



Technical catalogue

General Catalogue Enclosures for Automation

Power and productivity
for a better world™



Enclosures for automation

General Catalogue

Gemini switchboards

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SR2 Enclosures
SR2 EMC Enclosures

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AM2 Cabinets

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IS2 EMC Enclosures

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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 and to the new IEC 61439-1-2 Standard.

Their performances are the market reference ones: high IP degrees of protection (according to CEI EN 60529) and IK (according to IEC 62262), which allow installation in most industrial environments.

economically unbeatable.



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 enclosures 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!



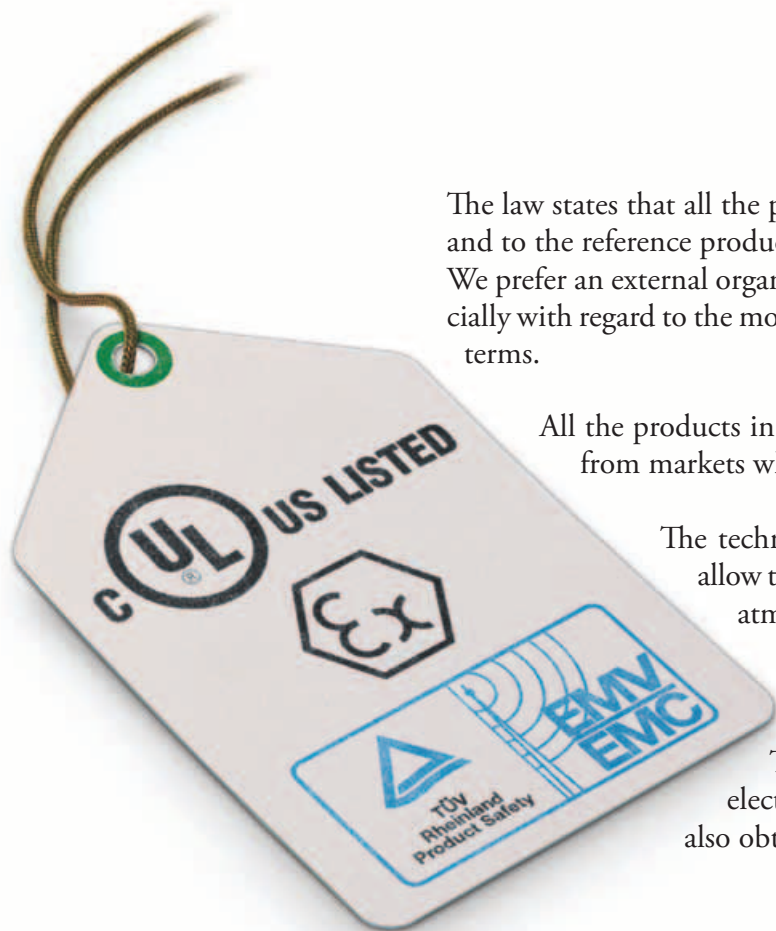
The safety provided by a certified product.

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.

CUSTOM MADE SERVICE is ABB's new service for automation metal structures, which, on request, are supplied painted, drilled and, where necessary, assembled according to the customer's specific requirements. All the components in the catalogue marked with the following stamp can use this service.



Painting



A shade of color other than the standard one (grey orange peel RAL 7035) 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 7/12 of this catalogue.

Customized drilling



CUSTOM MADE SERVICE 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 9/47 and the following.

Enclosure/Accessories assembly



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 already 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, as well as 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 of 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 fibreglass, a material that with time rises to the surface, jeopardizing operation and safety of switchboards made of 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	CEI EN 50298, CEI 23-48, CEI 23-49, IEC 60670, CEI EN 60439-1, CEI EN 62208 - IEC 61439-1-2
Rated service voltage	Ue 1000 V AC - 1500 V DC
Operating temperature	-25 °C ÷ +100 °C
Resistance to abnormal heat and fire	up to 750 °C
Degree of resistance to impacts	IK10 (IEC 62262)
Degree of protection (CEI EN 60529)	IP 30 open door IP 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 made of insulating material),

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

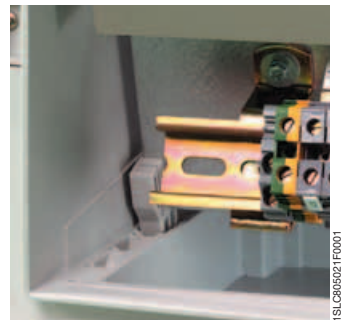
No tools are needed unless the inner door is equipped with pushbuttons, warning lights, etc.



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.



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



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

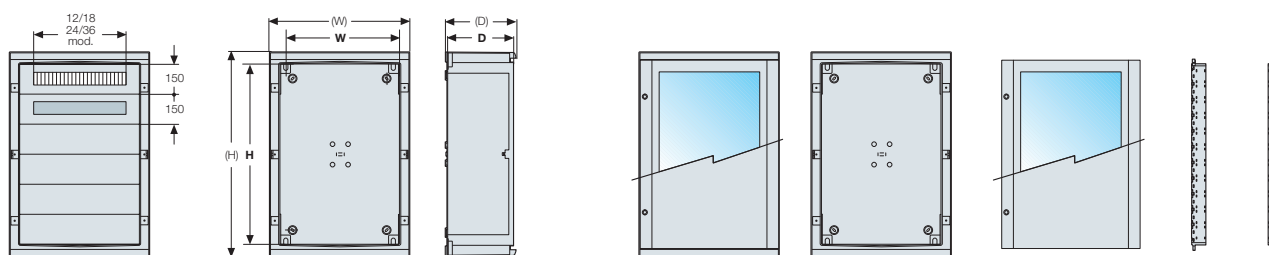


Example of a switchboard configuration for an automation application: some ABB control and protection devices are installed on the plate. The inner door is fitted with light signalling devices.

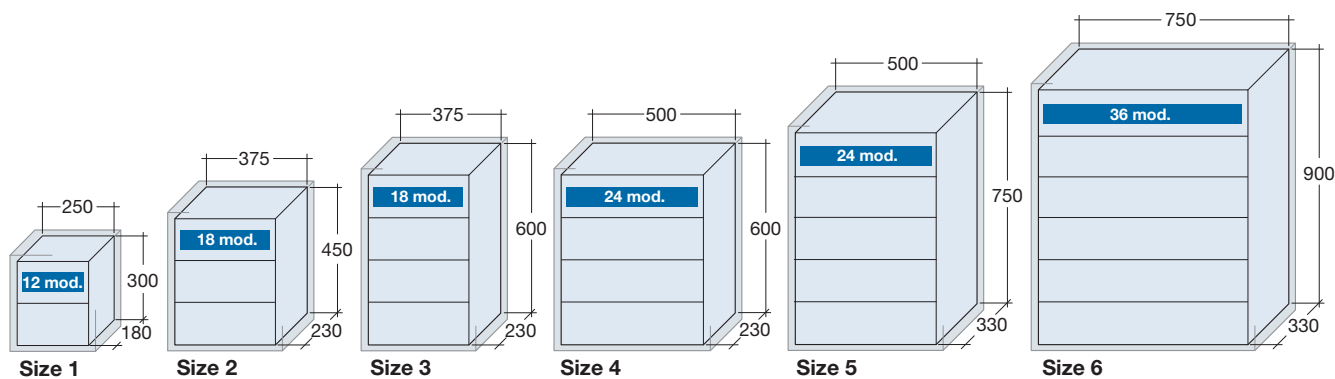
Gemini switchboards

Rapid selection table

Structures

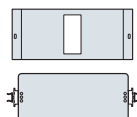
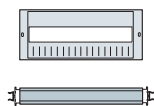


Size	No. of vertical mod. H=150mm	No. of DIN modules installable	External dimensions			Internal dimensions			Complete switchboard door		Box	Door		Uprights
			(H) mm	(W) mm	(D) mm	H mm	W mm	D mm	Transparent	Opaque		Transparent	Opaque	
1	2	24 (12x2)	400	335	210	300	250	180	1SL0211A00	1SL0201A00	1SL0221A00	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	580	260	600	500	230	1SL0214A00	1SL0204A00	1SL0224A00	1SL0244A00	1SL0234A00	1SL0285A00
5	5	120 (24x5)	855	585	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

Rapid selection table



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

Indications for 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 23-51 or 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	•	•	•	•	•
7	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
8	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
9	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
10	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
11	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
12	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
13	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
14	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
15	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
16	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
17	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
18	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
19	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
20	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
21	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
22	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
23	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
24	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
25	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
26	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
27	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
28	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
29	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
30	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
31	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
32	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
33	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
34	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
35	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
36	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
37	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
38	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
39	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
40	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
41	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
42	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
43	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
44	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
45	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
46	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
47	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
48	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
49	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		
50	D	•	•	•		
	K1	•	• (1)			
	K2		• (2)	•		

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

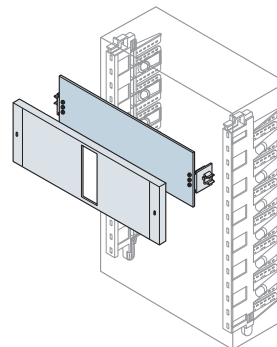
- • (1), Tmax T2 3 poles (with or without residual current release) and Tmax T2 4 poles (without residual current release)
- • (2), Tmax T2 4 poles (with residual current release)
- • (3), only version without residual current release
- • (4), only version with 3 poles

Gemini switchboards

Kit for installing apparatus

Horizontal installation

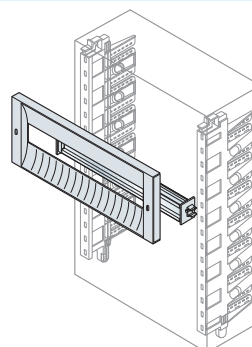
Kit for Tmax with pre-drilled holes



Fixed circuit-breaker with front terminals	N° 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+diff.le	3	300	1SL0370A00	1SL0371A00	1SL0372A00
Tmax T3	3-4	300	1SL0370A00	1SL0371A00	1SL0372A00

Vertical installation

Installation on DIN rail

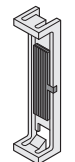
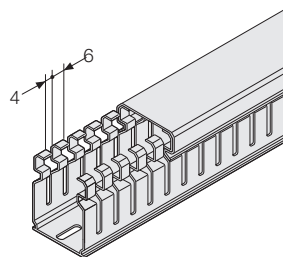
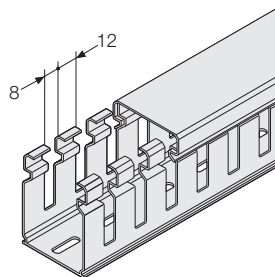


Fixed circuit-breaker with front terminals	N° poles	Dimensions H (mm)	Size			
			1	2/3	4/5	6
System Pro M compact modular apparatus		150	1SL0307A00	1SL0308A00	1SL0309A00	1SL0310A00
		225		1SL0313A00	1SL0314A00	1SL0315A00
Tmax T1-T2-T3	3-4	225		1SL0313A00	1SL0314A00	1SL0315A00

Gemini switchboards

Kit for installing apparatus

Wiring ducts



1

Wiring ducts

Base (mm)	H (mm)
15	17
	30
	40
25	60
	80
	100
	30
40	40
	60
	80
	100
	30
60	40
	60
	80
	100
	40
	60
80	80
	100
	40
	60
	80
100	100
	40
	80
	100
120	40
	80
150	100

8-12 mm slots	4-6 mm slots
05 019	05 119
05 033	05 133
05 043	05 143
05 063	05 163
05 083	05 183
05 094	05 194
05 035	05 135
05 045	05 145
05 065	05 165
05 085	05 185
05 095	05 195
05 037	05 137
05 047	05 147
05 067	05 167
05 087	05 187
05 096	05 196
05 049	05 149
05 069	05 169
05 089	05 189
05 097	05 197
05 051	05 151
05 071	05 171
05 091	05 191
05 098	05 198
05 053	05 153
05 093	05 193
05 099	05 199

Fix-O-rapid

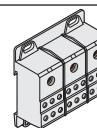
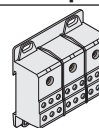
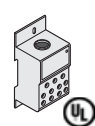
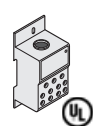
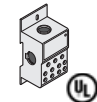
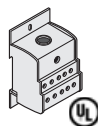
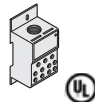
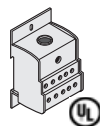
Rapid snap-on bases for DIN rail	Rapid snap-on bases for plate
-	-
05 250	05 270
05 252	05 272
05 254	05 274
05 256	05 276
05 258	05 278
05 260	05 280
05 262	05 282

Gemini switchboards

Distribution systems

Modular dividers

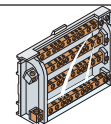
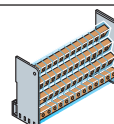
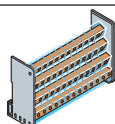
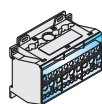
Single-pole



Code	AD1076	AD1080 ⁽¹⁾	AD1007	AD1081 ⁽²⁾	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 (mm²)	min. 10	6	16	10	35	95	10	16
	max. 35	35	70	70	120	185	35	70
N° outgoing feeder (mm²)	2.5÷10				4	4		
Ø cable	2.5÷16	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

Three-poles

Three-poles



Code	AD1004	AD1028	AD1029	AD1027
In (A)	125	125	125	160
Icw (kA)	10	4.2	4.2	6
Version	4	4	4	4
Installation	DIN35/plate	DIN35/plate	DIN35/plate	DIN35
Power supply Ø cable (mm²)	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 (mm²)	5 holes/phase Ø1.5÷16 2 holes/phase Ø1.5÷16 6 holes/neutral Ø1.5÷16 4 holes/neutral Ø1.5÷6 ²	2xØ6÷25 + cable terminal 2xØ6÷35 no cable terminal 9xØ6÷10	2xØ6÷25 + cable terminal 2xØ6÷35 no cable terminal 2xØ6÷16 9xØ6÷10	8xØ2.5÷16 3xØ6÷35
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

⁽¹⁾ possibility of putting in parallel with AD1083 connections.

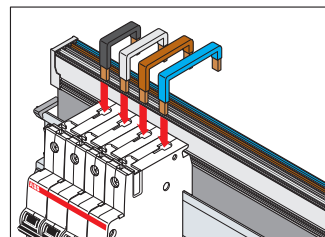
⁽²⁾ possibility of putting in parallel with comb type connections (not supplied).

Gemini switchboards

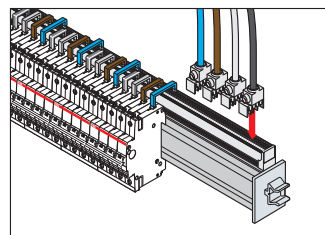
Distribution systems

Unifix L

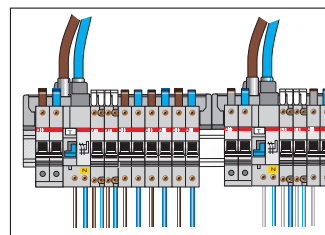
Technical characteristics		Unifix L
Rated service voltage (U_e)		400V AC
Rated insulation voltage (U_i)		500V AC
Rated impulse withstand voltage (U_{mp})		6kV
Rated frequency		50/60Hz
Rated current (I_n)	central power supply	100A
	lateral power supply	80A
Rated short-time withstand current (I_{cw})		
Maximum peak current (I_{pk})		100A
Maximum installable circuit-breaker size		
Conditioned short-circuit current (I_{cc})	Tmax T1	
	Tmax T2 N, S ⁽¹⁾	
	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		12/400
(N° modules/mm)		18/500
		24/600
		36/800



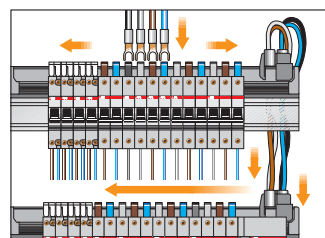
Connections (L1-L2-L3-N) for System Pro M modular apparatus.



Power supply of the busbar with 100A feeder module without cable. Terminal capacity 35mm².



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



Power supply by means of modules and cables in parallel.

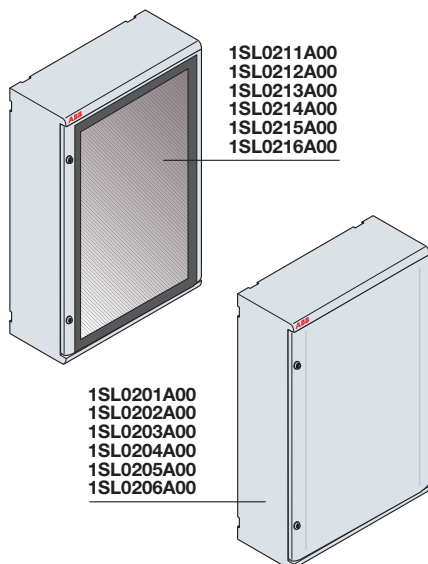
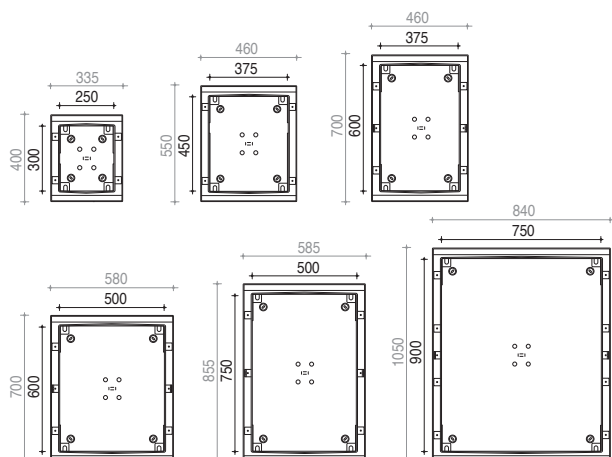
Table for selecting connections according to the circuit-breaker

Circuit-breaker series	Unifix L
SN201	ED3272 L1/N 40A
DS201	ED3280 L2/N 40A
	ED3298 L3/N 40A
S200	ED3033 L1 100A
F200	ED3041 L2 100A
	ED3058 L3 100A
	ED3066 N 100A
F660 - F670 - S280 (80-100A)	ED3132 Power supply L1/L2/L3/N - 350mm
E200 - RS370	ED0026 Power supply L1/L2/L3/N - 1500mm
	ED0025 Power supply L1/L2/L3/N - 2500mm
MDRC - Various apparatus	ED3108 Power supply 2 cables L1/N 16A
	ED3116 Power supply 3 cables L1/L2/L3 16A
	ED3124 Power supply 4 cables L1/L2/L3/N 16A
	ED3355 Power supply 2 cables L1/N 40A
	ED3363 Power supply 3 cables L1/L2/L3 40A
	ED3371 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

Ordering codes



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

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

Boxes and doors

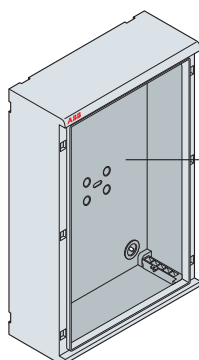
- Available in 6 sizes
- Single order code combined with box and transparent and opaque door
- Pack with door dismantled and wrapped separately
- Door designed so that it can be hooked onto hinges on both vertical sides and mounted without the use of tools
- To be mounted on the wall using internal holes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

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

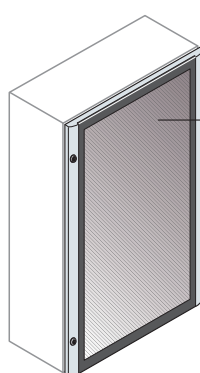
Size	Code	Description	Useful dimensions WxHxD (mm)	Unit/Pack
1	1SL0251A00	Inner door	250x300x180	1/4
2	1SL0252A00	Inner door	375x250x230	1/4
3	1SL0253A00	Inner door	375x600x230	1/2
4	1SL0254A00	Inner door	500x600x230	1/2
5	1SL0255A00	Inner door	500x750x330	1/2
6	1SL0256A00	Inner door	750x900x330	1/1

Gemini switchboards

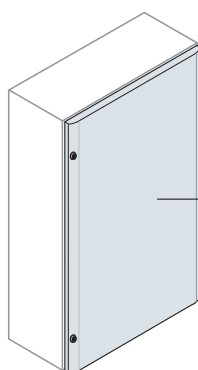
Ordering codes



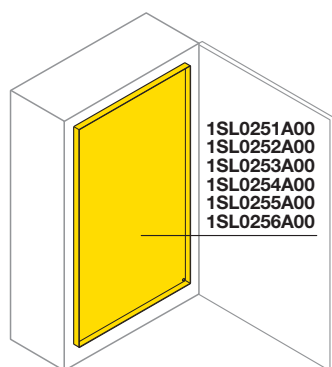
1SL0221A00
1SL0222A00
1SL0223A00
1SL0224A00
1SL0225A00
1SL0226A00



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	Front door	250x300x180	1/1
2	1SL0242A00 1SL0232A00	Front door	375x250x230	1/1
3	1SL0243A00 1SL0233A00	Front door	375x600x230	1/1
4	1SL0244A00 1SL0234A00	Front door	500x600x230	1/1
5	1SL0245A00 1SL0235A00	Front door	500x750x330	1/1
6	1SL0246A00 1SL0236A00	Front door	750x900x330	1/1

Inner doors

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

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

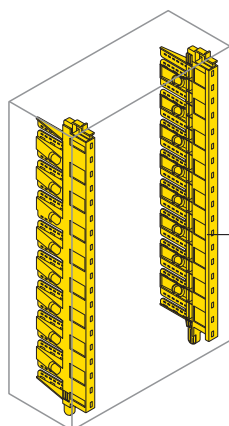
Fixing kit

- For fixing inner doors with screws

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

Gemini switchboards

Ordering codes

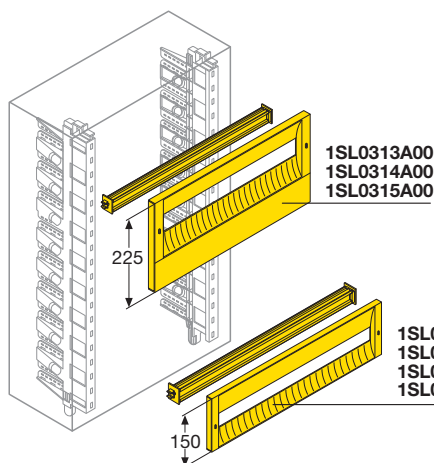


1SL0283A00
1SL0284A00
1SL0285A00
1SL0286A00
1SL0287A00

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



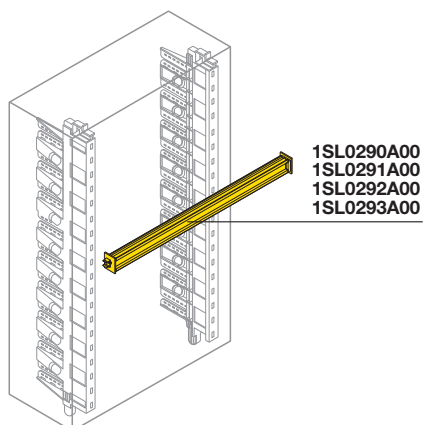
1SL0313A00
1SL0314A00
1SL0315A00

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

Size	Code	Description	N° mod. orizz.	Panel Dimensions	
				W (mm)	Conf./imb.
		1 module			
1	1SL0307A00	Panel + DIN rail	12	250	1/8
2/3	1SL0308A00 1SL0313A00	Panel + DIN rail	18	375	1/8
4/5	1SL0309A00 1SL0314A00	Panel + DIN rail	24	500	1/4
6	1SL0310A00 1SL0315A00	Panel + DIN rail	36	700	1/2



1SL0290A00
1SL0291A00
1SL0292A00
1SL0293A00

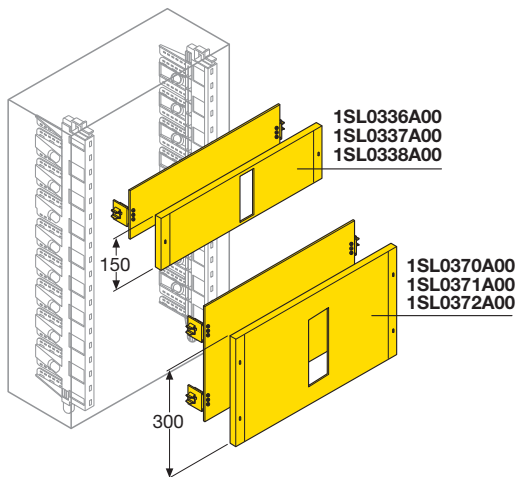
DIN rail

- 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 mod. W (mm)	Unit/pack
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

Ordering codes

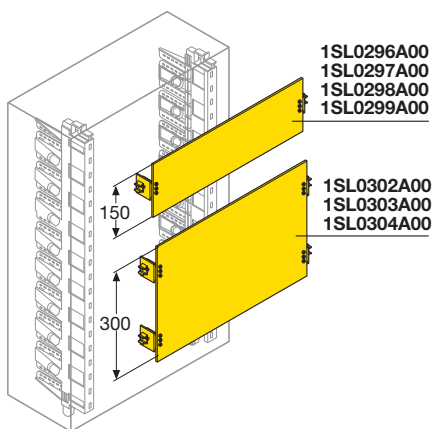


Kit for installing Tmax moulded-case circuit breakers

- 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 release), Tmax T1 4 poles (with and without residual current release), Tmax T2 3 poles (with and without residual current release), Tmax T2 4 poles (without residual current release)
- Version H 300 with drillings for Tmax T2 4 poles (with residual current release), Tmax T3 3 poles (with and without residual current release), Tmax T3 4 poles (with and without residual current release)
- 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 on page 1/5.



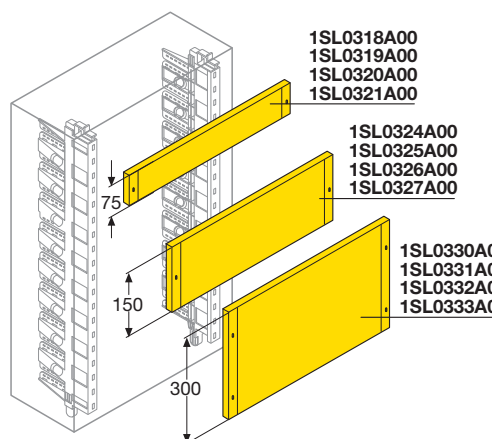
Partial modular plates

- 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	210	1/6
2/3	1SL0297A00	Modular base plate	318	1/4
4/5	1SL0298A00	Modular base plate	443	1/4
6	1SL0299A00	Modular base plate	663	1/2
2 modules H=300mm				
2/3	1SL0302A00	Modular base plate	318	1/4
4/5	1SL0303A00	Modular base plate	443	1/4
6	1SL0304A00	Modular base plate	663	1/2

Gemini switchboards

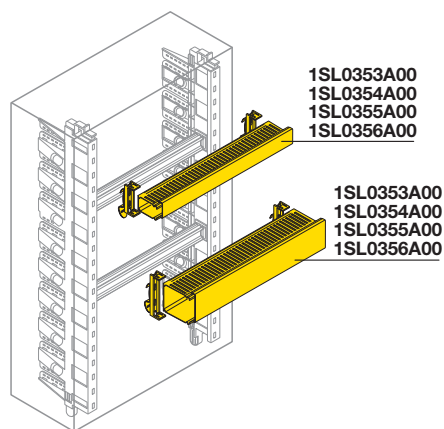
Ordering codes



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 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 modules 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



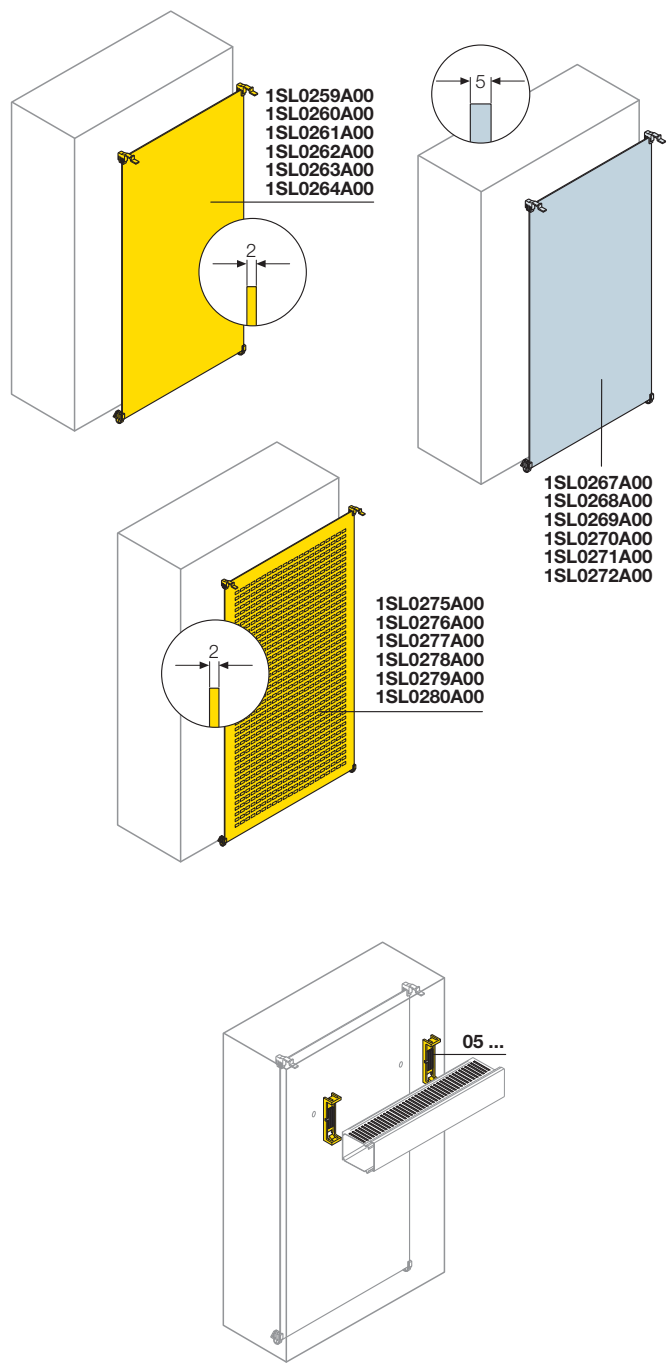
Wiring kit

- 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

			Dimensions		
Size	Code	Description	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

Ordering codes



Base plates

- Available in three versions made of 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
	Blank metal	Drilled metal	Insulating material			
1	1SL0259A00	1SL0275A00	1SL0267A00	Base plate	250x300x180	1/6
2	1SL0260A00	1SL0276A00	1SL0268A00	Base plate	375x450x230	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

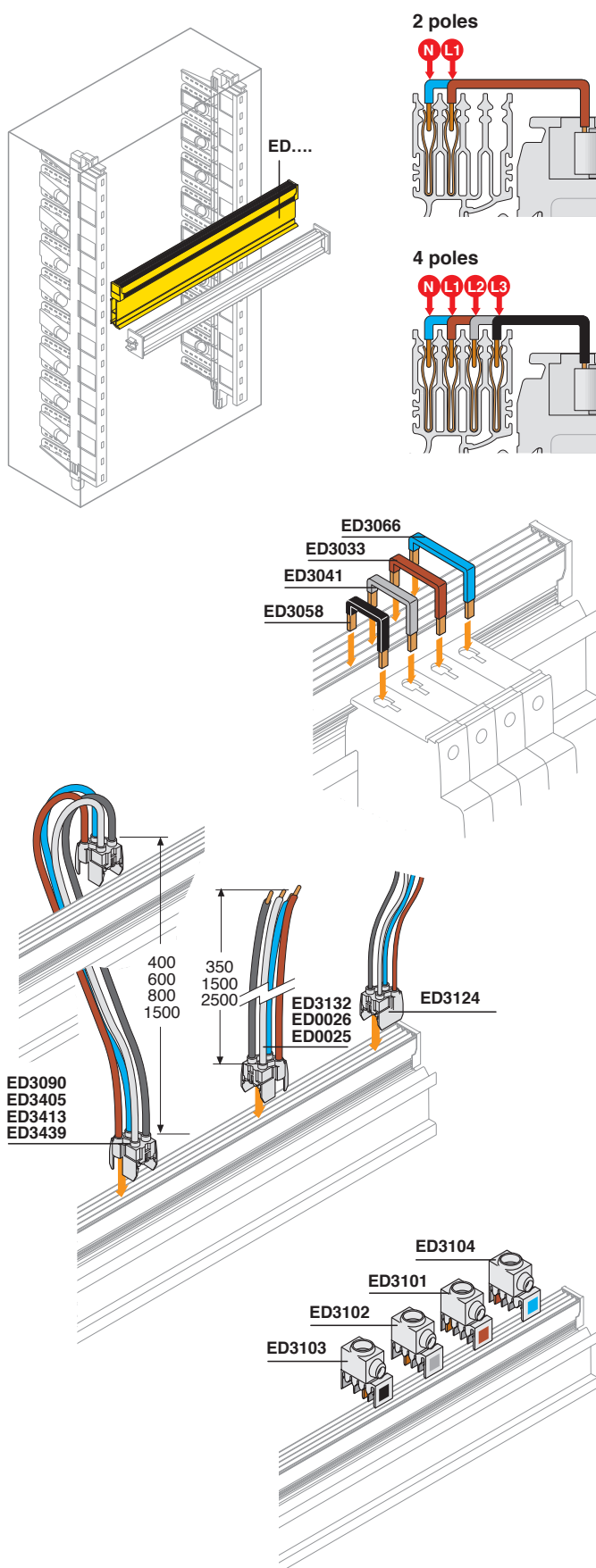
Fix-O-Rapid

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 components 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.

Codice	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

Ordering codes



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

Code	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

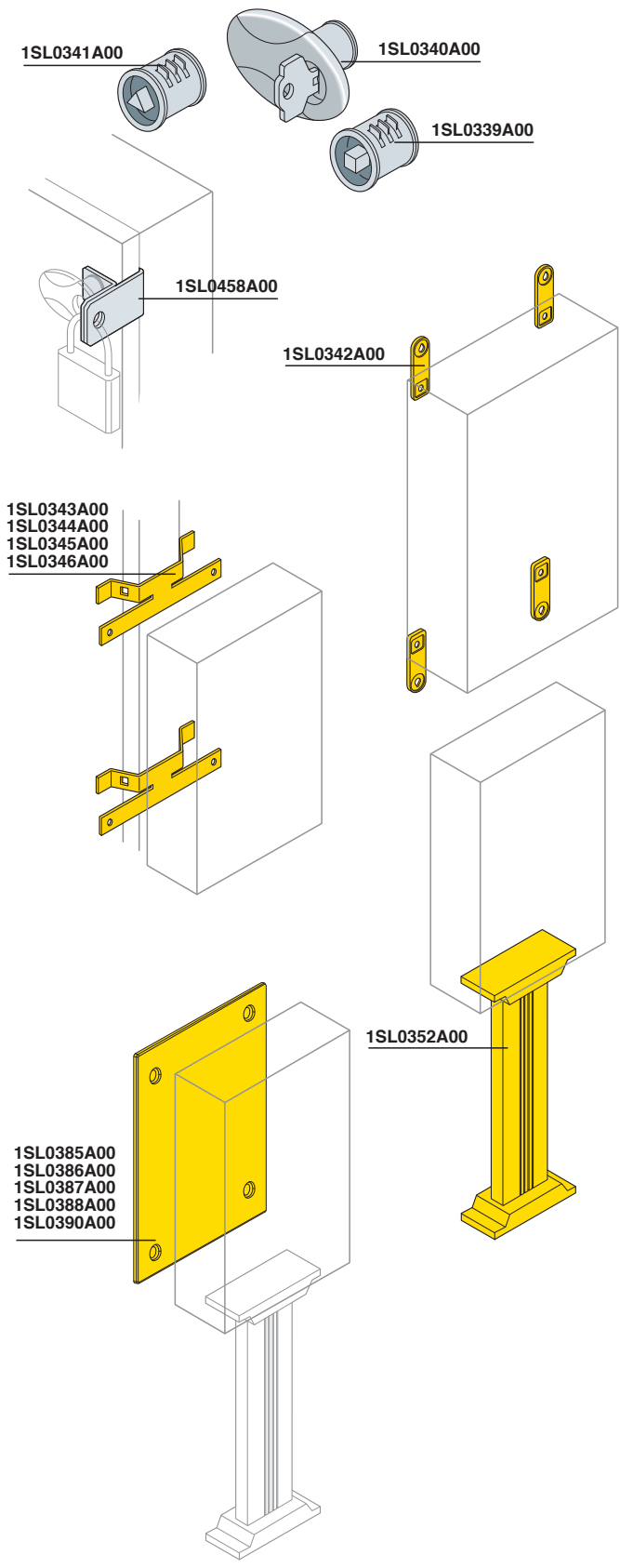
Code	Description	Unit/pack
ED3082	Parallel module 2P 100A with cable	1/6
ED3405	Parallel module 4P 100A with cable	1/6
ED3090	Parallel module 4P 100A with cable	1/6
ED3413	Parallel module 4P 100A with cable	1/6
ED3439	Parallel module 4P 100A with cable	1/6

Power supply modules without cable In 100A

Code	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 coded key and handle	1/10
1SL0341A00	Lock with triangular impression	1/10
1SL0339A00	Lock with square impression	1/10
1SL0458A00	Kit for vandalproof closure	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

(*) types of inserts are provided to adapt the ø 6 and 8 mm fixing brackets.

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
5	1SL0388A00	Back plugging plate	1/2
6	1SL0390A00	Back plugging plate	1/2

Gemini switchboards

Accessories

Coupling kit

Follows the aesthetic outline of the boxes. On 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

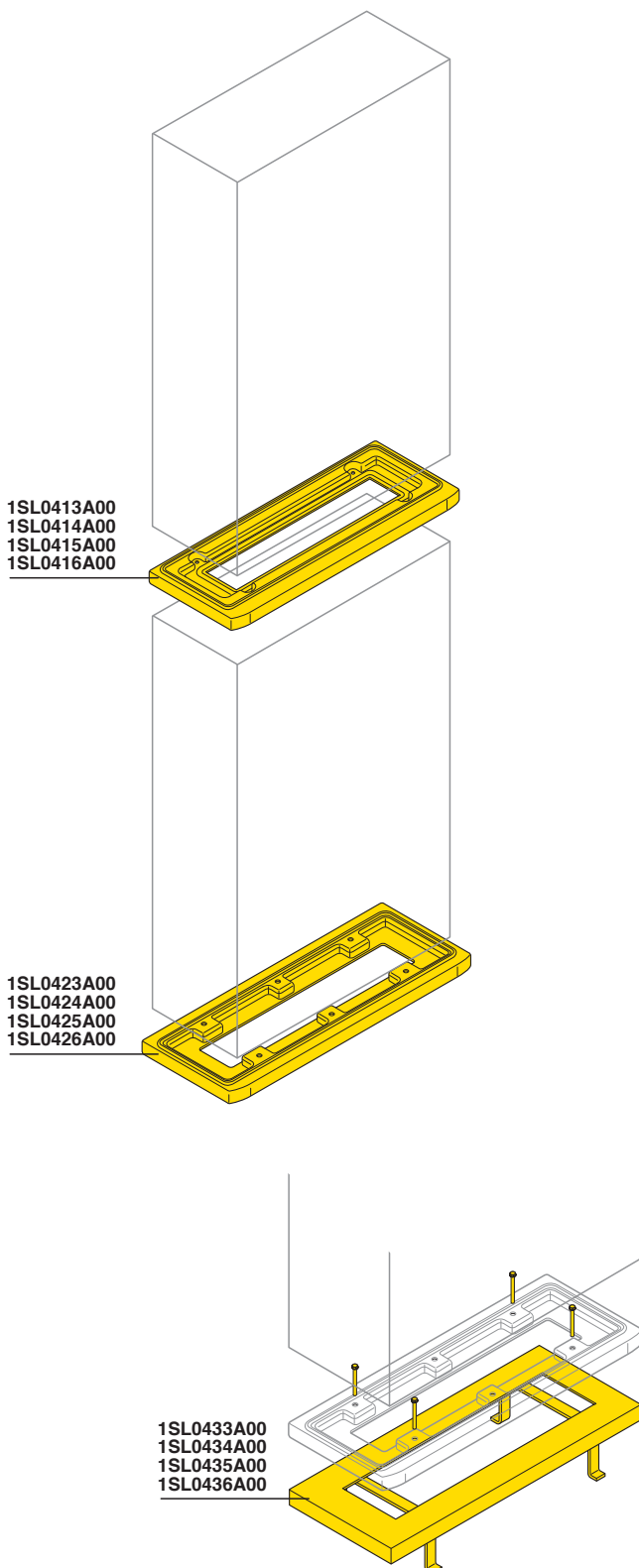
For fixing the Gemini switchboard directly to the floor.

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

Fixed frame

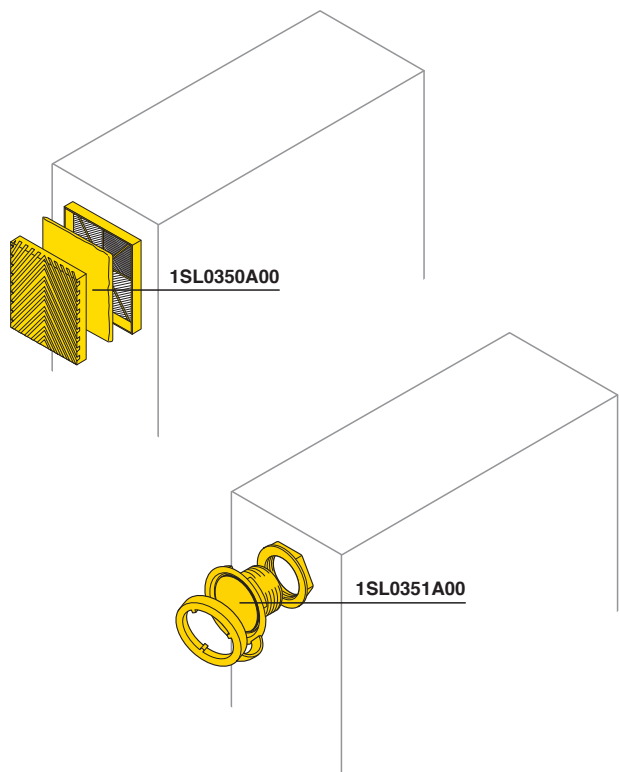
In combination with bottom base H 30. For fixing onto poured concrete floors and bases.

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 gratings 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 made of special material to prevent condensation from forming inside the switchboard: it includes **GORE™ MEMBRANE VENTING**
- Impermeable to water (pressure): 0.6 bar/60 sec.
- Air flow: 400 ml/min. (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 depends on the number and type of devices installed inside the switchboard.

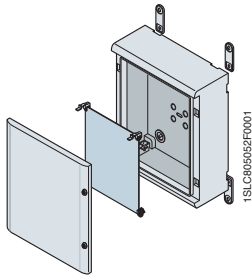
Code	Description	Unit/Pack
1SL0351A00	Anti-condensation kit	1/6

Other accessories

Code	Description	Unit/Pack
12 849	Universal drill bit	1/30
12 863	Module covers in grey RAL 7035, 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
1SL0397A00	Small bag with screws and inserts	1/10
1SL0383A00	Small bag for fixing base plates	1/10

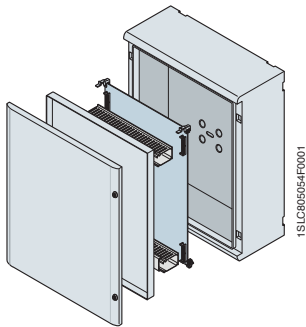
Gemini switchboards

Examples of configurations



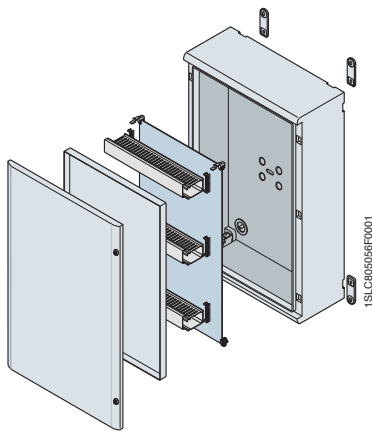
Gemini Switchboard Size 1
Dim.300x250x180 (400x335x210)mm (external hxwxd) IP66

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



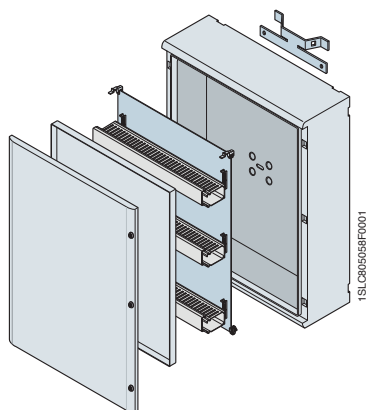
Gemini Switchboard Size 3
Dim.600x375x230 (700x460x260)mm (external hxwxd) IP66

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

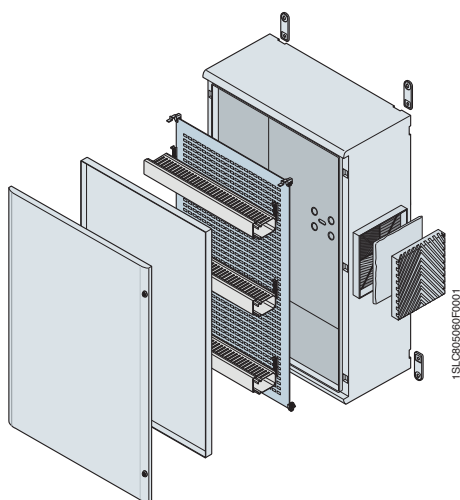
Gemini switchboards

Examples of configurations



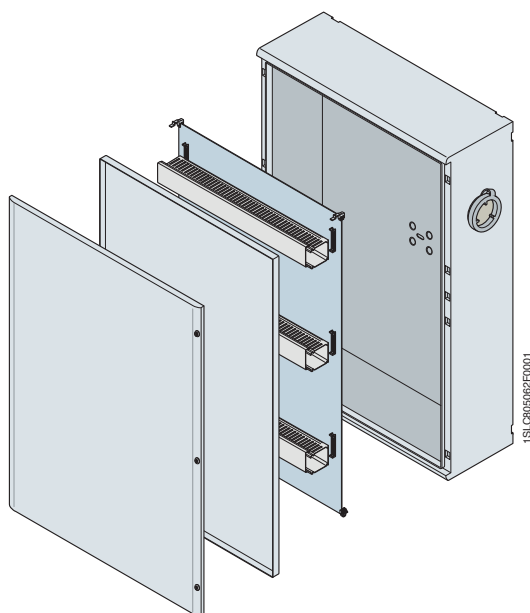
Gemini Switchboard Size 4
Dim.600x500x230 (700x590x260)mm (external hxwxd) IP66

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



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SR2 EMC Enclosures

General characteristics and ordering codes	2/11
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SR2 Enclosures

General characteristics

The range of SR2 enclosures is a complete offer of monobloc enclosures for constructing small and medium-sized electric automation, switching and control switchboards.

The SR2 enclosures come from the experience ABB has gained over the years in building IP65 metal structures (in accordance with the CEI EN 60529 Standard), together with the innovative new production process used for construction and patented by ABB.

The typical use of SR2 Enclosures is to make switchgear and controlgear switchboards for a very wide variety of industrial machines: from large machinery with automated production lines or parts of these, down to the typical installations of on-board machine switchboards, boilers, heating plants and so on.

They conform to the EN 62208 Standard "Empty enclosures for low voltage protection switchgear and controlgear assemblies" and allow realization of electrical equipment conforming to the prescriptions of the CEI EN 60204-1 Standard "Safety of machinery. Electrical equipment of machines" and of the EN 60439-1 Standard and the new EN 61439-1-2 Standard "Low voltage protection switchgear and controlgear for assemblies". The degree of protection, in accordance with the CEI EN 60529 Standard "Degrees of protection of enclosures (IP Code)", is IP65.

The SR2 enclosures have also passed the control required to obtain the UL (Underwriters Laboratories) and CSA (Canadian Standards Association) Type 12 marks.

The SR2 enclosures also allow secondary distribution switchboards 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 AS/ANS type electrical switchgear conforming to the CEI EN 60439-1 Standard and the new EN 61439-1-2 Standard. A single line of metalwork structures therefore allows construction of automation and secondary and end distribution electrical switchboards thanks to the availability of a series of accessories (modular panels, DIN rails) and to the possibility of stacking the enclosures.

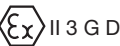


The SR2 enclosures have been designed to fulfil all the typical needs of the builder or installer of switchgear in the best way possible and the user is presented with a unique ensemble of functional characteristics:

- 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 15/10 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 7035 orange peel. On request, the SR2 enclosures can be ordered in a wide range of RAL colours (see page 7/12).

Technical characteristics

Conformity with the Standard	CEI EN 62208, CEI EN 60439-1, IEC 61439-1-2
Degree of protection	IP65 (CEI EN 60529) TYPE 12 (UL Standard)
Degree of mechanical strength	IK10 blind door IK09 glazed door (IEC 62262)
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

SR2 Enclosures

General characteristics

The SR2 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.

Both the enclosures with glazed door or 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 by means of the same holes 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.

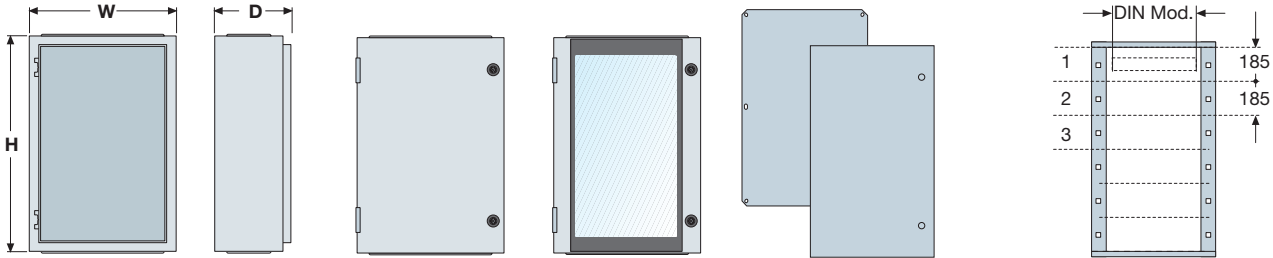


The range is completed with a series of accessories: brackets for wall assembly, rain shield top cover, locks of various types, internal document pocket, spacers, and spray paint for touching up. Installation on the floor is possible using the plinth ZA....

SR2 Enclosures

Selection table

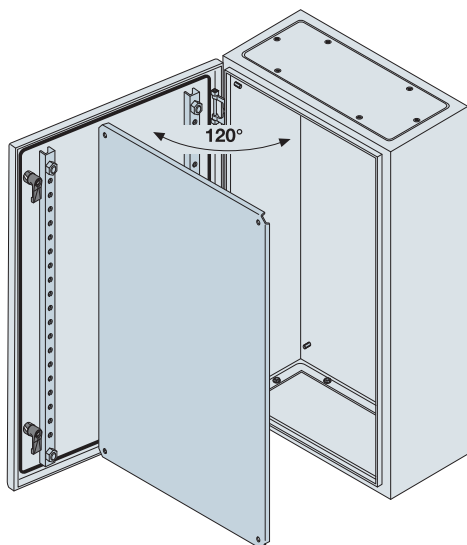
Selection table



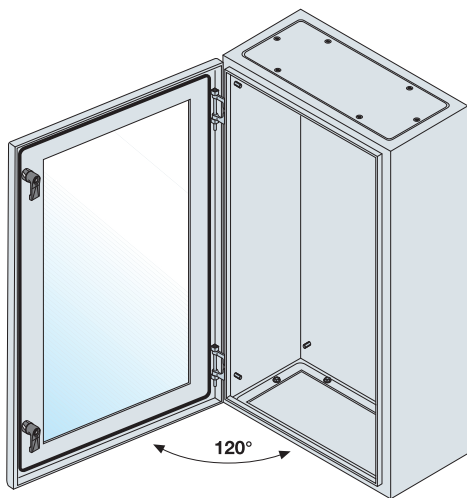
Overall dimensions			Enclosures with blind door + back plate	Enclosure with glazed door	Kit for automation		Kit for distribution Supports for mounting modular panels			
H mm	W mm	D mm			Blind counterdoor IP20	Back plate	N° vertical mod. H=185mm	N° DIN mod. per row	Total modules	DIN Supports
300	200	150	SRN3215K							
	300		SRN3315K							
	400		SRN3415K							
400	300	150	SRN4315K							
	300		SRN4320K							
	400	200	SRN4420K							
	600		SRN4620K							
500	300	200	SRN5320K							
	400		SRN5420K	SRN5420VK	KC5040K	PF5040	2	14	28	KD5040K
	400	250	SRN5425K	SRN5425VK	KC5040K	PF5040	2	14	28	KD5040K
600	400	200	SRN6420K	SRN6420VK	KC6040K	PF6040	3	14	42	KD6040K
	400		SRN6425K	SRN6425VK	KC6040K	PF6040	3	14	42	KD6040K
	600	250	SRN6625K							
700	500	200	SRN7520K	SRN7520VK	KC7050K	PF7050				
	500	250	SRN7525K	SRN7525VK	KC7050K	PF7050				
800	600	250	SRN8625K	SRN8625VK	KC8060K	PF8060	4	25	100	KD8060K
	600	300	SRN8630K	SRN8630VK	KC8060K	PF8060	4	25	100	KD8060K
	800		SRN8830K							
1000	600	250	SRN10625K	SRN10625VK	KC1060K	PF1060	5	25	125	KD1060K
	600	300	SRN10630K	SRN10630VK	KC1060K	PF1060	5	25	125	KD1060K
	800		SRN10830K	SRN10830VK	KC1080K	PF1080	5	36	180	KD1080K
1200	600	300	SRN12630K	SRN12630VK	KC1260K	PF1260	6	25	150	KD1260K
	800		SRN12830K	SRN12830VK	KC1280K	PF1280	6	36	216	KD1280K

SR2 Enclosures

Ordering codes



Enclosures of height ≤500mm have an only closing box.



Enclosures of height ≤500mm have an only closing box.

SR2 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)
SRN3215K	Enclosure with blind door + back plate	300x200x150
SRN3315K	Enclosure with blind door + back plate	300x300x150
SRN3415K	Enclosure with blind door + back plate	300x400x150
SRN4315K	Enclosure with blind door + back plate	400x300x150
SRN4320K	Enclosure with blind door + back plate	400x300x200
SRN4420K	Enclosure with blind door + back plate	400x400x200
SRN4620K	Enclosure with blind door + back plate	400x600x200
SRN5320K	Enclosure with blind door + back plate	500x300x200
SRN5420K	Enclosure with blind door + back plate	500x400x200
SRN5425K	Enclosure with blind door + back plate	500x400x250
SRN6420K	Enclosure with blind door + back plate	600x400x200
SRN6425K	Enclosure with blind door + back plate	600x400x250
SRN6625K	Enclosure with blind door + back plate	600x600x250
SRN7520K	Enclosure with blind door + back plate	700x500x200
SRN7525K	Enclosure with blind door + back plate	700x500x250
SRN8625K	Enclosure with blind door + back plate	800x600x250
SRN8630K	Enclosure with blind door + back plate	800x600x300
SRN8830K	Enclosure with blind door + back plate	800x800x300
SRN10625K	Enclosure with blind door + back plate	1000x600x250
SRN10630K	Enclosure with blind door + back plate	1000x600x300
SRN10830K	Enclosure with blind door + back plate	1000x800x300
SRN12630K	Enclosure with blind door + back plate	1200x600x300
SRN12830K	Enclosure with blind door + back plate	1200x800x300

SR2 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:

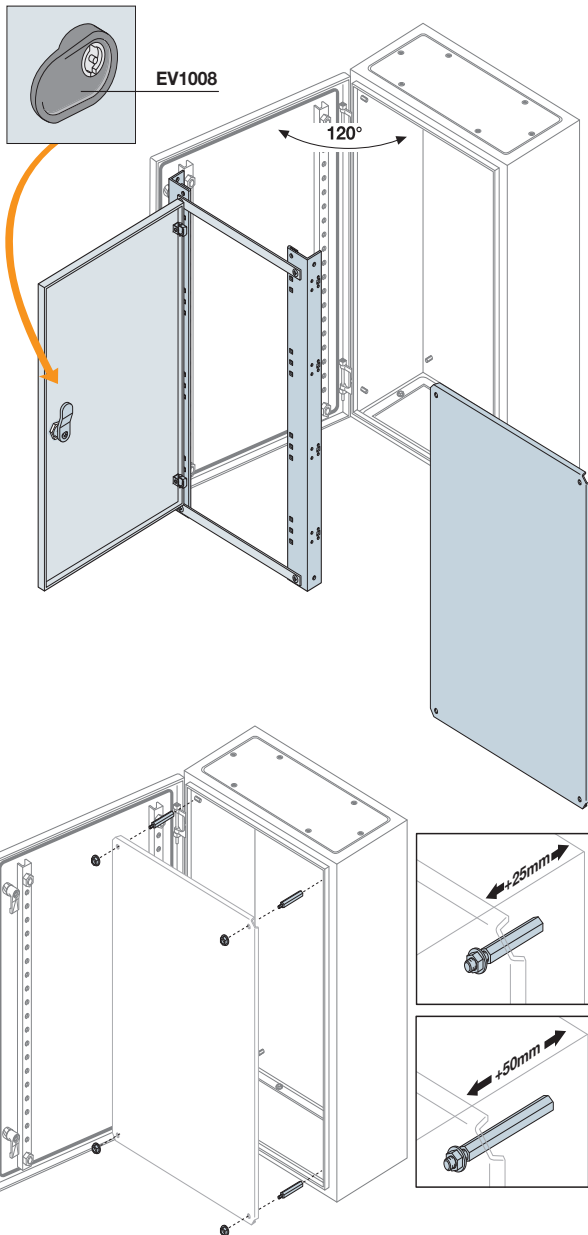
- **KD... (Distribution Kit)** consisting of a pair of functional uprights for assembly of the modular panels (to be ordered separately) and of any compensation panel (see page 2/8).

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)
SRN5420VK	Enclosure with glazed door	500x400x200
SRN5425VK	Enclosure with glazed door	500x400x250
SRN6420VK	Enclosure with glazed door	600x400x200
SRN6425VK	Enclosure with glazed door	600x400x250
SRN7520VK	Enclosure with glazed door	700x500x200
SRN7525VK	Enclosure with glazed door	700x500x250
SRN8625VK	Enclosure with glazed door	800x600x250
SRN8630VK	Enclosure with glazed door	800x600x300
SRN10625VK	Enclosure with glazed door	1000x600x250
SRN10630VK	Enclosure with glazed door	1000x600x300
SRN10830VK	Enclosure with glazed door	1000x800x300
SRN12630VK	Enclosure with glazed door	1200x600x300
SRN12830VK	Enclosure with glazed door	1200x800x300

SR2 Enclosures

Ordering codes



Blind counterdoor

The internal counterdoor guarantees IP20 degree of protection. Made of steel sheet 15/10mm thick, galvanized and painted orange peel RAL 7035 colour, complete with the **EV1008** ergonomic box and insert with double tongue.

Code	Description	Dimensions mm (HxW)
KC5040K	Blind counterdoor	500x400
KC6040K	Blind counterdoor	600x400
KC7050K	Blind counterdoor	700x500
KC8060K	Blind counterdoor	800x600
KC1060K	Blind counterdoor	1000x600
KC1080K	Blind counterdoor	1000x800
KC1260K	Blind counterdoor	1200x600
KC1280K	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	300x200
PF3030	Blind back plate for enclosure	300x300
PF3040	Blind back plate for enclosure	300x400
PF4030	Blind back plate for enclosure	400x300
PF4040	Blind back plate for enclosure	400x400
PF4060	Blind back plate for enclosure	400x600
PF5030	Blind back plate for enclosure	500x300
PF5040	Blind back plate for enclosure	500x400
PF6040	Blind back plate for enclosure	600x400
PF6060	Blind back plate for enclosure	600x600
PF7050	Blind back plate for enclosure	700x500
PF8060	Blind back plate for enclosure	800x600
PF8080	Blind back plate for enclosure	800x800
PF1060	Blind back plate for enclosure	1000x600
PF1080	Blind back plate for enclosure	1000x800
PF1260	Blind back plate for enclosure	1200x600
PF1280	Blind back plate for enclosure	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

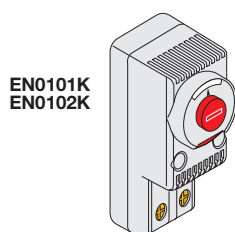
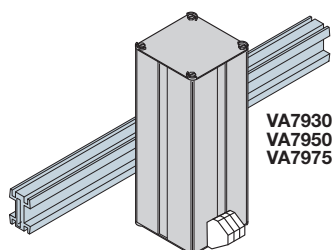
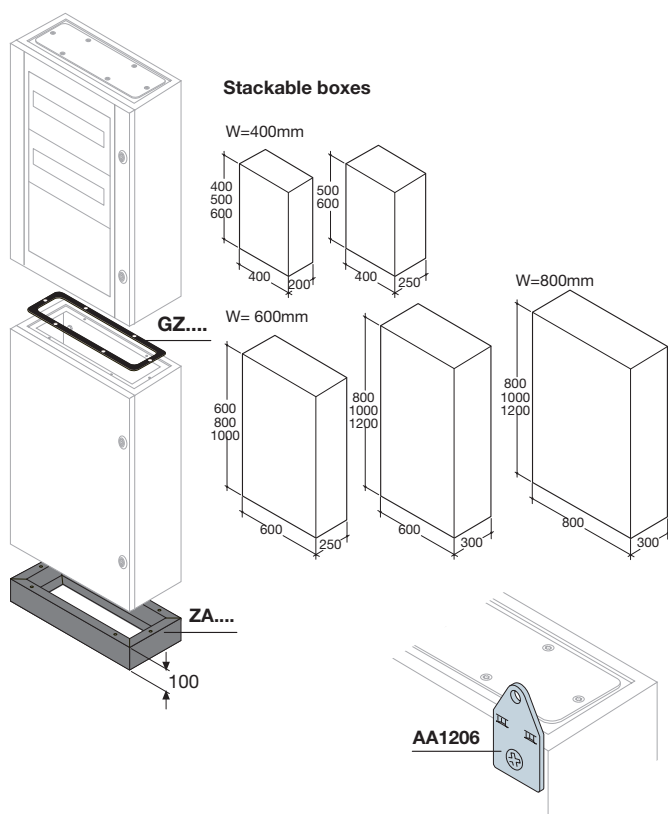
Slotted internal mounting plate

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	300x200
TQ3030	Back plate for enclosure	300x300
TQ3040	Back plate for enclosure	300x400
TQ4030	Back plate for enclosure	400x300
TQ4040	Back plate for enclosure	400x400
TQ4060	Back plate for enclosure	400x600
TQ5030	Back plate for enclosure	500x300
TQ5040	Back plate for enclosure	500x400
TQ6040	Back plate for enclosure	600x400
TQ6060	Back plate for enclosure	600x600
TQ7050	Back plate for enclosure	700x500
TQ8060	Back plate for enclosure	800x600
TQ8080	Back plate for enclosure	800x800
TQ1060	Back plate for enclosure	1000x600
TQ1080	Back plate for enclosure	1000x800
TQ1260	Back plate for enclosure	1200x600
TQ1280	Back plate for enclosure	1200x800

SR2 Enclosures

Ordering codes



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 (WxD)
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 grey RAL7012 color.

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

Heater for IP20 electrical switchboards

This eliminates any condensation inside the switchboard and consists of a thermistor/PTC (with positive temperature coefficient) which does not give out constant heat, but heat proportional to the temperature inside the switchboard. Snap-on mounting on DIN rail. Requires a thermostat.

Code	Description	Dimensions mm (HxLxP)
VA7930	Anti-condensation heater 30W, 110-240 Vac-dc	115x42x42
VA7950	Anti-condensation heater 50W, 110-240 Vac-dc	165x42x42
VA7975	Anti-condensation heater 75W, 110-240 Vac-dc	210x42x42

Selection of heater

$$Pe = (L + P) \times H \times K1 \times K2 \times K3.$$

Pe = Electric power required
H, W, D = Cabinet dimensions
K1 = Cabinet position
K2 = Cabinet external temperature
K3 = Type of climate

	K1	K2	K3
internal	7	0-10 °C	5
external	8	-5 °C	10
external exp	10	-10 °C	15
		-15 °C	20
		-20 °C	25
		-30 °C	35
		-50 °C	55
			damp
			normal
			dry
			1,3
			1
			0,9

Example:

Cabinet H=2m / W=0.6m / D=0.4m

K1 = 7

K2 = 10

K3 = 1

Pe (W) = (0.8+0.3) x 1.2 x 7 x 5 x 1 = 46

Heater recommended: VA7950 (50W)

IP30 Thermostat

Conforms to EN 60730-1, EN 60730-2-9 Standards, UL approval, IP20 degree of protection. Grey RAL 7035 colour; electrical life 100,000 cycles.

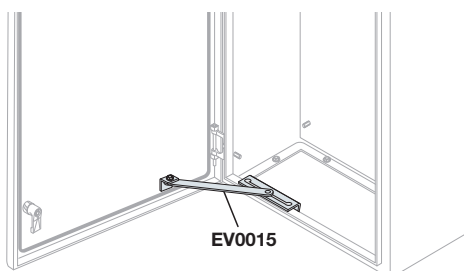
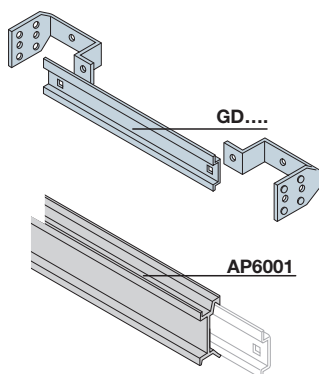
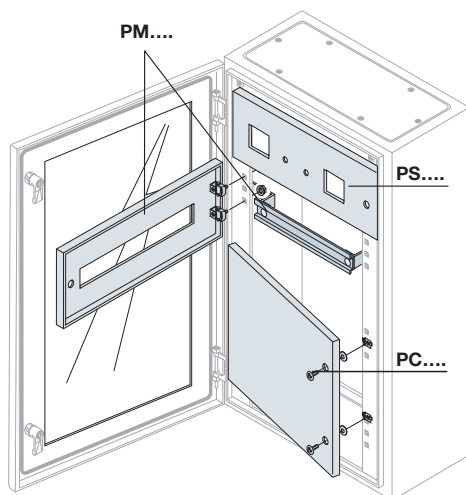
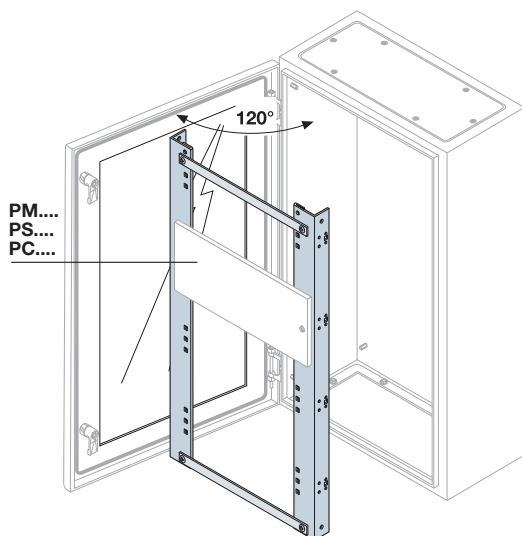
Dimensions (hwxwd) 61x29x45mm, can be mounted on all the types of DIN rail. The version with NO (normally open) contact allows closure of a circuit activating ventilation, air conditioning, or alarms. The version with NC (normally closed) contact allows opening of a circuit, disconnecting any anti-condensation resistances.

Code	Description	Standard power supply V~/50-60Hz
EN0101K	NO ventilation thermostat	110/250
EN0102K	NC heating thermostat	110/250

	Power supply	Contact capacity		Temperature scale	Type of contact	Weight
		Load Ω	Load L			
EN0101K	110/250~	10A	2A	-10 +80 °C	NO	48g
EN0102K	110/250~	10A	2A	-10 +80 °C	NC	48g

SR2 Enclosures

Ordering codes



Frame for DIN rail

Internal supports for fixing modular panels and DIN rails, colour RAL 7035 orange peel.

Code	Description	Dimensions mm (HxW)
KD5040K	Supports for assembly of DIN panels (14 DIN mod.) x 2 rows	500x400
KD6040K	Supports for assembly of DIN panels (14 DIN mod.) x 3 rows	600x400
KD8060K	Supports for assembly of DIN panels (25 DIN mod.) x 4 rows	800x600
KD1060K	Supports for assembly of DIN panels (25 DIN mod.) x 5 rows	1000x600
KD1260K	Supports for assembly of DIN panels (25 DIN mod.) x 6 rows	1200x600
KD1080K	Supports for assembly of DIN panels (36 DIN mod.) x 5 rows	1000x800
KD1280K	Supports for assembly of DIN panels (36 DIN mod.) x 6 rows	1200x800

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

Modular panels made of 12/10mm thick sheet steel painted RAL 7035 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)
PM1414K	Mod. panel (14mod.) + DIN rail + fixing bracket	185x400
PM1625K	Mod. panel (25mod.) + DIN rail + fixing bracket	185x600
PM1836K	Mod. panel (36mod.) + DIN rail + fixing bracket	185x800

Modular hinged panels for measuring instruments

Code	Description	Dimensions mm (HxW)
PS2476K	Mod. panel for 2 72x72mm instruments	185x400
PS2676K	Mod. panel for 2 72x72mm instruments	185x600
PS2876K	Mod. panel for 2 72x72mm instruments	185x800

Modular hinged blind panels

Code	Description	Dimensions mm (HxW)
PC1406K	Modular blind panel	185x400
PC1606K	Modular blind panel	185x600
PC1806K	Modular blind panel	185x800
PC2606K	Modular blind panel	370x600
PC2806K	Modular blind panel	370x800

Code	Description	Dimensions mm (W)
GD4006	DIN rail and fixing brackets (14 mod.)	400
GD6006	DIN rail and fixing brackets (25 mod.)	600
GD8006	DIN rail and fixing brackets (36 mod.)	800

Depth adapter

Code	Description	Dimensions mm (W)
AP6001	N°1 depth adapter for Tmax T1-T2-T3	600

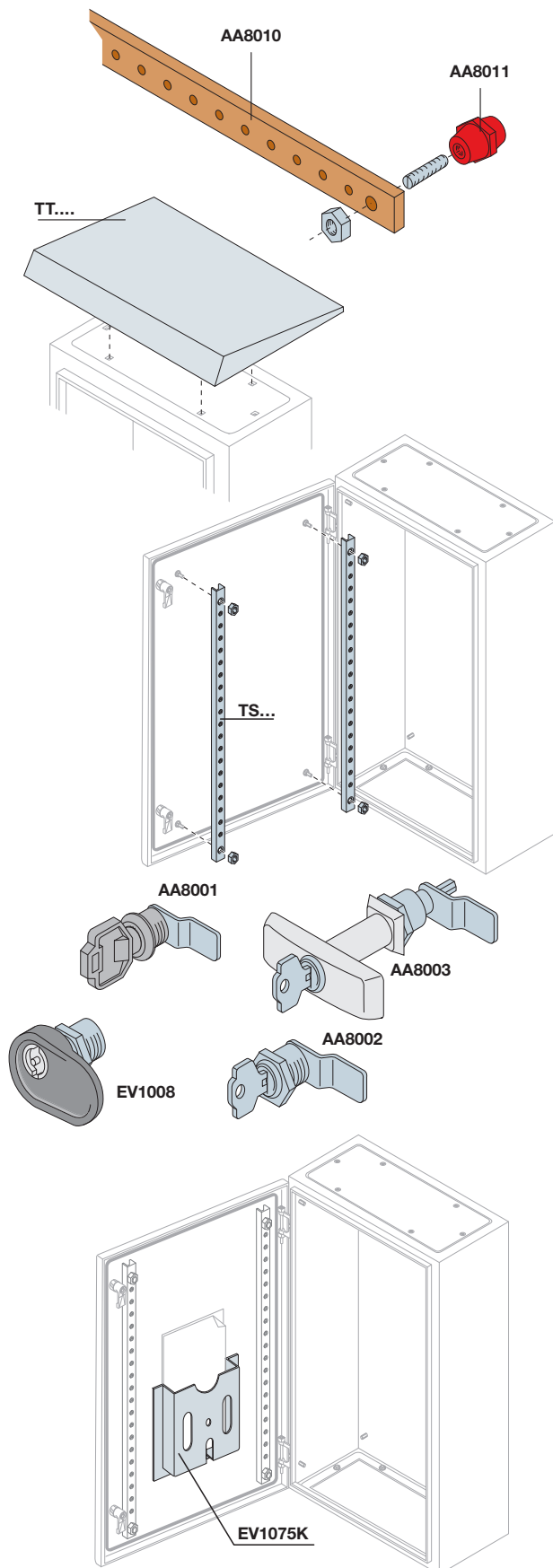
Door anti-closure device

It can't be mounted with the inner-door or with modular/blind panels mounted down in structure and hinged.

Code	Description
EV0015	Door anti-closure device

SR2 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 7035 colour orange peel.

Code	Description	Dimensions mm (WxD)
TT2015K	Spray protection roof	200x150
TT3015K	Spray protection roof	300x150
TT4015K	Spray protection roof	400x150
TT3020K	Spray protection roof	300x200
TT4020K	Spray protection roof	400x200
TT5020K	Spray protection roof	500x200
TT6020K	Spray protection roof	600x200
TT4025K	Spray protection roof	400x250
TT5025K	Spray protection roof	500x250
TT6025K	Spray protection roof	600x250
TT6030K	Spray protection roof	600x300
TT8030K	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)
TS6009	N° 2 shaped sections for door	600
TS7009	N° 2 shaped sections for door	700
TS8009	N° 2 shaped sections for door	800

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 ⁽¹⁾	Box Ø 19mm double tongue and plastic key (spare part)
AA8002 ⁽¹⁾	Box Ø 19mm with security insert and Yale type key
AA8003 ⁽¹⁾	Box Ø 19mm with handle and Yale type key
AA5200 ⁽¹⁾	Box Ø 19mm with triangular insert
AA5190	Plastic key for triangular insert AA5200
EV1008	Ergonomic box complete with double tongue insert (without tab)
EV1036	Single code Yale insert for EV1008
EV1037	Ronis 455 insert for EV1008
EV1039	3mm Double tongue insert for EV1008

⁽¹⁾ Only for external door

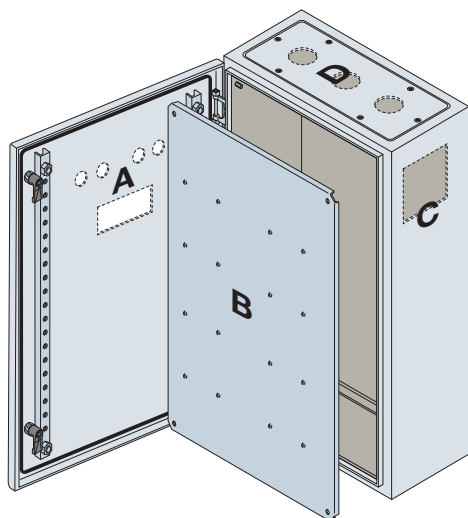
Document pocket

Made of plastic, RAL 7035 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
EV1075K	Document pocket

SR2 Enclosures

Ordering codes



Special Painting Service

See page 7/12 for the colours available.

Code	Description
------	-------------

VERNSR	Extra cost for special SR painting
--------	------------------------------------

Special painting service to manage with code of enclosure **SRN....SPEC**.
Remind to insert a note for colour in the order.

Special Drilling service

For overall dimensions see page 9/49.

Code	Description
------	-------------

FORSR1	Overprice for special drilling of door/plate/enclosure/flange SR2 for N°pieces 4-5-6
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FORSR2	Overprice for special drilling of door/plate/enclosure/flange SR2 for N°pieces 7-8-9
--------	--

FORSR	Overprice for special drilling of door/plate/enclosure/flange SR2 for N°pieces ≥ 10
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Special drilling service to be manages with code **SRN....SPEC**.

It is necessary to include the layout drawing of the drillings (see pag. 9/49 for useful drilling areas). Special drilling and painting service to be managed with code **SRN....SPEC**. It is necessary to include the layout drawing of the drillings and to specify the colour note in the order.

Spray paint

For touching up - grey RAL7035 colour.

Code	Description
------	-------------

VB7035	400ml can
--------	-----------

Spare parts

Codice	Descrizione
--------	-------------

AA1203	N. 16 screws and nuts M6x14 for flange
--------	--

FLN3215K	N. 2 fairlead plates for SRN3215K
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FLN3315K	N. 2 fairlead plates for SRN3315K-SRN4315K
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FLN3415K	N. 2 fairlead plates for SRN3415K
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FLN4320K	N. 2 fairlead plates for SRN4320K-SRN5320K
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FLN4420K	N. 2 fairlead plates for SRN4420K-SRN5420K-SRN6420K
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FLN4425K	N. 2 fairlead plates for SRN5425K-SRN6425K
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FLN4620K	N. 2 fairlead plates for SRN4620K
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FLN6625K	N. 2 fairlead plates for SRN6625K-SRN8625K-SRN10625K
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FLN7520K	N. 2 fairlead plates for SRN7520K
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FLN7525K	N. 2 fairlead plates for SRN7525K
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FLN8630K	N. 2 fairlead plates for SRN8630K-SRN10630K-SRN12630K
----------	---

FLN8830K	N. 2 fairlead plates for SRN8830K-SRN10830K-SRN12830K
----------	---

PRN1066K	Blind door 1000x600mm (hxl)
----------	-----------------------------

PRN1086K	Blind door 1000x800mm (hxl)
----------	-----------------------------

PRN1266K	Blind door 1200x600mm (hxl)
----------	-----------------------------

PRN1286K	Blind door 1200x800mm (hxl)
----------	-----------------------------

PRN3026K	Blind door 300x200mm (hxl)
----------	----------------------------

PRN3006K	Blind door 300x300mm (hxl)
----------	----------------------------

PRN3046K	Blind door 300x400mm (hxl)
----------	----------------------------

PRN4036K	Blind door 400x300mm (hxl)
----------	----------------------------

PRN4046K	Blind door 400x400mm (hxl)
----------	----------------------------

PRN4066K	Blind door 400x600mm (hxl)
----------	----------------------------

PRN5036K	Blind door 500x300mm (hxl)
----------	----------------------------

PRN5046K	Blind door 500x400mm (hxl)
----------	----------------------------

PRN6046K	Blind door 600x400mm (hxl)
----------	----------------------------

PRN6066K	Blind door 600x600mm (hxl)
----------	----------------------------

PRN7056K	Blind door 700x500mm (hxl)
----------	----------------------------

PRN8066K	Blind door 800x600mm (hxl)
----------	----------------------------

PRN8086K	Blind door 800x800mm (hxl)
----------	----------------------------

PTN1066K	Glazed door 1000x600mm (hxl)
----------	------------------------------

PTN1086K	Glazed door 1000x800mm (hxl)
----------	------------------------------

PTN1266K	Glazed door 1200x600mm (hxl)
----------	------------------------------

PTN1286K	Glazed door 1200x800mm (hxl)
----------	------------------------------

PTN5046K	Glazed door 500x400mm (hxl)
----------	-----------------------------

PTN6046K	Glazed door 600x400mm (hxl)
----------	-----------------------------

PTN7056K	Glazed door 700x500mm (hxl)
----------	-----------------------------

PTN8066K	Glazed door 800x600mm (hxl)
----------	-----------------------------

EV1008	Ergonomic box complete with double tongue insert (without tongue)
--------	---

SR2 EMC Enclosures

General characteristics and ordering codes

The range of SR2 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 SR2 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 SR2 galvanized sheet enclosures are painted externally with orange peel RAL 7035 colour.

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 (IEC 62262)

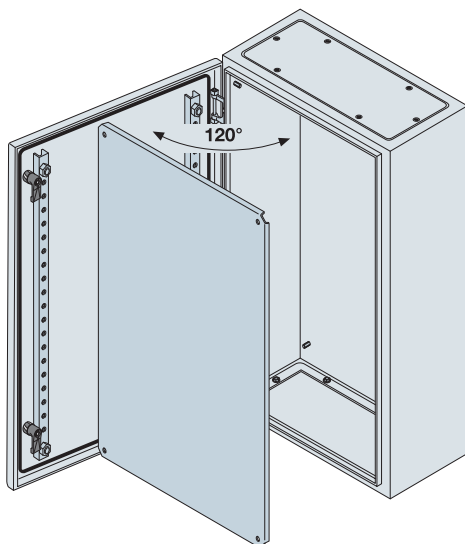
Certifications



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)
SR4620EMCK	Enclosure with blind door	400x600x200
SR6625EMCK	Enclosure with blind door	600x600x250
SR10830EMCK	Enclosure with blind door	1000x800x300

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



Index

General characteristics and applications	3/2
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Structure	3/8
Completion of structures	3/11
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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 SR2 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, CEI EN 60439-1, IEC 61439-1-2
Degree of protection	IP65 (CEI EN 60529) TYPE 12 (UL Standard)
Degree of mechanical strength	IK10 blind door IK09 glazed door (IEC 62262)
Certifications	 
Type of material	Metallic
Installation site	Indoor
Fixing method	floor
Normal service conditions	
- ambient temperature	from -5 to $+40^{\circ}\text{C}$
Atmospheric conditions – relative humidity	50% to 40°C 90% to 20°C

AM2 Cabinets

General characteristics and applications

The full 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 most varied application contexts, as prescribed by the CEI EN 60204-1 Standard on electrical equipment, "Safety of electrical equipment of machines", by the EN 60439-1 Standard and by the new EN 61439-1-2 Standard on "Low voltage switchgear and controlgear assemblies".

The AM2 cabinets can also be installed in environments with risk of explosion due to the presence of dust (ATEX), as foreseen under the European 94/9 CE directive and from the relative CEI EN 50281-3 Standard.

The whole range of AM2 cabinets is characterised by its IP65 degree of protection, tested and verified according to the EN 60529 Standard. AM2 cabinets have also passed the checks required to obtain the TYPE 12 UL marks (Underwriters Laboratories).

Impact resistance is in conformity with the IEC 62262 Standard and is IK10 for the versions with blind doors and IK09 for those with glass doors. The standard colour is orange peel RAL 7035. On request, it is possible to order the AM2 cabinets in a wide range of RAL colours (see page 7/12) and to use the mounted accessories 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.



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 ≥ 1200 mm 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:

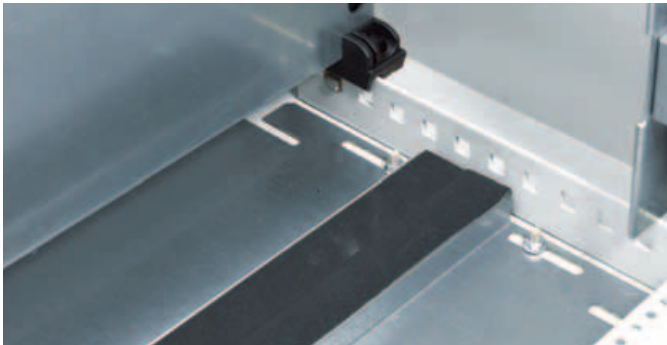
Structure

- 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 all depth.
- 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.



3

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.

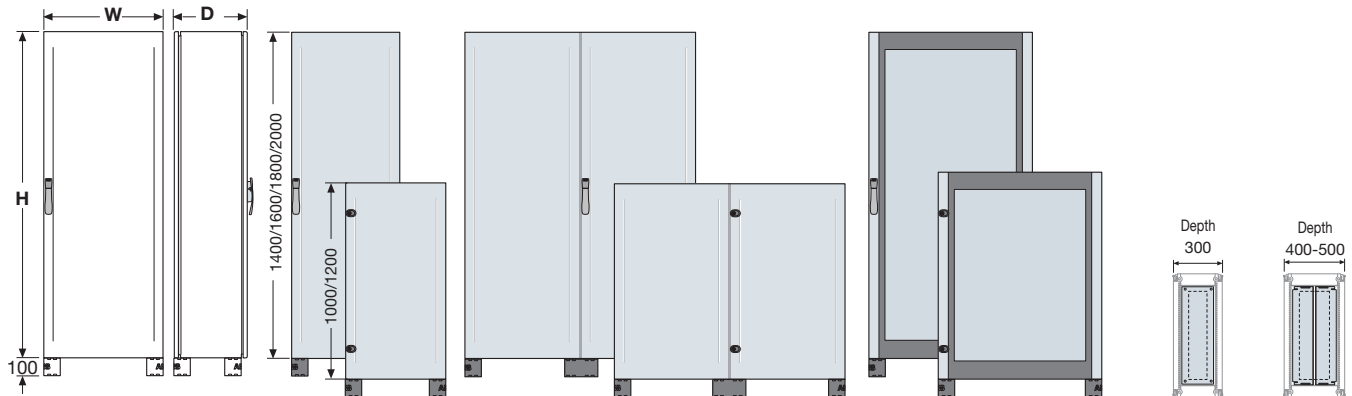
The buffer panels are available in the dimensions up to 20 HE modules, are blind and are made of natural opaque colour anodized aluminium 30/10mm thick.



AM2 Cabinets

Selection of the structure

Monobloc cabinets complete with door

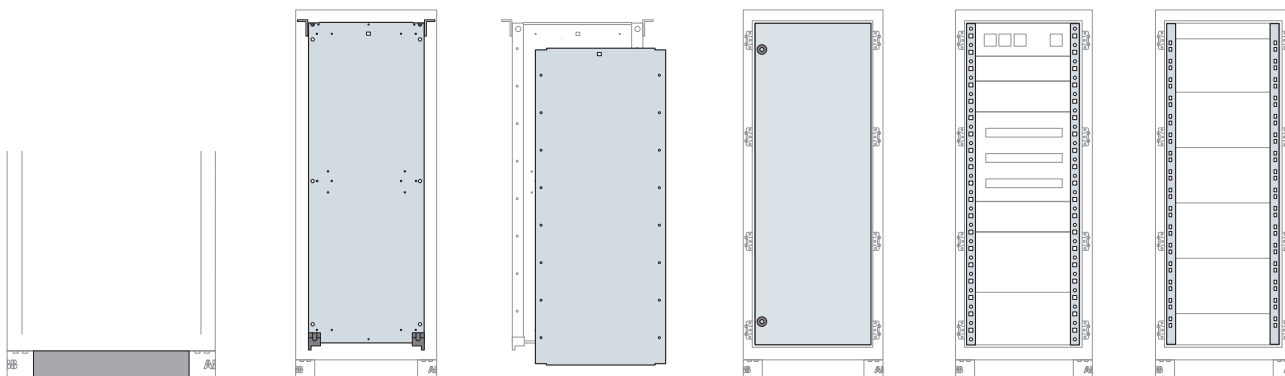


Overall dimensions			Cabinet with blind door		Cabinet with glazed door	Cable entry flanges		
H mm	W mm	D mm	single blind door	double blind door with overlapping closure	single glazed door	fixed	sliding	
1000	600	300	TM2063K			EF6032		
	800		TM2083K	TM2083FV4K		EF8032		
	1000			TM2003FV5K		EF1032		
	600	400	TM2064K		TM2064VK	EF6043	EF6040	
	800		TM2084K	TM2084FV4K	TM2084VK	EF8042	EF8040	
	1000		TM2004K	TM2004FV5K		EF1042	EF1040	
	1200			TM2024K		2 x EF6043	2x EF6040	
	1600			TM2074K		2 x EF8042	2x EF8040	
1200	600	300	TM2263K			EF6032		
	800			TM2283FV4K		EF8032		
	1200			TM2223K		2 x EF6032		
	600	400	TM2264K		TM2264VK	EF6043	EF6040	
	800		TM2284K		TM2284VK	EF8042	EF8040	
	1000		TM2204K	TM2204FV5K	TM2204VK	EF1042	EF1040	
	1200			TM2224K		2 x EF6043	2 x EF6040	
1400	600	300	TM2463K			EF6032		
	800		TM2483K	TM2483FV4K	TM2483VK	EF8032		
	1000		TM2403K			EF1032		
	600	400	TM2464K		TM2464VK	EF6043	EF6040	
	800		TM2484K	TM2484FV4K	TM2484VK	EF8042	EF8040	
	1000		TM2404K	TM2404FV5K	TM2404VK	EF1042	EF1040	
	1200			TM2424K		2 x EF6043	2 x EF6040	
	600	500	TM2465K			EF6052	EF6050	
	800		TM2485K	TM2485FV4K		EF8052	EF8050	
	1000		TM2405K	TM2405FV5K		EF1052	EF1053	
	1200			TM2425K		2 x EF6052	2 x EF6050	
1600	600	300	TM2663K			EF6032		
	800		TM2683K			EF8032		
	600	400	TM2664K		TM2664VK	EF6043	EF6040	
	800		TM2684K	TM2684FV4K	TM2684VK	EF8042	EF8040	
	1000		TM2604K	TM2604FV5K	TM2604VK	EF1042	EF1040	
	1200			TM2624K		2 x EF6043	2 x EF6040	
	600	500	TM2665K			EF6052	EF6050	
	800		TM2685K	TM2685FV4K		EF8052	EF8050	
	1000		TM2605K	TM2605FV5K		EF1052	EF1053	
	1200			TM2625K		2 x EF6052	2 x EF6050	
1800	600	400	TM2864K		TM2864VK	EF6043	EF6040	
	800		TM2884K	TM2884FV4K	TM2884VK	EF8042	EF8040	
	1000		TM2804K	TM2804FV5K	TM2804VK	EF1042	EF1040	
	1200			TM2824K		2 x EF6043	2 x EF6040	
	600	500	TM2865K		TM2865VK	EF6052	EF6050	
	800		TM2885K		TM2885VK	EF8052	EF8050	
	1000		TM2805K		TM2805VK	EF1052	EF1053	
	1200			TM2825K		2 x EF6052	2 x EF6050	
2000	600	400	TM2964K		TM2964VK	EF6043	EF6040	
	800		TM2984K		TM2984VK	EF8042	EF8040	
	1000		TM2904K	TM2904FV5K	TM2904VK	EF1042	EF1040	
	1200			TM2924K		2 x EF6043	2 x EF6040	
2000	600	500	TM2965K		TM2965VK	EF6052	EF6050	
	800		TM2985K		TM2985VK	EF8052	EF8050	
	1000		TM2905K		TM2905VK	EF1052	EF1053	
	1200			TM2925K		2 x EF6052	2 x EF6050	

(*) The useful height is always less than 100mm compared to the external dimension of the panel board to which the plinth dimension (H=100mm) must be added.

AM2 Cabinets

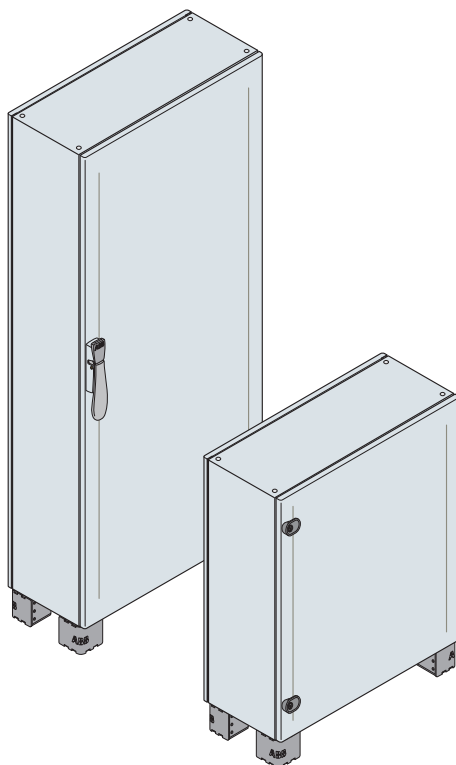
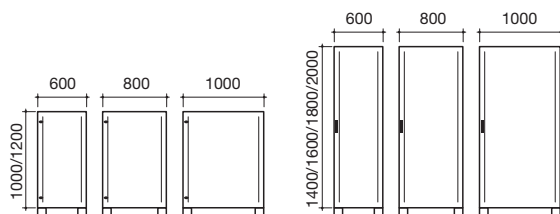
Selection of the structure



	Plinth Flanges		Mounting plate	Opposed plate	Counterdoor	DIN rail Uprights	19" rack frames
	front/rear	side			RAL7035 orange peel colour		
	ZE6000	ZE3011	EA1060	EA5060	TF1060K	MD1000	TK1000
	ZE8000		EA1080	EA5082	TF1080K	MD1000	
	ZE1000		EA1010	EA5010	TF1010K		
	ZE6000	ZE4011	EA1060	EA5060	TF1060K	MD1000	TK1000
	ZE8000		EA1080	EA5082	TF1080K	MD1000	
	ZE1000		EA1010	EA5010	TF1010K		
	ZE1200		EA1012				
	2 x ZE8000		EA1016				
	ZE6000	ZE3011	EA1260	EA5260	TF1260K	MD1200	TK1200
	ZE8000		EA1280	EA5280	TF1280K	MD1200	
	ZE1200		EA1213				
	ZE6000	ZE4011	EA1260	EA5260	TF1260K	MD1200	TK1200
	ZE8000		EA1280	EA5280	TF1280K	MD1200	
	ZE1000		EA1210	EA5210	TF1210K		
	ZE1200		EA1213				
	ZE6000	ZE3011	EA1460	EA5461	TF1460K	MD1400	TK1400
	ZE8000		EA1480	EA5480	TF1480K	MD1400	
	ZE1000		EA1411	EA5413	TF1410K		
	ZE6000	ZE4011	EA1460	EA5461	TF1460K	MD1400	TK1400
	ZE8000		EA1480	EA5480	TF1480K	MD1400	
	ZE1000		EA1411	EA5413	TF1410K		
	ZE1200		EA1412				
	ZE6000	ZE5011	EA1460	EA5461	TF1460K	MD1400	TK1400
	ZE8000		EA1480	EA5480	TF1480K	MD1400	
	ZE1000		EA1411	EA5413	TF1410K		
	ZE1200		EA1412				
	ZE6000	ZE3011	EA1616	EA5616	TF1660K	MD1600	TK1600
	ZE8000		EA1619	EA5620	TF1680K	MD1600	
	ZE6000	ZE4011	EA1616	EA5616	TF1660K	MD1600	TK1600
	ZE8000		EA1619	EA5620	TF1680K	MD1600	
	ZE1000		EA1610	EA5610	TF1610K		
	ZE1200		EA1612				
	ZE6000	ZE5011	EA1616	EA5616	TF1660K	MD1600	TK1600
	ZE8000		EA1619	EA5620	TF1680K	MD1600	
	ZE1000		EA1610	EA5610	TF1610K		
	ZE1200		EA1612				
	ZE6000	ZE4011	EA1860	EA5861	TF1860K	MD1800	TK1800
	ZE8000		EA1880	EA5883	TF1880K	MD1800	
	ZE1000		EA1810	EA5811	TF1810K		
	ZE1200		EA1812				
	ZE6000	ZE5011	EA1860	EA5861	TF1860K	MD1800	TK1800
	ZE8000		EA1880	EA5883	TF1880K	MD1800	
	ZE1000		EA1810	EA5811	TF1810K		
	ZE1200		EA1812				
	ZE6000	ZE4011	EA2060	EA5063	TF2060K	MD2000	TK2000
	ZE8000		EA2080	EA5083	TF2080K	MD2000	
	ZE1000		EA2010	EA5011	TF2010K		
	ZE1200		EA2013				
	ZE6000	ZE5011	EA2060	EA5063	TF2060K	MD2000	TK2000
	ZE8000		EA2080	EA5083	TF2080K	MD2000	
	ZE1000		EA2010	EA5011	TF2010K		
	ZE1200		EA2013				

Ordering codes

Structures



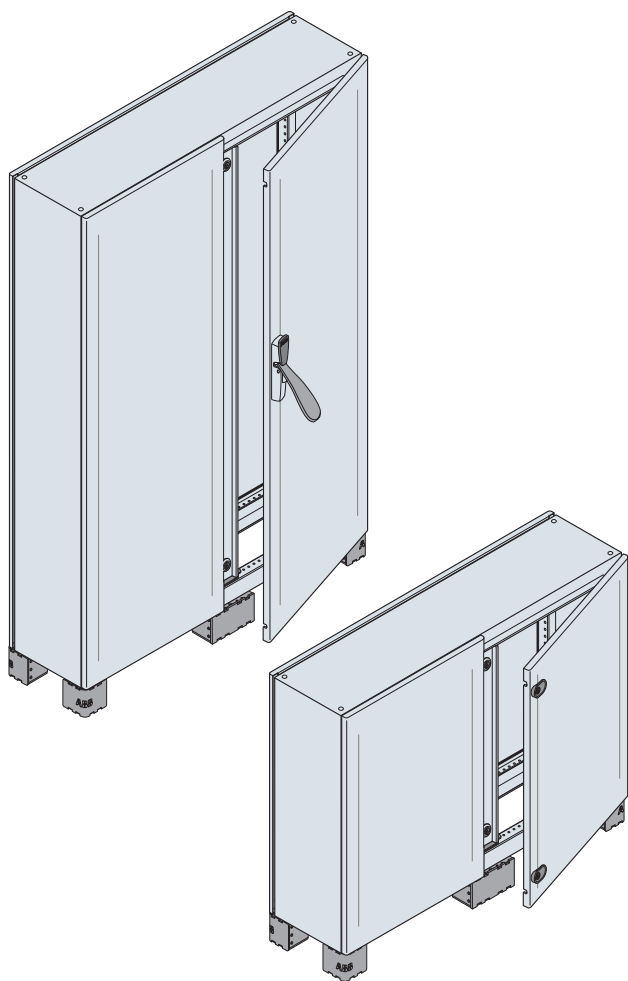
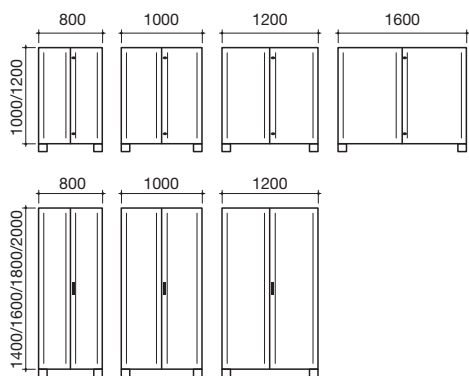
Cabinets with blind door

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
TM2063K	Cabinet with blind door	1000	600x300
TM2083K	Cabinet with blind door		800x300
TM2064K	Cabinet with blind door		600x400
TM2084K	Cabinet with blind door		800x400
TM2004K	Cabinet with blind door		1000x400
TM2263K	Cabinet with blind door	1200	600x300
TM2264K	Cabinet with blind door		600x400
TM2284K	Cabinet with blind door		800x400
TM2204K	Cabinet with blind door		1000x400
TM2463K	Cabinet with blind door	1400	600x300
TM2483K	Cabinet with blind door		800x300
TM2403K	Cabinet with blind door		1000x300
TM2464K	Cabinet with blind door		600x400
TM2484K	Cabinet with blind door		800x400
TM2404K	Cabinet with blind door		1000x400
TM2465K	Cabinet with blind door		600x500
TM2485K	Cabinet with blind door		800x500
TM2405K	Cabinet with blind door		1000x500
TM2663K	Cabinet with blind door	1600	600x300
TM2683K	Cabinet with blind door		800x300
TM2664K	Cabinet with blind door		600x400
TM2684K	Cabinet with blind door		800x400
TM2604K	Cabinet with blind door		1000x400
TM2665K	Cabinet with blind door		600x500
TM2685K	Cabinet with blind door		800x500
TM2605K	Cabinet with blind door		1000x500
TM2864K	Cabinet with blind door	1800	600x400
TM2884K	Cabinet with blind door		800x400
TM2804K	Cabinet with blind door		1000x400
TM2865K	Cabinet with blind door		600x500
TM2885K	Cabinet with blind door		800x500
TM2805K	Cabinet with blind door	2000	1000x500
TM2964K	Cabinet with blind door		600x400
TM2984K	Cabinet with blind door		800x400
TM2904K	Cabinet with blind door		1000x400
TM2965K	Cabinet with blind door		600x500
TM2985K	Cabinet with blind door		800x500
TM2905K	Cabinet with blind door		1000x500

Ordering codes

Structures



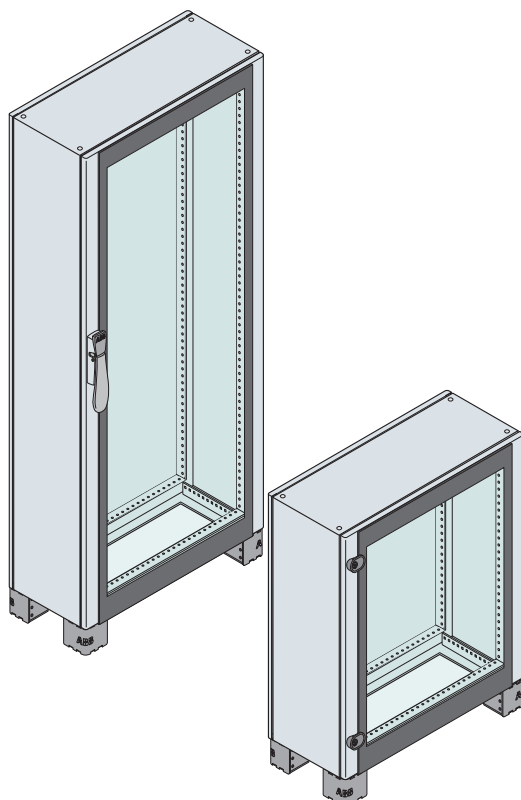
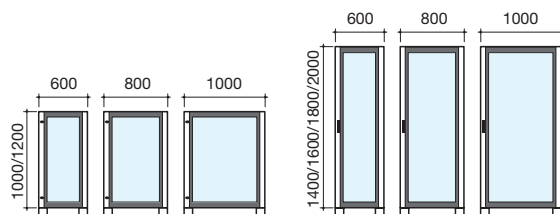
Cabinets with double blind door with overlapping closure

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
TM2083FV4K	Cabinet with double blind door	1000	800x300
TM2003FV5K	Cabinet with double blind door		1000x300
TM2084FV4K	Cabinet with double blind door		800x400
TM2004FV5K	Cabinet with double blind door		1000x400
TM2024K	Cabinet with double blind door		1200x400
TM2074K	Cabinet with double blind door	1200	1600x400
TM2283FV4K	Cabinet with double blind door		800x300
TM2223K	Cabinet with double blind door		1200x300
TM2204FV5K	Cabinet with double blind door		1000x400
TM2224K	Cabinet with double blind door		1200x400
TM2483FV4K	Cabinet with double blind door	1400	800x300
TM2484FV4K	Cabinet with double blind door		800x400
TM2404FV5K	Cabinet with double blind door		1000x400
TM2424K	Cabinet with double blind door		1200x400
TM2485FV4K	Cabinet with double blind door		800x500
TM2405FV5K	Cabinet with double blind door	1600	1000x500
TM2425K	Cabinet with double blind door		1200x500
TM2684FV4K	Cabinet with double blind door		800x400
TM2604FV5K	Cabinet with double blind door		1000x400
TM2624K	Cabinet with double blind door		1200x400
TM2685FV4K	Cabinet with double blind door	1800	800x500
TM2605FV5K	Cabinet with double blind door		1000x500
TM2625K	Cabinet with double blind door		1200x500
TM2884FV4K	Cabinet with double blind door		800x400
TM2804FV5K	Cabinet with double blind door		1000x400
TM2824K	Cabinet with double blind door	2000	1200x400
TM2825K	Cabinet with double blind door		1200x500
TM2904FV5K	Cabinet with double blind door		1000x400
TM2924K	Cabinet with double blind door		1200x400
TM2925K	Cabinet with double blind door		1200x500

Ordering codes

Structures



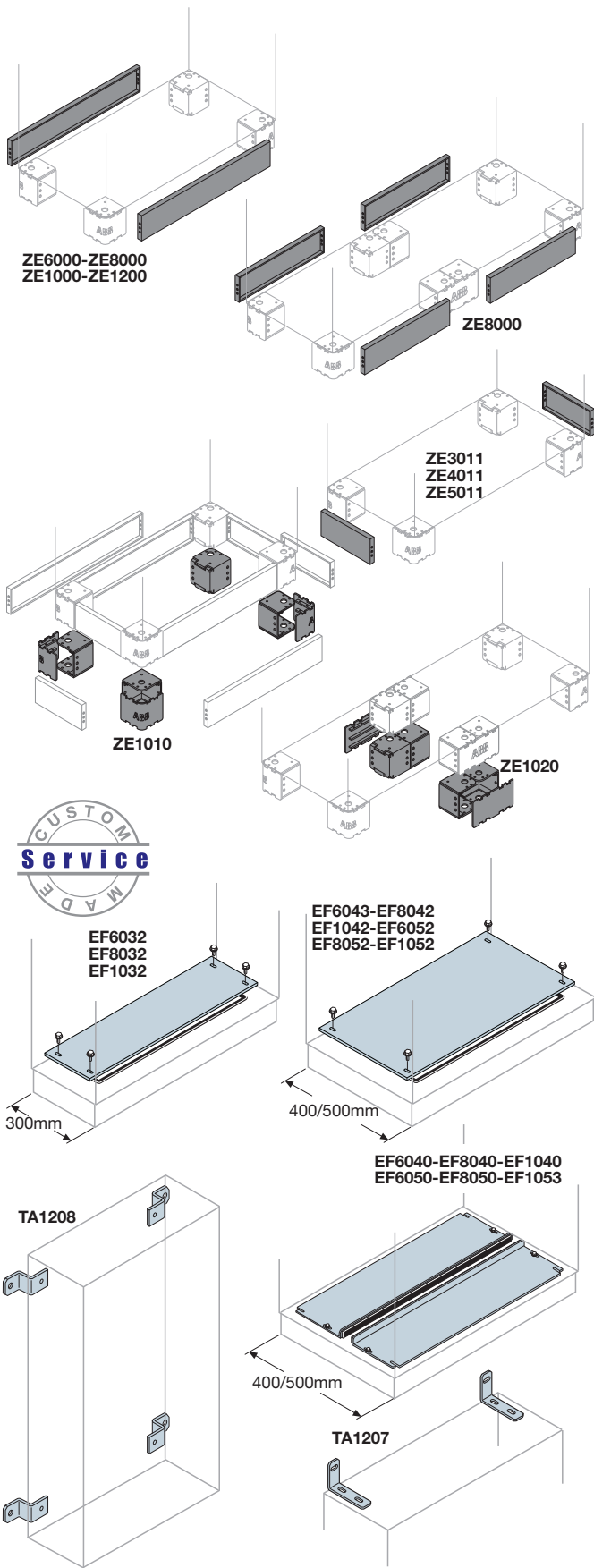
Cabinets with glazed door

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
TM2064VK	Cabinet with glazed door	1000	600x400
TM2084VK	Cabinet with glazed door		800x400
TM2264VK	Cabinet with glazed door		600x400
TM2284VK	Cabinet with glazed door	1200	800x400
TM2204VK	Cabinet with glazed door		1000x400
TM2483VK	Cabinet with glazed door		800x300
TM2464VK	Cabinet with glazed door	1400	600x400
TM2484VK	Cabinet with glazed door		800x400
TM2404VK	Cabinet with glazed door		1000x400
TM2664VK	Cabinet with glazed door	1600	600x400
TM2684VK	Cabinet with glazed door		800x400
TM2604VK	Cabinet with glazed door		1000x400
TM2864VK	Cabinet with glazed door	1800	600x400
TM2884VK	Cabinet with glazed door		800x400
TM2804VK	Cabinet with glazed door		1000x400
TM2865VK	Cabinet with glazed door	1800	600x500
TM2885VK	Cabinet with glazed door		800x500
TM2805VK	Cabinet with glazed door		1000x500
TM2964VK	Cabinet with glazed door	2000	600x400
TM2984VK	Cabinet with glazed door		800x400
TM2904VK	Cabinet with glazed door		1000x400
TM2965VK	Cabinet with glazed door	2000	600x500
TM2985VK	Cabinet with glazed door		800x500
TM2905VK	Cabinet with glazed door		1000x500

Ordering codes

Completion of structures



Plinth Covering Flanges

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

Flanges front/rear H=100mm

Code	Description	Dimensions mm (W)
ZE6000	Pair of plinth flanges	600
ZE8000*	Pair of plinth flanges	800
ZE1000	Pair of plinth flanges	1000
ZE1200	Pair of plinth flanges	1200

* for structures W=1600 order No.2 flanges ZE8000.

Side Flanges H=100mm

Code	Description	Dimensions mm (D)
ZE3011	Pair of side flanges	300
ZE4011	Pair of side flanges	400
ZE5011	Pair of side flanges	500

Additional Plinth

To obtain a plinth 200mm high, order a kit of angle pieces H=100mm to be added to the angle pieces already present on the structure. Complete with 2 covering flanges (H=100mm) for each side of the structure.

Angle pieces

Code	Description	Dimensions mm (H)
ZE1010	N°4 angle pieces 25/10 thick complete with plinth cover	100
ZE1020	N°2 angle pieces 25/10 thick for intermediate plinth complete with plinth cover	100

Cable entry flanges

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

Sliding

Fixed

Code	Service Custom Made *	Code	Service Custom Made *	Dimensions mm (WxD)
		EF6032	EF6032MT	600x300
		EF8032	EF8032MT	800x300
		EF1032	EF1032MT	1000x300
EF6040⁽¹⁾	EF6040MT	EF6043⁽¹⁾		600x400
EF8040⁽²⁾	EF8040MT	EF8042⁽²⁾		800x400
EF1040	EF1040MT	EF1042		1000x400
EF6050⁽¹⁾	EF6050MT	EF6052⁽¹⁾		600x500
EF8050	EF8050MT	EF8052		800x500
EF1053	EF1053MT	EF1052		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.

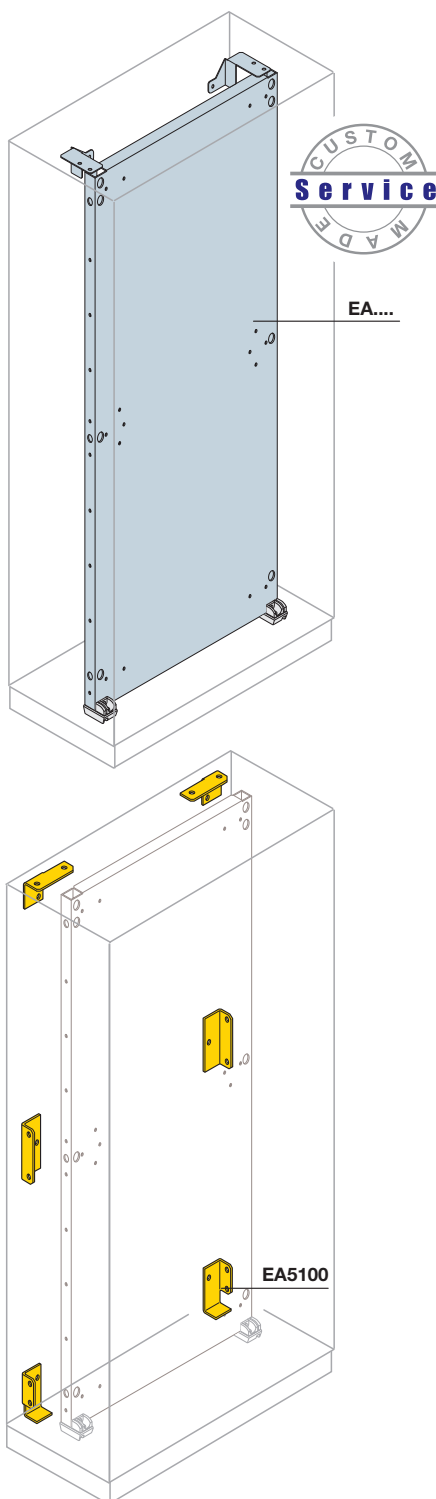
Brackets for wall fixing

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

Code	Description
TA1207	N°2 anti-tilting brackets
TA1208	N°4 supporting brackets, 250 kg of capacity

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
EA1016	Mounting plate	EA1016MT	1200	1600
EA1260	Mounting plate	EA1260MT		600
EA1280	Mounting plate	EA1280MT		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		1200
EA1616	Mounting plate	EA1616MT	1600	600
EA1619	Mounting plate	EA1619MT		800
EA1610	Mounting plate	EA1610MT		1000
EA1612	Mounting plate	EA1612MT		1200
EA1860	Mounting plate	EA1860MT	1800	600
EA1880	Mounting plate	EA1880MT		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

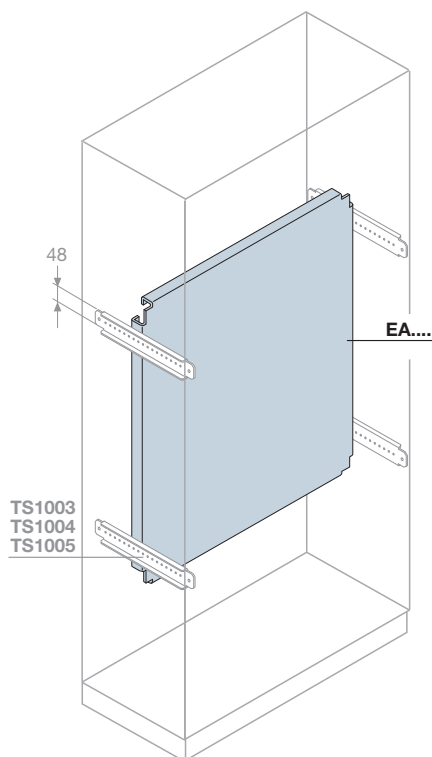
* Code only valid for factory-assembled panel boards.

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	600	200
EA3061	Partial height mounting plate		300
EA4061	Partial height mounting plate		400
EA5061	Partial height mounting plate		500
EA6061	Partial height mounting plate		600
EA8061	Partial height mounting plate		800
EA1061	Partial height mounting plate	800	1000
EA2081	Partial height mounting plate		200
EA3081	Partial height mounting plate		300
EA4081	Partial height mounting plate		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 for fixing accessories	300
TS1004	N°2 side crosspieces for fixing accessories	400
TS1005	N°2 side crosspieces for fixing accessories	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 for fixing accessories	300
TS2004	N°2 side crosspieces for fixing accessories	400
TS2005	N°2 side crosspieces for fixing accessories	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 front accessories	600
EB0800	N°2 crosspieces for fixing front accessories	800
EB1000	N°2 crosspieces for fixing front accessories	1000
EB1200	N°2 crosspieces for fixing front accessories	1200

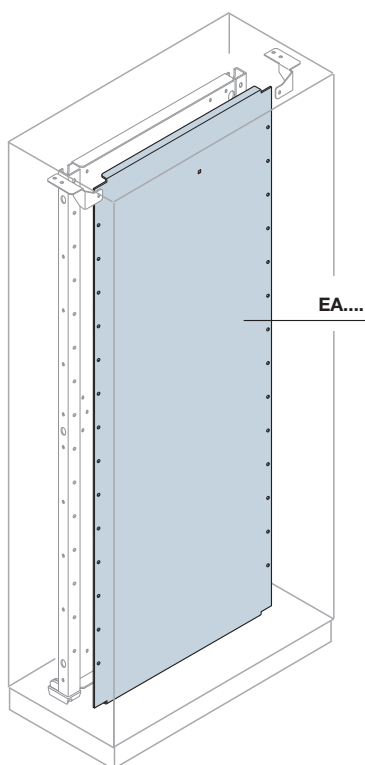
Back crosspieces H=100mm for fixing accessories

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

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

Ordering codes

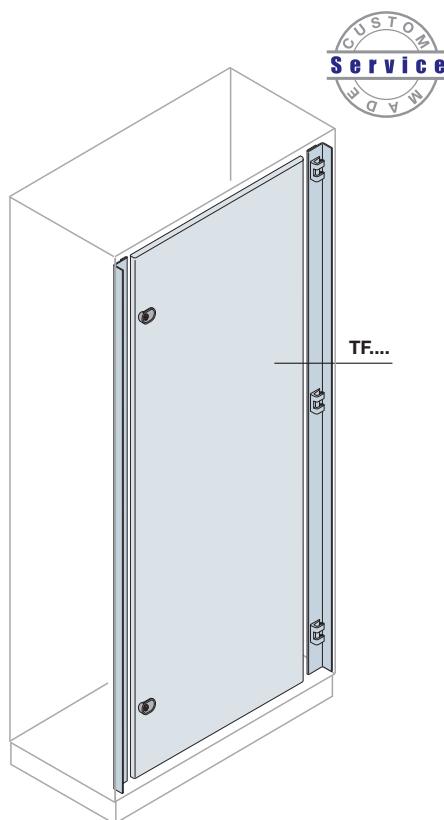
Completion of structures



Opposed mounting plate

Mounting plate 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	1000	600
EA5082	Opposed mounting plate		800
EA5010	Opposed mounting plate		1000
EA5260	Opposed mounting plate	1200	600
EA5280	Opposed mounting plate		800
EA5210	Opposed mounting plate		1000
EA5461	Opposed mounting plate	1400	600
EA5480	Opposed mounting plate		800
EA5413	Opposed mounting plate		1000
EA5616	Opposed mounting plate	1600	600
EA5620	Opposed mounting plate		800
EA5610	Opposed mounting plate		1000
EA5861	Opposed mounting plate	1800	600
EA5883	Opposed mounting plate		800
EA5811	Opposed mounting plate		1000
EA5063	Opposed mounting plate	2000	600
EA5083	Opposed mounting plate		800
EA5011	Opposed mounting plate		1000



Inner doors

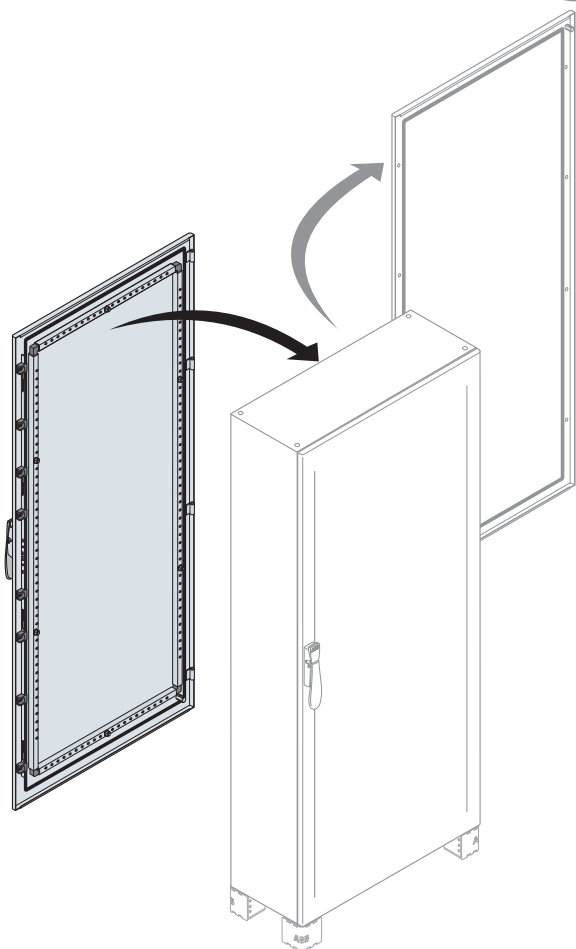
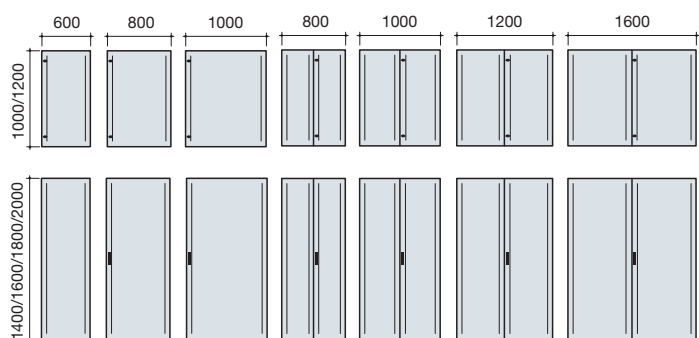
Internal door made of 15/10 thick steel sheet, complete with reinforcement tube, frame, hinges and n°2 boxes with interchangeable key with double tongue inserts (see page 3/25). Only for single door versions.

Code	Description	Mounted code *	Dimensions mm	
			H	W
TF1060K	Internal counterdoor	TF1060KMT	1000	600
TF1080K	Internal counterdoor	TF1080KMT		800
TF1010K	Internal counterdoor	TF1010KMT		1000
TF1260K	Internal counterdoor	TF1260KMT	1200	600
TF1280K	Internal counterdoor	TF1280KMT		800
TF1210K	Internal counterdoor	TF1210KMT		1000
TF1460K	Internal counterdoor	TF1460KMT	1400	600
TF1480K	Internal counterdoor	TF1480KMT		800
TF1410K	Internal counterdoor	TF1410KMT		1000
TF1660K	Internal counterdoor	TF1660KMT	1600	600
TF1680K	Internal counterdoor	TF1680KMT		800
TF1610K	Internal counterdoor	TF1610KMT		1000
TF1860K	Internal counterdoor	TF1860KMT	1800	600
TF1880K	Internal counterdoor	TF1880KMT		800
TF1810K	Internal counterdoor	TF1810KMT		1000
TF2060K	Internal counterdoor	TF2060KMT	2000	600
TF2080K	Internal counterdoor	TF2080KMT		800
TF2010K	Internal counterdoor	TF2010KMT		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).

