

TOTAL MODULAR POLYESTER CONSTRUCTION
MAXIPOL System



TWO DEPTHS
300 AND 420



THE ENCLOSURES COMPANY



■ HES Group, the enclosures company

Founded in 1972, using the technological and human resources of Hazemeyer Española. This ambitious project was born to serve the increasing demands in the emerging electrical sector.

The HES Group has currently over 12,000 references, spread over 11 product ranges. The products give the system and enclosures market a wide range of solutions.

■ Research and Development

Our entire range of products and systems are the result of constant innovation in R&D.

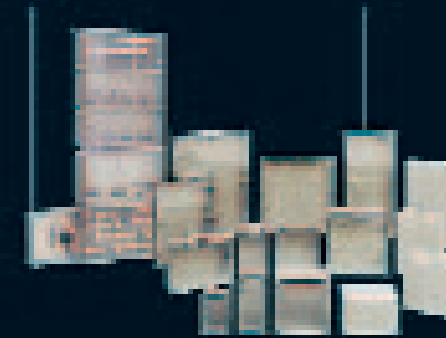
We can provide very competitive products in the market, which is becoming more and more demanding, thanks to our modern and automated production facilities and high quality standards.

■ Quality and Certification

One of the main objectives of the HES Group is to market products of the highest quality. Our products have therefore undergone the most demanding certification studies to validate this intention.

Our products undergo tests, which are designed to be as "real life" as possible before being put into production. Electrical, mechanical and other tests are made under extreme conditions such as very low and high temperatures. The products exceed the most stringent norms. Tests of our products are simultaneously made by national and international laboratories and the certifications are obtained from prestigious organizations from different countries endorse the products.

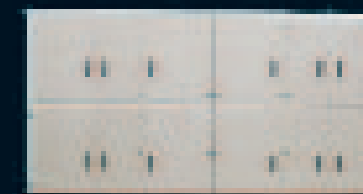
Products are systematically tested all along the production line, therefore guaranteeing the standard of quality.





**TWO DEPTHS, 300 AND 420
THE ENCLOSURE COMPANY**

A system of cabinets made of hot moulded fibreglass reinforced polyester (GRP). The cabinets are halogen free. They can be used in all kinds of communication, electrical, pneumatical and hydraulical installations. The cabinets offer optimal security for humans and animals because of the double isolation characteristics.



**THE MAXIPOL RANGE
TOTAL FLEXIBILITY**

This modular range can be fitted vertically, horizontally and on the depth. The cabinets are available in 300 and 420 mm depths.

The sizes range from a minimum of 500 x 500 mm, which can be extended with modularities of 250 mm.



POLYESTER BETTER

The range consists of 16 basic models, where 100 standard cabinets can be obtained with the help of 250 mm high and wide modules. And now for the first time with two depths, 300 and 420 mm.

CHARACTERISTICS OF THE MATERIAL

The cabinets are made of hot moulded fibreglass reinforced polyester (GRP). The cabinets are halogen free with a RAL 7035 grey as standard. The material's performance qualities are very high and the essential characteristics are the following:

- HIGH IMPACT STRENGTH
- SELF EXTINGUISHABLE
- DOUBLE ISOLATION
- CORROSION RESISTANT
- NO WATER ABSORPTION
- EASY TO MACHINE
- EASY AND FAST FITTING
- INSENSITIVE TO OUTDOOR ENVIRONMENT
- LIGHT

HIGH IMPACT STRENGTH



NON HYDROSCOPIC



SELF-EXTINGUISHABLE



EASY AND FAST FITTING



LIGHT



DOUBLE ISOLATION



CORROSION RESISTANT



EASY TO MACHINE



INSENSITIVE TO OUTDOOR ENVIRONMENT



MAXIPOL SYSTEM

MAXIPOL CERTIFICATIONS

- PROTECTION DEGREE
IP 55 according to the UNE 20324, EN 60529 and IEC 62262 norms
- IMPACT RESISTANCE
IK10 20 J according to the UNE-EN 50102 and IEC 62262 norms
- SELF EXTINGUISHABLE
960° according to the UNE-EN 60695-2-1/0 and IEC 60695-2-10 norms
- DOUBLE ISOLATION
According to the UNE-EN 60439-1 and IEC 60439-1 norms
- THERMIC CLASS
E 150° according to the UNE 21305, EN-HD 566S1 and 60085 norms
- APPROVALS AND CERTIFICATIONS



Laboratori General d'Assaig i Investigacions





TOP COVER MODULES

- Flat top (IP55).
- Pitched top (IP43) with side ventilation (only for 300 mm depth).
- Broad brimmed top, front and back ventilation.



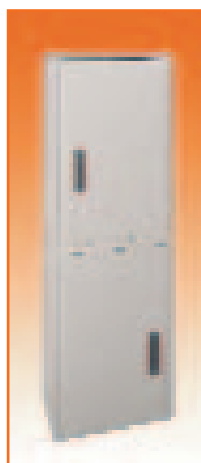
COMFORTABLE WORK

Removable central doorpost part (optional in two doors cabinets).



TWO DEPTHS

300 and 420 for electronics, 19" racks and public lighting etc.



■ VERTICAL COUPLING

TOTAL FLEXIBILITY

The cabinet modules can be fitted vertically, horizontally and in depth, offering endless combination possibilities.



■ SIDE TO SIDE

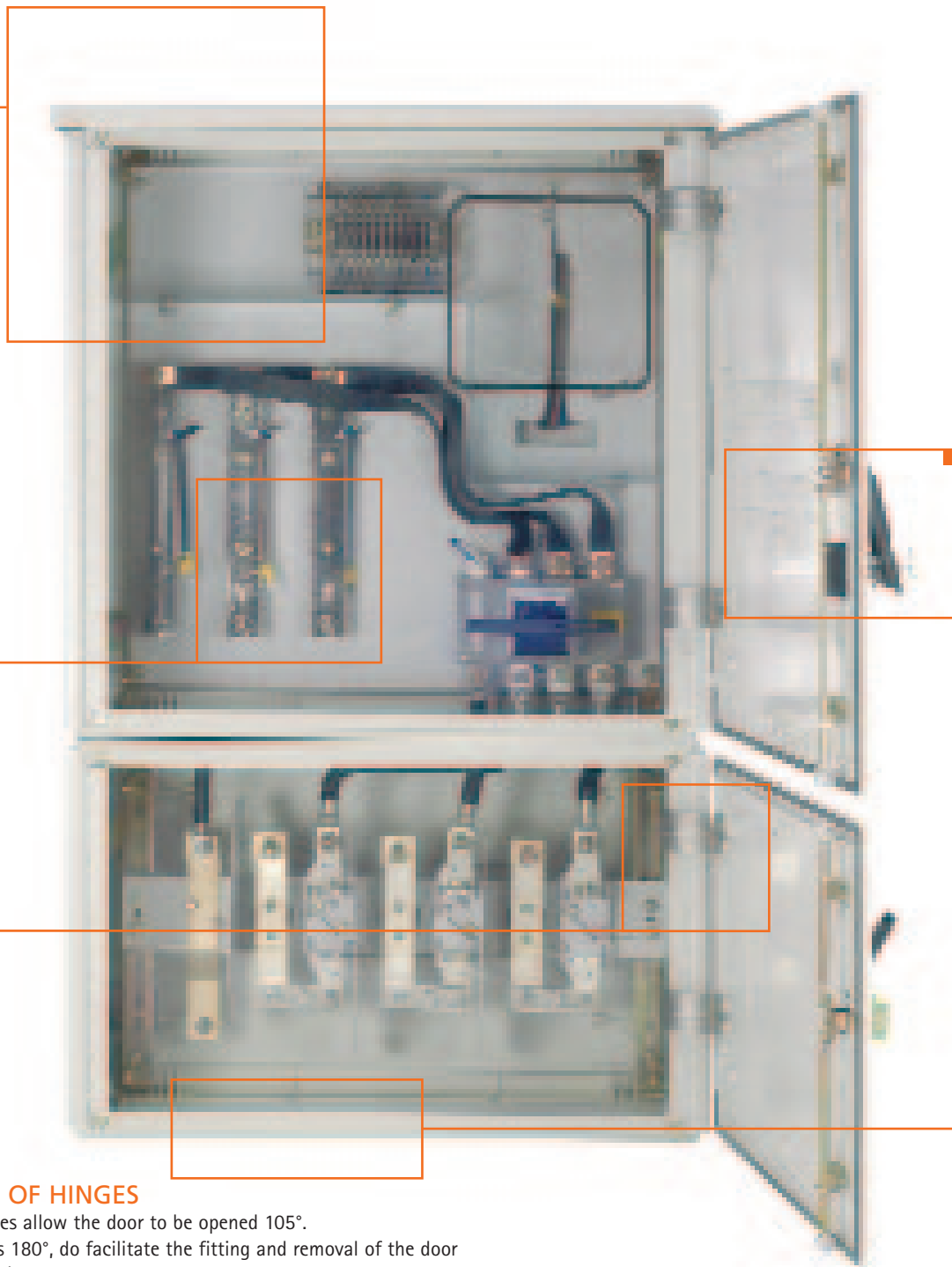


■ BACK TO BACK



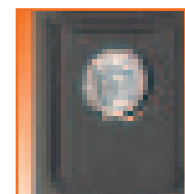
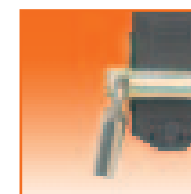
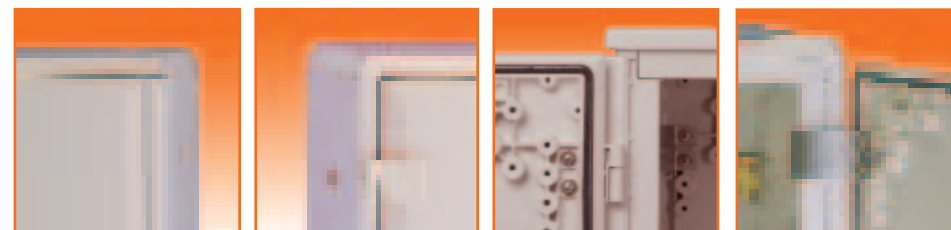
EASY ACCESS

Possibility to put doors on both sides. Plain, with relief lines, transparent or window made of Polycarbonate. Locking device fitted on the right side can be ordered.



