
<b>EV1085</b>	600	400	550	350	77	61
<b>EV1086</b>	600	600	550	550	46	30
<b>EV1087</b>	600	600	550	550	77	61

Measurements are in millimetres



## Index of codes

# Index of codes

Code	Structure	Page	Weight	Code	Structure	Page	Weight	Code	Structure	Page	Weight
6652	IS2	4/70	0,60	05 097	AM2	3/26	1,20	05 198	IS2	4/71	1,10
7241	IS2	4/70	0,58	05 097	IS2	4/71	1,20	05 199	AM2	3/26	1,81
7242	IS2	4/70	0,70	05 098	AM2	3/26	1,20	05 199	IS2	4/71	1,81
7243	IS2	4/70	0,93	05 098	IS2	4/71	1,20	05 214	AM2	3/27	0,00
7244	IS2	4/70	1,17	05 099	AM2	3/26	1,20	05 214	IS2	4/72	0,00
7245	IS2	4/70	1,67	05 099	IS2	4/71	1,20	05 216	AM2	3/27	0,00
7246	IS2	4/70	2,81	05 119	AM2	3/26	0,11	05 216	IS2	4/72	0,00
7247	IS2	4/70	3,44	05 119	IS2	4/71	0,11	05 224	AM2	3/27	0,00
7855	IS2	4/70	0,76	05 133	AM2	3/26	0,29	05 224	IS2	4/72	0,00
05 019	AM2	3/26	0,11	05 133	IS2	4/71	0,29	05 226	AM2	3/27	0,00
05 019	IS2	4/71	0,11	05 135	AM2	3/26	0,33	05 226	IS2	4/72	0,00
05 033	AM2	3/26	0,30	05 135	IS2	4/71	0,33	05 228	AM2	3/27	0,01
05 033	IS2	4/71	0,30	05 137	AM2	3/26	0,45	05 228	IS2	4/72	0,01
05 035	AM2	3/26	0,36	05 137	IS2	4/71	0,45	05 230	AM2	3/27	0,01
05 035	IS2	4/71	0,36	05 143	AM2	3/26	0,33	05 230	IS2	4/72	0,01
05 037	AM2	3/26	0,46	05 143	IS2	4/71	0,33	05 240	AM2	3/27	0,00
05 037	IS2	4/71	0,46	05 145	AM2	3/26	0,40	05 240	IS2	4/72	0,00
05 043	AM2	3/26	0,21	05 145	IS2	4/71	0,40	05 250	AM2	3/27	0,02
05 043	IS2	4/71	0,21	05 147	AM2	3/26	0,47	05 250	IS2	4/72	0,02
05 045	AM2	3/26	0,40	05 147	IS2	4/71	0,47	05 252	AM2	3/27	0,01
05 045	IS2	4/71	0,40	05 149	AM2	3/26	0,64	05 252	IS2	4/72	0,01
05 047	AM2	3/26	0,52	05 149	IS2	4/71	0,64	05 254	AM2	3/27	0,01
05 047	IS2	4/71	0,52	05 151	AM2	3/26	0,88	05 254	IS2	4/72	0,01
05 049	AM2	3/26	0,69	05 151	IS2	4/71	0,88	05 256	AM2	3/27	0,02
05 049	IS2	4/71	0,69	05 153	AM2	3/26	0,97	05 256	IS2	4/72	0,02
05 051	AM2	3/26	0,90	05 153	IS2	4/71	0,97	05 258	AM2	3/27	0,02
05 051	IS2	4/71	0,90	05 163	AM2	3/26	0,42	05 258	IS2	4/72	0,02
05 053	AM2	3/26	1,02	05 163	IS2	4/71	0,42	05 260	AM2	3/27	0,02
05 053	IS2	4/71	1,02	05 165	AM2	3/26	0,49	05 260	IS2	4/72	0,02
05 063	AM2	3/26	0,43	05 165	IS2	4/71	0,49	05 262	AM2	3/27	0,02
05 063	IS2	4/71	0,43	05 167	AM2	3/26	0,63	05 262	IS2	4/72	0,02
05 065	AM2	3/26	0,57	05 167	IS2	4/71	0,63	05 265	AM2	3/27	0,45
05 065	IS2	4/71	0,57	05 169	AM2	3/26	0,83	05 265	IS2	4/72	0,45
05 067	AM2	3/26	0,67	05 169	IS2	4/71	0,83	05 266	AM2	3/27	0,45
05 067	IS2	4/71	0,67	05 171	AM2	3/26	0,94	05 266	IS2	4/72	0,45
05 069	AM2	3/26	0,81	05 171	IS2	4/71	0,94	05 270	Gemini	1/15	0,30
05 069	IS2	4/71	0,81	05 173	AM2	3/26	1,21	05 272	Gemini	1/15	0,20
05 071	AM2	3/26	0,96	05 173	IS2	4/71	1,21	05 274	Gemini	1/15	0,20
05 071	IS2	4/71	0,96	05 183	AM2	3/26	0,51	05 276	Gemini	1/15	0,36
05 073	AM2	3/26	1,15	05 183	IS2	4/71	0,51	05 278	Gemini	1/15	0,36
05 073	IS2	4/71	1,15	05 185	AM2	3/26	0,57	05 280	Gemini	1/15	0,42
05 083	AM2	3/26	0,53	05 185	IS2	4/71	0,57	05 282	Gemini	1/15	0,40
05 083	IS2	4/71	0,53	05 187	AM2	3/26	0,69	05 400	AM2	3/27	0,01
05 085	AM2	3/26	0,47	05 187	IS2	4/71	0,69	05 400	IS2	4/72	0,01
05 085	IS2	4/71	0,47	05 189	AM2	3/26	0,84	05 402	AM2	3/27	0,01
05 087	AM2	3/26	0,72	05 189	IS2	4/71	0,84	05 402	IS2	4/72	0,01
05 087	IS2	4/71	0,72	05 191	AM2	3/26	1,04	05 405	AM2	3/27	0,02
05 089	AM2	3/26	0,87	05 191	IS2	4/71	1,04	05 405	IS2	4/72	0,02
05 089	IS2	4/71	0,87	05 193	AM2	3/26	1,25	05 410	AM2	3/27	0,03
05 091	AM2	3/26	1,02	05 193	IS2	4/71	1,25	05 410	IS2	4/72	0,03
05 091	IS2	4/71	1,02	05 194	AM2	3/26	0,61	05 415	AM2	3/27	0,04
05 093	AM2	3/26	1,26	05 194	IS2	4/71	0,61	05 415	IS2	4/72	0,04
05 093	IS2	4/71	1,26	05 195	AM2	3/26	0,66	05 420	AM2	3/27	0,07
05 094	AM2	3/26	0,62	05 195	IS2	4/71	0,66	05 420	IS2	4/72	0,07
05 094	IS2	4/71	0,62	05 196	AM2	3/26	0,90	05 425	AM2	3/27	0,10
05 095	AM2	3/26	1,20	05 196	IS2	4/71	0,90	05 425	IS2	4/72	0,10
05 095	IS2	4/71	1,20	05 197	AM2	3/26	1,04	12 849	Gemini	1/19	0,31
05 096	AM2	3/26	1,20	05 197	IS2	4/71	1,04	12 851	Gemini	1/19	0,19
05 096	IS2	4/71	1,20	05 198	AM2	3/26	1,10	12 863	Gemini	1/19	0,01

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1SL0215A00	Gemini	1/10	18,00	1SL0286A00	Gemini	1/12	1,35	1SL0362A00	Gemini	1/14	0,28
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1SL0252A00	Gemini	1/20	0,73	1SL0321A00	Gemini	1/14	0,31	1SL0426A00	Gemini	1/18	0,96
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1SL0254A00	Gemini	1/21	1,35	1SL0327A00	Gemini	1/14	0,45	1SL0436A00	Gemini	1/18	0,96
1SL0255A00	Gemini	1/11	1,60	1SL0330A00	Gemini	1/14	0,32	1SL9037A00	IS2	4/70	0,46
1SL0255A00	Gemini	1/21	1,60	1SL0331A00	Gemini	1/14	0,41	1SL9816A00	IS2	4/70	0,76
1SL0256A00	Gemini	1/11	3,10	1SL0332A00	Gemini	1/14	0,61	1SL9817A00	IS2	4/70	0,79
1SL0256A00	Gemini	1/21	3,10	1SL0333A00	Gemini	1/14	0,84	1SL9818A00	IS2	4/70	0,97
1SL0259A00	Gemini	1/15	1,13	1SL0336A00	Gemini	1/13	0,95	1SL9819A00	IS2	4/70	1,15
1SL0259A00	Gemini	1/20	1,13	1SL0337A00	Gemini	1/13	1,25	1SL9820A00	IS2	4/70	1,52
1SL0260A00	Gemini	1/15	2,65	1SL0338A00	Gemini	1/13	1,90	1SL9836A00	IS2	4/70	1,03
1SL0260A00	Gemini	1/20	2,65	1SL0339A00	Gemini	1/17	0,14	1SL9838A00	IS2	4/70	1,25
1SL0261A00	Gemini	1/15	3,60	1SL0340A00	Gemini	1/17	0,50	1SL9839A00	IS2	4/70	1,43
1SL0262A00	Gemini	1/15	4,85	1SL0341A00	Gemini	1/17	0,13	1SL9840A00	IS2	4/70	1,80
1SL0262A00	Gemini	1/21	4,85	1SL0341A00	Gemini	1/21	0,13	1SL9841A00	IS2	4/70	2,44
1SL0263A00	Gemini	1/15	5,98	1SL0342A00	Gemini	1/17	0,19	1SL9842A00	IS2	4/70	2,85
1SL0264A00	Gemini	1/15	10,75	1SL0342A00	Gemini	1/20	0,19	1SL9860A00	IS2	4/70	1,09
1SL0264A00	Gemini	1/21	10,75	1SL0342A00	Gemini	1/20	0,19	1SL9861A00	IS2	4/70	1,13
1SL0267A00	Gemini	1/15	0,58	1SL0342A00	Gemini	1/21	0,19	1SL9862A00	IS2	4/70	1,31