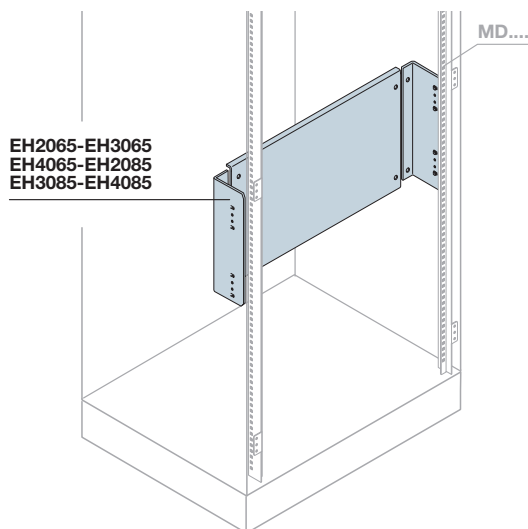
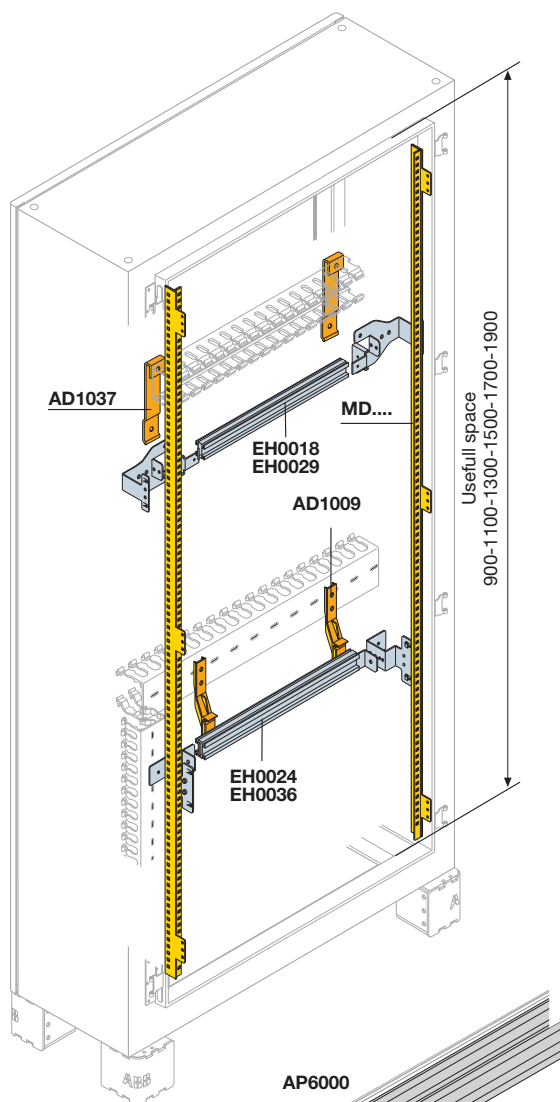
Mounted code *	Description	Dimensions mm	
		H	W
TC1006KMT	Replacement rear panel/blind door	1000	600
TC1008KMT	Replacement rear panel/blind door		800
TC1010KMT	Replacement rear panel/blind door		1000
TC1008DKMT	Replacement rear panel/double blind door		400+400
TC1010DKMT	Replacement rear panel/double blind door		500+500
TC1012DKMT	Replacement rear panel/double blind door		600+600
TC1016DKMT	Replacement rear panel/double blind door	1200	800+800
TC1206KMT	Replacement rear panel/blind door		600
TC1208KMT	Replacement rear panel/blind door		800
TC1210KMT	Replacement rear panel/blind door		1000
TC1208DKMT	Replacement rear panel/double blind door		400+400
TC1210DKMT	Replacement rear panel/double blind door		500+500
TC1212DKMT	Replacement rear panel/double blind door		600+600
TC1406KMT	Replacement rear panel/blind door	1400	600
TC1408KMT	Replacement rear panel/blind door		800
TC1410KMT	Replacement rear panel/blind door		1000
TC1408DKMT	Replacement rear panel/double blind door		400+400
TC1410DKMT	Replacement rear panel/double blind door		500+500
TC1412DKMT	Replacement rear panel/double blind door		600+600
TC1606KMT	Replacement rear panel/blind door	1600	600
TC1608KMT	Replacement rear panel/blind door		800
TC1610KMT	Replacement rear panel/blind door		1000
TC1608DKMT	Replacement rear panel/double blind door		400+400
TC1610DKMT	Replacement rear panel/double blind door		500+500
TC1612DKMT	Replacement rear panel/double blind door		600+600
TC1806KMT	Replacement rear panel/blind door	1800	600
TC1808KMT	Replacement rear panel/blind door		800
TC1810KMT	Replacement rear panel/blind door		1000
TC1808DKMT	Replacement rear panel/double blind door		400+400
TC1810DKMT	Replacement rear panel/double blind door		500+500
TC1812DKMT	Replacement rear panel/double blind door		600+600
TC2006KMT	Replacement rear panel/blind door	2000	600
TC2008KMT	Replacement rear panel/blind door		800
TC2010KMT	Replacement rear panel/blind door		1000
TC2010DKMT	Replacement rear panel/double blind door		500+500
TC2012DKMT	Replacement rear panel/double blind door		600+600

* Code only valid for factory-assembled panel boards.

Ordering codes

Structures for modular apparatus

3



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

With the uprights for DIN rail it is not possible to mount the crosspieces depthwise (TS.... on pag. 3/13).

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

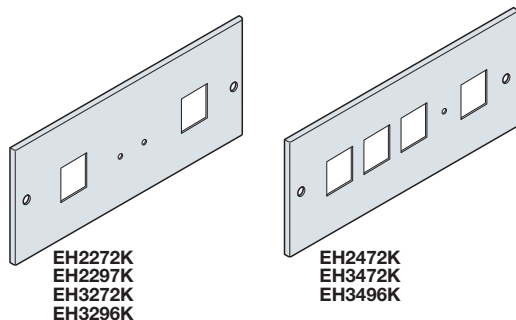
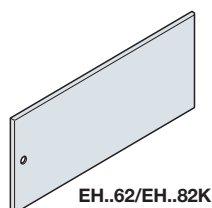
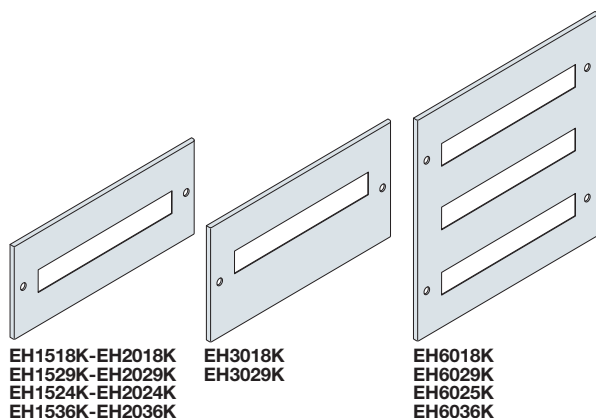
Blind apparatus holder back plates

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 RAL7035 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	Dimensions mm (HxW)
EH1518K	Panel 18 DIN mod.	150x600
EH2018K	Panel 18 DIN mod.	200x600
EH3018K	Panel 18 DIN mod. off-centre	300x600
EH6018K	Panel 54 DIN mod. (3 rows x 18 DIN mod.)	600x600
EH1529K	Panel 29 DIN mod.	150x800
EH2029K	Panel 29 DIN mod.	200x800
EH3029K	Panel 29 DIN mod. off-centre	300x800
EH6029K	Panel 87 DIN mod. (3 rows x 29 DIN mod.)	600x800
EH1524K	Panel 24 DIN mod.	150x600
EH2024K	Panel 24 DIN mod.	200x600
EH6025K	Panel 72 DIN mod. (3 rows x 24 DIN mod.)	600x600
EH1536K	Panel 36 DIN mod.	150x800
EH2036K	Panel 36 DIN mod.	200x800
EH6036K	Panel 108 DIN mod. (3 rows x 36 DIN mod.)	600x800

Blind panels for apparatus

Blind panel in 12/10 (W=600mm) and 15/10 (W=800mm) sheet painted RAL7035 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	Dimensions mm (HxW)
EH0562K	Blind panel	50x600
EH1062K	Blind panel	100x600
EH1562K	Blind panel	150x600
EH2062K	Blind panel	200x600
EH3063K	Blind panel	300x600
EH4062K	Blind panel	400x600
EH5062K	Blind panel	500x600
EH6062K	Blind panel	600x600
EH0582K	Blind panel	50x800
EH1082K	Blind panel	100x800
EH1582K	Blind panel	150x800
EH2082K	Blind panel	200x800
EH3082K	Blind panel	300x800
EH4082K	Blind panel	400x800
EH5082K	Blind panel	500x800
EH6082K	Blind panel	600x800

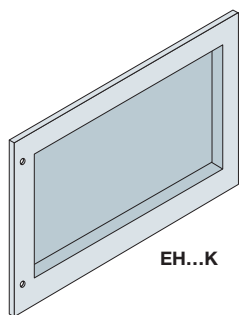
Panel for square measuring instruments

Panel with cut-outs for measuring instruments made of 15/10 sheet painted RAL7035 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	Dimensions mm (HxW)
EH2272K	Panel n°2 instruments 72x72mm	200x600
EH2472K	Panel n°4 instruments 72x72mm	200x600
EH2297K	Panel n°2 instruments 96x96mm	200x600
EH3272K	Panel n°2 instruments 72x72mm	200x800
EH3296K	Panel n°2 instruments 96x96mm	200x800
EH3472K	Panel n°4 instruments 72x72mm	200x800
EH3496K	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 RAL7035 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)
EH2063K	Recessed blind panel	200x600
EH2083K	Recessed blind panel	200x800
EH3064K	Recessed blind panel	300x600
EH3083K	Recessed blind panel	300x800
EH4064K	Recessed blind panel	400x600
EH4083K	Recessed blind panel	400x800
EH5063K	Recessed blind panel	500x600
EH5084K	Recessed blind panel	500x800
EH6063K	Recessed blind panel	600x600
EH6084K	Recessed blind panel	600x800

Accessories for panels

Hinges and rapid closures for panels

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

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

Hole covering strip

Code	Description
AD1086	N°10 hole covers W=2000mm, grey RAL7035 colour
AD1088	N°3 hole covers 24 DIN modules grey RAL7035 colour
AD1089	N°3 hole covers 36 DIN modules grey RAL7035 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 ⁽²⁾	N°288 labels 1 DIN mod.
AD1102 ⁽²⁾	N°192 labels 2 DIN mod.
AD1103 ⁽²⁾	N°96 labels 3 DIN mod.
AD1104 ⁽²⁾	N°96 labels 4 DIN mod.

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

⁽²⁾ Labels can be written using compatible Grafoplast system.

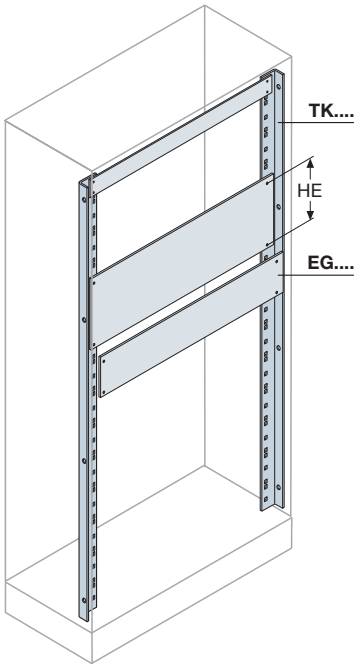
Distribution frames

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

⁽¹⁾ 10 ways out - ⁽²⁾ 6 ways out

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.

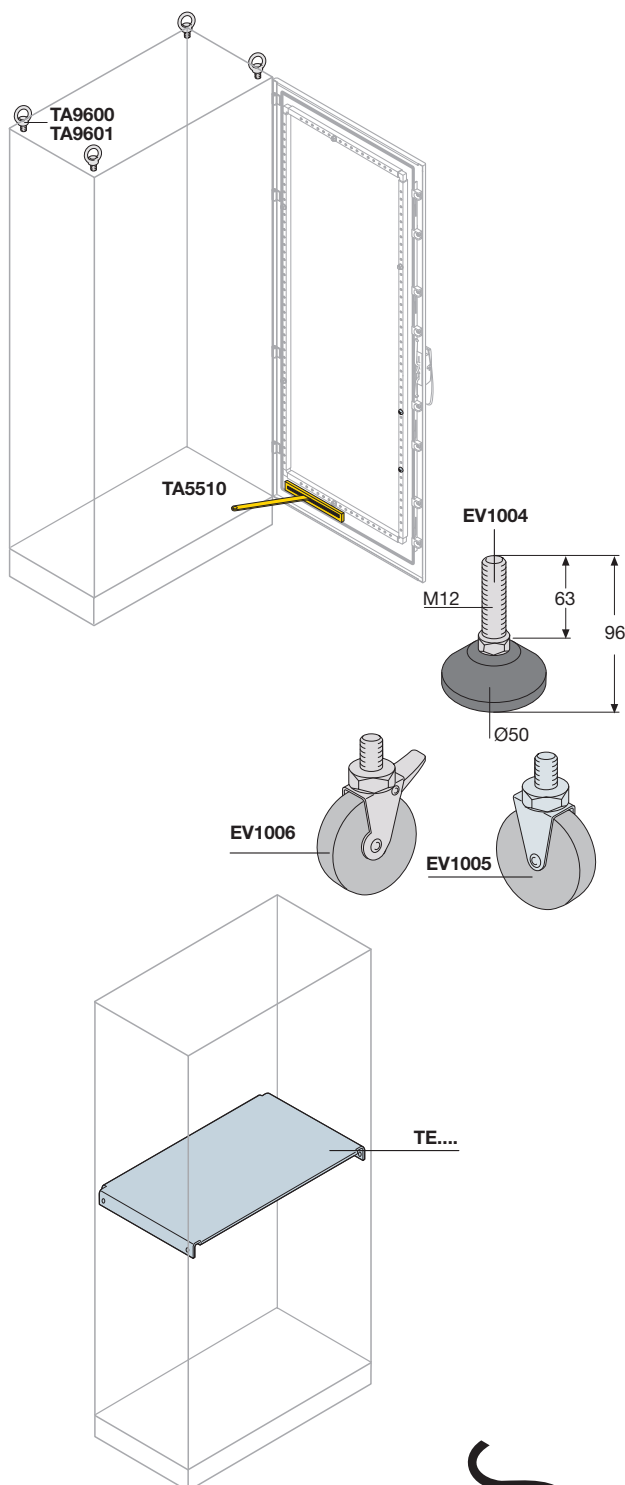
Code	Description	Dimensions mm (H)
TK1000	Pair of uprights fixed rack 20HE	1000
TK1200	Pair of uprights fixed rack 24HE	1200
TK1400	Pair of uprights fixed rack 28HE	1400
TK1600	Pair of uprights fixed rack 34HE	1600
TK1800	Pair of uprights fixed rack 38HE	1800
TK2000	Pair of uprights fixed rack 42HE	2000

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)
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



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

Cannot be mounted where there is a counterdoor, glass door and modular panel.

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, 500 kg capacity each
EV1005	N°4 free wheels Ø 80mm, 70 kg capacity each
EV1006	N°4 braked wheels Ø 80mm, 70 kg 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 (WxD)
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

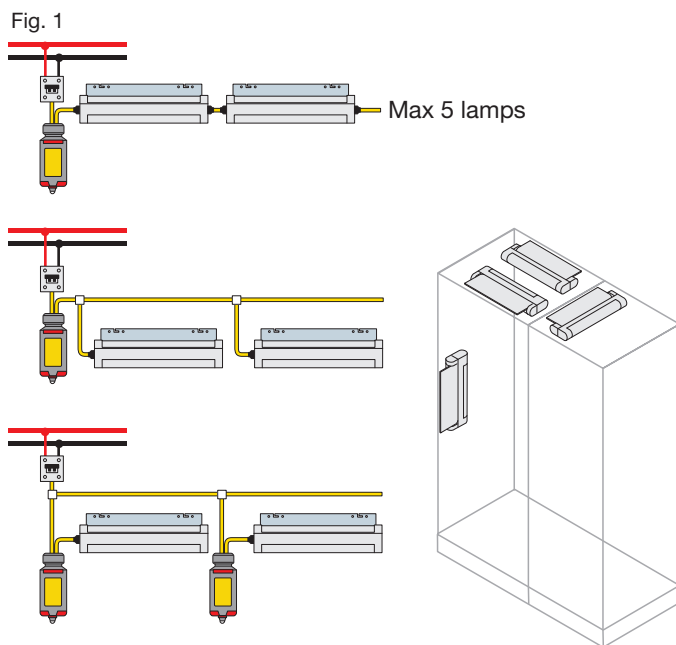
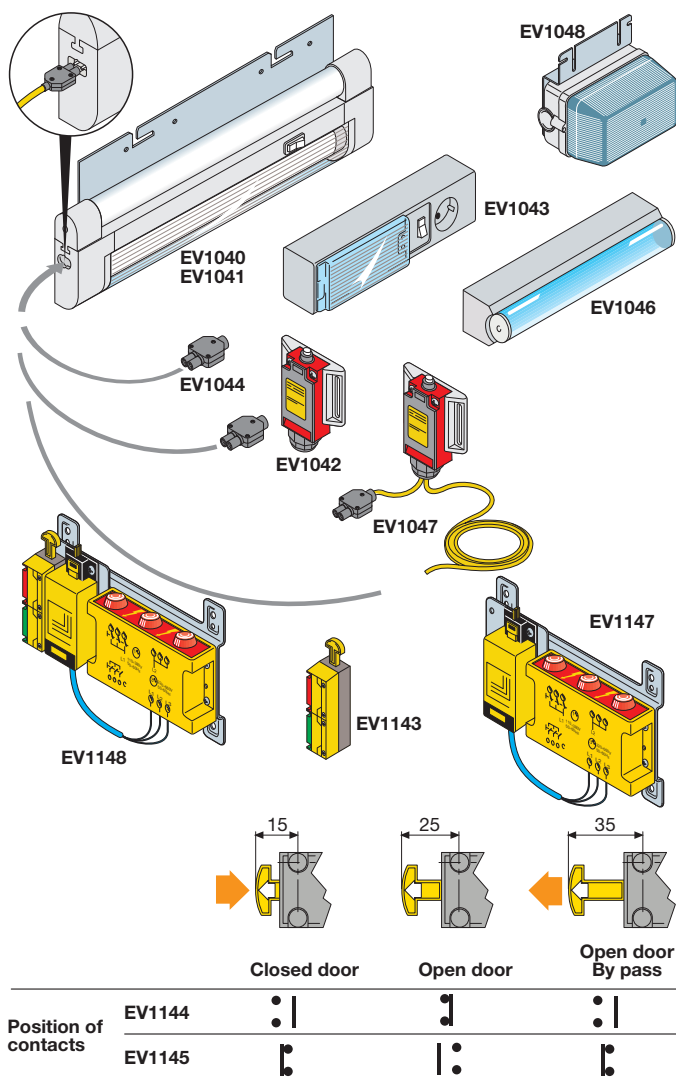
Conforming to the EN 50047 Standard, IP65 degree of protection, UL/CSA approved, can be assembled in all the positions directly on the panel board structure by means of the accessory supplied. Technical data: Ui=500V Dimensions: 84x30x30mm.

Aux. contact In =3A at 230V~ or 1.8A at 400V~ (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 (without lamp)

* There are two cables L=1900mm and L=380mm in the pack

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 EV1144 (NO installed with door closed) which allows supply of a current launching coil. A NO contact can be added code EV1145 (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, UL/CSA approved, operating temperature from -25 °C to +65 °C.

Flashing: terminal capacity max. 3mm², Ue/Ie auxiliary contact capacity: 110V/6A, 230V/3A, 400V/2A, 600V/1.2A.

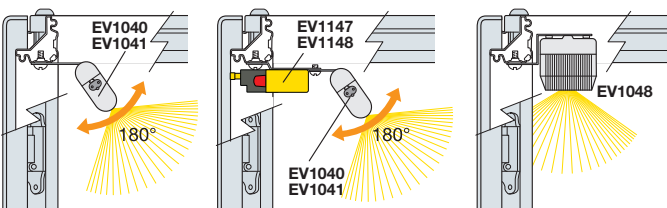
Rated thermal current Ith: 10 A

Max. terminal capacity: 2x1.5mm² / 1x3mm²

Flashing signalling device:

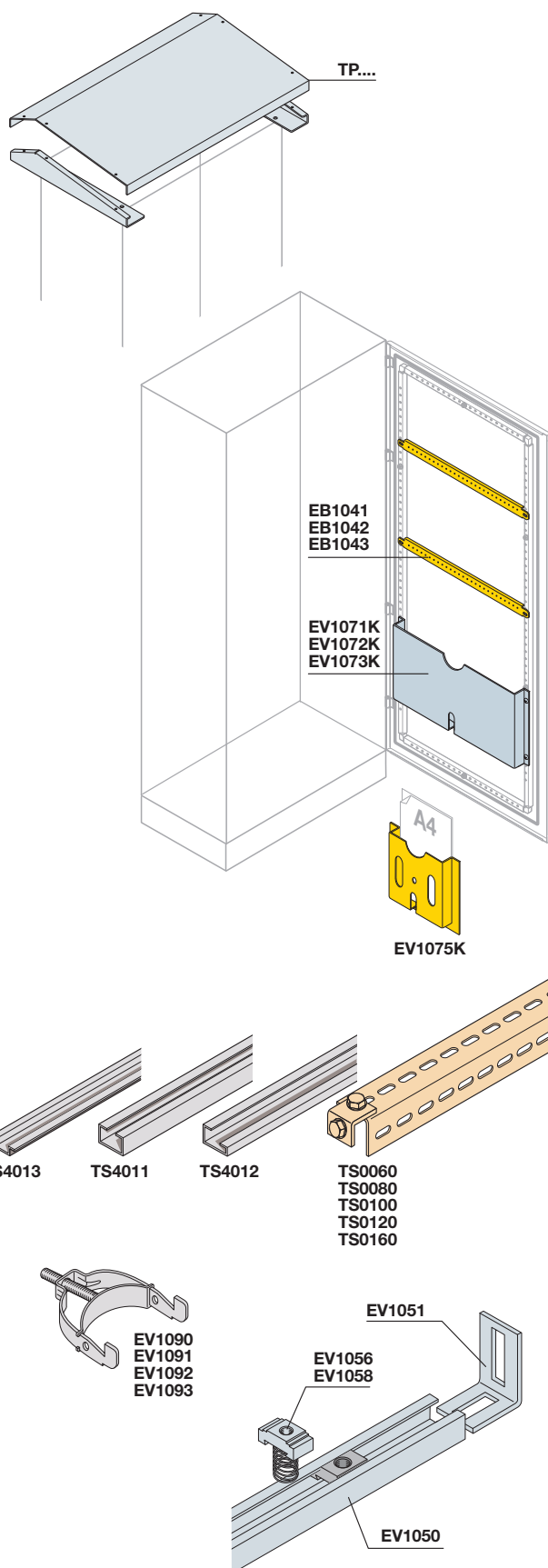
- Single phase 110-400V DC/AC 50/60Hz power supply voltage
- Three-phase AC 220-690V 50/60Hz

Code	Description	Ue (V)	Ui (V)
EV1147	Voltage detector device	380/600	690
EV1148	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		



Ordering codes

Accessories



Spray protection roofs

To improve protection against entry of liquids and rain. Made of 15/10mm thick sheet steel, painted RAL 7035 colour orange peel.

Code	Description	Dimensions mm (WxD)
TP6030K	Spray protection roof	600x300
TP6040K	Spray protection roof	600x400
TP6050K	Spray protection roof	600x500
TP8030K	Spray protection roof	800x300
TP8040K	Spray protection roof	800x400
TP8050K	Spray protection roof	800x500
TP1030K	Spray protection roof	1000x300
TP1040K	Spray protection roof	1000x400
TP1050K	Spray protection roof	1000x500
TP1230K	Spray protection roof	1200x300
TP1240K	Spray protection roof	1200x400
TP1250K	Spray protection roof	1200x500

Diagram holder pockets RAL 7035

Fixed inside the door by means of adhesive parts in the case of the plastic version **EV1075K**, or directly by means of screws to the sections of the door for the metal versions. Both versions are RAL 7035 colour.

Code	Description
EV1071K	Metal diagram holder pocket for door l=600mm
EV1072K	Metal diagram holder pocket for door l=800mm
EV1073K	Metal diagram holder pocket for door l=1000mm
EV1075K	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 anchoring cables

Adjustable cable clamping bracket. Can be mounted on sections with 10mm slot EV1050.

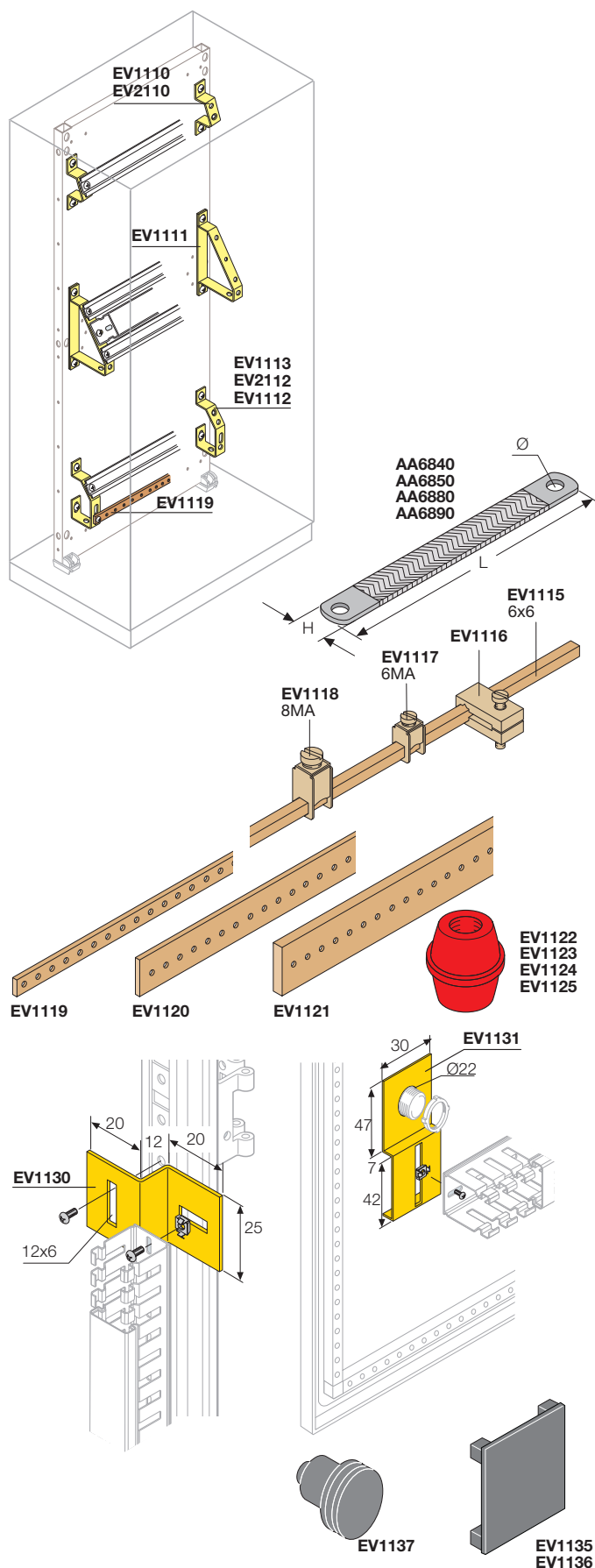
Code	Description
EV1090	N°10 cable clamping brackets Ø 9-16mm min-max
EV1091	N°10 cable clamping brackets Ø 16-30mm min-max
EV1092	N°5 cable clamping brackets Ø 30-48mm min-max
EV1093	N°5 cable clamping brackets Ø 48-72mm min-max

Sliding aluminium rails for general purposes

Code	Description	Dimensions mm (L)
EV1050	N°10 aluminium sections 30x15x1.8	2000
EV1051	N°25 fixing brackets for EV1050	
EV1056	N°100 M6 aluminium nuts for EV1050	
EV1058	N°100 M8 aluminium nuts for EV1050	

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 + earth
EV2112	N°10 angled supports 1 row of terminals + earth
EV1113	N°2 angled supports 1 row of terminals + earth
EV1111	N°10 angled supports double row of terminals

Cables for earthing

Code	Description	Dimensions mm (L)
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 ² for EV1115
EV1118	N°100 terminals for cable ø4-35mm ² 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 spare part M6 three-lobed 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 cabinets

Their use prevents condensation in the electric cabinets.

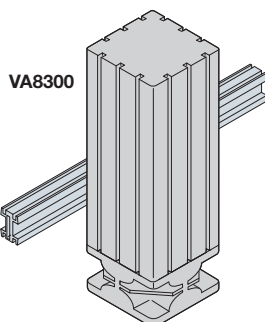
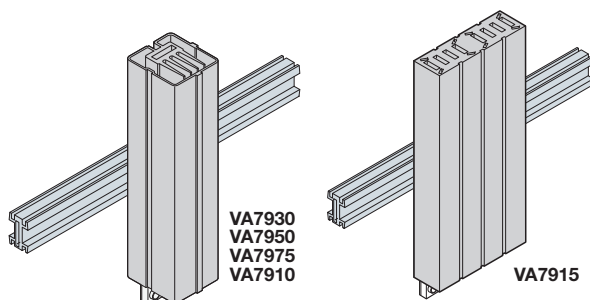
They consist of a heating element (PTC thermistor) inserted in an aluminium alloy ground plate. The PTC thermistor is a component which modifies its impedance according to the operating temperature. It is intrinsically stable and ensures primary safety features for the heater and service stability.

The main qualities of the heaters using PTC are:

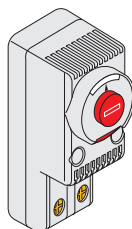
- electrical absorption (or dissipated power) which is almost constant in the range of power supply voltage between 100 and 250V;
- electrical absorption bound by inverse law to the trend of the ambient temperature.

The special tubular geometry of the ground plate allows efficient thermal exchange with the heating element. This allows high powers and limited overall dimensions (especially in width and depth);

Snap-on assembly on 35 mm DIN rail. Requires a thermostat.



EN0101K
EN0102K



Code	Description	Dimensions mm (HxWxD)
VA7930	Anti-condensation heater 30W, 110-240 Vac-dc	115x42x42
VA7950	Anti-condensation heater 50W, 110-240 Vac-dc	165x42x42
VA7975	Anti-condensation heater 75W, 110-240 Vac-dc	210x42x42
VA7910	Anti-condensation heater 100W, 110-240 Vac-dc	165x42x48
VA7915	Anti-condensation heater 150W, 110-240 Vac-dc	130x82x48
VA8300	Anti-condensation heater with fan 300W, 230 Vac-dc	140x82x95

For minimum mounting distances, see pag. 9/48.

All the heaters with PTC absorb a higher power than the rated one on inrush according to a transitory which lasts a few tenths of a second.

If the heaters are to be supplied by means of an auxiliary transformer, its apparent power must be sized taking 1.5 times the rated power of the heaters with natural aeration and twice those with forced ventilation into consideration.

$$Pe = (W + D) \times H \times K1 \times K2 \times K3.$$

Selection of the heater

Pe = Electric power required

H, W, D = Cabinet dimensions

K1 = Cabinet position

K2 = Temperature outside the cabinet

K3 = Climate type

	K1		K2		K3
internal	7	0-10 °C	5	Wet	1,3
external	8	-5 °C	10	Normal	1
external exp	10	-10 °C	15	Cleaning	0,9
		-15 °C	20		
		-20 °C	25		
		-30 °C	35		
		-50 °C	55		

Example:

Cabinet H=2m / W=0,6m / D=0,4m

K1 = 7

K2 = 10

K3 = 1

Pe (W) = (0,6+0,4) x 2 x 7 x 10 x 1 = 140

Heater suggested: VA7915 (150W)

IP20 Thermostat

Conforming to the EN 60730-1, EN 60730-2-9 Standard, UL and CuRUS (UL canadian market) approved, IP20 degree of protection. Grey RAL 7035 colour; electrical life 100,000 cycles. Dimensions (hwxwd) 68x29x45mm, can be mounted on all types of DIN rail.

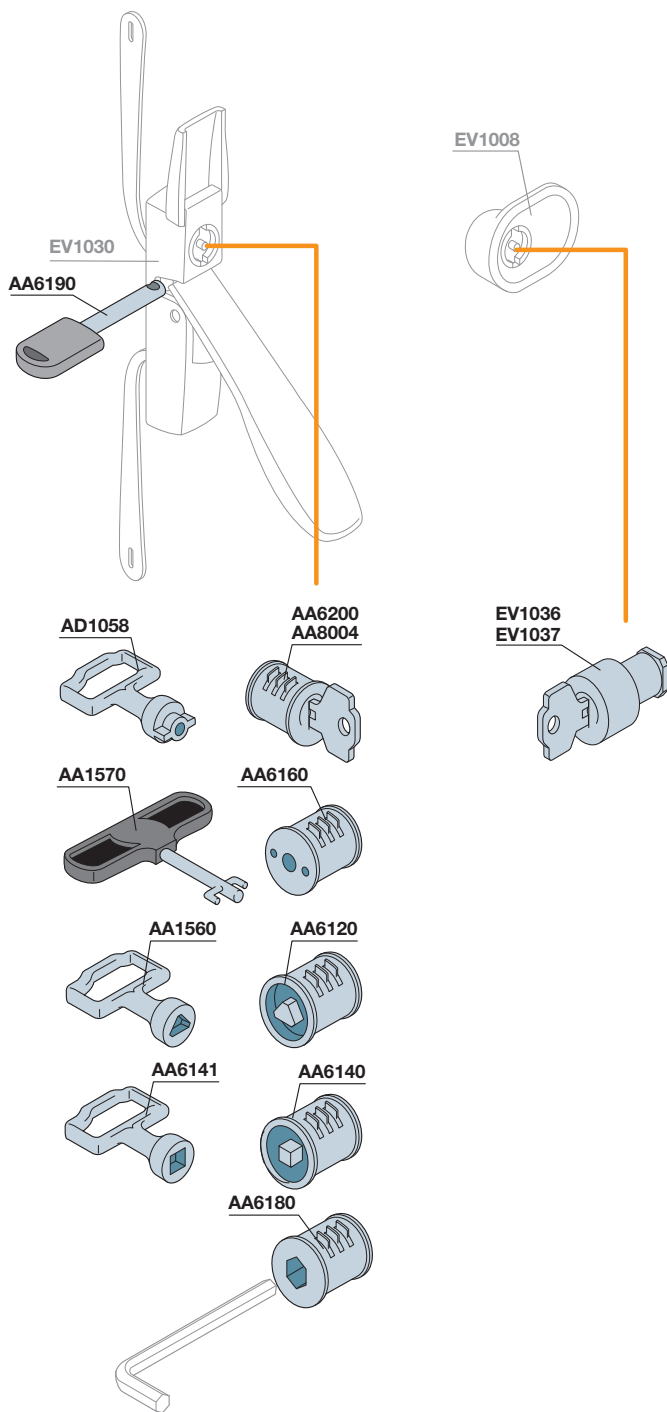
The version with NO (normally open) contact allows a circuit to be closed activating ventilation, air conditioning, or alarms. The version with NC (normally closed) contact allows a circuit to be opened disconnecting any anti-condensation heaters.

Code	Description	Standard power supply V-/50-60Hz
EN0101K	Ventilation thermostat NO	110/250
EN0102K	Heating thermostat NC	110/250

	Power supply	Contact Capacity Load Ω	Load L	Temperature scale	Type of contacts	Weight
EN0101K	110/250~	10A	2A	-10 +80 °C	NO	48g
EN0102K	110/250~	10A	2A	-10 +80 °C	NC	48g

Ordering codes

Accessories



Key inserts for handle

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

Code	Description
AD1058	Zn + Al + Mg alloy key for double tongue insert
AA6200	Yale type insert
AA8004	Ronis E739 insert + key
AA6160	FIST (FIAT) type insert
AA1570	FIAT type key
AA6120	Triangular male insert 6.4 on Ø 7.6
AA1560	Triangular key made of iron
AA6140	Square male type insert 7
AA6141	Key for square insert
AA6180	Hexagonal 8 embedded type of insert
AA6190	Accessory for padlockable handle

Spare parts for standard handle

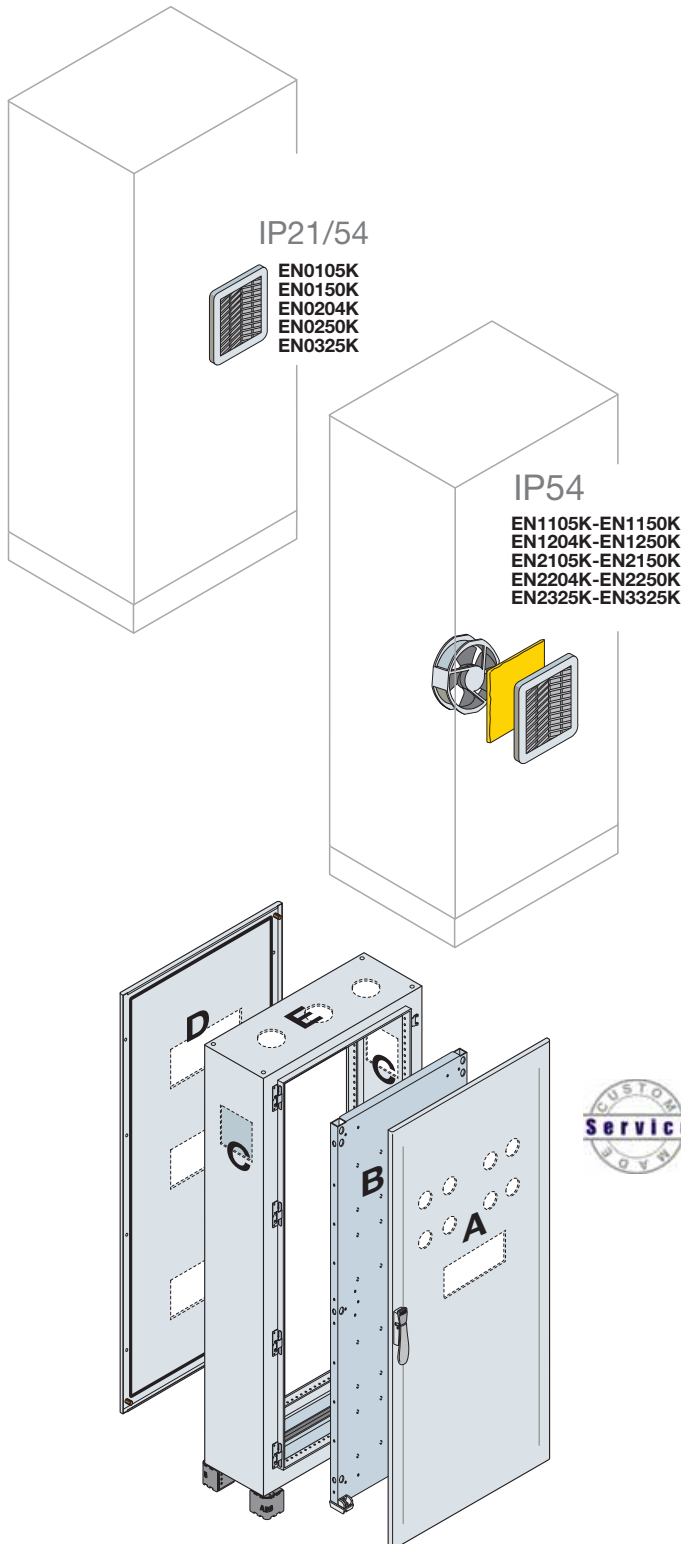
Code	Description
EV1030	Handle complete with lock
AA6100	Double tongue insert for EV1030 handle

Spare parts and inserts for closing box

Code	Description
EV1008	Closure box standard with double tongue insert (without tab)
EV1039	Double tongue insert
EV1036	Unique coded Yale insert
EV1037	Ronis 455 insert

Ordering codes

Accessories



IP21/54 natural ventilation kit

Gratings made of insulating material (self-extinguishing ABS UL94V-0) RAL7035 colour, complete with high dust collection capacity filter cloth (620g/m²), 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	Air entry surface for ventilation		Dimensions mm (WxW)
		without filter cm ²	with filter cm ²	
EN0105K	Grille+air passage filter kit	27	6	105x105
EN0150K	Grille+air passage filter kit	53	10	105x150
EN0204K	Grille+air passage filter kit	121	22	204x204
EN0250K	Grille+air passage filter kit	225	32	250x250
EN0325K	Grille+air passage filter kit	317	55	325x325

IP54 forced ventilation Kit

Grilles made of insulating material (ABS self-extinguishing UL94V-0) RAL7035 colour, complete with filter cloth with high dust accumulation capacity (620g/m²), 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 -10 °C + 50 °C, noise 50 dB (A). The fans allow reversible flow of air. UL507 approved.

Code	Description	Consumption [W]	Capacity [m ³ /h]
With IP54 230V ~ fan			
EN1105	Ventilation filter 105x105mm (WxW)	10	23
EN1150	Ventilation filter 150x150mm (WxW)	20	57
EN1204	Ventilation filter 204x204mm (WxW)	17	120
EN1250	Ventilation filter 250x250mm (WxW)	29	240
EN2325	Ventilation filter 325x325mm (WxW)	67	520

With IP 54 1150V~ fan

EN2105	Ventilation filter 105x105mm (WxW)	9	23
EN2150	Ventilation filter 150x150mm (WxW)	20	57
EN2204	Ventilation filter 204x204mm (WxW)	17	120
EN2250	Ventilation filter 250x250mm (WxW)	30	240
EN3325	Ventilation filter 325x325mm (WxW)	50	520



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**.
Remind to insert a note for colour in the order.

Special Drilling service

For the overall dimensions see page 9/49.

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

Special drilling service to be managed with the cabinet code T....SPEC.
It is necessary to include the drawing of the drilling layout (see pag. 9/47 for useful drilling areas).

Special drilling and painting service to be managed with the cabinet code T....SPEC. It is necessary to include the drawing of the drilling layout and specify note of the colour in the order.

For request of fins it's necessary the management with offer.

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

Ordering codes

Spare parts

Doors for single door version

Code	Description	Dimensions mm	
		H	W
TC1006K	Blind door	1000	600
TT1006K	Glazed door		800
TC1008K	Blind door		1000
TT1008K	Glazed door		1000
TC1010K	Blind door	1200	600
TT1010K	Glazed door		800
TC1012K	Blind door		1000
TT1012K	Glazed door		1000
TC1014K	Blind door	1400	600
TT1014K	Glazed door		800
TC1016K	Blind door		1000
TT1016K	Glazed door		1000
TC1018K	Blind door	1600	600
TT1018K	Glazed door		800
TC1020K	Blind door		1000
TT1020K	Glazed door		1000
TC1022K	Blind door	1800	600
TT1022K	Glazed door		800
TC1024K	Blind door		1000
TT1024K	Glazed door		1000
TC1026K	Blind door	2000	600
TT1026K	Glazed door		800
TC1028K	Blind door		1000
TT1028K	Glazed door		1000

3

Ordering codes

Spare parts

Doors for double door version

Code	Description	Dimensions mm	
		H	W
TC1008DK	Blind door with handle	1000	400
TC1008SK	Blind door with overlapping closing		
TC1010DK	Blind door with handle		500
TC1010SK	Blind door with overlapping closing		
TC1012DK	Blind door with handle		600
TC1012SK	Blind door with overlapping closing		
TC1016DK	Blind door with handle	1200	800
TC1016SK	Blind door with overlapping closing		
TC1208DK	Blind door with handle		400
TC1208SK	Blind door with overlapping closing		
TC1210DK	Blind door with handle		500
TC1210SK	Blind door with overlapping closing		
TC1212DK	Blind door with handle		600
TC1212SK	Blind door with overlapping closing		
TC1408DK	Blind door with handle	1400	400
TC1408SK	Blind door with overlapping closing		
TC1410DK	Blind door with handle		500
TC1410SK	Blind door with overlapping closing		
TC1412DK	Blind door with handle		600
TC1412SK	Blind door with overlapping closing		
TC1608DK	Blind door with handle	1600	400
TC1608SK	Blind door with overlapping closing		
TC1610DK	Blind door with handle		500
TC1610SK	Blind door with overlapping closing		
TC1612DK	Blind door with handle		600
TC1612SK	Blind door with overlapping closing		
TC1808DK	Blind door with handle	1800	400
TC1808SK	Blind door with overlapping closing		
TC1810DK	Blind door with handle		500
TC1810SK	Blind door with overlapping closing		
TC1812DK	Blind door with handle		600
TC1812SK	Blind door with overlapping closing		
TC2010DK	Blind door with handle	2000	500
TC2010SK	Blind door with overlapping closing		
TC2012DK	Blind door with handle		600
TC2012SK	Blind door with overlapping closing		

Ordering codes

Spare parts

Rear panels

Code	Description	Dimensions mm	
		H	W
TE1060K	Rear panel	1000	600
TE1080K	Rear panel		800
TE1010K	Rear panel		1000
TE1012K	Rear panel		1200
TE1016K	Rear panel		1600
TE1260K	Rear panel	1200	600
TE1280K	Rear panel		800
TE1210K	Rear panel		1000
TE1212K	Rear panel		1200
TE1460K	Rear panel	1400	600
TE1480K	Rear panel		800
TE1410K	Rear panel		1000
TE1412K	Rear panel		1200
TE1660K	Rear panel	1600	600
TE1680K	Rear panel		800
TE1610K	Rear panel		1000
TE1612K	Rear panel		1200
TE1860K	Rear panel	1800	600
TE1880K	Rear panel		800
TE1810K	Rear panel		1000
TE1812K	Rear panel		1200
TE2060K	Rear panel	2000	600
TE2080K	Rear panel		800
TE2010K	Rear panel		1000
TE2012K	Rear panel		1200
AD1058	Zn + Al + Mg alloy key with double tongue		
EV1030	Handle complete with lock		
AA6100	Double tongue insert for EV1030 handle		
EV1039	Double tongue insert for EV1008 box		
EV1008	Ergonomic box complete with double tongue insert (without tab)		
ZE1040	N°4 plinth cover with ABB logo		
ZE1050	N°2 intermediate cover for plinth		
CA1402	N°2 hooking device rods H=1400mm		
CA1602	N°2 hooking device rods H=1600mm		
CA1802	N°2 hooking device rods H=1800mm		
CA2002	N°2 hooking device rods H=2000mm		

3



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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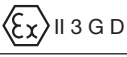
Versions available

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



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Technical characteristics	
Conformity with the Standard	CEI EN 62208, CEI EN 60439-1, IEC61439-1-2
Test of vibration for IS2 Cabinets	according to IEC 60068-2-57 Standard
Test of antiseismic for IS2 Cabinets	according to IEEE Std 693 Standard
Degree of protection	IP65 (CEI EN 60529) TYPE 12 (UL Standard)
Degree of mechanical strength	IK10 blind door IK09 glazed door (IEC 62262)
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 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 up-rights 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 7035. 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 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=300mm d=500-600-800mm-1000mm – 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 ≥ 1000 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 to be removed or drilled
- completely closed by a single large flange (20/10 thickness), which can be drilled to 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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Various types of plinths are available:

- **Standard:** 25/10 angle pieces + 10/10 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=100mm.
- **Supporting:** able to support the weight of the structure (≈ 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 (500kg max. weight)
- Free and braked type wheels (70kg 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.



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IS2 Enclosures for Automation

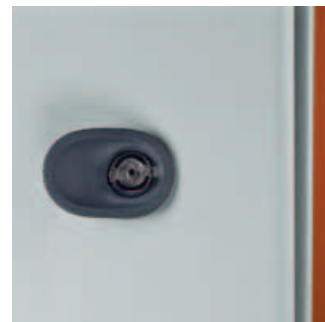
Main characteristics and applications



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. The transparent door is fitted with safety glass 4 mm thick screen-printed and with earthed pins.

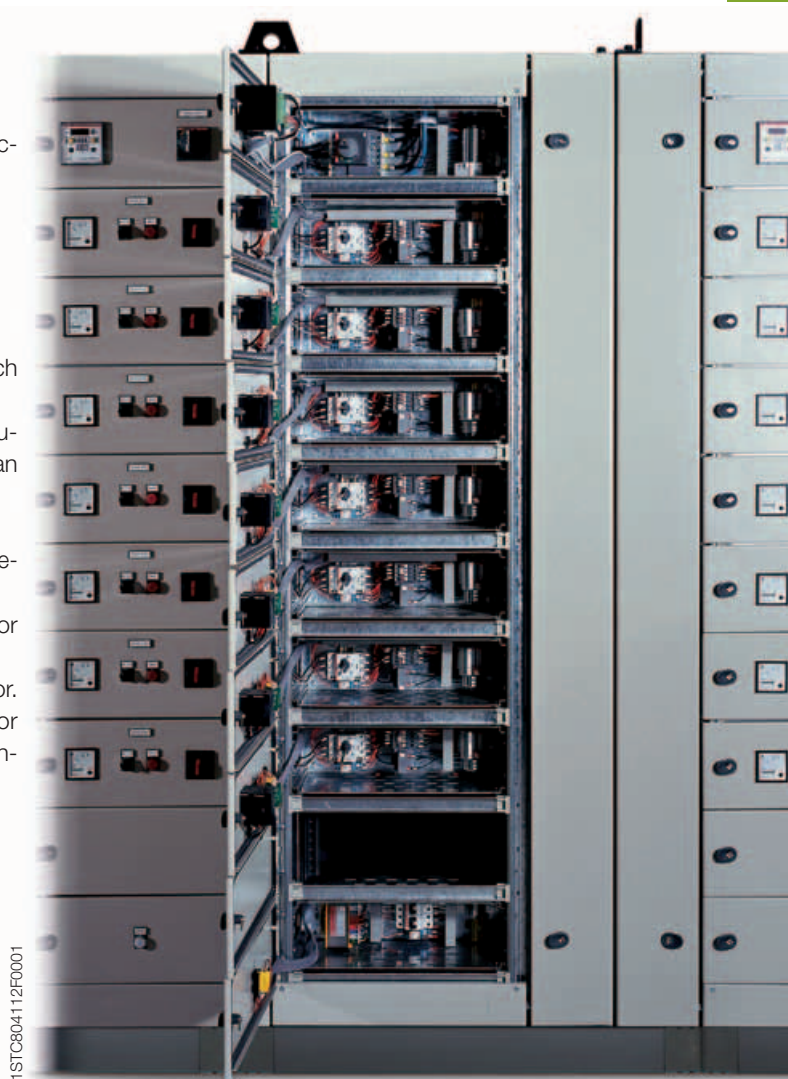


4

Both handles are fitted with different 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
- RAL7035 colour vertical and horizontal A3 format metal document pocket (only for doors w=600-800-1000mm), which can be mounted on the reinforcement bar
- 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.



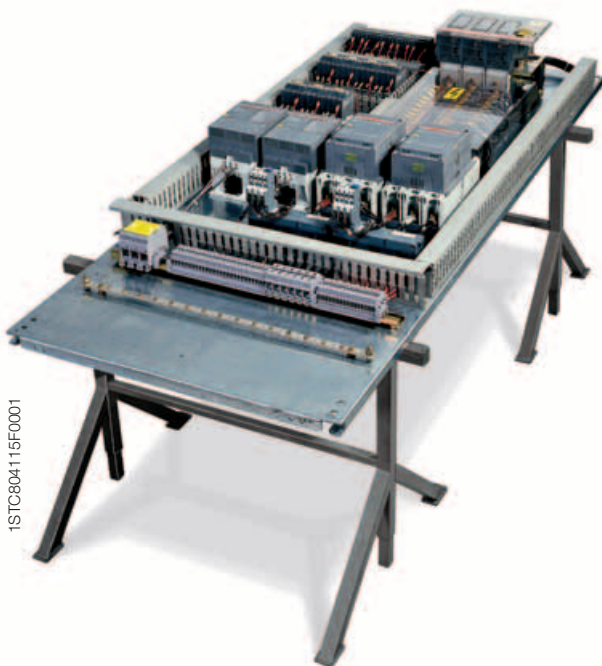
Large functional plate

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; also in the version with opposite plate
- 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 rear reinforcement crosspieces.



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 90Kg. With 38, 42, 47 HE module capacity for panel boards 1800, 2000, 2200mm high respectively, width 600, 800mm.
- **Swing:** in the versions for off-centre mounting in structures with W=800mm and centred in structures with W =600mm with a capacity of 36, 40, 45 HE modules respectively for 1800, 2000 and 2200mm heights.
- **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.



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IS2 Enclosures for Automation

General characteristics and applications



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.

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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 400mm, 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 72x72mm and 96x96mm 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=2000mm grey RAL 7035 colour
- Adhesive circuit identification label holders
- Distribution frames



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1STC804119F0001

IS2 Enclosures for Automation

General characteristics and applications

Air conditioners/fans

The following types of air conditioners are available:

- Air conditioners for wall assembly (door, side), IP54, 230V power supply @ 50/60Hz, RAL7035 colour; cooling powers: 550÷2100w
- Air conditioners for roof assembly, IP54, 230V power supply @ 50/60Hz, RAL7035 colour; cooling powers: 650÷1650w
- IP54 ventilation Kit, RAL7035 colour, 110-230V power supply @ 50/60Hz with reversible flow, 23÷360 m³/h capacity and IP43 ventilation hood with 480 m³/h capacity.
- IP21/54 filter Kit, RAL7035 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

4

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=48-100mm). 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: 8-13W fluorescent tube with 220-240V 50/60Hz power supply, or 11W version with integrated UNEL socket
- "Duct" type accessory able to shield the power cables from the signal cables
- Busbar system

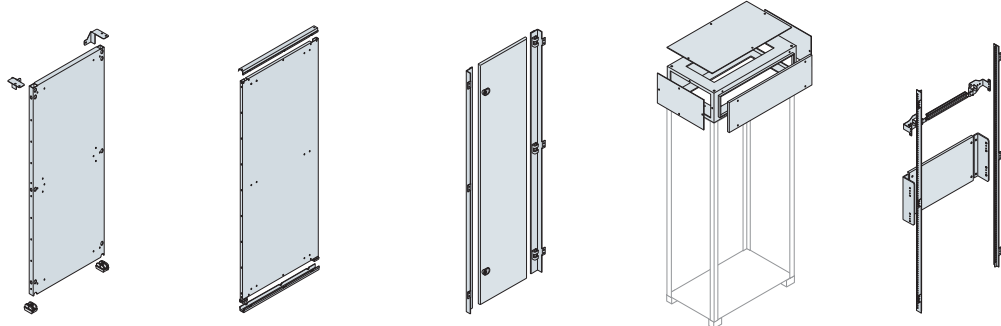


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IS2 Enclosures for Automation

General characteristics and applications

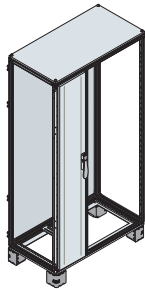
Composition of the series



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

IS2 Enclosures for Automation

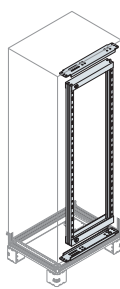
General characteristics and applications



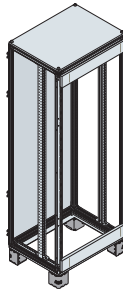
Cable container



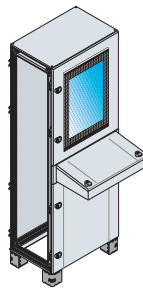
External
W=300mm



19" rack
structures



Structures with
compartments



Cabinet with
console



Cabinet for
computer



IS2 EMC

Dimensions
(mm)
D H

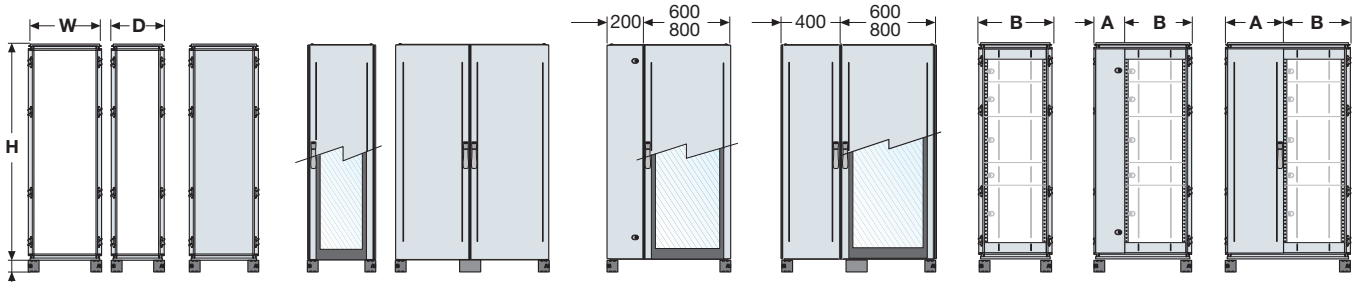
Internal W=200mm	Internal W=400mm	External W=300mm	19" rack structures	Structures with compartments	Cabinet with console	Cabinet for computer	IS2 EMC	W	D	H
		•						300		
								400		
•			•	•	•			600	400	
•	•		•	• + cable cont.	•			800		
	•			• + cable cont.				1000		
		•						1200		
								300		
								400		
•			•	•	•			600	500	
•	•		•	• + cable cont.	•			800		
	•			• + cable cont.				1000		
								1200		
		•						1600		
								300		
			•	•	•	•	• ⁽¹⁾	400		1800
•			•	•	•		• ⁽¹⁾	600	600	2000
•	•			• + cable cont.				800		2200
	•			• + cable cont.				1000		
								1200		
		•						1600		
								300		
			•	•	•	•	• ⁽¹⁾	400		
•			•	•	•		• ⁽¹⁾	600	800	
•	•			• + cable cont.				800		
	•			• + cable cont.				1000		
								1200		
		•						1600		
								300		
			•	•				400		
•			•	•				600	1000	
•	•			• + cable cont.				800		
								1000		

⁽¹⁾ Only H=2000mm

Pre-assembled IS2 Cabinets

Selection of the structure - h 1800 mm

Pre-assembled cabinets - h 1800mm



External overall dimensions			Cabinet without door	Cabinet with door			Cabinet with cable container				Cabinet with compartments					
H ⁽¹⁾ (mm)	W (mm)	D (mm)		Blind door	Double blind with overl. closure ⁽¹⁾	Glazed door	Blind door with cable cont. W=200mm	Blind door with cable cont. W=400mm	Glazed door with cable cont. W=200mm	Glazed door with cable cont. W=400mm	Width		Width			
											A (mm)	B (mm)	A (mm)	B (mm)		
1800	400	400		ES1844K												
	600		ES1864SPK	ES1864K		ES1864VK					ES1864MFK	-	600			
	800		ES1884SPK	ES1884K		ES1884VK	ES1884FV2K		ES1884VC2K		ES1884MF2K	200	600	ES1884MFK	-	800
	1000			ES1804K	ES1814BK	ES1804VK	ES1804FV2K	ES1804FV4K	ES1804VC2K	ES1804VC4K	ES1804MF4K	400	600	ES1804MF2K	200	800
	1200				ES1824BK	ES1824VK ⁽²⁾		ES1824FV4K		ES1824VC4K				ES1824MF4K	400	800
	400	500		ES1845K												
	600		ES1865SPK	ES1865K		ES1865VK					ES1865MFK	-	600			
	800			ES1885K		ES1885VK	ES1885FV2K		ES1885VC2K		ES1885MF2K	200	600	ES1885MFK	-	800
	1000			ES1805K	ES1815BK	ES1805VK	ES1805FV2K	ES1805FV4K	ES1805VC2K	ES1805VC4K	ES1805MF4K	400	600	ES1805MF2K	200	800
	1200				ES1827BK	ES1825VK ⁽²⁾		ES1825FV4K		ES1825VC4K				ES1825MF4K	400	800
	1600				ES1875BK											
	400	600		ES1846K												
	600		ES1866SPK	ES1866K		ES1866VK					ES1866MFK	-	600			
	800		ES1886SPK	ES1886K		ES1886VK	ES1886FV2K		ES1886VC2K		ES1886MF2K	200	600	ES1886MFK	-	800
	1000			ES1806K	ES1816BK	ES1806VK	ES1806FV2K	ES1806FV4K	ES1806VC2K	ES1806VC4K	ES1806MF4K	400	600	ES1806MF2K	200	800
	1200				ES1826BK	ES1826VK ⁽²⁾		ES1826FV4K		ES1826VC4K				ES1826MF4K	400	800
	1600				ES1876BK											
	400	800		ES1848K												
	600			ES1868K		ES1868VK					ES1868MFK	-	600			
	800			ES1888K		ES1888VK	ES1888FV2K		ES1888VC2K		ES1888MF2K	200	600	ES1888MFK	-	800
	1000			ES1808K	ES1818BK	ES1808VK	ES1808FV2K	ES1808FV4K	ES1808VC2K	ES1808VC4K	ES1808MF4K	400	600	ES1808MF2K	200	800
	1200				ES1828BK	ES1828VK ⁽²⁾		ES1828FV4K		ES1828VC4K				ES1828MF4K	400	800
	1600				ES1878BK											
	400	1000		ES1840K												
	600			ES1860K		ES1860VK					ES1860MFK	-	600			
	800			ES1880K		ES1880VK					ES1880MF2K	200	600	ES1880MFK	-	800
	1000			ES1800K	ES1810BK	ES1800VK					ES1800MF4K	400	600	ES1800MF2K	200	800

⁽¹⁾ 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.

⁽²⁾ Implies mounting the intermediate upright **EM1801**. The doors have overlapping closure on the intermediate upright (removable) fixed onto the crosspieces mounted in depth.

⁽³⁾ Also available with double blind doors with closing on intermediate upright (eliminate the suffix B from the code).

⁽⁴⁾ Standard plate joining kit: EA1800 (H=1800mm); EA2000 (H=2000mm); EA2200 (H=2200mm). Possibility of lateral insertion with tracks (see pag. 4/42).

⁽⁵⁾ EA2113 oversized plate joining kit H=1800/2000/2200mm.

⁽⁶⁾ Kit consisting of 2 oversized back plates with relative insertion tracks + plate joining kit.

⁽⁷⁾ In the case of structures with internal cable container, select the correct rack frame which takes into account the 200/400mm of the cable container.

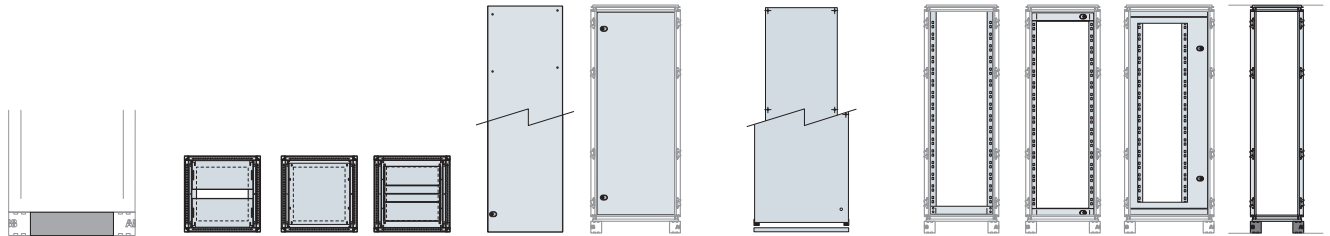
Note: for composition of the supply see page 4/25 and 4/30.

Kit for placing structures side by side **EV0002/EV0003/EV0006** see page 4/60.

Other accessories from page 4/61.

Pre-assembled IS2 Cabinets

Selection of the structure - h 1800 mm



1STC804014F0001

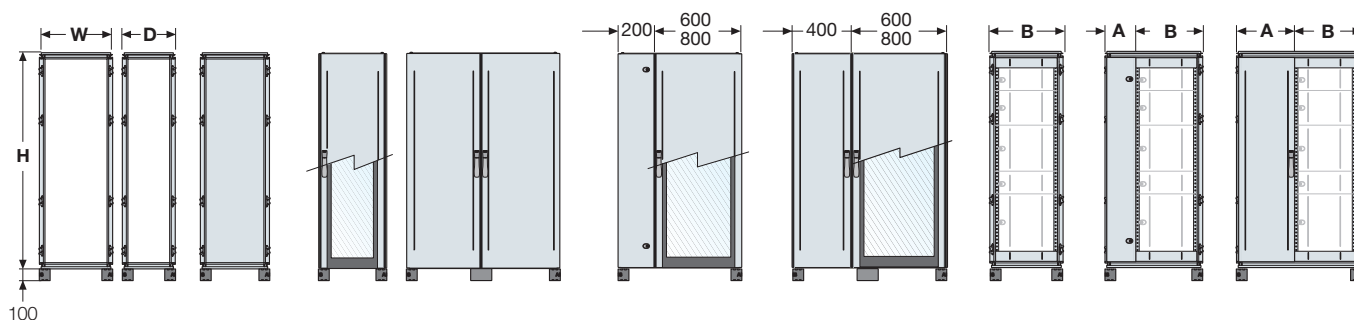
	Flanges for plinth		Incoming cable flanges			Side covers	Counterdoor	Back plates		Rack frames ⁽⁵⁾			External cable cont.
	Front/ rear	Side	Sliding	Fixed	Modular	no. 2 Blind panel		Standard ⁽²⁾	Oversize + tracks ⁽³⁾	Fixed Centred	Swing Centred W=600mm	Eccentric W=800mm	W=300mm
	ZE4000	ZE4000	EF4040	EF4042	EF4041	EL1840K		EA1841	EA1940				ER3040K
	ZE6000		EF6040	EF6043	EF6041		EE1860K	EA1860	EA1960	EG1800	EG1801K		
	ZE8000		EF8040	EF8042	EF8041		EE1880K	EA1880	EA1981	EG1880		EG1803K	
	ZE1000		EF1040	EF1042	EF1041		EE1810K	EA1810	EA1910				
	2xZE6000		2xEF6040	2xEF6043	2xEF6041			EA1812	EA1912				
	ZE4000	ZE5000	EF4050	EF4052	EF4051	EL1850K		EA1841	EA1940				ER3050K
	ZE6000		EF6050	EF6052	EF6051		EE1860K	EA1860	EA1960	EG1800	EG1801K		
	ZE8000		EF8050	EF8052	EF8051		EE1880K	EA1880	EA1981	EG1880		EG1803K	
	ZE1000		EF1053	EF1052	EF1051		EE1810K	EA1810	EA1910				
	2xZE6000		2xEF6050	2xEF6052	2xEF6051			EA1812	EA1912				
	2xZE8000		2xEF8050	2xEF8052	2xEF8051			EA1817	EA1916 ⁽⁴⁾				
	ZE4000	ZE6000	EF4060	EF4063	EF4061	EL1860K		EA1841	EA1940				ER3060K
	ZE6000		EF6060	EF6062	EF6061		EE1860K	EA1860	EA1960	EG1800	EG1801K		
	ZE8000		EF8060	EF8062	EF8061		EE1880K	EA1880	EA1981	EG1880		EG1803K	
	ZE1000		EF1060	EF1062	EF1061		EE1810K	EA1810	EA1910				
	2xZE6000		2xEF6060	2xEF6062	2xEF6061			EA1812	EA1912				
	2xZE8000		2xEF8060	2xEF8062	2xEF8061			EA1817	EA1916 ⁽⁴⁾				
	ZE4000	ZE8000	EF4080	EF4082	EF4081	EL1880K		EA1841	EA1940				ER3080K
	ZE6000		EF6080	EF6082	EF6081		EE1860K	EA1860	EA1960	EG1800	EG1801K		
	ZE8000		EF8080	EF8082	EF8081		EE1880K	EA1880	EA1981	EG1880		EG1803K	
	ZE1000		EF1080	EF1082	EF1081		EE1810K	EA1810	EA1910				
	2xZE6000		2xEF6080	2xEF6082	2xEF6081			EA1812	EA1912				
	2xZE8000		2xEF8080	2xEF8082	2xEF8081			EA1817	EA1916 ⁽⁴⁾				
	ZE4000	ZE1000	EF4010	EF4012	EF4011	EL1810K		EA1841	EA1940				ER3010K
	ZE6000		EF6010	EF6012	EF6011		EE1860K	EA1860	EA1960	EG1800	EG1801K		
	ZE8000		EF8010	EF8012	EF8011		EE1880K	EA1880	EA1981	EG1880		EG1803K	
	ZE1000		EF1010	EF1012	EF1011		EE1810K	EA1810	EA1910				

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Pre-assembled IS2 Cabinets

Selection of the structure - h 2000 mm

Pre-assembled cabinets - h 2000mm



External overall dimensions			Cabinet without door	Cabinet with door			Cabinet with cable container				Cabinet with compartments					
				Blind door	Double blind with overl. closure ⁽¹⁾	Glazed door	Blind door with cable cont. W=200mm	Blind door with cable cont. W=400mm	Glazed door with cable cont. W=200mm	Glazed door with cable cont. W=400mm	Width		Width			
H ⁽¹⁾ (mm)	W (mm)	D (mm)									A (mm)	B (mm)	A (mm)	B (mm)		
2000	400	400		ES2044K												
	600		ES2064SPK	ES2064K		ES2064VK					ES2064MFK	-	600			
	800		ES2084SPK	ES2084K		ES2084VK	ES2084FV2K		ES2084VC2K		ES2084MF2K	200	600	ES2084MFK	-	800
	1000			ES2004K	ES2014BK	ES2004VK	ES2004FV2K	ES2004FV4K	ES2004VC2K	ES2004VC4K	ES2004MF4K	400	600	ES2004MF2K	200	800
	1200				ES2024BK	ES2024VK ⁽²⁾		ES2024FV4K		ES2024VC4K				ES2024MF4K	400	800
	400	500		ES2045K												
	600		ES2065SPK	ES2065K		ES2065VK					ES2065MFK	-	600			
	800		ES2085SPK	ES2085K		ES2085VK	ES2085FV2K		ES2085VC2K		ES2085MF2K	200	600	ES2085MFK	-	800
	1000			ES2007K	ES2015BK	ES2005VK	ES2005FV2K	ES2005FV4K	ES2005VC2K	ES2005VC4K	ES2005MF4K	400	600	ES2005MF2K	200	800
	1200				ES2025BK	ES2025VK ⁽²⁾		ES2025FV4K		ES2025VC4K				ES2025MF4K	400	800
	1600				ES2075BK											
	400	600		ES2046K												
	600		ES2066SPK	ES2066K		ES2066VK					ES2066MFK	-	600			
	800		ES2086SPK	ES2086K		ES2086VK	ES2086FV2K		ES2086VC2K		ES2086MF2K	200	600	ES2086MFK	-	800
	1000			ES2006K	ES2016BK	ES2006VK	ES2006FV2K	ES2006FV4K	ES2006VC2K	ES2006VC4K	ES2006MF4K	400	600	ES2006MF2K	200	800
	1200				ES2026BK	ES2026VK ⁽²⁾		ES2026FV4K		ES2026VC4K				ES2026MF4K	400	800
	1600				ES2076BK											
	400	800		ES2048K												
	600			ES2068K		ES2068VK					ES2068MFK	-	600			
	800		ES2089SPK	ES2089K		ES2089VK	ES2089FV2K		ES2089VC2K		ES2089MF2K	200	600	ES2089MFK	-	800
	1000			ES2008K	ES2018BK	ES2008VK	ES2008FV2K	ES2008FV4K	ES2008VC2K	ES2008VC4K	ES2008MF4K	400	600	ES2008MF2K	200	800
	1200				ES2028BK	ES2028VK ⁽²⁾		ES2028FV4K		ES2028VC4K				ES2028MF4K	400	800
	1600				ES2078BK											
	400	1000		ES2040K												
	600			ES2060K		ES2060VK					ES2060MFK	-	600			
	800			ES2080K		ES2080VK					ES2080MF2K	200	600	ES2080MFK	-	800
	1000			ES2000K	ES2010BK	ES2000VK					ES2000MF4K	400	600	ES2000MF2K	200	800

⁽¹⁾ 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.

⁽²⁾ Implies mounting the intermediate upright **EM2001**. The doors have overlapping closure on the intermediate upright (removable) fixed onto the crosspieces mounted in depth.

⁽³⁾ Also available with double blind doors with closing on intermediate upright (eliminate the suffix B from the code).

⁽⁴⁾ Standard plate joining kit: EA1800 (H=1800mm); EA2000 (H=2000mm); EA2200 (H=2200mm). Possibility of lateral insertion with tracks (see pag. 4/42).

⁽⁵⁾ EA2113 oversized plate joining kit H=1800/2000/2200mm.

⁽⁶⁾ Kit consisting of 2 oversized back plates with relative insertion tracks + plate joining kit.

⁽⁷⁾ In the case of structures with internal cable container, select the correct rack frame which takes into account the 200/400mm of the cable container.

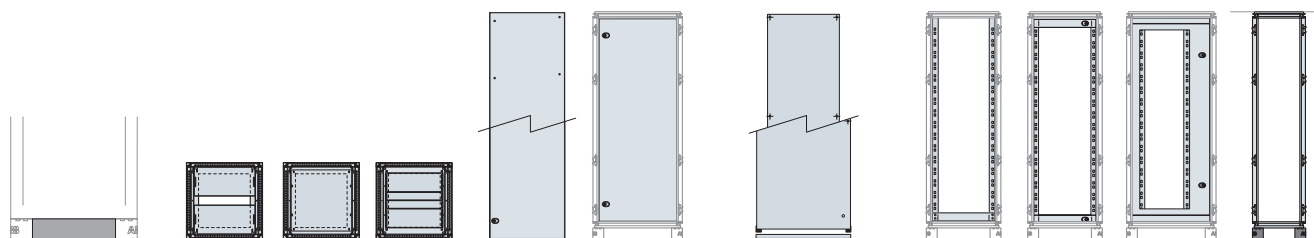
Note: for composition of the supply see page 4/25 and 4/30.

Kit for placing structures side by side **EV0002/EV0003/EV0006** see page 4/60.

Other accessories from page 4/61.

Pre-assembled IS2 Cabinets

Selection of the structure - h 2000 mm



1STC804040F0001

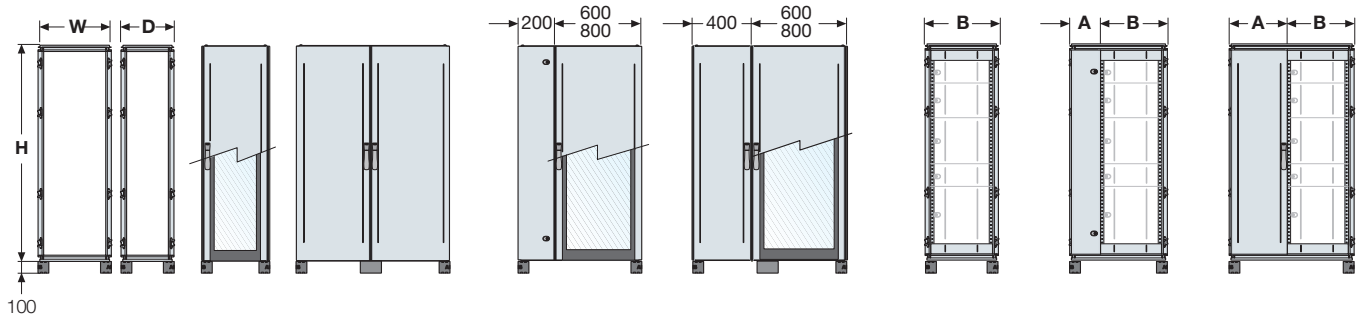
	Flanges for plinth		Incoming cable flanges			Side covers	Counterdoor	Back plates		Rack frames ⁽⁵⁾			External cable cont.
	Front/ rear	Side	Sliding	Fixed	Modular	no. 2 Blind panel		Standard ⁽²⁾	Oversize + tracks ⁽³⁾	Fixed Centred	Swing Centred W=600mm	Eccentric W=800mm	W=300mm
	ZE4000	ZE4000	EF4040	EF4042	EF4041	EL2040K		EA2040	EA2140				ER3041K
	ZE6000		EF6040	EF6043	EF6041		EE2060K	EA2060	EA2161	EG2000	EG2001K		
	ZE8000		EF8040	EF8042	EF8041		EE2080K	EA2080	EA2180	EG2080		EG2003K	
	ZE1000		EF1040	EF1042	EF1041		EE2010K	EA2010	EA2110				
	2xZE6000		2xEF6040	2xEF6043	2xEF6041			EA2013	EA2112				
	ZE4000	ZE5000	EF4050	EF4052	EF4051	EL2050K		EA2040	EA2140				ER3051K
	ZE6000		EF6050	EF6052	EF6051		EE2060K	EA2060	EA2161	EG2000	EG2001K		
	ZE8000		EF8050	EF8052	EF8051		EE2080K	EA2080	EA2180	EG2080		EG2003K	
	ZE1000		EF1053	EF1052	EF1051		EE2010K	EA2010	EA2110				
	2xZE6000		2xEF6050	2xEF6052	2xEF6051			EA2013	EA2112				
	2xZE8000		2xEF8050	2xEF8052	2xEF8051			EA2016	EA2116 ⁽⁴⁾				
	ZE4000	ZE6000	EF4060	EF4063	EF4061	EL2060K		EA2040	EA2140				ER3061K
	ZE6000		EF6060	EF6062	EF6061		EE2060K	EA2060	EA2161	EG2000	EG2001K		
	ZE8000		EF8060	EF8062	EF8061		EE2080K	EA2080	EA2180	EG2080		EG2003K	
	ZE1000		EF1060	EF1062	EF1061		EE2010K	EA2010	EA2110				
	2xZE6000		2xEF6060	2xEF6062	2xEF6061			EA2013	EA2112				
	2xZE8000		2xEF8060	2xEF8062	2xEF8061			EA2016	EA2116 ⁽⁴⁾				
	ZE4000	ZE8000	EF4080	EF4082	EF4081	EL2080K		EA2040	EA2140				ER3081K
	ZE6000		EF6080	EF6082	EF6081		EE2060K	EA2060	EA2161	EG2000	EG2001K		
	ZE8000		EF8080	EF8082	EF8081		EE2080K	EA2080	EA2180	EG2080		EG2003K	
	ZE1000		EF1080	EF1082	EF1081		EE2010K	EA2010	EA2110				
	2xZE6000		2xEF6080	2xEF6082	2xEF6081			EA2013	EA2112				
	2xZE8000		2xEF8080	2xEF8082	2xEF8081			EA2016	EA2116 ⁽⁴⁾				
	ZE4000	ZE1000	EF4010	EF4012	EF4011	EL2012K		EA2040	EA2140				ER3011K
	ZE6000		EF6010	EF6012	EF6011		EE2060K	EA2060	EA2161	EG2000	EG2001K		
	ZE8000		EF8010	EF8012	EF8011		EE2080K	EA2080	EA2180	EG2080		EG2003K	
	ZE1000		EF1010	EF1012	EF1011		EE2010K	EA2010	EA2110				

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Pre-assembled IS2 Cabinets

Selection of the structure - h 2200 mm

Pre-assembled cabinets - h 2200mm



External overall dimensions			Cabinet with door			Cabinet with cable container				Cabinet with compartments					
H ⁽¹⁾ (mm)	W (mm)	D (mm)	Blind door	Double blind with overl. closure ⁽¹⁾	Glazed door	Blind door with cable cont. W=200mm	Blind door with cable cont. W=400mm	Glazed door with cable cont. W=200mm	Glazed door with cable cont. W=400mm	Width		Width			
										A (mm)	B (mm)		A (mm)	B (mm)	
2200	400	400	ES2244K							ES2264MFK	-	600			
	600		ES2264K		ES2264VK										
	800		ES2284K		ES2284VK	ES2284FV2K		ES2284VC2K		ES2284MF2K	200	600	ES2284MFK	-	800
	1000		ES2204K	ES2214BK	ES2204VK	ES2204FV2K	ES2204FV4K	ES2204VC2K	ES2204VC4K	ES2204MF4K	400	600	ES2204MF2K	200	800
	1200			ES2224BK	ES2224VK ⁽²⁾		ES2224FV4K		ES2224VC4K				ES2224MF4K	400	800
	400	500	ES2245K												
	600		ES2265K		ES2265VK					ES2265MFK	-	600			
	800		ES2285K		ES2285VK	ES2285FV2K		ES2285VC2K		ES2285MF2K	200	600	ES2285MFK	-	800
	1000		ES2205K	ES2215BK	ES2205VK	ES2205FV2K	ES2205FV4K	ES2205VC2K	ES2205VC4K	ES2205MF4K	400	600	ES2205MF2K	200	800
	1200			ES2225BK	ES2225VK ⁽²⁾		ES2225FV4K		ES2225VC4K				ES2225MF4K	400	800
	1600			ES2275BK											
	400	600	ES2246K												
	600		ES2266K		ES2266VK					ES2266MFK	-	600			
	800		ES2286K		ES2286VK	ES2286FV2K		ES2286VC2K		ES2286MF2K	200	600	ES2286MFK	-	800
	1000		ES2206K	ES2216BK	ES2206VK	ES2206FV2K	ES2206FV4K	ES2206VC2K	ES2206VC4K	ES2206MF4K	400	600	ES2206MF2K	200	800
	1200			ES2226BK	ES2226VK ⁽²⁾		ES2226FV4K		ES2226VC4K				ES2226MF4K	400	800
	1600			ES2276BK											
	400	800	ES2248K												
	600		ES2268K		ES2268VK					ES2268MFK	-	600			
	800		ES2288K		ES2288VK	ES2288FV2K		ES2288VC2K		ES2288MF2K	200	600	ES2288MFK	-	800
	1000		ES2208K	ES2218BK	ES2208VK	ES2208FV2K	ES2208FV4K	ES2208VC2K	ES2208VC4K	ES2208MF4K	400	600	ES2208MF2K	200	800
	1200			ES2228BK	ES2228VK ⁽²⁾		ES2228FV4K		ES2228VC4K				ES2228MF4K	400	800
	1600			ES2278BK											
	400	1000	ES2240K												
	600		ES2260K		ES2260VK					ES2260MFK	-	600			
	800		ES2280K		ES2280VK					ES2281MF2K	200	600	ES2280MFK	-	800
	1000		ES2200K	ES2210BK	ES2200VK					ES2200MF4K	400	600	ES2200MF2K	200	800

⁽¹⁾ 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.

⁽²⁾ Implies mounting the intermediate upright **EM2201**. The doors have overlapping closure on the intermediate upright (removable) fixed onto the crosspieces mounted in depth.

⁽³⁾ Also available with double blind doors with closing on intermediate upright (eliminate the suffix B from the code).

⁽⁴⁾ Standard plate joining kit: EA1800 (H=1800mm); EA2000 (H=2000mm); EA2200 (H=2200mm). Possibility of lateral insertion with tracks (see pag. 4/42).

⁽⁵⁾ EA2113 oversized plate joining kit H=1800/2000/2200mm.

⁽⁶⁾ Kit consisting of 2 oversized back plates with relative insertion tracks + plate joining kit.

⁽⁷⁾ In the case of structures with internal cable container, select the correct rack frame which takes into account the 200/400mm of the cable container.

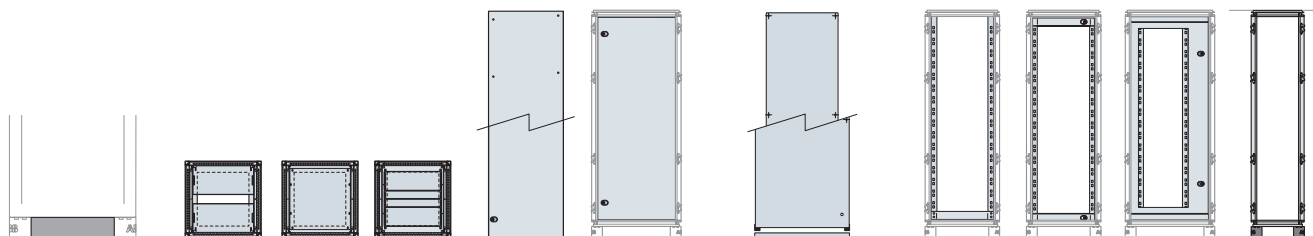
Note: for composition of the supply see page 4/25 and 4/30.

Kit for placing structures side by side **EV0002/EV0003/EV0006** see page 4/60.

Other accessories from page 4/61.

Pre-assembled IS2 Cabinets

Selection of the structure - h 2200 mm



1STC804041F0001

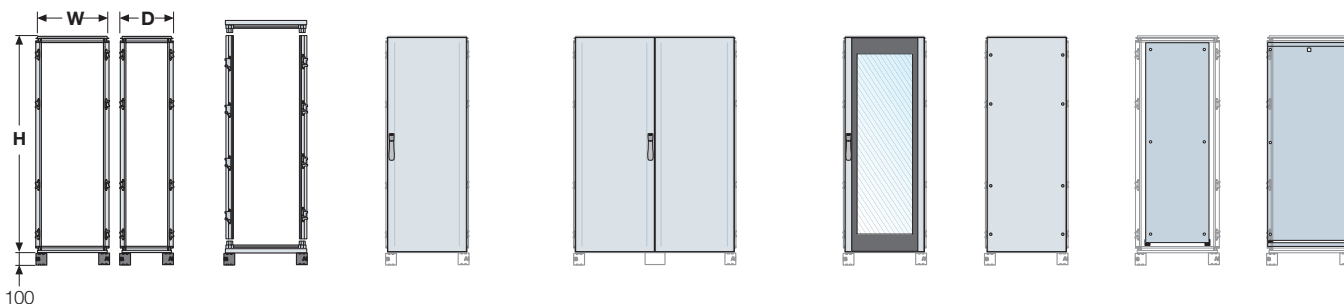
	Flanges for plinth		Incoming cable flanges			Side covers	Counterdoor	Back plates		Rack frames ⁽⁵⁾			External cable cont.
	Front/ rear	Side	Sliding	Fixed	Modular	no. 2 Blind panel		Standard ⁽²⁾	Oversize + tracks ⁽³⁾	Fixed Centred	Swing Centred W=600mm Eccentric W=800mm		W=300mm
	ZE4000	ZE4000	EF4040	EF4042	EF4041	EL2240K		EA2240	EA2340				ER3042K
	ZE6000		EF6040	EF6043	EF6041		EE2260K	EA2260	EA2360	EG2200	EG2201K		
	ZE8000		EF8040	EF8042	EF8041		EE2280K	EA2280	EA2380	EG2280		EG2203K	
	ZE1000		EF1040	EF1042	EF1041		EE2210K	EA2210	EA2310				
	2xZE6000		2xEF6040	2xEF6043	2xEF6041			EA2212	EA2312				
	ZE4000	ZE5000	EF4050	EF4052	EF4051	EL2250K		EA2240	EA2340				ER3052K
	ZE6000		EF6050	EF6052	EF6051		EE2260K	EA2260	EA2360	EG2200	EG2201K		
	ZE8000		EF8050	EF8052	EF8051		EE2280K	EA2280	EA2380	EG2280		EG2203K	
	ZE1000		EF1053	EF1052	EF1051		EE2210K	EA2210	EA2310				
	2xZE6000		2xEF6050	2xEF6052	2xEF6051			EA2212	EA2312				
	2xZE8000		2xEF8050	2xEF8052	2xEF8051			EA2216	EA2316 ⁽⁴⁾				
	ZE4000	ZE6000	EF4060	EF4063	EF4061	EL2260K		EA2240	EA2340				ER3062K
	ZE6000		EF6060	EF6062	EF6061		EE2260K	EA2260	EA2360	EG2200	EG2201K		
	ZE8000		EF8060	EF8062	EF8061		EE2280K	EA2280	EA2380	EG2280		EG2203K	
	ZE1000		EF1060	EF1062	EF1061		EE2210K	EA2210	EA2310				
	2xZE6000		2xEF6060	2xEF6062	2xEF6061			EA2212	EA2312				
	2xZE8000		2xEF8060	2xEF8062	2xEF8061			EA2216	EA2316 ⁽⁴⁾				
	ZE4000	ZE8000	EF4080	EF4082	EF4081	EL2280K		EA2240	EA2340				ER3082K
	ZE6000		EF6080	EF6082	EF6081		EE2260K	EA2260	EA2360	EG2200	EG2201K		
	ZE8000		EF8080	EF8082	EF8081		EE2280K	EA2280	EA2380	EG2280		EG2203K	
	ZE1000		EF1080	EF1082	EF1081		EE2210K	EA2210	EA2310				
	2xZE6000		2xEF6080	2xEF6082	2xEF6081			EA2212	EA2312				
	2xZE8000		2xEF8080	2xEF8082	2xEF8081			EA2216	EA2316 ⁽⁴⁾				
	ZE4000	ZE1000	EF4010	EF4012	EF4011	EL2210K		EA2240	EA2340				ER3012K
	ZE6000		EF6010	EF6012	EF6011		EE2260K	EA2260	EA2360	EG2200	EG2201K		
	ZE8000		EF8010	EF8012	EF8011		EE2280K	EA2280	EA2380	EG2280		EG2203K	
	ZE1000		EF1010	EF1012	EF1011		EE2210K	EA2210	EA2310				

4

IS2 built-up cabinets

Selection of the structure - h 1800 mm

Cabinets in kits - h 1800mm – Basic version



External overall dimensions			Base/Top/Plinth	Uprights	Front/rear covers				Back plates	
H ⁽¹⁾ (mm)	W (mm)	D (mm)			IP65 blind door	Blind doors for version with double door with overlapping closing ⁽¹⁾	IP65 Glazed door	IP65 Blind panel	Standard	Oversized + tracks
1800	400	400	EK4040K	EM1800	EC1840K	-	-	EP1840K	EA1841	EA1940
	600		EK6040K		EC1860K	-	ET1860K	EP1860K	EA1860	EA1960
	800		EK8040K		EC1880K	ED1804SK+ EC1880VC4K	ET1880K	EP1880K	EA1880	EA1981
	1000		EK1040K		EC1810K	ED1810SK+ EC1880FC5K	ET1810K	EP1811K	EA1810	EA1910
	1200		EK1240K		-	ED1812SK+ EC1880FC6K	-	EP1812K	EA1812	EA1912
	400	500	EK4050K		EC1840K	-	-	EP1840K	EA1841	EA1940
	600		EK6050K		EC1860K	-	ET1860K	EP1860K	EA1860	EA1960
	800		EK8050K		EC1880K	ED1804SK+ EC1880VC4K	ET1880K	EP1880K	EA1880	EA1981
	1000		EK1050K		EC1810K	ED1810SK+ EC1880FC5K	ET1810K	EP1811K	EA1810	EA1910
	1200		EK1250K		-	ED1812SK+ EC1880FC6K	-	EP1812K	EA1812	EA1912
	400	600	EK4060K		EC1840K	-	-	EP1840K	EA1841	EA1940
	600		EK6060K		EC1860K	-	ET1860K	EP1860K	EA1860	EA1960
	800		EK8060K		EC1880K	ED1804SK+ EC1880VC4K	ET1880K	EP1880K	EA1880	EA1981
	1000		EK1060K		EC1810K	ED1810SK+ EC1880FC5K	ET1810K	EP1811K	EA1810	EA1910
	1200		EK1260K		-	ED1812SK+ EC1880FC6K	-	EP1812K	EA1812	EA1912
	400	800	EK4080K		EC1840K	-	-	EP1840K	EA1841	EA1940
	600		EK6080K		EC1860K	-	ET1860K	EP1860K	EA1860	EA1960
	800		EK8080K		EC1880K	ED1804SK+ EC1880VC4K	ET1880K	EP1880K	EA1880	EA1981
	1000		EK1080K		EC1810K	ED1810SK+ EC1880FC5K	ET1810K	EP1811K	EA1810	EA1910
	1200		EK1280K		-	ED1812SK+ EC1880FC6K	-	EP1812K	EA1812	EA1912
	400	1000	EK4010K		EC1840K	-	-	EP1840K	EA1841	EA1940
	600		EK6010K		EC1860K	-	ET1860K	EP1860K	EA1860	EA1960
	800		EK8010K		EC1880K	ED1804SK+ EC1880VC4K	ET1880K	EP1880K	EA1880	EA1981
	1000		EK1010K		EC1810K	ED1810SK+ EC1880FC5K	ET1810K	EP1811K	EA1810	EA1910

⁽¹⁾ 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 4/52, for modular versions see page 4/54.

⁽¹⁾ Double doors with intermediate upright or glass doors + internal W=200/400mm cable container also available (see pag. 4/34).

⁽²⁾ Doors for lateral closing also available (see pag. 4/39).

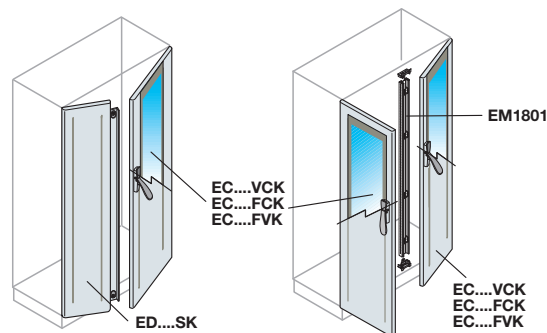
⁽³⁾ In the case of structures with internal cable container, select the correct rack frame which takes into account the 200/400mm of the cable container.

⁽⁴⁾ For selection of the kit to be used (see pag. 4/60).

Example of double door make-up

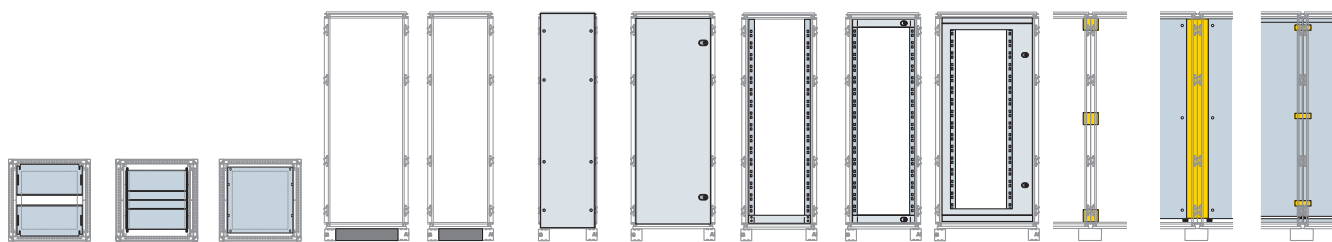
Doors with
overlapping closure

Doors closing
on intermediate upright



IS2 built-up cabinets

Selection of the structure - h 1800 mm



1STC804042F0001

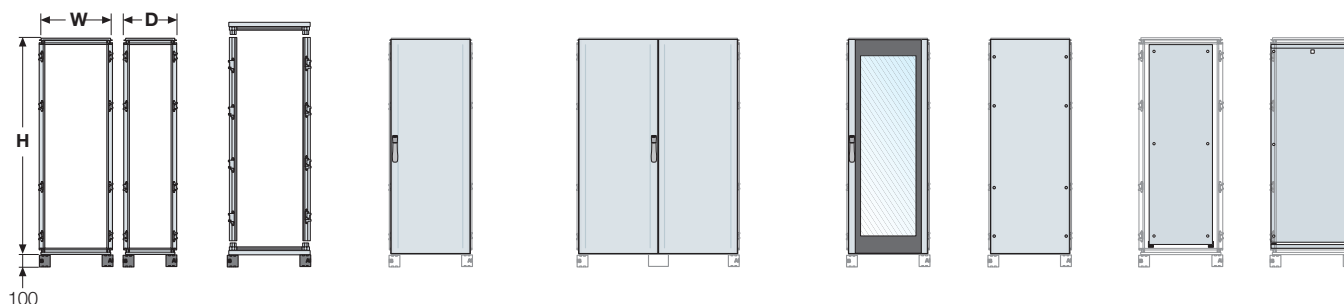
	Incoming cable flanges			Plinth flanges		Sidse covers ⁽²⁾	Counterdoor	Rack frames ⁽³⁾			Side-by-side structure Kit ⁽⁴⁾	Standard plate joining Kit	Oversized plate joining Kit
	Sliding	Removable	Fixed	Front/ rear	Side	Pair of blind panels		Fixed Centred	Swing Centred W=600mm Eccentric W=800mm				
	EF4040	EF4041	EF4042	ZE4000	ZE4000	EL1840K	-	-	-	-	EV0002 EV0003 EV0006	EA1800	EA2113
	EF6040	EF6041	EF6043	ZE6000			EE1860K	EG1800	EG1801K	-			
	EF8040	EF8041	EF8042	ZE8000			EE1880K	EG1880	-	EG1803K			
	EF1040	EF1041	EF1042	ZE1000			EE1810K	-	-	-			
	2xEF6040	2xEF6041	2xEF6043	2xZE6000			-	-	-	-			
	EF4050	EF4051	EF4052	ZE4000	ZE5000	EL1850K	-	-	-	-	EV0002 EV0003 EV0006		
	EF6050	EF6051	EF6052	ZE6000			EE1860K	EG1800	EG1801K	-			
	EF8050	EF8051	EF8052	ZE8000			EE1880K	EG1880	-	EG1803K			
	EF1053	EF1051	EF1052	ZE1000			EE1810K	-	-	-			
	2xEF6051	2xEF6051	2xEF6052	2xZE6000			-	-	-	-			
	EF4060	EF4061	EF4063	ZE4000	ZE6000	EL1860K	-	-	-	-	EV0002 EV0003 EV0006		
	EF6060	EF6061	EF6062	ZE6000			EE1860K	EG1800	EG1801K	-			
	EF8060	EF8061	EF8062	ZE8000			EE1880K	EG1880	-	EG1803K			
	EF1060	EF1061	EF1062	ZE1000			EE1810K	-	-	-			
	2xEF6060	2xEF6061	2xEF6062	2xZE6000			-	-	-	-			
	EF4080	EF4081	EF4082	ZE4000	ZE8000	EL1880K	-	-	-	-	EV0002 EV0003 EV0006		
	EF6080	EF6081	EF6082	ZE6000			EE1860K	EG1800	EG1801K	-			
	EF8080	EF8081	EF8082	ZE8000			EE1880K	EG1880	-	EG1803K			
	EF1080	EF1081	EF1082	ZE1000			EE1810K	-	-	-			
	2xEF6080	2xEF6081	2xEF6082	2xZE6000			-	-	-	-			
	EF4010	EF4011	EF4012	ZE4000	ZE1000	EL1810K	-	-	-	-	EV0002 EV0003 EV0006		
	EF6010	EF6011	EF6012	ZE6000			EE1860K	EG1800	EG1801K	-			
	EF8010	EF8011	EF8012	ZE8000			EE1880K	EG1880	-	EG1803K			
	EF1010	EF1011	EF1012	ZE1000			EE1810K	-	-	-			

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IS2 built-up cabinets

Selection of the structure - h 2000 mm

Cabinets in kits - h 2000mm – Basic version



External overall dimensions			Base/ Top/ Plinth	Uprights	Front/rear covers				Back plates	
H ⁽¹⁾ (mm)	W (mm)	D (mm)			IP65 blind door	Blind doors for version with double door with overlapping closing ⁽¹⁾	IP65 Glazed door	IP65 Blind panel	Standard	Oversized + tracks
2000	400	400	EK4040K	EM2000	EC2040K	-	-	EP2041K	EA2040	EA2140
	600		EK6040K		EC2060K	-	ET2060K	EP2060K	EA2060	EA2161
	800		EK8040K		EC2080K	ED2004SK+ EC2080VC4K	ET2080K	EP2080K	EA2080	EA2180
	1000		EK1040K		EC2012K	ED2010SK+ EC2080FC5K	ET2010K	EP2010K	EA2010	EA2110
	1200		EK1240K		-	ED2012SK+ EC2080FC6K	-	EP2012K	EA2013	EA2112
	400	500	EK4050K		EC2040K	-	-	EP2041K	EA2040	EA2140
	600		EK6050K		EC2060K	-	ET2060K	EP2060K	EA2060	EA2161
	800		EK8050K		EC2080K	ED2004SK+ EC2080VC4K	ET2080K	EP2080K	EA2080	EA2180
	1000		EK1050K		EC2012K	ED2010SK+ EC2080FC5K	ET2010K	EP2010K	EA2010	EA2110
	1200		EK1250K		-	ED2012SK+ EC2080FC6K	-	EP2012K	EA2013	EA2112
	400	600	EK4060K		EC2040K	-	-	EP2041K	EA2040	EA2140
	600		EK6060K		EC2060K	-	ET2060K	EP2060K	EA2060	EA2161
	800		EK8060K		EC2080K	ED2004SK+ EC2080VC4K	ET2080K	EP2080K	EA2080	EA2180
	1000		EK1060K		EC2012K	ED2010SK+ EC2080FC5K	ET2010K	EP2010K	EA2010	EA2110
	1200		EK1260K		-	ED2012SK+ EC2080FC6K	-	EP2012K	EA2013	EA2112
	400	800	EK4080K		EC2040K	-	-	EP2041K	EA2040	EA2140
	600		EK6080K		EC2060K	-	ET2060K	EP2060K	EA2060	EA2161
	800		EK8080K		EC2080K	ED2004SK+ EC2080VC4K	ET2080K	EP2080K	EA2080	EA2180
	1000		EK1080K		EC2012K	ED2010SK+ EC2080FC5K	ET2010K	EP2010K	EA2010	EA2110
	1200		EK1280K		-	ED2012SK+ EC2080FC6K	-	EP2012K	EA2013	EA2112
	400	1000	EK4010K		EC2040K	-	-	EP2041K	EA2040	EA2140
	600		EK6010K		EC2060K	-	ET2060K	EP2060K	EA2060	EA2161
	800		EK8010K		EC2080K	ED2004SK+ EC2080VC4K	ET2080K	EP2080K	EA2080	EA2180
	1000		EK1010K		EC2012K	ED2010SK+ EC2080FC5K	ET2010K	EP2010K	EA2010	EA2110

⁽¹⁾ 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 4/52, for modular versions see page 4/54.

⁽¹⁾ Double doors with intermediate upright or glass doors + internal W=200/400mm cable container also available (see pag. 4/34).

⁽²⁾ Doors for lateral closing also available (see pag. 4/39).

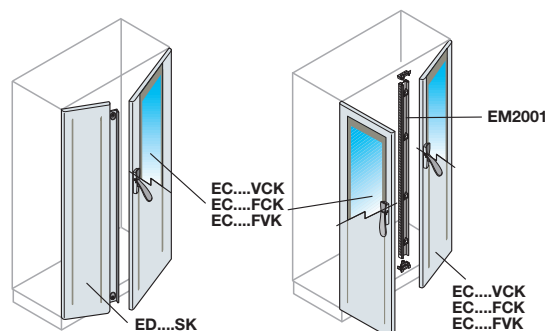
⁽³⁾ In the case of structures with internal cable container, select the correct rack frame which takes into account the 200/400mm of the cable container.

⁽⁴⁾ For selection of the kit to be used (see pag. 4/60).

Example of double door make-up

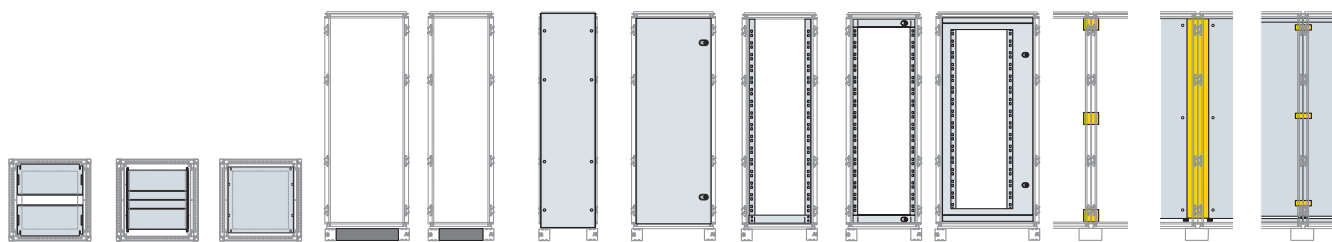
Doors with
overlapping closure

Doors closing
on intermediate upright



IS2 built-up cabinets

Selection of the structure - h 2000 mm



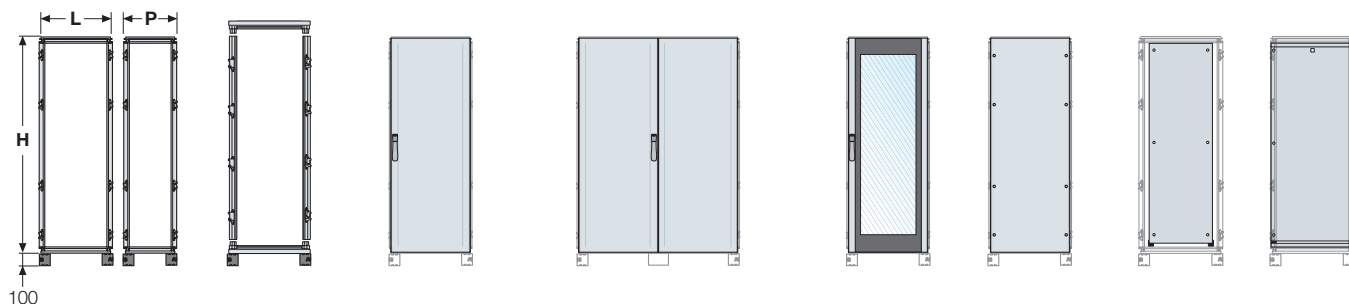
	Incoming cable flanges			Plinth flanges		Sidse covers ⁽²⁾	Counterdoor	Rack frames ⁽³⁾			Side-by-side structure Kit ⁽⁴⁾	Standard plate joining Kit	Oversized plate joining Kit
	Sliding	Removable	Fixed	Front/ rear	Side	Pair of blind panels		Fixed Centred	Swing Centred W=600mm Eccentric W=800mm				
	EF4040	EF4041	EF4042	ZE4000	ZE4000	EL2040K	-	-	-	-	EV0002 EV0003 EV0006	EA2000	EA2113
	EF6040	EF6041	EF6043	ZE6000			EE2060K	EG2000	EG2001K	-			
	EF8040	EF8041	EF8042	ZE8000			EE2080K	EG2080	-	EG2003K			
	EF1040	EF1041	EF1042	ZE1000			EE2010K	-	-	-			
	2xEF6040	2xEF6041	2xEF6043	2xZE6000			-	-	-	-			
	EF4050	EF4051	EF4052	ZE4000	ZE5000	EL2050K	-	-	-	-	EV0002 EV0003 EV0006		
	EF6050	EF6051	EF6052	ZE6000			EE2060K	EG2000	EG2001K	-			
	EF8050	EF8051	EF8052	ZE8000			EE2080K	EG2080	-	EG2003K			
	EF1053	EF1051	EF1052	ZE1000			EE2010K	-	-	-			
	2xEF6050	2xEF6051	2xEF6052	2xZE6000			-	-	-	-			
	EF4060	EF4061	EF4063	ZE4000	ZE6000	EL2060K	-	-	-	-	EV0002 EV0003 EV0006		
	EF6060	EF6061	EF6062	ZE6000			EE2060K	EG2000	EG2001K	-			
	EF8060	EF8061	EF8062	ZE8000			EE2080K	EG2080	-	EG2003K			
	EF1060	EF1061	EF1062	ZE1000			EE2010K	-	-	-			
	2xEF6060	2xEF6061	2xEF6062	2xZE6000			-	-	-	-			
	EF4080	EF4081	EF4082	ZE4000	ZE8000	EL2080K	-	-	-	-	EV0002 EV0003 EV0006		
	EF6080	EF6081	EF6082	ZE6000			EE2060K	EG2000	EG2001K	-			
	EF8080	EF8081	EF8082	ZE8000			EE2080K	EG2080	-	EG2003K			
	EF1080	EF1081	EF1082	ZE1000			EE2010K	-	-	-			
	2xEF6080	2xEF6081	2xEF6082	2xZE6000			-	-	-	-			
	EF4010	EF4011	EF4012	ZE4000	ZE1000	EL2012K	-	-	-	-	EV0002 EV0003 EV0006		
	EF6010	EF6011	EF6012	ZE6000			EE2060K	EG2000	EG2001K	-			
	EF8010	EF8011	EF8012	ZE8000			EE2080K	EG2080	-	EG2003K			
	EF1010	EF1011	EF1012	ZE1000			EE2010K	-	-	-			

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IS2 built-up cabinets

Selection of the structure - h 2200 mm

Cabinets in kits - h 2200mm – Basic version



External overall dimensions			Base/Top/Plinth	Uprights	Front/rear covers				Back plates	
H ⁽¹⁾ (mm)	W (mm)	D (mm)			IP65 blind door	Blind doors for version with double door with overlapping closing ⁽¹⁾	IP65 Glazed door	IP65 Blind panel	Standard	Oversized + tracks
2200	400	400	EK4040K	EM2200	EC2240K	-	-	EP2240K	EA2240	EA2340
	600		EK6040K		EC2260K	-	ET2260K	EP2260K	EA2260	EA2360
	800		EK8040K		EC2280K	ED2204SK+ EC2280VC4K	ET2280K	EP2280K	EA2280	EA2380
	1000		EK1040K		EC2210K	ED2210SK+ EC2280FC5K	ET2211K	EP2210K	EA2210	EA2310
	1200		EK1240K		-	ED2212SK+ EC2280FC6K	-	EP2212K	EA2212	EA2312
	400	500	EK4050K		EC2240K	-	-	EP2240K	EA2240	EA2340
	600		EK6050K		EC2260K	-	ET2260K	EP2260K	EA2260	EA2360
	800		EK8050K		EC2280K	ED2204SK+ EC2280VC4K	ET2280K	EP2280K	EA2280	EA2380
	1000		EK1050K		EC2210K	ED2210SK+ EC2280FC5K	ET2211K	EP2210K	EA2210	EA2310
	1200		EK1250K		-	ED2212SK+ EC2280FC6K	-	EP2212K	EA2212	EA2312
	400	600	EK4060K		EC2240K	-	-	EP2240K	EA2240	EA2340
	600		EK6060K		EC2260K	-	ET2260K	EP2260K	EA2260	EA2360
	800		EK8060K		EC2280K	ED2204SK+ EC2280VC4K	ET2280K	EP2280K	EA2280	EA2380
	1000		EK1060K		EC2210K	ED2210SK+ EC2280FC5K	ET2211K	EP2210K	EA2210	EA2310
	1200		EK1260K		-	ED2212SK+ EC2280FC6K	-	EP2212K	EA2212	EA2312
	400	800	EK4080K		EC2240K	-	-	EP2240K	EA2240	EA2340
	600		EK6080K		EC2260K	-	ET2260K	EP2260K	EA2260	EA2360
	800		EK8080K		EC2280K	ED2204SK+ EC2280VC4K	ET2280K	EP2280K	EA2280	EA2380
	1000		EK1080K		EC2210K	ED2210SK+ EC2280FC5K	ET2211K	EP2210K	EA2210	EA2310
	1200		EK1280K		-	ED2212SK+ EC2280FC6K	-	EP2212K	EA2212	EA2312
	400	1000	EK4010K		EC2240K	-	-	EP2240K	EA2240	EA2340
	600		EK6010K		EC2260K	-	ET2260K	EP2260K	EA2260	EA2360
	800		EK8010K		EC2280K	ED2204SK+ EC2280VC4K	ET2280K	EP2280K	EA2280	EA2380
	1000		EK1010K		EC2210K	ED2210SK+ EC2280FC5K	ET2211K	EP2210K	EA2210	EA2310

⁽¹⁾ 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 4/52, for modular versions see page 4/54.

⁽²⁾ Double doors with intermediate upright or glass doors + internal W=200/400mm cable container also available (see pag. 4/34).

⁽³⁾ Doors for lateral closing also available (see pag. 4/39).

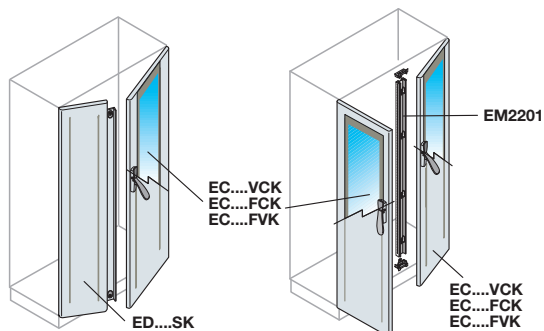
⁽⁴⁾ In the case of structures with internal cable container, select the correct rack frame which takes into account the 200/400mm of the cable container.

⁽⁵⁾ For selection of the kit to be used (see pag. 4/60).

