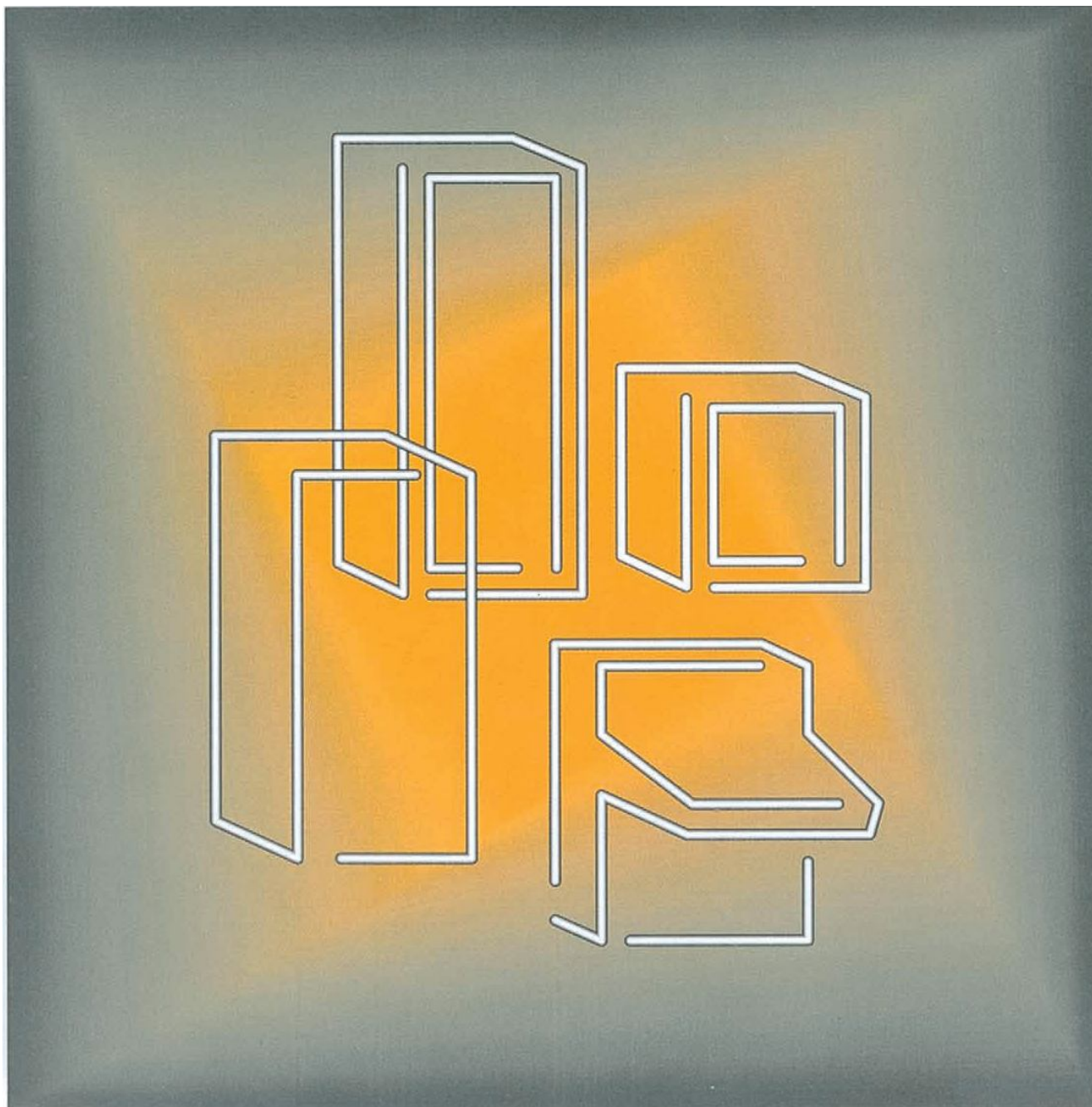




*Modular metallic cabinets —SH Series*



IMECCANICA is the Imequadri Duestelle's Division specialised in the manufacturing of metallic modular cabinets for electrotechnical use.

### **Reference Standards**

The SH system provides a comprehensive and articulated panels and cabinets range for low voltage, suitable for automation and distribution for every installation requirement.

The design philosophy is based on modularity and compatibility of all the production, and is therefore highly flexible.

The standards features of the system are:

1. Outer holes of the structures and component parts according to DIN 43660 mm grating. 25
2. Degree of protection IP 55.
3. Compatibility of the basic enclosure, for automation and distribution through segregation frame to frame which, also receives prefabricated cells to total segregation for powers from 125 to 1600 A.
4. Calculation of the power dissipated by the switchboards and closets of our production.

Taking into account the standard CEI EN 61439-1 Table D.1 provides a list of checks and tests to be performed, such as manufacturers of empty cabinets for switchboards electrical signal.

### **Temperature-rise limits**

Following the standard CEI 17-43 Table 6 "Temperature rise limits", we calculated the power dissipated as described on pages 8

### **Degree of protection**

We have the type tests as indicated on page 3.

### **Materials**

The material used is polished steel FE P01-grade appearance with MA and RM matte finish with thicknesses ranging from 1 mm. to 3 mm.

As regards the internal paneling are performed in sheet type SENDZIMIR from commercial sheets forming part of the category of flat sheets coated hot and subsequent cold rolling to remove the roughness from the zinc and for obtaining the desired thickness with tight tolerances.

The aesthetic appearance has an even and thicknesses ranging from 1 to 3 mm.