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1SL9863A00	IS2	4/70	1,49	AD1009	IS2	4/54	0,01	BF6302	IS2	4/62	12,5
1SL9864A00	IS2	4/70	1,86	AD1009	IS2	4/56	0,01	BF8002	IS2	4/62	19,1
1SL9865A00	IS2	4/70	2,50	AD1022	AM2	3/30	0,30	BP0630	IS2	4/62	0,4
1SL9866A00	IS2	4/70	2,91	AD1027	AM2	3/18	0,25	BP0632	IS2	4/62	0,55
1SL9880A00	IS2	4/70	0,14	AD1027	IS2	4/57	0,25	BP1250	IS2	4/62	2,8
1SL9886A00	IS2	4/70	0,11	AD1028	AM2	3/18	0,5	BP1600	IS2	4/62	2,6
1SL9887A00	IS2	4/70	0,14	AD1028	IS2	4/57	0,5	BR0250	IS2	4/62	1,3
1SL9893A00	IS2	4/70	0,01	AD1029	AM2	3/18	0,55	BR0400	IS2	4/62	2,8
1SL9904A00	IS2	4/70	0,31	AD1029	IS2	4/57	0,55	BR0630	IS2	4/62	6,2
1SL9907A00	IS2	4/70	0,15	AD1030	AM2	3/18	1,11	BR1250	IS2	4/62	14,5
1SL9910A00	IS2	4/70	0,23	AD1030	IS2	4/57	1,11	BR1600	IS2	4/62	29
1SL9911A00	IS2	4/70	0,30	AD1031	AM2	3/18	1,25	BR4005	IS2	4/62	4,4
1SL9912A00	IS2	4/70	0,38	AD1031	IS2	4/57	1,25	BR6305	IS2	4/62	6,5
1SL9913A00	IS2	4/70	0,53	AD1033	AM2	3/23	0,22	BR8005	IS2	4/62	8,6
1SL9914A00	IS2	4/70	0,68	AD1033	IS2	4/65	0,22	CA1308	C	6/8	95,5
1SL9915A00	IS2	4/70	0,83	AD1036	IS2	4/65	0,2	CA1328	C	6/8	109,5
AA1203	SR	2/10	0,01	AD1037	AM2	3/16	0,34	CA1368	C	6/8	140,9
AA1206	SR	2/7	0,2	AD1037	IS2	4/54	0,34	CA1388	C	6/8	82,2
AA1481	C	6/11	0,05	AD1056	IS2	4/61	0,3	CA1401	AM2	3/30	1,237
AA1482	C	6/11	0,05	AD1064	IS2	4/61	0,26	CA1601	AM2	3/30	1,414
AA1511	C	6/11	0,05	AD1066	IS2	4/61	0,2	CA1801	AM2	3/30	1,591
AA1550	C	6/11	0,02	AD1068	IS2	4/61	1,07	CA2001	AM2	3/30	1,767
AA1560	AM2	3/24	0,02	AD1069	IS2	4/61	2,4	CA4303	C	6/8	25,2
AA1570	AM2	3/24	0,03	AD1070	AM2	3/30	0,28	CA4323	C	6/8	28,5
AA5190	SR	2/9	0,01	AD1075	IS2	4/57	0,55	CA4363	C	6/8	35,4
AA5200	SR	2/9	0,01	AD1076	IS2	4/57	0,25	CA4383	C	6/8	22
AA5600	SR	2/9	0,2	AD1077	IS2	4/61	1,05	CA6118	C	6/8	27,1
AA5600	C	6/11	0,2	AD1080	AM2	3/18	0,25	CA6120	C	6/8	31,7
AA6100	AM2	3/30	0,01	AD1080	IS2	4/57	0,25	CA6122	C	6/8	36,4
AA6120	AM2	3/24	0,01	AD1081	AM2	3/18	0,25	CA6126	C	6/8	46
AA6140	AM2	3/24	0,01	AD1081	IS2	4/57	0,25	CA6140	C	6/11	0,5
AA6160	AM2	3/24	0,02	AD1083	AM2	3/18	0,25	CA6141	C	6/11	0,5
AA6180	AM2	3/24	0,02	AD1098	IS2	4/56	0,96	CA6141	C	6/11	0,5
AA6200	AM2	3/24	0,02	AD1101	AM2	3/18	0,05	CA6142	C	6/11	0,5
AA6200	AM2	3/30	0,02	AD1101	IS2	4/56	0,05	CA6142	C	6/11	0,5
AA6840	AM2	3/23	0,01	AD1102	AM2	3/18	0,02	CA6143	C	6/11	0,5
AA6840	IS2	4/65	0,01	AD1102	IS2	4/56	0,02	CA6143	C	6/11	0,5
AA6850	AM2	3/23	0,01	AD1103	AM2	3/18	0,02	CA6144	C	6/11	8
AA6850	IS2	4/65	0,01	AD1103	IS2	4/56	0,02	CA6161	C	6/11	3,4
AA6880	AM2	3/23	0,01	AD1104	AM2	3/18	0,02	CA6162	C	6/11	5
AA6880	IS2	4/65	0,01	AD1104	IS2	4/56	0,02	CA6163	C	6/11	5
AA6890	AM2	3/23	0,01	AD1600	AM2	3/18	0,24	CA6164	C	6/11	8
AA6890	IS2	4/65	0,01	AD1600	IS2	4/56	0,24	CA7004	C	6/6	38,6
AA8001	SR	2/9	0,01	AD1800	AM2	3/18	0,36	CA7004	C	6/8	38,6
AA8001	SR	2/10	0,01	AD1800	IS2	4/56	0,36	CA7024	C	6/6	44,6
AA8002	SR	2/9	0,01	AE1015	IS2	4/67	0,25	CA7024	C	6/8	44,6
AA8003	SR	2/9	0,01	AP6000	AM2	3/16	0,01	CA7064	C	6/8	59,7
AA8004	AM2	3/30	0,01	AP6000	IS2	4/54	0,01	CA7084	C	6/6	33
AA8010	SR	2/9	3	AP6000	IS2	4/54	0,01	CA7084	C	6/8	33
AA8011	SR	2/9	0,01	AP6000	IS2	4/56	0,01	CD1001	SR-E	2/14	0,21
AA8025	SR	2/6	0,01	AP6001	SR	2/8	0,01	CD1001	CD	5/5	0,21
AA8050	SR	2/6	0,01	BA0400	IS2	4/61	3,3	CD1309	C	6/9	105
AA9610	IS2	4/60	0,7	BA0800	IS2	4/61	4,5	CD1329	C	6/9	121,6
AD1004	AM2	3/18	0,55	BA1250	IS2	4/61	9,16	CD1369	C	6/9	151,8
AD1004	IS2	4/57	0,55	BA1600	IS2	4/61	10,72	CD1389	C	6/9	91
AD1006	IS2	4/57	0,55	BF1602	IS2	4/62	2,7	CD1515	CD	5/5	0,33
AD1007	IS2	4/57	0,25	BF2502	IS2	4/62	4,2	CD15152	CD	5/4	1,54
AD1009	AM2	3/16	0,01	BF4002	IS2	4/62	3	CD15158	CD	5/4	1,2
AD1009	IS2	4/54	0,01	BF4012	IS2	4/62	6,5	CD2020	SR-E	2/14	0,64

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CD20202	CD	5/4	2,21	CD6228	C	6/9	29,5	EA1010	AM2	3/12	18,915
CD20202H	CD	5/4	2,21	CD6230	C	6/9	34,5	EA1010MT	AM2	3/12	18,915
CD20205	CD	5/4	2,52	CD6232	C	6/9	39,5	EA1012	AM2	3/12	22,495
CD20208	CD	5/4	1,78	CD6236	C	6/9	49,5	EA1012MT	AM2	3/12	22,495
CD3020	SR-E	2/14	0,97	CD6293	C	6/11	0,5	EA1016	AM2	3/12	29,654
CD3020	CD	5/5	0,97	CD6294	C	6/11	0,5	EA1016MT	AM2	3/12	29,654
CD30202	CD	5/4	2,87	CD6295	C	6/11	0,5	EA1060	AM2	3/12	11,756
CD30202H	CD	5/4	2,87	CD6296	C	6/11	0,5	EA1060MT	AM2	3/12	11,756
CD30205	CD	5/4	3,25	CD6298	C	6/11	0,5	EA1061	AM2	3/13	14,855
CD30208	CD	5/4	2,36	CD6299	C	6/11	0,5	EA1061	IS2	4/45	14,855
CD3030	SR-E	2/14	1,54	CD6300	C	6/11	0,5	EA1080	AM2	3/12	15,336
CD3030	CD	5/5	1,54	CD6301	C	6/11	0,5	EA1080MT	AM2	3/12	15,336
CD30302	CD	5/4	3,86	CD7005	C	6/7	44,9	EA1081	AM2	3/13	20,792
CD30302EMC	CD	5/6	3,86	CD7005	C	6/9	44,9	EA1081	IS2	4/45	20,792
CD30302H	CD	5/4	3,86	CD7025	C	6/7	51,4	EA1200	IS2	4/42	4,99
CD30305	CD	5/4	4,3	CD7025	C	6/9	51,4	EA1202	IS2	4/44	3,41
CD30308	CD	5/4	3,27	CD7065	C	6/9	63,7	EA1203	IS2	4/43	3,12
CD3040	SR-E	2/14	2,12	CD7085	C	6/7	38,7	EA1210	AM2	3/12	22,789
CD4020	SR-E	2/14	1,31	CD7085	C	6/9	38,7	EA1210MT	AM2	3/12	22,789
CD4020	CD	5/5	1,31	CM1141	C	6/7	66	EA1213	AM2	3/12	27,154
CD40202	CD	5/4	3,53	CM1151	C	6/7	71	EA1213MT	AM2	3/12	27,154
CD40202H	CD	5/4	3,53	CM1241	C	6/7	76	EA1260	AM2	3/12	14,06
CD40205	CD	5/4	3,97	CM1251	C	6/7	81,4	EA1260MT	AM2	3/12	14,06
CD40208	CD	5/4	2,94	CM1841	C	6/7	57	EA1280	AM2	3/12	18,425
CD4030	SR-E	2/14	2,08	CM1851	C	6/7	61,7	EA1280MT	AM2	3/12	18,425
CD4030	CD	5/5	2,08	CM3041	C	6/7	26	EA1411	AM2	3/12	26,663
CD40302	CD	5/4	4,73	CM3051	C	6/7	26	EA1411MT	AM2	3/12	26,663
CD40302H	CD	5/4	4,73	CM3241	C	6/7	30	EA1412	AM2	3/12	31,813
CD40305	CD	5/4	5,23	CM3251	C	6/7	30	EA1412MT	AM2	3/12	31,813
CD40305EMC	CD	5/6	5,23	CM3841	C	6/7	23	EA1460	AM2	3/12	16,364
CD40308	CD	5/4	4,06	CM3851	C	6/7	23	EA1460MT	AM2	3/12	16,364
CD4040	SR-E	2/14	2,82	CM7041	C	6/7	40	EA1480	AM2	3/12	21,514
CD4040	CD	5/5	2,82	CM7241	C	6/7	46	EA1480MT	AM2	3/12	21,514
CD40402	CD	5/4	6,31	CM7841	C	6/7	34	EA1602	IS2	4/42	6,66
CD40402H	CD	5/4	6,31	CN1005	C	6/6	64,8	EA1603	IS2	4/43	4,27
CD40405	CD	5/4	6,94	CN1025	C	6/6	74,6	EA1610	AM2	3/12	30,537
CD40420	CD	5/4	7,63	CN1065	C	6/6	45	EA1610MT	AM2	3/12	30,537
CD4304	C	6/9	25,5	CN1085	C	6/6	55,7	EA1612	AM2	3/12	36,472
CD4324	C	6/9	30,7	CN6036	C	6/6	19	EA1612MT	AM2	3/12	36,472
CD4364	C	6/9	38,6	CN6038	C	6/6	22,6	EA1616	AM2	3/12	18,668
CD4384	C	6/9	23	CN6040	C	6/6	26,2	EA1616MT	AM2	3/12	18,668
CD5030	SR-E	2/14	2,65	CN6042	C	6/6	30	EA1619	AM2	3/12	24,603
CD5030	CD	5/5	2,65	CN7064	C	6/6	26,3	EA1619MT	AM2	3/12	24,603
CD50302	CD	5/4	5,91	CR0180	IS2	4/60	2	EA1800	IS2	4/42	7,32
CD50302H	CD	5/4	5,91	CU6326	C	6/6	38	EA1810	AM2	3/12	36,48
CD50305	CD	5/4	6,5	CU6328	C	6/6	46	EA1810	IS2	4/42	36,48
CD50320	CD	5/4	7,15	CU6330	C	6/6	54	EA1810MT	AM2	3/12	36,477
CD5040	SR-E	2/14	3,53	CU6332	C	6/6	62	EA1812	AM2	3/12	43,87
CD5040	CD	5/5	3,53	EA0400	IS2	4/42	1,78	EA1812	IS2	4/42	43,87
CD50402	CD	5/4	7,88	EA0401	IS2	4/73	1,12	EA1812MT	AM2	3/12	43,869
CD50402H	CD	5/4	7,88	EA0501	IS2	4/73	1,52	EA1817	IS2	4/42	58,49
CD50405	CD	5/4	8,67	EA0600	IS2	4/42	2,6	EA1841	IS2	4/42	14,19
CD50420	CD	5/4	9,54	EA0601	IS2	4/73	1,91	EA1860	AM2	3/12	21,56
CD6040	SR-E	2/14	4,23	EA0801	IS2	4/73	2,71	EA1860	IS2	4/42	21,56
CD6040	CD	5/5	4,23	EA0802	IS2	4/42	3,39	EA1860MT	AM2	3/12	21,56
CD60402	CD	5/4	9,46	EA1000	IS2	4/42	4,2	EA1880	AM2	3/12	29,09
CD60402H	CD	5/4	9,46	EA1001	IS2	4/73	3,38	EA1880	IS2	4/42	29,09
CD60405	CD	5/4	10,41	EA1002	IS2	4/44	2,82	EA1880MT	AM2	3/12	29,086