Example of double door make-up

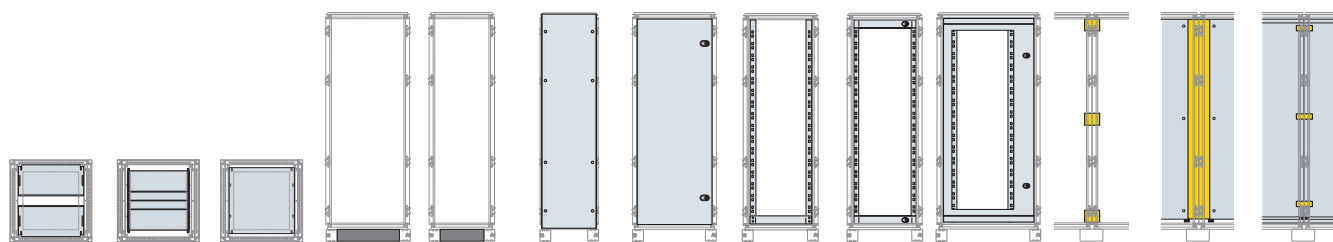
Doors with overlapping closure

Doors closing on intermediate upright



IS2 built-up cabinets

Selection of the structure - h 2200 mm



	Incoming cable flanges			Plinth flanges		Side covers ⁽²⁾	Counterdoor	Rack frames ⁽³⁾			Side-by-side structure Kit ⁽⁴⁾	Standard plate joining Kit	Oversized plate joining Kit
	Sliding	Removable	Fixed	Front/ rear	Side	Pair of blind panels		Fixed Centred	Swing Centred W=600mm Eccentric W=800mm				
	EF4040	EF4041	EF4042	ZE4000	ZE4000	EL2240K	-	-	-	-	EV0002 EV0003 EV0006	EA2200	EA2113
	EF6040	EF6041	EF6043	ZE6000			EE2260K	EG2220	EG2201K	-			
	EF8040	EF8041	EF8042	ZE8000			EE2280K	EG2280	-	EG2203K			
	EF1040	EF1041	EF1042	ZE1000			EE2210K	-	-	-			
	2xEF6040	2xEF6041	2xEF6043	2xZE6000			-	-	-	-			
	EF4050	EF4051	EF4052	ZE4000	ZE5000	EL2250K	-	-	-	-	EV0002 EV0003 EV0006		
	EF6050	EF6051	EF6052	ZE6000			EE2260K	EG2200	EG2201K	-			
	EF8050	EF8051	EF8052	ZE8000			EE2280K	EG2280	-	EG2203K			
	EF1053	EF1051	EF1052	ZE1000			EE2210K	-	-	-			
	2xEF6050	2xEF6051	2xEF6052	2xZE6000			-	-	-	-			
	EF4060	EF4061	EF4063	ZE4000	ZE6000	EL2260K	-	-	-	-	EV0002 EV0003 EV0006		
	EF6060	EF6061	EF6062	ZE6000			EE2260K	EG2200	EG2201K	-			
	EF8060	EF8061	EF8062	ZE8000			EE2280K	EG2280	-	EG2203K			
	EF1060	EF1061	EF1062	ZE1000			EE2210K	-	-	-			
	2xEF6060	2xEF6061	2xEF6062	2xZE6000			-	-	-	-			
	EF4080	EF4081	EF4082	ZE4000	ZE8000	EL2280K	-	-	-	-	EV0002 EV0003 EV0006		
	EF6080	EF6081	EF6082	ZE6000			EE2260K	EG2200	EG2201K	-			
	EF8080	EF8081	EF8082	ZE8000			EE2280K	EG2280	-	EG2203K			
	EF1080	EF1081	EF1082	ZE1000			EE2210K	-	-	-			
	2xEF6080	2xEF6081	2xEF6082	2xZE6000			-	-	-	-			
	EF4010	EF4011	EF4012	ZE4000	ZE1000	EL2210K	-	-	-	-	EV0002 EV0003 EV0006		
	EF6010	EF6011	EF6012	ZE6000			EE2260K	EG2200	EG2201K	-			
	EF8010	EF8011	EF8012	ZE8000			EE2280K	EG2280	-	EG2203K			
	EF1010	EF1011	EF1012	ZE1000			EE2230K	-	-	-			

4

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

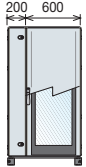
Structure W=600mm



H=1800mm	blind
	glazed
H=2000mm	blind
	glazed
H=2200mm	blind
	glazed

Door W=200mm		Door W=400mm
ED1802SK	+	EC1880VC4K
ED2002SK	+	EC2080VC4K
ED2202SK	+	EC2280VC4K

Structure W=800mm



H=1800mm	blind
	glazed
H=2000mm	blind
	glazed
H=2200mm	blind
	glazed

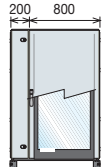
Door W=200mm		Door W=600mm
ED1802SK	+	EC1880FC6K EC1880FV6K
ED2002SK	+	EC2080FC6K EC2080FV6K
ED2202SK	+	EC2280FC6K EC2280FV6K



H=1800mm	blind
	glazed
H=2000mm	blind
	glazed
H=2200mm	blind
	glazed

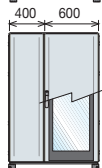
Door W=400mm		Door W=400mm
ED1804SK	+	EC1880VC4K
ED2004SK	+	EC2080VC4K
ED2204SK	+	EC2280VC4K

Structure W=1000mm



H=1800mm	blind
	glazed
H=2000mm	blind
	glazed
H=2200mm	blind
	glazed

Door W=200mm		Door W=800mm
ED1802SK	+	EC1880FC8K EC1880FV8K
ED2002SK	+	EC2080FC8K EC2080FV8K
ED2202SK	+	EC2280FC8K EC2280FV8K



H=1800mm	blind
	glazed
H=2000mm	blind
	glazed
H=2200mm	blind
	glazed

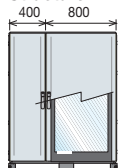
Door W=400mm		Door W=600mm
ED1804SK	+	EC1880FC6K EC1880FV6K
ED2004SK	+	EC2080FC6K EC2080FV6K
ED2204SK	+	EC2280FC6K EC2280FV6K



H=1800mm	blind
	glazed
H=2000mm	blind
	glazed
H=2200mm	blind
	glazed

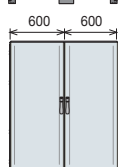
Door W=500mm		Door W=500mm
ED1810SK	+	EC1880FC5K
ED2010SK	+	EC2080FC5K
ED2210SK	+	EC2280FC5K

Structure W=1200mm



H=1800mm	blind
	glazed
H=2000mm	blind
	glazed
H=2200mm	blind
	glazed

Door W=400mm		Door W=800mm
ED1804SK	+	EC1880FC8K EC1880FV8K
ED2004SK	+	EC2080FC8K EC2080FV8K
ED2204SK	+	EC2280FC8K EC2280FV8K



H=1800mm	blind
	glazed
H=2000mm	blind
	glazed
H=2200mm	blind
	glazed

Door W=600mm		Door W=600mm
ED1812SK	+	EC1880FC6K EC1880FV6K
ED2012SK	+	EC2080FC6K EC2080FV6K
ED2212SK	+	EC2280FC6K EC2280FV6K

Door W=200mm		Door W=400mm		Intermediate upright
EC1880VC2K	+	EC1880VC4K	+	EM1801
EC2080VC2K	+	EC2080VC4K	+	EM2001
EC2280VC2K	+	EC2280VC4K	+	EM2201

Door W=200mm		Door W=600mm		Intermediate upright
EC1880VC2K	+	EC1880FC6K EC1880FV6K	+	EM1801
EC2080VC2K	+	EC2080FC6K EC2080FV6K	+	EM2001
EC2280VC2K	+	EC2280FC6K EC2280FV6K	+	EM2201

Door W=400mm		Door W=400mm		Intermediate upright
EC1880VC4K	+	EC1880VC4K	+	EM1801
EC2080VC4K	+	EC2080VC4K	+	EM2001
EC2280VC4K	+	EC2280VC4K	+	EM2201

Door W=200mm		Door W=800mm		Intermediate upright
EC1880VC2K	+	EC1880FC8K EC1880FV8K	+	EM1801
EC2080VC2K	+	EC2080FC8K EC2080FV8K	+	EM2001
EC2280VC2K	+	EC2280FC8K EC2280FV8K	+	EM2201

Door W=400mm		Door W=600mm		Intermediate upright
EC1880VC4K	+	EC1880FC6K EC1880FV6K	+	EM1801
EC2080VC4K	+	EC2080FC6K EC2080FV6K	+	EM2001
EC2280VC4K	+	EC2280FC6K EC2280FV6K	+	EM2201

Door W=500mm		Door W=500mm		Intermediate upright
EC1880FC5K	+	EC1880FC5K	+	EM1801
EC2080FC5K	+	EC2080FC5K	+	EM2001
EC2280FC5K	+	EC2280FC5K	+	EM2201

Examples of configurations

Pre-assembled structures

Composition of the supply

Width $\leq 1000\text{mm}$

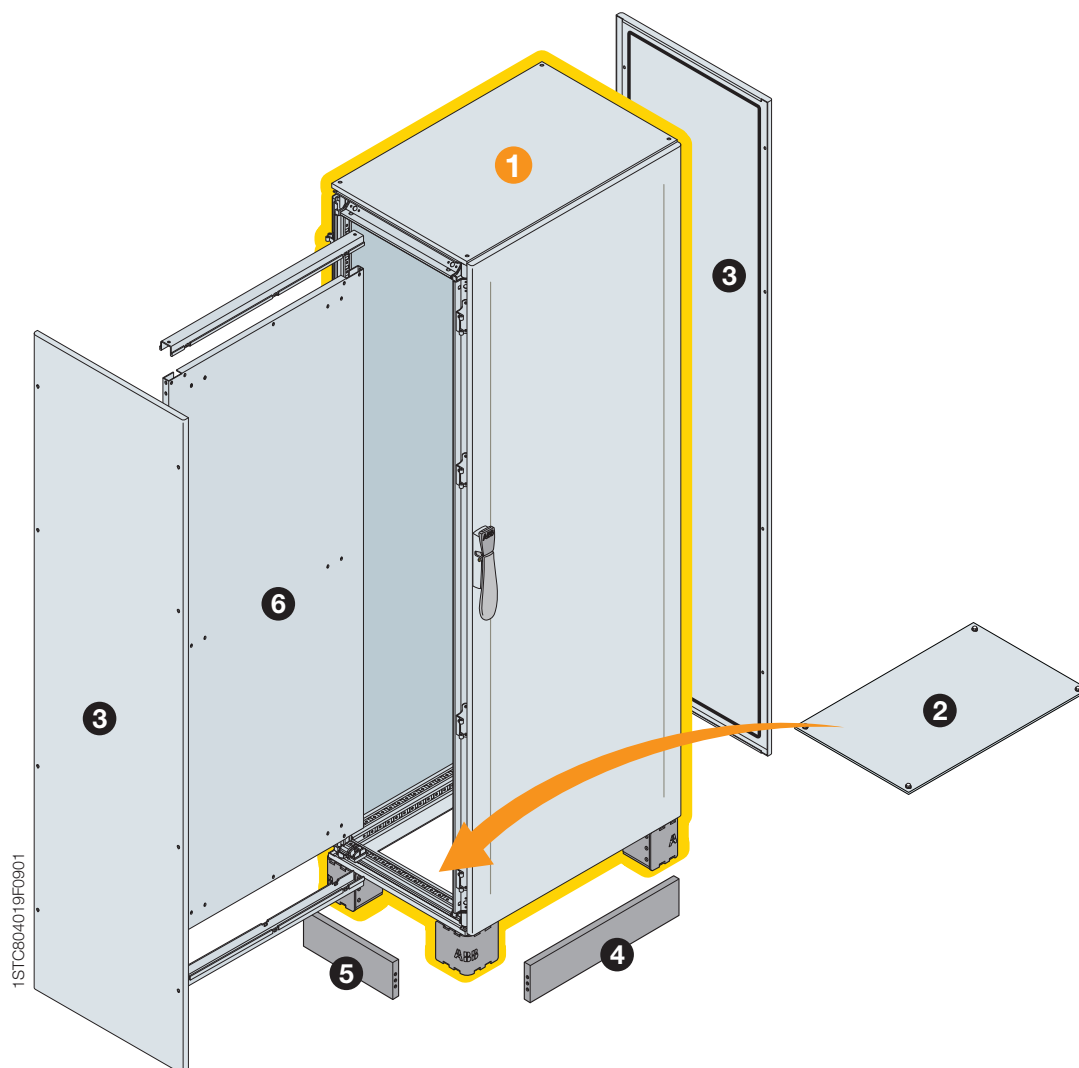
- Self-supporting galvanised steel structure consisting of a closed section drilled with 25mm pitch
- Removable roof
- Plinth H=100mm consisting of four angle pieces (25/10)
- Rear panel
- Blind door made of 20/10 thick sheet, fitted with polyurethane gasket, complete with fixed handle with double tongue key. Reversible 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. Reversible with 4 closure points and complete with internal reinforcement frame and 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

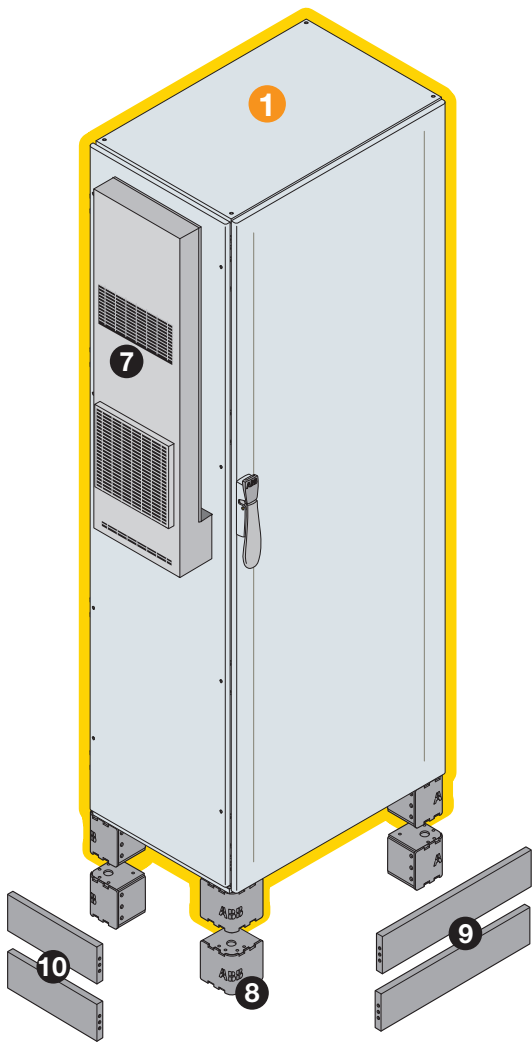
- Blind doors (20/10) with opposite opening complete with internal reinforcement frame and lever closing mechanisms in four points, removable intermediate crosspiece and upright for improved access
- Glazed doors (20/10) with 4mm thick safety glass and with opposite opening, complete with fixed handles with double tongue key (interchangeable) and lever closing mechanisms in four points, removable intermediate crosspiece and upright
- Packed separately

Completion items

- Standard and oversized back plates with front and lateral insertionpage 4/42
- Cable entry flangespage 4/39
- Plinth covering flanges H=100/200mm and reinforced plinthpage 4/40
- Side panels.....page 4/38

- Crosspiecespage 4/46
- 19" rack framespage 4/58
- Lifting eyebolts and reinforcementspage 4/61
- Key insertspage 4/36
- Fans, air conditioners.....page 4/68
- Uprights, panels and DIN rails.....page 4/54

Technical characteristics	
Conformity with Standard	CEI EN 62208
Degree of protection	IP65 (CEI EN 60529)
Degree of mechanical strength	
blind door	IK10 (IEC 62262)
glazed door	IK09 (IEC 62262)
Colour:	internal structure
	external panelling
	plinth
	galvanised white
	Orange peel RAL 7035
	Orange peel RAL 7012



- 1 ES2065K** Structure 2000x600x500 (hxd) complete with blind door and rear panel

Completion items

- 2 EF6052** Bottom closure
- 3 EL2050K** N°2 side panels
- 4 ZE6000** N°2 plinth flanges H=100mm front/rear
- 5 ZE5000** N°2 plinth flanges H=100mm side
- 6 EA2161** Oversize back plate + tracks for lateral insertion
- 7 VZ1000K** Super thin wall-mounted IP54 air conditioned
- 8 ZE1010** N°4 plinth angle pieces H=100mm
- 9 ZE6000** N°4 plinth flanges H=100mm front/rear
- 10 ZE5000** N°4 plinth flanges H=100mm side

Examples of configurations

Configuration with compartments

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

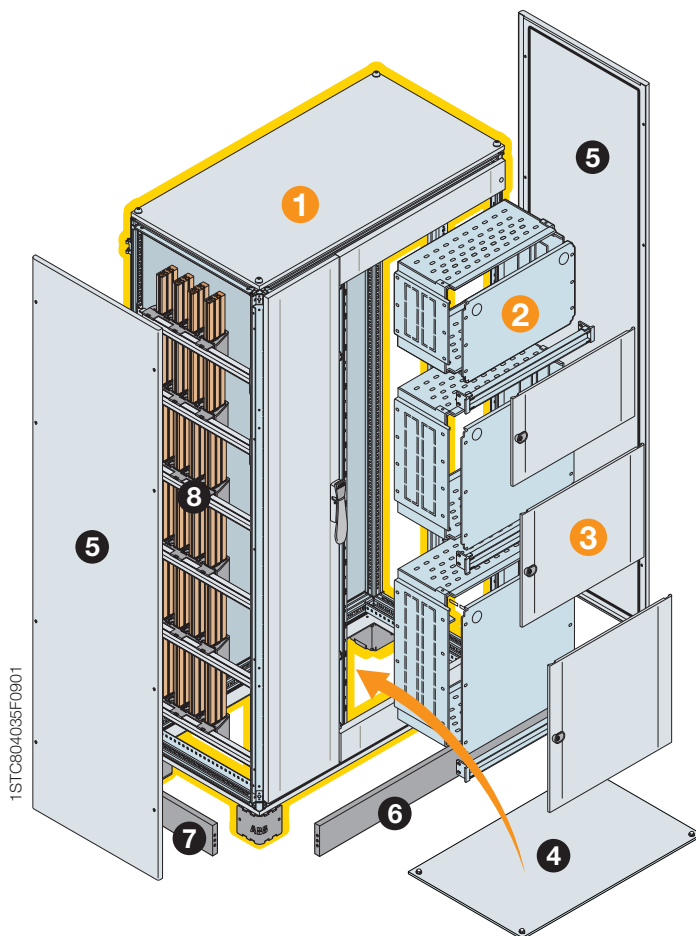
Rear panel:

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

Example of composition of a structure for configuration with compartments



Composition of pre-assembled structure 2000x800x600 (h x w x d)

- 1 ES2086MF2K Pre assembled cabinet with cable container and partial blind panels
- 2 EH.... Cubicles for compartments
- 3 EH....K Partial front panels for compartments

Completion items

- 4 EF8062 Bottom closure
- 5 EL2060K N°2 side panels
- 6 ZE8000 N°2 plinth flanges H=100mm front/rear
- 7 ZE6000 N°2 plinth flanges H=100mm side
- 8 Busbar system with shaped section

Examples of configurations

Pre-assembled structures

Completion items

- Cubicle for compartmentspage 4/53
- Partial front doors.....page 4/53
- Distribution system.....page 4/62
- Cable entry flangespage 4/39
- Plinth covering flanges H=100/200mm and reinforced plinth.....page 4/40
- Side panelspage 4/38
- Crosspiecespage 4/46
- Lifting eyebolts and reinforcementspage 4/61
- Key insertspage 4/36

Technical characteristics

Conformity with Standard	EN60439-1 - IEC 61439-1-2
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 (CEI EN 60529)
Degree of mechanical strength	IK10 (IEC 62262)
Obtainable segregation forms	up to Form 3
Colour:	internal structure galvanised white
	external panelling Orange peel RAL 7035
	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	TA450/E320			•

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 ergonomic handle and 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 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

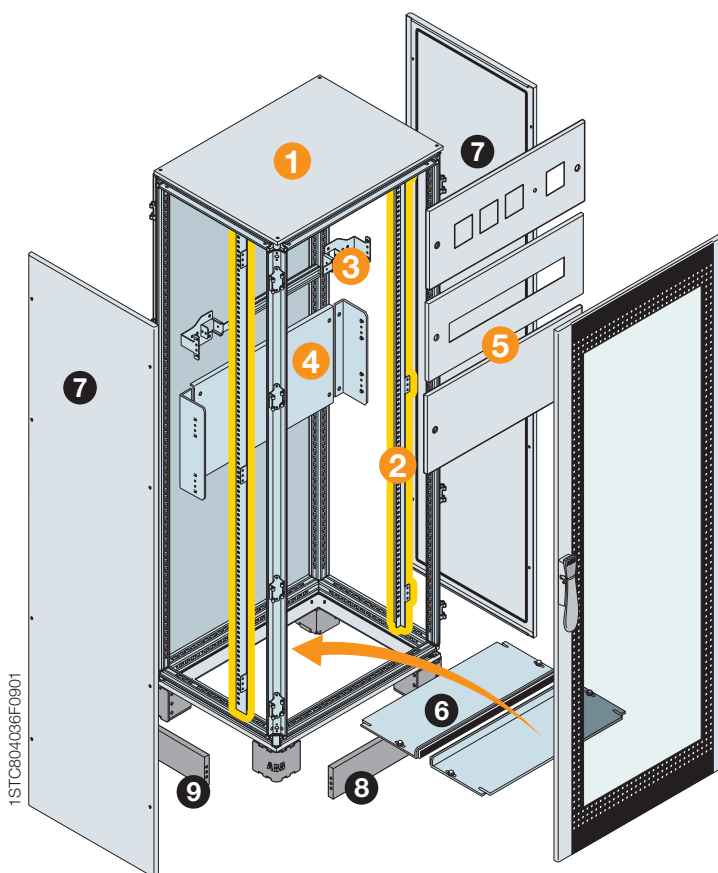
Example of composition of a structure for power factor correction

Composition of pre-assembled structure 2000x600x600 (hwxwd) for apparatus

- 1 ES2066VK 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....K Blind front panels, with cut-outs for modular items and instrument holder

Completion items

- 6 EF6060 Cable entry sliding flanges
- 7 EL2060K N°2 side panels
- 8 ZE6000 N°2 plinth flanges H=100mm front/rear
- 9 ZE6000 N°2 plinth flanges H=100mm side



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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

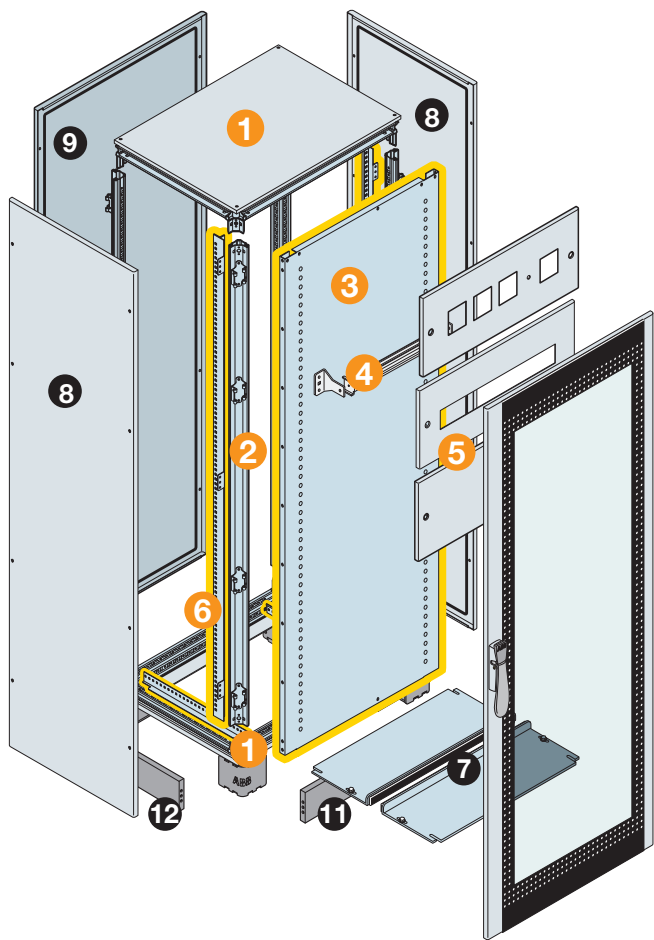
- Uprights for apparatus page 4/54
- DIN rails and modular panels page 4/54
- Distribution system page 4/62

- 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 4/61
- Key inserts page 4/36

Technical characteristics

Conformity with Standard	EN60439-1 - IEC 61439-1-2
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 (CEI EN 60529)
Degree of mechanical strength	
blind door	IK10 (IEC 62262)
glazed door	IK09 (IEC 62262)
Colour:	
internal structure	galvanised white
external panelling	Orange peel RAL 7035
plinth	Orange peel RAL 7012

4



Composition of a structure Kit 2000x600x500 (hwxwd) for apparatus mounted on the back plate

- 1 EK6050K Base top
- 2 EM2000 Uprights
- 3 EX2060 Oversized back plate
- 4 EH1018 Kit for modular apparatus
- 5 EH....K 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 EL2050K N°2 side panels
- 9 EP2060K Rear panel
- 10 ET2060K Glazed door
- 11 ZE6000 N°2 plinth flanges H=100mm front/rear
- 12 ZE5000 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:

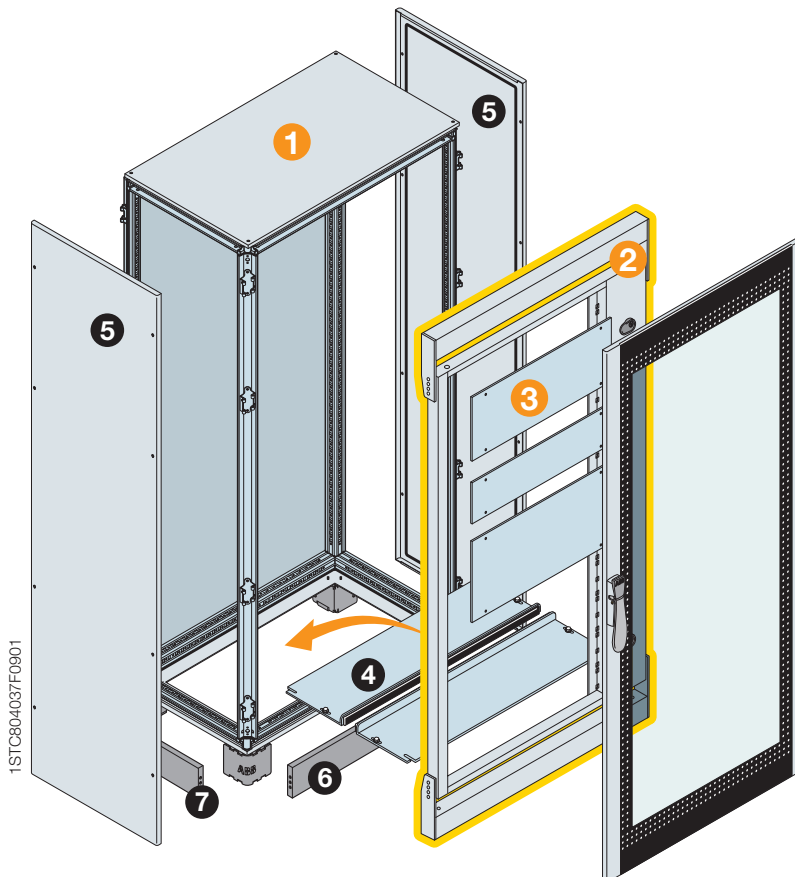
made of galvanised steel consisting of a closed section drilled with 25mm pitch preset for mounting the rack frames.

19" rack frame:

made of galvanised steel, this is able to support a maximum load of 90kg, 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.

4

Example of composition of a structure with 19" rack frame



Making up a pre-assembled structure 2000x800x600 (hwxwd) for 19" rack frames

- 1 ES2086VK Pre-assembled cabinet with blind door
- 2 EG2003K Eccentric swing rack frame
- 3 EG.... Panels for rack frame

Completion items

- 4 EF8060 Cable entry sliding flanges
- 5 EL2060K N°2 side panels
- 6 ZE8000 N°2 plinth flanges H=100mm front/rear
- 7 ZE6000 N°2 plinth flanges H=100mm side

Examples of configurations

19" rack structures

Rear panel:

made of 15/10 thick sheet, fitted with polyurethane gasket.

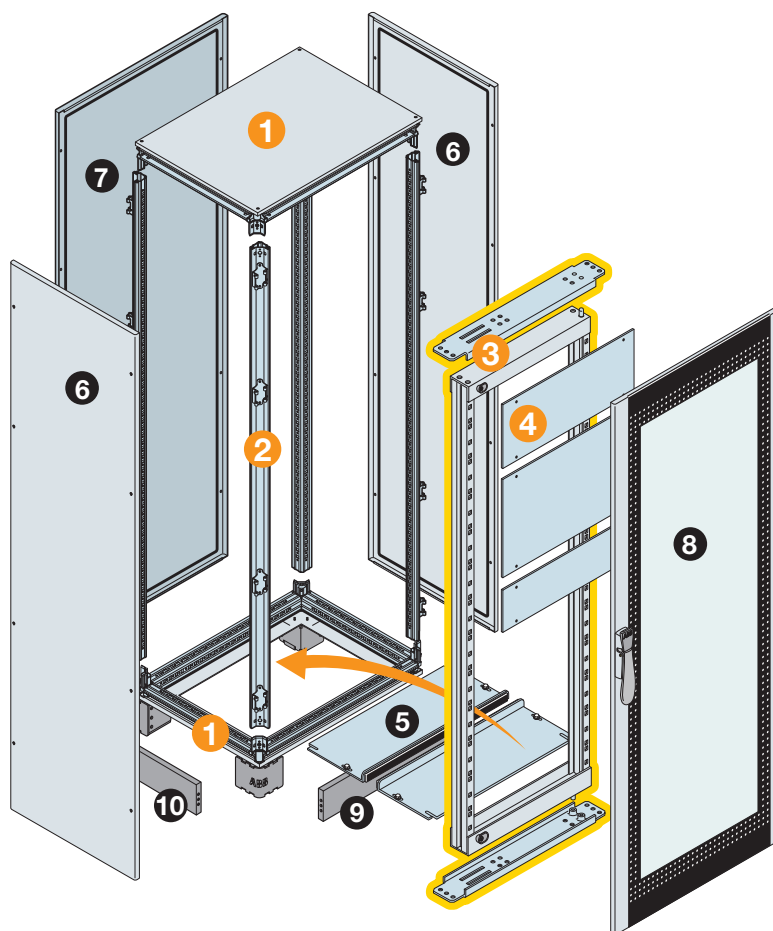
Completion items

- 19" rack frames.....page 4/58
- Dummy panelspage 4/58
- Cable entry flangespage 4/39
- Plinth covering flanges H=100/200mm and reinforced plinth.....page 4/40
- Side panelspage 4/38
- Crosspiecespage 4/46
- Lifting eyebolts and reinforcementspage 4/61
- Key insertspage 4/36

Technical characteristics

Conformity with Standard	CEI EN 62208
Degree of protection	IP65 (CEI EN 60529)
Degree of mechanical strength	
blind door	IK10 (IEC 62262)
glazed door	IK09 (IEC 62262)
Colour:	
internal structure	galvanised white
external panelling	Orange peel RAL 7035
plinth	Orange peel RAL 7012

4



Composition of a structure Kit 2000x600x500 (hwxwd) for 19" rack frames

- 1 EK6050K Base top
- 2 EM2000 Uprights
- 3 EG2001K Centred swing rack frame
- 4 EG.... Panels for rack frame

Completion items

- 5 EF6050 Cable entry sliding flanges
- 6 EL2050K N°2 side panels
- 7 EP2060K Rear panel
- 8 ET2060K Glazed door
- 9 ZE6000 N°2 plinth flanges H=100mm front/rear
- 10 ZE5000 N°2 plinth flanges H=100mm side

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.

Reversible with 4 closing points, and complete with internal reinforcement frame and earthing pins.

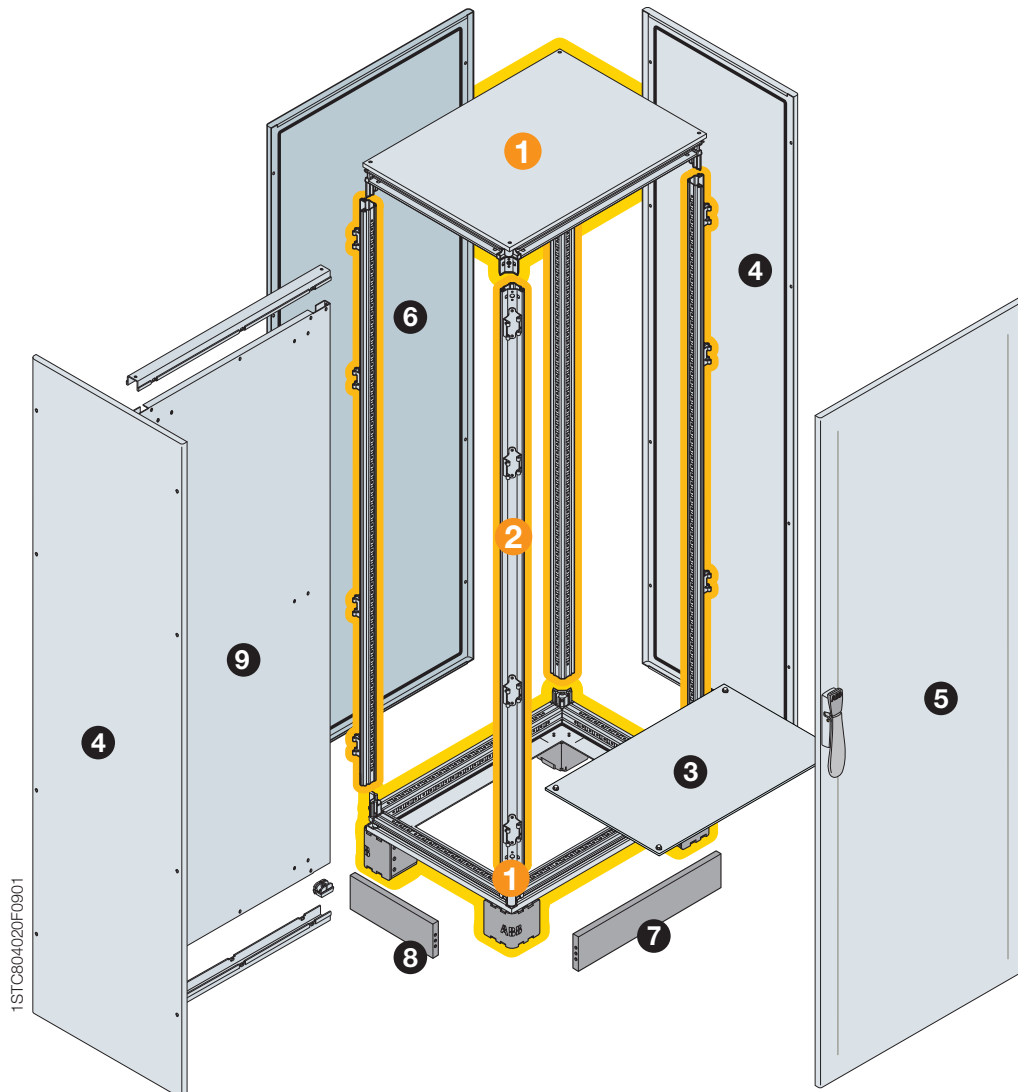
Glazed door:

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. Reversible 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



Examples of configurations

Built-up structures

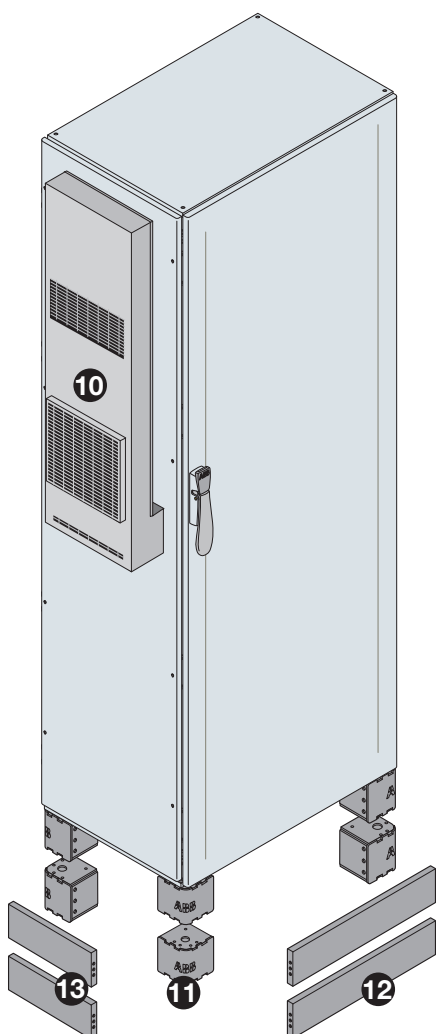
Completion items

- Standard and oversized back plates with front and lateral insertionpage 4/42
- Cable entry flangespage 4/39
- Plinth covering flanges H=100/200mm and reinforced plinth.....page 4/40
- Crosspiecespage 4/46
- 19" rack frames.....page 4/58
- Lifting eyebolts and reinforcementspage 4/61
- Key insertspage 4/36
- Fans, air conditionerspage 4/68
- Uprights, panels and DIN railspage 4/54

Technical characteristics

Conformity with Standard	CEI EN 50298
Degree of protection	IP65 (CEI EN 60529)
Degree of mechanical strength	
blind door	IK10 (IEC 62262)
glazed door	IK09 (IEC 62262)
Colour:	
internal structure	galvanised white
external panelling	Orange peel RAL 7035
plinth	Orange peel RAL 7012

4



Composition of a structure 2000x600x500 (hxwxd)

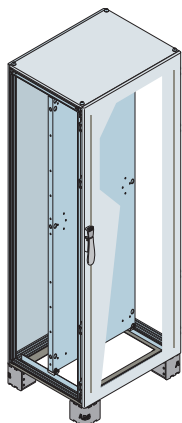
- 1 EK6050K Base, top and plinth
- 2 EM2000 N°4 uprights

Completion items

- 3 EF6052 Bottom closure
- 4 EL2050K N°2 side panels
- 5 EC2060K Blind door
- 6 EP2060K Rear panel
- 7 ZE6000 N°2 plinth flanges H=100mm front/rear
- 8 ZE5000 N°2 plinth flanges H=100mm side
- 9 EA2161 Oversized back plate + tracks for lateral insertion
- 10 VZ1000K Super thin wall air conditioner IP54
- 11 ZE1010 N°4 plinth angle pieces H=100mm
- 12 ZE6000 N°2 plinth flanges H=200mm front/rear
- 13 ZE5000 N°2 plinth flanges H=200mm side

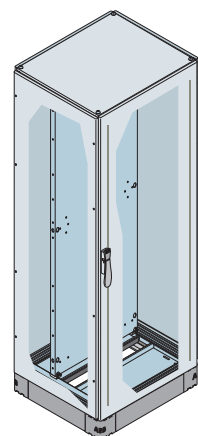
Examples of Configurations

Pre-assembled structures



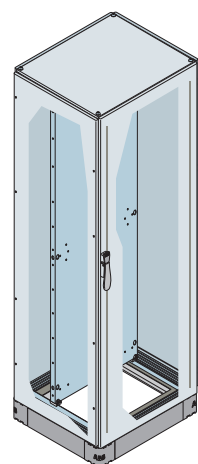
IS2 series pre-assembled structure dim.: 1800x600x400 (1905x594x410)mm (external hxwxd) IP65 with blind door, back plate and plinth h=100mm (side panels, cable entry flanges and plinth flanges excluded).

Code	Description	Qty.
ES1864K	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.
ES1865K	Blind door cabinet 1800x600x500mm	1
EA1860	Back plate 1800x600mm (hxw)	1
EL1850K	n°2 blind side panels 1800x500mm (hxd)	1
ZE6000	n°2 plinth flanges w=600mm	1
ZE5000	n°2 plinth flanges d=500mm	1
EF6050	Sliding cable entry flanges 600x500	1

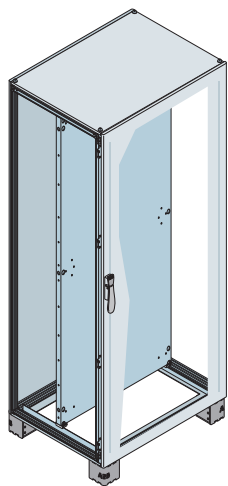


IS2 series pre-assembled structure dim.: 2000x600x500 (2105x610x510)mm. (external hxwxd) IP65 with blind door, back plate, side panels, plinth and flange h=100mm (cable entry flanges excluded)

Code	Description	Qty.
ES2065K	Blind door cabinet 2000x600x500mm	1
EA2060	Back plate 2000x600mm (hxw)	1
EL2050K	n°2 blind side panels 2000x500mm (hxd)	1
ZE6000	n°2 plinth flanges w=600mm	1
ZE5000	n°2 plinth flanges d=500mm	1

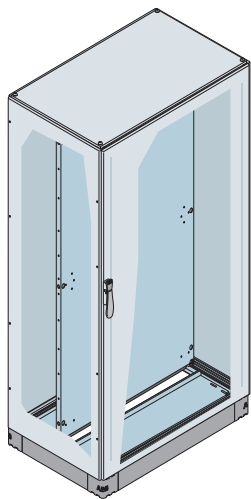
Examples of Configurations

Pre-assembled structures



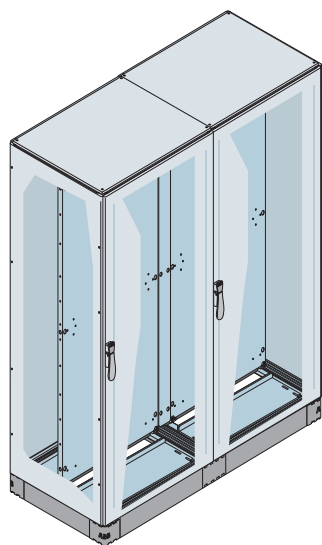
IS2 series pre-assembled structure dim.: 2000x800x600 (2105x794x610)mm. (external hxwxd) IP65 with blind door, back plate and plinth h=100mm (flange excluded)

Code	Description	Qty.
ES2086K	Blind door cabinet 2000x800x600mm	1
EA2080	Back plate 2000x800mm (hxw)	1



IS2 series pre-assembled structure dim.: 2000x1000x600 (2105x1010x610)mm. (external hxwxd) IP65 with blind door, back plate, side panels, sliding cable entry flanges and plinth h=100mm (flanges included)

Code	Description	Qty.
ES2006K	Blind door cabinet 2000x1000x600mm	1
EL2060K	n°2 blind side panels 2000x600mm (hxd)	1
EF1060	Sliding flanges 1000x600mm	1
ZE1000	n°2 plinth flanges w=1000mm	1
ZE6000	n°2 plinth flanges d=600mm	1



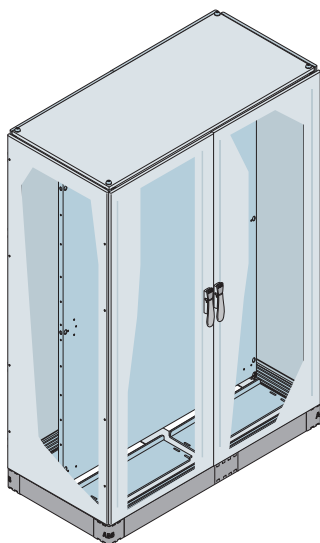
N°2 IS2 series pre-assembled structures dim.: 2000x600x600 (2105x1204x610mm external hxwxd) IP65 with blind door, back plate, side panels, sliding cable entry flanges, structure/plates and plinth joining kit h=100mm (flanges included).

Code	Description	Qty.
ES2066K	Blind door cabinet 2000x600x600mm	2
EA2060	Back plate 2000x600mm (hxw)	2
EL2060K	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
ZE6000	n°2 plinth flanges w=600mm	3

4

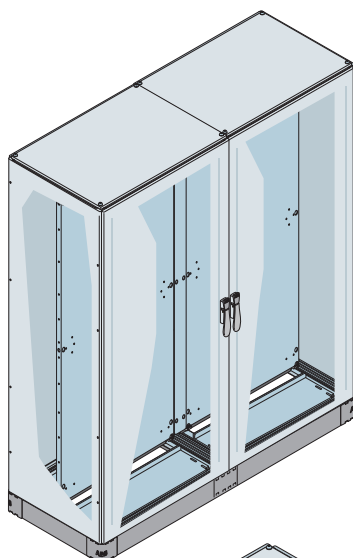
Examples of Configurations

Pre-assembled structures



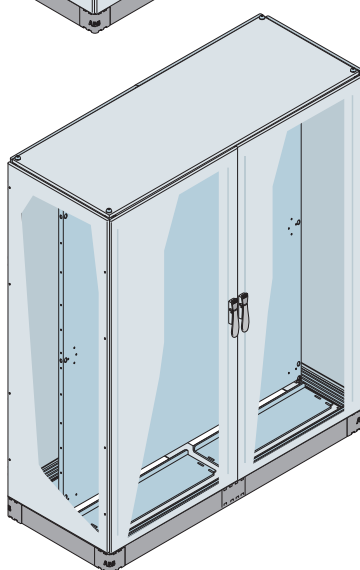
IS2 series pre-assembled structure dim.: 2000x1200x600 (2105x1210x610)mm. (external hxwx d) IP65 with blind door, back plate, side panels, sliding cable entry flanges and plinth h=100mm (flanges included).

Code	Description	Q.ty
ES2026K	Cabinets with blind door 2000x1200x600mm	1
EA2013	Black plate 2000x1200mm (hwxw)	1
EL2060K	n°2 side blind panels 2000x600mm (hxd)	1
EF6060	Sliding flanges 600x600mm	2
ZE6000	n°2 plinth flanges w=600mm	3



N°2 IS2 series pre-assembled structures dim.: 2000x800x600 (2105x1604x610)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.
ES2086K	Blind door cabinet 2000x800x600mm	2
EA2080	Back plate 2000x800mm (hwxw)	2
EA2000	Back plate joining kit h=2000mm	1
EL2060K	n°2 blind side panels 2000x600mm (hxd)	1
EF8060	Sliding flanges 800x600mm	2
EV0003	Kit for joining cabinets	1
ZE8000	n°2 plinth flanges w=800mm	2
ZE6000	n°2 plinth flanges d=600mm	1

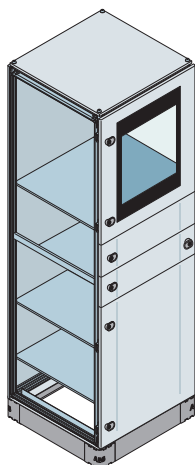


IS2 series pre-assembled structure dim.: 2000x1600x600 (2105x1610x610)mm (external hxwx d) IP65 with blind door, back plate, side panels, sliding cable entry flanges and plinth h=100mm (flanges included).

Code	Description	Qty.
ES2076K	Blind door cabinet 2000x1600x600mm	1
EA2016	Back plate 2000x1600mm (hwxw)	1
EL2060K	n°2 blind side panels 2000x600mm (hxd)	1
EF8060	Sliding flanges 800x600mm	2
ZE8000	n°2 plinth flanges w=800mm	2
ZE6000	n°2 plinth flanges d=600mm	1

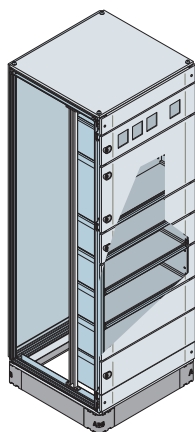
Examples of Configurations

Pre-assembled structures



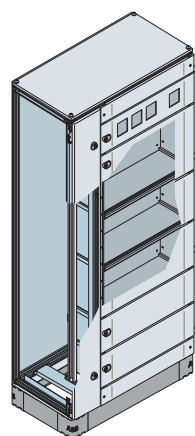
IS2 series pre-assembled structure dim.: 2000x600x600 (2105x610x610)mm (external hxwxd) IP65 PC version with glazed door for monitor, keyboard shelf, CPU module, side panels and plinth h=100mm (flanges included)

Code	Description	Qty.
ES2066PCK	Cabinet for computer 2000x600x600mm	1
EL2060K	n°2 blind side panels 2000x600mm (hxd)	1
ZE6000	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.
ES1866MFK	Cabinet with compartments 1800x600x600mm (hxwxd)	1
ZE6000	n°2 plinth flanges 100x600mm (hxw)	1
EH4063	Back plate x compartments 400x600mm (hxw)	1
EH2060	Back plate x compartments 200x600mm (hxw)	6
EH7262K	Panel for n°2 72x72 instruments - 200x600mm(hxw)	1
EH4061K	Front panel for compartments 400x600mm (hxw)	1
EH2061K	Front panel for compartments 200x600mm (hxw)	5

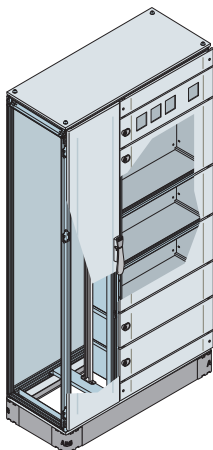


IS2 series pre-assembled structure dim.: 1800x800x400 (1805x794x410)mm. (external hxwxd) IP65 version with Form 3 segregated compartments, cable riser w=200mm, with instrument panel and blind doors for PC-MCC, plinth h=100mm (flanges included)

Code	Description	Qty.
ES1884MF2K	Cabinet with compartments 1800x800x400+cable cont. w=200	1
EH4063	Back plate x compartments 400x600mm (hxw)	1
EH3060	Back plate x compartments 300x600mm (hxw)	2
EH2060	Back plate x compartments 200x600mm (hxw)	3
EH7262K	Panel for n°2 72x72 instruments - 200x600mm(hxw)	1
EH2061K	Front panel for compartments 200x600mm (hxw)	2
EH3061K	Front panel for compartments 300x600mm (hxw)	2
EH4061K	Front panel for compartments 400x600mm (hxw)	1
ZE8000	n°2 plinth flanges 100x800mm (hxw)	1
ZE4000	n°2 plinth flanges 100x400mm (hxw)	1

Examples of Configurations

Pre-assembled structures



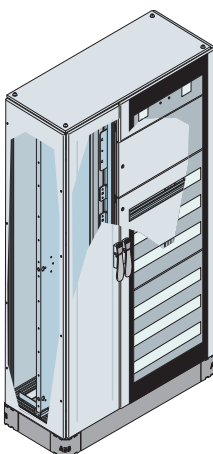
IS2 series pre-assembled structure dim.: 1800x1000x400 (1805x994x410)mm. (external hxwxd) IP65 version with Form 3 segregated compartments, cable riser w=400mm, with instrument panel and blind doors for PC-MCC, plinth h=100mm (flanges included).

Code	Description	Qty.
ES1804MF4K	Cabinet with compartments 1800x1000x400+cable cont. w=400	1
EH4063	Back plate x compartments 400x600mm (hwx)	1
EH3060	Back plate x compartments 300x600mm (hwx)	2
EH2060	Back plate x compartments 200x600mm (hwx)	3
EH7262K	Panel for n°2 72x72 instruments - 200x600mm(hwx)	1
EH2061K	Front panel for compartments 200x600mm (hwx)	2
EH3061K	Front panel for compartments 300x600mm (hwx)	2
EH4061K	Front panel for compartments 400x600mm (hwx)	1
ZE1000	n°2 plinth flanges 100x1000mm (hwx)	1
ZE4000	n°2 plinth flanges 100x1000mm (hwx)	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.
ES1864VK	Glazed door cabinet 1800x600x400mm	1
ZE6000	n°2 plinth flanges 100x600mm (hwx)	1
EH1800	n°2 uprights h=1800mm x DIN panels	1
EH2272K	Panel for n°2 72x72 instruments - 200x600mm(hwx)	1
EH3063K	Blind panel 300x600mm (hwx)	1
EH0018	DIN rail w=600mm (18 mod.)+front supp.	6
EH6018K	Panel 3x18 DIN mod. 600x600mm (hwx)	2
ZE4000	n°2 plinth flanges 100x400mm (hwx)	1

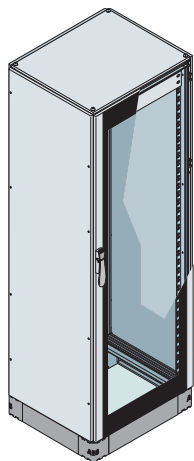


IS2 series mounted structure, dimensions: 1800x1200x400mm (1805x1210x410mm external hxwxd). IP65 modular version with cable riser l=400mm, instrument panel, DIN panels, cabling on mounting plate and plinth h=100mm (flanges included).

Code	Description	Qty.
ES1824VC4K	Cabinet+Cable cont. l=400 transparent door 1800x1200x400	1
ZE6000	n°2 plinth flanges 100x600mm (hwx)	2
ZE4000	n°2 plinth flanges 100x400mm (hwx)	1
EX1880	Back plate for bench cabling 1800x800mm (hwx)	1
GD1530	DIN rail l=800mm (18 mod.)+ rear support	6
EH3272K	Panel x n°2 instruments 72x72-200x800mm (hwx)	1
EH3082K	Blind panel 300x800mm (hwx)	1
EH6029K	Panel 3x18 DIN mod. 600x800mm (hwx)	2
EL1840K	n°2 blind side panels 1800x400mm (hxd)	1
EB4101	n°2 rails for sliding back plate	1
EH1800	n°2 uprights for modular apparatus	1

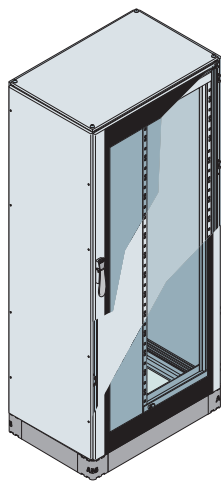
Examples of Configurations

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.
ES2065VK	Glazed door cabinet 2000x600x500mm	1
EG2000	19" rack frame 2000x600mm 42 fixed HE	1
EL2050K	n°2 blind side panels 2000x500mm (hxd)	1
ZE6000	n°2 plinth flanges 100x600mm (hwxw)	1
ZE5000	n°2 plinth flanges 100x500m m (hwxw)	1

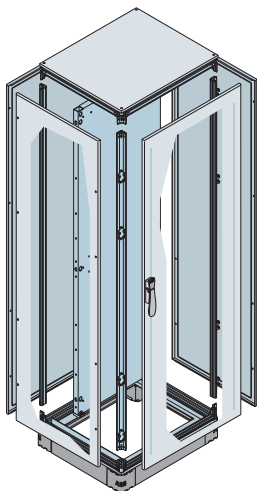


IS2 series mounted structure, 2000x800x500mm dimensions (2105x810x510mm external hxwxd), IP65 19" 40 HE swing off-centre rack version, side panels, transparent door, plinth h=100mm (flanges included).

Code	Description	Qty.
ES2085VK	Cabinet with transparent door 2000x800x500mm	1
EG2003K	40HE swing off-centre rack frame 2000x800mm	1
EL2050K	n°2 blind side panels 2000x500mm (hxd)	1
ZE8000	n°2 plinth flanges 100x800mm (hwxw)	1
ZE5000	n°2 plinth flanges 100x500mm (hwxw)	1

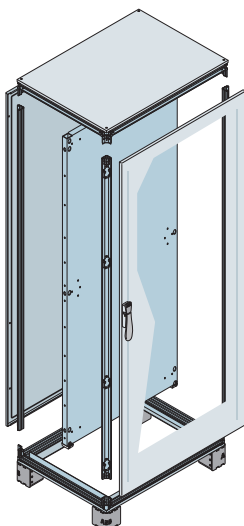
Examples of Configurations

Built-up structures



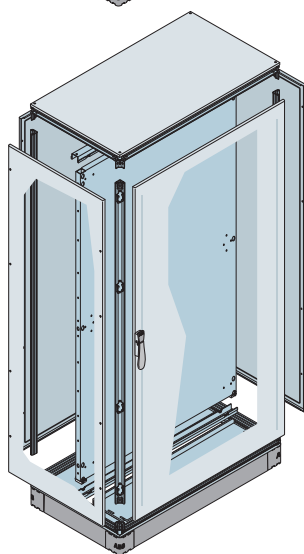
IS2 series structure kit dim.: 2000x600x500 (2105x610x510)mm.
(external hxwxd) IP65 with blind door, back plate, side panels, plinth and flange h=100mm (cable entry flanges excluded).

Code	Description	Qty.
EK6050K	Base/Top 600x500mm (wxd)	1
EM2000	n°4 uprights h=2000mm	1
EA2060	Back plate 2000x600mm (hxw)	1
EL2050K	n°2 blind side panels 2000x500mm (hxd)	1
ZE6000	n°2 plinth flanges w=600mm	1
ZE5000	n°2 plinth flanges d=500mm	1
EC2060K	Blind door 2000x600mm (hxw)	1
EP2060K	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.
EK8060K	Base/Top 800x600mm (wxd)	1
EM2000	n°4 uprights h=2000mm	1
EA2080	Back plate 2000x800mm (hxw)	1
EC2080K	Blind door 2000x800mm (hxw)	1
EP2080K	Rear panel 2000x800mm (hxw)	1

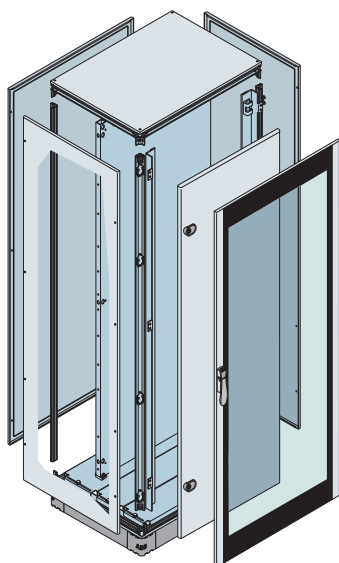


IS2 series structure kit dim.: 2000x1000x600 (2105x1010x610) mm.
(external hxwxd) IP65 with blind door, oversized back plate, side panels, sliding cable entry flanges and plinth h=100mm (flanges included).

Code	Description	Qty.
EK1060K	Base/Top 1000x600mm (wxd)	1
EM2000	n°4 uprights h=2000mm	1
EA2110	Oversized back plate+tracks 2000x1000mm(hxw)	1
EL2060K	n°2 blind side panels 2000x600mm (hxd)	1
EF1060	Sliding flanges 1000x600mm	1
ZE1000	n°2 plinth flanges w=1000mm	1
ZE6000	n°2 plinth flanges d=600mm	1
EC2012K	Blind door 2000x1000mm (hxw)	1
EP2010K	Rear panel 2000x1000mm (hxw)	1

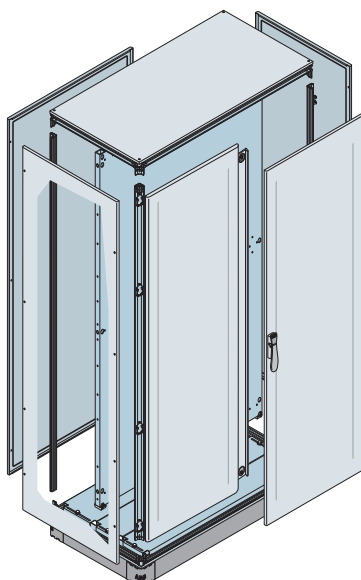
Examples of Configurations

Built-up structures



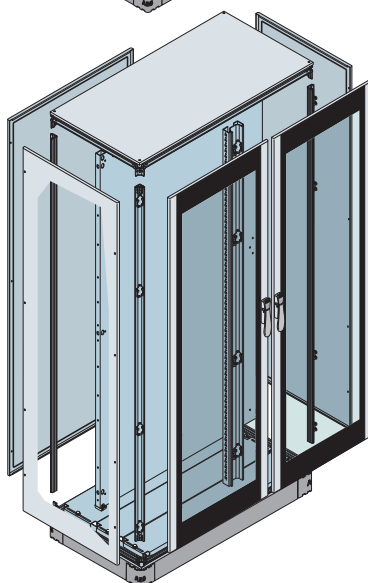
IS2 series structure kit dim.: 2200x800x600 (2305x810x610)mm.
(external hxwx d) IP65 with glazed door, counterdoor, back plate,
side panels, removable cable entry flanges and plinth h=100mm
(flanges included).

Code	Description	Qty.
EK8060K	Base/Top 800x600mm (wxd)	1
EM2200	n°4 uprights h=2200mm	1
EL2260K	n°2 blind side panels 2200x600mm (hxd)	1
ET2280K	Glazed door 2200x800mm (hwx)	1
EE2280K	Counterdoor 2200x800mm (hwx)	1
EA2280	Back plate 2200x800mm (hwx)	1
EF8061	Removable flanges 800x600mm	1
ZE8000	n°2 plinth flanges w=800mm	1
ZE6000	n°2 plinth flanges d=600mm	1
EP2280K	Rear panel 2200x800mm (hwx)	1



IS2 series structure kit dim.: 2000x1000x600mm (2105x1010x610mm
external hxwx d) 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.
EK1060K	Base/Top 1000x600mm (wxd)	1
EM2000	n°4 uprights h=2000mm	1
EL2060K	n°2 blind side panels 2000x600mm (hxd)	1
EC2080FC5K	Blind door for double door version	1
ED2012SK	Blind door with overlap	1
EA2010	Back plate 2000x1000mm (hwx)	1
EF1061	Removable flanges 1000x600mm	1
ZE1000	n°2 plinth flanges w=1000mm	1
ZE6000	n°2 plinth flanges d=600mm	1
EP2010K	Rear panel 2000x600mm (hwx)	1



IS2 series structure kit dim.: 2000x1000x600mm (2105x1010x610mm
external hxwx d) 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.
EK1060K	Base/Top 1000x600mm (wxd)	1
EM2000	n°4 uprights h=2000mm	1
EL2060K	n°2 blind side panels 2000x600mm (hxd)	1
EC2080FV6K	Glazed door for double door version	2
EM2001	Intermediate upright h=2000mm	1
EB6100	Pair of intermediate crosspieces	1
EA2013	Back plate 2000x1000mm (hwx)	1
EF6061	Removable flanges 1000x600mm	1
ZE6000	n°2 plinth flanges d=600mm	1
EP2012K	Rear panel 2000x600mm (hwx)	1



IS2 EMC Enclosures

General characteristics and applications

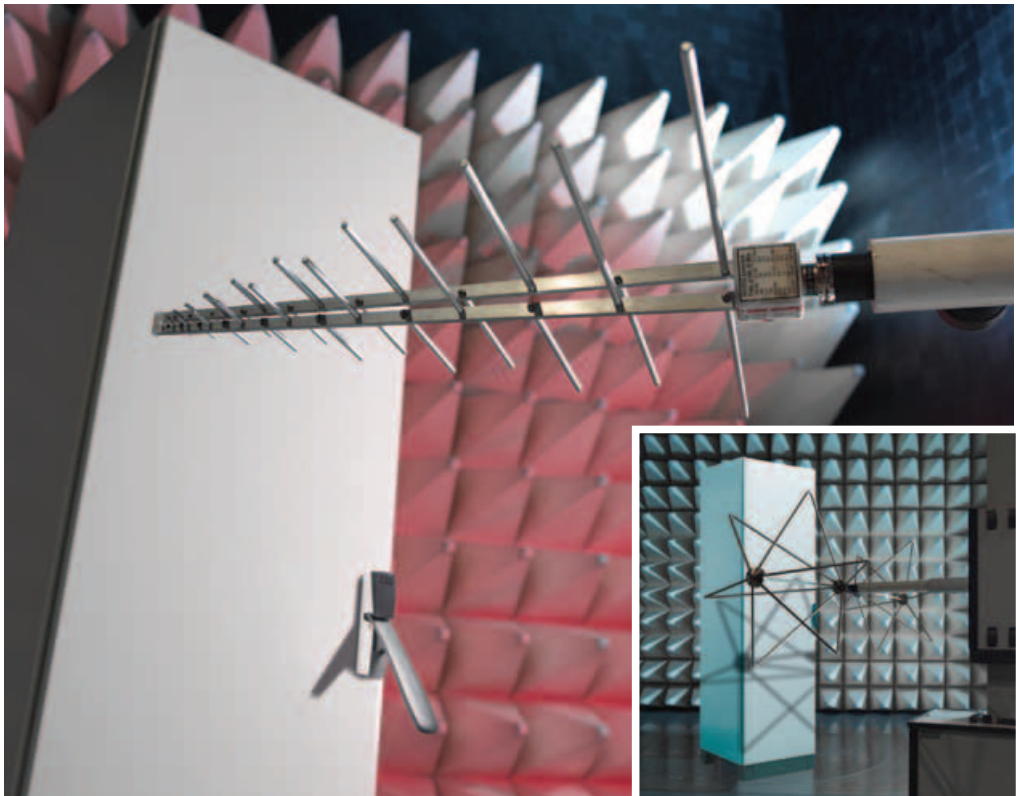
The range of IS2 enclosures has been enriched with the EMC (Electromagnetic Compatibility) version. The new version has undergone shielding efficiency tests with success according to the MIL STD 285: 1956 Standard.

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 (IEC 62262)
	IK08 glazed door (IEC 62262)

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



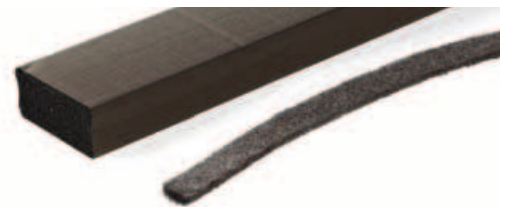
The range of IS2 EMC enclosures is characterized by the IP54 degree of protection, tested and checked according to the EN 60529 Standard.

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 RAL7035.

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.

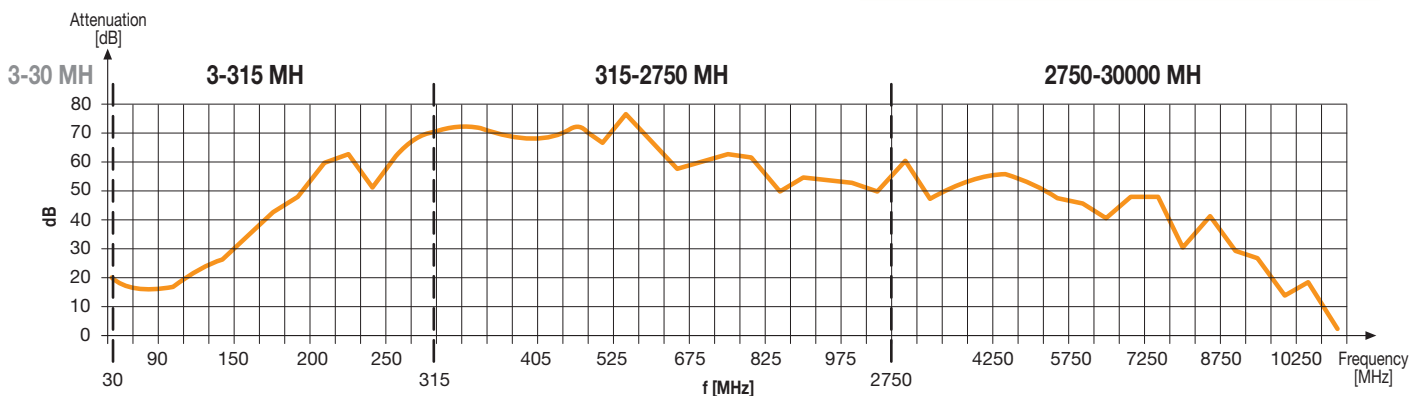
The high shielding characteristics are such as to allow the use of the IS2 EMC enclosures in the telephone, aerospace, naval, medical, military and information technology fields, as well as in all uses where there are active components sensitive to electromagnetic pollution.

Versions available

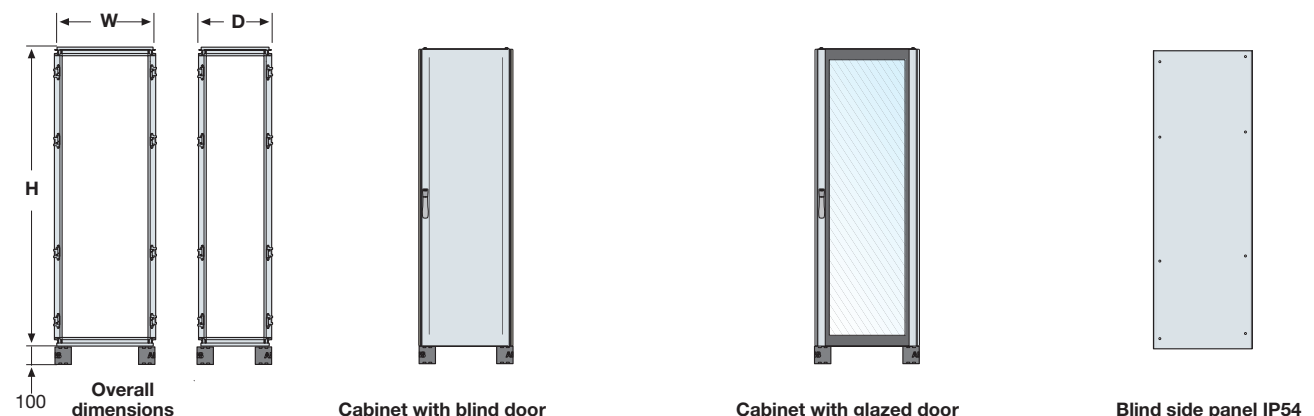


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Attenuation values



- 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	ES2066EMCK	ES2066VEMCK	2 x EL2060EMCK
	800		ES2086EMCK	ES2086VEMCK	
	600	800	ES2068EMCK	ES2068VEMCK	2 x EL2080EMCK
	800		ES2089EMCK	ES2089VEMCK	

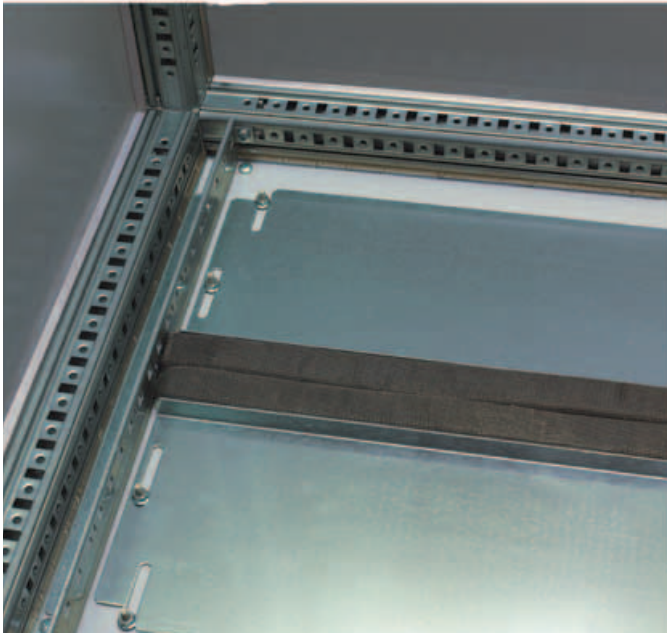
IS2 EMC Enclosures

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.

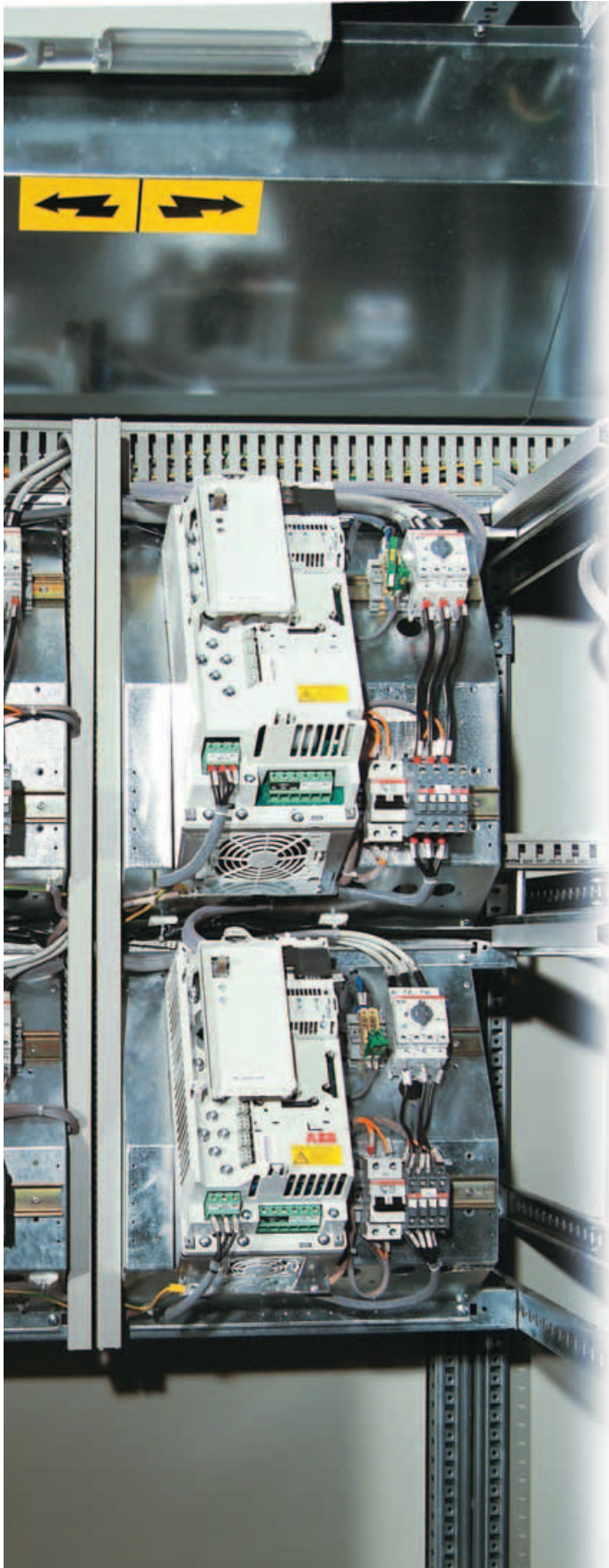


Door

- Front doors with 120° 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.
- 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.

IS2 EMC Enclosures

General characteristics and applications



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.

4

Panel board with 19" rack frame

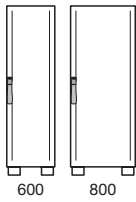
- For the range of IS2 EMC panel boards, the uprights with the section dedicated to mounting the panels and 19" Rack accessories are available, destined for various applications such as installation of electronic cards or to make small panel boards for local networks (LAN).

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.

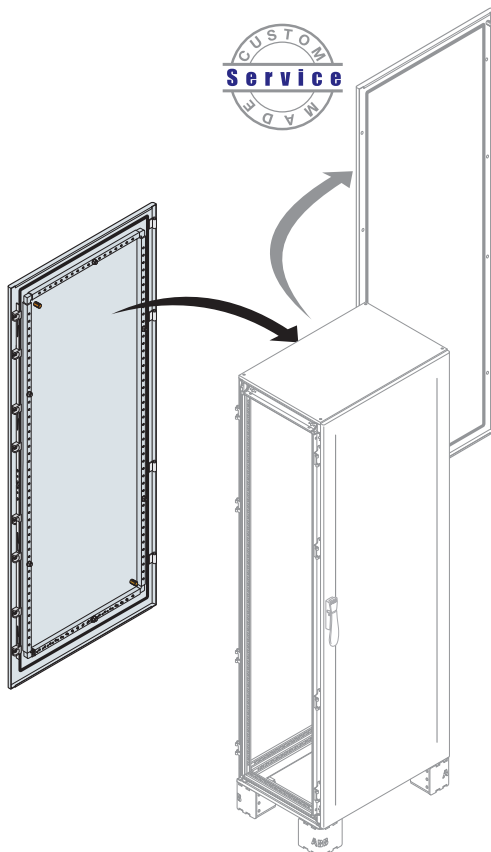
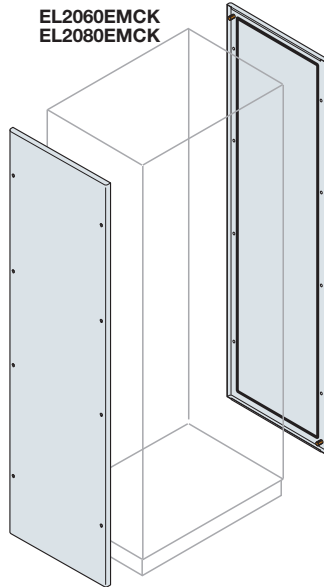
The buffer panels are available with dimensions up to 20 HE modules, are blind and made of opaque natural colour anodized aluminium 30/10mm thick.

Ordering codes

Structures



EL2060EMCK
EL2080EMCK



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 7035 colour inside/outside. To be completed with plinth flanges, cable tightening plates, side panels and internal equipment.

Code	Description	Dimensions mm	
		H	W x D
ES2066EMCK	Cabinet with blind door	2000	600x600
ES2086EMCK	Cabinet with blind door		800x600
ES2068EMCK	Cabinet with blind door		600x800
ES2089EMCK	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 7035 colour inside/outside. To be completed with plinth flanges, cable tightening plates, side panels and internal equipment.

Code	Description	Dimensions mm	
		H	W x D
ES2066VEMCK	Cabinet with glazed door	2000	600x600
ES2086VEMCK	Cabinet with glazed door		800x600
ES2068VEMCK	Cabinet with glazed door		600x800
ES2089VEMCK	Cabinet with glazed door		800x800

IP54 - EMC Blind side panel

Panel made of sheet 15/10 thick, fitted with polyurethane gasket, painted orange peel RAL 7035 colour inside/outside, complete with earthing pins.

Code	Description	Dimensions mm (HxD)
EL2060EMCK	Blind side panel	2000x600
EL2080EMCK	Blind side panel	2000x800

Replacement of rear panel with door

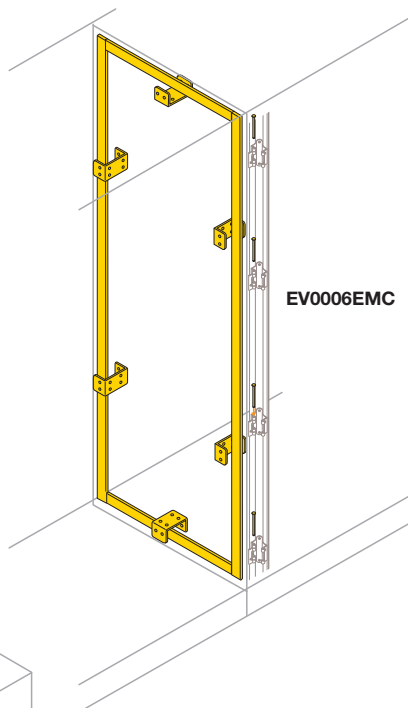
The supply foresees replacement of the rear panel with a blind/glazed door assembled directly in the factory.

Code	Description	Dimensions mm (HxD)
EC2060EMCK Assembled	Replacement of rear panel with blind door	2000x600
EC2080EMCK Assembled	Replacement of rear panel with blind door	2000x800
ET2060EMCK Assembled	Replacement of rear panel with blind door	2000x600
ET2080EMCK 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

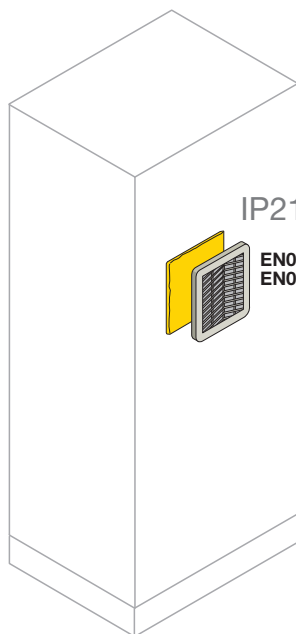
The kit consists of 6 squares and adhesive EMC conductive gasket. Joining is made from the inside by means of the 6 squares which can be mounted for the full height or depth of the panel board.

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), RAL7035 colour, complete with filter cloth with high dust accumulation capacity (600g/m²), 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
EN0150EMCK	Panel + air passage filter kit	150x150
EN0250EMCK	Panel + air passage filter kit	250x250



IP21/54

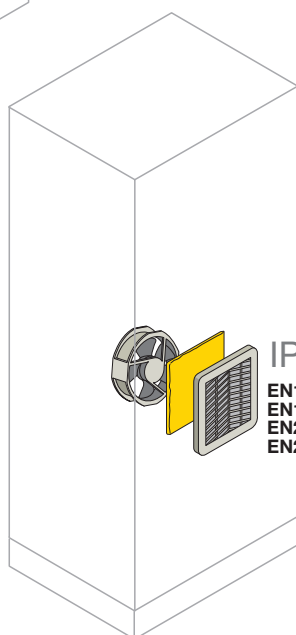


EN0150EMCK
EN0250EMCK

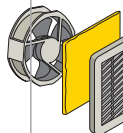
IP54 shielded EMC forced ventilation Kit

Grilles made of insulating material (PC/ABS self-extinguishing UL94V-0), RAL7035 colour, complete with filter cloth with high dust accumulation capacity (600g/m²), 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 ³ /h)	Dimensions mm
With fan at 230V - IP54				L x W
EN1150EMCK	Grille+air passage filter Kit	20	57	150x150
EN1250EMCK	Grille+air passage filter Kit	59	240	250x250
With fan at 115V - IP54				L x W
EN2150EMCK	Grille+air passage filter Kit	20	57	150x150
EN2250EMCK	Grille+air passage filter Kit	59	240	250x250



IP54



EN1150EMCK
EN1250EMCK
EN2150EMCK
EN2250EMCK

Spray paint – EMC

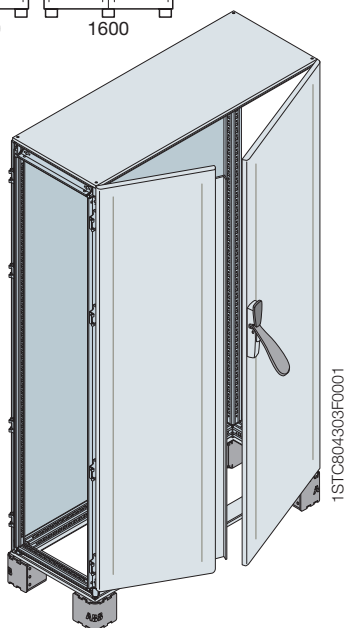
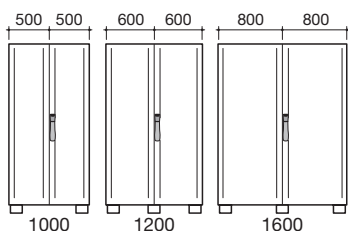
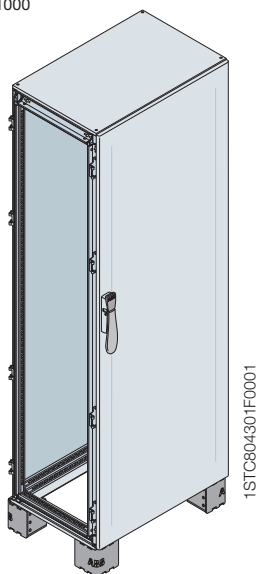
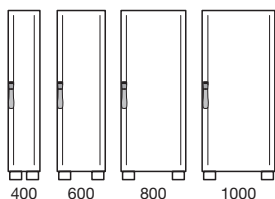
Conductive spray paint.

Code	Description
VB7035EMCK	EMC version conductive spary paint

To complete the structure, see accessories from page 4/36

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		
ES1844K	ES2044K	ES2244K	Cabinet with blind door	400x400
ES1864K	ES2064K	ES2264K	Cabinet with blind door	600x400
ES1884K	ES2084K	ES2284K	Cabinet with blind door	800x400
ES1804K	ES2004K	ES2204K	Cabinet with blind door	1000x400
ES1845K	ES2045K	ES2245K	Cabinet with blind door	400x500
ES1865K	ES2065K	ES2265K	Cabinet with blind door	600x500
ES1885K	ES2085K	ES2285K	Cabinet with blind door	800x500
ES1805K	ES2007K	ES2205K	Cabinet with blind door	1000x500
ES1846K	ES2046K	ES2246K	Cabinet with blind door	400x600
ES1866K	ES2066K	ES2266K	Cabinet with blind door	600x600
ES1886K	ES2086K	ES2287K	Cabinet with blind door	800x600
ES1806K	ES2006K	ES2206K	Cabinet with blind door	1000x600
ES1848K	ES2048K	ES2248K	Cabinet with blind door	400x800
ES1868K	ES2068K	ES2268K	Cabinet with blind door	600x800
ES1888K	ES2089K	ES2288K	Cabinet with blind door	800x800
ES1808K	ES2008K	ES2208K	Cabinet with blind door	1000x800
ES1840K	ES2040K	ES2240K	Cabinet with blind door	400x1000
ES1860K	ES2060K	ES2260K	Cabinet with blind door	600x1000
ES1880K	ES2080K	ES2280K	Cabinet with blind door	800x1000
ES1800K	ES2000K	ES2200K	Cabinet with blind door	1000x1000

Cabinets with blind overlapping closure

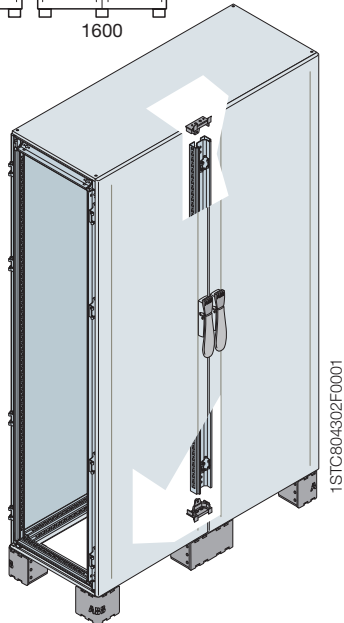
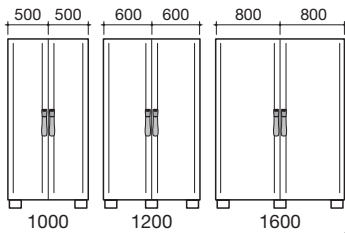
Structure with removable roof, complete with glazed door and rear panel, plinth h=100mm consisting of four angle pieces. The cabinets 1200/1600 mm width include the intermediate plinth. To be completed with plinth flanges, cable entry flanges and side panels.

Code	Description			Dimensions mm (WxD)
Height mm				
1800	2000	2200		
ES1814BK	ES2014BK	ES2214BK	Cabinets with blind overlapping closure	1000x400
ES1824BK	ES2024BK	ES2224BK	Cabinets with blind overlapping closure	1200x400
ES1815BK	ES2015BK	ES2215BK	Cabinets with blind overlapping closure	1000x500
ES1827BK	ES2025BK	ES2225BK	Cabinets with blind overlapping closure	1200x500
ES1875BK	ES2075BK	ES2275BK	Cabinets with blind overlapping closure	1600x500
ES1816BK	ES2016BK	ES2216BK	Cabinets with blind overlapping closure	1000x600
ES1826BK	ES2026BK	ES2226BK	Cabinets with blind overlapping closure	1200x600
ES1876BK	ES2076BK	ES2276BK	Cabinets with blind overlapping closure	1600x600
ES1818BK	ES2018BK	ES2218BK	Cabinets with blind overlapping closure	1000x800
ES1828BK	ES2028BK	ES2228BK	Cabinets with blind overlapping closure	1200x800
ES1878BK	ES2078BK	ES2279BK	Cabinets with blind overlapping closure	1600x800
ES1810BK	ES2010BK	ES2210BK	Cabinets with blind overlapping closure	1000x1000

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Ordering codes

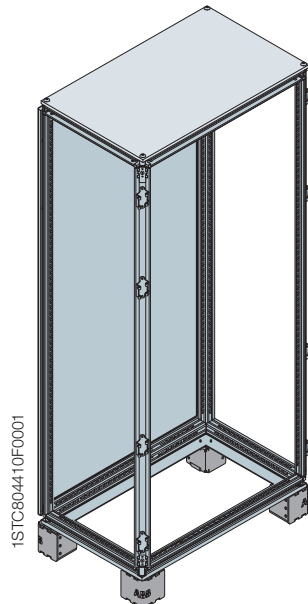
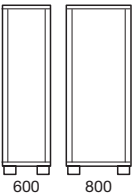
Pre-assembled structures



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
ES1814K ES2014K ES2214K	Cabinet with double blind door	1000x400
ES1824K ES2024K ES2224K	Cabinet with double blind door	1200x400
ES1815K ES2015K ES2215K	Cabinet with double blind door	1000x500
ES1827K ES2025K ES2225K	Cabinet with double blind door	1200x500
ES1875K ES2075K ES2275K	Cabinet with double blind door	1600x500
ES1816K ES2016K ES2216K	Cabinet with double blind door	1000x600
ES1826K ES2026K ES2226K	Cabinet with double blind door	1200x600
ES1876K ES2076K ES2276K	Cabinet with double blind door	1600x600
ES1818K ES2018K ES2218K	Cabinet with double blind door	1000x800
ES1828K ES2028K ES2228K	Cabinet with double blind door	1200x800
ES1878K ES2078K ES2279K	Cabinet with double blind door	1600x800
ES1810K ES2010K ES2210K	Cabinet with double blind door	1000x1000



Cabinets without front door

Structures with removable roof complete with rear panel, plinth H=100mm made up of four angle pieces. To be completed with door, plinth flanges, cable entry flanges and side panels.

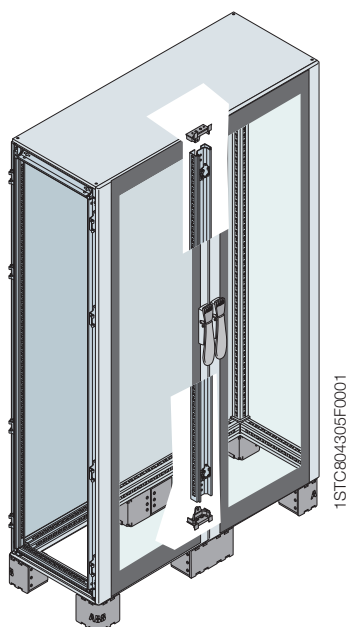
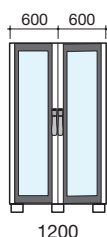
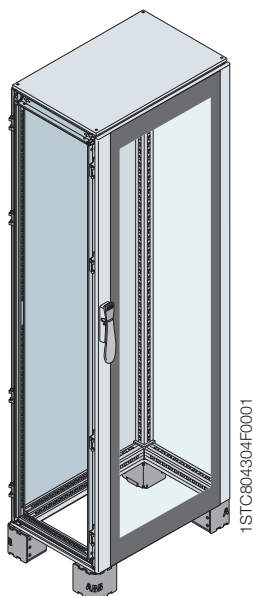
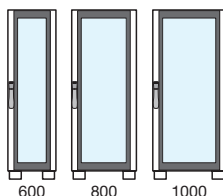
Codice	Description	Dimensions mm (WxD)
Altezza mm		
1800	2000	
ES1864SPK ES2064SPK	Cabinet without front door	600x400
ES1865SPK ES2065SPK	Cabinet without front door	600x500
ES1866SPK ES2066SPK	Cabinet without front door	600x600
ES1884SPK ES2084SPK	Cabinet without front door	800x400
ES2085SPK	Cabinet without front door	800x500
ES1886SPK ES2086SPK	Cabinet without front door	800x600
ES2089SPK	Cabinet without front door	800x800

For the codes listed, the Custom Made Service (assembly of accessories/special painting/special drilling) is not provided.

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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	Description	Dimensions mm (WxD)
Height mm		
1800	2000	2200
ES1864VK	ES2064VK ES2264VK	Cabinet with glazed door 600x400
ES1884VK	ES2084VK ES2284VK	Cabinet with glazed door 800x400
ES1804VK	ES2004VK ES2204VK	Cabinet with glazed door 1000x400
ES1865VK	ES2065VK ES2265VK	Cabinet with glazed door 600x500
ES1885VK	ES2085VK ES2285VK	Cabinet with glazed door 800x500
ES1805VK	ES2005VK ES2205VK	Cabinet with glazed door 1000x500
ES1866VK	ES2066VK ES2266VK	Cabinet with glazed door 600x600
ES1886VK	ES2086VK ES2286VK	Cabinet with glazed door 800x600
ES1806VK	ES2006VK ES2206VK	Cabinet with glazed door 1000x600
ES1868VK	ES2068VK ES2268VK	Cabinet with glazed door 600x800
ES1888VK	ES2088VK ES2288VK	Cabinet with glazed door 800x800
ES1808VK	ES2008VK ES2208VK	Cabinet with glazed door 1000x800
ES1860VK	ES2060VK ES2260VK	Cabinet with glazed door 600x1000
ES1880VK	ES2080VK ES2280VK	Cabinet with glazed door 800x1000
ES1800VK	ES2000VK ES2200VK	Cabinet with glazed door 1000x1000

Cabinets with double glazed door with overlapping closure on intermediate upright

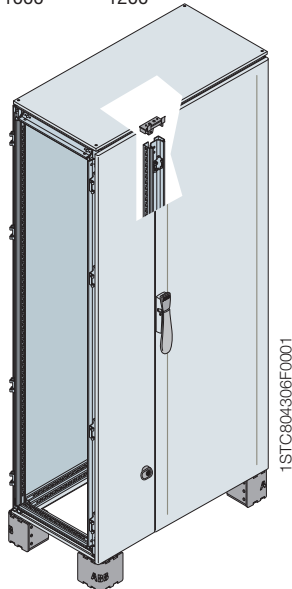
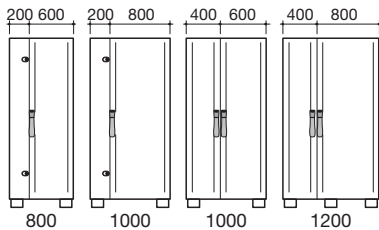
Structure with removable roof complete with glazed door and rear panel, plinth H=100mm made up of six angle pieces. The versions with double door include a pair of crosspieces mounted in depth and an intermediate upright (removable) for door closure. To be completed with plinth flanges, cable entry flanges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

Code	Description	Dimensions mm (WxD)
Height mm		
1800	2000	2200
ES1824VK	ES2024VK ES2224VK	Cabinet with double glazed door 1200x400
ES1825VK	ES2025VK ES2225VK	Cabinet with double glazed door 1200x500
ES1826VK	ES2026VK ES2226VK	Cabinet with double glazed door 1200x600
ES1828VK	ES2028VK ES2228VK	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)
		Internal cable container W=mm
Height mm		
1800	2000	2200
ES1884FV2K	ES2084FV2K	ES2284FV2K
Cabinet with blind door	200	800x400
ES1804FV2K	ES2004FV2K	ES2204FV2K
Cabinet with blind door	200	1000x400
ES1885FV2K	ES2085FV2K	ES2285FV2K
Cabinet with blind door	200	800x500
ES1805FV2K	ES2005FV2K	ES2205FV2K
Cabinet with blind door	200	1000x500
ES1886FV2K	ES2086FV2K	ES2286FV2K
Cabinet with blind door	200	800x600
ES1806FV2K	ES2006FV2K	ES2206FV2K
Cabinet with blind door	200	1000x600
ES1888FV2K	ES2088FV2K	ES2288FV2K
Cabinet with blind door	200	800x800
ES1808FV2K	ES2008FV2K	ES2208FV2K
Cabinet with blind door	200	1000x800
ES1804FV4K	ES2004FV4K	ES2204FV4K
Cabinet with blind door	400	1000x400
ES1824FV4K	ES2024FV4K	ES2224FV4K
Cabinet with blind door	400	1200x400
ES1805FV4K	ES2005FV4K	ES2205FV4K
Cabinet with blind door	400	1000x500
ES1825FV4K	ES2025FV4K	ES2225FV4K
Cabinet with blind door	400	1200x500
ES1806FV4K	ES2006FV4K	ES2206FV4K
Cabinet with blind door	400	1000x600
ES1826FV4K	ES2026FV4K	ES2226FV4K
Cabinet with blind door	400	1200x600
ES1808FV4K	ES2008FV4K	ES2208FV4K
Cabinet with blind door	400	1000x800
ES1828FV4K	ES2028FV4K	ES2228FV4K
Cabinet with blind door	400	1200x800

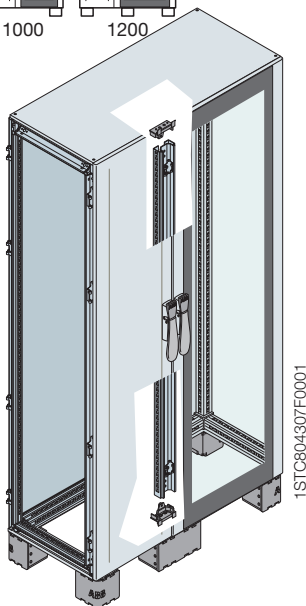
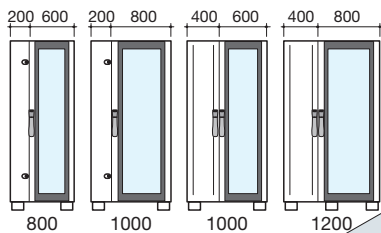
The cable container must be mounted on the right or left side in the structure. Specify this at the time of ordering or enclose a drawing.

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)
		Internal cable container W=mm
Height mm		
1800	2000	2200
ES1884VC2K	ES2084VC2K	ES2284VC2K
Cabinet with glazed door	200	800x400
ES1804VC2K	ES2004VC2K	ES2204VC2K
Cabinet with glazed door	200	1000x400
ES1885VC2K	ES2085VC2K	ES2285VC2K
Cabinet with glazed door	200	800x500
ES1805VC2K	ES2005VC2K	ES2205VC2K
Cabinet with glazed door	200	1000x500
ES1886VC2K	ES2086VC2K	ES2286VC2K
Cabinet with glazed door	200	800x600
ES1806VC2K	ES2006VC2K	ES2206VC2K
Cabinet with glazed door	200	1000x600
ES1888VC2K	ES2088VC2K	ES2288VC2K
Cabinet with glazed door	200	800x800
ES1808VC2K	ES2008VC2K	ES2208VC2K
Cabinet with glazed door	200	1000x800
ES1804VC4K	ES2004VC4K	ES2204VC4K
Cabinet with glazed door	400	1000x400
ES1824VC4K	ES2024VC4K	ES2224VC4K
Cabinet with glazed door	400	1200x400
ES1805VC4K	ES2005VC4K	ES2205VC4K
Cabinet with glazed door	400	1000x500
ES1825VC4K	ES2025VC4K	ES2225VC4K
Cabinet with glazed door	400	1200x500
ES1806VC4K	ES2006VC4K	ES2206VC4K
Cabinet with glazed door	400	1000x600
ES1826VC4K	ES2026VC4K	ES2226VC4K
Cabinet with glazed door	400	1200x600
ES1808VC4K	ES2008VC4K	ES2208VC4K
Cabinet with glazed door	400	1000x800
ES1828VC4K	ES2028VC4K	ES2228VC4K
Cabinet with glazed door	400	1200x800

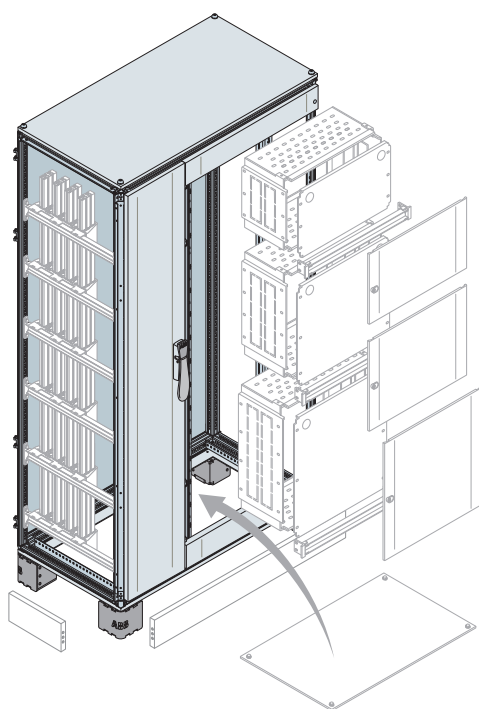
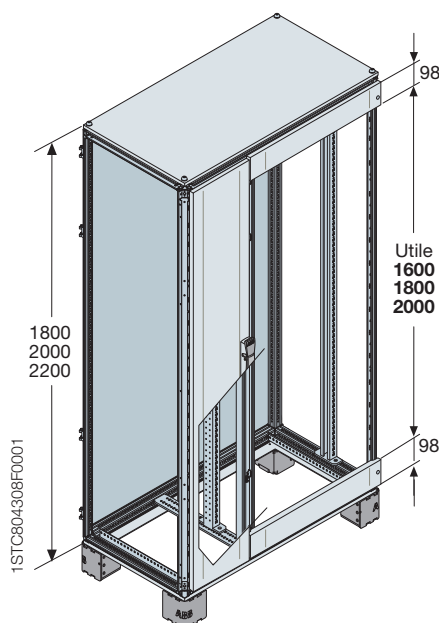
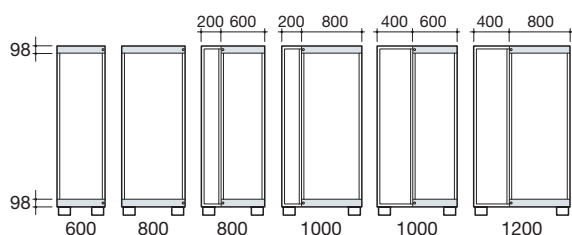
The cable container must be mounted on the right or left side in the structure. Specify this at the time of ordering.



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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				
		Cabinets for				
		Height mm	compart.	Compart.	Cable cont.*	
		2000	DxW=mm	W=mm	W=mm	
1800	2200					
ES1864MFK	ES2064MFK	ES2264MFK	400x600	600	-	
ES1884MFK	ES2084MFK	ES2284MFK	400x800	800	-	
ES1884MF2K	ES2084MF2K	ES2284MF2K	400x800	600	200	
ES1804MF2K	ES2004MF2K	ES2204MF2K	400x1000	800	200	
ES1804MF4K	ES2004MF4K	ES2204MF4K	400x1000	600	400	
ES1824MF4K	ES2024MF4K	ES2224MF4K	400x1200	800	400	
ES1865MFK	ES2065MFK	ES2265MFK	500x600	600	-	
ES1885MFK	ES2085MFK	ES2285MFK	500x800	800	-	
ES1885MF2K	ES2085MF2K	ES2285MF2K	500x800	600	200	
ES1805MF2K	ES2005MF2K	ES2205MF2K	500x1000	800	200	
ES1805MF4K	ES2005MF4K	ES2205MF4K	500x1000	600	400	
ES1825MF4K	ES2025MF4K	ES2225MF4K	500x1200	800	400	
ES1866MFK	ES2066MFK	ES2266MFK	600x600	600	-	
ES1886MFK	ES2086MFK	ES2286MFK	600x800	800	-	
ES1886MF2K	ES2086MF2K	ES2286MF2K	600x800	600	200	
ES1806MF2K	ES2006MF2K	ES2206MF2K	600x1000	800	200	
ES1806MF4K	ES2006MF4K	ES2206MF4K	600x1000	600	400	
ES1826MF4K	ES2026MF4K	ES2226MF4K	600x1200	800	400	
ES1868MFK	ES2068MFK	ES2268MFK	800x600	600	-	
ES1888MFK	ES2088MFK	ES2288MFK	800x800	800	-	
ES1888MF2K	ES2088MF2K	ES2288MF2K	800x800	600	200	
ES1808MF2K	ES2008MF2K	ES2208MF2K	800x1000	800	200	
ES1808MF4K	ES2008MF4K	ES2208MF4K	800x1000	600	400	
ES1828MF4K	ES2028MF4K	ES2228MF4K	800x1200	800	400	
ES1860MFK	ES2060MFK	ES2260MFK	1000x600	600	-	
ES1880MFK	ES2080MFK	ES2280MFK	1000x800	800	-	
ES1880MF2K	ES2080MF2K	ES2281MF2K	1000x800	600	200	
ES1800MF2K	ES2000MF2K	ES2200MF2K	1000x1000	800	200	
ES1800MF4K	ES2000MF4K	ES2200MF4K	1000x1000	600	400	

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

The cable container must be mounted on the right or left side in the structure. Specify this at the time of ordering.

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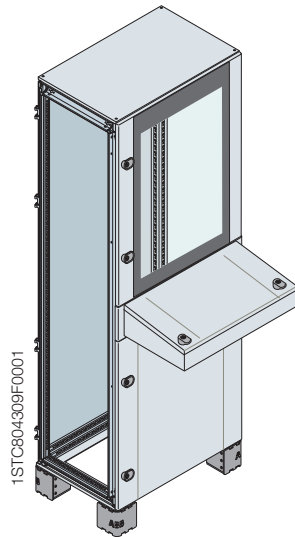
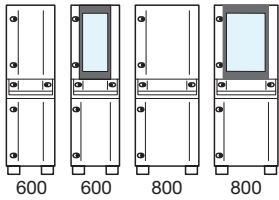
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Ordering codes

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
Top glazed door		
ES1864LK ES2064LK ES2264LK	Cabinet with glazed door with console	600x400
ES1884LK ES2084LK ES2284LK	Cabinet with glazed door with console	800x400
ES1865LK ES2065LK ES2265LK	Cabinet with glazed door with console	600x500
ES1885LK ES2085LK ES2285LK	Cabinet with glazed door with console	800x500
ES1866LK ES2066LK ES2266LK	Cabinet with glazed door with console	600x600
ES1886LK ES2086LK ES2286LK	Cabinet with glazed door with console	800x600
ES1868LK ES2068LK ES2268LK	Cabinet with glazed door with console	600x800
ES1888LK ES2088LK ES2288LK	Cabinet with glazed door with console	800x800

Top blind door

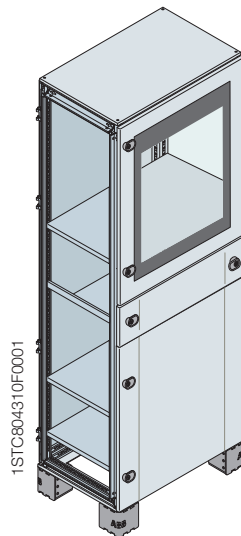
ES1864CK ES2064CK ES2264CK	Cabinet with blind door with console	600x400
ES1884CK ES2084CK ES2284CK	Cabinet with blind door with console	800x400
ES1865CK ES2065CK ES2265CK	Cabinet with blind door with console	600x500
ES1885CK ES2085CK ES2285CK	Cabinet with blind door with console	800x500
ES1866CK ES2066CK ES2266CK	Cabinet with blind door with console	600x600
ES1886CK ES2086CK ES2286CK	Cabinet with blind door with console	800x600
ES1868CK ES2068CK ES2268CK	Cabinet with blind door with console	600x800
ES1888CK ES2088CK ES2288CK	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
ES1866PCK ES2066PCK ES2266PCK	PC cabinet	600x600
ES1868PCK ES2068PCK ES2268PCK	PC cabinet	600x800

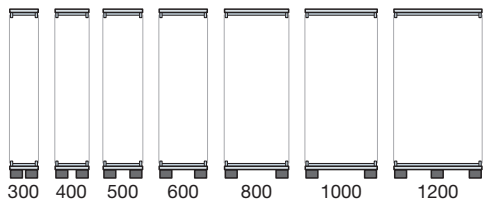


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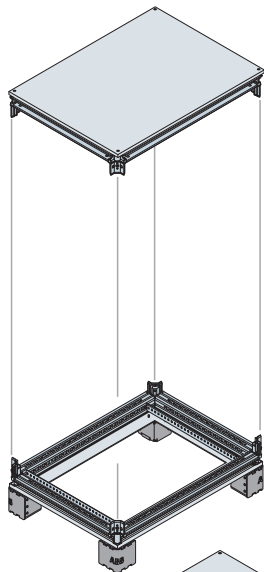
Kit versions structures



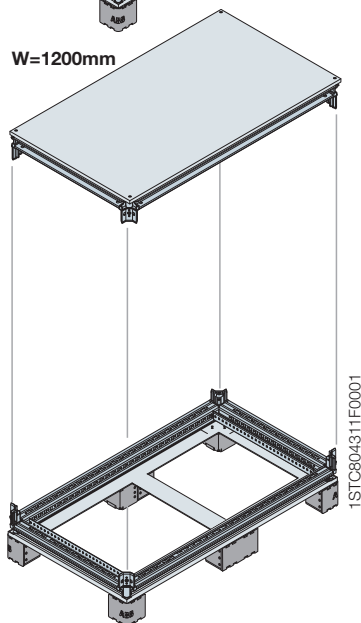
W=300mm



W=400÷1000m



W=1200mm



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)
EK3040K	Base/Top external base container	300x400
EK3050K	Base/Top external base container	300x500
EK3060K	Base/Top external base container	300x600
EK3080K	Base/Top external base container	300x800
EK3010K	Base/Top external base container	300x1000
EK4040K	Base/Top	400x400
EK4050K	Base/Top	400x500
EK4060K	Base/Top	400x600
EK4080K	Base/Top	400x800
EK4010K	Base/Top	400x1000
EK6040K	Base/Top	600x400
EK6050K	Base/Top	600x500
EK6060K	Base/Top	600x600
EK6080K	Base/Top	600x800
EK6010K	Base/Top	600x1000
EK8040K	Base/Top	800x400
EK8050K	Base/Top	800x500
EK8060K	Base/Top	800x600
EK8080K	Base/Top	800x800
EK8010K	Base/Top	800x1000
EK1040K	Base/Top	1000x400
EK1050K	Base/Top	1000x500
EK1060K	Base/Top	1000x600
EK1080K	Base/Top	1000x800
EK1010K	Base/Top	1000x1000
EK1240K	Base/Top	1200x400
EK1250K	Base/Top	1200x500
EK1260K	Base/Top	1200x600
EK1280K	Base/Top	1200x800

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Plinth flangespage 4/40 Uprightsp page 4/32
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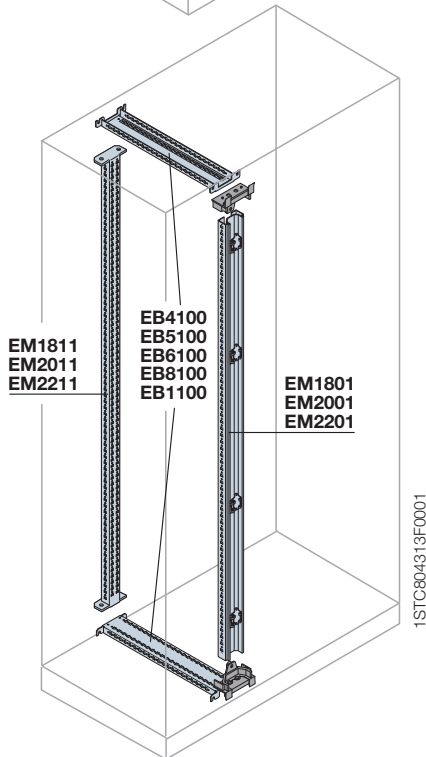
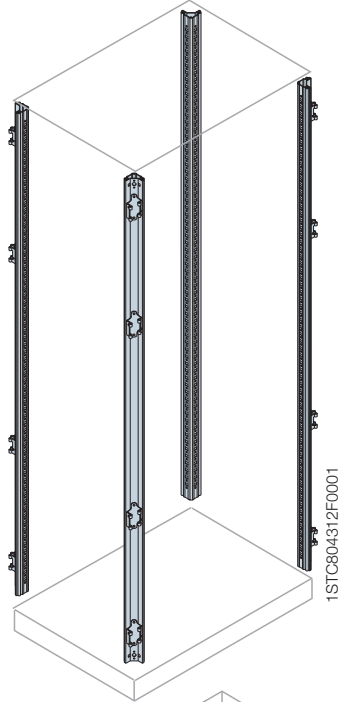
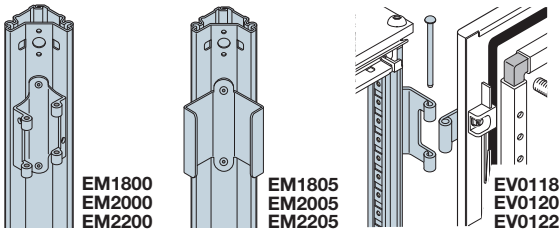
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Ordering codes

Kit versions structures



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

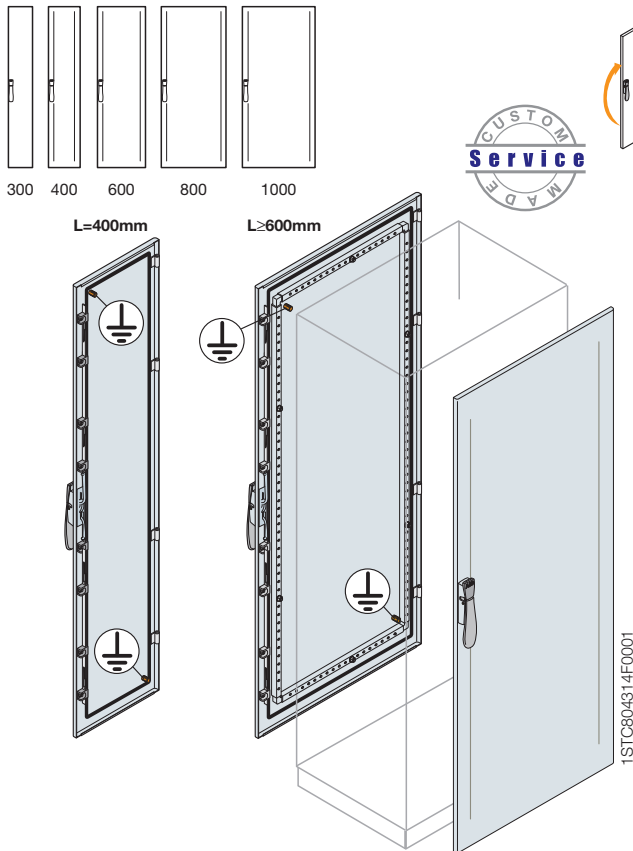
⁽¹⁾ To be fixed directly on the structure.

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

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.

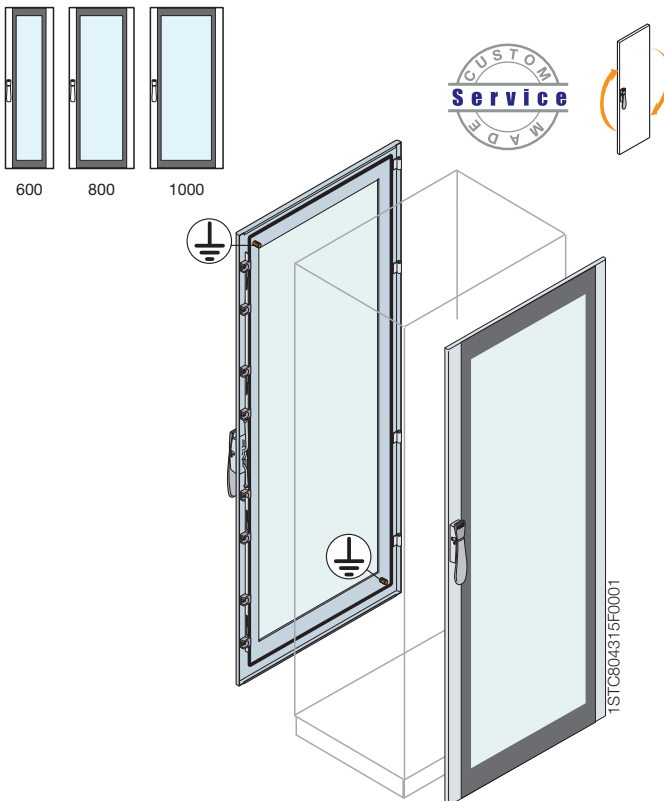
Code	Service Custom Made *	Description	Dimensions mm (HxW)
EC1831K ⁽¹⁾		Blind front/rear door external cable container	1800x300
EC1840K ⁽¹⁾	Assembled	Blind door	1800x400
EC1860K	Assembled	Blind door	1800x600
EC1880K	Assembled	Blind door	1800x800
EC1810K	Assembled	Blind door	1800x1000
EC2031K ⁽¹⁾		Blind front/rear door external cable container	2000x300
EC2040K ⁽¹⁾	Assembled	Blind door	2000x400
EC2060K	Assembled	Blind door	2000x600
EC2080K	Assembled	Blind door	2000x800
EC2012K	Assembled	Blind door	2000x1000
EC2232K ⁽¹⁾		Blind front/rear door external cable container	2200x300
EC2240K ⁽¹⁾	Assembled	Blind door	2200x400
EC2260K	Assembled	Blind door	2200x600
EC2280K	Assembled	Blind door	2200x800
EC2210K	Assembled	Blind door	2200x1000

⁽¹⁾ 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.

Aerated door

Aerated 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 pag. 4/36). Reversible, with 4 closing points and complete with internal reinforcement frame and earthing pins.



Code	Description	Dimensions mm (HxW)
EC1882	Aerated door for server cabinet	1800x800
EC2082	Aerated door for server cabinet	2000x800
EC2282	Aerated door for server cabinet	2200x800
EC1884	Aerated door for server cabinet with 180° opening	1800x800
EC2084	Aerated door for server cabinet with 180° opening	2000x800
EC2284	Aerated door for server cabinet with 180° opening	2200x800

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)
ET1860K	Assembled	Glazed door	1800x600
ET1880K	Assembled	Glazed door	1800x800
ET1810K	Assembled	Glazed door	1800x1000
ET2060K	Assembled	Glazed door	2000x600
ET2080K	Assembled	Glazed door	2000x800
ET2010K	Assembled	Glazed door	2000x1000
ET2260K	Assembled	Glazed door	2200x600
ET2280K	Assembled	Glazed door	2200x800
ET2211K	Assembled	Glazed door	2200x1000

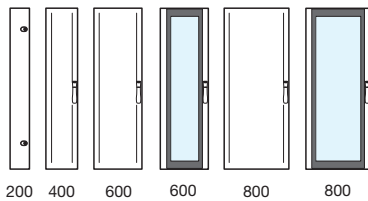
* Replacement of rear panel with rear door, only valid for factory pre-assembled panel boards.

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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 4/46).

Blind door for cable container W=200mm

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

Blind door for cable container W=200mm

EC1880VC2K ⁽¹⁾		Cable container blind door	1800x200
EC2080VC2K ⁽¹⁾		Cable container blind door	2000x200
EC2280VC2K ⁽¹⁾		Cable container blind door	2200x200

Blind door for cable container W=400mm

EC1880VC4K ⁽¹⁾Assembled		Cable container blind door	1800x400
EC2080VC4K ⁽¹⁾Assembled		Cable container blind door	2000x400
EC2280VC4K ⁽¹⁾Assembled		Cable container blind door	2200x400

Double blind door W=500mm

EC1880FC5K ⁽¹⁾Assembled		Double blind door	1800x500
EC2080FC5K ⁽¹⁾Assembled		Double blind door	2000x500
EC2280FC5K ⁽¹⁾Assembled		Double blind door	2200x500

PDouble blind door W=600mm

EC1880FC6KAssembled		Double blind door	1800x600
EC2080FC6KAssembled		Double blind door	2000x600
EC2280FC6KAssembled		Double blind door	2200x600

Double blind door W=800mm

EC1880FC8KAssembled		Double blind door	1800x800
EC2080FC8KAssembled		Double blind door	2000x800
EC2280FC8KAssembled		Double blind door	2200x800

Glazed blind door W=600mm

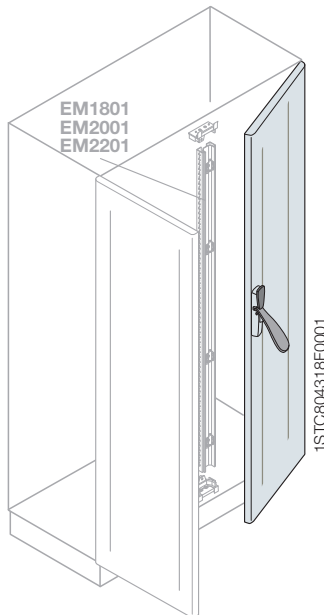
EC1880FV6KAssembled		Double glazed door	1800x600
EC2080FV6KAssembled		Double glazed door	2000x600
EC2280FV6KAssembled		Double glazed door	2200x600

Glazed blind door W=800mm

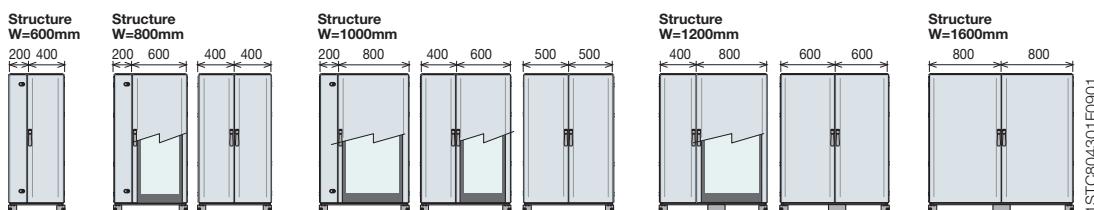
EC1880FV8KAssembled		Double glazed door	1800x800
EC2080FV8KAssembled		Double glazed door	2000x800
EC2280FV8KAssembled		Double glazed door	2200x800

⁽¹⁾ 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.



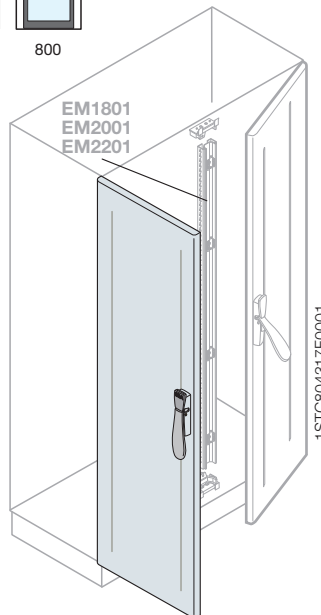
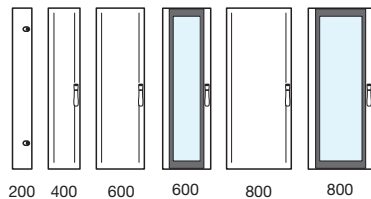
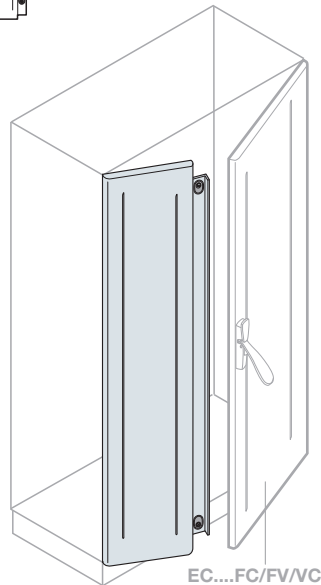
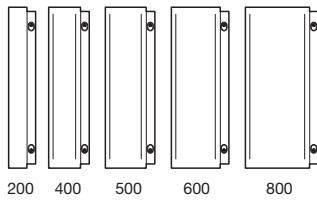
Possible combinations



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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	Custom Made Service *	Description	Dimensions mm (HxW)
ED1802SK ⁽¹⁾		Blind door with overlap	1800x200
ED1804SK ⁽¹⁾	ED1808DPK Assembled	Blind door with overlap	1800x400
ED1810SK ⁽¹⁾	ED1810DPK Assembled	Blind door with overlap	1800x500
ED1812SK ⁽¹⁾	ED1812DPK Assembled	Blind door with overlap	1800x600
ED1816SK ⁽¹⁾	ED1816DPK Assembled	Blind door with overlap	1800x800
ED2002SK ⁽¹⁾		Blind door with overlap	2000x200
ED2004SK ⁽¹⁾	ED2008DPK Assembled	Blind door with overlap	2000x400
ED2010SK ⁽¹⁾	ED2010DPK Assembled	Blind door with overlap	2000x500
ED2012SK ⁽¹⁾	ED2012DPK Assembled	Blind door with overlap	2000x600
ED2016SK ⁽¹⁾	ED2016DPK Assembled	Blind door with overlap	2000x800
ED2202SK ⁽¹⁾		Blind door with overlap	2200x200
ED2204SK ⁽¹⁾	ED2208DPK Assembled	Blind door with overlap	2200x400
ED2210SK ⁽¹⁾	ED2210DPK Assembled	Blind door with overlap	2200x500
ED2212SK ⁽¹⁾	ED2212DPK Assembled	Blind door with overlap	2200x600
ED2216SK ⁽¹⁾	ED2216DPK Assembled	Blind door with overlap	2200x800

⁽¹⁾ 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**.

Code	Service Custom Made *	Description	Dimensions mm (HxW)
Blind door for cable container W=200mm			
EC1880VC2K ⁽¹⁾		Blind door cable container	1800x200
EC2080VC2K ⁽¹⁾		Blind door cable container	2000x200
EC2280VC2K ⁽¹⁾		Blind door cable container	2200x200
Blind door for cable container W=400mm			
EC1880VC4K ⁽¹⁾	Assembled	Blind door cable container	1800x400
EC2080VC4K ⁽¹⁾	Assembled	Blind door cable container	2000x400
EC2280VC4K ⁽¹⁾	Assembled	Blind door cable container	2200x400
Blind door W=500mm for double door version			
EC1880FC5K ⁽¹⁾	Assembled	Blind door for double door version	1800x500
EC2080FC5K ⁽¹⁾	Assembled	Blind door for double door version	2000x500
EC2280FC5K ⁽¹⁾	Assembled	Blind door for double door version	2200x500
Blind door W=600mm for double door version			
EC1880FC6K ⁽¹⁾	Assembled	Blind door for double door version	1800x600
EC2080FC6K ⁽¹⁾	Assembled	Blind door for double door version	2000x600
EC2280FC6K ⁽¹⁾	Assembled	Blind door for double door version	2200x600
Blind door W=800mm for double door version			
EC1880FC8K ⁽¹⁾	Assembled	Blind door for double door version	1800x800
EC2080FC8K ⁽¹⁾	Assembled	Blind door for double door version	2000x800
EC2280FC8K ⁽¹⁾	Assembled	Blind door for double door version	2200x800
Glazed door W=600mm for double door version			
EC1880FV6K ⁽¹⁾	Assembled	Glazed door for double door version	1800x600
EC2080FV6K ⁽¹⁾	Assembled	Glazed door for double door version	2000x600
EC2280FV6K ⁽¹⁾	Assembled	Glazed door for double door version	2200x600
Glazed door W=800mm for double door version			
EC1880FV8K ⁽¹⁾	Assembled	Glazed door for double door version	1800x800
EC2080FV8K ⁽¹⁾	Assembled	Glazed door for double door version	2000x800
EC2280FV8K ⁽¹⁾	Assembled	Glazed door for double door version	2200x800

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

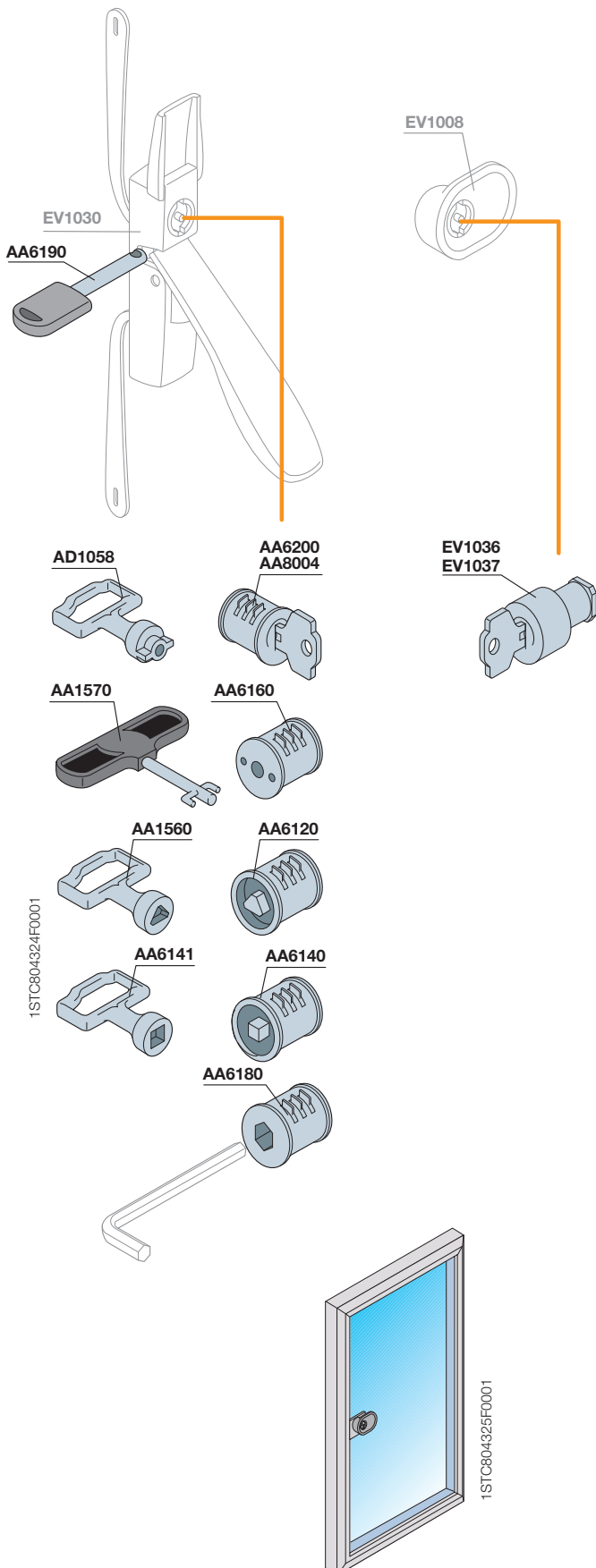
* Replacement of rear panel with n°1 double blind/glazed door, only valid for factory pre-assembled panel boards.