TWO TYPES OF HINGES

The internal hinges allow the door to be opened 105°. The external ones 180°, do facilitate the fitting and removal of the door without using tools.



VARIOUS LOCKING SYSTEMS

Seven basic locking and closing systems. Any type of locking device can be ordered.



FASTENING SYSTEMS

Several basic fastening methods can be used: wall, surface, built I, etc.



PERSONALIZED

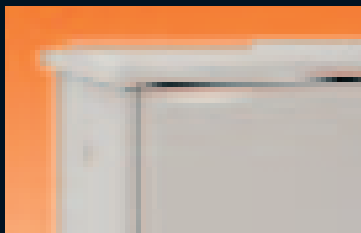
Save costs using our mechanization service. Other personalized colours can be ordered.

APPLICATION VERSATILITY

- Two distinct series can be found in the MAXIPOL range, the difference being in the usage areas.

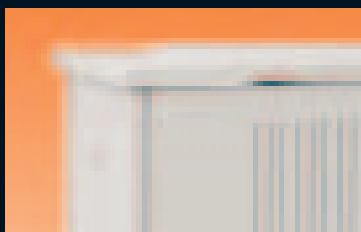
MP MAXIPOL RANGE PLAIN DOOR

- The door is plain on both sides for easy installation of any electrical or mechanical device.



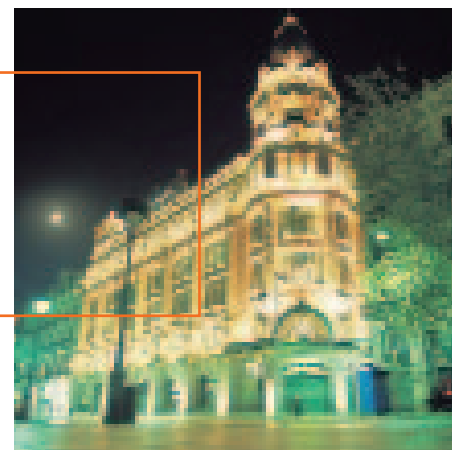
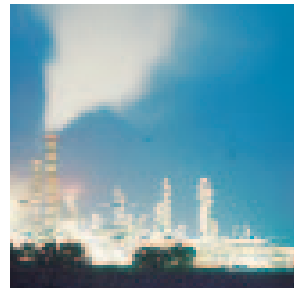
MAP MAXIPOL RANGE DOOR WITH RELIEF LINES

- The door has wide vertical bands to hinder collocation of posters and graffiti.



MAP MAXIPOL RANGE

- Applied to the chemical and petrochemical sectors.

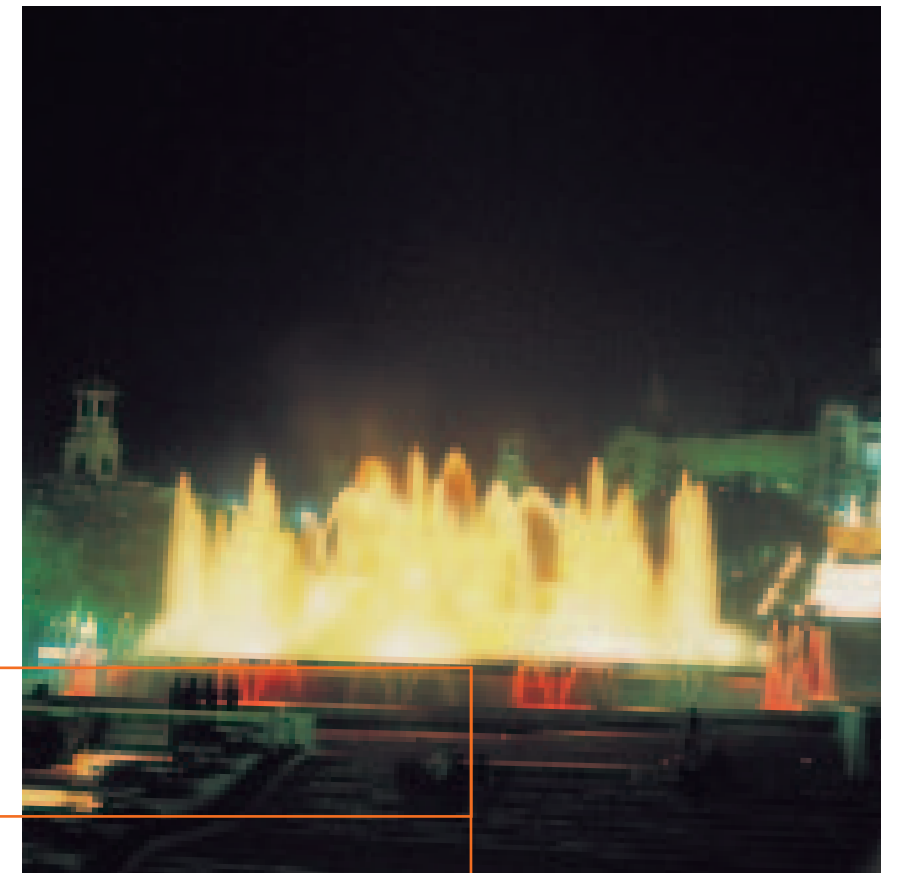


MP MAXIPOL RANGE

- Applied in shopping centers and big buildings for energy and security installations.

MAP MAXIPOL RANGE

- Applied in urban areas, controlling public lighting systems, traffic lights, energy control, etc.



MP MAXIPOL RANGE

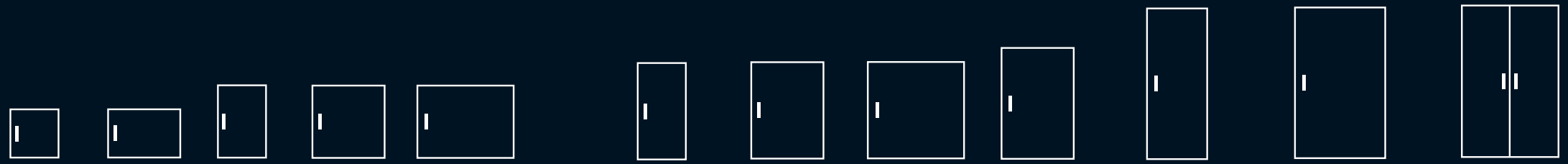
- Applied in lighting, sound or hydraulic control systems.



MP MAXIPOL RANGE

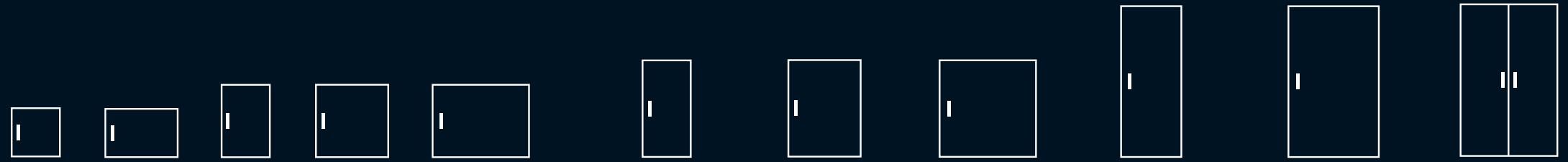
- Applied in water treatment plants for the equipment. Hydraulic, pneumatic and energetic controls are other areas where the system can be used.