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EA1912	IS2	4/44	52,4	EA4081	IS2	4/45	7,92	EB1043	IS2	4/37	1,23
EA1916	IS2	4/44	79,33	EA5010	AM2	3/14	16,104	EB1100	IS2	4/32	4,84
EA1940	IS2	4/44	19,71	EA5011	AM2	3/14	31,112	EB1100	IS2	4/46	4,84
EA1960	IS2	4/44	27,9	EA5060	AM2	3/14	9,662	EB1100	IS2	4/52	4,84
EA1981	IS2	4/44	36,06	EA5061	AM2	3/13	7,43	EB1101	IS2	4/45	6,45
EA2000	IS2	4/42	8,13	EA5061	IS2	4/45	7,43	EB1102	IS2	4/46	6,67
EA2010	AM2	3/12	40,53	EA5063	AM2	3/14	19,284	EB1200	AM2	3/13	4,86
EA2010	IS2	4/42	40,53	EA5081	AM2	3/13	9,92	EB1200	IS2	4/46	4,86
EA2010MT	AM2	3/12	40,53	EA5081	IS2	4/45	9,92	EB4100	IS2	4/32	1,76
EA2013	AM2	3/12	48,74	EA5082	AM2	3/14	12,883	EB4100	IS2	4/46	1,76
EA2013	IS2	4/42	48,74	EA5083	AM2	3/14	25,987	EB4100	IS2	4/52	1,76
EA2013MT	AM2	3/12	48,743	EA5100	AM2	3/12	1,06	EB4101	IS2	4/45	1,94
EA2016	IS2	4/42	64,99	EA5210	AM2	3/14	19,325	EB5100	IS2	4/32	2,2
EA2040	IS2	4/42	15,77	EA5260	AM2	3/14	11,594	EB5100	IS2	4/46	2,2
EA2060	AM2	3/12	23,96	EA5280	AM2	3/14	15,458	EB5100	IS2	4/52	2,2
EA2060	IS2	4/42	23,96	EA5413	AM2	3/14	22,217	EB5101	IS2	4/45	2,58
EA2060MT	AM2	3/12	23,956	EA5461	AM2	3/14	13,527	EB6100	IS2	4/32	2,86
EA2062	AM2	3/13	2,97	EA5480	AM2	3/14	18,035	EB6100	IS2	4/46	2,86
EA2062	IS2	4/45	2,97	EA5610	AM2	3/14	25,391	EB6100	IS2	4/52	2,86
EA2080	AM2	3/12	32,32	EA5616	AM2	3/14	15,458	EB6101	IS2	4/45	3,87
EA2080	IS2	4/42	32,32	EA5620	AM2	3/14	20,612	EB6102	IS2	4/46	3,89
EA2080MT	AM2	3/12	32,318	EA5811	AM2	3/14	28,567	EB8100	IS2	4/32	3,74
EA2081	AM2	3/13	3,96	EA5861	AM2	3/14	17,355	EB8100	IS2	4/46	3,74
EA2081	IS2	4/45	3,96	EA5883	AM2	3/14	23,187	EB8100	IS2	4/52	3,74
EA2100	IS2	4/42	1,06	EA6002	IS2	4/44	1,67	EB8101	IS2	4/45	5,16
EA2101	IS2	4/45	0,28	EA6003	IS2	4/43	1,39	EB8102	IS2	4/46	5,28
EA2102	IS2	4/42	0,09	EA6061	AM2	3/13	8,91	EC1810	IS2	4/33	31,79
EA2110	IS2	4/44	49,16	EA6061	IS2	4/45	8,91	EC1811	IS2	4/39	22,98
EA2112	IS2	4/44	58,23	EA6081	AM2	3/13	11,88	EC1831	IS2	4/33	9,69
EA2113	IS2	4/44	0,15	EA6081	IS2	4/45	11,88	EC1840	IS2	4/33	12,93
EA2115	IS2	4/43	0,13	EA8002	IS2	4/44	2,27	EC1841	IS2	4/39	9,19
EA2116	IS2	4/44	88,14	EA8003	IS2	4/43	1,96	EC1851	IS2	4/39	11,49
EA2117	IS2	4/42	0,48	EA8061	AM2	3/13	11,88	EC1860	IS2	4/33	19,22
EA2117	IS2	4/43	0,48	EA8061	IS2	4/45	11,88	EC1861	IS2	4/39	13,79
EA2140	IS2	4/44	21,9	EA8081	AM2	3/13	15,84	EC1880	IS2	4/33	25,51
EA2161	IS2	4/44	31	EA8081	IS2	4/45	15,84	EC1880FC5	IS2	4/34	16,01
EA2180	IS2	4/44	40,06	EB0400	IS2	4/46	1,47	EC1880FC5	IS2	4/35	16,01
EA2200	IS2	4/42	8,94	EB0440	IS2	4/46	1,61	EC1880FC6	IS2	4/34	19,22
EA2210	IS2	4/42	44,58	EB0500	IS2	4/46	1,89	EC1880FC6	IS2	4/35	19,22
EA2212	IS2	4/42	53,62	EB0550	IS2	4/46	2,07	EC1880FC8	IS2	4/34	25,51
EA2216	IS2	4/42	71,49	EB0600	AM2	3/13	2,44	EC1880FC8	IS2	4/35	25,51
EA2240	IS2	4/42	17,34	EB0600	IS2	4/46	2,44	EC1880FV6	IS2	4/34	16,33
EA2260	IS2	4/42	26,35	EB0660	AM2	3/13	2,51	EC1880FV6	IS2	4/35	16,33
EA2280	IS2	4/42	35,55	EB0660	IS2	4/46	2,51	EC1880FV8	IS2	4/34	21,68
EA2310	IS2	4/44	54,07	EB0800	AM2	3/13	3,17	EC1880FV8	IS2	4/35	21,68
EA2312	IS2	4/44	64,05	EB0800	IS2	4/46	3,17	EC1880VC2	IS2	4/34	7,23
EA2316	IS2	4/44	96,96	EB0880	AM2	3/13	3,43	EC1880VC2	IS2	4/35	7,23
EA2340	IS2	4/44	24,09	EB0880	IS2	4/46	3,43	EC1880VC4	IS2	4/34	12,93
EA2360	IS2	4/44	34,09	EB1000	AM2	3/13	4,03	EC1880VC4	IS2	4/35	12,93
EA2380	IS2	4/44	44,07	EB1000	IS2	4/46	4,03	EC1881	IS2	4/39	18,39
EA3061	AM2	3/13	4,46	EB1010	AM2	3/13	4,33	EC2011	IS2	4/39	25,54
EA3061	IS2	4/45	4,46	EB1010	IS2	4/46	4,33	EC2012	IS2	4/33	35,29
EA3081	AM2	3/13	5,94	EB1020	AM2	3/13	2,63	EC2031	IS2	4/33	10,77
EA3081	IS2	4/45	5,94	EB1020	IS2	4/46	2,63	EC2040	IS2	4/33	14,34
EA4001	IS2	4/45	1,57	EB1041	AM2	3/22	0,55	EC2041	IS2	4/39	10,22
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EA4061	AM2	3/13	5,94	EB1042	AM2	3/22	0,88	EC2060	IS2	4/33	21,33
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EC2080FC6	IS2	4/34	21,33	ED3009	Gemini	1/16	0,39	EE1081	IS2	4/48	9,9
EC2080FC6	IS2	4/35	21,33	ED3017	Gemini	1/16	0,47	EE1810	IS2	4/50	26,55
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EC2080FV8	IS2	4/34	24,06	ED3066	Gemini	1/16	0,08	EE1860	IS2	4/50	17,61
EC2080FV8	IS2	4/35	24,06	ED3082	Gemini	1/16	0,25	EE1861	IS2	4/48	9,98
EC2080VC2	IS2	4/34	8,04	ED3090	Gemini	1/16	0,56	EE1862	IS2	4/47	15,84
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EC2081	IS2	4/39	20,43	ED3104	Gemini	1/16	0,30	EE1908	IS2	4/50	22,08
EC2210	IS2	4/33	38,78	ED3108	Gemini	1/16	0,00	EE1910	IS2	4/50	26,55
EC2211	IS2	4/39	28,09	ED3116	Gemini	1/16	0,05	EE2010	IS2	4/50	29,5
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EC2251	IS2	4/39	14,05	ED3280	Gemini	1/16	0,10	EE2040	IS2	4/49	2,05
EC2260	IS2	4/33	23,43	ED3298	Gemini	1/16	0,01	EE2041	IS2	4/48	7,03
EC2261	IS2	4/39	16,86	ED3355	Gemini	1/16	0,07	EE2051	IS2	4/48	9,07
EC2280	IS2	4/33	31,11	ED3363	Gemini	1/16	0,08	EE2052	IS2	4/47	14,75
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EC2280FC6	IS2	4/34	23,43	ED3413	Gemini	1/16	0,80	EE2062	IS2	4/47	17,7
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EC2280FV6	IS2	4/35	19,92	EE0260	IS2	4/49	2,58	EE2108	IS2	4/50	24,54
EC2280FV8	IS2	4/34	26,44	EE0280	IS2	4/49	3,59	EE2110	IS2	4/50	29,5
EC2280FV8	IS2	4/35	26,44	EE0340	IS2	4/49	2,16	EE2210	IS2	4/50	32,45
EC2280VC2	IS2	4/34	8,84	EE0355	IS2	4/49	2,86	EE2211	IS2	4/48	21,22
EC2280VC2	IS2	4/35	8,84	EE0360	IS2	4/49	3,56	EE2241	IS2	4/48	7,76
EC2280VC4	IS2	4/34	15,76	EE0380	IS2	4/49	4,95	EE2251	IS2	4/48	9,99
EC2280VC4	IS2	4/35	15,76	EE0440	IS2	4/49	3,24	EE2252	IS2	4/47	16,31
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ED2010S	IS2	4/35	17,79	EE0850	IS2	4/49	6,68	EE2406	IS2	4/47	0,62
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ED2944	Gemini	1/16	0,54	EE1041	IS2	4/48	5,13	EE6061	IS2	4/48	4,62
ED2951	Gemini	1/16	0,56	EE1050	IS2	4/49	9,48	EE8041	IS2	4/48	4,15
ED2951	Gemini	1/16	0,56	EE1051	IS2	4/48	6,32	EE8051	IS2	4/48	5,11