Handlespage 4/36
Key inserts.....page 4/36
Intermediate uprights.....page 4/32
Intermediate crosspieces.....page 4/32

Protective windowspage 4/36
Door reinforcement profiles.....page 4/37
Ventilation/air conditioningpage 4/69
Accessories.....page 4/61

Ordering codes

Completion of structures



Key inserts for handle

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

Code	Custom Made Service *	Description
AD1058		Zn + Al + Mg alloy key for double tongue insert
AA6200	Assembled	Yale insert + key
AA8004	Assembled	Ronis E739 insert + key
AA6160	Assembled	FIST type insert (FIAT)
AA1570		Fiat key
AA6120	Assembled	Triangular male 6.4 insert on ø 7.6
AA1560		Key for triangular insert
AA6140	Assembled	Square male 7 type insert
AA6141		Key for square insert
AA6180	Assembled	Hexagonal embedded 8 type insert; key not available
AA6190		Accessory for padlockable handle

Spare parts for standard handle

Code	Description
EV1030	Handle complete with lock
AA6100	Double tongue insert for EV1030 handle

Spare parts and inserts for closing box

Code	Description
EV1008	Closure box standard with double tongue insert (without tab)
EV1039	Double tongue insert
EV1036	Unique coded Yale insert
EV1037	Ronis 455 insert

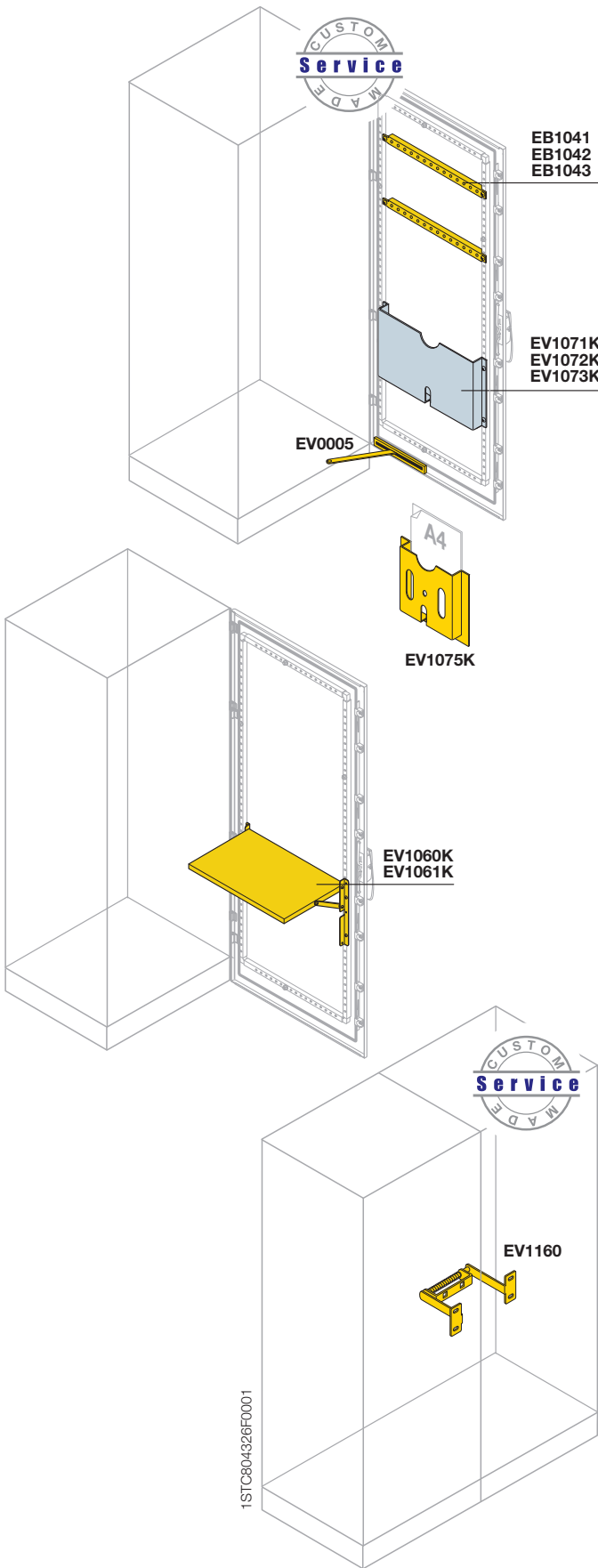
IP54 protective windows with glass

Made of aluminium, complete with pre-assembled gasket and closure box with interchangeable double tongue key. Can hold components with 38 and 69mm depth. The dimension of the frame 30mm. 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.

Code	Custom Made Service *	Description	Dimensions mm (W)
EB1041	Assembled	N°2 horizontal profiles h=35mm	600
EB1042	Assembled	N°2 horizontal profiles h=35mm	800
EB1043	Assembled	N°2 horizontal profiles h=35mm	1000

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

Folding shelves for door

Code	Description
EV1060K	Shelf 280x250mm (wxd) for door w=600mm
EV1061K	Shelf 480x250mm (wxd) for door w=800mm

Document pockets RAL 7035

Code	Description
EV1071K	Metal document pocket for door w=600mm
EV1072K	Metal document pocket for door w=800mm
EV1073K	Metal document pocket for door w=1000mm
EV1075K	Plastic document pocket for A4

Door anti-closure and locking device

Code	Custom Made Service *	Description
EV0005	Assembled	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.

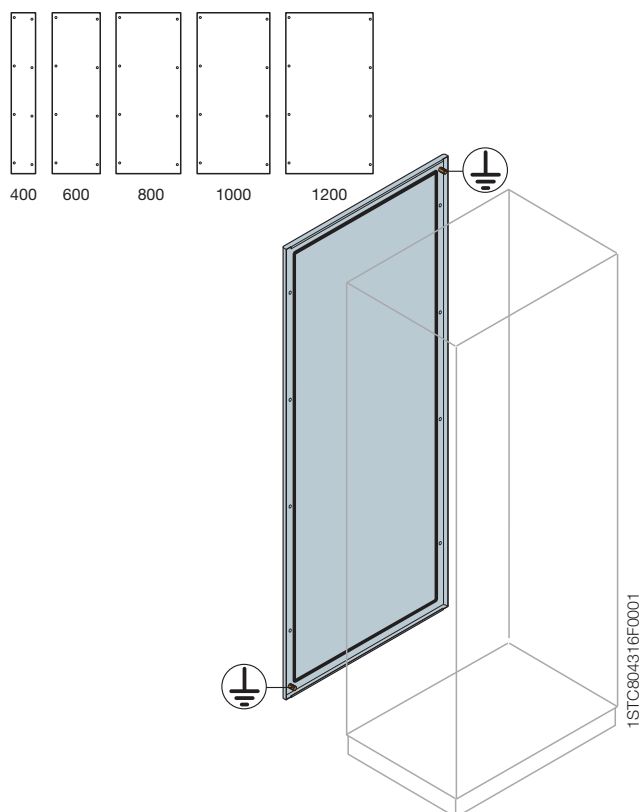
Door lock

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. Can be mounted on doors with the same opening direction.

Code	Description
EV1160	Door lock

Ordering codes

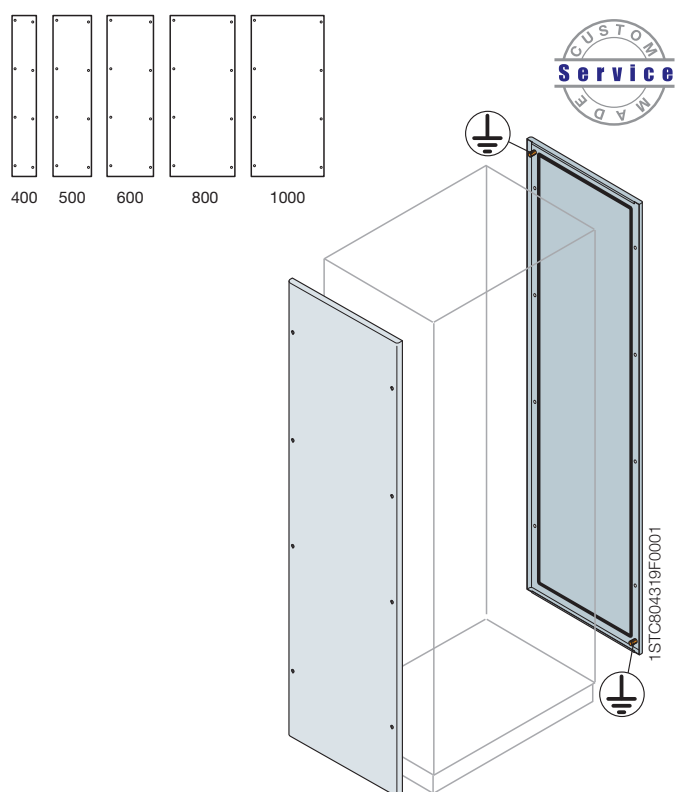
Completion of structures



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)
EP1830K	Front/rear panel external cable container	1800x300
EP1840K	Rear panel	1800x400
EP1860K	Rear panel	1800x600
EP1880K	Rear panel	1800x800
EP1811K	Rear panel	1800x1000
EP1812K	Rear panel	1800x1200
EP2030K	Front/rear panel external cable container	2000x300
EP2041K	Rear panel	2000x400
EP2060K	Rear panel	2000x600
EP2080K	Rear panel	2000x800
EP2010K	Rear panel	2000x1000
EP2012K	Rear panel	2000x1200
EP2231K	Front/rear panel external cable container	2200x300
EP2240K	Rear panel	2200x400
EP2260K	Rear panel	2200x600
EP2280K	Rear panel	2200x800
EP2210K	Rear panel	2200x1000
EP2212K	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	Custom Made Service *	Description	Dimensions mm (HxD)
EL1841K	EL1840K	Assembled	Blind panel/s	1800x400
EL1851K	EL1850K	Assembled	Blind panel/s	1800x500
EL1861K	EL1860K	Assembled	Blind panel/s	1800x600
EL1881K	EL1880K	Assembled	Blind panel/s	1800x800
EL1811K	EL1810K	Assembled	Blind panel/s	1800x1000
EL2041K	EL2040K	Assembled	Blind panel/s	2000x400
EL2051K	EL2050K	Assembled	Blind panel/s	2000x500
EL2061K	EL2060K	Assembled	Blind panel/s	2000x600
EL2081K	EL2080K	Assembled	Blind panel/s	2000x800
EL2011K	EL2012K	Assembled	Blind panel/s	2000x1000
EL2241K	EL2240K	Assembled	Blind panel/s	2200x400
EL2251K	EL2250K	Assembled	Blind panel/s	2200x500
EL2261K	EL2260K	Assembled	Blind panel/s	2200x600
EL2281K	EL2280K	Assembled	Blind panel/s	2200x800
EL2211K	EL2210K	Assembled	Blind panel/s	2200x1000

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

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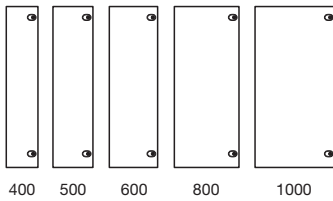
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Ordering codes

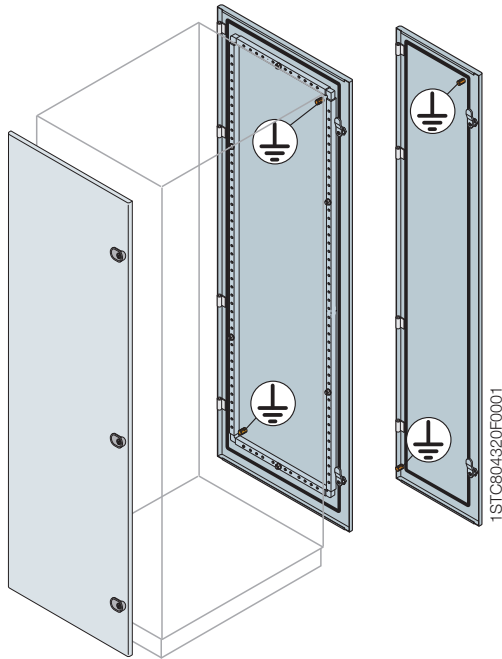
Completion of structures



400 500 600 800 1000

W≥600mm

W=400mm



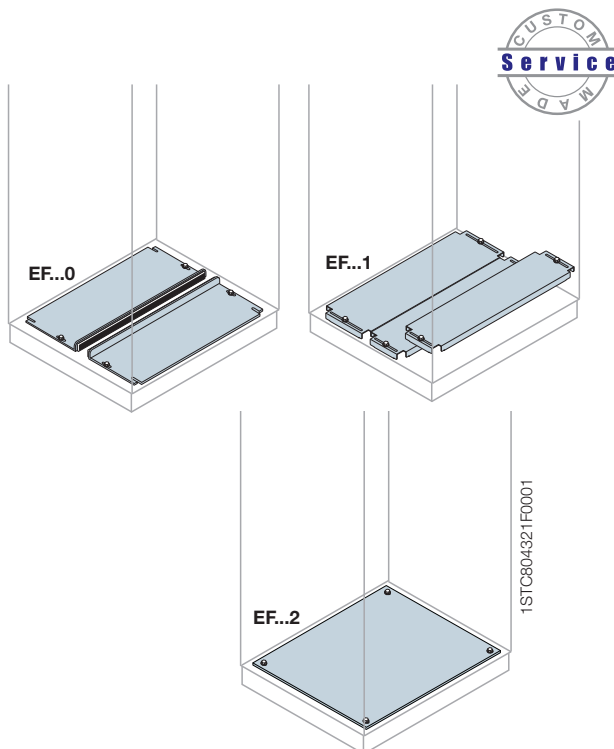
IP65 blind side doors

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	Custom Made Service *	Description	Dimensions mm (HxD)
EC1841K....Assembled		Blind side door	1800x400
EC1851K....Assembled		Blind side door	1800x500
EC1861K....Assembled		Blind side door	1800x600
EC1881K....Assembled		Blind side door	1800x800
EC1811K....Assembled		Blind side door	1800x1000
EC2041K....Assembled		Blind side door	2000x400
EC2051K....Assembled		Blind side door	2000x500
EC2061K....Assembled		Blind side door	2000x600
EC2081K....Assembled		Blind side door	2000x800
EC2011K....Assembled		Blind side door	2000x1000
EC2241K....Assembled		Blind side door	2200x400
EC2251K....Assembled		Blind side door	2200x500
EC2261K....Assembled		Blind side door	2200x600
EC2281K....Assembled		Blind side door	2200x800
EC2211K....Assembled		Blind side door	2200x1000

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

4



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 ⁽¹⁾ ... Assembled		EF6041 ⁽¹⁾ ... Assembled		EF6043 ⁽¹⁾ ... Assembled		600x400
EF8040 ⁽²⁾ ... Assembled		EF8041 ⁽²⁾ ... Assembled		EF8042 ⁽²⁾ ... Assembled		800x400
EF1040 ... Assembled		EF1041 ... Assembled		EF1042 ... Assembled		1000x400
EF4050 ... Assembled		EF4051 ... Assembled		EF4052 ... Assembled		400x500
EF6050 ⁽¹⁾ ... Assembled		EF6051 ⁽¹⁾ ... Assembled		EF6052 ⁽¹⁾ ... Assembled		600x500
EF8050 ⁽²⁾ ... Assembled		EF8051 ⁽²⁾ ... Assembled		EF8052 ⁽²⁾ ... Assembled		800x500
EF1053 ... Assembled		EF1051 ... Assembled		EF1052 ... Assembled		1000x500
EF4060 ... Assembled		EF4061 ... Assembled		EF4063 ... Assembled		400x600
EF6060 ⁽¹⁾ ... Assembled		EF6061 ⁽¹⁾ ... Assembled		EF6062 ⁽¹⁾ ... Assembled		600x600
EF8060 ⁽²⁾ ... Assembled		EF8061 ⁽²⁾ ... Assembled		EF8062 ⁽²⁾ ... Assembled		800x600
EF1060 ... Assembled		EF1061 ... Assembled		EF1062 ... Assembled		1000x600
EF4080 ... Assembled		EF4081 ... Assembled		EF4082 ... Assembled		400x800
EF6080 ⁽¹⁾ ... Assembled		EF6081 ⁽¹⁾ ... Assembled		EF6082 ⁽¹⁾ ... Assembled		600x800
EF8080 ⁽²⁾ ... Assembled		EF8081 ⁽²⁾ ... Assembled		EF8082 ⁽²⁾ ... Assembled		800x800
EF1080 ... Assembled		EF1081 ... Assembled		EF1082 ... Assembled		1000x800
EF4010 ... Assembled		EF4011 ... Assembled		EF4012 ⁽¹⁾ ... Assembled		400x1000
EF6010 ⁽¹⁾ ... Assembled		EF6011 ⁽¹⁾ ... Assembled		EF6012 ⁽¹⁾ ... Assembled		600x1000
EF8010 ⁽²⁾ ... Assembled		EF8011 ⁽²⁾ ... Assembled		EF8012 ⁽²⁾ ... Assembled		800x1000
EF1010 ... Assembled		EF1011 ... Assembled		EF1012 ... Assembled		1000x1000

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

⁽²⁾ 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

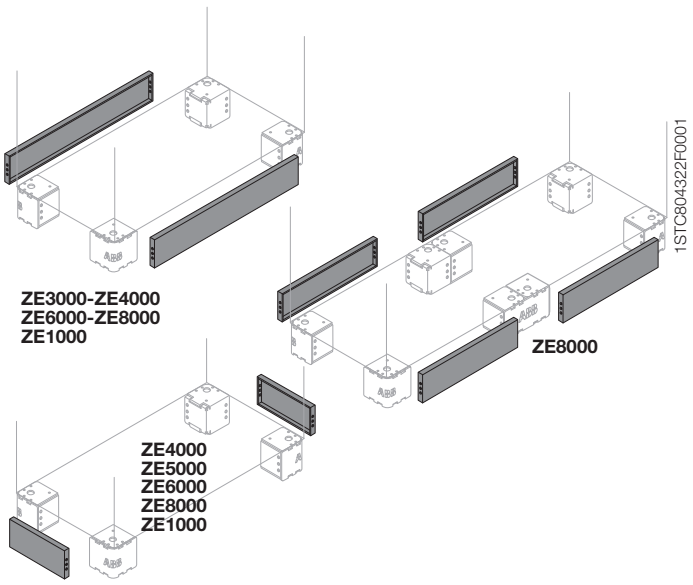
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Ordering codes

Completion of structures



Plinth covering flanges

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

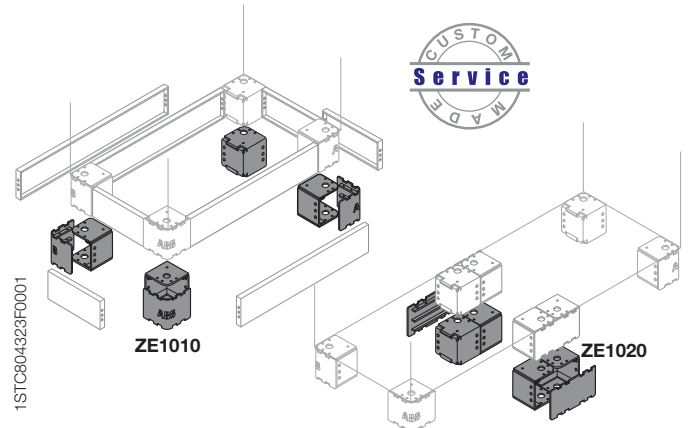
Front/rear flanges H=100mm

Code	Description	Dimensions mm (W)
ZE3000	Pair of plinth flanges for cable container	300
ZE4000	Pair of plinth flanges	400
ZE6000*	Pair of plinth flanges	600
ZE8000*	Pair of plinth flanges	800
ZE1000	Pair of plinth flanges	1000

* For structures W=1200/1600mm order 2 pieces.

Lateral flanges H=100mm

Code	Description	Dimensions mm (D)
ZE4000	Pair of plinth flanges	400
ZE5000	Pair of plinth flanges	500
ZE6000	Pair of plinth flanges	600
ZE8000	Pair of plinth flanges	800
ZE1000	Pair of plinth flanges	1000



Additional plinth

To obtain a plinth with a height of 200mm, order a kit of angle pieces H=100mm to be summed with the angle pieces already present on the structure. Complete with 2 25/10 thick covering flanges (H=100mm) for each side of the structure.

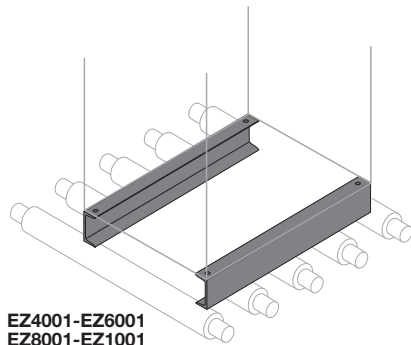
Angles

Code	Custom Made Service *	Description	Dimensions mm (H)
ZE1010	Assembled	N°4 angle pieces 25/10 thick, complete with plinth cover	100
ZE1020	Assembled	N°2 angle pieces for intermediate plinth with plinth cover	100

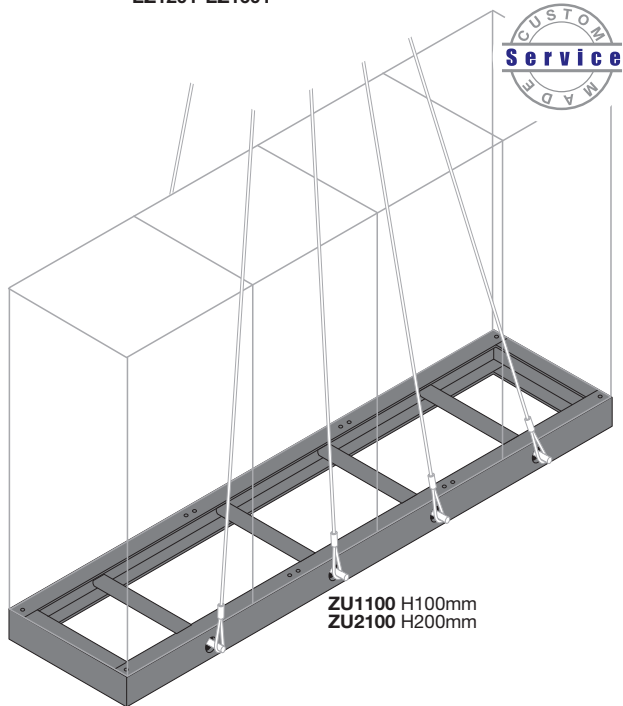
* Service only valid for factory pre-assembled panel boards.

Ordering codes

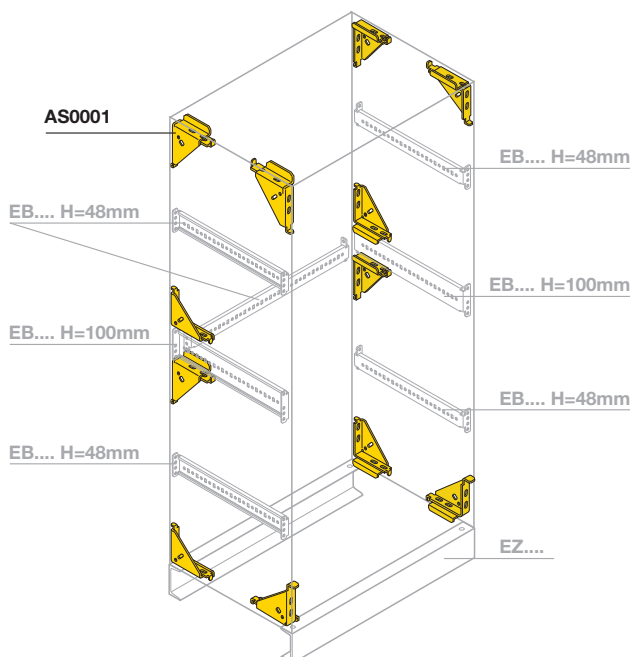
Completion of structures



EZ4001-EZ6001
EZ8001-EZ1001
EZ1201-EZ1601



ZU1100 H100mm
ZU2100 H200mm



AS0001

EB.... H=48mm

EB.... H=48mm

EB.... H=100mm

EB.... H=100mm

EB.... H=48mm

EB.... H=48mm

EZ....

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. 25/10mm thick.

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. Grey RAL 7012 colour orange peel. The number of reinforcement tubes depends on the width of the battery (see page 9/36). 25/10mm thick.

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 1.6m up to a maximum width of 6m.

KIT for seismic zone

Antiseismic tests

Tests constitute a reference base for similar structures for dimensions and for load.
IS2 enclosures 2000x800x800mm (HXWxD) with uniform distributed load of 435 kg.

Enclosures have been tested according to the Standard **IEC 60068-2-57** "Environmental testing Part. 2: Tests method. Vibration - Time history method" and to the Standard **IEEE Std 693** "Recommended Practice for Seismic Design of Substation".

Similar application fields*

Enclosure without specific accessories

According to the Standard IEC 60068-2-57 - IEEE Std 693	Seismic Zone IEC 68-3-3	Magnitude scala Richter
Shock level test up to 0.5 g	Zone 4	7

Enclosure with specific accessories AS0001+crosspieces+reinforced plinth

According to the Standard IEC 60068-2-57 - IEEE Std 693	Seismic Zone IEC 68-3-3	Magnitude scala Richter
Shock level test up to 0.75 g	Zone 4	7,5

* Values of different scales are indicative.

Codes of structures for seismic zone

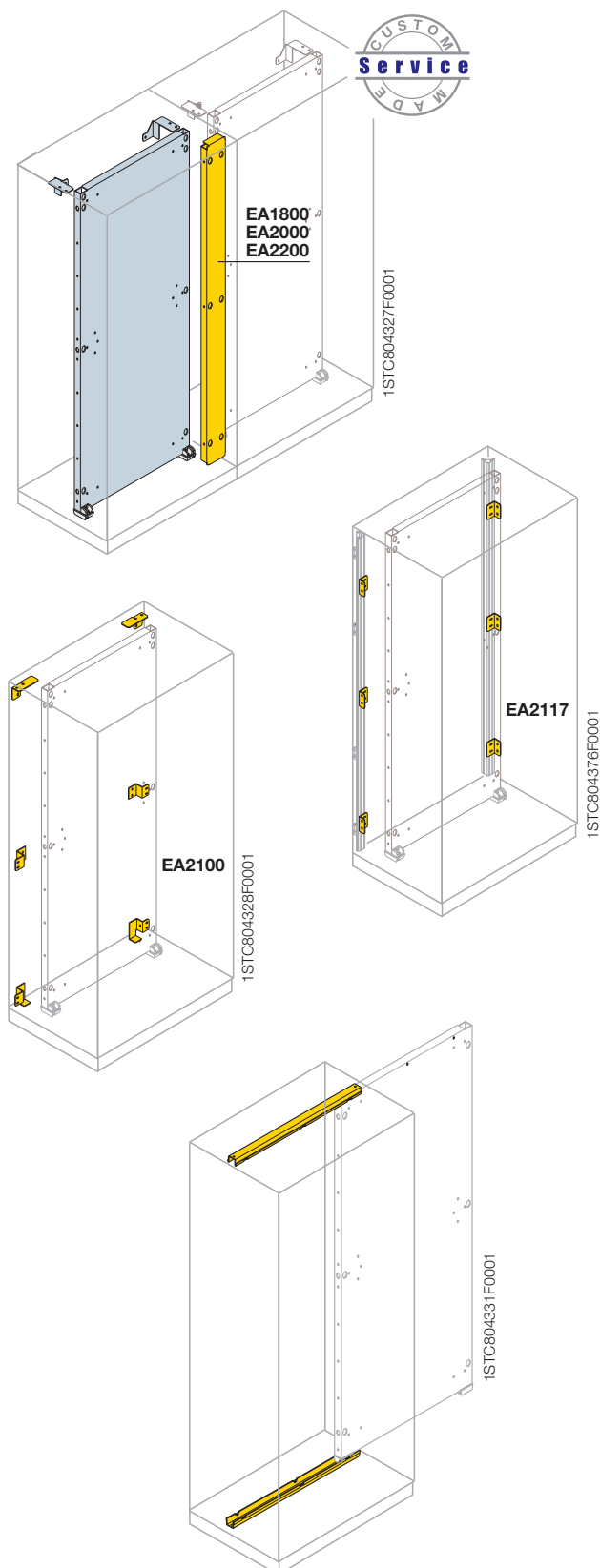
Antiseismic kit is made of n. 12 reinforced angles to be mounted on the side and in the corners of structure and in correspondence of the crosspieces... H=100mm to be ordered.
Enclosure must be completed with other crosspieces EB....H=48mm and with the reinforced plinth.

Code	Description
AS0001	N°12 reinforced antiseismic angles
EB....	Crosspieces H=48mm (to look pag.4/46)
EB....	Crosspieces H=100mm (to look pag.4/46)
EZ....	Reinforced plinth H=100mm (look above)

Ordering codes

Completion of structures

4



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	Custom Made Service *	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		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		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		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.

** For mounting of plate it's necessary to order EB...crosspieces

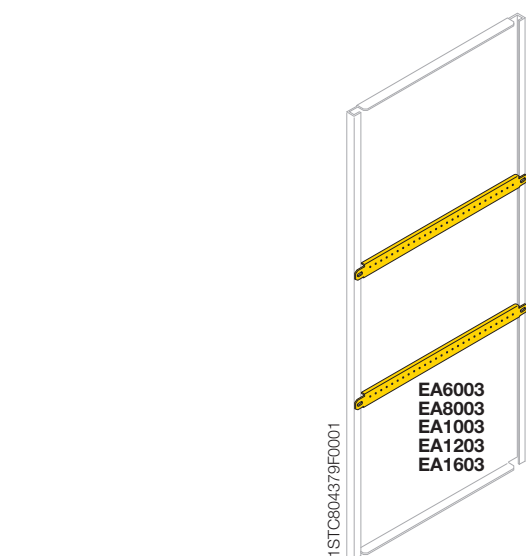
Tracks for plate insertion

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

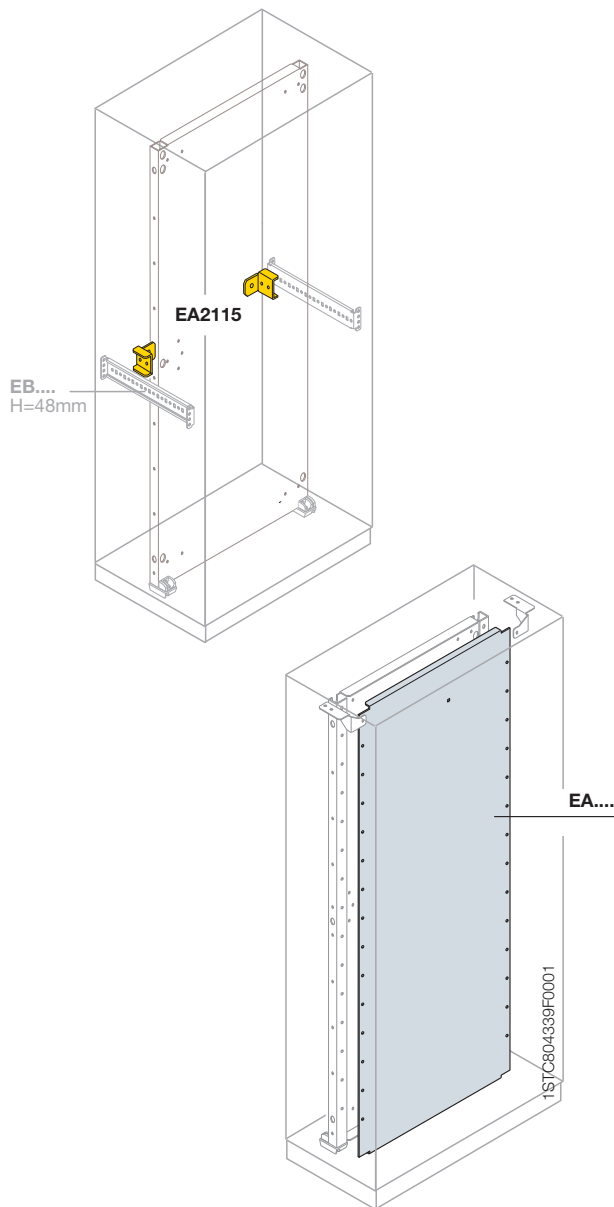
Standard

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	Custom Made Service *	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
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* 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).

Code	Description
EA2115	Kit for fixing standard back plate

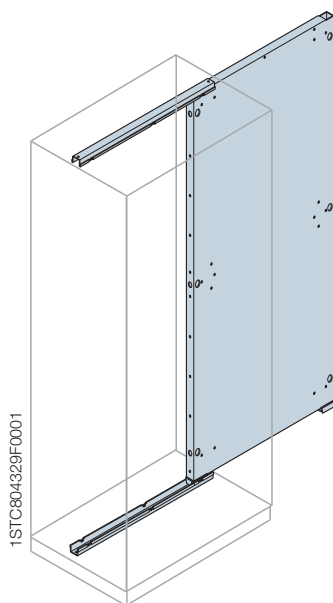
Opposite mounting plate

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

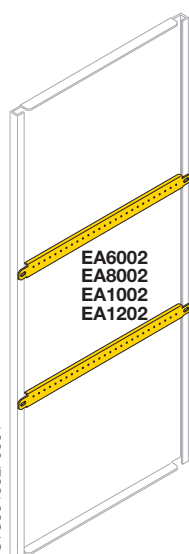
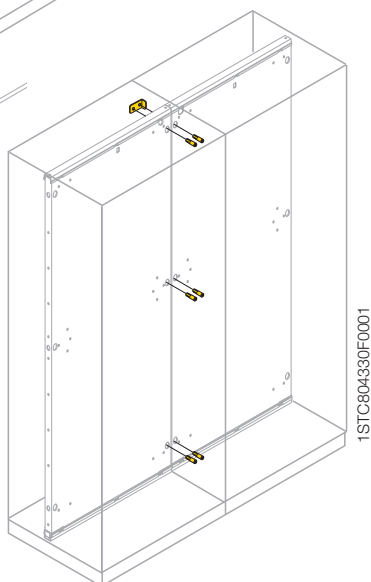
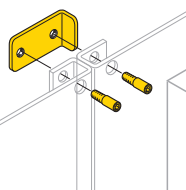
Code	Description	Dimensions mm	
		H	W
EA5861	Opposite mounting plate		600
EA5883	Opposite mounting plate	1800	800
EA5811	Opposite mounting plate		1000
EA5063	Opposite mounting plate		600
EA5083	Opposite mounting plate	2000	800
EA5011	Opposite mounting plate		1000

Ordering codes

Completion of structures



EA2113



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

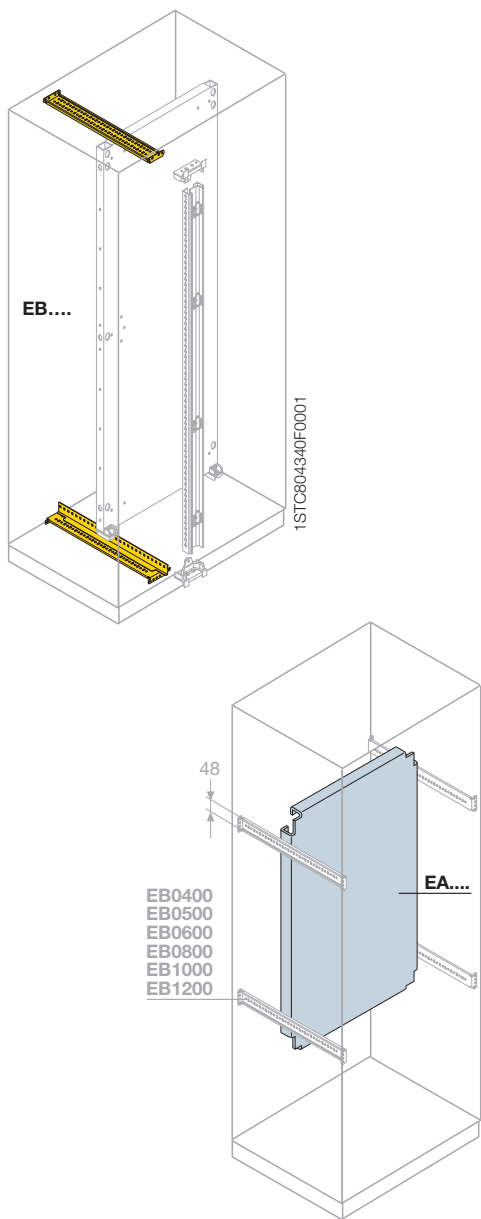
Galvanised 20/10 thick sections to be used as reinforcement on the oversized back plates, recommended in the case of particularly heavy components fixed onto the back plate.

Code	Custom Made Service *	Description	Dimensions mm (W)
EA6002	Montato	N°2 horizontal sections for oversized plate reinforcement	600
EA8002	Montato	N°2 horizontal sections for oversized plate reinforcement	800
EA1002	Montato	N°2 horizontal sections for oversized plate reinforcement	1000
EA1202	Montato	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°1 sliding guide and N°1 crosspiece of back plate	400
EB5101	N°1 sliding guide and N°1 crosspiece of back plate	500
EB6101	N°1 sliding guide and N°1 crosspiece of back plate	600
EB8101	N°1 sliding guide and N°1 crosspiece of back plate	800
EB1101	N°1 sliding guide and N°1 crosspiece of back plate	1000

Partial back plates

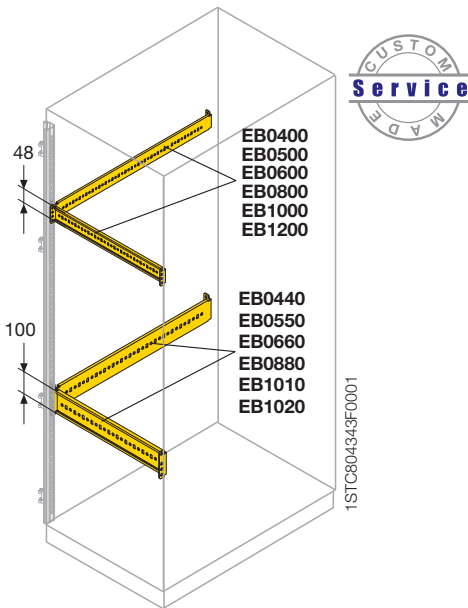
Galvanised 25/10 thick back plates. These are fixed onto the crosspieces H=48mm.

Codice	Description	Dimensioni 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
EA1061	Partial back plate	600x1000
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
EA1081	Partial back plate	800x1000
EA2101	Kit for moving partial back plates back	

4

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	Custom Made Service *	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 ⁽¹⁾	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

⁽¹⁾ 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	Custom Made Service *	Description	Dimensions mm (W/D)
EB0440	Montato	N°2 crosspieces for fixing front/side accessories	400
EB0550	Montato	N°2 crosspieces for fixing front/side accessories	500
EB0660	Montato	N°2 crosspieces for fixing front/side accessories	600
EB0880 ⁽¹⁾	Montato	N°2 crosspieces for fixing front/side accessories	800
EB1010	Montato	N°2 crosspieces for fixing front/side accessories	1000
EB1020	Montato	N°2 crosspieces for fixing front/side accessories	1200

⁽¹⁾ For structures W=1600mm, order 2 pieces

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

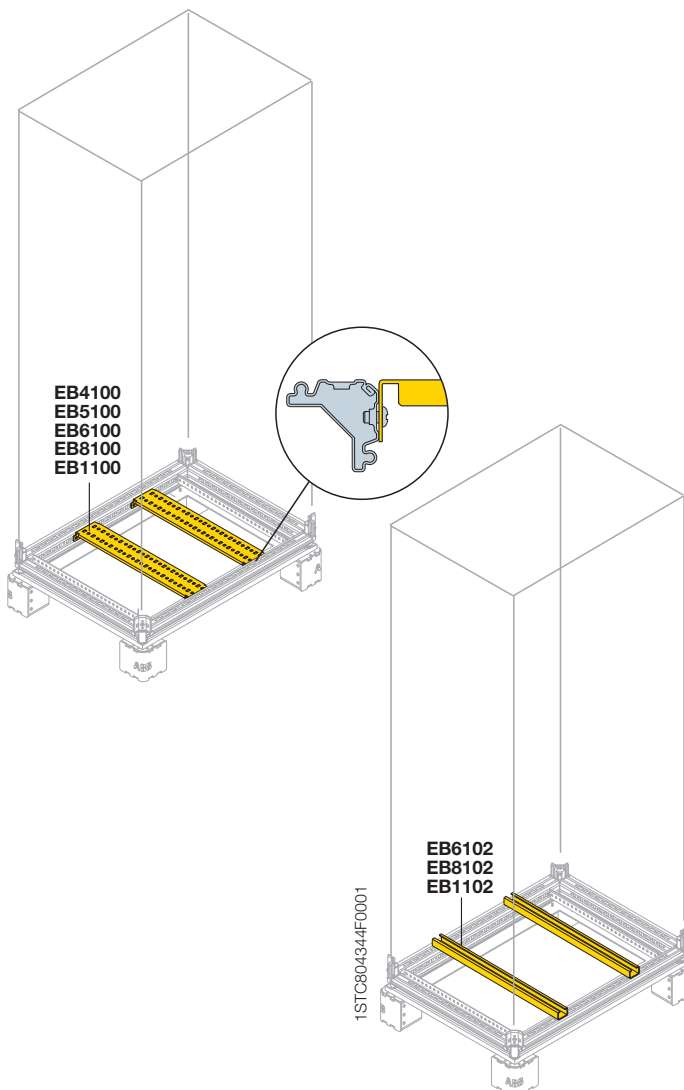
Crosspieces for fixing heavy accessories (mounted in depth)

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

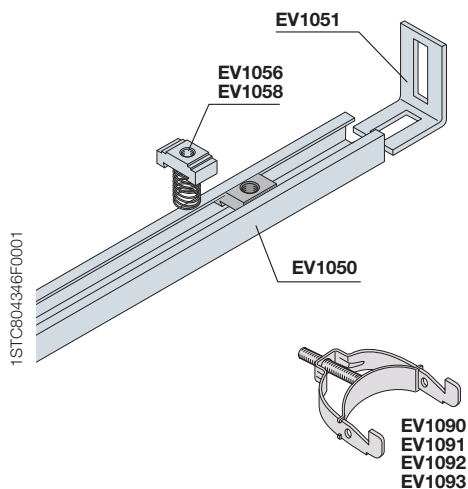
Transformer holder crosspieces made of 35/10 steel treated with white galvanization, complete of n°4 Lifting eyebolts M12, W=50mm.

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



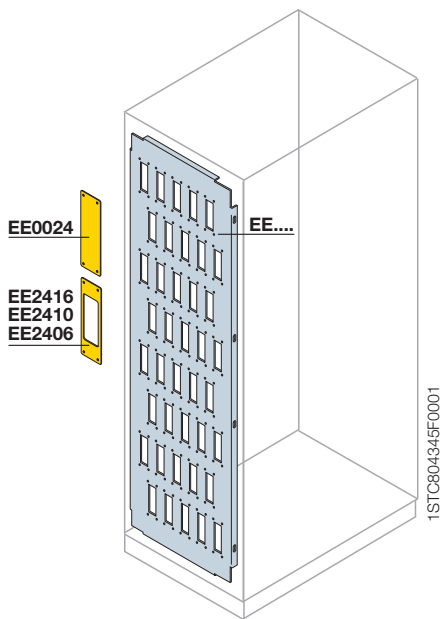
Aluminium sliding guides for all uses

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

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 Ø 9-16mm min-max
EV1091	N°10 cable clamping brackets Ø 16-30mm min-max
EV1092	N°5 cable clamping brackets Ø 30-48mm min-max
EV1093	N°5 cable clamping brackets Ø 48-72mm min-max



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)
EE1852	Connector holder panel	36 holes	9/4	1800x500
EE1862	Connector holder panel	45 holes	9/5	1800x600
EE2052	Connector holder panel	40 holes	10/4	2000x500
EE2062	Connector holder panel	50 holes	10/5	2000x600
EE2252	Connector holder panel	48 holes	12/4	2200x500
EE2262	Connector holder panel	60 holes	12/5	2200x600

Connector plates

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

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

Ordering codes

Completion of structures

Vertical partition panels for side-by-side structures

Panel made of 20/10 thick galvanised steel sheet divided into two parts. When there is the lateral crosspiece H=48mm, use pre-shearing.

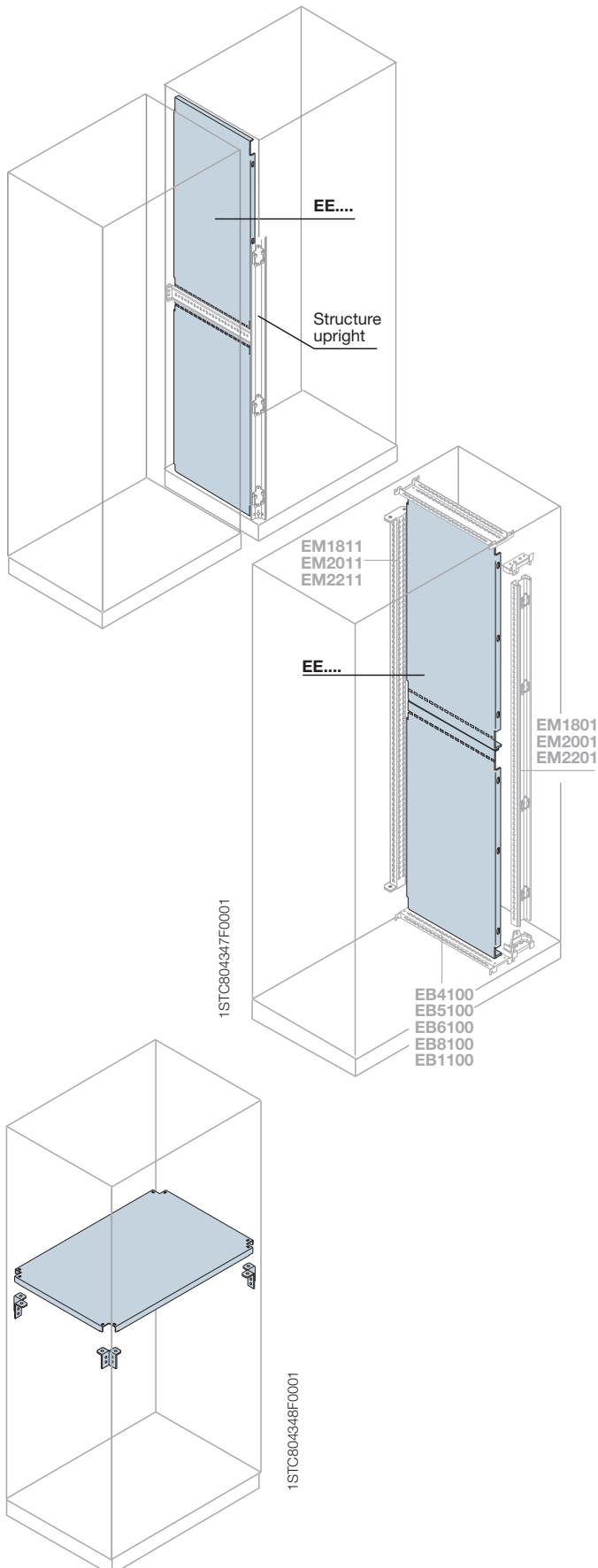
Code	Description	Dimensions mm (HxD)
EE1841	Vertical partition panels	1800x400
EE1851	Vertical partition panels	1800x500
EE1861	Vertical partition panels	1800x600
EE1881	Vertical partition panels	1800x800
EE1811	Vertical partition panels	1800x1000
EE2041	Vertical partition panels	2000x400
EE2051	Vertical 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.

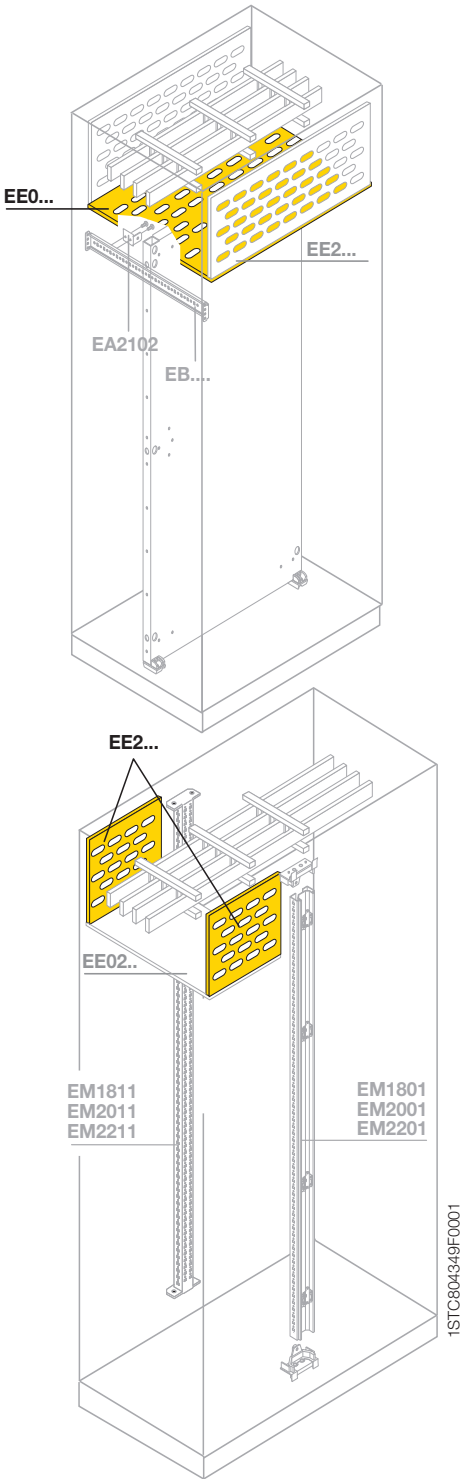
Code	Description	Dimensions mm (WxD)
EE4041	Horizontal fixed partition panels	400x400
EE6041	Horizontal fixed partition panels	600x400
EE8041	Horizontal fixed partition panels	800x400
EE1041	Horizontal fixed partition panels	1000x400
EE4051	Horizontal fixed partition panels	400x500
EE6051	Horizontal 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
EE1003K	Horizontal sliding partition panels ⁽¹⁾	600x600
EE1001K	Horizontal sliding partition panels ⁽¹⁾	600x800
EE1004K	Horizontal sliding partition panels ⁽¹⁾	800x600
EE1002K	Horizontal sliding partition panels ⁽¹⁾	800x800

⁽¹⁾ 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, or with DIN frame.

Code	Description	Dimensions mm (WxD)
EE0240 ⁽¹⁾	Horizontal busbar segregation internal cable container W=200mm	200x400
EE0250 ⁽¹⁾	Horizontal busbar segregation internal cable container W=200mm	200x500
EE0260 ⁽¹⁾	Horizontal busbar segregation internal cable container W=200mm	200x600
EE0280 ⁽¹⁾	Horizontal busbar segregation internal cable container W=200mm	200x800
EE0440 ⁽¹⁾	Horizontal busbar segregation internal cable container W=400mm	400x400
EE0450 ⁽¹⁾	Horizontal busbar segregation internal cable container W=400mm	400x500
EE0460 ⁽¹⁾	Horizontal busbar segregation internal cable container W=400mm	400x600
EE0480 ⁽¹⁾	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=800mm	800x600
EE0880	Horizontal busbar segregation W=800mm	800x800
EE1040	Horizontal busbar segregation W=1000mm	1000x400
EE1050	Horizontal busbar segregation W=1000mm	1000x500
EE1060	Horizontal busbar segregation W=1000mm	1000x600

⁽¹⁾ 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	Custom Made Service *	Description	Dimensions mm (HxW)
EE1860K	Assembled	Counterdoor	1800x600
EE1880K	Assembled	Counterdoor	1800x800
EE1810K	Assembled	Counterdoor	1800x1000
EE2060K	Assembled	Counterdoor	2000x600
EE2080K	Assembled	Counterdoor	2000x800
EE2010K	Assembled	Counterdoor	2000x1000
EE2260K	Assembled	Counterdoor	2200x600
EE2280K	Assembled	Counterdoor	2200x800
EE2210K	Assembled	Counterdoor	2200x1000

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

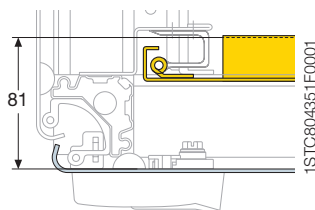
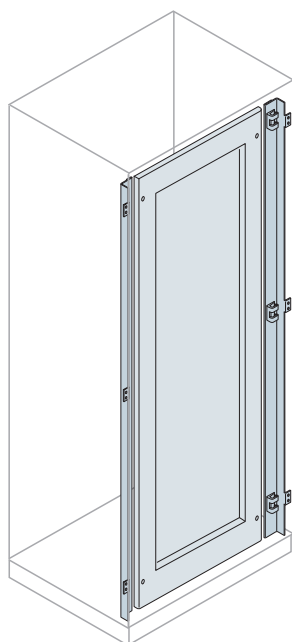
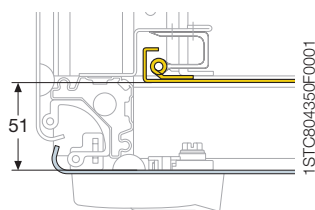
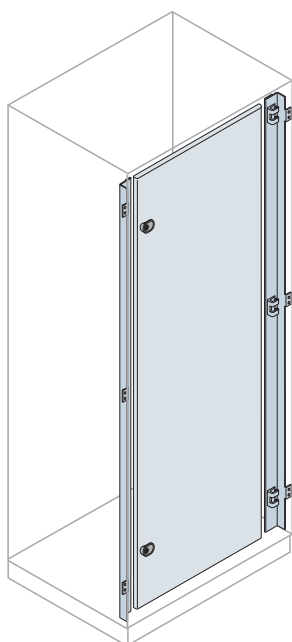
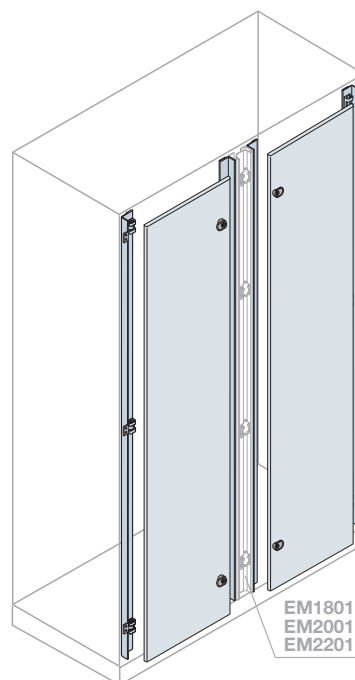
Recessed counterdoors

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)
EE1906K	Recessed counterdoor	1800x600
EE1908K	Recessed counterdoor	1800x800
EE1910K	Recessed counterdoor	1800x1000
EE2106K	Recessed counterdoor	2000x600
EE2108K	Recessed counterdoor	2000x800
EE2110K	Recessed counterdoor	2000x1000
EE2306K	Recessed counterdoor	2200x600
EE2308K	Recessed counterdoor	2200x800
EE2310K	Recessed counterdoor	2200x1000

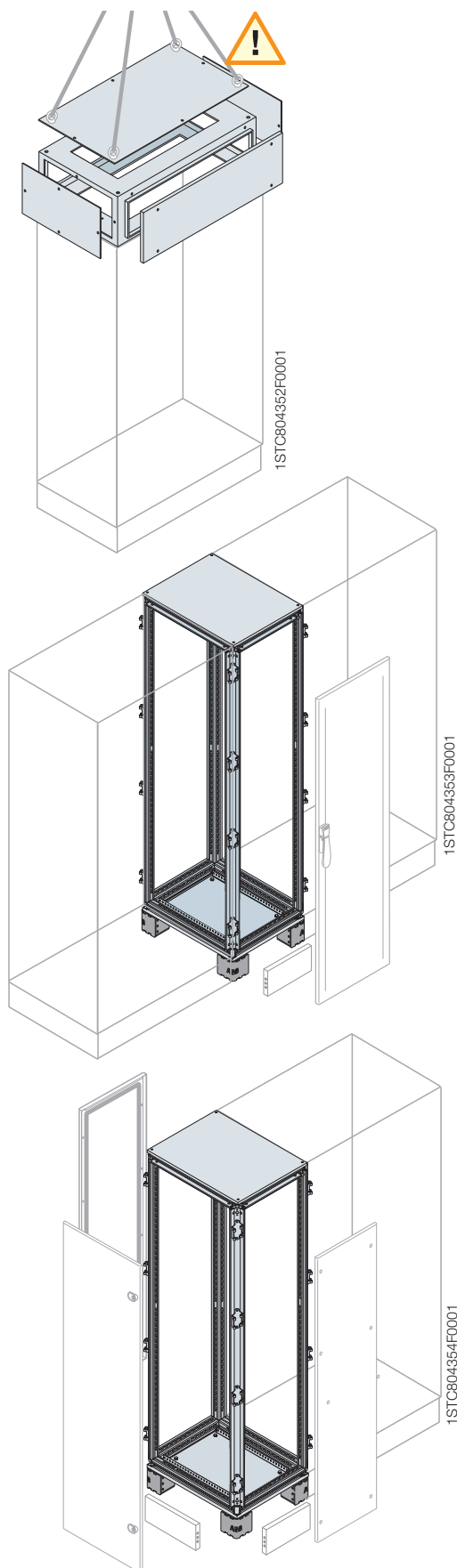
* Service only valid for factory pre-assembled panel boards.

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 (not for handling)

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)
Height 200mm		
ER4040K	Top container for cable connection	400x400
ER6040K⁽¹⁾	Top container for cable connection	600x400
ER8040K⁽¹⁾	Top container for cable connection	800x400
ER1041K	Top container for cable connection	1000x400
ER4050K	Top container for cable connection	400x500
ER6050K⁽¹⁾	Top container for cable connection	600x500
ER8050K⁽¹⁾	Top container for cable connection	800x500
ER1050K	Top container for cable connection	1000x500
ER4060K	Top container for cable connection	400x600
ER6060K⁽¹⁾	Top container for cable connection	600x600
ER8061K⁽¹⁾	Top container for cable connection	800x600
ER1060K	Top container for cable connection	1000x600
ER4080K	Top container for cable connection	400x800
ER6080K⁽¹⁾	Top container for cable connection	600x800
ER8080K⁽¹⁾	Top container for cable connection	800x800
ER1080K	Top container for cable connection	1000x800
ER4011K	Top container for cable connection	400x1000
ER6010K⁽¹⁾	Top container for cable connection	600x1000
ER8010K⁽¹⁾	Top container for cable connection	800x1000
ER1010K	Top container for cable connection	1000x1000
ER1000⁽¹⁾	Kit for placing cable connection container at side	

⁽¹⁾ 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-EV0003-EV0006**.

Code	Description	Dimensions mm (WxD)
ER3040K	Container for external cable container	1800x300x400
ER3050K	Container for external cable container	1800x300x500
ER3060K	Container for external cable container	1800x300x600
ER3080K	Container for external cable container	1800x300x800
ER3010K	Container for external cable container	1800x300x1000
ER3041K	Container for external cable container	2000x300x400
ER3051K	Container for external cable container	2000x300x500
ER3061K	Container for external cable container	2000x300x600
ER3081K	Container for external cable container	2000x300x800
ER3011K	Container for external cable container	2000x300x1000
ER3042K	Container for external cable container	2200x300x400
ER3052K	Container for external cable container	2200x300x500
ER3062K	Container for external cable container	2200x300x600
ER3082K	Container for external cable container	2200x300x800
ER3012K	Container for external cable container	2200x300x1000

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 4/31)
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 (EH6010K/EH8010K). See page 4/53.

Crosspieces for intermediate uprights (mounted depth-wise)

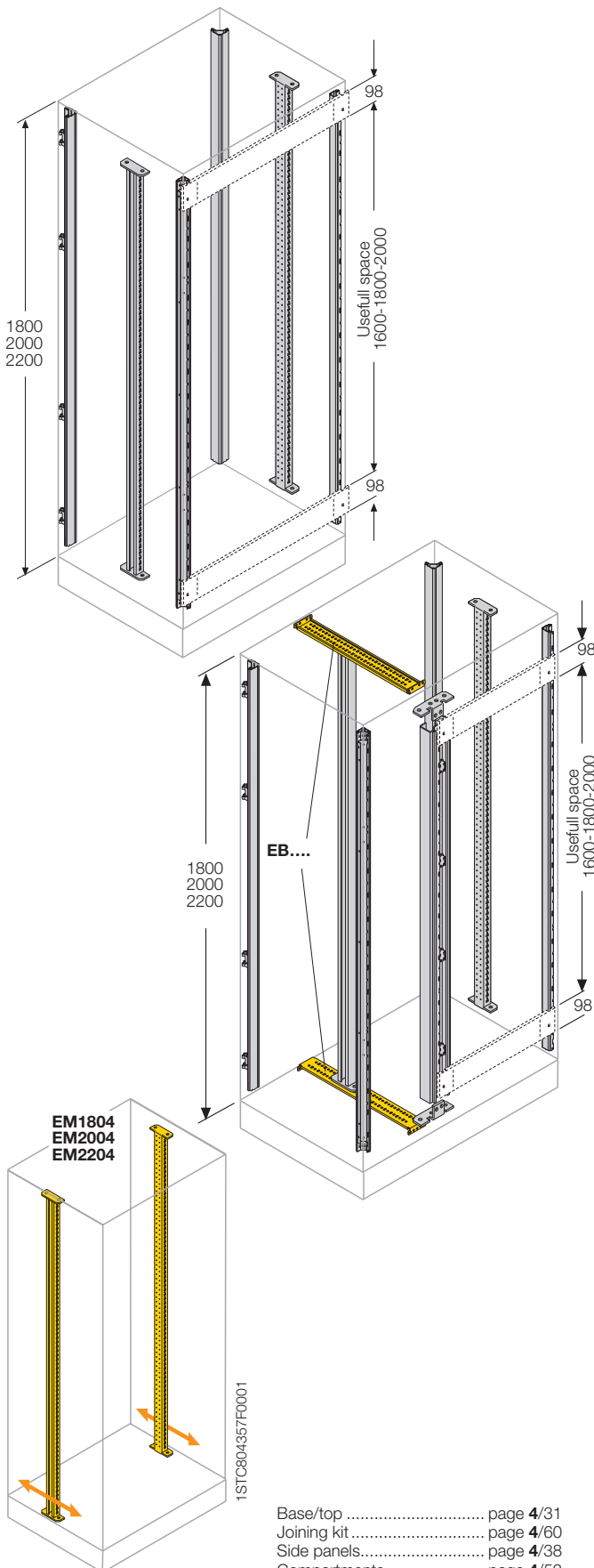
Code	Description	Dimensions mm (D)
EB4100	Couple of crosspieces for base	400
EB5100	Couple of crosspieces for base	500
EB6100	Couple of crosspieces for base	600
EB8100	Couple of crosspieces for base	800
EB1100	Couple of crosspieces for base	1000

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.

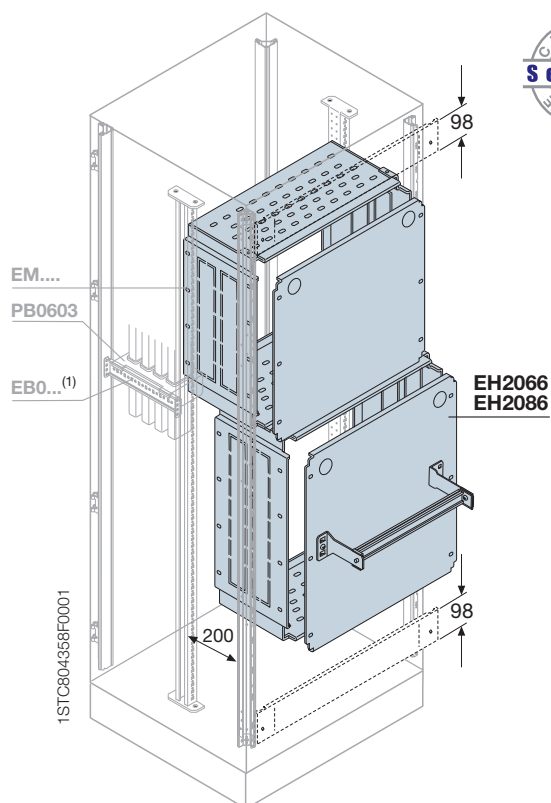
Code	Description	Dimensions mm (H)
EM1804	Pair of uprights for mounting compartment cubicles in depth	1800
EM2004	Pair of uprights for mounting compartment cubicles in depth	2000
EM2204	Pair of uprights for mounting compartment cubicles in depth	2200



Base/top page 4/31
Joining kit page 4/60
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	Custom Made Service *	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 rail, adjustable in depth 200x600

EH2086 Compartment cubicle with DIN rail, adjustable in depth 200x800

(1) The dimension of the crosspieces EBO... (see page 4/46) 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). The front panels are fitted with a horizontal profile which keeps the IP41 degree of protection.

Code	Custom Made Service *	Description	Dimensions mm (HxW)
EH2061K	Assembled	Front panels for compartments	200x600
EH3061K	Assembled	Front panels for compartments	300x600
EH4061K	Assembled	Front panels for compartments	400x600
EH5061K	Assembled	Front panels for compartments	500x600
EH6061K	Assembled	Front panels for compartments	600x600
EH8062K	Assembled	Front panels for compartments	800x600
EH1061K	Assembled	Front panels for compartments	1000x600
EH6010K (1)		N°2 compensation panels	100x600
EH2081K	Assembled	Front panels for compartments	200x800
EH3081K	Assembled	Front panels for compartments	300x800
EH4081K	Assembled	Front panels for compartments	400x800
EH5081K	Assembled	Front panels for compartments	500x800
EH6083K	Assembled	Front panels for compartments	600x800
EH8081K	Assembled	Front panels for compartments	800x800
EH1081K	Assembled	Front panels for compartments	1000x800
EH8010K (1)		N°2 compensation panels	100x800

EH2067K Front panels 18 mod. DIN 200x600

EH2087K Front panels 29 mod. DIN 200x800

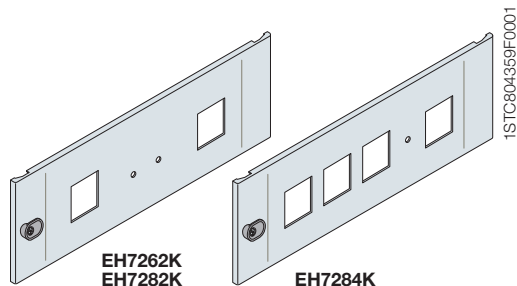
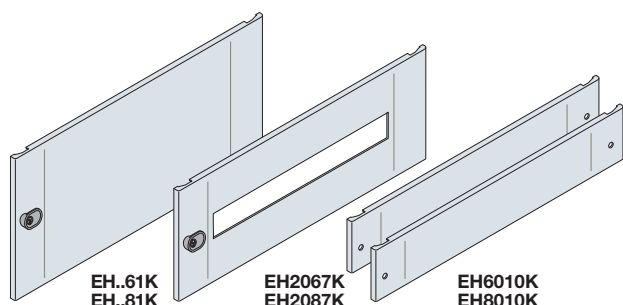
(1) Finishing elements to be fixed at double end of the structure.

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

Panels for square measuring instruments

Made of 20/10 painted steel colour RAL 7035, complete with box with double tongue key interchangeable with inserts (see page 4/36).

Code	Description	Dimensions mm (HxW)
EH7262K	N°2 72x72mm instrument panels for compartments	200x600
EH7282K	N°2 72x72mm instrument panels for compartments	200x800
EH7284K	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
EH1800	N°2 uprights for modular panels	1800	8/200 o 11/150
EH2000	N°2 uprights for modular panels	2000	9/200 o 12/150
EH2200	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)
EH0018	DIN rail and fixing supports (18 DIN mod.)	600
EH0029	DIN rail and fixing supports (29 DIN mod.)	800

Depth adapters

AP6001	N°1 depth adapters for Tmax T1-T2-T3	600
---------------	--------------------------------------	-----

Supports for wiring duct

AD1009	N°4 plastic supports for horizontal wiring duct	
AD1037	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 (W≥40mm) 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)
EH0024	DIN rail and fixing supports (24 DIN mod.)	600
EH0036	DIN rail and fixing supports (36 DIN mod.)	800

Depth adapters

AP6000	N°1 depth adapters for Tmax T1-T2-T3	600
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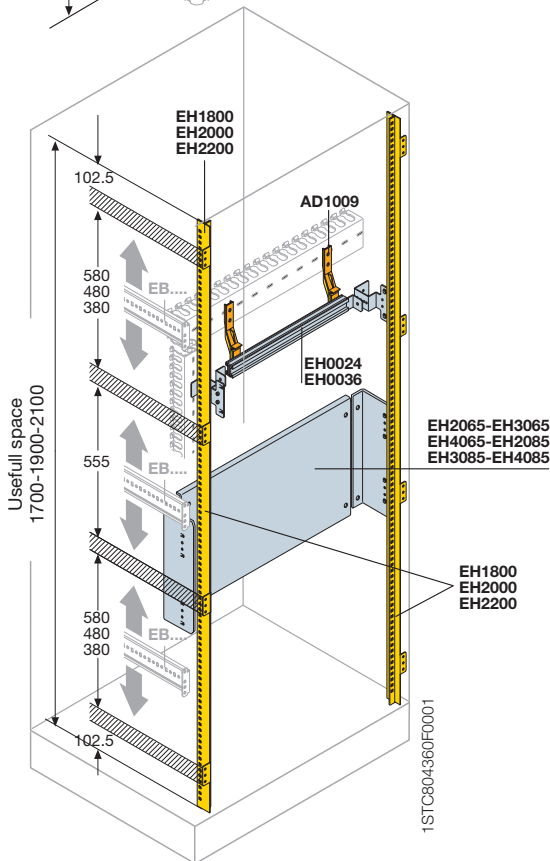
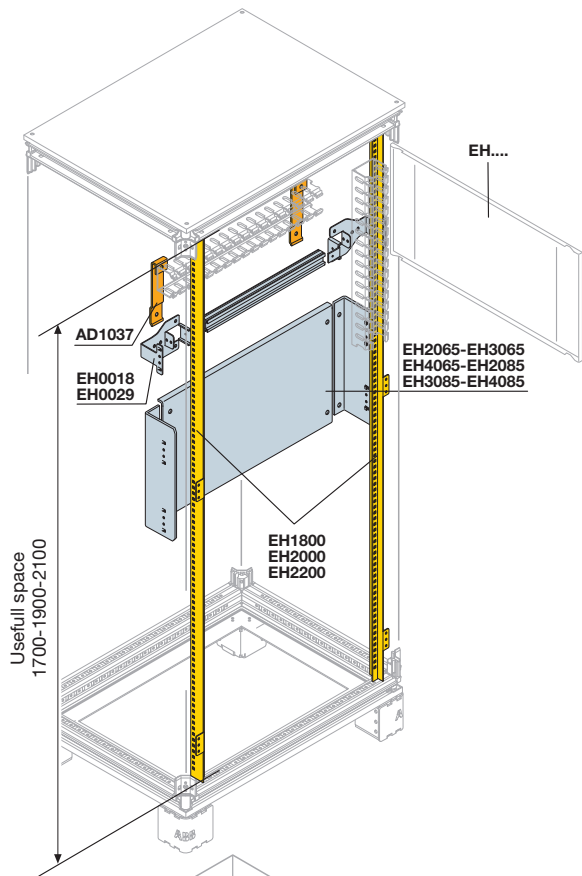
Supports for wiring duct

AD1009	N°4 plastic supports for horizontal wiring duct	
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Blind apparatus holder back plates

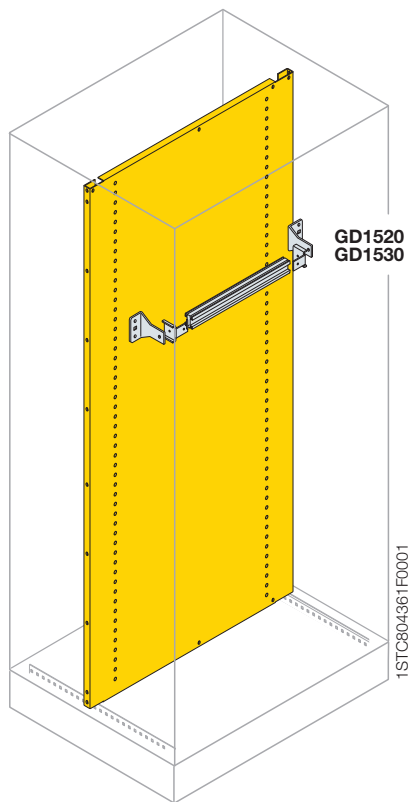
Blind apparatus holder back plate, 15/10 thick. It is fixed directly onto the uprights **EH1800**, **EH2000** or **EH2200**. The useful dimension is always 100mm less than the total height of the panel board.

Code	Description	Dimensions mm (HxW)
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



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)
EX1860	Back plate for bench cabling	1800x600
EX2060	Back plate for bench cabling	2000x600
EX2260	Back plate for bench cabling	2200x600
EX1880	Back plate for bench cabling	1800x800
EX2080	Back plate for bench cabling	2000x800
EX2280	Back plate for bench cabling	2200x800

DIN rail Kit on back plate (bench cabling)

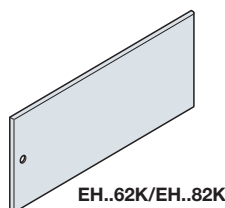
Kit consisting of double aluminium section (DIN 35), complete with shaped brackets for fixing the wiring duct Kit.
The useful dimension is always 100mm less than the total height of the panel board.

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

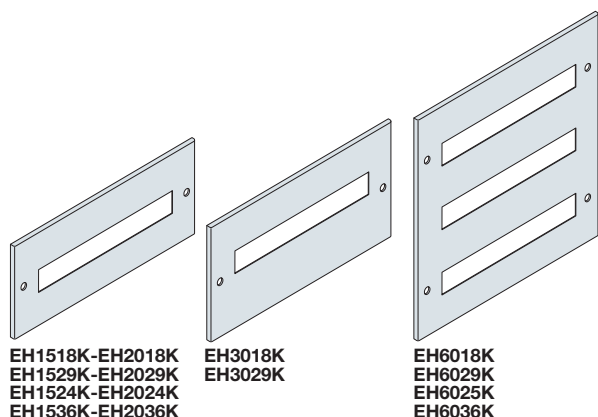
For all the components which cannot be mounted on DIN rails, e.g. T3, T4, OT and OETL, mounting is made directly on a plate.

Ordering codes

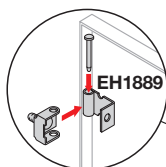
Structures for modular apparatus



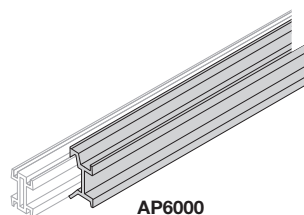
EH..62K/EH..82K



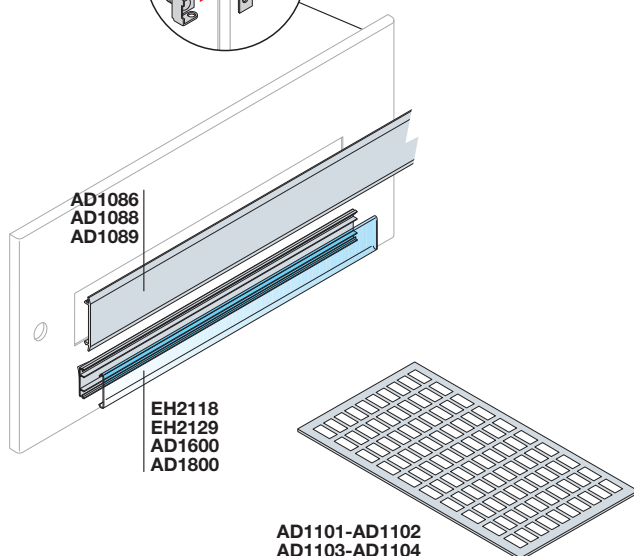
1STC804362F0001



EH1889



AP6000



AD1101-AD1102
AD1103-AD1104

Blind panels for apparatus

Blind panel made of 12/10 (W=600mm) and 15/10 sheet (W=800mm) painted RAL7035 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	
EH0562K	EH0582K	Blind panel
EH1062K	EH1082K	Blind panel
EH1562K	EH1582K	Blind panel
EH2062K	EH2082K	Blind panel
EH3063K	EH3082K	Blind panel
EH4062K	EH4082K	Blind panel
EH5062K	EH5082K	Blind panel
EH6062K	EH6082K	Blind panel

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)
EH1518K	Panel 18 DIN mod.	150x600
EH2018K	Panel 18 DIN mod.	200x600
EH3018K	Panel 18 DIN mod. off-centre	300x600
EH6018K	Pannello 54 mod. DIN (3x18 DIN mod.)	600x600
EH1529K	Panel 29 DIN mod.	150x800
EH2029K	Panel 29 DIN mod.	200x800
EH3029K	Panel 29 DIN mod. off-centre	300x800
EH6029K	Panel 87 DIN mod. DIN (3x29 DIN mod.)	600x800
EH1524K	Panel 24 DIN mod.	150x600
EH2024K	Panel 24 DIN mod.	200x600
EH6025K	Panel 72 DIN mod. (3x24 DIN mod.)	600x600
EH1536K	Panel 36 DIN mod.	150x800
EH2036K	Panel 36 DIN mod.	200x800
EH6036K	Panel 108 DIN mod. (3x36 DIN mod.)	600x800

Closures for panel

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

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

Depth adapters

Code	Description
AP6000	Depth adapter for Tmax T1-T2-T3

Supports for wiring duct

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

Hole-covering strip

Code	Description
AD1086	N°10 hole covers W=2000mm, grey RAL 7035 colour
AD1088	N°10 hole covers W=600mm 24 DIN mod., grey RAL 7035 colour
AD1089	N°10 hole covers W=800mm 36 DIN mod., grey RAL 7035 colour

Label

Code	Description
AD1101 ⁽²⁾	N°288 labels 1 DIN mod.
AD1102 ⁽²⁾	N°192 labels 2 DIN mod.
AD1103 ⁽²⁾	N°96 labels 3 DIN mod.
AD1104 ⁽²⁾	N°96 labels 4 DIN mod.

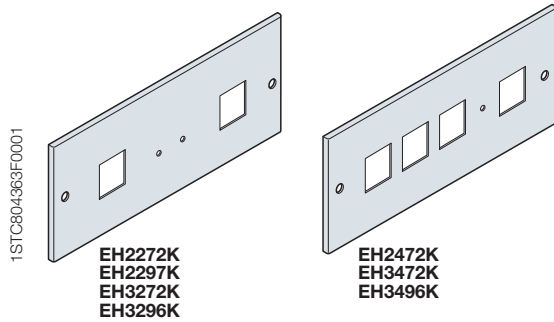
⁽²⁾ Labels can be written using Grafoplast compatible plotter system.

Label holders

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

Ordering codes

Structures for modular apparatus



Panels for square measuring instruments

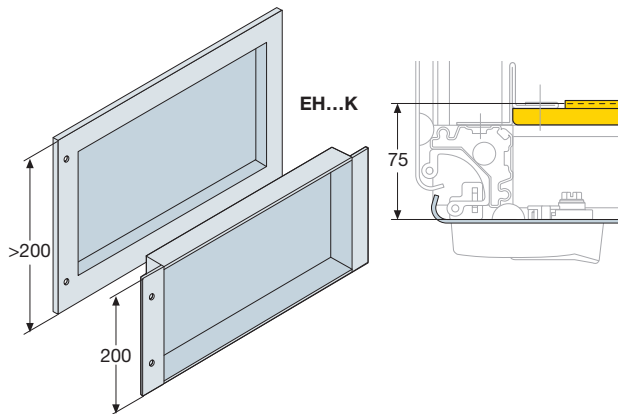
Panel with cut-outs for measuring instruments, made of 12/10 sheet painted RAL7035 colour with rapid fixing, preset for hinges **EH1889**.

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

Code	Description	Dimensions mm (HxW)
EH2272K	Panel for n°2 instruments 72x72mm	200x600
EH2472K	Panel for n°4 instruments 72x72mm	200x600
EH2297K	Panel for n°2 instruments 96x96mm	200x600
EH3272K	Panel for n°2 instruments 72x72mm	200x800
EH3296K	Panel for n°2 instruments 96x96mm	200x800
EH3472K	Panel for n°4 instruments 72x72mm	200x800
EH3496K	Panel for n°4 instruments 96x96mm	200x800
EV1135	N°10 closing plugs for 72x72mm instrument panel	
EV1136	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 RAL7035 colour with rapid fixing preset for hinges **EH1889**. The useful height is always 100mm less than the total height of the panel board.



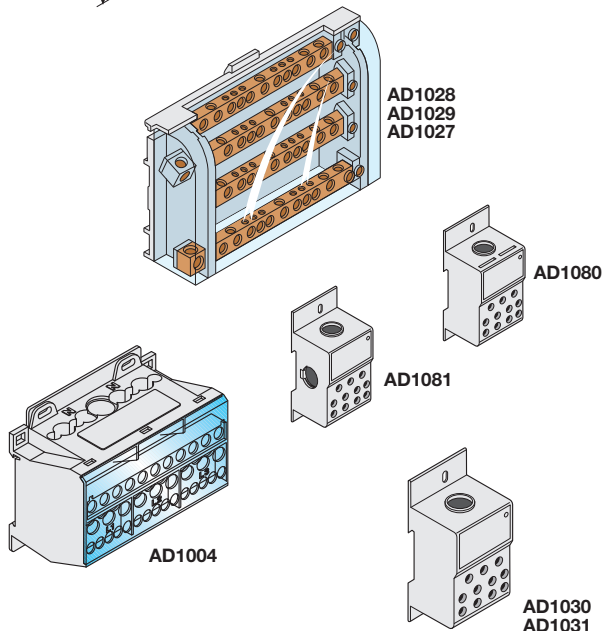
Code	Description	Dimensions mm (HxW)
EH2063K	Blind recessed panel	200x600
EH2083K	Blind recessed panel	200x800
EH3064K	Blind recessed panel	300x600
EH3083K	Blind recessed panel	300x800
EH4064K	Blind recessed panel	400x600
EH4083K	Blind recessed panel	400x800
EH5063K	Blind recessed panel	500x600
EH5084K	Blind recessed panel	500x800
EH6063K	Blind recessed panel	600x600
EH6084K	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

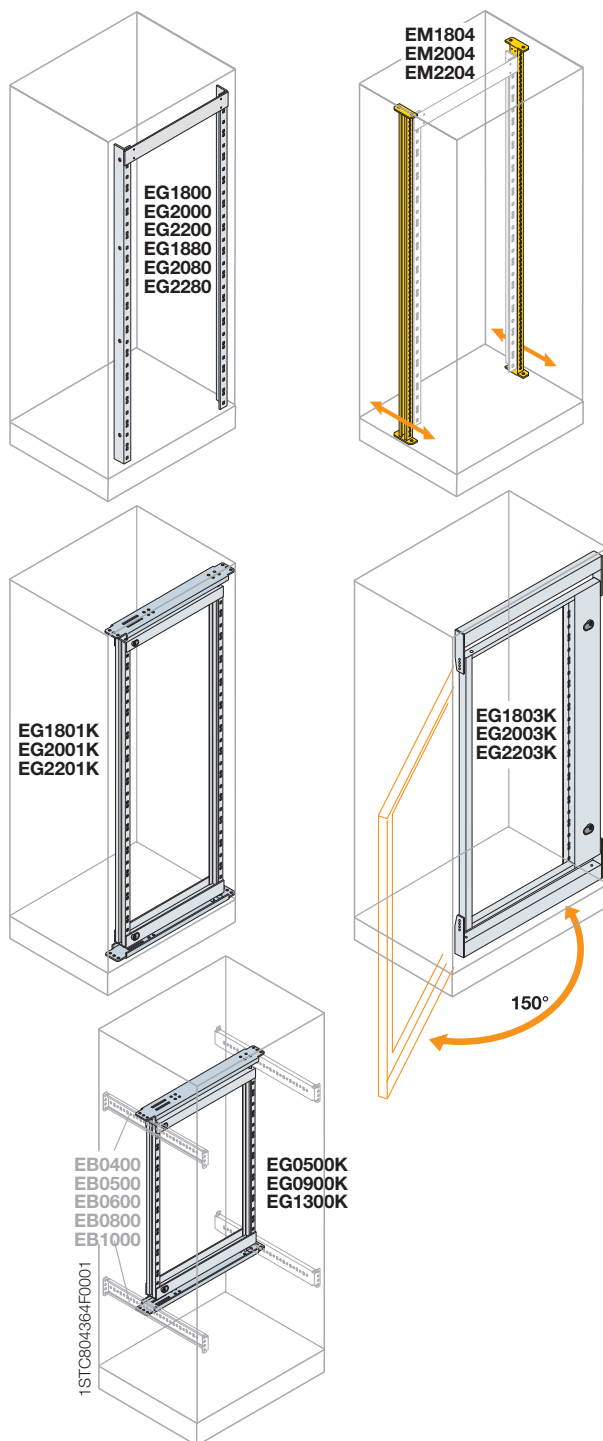
Code	Description		
	Single-pole	Three-pole	Four-pole
AD1076 ⁽¹⁾			
AD1080 ⁽²⁾		AD1075	AD1004 Modular 125A
			AD1028 Modular 125A-medium-89x93x48 (WxLxH)
			AD1029 Modular 125A-large-126x93x48 (WxLxH)
AD1007 ⁽¹⁾			
AD1081 ⁽²⁾		AD1006	AD1027 Modular 160A
AD1030			Modular 250A
AD1031			Modular 400A

⁽¹⁾ 10 ways out - ⁽²⁾ 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 7035 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 upris for depth adjustment of the fixed rack frame 1800
EM2004	N°2 upris for depth adjustment of the fixed rack frame 2000
EM2204	N°2 upris for depth adjustment of the fixed rack frame 2200

Code	Service Custom Made *	N°HE	Description	Dimensions mm (HxW)
EG1801K	Assembled	36	Centred swing rack frame	1800x600
EG2001K	Assembled	40	Centred swing rack frame	2000x600
EG2201K	Assembled	45	Centred swing rack frame	2200x600
EG1803K	Assembled	34	Eccentric swing rack frame	1800x800
EG2003K	Assembled	38	Eccentric swing rack frame	2000x800
EG2203K	Assembled	43	Eccentric swing rack frame	2200x800

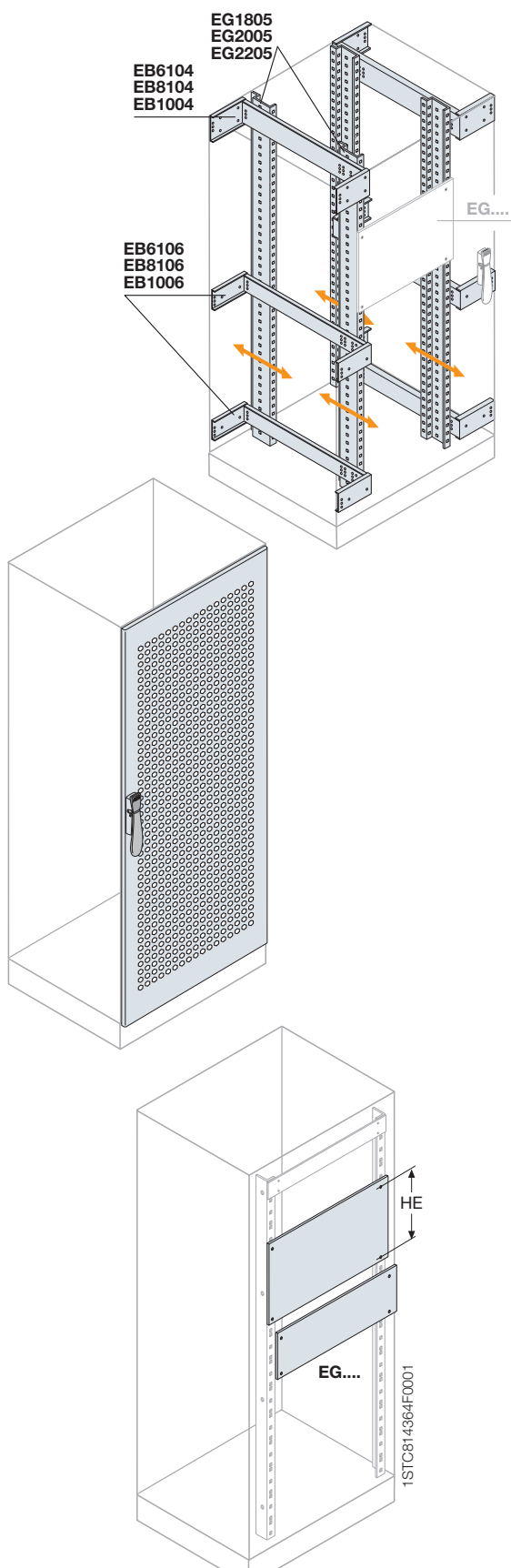
* Service only valid for factory pre-assembled panel boards.

Partial 19" rack frames

Code	Description	Per column W=mm
Height mm		
500	900 1300	
EG0500K	EG0900K EG1300K	
N° HE 9	N° HE 18 N° HE 27	Partial swing rack frame 600

Ordering codes

19" rack frames



19" rack frame for server cabinet

The 19" rack frame for server cabinets is made of 20/10mm galvanized steel sheet, and is fixed onto special crosspieces and can be adjusted in depth.

Code	Description	Dimensions mm (HxW)
EG1805	Rack frame for server cabinet	1800x800
EG2005	Rack frame for server cabinet	2000x800
EG2205	Rack frame for server cabinet	2200x800

Use structures without front door, see page 4/26.

Fixing crosspieces for rack frame (EG1805-EG2005-EG2205)

Code	Description	Dimensions mm (D)
EB6104	N°2 top crosspieces	600
EB8104	N°2 top crosspieces	800
EB1004	N°2 top crosspieces	1000
EB6106	N°2 central/bottom crosspieces	600
EB8106	N°2 central/bottom crosspieces	800
EB1006	N°2 central/bottom crosspieces	1000

Aerated door

Aerated door made of RAL 7035 colour 12/10 thick sheet, fitted with polyurethane gasket, complete with handle with double tongue key (interchangeable with other types of inserts, see pag. 4/36). Reversible (hinged on the right as standard) with 4 closing points and complete with internal reinforcement frame and earthing pins.

Code	Description	Dimensions mm (HxW)
EC1882	Aerated door for server cabinet	1800x800
EC2082	Aerated door for server cabinet	2000x800
EC2282	Aerated door for server cabinet	2200x800
EC1884	Aerated door for server cabinet with 180° opening	1800x800
EC2084	Aerated door for server cabinet with 180° opening	2000x800
EC2284	Aerated door for server cabinet with 180° opening	2200x800

Panel for 19" rack frames

Panels made of 30/10 Aluminium.

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 ⁽¹⁾	Assembled	Kit for joining reinforcement angle piece for lifting
EV0003	Assembled	Cabinet joining kit
EV0006 ⁽¹⁾	Assembled	Internal cabinet joining kit
EV0008		N°8 small pins for placing structures side by side

⁽¹⁾ 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).

Internal panel board joining Kit

EV0006

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

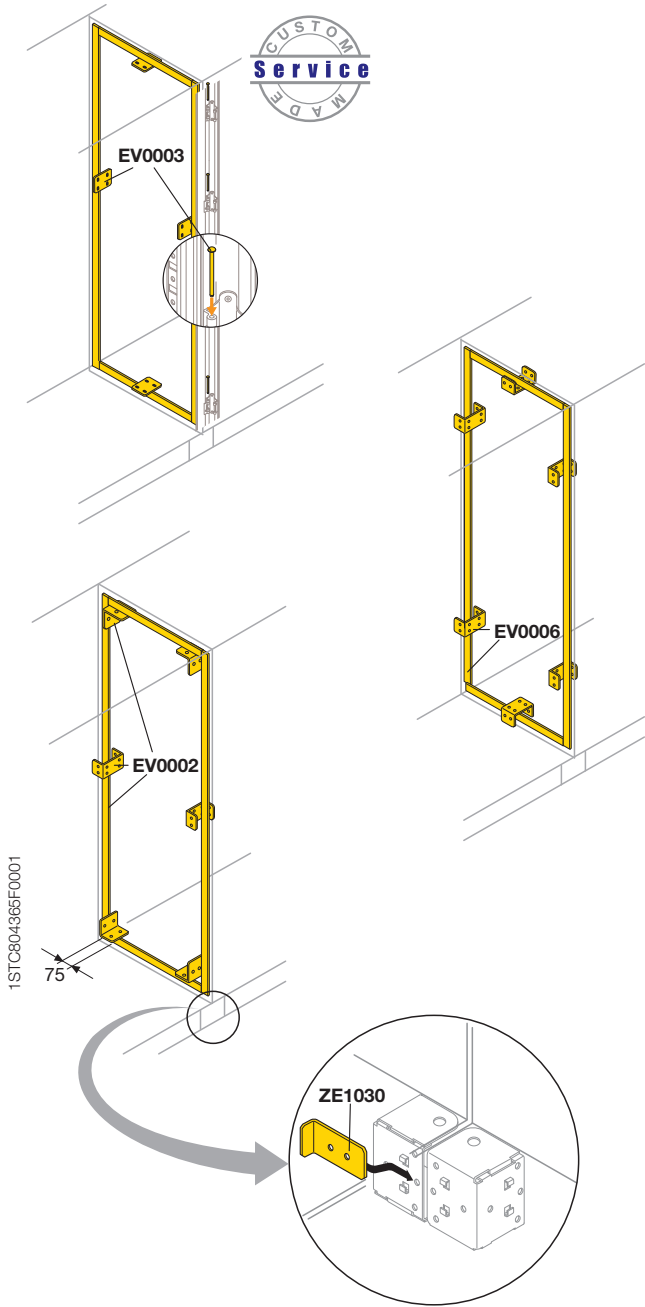
The kit is made up of 6 squares (4 "L"-shaped and two "C"-shaped) and an adhesive gasket.

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.

Does not allow maximum moving back of the standard and oversized back plate (75mm less).

Small plinth joining plates

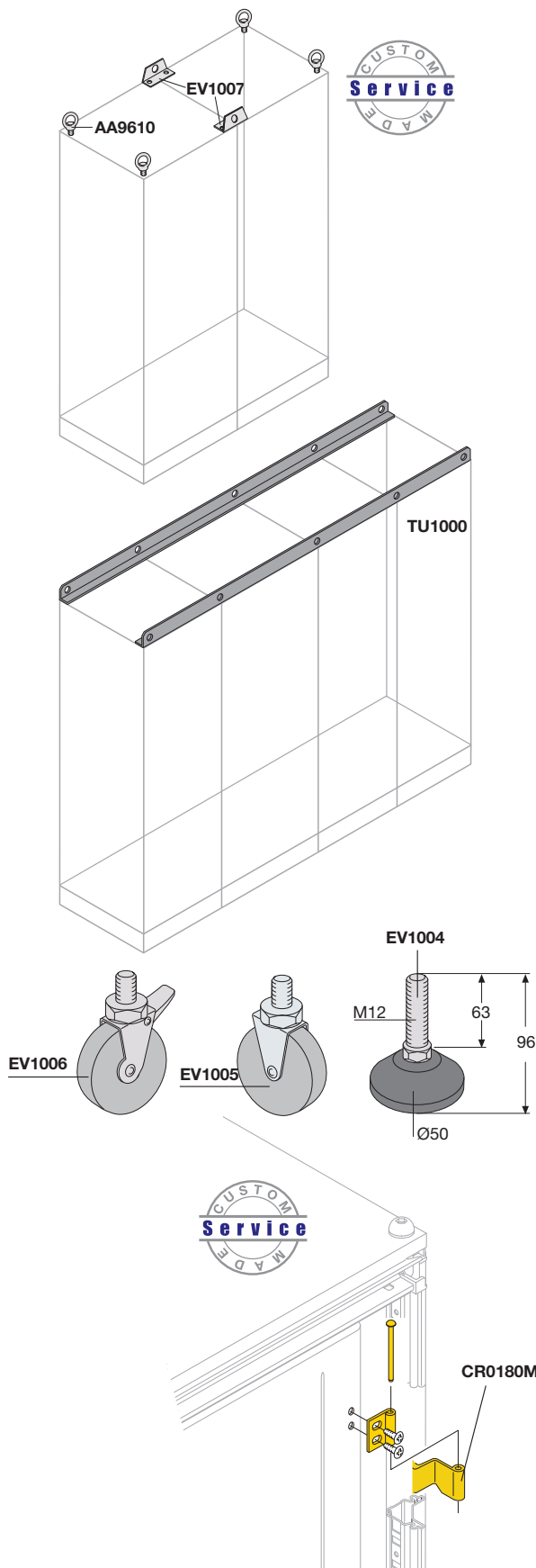
Code	Description
ZE1030	N°10 plinth joining plates



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 grey RAL 7012 colour.

Code	Custom Made Service *	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. Grey RAL 7012 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°

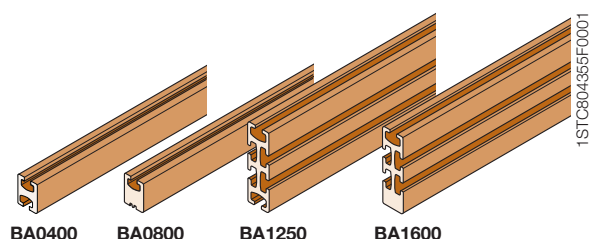
Made of 25/10mm thick sheet, allow the door to be opened 180° also for battery assembled panel boards.

Code assembled *	Description
CR0180 Assembled	N°4 hinges opening 180° - assembled

* Service only valid for factory pre-assembled panel boards; specify whether mounted on the right or left at the time of ordering.

Ordering codes

Accessories

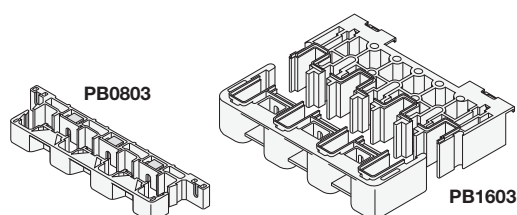


Distribution busbars with shaped section

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

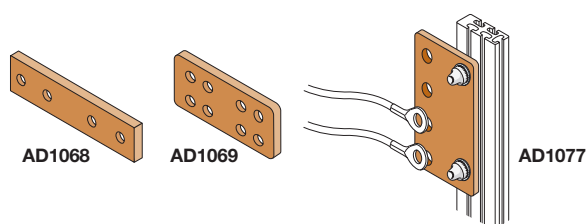
Busbars holder for busbar with shaped section

To be used with crosspieces H 48mm to be drilled (see page 4/46).



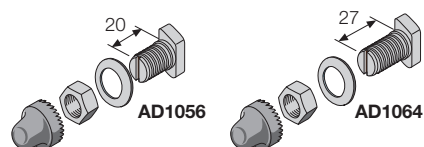
Code	Description
Linear	
PB0803	Linear busbar holder In=800A - 35kA
PB1603	Linear busbar holder In=1600A - 65kA

Joints for busbars



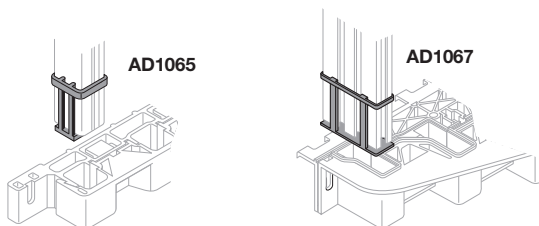
Code	Description
AD1068	N°4 800A joints for busbars with shaped section (with 800/1250/1600A busbars)
AD1069	N°4 1250/1600A joints for busbars with shaped section (with 1250/1600A busbars)
AD1077	N°4 copper 400A branch joints

Hammer seal screws



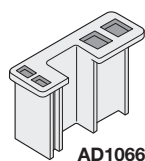
Code	Description
AD1056	N°12 screws M8 - W=20mm for cable terminal
AD1064	N°12 screws M8 - W=27mm for flats up to 10mm, complete with screw-covering cap

Resting bases



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

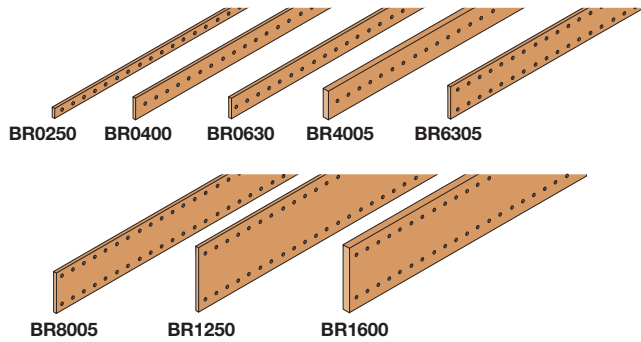
Adapters for busbars



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

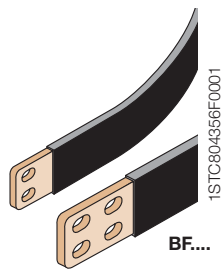
Ordering codes

Accessories



Flat busbars

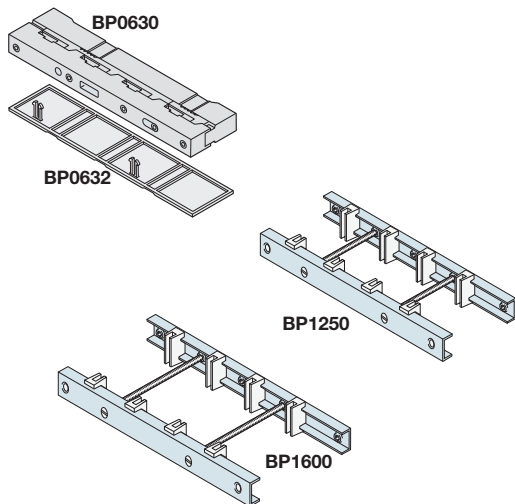
Code	Description	Dimensions mm (L)
BR0250	N°2 busbars In=250A section: 15x5mm	1750
BR0400	N°2 busbars In=400A section: 25x5mm	1750
BR0630	N°2 busbars In=630A section: 30x10mm	1750
BR4005	N°2 busbars In=400A, section: 32x5mm	1750
BR6305	N°2 busbars In=630A, section: 50x5mm	1750
BR8005	N°2 busbars In=800A,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



Flexible busbars

Code	Description	Dimensions mm (L)
BF1602	N°2 flexible busbars, section 20x3 In=250A	2000
BF2502	N°2 flexible busbars, section 20x5 In=400A	2000
BF4002	N°2 flexible busbars, section 20x6 In=500A	2000
BF4012 ⁽¹⁾	N°2 flexible busbars, section 32x5 In=630A	2000
BF6302	N°2 flexible busbars, section 40x8 In=1000A	2000
BF8002	N°2 flexible busbars, section 50x10 In=1250A	2000

⁽¹⁾ Only for circuit-breakers with extended front terminals or rear terminals.



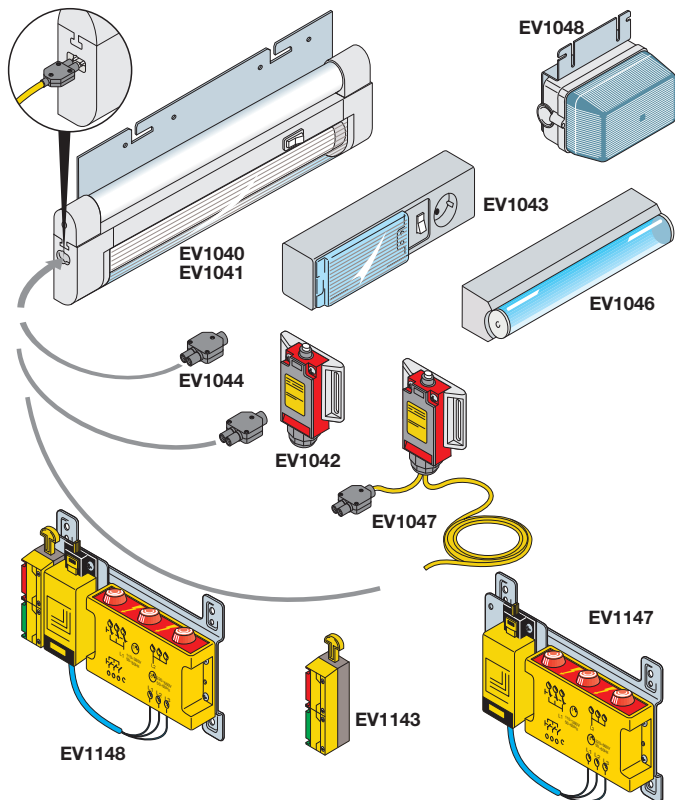
Busbar holder

To use with crosspieces H=48mm to drill (see page 4/46)

Code	Description
BP0630	N°2 linear busbar holders In=630A - 32kA
BP0632	N°2 terminal covers for linear busbar holders BP0630
BP1250	N°2 busbar holder for busbars 5mm thick
BP1600	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 (without lamp)

* There are 2 cables L=1900mm and L=380mm in the pack.

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 EV1144 (NO installed with door closed) which allows power supply of a current launching coil. A NO contact code EV1145 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, UL/CSA approved, operating temperature between -25 °C and +65 °C. Flashing lamp: $U_i=690V\sim$, $U_e=380-600V\sim$, terminal capacity: max 3mm², auxiliary contact capacity U_e/I_e : 110V/6A, 230V/3A, 400V/2A, 600V/1.2A.

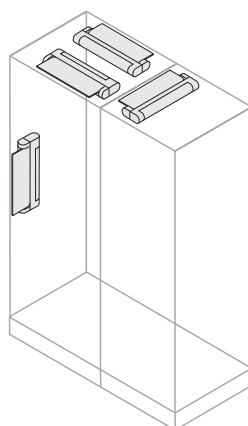
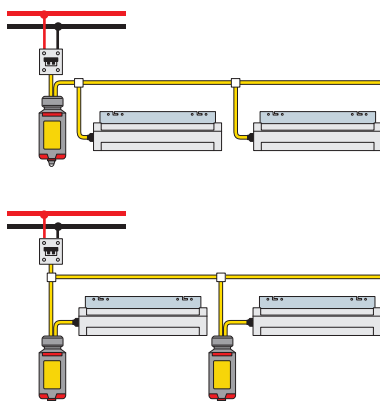
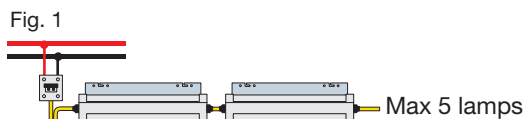
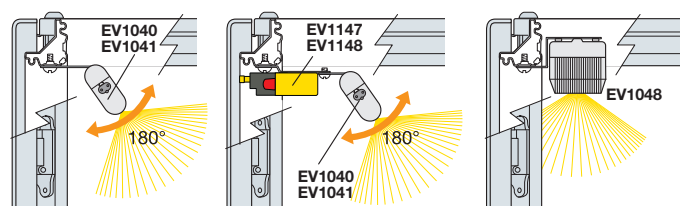
Rated thermal current I_{th}: 10 A

Terminal capacity max: 2x1.5mm² / 1x3mm²

Flashing signalling device:

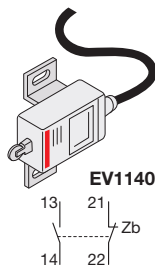
- Single-phase DC/AC 110-400V 50/60Hz power supply voltage
- Three-phase AC 220-690V 50/60Hz

Code	Description	U _e (V)	U _i (V)
EV1147	Voltage indicator	380/600	690
EV1148	Voltage indicator + interlock + 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		



Ordering codes

Accessories

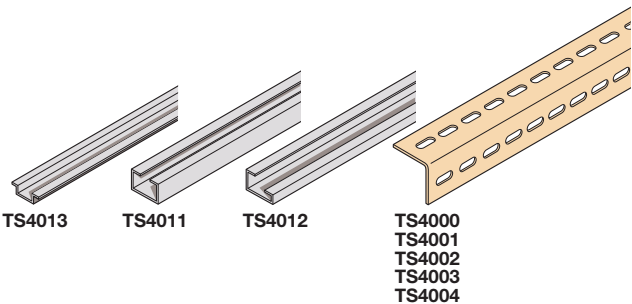


Position switch

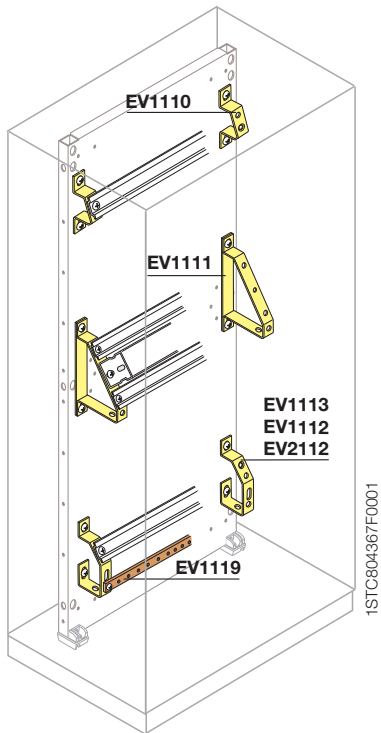
Conforms to the IEC 50047 Standard, IP65 degree of protection, UL/CSA approved, can be mounted in all positions by means of the accessory provided. $U_i=500V$, Aux. contact $I_n=3A$ a $230V\sim$, $1.8A$ at $400V\sim$ (in AC-15 IEC 60947-5-1). Dimensions (h $\times$ w $\times$ d) 84 $\times$ 30 $\times$ 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

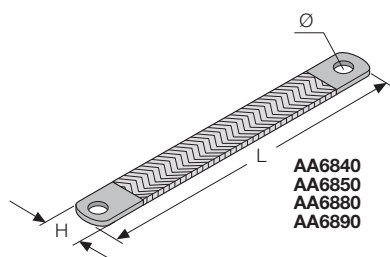


Angled supports for terminal boxes and earthing busbars

Code	Description
EV1110	N°50 angled supports 1 row of terminals
EV2110	N°10 angled supports 1 row of terminals
EV1113	N°2 angled supports 1 row of terminals + earth
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 (HxL)
AA6840	N°5 cables, cross-section: 16mm ² Ø 7mm	17x200
AA6850	N°5 cables, cross-section: 16mm ² Ø 7mm	17x300
AA6880	N°5 cables, cross-section: 25mm ² Ø 9mm	22x200
AA6890	N°5 cables, cross-section: 25mm ² Ø 9mm	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 Ø 0.5-16mm ² for EV1115
EV1118	N°100 terminals for cable Ø 4-35mm ² 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 isolatori esagonali 30x30mm M6
EV1123	N°50 isolatori esagonali 30x30mm M8
EV1124	N°25 isolatori esagonali 36x50mm M6
EV1125	N°25 isolatori esagonali 36x50mm M8

Screws for apparatus

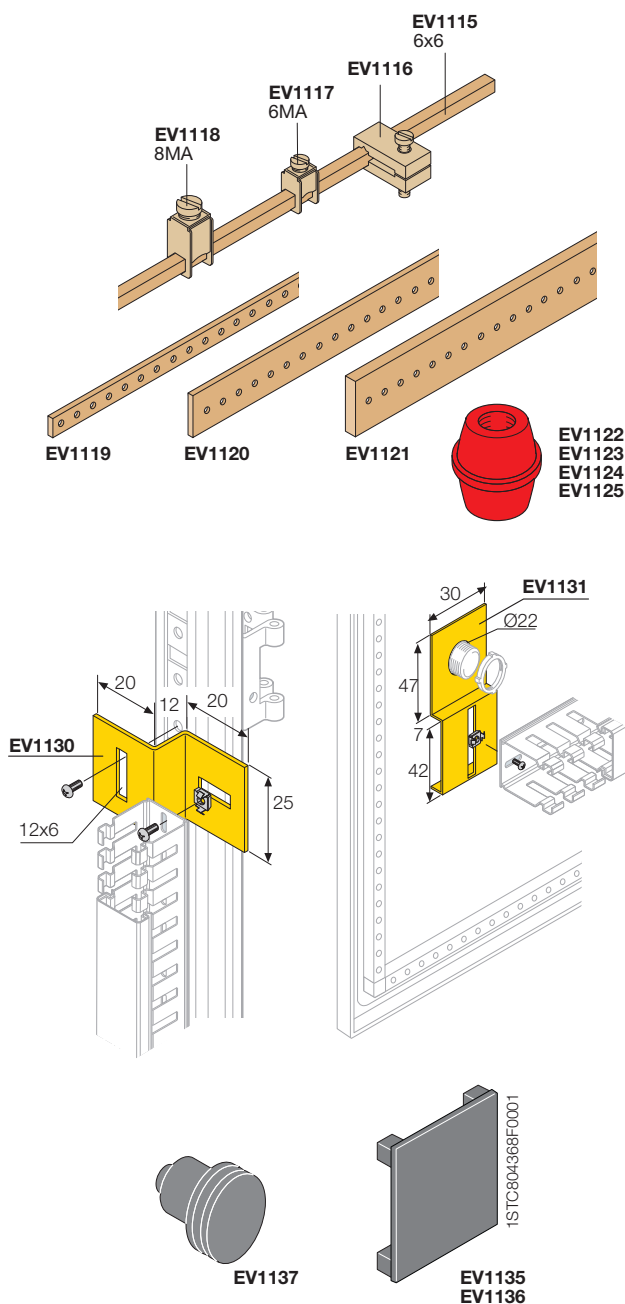
Code	Description
EV1100	N°1000 cross-cut head piercing screws 4.2x13mm
EV1101	N°1000 cross-cut head piercing screws 4.2x19mm
AD1036	N°20 M6 cage nuts
AD1033	N°50 spare M6 three-lobed screws L=16mm

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 Ø 22

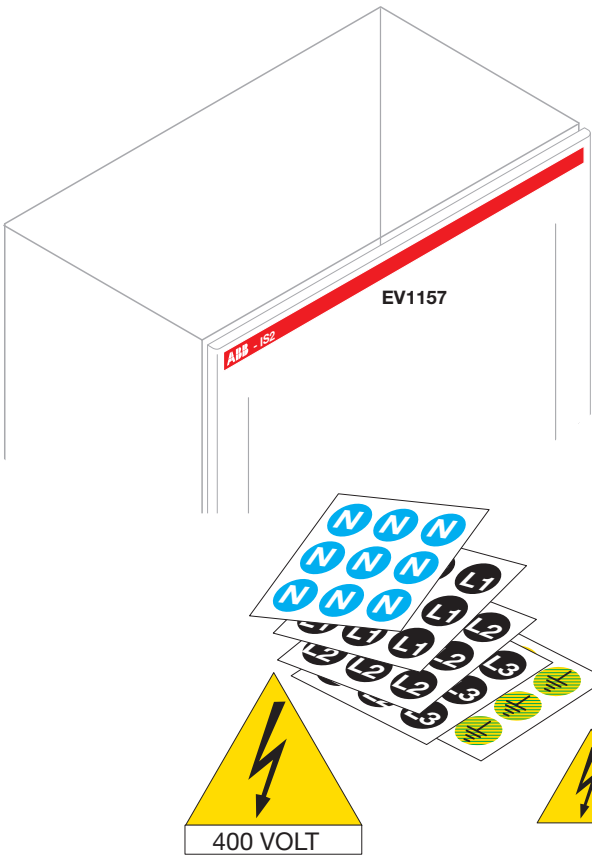
Hole covering plugs

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 Ø 22mm



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

Ordering codes

Accessories

Heater for IP20 electric cabinets

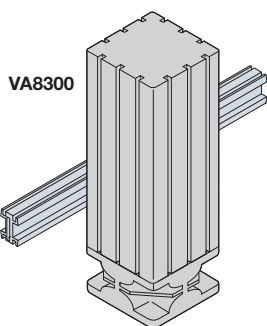
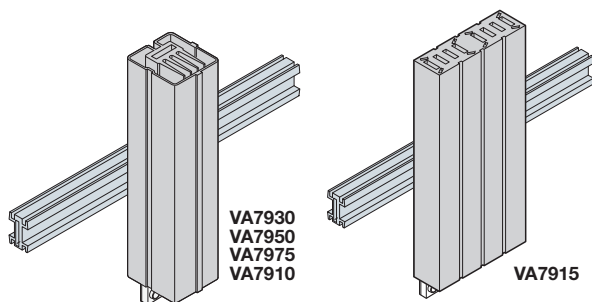
Their use prevents condensation in the electric cabinets. They consist of a heating element (PTC thermistor) inserted in an aluminium alloy ground plate. The PTC thermistor is a component which modifies its impedance according to the operating temperature. It is intrinsically stable and ensures primary safety features for the heater and service stability.

The main qualities of the heaters using PTC are:

- electrical absorption (or dissipated power) which is almost constant in the range of power supply voltage between 100 and 250V;
- electrical absorption bound by inverse law to the trend of the ambient temperature.

The special tubular geometry of the ground plate allows efficient thermal exchange with the heating element. This allows high powers and limited overall dimensions (especially in width and depth);

Snap-on assembly on 35 mm DIN rail. Requires a thermostat.



Code	Description	Dimensions mm (HxWxD)
VA7930	Anti-condensation heater 30W, 110-240 Vac-dc	115x42x42
VA7950	Anti-condensation heater 50W, 110-240 Vac-dc	165x42x42
VA7975	Anti-condensation heater 75W, 110-240 Vac-dc	210x42x42
VA7910	Anti-condensation heater 100W, 110-240 Vac-dc	165x42x48
VA7915	Anti-condensation heater 150W, 110-240 Vac-dc	130x82x48
VA8300	Anti-condensation heater with fan 300W, 230 Vac-dc	140x82x95

For minimum mounting distances, see pag. 9/46.

All the heaters with PTC absorb a higher power than the rated one on inrush according to a transitory which lasts a few tenths of a second.

If the heaters are to be supplied by means of an auxiliary transformer, its apparent power must be sized taking 1.5 times the rated power of the heaters with natural aeration and twice those with forced ventilation into consideration.

$$P_e = (W + D) \times H \times K_1 \times K_2 \times K_3.$$

Selection of the heater

P_e = Electric power required

H, W, D = Cabinet dimensions

K_1 = Cabinet position

K_2 = Temperature outside the cabinet

K_3 = Climate type

	K1		K2		K3
internal	7	0-10 °C	5	Wet	1,3
external	8	-5 °C	10	Normal	1
external exp	10	-10 °C	15	Cleaning	0,9
		-15 °C	20		
		-20 °C	25		
		-30 °C	35		
		-50 °C	55		

Example:

Cabinet $H=2m$ / $W=0,6m$ / $D=0,4m$

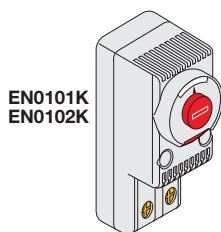
$K_1 = 7$

$K_2 = 10$

$K_3 = 1$

$P_e (W) = (0,6+0,4) \times 2 \times 7 \times 10 \times 1 = 140$

Heater suggested: **VA7915** (150W)



IP20 Thermostat

Conforming to the EN 60730-1, EN 60730-2-9 Standard, UL and CuRUS (UL canadian market) approved, IP20 degree of protection. Grey RAL 7035 colour; electrical life 100,000 cycles. Dimensions (hwxwd) 68x29x45mm, can be mounted on all types of DIN rail.

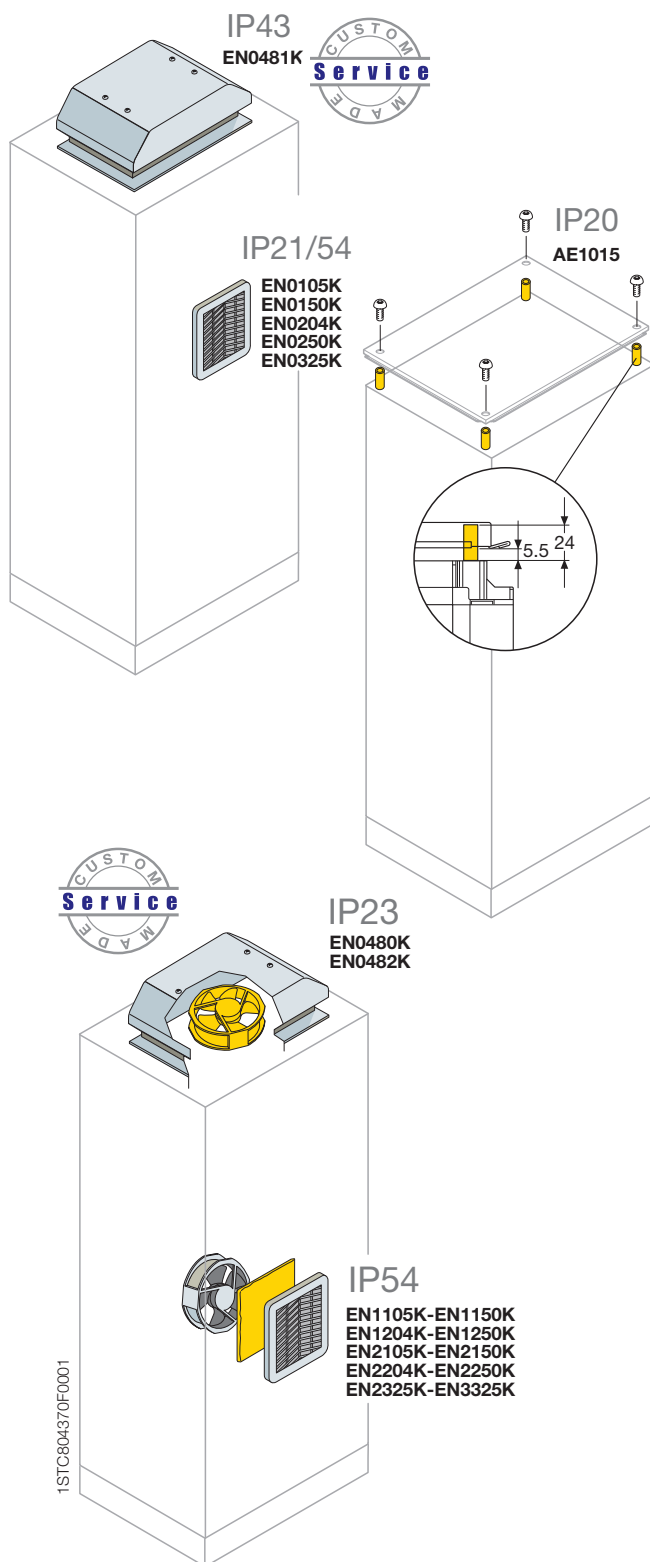
The version with NO (normally open) contact allows a circuit to be closed activating ventilation, air conditioning, or alarms. The version with NC (normally closed) contact allows a circuit to be opened disconnecting any anti-condensation heaters.