MEASURES (mm) height x width x depth 500 x 500 x 300 500 x 750 x 300 750 x 500 x 300 750 x 750 x 300 750 x 1,000 x 300 1,000 x 500 x 300 1,000 x 750 x 300 1,000 x 1,000 x 300 1,150 x 750 x 300 1,250 x 500 x 300 1,250 x 750 x 300 1,250 x 1,000 x 300

			500 x 500 x 300	500 x 750 x 300	750 x 500 x 300	750 x 750 x 300	750 x 1,000 x 300	1,000 x 500 x 300	1,000 x 750 x 300	1,000 x 1,000 x 300	1,150 x 750 x 300	1,250 x 500 x 300	1,250 x 750 x 300	1,250 x 1,000 x 300
	<ul style="list-style-type: none"> Plain door Plain top Closed bottom 		MP-223CC	MP-233CC	MP-323CC	MP-333CC	MP-343CC	MP-423CC	MP-433CC	MP-443CC	-	MP-523CC/2 2 doors	MP-533CC/2 2 doors	-
	<ul style="list-style-type: none"> Plain door 4 waters roof top Closed bottom 		MP-223TC	MP-233TC	MP-323TC	MP-333TC	MP-343TC	MP-423TC	MP-433TC	MP-443TC	-	MP-523TC/2 2 doors	MP-533TC/2 2 doors	-
	<ul style="list-style-type: none"> Transparent door Plain top Closed bottom 		MP-223CC/PT	MP-233CC/PT	MP-323CC/PT	MP-333CC/PT	MP-343CC/PT	MP-423CC/PT	MP-433CC/PT	MP-443CC/PT	-	-	-	-
	<ul style="list-style-type: none"> Plain door Plain top Open in the bottom 		MP-223CA	MP-233CA	MP-323CA	MP-333CA	MP-343CA	MP-423CA	MP-433CA	MP-443CA	-	MP-523CA/2 2 doors	MP-533CA/2 2 doors	-
	<ul style="list-style-type: none"> Plain door 4 waters roof top Open in the bottom 		MP-223TA	MP-233TA	MP-323TA	MP-333TA	MP-343TA	MP-423TA	MP-433TA	MP-443TA	-	MP-523TA/2 2 doors	MP-533TA/2 2 doors	-
	<ul style="list-style-type: none"> Transparent door Plain top Open in the bottom 		MP-223CA/PT	MP-233CA/PT	MP-323CA/PT	MP-333CA/PT	MP-343CA/PT	MP-423CA/PT	MP-433CA/PT	MP-443CA/PT	-	-	-	-
	<ul style="list-style-type: none"> Door with wide bands 4 waters roof top Closed bottom 		MAP-223TC	MAP-233TC	MAP-323TC	MAP-333TC	-	MAP-423TC	MAP-433TC	-	MAP-433L3TC	MAP-523TC	MAP-533TC	MAP-533TC/2
	<ul style="list-style-type: none"> Door with wide bands Broad brimmed top Closed bottom 		MAP-223TVC	MAP-233TVC	MAP-323TVC	MAP-333TVC	-	MAP-423TVC	MAP-433TVC	-	MAP-433LTVC	MAP-523TVC	MAP-533TVC	MAP-533TVC/2
	<ul style="list-style-type: none"> Door with wide bands 4 waters roof top Open in the bottom 		MAP-223TA	MAP-233TA	MAP-323TA	MAP-333TA	-	MAP-423TA	MAP-433TA	-	MAP-433LTA	MAP-523TA	MAP-533TA	MAP-533TA/2
	<ul style="list-style-type: none"> Door with wide bands Broad brimmed top Open in the bottom 		MAP-223TVA	MAP-233TVA	MAP-323TVA	MAP-333TVA	-	MAP-423TVA	MAP-433TVA	-	MAP-433LTVA	MAP-523TVA	MAP-533TVA	MAP-533TVA/2



MEASURES (mm) height x width x depth 500 x 500 x 420 500 x 750 x 420 750 x 500 x 420 750 x 750 x 420 750 x 1,000 x 420 1,000 x 500 x 420 1,000 x 750 x 420 1,000 x 1,000 x 420 1,250 x 500 x 420 1,250 x 750 x 420 1,250 x 1,000 x 420

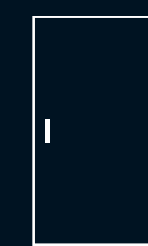
	<ul style="list-style-type: none"> Plain door Plain top Closed bottom 		MP-224CC	MP-234CC	MP-324CC	MP-334CC	MP-344CC	MP-424CC	MP-434CC	MP-444CC	MP-524CC/2 2 doors 	MP-534CC/2 2 doors 	-
	<ul style="list-style-type: none"> Plain door Broad brimmed top Closed bottom 		MP-224TVC	MP-234TVC	MP-324TVC	MP-334TVC	MP-344TVC	MP-424TVC	MP-434TVC	MP-444TVC	MP-524TVC/2 2 doors 	MP-534TVC/2 2 doors 	-
	<ul style="list-style-type: none"> Transparent door Plain top Closed bottom 		MP-224CC/PT	MP-234CC/PT	MP-324CC/PT	MP-334CC/PT	MP-344CC/PT	MP-424CC/PT	MP-434CC/PT	MP-444CC/PT	-	-	-
	<ul style="list-style-type: none"> Plain door Plain top Open in the bottom 		MP-224CA	MP-234CA	MP-324CA	MP-334CA	MP-344CA	MP-424CA	MP-434CA	MP-444CA	MP-524CA/2 2 doors 	MP-534CA/2 2 doors 	-
	<ul style="list-style-type: none"> Plain door Broad brimmed top Open in the bottom 		MP-224TVA	MP-234TVA	MP-324TVA	MP-334TVA	MP-344TVA	MP-424TVA	MP-434TVA	MP-444TVA	MP-524TVA/2 2 doors 	MP-534TVA/2 2 doors 	-
	<ul style="list-style-type: none"> Transparent door Plain top Open in the bottom 		MP-224CA/PT	MP-234CA/PT	MP-324CA/PT	MP-334CA/PT	MP-344CA/PT	MP-424CA/PT	MP-434CA/PT	MP-444CA/PT	-	-	-
	<ul style="list-style-type: none"> Door with wide bands Broad brimmed top Closed bottom 		MAP-224TVC	MAP-234TVC	MAP-324TVC	MAP-334TVC	-	MAP-424TVC	MAP-434TVC	-	MAP-524TVC	MAP-534TVC	MAP-544TVC/2
	<ul style="list-style-type: none"> Door with wide bands Broad brimmed top Open in the bottom 		MAP-224TVA	MAP-234TVA	MAP-324TVA	MAP-334TVA	-	MAP-424TVA	MAP-434TVA	-	MAP-524TVA	MAP-534TVA	MAP-544TVA/2

ACCESSORIES BY SIZE

MAXIPOL



MAXIPOL SYSTEM



MEASURES (mm) height and width

500 x 500

500 x 750

750 x 500

750 x 750

750 x 1,000

1,000 x 500

1,000 x 750

1,000 x 1,000

1,150 x 750

1,250 x 500

1,250 x 750



- Polyester base plate (fixed)
- Both depths
- Plate thickness 4 mm up to PBP-333
- Rest of the plates 5 mm

PBP-223

PBP-233

PBP-323

PBP-333

PBP-343

PBP-423

PBP-433

PBP-443

PBP-433L

PBP-523

PBP-533



- Zinc-coated metallic base plate
- Both depths
- Plate thickness 2 mm up to PBP-333
- Rest of the plates 2,5 mm

PBM-223

PBM-233

PBM-323

PBM-333

PBM-343

PBM-423

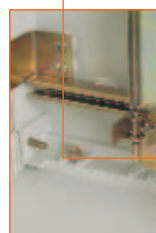
PBM-433

PBM-443

PBM-433L

PBM-523

PBM-533



- Polyester base plate
- Adjustable in depth and hinged
- For 300 mm depth

PBPD-223

PBPD-233

PBPD-323

PBPD-333

PBPD-343

PBPD-423

PBPD-433

PBPD-443

PBPD-433L

PBPD-523

PBPD-533

- Zinc-coated metallic base plate
- Adjustable in depth and hinged
- For 300 mm depth

PBMD-223

PBMD-233

PBMD-323

PBMD-333

PBMD-343

PBMD-423

PBMD-433

PBMD-443

PBMD-433L

PBMD-523

PBMD-533

- Polyester base plate
- Adjustable in depth and hinged
- For 420 mm depth

PBPD-224

PBPD-234

PBPD-324

PBPD-334

PBPD-344

PBPD-424

PBPD-434

PBPD-444

-

PBPD-524

PBPD-534

- Zinc-coated metallic base plate
- Adjustable in depth and hinged
- For 420 mm depth

PBMD-224

PBMD-234

PBMD-324

PBMD-333

PBMD-344

PBMD-424

PBMD-434

PBMD-444

-

PBMD-524

PBMD-534



- Internal door
- For 300 mm depth

PI-223

PI-233

PI-323

PI-333

PI-343

PI-423

PI-433

PI-443

PI-433L

PI-523

PI-533

- Internal door
- For 420 mm depth

PI-224

PI-234

PI-324

PI-334

PI-344

PI-424

PI-434

PI-444

-

PI-524

PI-534

ACCESSORIES BY SIZE

MAXIPOL



MAXIPOL SYSTEM



MEASURES (mm) height and width

500 x 500

500 x 750

750 x 500

750 x 750

750 x 1,000

1,000 x 500

1,000 x 750

1,000 x 1,000

1,150 x 750

1,250 x 500

1,250 x 750



- Steel pedestal painted in black
- Height 50 mm
- For 300 mm depth
- Other heights can be manufactured on request

ZMA-500/3

ZMA-750/3

ZMA-500/3

ZMA-750/3

ZMA-1000/3

ZMA-500/3

ZMA-750/3

ZMA-1000/3

ZMA-750/3

ZMA-500/3

ZMA-750/3

- Steel pedestal painted in black
- Height 50 mm
- For 420 mm depth
- Other heights can be manufactured on request