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EF1010	IS2	4/39	11,15	EF8012	IS2	4/39	8,75	EG1918	AM2	3/19	3,75
EF1011	IS2	4/39	8,93	EF8032	AM2	3/11	1,212	EG1918	IS2	4/58	3,75
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EF1040MT	AM2	3/11	3,165	EF8042	IS2	4/39	2,62	EG1999	IS2	4/58	3,96
EF1041	IS2	4/39	2,47	EF8050	AM2	3/11	3,5	EG2000	IS2	4/58	3,76
EF1042	IS2	4/39	3,45	EF8050	IS2	4/39	3,5	EG2000	IS2	4/58	3,76
EF1051	IS2	4/39	3,58	EF8050MT	AM2	3/11	3,498	EG2001	IS2	4/58	15,1
EF1052	IS2	4/39	4,89	EF8051	IS2	4/39	2,76	EG2003	IS2	4/58	24,65
EF1053	AM2	3/11	4,6	EF8052	IS2	4/39	3,72	EG2080	IS2	4/58	10,62
EF1053	IS2	4/39	4,6	EF8060	IS2	4/39	4,59	EG2200	IS2	4/58	4,13
EF1053MT	AM2	3/11	4,603	EF8061	IS2	4/39	3,71	EG2200	IS2	4/58	4,13
EF1060	IS2	4/39	6,04	EF8062	IS2	4/39	4,81	EG2201	IS2	4/58	16,61
EF1061	IS2	4/39	4,81	EF8080	IS2	4/39	6,78	EG2203	IS2	4/58	27,12
EF1062	IS2	4/39	6,33	EF8081	IS2	4/39	5,5	EG2280	IS2	4/58	11,73
EF1080	IS2	4/39	8,92	EF8082	IS2	4/39	7	EH0018	AM2	3/16	0,85
EF1081	IS2	4/39	7,15	EG0500	IS2	4/58	4	EH0018	IS2	4/54	0,85
EF1082	IS2	4/39	9,21	EG0900	IS2	4/58	4,8	EH0024	AM2	3/16	1,13
EF4010	IS2	4/39	3,12	EG1300	IS2	4/58	6,93	EH0024	IS2	4/54	1,13
EF4011	IS2	4/39	3,19	EG1800	IS2	4/58	3,38	EH0029	AM2	3/16	1,23
EF4012	IS2	4/39	3,99	EG1800	IS2	4/58	3,38	EH0029	IS2	4/54	1,23
EF4040	IS2	4/39	0,89	EG1801	IS2	4/58	13,59	EH0036	AM2	3/16	1,57
EF4041	IS2	4/39	0,75	EG1803	IS2	4/58	22,19	EH0036	IS2	4/54	1,57
EF4042	IS2	4/39	0,97	EG1880	IS2	4/58	9,5	EH0562	AM2	3/17	0,38
EF4050	IS2	4/39	1,29	EG1902	AM2	3/19	0,42	EH0562	IS2	4/56	0,38
EF4051	IS2	4/39	1,1	EG1902	IS2	4/58	0,42	EH0582	AM2	3/17	0,55
EF4052	IS2	4/39	1,37	EG1903	AM2	3/19	0,62	EH0582	IS2	4/56	0,55
EF4060	IS2	4/39	1,69	EG1903	IS2	4/58	0,62	EH1060	IS2	4/53	49,13
EF4061	IS2	4/39	1,33	EG1904	AM2	3/19	0,83	EH1061	IS2	4/53	14,19
EF4063	IS2	4/39	1,77	EG1904	IS2	4/58	0,83	EH1062	AM2	3/17	0,64
EF4080	IS2	4/39	2,5	EG1905	AM2	3/19	1,04	EH1062	IS2	4/56	0,64
EF4081	IS2	4/39	2,18	EG1905	IS2	4/58	1,04	EH1080	IS2	4/53	65,51
EF4082	IS2	4/39	2,58	EG1906	AM2	3/19	1,25	EH1081	IS2	4/53	18,92
EF6010	IS2	4/39	5,8	EG1906	IS2	4/58	1,25	EH1082	AM2	3/17	0,89
EF6011	IS2	4/39	4,79	EG1907	AM2	3/19	1,46	EH1082	IS2	4/56	0,89
EF6012	IS2	4/39	5,98	EG1907	IS2	4/58	1,46	EH1518	AM2	3/17	0,9
EF6032	AM2	3/11	0,854	EG1908	AM2	3/19	1,67	EH1518	IS2	4/56	0,9
EF6032MT	AM2	3/11	0,854	EG1908	IS2	4/58	1,67	EH1524	AM2	3/17	0,9
EF6040	AM2	3/11	1,65	EG1909	AM2	3/19	1,87	EH1524	IS2	4/56	0,9
EF6040	IS2	4/39	1,65	EG1909	IS2	4/58	1,87	EH1529	AM2	3/17	1,26
EF6040MT	AM2	3/11	1,645	EG1910	AM2	3/19	2,08	EH1529	IS2	4/56	1,26
EF6041	IS2	4/39	1,33	EG1910	IS2	4/58	2,08	EH1536	AM2	3/17	1,26
EF6043	IS2	4/39	1,8	EG1911	AM2	3/19	2,29	EH1536	IS2	4/56	1,26
EF6050	AM2	3/11	2,39	EG1911	IS2	4/58	2,29	EH1562	AM2	3/17	0,9
EF6050	IS2	4/39	2,39	EG1912	AM2	3/19	2,5	EH1562	IS2	4/56	0,9
EF6050MT	AM2	3/11	2,393	EG1912	IS2	4/58	2,5	EH1582	AM2	3/17	1,26
EF6051	IS2	4/39	1,93	EG1913	AM2	3/19	2,71	EH1582	IS2	4/56	1,26
EF6052	IS2	4/39	2,54	EG1913	IS2	4/58	2,71	EH1800	IS2	4/54	6,63
EF6060	IS2	4/39	3,14	EG1914	AM2	3/19	2,91	EH1889	AM2	3/18	0,21
EF6061	IS2	4/39	2,58	EG1914	IS2	4/58	2,91	EH1889	IS2	4/56	0,21
EF6062	IS2	4/39	3,29	EG1915	AM2	3/19	3,12	EH1890	AM2	3/18	0,13
EF6080	IS2	4/39	4,64	EG1915	IS2	4/58	3,12	EH1890	IS2	4/56	0,13
EF6081	IS2	4/39	3,83	EG1916	AM2	3/19	3,33	EH2000	IS2	4/54	7,41
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EH2024	IS2	4/56	1,17	EH3496	IS2	4/57	1,63	EK1050	IS2	4/31	35,08
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EH2029	IS2	4/56	1,63	EH4062	AM2	3/17	2,23	EK1060	IS2	4/31	38,77
EH2036	AM2	3/17	1,63	EH4062	IS2	4/56	2,23	EK1080	IS2	4/31	46,12
EH2036	IS2	4/56	1,63	EH4063	IS2	4/53	19,65	EK1240	IS2	4/31	37,35
EH2060	IS2	4/53	10,57	EH4064	AM2	3/18	3,38	EK1240R	IS2	4/73	18,675
EH2061	IS2	4/53	2,84	EH4064	IS2	4/57	3,38	EK1250	IS2	4/31	41,52
EH2062	AM2	3/17	1,17	EH4065	IS2	4/54	6,74	EK1250R	IS2	4/73	20,76
EH2062	IS2	4/56	1,17	EH4080	IS2	4/53	26,2	EK1260	IS2	4/31	45,73
EH2063	AM2	3/18	1,69	EH4081	IS2	4/53	7,57	EK1260R	IS2	4/73	22,865
EH2063	IS2	4/57	1,69	EH4082	AM2	3/17	3,1	EK1280	IS2	4/31	54,08
EH2065	IS2	4/54	3,37	EH4082	IS2	4/56	3,1	EK1280R	IS2	4/73	27,04
EH2066	IS2	4/53	6,56	EH4083	AM2	3/18	4,51	EK3010	IS2	4/31	27,26
EH2067	IS2	4/53	2,84	EH4083	IS2	4/57	4,51	EK3040	IS2	4/31	15,31
EH2081	IS2	4/53	3,78	EH4085	IS2	4/54	8,99	EK3050	IS2	4/31	16,94
EH2082	AM2	3/17	1,63	EH5060	IS2	4/53	24,57	EK3060	IS2	4/31	18,57
EH2082	IS2	4/56	1,63	EH5061	IS2	4/53	7,09	EK3080	IS2	4/31	21,81
EH2083	AM2	3/18	2,26	EH5062	AM2	3/17	2,75	EK4010	IS2	4/31	36,35
EH2083	IS2	4/57	2,26	EH5062	IS2	4/56	2,75	EK4010R	IS2	4/73	18,175
EH2085	IS2	4/54	4,5	EH5063	AM2	3/18	4,23	EK4040	IS2	4/31	20,41
EH2086	IS2	4/53	8,75	EH5063	IS2	4/57	4,23	EK4040R	IS2	4/73	10,205
EH2087	IS2	4/53	3,78	EH5080	IS2	4/53	32,75	EK4050	IS2	4/31	22,59
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EH2118	IS2	4/56	0,07	EH5082	AM2	3/17	3,83	EK4060	IS2	4/31	24,76
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EH2129	IS2	4/56	0,08	EH5084	AM2	3/18	5,64	EK4080	IS2	4/31	29,08
EH2180	IS2	4/53	14,1	EH5084	IS2	4/57	5,64	EK4080R	IS2	4/73	14,25
EH2200	IS2	4/54	8,19	EH6010	IS2	4/53	2,94	EK6010	IS2	4/31	51,52
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EH2272	IS2	4/57	1,17	EH6018	IS2	4/56	3,28	EK6040	IS2	4/31	24,07
EH2297	AM2	3/17	1,17	EH6025	AM2	3/17	3,28	EK6050	IS2	4/31	26,75
EH2297	IS2	4/57	1,17	EH6025	IS2	4/56	3,28	EK6050R	IS2	4/73	13,375
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EH2472	IS2	4/57	1,17	EH6029	IS2	4/56	4,57	EK6060R	IS2	4/73	14,715
EH3018	AM2	3/17	1,7	EH6036	AM2	3/17	4,57	EK6080	IS2	4/31	34,76
EH3018	IS2	4/56	1,7	EH6036	IS2	4/56	4,57	EK6080R	IS2	4/73	17,38
EH3029	AM2	3/17	2,26	EH6060	IS2	4/53	29,48	EK8010	IS2	4/31	61,24
EH3029	IS2	4/56	2,26	EH6061	IS2	4/53	8,51	EK8010R	IS2	4/73	30,62
EH3060	IS2	4/53	14,74	EH6062	AM2	3/17	3,28	EK8040	IS2	4/31	27,73
EH3061	IS2	4/53	4,26	EH6062	IS2	4/56	3,28	EK8050	IS2	4/31	30,92
EH3063	AM2	3/17	1,7	EH6063	AM2	3/18	5,08	EK8050R	IS2	4/73	15,46
EH3063	IS2	4/56	1,7	EH6063	IS2	4/57	5,08	EK8060	IS2	4/31	34,1
EH3064	AM2	3/18	2,54	EH6080	IS2	4/53	39,31	EK8080	IS2	4/31	40,44
EH3064	IS2	4/57	2,54	EH6082	AM2	3/17	4,57	EK8080R	IS2	4/73	20,22
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EH3080	IS2	4/53	19,65	EH6083	IS2	4/53	11,35	EL1811	IS2	4/38	23,59
EH3081	IS2	4/53	5,68	EH6084	AM2	3/18	6,77	EL1811	IS2	4/73	23,59
EH3082	AM2	3/17	2,36	EH6084	IS2	4/57	6,77	EL1840	IS2	4/38	18,62
EH3082	IS2	4/56	2,36	EH7262	IS2	4/53	2,84	EL1841	IS2	4/38	9,31
EH3083	AM2	3/18	3,38	EH7282	IS2	4/53	3,78	EL1841	IS2	4/73	9,31
EH3083	IS2	4/57	3,38	EH7284	IS2	4/53	3,78	EL1850	IS2	4/38	23,38
EH3085	IS2	4/54	6,74	EH8010	IS2	4/53	3,92	EL1851	IS2	4/38	11,69
EH3272	AM2	3/17	1,63	EH8060	IS2	4/53	39,31	EL1851	IS2	4/73	11,69
EH3272	IS2	4/57	1,63	EH8062	IS2	4/53	11,35	EL1860	IS2	4/38	28,14
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EL2041	IS2	4/73	10,34	EN0105	AM2	3/25	0,09	EP2240	IS2	4/38	11,94
EL2050	IS2	4/38	25,98	EN0105	IS2	4/67	0,09	EP2260	IS2	4/38	17,76
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EL2081	IS2	4/73	20,92	EN0325	IS2	4/67	1	ER3012	IS2	4/51	91,244
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EL2211	IS2	4/73	28,84	EN0482	IS2	4/67	5,41	ER3042	IS2	4/51	64,265
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EL2261	IS2	4/73	17,2	EN1250	IS2	4/67	1,65	ER3082	IS2	4/51	81,076
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EM1804	IS2	4/52	5,98	EN2250	AM2	3/25	1,65	ER6060	IS2	4/51	21,37
EM1805	IS2	4/32	15,85	EN2250	IS2	4/67	1,65	ER6080	IS2	4/51	27,39
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EM2001	IS2	4/32	8,74	EN2325	IS2	4/67	3,7	ER8050	IS2	4/51	23,73
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ES1805V	IS2	4/27	101,9	ES1860MF	IS2	4/29	92,15	ES1888C	IS2	4/30	115,18
ES1805VC2	IS2	4/28	111,73	ES1860V	IS2	4/27	85,37	ES1888FV2	IS2	4/28	109,86
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ES1806	IS2	4/25	110,357	ES1864C	IS2	4/30	80,82	ES1888MF	IS2	4/29	83,28
ES1806FV2	IS2	4/28	119,247	ES1864L	IS2	4/30	79,62	ES1888MF2	IS2	4/29	98,46
ES1806FV4	IS2	4/28	121,2	ES1864MF	IS2	4/29	62,15	ES1888V	IS2	4/27	87,04
ES1806MF2	IS2	4/29	101,552	ES1864V	IS2	4/27	70,67	ES1888VC2	IS2	4/28	106,98
ES1806MF4	IS2	4/29	107,224	ES1865	IS2	4/25	76,23	ES2000	IS2	4/25	132,74
ES1806V	IS2	4/27	105,588	ES1865C	IS2	4/30	90,43	ES2000MF2	IS2	4/29	128,54
ES1806VC2	IS2	4/28	115,421	ES1865L	IS2	4/30	89,23	ES2000MF4	IS2	4/29	134,81
ES1806VC4	IS2	4/28	115,767	ES1865MF	IS2	4/29	64,83	ES2000V	IS2	4/27	129,71
ES1808	IS2	4/25	117,71	ES1865V	IS2	4/27	73,35	ES2004	IS2	4/25	110,76
ES1808FV2	IS2	4/28	126,6	ES1866	IS2	4/25	78,91	ES2004FV2	IS2	4/28	123,06
ES1808FV4	IS2	4/28	128,4	ES1866C	IS2	4/30	93,11	ES2004FV4	IS2	4/28	124,07
ES1808MF2	IS2	4/29	117,71	ES1866L	IS2	4/30	91,91	ES2004MF2	IS2	4/29	103,59
ES1808MF4	IS2	4/29	114,6	ES1866MF	IS2	4/29	67,5	ES2004MF4	IS2	4/29	109,85
ES1808V	IS2	4/27	102,83	ES1866PC	IS2	4/30	92	ES2004V	IS2	4/27	108,03
ES1808VC2	IS2	4/28	122,77	ES1866V	IS2	4/27	76,03	ES2004VC2	IS2	4/28	118,85
ES1808VC4	IS2	4/28	123,12	ES1868	IS2	4/25	84,24	ES2004VC4	IS2	4/28	119,23
ES1810	IS2	4/26	125,66	ES1868C	IS2	4/30	98,44	ES2005FV2	IS2	4/28	127,11
ES1810B	IS2	4/25	125,66	ES1868L	IS2	4/30	97,24	ES2005FV4	IS2	4/28	128,08
ES1814	IS2	4/26	112,27	ES1868MF	IS2	4/29	72,83	ES2005MF2	IS2	4/29	107,65
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ES1815	IS2	4/26	114,75	ES1868V	IS2	4/27	81,36	ES2005V	IS2	4/27	112,09
ES1815B	IS2	4/25	114,75	ES1875	IS2	4/26	161,78	ES2005VC2	IS2	4/28	122,91
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ES1816B	IS2	4/25	115,2	ES1876	IS2	4/26	169,73	ES2006	IS2	4/25	118,14
ES1818	IS2	4/26	117,3	ES1876B	IS2	4/25	169,73	ES2006FV2	IS2	4/28	131,17
ES1818B	IS2	4/25	117,3	ES1878	IS2	4/26	175,65	ES2006FV4	IS2	4/28	122,78
ES1824	IS2	4/26	130,66	ES1878B	IS2	4/25	175,65	ES2006MF2	IS2	4/29	111,71
ES1824B	IS2	4/25	130,66	ES1880	IS2	4/25	106,66	ES2006MF4	IS2	4/29	117,97
ES1824FV4	IS2	4/28	128,28	ES1880MF	IS2	4/29	96,92	ES2006V	IS2	4/27	116,15
ES1824MF4	IS2	4/29	110,59	ES1880MF2	IS2	4/29	104,14	ES2006VC2	IS2	4/28	126,96
ES1824V	IS2	4/27	124,89	ES1880V	IS2	4/27	102,83	ES2006VC4	IS2	4/28	127,34
ES1824VC4	IS2	4/28	124,46	ES1884	IS2	4/25	88,27	ES2007	IS2	4/25	114,45
ES1825FV4	IS2	4/28	132,45	ES1884C	IS2	4/30	102,47	ES2008	IS2	4/25	125,49
ES1825MF4	IS2	4/29	114,76	ES1884FV2	IS2	4/28	97,16	ES2008FV2	IS2	4/28	123,82
ES1825V	IS2	4/27	129,06	ES1884L	IS2	4/30	101,27	ES2008FV4	IS2	4/28	124,72
ES1825VC4	IS2	4/28	128,63	ES1884MF	IS2	4/29	70,57	ES2008MF2	IS2	4/29	119,8
ES1826	IS2	4/26	139,04	ES1884MF2	IS2	4/29	85,75	ES2008MF4	IS2	4/29	126,06
ES1826B	IS2	4/25	139,04	ES1884V	IS2	4/27	84,44	ES2008V	IS2	4/27	113,11
ES1826FV4	IS2	4/28	136,67	ES1884VC2	IS2	4/28	94,27	ES2008VC2	IS2	4/28	135,05
ES1826MF4	IS2	4/29	118,97	ES1885	IS2	4/25	91,45	ES2008VC4	IS2	4/28	135,43
ES1826V	IS2	4/27	133,28	ES1885C	IS2	4/30	105,65	ES2010	IS2	4/26	135,37
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ES2024MF4	IS2	4/29	121,65	ES2078	IS2	4/26	175,26	ES2205V	IS2	4/27	123,3
ES2024V	IS2	4/27	137,38	ES2078B	IS2	4/25	175,26	ES2205VC2	IS2	4/28	135,2
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ES2025VC4	IS2	4/28	141,49	ES2084FV2	IS2	4/28	106,87	ES2206V	IS2	4/27	127,76
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ES2028MF4	IS2	4/29	140,05	ES2085MF	IS2	4/29	81,13	ES2208VC4	IS2	4/28	148,98
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ES2060	IS2	4/25	93,59	ES2086L	IS2	4/30	118,4	ES2216B	IS2	4/25	131,12
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ES2265MF	IS2	4/29	78,44	ET2010	IS2	4/33	29,99	EV1041	IS2	4/63	1,1
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ES2285VC2	IS2	4/28	117,92	EV1022	IS2	4/36	0,04	EV1090	IS2	4/64	0,88
ES2286C	IS2	4/30	131,69	EV1023	IS2	4/36	0,04	EV1091	AM2	3/22	0,88
ES2286FV2	IS2	4/28	125,26	EV1024	IS2	4/36	0,04	EV1091	IS2	4/64	0,88
ES2286L	IS2	4/30	130,24	EV1025	IS2	4/36	0,04	EV1092	AM2	3/22	0,55
ES2286MF	IS2	4/29	93,09	EV1026	IS2	4/36	0,04	EV1092	IS2	4/64	0,55
ES2286MF2	IS2	4/29	111,46	EV1027	IS2	4/36	0,04	EV1093	AM2	3/22	0,55
ES2286V	IS2	4/27	109,88	EV1028	IS2	4/36	0,04	EV1093	IS2	4/64	0,55