Code	Description	Standard power supply V~/50-60Hz
EN0101K	Ventilation thermostat NO	110/250
EN0102K	Heating thermostat NC	110/250

	Power supply	Contact Capacity Load Ω	Load L	Temperature scale	Type of contacts	Weight
EN0101K	110/250~	10A	2A	-10 +80 °C	NO	48g
EN0102K	110/250~	10A	2A	-10 +80 °C	NC	48g

Ordering codes

Ventilation and air conditioning



IP21/54 natural ventilation kit

Gratings made of insulating material (self-extinguishing ABS UL94V-0) RAL7035 colour, complete with high dust collection capacity filter cloth (620g/m²), 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	Air entry surface for ventilation		Dimensions mm (WxW)
		without filter	with filter	
		cm ²	cm ²	
EN0105K	Grille+air passage filter kit	27	6	105x105
EN0150K	Grille+air passage filter kit	53	10	105x150
EN0204K	Grille+air passage filter kit	121	22	204x204
EN0250K	Grille+air passage filter kit	225	32	250x250
EN0325K	Grille+air passage filter kit	317	55	325x325

IP43 aeration hood

Structure made of steel painted RAL7035 colour, complete with self-adhesive gasket seal. Useful aeration section 200 cm².

Code	Custom Made Service *	Description	Dimensions mm (WxWxD)
EN0481K....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

Grilles made of insulating material (ABS self-extinguishing UL94V-0) RAL7035 colour, complete with filter cloth with high dust accumulation capacity (620g/m²), 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 -10 °C + 50 °C, noise 50 dB (A). The fans allow reversible flow of air. UL507 approved.

Code	Description	Consumption [W]	Capacity [m ³ /h]
With IP54 230V ~ fan			
EN1105K	Ventilation filter 105x105mm (WxW)	10	23
EN1150K	Ventilation filter 150x150mm (WxW)	20	57
EN1204K	Ventilation filter 204x204mm (WxW)	17	120
EN1250K	Ventilation filter 250x250mm (WxW)	29	240
EN2325K	Ventilation filter 325x325mm (WxW)	67	520

With IP 54 1150V~ fan

EN2105K	Ventilation filter 105x105mm (WxW)	9	23
EN2150K	Ventilation filter 150x150mm (WxW)	20	57
EN2204K	Ventilation filter 204x204mm (WxW)	17	120
EN2250K	Ventilation filter 250x250mm (WxW)	30	240
EN3325K	Ventilation filter 325x325mm (WxW)	50	520

IP23 forced ventilation hood

Allows suction from the roof of the cabinet. RAL 7035 colour, complete with self-adhesive gasket; consumption 58/78W, capacity 550/590m³/h. Operating temperature from -20 °C to + 60 °C, noise 59/61dB(A).

Code	Custom Made Service *	Description	Dimensions mm (WxWxD)
EN0480K....Assembled		Ventilation hoods 230V - 50/60Hz	375x295x119
EN0482K....Assembled		Ventilation hoods 115V - 50/60Hz	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)	
Power supply 230V AC			Evapor.	Condens.
Condens.				
VZ1000K	Wall mounting 1510x380x105mm (HxWxD)	1000	200	400
VZ1450K	Wall mounting 1510x380x105mm (HxWxD)	1450	200	600
VZ1700K	Wall mounting 1510x380x105mm (HxWxD)	1700	400	800
VZ2100K	Wall mounting 1510x380x105mm (HxWxD)	2100	400	1400

IP54 air conditioners for wall mounting

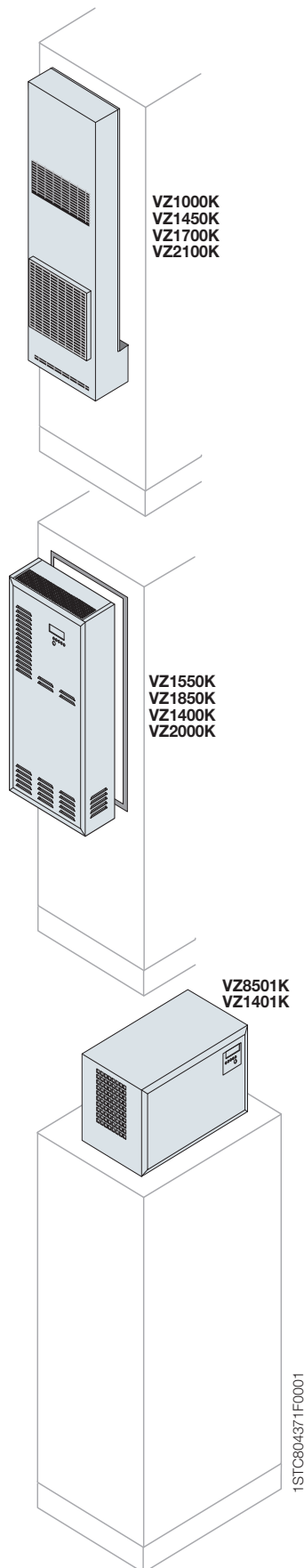
Code	Description	Refrigerating yield (W)	Capacity (m³/h)	Assorbed power (W)
Power supply 230V AC			Evaporat.	Condens.
Condens.				
VZ1550K	Wall mounting 1025x380x198mm (HxWxD)	605	380	400
VZ1850K	Wall mounting 1025x380x198mm (HxWxD)	810	350	400
VZ1400K	Wall mounting+switchboard 1025x380x198mm (HxWxD)	1300	350	600
VZ2000K	Wall mounting+switchboard 1200x380x230mm (HxWxD)	1926	500	950

The filters are not included.

IP54 air conditioners for roof mounting

Code	Description	Refrigerating yield (W)	Capacity (m³/h)	
Power supply 230V AC			Evaporat.	Condens.
Condens.				
VZ8501K	Roof mounting 350x600x400mm (HxWxD)	810	350	400
VZ1401K	Roof mounting+switchboard 350x600x400mm (HxWxD)	1300	350	600

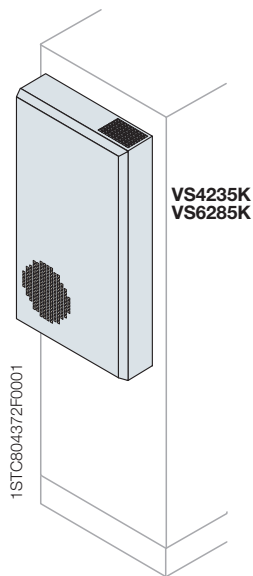
* Not suitable for enclosure W=600 mm
Filters are not included.



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 heat exchangers (air-air) for wall mounting

Code	Description	Refrigerating yield (W)	Capacity (m³/h)
Power supply 230V AC		Internal	External
VS4235K	Wall mounting 710x370x130mm (HxWxD)	35	200
VS6285K	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

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 150 mm	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

Note: The steel wire trays are also available in the following versions: unpainted sendzimir; electro-galvanisation; hot galvanisation after processing (see ABB 1SLC810001D0904 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

Ordering codes

Spare parts

Spare parts

Code	Description
EK4040RK	Top 400x400mm (WxD)
EK4050RK	Top 400x500mm (WxD)
EK4060RK	Top 400x600mm (WxD-DxW)
EK4080RK	Top 400x800mm (WxD-DxW)
EK4010RK	Top 400x1000mm (WxD-DxW)
EK6050RK	Top 600x500mm (WxD)
EK6060RK	Top 600x600mm (WxD)
EK6080RK	Top 600x800mm (WxD-DxW)
EK6010RK	Top 600x1000mm (WxD-DxW)
EK8050RK	Top 800x500mm (WxD)
EK8080RK	Top 800x800mm (WxD)
EK8010RK	Top 800x1000mm (WxD-DxW)
EK1050RK	Top 1000x500mm (WxD)
EK1010RK	Top 1000x1000mm (WxD)
EK1240RK	Top 1200x400mm (WxD)
EK1250RK	Top 1200x500mm (WxD)
EK1260RK	Top 1200x600mm (WxD)
EK1280RK	Top 1200x800mm (WxD)
EV1802	Door closing lever mechanisms H=1800mm
EV2002	Door closing lever mechanisms H=2000mm
EV2202	Door closing lever mechanisms H=2200mm
EV1030	Door closing box complete with double tongue insert
AA6100	3mm double tongue insert
EV1008	Standard handle complete with double tongue insert (without tab)
EV1039	Double tongue insert for EV1030
AD1058	Zn + Al + Mg alloy double tongue key
VB7035	Spray paint colour grey RAL7035 for structure
VB7012	Spray paint colour grey RAL7012 for plinth
ZE1030	N°10 plinth jointing plates
ZE1040	N°4 plinth covers with ABB logo
ZE1050	Intermediate plinth covers
EL1841K	Blind side panel 1800x400 (hxxw)
EL1851K	Blind side panel 1800x500 (hxxw)
EL1861K	Blind side panel 1800x600 (hxxw)
EL1881K	Blind side panel 1800x800 (hxxw)
EL1811K	Blind side panel 1800x1000 (hxxw)
EL2041K	Blind side panel 2000x400 (hxxw)
EL2051K	Blind side panel 2000x500 (hxxw)
EL2061K	Blind side panel 2000x600 (hxxw)
EL2081K	Blind side panel 2000x800 (hxxw)
EL2011K	Blind side panel 2000x1000 (hxxw)
EL2241K	Blind side panel 2200x400 (hxxw)
EL2251K	Blind side panel 2200x500 (hxxw)
EL2261K	Blind side panel 2200x600 (hxxw)
EL2281K	Blind side panel 2200x800 (hxxw)
EL2211K	Blind side panel 2200x1000 (hxxw)
EA0401	Track for front plate insertion D=400mm
EA0501	Track for front plate insertion D=500mm
EA0601	Track for front plate insertion D=600mm
EA0801	Track for front plate insertion D=800mm
EA1001	Track for front plate insertion D=1000mm
EV0001	N°5 sliding back plate kits with front insertion
EN3105	Cloth for filter 105x105mm (hxxw)
EN3150	Cloth for filter 150x150mm (hxxw)
EN3204	Cloth for filter 204x204mm (hxxw)
EN3250	Cloth for filter 250x250mm (hxxw)
EN3326	Cloth for filter 325x325mm (hxxw)
EV1057 ⁽¹⁾	"IS2 survival kit" accessories and spare part items

⁽¹⁾ 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.



C2 series Console - IP 55

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C2 console - IP 55

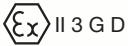
General Characteristics

The new C2 console range is inserted to complete the offer of automation switchboards and is available in the monobloc version (codes CM...K)
Aesthetically it has been harmonized with the IS2 and AM2 automation cabinets, taking on not only their appearance but also several of the existing accessories.
The C2 consoles are built of steel sheet 15/10 mm thick
The range, characterised by the IP55 degree of protection, has passed the controls needed to obtain the UL (Underwriters Laboratories) and CSA (Canadian Standards Association) Type 12 marks.
The standard colour is orange peel RAL7035. On request, it is possible to order the console in a wide range of RAL colours (see page 7/12). The plinth is RAL 7012 colour..

Technical characteristics

Conformity with the CEI EN 62208 Standard
IP55 degree of protection (CEI EN 60529) TYPE 12 (UL Regulations)
IK10 degree of mechanical impact (IEC 62262)



Technical characteristics	
Conformity with Standard	CEI EN 62208
Degree of protection	IP55 (CEI EN 60529) TYPE 12 (UL Regulations)
Degree of mechanical impact	IK10 (IEC 62262)
Certifications	 
Type of material	Metal
Installation site	Indoors
Method of fixing	floor
Normal service conditions	
- ambient temperature	from -5 to +40° C
Atmospheric conditions - relative humidity	50% at 40° C 90% at 20° C

C2 console - IP 55

General Characteristics

Versions available

The C2 consoles are divided into two versions:

- monobloc H=1000mm version
- monobloc version with H=1400mm raised back with panel or rear door

The H=1000mm version is managed on a single depth of the base D=400mm and in 5 widths which are W=600-800-1000mm with single door and 1200-1600mm with double door. They are used, in particular, as monobloc control pulpits for small on-board machine systems.

The H=1400mm version is managed with two depths of the base which are D=400-500mm and in 5 widths which are W=600-800-1000mm with single door and 1200-1600mm with double door. Both versions are fitted with 4 angle pieces correctly sized to facilitate handling and must then be completed with the plinth flanges.

Many of the completion accessories are in common with the existing IS2 and AM2 automation ranges so as to simplify and optimise code management.



Briefly, the main technical and functional characteristics of the C2 console and of its components are as follows:

- structure built of steel sheet 15/10mm thick, welded by means of an automatic process, M6 pins for earthing applications inside on the side wall, rear panel integrated in the structure for monobloc H=1000mm version and screwed for monobloc H=1400mm version; door for base, door for console and any door for the raised back are of the blind type and mounted on the front of the structure;
- degree of protection IP55 verified according to the EN 60529 Standard;
- internal plate made of 25/10mm thick galvanised sheet, adjustable in depth with 25mm pitch. Mounting it inside the console is facilitated by two sliding supports on the bottom of the cabinet
- palletisable plinth made up of four angle pieces h=100mm already fixed to the base of the structure; the four closing flanges must be ordered separately; it is also possible to obtain the H=200mm plinth by means of adding 4 angle pieces and relative flanges.
- front door with 100° opening made of steel sheet 20/10mm thick, with internal polyurethane foam seal. The blind doors are fitted with an internal tubular section which increases their rigidity and allows simple assembly of wiring ducts and any apparatus.

Accessories

- Plate: in both the H=1000-1400mm versions, the internal plates which must be ordered separately, are available in the galvanised version with 20÷25/10mm thickness and are adjustable in depth by means of a special guide with 25mm pitch. This makes it possible to select between a plate with full height and a plate with partial height which is fixed on special uprights for the H=1400mm console.

C2 console - IP 55

General Characteristics

- Plinth: the 4 plinth angle pieces are always provided mounted on the base of the structure and are completed with four flanges 100mm high (to be ordered separately) or, alternatively, with four additional angle pieces and four flanges 200mm high; the plinth flanges are in common with the IS2 and AM2 range.
- Cable entry flanges: the cable entry flanges are always for completion of the structure and are of sliding type with polyurethane foam seal and with cable entry in the middle;



C2 console - IP 55

General Characteristics

- Doors: all the doors and panels are fitted with a polyurethane foam seal applied automatically by means of a robot in continuous casting.
- The locks provided are of the type with double tongue.
- The flap cover of the raised back, normally hinged onto the base, allows easier insertion of the plate from above. Furthermore, it is of the reversible type and can therefore also be hinged onto the top part of the raised back according to application requirements.

The composition of the supply includes:

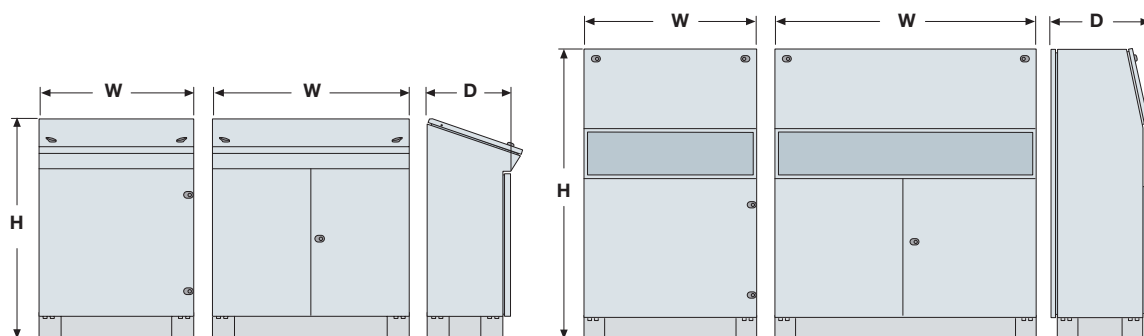
- for H=1000mm version: base, lectern and plinth angle pieces; to be completed with cable entry flanges, plate and plinth flanges
- for H=1400mm version: rear with removable panel/door, base, raised back and plinth angle pieces. It can be completed with: lectern (code CL...K) which includes an anti-tilting plinth which increases the stability of the structure or, alternatively, a cover plate (CP...K), cable entry flanges, plate (partial or full height) and plinth flanges.



C2 console - IP 55

Selection table

Monobloc structure



Overall dimensions			Console with lectern		Console, raised back and rear panel		Console, raised back and rear door		
H (mm)	D (mm)	W (mm)	N°1 front door	N°2 front doors with overlapping closure	N°1 front door	N°2 front doors with overlapping closure	N°1 front door	N°2 front and rear doors with overlapping closure	
1000	400	600	CM1064K						
		800	CM1084K						
		1000	CM1104K						
		1200		CM1124K					
		1600		CM1164K					
1400	400	600			CM4064K		CM4064PK		
		800			CM4084K		CM4084PK		
		1000			CM4104K		CM4104PK		
		1200				CM4124K		CM4124PK	
		1600				CM4164K		CM4164PK	
	500	600			CM4065K		CM4065PK		
		800			CM4085K		CM4085PK		
		1000			CM4105K		CM4105PK		
		1200				CM4125K		CM4125PK	
		1600				CM4165K		CM4165PK	

C2 console - IP 55

Selection table

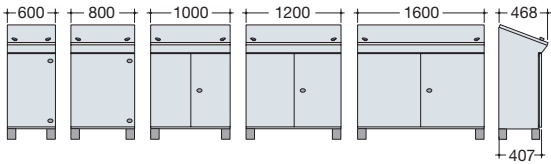


	Lectern desk for console	Lectern hole cover panel	Plinth covering flanges		Cable entry flanges	Mounting plates
	Lectern desk to be combined with the H=1400mm console complete with anti-tilting flange	Lectern hole cover panel to be combined with the H=1400mm consoles	Front/rear H=100mm	Side H=100mm	Sliding	Standard back plate
			ZE6000	ZE4000	CF6040	EA8061
			ZE8000		CF8040	EA8081
			ZE1000		CF1040	EA8101
			ZE1200		CF1240	EA8121
			ZE1600		CF1640	EA8161
	CL0060	CP0060	ZE6000	ZE4011	CF6040	EA1460
	CL0080	CP0080	ZE8000		CF8040	EA1480
	CL0010	CP0010	ZE1000		CF1040	EA1411
	CL0012	CP0012	ZE1200		CF1240	EA1412
	CL0016	CP0016	ZE1600		CF1640	EA1416
	CL0060	CP0060	ZE6000	ZE5011	CF6050	EA1460
	CL0080	CP0080	ZE8000		CF8050	EA1480
	CL0010	CP0010	ZE1000		CF1050	EA1411
	CL0012	CP0012	ZE1200		CF1250	EA1412
	CL0016	CP0016	ZE1600		CF1650	EA1416

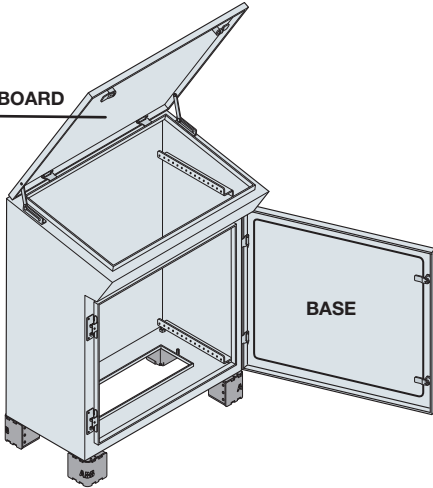
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Ordering codes

C2 console - IP 55



DESK SWITCHBOARD



Monobloc console H=1000mm

Monobloc console complete with non-removable sides, non-removable rear, door for base, lectern flap cover, plinth H=100mm made up of four angle pieces. The W=1200 and 1600mm versions are fitted with double blind door with overlapping closure on the base. To be completed with plinth flanges, cable entry flanges and back plate or other internal equipment; orange peel RAL7035 colour.

Code	Description	Dimensions mm (HxWxD)
CM1064K	Console with desk switchboard	1000x600x400
CM1084K	Console with desk switchboard	1000x800x400
CM1104K	Console with desk switchboard	1000x1000x400
CM1124K	Console with desk switchboard	1000x1200x400
CM1164K	Console with desk switchboard	1000x1600x400

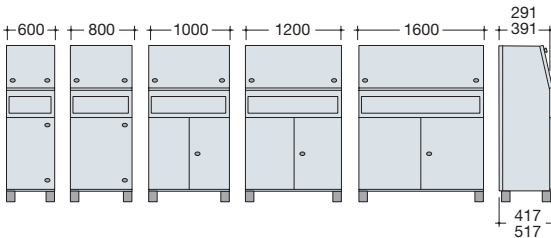
The consoles W=1200, 1600mm are fitted with two front doors with overlapping closure.

Monobloc console H=1400mm with rear panel

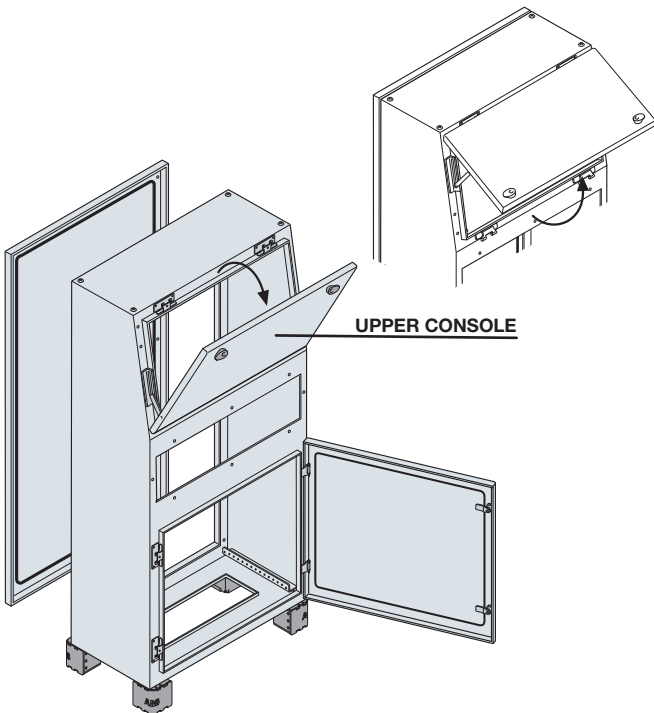
Monobloc console complete with non-removable sides, rear panel, door for base, reversible flap cover opening, plinth H=100mm made up of four angle pieces. The W=1200 and 1600mm versions are fitted with double blind door with overlapping closure on the base. To be completed with lectern or front cover plate, plinth flanges, cable entry flanges and back plate or other internal equipment; orange peel RAL7035 colour.

Code	Description	Dimensions mm (HxWxD)
CM4064K	Console, upper console and rear panel	1400x600x400
CM4084K	Console, upper console and rear panel	1400x800x400
CM4104K	Console, upper console and rear panel	1400x1000x400
CM4124K	Console, upper console and rear panel	1400x1200x400
CM4164K	Console, upper console and rear panel	1400x1600x400
CM4065K	Console, upper console and rear panel	1400x600x500
CM4085K	Console, upper console and rear panel	1400x800x500
CM4105K	Console, upper console and rear panel	1400x1000x500
CM4125K	Console, upper console and rear panel	1400x1200x500
CM4165K	Console, upper console and rear panel	1400x1600x500

The consoles W=1200, 1600mm are fitted with two front doors with overlapping closure.

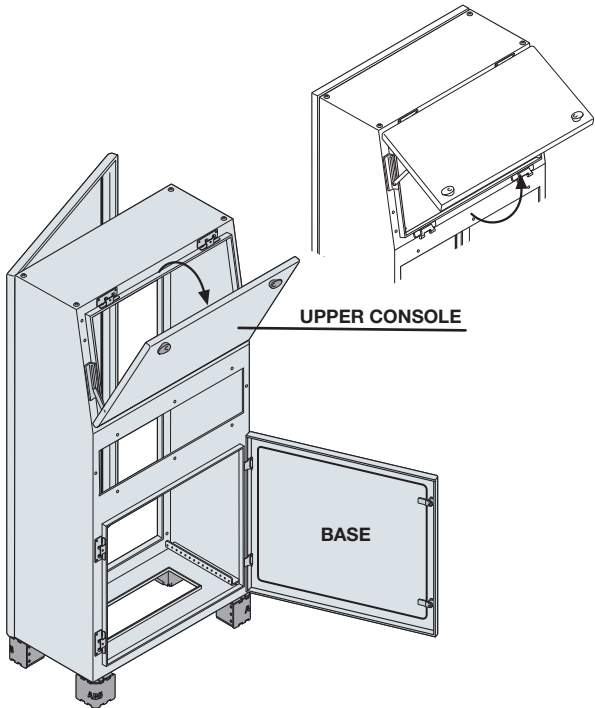
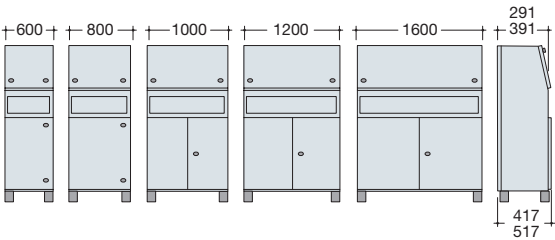


UPPER CONSOLE



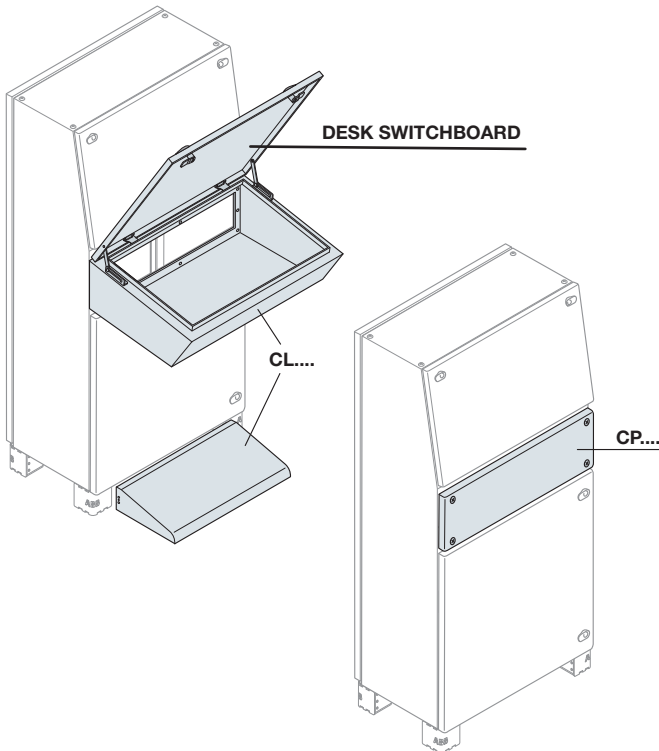
Ordering codes

C2 console - IP 55



UPPER CONSOLE

BASE



DESK SWITCHBOARD

CL....

CP....

Monobloc console H=1400mm with rear door

Monobloc console complete with non-removable sides, rear door, door for base, reversible lid opening, plinth H=100mm made up of four angle pieces. The versions of W=1200 and 1600mm are fitted with double blind door with overlapping closure on the base.
To be completed with lectern or front cover plate, plinth flanges, cable entry flanges and back plate or other internal equipment; orange peel RAL7035 colour.

Code	Description	Dimensions mm (HxWxD)
CM4064PK	Console, upper console and rear door	1400x600x400
CM4084PK	Console, upper console and rear door	1400x800x400
CM4104PK	Console, upper console and rear door	1400x1000x400
CM4124PK	Console, upper console and rear door	1400x1200x400
CM4164PK	Console, upper console and rear door	1400x1600x400
CM4065PK	Console, upper console and rear door	1400x600x500
CM4085PK	Console, upper console and rear door	1400x800x500
CM4105PK	Console, upper console and rear door	1400x1000x500
CM4125PK	Console, upper console and rear door	1400x1200x500
CM4165PK	Console, upper console and rear door	1400x1600x500

The consoles W=1200, 1600mm are fitted with two front doors with overlapping closure.

Lectern desk for console H=1400mm

The flap closing panel of the lectern desk is provided with a special supporting rod to keep it open. The supply also includes a special anti-tilting flange (RAL 7035 colour) to be mounted on the front of the structure.

Code	Description	Dimensions mm (W)
CL0060	Desk switchboard for console H=1400mm	600
CL0080	Desk switchboard for console H=1400mm	800
CL0010	Desk switchboard for console H=1400mm	1000
CL0012	Desk switchboard for console H=1400mm	1200
CL0016	Desk switchboard for console H=1400mm	1600

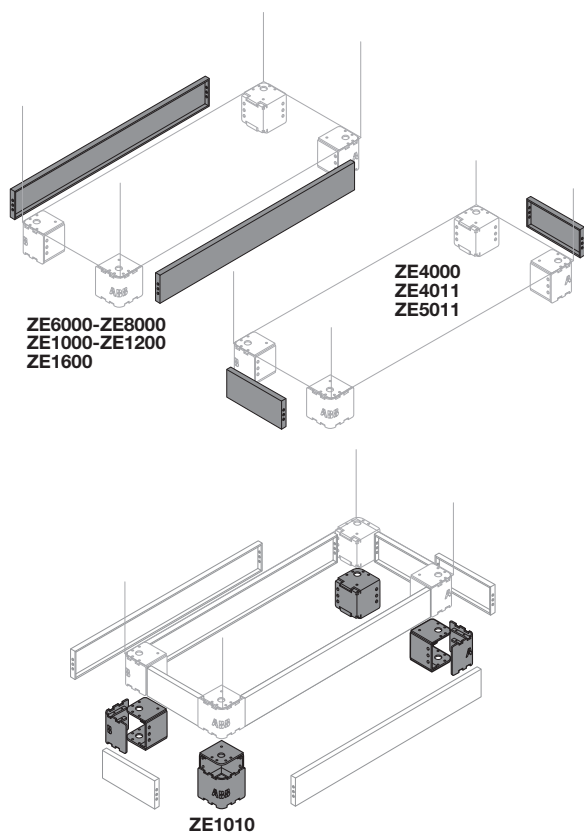
Lectern hole covering panel for console H=1400mm

Covering panel to be mounted instead of the lectern.

Code	Description	Dimensions mm (W)
CP0060	Frontal cover panel for console H=1400mm	600
CP0080	Frontal cover panel for console H=1400mm	800
CP0010	Frontal cover panel for console H=1400mm	1000
CP0012	Frontal cover panel for console H=1400mm	1200
CP0016	Frontal cover panel for console H=1400mm	1600

Ordering codes

C2 console - IP 55



Plinth covering flanges

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

Front/rear flanges H=100mm

Code	Description	Dimensions mm (HxW)
ZE6000	Pair of plinth flanges	100x60
ZE8000	Pair of plinth flanges	100x800
ZE1000	Pair of plinth flanges	100x1000
ZE1200	Pair of plinth flanges	100x1200
ZE1600	Pair of plinth flanges	100x1600

Side flanges H=100mm

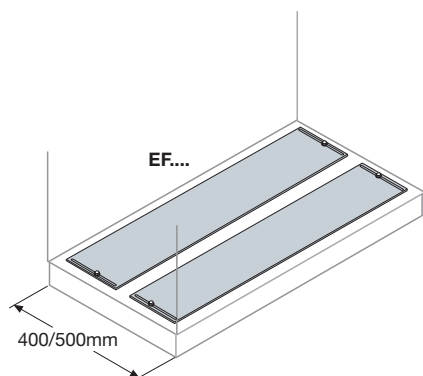
Code	Description	Dimensions mm (D)
ZE4000	Pair of plinth flanges for console H=1000mm	400
ZE4011	Pair of plinth flanges for console H=1400mm	400
ZE5011	Pair of plinth flanges for console H=1400mm	500

Additional plinth

To obtain a 200mm high plinth, order a kit of ZE1010 angle pieces to be added to the angle pieces already present on the structure. Complete with 2 covering flanges (H=100mm) for each side of the structure.

Angle pieces

Code	Description	Dimensions mm (H)
ZE1010	N°4 angle pieces 25/10 thick, complete with plinth cover	100



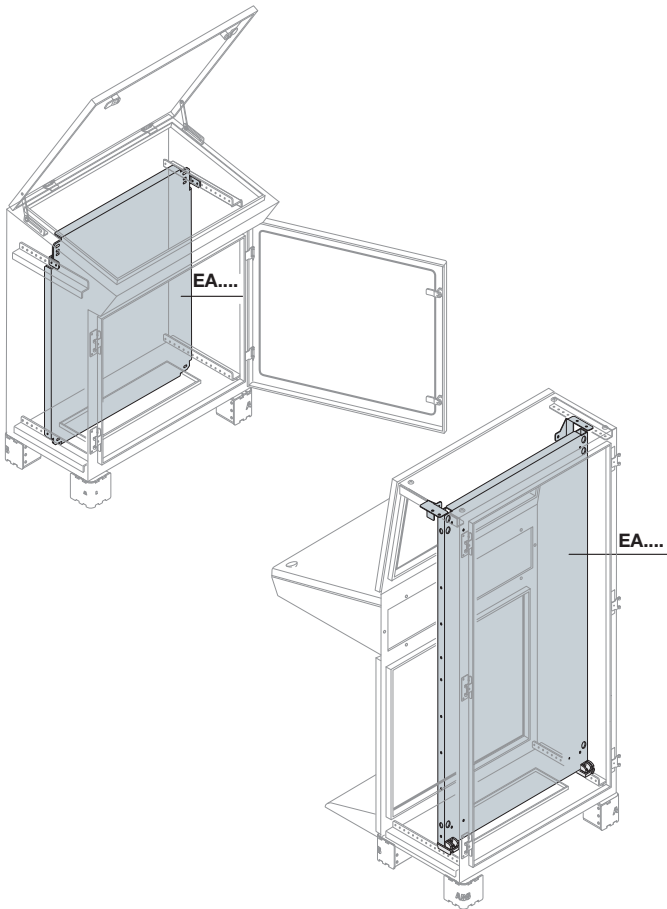
Sliding cable entry flanges

Flanges made of 15/10 galvanised sheet.

Code	Description	Dimensions mm (WxD)
CF6040	Sliding flanges	600x400
CF8040	Sliding flanges	800x400
CF1040	Sliding flanges	1000x400
CF1240	Sliding flanges	1200x400
CF1640	Sliding flanges	1600x400
CF6050	Sliding flanges	600x500
CF8050	Sliding flanges	800x500
CF1050	Sliding flanges	1000x500
CF1250	Sliding flanges	1200x500
CF1650	Sliding flanges	1600x500

Ordering codes

C2 console - IP 55



Mounting plate

Plate made of 25/10 galvanised sheet which can be inserted from the front according to the width of the cabinet. It is fixed to the structure on the crosspieces present inside the console.

Code	Description	Dimensions mm (WxH)
EA1460	Back plate	600x1400
EA1480	Back plate	800x1400
EA1411	Back plate	1000x1400
EA1412	Back plate	1200x1400
EA1416	Back plate	1600x1400
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
EA1061	Partial back plate	600x1000
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
EA1081	Partial back plate	800x1000
EA8101	Partial back plate	1000x800
EA8121	Partial back plate	1200x800
EA8161	Partial back plate	1600x800

Uprights for fixing and adjustment in depth of the partial height plate

Code	Description	Dimensions mm (H)
EM1404	N.2 uprights for mounting partial back plates	1400

Ordering codes

C2 console - IP 55

Lifting eyebolts

Allow panel board handling by means of a gantry. They are fixed directly onto the roof of the panel board. They are made of steel and coated with white galvanising treatment.

Code	Description
TA9601	N°4 eyebolts M12 for structures

Diagram pockets

These are fixed inside the door by means of adhesive parts.

Code	Description
EV1075K	Plastic diagram pocket for A4

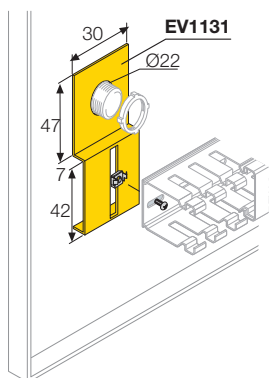
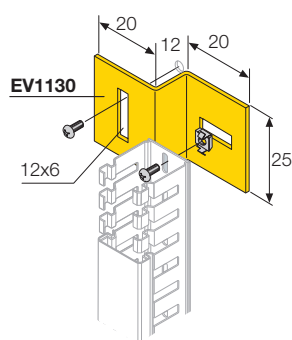
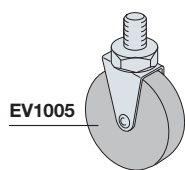
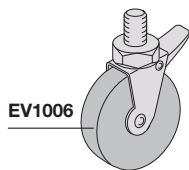
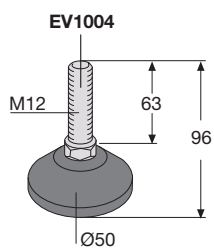
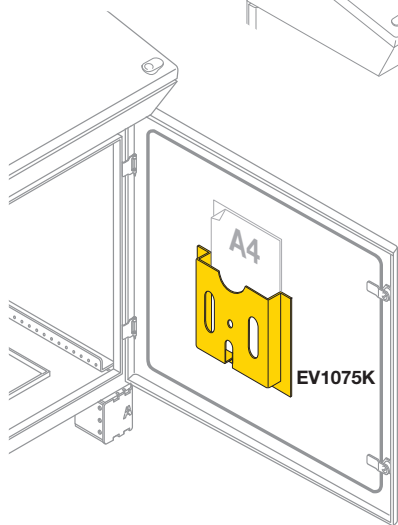
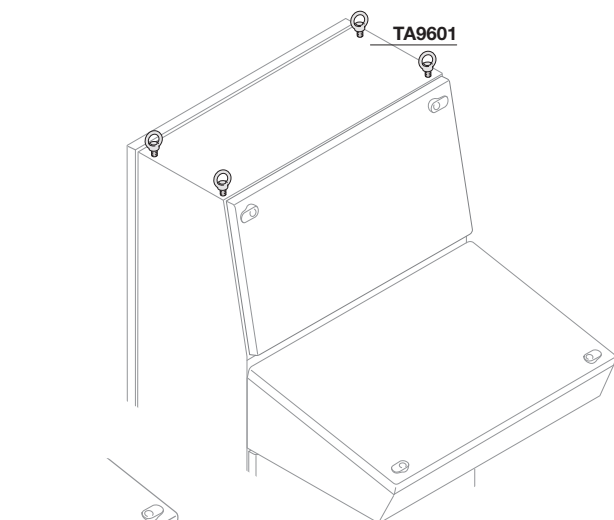
Feet and wheels

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

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

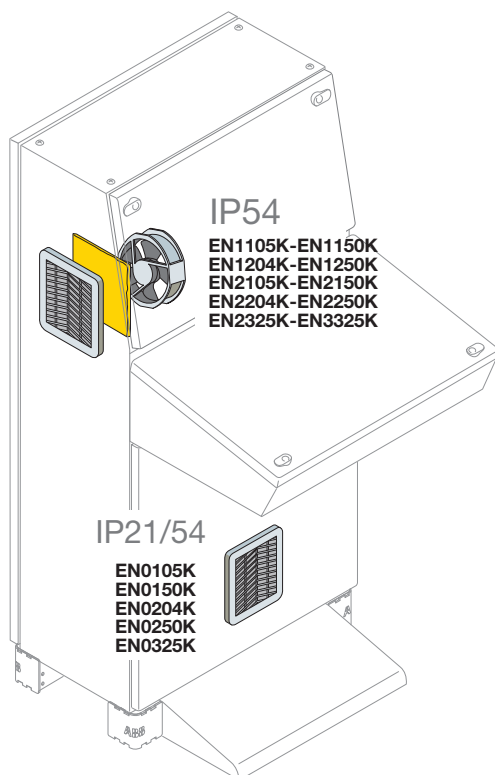
Wiring duct support brackets

Code	Description
EV1130	N°100 wiring duct support brackets on structure uprights
EV1131	N°100 wiring duct support brackets on Ø 22 pushbuttons



Ordering codes

C2 console - IP 55



Natural aeration Kit IP21/54

Gratings made of insulating material (self-extinguishing ABS UL94V-0), RAL7035 colour, complete with filter cloth with high dust storage capacity (620g/m²), able to reduce maintenance operations (cleaning by means of washing in water or beating). IP21 degree of protection without filter, IP54 with filter, fitted with pre-mounted seal.

Code	Description	Air entry surface for ventilation		Dimensions mm (WxW)
		with filter cm ²	without filter cm ²	
EN0105K	Air passage grating+filter Kit	27	6	105x105
EN0150K	Air passage grating+filter Kit	53	10	105x150
EN0204K	Air passage grating+filter Kit	121	22	204x204
EN0250K	Air passage grating+filter Kit	225	32	250x250
EN0325K	Air passage grating+filter Kit	317	55	325x325

IP54 forced ventilation Kit

Gratings made of insulating material (self-extinguishing ABS UL94V-0) RAL7035 colour, complete with filter cloth with high dust storage capacity (620g/m²), able to reduce maintenance operations (cleaning by means of washing in water or beating). IP54 degree of protection with filter, fitted with pre-mounted seal. Operating temperature -20 °C + 70 °C, noise 50 dB (A). The fans allow reversible air flow. UL507 approval.

Code	Description	Consumption [W]	Capacity [m ³ /h]
------	-------------	-----------------	------------------------------

With 230V ~ IP54 fan

EN1105K	Ventilation filter 105x105mm (WxW)	10	23
EN1150K	Ventilation filter 150x150mm (WxW)	20	57
EN1204K	Ventilation filter 204x204mm (WxW)	17	120
EN1250K	Ventilation filter 250x250mm (WxW)	29	240
EN2325K	Ventilation filter 325x325mm (WxW)	67	520

With 1150 ~ IP 54 fan

EN2105K	Ventilation filter 105x105mm (WxW)	9	23
EN2150K	Ventilation filter 150x150mm (WxW)	20	57
EN2204K	Ventilation filter 204x204mm (WxW)	17	120
EN2250K	Ventilation filter 250x250mm (WxW)	30	240
EN3325K	Ventilation filter 325x325mm (WxW)	50	520

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 be managed with cabinet code **CM....SPEC**. Remember to specify the shade of colour in the order.

Special Drilling service

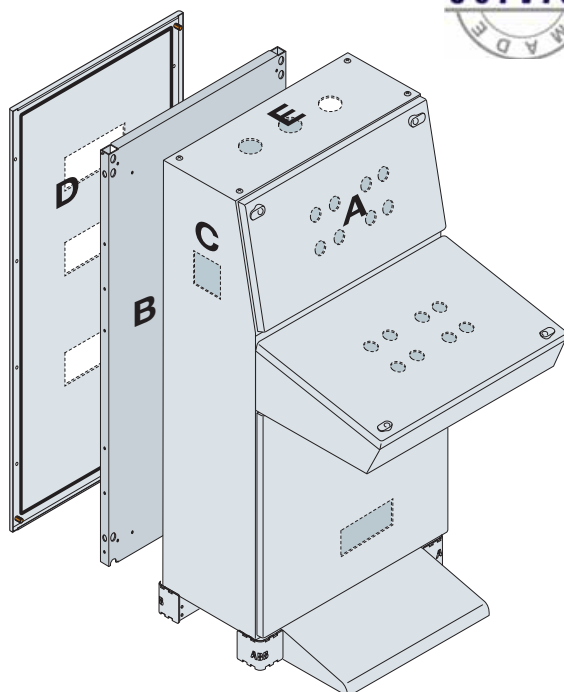
For the overall dimensions see page 9/37.

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

Special drilling service to be managed with cabinet code **CM....SPEC**. It is necessary to include the drilling layout drawing (see pag. 9/37 for useful drilling areas).

Special drilling and painting service to be managed with cabinet code **CM....SPEC**.

It is necessary to include the drilling layout drawing and specify the shade of colour in the order. **For request of fins it's necessary the management with offer.**



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

Ordering codes

C2 console - IP 55

Spare parts and inserts for closing box

Code	Description	Dimensions mm (HxW)
TE1460K	Rear panel	1400x600
TE1480K	Rear panel	1400x800
TE1410K	Rear panel	1400x1000
TE1412K	Rear panel	1400x1200
TE1416K	Rear panel	1400x1600
CB7006K	Door for base of console	700x600
CB7008K	Door for base of console	700x800
CB7010K	Door for base of console	700x1000
CB7012DK	Door for base with handle for double door version	700x600
CB7016DK	Door for base with handle for double door version	700x800
CB7012SK	Door for base with handle for double door version	700x600
CB7016SK	Door for base with handle for double door version	700x800
CC5006K	Door for desk switchboards	500x600
CC5008K	Door for desk switchboards	500x800
CC5010K	Door for desk switchboards	500x1000
CC5012K	Door for desk switchboards	500x1200
CC5016K	Door for desk switchboards	500x1600
CA4006K	Door for upper console	400x600
CA4008K	Door for upper console	400x800
CA4010K	Door for upper console	400x1000
CA4012K	Door for upper console	400x1200
CA4016K	Door for upper console	400x1600
EV1008	Door closure box complete with insert with double tongue	
EV1036	Single coded Yale insert for closure box	
EV1037	Ronis 455 insert for closure box	
EV1039	Insert with 3mm double tongue for closure box	
VB7035	RAL 7035 colour spray paint for touching up (400 ml. can)	
VB7012	Grey RAL7012 colour spray paint for plinth	
EN3105	N°6 cloths for filter 105x105mm (HxW)	
EN3150	N°6 cloths for filter 150x150mm (HxW)	
EN3204	N°6 cloths for filter 204x204mm (HxW)	
EN3250	N°6 cloths for filter 250x250mm (HxW)	
EN3326	N°6 cloths for filter 325x325mm (HxW)	



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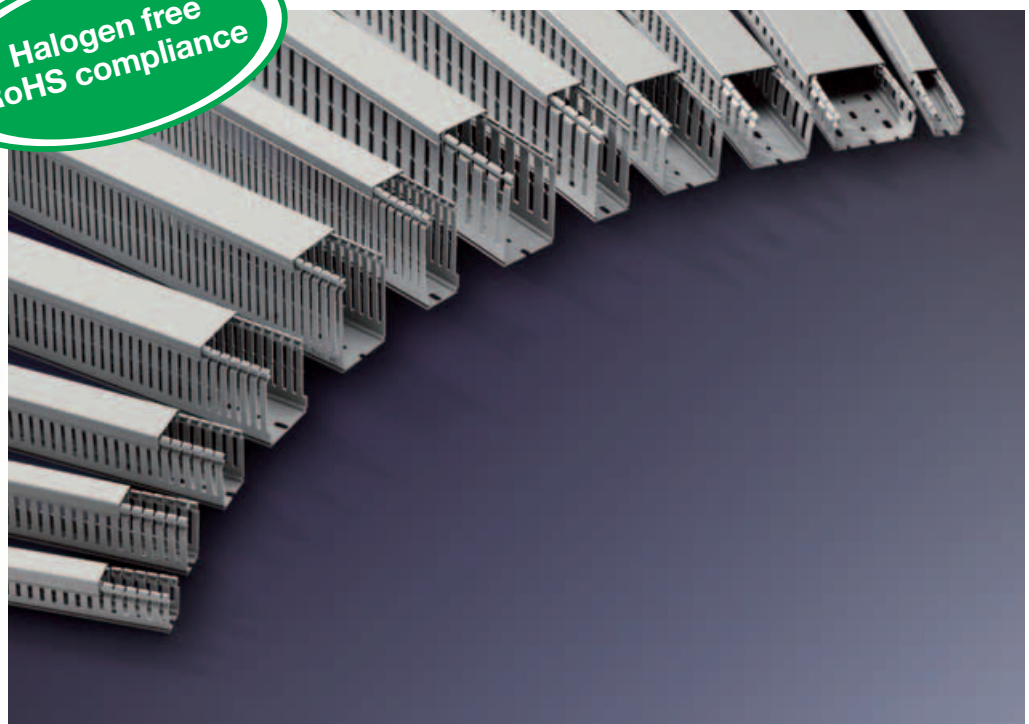
Wiring ducts

Technical details

Halogen free wiring ducts with vertical slots

- **colour RAL 7035 grey**
- halogen-free thermoplastic material in compliance with VDE 0472 Part 815
Standard: Br + Cl < 0.2 %, F < 0.1 %
- smoke toxicity index:
18.0 according to NF X70-100 and NF F16-101 Standards
- smoke opacity index*:
Dm 377.0 (2.3 mm)
V0F4 386.2 (2.3 mm) in compliance with NF X10-702 Standard (reference NF F16-101)* in the event of fire, it is extremely important for the smoke opacity level to be as low as possible during the first 4 minutes in order to allow people to move away from the areas of risk
- on the basis of the values obtained during the smoke opacity and toxicity tests, the material falls within class F2 (in compliance with NF F16-101 Standard)
- in conformity with the UNI EN ISO 11925-2 Standard (test with use of a single flame)
- insulating, shock-proof, self-extinguishing material in compliance with UL 94 V0 Standard and resistant to abnormal heat and fire up to 850°C (glow wire test) in compliance with IEC 695-2-1 Standard
- dimensional stability from -40 to +100 °C
- resistant to acids, oils and greases
- absence of burrs, rounded internal edges
- dimensions and resilience of ribs guarantee repeated splaying during the wiring phase
- controlled splaying of sides for guaranteeing a perfect seal of the cover in vertical sections and in the case of high temperatures
- two prearranged trimming lines: one line at the basis of ribs in order to remove them by bending them towards the outside direction and another line at the basis of the wall in order to cut the edge when two connection ducts are used
- cable holder mouldings halfway along the straight section of the ribs in 80 mm high ducts
- standard 2-metre length
- **trunkings comply with the EN 50085-2-3 European Standard**
- fields of application: residential, industrial and commercial
- conformità alla Direttiva RoHS

Halogen free
RoHS compliance



Wiring ducts

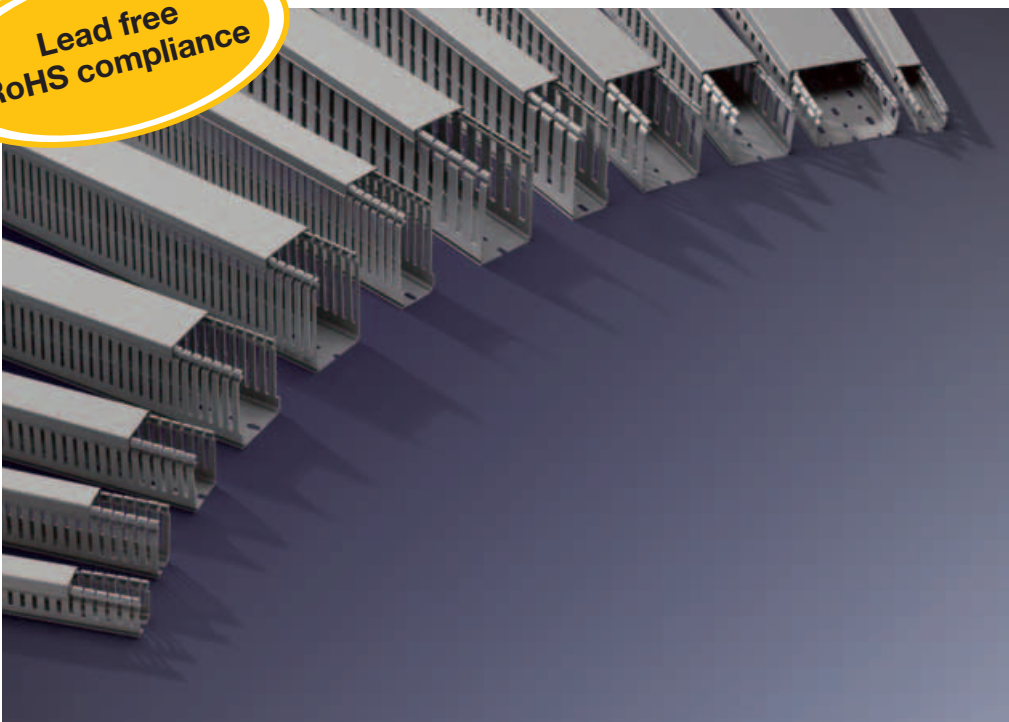
Technical details

Thermoplastic wiring ducts with vertical slots

- **colour RAL 7030 grey**
- plastic, insulating, shock-proof, self-extinguishing material in compliance with UL 94 V0 Standard and resistant to abnormal heat and fire up to 960 °C (glow wire test) in compliance with IEC 695-2-1 Standard
- minimum storage/transport temperature -5 °C
- minimum installation and usage temperature -15 °C
- maximum usage temperature +60 °C
- resistant to acids, oils and greases
- no burr, rounded-off inner edges
- new rib profile makes it easy to open and close the cover and guarantees that it clips on more safely
- designed to snap onto the Fix-O-rapid special accessory, suitable to be fastened both to DIN rail and base plate
- the ribs are cut using a special pressing process (rounding of the edges) producing wiring ducts completely free of burr and rough edges
- the dimensions and resilience of the ribs ensure repeated splaying during cabling
- controlled splaying of sides to ensure a perfect seal of the cover in the vertical sections and at high temperatures
- double trimming line, one at the base of the ribs so that they can be removed by bending them outwards and one at the base of the lateral sides so that the edge can be cut when two wiring ducts are branched
- cable holder mouldings half-way up the straight section of the ribs in 80 and 100-mm high wiring ducts
- cover can be opened without having to use a special tool
- can be mounted on horizontal or vertical surfaces even when the cover is on the bottom
- standard 2-metre length
- industrial application
- conformità alla Direttiva RoHS



**Lead free
RoHS compliance**



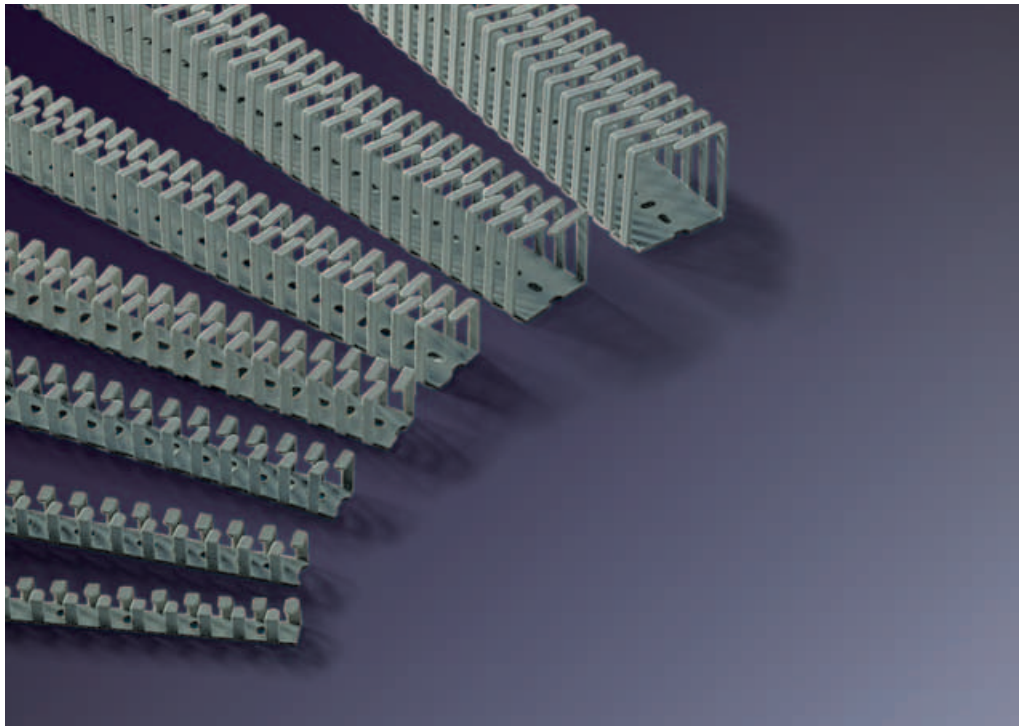
Wiring ducts

Technical details



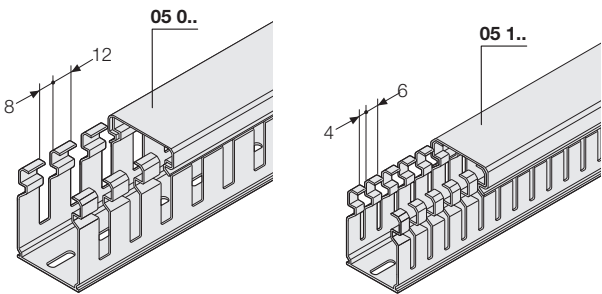
Flexible thermoplastic wiring ducts

- **colour RAL 7040 grey**
- plastic, insulating, shock-proof, self-extinguishing material in compliance with UL 94 V2 Standard and resistant to permanent temperature of 80 °C and peaks up to 110 °C in compliance with IEC 216 Standards
- resistant to acids, oils and greases
- ribs alternate and angle slightly inwards to make it easier to insert and extract cables
- no covers so that cables can be constantly monitored
- possibility of fastening using screws and rivets or bi-adhesive tape which sticks strongly to the steel (pre-mounted)
- suitable for connecting panels and doors with compass-opening mechanisms and in general for applications where cabling is subject to bending and twisting
- **standard 500-mm length**
- industrial application



Ordering codes

Halogen free wiring ducts with vertical slots



Halogen free wiring ducts with vertical slot grey RAL 7035

Slot 8x12mm	Slot 4x6mm	Dimensions BxH (mm)	Unit/pack- meters
1SL9019A00	1SL9119A00	15x17	46
1SL9033A00	1SL9133A00	25x30	58
1SL9035A00	1SL9135A00	40x30	38
1SL9037A00	1SL9137A00	60x30	52
1SL9043A00	1SL9143A00	25x40	48
1SL9045A00	1SL9145A00	40x40	30
1SL9047A00	1SL9147A00	60x40	40
1SL9049A00	1SL9149A00	80x40	32
1SL9051A00	1SL9151A00	100x40	24
1SL9053A00	1SL9153A00	120x40	20
1SL9063A00	1SL9163A00	25x60	34
1SL9065A00	1SL9165A00	40x60	22
1SL9067A00	1SL9167A00	60x60	32
1SL9069A00	1SL9169A00	80x60	24
1SL9071A00	1SL9171A00	100x60	20
1SL9073A00	1SL9173A00	120x60	14
1SL9083A00	1SL9183A00	25x80	28
1SL9085A00	1SL9185A00	40x80	36
1SL9087A00	1SL9187A00	60x80	24
1SL9089A00	1SL9189A00	80x80	16
1SL9091A00	1SL9191A00	100x80	16
1SL9093A00	1SL9193A00	120x80	12

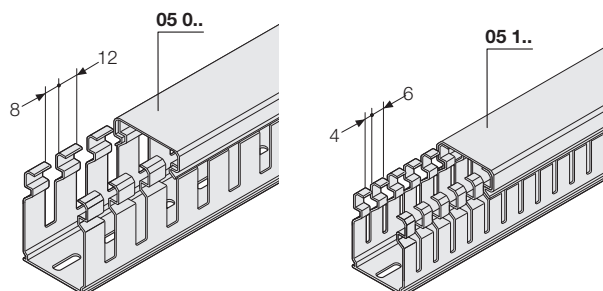
Spare covers

Article	Description	Unit/pack-meters
1SL5316A00	Trunking base 15mm	2/200
1SL5317A00	Trunking base 25mm	2/60
1SL5318A00	Trunking base 40mm	2/40
1SL5319A00	Trunking base 60mm	2/24
1SL5320A00	Trunking base 80mm	2/16
1SL5321A00	Trunking base 100mm	2/48
1SL5322A00	Trunking base 120mm	2/36

For further information on the wiring ducts, please contact the Products for installation division of ABB SACE (tel. 0424-478.200), visit the Business on line site (<http://bol.it.abb.com>), or consult the ABB 1SLC800001D0904 technical catalogue.

Ordering codes

Lead free thermoplastic wiring ducts with vertical slots



Wiring ducts made of lead free thermoplastic material with grey RAL 7030 slots

Slot 8x12mm	Slot 4x6mm	Dimensions BxH (mm)	Weight (kg/m)	Unit/pack-meters
05 019	05 119	15x17	0.06	92
05 033	05 133	25x30	0.21	116
05 035	05 135	40x30	0.27	80
05 037	05 137	60x30	0.38	52
05 043	05 143	25x40	0.25	96
05 045	05 145	40x40	0.31	60
05 047	05 147	60x40	0.46	40
05 049	05 149	80x40	0.47	32
05 051	05 151	100x40	0.55	24
05 053	05 153	120x40	0.65	20
05 063	05 163	25x60	0.24	68
05 065	05 165	40x60	0.34	44
05 067	05 167	60x60	0.47	32
05 069	05 169	80x60	0.52	24
05 071	05 171	100x60	0.59	18
05 073	05 173	120x60	0.73	14
05 083	05 183	25x80	0.29	56
05 085	05 185	40x80	0.38	36
05 087	05 187	60x80	0.50	24
05 089	05 189	80x80	0.59	16
05 091	05 191	100x80	0.68	16
05 093	05 193	120x80	0.89	12
05 094	05 194	25x100	0.46	40
05 095	05 195	40x100	0.53	28
05 096	05 196	60x100	0.73	20
05 097	05 197	80x100	0.91	14
05 098	05 198	100x100	1.06	8
05 099	05 199	150x100	1.37	8

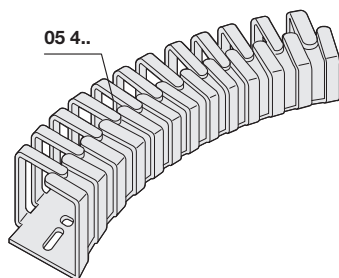
Spare covers

Article	Description	Unit/pack-meters
05 300	Trunking base 15mm	2/200
05 302	Trunking base 25mm	2/60
05 304	Trunking base 40mm	2/40
05 306	Trunking base 60mm	2/24
05 308	Trunking base 80mm	2/16
05 310	Trunking base 100mm	2/48
05 312	Trunking base 120mm	2/36
05 314	Trunking base 150mm	2/28

For further information on the wiring ducts, please contact the Products for installation division of ABB SACE (tel. 0424-478.200), visit the Business on line site (<http://bol.it.abb.com>), or consult the ABB 1SLC800001D0904 technical catalogue.

Ordering codes

Flexible thermoplastic wiring ducts



Flexible wiring duct

Slot pitch 7.5/5.

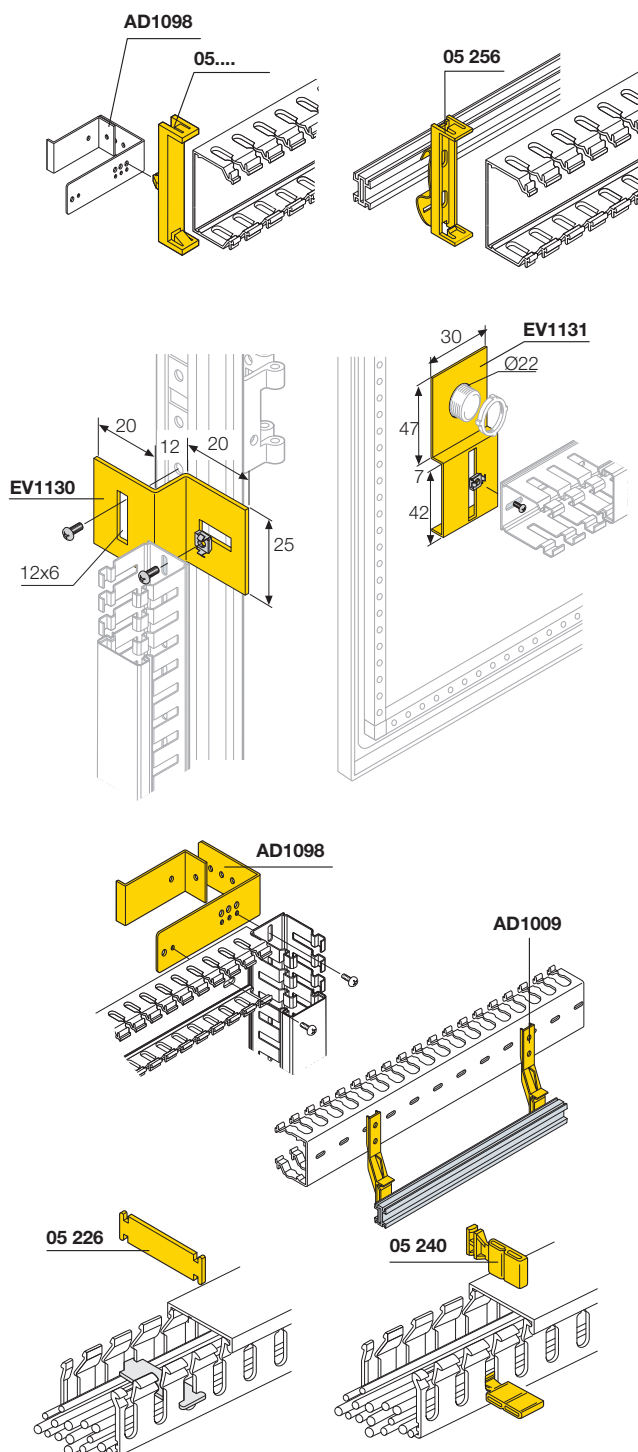
Standard length 500 mm.

Article	Dimensions WxH (mm)	Weight (kg/piece)	Unit/pack-pieces
05 400	12.5x12.5	0.011	112
05 402	16x16	0.014	84
05 405	20x20	0.024	112
05 410	25x25	0.033	70
05 415	30x30	0.044	50
05 420	40x40	0.066	50
05 425	50x50	0.100	32

For further information on the wiring ducts, please contact the Products for installation division of ABB SACE (tel. 0424-478.200), visit the Business on line site (<http://bol.it.abb.com>), or consult the ABB 1SLC800001D0904 technical catalogue.

Ordering codes

Accessories for wiring ducts



Fix-O-rapid

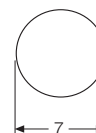
Rapid clip for DIN rail

Article	Description (mm)	Unit/pack-pieces
05 250	Trunking base 25 mm	20/600
05 252	Trunking base 40 mm	20/600
05 254	Trunking base 60 mm	20/600
05 256	Trunking base 80 mm	20/240
05 258	Trunking base 100 mm	20/240
05 260	Trunking base 120 mm	20/240
05 262	Trunking base 150 mm	20/240

Rapid clip for base plate

Article	Description (mm)	Unit/pack-pieces
05 270	Trunking base 25 mm	20/600
05 272	Trunking base 40 mm	20/600
05 274	Trunking base 60 mm	20/600
05 276	Trunking base 80 mm	20/240
05 278	Trunking base 100 mm	20/240
05 280	Trunking base 120 mm	20/240
05 282	Trunking base 150 mm	20/240

Can be snapped onto holes as shown:



Wiring duct support brackets

Code	Description
EV1130	N°100 wiring duct support brackets on structure uprights
EV1131	N°100 wiring duct support brackets on pushbuttons Ø22mm

Supports for wiring duct

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

Duct shears

Article	Unit/pack-pieces
05 265	1

Rivet fastener

Article	Description	Unit/pack-pieces
05 266	For ø 6 mm rivets (black colour)	1/12
05 268	For ø 4 mm rivets (green colour)	1/12

Plastic rivet

Article	Description	Unit/pack-pieces
05 214	Ø 4mm	100
05 216	Ø 6mm	100

Plastic cable retainer

Article	Description	Unit/pack-pieces
05 224	Trunking base 40 mm	100
05 226	Base canale 60mm	100
05 228	Base canale 80mm	100
05 230	Base canale 100/120mm	100

Plastic label tag

Suitable for wiring ducts with 8/12 mm slots only.

Article	Unit/pack-pieces
05 240	100

For further information on the wiring ducts, please contact the Products for installation division of ABB SACE (tel. 0424-478.200), visit the Business on line site (<http://bol.it.abb.com>), or consult the ABB 1SLC800001D0904 technical catalogue.



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In-depth technical information

Gemini switchboards - Conformity with standards and technical characteristics

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 – EN61439-1-2 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) and new EN 61439-1-2 standard.

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	
Gemini with transparent door	1SL0211A00	1SL0212A00	1SL0213A00	1SL0214A00	1SL0215A00	1SL0216A00
Gemini with opaque door	1SL0201A00	1SL0202A00	1SL0203A00	1SL0204A00	1SL0205A00	1SL0206A00
External dimensions WxHxD (mm)	335x400x210	460x550x260	460x700x260	590x700x260	590x855x360	840x1005x360
Internal dimensions WxHxD (mm)	250x300x180	375x450x230	375x600x230	500x600x230	500x750x330	750x900x330
IP degree	IP66	IP66	IP66	IP66	IP66	IP66
Double isolation	yes	yes	yes	yes	yes	yes
IK degree	10	10	10	10	10	10
GWT (°C)	750	750	750	750	750	750
Operating temperature	-25° C ... +100° C	-25° C ... +100° C	-25° C ... +100° C	-25° C ... +100° C	-25° C ... +100° C	-25° C ... +100° C
No. of DIN modules	24 (12x2)	54 (18x3)	72 (18x4)	96 (24x4)	120 (24x5)	216 (36x6)
No. of vertical modules (H=150 mm)	2	3	4	4	5	6
Material	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic
Color	Grey RAL7035	Grey RAL7035	Grey RAL7035	Grey RAL7035	Grey RAL7035	Grey RAL7035
Fast wiring system	Unifix L	Unifix L	Unifix L	Unifix L	Unifix L	Unifix L
No. of locks	2	2	2	2	3	3
Rated frequency	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz
STANDARD CEI 23-51⁽¹⁾						
- Maximum dissipation power ⁽²⁾	45 W	72 W	85 W	102 W	156 W	248 W
STANDARD CEI EN 60439-1 – EN61439-1-2						
Over-temperature (par. 8.2.1)⁽³⁾						
- 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
Impulse withstand (par. 8.2.2)						
- 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
- Rated insulation voltage 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

⁽¹⁾ 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.

⁽¹⁾ Maximum dissipation power data was obtained following the indications of **Standard CEI 23-49**, with a temperature difference of Dt=30 °C.

⁽³⁾ Note to paragraph 8.2.1 of Standard CEI EN 60439-1 / IEC 61439-1-2

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 60529 Standards.

With IP66 degree of protection, Gemini switchboards are totally protected against the penetration of dusts and sprays of seawater.

1st figure: protection against solid bodies

0	No protection
1	Protection against the penetration of solid bodies with a diameter of over 50 mm
2	Protection against the penetration of solid bodies with a diameter of over 12 mm or a length of over 80 mm
3	Protection against the penetration of solid bodies with a diameter or thickness of over 2.5 mm
4	Protection against the penetration of solid bodies with a diameter or thickness of over 1.0 mm
5	Protection against the penetration of dusts
6	Total protection against the penetration of dusts

1st number defined by Standards EN 60 529

2nd figure: protection against liquids

0	No protection
1	Protection against the penetration of drops of water falling vertically
2	Protection against the penetration of drops of water falling at an angle of up to 15° from vertical
3	Protection against the penetration of drops of water falling at an angle of up to 60° from vertical
4	Protection against the penetration of splashes of water from all directions
5	Protection against the penetration of water sprayed by a hose from all directions
6	Protection against the penetration of sea water
7	Protection against the penetration of water during temporary immersion
8	Protection against the penetration of water during continual immersion

2nd number defined by Standards CEI 70-1 - IEC 60529

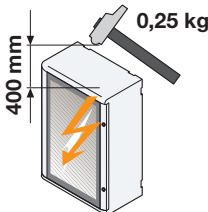
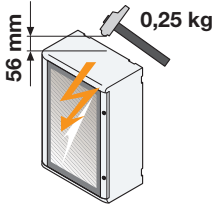
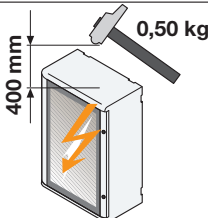
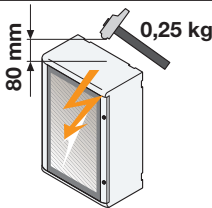
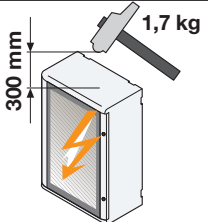
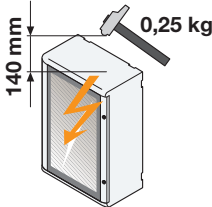
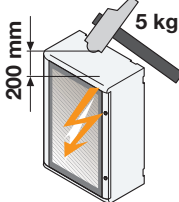
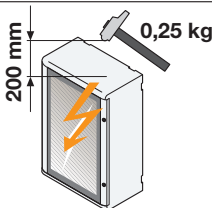
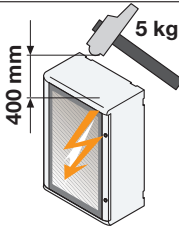
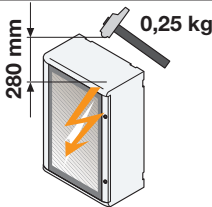
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In-depth technical information

Gemini switchboards - Mechanical impact strength IK

IK degree of resistance to impacts

The IK degree is expressed in Joules in compliance with Standard IEC 62262.

IK 0  No protection against impacts	IK 06  Resistance to impacts with impact energy up to 1.00 J
IK 01  Resistance to impacts with impact energy up to 0.150 J	IK 07  Resistance to impacts with impact energy up to 2.00 J
IK 02  Resistance to impacts with impact energy up to 0.200 J	IK 08  Resistance to impacts with impact energy up to 5.00 J
IK 03  Resistance to impacts with impact energy up to 0.350 J	IK 09  Resistance to impacts with impact energy up to 10.00 J
IK 04  Resistance to impacts with impact energy up to 0.500 J	IK 10  Gemini Resistance to impacts with impact energy up to 20.00 J
IK 05  Resistance to impacts with impact energy up to 0.700 J	

In-depth technical information

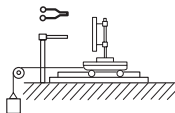
Gemini switchboards - Double insulation and self-extinguishing tests

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	Equipment required	Compliance with Standards	Purpose of the test	Test results of the test	Test conditions		
					Heat	Length	elements
GLOW-WIRE TEST		IEC 695-2-1	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
		CEI 50-11					

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		●
Mineral 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

1SL0205017F0001

In-depth technical information

Gemini switchboards - Instruction for disposal

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]	Steel sheet [mm] thick
SR2 Enclosures	12/10		12/10	4	20/10
AM2 cabinets	15/10		15/10	4	25/10
IS2 - IS2 EMC Enclosures	12/10	15/10	20/10	4	25/10
C2 Console	15/10		15/10		25/10
Painting					
Structure colour	Grey orange peel RAL 7035				
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 7035 colour, 60/70 micron total thickness.				
	Oven polymerisation at 180° C.				
Characteristics of the paint	Binder:	epoxy polyester			
	Specific gravity:	1,61g/cm³			
	Theoretical spread:	10.4 m²/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

IS2 cabinet vibration tests

The results of the vibration tests which our standard IS2 automation enclosures have undergone are significant, above all when the enclosures are installed on ships, in seismic areas and in military areas.

The vibration tests on the standard IS2 enclosure s have produced the following positive result:

with respect to a stress 0.1 g in a range of frequencies between 10 and 500Hz, the maximum acceleration found inside the panel board is less than 0.5 g.

Range of frequency	10-500Hz
Stress	0,1 g
Maximum acceleration reached (inside the enclosure)	<0,5 g

We have also verified that the IS2 standard enclosure has linear behaviour even when the level of acceleration is increased up to 1 g in the same range of frequencies.

Antiseismic tests enclosures IS2

Enclosure IS2 dimensions 2000x800x800mm (HXDXW) with 435 kh of load. Enclosures have been tested according with the Standard IEC 60068-2-57 "Environmental testing Part. 2: Tests method. Vibration - Time history method" and with the Standard IEEE Std 693 "Recommended Practice for Seismic Design of Substation".

Similar application fields*

Enclosure without specific accessories

According to the Standard	Seismic Zone	Magnitudo scala
IEC 60068-2-57 - IEEE Std 693	IEC 68-3-3	Richter
Shock level test up to 0.5 g	Zone 4	7

* Values of different scales are indicative.

Enclosure with specific accessories AS0001+crosspieces+reinforced plinth

According to the Standard	Seismic Zone	Magnitudo scala
IEC 60068-2-57 - IEEE Std 693	IEC 68-3-3	Richter
Shock level test up to 0.75 g	Zone 4	7,5

In-depth technical information

Declaration of conformity

ABB SACE declaration of conformity

Conformity with the CEI EN 62208, EN 60439-1 and new EN61439-1 and 2 standards

The enclosures have undergone the type tests foreseen by the EN 62208 and EN 60439-1 and new 61439-1 and 2 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 and new 61439-1 and 2 standards

"Low voltage protection switchgear and controlgear assemblies".

IS2 Enclosures

Rated characteristics:

Rated service voltage U_n	up to 1000V AC - 1500V DC
Rated insulation voltage U_i	up to 1000V AC - 1500V DC
Rated impulse withstand voltage U_{imp}	8 kV
Rated frequency f_n	50-60Hz
Degree of protection	IP65 with door and fixed flanged IP54 with ventilated/air-conditioned door and panels - with EMC door version IP41 with external partial height doors
Mechanical impact strength IK	10 with blind door 09 with glazed door - 08 EMC version glazed door
Rated short-time current I_{cw}	65 kA
Rated max.peak current I_{pk}	143 kA
Installation condition	Internal cabinet

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.

	Enclosures SR2	Console C2	Cabinets AM2
Rated service voltage U_n	up to 1000V AC - 1500V DC	up to 1000V AC - 1500V DC	up to 1000V AC - 1500V DC
Rated insulation voltage U_i	up to 1000V AC - 1500V DC	up to 1000V AC - 1500V DC	up to 1000V AC - 1500V DC
Rated frequency f_n	50-60Hz	50-60Hz	50-60Hz
IP Degree of protection			
with door	65	55	65
with hinged cover			
with screwed cover			
EMC version	54		
Mechanical impact strength IK			
with blind door	10	10	10
with glazed door	09		09

When correctly selected and assembled, as per the indications given in the catalogue and in the instruction manual, they allow of electrical panel boards complying with the EN 60439-1 Standard and the new EN 61439-1 and 2 Standard "Low voltage controlgear and switchgear for assemblies" and the CEI EN 60204-1 Standard "Safety of machinery – Electrical equipment of machines", to be built, based on what is foreseen under the Low Voltage Directive of the European Community 2006/95/CE (which takes place of 73/23/CEE directive).

The above is valid if the electrical panel board is designed and constructed:

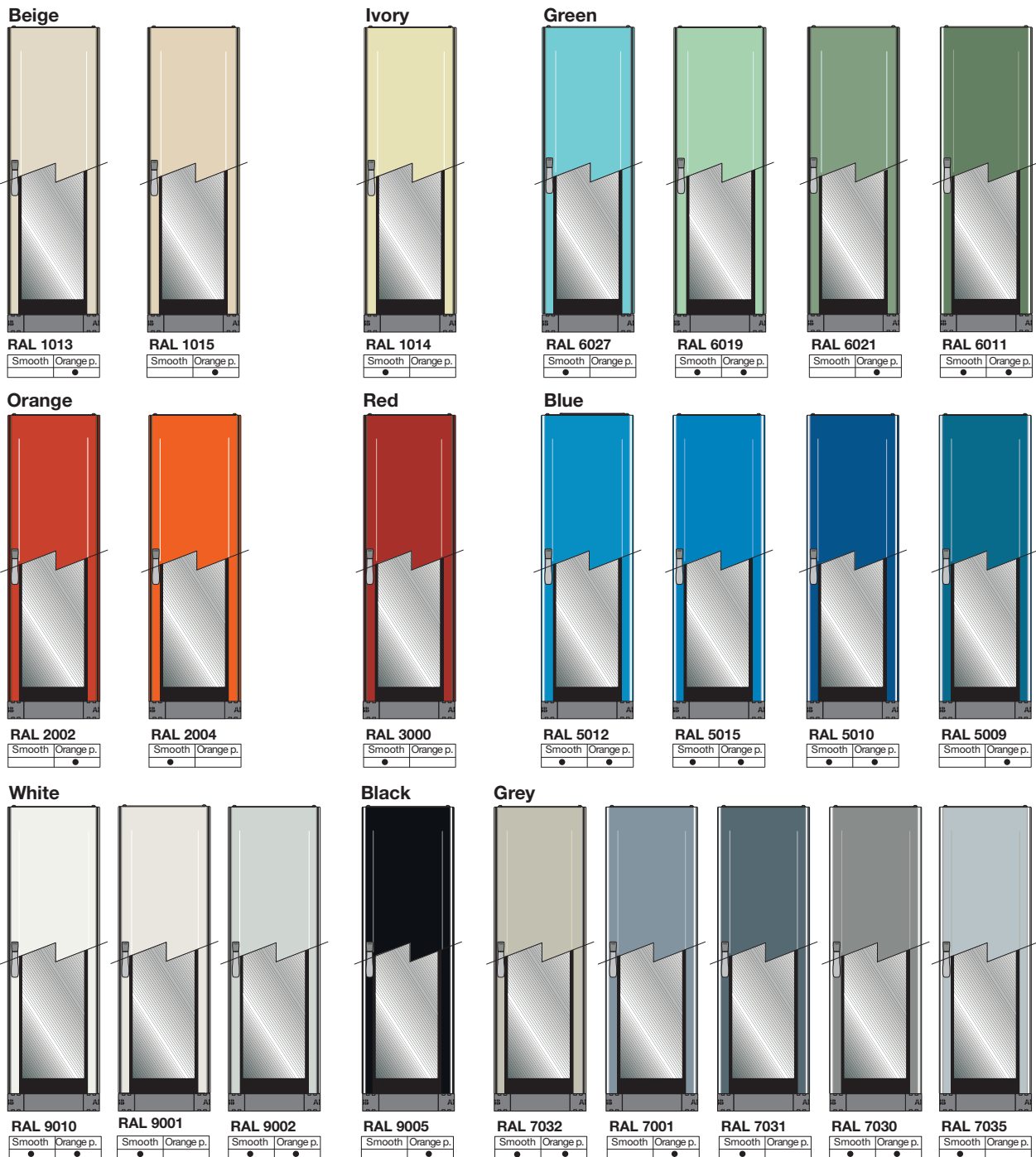
- selecting the materials based on the performances indicated in the ABB catalogues;
- sizing the conductors according to the prescriptions of the EN 60439-1 Standard and the new EN 61439-1 and 2 Standard, and Standard and CEI 64-8;
- carrying out the individual tests foreseen under the EN 60439-1 Standard and the new Standard EN 61439-1 and 2 Standard with a positive outcome.

In-depth technical information

Standardised RAL colours (on request)

Colour available

On request, colours other than the standard RAL 7035 orange peel one are available, using the same painting cycle (for other types of colours or paints, please contact ABB).



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 ⁽¹⁾
Blistering	no	no	no	no	no	no	no	no

⁽¹⁾ 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

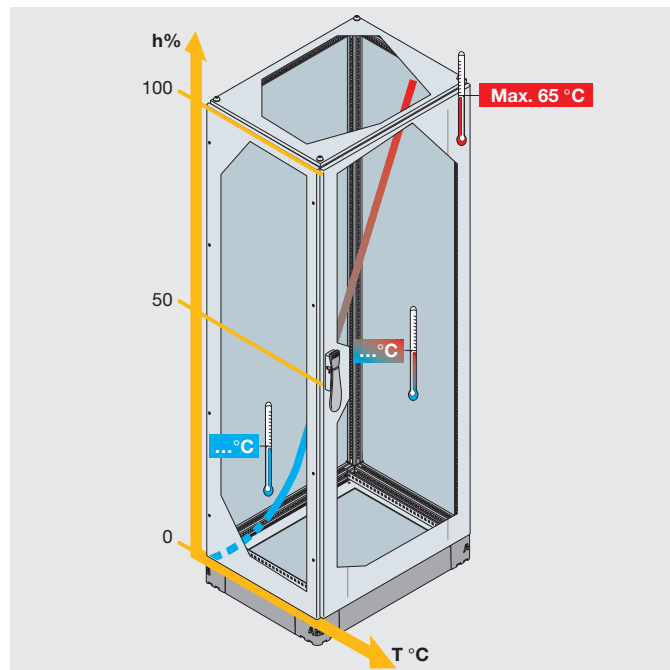
Temperature-rise (Ref. Standard EN 60439-1 par. 8.2.1 and new EN 61439-1-2 Standard). The following tables show the thermal dissipation values referred to all the dimensions of the enclosures and to the type of installation, coming from the type tests carried out. The dissipating power data (in Watts) depend on the admissible overtemperature inside the panel board in the upper Part, and must be compared with the sum of the powers dissipated by all the components installed inside the panel board.

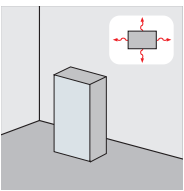
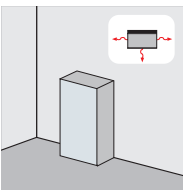
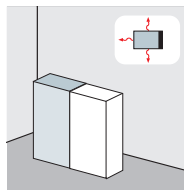
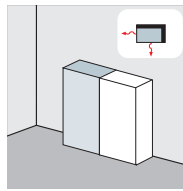
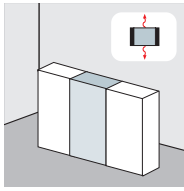
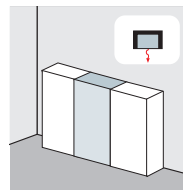
Use of the dissipated power tables

The dissipated power value of a cabinet depends on the maximum temperature (**T** max) and on the admissible overtemperatures (EN60439-1 Standard and new EN 61439-1-2 Standard).

Example

If an ambient temperature of 35 °C is considered, the value of dissipating power must be read in correspondence with the maximum admissible overtemperature (ΔT), which is 30 °C if a temperature at the top of the panel board of 65 °C is acceptable.



H=1800mm				Single enclosure exposed on all sides				Wall-mounted single enclosure				First or last enclosure exposed				Wall-mounted first or last enclosure				Central enclosure exposed				Wall-mounted central enclosure																																			
																																																											
Code		Dimensions		Maximum dissipation power (W)																																																							
				Overtemperature values ΔT																																																							
				25 °C				30 °C				35 °C				40 °C				25 °C				30 °C				35 °C				40 °C				25 °C				30 °C				35 °C				40 °C											
				H (mm)				W (mm)				D (mm)																																															
				ES1844K				1800				400				400				161				202				245				289				147				185				224				264											
				ES1845K				1800				400				500				190				238				289				341				177				222				268				317											
				ES1846K				1800				400				600				219				275				333				393				207				259				314				371											
				ES1848K				1800				400				800				283				355				430				508				270				339				411				485											
				ES1840K				1800				400				1000				346				435				526				621				336				421				510				602											
				ES1864K				1800				600				400				219				275				333				393				197				247				300				354											
				ES1865K				1800				600				500				256				321				389				460				233				293				355				419											
				ES1866K				1800				600				600				292				367				444				524				269				337				409				483											
				ES1868K				1800				600				800				367				461				558				659				346				434				526				621											
				ES1860K				1800				600				1000				425				533				646				762				421				529				640				756											
				ES1884K				1800				800				400				283				355				430				508				250				314				380				449											
				ES1885K				1800				800				500				323				406				492				580				291				365				443				523											
				ES1886K				1800				800				600				367				461				558				659				335				420				509				601											
				ES1888K				1800				800				800				431				541				655				774				422				529				641				757											
				ES1880K				1800				800				1000				482				605				733				865				471				590				715				844											
				ES1804K				1800				1000				400				346				435				526				621				304				382				463				546											
				ES1805K				1800				1000				500				395				496				601				709				353				443				537				634											
				ES1806K				1800				1000				600				425				533				646				762				401				503				609				719											
				ES1808K				1800				1000				800				482				605				733				865				464				583				706				833											
				ES1800K				1800				1000				1000				543				681				825				974				520				653				791				934											
				ES1824K				1800				1200				400				403				506				613				723				362				454				550				650											
				ES1827K				1800				1200				500				438				549				665				786				415				520				630				744											
				ES1826K				1800				1200				600				471				591				715				845				448				562				680				803											
				ES1828K				1800				1200				800				538				674				817				964				508				637				772				911											
				ES1875K				1800				1600				500				533				669				810				956				466				585				708				836											
				ES1876K				1800				1600				600				592				743				900				1063				524				658				797				941											
				ES1878K				1800				1600				800				705				884				1071				1264				636				798				966				1141											

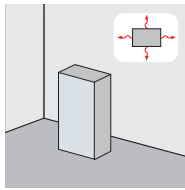
Values also valid for the versions with glazed door.

In-depth technical information

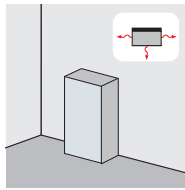
Dissipating power – IS2/IS2EMC Enclosures

H=2000mm

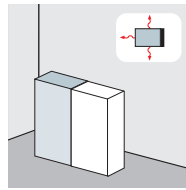
Single enclosure exposed on all sides



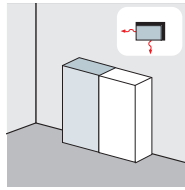
Wall-mounted single enclosure



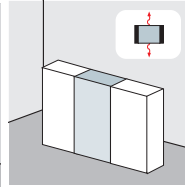
First or last enclosure exposed



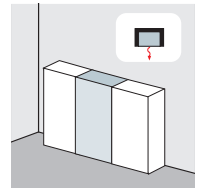
Wall-mounted first or last enclosure



Central enclosure exposed



Wall-mounted central enclosure



Code Dimensions

Code	Dimensions																														
	H	W	D	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	25 °C	30 °C	35 °C	40 °C	25 °C	30 °C	35 °C	40 °C
ES2044K	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	127	159	193	228
ES2045K	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	149	187	227	268
ES2046K	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	171	215	260	307
ES2048K	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	217	272	330	389
ES2040K	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	264	331	401	473
ES2064K	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	182	228	277	327
ES2065K	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	209	263	318	376
ES2066K ⁽¹⁾	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	237	298	361	426
ES2068K ⁽²⁾	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	294	369	447	528
ES2060K	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	353	443	537	634
ES2084K	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	240	301	365	430
ES2085K	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	273	342	414	489
ES2086K ⁽³⁾	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	307	385	466	550
ES2089K ⁽⁴⁾	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	375	471	570	673
ES2080K	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	442	554	671	792
ES2004K	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	300	376	455	537
ES2007K	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	340	426	516	610
ES2006K	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	380	476	577	681
ES2008K	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	456	572	693	819
ES2000K	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	499	626	758	895
ES2024K	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	363	455	551	651
ES2025K	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	409	513	622	734
ES2026K	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	451	566	686	810
ES2028K	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	502	629	762	900
ES2075K	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	471	591	715	845
ES2076K	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	520	653	791	934
ES2078K	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	619	776	941	1110

⁽¹⁾ Values also valid for ES2066EMCK. ⁽²⁾ Values also valid for ES2086EMCK. ⁽³⁾ Values also valid for ES2068EMCK. ⁽⁴⁾ Values also valid for ES2089EMCK.

H=2200mm

Code Dimensions

	H W D			Overtemperature values ΔT																											
	(mm)	(mm)	(mm)	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	25 °C	30 °C	35 °C	40 °C	25 °C	30 °C	35 °C	40 °C
ES2244K	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				
ES2245K	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				
ES2246K	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				
ES2248K	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				
ES2240K	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				
ES2264K	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				
ES2265K	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				
ES2266K	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				
ES2268K	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				
ES2260K	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				
ES2284K	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				
ES2285K	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				
ES2287K	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				
ES2288K	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				
ES2280K	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				
ES2204K	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				
ES2205K	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				
ES2206K	2200	1000	600	453	568	689	813	429	538	651	769	434	545	660	779	417	523	633	747	422	529	641	757	402	505	612	722				
ES2208K	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				
ES2200K	2200	1000	1000	621	779	943	1114	578	725	879	1037	566	710	860	1015	538	674	817	964	526	660	799	944	514	645	782	923				
ES2224K	2200	1200	400	428	537	651	768	397	498	603	712	421	528	640	755	394	494	598	706	410	515	623	736	385	483	585	690				
ES2225K	2200	1200	500	472	592	717	846	438	549	665	785	455	571	692	817	428	538	651	769	445	558	676	799	430	540	654	772				
ES2226K	2200	1200	600	517	649	786	928	478	599	726	857	494	619	750	886	463	581	704	831	478	599	726	857	461	578	700	827				
ES2228K	2200	1200	800	614	770	932	1101	561	703	852	1006	571	716	867	1024	532	667	808	954	540	677	820	968	518	649	787	929				
ES2275K	2200	1600	500	613	769	932	1100	532	667	808	954	593	744	901	1064	513	643	779	920	568	713	863	1019	501	628	761	898				
ES2276K	2200	1600	600	675	846	1025	1210	591	742	898	1061	649	814	986	1164	567	711	861	1016	616	773	936	1106	549	689	835	985				
ES2279K	2200	1600	800	794	996	1206	1424	719	902	1093	1291	757	950	1150	1358	680	853	1033	1220	719	902	1093	1291	654	820	993	1173				

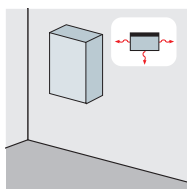
In-depth technical information

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



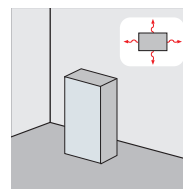
Code	Dimensions			Maximum dissipating power (W)			
	H (mm)	W (mm)	D (mm)	25 °C	30 °C	35 °C	40 °C
SRN3215K	300	200	150	18	22	26	31
SRN3315K	300	300	150	23	29	35	42
SRN3415K	300	400	150	34	42	51	60
SRN4315K	400	300	150	30	37	45	53
SRN4320K	400	300	200	33	42	51	60
SRN4420K	400	400	200	42	52	63	74
SRN4620K ⁽¹⁾	400	600	200	59	74	89	105
SRN5320K	500	300	200	39	49	59	69
SRN5420K	500	400	200	47	59	72	85
SRN5420VK	500	400	200	47	59	72	85
SRN5425K	500	400	250	52	66	79	94
SRN5425VK	500	400	250	52	66	79	94
SRN6420K	600	400	200	54	67	82	96
SRN6420VK	600	400	200	54	67	82	96
SRN6425K	600	400	250	59	74	89	105
SRN6425VK	600	400	250	59	74	89	105
SRN6625K ⁽²⁾	600	600	250	79	99	120	141
SRN7520K	700	500	200	68	86	104	122
SRN7520VK	700	500	200	68	86	104	122
SRN7525K	700	500	250	74	93	113	133
SRN7525VK	700	500	250	74	93	113	133
SRN8625K	800	600	250	94	118	143	169
SRN8625VK	800	600	250	94	118	143	169
SRN8630K	800	600	300	107	134	162	191
SRN8630VK	800	600	300	107	134	162	191
SRN8830K	800	800	300	114	142	173	204
SRN10625K	1000	600	250	95	118	143	169
SRN10625VK	1000	600	250	95	118	143	169
SRN10630K	1000	600	300	103	130	156	185
SRN10630VK	1000	600	300	103	130	156	185
SRN10830K ⁽³⁾	1000	800	300	142	178	215	254
SRN10830VK	1000	800	300	142	178	215	254
SRN12630K	1200	600	300	123	155	187	220
SRN12630VK	1200	600	300	123	155	187	220
SRN12830K	1200	800	300	168	210	255	300
SRN12830VK	1200	800	300	168	210	255	300

⁽¹⁾ Values also valid for **SR4620EMCK**. ⁽²⁾ Values also valid for **SR6625EMCK**.

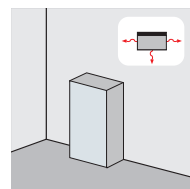
⁽³⁾ Values also valid for **SR10830EMCK**.

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
TM2063K	1000	600	300	110	137	166	197	102	128	155	183
TM2064K	1000	600	400	137	171	208	245	129	162	196	231
TM2083K	1000	800	300	146	184	222	263	139	174	211	250
TM2003FV5K	1000	1000	300	190	238	289	341	177	223	270	319
TM2084K	1000	800	400	179	224	272	321	171	215	260	308
TM2004K	1000	1000	400	237	297	360	425	217	273	330	390
TM2024K	1000	1200	400	285	358	434	512	262	329	399	471
TM2074K	1000	1600	400	399	501	607	717	343	430	521	615
TM2263K	1200	600	300	130	163	197	233	118	148	180	212
TM2283FV4K	1200	800	300	176	221	268	317	161	202	245	290
TM2223K	1200	1200	300	281	352	427	504	255	320	387	458
TM2264K	1200	600	400	164	205	249	294	150	188	228	269
TM2284K	1200	800	400	223	280	339	400	202	254	308	363
TM2204K	1200	1000	400	272	341	413	488	253	317	385	454
TM2224K	1200	1200	400	327	411	497	587	301	378	458	541
TM2463K	1400	600	300	148	186	225	266	136	170	206	244
TM2464K	1400	600	400	178	224	271	320	175	220	266	314
TM2465K	1400	600	500	234	294	357	421	211	265	321	379
TM8483K	1400	800	300	195	245	297	350	186	233	282	333
TM2484K	1400	800	400	249	313	379	447	230	289	350	414
TM2485K	1400	800	500	300	376	456	538	271	340	412	487
TM2403K	1400	1000	300	257	323	391	461	236	297	359	424
TM2404K	1400	1000	400	303	380	460	543	284	357	432	511
TM2424K	1400	1200	400	354	444	538	635	332	417	505	596
TM2405K	1400	1000	500	346	434	526	621	325	408	494	584
TM2425K	1400	1200	500	390	489	592	699	362	454	551	650
TM2663K	1600	600	300	176	221	268	316	151	190	230	272
TM2664K	1600	600	400	220	277	335	396	194	244	295	349
TM2665K	1600	600	500	259	325	394	465	234	293	355	420
TM2683K	1600	800	300	244	307	371	439	209	263	318	376
TM2684K	1600	800	400	284	357	432	510	253	317	384	453
TM2685K	1600	800	500	317	398	483	570	295	371	449	530
TM2604K	1600	1000	400	331	415	503	594	308	387	469	554
TM2624K	1600	1200	400	379	476	577	681	347	435	527	622
TM2685FV4K	1600	800	500	317	398	483	570	295	371	449	530
TM2605K	1600	1000	500	366	460	557	657	342	429	520	614
TM2625K	1600	1200	500	416	522	632	746	383	481	582	688
TM2864K	1800	600	400	232	291	353	416	197	247	300	354
TM2865K	1800	600	500	256	321	389	460	233	293	355	419
TM2884K	1800	800	400	293	368	446	526	250	314	380	449
TM2885K	1800	800	500	323	406	492	580	291	365	443	523
TM2804K	1800	1000	400	346	435	526	621	304	382	463	546
TM2824K	1800	1200	400	403	506	613	723	362	454	550	650
TM2805K	1800	1000	500	395	496	601	709	353	443	537	634
TM2825K	1800	1200	500	438	549	665	786	415	520	630	744
TM2964K	2000	600	400	260	327	396	467	213	267	323	382
TM2965K	2000	600	500	275	346	419	494	251	315	381	450
TM2984K	2000	800	400	305	383	463	547	269	338	409	483
TM2985K	2000	800	500	349	438	531	627	313	392	475	561
TM2904K	2000	1000	400	372	467	566	668	327	410	497	587
TM2924K	2000	1200	400	414	519	628	742	387	486	589	695
TM2905K	2000	1000	500	404	507	614	725	378	474	574	678
TM2925K	2000	1200	500	454	569	690	814	427	536	649	766

Values also valid for the versions with glazed door.

In-depth technical information

Conformity with Standards

Reference Standard

- CEI 17-70 "Guide to application of the low voltage panel board standards"
- CEI EN 60439-1 and new IEC 61439-1-2 Standard "Low voltage switchgear and controlgear assemblies (LV panel boards) Part 1: Assemblies subject to type tests (TTA) and assemblies partially subject to type tests (PTTA)"
- CEI EN 60529 (IEC 529-1) "Degrees of protection provided by enclosures (IP Code)"
- IEC 62262 "Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK Code)"
- CEI 17-43 (IEC 60890) "Method of temperature-rise assessment by extrapolation for partially type-tested assemblies (PTTA) of low voltage switchgear and controlgear (LV panel boards) not mass-produced"
- (*) CEI 17-52 "Method of assessment of the short-circuit withstand of switchgear and controlgear assemblies not mass-produced (PTTA)"
- CEI EN 62208 "Empty enclosures for low voltage switchgear and controlgear assemblies. General prescriptions"
- CEI EN 60204-1 (IEC 60204-1) "Safety of machinery – Electrical equipment of machines. Part 1: General requirements"
- IEEE Std 693 "Recommended Practice for Seismic Design of Substation"

Laws which have implications for electrical panel boards

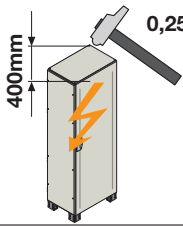
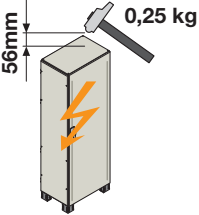
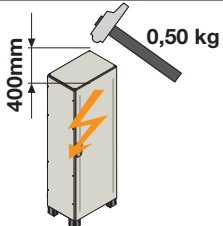
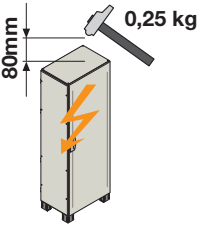
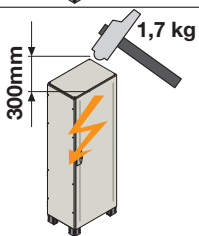
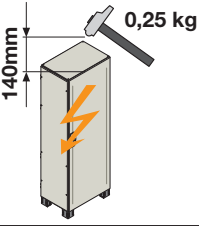
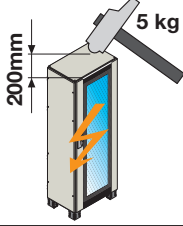
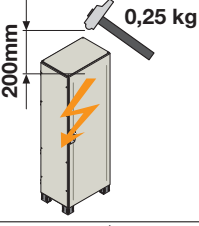
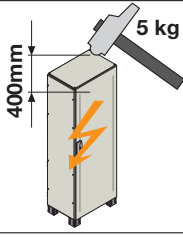
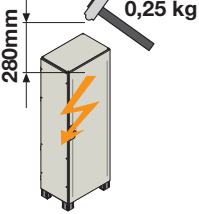
The new series of IS2 enclosures comply with the national laws regulating responsibility regarding the matter of electrical apparatus and assemblies.

- Law 187/68, in which the following is stated:
 - Art.1. All the materials, apparatus, machinery, assemblies and electrical and electronic plants must be professionally made and constructed.
 - Art.2. The materials, apparatus, machinery, assemblies and electrical plants built according to the Italian Electrotechnical Committee are considered to be constructed professionally.
- The 2006/95/EC Low voltage Directive (which replaces 73/23/EEC and subsequent amendments) indicates what characteristics the electrical material commercialised must have. In this case, the technical references are the Harmonised European Standards, and in case of their lacking, the IEC publications and, in order, National Standards.
- Legislative Decree n° 626 of 25 November 1996, implementation of the 93/68 EEC Directive on the matter of CE marking for the Low voltage Directive, modified with Legislative Decree n° 227 of 31 July 1997.
- Law 46/90 and Decree of implementation DPR n° 447 of 6 December 1991; introduce the obligation for the installer to issue the customer with a declaration of conformity with the Law relative to the plant and to which a report with the type of components used must be attached.
- Directive 1999/92/EC and 94/9/EC Directive
Minimum requirements for improvement of safeguarding the health and safety of workers who may be exposed to the risk of explosive atmospheres

In-depth technical information

Mechanical impact strength

Resistenza meccanica IK

IK 0  No protected	IK 06  Impact energy in Joule 1.00
IK 01  Impact energy in Joule 0.140	IK 07  Impact energy in Joule 2.00
IK 02  Impact energy in Joule 0.200	IK 08  Impact energy in Joule 5.00
IK 03  Impact energy in Joule 0.350	IK 09  Impact energy in Joule 10.00
IK 04  Impact energy in Joule 0.500	IK 10  Impact energy in Joule 20.00
IK 05  Impact energy in Joule 0.700	

Test performed according to the CEI EN 62262 Standard

Degree of protection provided by enclosures for electrical equipment against external mechanical impacts (IK Code).

	Whit blind door	With glazed door
SR2 enclosures	IK10	IK09
AM2 cabinets	IK10	IK09
IS2 enclosures	IK10	IK09
IS2 EMC enclosures	IK10	IK08
C2 console	IK10	

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In-depth technical information

Degrees of protection

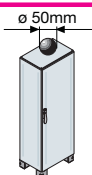
1st NUMBER: protection against solid bodies

IP

0

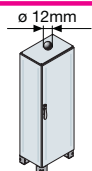
No protection

1



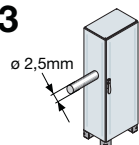
Protected against solid bodies larger than 50mm (accidental contact with hands)

2



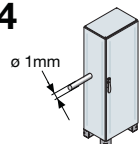
Protected against solid bodies larger than 12 mm (fingers)

3



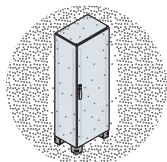
Protected against solid bodies larger than 2.5mm (tools, wires)

4



Protected against solid bodies larger than 1 mm

5



Protected against dust (no harmful deposit)

6



Totally protected against dust

	With door	With door and panel ventilated/air-condit.
SR2 Enclosures	IP65	
AM2 cabinets	IP65	
IS2 Enclosures blind door/glazed door	IP65	IP54
IS2 Enclosures with console/PC/compartement	IP41	IP41
IS2 EMC Enclosures	IP54	
C2 Console	IP55	

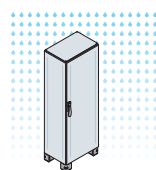
2nd NUMBER: protection against liquids

IP

0

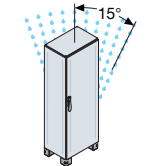
No protection

1



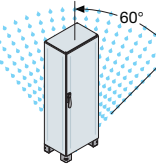
Protected against vertical fall of drops of water (condensation)

2



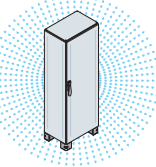
Protected against drops of water up to 15° from vertical

3



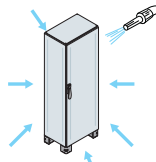
Protected against drops of water up to 60° from vertical

4



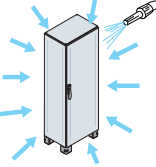
Protected against splashes of water from all directions

5



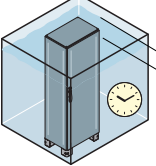
Protected against jets of water from all directions by means of a hose

6



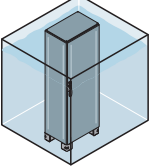
Protection against jets of water similar to sea waves

7



Protected against the effects of temporary immersion

8



Protected against the effects of continual immersion

Tests performed according to CEI EN 60529
Degrees of protection of the enclosures (IP Code).

1STC80406F0001

In-depth technical information

Degrees of protection

Protection against penetration of solid bodies

1 st 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 nd 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 leant 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.	
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, SR2, 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		
Very high	M1		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
Very high		1	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)
High	M2		Protection suited to normal operation and heavy operating conditions ⁽³⁷⁾	The power supply is cut off to the apparatus in the presence of an explosive atmosphere
High		2	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)
Normal		3	Protection suited to normal operation	The apparatus remains supplied and in operation in areas 2 (G) and/or 22 (D)

SR2 enclosures - AM2 cabinets
IS2 enclosures - C2 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 ⁽³⁸⁾.

⁽³⁷⁾ 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.

⁽³⁸⁾ 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		
II	1	Very high	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	1.0 1.1 1.2 1.3 1.4 1.5 1.6 2.1	Continuous or for long periods of time	0 1 2
	2	High	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	1.0 1.1 1.2 1.3 1.4 1.5 1.6 2.2	Intermediate situation between the previous and the following one	1 2 21 22
	3	High	The level of safety is guaranteed during normal operation <i>SR2 enclosures - AM2 cabinets IS2 enclosures - C2 console</i>	Must be designed and constructed so as to preclude the sources of ignition which can be anticipated during normal operation	1.0 1.1 1.2 1.3 1.4 1.5 1.6 2.3	Scarce probability and if it occurs it is of short duration	2 22

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

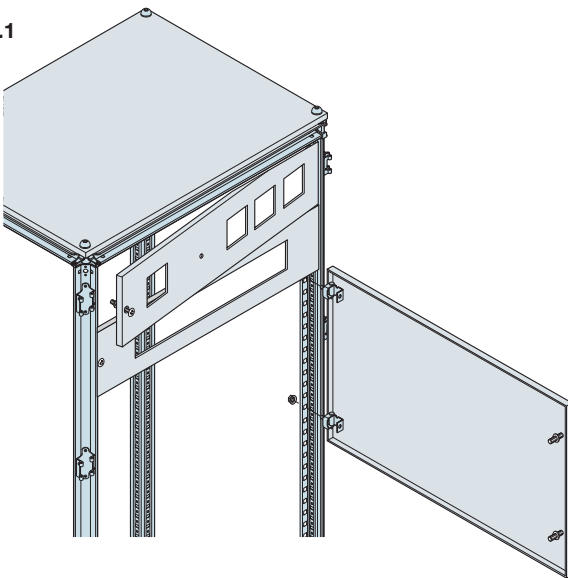


Fig.2

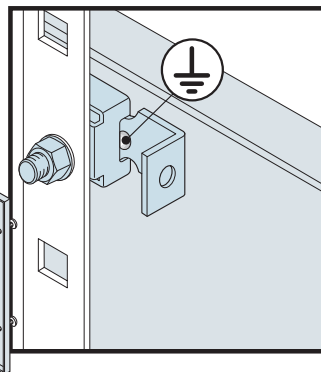


Fig.3

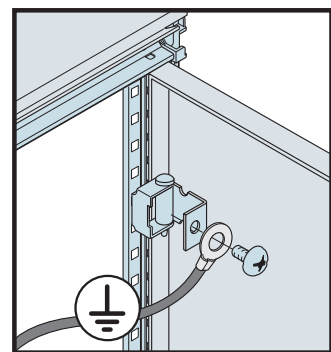
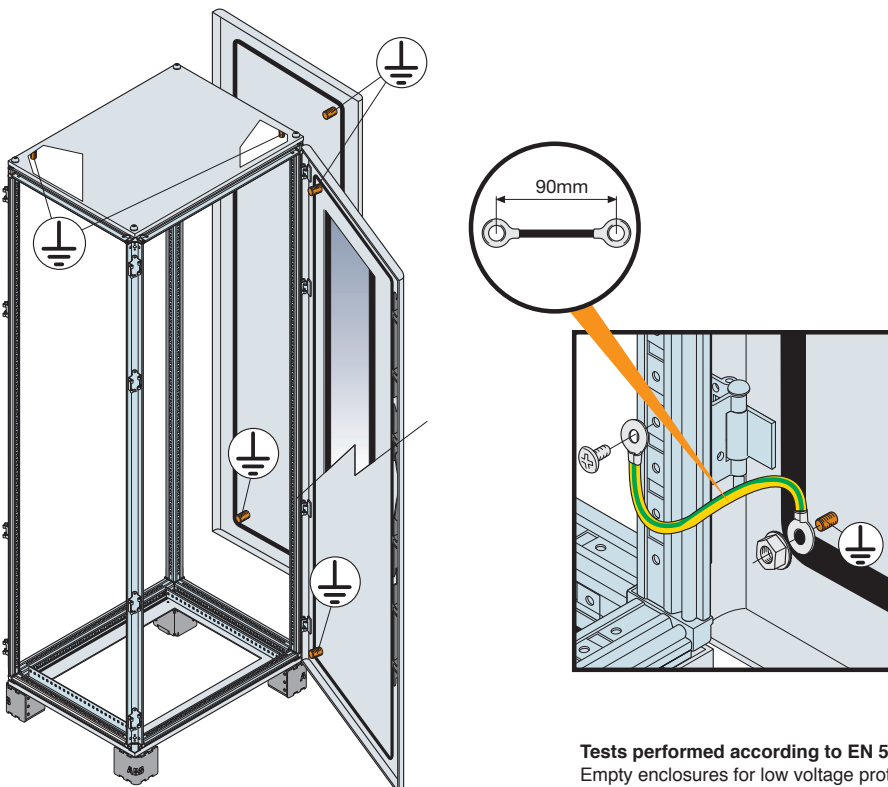


Fig.4



1STC804048F0901

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

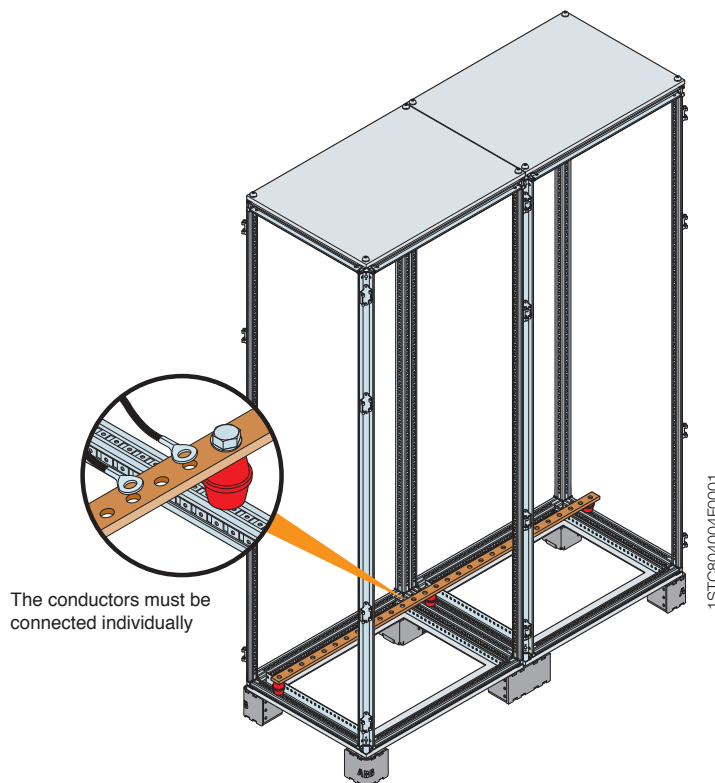
The EN 60439-1 and new 61439-1-2 standard indicates the methods for calculating the cross-section of the PE protection conductor which must be suitably sized to withstand the thermal and dynamic components of the fault currents.

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 Standard and new EN 61439-1-2 Standard (P.7.4.3.1.7)

Cross-section of the phase conductors			Minimum cross-section of the corresponding protection conductor	
S (mm ²)			Sp (mm ²)	
S ≤ 16			S	
16	<	S ≤ 35	16	
35	<	S ≤ 400	S/2	
400	<	S ≤ 800	200	
S > 800			S/4	



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 _e (A)		(mm ²)	
I _e ≤ 20		S	
20	< I _e ≤ 25	2,5	
25	< I _e ≤ 32	4	
32	< I _e ≤ 63	6	
63	< I _e	10	

S = cross-section of the phase conductor (mm²)

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 10mm².

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.

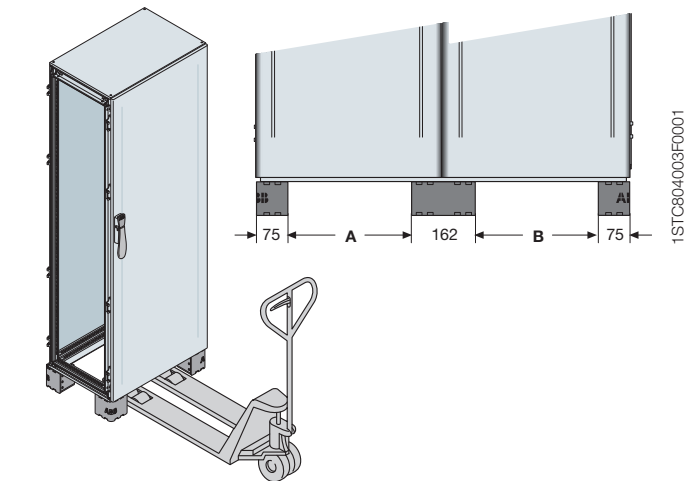
In-depth technical information

Handling

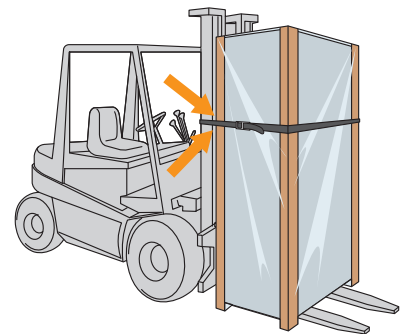
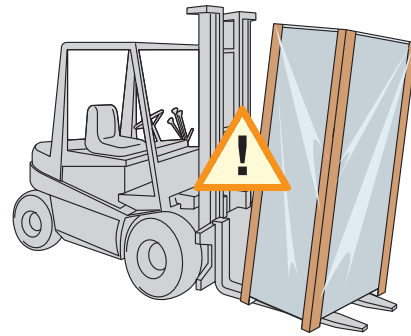
Handling by means of transpallets

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:

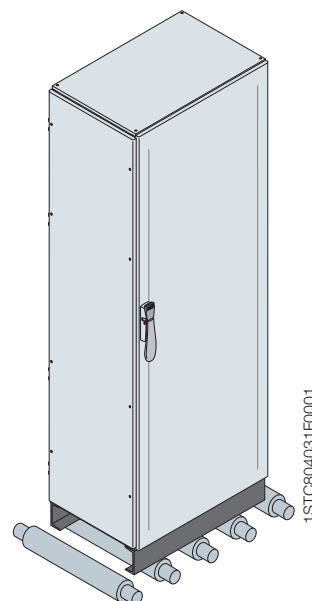
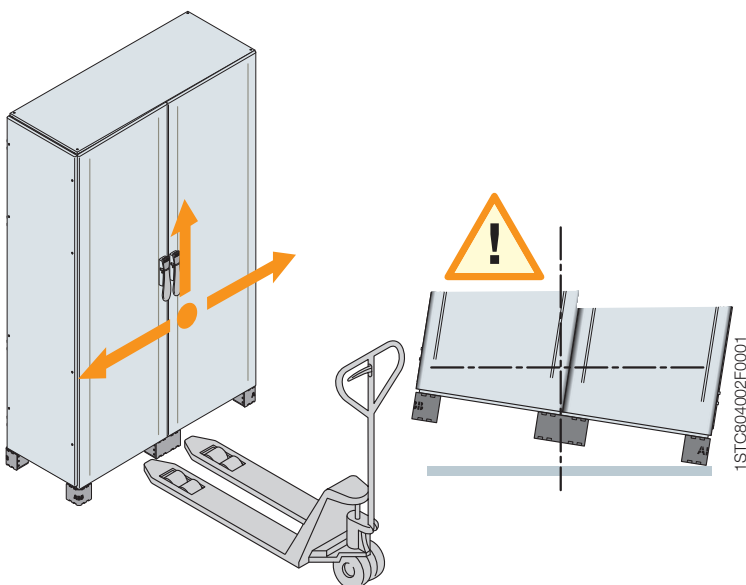


	A (mm)	B (mm)
External cable container W=300mm	138	
Structure W=400mm	238	
Structure W=600mm	438	
Structure W=800mm	638	
Structure W=1000mm	838	
Structure W=1200mm	438	438
Structure W=1600mm	638	638



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.