ZMA-500/4

ZMA-750/4

ZMA-500/4

ZMA-750/4

ZMA-1000/4

ZMA-500/4

ZMA-750/4

ZMA-1000/4

-

ZMA-500/4

ZMA-750/4



- Inside frame made of galvanized steel
- For 300 mm depth

CM500/3

CM750/3

CM500/3

CM750/3

CM1.000/3

CM500/3

CM750/3

CM1.000/3

CM750/3

CM500/3

CM750/3

- Inside frame made of galvanized steel
- For 420 mm depth

CM500/4

CM750/4

CM500/4

CM750/4

CM1.000/4

CM500/4

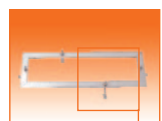
CM750/4

CM1.000/4

-

CM500/4

CM750/4



- Frame made of galvanized steel
- For 300 mm depth

MA500/3

MA750/3

MA500/3

MA750/3

MA1.000/3

MA500/3

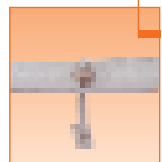
MA750/3

MA1.000/3

MA750/3

MA500/3

MA750/3



- Frame made of galvanized steel
- For 420 mm depth

MA500/4

MA750/4

MA500/4

MA750/4

MA1.000/4

MA500/4

MA750/4

MA1.000/4

-

MA500/4

MA750/4



- Root burying pedestal (Workable door 375 mm) to facilitate the fitting and control of cables
- For 300 mm depth

ZEP-500/3

ZEP-750/3

ZEP-500/3

ZEP-750/3

ZEP-750/3

ZEP-500/3

ZEP-750/3

ZEP-750/3

ZEP-750/3

ZEP-500/3

ZEP-750/3

- Root burying pedestal (Workable door 375 mm) to facilitate the fitting and control of cables
- For 420 mm depth

ZEP-500/4

ZEP-750/4

ZEP-500/4

ZEP-750/4

ZEP-750/4

ZEP-500/4

ZEP-750/4

ZEP-750/4

-

ZEP-500/4

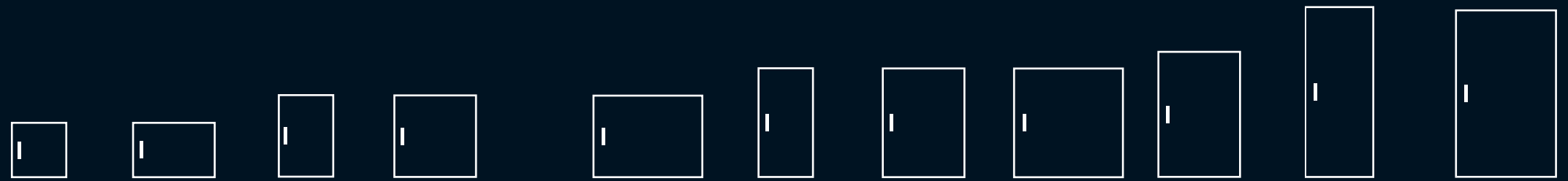
ZEP-750/4

ACCESSORIES BY SIZE

MAXIPOL



MAXIPOL SYSTEM



MEASURES (mm) height and width

500 x 500

500 x 750

750 x 500

750 x 750

750 x 1,000

1,000 x 500


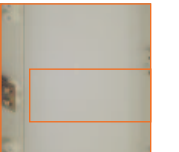
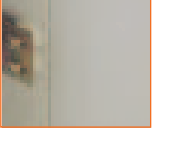



1,000 x 750

1,000 x 1,000

1,150 x 750

1,250 x 500

1,250 x 750

 <ul style="list-style-type: none"> ■ Pedestal (Workable door 500 mm) to facilitate the fitting and control of cables ■ For 300 mm depth 	ZS-500/3	ZS-750/3	ZS-500/3	ZS-750/3	ZS-750/3	ZS-500/3	ZS-750/3	ZS-750/3	ZS-750/3	ZS-500/3	ZS-750/3
 <ul style="list-style-type: none"> ■ Pedestal (Workable door 500 mm) to facilitate the fitting and control of cables ■ For 420 mm depth 	ZS-500/4	ZS-750/4	ZS-500/4	ZS-750/4	ZS-750/4	ZS-500/4	ZS-750/4	ZS-750/4	-	ZS-500/4	ZS-750/4
 <ul style="list-style-type: none"> ■ Vertical separation plate for cabinet ■ For 300 mm depth 	PSV-500/3	PSV-500/3	PSV-750/3	PSV-750/3	PSV-750/3	PSV-1000/3	PSV-1000/3	PSV-1000/3	-	PSV-1250/3	PSV-1250/3
 <ul style="list-style-type: none"> ■ Vertical separation plate for cabinet ■ For 420 mm depth 	PSV-500/4	PSV-500/4	PSV-750/4	PSV-750/4	PSV-750/4	PSV-1000/4	PSV-1000/4	PSV-1000/4	-	PSV-1250/4	PSV-1250/4
 <ul style="list-style-type: none"> ■ Horizontal separation plate for cabinet ■ For 300 mm depth 	PSH-500/3	PSH-750/3	PSH-500/3	PSH-750/3	PSH-1000/3	PSH-500/3	PSH-750/3	PSH-1000/3	PSH-750/3	PSH-500/3	PSH-750/3
 <ul style="list-style-type: none"> ■ Horizontal separation plate for cabinet ■ For 420 mm depth 	PSH-500/4	PSH-750/4	PSH-500/4	PSH-750/4	PSH-1000/4	PSH-500/4	PSH-750/4	PSH-1000/4	-	PSH-500/4	PSH-750/4
<p>UNDER DEVELOPMENT</p> <ul style="list-style-type: none"> ■ Doorpost piece system ■ 19" depth of 420 ■ On demand 											
<p>UNDER DEVELOPMENT</p> <ul style="list-style-type: none"> ■ Chassis system ■ On demand 											

COMMON ACCESSORIES MAXIPOL



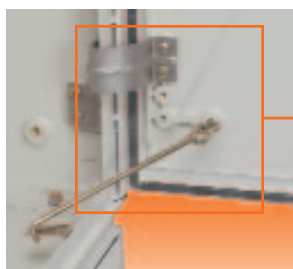
■ SURFACE BRACKETS

- Group of 4 brackets made of Zinced Steel.
Ref: MOF; for dimensions, see page 27.



■ FLOOR BRACKETS

- Pair of 2 brackets with their accessories for floor mounting, made of Zinced Steel. (For pedestals and frames, see page 27).
For 300 depth GCART3.
For 420 depth GCART4.



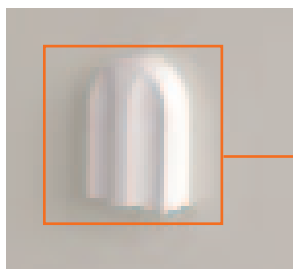
■ DOOR HOLDER

- Door holder, opening 105°.
Ref. RET/MP.



■ REMOVABLE CENTRAL DOORPOST PIECE

- To be ordered together with the cabinet.
Ref. MONT. EXTR.



■ VENTILATION DEVICE

- Ventilation device made of isolation material. Two should be mounted to achieve air circulation in the cabinet. One should be placed on the lower part and the other on the higher.
Ref. DVG.

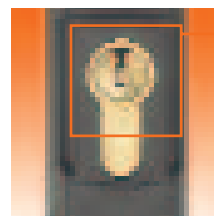


■ DOCUMENT HOLDER

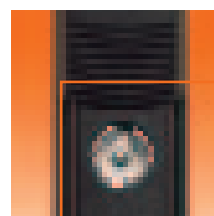
- Made of plastic.
- Self adhesive.
Ref. PPA.

KINDS OF LOCKS MAXIPOL

MAXIPOL SYSTEM

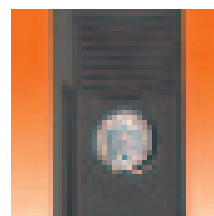


- Key lock. REF. EK220
- Euro profile (without bit). REF. EKDIN



■ SWING HANDLE

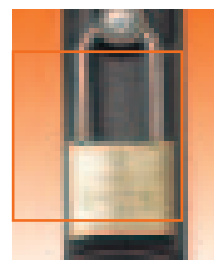
- Double bit key lock. REF. EKDOB**
** Standard in the MP range.



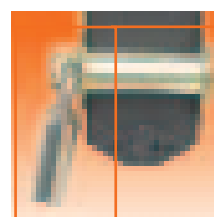
- Square key bit lock 8 mm. REF. EKCUB
- Square key bit lock 6 mm. REF. EKCUG



- Triangular key lock. REF. EKTRI



- Padlocking for swing handle. REF. EKTEC***
*** Standard in the MAP range higher than 1,000 mm.