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EV1097	IS2	4/36	0,21	EV1146	IS2	4/63	0,02	EZ6001	IS2	4/41	18,46
EV1100	AM2	3/23	1,15	EV1150	IS2	4/66	0,1	EZ6002	AM2	3/11	4,4
EV1100	IS2	4/65	1,15	EV1151	IS2	4/66	0,1	EZ6002	IS2	4/40	4,4
EV1101	AM2	3/23	1,28	EV1152	IS2	4/66	0,1	EZ6002	IS2	4/40	4,4
EV1101	IS2	4/65	1,28	EV1153	IS2	4/66	0,1	EZ8000	AM2	3/11	3,74
EV1110	AM2	3/23	2,74	EV1154	IS2	4/66	0,1	EZ8000	IS2	4/40	3,74
EV1110	IS2	4/64	2,74	EV1155	IS2	4/66	0,01	EZ8000	IS2	4/40	3,74
EV1111	AM2	3/23	0,68	EV1156	IS2	4/66	0,07	EZ8001	IS2	4/41	24,74
EV1111	IS2	4/64	0,68	EV1157	IS2	4/66	0,24	EZ8002	AM2	3/11	6,62
EV1112	AM2	3/23	2,74	EV1160	IS2	4/37	0,85	EZ8002	IS2	4/40	6,62
EV1112	IS2	4/64	2,74	EV1800	IS2	4/73	1,74	EZ8002	IS2	4/40	6,62
EV1115	AM2	3/23	0,65	EV2000	IS2	4/73	1,93	FL3215	SR	2/10	0,6
EV1115	IS2	4/65	0,65	EV2110	AM2	3/23	0,558	FL3315	SR	2/10	0,9
EV1116	AM2	3/23	0,75	EV2110	IS2	4/64	0,558	FL3415	SR	2/10	1,2
EV1116	IS2	4/65	0,75	EV2112	AM2	3/23	0,558	FL4320	SR	2/10	1,3
EV1117	AM2	3/23	0,67	EV2112	IS2	4/64	0,558	FL4420	SR	2/10	1,8
EV1117	IS2	4/65	0,67	EV2200	IS2	4/73	2,12	FL4425	SR	2/10	2,4
EV1118	AM2	3/23	0,96	EX1860	IS2	4/55	21,56	FL4620	SR	2/10	2,8
EV1118	IS2	4/65	0,96	EX1880	IS2	4/55	30,18	FL6625	SR	2/10	3,7
EV1119	AM2	3/23	3,6	EX2060	IS2	4/55	23,96	FL7520	SR	2/10	2,4
EV1119	IS2	4/65	3,6	EX2080	IS2	4/55	33,54	FL7525	SR	2/10	3
EV1120	AM2	3/23	4,5	EX2260	IS2	4/55	26,35	FL8630	SR	2/10	4,6
EV1120	IS2	4/65	4,5	EX2280	IS2	4/55	36,89	FL8830	SR	2/10	6,4
EV1121	AM2	3/23	8,85	EZ1000	AM2	3/11	4,84	FOR01	AM2	3/25	0
EV1121	IS2	4/65	8,85	EZ1000	IS2	4/40	4,84	FOR02	AM2	3/25	0
EV1122	AM2	3/23	2,44	EZ1000	IS2	4/40	4,84	GD1520	IS2	4/55	0,8
EV1122	IS2	4/65	2,44	EZ1001	IS2	4/41	31,02	GD1530	IS2	4/55	1,79
EV1123	AM2	3/23	2,49	EZ1002	AM2	3/11	8,82	GD4006	SR	2/8	0,8
EV1123	IS2	4/65	2,49	EZ1002	IS2	4/40	8,82	GD6006	SR	2/8	0,9
EV1124	AM2	3/23	2,77	EZ1002	IS2	4/40	8,82	GD8006	SR	2/8	1
EV1124	IS2	4/65	2,77	EZ1010	AM2	3/11	3,83	GZ4020	SR	2/7	0,05
EV1125	AM2	3/23	2,77	EZ1010	IS2	4/40	3,83	GZ4025	SR	2/7	0,05
EV1125	IS2	4/65	2,77	EZ1020	AM2	3/11	2,38	GZ6025	SR	2/7	0,05
EV1130	AM2	3/23	5,89	EZ1020	IS2	4/40	2,38	GZ6030	SR	2/7	0,05
EV1130	IS2	4/65	5,89	EZ1030	IS2	4/40	0,59	GZ8030	SR	2/7	0,05
EV1131	AM2	3/23	5,89	EZ1040	AM2	3/11	0,88	KA1060	SR	2/6	25,5
EV1131	IS2	4/65	5,89	EZ1040	IS2	4/40	0,88	KA1080	SR	2/6	27,7
EV1135	AM2	3/18	0,24	EZ1200	AM2	3/11	5,804	KA1260	SR	2/6	29,4
EV1135	AM2	3/23	0,24	EZ1201	IS2	4/41	37,3	KA1280	SR	2/6	30,8
EV1135	IS2	4/57	0,24	EZ1202	AM2	3/11	10,588	KA5040	SR	2/6	20
EV1135	IS2	4/65	0,24	EZ1601	IS2	4/41	49,86	KA6040	SR	2/6	21,3
EV1136	AM2	3/18	0,16	EZ3000	IS2	4/40	1,16	KA7050	SR	2/6	22,8
EV1136	AM2	3/23	0,16	EZ3002	IS2	4/40	1,82	KA8060	SR	2/6	24
EV1136	IS2	4/57	0,16	EZ3011	AM2	3/11	1,06	KC1060	SR	2/6	21,2
EV1136	IS2	4/65	0,16	EZ3012	AM2	3/11	1,72	KC1080	SR	2/6	21,75
EV1137	AM2	3/23	0,24	EZ4000	IS2	4/40	1,54	KC1260	SR	2/6	21,9
EV1137	IS2	4/65	0,24	EZ4000	IS2	4/40	1,54	KC1280	SR	2/6	22,44
EV1140	IS2	4/64	0,19	EZ4001	IS2	4/41	12,18	KC5040	SR	2/6	17,38
EV1141	AM2	3/21	0,36	EZ4002	IS2	4/40	2,42	KC6040	SR	2/6	17,96
EV1141	IS2	4/63	0,36	EZ4002	IS2	4/40	2,42	KC7050	SR	2/6	19,16
EV1142	AM2	3/21	0,36	EZ4011	AM2	3/11	1,44	KC8060	SR	2/6	19,87
EV1142	IS2	4/63	0,36	EZ4012	AM2	3/11	2,31	KD1060	SR	2/8	2,4
EV1143	AM2	3/21	0,08	EZ5000	IS2	4/40	1,98	KD1080	SR	2/8	2,95
EV1143	IS2	4/63	0,08	EZ5002	IS2	4/40	3,52	KD1260	SR	2/8	3,2
EV1144	AM2	3/21	0,08	EZ5011	AM2	3/11	1,86	KD1280	SR	2/8	3,7
EV1144	IS2	4/63	0,08	EZ5012	AM2	3/11	3,23	KD5040	SR	2/8	1,69
EV1145	AM2	3/21	0,08	EZ6000	AM2	3/11	2,64	KD6040	SR	2/8	1,8
EV1145	IS2	4/63	0,08	EZ6000	IS2	4/40	2,64	KD8060	SR	2/8	2