In-depth technical information

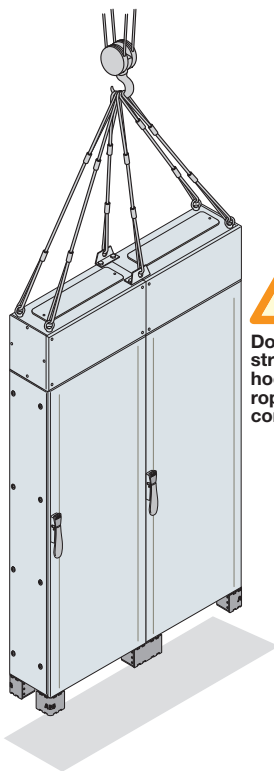
Handling

Handling by means of bridge crane

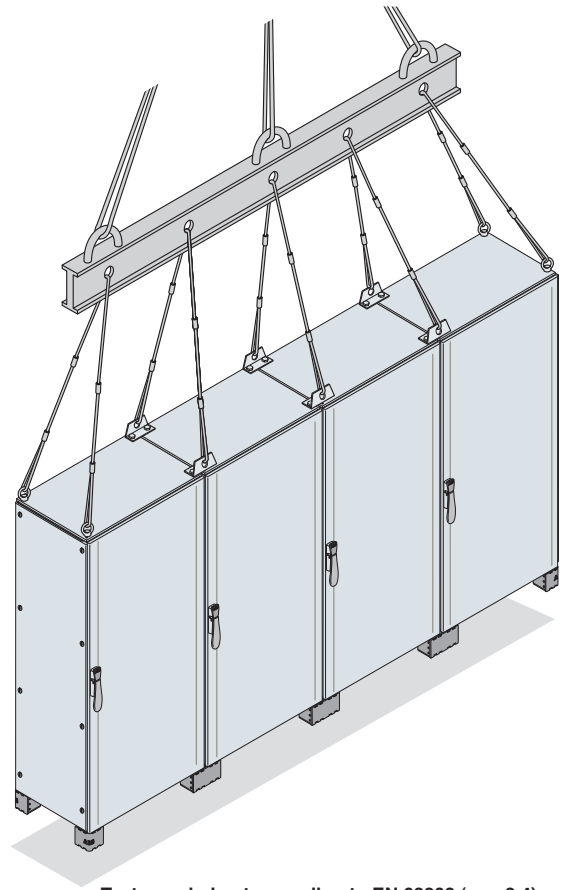
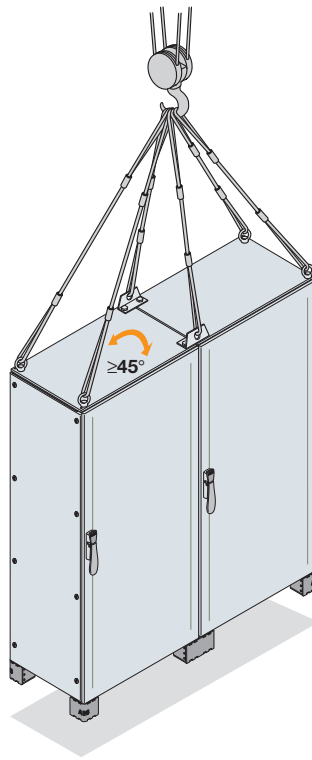
For handling by means of crane or bridge crane, check the following conditions before lifting the panel board:

- excellent state of the ropes or chains;
- the angle between the lifting ropes and the roof of the switch-board must be $\geq 45^\circ$;
- maximum number of columns which can be transported see pages 7/26-27;
- maximum weight which can be lifted see pages 7/26-27.

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.



Tests carried out according to EN 62208 (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)	Carico 1 kg	Carico 2 kg	Serraggio Nm
Lifting eyebolts	M12	54	12	28	10	22	30	340	240	8*
Lifting reinforcements	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.

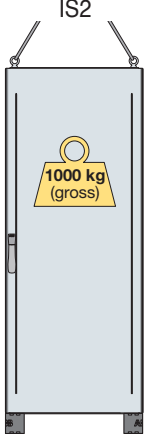
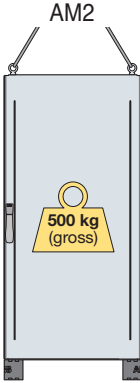
In-depth technical information

Lifting tests - IS2 enclosures/AM2 cabinets

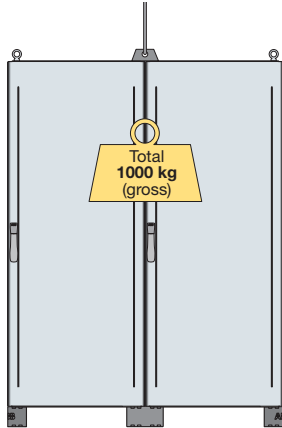
Maximum capacities

(in accordance with the CEI EN 62208 Standard)

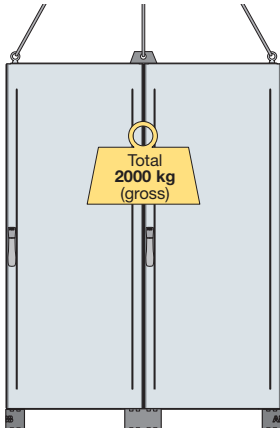
	IS2	AM2
Number of columns	1	1
Weight of single column Kg	1000	500
Total weight of columns Kg	1000	500
Joining Kit	-	-
Lifting Kit	AA9610	TA5510
Number of braces used	4	4

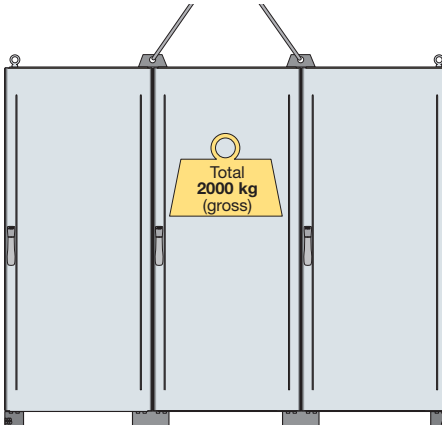
	IS2	IS2 EMC
Number of columns	2	2
Weight of single column Kg	500	500
Total weight of columns Kg	1000	1000
Joining Kit	EV0002	EV0002
	EV0003	EV0006EMC
	ZE1030	ZE1030
Lifting Kit	EV1007	EV1007
Number of braces used	2	2



	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
	ZE1030	ZE1030
Lifting Kit	AA9610	AA9610
Number of braces used	EZ1007	EZ1007
Numero tiranti utilizzati	6	6



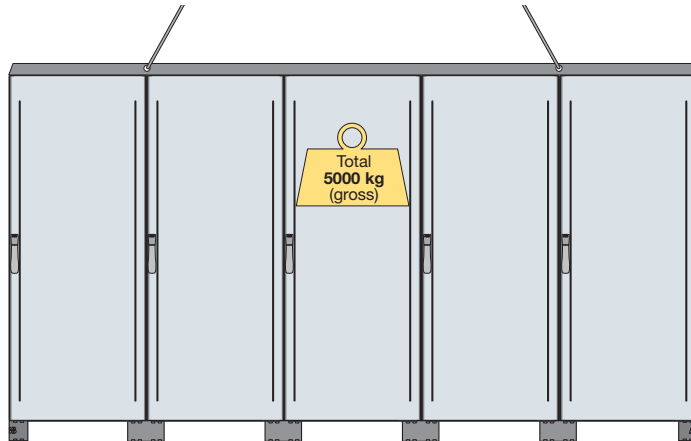
	IS2	IS2 EMC
Number of columns	3	3
Weight of single column Kg	500	500
Total weight of columns Kg	1500	1500
Joining Kit	EV0002	EV0002
	EV0003	EV0006EMC
	ZE1030	ZE1030
Lifting Kit	EV1007	EV1007
Number of braces used	4	4



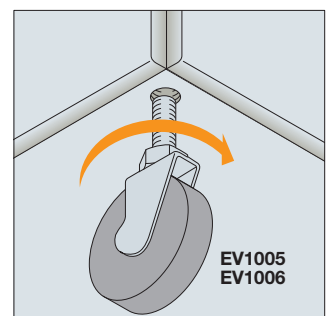
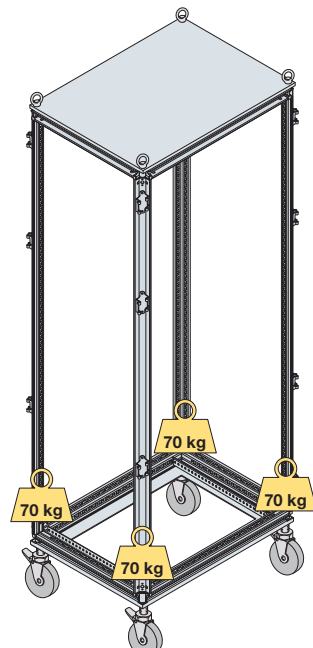
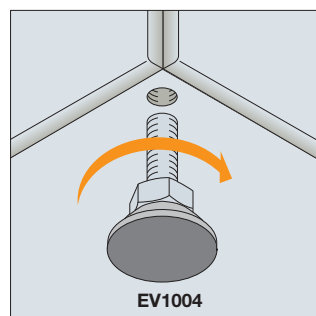
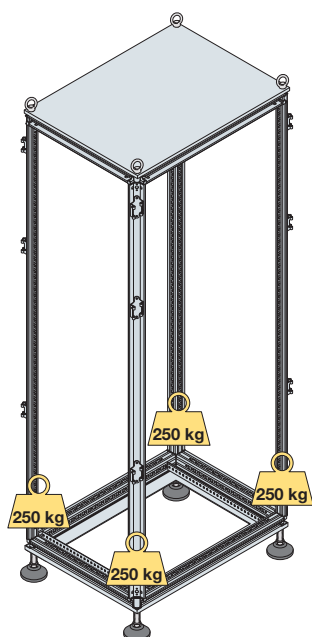
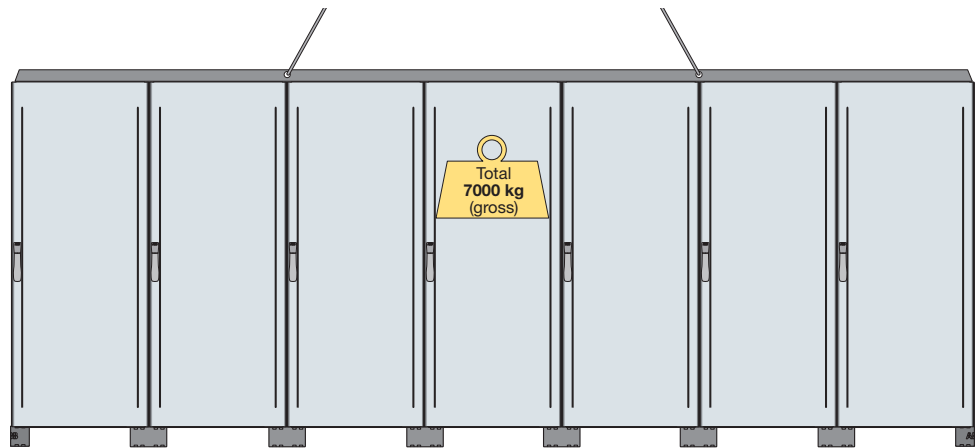
In-depth technical information

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
	ZE1030	ZE1030
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
	ZE1030	ZE1030
Lifting Kit	TU1000	TU1000
Number of braces used	4	4



Busbars with shaped section and flat busbars

Mechanical and electrical characteristics

Conformity with CEI EN 60439-1 and new EN 61439-1-2 Standard

The IS2 cabinets have undergone the type tests foreseen by the EN 60439-1 and new EN 61439-1-2 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 EN 61439-1-2 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

Busbars with shaped section and flat busbars

Mechanical and electrical characteristics

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)	SxS (mm)	Dimensions Cross-section (mm²)	Lenght (mm)	Weight (kg)
	400	BA0400	1	400	35	74	20x20	200	1730	4
	800	BA0800	1	800	35	74	20x20	283	1730	4,4
	1250	BA1250	1	1250	65	143	20x60	603	1730	9,3
	1600	BA1600	1	1600	65	143	20x60	703	1730	10

Technical characteristics of flat busbars up to 1600A

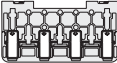
Cross-section	In (A)	Code	N° busbars/ phase	Capacity (A) IP65	Icw max (kA)	Ipk (kA)	SxS (mm)	Lenght (mm)	Weight (kg)
	250	BR0250	1	250	32	48	15x5	1750	1,35
	400	BR0400	1	400	32	48	25x5	1750	3,4
	630	BR0630	1	630	32	68	30x10	1750	4,4
	400	BR4005	1	400	35	74	32x5	1750	2,1
	630	BR6305	1	630	50	105	50x5	1750	3,4
	800	BR8005	1	800	50	105	63x5	1750	4,4
	1250	BR1250	1	1250	50	105	100x5	1750	7,25
	1600	BR1600	1	1600	100	220	100x10	1750	14,5

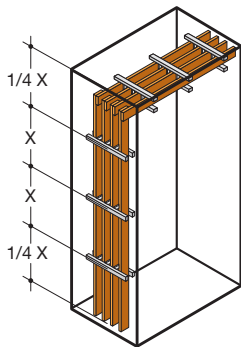
Busbars with shaped section and flat busbars

Mechanical and electrical characteristics

Busbar holders for busbars with shaped section

Busbars with shaped section

Type		I _{cc} (kA)	In	400A	800A	1250A	1600A
	Linear	35	PB0803	L1-L2-L3	3x BA0400	3x BA0800	
				N 100%	1x BA0400	1x BA0800	
				N reduced		1x BA0400	
	Linear	65	PB1603 ⁽¹⁾	L1-L2-L3		3x BA1250	3x BA1600
				N 100%		1x BA1250	1x BA1600
				N reduced			1x BA1250



The distance between the first busbar holder and the end of the busbar must not exceed $\frac{1}{4}$ of X.

N° and distance of the busbar holder according to the max I_{cc}

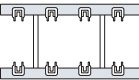
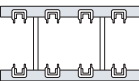
Busbar code	capacity	Busbar holder code	25 kA	X max (mm)	35 kA	X max (mm)	50 kA	X max (mm)	65 kA	X max (mm)
Linear										
BA0400	400A	PB0803	4	550	5	425	-	-	-	-
		PB1603 ⁽¹⁾	4	550	4	550	-	-	-	-
BA0800	800A	PB0803	4	550	5	425	-	-	-	-
		PB1603 ⁽¹⁾	4	550	4	550	-	-	-	-
BA1250	1250A	PB1603	4	550	4	550	6	350	9	225
BA1600	1600A	PB1603	4	550	4	550	6	350	9	225

X max = maximum distance not to be exceeded between two consecutive busbar holders.

⁽¹⁾ It is possible to mount the 400/800A busbars with the special adapter **AD1066**, see example on page 4/62

Busbar holder for flat busbars

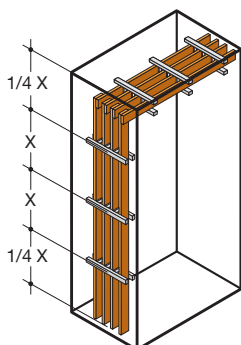
Flat busbars

Type		I _{cc} (kA)	In	250A	400A	630	800A	1250A	1600A
	Linear	32	BP0630	L1-L2-L3	3xBR0250	3xBR0400	3xBR0630		
				N 100%	1xBR0250	1xBR0400	1xBR0630		
	Linear	50	BP1250	L1-L2-L3	3xBR4005	3xBR6305	3xBR8005	3xBR1250	
				N 100%	1xBR4005	1xBR6305	1xBR8005	1xBR1250	
	Linear	75	BP1600	L1-L2-L3				3xBR1600	
				N 100%				1xBR1600	

N° and distance of the busbar holder according to the max I_{cc}

Busbar		Busbar holder code	X max		X max		X max		X max		
code	capacity		16 kA	(mm)	20 kA	(mm)	23 kA	(mm)	32 kA	(mm)	
Lear											
BR0250	250A	BP0630	4	500	6	350	10	200	-	-	
BR0400	400A		4	500	6	350	10	200	-	-	
BR0630	630A		-	-	4	600	4	600	9	210	
BP1250											
		BP1250	X max		X max		X max		X max		
			25 kA	(mm)	35 kA	(mm)	50 kA	(mm)	65 kA	(mm)	
BR4005	400A		7	300	9	225	-	-	-	-	
BR6305	630A		6	375	7	275	9	225	-	-	
BR8005	800A	BP1600	5	425	7	300	9	225	-	-	
BR1250	1250A		4	500	6	375	8	250	-	-	
BR1600	1600A	BP1600	3	1000	3	1000	4	600	6	375	

max X = maximum distance not to be exceeded between two consecutive busbar holders.

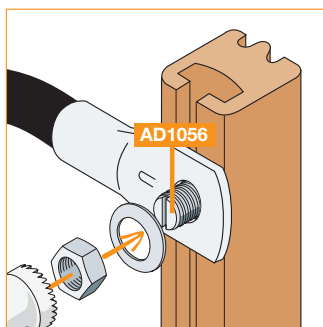


The distance between the first busbar holder and the end of the busbar must not exceed $\frac{1}{4}$ of X.

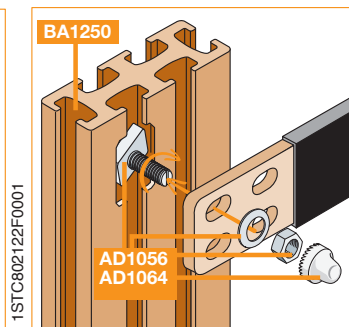
Busbars with shaped section and flat busbars

Mechanical and electrical characteristics

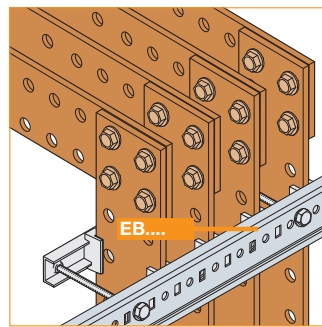
Components



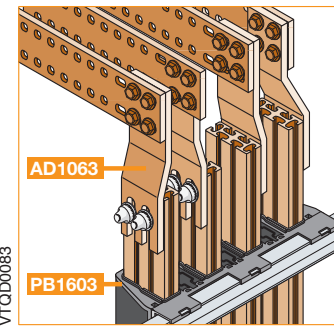
Direct branch by means of cable terminal for cross-section of cable up to 50mm².



M8 self-locking hammer screw for fixing between conductors in any position along the busbar, guarantees a large contact surface.



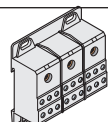
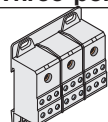
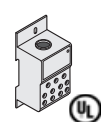
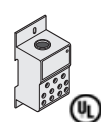
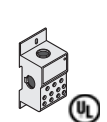
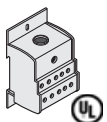
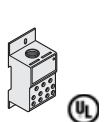
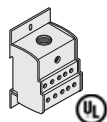
The 25mm drilling pitch allows branches between flat busbars at any point.



Branch between 1600A flat busbars and 1250/1600A busbars with shaped section.

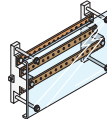
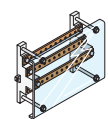
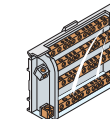
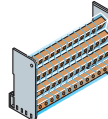
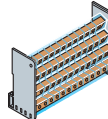
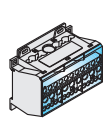
Modular dividers

Single-pole



Code	AD1076	AD1080 ⁽¹⁾	AD1007	AD1081 ⁽²⁾	AD1030	AD1031	AD1075	AD1006
In (A)	125	125	160	160	250	400	125	160
Icw (kA)	4.2	4.2	11	11	21	21	11	4.2
Ipk (kA)	30	30	30	30	51	51	30	30
Version poles	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 ²) min.	10	6	16	10	35	95	10	16
max	35	35	70	70	120	185	35	70
N° outgoing feeder Ø cable (mm ²) 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	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	6.2	15	15
Ipk (kA)	25	25	25	20	30	30
Version poles	4.2	4	4	4	4	4
Installation	DIN35/plate	DIN35/plate	DIN35/plate	DIN35	plate	plate
Power supply Ø cable (mm ²) min.	6	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 ²)	5 holes/phase Ø1÷6 2 holes/phase Ø1,5÷16 6 holes/neutral Ø1,5÷16 4 holes/neutral Ø1,5÷6 ²	2xØ6÷25 + cable term. 2xØ6÷35 no cable term. 9xØ6÷10	2xØ6÷25 + cable term. 2xØ6÷35 no cable term. 2xØ6÷16 9xØ6÷10	8xØ2,5÷16 3xØ6÷35	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)
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		

⁽¹⁾ possibility of putting in parallel with AD1083 connections.

⁽²⁾ possibility of putting in parallel with comb type connections (not supplied).

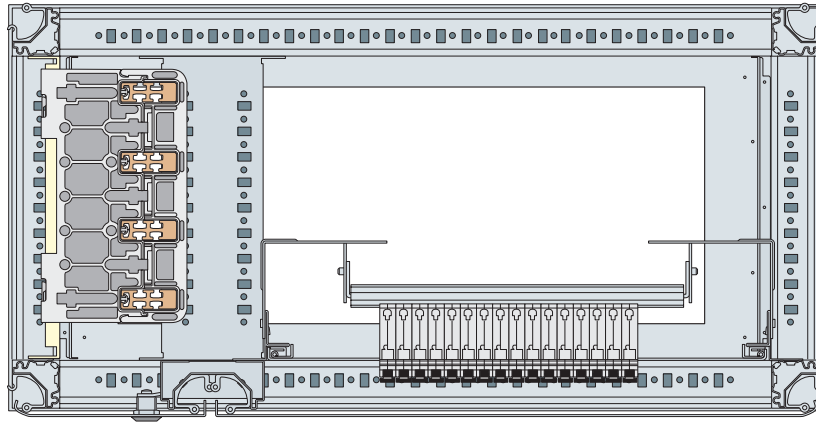
Busbars with shaped section

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.

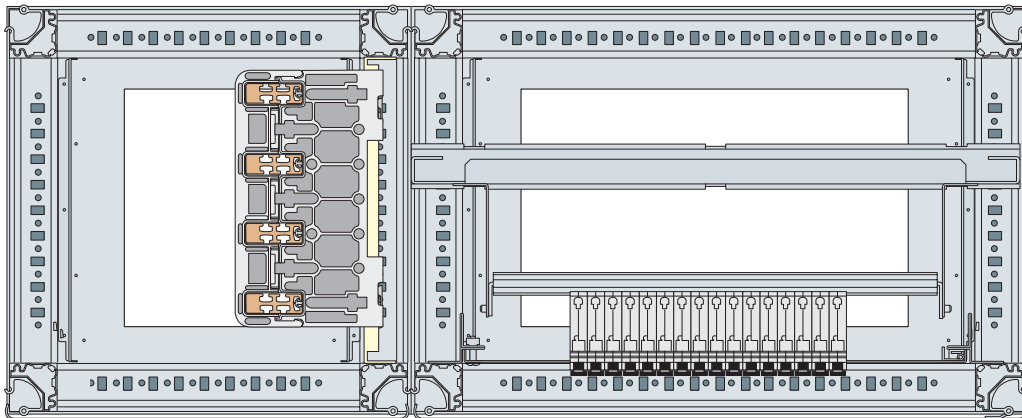


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Linear busbar holder PB1603

IS2

Busbars in the additional structure W=400mm and DIN rail apparatus holder fixed on the back plate.

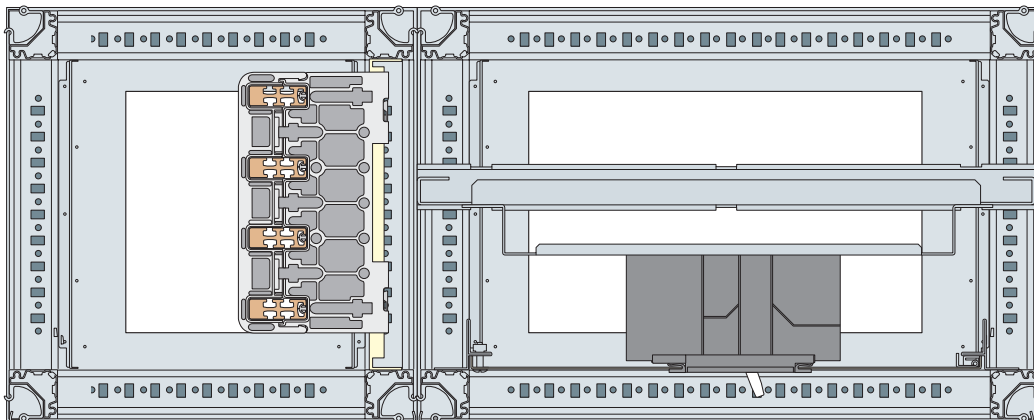


1STC804066F0001

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 (out-door, indoor, or semi-embedded), ABB proposes a wide range of types based on the refrigeration yield required.

Air-air heat exchangers

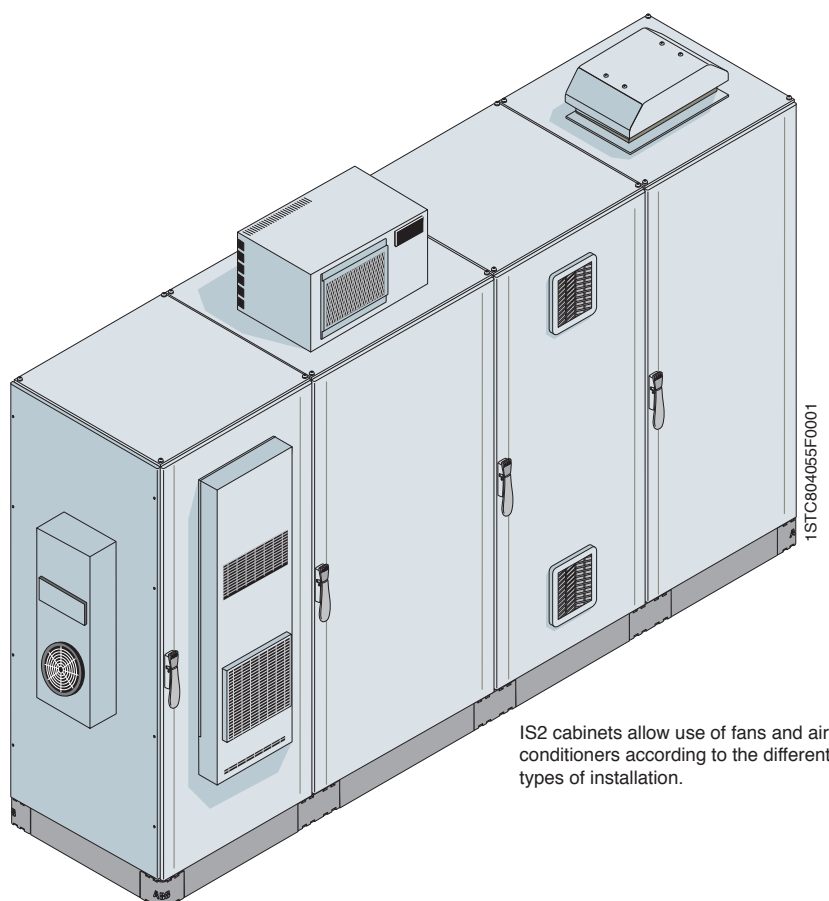
These systems are suitable when temperatures inside the electrical panel board can be kept higher than ambient temperature, guaranteeing an IP54 degree of protection.

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.



Ventilation and air conditioning

Operation and selection of components

Natural ventilation

Panel board cooling can be obtained by means of simple natural convection.

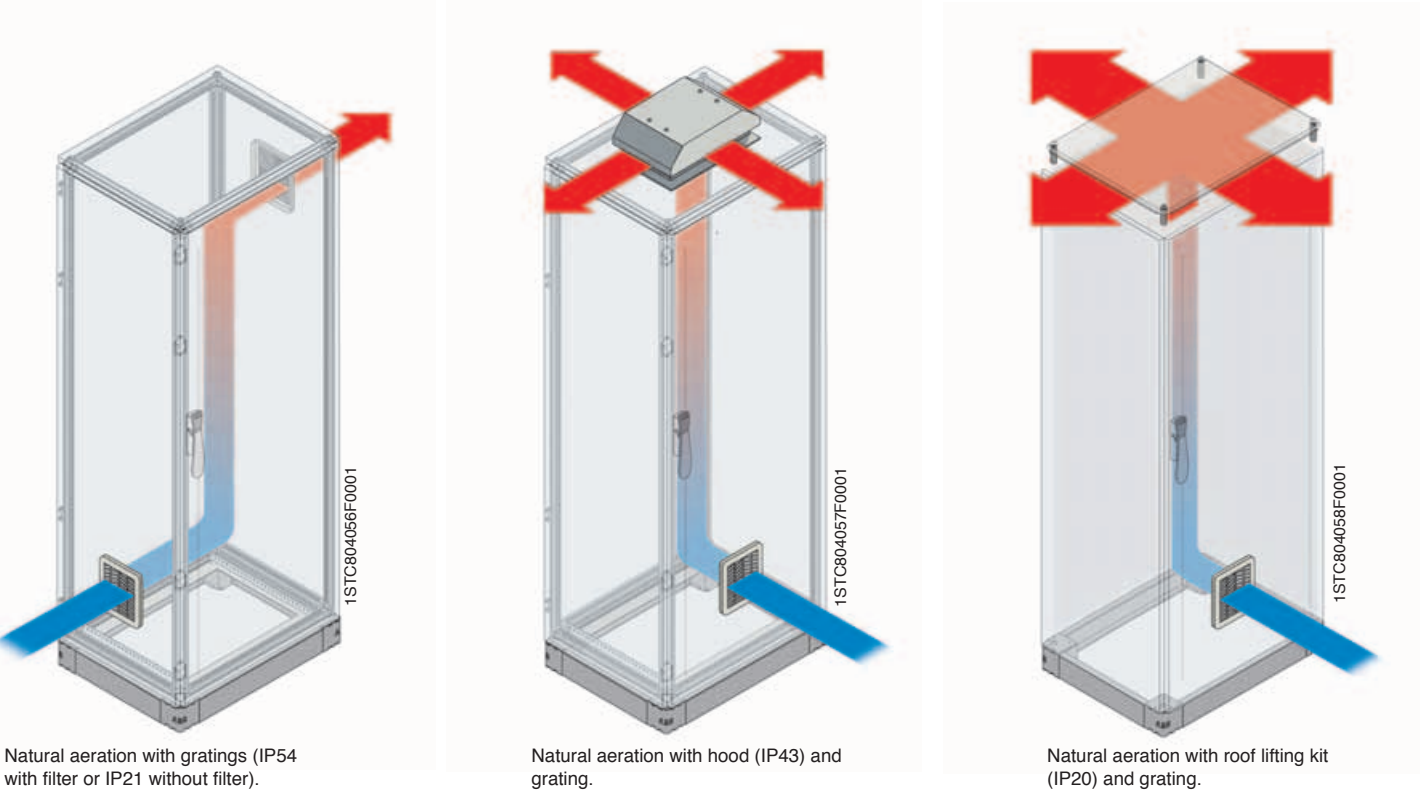
In fact, it is sufficient to install aeration kit (in the different ways shown in the diagram) to obtain a fair improvement in panel board cooling.

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
			Multiplication coefficient			
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



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:

$$Q = \frac{P}{\Delta T} \cdot f$$

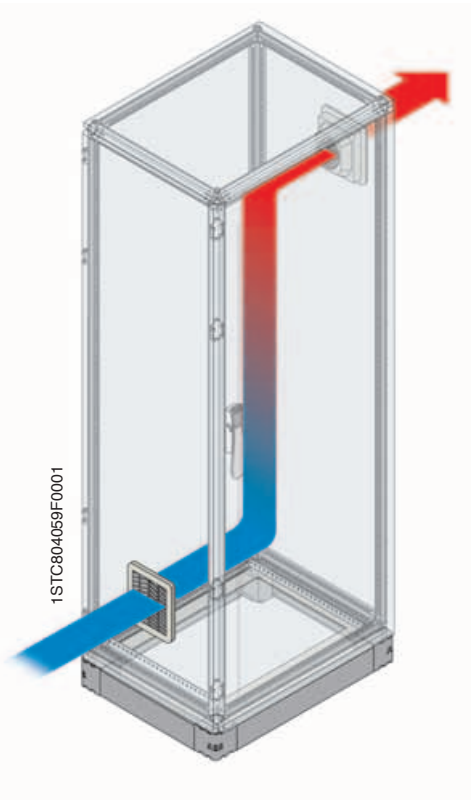
where:

Q = fan capacity (m^3/h)

P = power to be dissipated (W)

ΔT = 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 $m^3 \text{ } ^\circ\text{C}/\text{Wh}$
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.

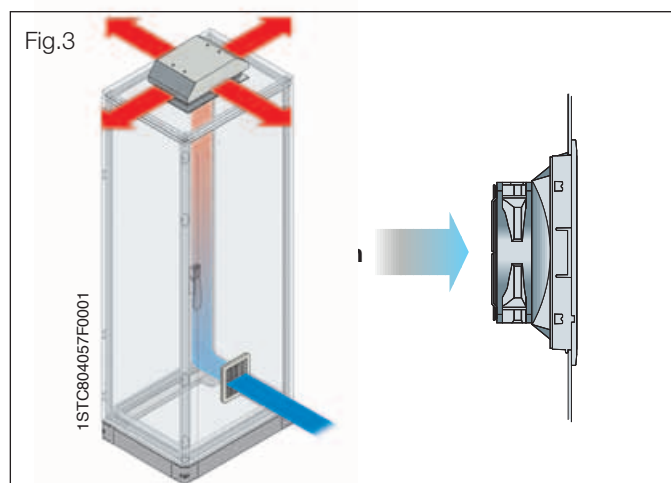
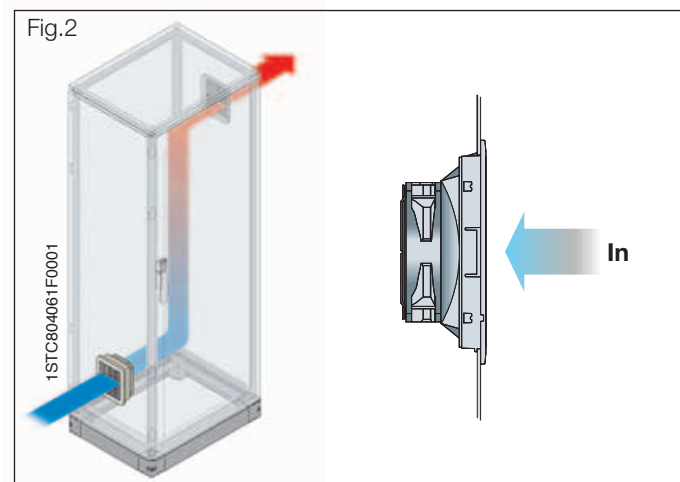
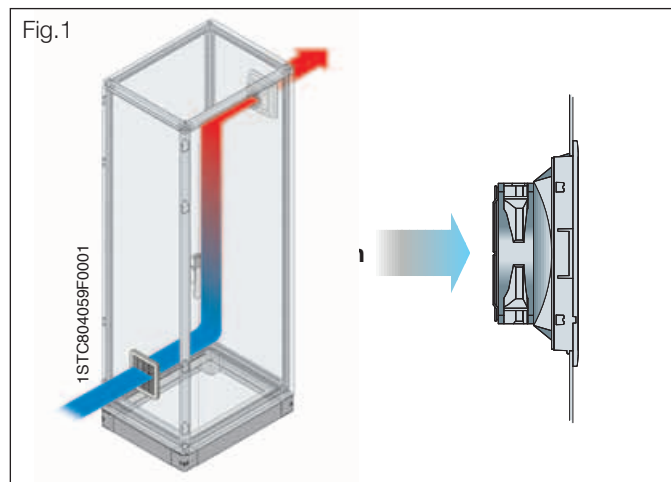
Ventilation kit at the bottom and filter at the top on the opposite wall - Fig.2

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

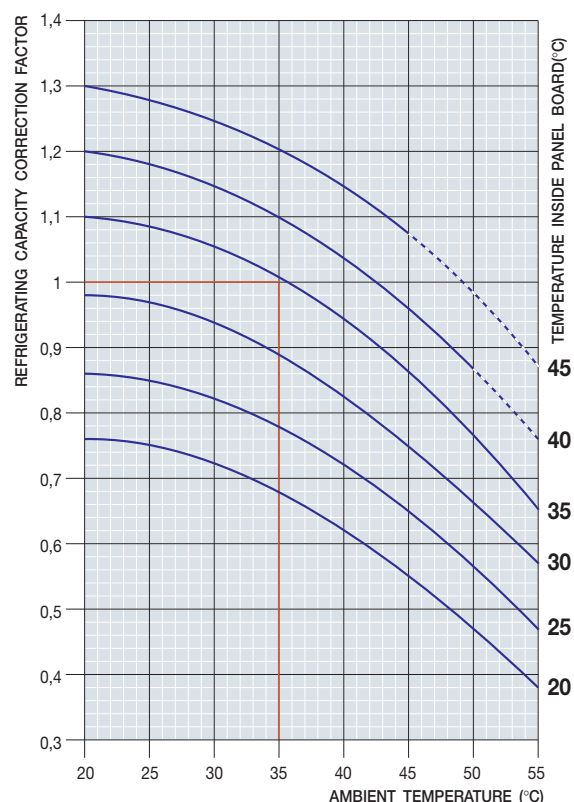
Air conditioners

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. **ES2086K** 2000x800x600mm) 5.7 m²

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 ($T_{int} = 35$ °C and $T_{ext} = 40$ °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.

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)

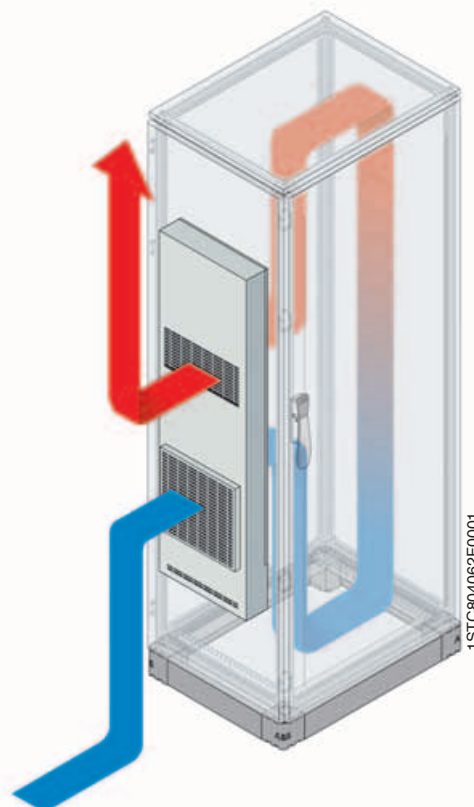
K = coefficient of thermal exchange for painted sheet
 $K=5.5 \text{ W/m}^2 \cdot \text{K}$

Ae = free surface of the cabinet (m²)

ΔT = ($T_i - T_e$)

T_i = internal temperature

T_e = 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. ES2086K 2000x800x600mm) 5.7 m²

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:

$$P_{spec} = P_{tot} : \Delta T = 326,5 : 10 = 32,65W/K$$

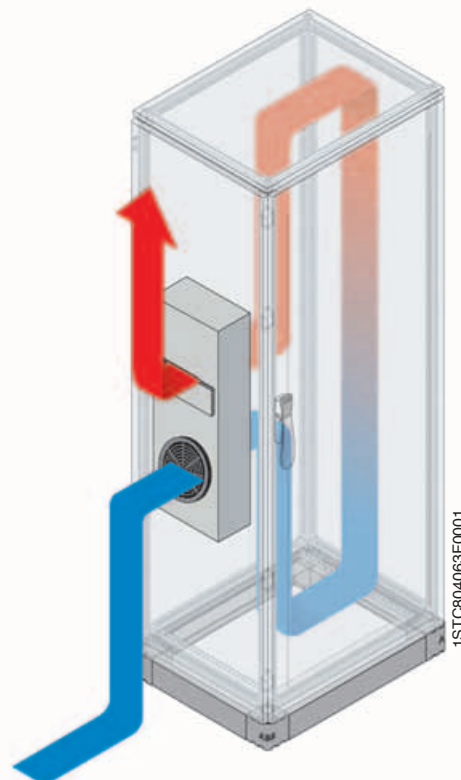
In this case, the heat exchanger suitable for the purpose is the one with 35W/K specific power (code VS 4233).

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
 $K=5.5 \text{ W/m}^2 \cdot \text{K}$
- Ae** = free surface of the cabinet (m²)
- ΔT** = ($T_i - T_e$)
- T_i** = internal temperature
- T_e** = external temperature



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.

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.

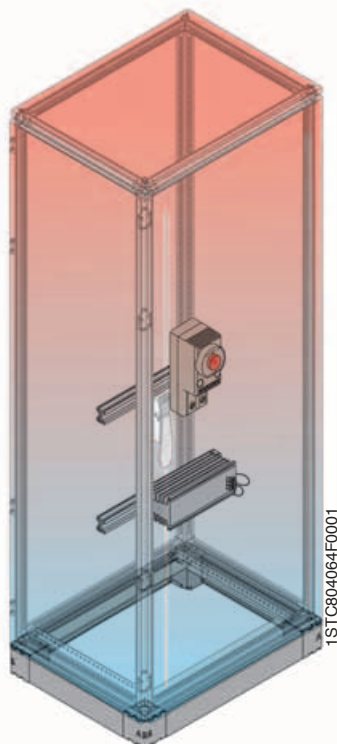
Thermostats for regulating the temperature

The thermostat is used to control operation of the fans. It has a temperature adjustment range from $10 \div 60$ °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 7035, 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.



Ventilation and air conditioning

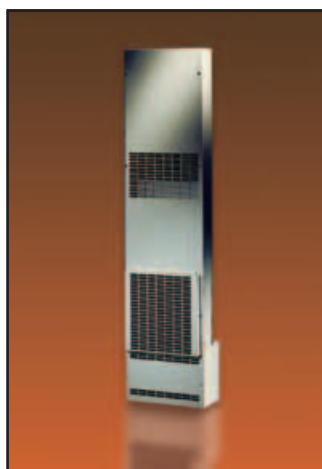
Technical characteristics

Air conditioner for mounting on wall or on door



Model		VZ1550K		VZ1850K		VZ1400K		VZ2000K	
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
Absorbed current	on inrush	A	8	12,5		21		22	
	operating	A	2	2,5		4		4,5	
Current protection	A	4,9		5,9		8		10	
Air evaporator capacity	m³/h	380		350		350		500	
Air condenser capacity	m³/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 HxWxD	mm	1025x380x198		1025x380x198		1025x380x198		1100x380x230	
Approximate weight	kg	33		33		36		42	
Standard painting	RAL	7035 orange peel		7035 orange peel		7035 orange peel		7035 orange peel	

Super thin wall or door air conditioners



Model		VZ1000K		VZ1450K		VZ1700K		VZ2100K	
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	
Absorbed current	on inrush	A	10,5	15,8		19		21,7	
	operating	A	3	3,8		4,3		4,7	
Current protection	A	4		6		6		6	
Air condenser capacity	m³/h	200		200		400		400	
Air evaporator capacity	m³/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 HxWxD	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	7035 orange peel		7035 orange peel		7035 orange peel		7035 orange peel	

Ventilation and air conditioning

Technical characteristics

Air conditioner for mounting on roof



Model			VZ8501K		VZ1401K	
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						
Absorbed current	on inrush	A	12,5		21	
	operating	A	2,5		4	
Current protection		A	5,9		8	
Air evaporator capacity		m³/h	350		350	
Air condenser capacity		m³/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 HxWxD		mm	350x600x400		350x600x400	
Approximate weight		kg	33		34	
Standard painting		RAL	7035 orange peel		7035 orange peel	

Heat exchangers



Model		VS4235K	VS6285K
Specific thermal yield	W/K	35	85
Total power consumption	W	117/150	170/180
Power supply standard	V~(single-phase)	230	230
Frequency	Hz	50/60	50/60
Absorbed current	A	0,52/0,68	0,77/0,80
Internal circuit fan air capacity	m³/h	200	200
External circuit fan air capacity	m³/h	200	300
Degree of protection on panel board side		IP 54	IP 54
Permissible external temperature	°C	55	55
Dimensions HxWxD	mm	735x370x155	845x475x195
Approximate weight	kg	15	21
Standard painting	RAL	7035 orange peel	7035 orange peel

Ventilation and air conditioning

Technical characteristics

Fans



Model		EN1105K/2105K	EN1150K/2150K	EN1204K/2204K	EN1250K/2250K	EN2325K/3325K	EN0480K	EN0482K
Capacity air only of the fan	m ³ /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	50	50	50	50	50	50
Total power consumption	W	10/9	20/20	17	29/30	67/50	62	58
Absorbed current	mA	70/115	125/210	100/200	126/250	300/540	290	530
Rotation speed	rpm	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	23	23
Weight	kg	0,5	0,8	1,1	1,7	3,62	5,8	5,8
Dimensions	mm HxWxD	105x105x67	150x150x71	204x204x98	250x250x121	325x325x161	375x295x90	375x295x90
Colour	RAL	7035	7035	7035	7035	7035	7035	7035
Approvals		UL	UL	UL	UL			

Ventilation and air conditioning

Declaration of conformity

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/CEE, 89/337/CEE, 91/368/CEE, 93/47/CEE.

Reference Standards: UNI EN 292, UNI EN 294, EN 50081-2, EN 50082-2, EN 55011, C.E.I. EN 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 2006/95/CE (which replaces the 73/23/EEC and subsequent amendments).

Reference Standards: EN 60730, 60730-1 "Automatic electrical controls for household and similar use".



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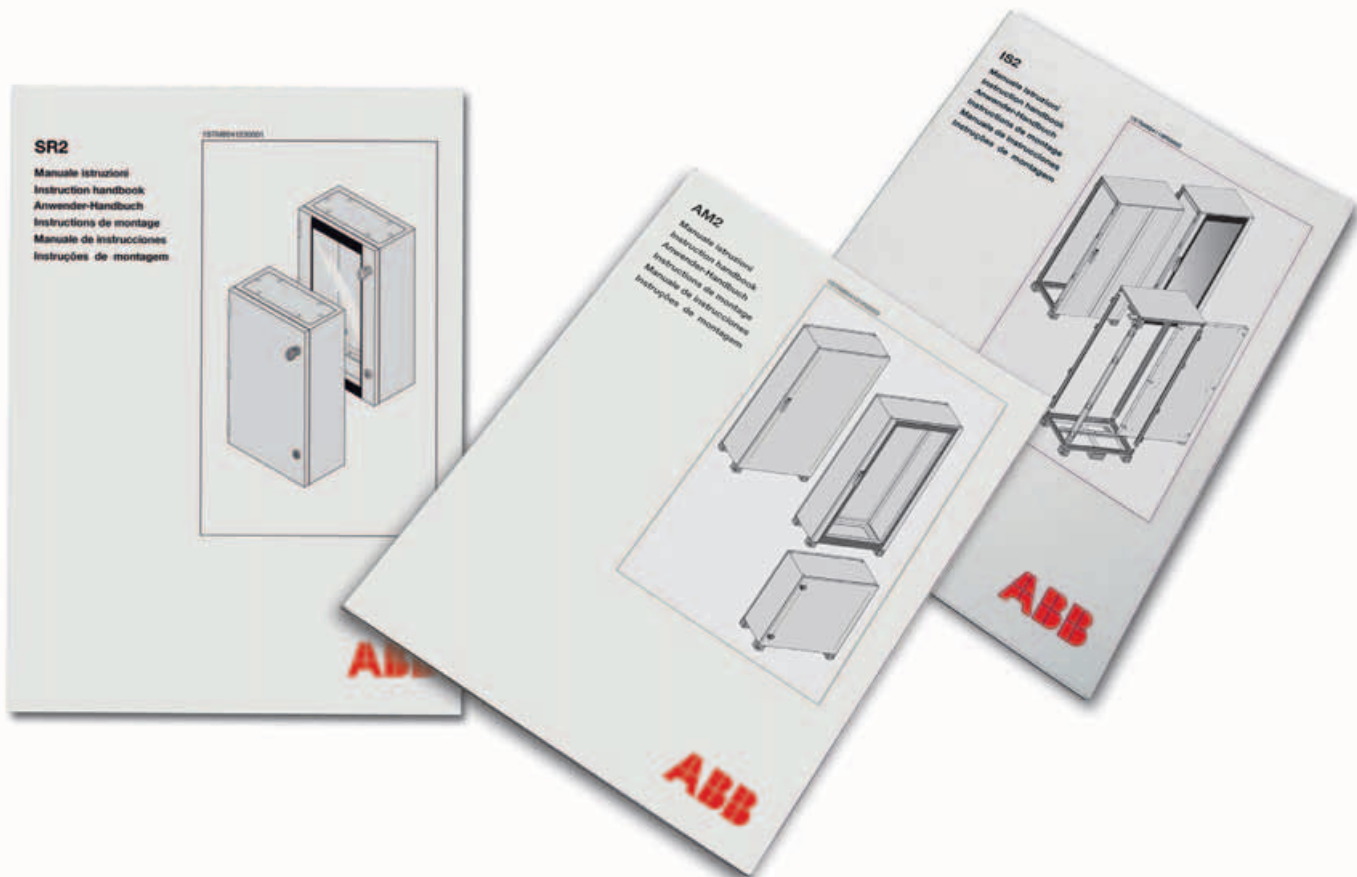
Instruction manuals	8/2
Business on line	8/3

Selection and design tools

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 assem-

bled AS type switchgear which complies with the EN 60439-1 and new 61439-1-2 (CEI 17/13-1) Standards, 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

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.





Overall dimensions

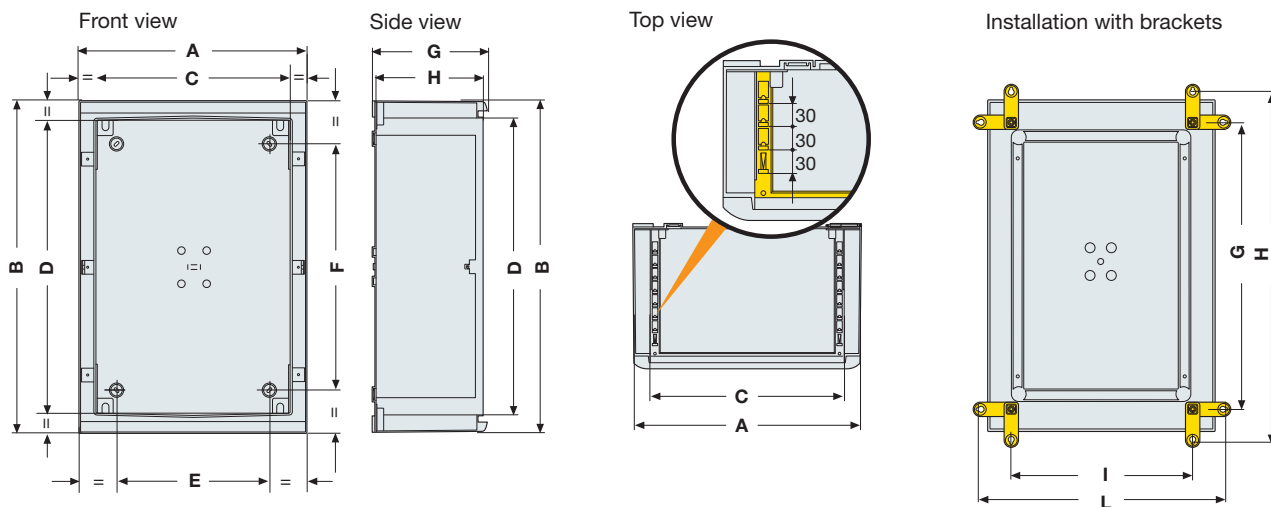
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Overall dimensions

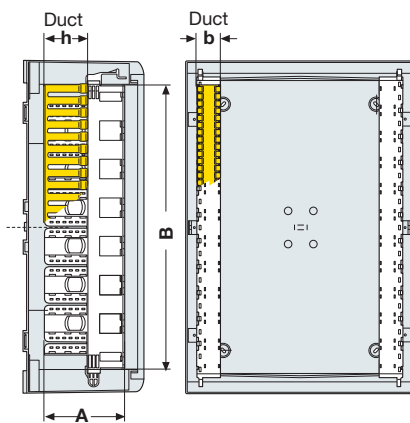
Gemini switchboards

Structures



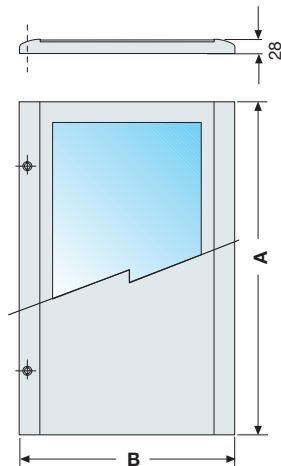
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2	1SL0202A00-1SL0212A00-1SL0222A00	460	550	375	450	250	270	412	612	320	520
3	1SL0203A00-1SL0213A00-1SL0223A00	460	700	375	600	270	475	560	760	320	520
4	1SL0204A00-1SL0214A00-1SL0224A00	580	700	500	600	286	385	562	762	445	645
5	1SL0205A00-1SL0215A00-1SL0225A00	585	855	500	750	390	558	713	913	445	645
6	1SL0206A00-1SL0216A00-1SL0226A00	840	1005	750	900	640	706	863	1063	695	895

Uprights



Size	Code	A	B	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



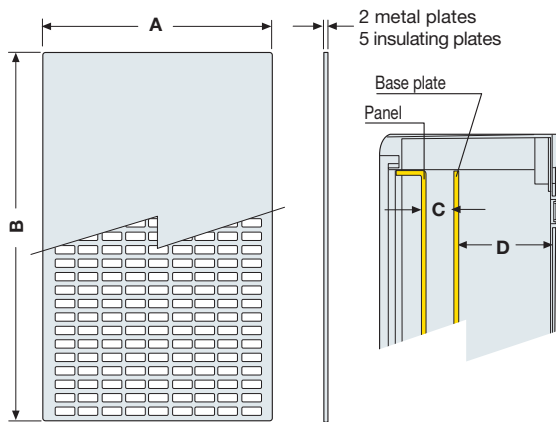
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2	1SL0242A00-1SL0232A00	499	450
3	1SL0243A00-1SL0233A00	649	450
4	1SL0244A00-1SL0234A00	649	575
5	1SL0245A00-1SL0235A00	799	575
6	1SL0246A00-1SL0236A00	949	825

Measurements are in millimetres

Overall dimensions

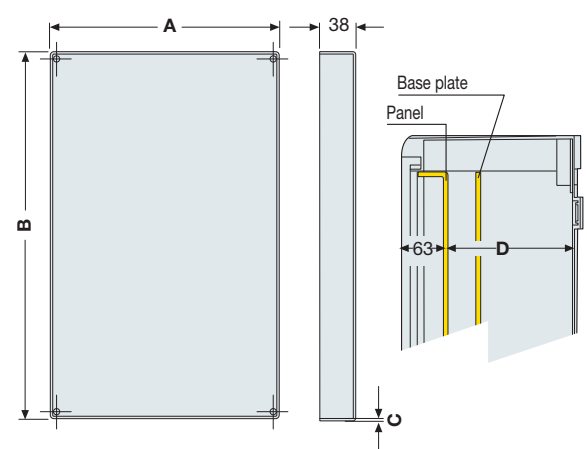
Gemini switchboards

Base plates



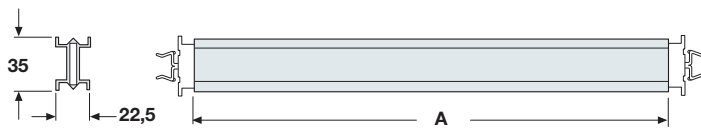
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2	1SL0260A00-1SL0276A00-1SL0268A00	360	435	36.4÷140	33.5÷139
3	1SL0261A00-1SL0277A00-1SL0269A00	360	585	36.4÷140	33.5÷139
4	1SL0262A00-1SL0278A00-1SL0270A00	485	585	36.4÷140	33.5÷139
5	1SL0263A00-1SL0279A00-1SL0271A00	485	735	47÷244	33.5÷228
6	1SL0264A00-1SL0280A00-1SL0272A00	735	885	47÷244	33.5÷228

Inner doors



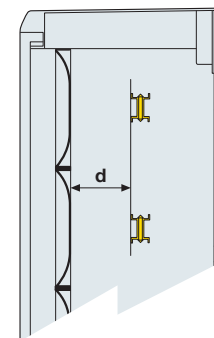
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2	1SL0252A00	375	450	4	177
3	1SL0253A00	375	600	4	177
4	1SL0254A00	500	600	4	177
5	1SL0255A00	500	750	5	277
6	1SL0256A00	750	900	5	277

DIN rail

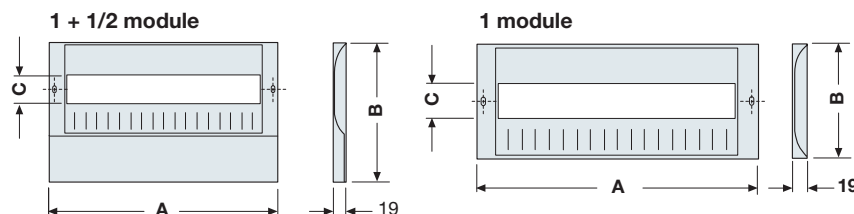


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2	1SL0291A00	318	51	63,5	76	88,5	101	113,5
3	1SL0291A00	318	51	63,5	76	88,5	101	113,5
4	1SL0292A00	443	51	63,5	76	88,5	101	113,5
5	1SL0292A00	443	51	63,5	76	88,5	101	113,5
6	1SL0293A00	663	51	63,5	76	88,5	101	113,5

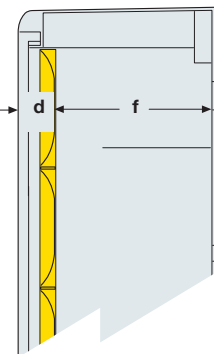
The distances of the DIN rail from the panel depend on the depth at which the DIN rail is regulated by using fixing devices.



Panels for modular apparatus mounted on DIN rail



Size	Code	1 mod. A	1 mod. B	1+1/2 mod. A	1+1/2 mod. B	C	DIN modules	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

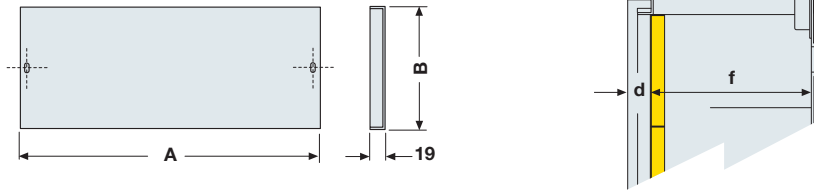


Measurements are in millimetres

Overall dimensions

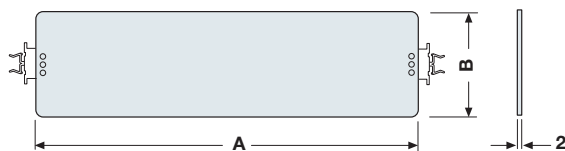
Gemini switchboards

Blank panels



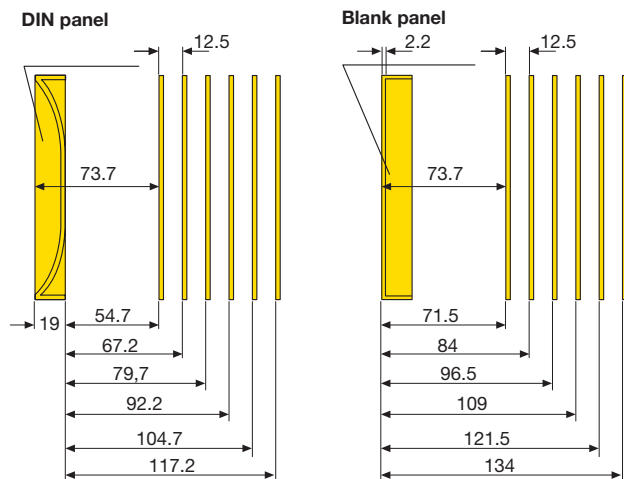
Size	Code	1/2 mod.		1 mod.		2 mod.		d	f
		A	B	A	B	A	B		
1	1SL0318A00-1SL0324A00-1SL0330A00	250	75	250	150	250	300	26,5	162
2	1SL0319A00-1SL0325A00-1SL0331A00	375	75	375	150	375	300	26,5	214
3	1SL0319A00-1SL0325A00-1SL0331A00	375	75	375	150	375	300	26,5	214
4	1SL0320A00-1SL0326A00-1SL0332A00	500	75	500	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

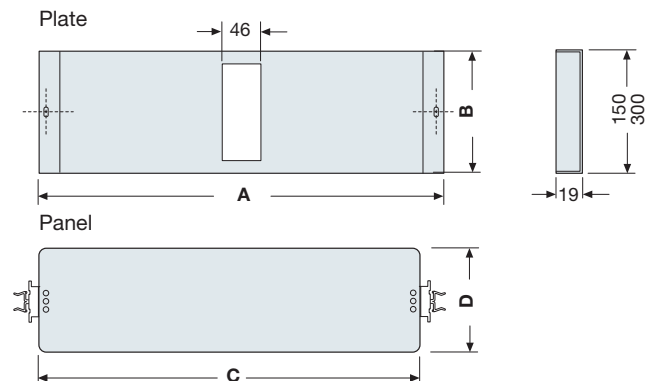


Size	Code	1 mod.		2 mod.	
		A	B	A	B
1	1SL0296A00	210	130		
2	1SL0297A00-1SL0302A00	318	130	318	280
3	1SL0297A00-1SL0302A00	318	130	318	280
4	1SL0298A00-1SL0303A00	443	130	443	280
5	1SL0298A00-1SL0303A00	443	130	443	280
6	1SL0299A00-1SL0304A00	663	130	663	280

Mounting distances between front panel and plate



Kit for Tmax



Size	Code	Panel		Plate	
		1 mod.	2 mod.	1 mod.	2 mod.
		A	B	C	D
2	1SL0336A00-1SL0370A00	375	150	375	300
3	1SL0336A00-1SL0370A00	375	150	375	300
4	1SL0337A00-1SL0371A00	500	150	500	300
5	1SL0337A00-1SL0371A00	500	150	500	300
6	1SL0338A00-1SL0372A00	750	150	750	300

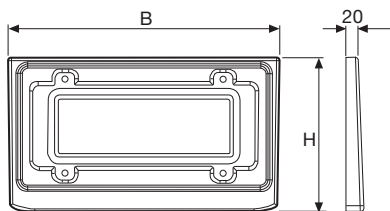
Size	Code	Panel		Plate	
		1 mod.	2 mod.	1 mod.	2 mod.
		C	D	C	D
1	1SL0296A00	210	130		
2	1SL0297A00-1SL0302A00	318	130	318	280
3	1SL0297A00-1SL0302A00	318	130	318	280
4	1SL0298A00-1SL0303A00	443	130	443	280
5	1SL0298A00-1SL0303A00	443	130	443	280
6	1SL0299A00-1SL0304A00	663	130	663	280

Measurements are in millimetres

Overall dimensions

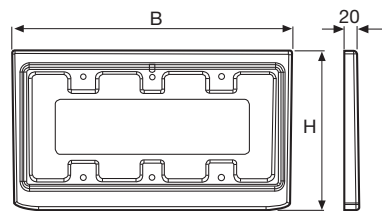
Gemini switchboards

Coupling Kit



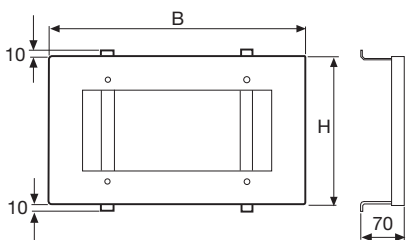
size	B	H
2	-	-
3	455	258
4	455	258
5	583	260
6	583	360
	834	360

Plinth



size	B	H
2	-	-
3	458	260
4	458	260
5	583	260
6	590	366
	840	366

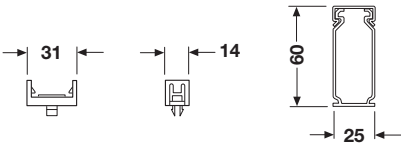
Fixed frame



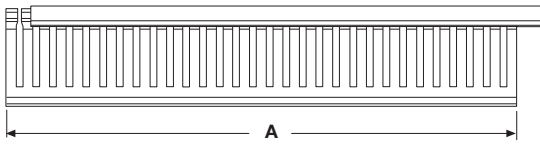
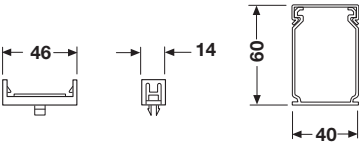
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2	-	-
3	415	240
4	415	240
5	540	240
6	584	330
	834	330

Wiring kit

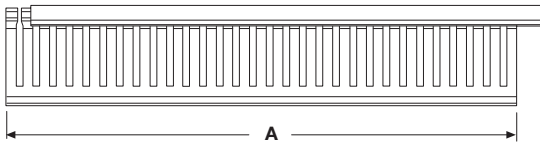
Duct 25x60 mm



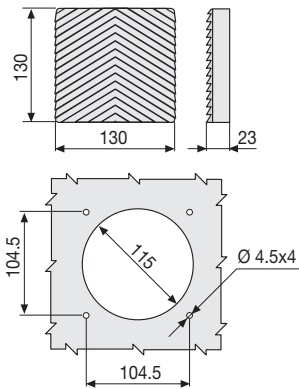
Duct 40x60 mm



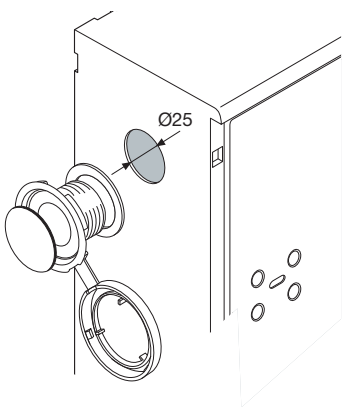
size	A
2	210
3	318
4	318
5	443
6	443
	663



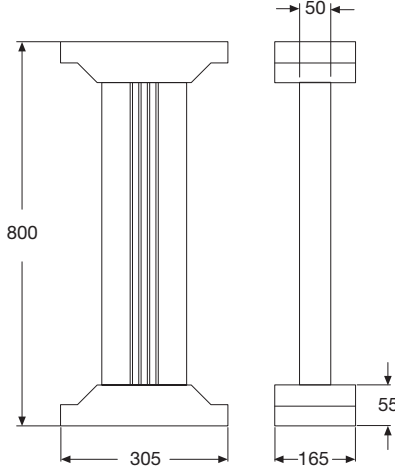
Ventilation kit



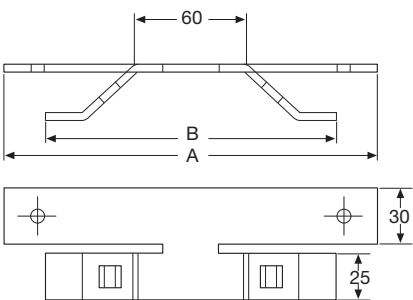
Anti-condensation kit



Pedestal



Pole installation kit



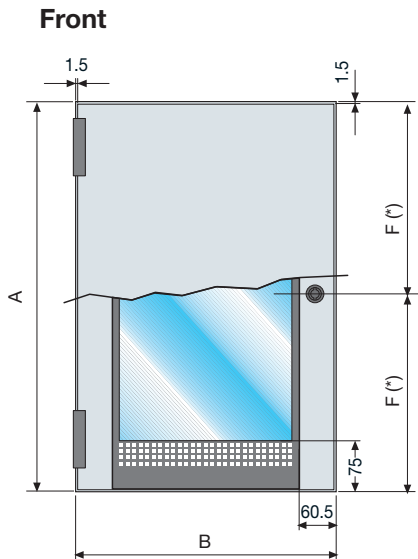
size	A	B
1	232	206
2-3	358	332
4-5	483	457
6	733	707

Measurements are in millimetres

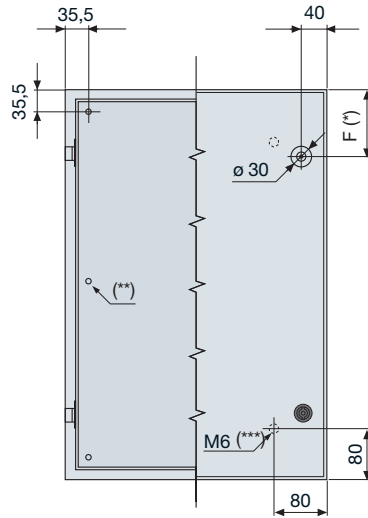
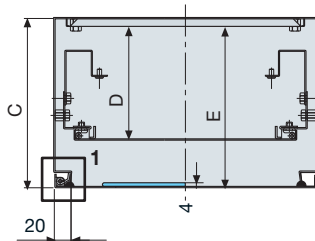
Overall dimensions

SR2 Enclosures

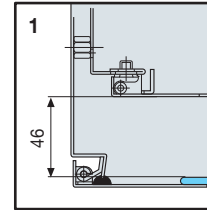
Basic version



Modular panels and internal counterdoor



Fairlead flange



- (*) **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)

- (**) **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

For drilling see page 9/47

	A	B	C	D	E	F(*)	G	H	I	L
SRN3215K	303	203	147	82	133,5	151,5	163	337	237	263
SRN3315K	303	303	147	82	133,5	151,5	263	337	337	263
SRN3415K	303	403	147	82	133,5	151,5	363	337	437	263
SRN4315K	403	303	147	82	133,5	201,5	263	437	337	363
SRN4320K	403	303	197	132	183,5	201,5	263	437	337	363
SRN4420K	403	403	197	132	183,5	201,5	363	437	437	363
SRN4620K	403	603	197	132	183,5	201,5	563	437	637	363
SRN5320K	503	303	197	132	183,5	251,5	263	537	337	463
SRN5420K	503	403	197	132	183,5	251,5	363	537	437	463
SRN5425K	503	403	247	182	233,5	251,5	363	537	437	463
SRN6420K	603	403	197	132	183,5	100	363	637	437	563
SRN6425K	603	403	247	182	233,5	100	363	637	437	563
SRN6625K	603	603	247	182	233,5	100	563	637	637	563
SRN7520K	703	503	197	132	183,5	100	463	737	537	663
SRN7525K	703	503	247	182	233,5	100	463	737	537	663
SRN8625K	803	603	247	182	233,5	150	563	837	637	763
SRN8630K	803	603	297	232	283,5	150	563	837	637	763
SRN8830K	803	803	297	232	283,5	150	763	837	837	763

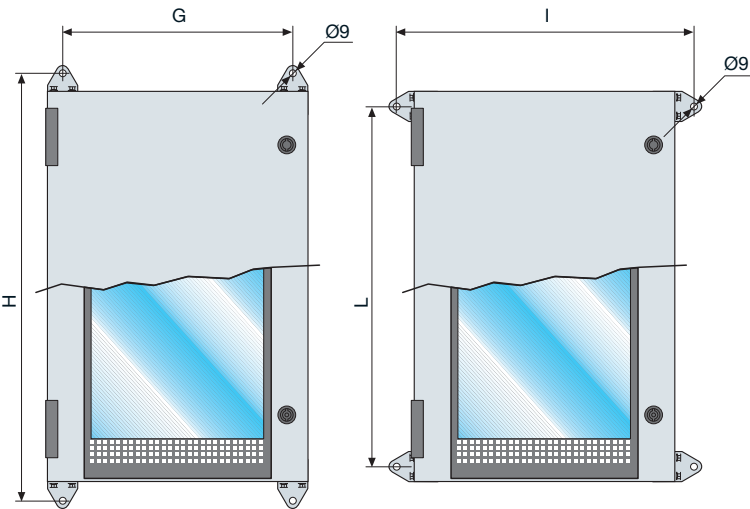
	A	B	C	D	E	F(*)	G	H	I	L
SRN10625K	1003	603	247	182	233,5	150	563	1037	637	963
SRN10630K	1003	603	297	232	283,5	150	563	1037	637	963
SRN10830K	1003	803	297	232	283,5	150	763	1037	837	963
SRN12630K	1203	603	297	232	283,5	150	563	1237	637	1163
SRN12830K	1203	803	297	232	283,5	150	763	1237	837	1163
SRN5420VK	503	403	197	132	183,5	150	363	537	437	463
SRN5425VK	503	403	247	182	233,5	150	363	537	437	463
SRN6420VK	603	403	197	132	183,5	150	363	637	437	563
SRN6425VK	603	403	247	182	233,5	150	363	637	437	563
SRN7520VK	703	503	197	132	183,5	150	463	737	537	663
SRN7525VK	703	503	247	182	233,5	150	463	737	537	663
SRN8625VK	803	603	247	182	233,5	150	563	837	637	763
SRN8630VK	803	603	297	232	283,5	150	563	837	637	763
SRN10625VK	1003	603	247	182	233,5	150	563	1037	637	963
SRN10630VK	1003	603	297	232	283,5	150	563	1037	637	963
SRN10830VK	1003	803	297	232	283,5	150	763	1037	837	963
SRN12630VK	1203	603	297	232	283,5	150	563	1237	637	1163
SRN12830VK	1203	803	297	232	283,5	150	763	1237	837	1163

Measurements are in millimetres

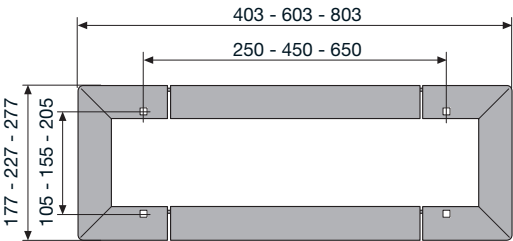
Overall dimensions

SR2 Enclosures

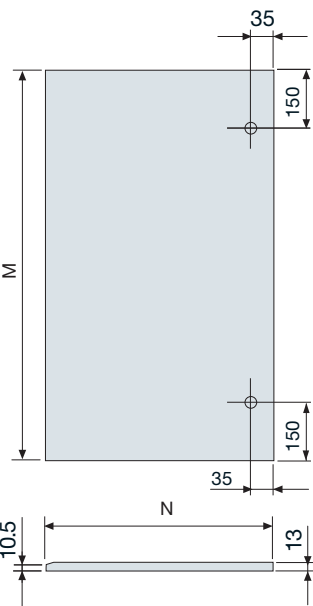
Centre distances for wall fixing



Centre distances for plinth fix



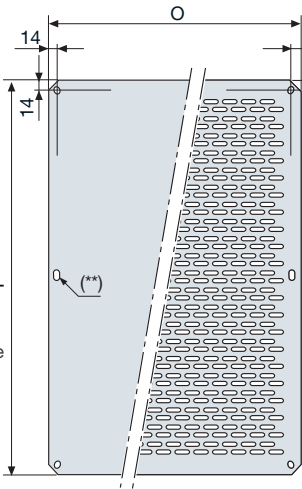
Internal counterdoors



Code	M	N
KC5040K*	456	360
KC6040K*	556	360
KC7050K*	656	460
KC8060K	756	560
KC1060K	956	560
KC1080K	956	760
KC1260K	1156	560
KC1280K	1156	760

* The counterdoors with H 500mm, 600mm and 700mm, only have one hole in the centre for the lock

Internal plates



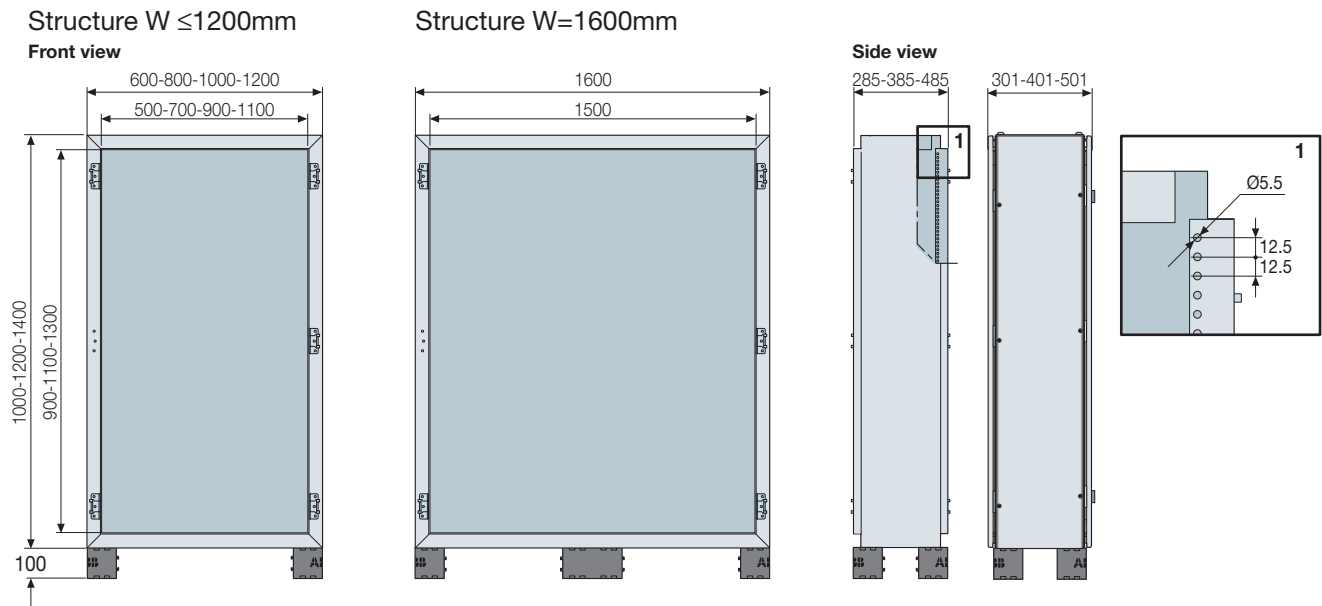
Code	O	P
PF3020	160	260
PF3030	260	260
PF3040 - PF4030	360	260
PF4040	360	360
PF5030	260	460
PF5040	360	460
PF6040 - PF4060	360	560
PF6060	560	560
PF7050	460	660
PF8060	560	760
PF8080	760	760
PF1060	560	960
PF1080	760	960
PF1260	560	1160
PF1280	760	1160

Measurements are in millimetres

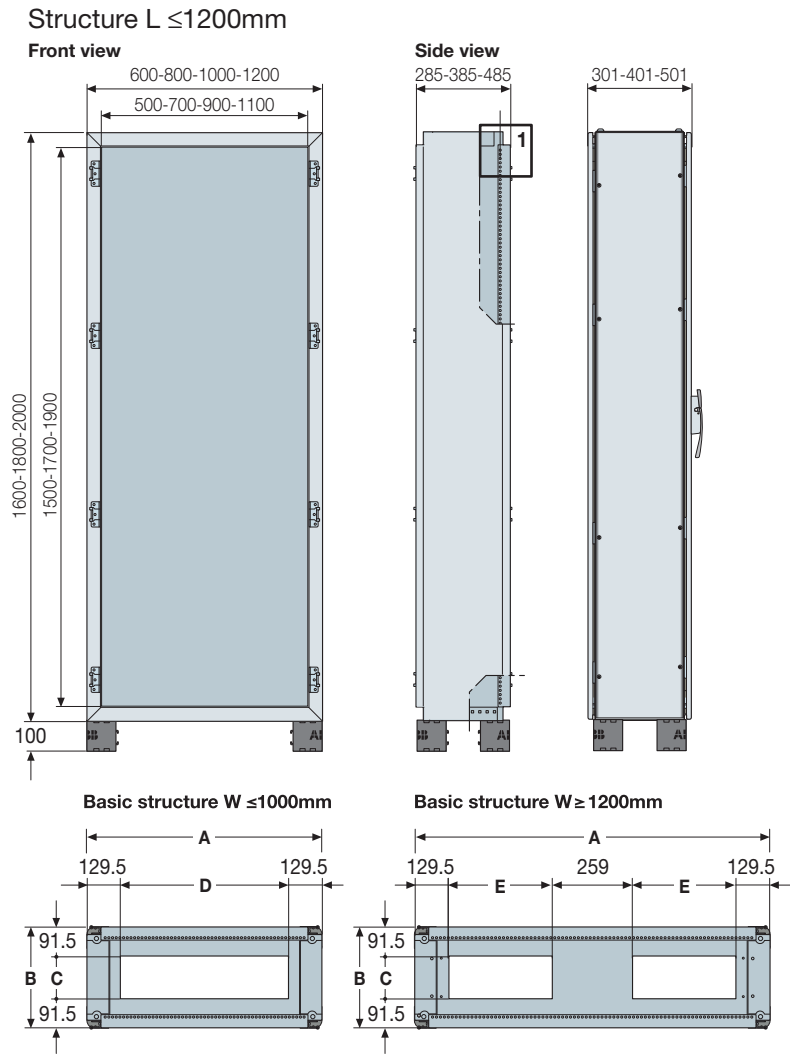
Overall dimensions

AM2 cabinets

Structure H=1000/1200/1400mm



Structure H=1600/1800/2000mm



	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

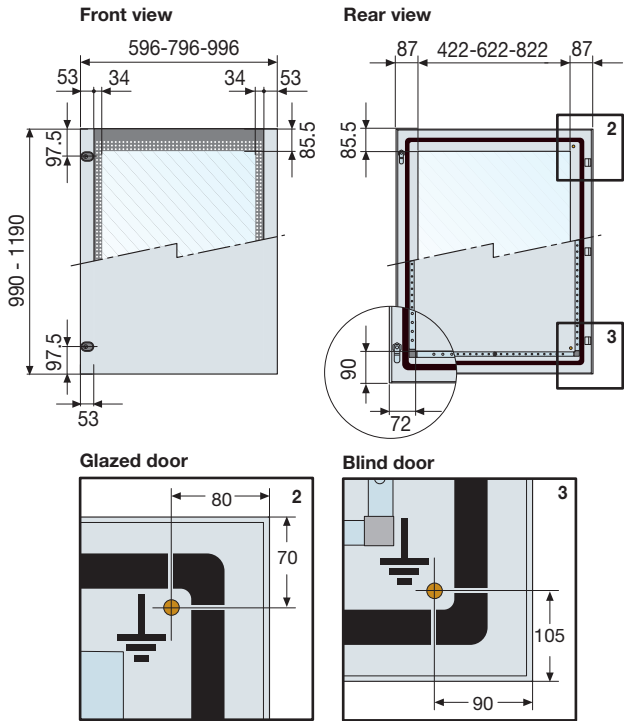
Measurements are in millimetres

Overall dimensions

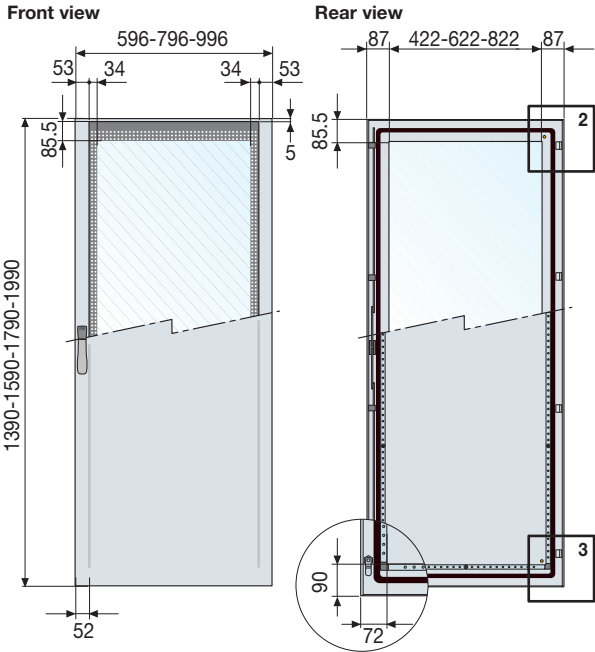
AM2 cabinets

Front/Rear covers

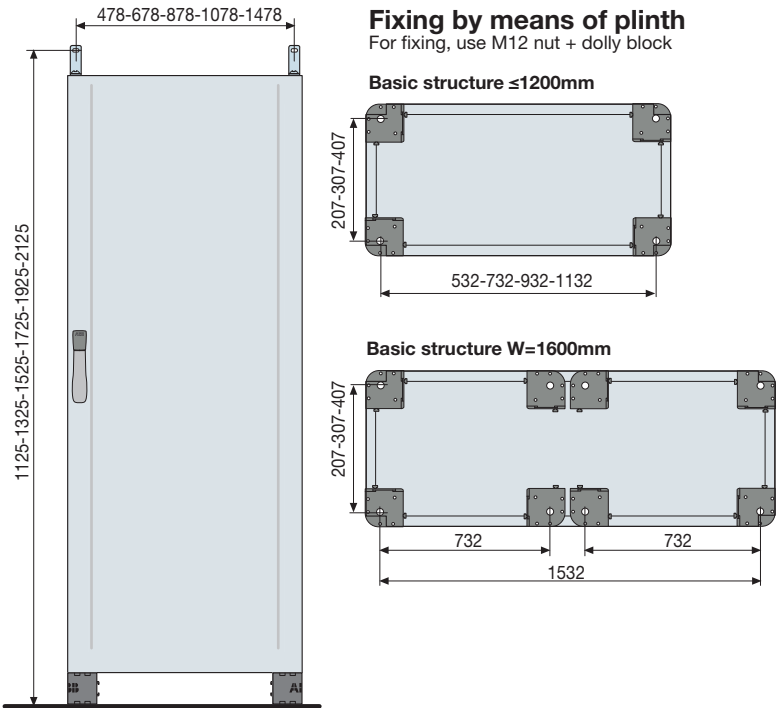
Blind or glazed door H =1000/1200mm



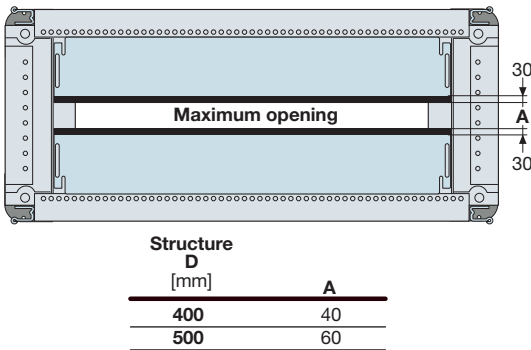
Blind or glazed door H =1400/1600/1800/2000mm



Fixing to wall/floor



Flanges for sliding cable passage

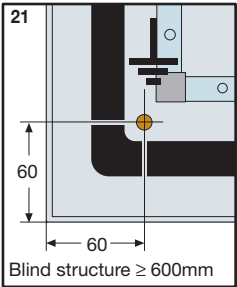
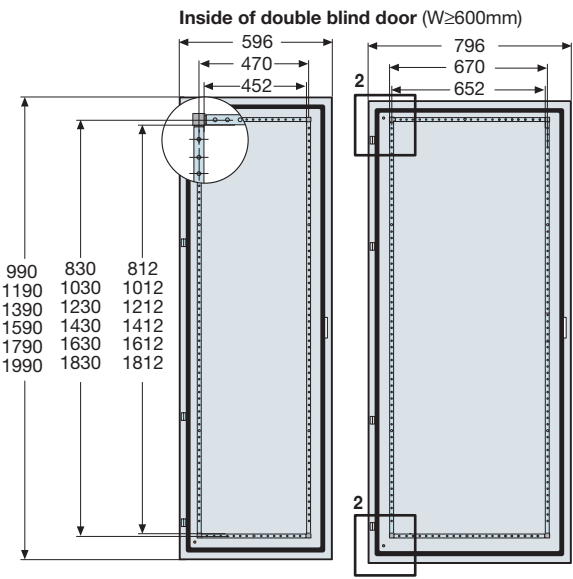
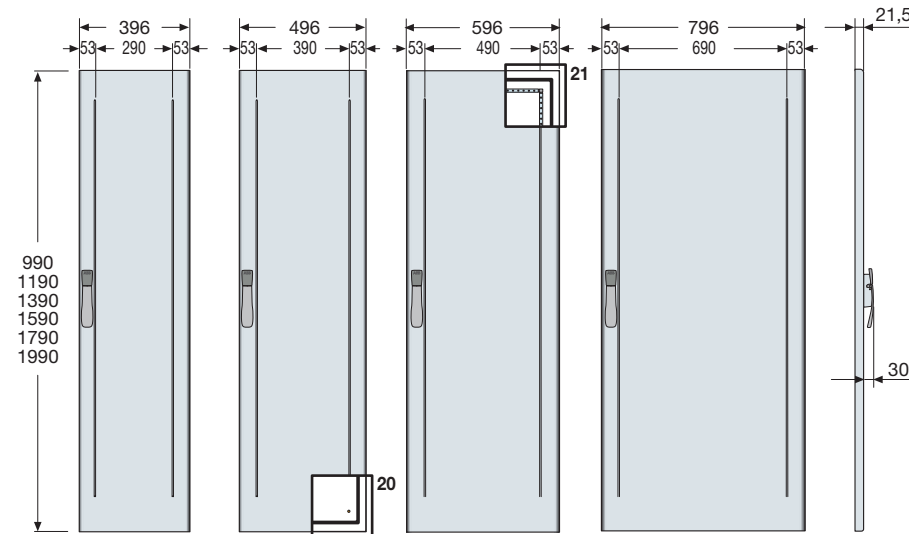


Measurements are in millimetres

Overall dimensions

AM2 cabinets

Double front or rear doors

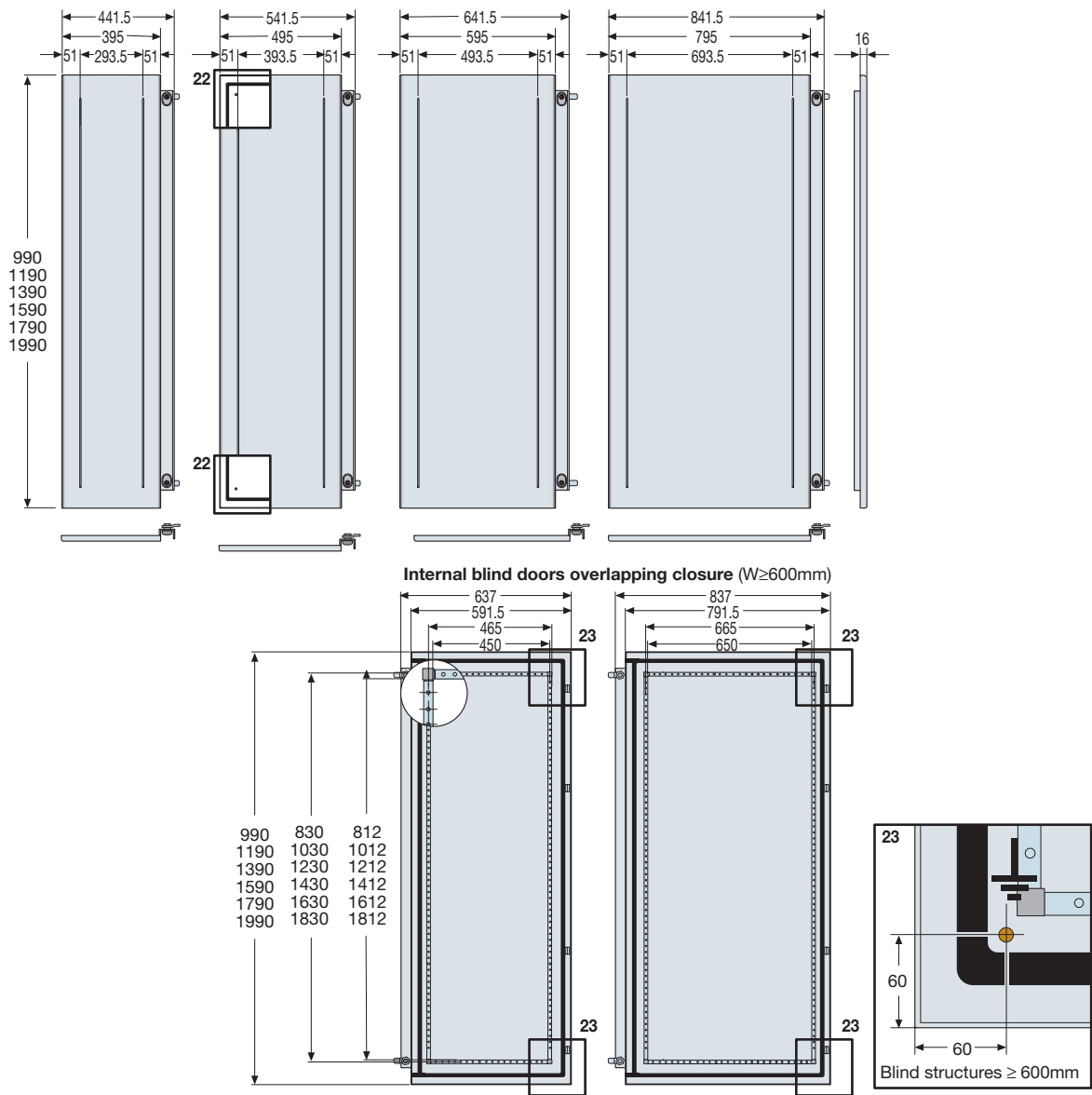


Measurements are in millimetres

Overall dimensions

AM2 cabinets

Blind doors with overlapping closure

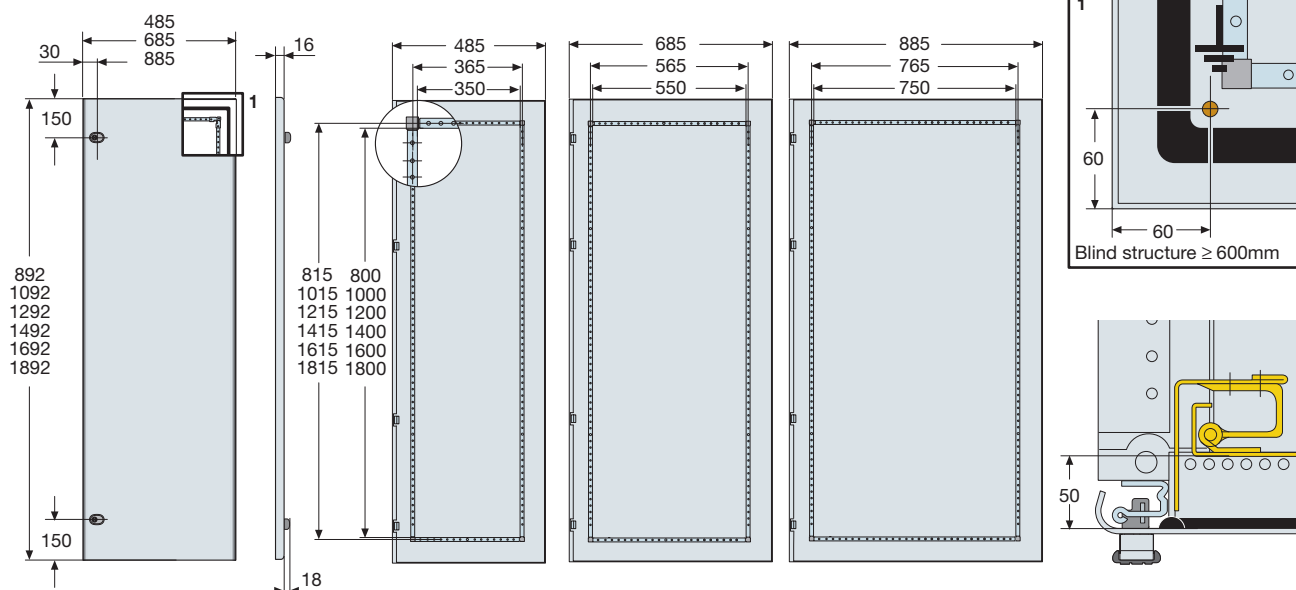


Measurements are in millimetres

Overall dimensions

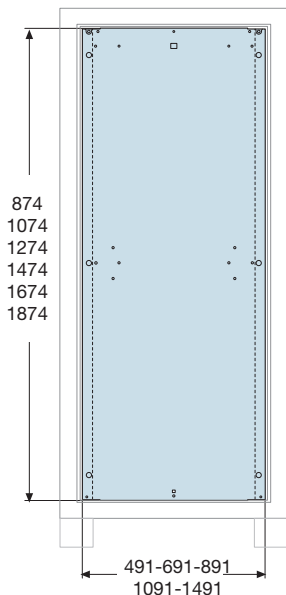
AM2 cabinets

Internal counterdoor

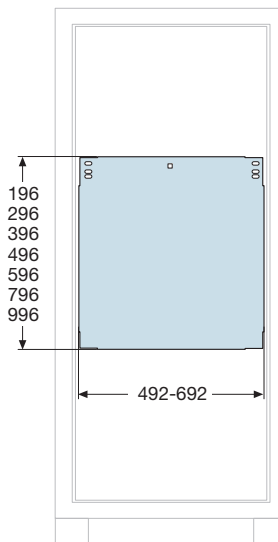


Mounting plates

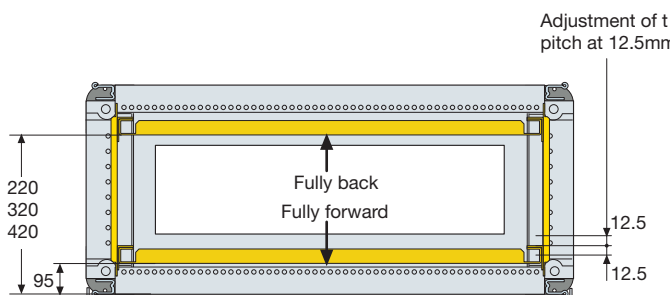
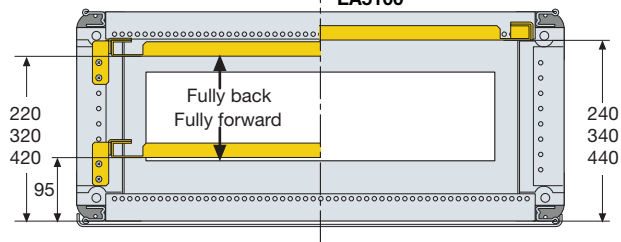
Standard plate



Partial height plate



Mounting with EA5100

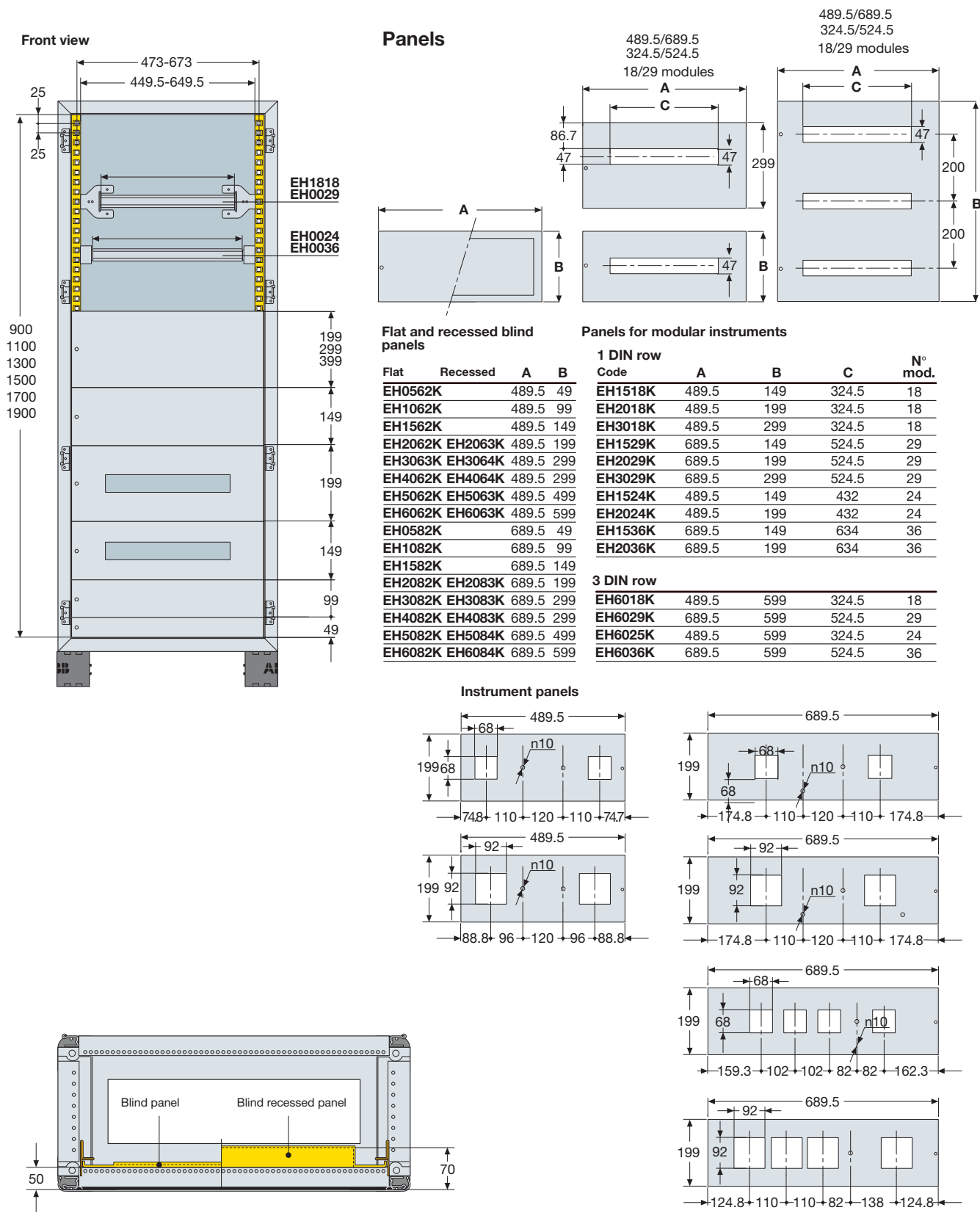


Measurements are in millimetres

Overall dimensions

AM2 cabinets

Kit modular apparatus

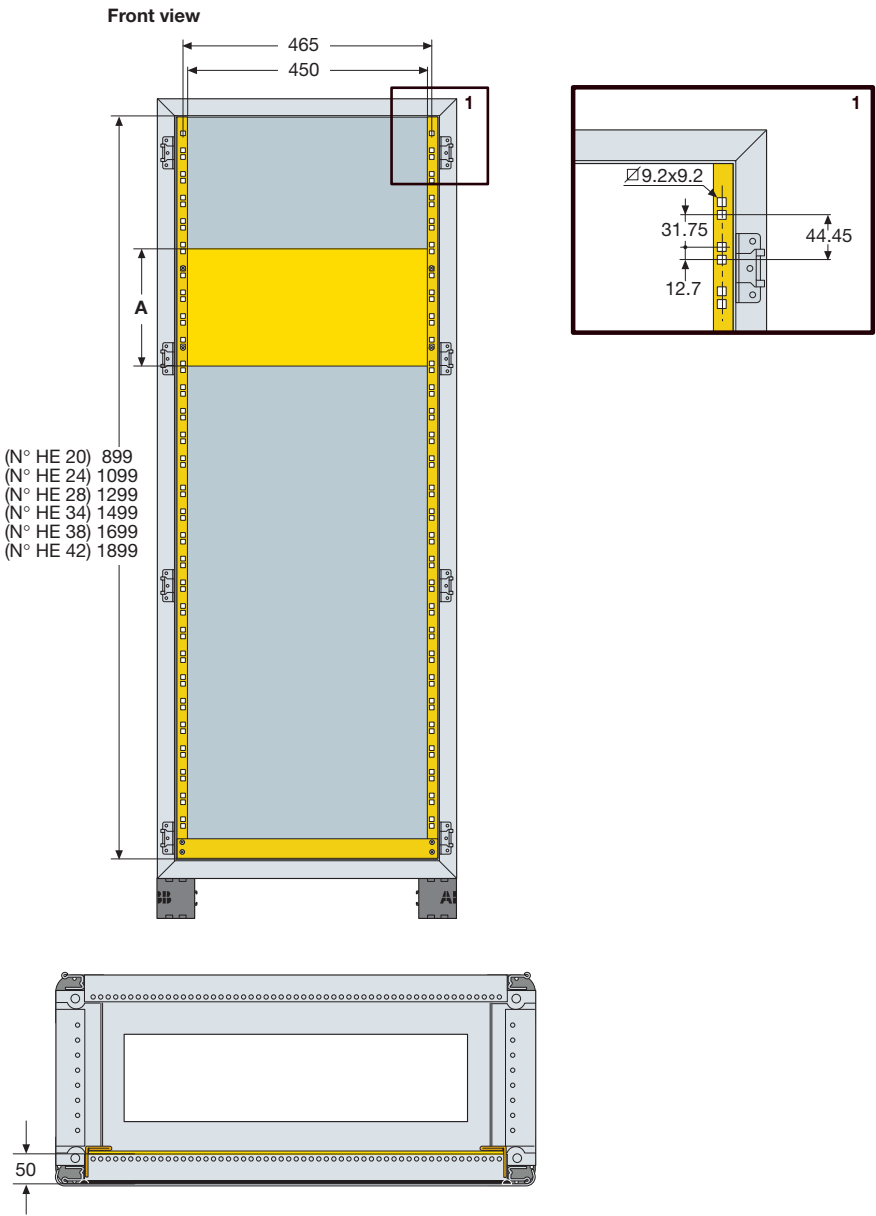


Measurements are in millimetres

Overall dimensions

AM2 cabinets

19" Rack frames



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
EG1999	844.5	19
EG1920	889	20

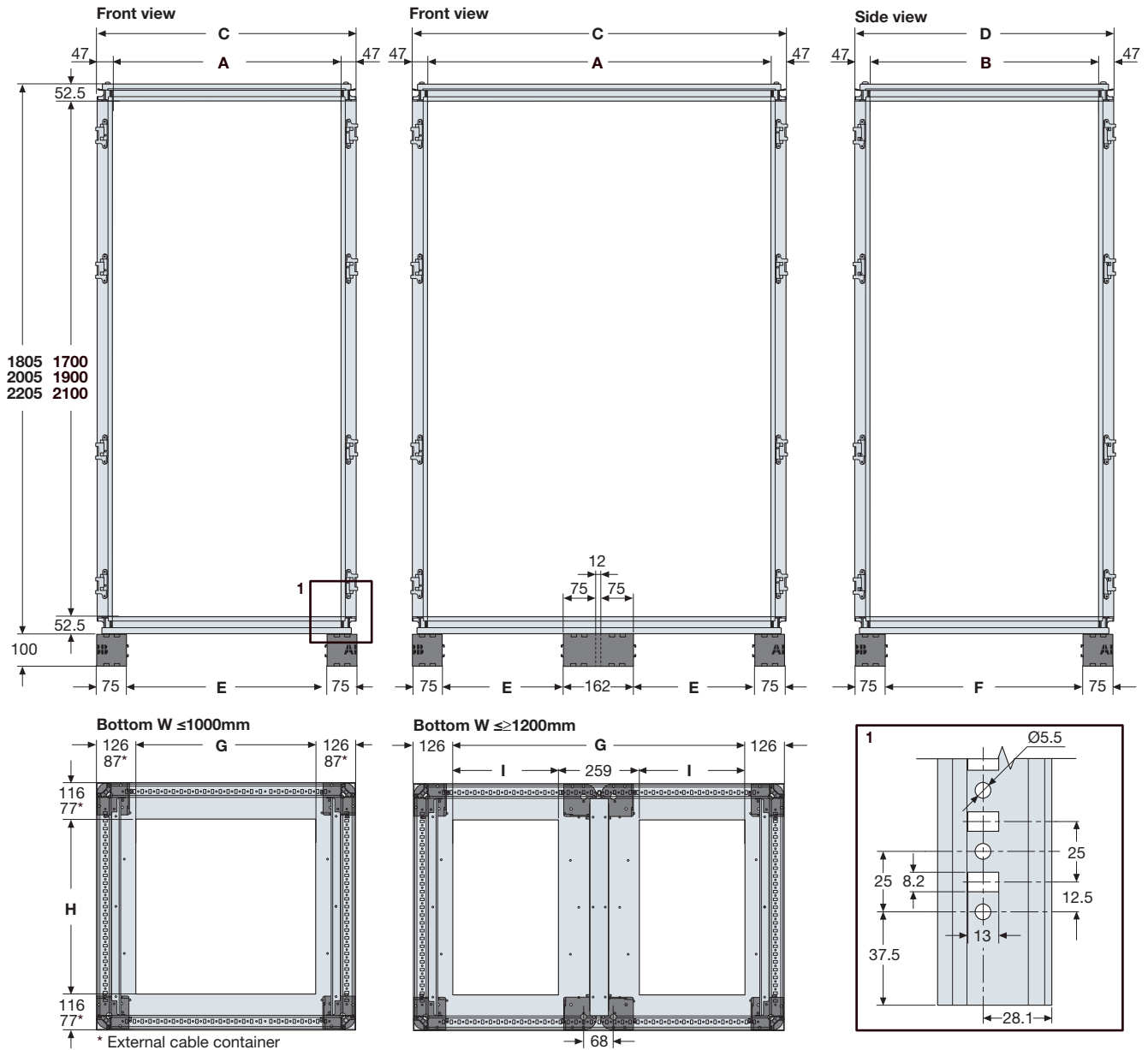
Measurements are in millimetres

IS2 Enclosures

Basic structure/External cable container

Structure $W \leq 1000\text{mm}$

Structure $W \leq 1200\text{mm}$



A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H	I
200	300	294	394	138	238	120	239	900	300	994	394	838	238	742	162	
	400		494		338		339		400		494		338		262	
	500		594		438		439		500		594		438		362	
	700		794		638		639		700		794		638		562	
	900		994		838		839		900		994		838		762	
300	300	394	394	238	238	142	162	1100	300	1194	394	438	238	942	162	341.5
	400		494		338		262		400		494		338		262	
	500		594		438		362		500		594		438		362	
	700		794		638		562		700		794		638		562	
	900		994		838		762		900		994		838		762	
500	300	594	394	438	238	342	162	1500	300	1594	394	638	238	1342	162	541.5
	400		494		338		262		400		494		338		262	
	500		594		438		362		500		594		438		362	
	700		794		638		562		700		794		638		562	
	900		994		838		762		900		994		838		762	
700	300	794	394	638	238	542	162		300		394		238		162	
	400		494		338		262		400		494		338		262	
	500		594		438		362		500		594		438		362	
	700		794		638		562		700		794		638		562	
	900		994		838		762		900		994		838		762	

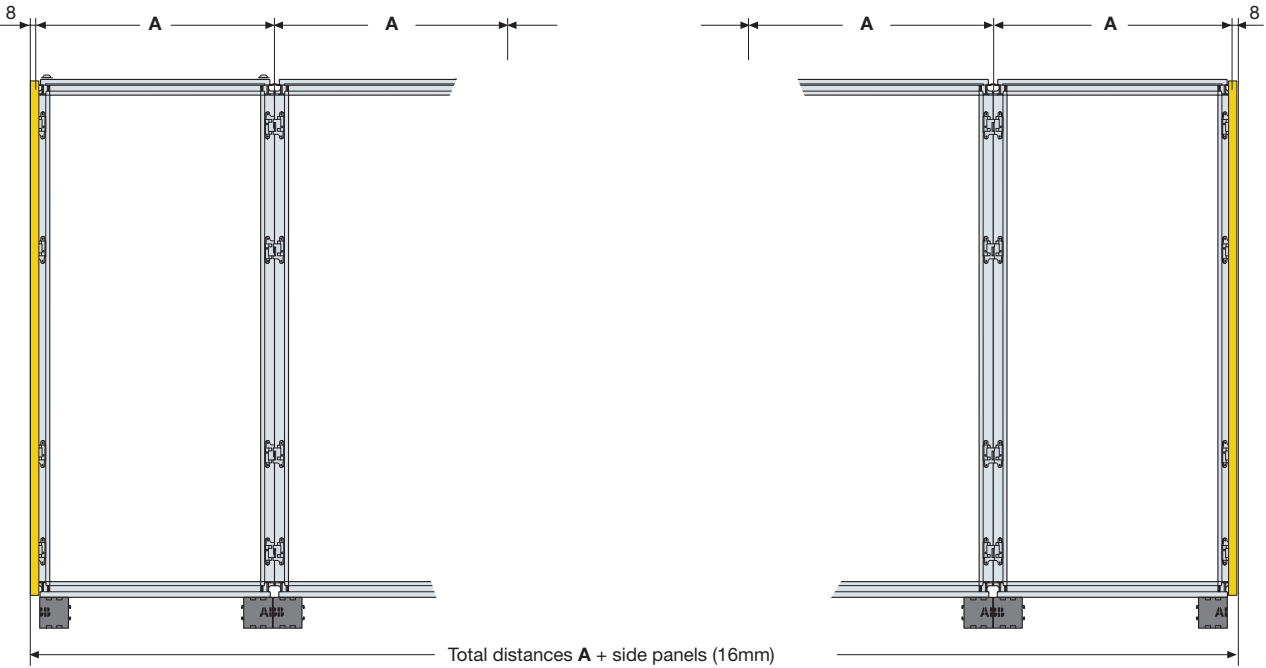
Measurements are in millimetres

Overall dimensions

IS2 Enclosures

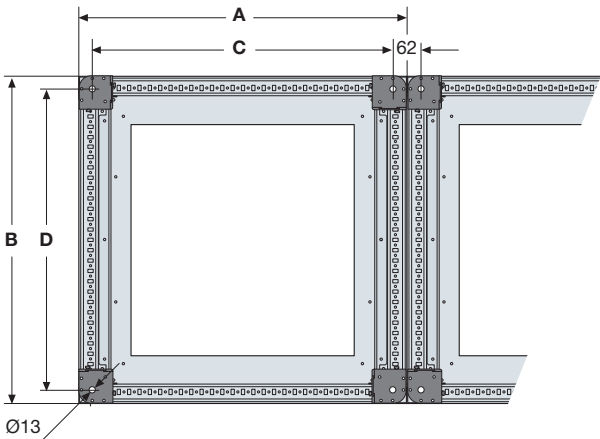
Placing structures side by side and fixing to the floor

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
	994		932

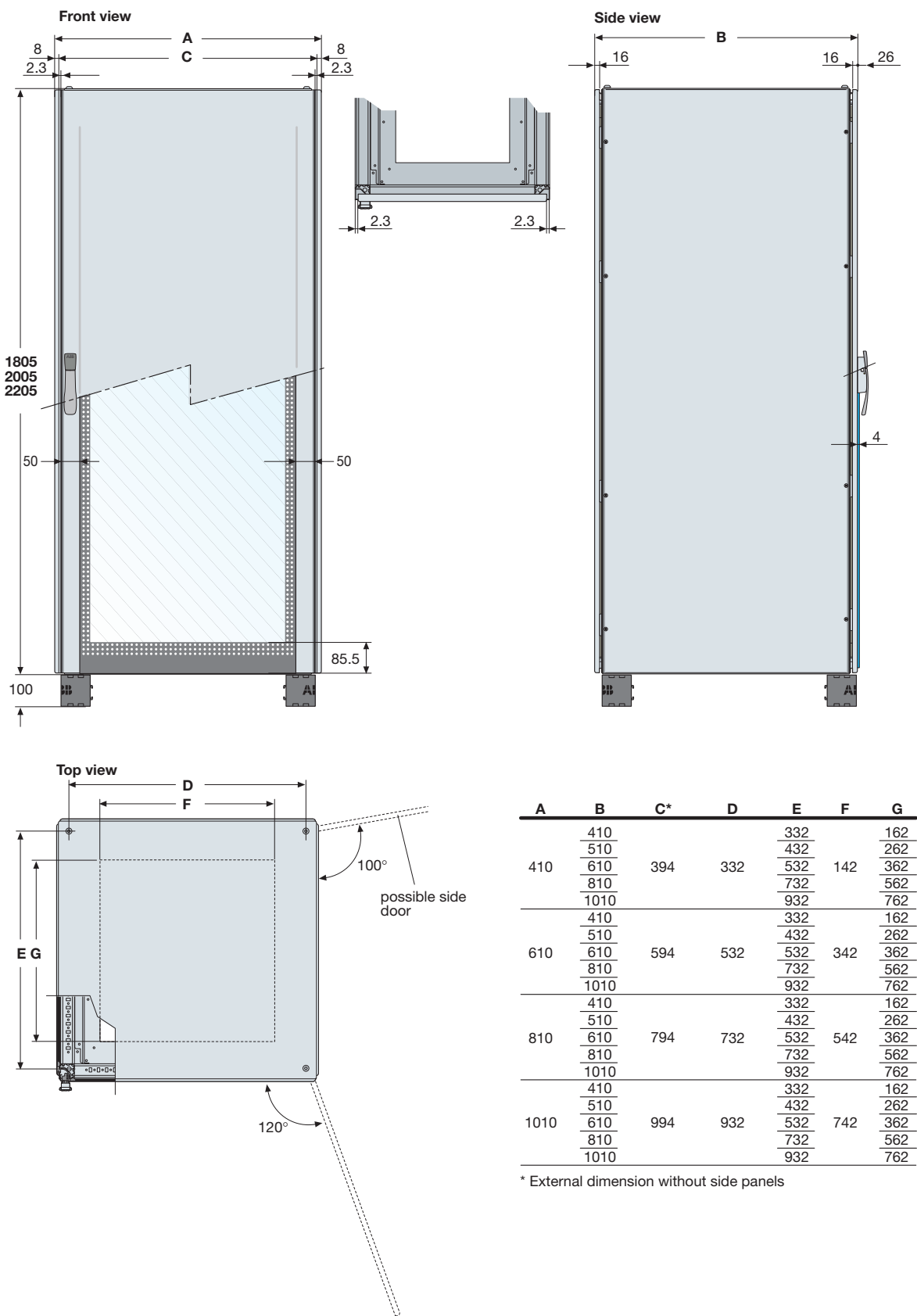
Measurements are in millimetres

1STC804002F0901

Overall dimensions

IS2 Enclosures

Version with blind or glazed door



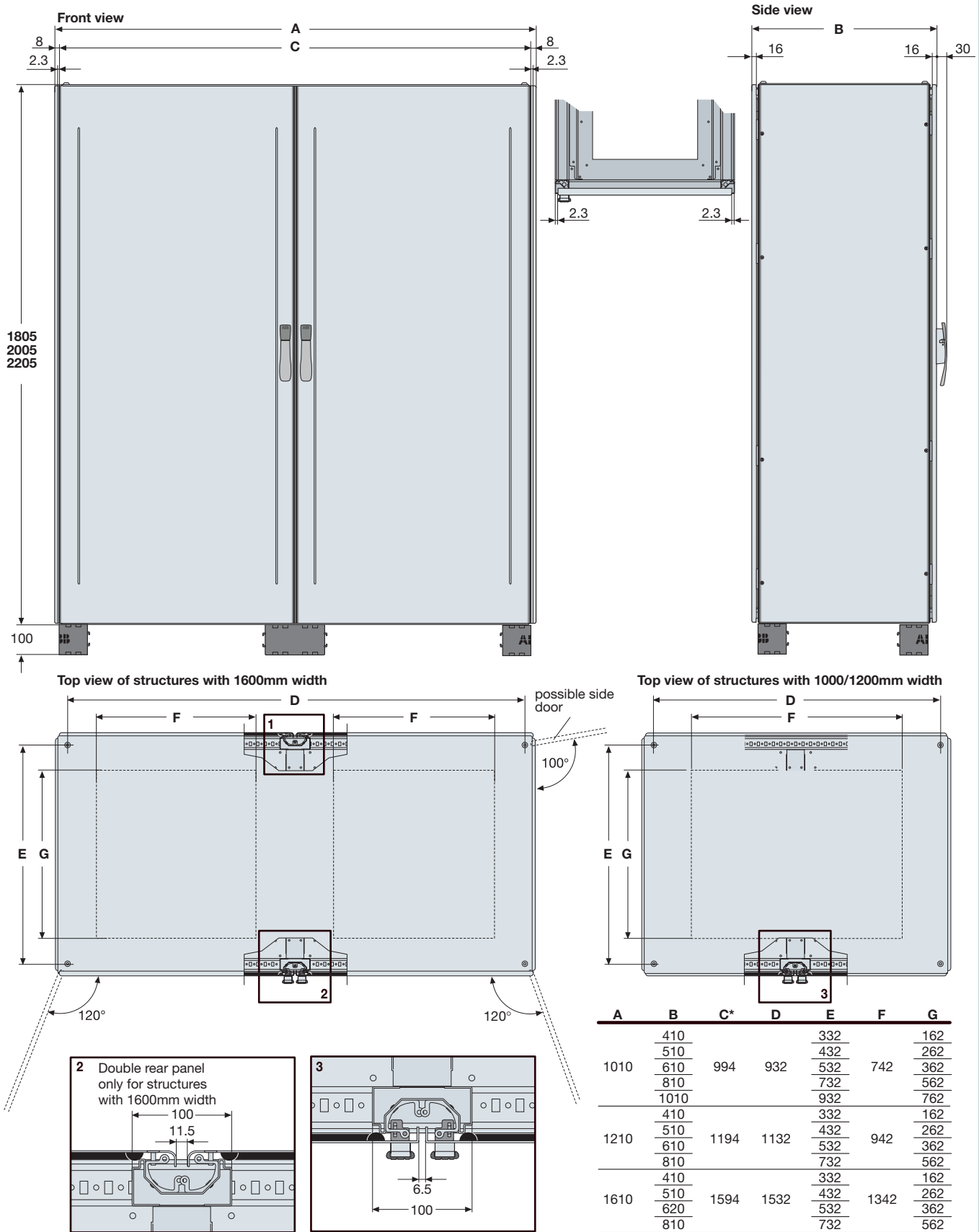
Measurements are in millimetres

1STC804007F0901

Overall dimensions

IS2 Enclosures

Version with double blind door



* External dimension without side panels

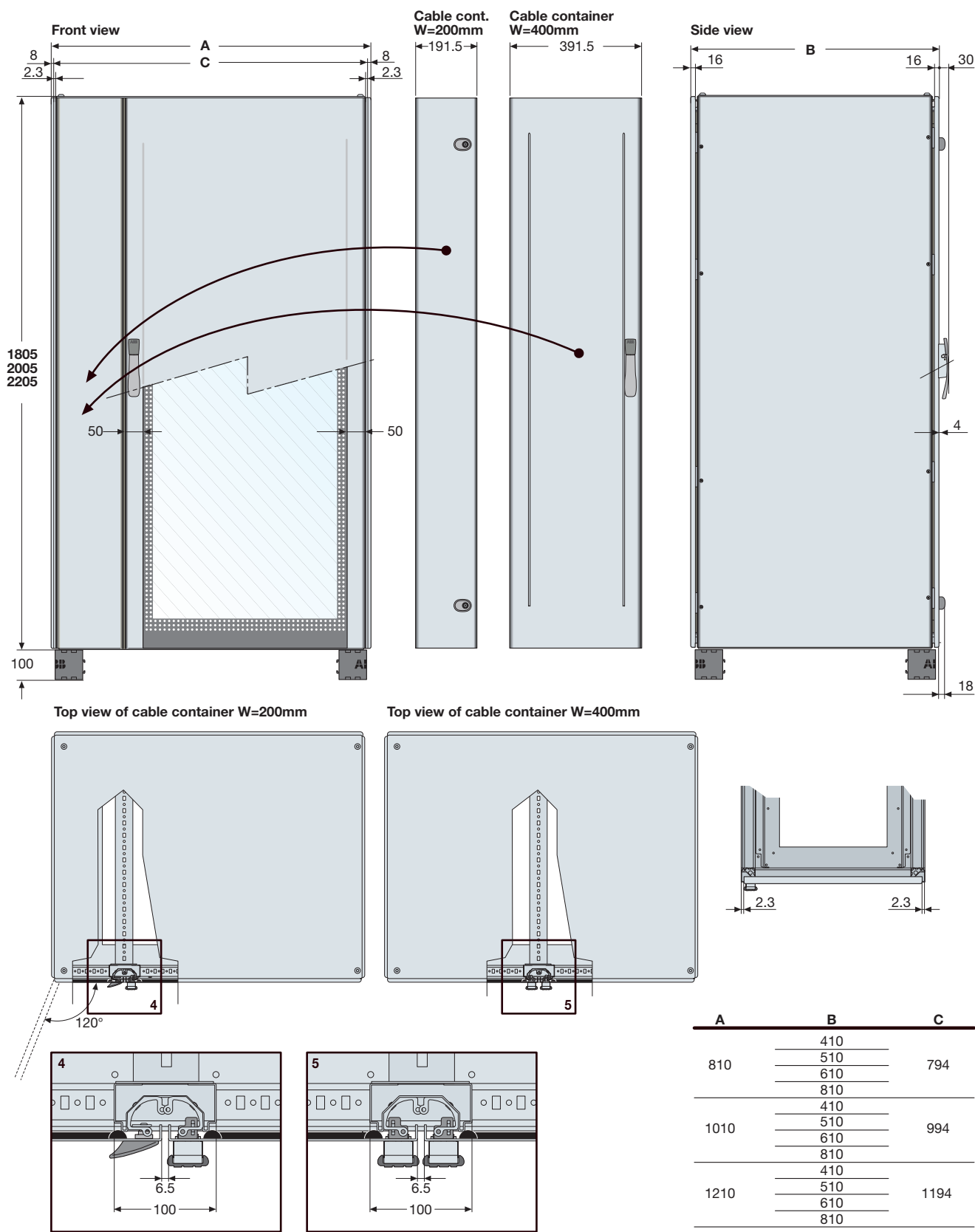
Measurements are in millimetres

1STC804008F0901

Overall dimensions

IS2 Enclosures

Version with cable container



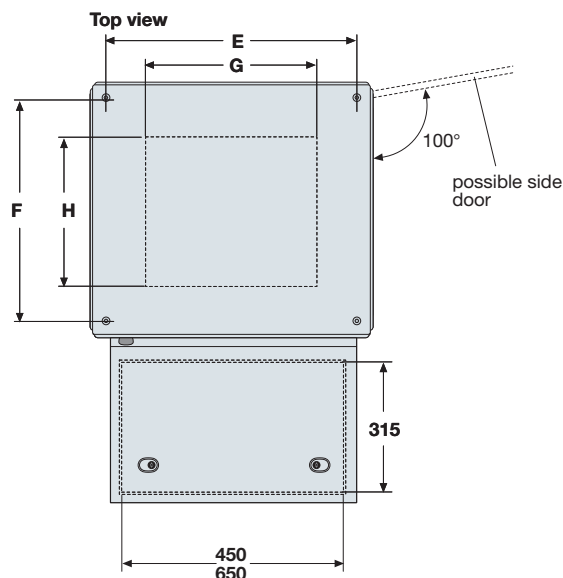
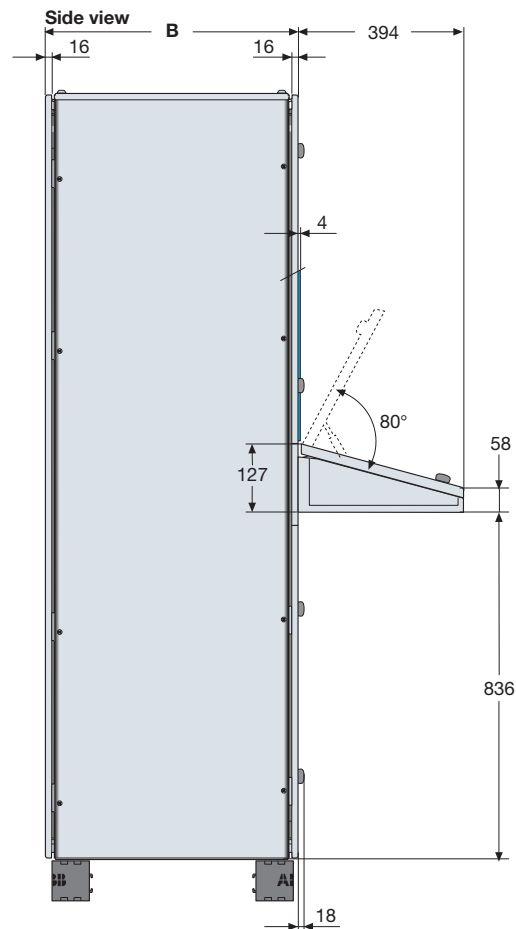
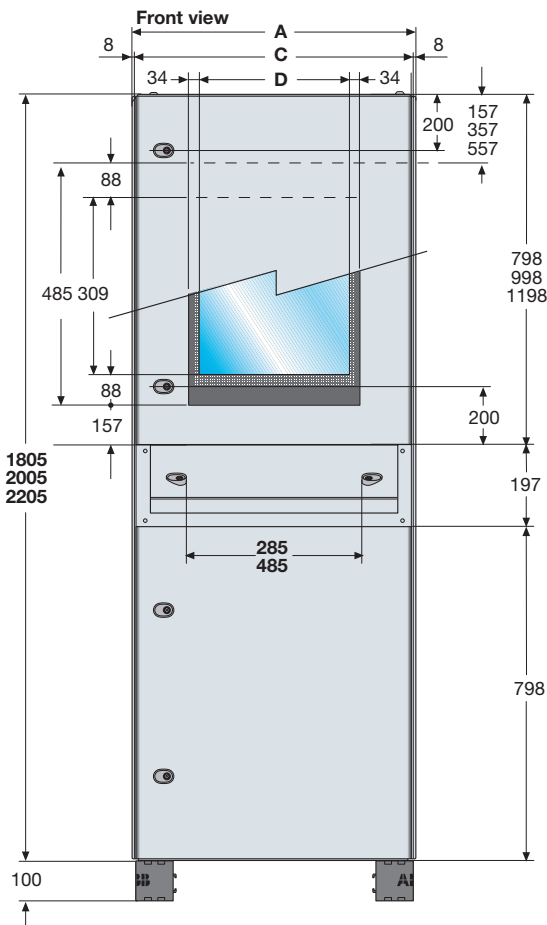
Measurements are in millimetres