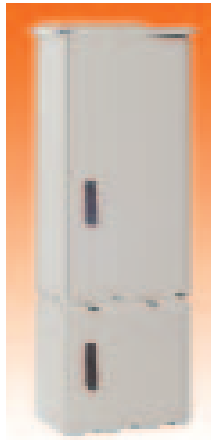


■ TRIANGULAR LOCKING DEVICE WITH PROTECTION

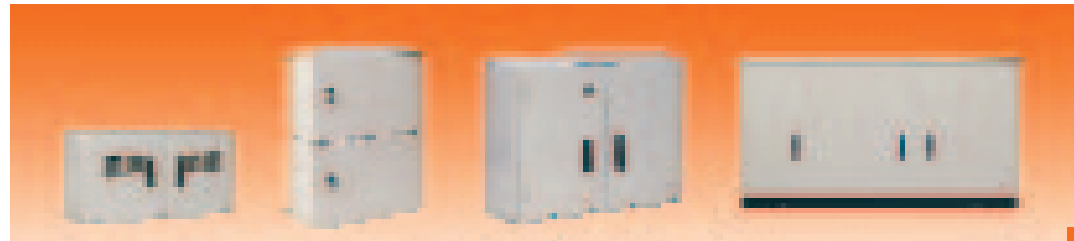
- Triangular lock, 11 mm. REF. TT
- Padlock device. REF. EC.
- Triang. Screw and Padlock. REF. TPTEC*
* Standard in the MAP range till 1,000 mm.



STANDARD COMBINATIONS



- The Maxipol cabinets can be fitted together on any side, which permits maximum flexibility and the possibility to fit the industrial cabinets with the dimensions needed in every case.
- The following section shows some of the fitting possibilities, within the range. Any other type can be fitted even though they are not mentioned in the examples.



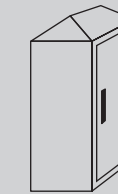
THE MOST COMMON COMBINATIONS

WIDTH	500	750	1,000	1,250	1,500	1,750	2,000
HEIGHT							
1,250	MP-52...	MP-53...	MP-54...	MP-55...	MP-56...	MP-57...	MP-58...
1,500	MP-62...	MP-63...	MP-64...	MP-65...	MP-66...	MP-67...	MP-68...
1,750	MP-72...	MP-73...	MP-74...	MP-75...	MP-76...	MP-77...	MP-78...
2,000	MP-82...	MP-83...	MP-84...	MP-85...	MP-86...	MP-87...	MP-88...

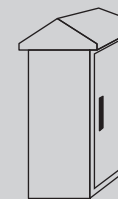
TYPES



- CC
 - Cabinet with plain top. Closed bottom IP55.



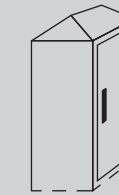
- TC
 - Cabinet with a 4 waters top and ventilation. Closed bottom IP43.



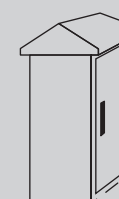
- TVC
 - Cabinet with broad brimmed top. Closed bottom IP43.



- CA
 - Cabinet with plain top. Open bottom IP55.



- TA
 - Cabinet with a 4 waters top and ventilation. Open bottom IP43.

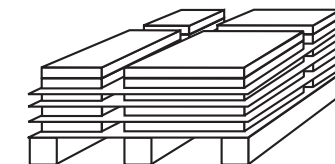


- TVA
 - Cabinet with broad brimmed top. Open bottom IP43.

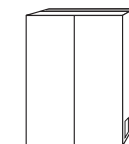
SUPPLY POSSIBILITIES



- KIT
 - (Unassembled cabinet)
 - Add-KIT to reference
 - I.E.: MP-423/CA-KIT
 - Saves shipping and storage space



- PALLET
 - Add-PAL to reference
 - I.E.: MP-424/CA-PAL
 - Various units on one pallet



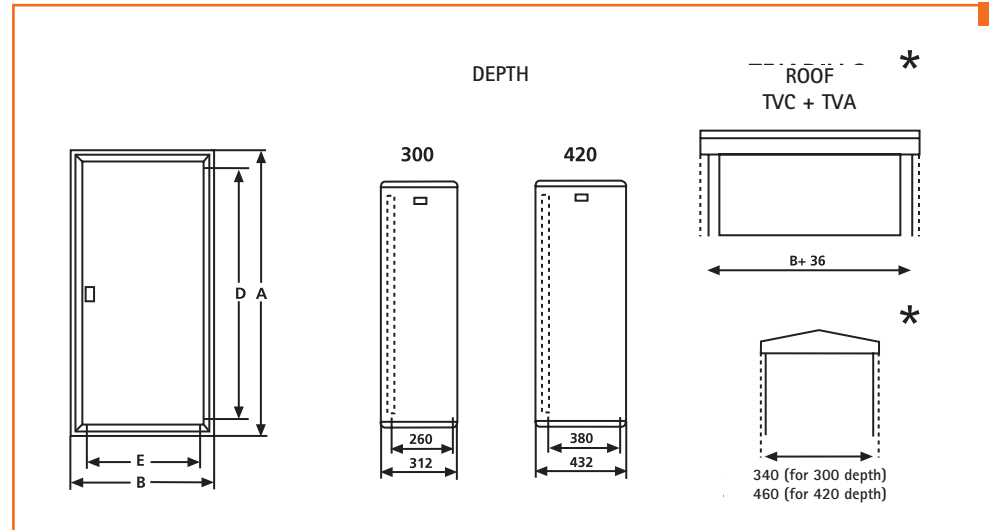
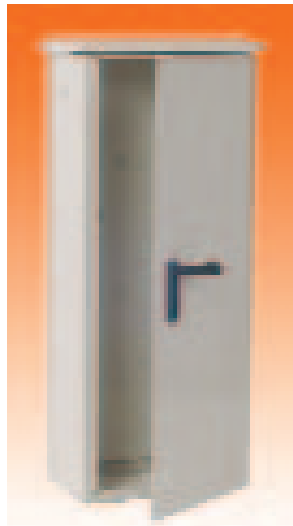
- MOUNTED CABINET
 - I.E.: MP-426/CA
 - Assembled cabinet

IDENTIFICATION OF TYPE OF CABINET



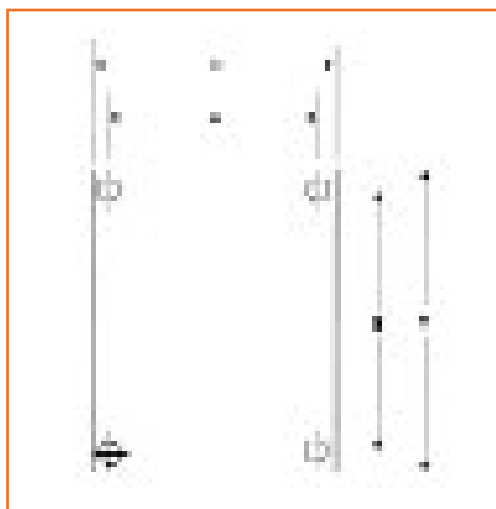
- The first group indicates the serie MP (plain door), MAP (door with relief lines).
- Determines the height of the cabinet in number of 250 mm modules.
- Determines the width of the cabinet in number of 250 mm modules.
- Determines the depth of the cabinet (3 = 300 mm, 4 = 420 mm).
- Defines Types (See Type part above).
- Number of doors.
- Optional group of letters, identifying the versions:
 - Supply in KIT (add KIT).
 - Supply on pallets (add PAL).
 - Specify door lock.

DIMENSIONS (mm)



CABINETS	A	A	A*	A	A	A*	B	D	E
TYPE	CC	TC	TVC	CA	TA	TVA			
MP-22/MAP-22	500	524	509	490	514	499	500	415	400
MP-23/MAP-23	500	524	509	490	514	499	750	415	650
MP-24/MAP-24	500	524	509	490	514	499	1,000	415	900
MP-32/MAP-32	750	774	759	740	764	749	500	665	400
MP-33/MAP-33	750	774	759	740	764	749	750	665	650
MP-34/MAP-34	750	774	759	740	764	749	1,000	665	900
MP-42/MAP-42	1,000	1,024	1,009	990	1,014	999	500	915	400
MP-43/MAP-43	1,000	1,024	1,009	990	1,014	999	750	915	650
MP-44	1,000	1,024	1,009	990	1,014	999	1,000	915	900
MAP-43L	1,160	1,174	1,159	1,140	1,164	1,149	750	1,065	650
MAP-52	1,250	1,274	1,259	1,240	1,264	1,249	500	1,165	400
MAP-53	1,250	1,274	1,259	1,240	1,264	1,249	750	1,165	650

* See top dimensions.

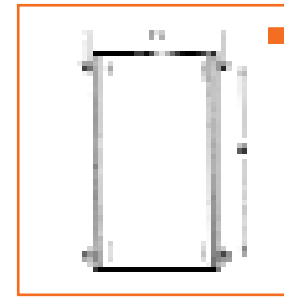


BASE PLATES

TYPE	A	B	C	D
PBP-22	405	393	375	353
PBP-23	655	393	625	353
PBP-32	405	643	375	603
PBP-33	655	643	625	603
PBP-34	905	643	875	603
PBP-42	405	893	375	853
PBP-43	655	893	625	853
PBP-44	905	893	875	853
PBP-43L	655	1,043	625	1,003
PBP-52	405	1,143	375	1,103
PBP-53	656	1,143	625	1,103

SURFACE BRACKETS

- Anchorage: Ref. MOF



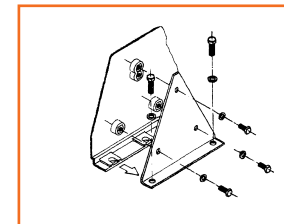
CABINET

WIDTH/HEIGHT	A	B
500	404	552
750	618	802
1,000	868	1,052
1,250	1,218	-



FLOOR BRACKETS

- Anchorage: Ref. GCART



CABINET

WIDTH	A*	A**	B
500	160	280	440
750	160	280	640
1,000	160	280	940

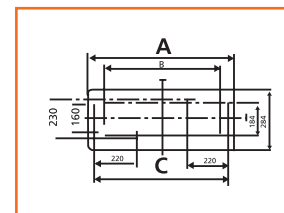
*Cabinet with 300 mm depth.