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MD1200	AM2	3/16	3,7	PR7056	SR	2/10	5	SRE5320	SR-E	2/14	6,54
MD1400	AM2	3/16	4,23	PR8066	SR	2/10	6,2	SRE5415	SR-E	2/14	7,85
MD1600	AM2	3/16	4,78	PR8086	SR	2/10	8,5	SRE5420	SR-E	2/14	8,72
MD1800	AM2	3/16	5,32	PS2476	SR	2/8	1	SRE6415	SR-E	2/14	9,42
MD2000	AM2	3/16	5,87	PS2676	SR	2/8	1,3	SRE6420	SR-E	2/14	10,47
PB0803	IS2	4/61	0,4	PS2876	SR	2/8	1,8	TA1207	AM2	3/11	0,344
PB1603	IS2	4/61	1,11	PT1066	SR	2/10	10	TA5510	AM2	3/20	0,255
PC1406	SR	2/8	2,8	PT1086	SR	2/10	15	TA7100	AM2	3/20	0,187
PC1606	SR	2/8	1,29	PT1266	SR	2/10	16	TA9600	AM2	3/20	0,485
PC1806	SR	2/8	1,5	PT1286	SR	2/10	19	TA9601	AM2	3/20	0,965
PC2606	SR	2/8	2,5	PT5046	SR	2/10	7	TC1006	AM2	3/28	8,389
PC2806	SR	2/8	3	PT6046	SR	2/10	9	TC1006MT	AM2	3/15	8,493
PF1060	SR	2/6	9	PT7056	SR	2/10	9	TC1008	AM2	3/28	11,052
PF1080	SR	2/6	12	PT8066	SR	2/10	11	TC1008D	AM2	3/29	6,145
PF1260	SR	2/6	11	SR10625	SR	2/5	39,2	TC1008DMT	AM2	3/15	12,172
PF1280	SR	2/6	14,5	SR10625V	SR	2/5	28,2	TC1008MT	AM2	3/15	11,322
PF3020	SR	2/6	0,7	SR10630	SR	2/5	41,5	TC1008S	AM2	3/29	6,908
PF3030	SR	2/6	1,07	SR10630V	SR	2/5	30,6	TC1010	AM2	3/28	14,154
PF3040	SR	2/6	1,48	SR10830	SR	2/5	52,5	TC1010D	AM2	3/29	7,664
PF4030	SR	2/6	1,48	SR10830V	SR	2/5	38,5	TC1010DMT	AM2	3/15	15,215
PF4040	SR	2/6	2,05	SR12630	SR	2/5	46,4	TC1010MT	AM2	3/15	14,154
PF5030	SR	2/6	1,9	SR12630V	SR	2/5	34,2	TC1010S	AM2	3/29	8,648
PF5040	SR	2/6	2,62	SR12830	SR	2/5	56,1	TC1012D	AM2	3/29	8,389
PF6040	SR	2/6	3,34	SR12830V	SR	2/5	43	TC1012DMT	AM2	3/15	18,258
PF6040	SR	2/6	3,34	SR3215	SR	2/5	2,85	TC1012S	AM2	3/29	9,088
PF6060	SR	2/6	5,1	SR3315	SR	2/5	4,6	TC1016D	AM2	3/29	11,052
PF6256	C	6/10	9,96	SR3415	SR	2/5	5,7	TC1016DMT	AM2	3/15	24,344
PF6258	C	6/10	12,594	SR4315	SR	2/5	5,7	TC1016S	AM2	3/29	11,743
PF6260	C	6/10	15,22	SR4320	SR	2/5	6,4	TC1206	AM2	3/28	10,021
PF6262	C	6/10	17,858	SR4420	SR	2/5	7,9	TC1206MT	AM2	3/15	10,192
PF6266	C	6/10	23,122	SR4620	SR	2/5	11,1	TC1208	AM2	3/28	13,202
PF6278	C	6/10	6,45	SR5320	SR	2/5	7,5	TC1208D	AM2	3/29	7,534
PF6280	C	6/10	8,72	SR5420	SR	2/5	9,25	TC1208DMT	AM2	3/15	14,606
PF6282	C	6/10	9,14	SR5420V	SR	2/5	7,9	TC1208MT	AM2	3/15	13,584
PF6286	C	6/10	13,24	SR5425	SR	2/5	10,15	TC1208S	AM2	3/29	8,252
PF6346	C	6/10	9	SR5425V	SR	2/5	8,4	TC1210	AM2	3/28	16,908
PF6348	C	6/10	12	SR6420	SR	2/5	11,1	TC1210D	AM2	3/29	9,393
PF6350	C	6/10	15	SR6420V	SR	2/5	8,7	TC1210DMT	AM2	3/15	18,258
PF6352	C	6/10	18,5	SR6425	SR	2/5	11,8	TC1210MT	AM2	3/15	16,985
PF7050	SR	2/6	4,95	SR6425V	SR	2/5	9,75	TC1210S	AM2	3/29	10,332
PF8060	SR	2/6	6,97	SR6625	SR	2/5	24,7	TC1212D	AM2	3/29	10,021
PF8080	SR	2/6	9,4	SR7520	SR	2/5	23,2	TC1212DMT	AM2	3/15	21,907
PM1414	SR	2/8	2,4	SR7520V	SR	2/5	16,5	TC1212S	AM2	3/29	11,193
PM1625	SR	2/8	3	SR7525	SR	2/5	24,4	TC1406	AM2	3/28	11,653
PM1836	SR	2/8	3,7	SR7525V	SR	2/5	20	TC1406MT	AM2	3/15	11,891
PR1066	SR	2/10	8,5	SR8625	SR	2/5	32	TC1408	AM2	3/28	15,352
PR1086	SR	2/10	11,5	SR8625V	SR	2/5	24,8	TC1408D	AM2	3/29	8,529
PR1266	SR	2/10	10	SR8630	SR	2/5	33,6	TC1408DMT	AM2	3/15	17,046
PR1286	SR	2/10	13	SR8630V	SR	2/5	25,6	TC1408MT	AM2	3/15	15,848
PR3006	SR	2/10	1,5	SR8830	SR	2/5	42,2	TC1408S	AM2	3/29	9,594
PR3026	SR	2/10	1	SRE2215	SR-E	2/14	2,52	TC1410	AM2	3/28	19,661
PR3046	SR	2/10	1,7	SRE3215	SR-E	2/14	3,25	TC1410D	AM2	3/29	10,922
PR4036	SR	2/10	2,1	SRE3315	SR-E	2/14	4,3	TC1410DMT	AM2	3/15	21,301
PR4046	SR	2/10	2,61	SRE3415	SR-E	2/14	5,23	TC1410MT	AM2	3/15	19,913
PR4066	SR	2/10	3,5	SRE4215	SR-E	2/14	3,97	TC1410S	AM2	3/29	12,015
PR5036	SR	2/10	2,5	SRE4315	SR-E	2/14	5,23	TC1412D	AM2	3/29	11,653
PR5046	SR	2/10	3	SRE4415	SR-E	2/14	6,28	TC1412DMT	AM2	3/15	25,558
PR6046	SR	2/10	3,5	SRE4420	SR-E	2/14	6,98	TC1412S	AM2	3/29	12,624