1STC804006F0901

Overall dimensions

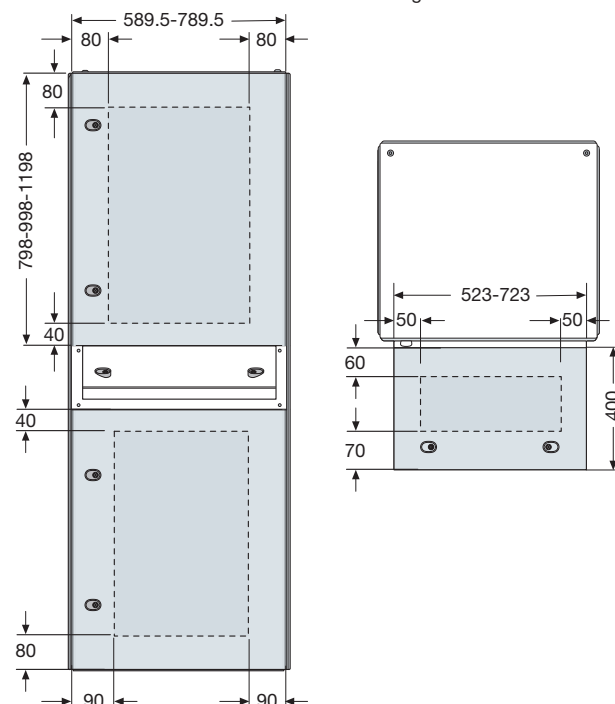
IS2 Enclosures

Cabinet with console



Cabinet with console drillings

Maximum useful overall dimensions for the drillings



A	B	C	D	E	F	G	H
410					332		162
510					432		262
605.5		589.5	342	532	532	342	362
810					732		562
410					332		162
510					432		262
805.5		789.5	542	732	532	542	362
610					532		362
810					732		562

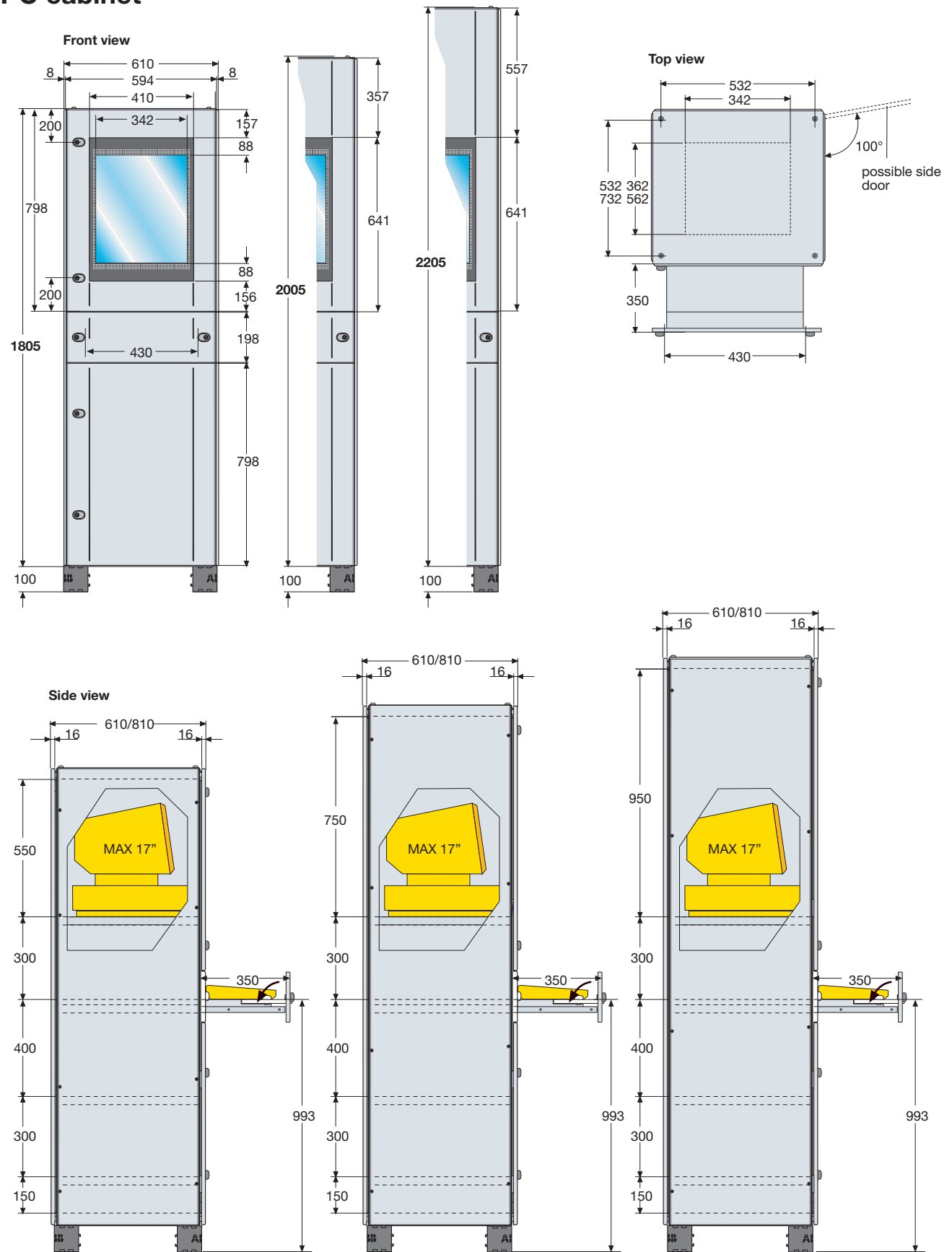
Measurements are in millimetres

1STC804010F0901

Overall dimensions

IS2 Enclosures

PC cabinet



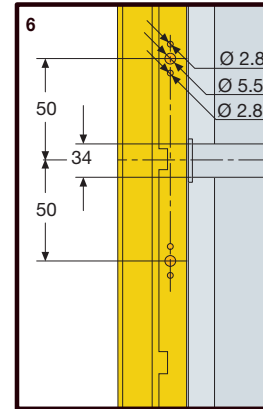
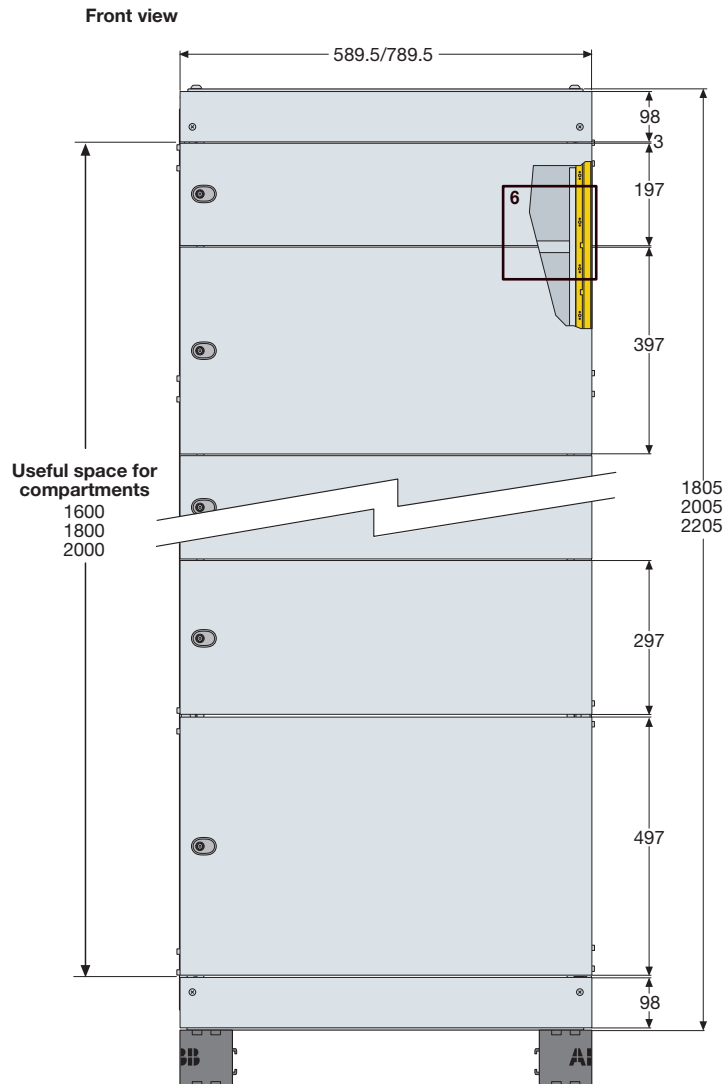
Measurements are in millimetres

1STC804003F0901

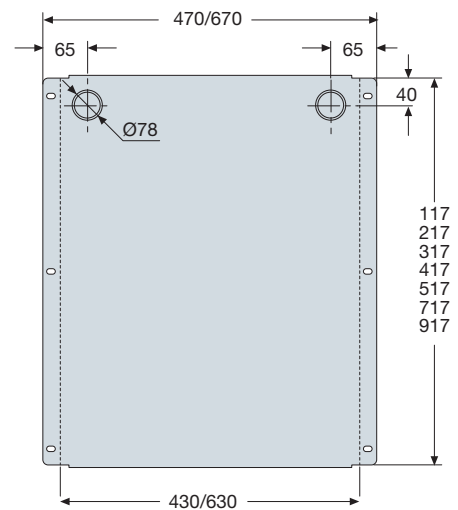
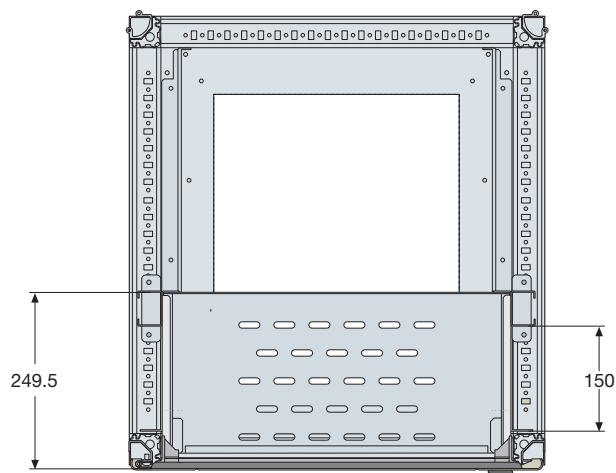
Overall dimensions

IS2 Enclosures

Compartment Configuration



Base



Measurements are in millimetres

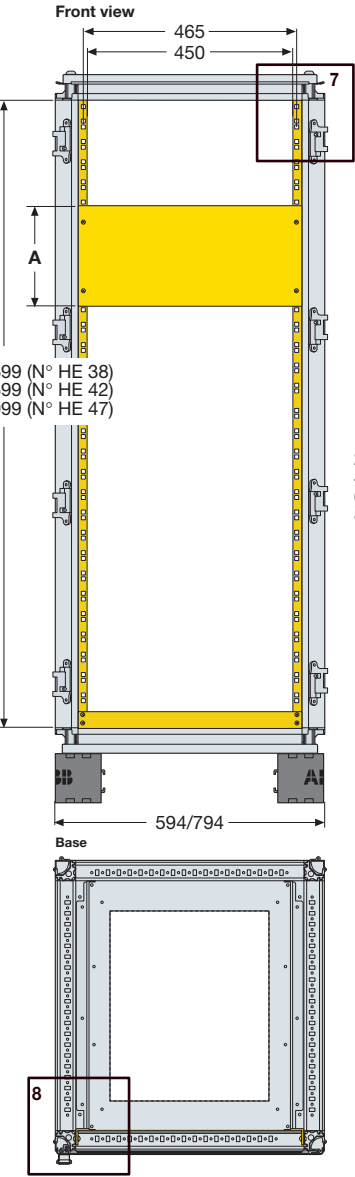
1STC804004F0901

Overall dimensions

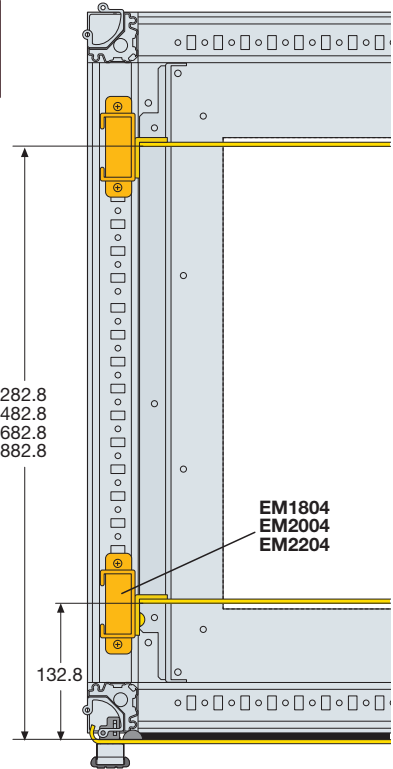
IS2 Enclosures

19" Rack frames

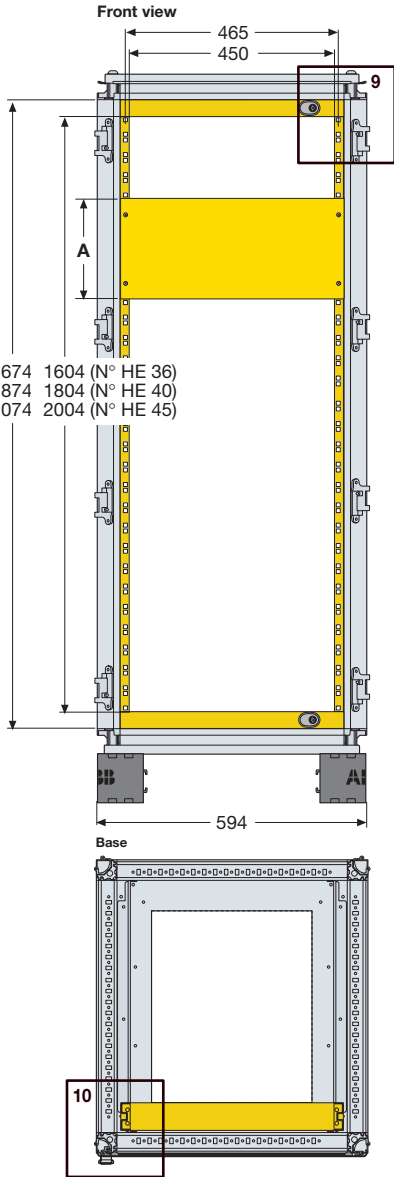
Fixed rack frame



Swing rack frame
fixed rack frame

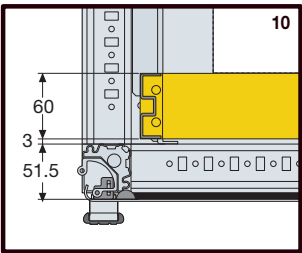
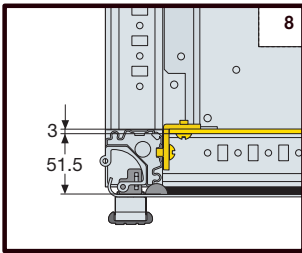
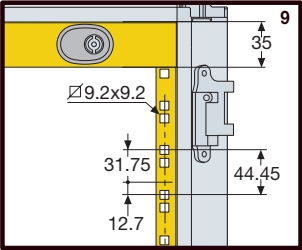
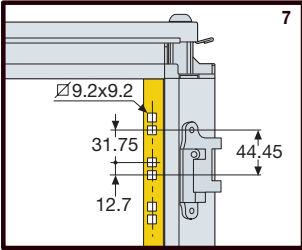


Swing rack frame W=600mm



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
EG1999	844.5	19
EG1920	889	20



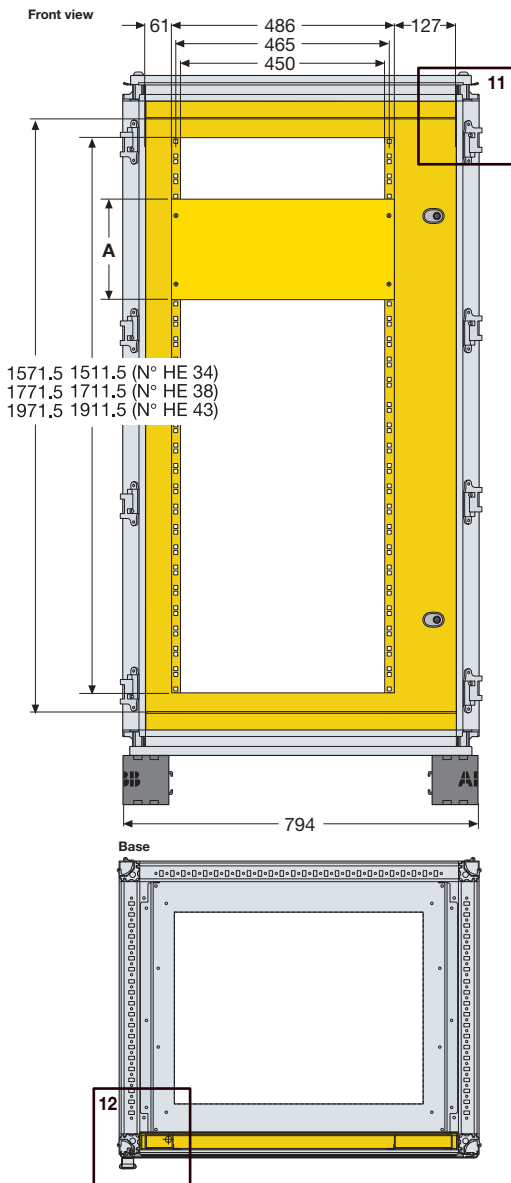
Measurements are in millimetres

Overall dimensions

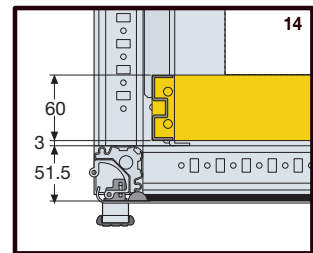
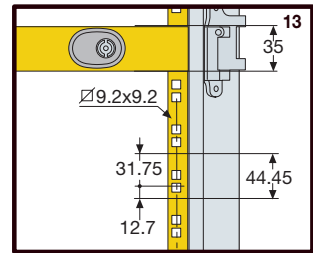
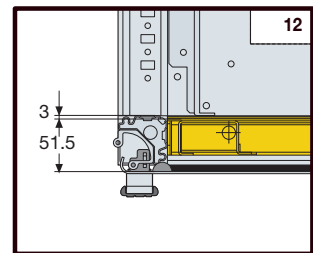
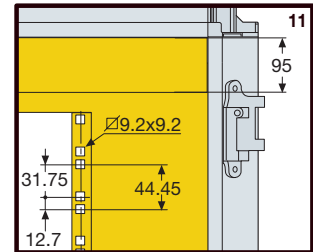
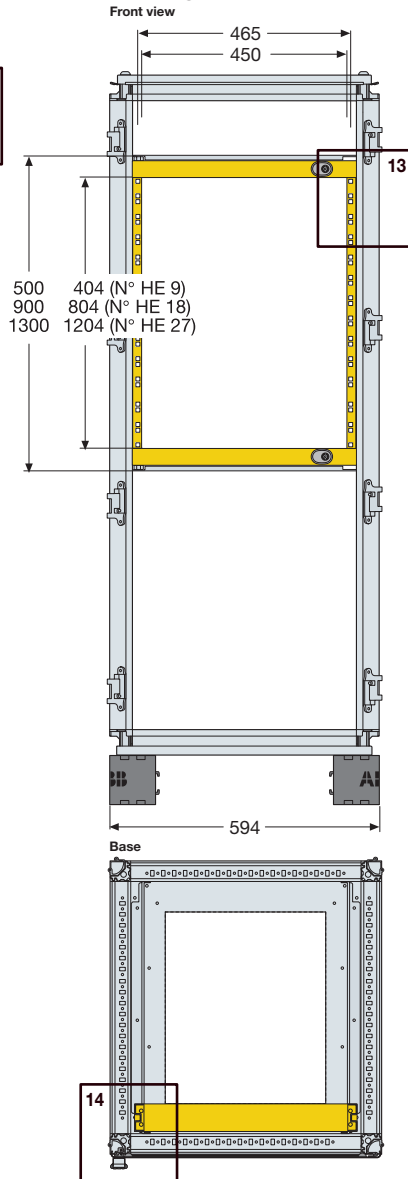
IS2 Enclosures

19" Rack frames

Rack frame in structure W=800mm



Partial swing rack frame



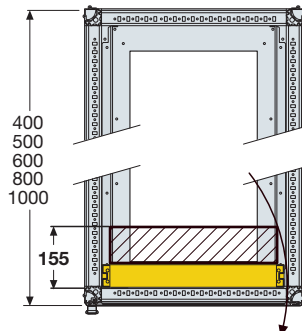
Panels for 19" rack frames

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
EG1999	844.5	19
EG1920	889	20

Maximum overall apparatus installation dimensions in 19" swing rack frames

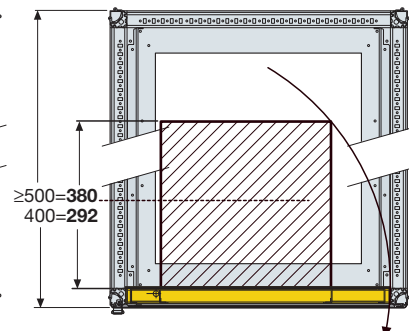
Swing rack frame with 90° opening

Rack frame in structure W=600mm



Swing rack frame with 150° opening

Rack frame eccentric in structure W=800mm



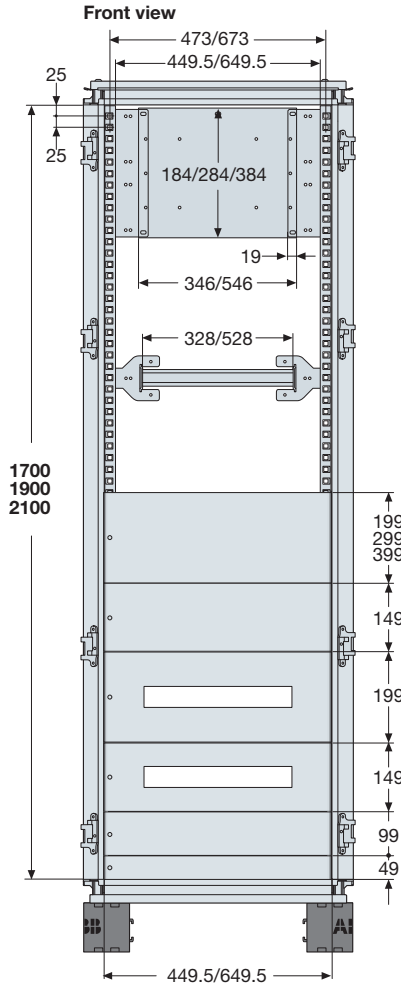
Measurements are in millimetres

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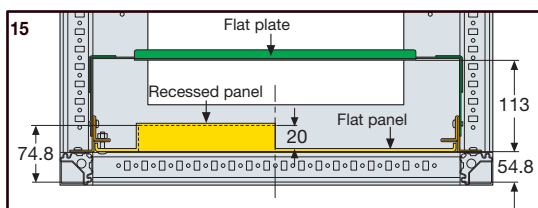
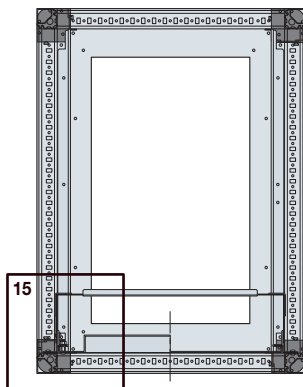
Overall dimensions

IS2 Enclosures

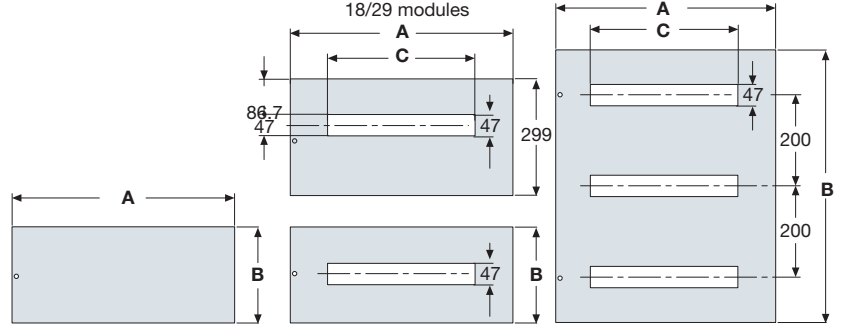
Version with kit for modular apparatus



Base



Panels



Blind panels

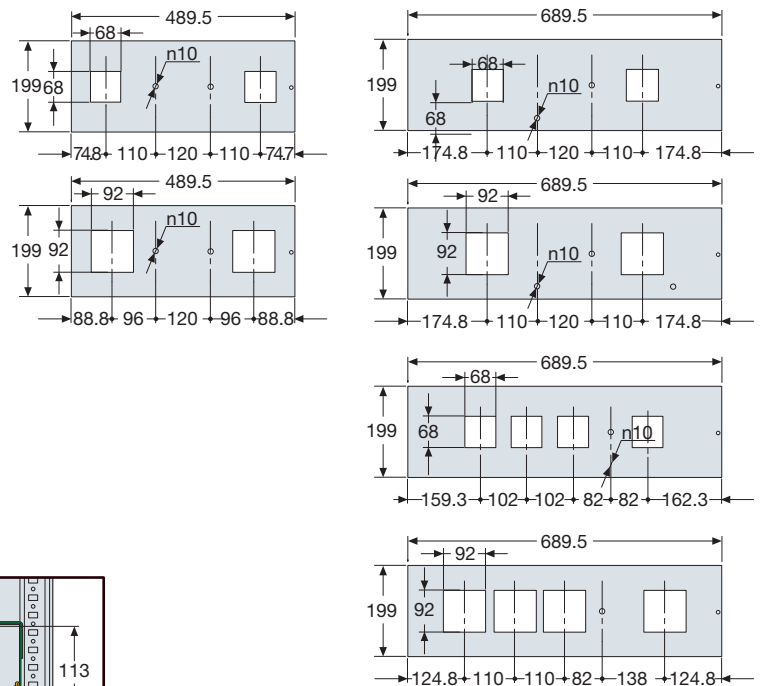
Code	A	B
EH0562K	489.5	49
EH1062K	489.5	99
EH1562K	489.5	149
EH2062K	489.5	199
EH3063K	489.5	299
EH4062K	489.5	399
EH5062K	489.5	499
EH6062K	489.5	599
EH0582K	689.5	49
EH1082K	689.5	99
EH1582K	689.5	149
EH2082K	689.5	199
EH3082K	689.5	299
EH4082K	689.5	399
EH5082K	689.5	499
EH6082K	689.5	599

Panel for modular instruments

Code	A	B	C	N° mod.
EH1518K	489.5	149	324.5	18
EH2018K	489.5	199	324.5	18
EH3018K	489.5	299	324.5	18
EH1529K	689.5	149	524.5	29
EH2029K	689.5	199	524.5	29
EH3029K	689.5	299	524.5	29
EH1524K	489.5	149	432	24
EH2024K	489.5	199	432	24
EH1536K	689.5	149	634	36
EH2036K	689.5	199	634	36

Code	A	B	C	N° mod.
EH6018K	489.5	599	324.5	18
EH6029K	689.5	599	524.5	29
EH6025K	489.5	599	432	24
EH6036K	689.5	599	634	36

Instruments panels



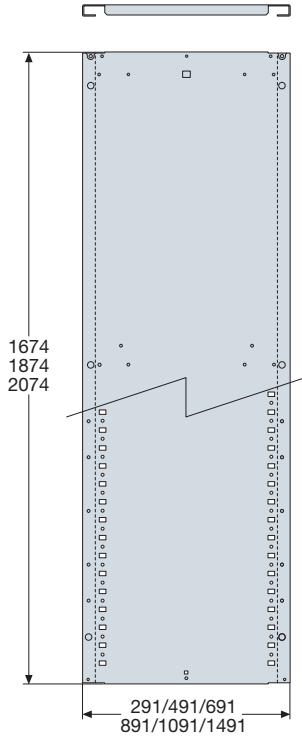
Measurements are in millimetres

Overall dimensions

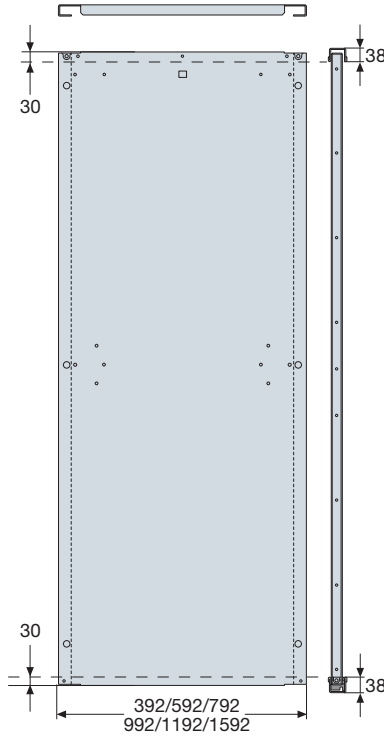
IS2 Enclosures

Back plates

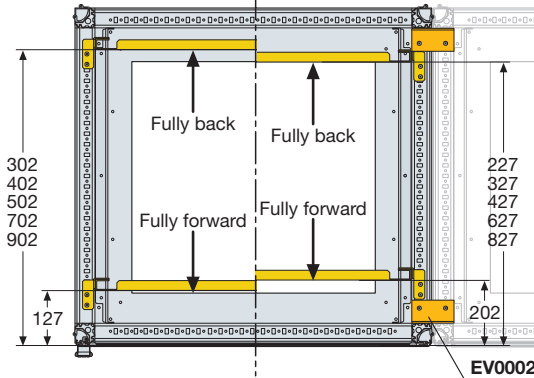
Standard



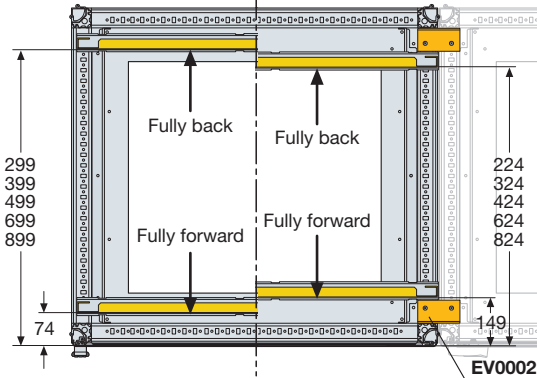
Oversized



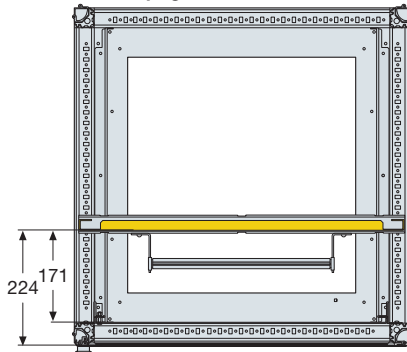
Standard plate



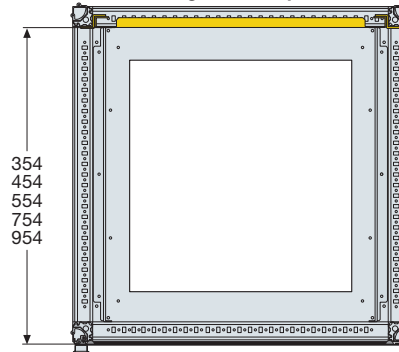
Oversized plate



Oversized plate with apparatus holder uprights



Kit for moving standard plate backwards



Measurements are in millimetres

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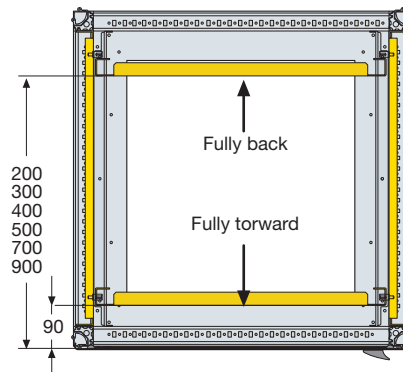
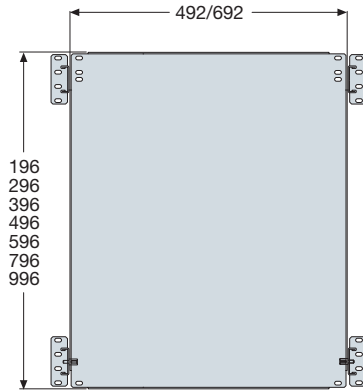
Overall dimensions

IS2 Enclosures

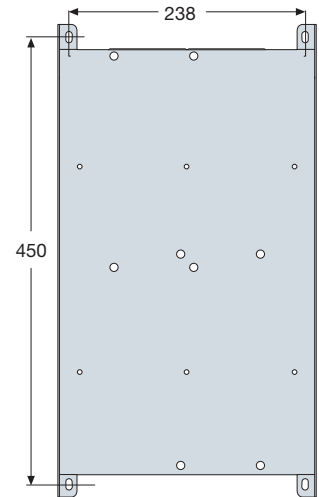
Back plates

Partial back plates

Do not require the depthwise upright

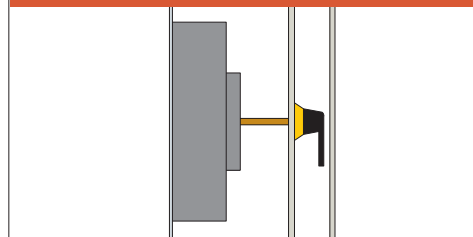


Back plates for condensers

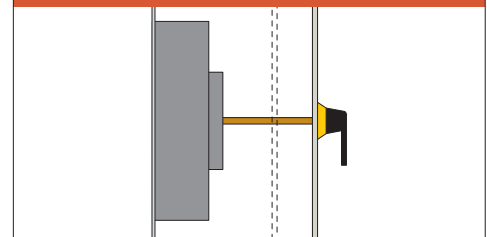


Selection of partial back plate and panels according to the apparatus to be installed

Handle between panel and door



Handle transmitted onto the door



Switch-disconnectors

	Structures W=600mm			Structures W=800mm		
	Partial back plate	Panel	H (mm)	Partial back plate	Panel	H (mm)
OT200/250	EA2062	EH2062K	200	EA2081	EH2082K	200
OT315/400	EA3061	EH3063K	300	EA3081	EH3082K	300
OT630/800	EA4061	EH4062K	400	EA4081	EH4082K	400

Circuit-breakers

Tmax T1 - T2 - T3	EA2062	EH2063K ⁽¹⁾	200	EA2083 ⁽¹⁾	EH2083K	200
Tmax T4 - T5	EA4061	EH4062K	400	EA4081	EH4082K	200
Tmax T6	EA5061	EH5062K	500	EA5081	EH5082K	500

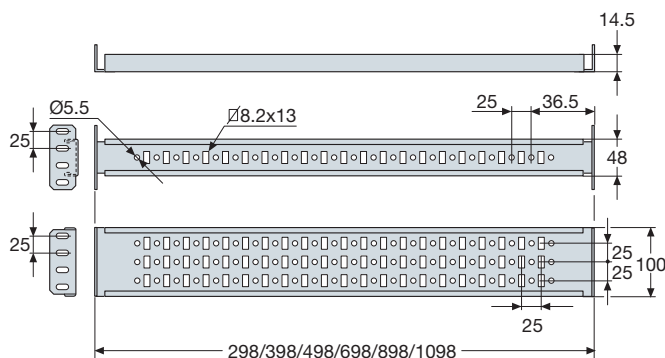
⁽¹⁾ Blind recessed panel

⁽²⁾ Blind apparatus-holder back plate

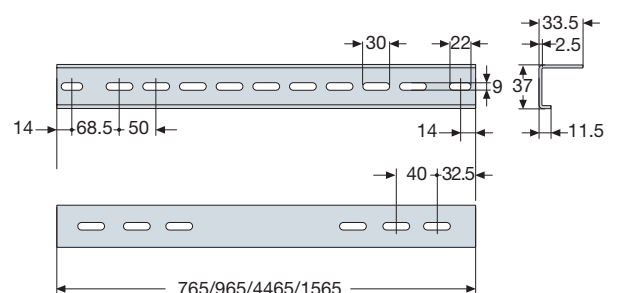
	Structures W=600mm			Structures W=800mm		
	Partial back plate	Panel	H (mm)	Partial back plate	Panel	H (mm)
EH2065 ⁽²⁾	EH2062K	200	EH2085 ⁽²⁾	EH2082K	200	
EA3061	EH3063K	300	EA3081	EH3082K	300	
EA4061	EH4062K	400	EA4081	EH4082K	400	

EH2065 ⁽²⁾	EH2062K	200	EH2085 ⁽²⁾	EH2082K	200
EA4061	EH4062K	400	EA4081	EH4082K	200
EA5061	EH5062K	500	EA5081	EH5082K	500

Crosspieces for fixing accessories



Section for accessories

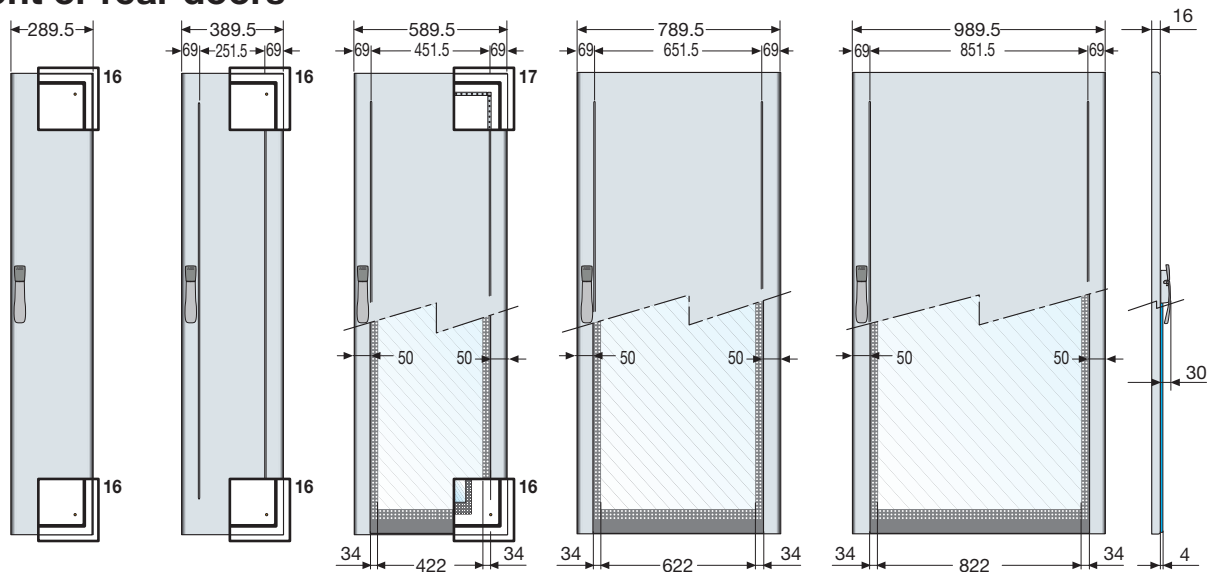


Measurements are in millimetres

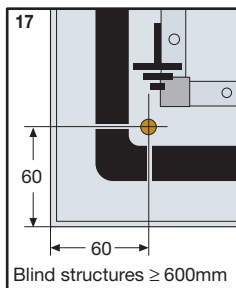
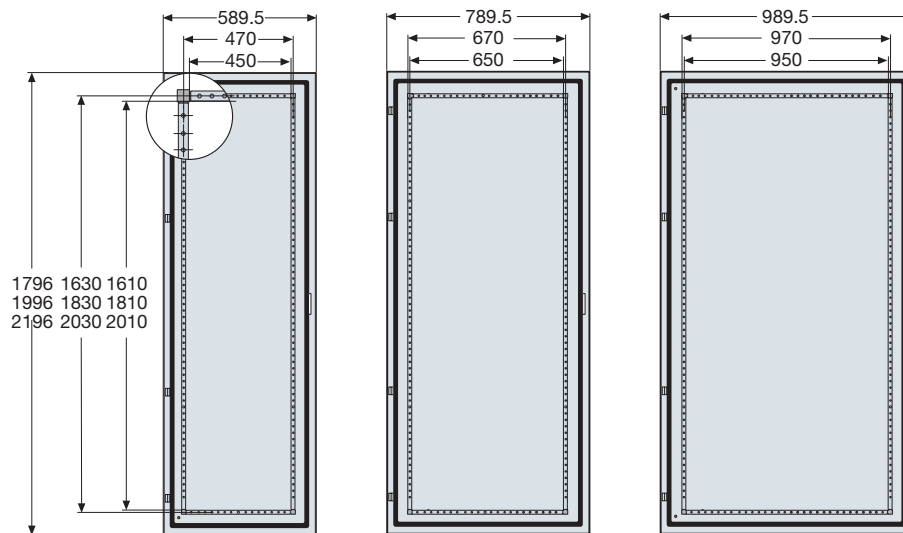
Overall dimensions

IS2 Enclosures

Front or rear doors



Inside of blind door (W≥600mm)



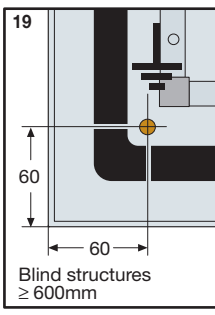
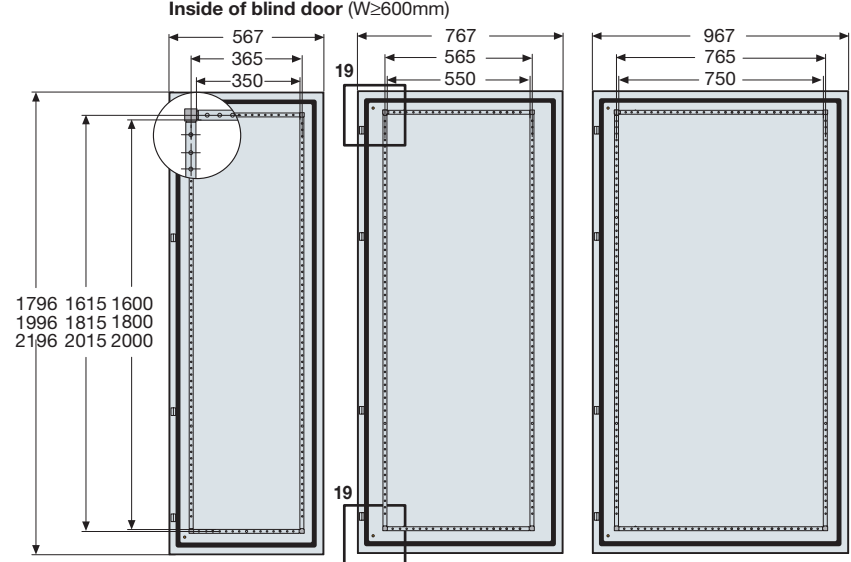
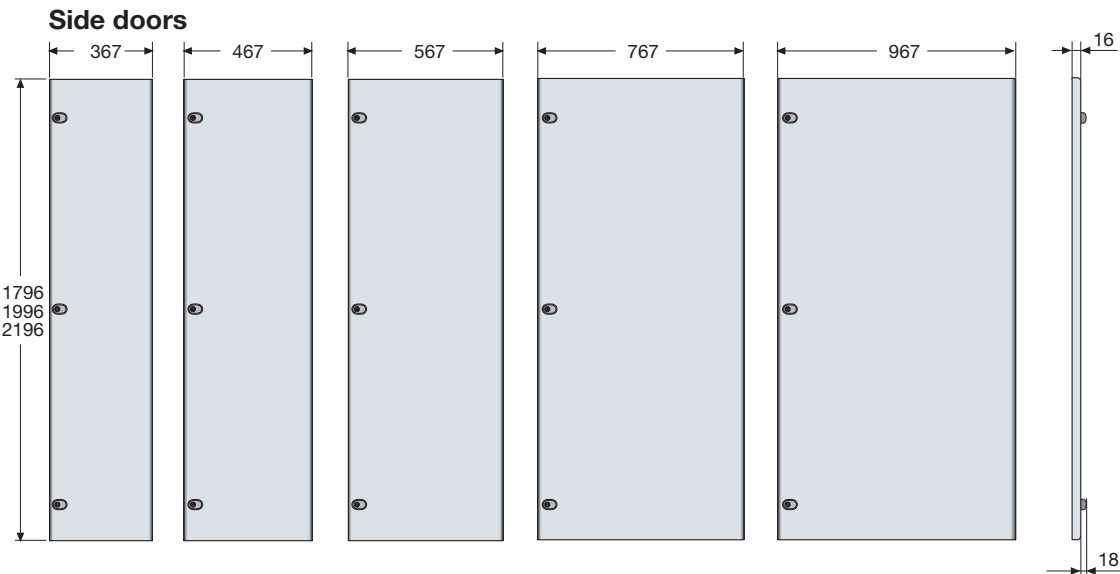
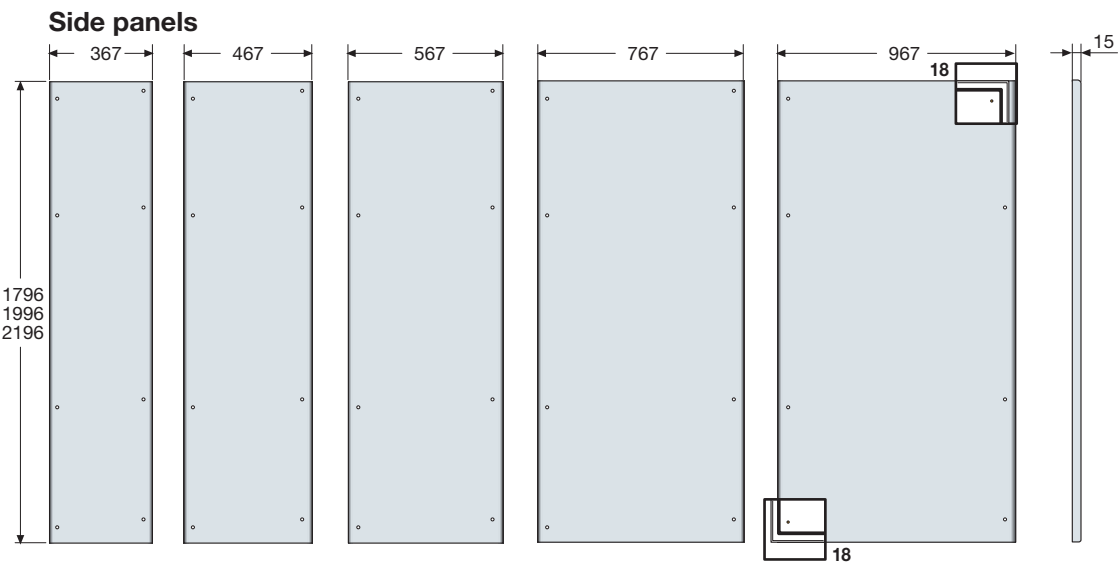
Measurements are in millimetres

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Overall dimensions

IS2 Enclosures

Side covers

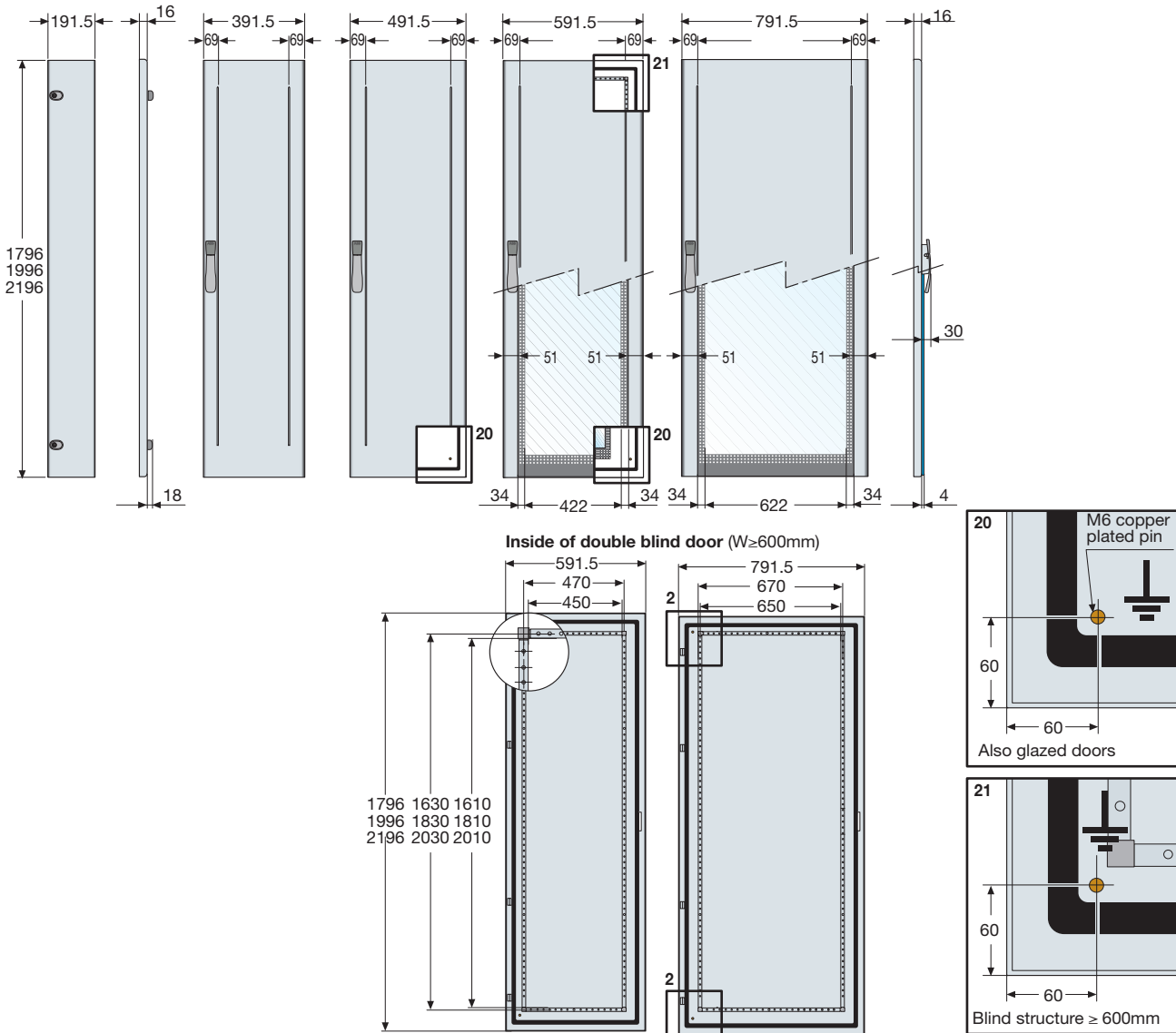


Measurements are in millimetres

Overall dimensions

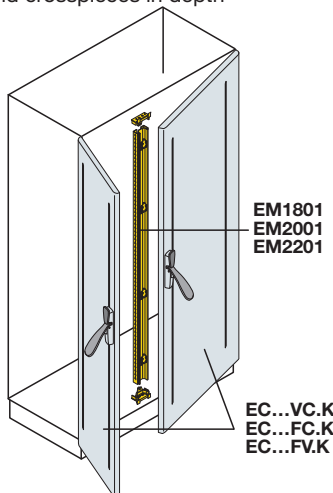
IS2 Enclosures

Double front or rear doors

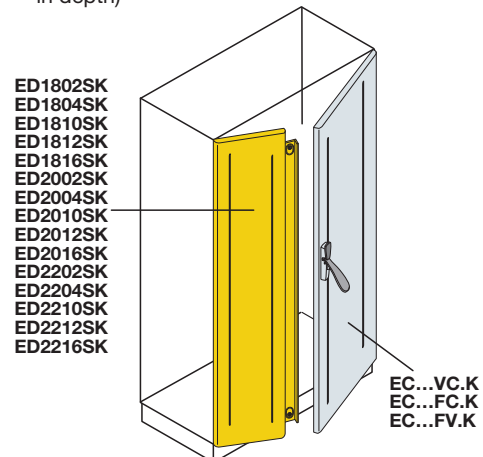


Example of use of double doors

Mounting with intermediate upright and crosspieces in depth



Mounting with blind doors with overlapping cosure (without intermediate upright and crosspieces in depth)

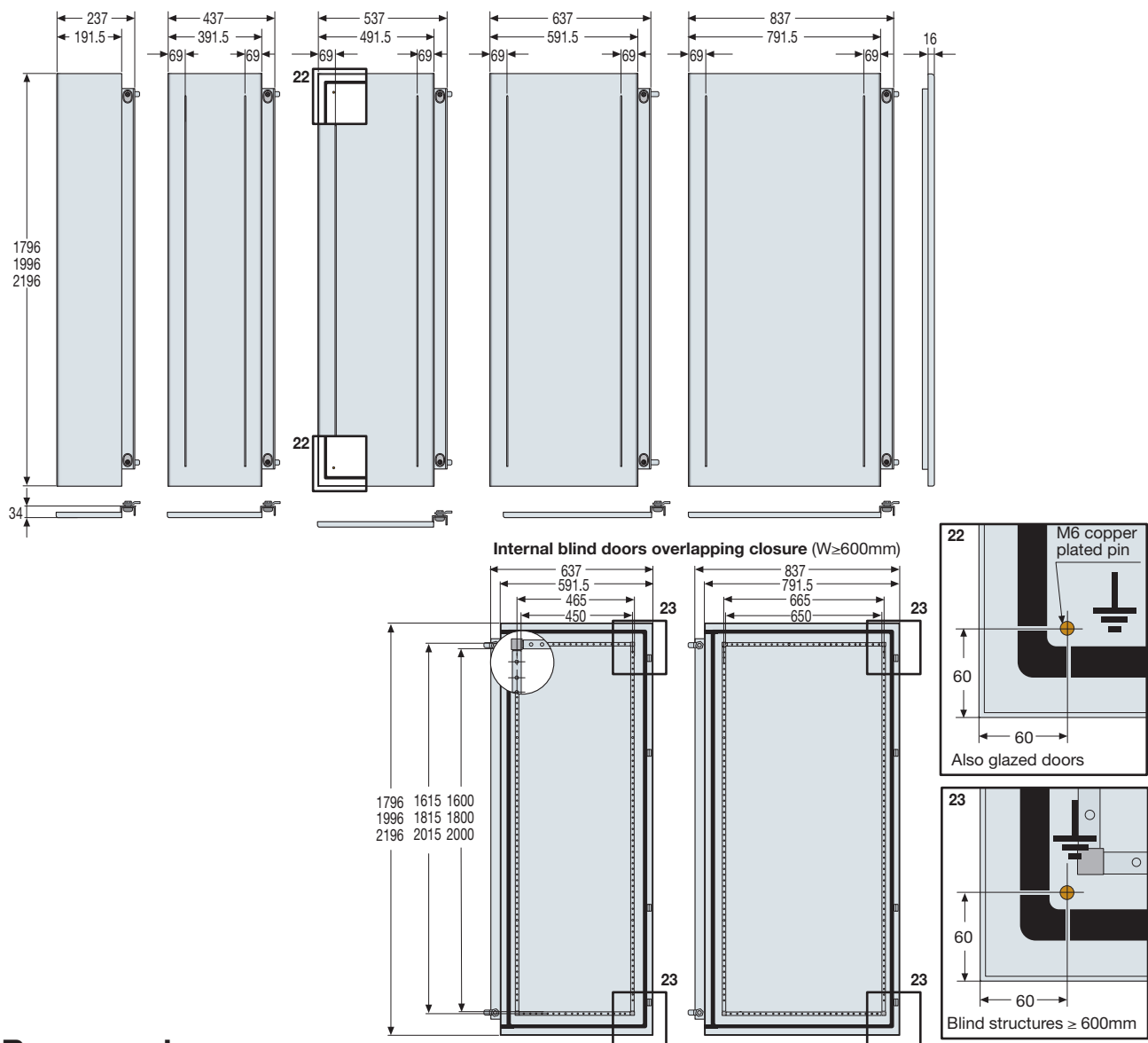


Measurements are in millimetres

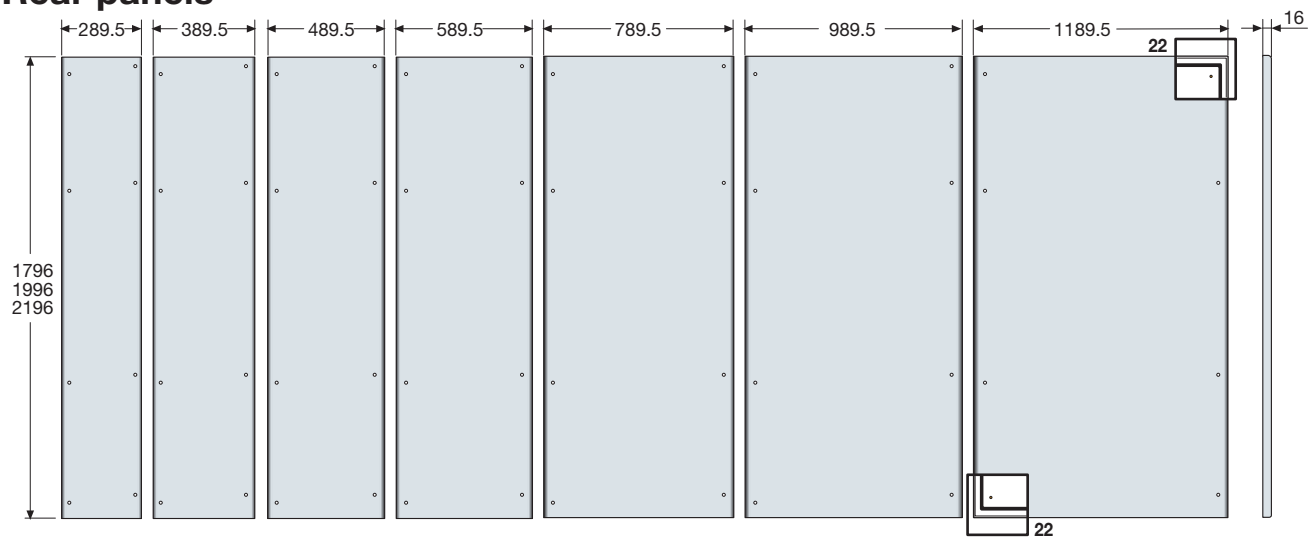
Overall dimensions

IS2 Enclosures

Blind doors with overlapping closure



Rear panels

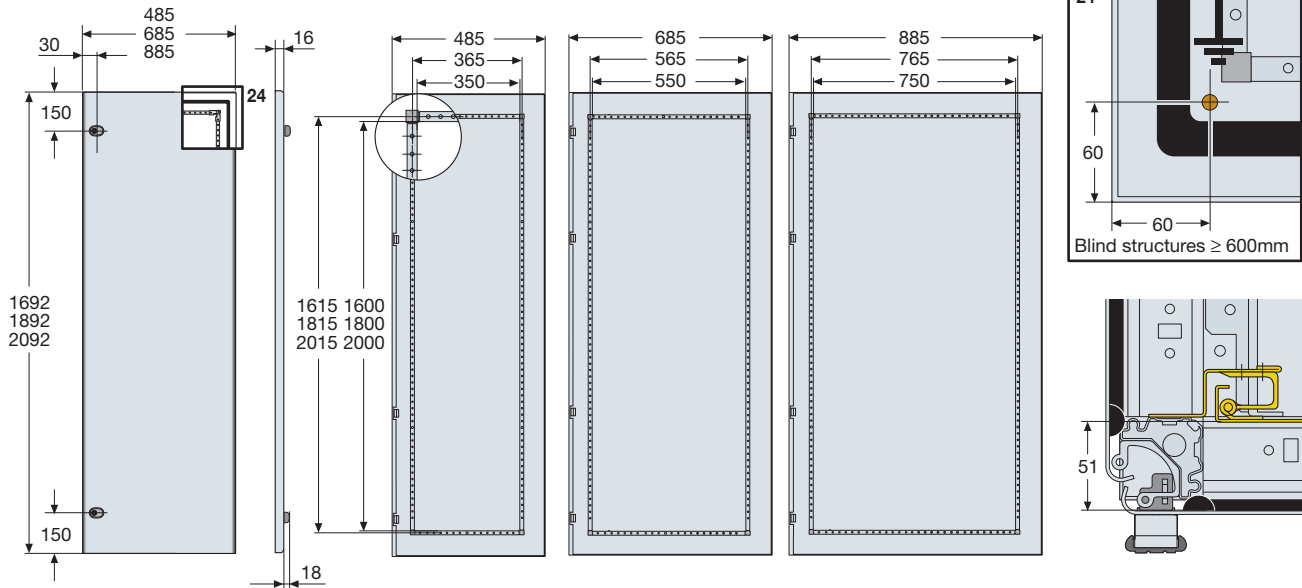


Measurements are in millimetres

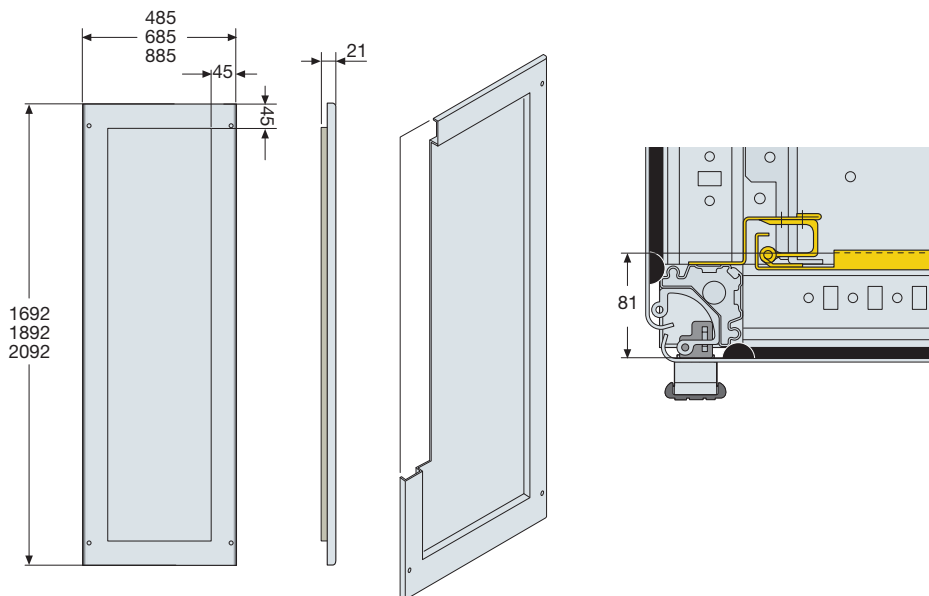
Overall dimensions

IS2 Enclosures

Internal counterdoor



Internal edged counterdoor



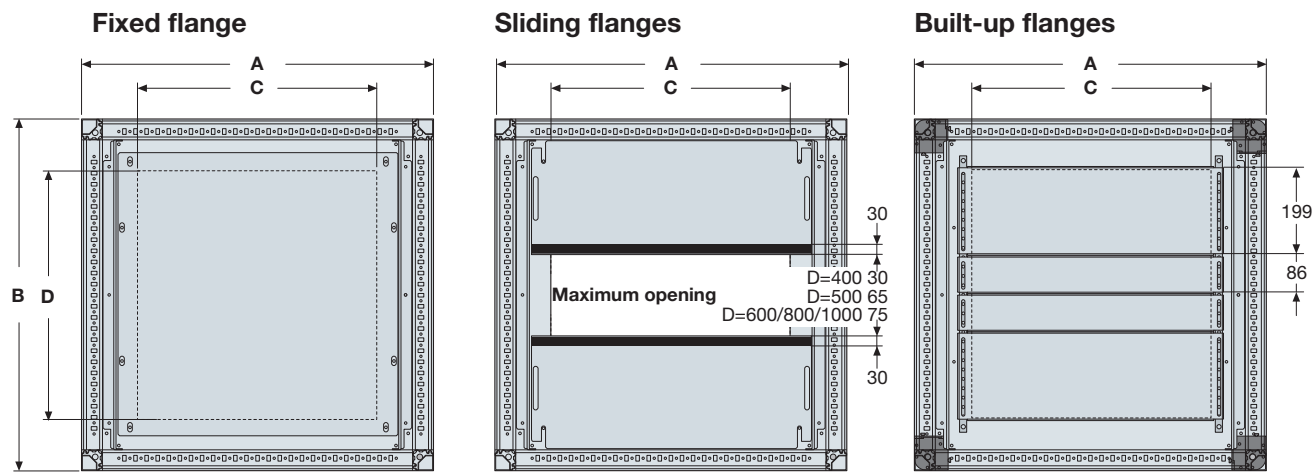
Measurements are in millimetres

1STC804010F0901

Overall dimensions

IS2 Enclosures

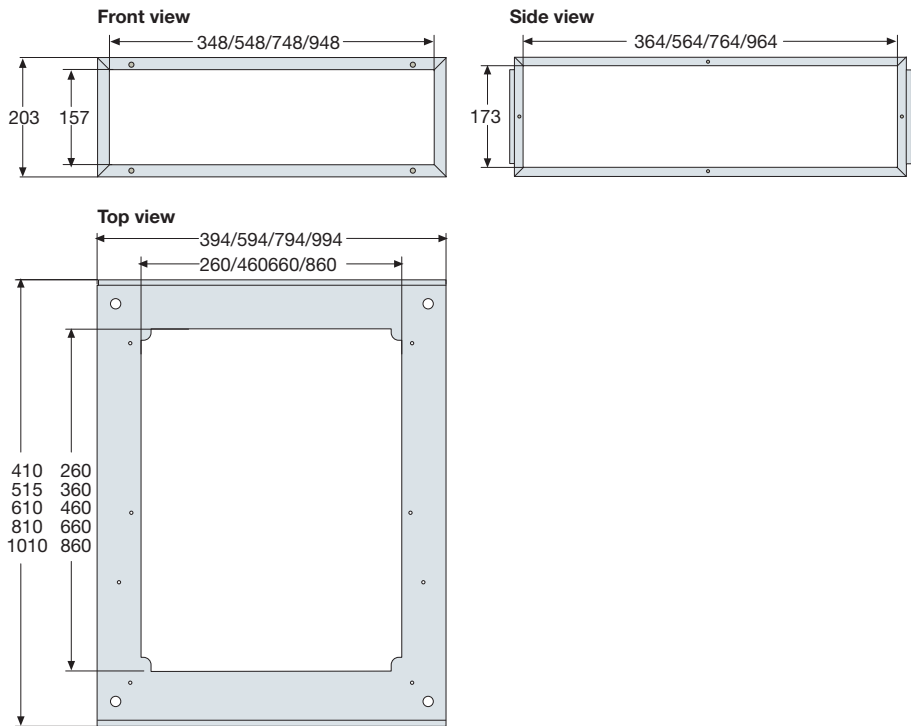
Flanges for cable passage



				Built-up flanges	
				N° flanges H=199mm	N° flanges H=86mm
A	B	C	D		
394	394	142	162	-	2
	494		262	1	1
	594		362	1	2
	794		562	2	2
594	994	342	762	3	2
	394		162	-	2
	494		262	1	1
	594		362	1	2
794	794	542	562	2	2
	994		762	3	2
	394		162	-	2
	494		262	1	1
994	594		362	1	2
	794		562	2	2
	994		762	3	2

				Built-up flanges	
				N° flanges H=199mm	N° flanges H=86mm
A	B	C	D		
994	394	742	162	-	2
	494		262	1	1
	594		362	1	2
	794		562	2	2
1194	994	942	762	3	2
	394		162	-	2
	494		262	1	1
	594		362	1	2
1594	794	1342	562	2	2
	394		162	-	2
	494		262	1	1
	594		362	1	2
1994	794		562	2	2

Top container for cable connection



Measurements are in millimetres

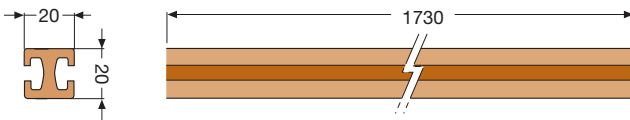
Overall dimensions

IS2 Enclosures

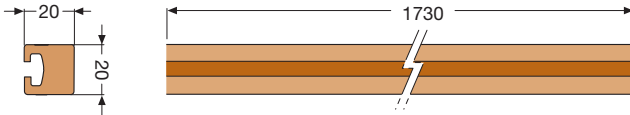
Busbars with shaped section

Busbar

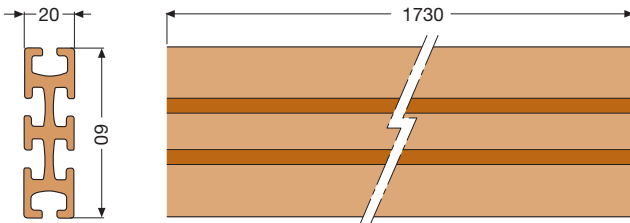
BA0400



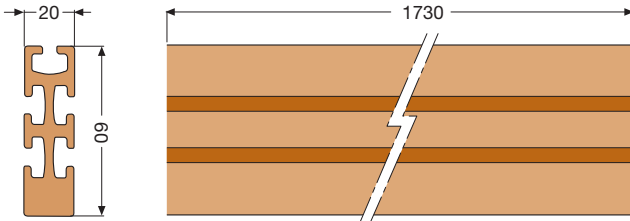
BA0800



BA1250

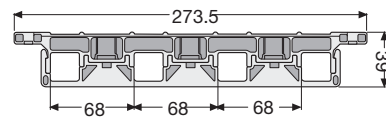


BA1600

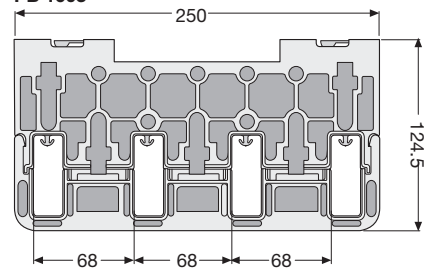


Insulator

PB 0803

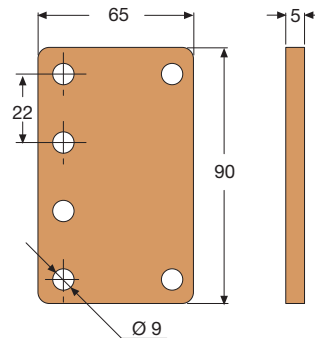


PB 1603



Accessories

AD1077



Measurements are in millimetres

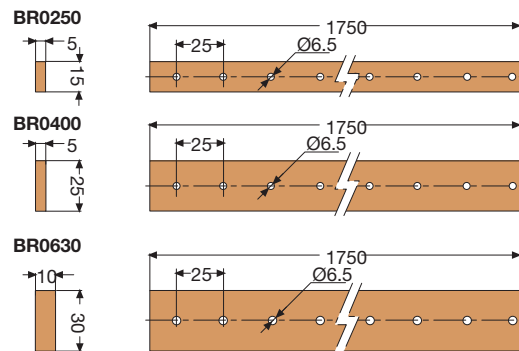
1STC804027F0901

Overall dimensions

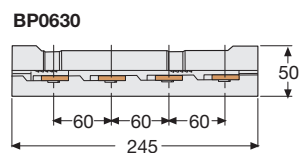
IS2 Enclosures

Flat busbars

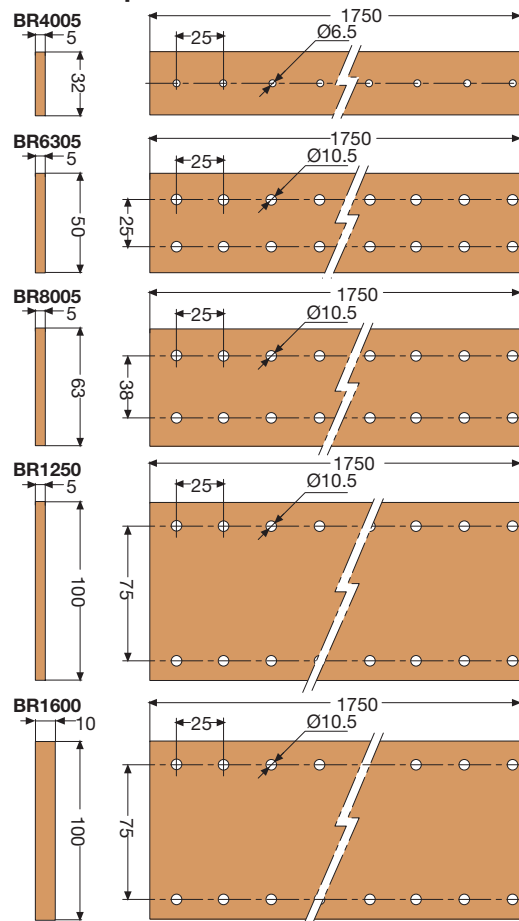
Busbar up to 630A



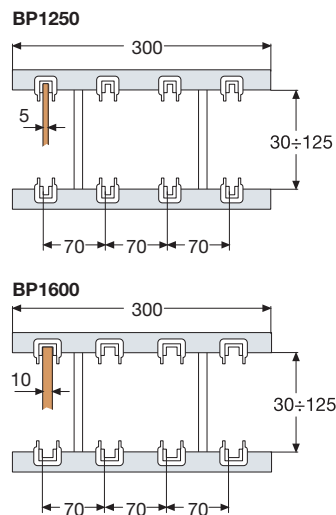
Insulators for busbars up to 630A



Busbar up to 1600A



Insulators for busbars up to 1600A



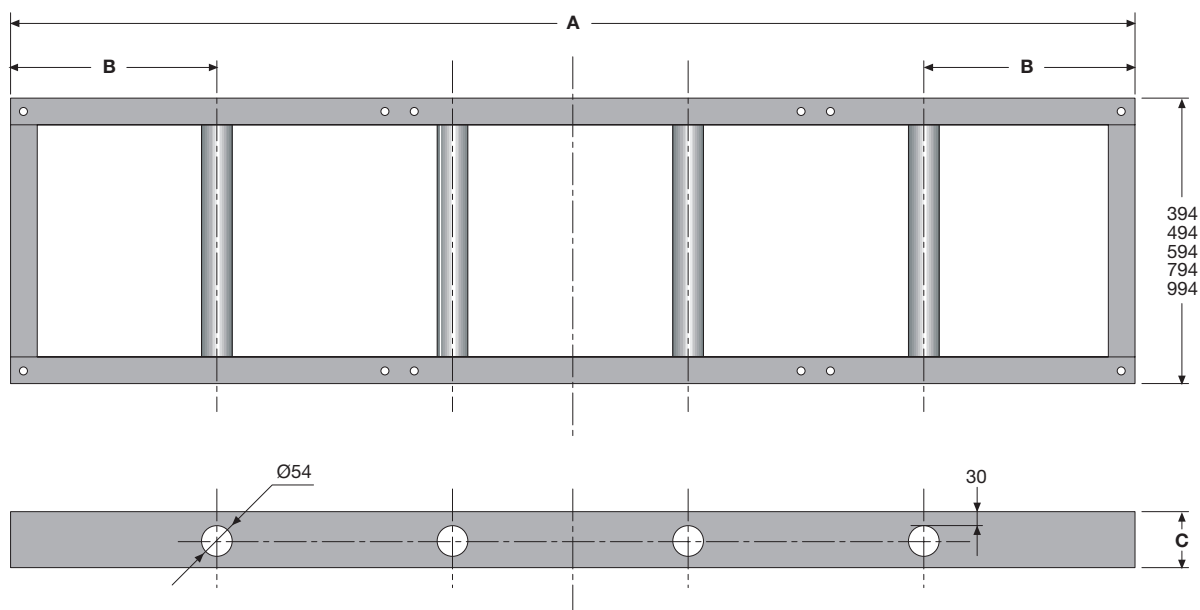
Measurements are in millimetres

1STC804028F0901

Overall dimensions

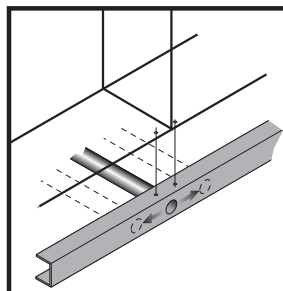
IS2 Enclosures

Single plinth



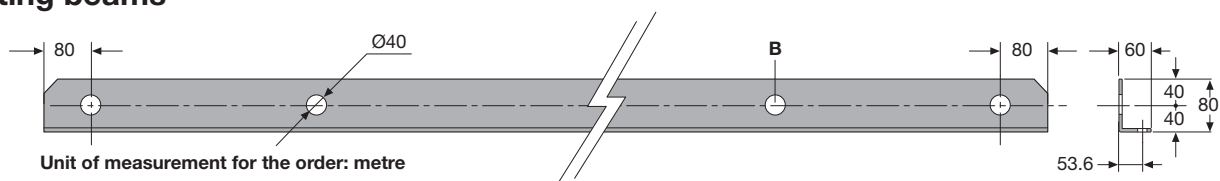
Reinforcement tube [N°]	A [metres]	B [mm]	C [mm]
2	1.78 ÷ 2.78	665	100/200
2	2.78,1 ÷ 3.78	865	100/200
3	3.78,1 ÷ 4.78	950	100/200
4	4.78,1 ÷ 5.78	1195	100/200

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.

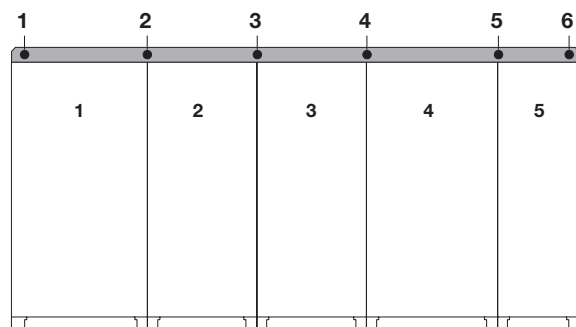
Lifting beams



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.

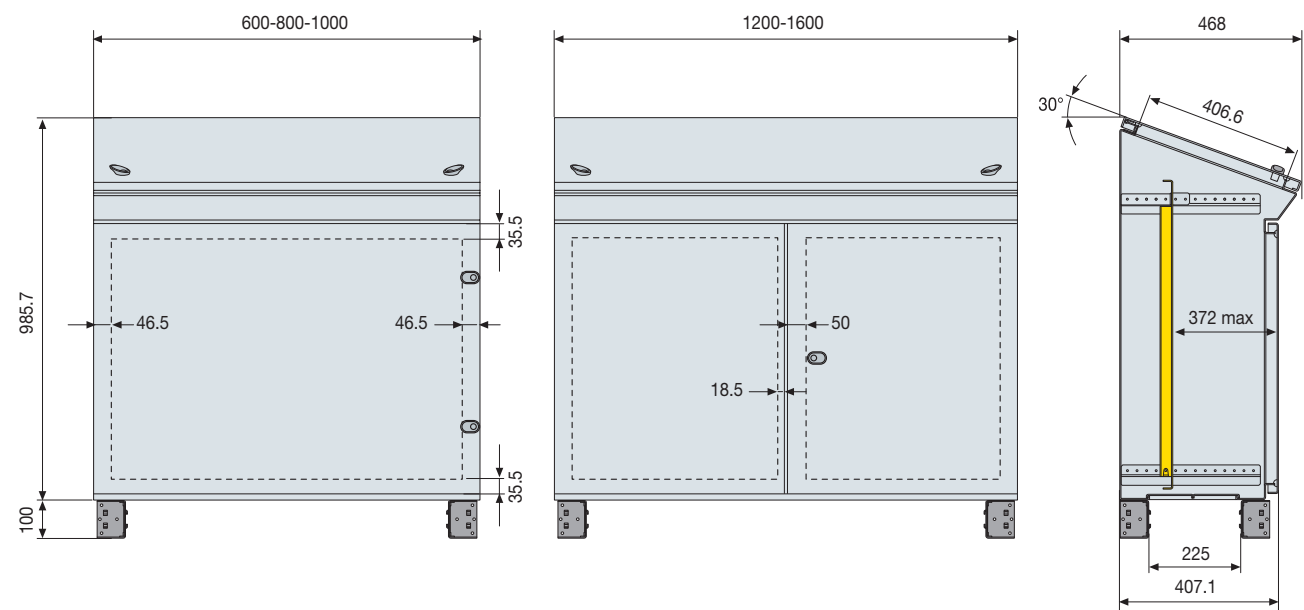


Measurements are in millimetres

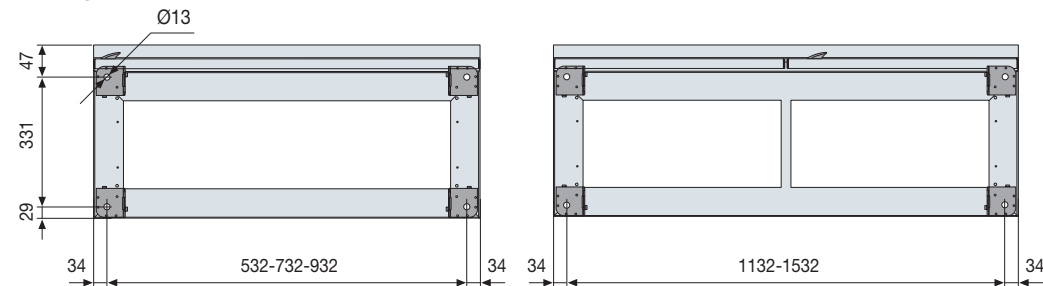
Overall dimensions

C2 Console

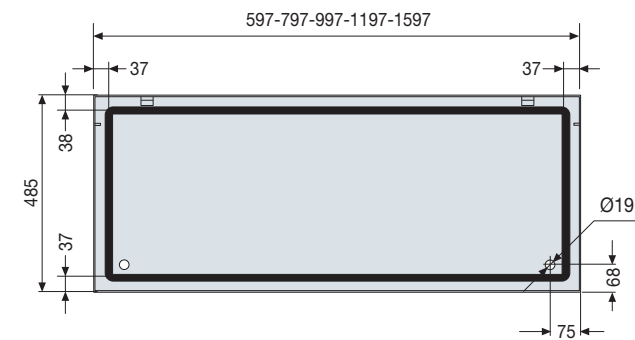
Monobloc console H=1000mm



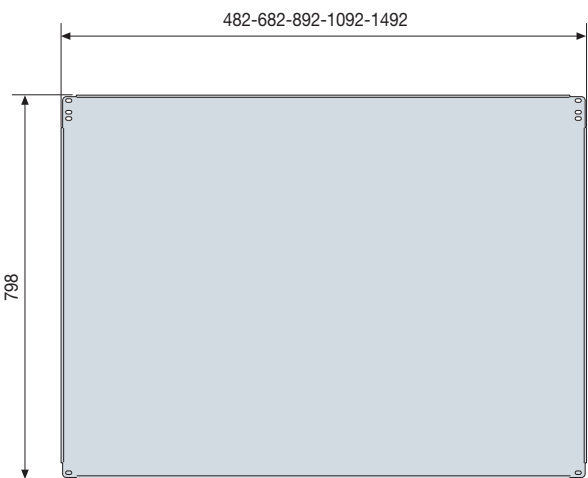
Fixing to floor



Door for desk switchboard



Internal plate

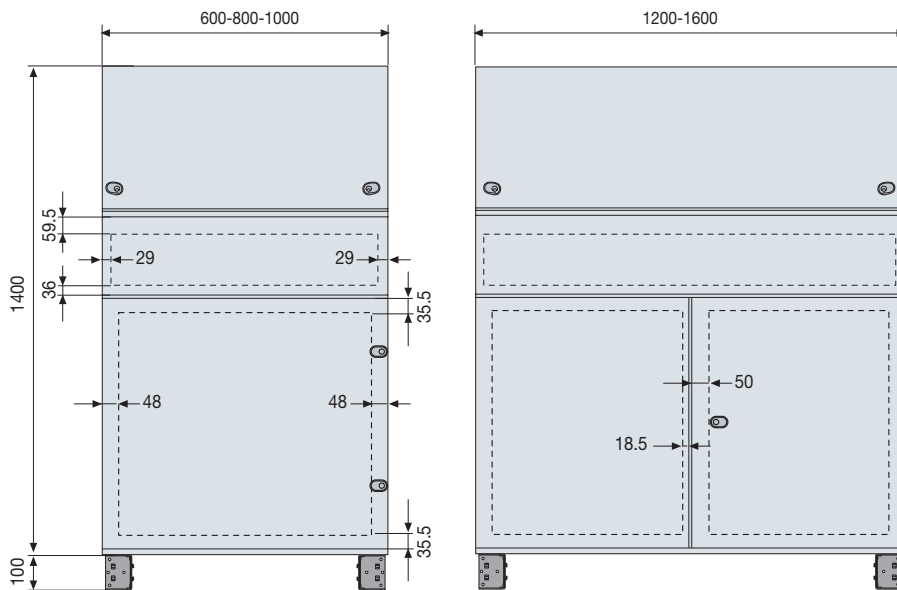


Measurements are in millimetres

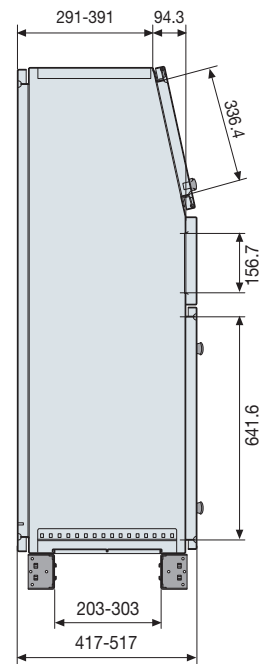
Overall dimensions

C2 Console

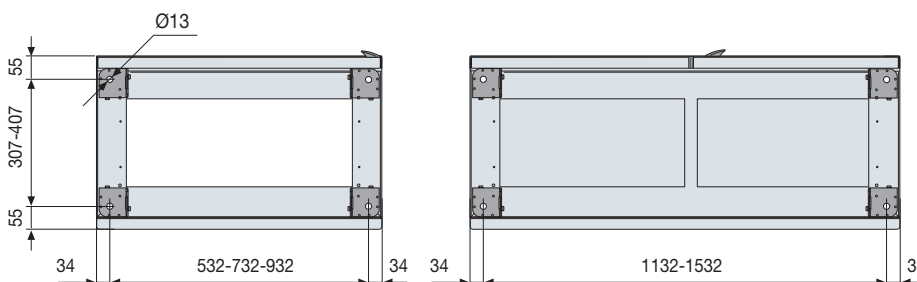
Monobloc lectern console H=1400mm



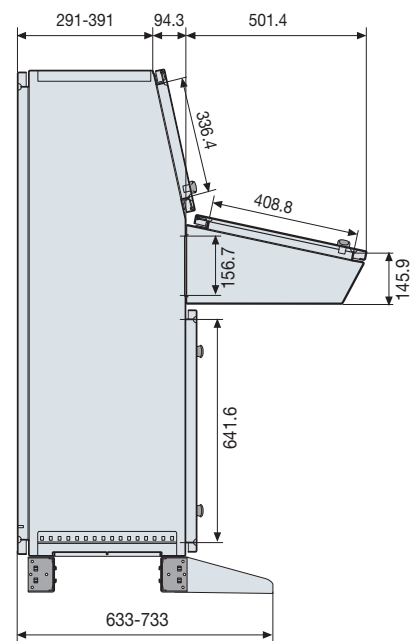
Version without desk switchboard



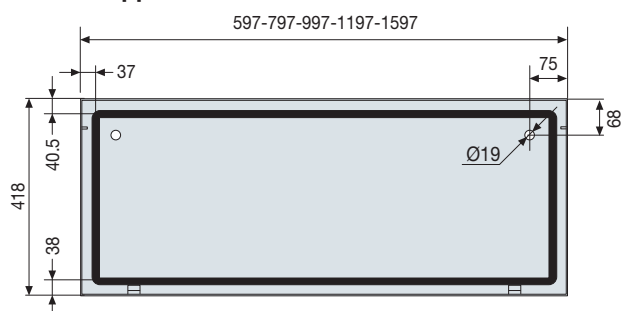
Fixing to floor



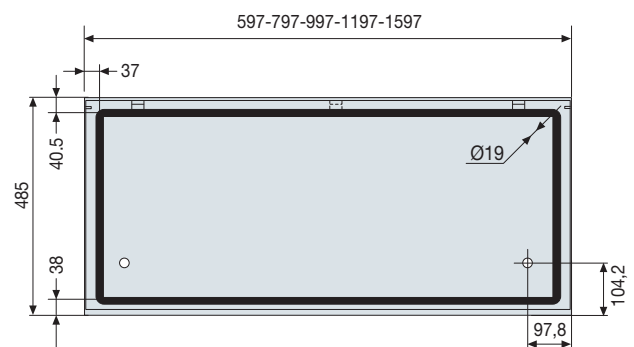
Version with desk switchboard



Door for upper console



Door for desk switchboards



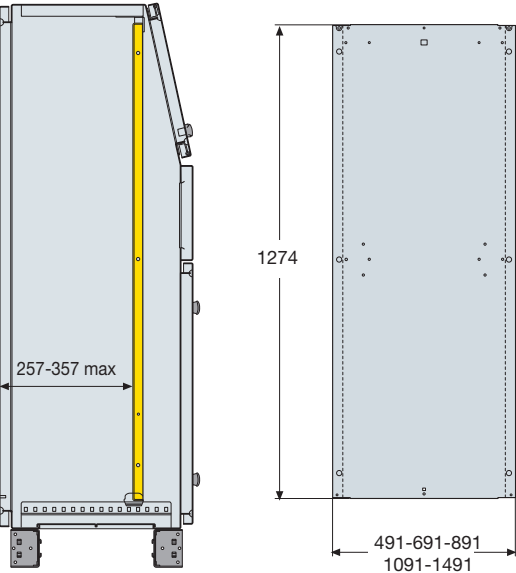
Measurements are in millimetres

Overall dimensions

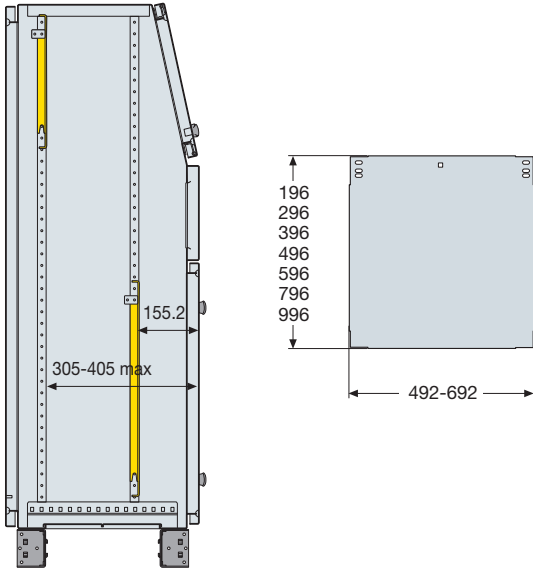
C2 Console

Monobloc console H=1400mm

Standard mounting plate



Partial height mounting plate



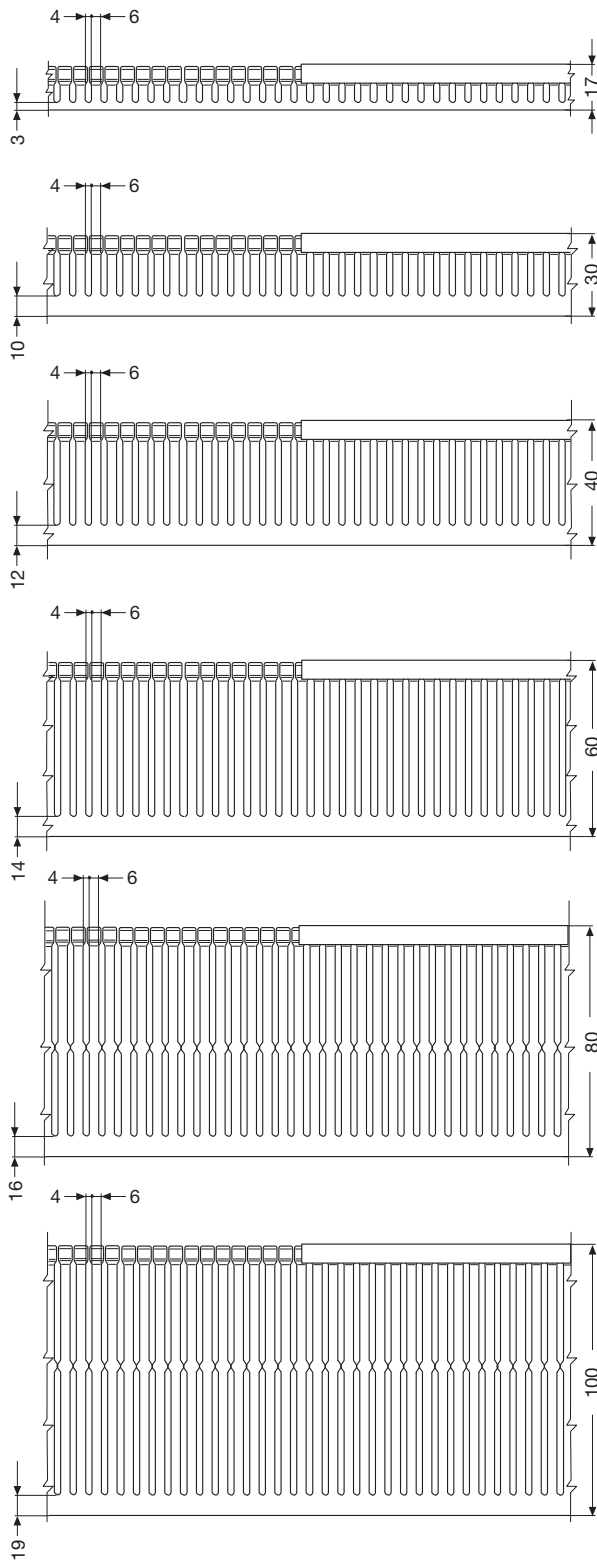
Measurements are in millimetres

Overall dimensions

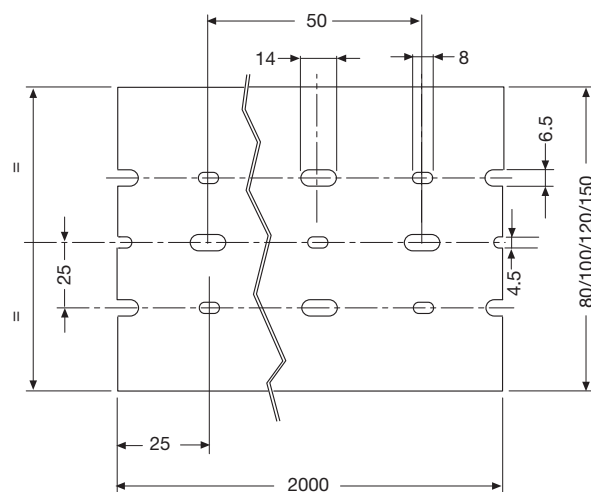
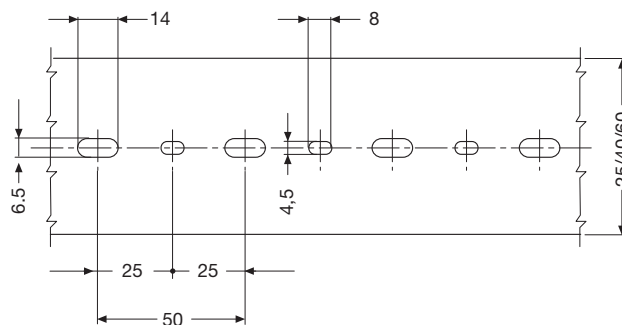
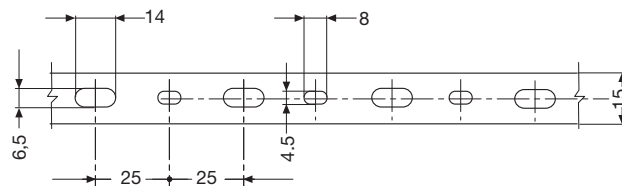
Wiring ducts

Thermoplastic and halogen free wiring ducts with 4/6 mm slots

CEI 23-22 Standard applies to plastic wiring ducts and their accessories to be used in the mechanical protection and support of cables in switchboards, in applications with a maximum rated voltage of 1000 V in alternating current and 1500 V in direct current. Thermoplastic wiring ducts have obtained the IMQ certification.



H 100: only thermoplastic material ducts

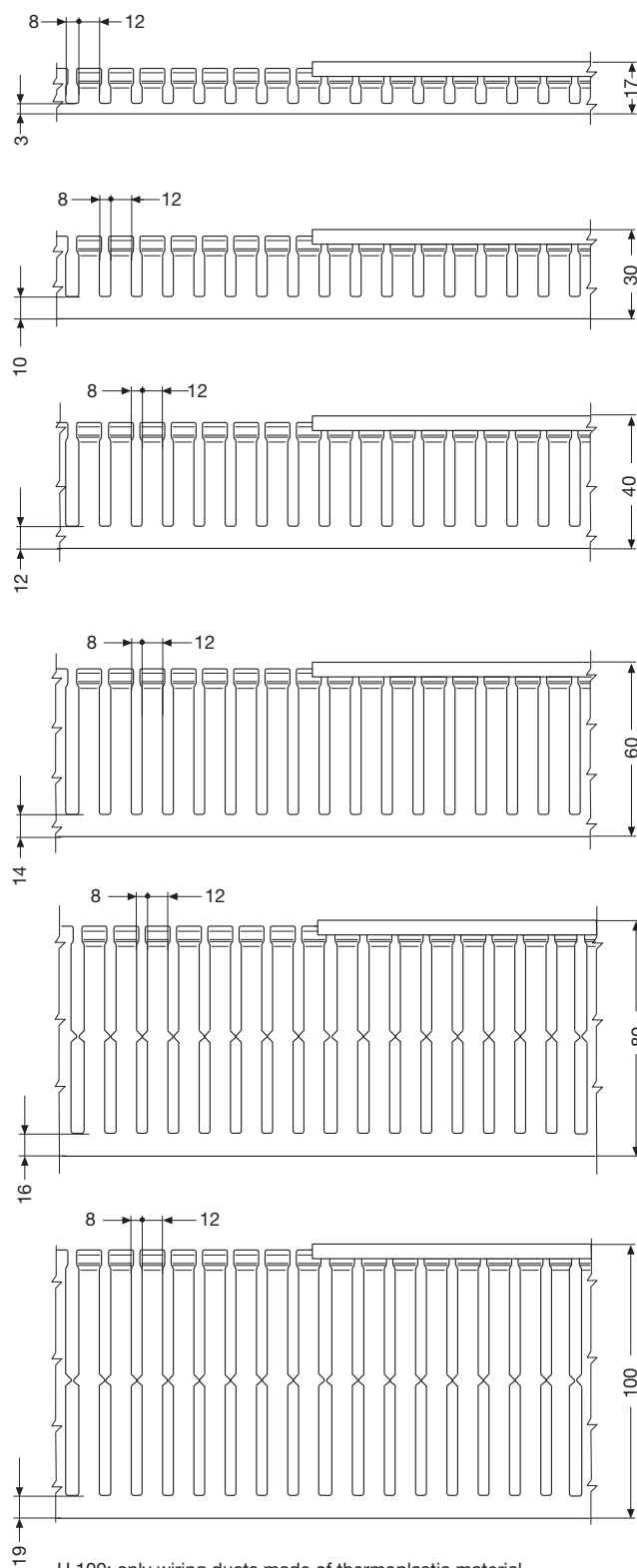


Measurements are in millimetres

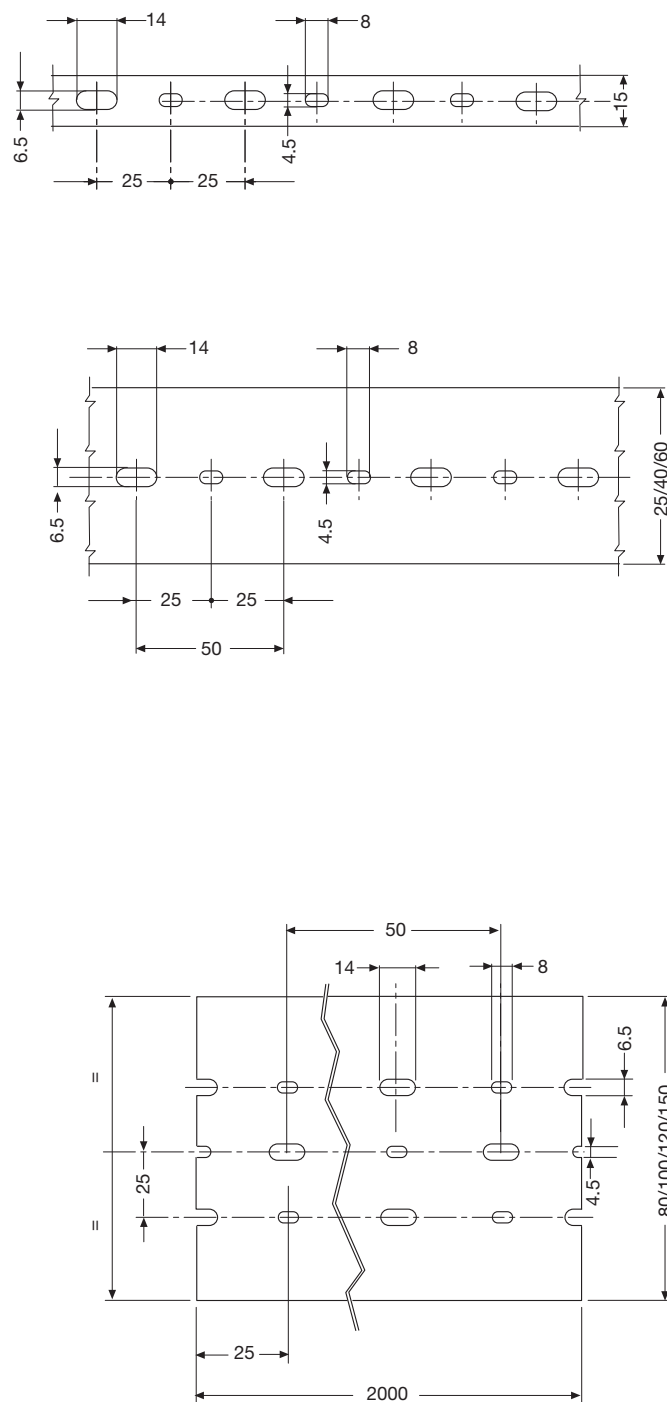
Wiring ducts

Thermoplastic and halogen free wiring duct with 8/12 mm slot

CEI 23-22 Standard applies to plastic wiring ducts and their accessories to be used in the mechanical protection and support of cables in switchboards, in applications with a maximum rated voltage of 1000 V in alternating current and 1500 V in direct current. Thermoplastic wiring ducts have obtained the IMQ certification.