**Cabinet with 420 mm depth.



FLOOR MOUNTING PLINTH

- Anchorage: Ref. ZMA/3. Depth 300
- Anchorage: Ref. ZMA/4. Depth 420



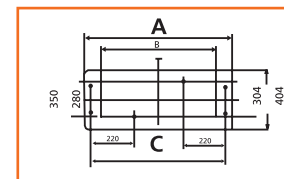
CABINET

WIDTH	A	B	C
500	480	380	440
750	730	830	690
1,000	980	880	940



FLOOR MOUNTING FRAMES

- Anchorage: Ref. CM + MA

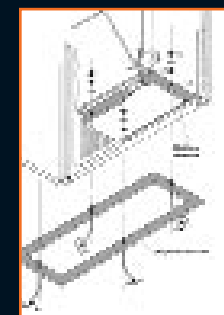
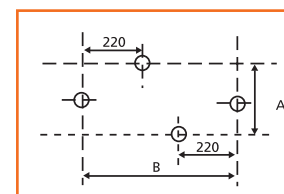


CABINET

WIDTH	A*	A**	B
500	190	310	440
750	190	310	640
1,000	190	310	940

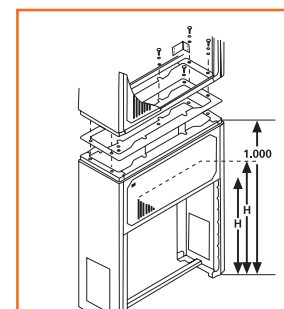
*Cabinet with 300 mm depth

**Cabinet with 420 mm depth



BUILT-IN FLOOR MOUNTING PEDESTAL

- Anchorage: Ref. ZEP



H - Minimum built-in part 500 mm.
H - Minimum built-in part 750 mm.



MAXIPOL PERSONALIZED

HORIZONTAL FITTING

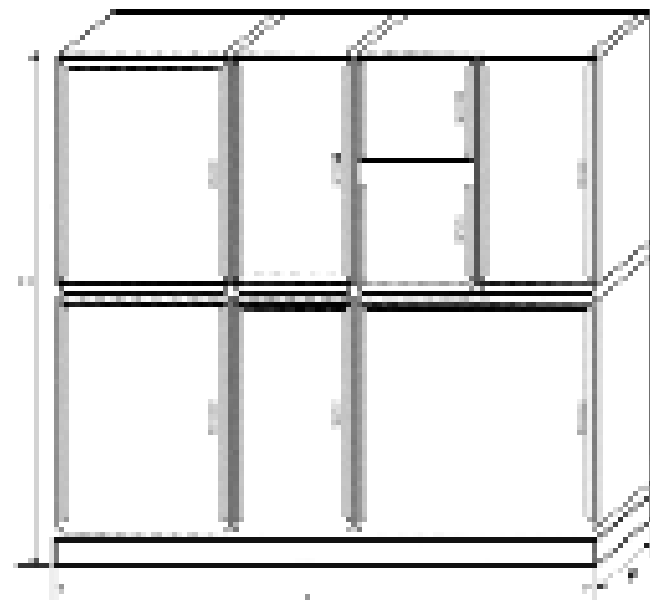
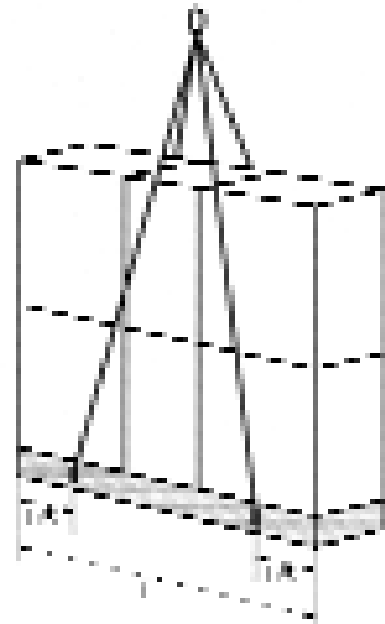
- Any kind of horizontal fitting can be made, with the only condition that both cabinets must be the same height. It is not possible to make horizontal fittings with cabinets of uneven heights, even though the total height is equal.

MAXIMUM DIMENSIONS

- Fitting can be done to any required dimension, because of the unique construction design. Maximum dimensions are recommended for handling, transport and installation reasons. These recommendations are made to guarantee the right assembling and handling of the boards. The dimensions are as follows:

Length L: 2.5 m
 Height H: 2.5 m
 Depth P: 0.8 m

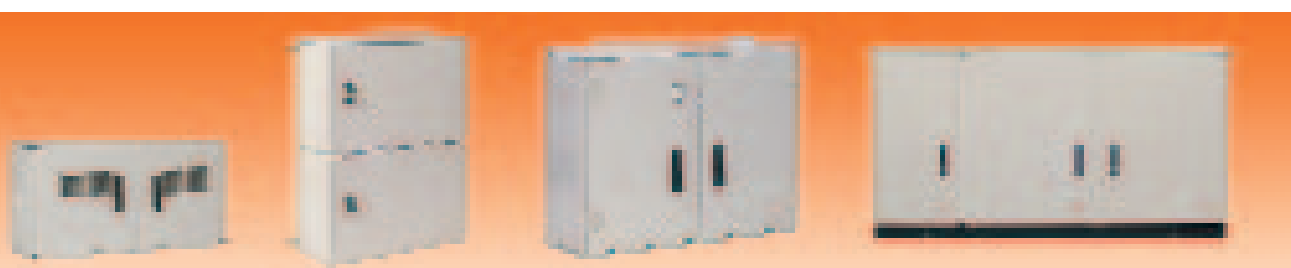
Please note, that it is possible to fit several sets of 2.5 m to obtain the required dimension.



PLINTH FOR FLOOR FIXING AND TRANSPORT

The plinth for this kind of panel board is a single metallic U-profile. It is equipped with elements for lifting, transport and floor fitting.

It is made of painted steel and of the same length as the board. Height 80 mm.



CREATE YOUR PERSONALIZED MAXIPOL

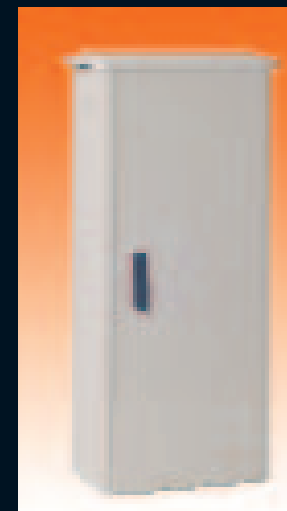
- Photocopy or scan this page.
- Draw the front view.
- Fill in the 7 lines.
- Send it by fax: +34 93 3843586 or email: info@hes.es and you will receive your personalized project shortly.

mm	250	500	750	1,000	1,250	1,500	1,750	2,000	2,500
250									
500									
750									
1,000									
1,250									
1,500									
1,750									
2,000									
2,250									
2,500									

1	Depth	<input type="checkbox"/> 300	<input type="checkbox"/> 420	<input type="checkbox"/> 600 (2 x 300)	<input type="checkbox"/> 840 (2 x 420)
2	Upper part	<input type="checkbox"/> Flat top	<input type="checkbox"/> Pitched top	<input type="checkbox"/> Broad brimmer top	
3	Parte inferior	<input type="checkbox"/> Closed	<input type="checkbox"/> Open		
4	Plinth	<input type="checkbox"/> Height 50 mm	<input type="checkbox"/> Height 80 mm		
5	Locking devices*	<input type="checkbox"/> EKDOB	<input type="checkbox"/> EKDIN	<input type="checkbox"/> Others	
6	Separation plates*	<input type="checkbox"/> No	<input type="checkbox"/> Vertical	<input type="checkbox"/> Horizontal	
7	Base plates*	<input type="checkbox"/> No	<input type="checkbox"/> Polyester	<input type="checkbox"/> Metal	

■ Indicate with a cross.

■ * Draw position.



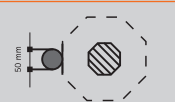
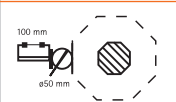

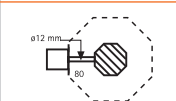
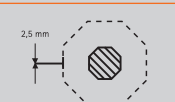
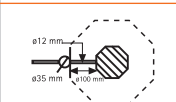


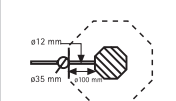

NOTE:

The sides have to have the same dimensions to enable couplings.