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TC1606MT	AM2	3/15	13,589	TE1660	AM2	3/30	13,503	TM2004	AM2	3/8	56,743
TC1608	AM2	3/28	17,502	TE1680	AM2	3/30	17,736	TM2004FV5	AM2	3/9	56,743
TC1608D	AM2	3/29	9,723	TE1810	AM2	3/30	24,658	TM2024	AM2	3/9	63,994
TC1608DMT	AM2	3/15	19,475	TE1812	AM2	3/30	29,409	TM2063	AM2	3/8	37,549
TC1608MT	AM2	3/15	18,112	TE1860	AM2	3/30	15,156	TM2064	AM2	3/8	41,769
TC1608S	AM2	3/29	10,938	TE1880	AM2	3/30	19,907	TM2064V	AM2	3/10	42,532
TC1610	AM2	3/28	22,415	TE2010	AM2	3/30	27,347	TM2074	AM2	3/9	78,568
TC1610D	AM2	3/29	12,453	TE2012	AM2	3/30	32,616	TM2083	AM2	3/8	44,4
TC1610DMT	AM2	3/15	24,344	TE2060	AM2	3/30	16,808	TM2083FV4	AM2	3/9	44,4
TC1610MT	AM2	3/15	22,757	TE2080	AM2	3/30	22,077	TM2084	AM2	3/8	49,056
TC1610S	AM2	3/29	13,689	TE6031	AM2	3/20	2,013	TM2084FV4	AM2	3/9	49,056
TC1612D	AM2	3/29	13,285	TE6041	AM2	3/20	2,787	TM2084V	AM2	3/10	50,061
TC1612DMT	AM2	3/15	29,208	TE6051	AM2	3/20	3,562	TM2204	AM2	3/8	64,319
TC1612S	AM2	3/29	14,392	TE8031	AM2	3/20	2,818	TM2204FV5	AM2	3/9	64,319
TC1806	AM2	3/28	14,917	TE8041	AM2	3/20	3,902	TM2204V	AM2	3/10	65,856
TC1806MT	AM2	3/15	15,288	TE8051	AM2	3/20	4,987	TM2223	AM2	3/9	66,506
TC1808	AM2	3/28	19,652	TF1010	AM2	3/14	14,08	TM2224	AM2	3/9	72,505
TC1808D	AM2	3/29	10,918	TF1010MT	AM2	3/14	14,08	TM2263	AM2	3/8	42,692
TC1808DMT	AM2	3/15	21,909	TF1060	AM2	3/14	9,288	TM2264	AM2	3/8	47,384
TC1808MT	AM2	3/15	20,376	TF1060MT	AM2	3/14	9,288	TM2264V	AM2	3/10	48,295
TC1808S	AM2	3/29	12,284	TF1080	AM2	3/14	11,684	TM2283FV4	AM2	3/9	50,485
TC1810	AM2	3/28	25,169	TF1080MT	AM2	3/14	11,684	TM2284	AM2	3/8	55,613
TC1810D	AM2	3/29	13,982	TF1210	AM2	3/14	17,091	TM2284V	AM2	3/10	56,813
TC1810DMT	AM2	3/15	27,387	TF1210MT	AM2	3/14	17,091	TM2403	AM2	3/8	65,861
TC1810MT	AM2	3/15	25,602	TF1260	AM2	3/14	11,262	TM2404	AM2	3/8	71,895
TC1810S	AM2	3/29	15,183	TF1260MT	AM2	3/14	11,262	TM2404FV5	AM2	3/9	71,895
TC1812D	AM2	3/29	14,917	TF1280	AM2	3/14	14,176	TM2404V	AM2	3/10	73,682
TC1812DMT	AM2	3/15	32,859	TF1280MT	AM2	3/14	14,176	TM2405	AM2	3/8	77,929
TC1812S	AM2	3/29	16,025	TF1410	AM2	3/14	20,101	TM2405FV5	AM2	3/9	77,929
TC2006	AM2	3/28	16,549	TF1410MT	AM2	3/14	20,101	TM2424	AM2	3/9	81,016
TC2006MT	AM2	3/15	16,988	TF1460	AM2	3/14	13,236	TM2425	AM2	3/9	87,485
TC2008	AM2	3/28	21,802	TF1460MT	AM2	3/14	13,236	TM2463	AM2	3/8	48,835
TC2008MT	AM2	3/15	22,646	TF1480	AM2	3/14	16,668	TM2464	AM2	3/8	52,998
TC2010	AM2	3/28	27,686	TF1480MT	AM2	3/14	16,668	TM2464V	AM2	3/10	54,057
TC2010D	AM2	3/29	14,965	TF1610	AM2	3/14	23,111	TM2465	AM2	3/8	58,161
TC2010DMT	AM2	3/15	30,437	TF1610MT	AM2	3/14	23,111	TM2483	AM2	3/8	56,571
TC2010MT	AM2	3/15	28,445	TF1660	AM2	3/14	15,21	TM2483FV4	AM2	3/9	56,571
TC2010S	AM2	3/29	16,244	TF1660MT	AM2	3/14	15,21	TM2483V	AM2	3/10	57,966
TC2012D	AM2	3/29	16,549	TF1680	AM2	3/14	19,16	TM2484	AM2	3/8	62,169
TC2012DMT	AM2	3/15	36,512	TF1680MT	AM2	3/14	19,16	TM2484FV4	AM2	3/9	62,169
TC2012S	AM2	3/29	17,825	TF1810	AM2	3/14	26,198	TM2484V	AM2	3/10	63,565
TE1010	AM2	3/30	13,902	TF1810MT	AM2	3/14	26,198	TM2485	AM2	3/8	67,767
TE1012	AM2	3/30	16,58	TF1860	AM2	3/14	17,261	TM2485FV4	AM2	3/9	67,767
TE1016	AM2	3/30	21,938	TF1860MT	AM2	3/14	17,261	TM2604	AM2	3/8	79,471
TE1031	AM2	3/20	3,623	TF1880	AM2	3/14	21,729	TM2604FV5	AM2	3/9	79,471
TE1041	AM2	3/20	5,017	TF1880MT	AM2	3/14	21,729	TM2604V	AM2	3/10	81,509
TE1051	AM2	3/20	6,412	TF2010	AM2	3/14	29,208	TM2605	AM2	3/8	85,976
TE1060	AM2	3/30	8,545	TF2010MT	AM2	3/14	29,208	TM2605FV5	AM2	3/9	85,976
TE1080	AM2	3/30	11,223	TF2060	AM2	3/14	19,235	TM2624	AM2	3/9	89,527
TE1210	AM2	3/30	16,591	TF2060MT	AM2	3/14	19,235	TM2625	AM2	3/9	96,467
TE1212	AM2	3/30	19,787	TF2080	AM2	3/14	24,222	TM2663	AM2	3/8	52,979
TE1260	AM2	3/30	10,197	TF2080MT	AM2	3/14	24,222	TM2664	AM2	3/8	58,612
TE1280	AM2	3/30	13,394	TK1000	AM2	3/19	2,38	TM2664V	AM2	3/10	59,82
TE1410	AM2	3/30	19,28	TK1200	AM2	3/19	2,65	TM2665	AM2	3/8	64,246
TE1412	AM2	3/30	22,994	TK1400	AM2	3/19	2,93	TM2683	AM2	3/8	62,656
TE1460	AM2	3/30	11,85	TK1600	AM2	3/19	3,21	TM2684	AM2	3/8	68,725
TE1480	AM2	3/30	15,565	TK1800	AM2	3/19	3,48	TM2684FV4	AM2	3/9	68,725
TE1610	AM2	3/30	21,969	TK2000	AM2	3/19	3,76	TM2684V	AM2	3/10	70,316