H 100: only wiring ducts made of thermoplastic material

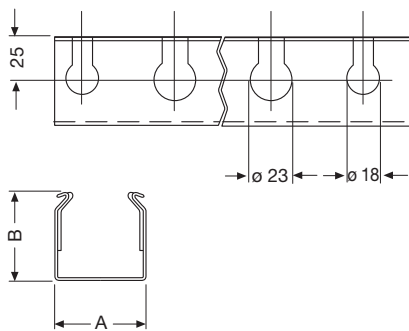


Measurements are in millimetres

Overall dimensions

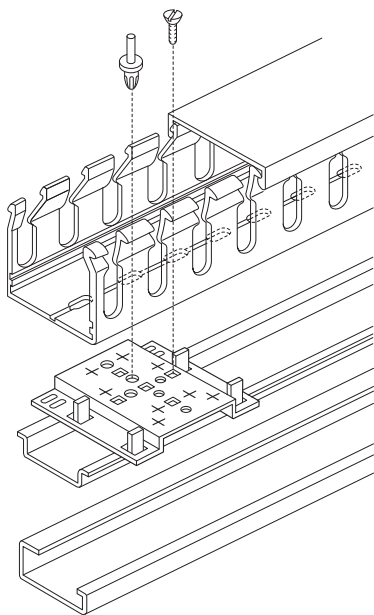
Wiring ducts

Ducts with round holes



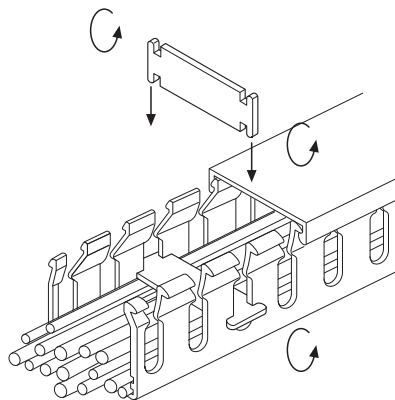
article	A	B
05 330	50	50
05 331	100	60

Plastic rivets and wiring duct bases



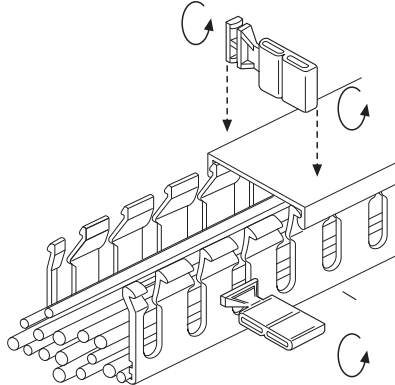
article
05 214 - 05 216 - 05 210

Plastic cable retainers



article
05 224 - 05 226 - 05 228 - 05 230

Plastic label tag



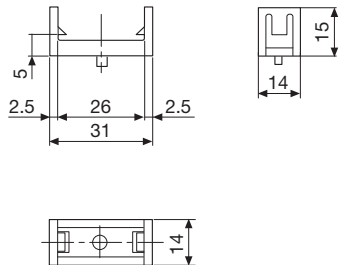
article
05 240

Measurements are in millimetres

Overall dimensions

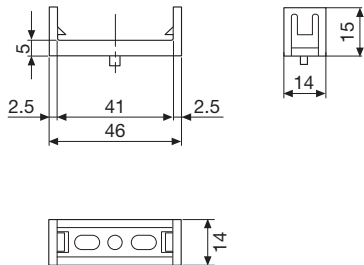
Wiring ducts

Clip for wiring ducts
base 25



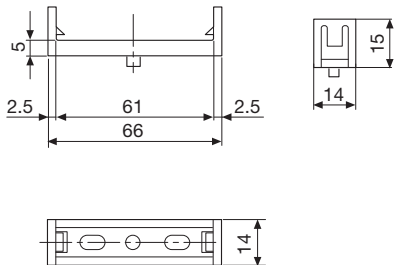
article
05 250

Clip for wiring ducts
base 40



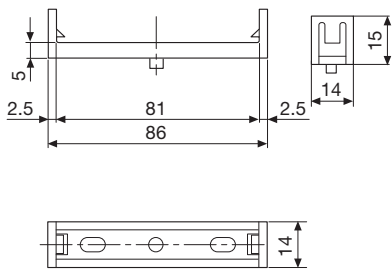
article
05 252

Clip for wiring ducts
base 60



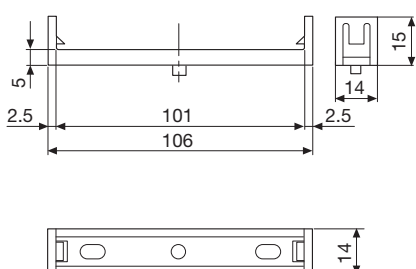
article
05 254

Clip for wiring ducts
base 80



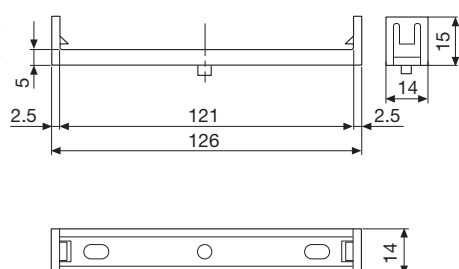
article
05 256

Clip for wiring ducts
base 100



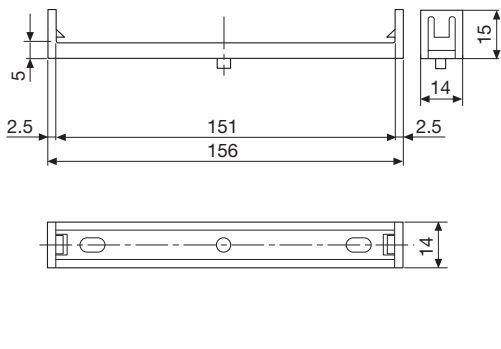
article
05 258

Clip for wiring ducts
base 120



article
05 260

Clip for wiring ducts
base 150



article
05 262

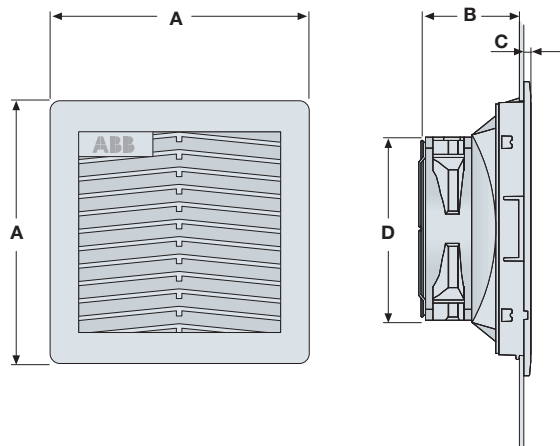
1SLC0026F0901

Measurements are in millimetres

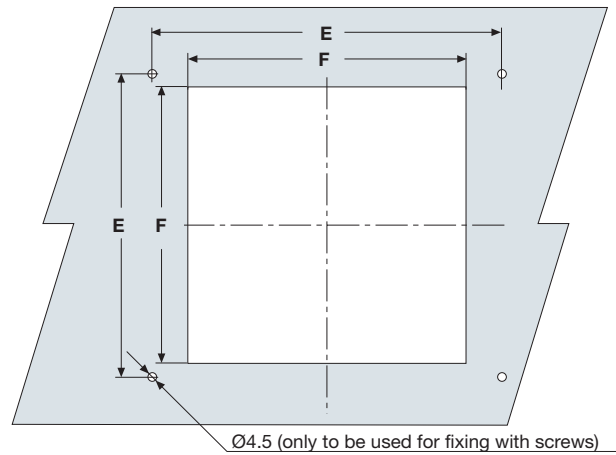
Overall dimensions

Aeration/ventilation

Gratings



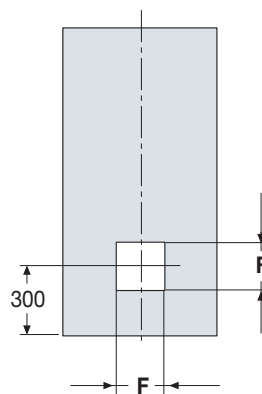
Drilling template



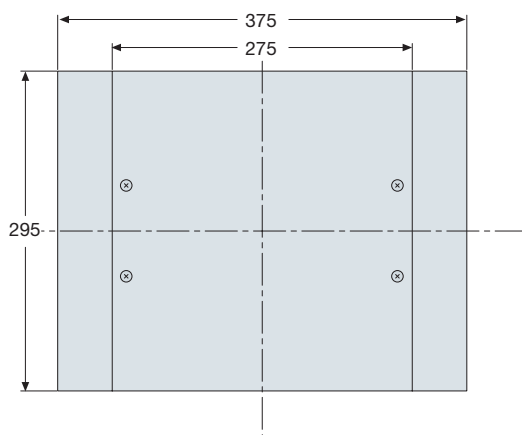
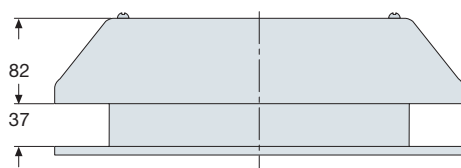
Code	A	B	C	D	E	F
EN0105K	105	60	7	80	95	92
EN1105K						
EN2105K						
EN0150K	150	64	7	124	131	125
EN1150K						
EN2150K						
EN0204K	204	90	8	127	185	177
EN1204K						
EN2204K						
EN0250K	250	113	8	172	230	223
EN1250K						
EN2250K						
EN0325K	325	24	9	255	302	291
EN1325K						
EN2325K						
EN3325K						

Standard position of drillings

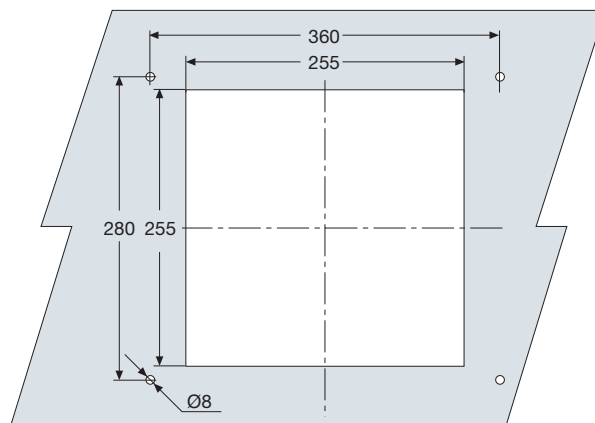
Side panel/Door



Hood EN0480K-EN0481K-EN0482K



Drilling template



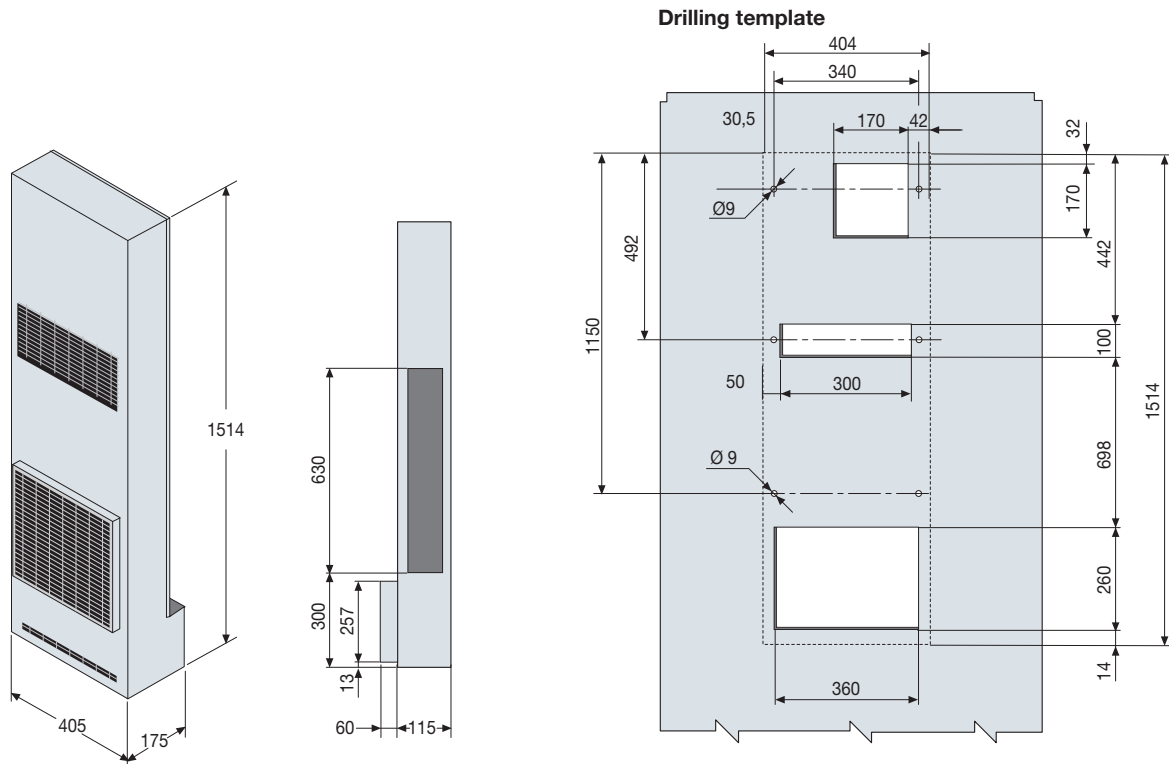
Measurements are in millimetres

1STC804034F0901

Overall dimensions

Air conditioner

Super thin air conditioners for wall or door mounting VZ1000K - VZ1450K - VZ1700K - VZ2100K

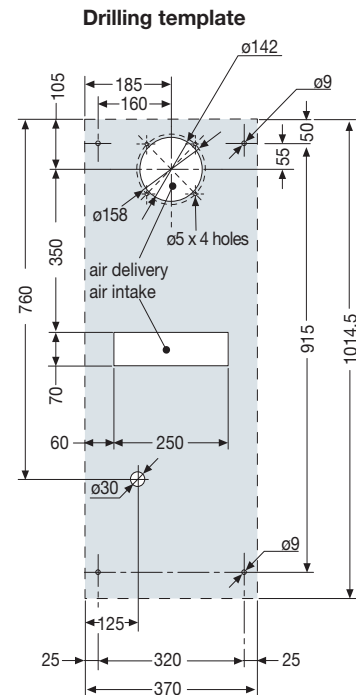
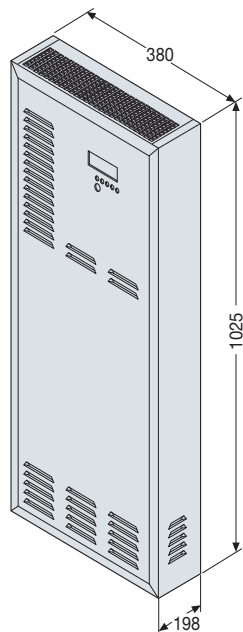


Measurements are in millimetres

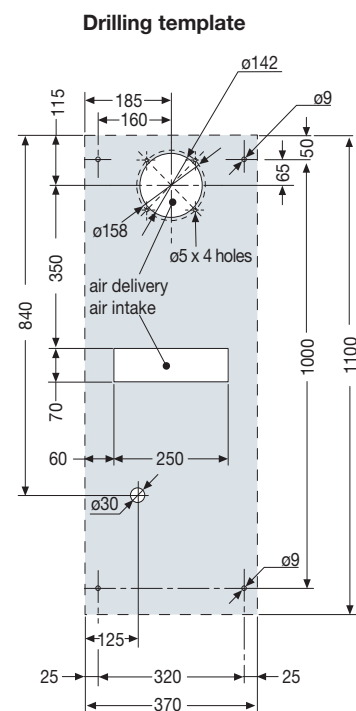
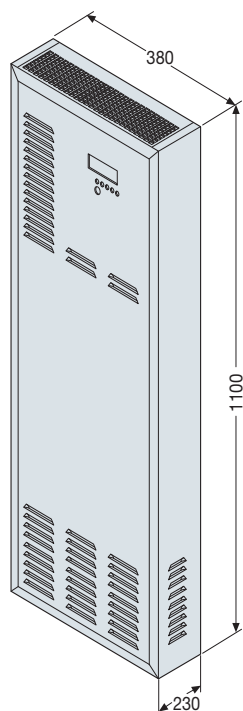
Overall dimensions

Air conditioner

Air conditioners for wall or door mounting VZ1550K - VZ1850K - VZ1400K



Air conditioners for wall or door mounting VZ2000K

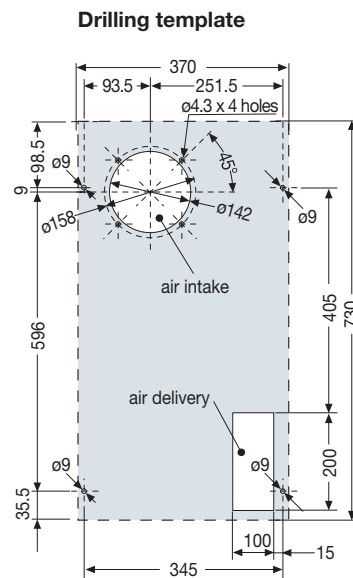
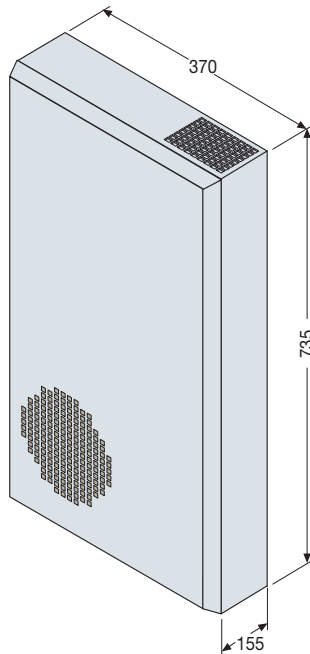


Measurements are in millimetres

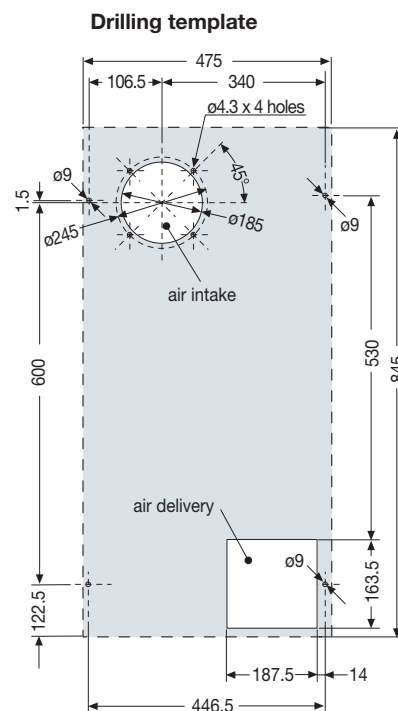
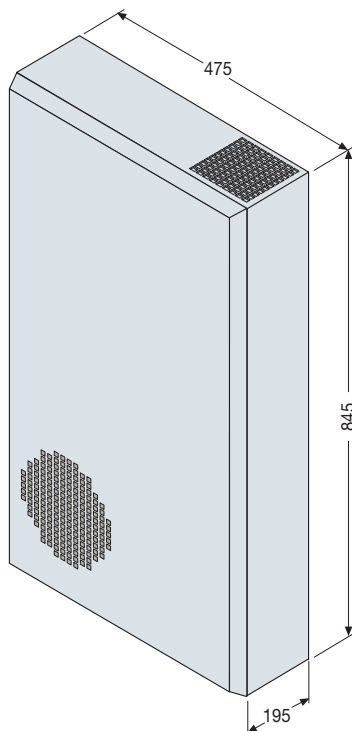
Overall dimensions

Air conditioner

Heat exchangers for wall or door mounting VS4235K



Heat exchangers for wall or door mounting VS6285K

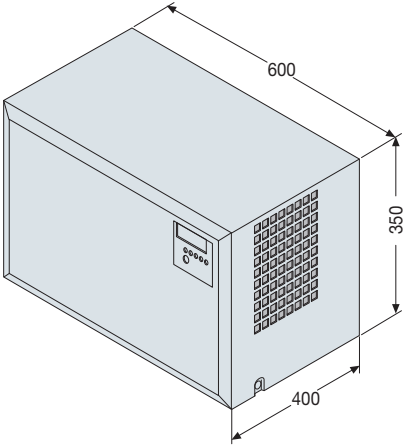


Measurements are in millimetres

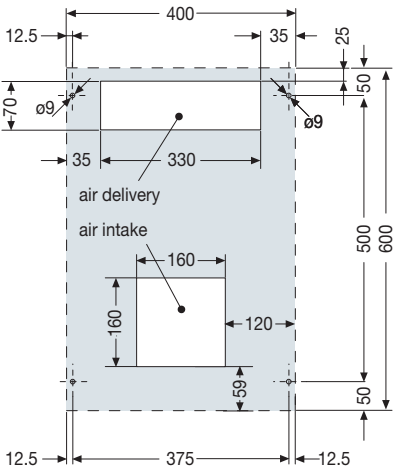
Overall dimensions

Air conditioner

Air conditioners for mounting on roof VZ8501K-VZ1401K

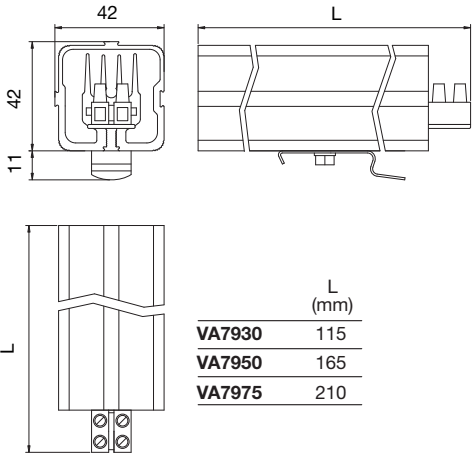


Drilling template

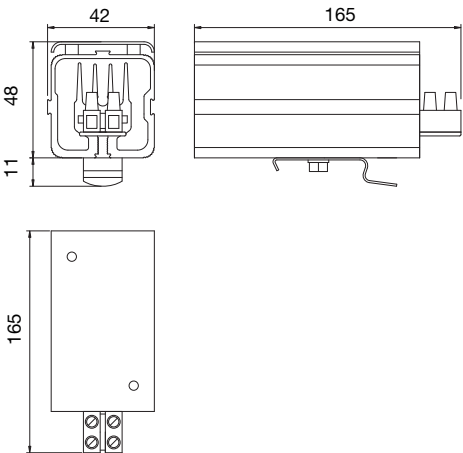


IP20 heaters

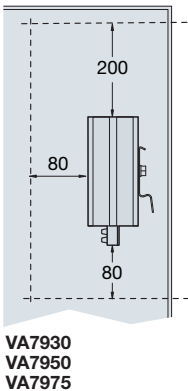
VA7930/VA7950/VA7975



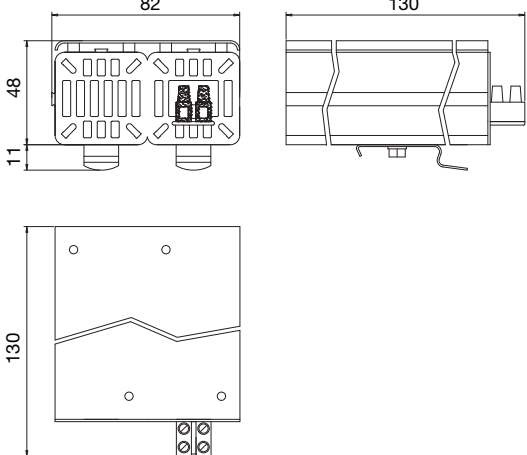
VA7910



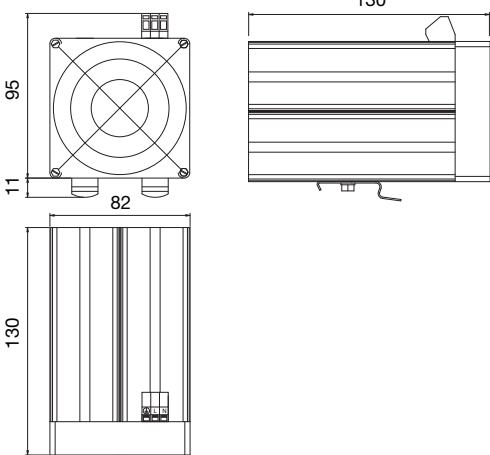
Minimum mounting distances



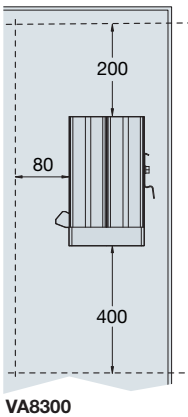
VA7915



VA8300



Minimum mounting distances



Measurements are in millimetres

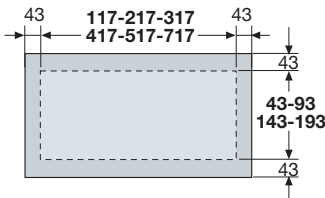
Overall dimensions

Drillings

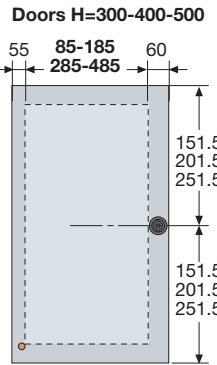
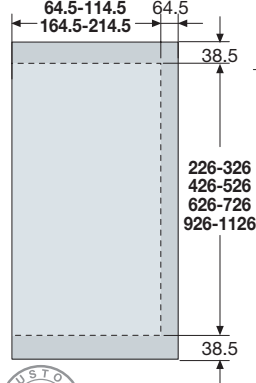
Drillings SR2

Maximum useful overall dimensions for the drillings

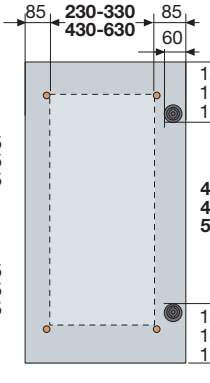
Flanges



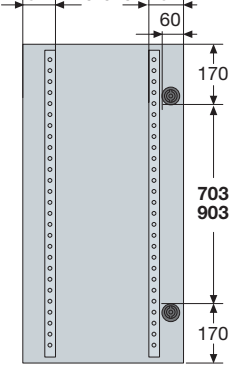
Side



Doors H=600-700-800



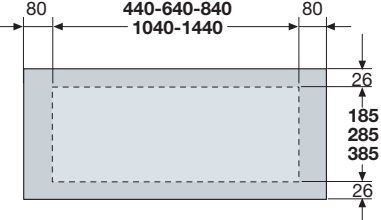
Doors H=1000-1200



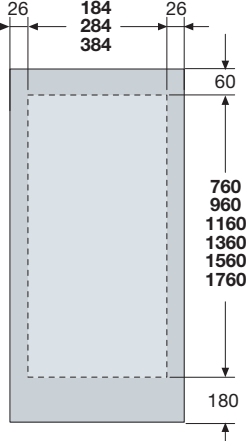
AM2 Drillings

Maximum useful overall dimensions for the drillings

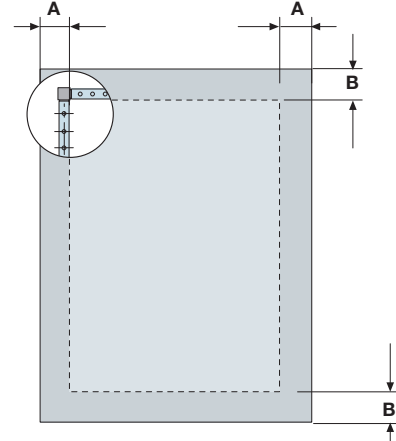
Roof



Side



Door/Rear panel

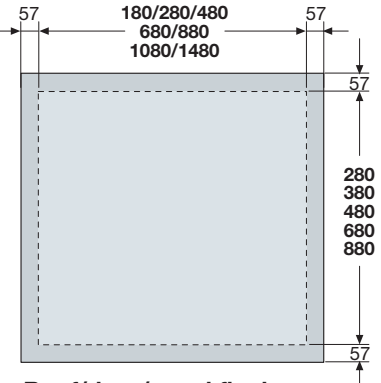


	A	B
Front door	100	115
Rear panel	118.5	90

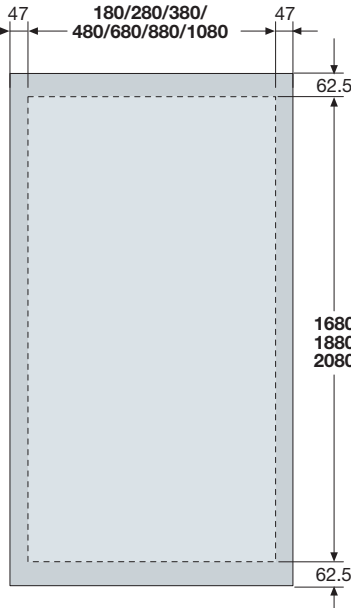
IS2 Enclosure drillings

Maximum useful overall dimensions for the drillings

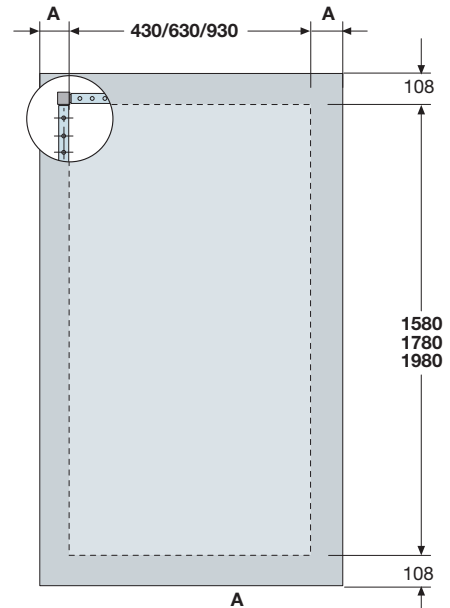
Roof



Doors W ≤ 500mm / panels

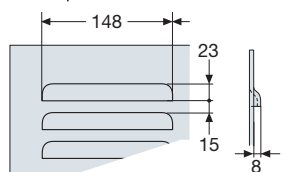


Doors W ≥ 600mm



Roof/door/panel finning

Attach the drawing with n° rows and n° of fins per row to the order.



Aeration surface for 8 cm² fin.

For request of finning it's necessary manage it with special offer

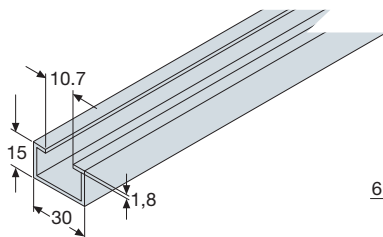
A	
Front door	75
Side door	118.5

Measurements are in millimetres

Overall dimensions

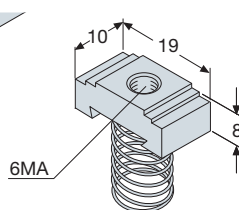
Accessories

Aluminium section EV1050

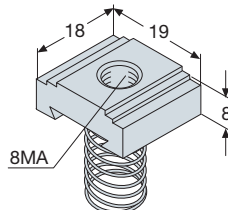


Aluminium nuts for EV1050

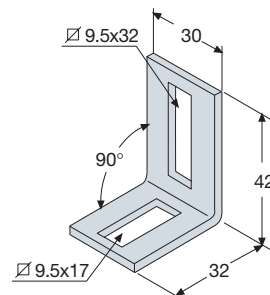
EV1056



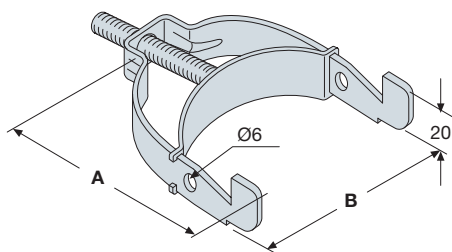
EV1058



Angles for busbars EV1051



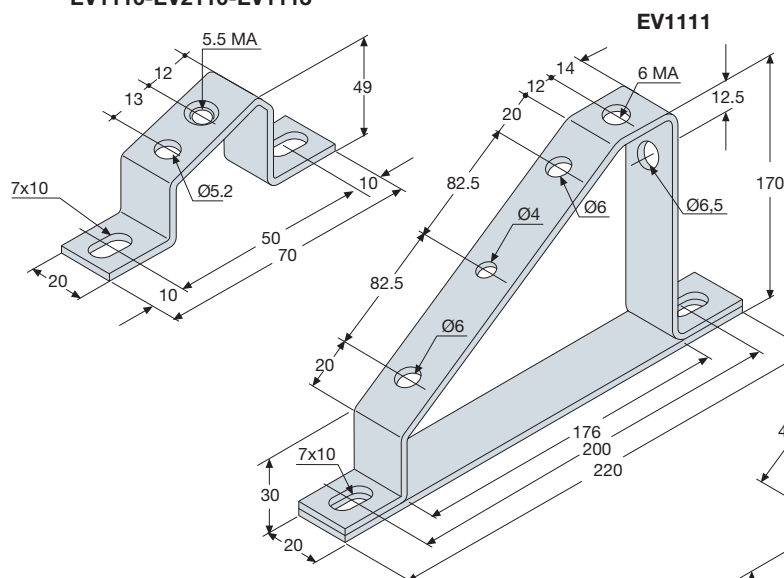
Brackets for cables EV1090 / EV1091



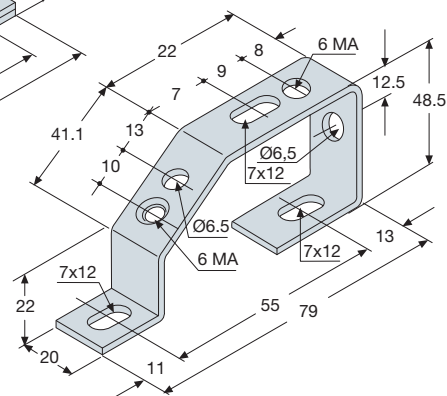
	A	B
EV1090	49	20
EV1091	65	36
EV1092	85	51
EV1093	106	80

Terminal box supports

EV1110-EV2110-EV1113



EV1112-EV2112



Measurements are in millimetres

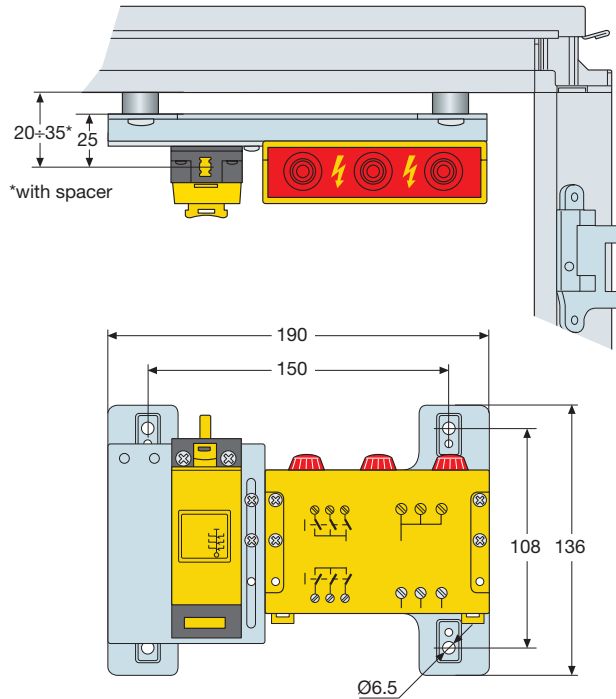
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Overall dimensions

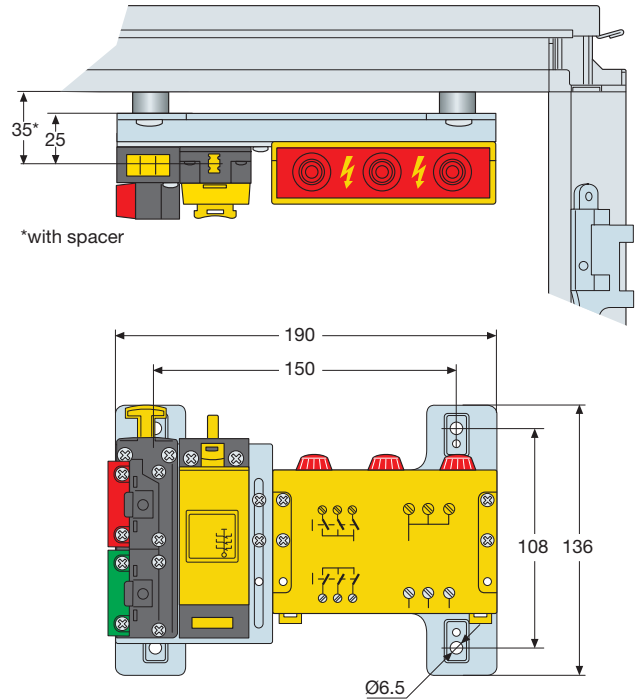
Accessories

Voltage indicator

EV1147

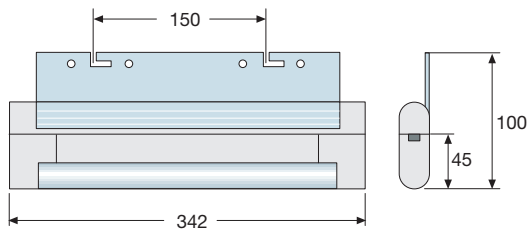


EV1148

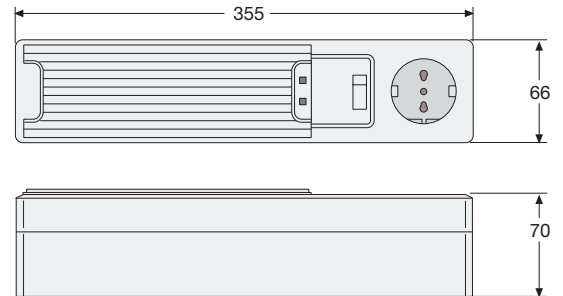


Fluorescent lights

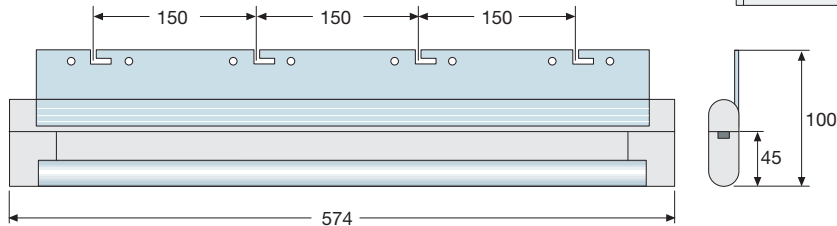
EV1040



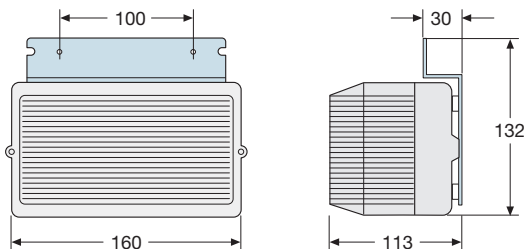
EV1043



EV1041



EV1048

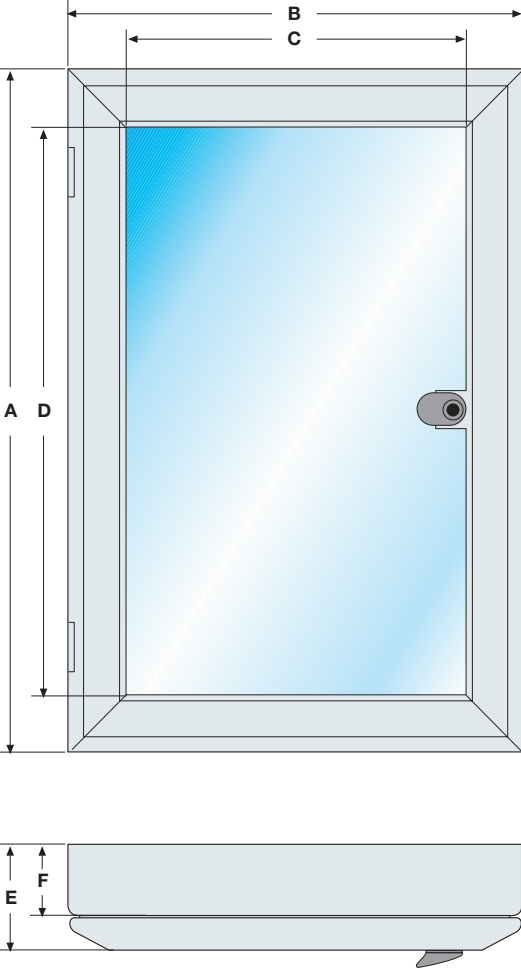


Measurements are in millimetres

Overall dimensions

Accessories

IP54 protective window with glass



	A	B	C	D	E	F
EV1080	400	400	350	350	46	30
EV1081	400	400	350	350	77	61
EV1082	600	200	550	150	46	30
EV1083	600	200	550	150	77	61
EV1084	600	400	550	350	46	30
EV1085	600	400	550	350	77	61
EV1086	600	600	550	550	46	30
EV1087	600	600	550	550	77	61

Measurements are in millimetres



Index of codes

Index of codes

Code	Structure	Page	Weight
6652	IS2	4/72	0,6
7241	IS2	4/72	0,58
7242	IS2	4/72	0,7
7243	IS2	4/72	0,93
7244	IS2	4/72	1,17
7245	IS2	4/72	1,67
7246	IS2	4/72	2,81
7247	IS2	4/72	3,44
7855	IS2	4/72	0,76
05 019	Wiring ducts	6/6	0,11
05 033	Wiring ducts	6/6	0,3
05 035	Wiring ducts	6/6	0,36
05 037	Wiring ducts	6/6	0,46
05 043	Wiring ducts	6/6	0,21
05 045	Wiring ducts	6/6	0,4
05 047	Wiring ducts	6/6	0,52
05 049	Wiring ducts	6/6	0,69
05 051	Wiring ducts	6/6	0,9
05 053	Wiring ducts	6/6	1,02
05 063	Wiring ducts	6/6	0,43
05 065	Wiring ducts	6/6	0,57
05 067	Wiring ducts	6/6	0,67
05 069	Wiring ducts	6/6	0,81
05 071	Wiring ducts	6/6	0,96
05 073	Wiring ducts	6/6	1,15
05 083	Wiring ducts	6/6	0,53
05 085	Wiring ducts	6/6	0,47
05 087	Wiring ducts	6/6	0,72
05 089	Wiring ducts	6/6	0,87
05 091	Wiring ducts	6/6	1,02
05 093	Wiring ducts	6/6	1,26
05 094	Wiring ducts	6/6	0,62
05 095	Wiring ducts	6/6	1,2
05 096	Wiring ducts	6/6	1,2
05 097	Wiring ducts	6/6	1,2
05 098	Wiring ducts	6/6	1,2
05 099	Wiring ducts	6/6	1,2
05 119	Wiring ducts	6/6	0,11
05 133	Wiring ducts	6/6	0,29
05 135	Wiring ducts	6/6	0,33
05 137	Wiring ducts	6/6	0,45
05 143	Wiring ducts	6/6	0,33
05 145	Wiring ducts	6/6	0,4
05 147	Wiring ducts	6/6	0,47
05 149	Wiring ducts	6/6	0,64
05 151	Wiring ducts	6/6	0,88
05 153	Wiring ducts	6/6	0,97
05 163	Wiring ducts	6/6	0,42
05 165	Wiring ducts	6/6	0,49
05 167	Wiring ducts	6/6	0,63
05 169	Wiring ducts	6/6	0,83
05 171	Wiring ducts	6/6	0,94
05 173	Wiring ducts	6/6	1,21
05 183	Wiring ducts	6/6	0,51
05 185	Wiring ducts	6/6	0,57
05 187	Wiring ducts	6/6	0,69

Code	Structure	Page	Weight
05 189	Wiring ducts	6/6	0,84
05 191	Wiring ducts	6/6	1,04
05 193	Wiring ducts	6/6	1,25
05 194	Wiring ducts	6/6	0,61
05 195	Wiring ducts	6/6	0,66
05 196	Wiring ducts	6/6	0,9
05 197	Wiring ducts	6/6	1,04
05 198	Wiring ducts	6/6	1,1
05 199	Wiring ducts	6/6	1,81
05 214	Wiring ducts	6/8	0
05 216	Wiring ducts	6/8	0
05 224	Wiring ducts	6/8	0
05 226	Wiring ducts	6/8	0
05 228	Wiring ducts	6/8	0,01
05 230	Wiring ducts	6/8	0,01
05 240	Wiring ducts	6/8	0
05 250	Wiring ducts	6/8	0,02
05 252	Wiring ducts	6/8	0,01
05 254	Wiring ducts	6/8	0,01
05 256	Wiring ducts	6/8	0,02
05 258	Wiring ducts	6/8	0,02
05 260	Wiring ducts	6/8	0,02
05 262	Wiring ducts	6/8	0,02
05 265	Wiring ducts	6/8	0,45
05 266	Wiring ducts	6/8	0,45
05 268	Wiring ducts	6/8	
05 270	Gemini	1/15	0,3
05 270	Wiring ducts	6/8	0,3
05 272	Gemini	1/15	0,2
05 272	Wiring ducts	6/8	0,2
05 274	Gemini	1/15	0,2
05 274	Wiring ducts	6/8	0,2
05 276	Gemini	1/15	0,36
05 276	Wiring ducts	6/8	0,36
05 278	Gemini	1/15	0,36
05 278	Wiring ducts	6/8	0,36
05 280	Gemini	1/15	0,42
05 280	Wiring ducts	6/8	0,42
05 282	Gemini	1/15	0,4
05 282	Wiring ducts	6/8	0,4
05 300	Wiring ducts	6/6	
05 302	Wiring ducts	6/6	
05 304	Wiring ducts	6/6	
05 306	Wiring ducts	6/6	
05 308	Wiring ducts	6/6	
05 310	Wiring ducts	6/6	
05 312	Wiring ducts	6/6	
05 314	Wiring ducts	6/6	
05 400	Wiring ducts	6/7	0,01
05 402	Wiring ducts	6/7	0,01
05 405	Wiring ducts	6/7	0,02
05 410	Wiring ducts	6/7	0,03
05 415	Wiring ducts	6/7	0,04
05 420	Wiring ducts	6/7	0,07
05 425	Wiring ducts	6/7	0,1
12 849	Gemini	1/19	0,31

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12 851	Gemini	1/19	0,19
12 863	Gemini	1/19	0,01
1SL0201A00	Gemini	1/20	4,76
1SL0202A00	Gemini	1/20	7,94
1SL0203A00	Gemini	1/20	10,65
1SL0204A00	Gemini	1/21	12,78
1SL0205A00	Gemini	1/21	17,97
1SL0206A00	Gemini	1/21	25,55
1SL0211A00	Gemini	1/10	4,76
1SL0212A00	Gemini	1/10	7,94
1SL0213A00	Gemini	1/10	10,65
1SL0214A00	Gemini	1/10	12,78
1SL0215A00	Gemini	1/10	17,97
1SL0216A00	Gemini	1/10	25,55
1SL0221A00	Gemini	1/11	3,64
1SL0222A00	Gemini	1/11	6,08
1SL0223A00	Gemini	1/11	8,2
1SL0224A00	Gemini	1/11	9,48
1SL0225A00	Gemini	1/11	14
1SL0226A00	Gemini	1/11	19,56
1SL0231A00	Gemini	1/11	1,12
1SL0232A00	Gemini	1/11	1,86
1SL0233A00	Gemini	1/11	2,45
1SL0234A00	Gemini	1/11	3,3
1SL0235A00	Gemini	1/11	3,97
1SL0236A00	Gemini	1/11	5,99
1SL0241A00	Gemini	1/11	1,12
1SL0242A00	Gemini	1/11	1,86
1SL0243A00	Gemini	1/11	2,45
1SL0244A00	Gemini	1/11	3,3
1SL0245A00	Gemini	1/11	3,97
1SL0246A00	Gemini	1/11	5,99
1SL0251A00	Gemini	1/11	0
1SL0251A00	Gemini	1/20	0
1SL0252A00	Gemini	1/11	0,73
1SL0252A00	Gemini	1/20	0,73
1SL0253A00	Gemini	1/11	1
1SL0253A00	Gemini	1/20	1
1SL0254A00	Gemini	1/11	1,35
1SL0254A00	Gemini	1/21	1,35
1SL0255A00	Gemini	1/11	1,6
1SL0255A00	Gemini	1/21	1,6
1SL0256A00	Gemini	1/11	3,1
1SL0256A00	Gemini	1/21	3,1
1SL0259A00	Gemini	1/15	1,13
1SL0259A00	Gemini	1/20	1,13
1SL0260A00	Gemini	1/15	2,75
1SL0260A00	Gemini	1/20	2,75
1SL0261A00	Gemini	1/15	3,65
1SL0262A00	Gemini	1/15	4,875
1SL0262A00	Gemini	1/21	4,875
1SL0263A00	Gemini	1/15	5,975
1SL0264A00	Gemini	1/15	10,75
1SL0264A00	Gemini	1/21	10,75
1SL0267A00	Gemini	1/15	0,58
1SL0268A00	Gemini	1/15	1,35

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1SL0269A00	Gemini	1/15	1,7
1SL0269A00	Gemini	1/20	1,7
1SL0270A00	Gemini	1/15	2,36
1SL0271A00	Gemini	1/15	2,9
1SL0272A00	Gemini	1/15	5,35
1SL0275A00	Gemini	1/15	0,61
1SL0276A00	Gemini	1/15	1,458
1SL0277A00	Gemini	1/15	0,62
1SL0278A00	Gemini	1/15	2550
1SL0279A00	Gemini	1/15	3,1
1SL0279A00	Gemini	1/21	3,1
1SL0280A00	Gemini	1/15	5
1SL0283A00	Gemini	1/12	0,34
1SL0284A00	Gemini	1/12	0,75
1SL0285A00	Gemini	1/12	1,092
1SL0286A00	Gemini	1/12	1,35
1SL0287A00	Gemini	1/12	2,66
1SL0290A00	Gemini	1/12	0,18
1SL0291A00	Gemini	1/12	0,23
1SL0292A00	Gemini	1/12	0,3
1SL0293A00	Gemini	1/12	0,45
1SL0296A00	Gemini	1/13	0,48
1SL0297A00	Gemini	1/13	0,7
1SL0298A00	Gemini	1/13	0,975
1SL0299A00	Gemini	1/13	1,5
1SL0302A00	Gemini	1/13	1,5
1SL0303A00	Gemini	1/13	2,05
1SL0304A00	Gemini	1/13	3,1
1SL0307A00	Gemini	1/12	0,34
1SL0308A00	Gemini	1/12	0,48
1SL0309A00	Gemini	1/12	0,56
1SL0310A00	Gemini	1/12	0,95
1SL0313A00	Gemini	1/12	0,6
1SL0314A00	Gemini	1/12	0,81
1SL0315A00	Gemini	1/12	1,15
1SL0318A00	Gemini	1/14	0,098
1SL0319A00	Gemini	1/14	0,14
1SL0320A00	Gemini	1/14	0,18
1SL0321A00	Gemini	1/14	0,27
1SL0324A00	Gemini	1/14	0,175
1SL0325A00	Gemini	1/14	0,26
1SL0326A00	Gemini	1/14	0,14
1SL0327A00	Gemini	1/14	0,45
1SL0330A00	Gemini	1/14	0,32
1SL0331A00	Gemini	1/14	0,41
1SL0332A00	Gemini	1/14	0,61
1SL0333A00	Gemini	1/14	0,84
1SL0336A00	Gemini	1/13	0,965
1SL0337A00	Gemini	1/13	1,25
1SL0338A00	Gemini	1/13	1,9
1SL0339A00	Gemini	1/17	0,01
1SL0340A00	Gemini	1/17	0,044
1SL0341A00	Gemini	1/17	0,012
1SL0341A00	Gemini	1/21	0,012
1SL0342A00	Gemini	1/17	0,0195
1SL0342A00	Gemini	1/20	0,0195

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1SL0342A00	Gemini	1/20	0,0195	1SL9019A00	Wiring ducts	6/5	0,0804	1SL9860A00	IS2	4/72	1,09	AA8010	SR2	2/9	3
1SL0342A00	Gemini	1/21	0,0195	1SL9033A00	Wiring ducts	6/5	0,238	1SL9861A00	IS2	4/72	1,126	AA8011	SR2	2/9	0,01
1SL0343A00	Gemini	1/17	0,625	1SL9035A00	Wiring ducts	6/5	0,287	1SL9862A00	IS2	4/72	1,31	AA8025	SR2	2/6	0,010
1SL0344A00	Gemini	1/17	0,83	1SL9037A00	IS2	4/72	0,372	1SL9863A00	IS2	4/72	1,49	AA8050	SR2	2/6	0,010
1SL0345A00	Gemini	1/17	1,75	1SL9037A00	Wiring ducts	6/5	0,372	1SL9864A00	IS2	4/72	1,856	AA9610	IS2	4/61	0,67
1SL0345A00	Gemini	1/21	1,75	1SL9043A00	Wiring ducts	6/5	0,25	1SL9865A00	IS2	4/72	2,5	AD..			
1SL0346A00	Gemini	1/17	2,275	1SL9045A00	Wiring ducts	6/5	0,33	1SL9866A00	IS2	4/72	2,91	AD1004	AM2	3/18	0,55
1SL0350A00	Gemini	1/19	0,15	1SL9047A00	Wiring ducts	6/5	0,43	1SL9880A00	IS2	4/72	0,135	AD1004	IS2	4/57	0,55
1SL0350A00	Gemini	1/21	0,15	1SL9049A00	Wiring ducts	6/5	0,491	1SL9886A00	IS2	4/72	0,11	AD1006	AM2	3/18	0,55
1SL0351A00	Gemini	1/19	0,033	1SL9051A00	Wiring ducts	6/5	0,63	1SL9887A00	IS2	4/72	0,14	AD1006	IS2	4/57	0,55
1SL0351A00	Gemini	1/21	0,033	1SL9053A00	Wiring ducts	6/5	0,74	1SL9893A00	IS2	4/72	0,005	AD1007	AM2	3/18	0,25
1SL0352A00	Gemini	1/17	4,25	1SL9063A00	Wiring ducts	6/5	0,328	1SL9904A00	IS2	4/72	0,31	AD1007	IS2	4/57	0,25
1SL0353A00	Gemini	1/14	0,19	1SL9065A00	Wiring ducts	6/5	0,386	1SL9907A00	IS2	4/72	0,15	AD1009	AM2	3/16	0,086
1SL0354A00	Gemini	1/14	0,2	1SL9067A00	Wiring ducts	6/5	0,544	1SL9910A00	IS2	4/72	0,23	AD1009	IS2	4/54	0,086
1SL0355A00	Gemini	1/14	0,25	1SL9069A00	Wiring ducts	6/5	0,675	1SL9911A00	IS2	4/72	0,3	AD1009	IS2	4/56	0,086
1SL0356A00	Gemini	1/14	0,34	1SL9071A00	Wiring ducts	6/5	0,75	1SL9912A00	IS2	4/72	0,38	AD1009	Wiring ducts	6/8	0,086
1SL0360A00	Gemini	1/14	0,15	1SL9073A00	Wiring ducts	6/5	0,944	1SL9913A00	IS2	4/72	0,53	AD1027	AM2	3/18	0,25
1SL0361A00	Gemini	1/14	0,21	1SL9083A00	Wiring ducts	6/5	0,408	1SL9914A00	IS2	4/72	0,68	AD1027	IS2	4/57	0,25
1SL0362A00	Gemini	1/14	0,23	1SL9085A00	Wiring ducts	6/5	0,439	1SL9915A00	IS2	4/72	0,83	AD1028	AM2	3/18	0,5
1SL0363A00	Gemini	1/14	0,38	1SL9087A00	Wiring ducts	6/5	0,583	AA..				AD1028	IS2	4/57	0,5
1SL0370A00	Gemini	1/13	1,875	1SL9089A00	Wiring ducts	6/5	0,71	AA1203	SR2	2/10	0,01	AD1029	AM2	3/18	0,55
1SL0371A00	Gemini	1/13	2,7	1SL9091A00	Wiring ducts	6/5	0,831	AA1206	SR2	2/7	0,2	AD1029	IS2	4/57	0,55
1SL0372A00	Gemini	1/13	3,85	1SL9093A00	Wiring ducts	6/5	1,081	AA1560	AM2	3/25	0,02	AD1030	AM2	3/18	0,438
1SL0380A00	Gemini	1/19	0,048	1SL9119A00	Wiring ducts	6/5	0,0841	AA1560	IS2	4/36	0,02	AD1030	IS2	4/57	0,438
1SL0381A00	Gemini	1/19	0	1SL9133A00	Wiring ducts	6/5	0,239	AA1570	AM2	3/25	0,03	AD1031	AM2	3/18	1,25
1SL0382A00	Gemini	1/19	0,026	1SL9135A00	Wiring ducts	6/5	0,267	AA1570	IS2	4/36	0,03	AD1031	IS2	4/57	1,25
1SL0383A00	Gemini	1/15	0,108	1SL9137A00	Wiring ducts	6/5	0,358	AA5190	SR2	2/9	0,01	AD1033	AM2	3/23	0,22
1SL0385A00	Gemini	1/17	0,32	1SL9143A00	Wiring ducts	6/5	0,268	AA5200	SR2	2/9	0,01	AD1033	IS2	4/66	0,22
1SL0386A00	Gemini	1/17	0,601	1SL9145A00	Wiring ducts	6/5	0,3	AA6100	AM2	3/29	0,01	AD1033	C2	5/12	0,22
1SL0387A00	Gemini	1/17	0,76	1SL9147A00	Wiring ducts	6/5	0,387	AA6120	AM2	3/25	0,01	AD1036	IS2	4/66	0,2
1SL0388A00	Gemini	1/17	0,959	1SL9149A00	Wiring ducts	6/5	0,507	AA6120	IS2	4/36	0,01	AD1037	AM2	3/16	0,352
1SL0389A00	Gemini	1/17	1,91	1SL9151A00	Wiring ducts	6/5	0,65	AA6140	AM2	3/25	0,01	AD1037	IS2	4/54	0,352
1SL0390A00	Gemini	1/17	2,495	1SL9153A00	Wiring ducts	6/5	0,75	AA6140	IS2	4/36	0,01	AD1056	IS2	4/62	0,3
1SL0397A00	Gemini	1/19	0,034	1SL9163A00	Wiring ducts	6/5	0,338	AA6141	AM2	3/25	0,02	AD1058	AM2	3/25	0,01
1SL0400A00	Gemini	1/11	0,19	1SL9165A00	Wiring ducts	6/5	0,409	AA6141	IS2	4/36	0,02	AD1058	AM2	3/29	0,01
1SL0413A00	Gemini	1/18	0,825	1SL9167A00	Wiring ducts	6/5	0,534	AA6160	AM2	3/25	0,02	AD1058	IS2	4/36	0,01
1SL0414A00	Gemini	1/18	0,875	1SL9169A00	Wiring ducts	6/5	0,61	AA6160	IS2	4/36	0,02	AD1058	IS2	4/73	0,01
1SL0415A00	Gemini	1/18	1,24	1SL9171A00	Wiring ducts	6/5	0,757	AA6180	AM2	3/25	0,02	AD1064	IS2	4/62	0,26
1SL0416A00	Gemini	1/18	1,85	1SL9173A00	Wiring ducts	6/5	0,962	AA6180	IS2	4/36	0,02	AD1065	IS2	4/62	0,2
1SL0423A00	Gemini	1/18	0,8	1SL9183A00	Wiring ducts	6/5	0,396	AA6190	AM2	3/25	0,02	AD1066	IS2	4/62	0,2
1SL0424A00	Gemini	1/18	0,825	1SL9185A00	Wiring ducts	6/5	0,466	AA6190	IS2	4/36	0,02	AD1067	IS2	4/62	0,2
1SL0425A00	Gemini	1/18	1,15	1SL9187A00	Wiring ducts	6/5	0,622	AA6200	AM2	3/25	0,02	AD1068	IS2	4/62	1,07
1SL0426A00	Gemini	1/18	1,83	1SL9189A00	Wiring ducts	6/5	0,706	AA6200	IS2	4/36	0,02	AD1069	IS2	4/62	2,4
1SL0433A00	Gemini	1/18	2,265	1SL9191A00	Wiring ducts	6/5	0,833	AA6840	AM2	3/23	0,01	AD1075	AM2	3/18	0,55
1SL0434A00	Gemini	1/18	2,775	1SL9193A00	Wiring ducts	6/5	1,101	AA6840	IS2	4/66	0,01	AD1075	IS2	4/57	0,55
1SL0435A00	Gemini	1/18	3,29	1SL9816A00	IS2	4/72	0,755	AA6850	AM2	3/23	0,01	AD1076	AM2	3/18	0,25
1SL0436A00	Gemini	1/18	4,58	1SL9817A00	IS2	4/72	0,785	AA6850	IS2	4/66	0,01	AD1076	IS2	4/57	0,25
1SL0457A00	Gemini	1/19	0	1SL9818A00	IS2	4/72	0,97	AA6880	AM2	3/23	0,01	AD1077	IS2	4/62	1,05
1SL0458A00	Gemini	1/17	0,089	1SL9819A00	IS2	4/72	1,15	AA6880	IS2	4/66	0,01	AD1080	AM2	3/18	0,25
1SL5316A00	Wiring ducts	6/5	0,0325	1SL9820A00	IS2	4/72	1,516	AA6890	AM2	3/23	0,01	AD1080	IS2	4/57	0,25
1SL5317A00	Wiring ducts	6/5	0,088	1SL9836A00	IS2	4/72	1,03	AA6890	IS2	4/66	0,01	AD1081	AM2	3/18	0,25
1SL5318A00	Wiring ducts	6/5	0,13	1SL9838A00	IS2	4/72	1,25	AA8001	SR2	2/9	0,01	AD1081	IS2	4/57	0,25
1SL5319A00	Wiring ducts	6/5	0,237	1SL9839A00	IS2	4/72	1,43	AA8002	SR2	2/9	0,01	AD1086	AM2	3/18	3,51
1SL5320A00	Wiring ducts	6/5	0,325	1SL9840A00	IS2	4/72	1,795	AA8003	SR2	2/9	0,01	AD1086	IS2	4/56	3,51
1SL5321A00	Wiring ducts	6/5	0,277	1SL9841A00	IS2	4/72	2,44	AA8004	AM2	3/25	0,01	AD1088	AM2	3/18	1,41
1SL5322A00	Wiring ducts	6/5	0,416	1SL9842A00	IS2	4/72	2,85	AA8004	IS2	4/36	0,01	AD1088	IS2	4/56	1,41

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AD1089	AM2	3/18	2,08
AD1089	IS2	4/56	2,08
AD1098	IS2	4/56	0,96
AD1098	Wiring ducts	6/8	0,96
AD1101	AM2	3/18	0,05
AD1101	IS2	4/56	0,05
AD1102	AM2	3/18	0,02
AD1102	IS2	4/56	0,02
AD1103	AM2	3/18	0,02
AD1103	IS2	4/56	0,02
AD1104	AM2	3/18	0,02
AD1104	IS2	4/56	0,02
AD1600	AM2	3/18	0,24
AD1600	IS2	4/56	0,24
AD1800	AM2	3/18	0,36
AD1800	IS2	4/56	0,36

AE..

AE1015	IS2	4/69	0,25
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AP..

AP6000	AM2	3/16	0,01
AP6000	IS2	4/54	0,01
AP6000	IS2	4/56	0,01
AP6001	SR2	2/8	0,01

BA..

BA0400	IS2	4/62	3,3
BA0800	IS2	4/62	4,5
BA1250	IS2	4/62	9,16
BA1600	IS2	4/62	10,72

BF..

BF1602	IS2	4/63	2,7
BF2502	IS2	4/63	4,2
BF4002	IS2	4/63	3
BF4012	IS2	4/63	6,5
BF6302	IS2	4/63	12,5
BF8002	IS2	4/63	19,1

BP..

BP0630	IS2	4/63	0,4
BP0632	IS2	4/63	0,55
BP1250	IS2	4/63	2,8
BP1600	IS2	4/63	2,6

BR..

BR0250	IS2	4/63	1,3
BR0400	IS2	4/63	2,8
BR0630	IS2	4/63	6,2
BR1250	IS2	4/63	14,5
BR1600	IS2	4/63	29
BR4005	IS2	4/63	4,4
BR6305	IS2	4/63	6,5
BR8005	IS2	4/63	8,6

CA..

CA1402	AM2	3/29	1
CA1602	AM2	3/29	1,1
CA1802	AM2	3/29	1,2
CA2008	AM2	3/29	1,3
CA4006K	C2	5/14	3,25

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CA4008K	C2	5/14	4,345
CA4010K	C2	5/14	5,43
CA4012K	C2	5/14	6,52
CA4016K	C2	5/14	8,71
CB..			
CB7006K	C2	5/14	5,616
CB7008K	C2	5/14	7,375
CB7010K	C2	5/14	9,125
CB7012DK	C2	5/14	5,616
CB7012SK	C2	5/14	6,23
CB7016DK	C2	5/14	7,375
CB7016SK	C2	5/14	8,32

CC..

CC5006K	C2	5/14	4,12
CC5008K	C2	5/14	5,39
CC5010K	C2	5/14	6,68
CC5012K	C2	5/14	7,96
CC5016K	C2	5/14	10,52

CF..

CF1040	C2	5/10	2,78
CF1050	C2	5/10	3,62
CF1240	C2	5/10	3,404
CF1250	C2	5/10	4,42
CF1640	C2	5/10	4,62
CF1650	C2	5/10	6,05
CF6040	C2	5/10	1,56
CF6050	C2	5/10	2,04
CF8040	C2	5/10	2,18
CF8050	C2	5/10	2,84

CL..

CL0010	C2	5/9	23,38
CL0012	C2	5/9	27,15
CL0016	C2	5/9	34,67
CL0060	C2	5/9	15,866
CL0080	C2	5/9	19,52

CM..

CM1064K	C2	5/8	31,55
CM1084K	C2	5/8	39,97
CM1104K	C2	5/8	46,43
CM1124K	C2	5/8	53,94
CM1164K	C2	5/8	65,91
CM4064K	C2	5/8	45,06
CM4064PK	C2	5/9	47,313
CM4065K	C2	5/8	49,06
CM4065PK	C2	5/9	51,513
CM4084K	C2	5/8	52,256
CM4084PK	C2	5/9	54,848
CM4085K	C2	5/8	56,256
CM4085PK	C2	5/9	59,068
CM4104K	C2	5/8	59,41
CM4104PK	C2	5/9	62,381
CM4105K	C2	5/8	63,41
CM4105PK	C2	5/9	66,58
CM4124K	C2	5/8	67,67
CM4124PK	C2	5/9	71,053

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CM4125K	C2	5/8	71,74
CM4125PK	C2	5/9	75,327
CM4164K	C2	5/8	80,93
CM4164PK	C2	5/9	84,976
CM4165K	C2	5/8	84,93
CM4165PK	C2	5/9	89,176

CP..

CP0010	C2	5/9	5,01
CP0012	C2	5/9	5,91
CP0016	C2	5/9	7,73
CP0060	C2	5/9	3,19
CP0080	C2	5/9	4,09

CR..

CR0180	IS2	4/61	2
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EA..

EA0400	IS2	4/42	1,78
EA0401	IS2	4/73	1,12
EA0501	IS2	4/73	1,52
EA0600	IS2	4/42	2,6
EA0601	IS2	4/73	1,91
EA0801	IS2	4/73	2,71
EA0802	IS2	4/42	3,39
EA1000	IS2	4/42	4,2
EA1001	IS2	4/73	3,38
EA1002	IS2	4/44	2,82
EA1003	IS2	4/43	2,53
EA1010	AM2	3/12	18,915
EA1012	AM2	3/12	22,495
EA1016	AM2	3/12	29,654
EA1060	AM2	3/12	11,756
EA1061	AM2	3/13	14,855
EA1061	IS2	4/45	14,855
EA1061	C2	5/11	14,855
EA1080	AM2	3/12	15,336
EA1081	AM2	3/13	20,792
EA1081	IS2	4/45	20,792
EA1081	C2	5/11	20,792
EA1200	IS2	4/42	4,99
EA1202	IS2	4/44	3,41
EA1203	IS2	4/43	3,12
EA1210	AM2	3/12	22,789
EA1213	AM2	3/12	27,154
EA1260	AM2	3/12	14,06
EA1280	AM2	3/12	18,425
EA1411	AM2	3/12	26,663
EA1411	C2	5/11	26,663
EA1412	AM2	3/12	31,813
EA1412	C2	5/11	31,813
EA1416	C2	5/11	55,635
EA1460	AM2	3/12	16,364
EA1460	C2	5/11	16,364
EA1480	AM2	3/12	21,514
EA1480	C2	5/11	21,514
EA1602	IS2	4/43	6,66
EA1603	IS2	4/43	4,27

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EA1610	AM2	3/12	30,537
EA1612	AM2	3/12	36,472
EA1616	AM2	3/12	18,668
EA1619	AM2	3/12	24,603
EA1800	IS2	4/42	7,17
EA1810	AM2	3/12	35,75
EA1810	IS2	4/42	35,75
EA1812	AM2	3/12	42,99
EA1812	IS2	4/42	42,99
EA1817	IS2	4/42	57,32
EA1841	IS2	4/42	13,91
EA1860	AM2	3/12	20,4
EA1860	IS2	4/42	20,4
EA1880	AM2	3/12	26
EA1880	IS2	4/42	26
EA1910	IS2	4/44	44,24
EA1912	IS2	4/44	52,4
EA1916	IS2	4/44	77,74
EA1940	IS2	4/44	19,32
EA1960	IS2	4/44	27,9
EA1981	IS2	4/44	35,34
EA2000	IS2	4/42	7,97
EA2010	AM2	3/12	39,72
EA2010	IS2	4/42	39,72
EA2013	AM2	3/12	47,77
EA2013	IS2	4/42	47,77
EA2016	IS2	4/42	63,69
EA2040	IS2	4/42	15,45
EA2060	AM2	3/12	22,6
EA2060	IS2	4/42	22,6
EA2062	AM2	3/13	2,97
EA2062	IS2	4/45	2,97
EA2062	C2	5/11	2,97
EA2080	AM2	3/12	30,2
EA2080	IS2	4/42	30,2
EA2081	AM2	3/13	3,96
EA2081	IS2	4/45	3,96
EA2081	C2	5/11	3,96
EA2100	IS2	4/42	1,06
EA2101	IS2	4/46	0,28
EA2102	IS2	4/42	0,09
EA2110	IS2	4/44	48,17
EA2112	IS2	4/44	57,06
EA2113	IS2	4/44	0,15
EA2115	IS2	4/43	0,13
EA2116	IS2	4/44	86,38
EA2117	IS2	4/42	0,48
EA2117	IS2	4/43	0,48
EA2140	IS2	4/44	21,9
EA2161	IS2	4/44	31
EA2180	IS2	4/44	39,26
EA2200	IS2	4/42	8,76
EA2210	IS2	4/42	43,69
EA2212	IS2	4/42	52,54
EA2216	IS2	4/42	70,06
EA2240	IS2	4/42	17

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EA2260	IS2	4/42	25,82	EA6081	AM2	3/13	11,88	EB6100	IS2	4/32	2,86	EC2080FC8K	IS2	4/35	28,31
EA2280	IS2	4/42	34,84	EA6081	IS2	4/45	11,88	EB6100	IS2	4/46	2,86	EC2080FV6K	IS2	4/34	18,13
EA2310	IS2	4/44	54,07	EA6081	C2	5/11	11,88	EB6100	IS2	4/52	2,86	EC2080FV6K	IS2	4/35	18,13
EA2312	IS2	4/44	62,77	EA8002	IS2	4/44	2,27	EB6101	IS2	4/45	3,87	EC2080FV8K	IS2	4/34	24,06
EA2316	IS2	4/44	95,02	EA8003	IS2	4/43	1,96	EB6102	IS2	4/46	3,89	EC2080FV8K	IS2	4/35	24,06
EA2340	IS2	4/44	23,61	EA8061	AM2	3/13	11,88	EB6104	IS2	4/59	3,66	EC2080K	IS2	4/33	28,31
EA2360	IS2	4/44	33,41	EA8061	IS2	4/45	11,88	EB6106	IS2	4/59	3,02	EC2080VC2K	IS2	4/34	8,04
EA2380	IS2	4/44	43,19	EA8061	C2	5/11	11,88	EB8100	IS2	4/32	3,67	EC2080VC2K	IS2	4/35	8,04
EA3061	AM2	3/13	4,46	EA8081	AM2	3/13	15,84	EB8100	IS2	4/46	3,67	EC2080VC4K	IS2	4/34	14,34
EA3061	IS2	4/45	4,46	EA8081	IS2	4/45	15,84	EB8100	IS2	4/52	3,67	EC2080VC4K	IS2	4/35	14,34
EA3061	C2	5/11	4,46	EA8081	C2	5/11	15,84	EB8101	IS2	4/45	5,16	EC2081K	IS2	4/39	20,43
EA3081	AM2	3/13	5,94	EA8101	C2	5/11	19,87	EB8102	IS2	4/46	5,28	EC2082	IS2	4/33	21,28
EA3081	IS2	4/45	5,94	EA8121	C2	5/11	23,84	EB8104	IS2	4/59	4,38	EC2082	IS2	4/59	21,28
EA3081	C2	5/11	5,94	EA8161	C2	5/11	31,792	EB8106	IS2	4/59	3,56	EC2084	IS2	4/33	21,28
EA4061	AM2	3/13	5,94	EB..				EC..				EC2084	IS2	4/59	21,28
EA4061	IS2	4/45	5,94	EB0400	IS2	4/46	1,47	EC1810K	IS2	4/33	31,79	EC2210K	IS2	4/33	38,78
EA4061	C2	5/11	5,94	EB0440	IS2	4/46	1,57	EC1811K	IS2	4/39	22,98	EC2211K	IS2	4/39	28,09
EA4081	AM2	3/13	7,92	EB0500	IS2	4/46	1,89	EC1831K	IS2	4/33	9,69	EC2232K	IS2	4/33	11,85
EA4081	IS2	4/45	7,92	EB0550	IS2	4/46	2,07	EC1840K	IS2	4/33	12,93	EC2240K	IS2	4/33	15,76
EA4081	C2	5/11	7,92	EB0600	AM2	3/13	1,41	EC1841K	IS2	4/39	9,19	EC2241K	IS2	4/39	11,24
EA5010	AM2	3/14	16,104	EB0600	IS2	4/46	1,41	EC1851K	IS2	4/39	11,49	EC2251K	IS2	4/39	14,05
EA5011	AM2	3/14	31,112	EB0660	AM2	3/13	2,044	EC1860K	IS2	4/33	19,22	EC2260K	IS2	4/33	23,43
EA5011	IS2	4/44	31,112	EB0660	IS2	4/46	2,044	EC1861K	IS2	4/39	13,79	EC2261K	IS2	4/39	16,86
EA5060	AM2	3/14	9,662	EB0800	AM2	3/13	1,912	EC1880FC5K	IS2	4/34	16,01	EC2280FC5K	IS2	4/34	19,57
EA5061	AM2	3/13	7,43	EB0800	IS2	4/46	1,912	EC1880FC5K	IS2	4/35	16,01	EC2280FC5K	IS2	4/35	19,57
EA5061	IS2	4/45	7,43	EB0880	AM2	3/13	2,744	EC1880FC6K	IS2	4/34	19,22	EC2280FC6K	IS2	4/34	23,43
EA5061	C2	5/11	7,43	EB0880	IS2	4/46	2,744	EC1880FC6K	IS2	4/35	19,22	EC2280FC6K	IS2	4/35	23,43
EA5063	AM2	3/14	19,284	EB1000	AM2	3/13	4,03	EC1880FC8K	IS2	4/34	25,51	EC2280FC8K	IS2	4/34	31,11
EA5063	IS2	4/43	19,284	EB1000	IS2	4/46	4,03	EC1880FC8K	IS2	4/35	25,51	EC2280FC8K	IS2	4/35	31,11
EA5081	AM2	3/13	9,92	EB1004	IS2	4/59	5,08	EC1880FV6K	IS2	4/34	16,33	EC2280FV6K	IS2	4/34	19,92
EA5081	IS2	4/45	9,92	EB1006	IS2	4/59	4,1	EC1880FV6K	IS2	4/35	16,33	EC2280FV6K	IS2	4/35	19,92
EA5081	C2	5/11	9,92	EB1010	AM2	3/13	4,25	EC1880FV8K	IS2	4/34	21,68	EC2280FV8K	IS2	4/35	26,44
EA5082	AM2	3/14	12,883	EB1010	IS2	4/46	4,25	EC1880FV8K	IS2	4/35	21,68	EC2280FV8K	IS2	4/36	26,44
EA5083	AM2	3/14	25,987	EB1020	AM2	3/13	2,63	EC1880K	IS2	4/33	25,51	EC2280K	IS2	4/33	31,11
EA5083	IS2	4/43	25,987	EB1020	IS2	4/46	2,58	EC1880VC2K	IS2	4/34	7,23	EC2280VC2K	IS2	4/34	8,84
EA5100	AM2	3/12	1,06	EB1041	AM2	3/22	0,54	EC1880VC2K	IS2	4/35	7,23	EC2280VC2K	IS2	4/35	8,84
EA5210	AM2	3/14	19,325	EB1041	IS2	4/37	0,54	EC1880VC4K	IS2	4/34	12,93	EC2280VC4K	IS2	4/34	15,76
EA5260	AM2	3/14	11,594	EB1042	AM2	3/22	0,86	EC1880VC4K	IS2	4/35	12,93	EC2280VC4K	IS2	4/35	15,76
EA5280	AM2	3/14	15,458	EB1042	IS2	4/37	0,88	EC1881K	IS2	4/39	18,39	EC2281K	IS2	4/39	22,47
EA5413	AM2	3/14	22,217	EB1043	AM2	3/22	1,21	EC1882	IS2	4/33	19,37	EC2282	IS2	4/33	23,18
EA5461	AM2	3/14	13,527	EB1043	IS2	4/37	1,21	EC1882	IS2	4/59	19,37	EC2282	IS2	4/59	23,18
EA5480	AM2	3/14	18,035	EB1100	IS2	4/33	4,84	EC1884	IS2	4/33	19,37	EC2284	IS2	4/33	23,18
EA5610	AM2	3/14	25,391	EB1100	IS2	4/46	4,84	EC1884	IS2	4/59	19,37	EC2284	IS2	4/59	23,18
EA5616	AM2	3/14	15,458	EB1100	IS2	4/52	4,84	EC2011K	IS2	4/39	25,54	ED..			
EA5620	AM2	3/14	20,612	EB1101	IS2	4/45	6,45	EC2012K	IS2	4/33	35,29	ED0025	Gemini	1/16	1,91
EA5811	AM2	3/14	28,567	EB1102	IS2	4/46	6,67	EC2031K	IS2	4/33	10,77	ED0026	Gemini	1/16	1,33
EA5811	IS2	4/43	28,567	EB1200	AM2	3/13	4,86	EC2040K	IS2	4/33	14,34	ED1802SK	IS2	4/35	7,25
EA5861	AM2	3/14	17,355	EB1200	IS2	4/46	4,86	EC2041K	IS2	4/39	10,22	ED1804SK	IS2	4/35	12,81
EA5861	IS2	4/43	17,355	EB4100	IS2	4/32	1,72	EC2051K	IS2	4/39	12,77	ED1810SK	IS2	4/35	16,01
EA5883	AM2	3/14	23,187	EB4100	IS2	4/46	1,72	EC2060K	IS2	4/33	21,33	ED1812SK	IS2	4/35	19,22
EA5883	IS2	4/43	23,187	EB4100	IS2	4/52	1,72	EC2061K	IS2	4/39	15,32	ED1816SK	IS2	4/35	25,62
EA6002	IS2	4/44	1,67	EB4101	IS2	4/45	1,94	EC2080FC5K	IS2	4/34	17,79	ED2002SK	IS2	4/35	8,03
EA6003	IS2	4/43	1,39	EB5100	IS2	4/32	2,16	EC2080FC5K	IS2	4/35	17,79	ED2004SK	IS2	4/35	14,23
EA6061	AM2	3/13	8,91	EB5100	IS2	4/46	2,16	EC2080FC6K	IS2	4/34	21,33	ED2010SK	IS2	4/35	17,79
EA6061	IS2	4/45	8,91	EB5100	IS2	4/52	2,16	EC2080FC6K	IS2	4/35	21,33	ED2012SK	IS2	4/35	21,35
EA6061	C2	5/11	8,91	EB5101	IS2	4/45	2,58	EC2080FC8K	IS2	4/34	28,31	ED2016SK	IS2	4/35	28,47

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ED2202SK	IS2	4/35	8,83
ED2204SK	IS2	4/35	15,06
ED2210SK	IS2	4/35	19,57
ED2212SK	IS2	4/35	23,49
ED2216SK	IS2	4/35	31,32
ED2944	Gemini	1/16	0,36
ED2951	Gemini	1/16	0,56
ED2969	Gemini	1/16	0,75
ED2977	Gemini	1/16	1,09
ED2993	Gemini	1/16	0,26
ED3009	Gemini	1/16	0,39
ED3017	Gemini	1/16	0,47
ED3025	Gemini	1/16	0,67
ED3033	Gemini	1/16	0,09
ED3041	Gemini	1/16	0,07
ED3058	Gemini	1/16	0,06
ED3066	Gemini	1/16	0,08
ED3082	Gemini	1/16	0,25
ED3090	Gemini	1/16	0,56
ED3101	Gemini	1/16	0,3
ED3102	Gemini	1/16	0,3
ED3103	Gemini	1/16	0,3
ED3104	Gemini	1/16	0,3
ED3108	Gemini	1/16	0,05
ED3116	Gemini	1/16	0,05
ED3124	Gemini	1/16	0,08
ED3132	Gemini	1/16	0,33
ED3272	Gemini	1/16	0,1
ED3280	Gemini	1/16	0,1
ED3298	Gemini	1/16	0,1
ED3355	Gemini	1/16	0,07
ED3363	Gemini	1/16	0,08
ED3371	Gemini	1/16	0,1
ED3405	Gemini	1/16	0,59
ED3413	Gemini	1/16	0,8
ED3439	Gemini	1/16	1,3

EE..			
EE0024	IS2	4/47	1,32
EE0240	IS2	4/49	2,16
EE0250	IS2	4/49	2,32
EE0260	IS2	4/49	2,58
EE0280	IS2	4/49	3,59
EE0340	IS2	4/49	2,16
EE0355	IS2	4/49	2,86
EE0360	IS2	4/49	3,56
EE0380	IS2	4/49	4,95
EE0440	IS2	4/49	3,24
EE0450	IS2	4/49	3,81
EE0460	IS2	4/49	4,3
EE0480	IS2	4/49	7,17
EE0640	IS2	4/49	4,32
EE0650	IS2	4/49	5,22
EE0660	IS2	4/49	6,03
EE0680	IS2	4/49	8,34
EE0840	IS2	4/49	5,61
EE0850	IS2	4/49	6,68

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EE0880	IS2	4/49	11,04
EE1001K	IS2	4/48	6,98
EE1002K	IS2	4/48	9,31
EE1003K	IS2	4/48	5,32
EE1004K	IS2	4/48	6,52
EE1011	IS2	4/48	12,28
EE1040	IS2	4/49	7,53
EE1041	IS2	4/48	5,13
EE1050	IS2	4/49	9,48
EE1051	IS2	4/48	6,32
EE1060	IS2	4/49	11,09
EE1061	IS2	4/48	7,51
EE1080	IS2	4/49	16,42
EE1081	IS2	4/48	9,9
EE1810K	IS2	4/50	26,55
EE1811	IS2	4/48	17,3
EE1841	IS2	4/48	6,31
EE1851	IS2	4/48	8,14
EE1852	IS2	4/47	13,2
EE1860K	IS2	4/50	17,61
EE1861	IS2	4/48	9,98
EE1862	IS2	4/47	15,84
EE1880K	IS2	4/50	22,08
EE1881	IS2	4/48	16,64
EE1906K	IS2	4/50	17,61
EE1908K	IS2	4/50	22,08
EE1910K	IS2	4/50	26,55
EE2010K	IS2	4/50	29,5
EE2011	IS2	4/48	19,26
EE2020	IS2	4/49	0,87
EE2030	IS2	4/49	1,37
EE2040	IS2	4/49	2,05
EE2041	IS2	4/48	7,03
EE2051	IS2	4/48	9,07
EE2052	IS2	4/47	14,75
EE2060K	IS2	4/50	19,57
EE2061	IS2	4/48	11,11
EE2062	IS2	4/47	17,7
EE2080K	IS2	4/50	24,54
EE2081	IS2	4/48	15,18
EE2100	IS2	4/49	5,52
EE2106K	IS2	4/50	19,57
EE2108K	IS2	4/50	24,54
EE2110K	IS2	4/50	29,5
EE2210K	IS2	4/50	32,45
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EE2241	IS2	4/48	7,76
EE2251	IS2	4/48	9,99
EE2252	IS2	4/47	16,31
EE2260K	IS2	4/50	21,53
EE2261	IS2	4/48	12,24
EE2262	IS2	4/47	19,57
EE2280K	IS2	4/50	26,99
EE2281	IS2	4/48	16,73
EE2306K	IS2	4/50	21,53

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EE2406	IS2	4/47	0,62
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EE2416	IS2	4/47	0,62
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EE2800	IS2	4/49	4,39
EE4041	IS2	4/48	2,21
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EE6041	IS2	4/48	3,18
EE6051	IS2	4/48	3,9
EE6061	IS2	4/48	4,62
EE8041	IS2	4/48	4,15
EE8051	IS2	4/48	5,11
EE8061	IS2	4/48	6,07
EE8081	IS2	4/48	7,98

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EF1011	IS2	4/39	8,93
EF1012	IS2	4/40	11,28
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EF1040	AM2	3/11	3,1
EF1040	IS2	4/39	3,1
EF1041	IS2	4/39	2,47
EF1042	AM2	3/11	3,38
EF1042	IS2	4/39	3,38
EF1051	IS2	4/39	3,58
EF1052	AM2	3/11	4,79
EF1052	IS2	4/39	4,79
EF1053	AM2	3/11	4,51
EF1053	IS2	4/39	4,51
EF1060	IS2	4/39	5,92
EF1061	IS2	4/39	4,81
EF1062	IS2	4/39	6,2
EF1080	IS2	4/39	8,74
EF1081	IS2	4/39	7,15
EF1082	IS2	4/39	9,02
EF4010	IS2	4/39	3,12
EF4011	IS2	4/39	3,19
EF4012	IS2	4/39	3,91
EF4040	IS2	4/39	0,87
EF4041	IS2	4/39	0,75
EF4042	IS2	4/39	0,95
EF4050	IS2	4/39	1,26
EF4051	IS2	4/39	1,1
EF4052	IS2	4/39	1,34
EF4060	IS2	4/39	1,66
EF4061	IS2	4/39	1,33
EF4063	IS2	4/39	1,74
EF4080	IS2	4/39	2,45
EF4081	IS2	4/39	2,18
EF4082	IS2	4/39	2,52
EF6010	IS2	4/39	5,68
EF6011	IS2	4/39	4,79
EF6012	IS2	4/39	5,86
EF6032	AM2	3/11	0,854

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EF6060	IS2	4/39	3,08
EF6061	IS2	4/39	2,58
EF6062	IS2	4/39	3,22
EF6080	IS2	4/39	4,54
EF6081	IS2	4/39	3,83
EF6082	IS2	4/39	4,69
EF8010	IS2	4/39	8,3
EF8011	IS2	4/39	6,88
EF8012	IS2	4/39	8,57
EF8032	AM2	3/11	1,212
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EF8042	AM2	3/11	2,57
EF8042	IS2	4/39	2,57
EF8050	AM2	3/11	3,43
EF8050	IS2	4/39	3,43
EF8051	IS2	4/39	2,76
EF8052	AM2	3/11	3,64
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EF8061	IS2	4/39	3,71
EF8062	IS2	4/39	4,71
EF8080	IS2	4/39	6,64
EF8081	IS2	4/39	5,5
EF8082	IS2	4/39	6,86

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EG1801K	IS2	4/58	13,59
EG1803K	IS2	4/58	22,19
EG1805	IS2	4/59	7,38
EG1880	IS2	4/58	9,5
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EG1902	IS2	4/59	0,42
EG1903	AM2	3/19	0,62
EG1903	IS2	4/59	0,62
EG1904	AM2	3/19	0,83
EG1904	IS2	4/59	0,83
EG1905	AM2	3/19	1,04
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EG1908	AM2	3/19	1,67	EH1081K	IS2	4/53	18,92	EH2297K	AM2	3/17	1,17	EH5082K	AM2	3/17	3,76
EG1908	IS2	4/59	1,67	EH1082K	AM2	3/17	0,87	EH2297K	IS2	4/57	1,17	EH5082K	IS2	4/56	3,76
EG1909	AM2	3/19	1,87	EH1082K	IS2	4/56	0,87	EH2472K	AM2	3/17	1,17	EH5084K	AM2	3/18	5,53
EG1909	IS2	4/59	1,87	EH1518K	AM2	3/17	0,89	EH2472K	IS2	4/57	1,17	EH5084K	IS2	4/57	5,53
EG1910	AM2	3/19	2,08	EH1518K	IS2	4/56	0,89	EH3018K	AM2	3/17	1,66	EH6010K	IS2	4/53	2,94
EG1910	IS2	4/59	2,08	EH1524K	AM2	3/17	0,89	EH3018K	IS2	4/56	1,66	EH6018K	AM2	3/17	3,22
EG1911	AM2	3/19	2,29	EH1524K	IS2	4/56	0,89	EH3029K	AM2	3/17	2,22	EH6018K	IS2	4/56	3,22
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EG1915	IS2	4/59	3,12	EH1800	IS2	4/54	4	EH3065	IS2	4/54	5,06	EH6062K	AM2	3/17	3,22
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EG1916	IS2	4/59	3,33	EH1889	IS2	4/56	0,21	EH3081K	IS2	4/53	5,68	EH6063K	AM2	3/18	4,97
EG1917	AM2	3/19	3,54	EH1890	AM2	3/18	0,13	EH3082K	AM2	3/17	2,31	EH6063K	IS2	4/57	4,97
EG1917	IS2	4/59	3,54	EH1890	IS2	4/56	0,13	EH3082K	IS2	4/56	2,31	EH6080	IS2	4/53	39,31
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EG1920	IS2	4/59	4,16	EH2024K	AM2	3/17	1,14	EH3085	IS2	4/54	6,74	EH6084K	AM2	3/18	6,63
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EG1991	IS2	4/59	0,21	EH2029K	AM2	3/17	1,59	EH3272K	IS2	4/57	1,63	EH7262K	IS2	4/53	2,84
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EG2000	IS2	4/58	3,76	EH2036K	IS2	4/56	1,59	EH3472K	AM2	3/17	1,63	EH8010K	IS2	4/53	3,92
EG2001K	IS2	4/58	15,1	EH2060	IS2	4/53	10,57	EH3472K	IS2	4/57	1,63	EH8060	IS2	4/53	39,31
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EG2005	IS2	4/59	8,12	EH2062K	AM2	3/17	1,14	EH3496K	IS2	4/57	1,63	EH8080	IS2	4/53	52,41
EG2080	IS2	4/58	10,62	EH2062K	IS2	4/56	1,14	EH4061K	IS2	4/53	5,68	EH8081K	IS2	4/53	15,13
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EG2203K	IS2	4/58	27,12	EH2065	AM2	3/16	3,37	EH4063	IS2	4/53	19,65				
EG2205	IS2	4/59	9,04	EH2065	IS2	4/54	3,37	EH4064K	AM2	3/18	3,32				
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EH0018	AM2	3/16	0,85	EH2081K	IS2	4/53	3,78	EH4065	IS2	4/54	6,74				
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EH0024	AM2	3/16	0,77	EH2082K	IS2	4/56	1,59	EH4081K	IS2	4/53	7,57				
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EK1240RK	IS2	4/73	6,072
EK1250K	IS2	4/31	41,52
EK1250RK	IS2	4/73	7,511
EK1260K	IS2	4/31	45,73
EK1260RK	IS2	4/73	8,544
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EK4050RK	IS2	4/73	2,594
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EK4060RK	IS2	4/73	3,091
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EN0150K			
EN0150K	C2	5/13	0,18

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EN0204K	C2	5/13	0,3
EN0250K	AM2	3/26	0,52
EN0250K	IS2	4/69	0,52
EN0250K	C2	5/13	0,52
EN0325K	AM2	3/26	1
EN0325K	IS2	4/69	
EN0325K	C2	5/13	1
EN0480K	IS2	4/69	5,41
EN0481K	IS2	4/69	3,64
EN0482K	IS2	4/69	5,41
EN1105K	AM2	3/26	0,43
EN1105K	IS2	4/69	0,43
EN1105K	C2	5/13	0,43
EN1150K	AM2	3/26	0,88
EN1150K	IS2	4/69	0,88
EN1150K	C2	5/13	0,88
EN1204K	AM2	3/26	1,02
EN1204K	IS2	4/69	1,02
EN1204K	C2	5/13	1,02
EN1250K	AM2	3/26	1,65
EN1250K	IS2	4/69	1,65
EN1250K	C2	5/13	1,65
EN2105K	AM2	3/26	0,43
EN2105K	IS2	4/69	0,43
EN2105K	C2	5/13	0,43
EN2150K	AM2	3/26	0,88
EN2150K	IS2	4/69	0,88
EN2150K	C2	5/13	0,88
EN2204K	AM2	3/26	1,02
EN2204K	IS2	4/69	1,02
EN2204K	C2	5/13	1,02
EN2250K	AM2	3/26	1,65
EN2250K	IS2	4/69	1,65
EN2250K	C2	5/13	1,65
EN2325K	AM2	3/26	3,7
EN2325K	IS2	4/69	3,7
EN2325K	C2	5/13	3,7
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EN3105	C2	5/14	0,04
EN3150	IS2	4/73	0,08
EN3150	C2	5/14	0,08
EN3204	IS2	4/73	0,13
EN3204	C2	5/14	0,13
EN3250	IS2	4/73	0,17
EN3250	C2	5/14	0,17
EN3325K	AM2	3/26	3,7
EN3325K	IS2	4/69	3,7
EN3325K	C2	5/13	3,7
EN3326	IS2	4/73	0,44
EN3326	C2	5/14	0,44
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EP1830K	IS2	4/38	7,33

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ES1804FV2K	IS2	4/28	111,87	ES1826VC4K	IS2	4/28	132,84	ES1884LK	IS2	4/30	101,27	ES2006VC4K	IS2	4/28	127,34
ES1804FV4K	IS2	4/28	112,74	ES1826VK	IS2	4/27	133,28	ES1884MF2K	IS2	4/29	85,75	ES2006VK	IS2	4/27	116,15
ES1804K	IS2	4/25	102,98	ES1827BK	IS2	4/25	134,83	ES1884MFK	IS2	4/29	70,57	ES2007K	IS2	4/25	114,45
ES1804MF2K	IS2	4/29	94,18	ES1827K	IS2	4/26	134,83	ES1884SPK	IS2	4/26	73,27	ES2008FV2K	IS2	4/28	123,82
ES1804MF4K	IS2	4/29	99,87	ES1828BK	IS2	4/25	147,39	ES1884VC2K	IS2	4/28	94,27	ES2008FV4K	IS2	4/28	124,72
ES1804VC2K	IS2	4/28	108,04	ES1828FV4K	IS2	4/28	131,37	ES1884VK	IS2	4/27	84,44	ES2008K	IS2	4/25	125,49
ES1804VC4K	IS2	4/28	108,39	ES1828K	IS2	4/26	147,39	ES1885CK	IS2	4/30	105,65	ES2008MF2K	IS2	4/29	119,8
ES1804VK	IS2	4/27	98,21	ES1828MF4K	IS2	4/29	127,31	ES1885FV2K	IS2	4/28	100,34	ES2008MF4K	IS2	4/29	126,06
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ES1805FV4K	IS2	4/28	116,2	ES1828VK	IS2	4/27	141,62	ES1885LK	IS2	4/30	104,45	ES2008VC4K	IS2	4/28	135,43
ES1805K	IS2	4/25	106,67	ES1840K	IS2	4/25	69,82	ES1885MF2K	IS2	4/29	88,93	ES2008VK	IS2	4/27	113,11
ES1805MF2K	IS2	4/29	97,86	ES1844K	IS2	4/25	58,84	ES1885MFK	IS2	4/29	73,76	ES2010BK	IS2	4/25	135,37
ES1805MF4K	IS2	4/29	103,56	ES1845K	IS2	4/25	61,01	ES1885VC2K	IS2	4/28	97,46	ES2010K	IS2	4/26	135,37
ES1805VC2K	IS2	4/28	111,73	ES1846K	IS2	4/25	63,18	ES1885VK	IS2	4/27	87,62	ES2014BK	IS2	4/25	112,87
ES1805VC4K	IS2	4/28	112,08	ES1848K	IS2	4/25	67,5	ES1886CK	IS2	4/30	108,83	ES2014K	IS2	4/26	112,87
ES1805VK	IS2	4/27	101,9	ES1860K	IS2	4/25	88,25	ES1886FV2K	IS2	4/28	103,522	ES2015BK	IS2	4/25	115,28
ES1806FV2K	IS2	4/28	119,247	ES1860MFK	IS2	4/29	92,15	ES1886K	IS2	4/25	94,633	ES2015K	IS2	4/26	115,28
ES1806FV4K	IS2	4/28	121,2	ES1860VK	IS2	4/27	85,37	ES1886LK	IS2	4/30	107,63	ES2016BK	IS2	4/25	120,067
ES1806K	IS2	4/25	110,357	ES1864CK	IS2	4/30	80,82	ES1886MF2K	IS2	4/29	76,94	ES2016K	IS2	4/26	120,067
ES1806MF2K	IS2	4/29	101,552	ES1864K	IS2	4/25	73,55	ES1886MFK	IS2	4/29	76,94	ES2018BK	IS2	4/25	126,3
ES1806MF4K	IS2	4/29	107,224	ES1864LK	IS2	4/30	79,62	ES1886SPK	IS2	4/26	79,633	ES2018K	IS2	4/26	126,3
ES1806VC2K	IS2	4/28	115,421	ES1864MFK	IS2	4/29	62,15	ES1886VC2K	IS2	4/28	100,64	ES2024BK	IS2	4/25	140,49
ES1806VC4K	IS2	4/28	115,767	ES1864SPK	IS2	4/26	58,55	ES1886VK	IS2	4/27	90,807	ES2024FV4K	IS2	4/28	141,11
ES1806VK	IS2	4/27	105,588	ES1864VK	IS2	4/27	70,67	ES1888CK	IS2	4/30	115,18	ES2024K	IS2	4/26	140,49
ES1808FV2K	IS2	4/28	126,6	ES1865CK	IS2	4/30	90,43	ES1888FV2K	IS2	4/28	109,86	ES2024MF4K	IS2	4/29	121,65
ES1808FV4K	IS2	4/28	128,4	ES1865K	IS2	4/25	76,23	ES1888K	IS2	4/25	100,98	ES2024VC4K	IS2	4/28	136,9
ES1808K	IS2	4/25	117,71	ES1865LK	IS2	4/30	89,23	ES1888LK	IS2	4/30	113,98	ES2024VK	IS2	4/27	137,38
ES1808MF2K	IS2	4/29	117,71	ES1865MFK	IS2	4/29	64,83	ES1888MF2K	IS2	4/29	98,46	ES2025BK	IS2	4/25	144,66
ES1808MF4K	IS2	4/29	114,6	ES1865SPK	IS2	4/26	61,23	ES1888MFK	IS2	4/29	83,28	ES2025FV4K	IS2	4/28	145,7
ES1808VC2K	IS2	4/28	122,77	ES1865VK	IS2	4/27	73,35	ES1888VC2K	IS2	4/28	106,98	ES2025K	IS2	4/26	144,66
ES1808VC4K	IS2	4/28	123,12	ES1866CK	IS2	4/30	93,11	ES1888VK	IS2	4/27	87,04	ES2025MF4K	IS2	4/29	126,23
ES1808VK	IS2	4/27	102,83	ES1866K	IS2	4/25	78,91	ES2000K	IS2	4/25	132,74	ES2025VC4K	IS2	4/28	141,49
ES1810BK	IS2	4/25	125,66	ES1866LK	IS2	4/30	91,91	ES2000MF2K	IS2	4/29	128,54	ES2025VK	IS2	4/27	141,97
ES1810K	IS2	4/26	125,66	ES1866MFK	IS2	4/29	67,5	ES2000MF4K	IS2	4/29	134,81	ES2026BK	IS2	4/25	148,88
ES1814BK	IS2	4/25	112,27	ES1866PCK	IS2	4/30	92	ES2000VK	IS2	4/27	129,71	ES2026FV4K	IS2	4/28	150,33
ES1814K	IS2	4/26	112,27	ES1866SPK	IS2	4/26	63,91	ES2004FV2K	IS2	4/28	123,06	ES2026K	IS2	4/26	148,88
ES1815BK	IS2	4/25	114,75	ES1866VK	IS2	4/27	76,03	ES2004FV4K	IS2	4/28	124,07	ES2026MF4K	IS2	4/29	130,87
ES1815K	IS2	4/26	114,75	ES1868CK	IS2	4/30	98,44	ES2004K	IS2	4/25	110,76	ES2026VC4K	IS2	4/28	146,12
ES1816BK	IS2	4/25	115,2	ES1868K	IS2	4/25	84,24	ES2004MF2K	IS2	4/29	103,59	ES2026VK	IS2	4/27	146,6
ES1816K	IS2	4/26	115,2	ES1868LK	IS2	4/30	97,24	ES2004MF4K	IS2	4/29	109,85	ES2028BK	IS2	4/25	157,22
ES1818BK	IS2	4/25	117,3	ES1868MFK	IS2	4/29	72,83	ES2004VC2K	IS2	4/28	118,85	ES2028FV4K	IS2	4/28	144,51
ES1818K	IS2	4/26	117,3	ES1868PCK	IS2	4/30	98	ES2004VC4K	IS2	4/28	119,23	ES2028K	IS2	4/26	157,22
ES1824BK	IS2	4/25	130,66	ES1868VK	IS2	4/27	81,36	ES2004VK	IS2	4/27	108,03	ES2028MF4K	IS2	4/29	140,05
ES1824FV4K	IS2	4/28	128,28	ES1875BK	IS2	4/25	161,78	ES2005FV2K	IS2	4/28	127,11	ES2028VC4K	IS2	4/28	155,3
ES1824K	IS2	4/26	130,66	ES1875K	IS2	4/26	161,78	ES2005FV4K	IS2	4/28	128,08	ES2028VK	IS2	4/27	155,78
ES1824MF4K	IS2	4/29	110,59	ES1876BK	IS2	4/25	169,73	ES2005MF2K	IS2	4/29	107,65	ES2040K	IS2	4/25	73,94
ES1824VC4K	IS2	4/28	124,46	ES1876K	IS2	4/26	169,73	ES2005MF4K	IS2	4/29	113,91	ES2044K	IS2	4/25	62,96
ES1824VK	IS2	4/27	124,89	ES1878BK	IS2	4/25	175,65	ES2005VC2K	IS2	4/28	122,91	ES2045K	IS2	4/25	65,13
ES1825FV4K	IS2	4/28	132,45	ES1878K	IS2	4/26	175,65	ES2005VC4K	IS2	4/28	123,29	ES2046K	IS2	4/25	67,3
ES1825MF4K	IS2	4/29	114,76	ES1880K	IS2	4/25	106,66	ES2005VK	IS2	4/27	112,09	ES2048K	IS2	4/25	71,62
ES1825VC4K	IS2	4/28	128,63	ES1880MF2K	IS2	4/29	104,14	ES2006FV2K	IS2	4/28	131,17	ES2060K	IS2	4/25	93,59
ES1825VK	IS2	4/27	129,06	ES1880MFK	IS2	4/29	96,92	ES2006FV4K	IS2	4/28	122,78	ES2060MFK	IS2	4/29	91,2
ES1826BK	IS2	4/25	139,04	ES1880VK	IS2	4/27	102,83	ES2006K	IS2	4/25	118,14	ES2060VK	IS2	4/27	96,7
ES1826FV4K	IS2	4/28	136,67	ES1884CK	IS2	4/30	102,47	ES2006MF2K	IS2	4/29	111,71	ES2064CK	IS2	4/30	88,9
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ES2065CK	IS2	4/30	99,47
ES2065K	IS2	4/25	81,57
ES2065LK	IS2	4/30	98,15
ES2065MFK	IS2	4/29	71,31
ES2065SPK	IS2	4/26	66,57
ES2065VK	IS2	4/27	80,68
ES2066CK	IS2	4/30	102,42
ES2066K	IS2	4/25	84,25
ES2066LK	IS2	4/30	101,1
ES2066MFK	IS2	4/29	74,25
ES2066PCK	IS2	4/30	101,2
ES2066SPK	IS2	4/26	79,25
ES2066VK	IS2	4/27	83,83
ES2068CK	IS2	4/30	108,28
ES2068K	IS2	4/25	89,58
ES2068LK	IS2	4/30	106,96
ES2068MFK	IS2	4/29	93,2
ES2068PCK	IS2	4/30	107,8
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ES2080MFK	IS2	4/29	106,61
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ES2084CK	IS2	4/30	112,71
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ES2084MF2K	IS2	4/29	94,33
ES2084MFK	IS2	4/29	77,63
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ES2085K	IS2	4/25	98,01
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ES2085MFK	IS2	4/29	81,13
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ES2085VK	IS2	4/27	96,39
ES2086CK	IS2	4/30	119,72
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ES2088CK	IS2	4/30	126,69
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ES2088MF2K	IS2	4/29	108,3
ES2088MFK	IS2	4/29	91,61
ES2088VC2K	IS2	4/28	117,68
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ES2204K	IS2	4/25	121,84
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ES2204VC4K	IS2	4/28	131,15
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ES2205VC4K	IS2	4/28	135,61
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ES2264CK	IS2	4/30	97,79
ES2264K	IS2	4/25	86,78
ES2264LK	IS2	4/30	96,34
ES2264MFK	IS2	4/29	75,2
ES2264VK	IS2	4/27	85,51
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ES2265K	IS2	4/25	89,73
ES2265LK	IS2	4/30	107,97
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ES2266CK	IS2	4/30	112,66
ES2266K	IS2	4/25	92,67
ES2266LK	IS2	4/30	111,21
ES2266MFK	IS2	4/29	81,68
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ES2268CK	IS2	4/30	119,11
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ES2276K	IS2	4/26	186,27
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ES2280MFK	IS2	4/29	91,73
ES2280VK	IS2	4/27	124,43
ES2284CK	IS2	4/30	123,98
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ES2284LK	IS2	4/30	122,53
ES2284MF2K	IS2	4/29	103,76
ES2284MFK	IS2	4/29	85,39
ES2284VC2K	IS2	4/28	114,07
ES2284VK	IS2	4/27	102,17
ES2285CK	IS2	4/30	127,84
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ES2285K	IS2	4/25	107,81
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ES2285MFK	IS2	4/29	89,24
ES2285VC2K	IS2	4/28	117,92
ES2285VK	IS2	4/27	106,03
ES2286CK	IS2	4/30	131,69
ES2286FV2K	IS2	4/28	125,26
ES2286LK	IS2	4/30	130,24
ES2286MF2K	IS2	4/29	111,46
ES2286MFK	IS2	4/29	93,09
ES2286VC2K	IS2	4/28	121,77
ES2286VK	IS2	4/27	109,88
ES2287K	IS2	4/25	111,31
ES2288CK	IS2	4/30	139,36
ES2288FV2K	IS2	4/28	132,94
ES2288K	IS2	4/25	118,29
ES2288LK	IS2	4/30	137,91
ES2288MF2K	IS2	4/29	119,14
ES2288MFK	IS2	4/29	100,77
ES2288VC2K	IS2	4/28	129,45
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ET1860K	IS2	4/33	16,33
ET1880K	IS2	4/33	21,68
ET2010K	IS2	4/33	29,99
ET2060K	IS2	4/33	18,13
ET2080K	IS2	4/33	24,06
ET2211K	IS2	4/34	32,96
ET2260K	IS2	4/33	19,92
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EV0005	IS2	4/37	0,232	EV1051	AM2	3/22	1	EV1118	IS2	4/66	0,96	EV2000	IS2	4/73	1,93
EV0006	IS2	4/60	1,22	EV1051	IS2	4/47	1	EV1119	AM2	3/23	3,6	EV2110	AM2	3/23	0,558
EV0008	IS2	4/60	0,16	EV1056	AM2	3/22	0,328	EV1119	IS2	4/66	3,6	EV2110	IS2	4/65	0,558
EV0118	IS2	4/32	16,12	EV1056	IS2	4/47	0,328	EV1120	AM2	3/23	4,5	EV2112	AM2	3/23	0,558
EV0120	IS2	4/32	17,87	EV1057	IS2	4/73	1,25	EV1120	IS2	4/66	4,5	EV2112	IS2	4/65	0,558
EV0122	IS2	4/32	19,35	EV1058	AM2	3/22	0,576	EV1121	AM2	3/23	8,85	EV2200	IS2	4/73	2,12
EV1004	AM2	3/20	0,29	EV1058	IS2	4/47	0,576	EV1121	IS2	4/66	8,85	EX..			
EV1004	IS2	4/61	0,29	EV1060K	IS2	4/37	1,62	EV1122	AM2	3/23	2,44	EX1860	IS2	4/55	21,56
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EV1005	C2	5/12	0,53	EV1072K	AM2	3/22	2,1	EV1124	AM2	3/23	2,77	EX2260	IS2	4/55	26,35
EV1006	AM2	3/20	0,63	EV1072K	IS2	4/37	2,1	EV1124	IS2	4/66	2,77	EX2280	IS2	4/55	36,89
EV1006	IS2	4/61	0,63	EV1073K	AM2	3/22	2,62	EV1125	AM2	3/23	2,77	EZ..			
EV1006	C2	5/12	0,63	EV1073K	IS2	4/37	2,62	EV1125	IS2	4/66	2,77	EZ1001	IS2	4/41	31,02
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EV1008	SR2	2/10	0,04	EV1075K	IS2	4/37	0,2	EV1130	Wiring ducts	6/8	5,89	EZ4001	IS2	4/41	12,18
EV1008	AM2	3/29	0,04	EV1075K	C2	5/12	0,2	EV1130	C2	5/12	5,89	EZ6001	IS2	4/41	18,46
EV1008	IS2	4/73	0,04	EV1080	IS2	4/36	2,04	EV1131	AM2	3/23	5,89	EZ8001	IS2	4/41	24,74
EV1008	C2	5/14	0,04	EV1081	IS2	4/36	2,34	EV1131	IS2	4/66	5,89	FL..			
EV1030	AM2	3/29	0,49	EV1082	IS2	4/36	1,96	EV1131	C2	5/12	5,89	FLN3215K	SR2	2/10	0,6
EV1030	IS2	4/73	0,49	EV1083	IS2	4/36	2,26	EV1131	Wiring ducts	6/8	5,89	FLN3315K	SR2	2/10	0,9
EV1030	C2	5/14	0,49	EV1084	IS2	4/36	3,92	EV1135	AM2	3/18	0,24	FLN3415K	SR2	2/10	1,2
EV1036	SR2	2/9	0,04	EV1085	IS2	4/36	4,51	EV1135	AM2	3/23	0,24	FLN4320K	SR2	2/10	1,3
EV1036	AM2	3/26	0,04	EV1086	IS2	4/36	7,55	EV1135	IS2	4/57	0,24	FLN4420K	SR2	2/10	1,8
EV1036	IS2	4/36	0,04	EV1087	IS2	4/37	8,68	EV1135	IS2	4/66	0,24	FLN4425K	SR2	2/10	2,4
EV1036	C2	5/14	0,04	EV1090	AM2	3/22	0,88	EV1136	AM2	3/18	0,16	FLN4620K	SR2	2/10	2,8
EV1037	SR2	2/9	0,04	EV1090	IS2	4/47	0,88	EV1136	AM2	3/23	0,16	FLN6625K	SR2	2/10	3,7
EV1037	AM2	3/26	0,04	EV1091	AM2	3/22	0,88	EV1136	IS2	4/57	0,16	FLN7520K	SR2	2/10	2,4
EV1037	IS2	4/36	0,04	EV1091	IS2	4/47	0,88	EV1136	IS2	4/66	0,16	FLN7525K	SR2	2/10	3
EV1037	C2	5/14	0,04	EV1092	AM2	3/22	0,55	EV1137	AM2	3/23	0,24	FLN8630K	SR2	2/10	4,6
EV1039	SR2	2/9	0,04	EV1092	IS2	4/47	0,55	EV1137	IS2	4/66	0,24	FLN8830K	SR2	2/10	6,4
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EV1039	IS2	4/36	0,04	EV1093	IS2	4/47	0,55	EV1143	AM2	3/21	0,08	GD1520	IS2	4/55	0,8
EV1039	C2	5/14	0,04	EV1100	AM2	3/23	1,15	EV1143	IS2	4/64	0,08	GD1530	IS2	4/55	1,79
EV1040	AM2	3/21	0,94	EV1100	IS2	4/66	1,15	EV1144	AM2	3/21	0,08	GD4006	SR2	2/8	0,8
EV1040	IS2	4/64	0,94	EV1100	C2	5/12	1,15	EV1144	IS2	4/64	0,08	GD6006	SR2	2/8	0,9
EV1041	AM2	3/21	1,1	EV1101	AM2	3/23	1,28	EV1145	AM2	3/21	0,08	GD8006	SR2	2/8	1
EV1041	IS2	4/64	1,1	EV1101	IS2	4/66	1,28	EV1145	IS2	4/64	0,08	GZ4020	SR2	2/7	0,05
EV1042	AM2	3/21	0,238	EV1101	C2	5/12	1,28	EV1146	AM2	3/21	0,02	GZ4025	SR2	2/7	0,05
EV1042	IS2	4/64	0,238	EV1110	AM2	3/23	2,74	EV1146	IS2	4/64	0,02	GZ6025	SR2	2/7	0,05
EV1043	AM2	3/21	0,75	EV1110	IS2	4/65	2,74	EV1147	AM2	3/21	0,36	GZ6030	SR2	2/7	0,05
EV1043	IS2	4/64	0,75	EV1111	AM2	3/23	0,68	EV1147	IS2	4/64	0,36	GZ8030	SR2	2/7	0,05
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EV1044	IS2	4/64	0,112	EV1112	AM2	3/23	2,74	EV1148	IS2	4/64	0,36	KC1060K	SR2	2/6	21,2
EV1045	AM2	3/21	0,24	EV1112	IS2	4/65	2,74	EV1150	IS2	4/67	0,1	KC1080K	SR2	2/6	21,75
EV1045	IS2	4/64	0,24	EV1113	AM2	3/23	0,125	EV1151	IS2	4/67	0,1	KC1260K	SR2	2/6	21,9
EV1046	AM2	3/21	3,54	EV1113	IS2	4/65	0,125	EV1152	IS2	4/67	0,1	KC1280K	SR2	2/6	22,44
EV1046	IS2	4/64	3,54	EV1115	AM2	3/23	0,65	EV1153	IS2	4/67	0,1	KC5040K	SR2	2/5	17,38
EV1047	AM2	3/21	0,484	EV1115	IS2	4/66	0,65	EV1154	IS2	4/67	0,1	KC6040K	SR2	2/6	17,96
EV1047	IS2	4/64	0,484	EV1116	AM2	3/23	0,75	EV1155	IS2	4/67	0,01	KC7050K	SR2	2/6	19,16
EV1048	AM2	3/21	0,525	EV1116	IS2	4/66	0,75	EV1156	IS2	4/67	0,07	KC8060K	SR2	2/6	19,87
EV1048	IS2	4/64	0,525	EV1117	AM2	3/23	0,67	EV1157	IS2	4/67	0,24				
EV1050	AM2	3/22	6,88	EV1117	IS2	4/66	0,67	EV1160	IS2	4/37	0,85				

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KD1260K	SR2	2/8	3,2
KD1280K	SR2	2/8	3,7
KD5040K	SR2	2/8	1,69
KD6040K	SR2	2/8	1,8
KD8060K	SR2	2/8	2

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MD1200	AM2	3/16	3,7
MD1400	AM2	3/16	4,23
MD1600	AM2	3/16	4,78
MD1800	AM2	3/16	5,32
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PB1603	IS2	4/62	1,11

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PC1606K	SR2	2/8	1,29
PC1806K	SR2	2/8	1,5
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PF1080	SR2	2/6	12
PF1260	SR2	2/6	11
PF1280	SR2	2/6	14,5
PF3020	SR2	2/6	0,7
PF3030	SR2	2/6	1,07
PF3040	SR2	2/6	1,48
PF4030	SR2	2/6	1,48
PF4040	SR2	2/6	2,05
PF4060	SR2	2/6	3,34
PF5030	SR2	2/6	1,9
PF5040	SR2	2/6	2,62
PF6040	SR2	2/6	3,34
PF6060	SR2	2/6	5,1
PF7050	SR2	2/6	4,95
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PM1836K	SR2	2/8	3,7

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PRN1086K	SR2	2/10	11,5
PRN1266K	SR2	2/10	10
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PRN5036K	SR2	2/10	2,5
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PRN6046K	SR2	2/10	3,5
PRN6066K	SR2	2/10	5
PRN7056K	SR2	2/10	5
PRN8066K	SR2	2/10	6,2
PRN8086K	SR2	2/10	8,5

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PS2676K	SR2	2/8	1,3
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PTN1086K	SR2	2/10	15
PTN1266K	SR2	2/10	16
PTN1286K	SR2	2/10	19
PTN5046K	SR2	2/10	7
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PTN7056K	SR2	2/10	9
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SR4620EMCK	SR2	2/11	11,1
SR6625EMCK	SR2	2/11	24,7
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SRN10630K	SR2	2/5	39,5
SRN10630VK	SR2	2/5	29,5
SRN10830K	SR2	2/5	50,5
SRN10830VK	SR2	2/5	37,2
SRN12630K	SR2	2/5	45,8
SRN12630VK	SR2	2/5	34,2
SRN12830K	SR2	2/5	56,8
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SRN3215K	SR2	2/5	4,8
SRN3315K	SR2	2/5	5,8
SRN3415K	SR2	2/5	7,5
SRN4315K	SR2	2/5	7,5
SRN4320K	SR2	2/5	8,2
SRN4420K	SR2	2/5	9,9
SRN4620K	SR2	2/5	14
SRN5320K	SR2	2/5	9,5
SRN5420K	SR2	2/5	11,6
SRN5420VK	SR2	2/5	9,6
SRN5425K	SR2	2/5	12,7
SRN5425VK	SR2	2/5	10,5
SRN6420K	SR2	2/5	14
SRN6420VK	SR2	2/5	11,5
SRN6425K	SR2	2/5	14,6
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SRN8630K	SR2	2/5	32,2
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TA1208	AM2	3/11	0,24
TA5510	AM2	3/20	0,255
TA7100	AM2	3/20	0,187
TA9600	AM2	3/20	0,485
TA9601	AM2	3/20	0,965
TA9601	C2	5/12	0,965

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TC1006KMT	AM2	3/15	8,493
TC1008DK	AM2	3/28	6,145
TC1008DKMT	AM2	3/15	12,172
TC1008K	AM2	3/27	11,052
TC1008KMT	AM2	3/15	11,322
TC1008SK	AM2	3/28	6,908
TC1010DK	AM2	3/28	7,664
TC1010DKMT	AM2	3/15	15,215
TC1010K	AM2	3/27	14,154
TC1010KMT	AM2	3/15	14,154
TC1010SK	AM2	3/28	8,648
TC1012DK	AM2	3/28	8,389
TC1012DKMT	AM2	3/15	18,258
TC1012SK	AM2	3/28	9,088
TC1016DK	AM2	3/28	11,052
TC1016DKMT	AM2	3/15	24,344
TC1016SK	AM2	3/28	11,743
TC1206K	AM2	3/27	10,021
TC1206KMT	AM2	3/15	10,192
TC1208DK	AM2	3/28	7,534
TC1208DKMT	AM2	3/15	14,606
TC1208K	AM2	3/27	13,202
TC1208KMT	AM2	3/15	13,584
TC1208SK	AM2	3/28	8,252
TC1210DK	AM2	3/28	9,393
TC1210DKMT	AM2	3/15	18,258
TC1210K	AM2	3/27	16,908
TC1210KMT	AM2	3/15	16,985
TC1210SK	AM2	3/28	10,332
TC1212DK	AM2	3/28	10,021
TC1212DKMT	AM2	3/15	21,907
TC1212SK	AM2	3/28	11,193
TC1406K	AM2	3/27	11,653
TC1406KMT	AM2	3/15	11,891
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TC1410KMT	AM2	3/15	19,913
TC1410SK	AM2	3/28	12,015
TC1412DK	AM2	3/28	11,653
TC1412DKMT	AM2	3/15	25,558
TC1412SK	AM2	3/28	12,624
TC1606K	AM2	3/27	13,285
TC1606KMT	AM2	3/15	13,589
TC1608DK	AM2	3/28	9,723
TC1608DKMT	AM2	3/15	19,475
TC1608K	AM2	3/27	17,502
TC1608KMT	AM2	3/15	18,112
TC1608SK	AM2	3/28	10,938
TC1610DK	AM2	3/28	12,453
TC1610DKMT	AM2	3/15	24,344
TC1610K	AM2	3/27	22,415
TC1610KMT	AM2	3/15	22,757
TC1610SK	AM2	3/28	13,689
TC1612DK	AM2	3/28	13,285
TC1612DKMT	AM2	3/15	29,208
TC1612SK	AM2	3/28	14,392
TC1806K	AM2	3/27	14,917
TC1806KMT	AM2	3/15	15,288
TC1808DK	AM2	3/28	10,918
TC1808DKMT	AM2	3/15	21,909
TC1808K	AM2	3/27	19,652
TC1808KMT	AM2	3/15	20,376
TC1808SK	AM2	3/28	12,284
TC1810DK	AM2	3/28	13,982
TC1810DKMT	AM2	3/15	27,387
TC1810K	AM2	3/27	25,169
TC1810KMT	AM2	3/15	25,602
TC1810SK	AM2	3/28	15,183
TC1812DK	AM2	3/28	14,917
TC1812DKMT	AM2	3/15	32,859
TC1812SK	AM2	3/28	16,025
TC2006K	AM2	3/27	16,549
TC2006KMT	AM2	3/15	16,988
TC2008K	AM2	3/27	21,802
TC2008KMT	AM2	3/15	22,646
TC2010DK	AM2	3/28	14,965
TC2010DKMT	AM2	3/15	30,437
TC2010K	AM2	3/28	27,686
TC2010KMT	AM2	3/15	28,445
TC2010SK	AM2	3/29	16,244
TC2012DK	AM2	3/29	16,549
TC2012DKMT	AM2	3/15	36,512
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TE1041	AM2	3/20	5,017	TF1660K	AM2	3/14	15,21	TM2405K	AM2	3/8	77,929	TM2964VK	AM2	3/10	71,345
TE1051	AM2	3/20	6,412	TF1660KMT	AM2	3/14	15,21	TM2424K	AM2	3/9	81,016	TM2965K	AM2	3/8	76,417
TE1060K	AM2	3/29	8,545	TF1680K	AM2	3/14	19,16	TM2425K	AM2	3/9	87,485	TM2965VK	AM2	3/10	77,921
TE1080K	AM2	3/29	11,223	TF1680KMT	AM2	3/14	19,16	TM2463K	AM2	3/8	48,835	TM2984K	AM2	3/8	81,838
TE1210K	AM2	3/29	16,591	TF1810K	AM2	3/14	26,198	TM2464K	AM2	3/8	52,998	TM2984VK	AM2	3/10	83,82
TE1212K	AM2	3/29	19,787	TF1810KMT	AM2	3/14	26,198	TM2464VK	AM2	3/10	54,057	TM2985K	AM2	3/8	88,849
TE1260K	AM2	3/29	10,197	TF1860K	AM2	3/14	17,261	TM2465K	AM2	3/8	58,161	TM2985VK	AM2	3/10	90,831
TE1280K	AM2	3/29	13,394	TF1860KMT	AM2	3/14	17,261	TM2483FV4K	AM2	3/9	56,571	TP..			
TE1410K	AM2	3/29	19,28	TF1880K	AM2	3/14	21,729	TM2483K	AM2	3/8	56,571	TP1030K	AM2	3/22	7,606
TE1410K	C2	5/14	19,28	TF1880KMT	AM2	3/14	21,729	TM2483VK	AM2	3/10	57,966	TP1040K	AM2	3/22	9,005
TE1412K	AM2	3/29	22,994	TF2010K	AM2	3/14	29,208	TM2484FV4K	AM2	3/9	62,169	TP1050K	AM2	3/22	10,617
TE1412K	C2	5/14	22,994	TF2010KMT	AM2	3/14	29,208	TM2484K	AM2	3/8	62,169	TP1230K	AM2	3/22	8,81
TE1416K	C2	5/14	27,752	TF2060K	AM2	3/14	19,235	TM2484VK	AM2	3/10	63,565	TP1240K	AM2	3/22	10,418
TE1460K	AM2	3/29	11,85	TF2060KMT	AM2	3/14	19,235	TM2485FV4K	AM2	3/9	67,767	TP1250K	AM2	3/22	12,26
TE1460K	C2	5/14	11,85	TF2080K	AM2	3/14	24,222	TM2485K	AM2	3/8	67,767	TP6030K	AM2	3/22	5,193
TE1480K	AM2	3/29	15,565	TF2080KMT	AM2	3/14	24,222	TM2604FV5K	AM2	3/9	79,471	TP6040K	AM2	3/22	6,179
TE1480K	C2	5/14	15,565	TK..				TM2604K	AM2	3/8	79,471	TP6050K	AM2	3/22	7,314
TE1610K	AM2	3/29	21,969	TK1000	AM2	3/19	2,38	TM2604VK	AM2	3/10	81,509	TP8030K	AM2	3/22	6,399
TE1612K	AM2	3/29	26,202	TK1200	AM2	3/19	2,65	TM2605FV5K	AM2	3/9	85,976	TP8040K	AM2	3/22	7,592
TE1660K	AM2	3/29	13,503	TK1400	AM2	3/19	2,93	TM2605K	AM2	3/8	85,976	TP8050K	AM2	3/22	8,963
TE1680K	AM2	3/29	17,736	TK1600	AM2	3/19	3,21	TM2624K	AM2	3/9	89,527	TQ..			
TE1810K	AM2	3/29	24,658	TK1800	AM2	3/19	3,48	TM2625K	AM2	3/9	96,467	TQ1060	SR2	2/6	9
TE1812K	AM2	3/29	29,409	TK2000	AM2	3/19	3,76	TM2663K	AM2	3/8	52,979	TQ1080	SR2	2/6	12
TE1860K	AM2	3/29	15,156	TL..				TM2664K	AM2	3/8	58,612	TQ1260	SR2	2/6	11
TE1880K	AM2	3/29	19,907	TL1157	AM2	3/18	0,24	TM2664VK	AM2	3/10	59,82	TQ1280	SR2	2/6	14,5
TE2010K	AM2	3/29	27,347	TM..				TM2665K	AM2	3/8	64,246	TQ3020	SR2	2/6	0,7
TE2012K	AM2	3/29	32,616	TM2003FV5K	AM2	3/9	51,651	TM2683K	AM2	3/8	62,656	TQ3030	SR2	2/6	1,1
TE2060K	AM2	3/29	16,808	TM2004FV5K	AM2	3/9	56,743	TM2684K	AM2	3/8	68,725	TQ3040	SR2	2/6	1,5
TE2080K	AM2	3/29	22,077	TM2004K	AM2	3/8	56,743	TM2684VK	AM2	3/10	70,316	TQ4030	SR2	2/6	1,5
TE6031	AM2	3/20	2,013	TM2024K	AM2	3/9	63,994	TM2685FV4K	AM2	3/9	74,795	TQ4040	SR2	2/6	2,1
TE6041	AM2	3/20	2,787	TM2063K	AM2	3/8	37,549	TM2685K	AM2	3/8	70,795	TQ4060	SR2	2/6	3,5
TE6051	AM2	3/20	3,562	TM2064K	AM2	3/8	41,769	TM2804FV5K	AM2	3/9	87,047	TQ5030	SR2	2/6	2
TE8031	AM2	3/20	2,818	TM2064VK	AM2	3/10	42,532	TM2804K	AM2	3/8	87,047	TQ5040	SR2	2/6	2,7
TE8041	AM2	3/20	3,902	TM2074K	AM2	3/9	78,568	TM2804VK	AM2	3/10	89,335	TQ6040	SR2	2/6	3,5
TE8051	AM2	3/20	4,987	TM2083FV4K	AM2	3/9	44,4	TM2805K	AM2	3/8	94,023	TQ6060	SR2	2/6	5,5
TF..				TM2083K	AM2	3/8	44,4	TM2805VK	AM2	3/10	96,311	TQ7050	SR2	2/6	5
TF1010K	AM2	3/14	14,08	TM2084FV4K	AM2	3/9	49,056	TM2824K	AM2	3/9	98,038	TQ8060	SR2	2/6	7
TF1010KMT	AM2	3/14	14,08	TM2084K	AM2	3/8	49,056	TM2825K	AM2	3/9	105,449	TQ8080	SR2	2/6	9,5
TF1060K	AM2	3/14	9,288	TM2084VK	AM2	3/10	50,061	TM2864K	AM2	3/8	64,227	TS..			
TF1060KMT	AM2	3/14	9,288	TM2204FV5K	AM2	3/9	64,319	TM2864VK	AM2	3/10	65,583	TS0060	AM2	3/22	1,67
TF1080K	AM2	3/14	11,684	TM2204K	AM2	3/8	64,319	TM2865K	AM2	3/8	70,331	TS0080	AM2	3/22	2,236
TF1080KMT	AM2	3/14	11,684	TM2204VK	AM2	3/10	65,856	TM2865VK	AM2	3/10	71,687	TS0100	AM2	3/22	2,802
TF1210K	AM2	3/14	17,091	TM2223K	AM2	3/9	66,506	TM2884FV4K	AM2	3/9	75,282	TS0120	AM2	3/22	3,368
TF1210KMT	AM2	3/14	17,091	TM2224K	AM2	3/9	72,505	TM2884K	AM2	3/8	75,282	TS0160	AM2	3/22	4,496
TF1260K	AM2	3/14	11,262	TM2263K	AM2	3/8	42,692	TM2884VK	AM2	3/10	77,068	TS1003	AM2	3/13	0,451
TF1260KMT	AM2	3/14	11,262	TM2264K	AM2	3/8	47,384	TM2885K	AM2	3/8	81,822	TS1004	AM2	3/13	0,642
TF1280K	AM2	3/14	14,176	TM2264VK	AM2	3/10	48,295	TM2885VK	AM2	3/10	83,609	TS1005	AM2	3/13	0,833
TF1280KMT	AM2	3/14	14,176	TM2283FV4K	AM2	3/9	50,485	TM2904FV5K	AM2	3/9	94,623	TS2003	AM2	3/13	0,923
TF1410K	AM2	3/14	20,101	TM2284K	AM2	3/8	55,613	TM2904K	AM2	3/8	94,623	TS2004	AM2	3/13	1,215
TF1410KMT	AM2	3/14	20,101	TM2284VK	AM2	3/10	56,813	TM2904VK	AM2	3/10	97,161	TS2005	AM2	3/13	1,607
TF1460K	AM2	3/14	13,236	TM2403K	AM2	3/8	65,861	TM2905K	AM2	3/8	102,07	TS4000	IS2	4/65	2
TF1460KMT	AM2	3/14	13,236	TM2404FV5K	AM2	3/9	71,895	TM2905VK	AM2	3/10	104,609	TS4001	IS2	4/65	2,5
TF1480K	AM2	3/14	16,668	TM2404K	AM2	3/8	71,895	TM2924K	AM2	3/9	106,549	TS4002	IS2	4/65	2
TF1480KMT	AM2	3/14	16,668												

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TT..			
TT1006K	AM2	3/27	9,227
TT1008K	AM2	3/27	12,157
TT1206K	AM2	3/27	11,023
TT1208K	AM2	3/27	14,522
TT1210K	AM2	3/27	18,598
TT1406K	AM2	3/27	12,818
TT1408K	AM2	3/27	16,887
TT1410K	AM2	3/27	21,628
TT1606K	AM2	3/27	14,613
TT1608K	AM2	3/27	19,252
TT1610K	AM2	3/27	24,657
TT1806K	AM2	3/27	16,408
TT1808K	AM2	3/27	21,617
TT1810K	AM2	3/27	27,686
TT2006K	AM2	3/27	18,203
TT2008K	AM2	3/28	23,982
TT2010K	AM2	3/28	30,715
TT2015K	SR2	2/9	0,9
TT3015K	SR2	2/9	1
TT3020K	SR2	2/9	1,2
TT4015K	SR2	2/9	1,8
TT4020K	SR2	2/9	2
TT4025K	SR2	2/9	1,8
TT5020K	SR2	2/9	2,5
TT5025K	SR2	2/9	2
TT6020K	SR2	2/9	2,7
TT6025K	SR2	2/9	2,5
TT6030K	SR2	2/9	3,8
TT8030K	SR2	2/9	4,5

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