DEGREES OF PROTECTION ACCORDING TO UNE 20324 IEC-EN 60529

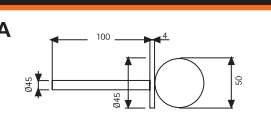
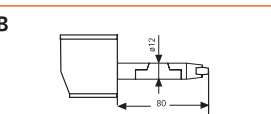
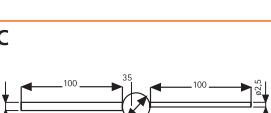
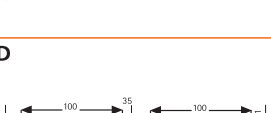
FIRST CHARACTERISTIC NUMERAL

- Protection of people against access to hazardous parts (see additional letter) and protection against solid foreign objects.

IP	SOLID FOREIGN OBJECTS	ACCESS TO HAZARDOUS PARTS	
0			Non-protected.
1			Protected against solid foreign objects of 50 mm Ø and larger (i.e. the back of the hand).
2			Protected against solid foreign objects of 12.5 mm Ø and larger (i.e. with a finger).
3			Protected against solid foreign objects of 2.5 mm Ø and larger (i.e. access to hazardous parts with a tool).
4			Protected against solid foreign objects of 1.0 mm Ø and larger (i.e. access to hazardous parts with a wire).
5			Dust intake is not totally prevented, but dust shall not penetrate in such a quantity to interfere with satisfactory operation of the apparatus or to impair safety.
6			Dust-tight. No dust-intake.


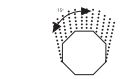
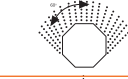
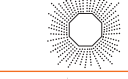

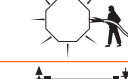


ADDITIONAL LETTER

- If the actual protection against access to hazardous parts is higher than that indicated by the first characteristic numeral.

LETTER	SIGNIFICANCE
A	 Protected against access with the back of the hand. The access probe, sphere of 50 mm Ø shall have adequate clearance from hazardous parts.
B	 Protected against access with a finger. The jointed test finger of 12 mm Ø, 80 mm length shall have adequate clearance from hazardous parts.
C	 Protected against access with a tool. The access probe of 2.5 mm Ø, 100 mm length shall have adequate clearance from hazardous parts.
D	 Protected against access with a wire. The access probe of 1.0 mm Ø, 100 mm length shall have adequate clearance from hazardous parts.

SECOND CHARACTERISTIC NUMERAL

- Protection against harmful intake of water.

IP	ENSAYO	
0		Non-protected.
1		Protected against vertically falling water drops
2		Protected against vertically falling water drops when enclosure is tilted up to 15°.
3		Water sprayed at an angle up to 60° on either side of the vertical shall have no harmful effects.
4		Water splashed against the enclosure from any direction shall have no harmful effects.
5		Water projected in jets against the enclosure from any direction shall have no harmful effects.
6		Protected against powerful water jets.
7		Protected against the effects of temporary immersion of water.
8		Protected against the effect of continuous immersion of water

SUPPLEMENTARY LETTERS

- To provide ulterior information on the material.

LETTER	SIGNIFICANCE
H	High-voltage apparatus.
M	Tested for harmful effects due to water intake when the movable parts of the equipment (e.g. the rotor of the rotating machine) are in motion.
S	Tested for harmful effects due to water intake when the movable parts of the equipment (e.g. the rotor of the rotating machine) are stationary.
W	Suitable for use under specified weather conditions and provided with additional protective features or processes.

GUIDELINE FOR THE USE OF INDEX PROTECTION DEGREES

FIELD OF USE	IP43/44	IP55/67
<ul style="list-style-type: none"> AGRICULTURE 	Mobile or portable equipment or appliances used or stored in sheltered premises.	Outdoor installation of pumping, ventilation, drying equipment.
<ul style="list-style-type: none"> CHEMICAL INDUSTRY 	Indoors in premises for storage and maintenance purposes where connections are not exposed to the risk of immersion or chemicals.	On premises without risk of explosions but where the connections are exposed to chemicals and subject to possible immersion.
<ul style="list-style-type: none"> CONSTRUCTION SITES AND SHIPYARDS 	Covered construction sites sheltered against weathering though exposed to splashing water.	In outdoor construction sites where the connections are left on humid ground exposed to freezing, dust and weathering.
<ul style="list-style-type: none"> SPORTS COMPLEXES AND OTHER PLACES OF PUBLIC ENTERTAINMENT, TV AND FILM STUDIOS 	In sheltered premises protected against the weather, though exposed to splashing, without high-connected loads.	Outdoor systems exposed to rain, snow, mud, freezing and other critical weather conditions, where high load for lighting installations, TV or audio is expected.
<ul style="list-style-type: none"> FOOD INDUSTRY 	In sheltered locations, in indoor premises serving for storage and maintenance.	In locations subject to washing by hosing down and where connections are subject to heavy duty.
<ul style="list-style-type: none"> HEAVY INDUSTRY 	In sheltered storehouses, workshops for maintenance, minor assembly and moulding.	In rolling mills, foundries, blast furnaces, etc., where the connections are exposed to dust, metal swarf, coolants and are subject to vibrations and impact.
<ul style="list-style-type: none"> LIGHT INDUSTRY 	Locations without high humidity or ambient pollution serving for assembly, moulding, maintenance and storage.	On premises subject to cleaning by means of chemical solvents. Also where heavy loads require high safety in connections.
<ul style="list-style-type: none"> INSTALLATIONS FOR EDP CENTRES 	Electrical connections executed above floor level.	Electrical connections executed under raised floors with risk of immersion. Where heavy loads require high safety in connections.
<ul style="list-style-type: none"> PORTS 	In sheltered locations such as docks, repair shops, offices etc.	Quays, docks, piers, etc. Where there is risk of high waves and partial flooding.
<ul style="list-style-type: none"> AIRPORTS 	In sheltered locations, hangars, repair shops, storehouses.	Outdoors for the connection between mobile or portable appliances and aircraft
<ul style="list-style-type: none"> WATER TREATMENT PLANTS 	Indoor use in repair shops, etc.	In all locations with risk of flooding and for outdoor use with pumps, aeration and ventilation systems.

PLASTIC MATERIALS

- Plastic materials are used for many applications. Finished products are obtained by using heating processes. They have a molecular structure (made) of long chains of polymers created by the interaction of several molecules (monomers) or pair of molecules.
- Distinction between thermoplastics and thermo sets has to be made.

THERMOPLASTICS

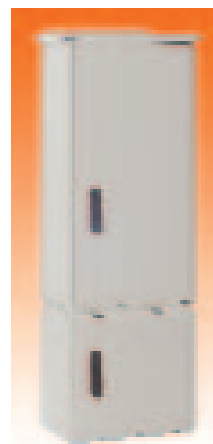
- Its transformation is carried out by hot mould injection. The obtained pieces of thermoplastic, can be moulded a number of times. Most thermoplastics are soluble in normal organic solvents.

THERMOSETS

- Its transformation is carried out by hot mould compression. Finished products cannot be remoulded and they are insoluble, due to the particular molecular structure. This type of plastic cannot be hot welded and is practically insoluble in most solvents found on the market.
- In some cases, it is possible to use specific solvents.

PLASTICS ADVANTAGES

- Double insulation gives perfect safety against direct and indirect contacts.
- Frame does not need earthing.
- Unlike metal, plastic does not rust.
- Enclosures are homogeneous, no maintenance is required.
- Because of its lightweight plastic enclosures can be easily machined, handled and installed.



PLASTICS TECHNICAL DATA

PROPERTIES	NORM	UNIT	POLYESTER	POLYCARBONATE	POLYPHENYLENE	POLYAMIDE
MECHANICAL						
Impact strength	ISO 179	KJ/m ²	55	No rupture	40	40
Notched impact strength	ISO 179	KJ/m ²	55	30-50	15	25
Flexural strength	ISO 178	MPa	150	No rupture	No rupture	No rupture
Tensile strength	ISO 3268	MPa	50-60	65-70	37	60
ELECTRICAL						
Tracking resistance	IEC 112	V/50dr	KC600	KC200	KC175	KC600
Surface resistivity	IEC 93		12	15	> 12	12
Special resistivity	IEC 93	Ω·cm	> 1012	> 1016	> 1014	> 1012
Dielectric strength	IEC 243	kV/mm	18	35	16	34
PHYSICAL						
Deflection temperature	ISO 75/A	°C	> 250	135	95	60
Vicat softening point	ISO 306/B50	°C		145-150	109	210-220
Temperature resistance	Continuous	°C	-50 a + 150	-50 a + 130	-50 a +100	-40 a + 100
Tropicalization and resistance to mold and fungus growth			No degradation	No degradation	No degradation	No degradation
Water absorption	ISO 62/1 96h	mg	45	10	7	320
Density	ISO R1183	Kg/dm ³	1,75	1,2	1,1	1,14
FLAME RESISTANCE						
Limit oxygen index	ISO 4589	%O ²	26	24,3	27,5	23
Flammability	UL 94 3 mm		94HB	94V2	94V1	94V2
Hot wire resistance	IEC 695 2-1	°C	960	850	960	650
Toxicity of fumes	ISO 04615	%Cl	Halogen-free	Halogen-free	Halogen-free	Halogen-free