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Code	Structure	Page	Weight	Code	Structure	Page	Weight	Code	Structure	Page	Weight
TM2685	AM2	3/8	70,795	TQ6610	SR	2/6	0,1	TU1001	IS2	4/60	15,166
TM2685FV4	AM2	3/9	74,795	TQ7050	SR	2/7	5	VA6930	AM2	3/24	0,5
TM2804	AM2	3/8	87,047	TQ8060	SR	2/7	7	VA6930	IS2	4/66	0,5
TM2804FV5	AM2	3/9	87,047	TQ8080	SR	2/7	9,5	VA6950	AM2	3/24	1,3
TM2804V	AM2	3/10	89,335	TS0060	AM2	3/22	2	VA6950	IS2	4/66	1,3
TM2805	AM2	3/8	94,023	TS0080	AM2	3/22	2,5	VA6990	AM2	3/24	1,87
TM2805V	AM2	3/10	96,311	TS0100	AM2	3/22	2	VA6990	IS2	4/66	1,87
TM2824	AM2	3/9	98,038	TS0120	AM2	3/22	2	VB7012	IS2	4/73	0,52
TM2825	AM2	3/9	105,449	TS0160	AM2	3/22	5,38	VB7012	C	6/11	0,52
TM2864	AM2	3/8	64,227	TS1003	AM2	3/13	0,451	VB7032	SR	2/10	0,52
TM2864V	AM2	3/10	65,583	TS1004	AM2	3/13	0,642	VB7032	IS2	4/73	0,52
TM2865	AM2	3/8	70,331	TS1005	AM2	3/13	0,833	VB7032	C	6/11	0,52
TM2865V	AM2	3/10	71,687	TS2003	AM2	3/13	0,923	VB7032EMC	IS2	4/99	0,52
TM2884	AM2	3/8	75,282	TS2004	AM2	3/13	1,215	VB7035	C	6/11	0,6
TM2884FV4	AM2	3/9	75,282	TS2005	AM2	3/13	1,607	VB9005	C	6/11	0,52
TM2884V	AM2	3/10	77,068	TS4000	IS2	4/64	2	VERN01	AM2	3/25	0
TM2885	AM2	3/8	81,822	TS4001	IS2	4/64	2,5	VERN02	AM2	3/25	0
TM2885V	AM2	3/10	83,609	TS4002	IS2	4/64	2	VS4235	IS2	4/69	10
TM2904	AM2	3/8	94,623	TS4003	IS2	4/64	2	VS6285	IS2	4/69	18
TM2904FV5	AM2	3/9	94,623	TS4004	IS2	4/64	5,38	VZ1000	IS2	4/68	50
TM2904V	AM2	3/10	97,161	TS4011	AM2	3/22	2	VZ1400	IS2	4/68	36
TM2905	AM2	3/8	102,07	TS4011	IS2	4/64	2	VZ1401	IS2	4/68	12
TM2905V	AM2	3/10	104,609	TS4012	AM2	3/22	2	VZ1450	IS2	4/68	52
TM2924	AM2	3/9	106,549	TS4012	IS2	4/64	2	VZ1550	IS2	4/68	35
TM2925	AM2	3/9	114,431	TS4013	AM2	3/22	2	VZ1700	IS2	4/68	56
TM2964	AM2	3/8	69,841	TS4013	IS2	4/64	2	VZ1850	IS2	4/68	35
TM2964V	AM2	3/10	71,345	TS6006	SR	2/9	1	VZ2000	IS2	4/68	40
TM2965	AM2	3/8	76,417	TS7006	SR	2/9	1	VZ2100	IS2	4/68	60
TM2965V	AM2	3/10	77,921	TS8006	SR	2/9	1	VZ8501	IS2	4/68	8
TM2984	AM2	3/8	81,838	TT1006	AM2	3/28	9,227	ZA1045	C	6/10	4,82
TM2984V	AM2	3/10	83,82	TT1008	AM2	3/28	12,157	ZA1051	C	6/10	5,22
TM2985	AM2	3/8	88,849	TT1206	AM2	3/28	11,023	ZA1145	C	6/10	7,82
TM2985V	AM2	3/10	90,831	TT1208	AM2	3/28	14,522	ZA1151	C	6/10	7,37
TP1030	AM2	3/22	7,606	TT1210	AM2	3/28	18,598	ZA1245	C	6/10	5,7
TP1040	AM2	3/22	9,005	TT1406	AM2	3/28	12,818	ZA1251	C	6/10	6,1
TP1050	AM2	3/22	10,617	TT1408	AM2	3/28	16,887	ZA1645	C	6/10	3,3
TP1230	AM2	3/22	8,81	TT1410	AM2	3/28	21,628	ZA1845	C	6/10	4
TP1240	AM2	3/22	10,418	TT1606	AM2	3/28	14,613	ZA1851	C	6/10	4,4
TP1250	AM2	3/22	12,26	TT1608	AM2	3/28	19,252	ZA2045	C	6/10	10,62
TP6030	AM2	3/22	5,193	TT1610	AM2	3/28	24,657	ZA2051	C	6/10	12,4
TP6040	AM2	3/22	6,179	TT1806	AM2	3/28	16,408	ZA2151	C	6/10	16,2
TP6050	AM2	3/22	7,314	TT1808	AM2	3/28	21,617	ZA2245	C	6/10	12,25
TP8030	AM2	3/22	6,399	TT1810	AM2	3/28	27,686	ZA2245	C	6/10	12,25
TP8040	AM2	3/22	7,592	TT2006	AM2	3/28	18,203	ZA2251	C	6/10	13,7
TP8050	AM2	3/22	8,963	TT2008	AM2	3/28	23,982	ZA2645	C	6/10	13
TQ1060	SR	2/7	9	TT2010	AM2	3/28	30,715	ZA2845	C	6/10	9,16
TQ1080	SR	2/7	12	TT2015	SR	2/9	0,9	ZA2851	C	6/10	11
TQ1260	SR	2/7	11	TT3015	SR	2/9	1	ZA3078	C	6/11	3,7
TQ1280	SR	2/7	14,5	TT3020	SR	2/9	1,2	ZA4020	SR	2/7	5,26
TQ3020	SR	2/7	0,7	TT4015	SR	2/9	1,8	ZA4025	SR	2/7	5,64
TQ3030	SR	2/7	1,1	TT4020	SR	2/9	2	ZA6025	SR	2/7	7,1
TQ3040	SR	2/7	1,5	TT4025	SR	2/9	1,8	ZA6030	SR	2/7	7,46
TQ4030	SR	2/7	1,5	TT5020	SR	2/9	2,5	ZA8030	SR	2/7	8,94
TQ4040	SR	2/7	2,1	TT5025	SR	2/9	2	ZU1100	IS2	4/41	8,351
TQ4060	SR	2/7	3,5	TT6020	SR	2/9	2,7	ZU1101	IS2	4/41	8,351
TQ5030	SR	2/7	2	TT6025	SR	2/9	2,5	ZU2100	IS2	4/41	13,983
TQ5040	SR	2/7	2,7	TT6030	SR	2/9	3,8	ZU2101	IS2	4/41	13,983
TQ6040	SR	2/7	3,5	TT8030	SR	2/9	4,5				
TQ6060	SR	2/7	5,5	TU1000	IS2	4/60	15,166				





Certificate N°OHS-015



Certificate N°1612/98/S



Certificate N° EMS-051



Certificate N°SGI004



Due to possible developments of standards as well as of materials, the characteristics and dimensions specified in the this document may only be considered binding after confirmation by ABB SACE.

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