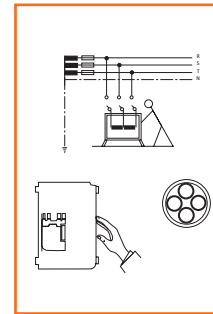
COMPABILITY OF PLASTIC MATERIALS WITH CHEMICAL COMPOUNDS

CHEMICAL ENVIRONMENT	POLYAMIDE	POLYCARBONATE	POLYESTER	CHEMICAL ENVIRONMENT	POLYAMIDE	POLYCARBONATE	POLYESTER
Acetic acid 10%	R	R	R	Hydraulic fluid	R	L	R
Acetic acid 50%	L	L	R	Hydrazine	U	U	-
Acetone	R	U	U	Hydrobromic acid	L	-	L
Aluminium chloride	L	R	R	Hydrochloric acid 10%	L	L	L
Aluminium sulphate	L	R	R	Hydrofluoric acid 10%	L	R	L
Aluminium hydroxide 10%	U	U	U	Hydrogen peroxide 30%	-	R	R
Ammonia	U	U	L	Hydrogen sulphide	L	R	R
Aniline	U	U	U	Isopropyl alcohol	R	R	R
Amyl acetate	-	U	L	Jet aircraft fuels	R	L	R
Amyl alcohol	-	L	L	Kerosene	R	R	R
Antifreeze	-	L	R	Lacquers	-	R	L
Aqua regia	-	L	U	Lactic acid 10%	L	R	R
Benzene	R	U	L	Magnesium chloride	L	R	R
Benzoic acid	L	U	L	Methyl alcohol	R	L	L
Boric acid	L	U	L	Methyl ethyl ketone	R	U	L
Brake fluid	-	L	L	Methylene chloride	R	U	U
Bromine	-	U	U	Mineral oils	L	R	R
Butyl acetate	-	U	L	Naphta	-	R	R
Butyl alcohol	R	R	R	Nitric acid 10%	L	R	L
Butyl ether	-	U	L	Nitrobenzene	L	U	L
Butilic acid	L	U	L	Oleic acid	L	R	R
Calcium chloride	R	R	R	Oleum	U	-	U
Calcium hydroxide	U	-	L	Oxalic acid 10%	L	R	R
Calcium nitrate	L	R	R	Oxygen	L	R	R
Carbon dioxide	L	-	R	Ozone	-	U	L
Carbon disulphide	R	U	L	Perchloroethylene	R	-	U
Carbon monoxide	L	-	L	Petroleum ether	-	R	R
Carbon tetrachloride	R	U	L	Phenol	L	U	U
Chlorine	L	L	L	Phosphoric acid 25%	L	L	L
Chlorobenzene	R	U	U	Phtalic acid	L	-	R
Chloroform	R	U	U	Potassium chloride	-	R	R
Chromic acid 10%	U	R	L	Potassium dichromate	U	-	L
Citric acid 5%	R	R	R	Potassium hydroxide 10%	L	U	U
Clorox	-	R	L	Potassium nitrate	L	R	R
Copper chloride	L	R	-	Potassium permangate 10%	U	R	L
Copper sulphate	L	R	L	Pyridine	L	U	-
Cresol	U	U	U	Sodium bicarbonate	U	R	R
Crude oils	L	-	L	Sodium bisulphate 10%	-	R	R
Diesel fuels	-	R	R	Sodium carbonate 10%	U	R	R
Dimethyl sulfoxide	U	U	-	Sodium chlorate 10%	-	R	R
Dimethyl formamine	U	U	L	Sodium chloride 10%	L	R	R
Dioxane	-	U	L	Sodium hydroxide 10%	R	U	L
Ethyl acetate	R	U	L	Sodium hypochlorite 10%	U	R	L
Ethyl alcohol	R	L	R	Sodium nitrate	L	U	R
Ethyl ether	R	U	R	Sulphur dioxide	L	L	R
Ethyl chloride	R	U	L	Sulphuric acid	L	L	L
Ethyl dichloride	R	U	U	Tartaric acid	L	R	R
Ethylene glycol	L	R	R	Tetrahydrofuran	-	U	U
Ethylene oxide	-	R	R	Toluene	L	U	L
Ferric chloride	L	R	R	Trichloroacetic acid	-	R	U
Formaldehyde 37%	L	R	R	Trichloroethane	-	U	L
Formic acid 10%	R	R	L	Trichloroethylene	L	-	L
Freon 113	-	L	R	Trisodium phosphate	U	L	-
Freon 22	-	U	L	Turpentine	-	L	R
Freon TF	L	L	L	Water	R	R	R
Gasoline	R	L	R	Xylene	-	U	L
Helium	U	-	R	Zinc chloride	L	R	R
Heptane	R	R	R	Zinc sulphate	L	R	R
Hexane	-	L	R				


R=Recommended; L=Limited; U=Unsatisfactory

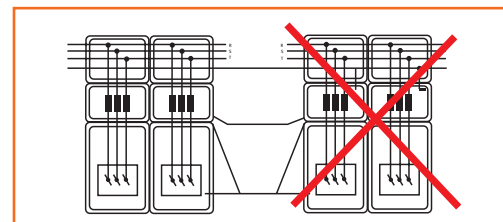
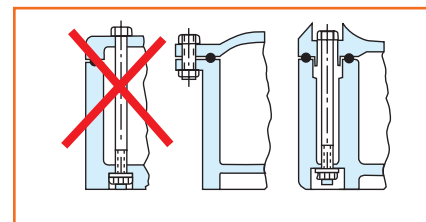
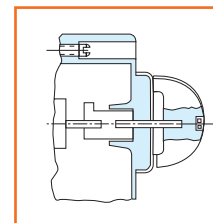
PROTECTION AGAINST ELECTRIC SHOCK

- In the "Low Voltage Directive" and in all International, European and Spanish electrical norms, are specified different protection systems against the direct and indirect contacts, for the safety of people and animals.
- Of all different protection systems accepted by these norms, we shall point out the protection system named "by total insulation" or "double insulation" which is equivalent to "materials class II".
- The following section explains the assurances detailed in the norms for this protection system category.

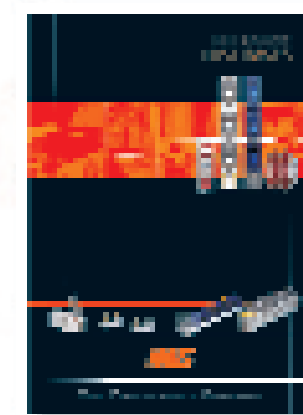


PROTECTION BY TOTAL INSULATION

- a** The apparatus shall be completely enclosed in insulating material. The enclosure carries the symbol  which shall be visible from outside.
- b** The enclosure shall be made of an insulating material which is capable of withstanding the mechanical, electrical and thermal stresses to which it is likely to be subjected under normal or special service conditions and it shall be resistant to ageing and shall be flame resistant.
- c** At no point shall the enclosure be penetrated by conducting parts so that there is a possibility of touching internal live parts so as to expose a fault voltage. This means that the metal parts, such as actuator shafts, which for structural reasons have to be brought through the enclosure, shall be insulated on the inside or the outside of the enclosure from the live parts for the maximum rated insulation voltage and, if applicable, the maximum rated impulse withstand voltage of all circuits in the assembly. If an actuator is made of metal (whether covered by insulating material or not), it shall be provided with insulation rated impulse withstand voltage of all circuits in the assembly. If an actuator is principally made of insulating material, any of its metal parts which may become accessible in the event of insulation failure, shall also be insulated from live parts for the maximum rated insulation voltage and, if applicable, the maximum rated impulse withstand voltage of all circuits in the assembly.



- d** The enclosure, when the assembly is ready for operation and connected to the supply, shall enclose all live parts exposed, conductive parts and parts belonging to a protective circuit in so that they cannot be touched. The enclosure shall at least give an IP3XD protection. If an external protected conductor is to be connected to electrical equipment on the load side of the assembly, and to be passed through an assembly whose exposed parts have been insulated, the necessary terminals for connecting the external protective conductors shall be provided, together with suitable identification. Inside the enclosure, the protected conductor and its terminal shall be insulated from the live parts and the exposed conductive parts in the same way as the live parts are insulated.
- e** Exposed conductive parts within the assembly shall not be connected to the protected circuit i.e. they shall not be included in a protective measure involving the use of a protected circuit. This applies also to built-in apparatus even if they have a connecting terminal for a protected conductor.
- f** If doors or covers of the enclosure can be opened without the use of key or tool, an obstacle of insulating material shall be provided which will provide protection against unintentional contact, not only with the accessible live parts, but also with the exposed conductive parts which are only accessible after the cover has been opened; this obstacle, however, shall not be removable except with the use of tool.



FUSE BASES



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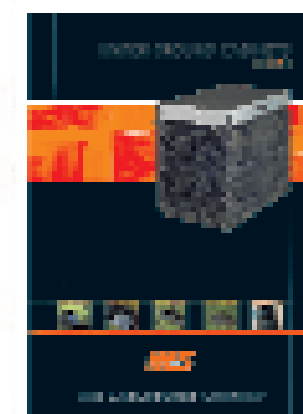
MINIPOL System



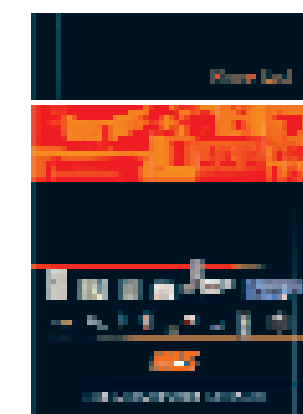
MAXIPOL System



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