### **Painting**

The painting standard of all our production in GREY RAL 7030, 7032, 7035, textured finish is made with epoxy powder in after washing, phosphating and drying in the chain.

For outdoor installations in areas outside Europe and in tropical climates it is recommended that a special surface treatment (eg. Double coats of paint).

In these cases it is advisable to specify in the request the installation area in order to arrange the most suitable surface treatment.

### **Technical information**

The systems listed in this catalog and the relative degrees of protection are only valid if the cabinets are installed in the position envisaged by us in the figures.

The technical data and dimensions of the production here are not binding and subject to change as improvements.

All dimensions are in mm.

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# CESI certification

**Certificato di conformità** **CESICERT** **CERT - 99/02848** **p.1**

**schema** CESI - LV

**certificato** DI CONFORMITÀ ALLA NORMA

**norma** CEI EN 60439-1 (1995)  
IEC 439-1 (1992)

**prodotto** Apparecchiatura assiale di protezione e manovra per bassa tensione, trifase con sbarra di neutro, ad armadi multipli, composta da tre scomparti con cella equipaggiata con interuttore di manovra- sezionatore ed interruttori automatici in esecuzione fissa.

**designazione** Serie SH - Distribuzione PM  
**tensione nominale di impiego: 400 V - corrente nominale: 1029 A**  
**frequenza nominale: 50 Hz**

**Identificazione del campione** Numero di riferimento: TO-20000300

**richiedente** IMEGANCA S.r.l. - Ugnano (BERGAMO)

Questo certificato attesta che il prodotto è conforme a tutti i requisiti della norma sopra citata corrispondenti alle caratteristiche nominali e alle modalità di impiego, assegnate nel riquadro ad alveare a pagina 2.  
 Il prodotto, costruito in accordo con la descrizione, i disegni e le fotografie ad esso relativi, è stato sottoposto alle prove di tipo in accordo con la norma sopra citata.  
 Questo certificato si applica ai soli campioni identificati; la responsabilità di dichiarare che altri esemplari avuti la stessa designazione siano conformi ad essi è del richiedente.  
 Senza l'autorizzazione scritta del CESI questo documento può essere riprodotto solo integralmente.

**n. pagine** 4

**data** 22 Novembre 1999

**elaborato** CERT - F. Zuccheri

**approvato** CERT - U. Colombo

*Franco Zuccheri*  
**CESI**  
 Centro Nazionale Italiano di Certificazione  
*U. Colombo*

**Certificato di conformità** **CESICERT** **CERT - 99/02848** **p.2**

**1 Caratteristiche nominali assegnate dal richiedente e verificate con le prove** (quando richieste dalla norma)

Tensione di impiego (U <sub>n</sub> )	400 V
Tensione di isolamento (U <sub>i</sub> )	690 V
Frequenza	50 Hz
Corrente del circuito di entrata con int. di manovra- sezionatore VCBP1250A	1029 A
Corrente delle sbarre collettrici di distribuzione (verticali)	329 A
Corrente del circuito di uscita protetto da interuttore S6H/630A	320 A
Corrente del circuito di uscita protetto da interuttore S4H/250A	300 A
Corrente del circuito di uscita protetto da interuttore S3H/250A-R200	190 A
Fattore di contemporaneità	1

**Corrente ammissibile di breve durata (I<sub>br</sub>) e corrente ammissibile di picco (I<sub>pc</sub>) del circuito di entrata e delle barre collettrici di distribuzione:**  
 • sbarre di fase  
 • sbarra di neutro  
**50 kA per 1 s - 105 kA per 1 s - 63 kA**

**Corrente di cortocircuito condizionata (I<sub>cc</sub>) dei circuiti di uscita, limitata dagli interruttori automatici S6H/630A, S5H/400A, S4H/250A, S3H/250A-R200 (sbarre lato alimentazione e lato carico degli interruttori):**  
 • sbarre di fase, a 400 V  
 • sbarra di neutro, a 231 V  
**50 kA per 1 s - 63 kA**

**Corrente ammissibile di breve durata (I<sub>br</sub>) e corrente ammissibile di picco (I<sub>pc</sub>) del circuito di protezione**  
**35 kA per 1 s - 63 kA**

**Stato di posizione del quadro in condizioni normali di funzionamento**  
**IP55**

**Suddivisione interna al quadro mediante barriera o diaframma**  
**barra 3**

**Certificato di conformità** **CESICERT** **CERT - 99/02849** **p.1**

**schema** CESI - LV

**certificato** DI CONFORMITÀ ALLA NORMA

**norma** CEI EN 60439-1 (1995)  
IEC 439-1 (1992)

**prodotto** Apparecchiatura assiale di protezione e manovra per bassa tensione, trifase con sbarra di neutro, ad armadi multipli, composta da due scomparti con cella equipaggiata con interruttori automatici in esecuzione fissa.

**designazione** Serie SH - Distribuzione LUCE  
**tensione nominale di impiego: 400 V - corrente nominale: 329 A**  
**frequenza nominale: 50 Hz**

**Identificazione del campione** Numero di riferimento: TO-21000500

**richiedente** IMEGANCA S.r.l. - Ugnano (BERGAMO)

Questo certificato attesta che il prodotto è conforme a tutti i requisiti della norma sopra citata corrispondenti alle caratteristiche nominali e alle modalità di impiego, assegnate nel riquadro ad alveare a pagina 2.  
 Il prodotto, costruito in accordo con la descrizione, i disegni e le fotografie ad esso relativi, è stato sottoposto alle prove di tipo in accordo con la norma sopra citata.  
 Questo certificato si applica ai soli campioni identificati; la responsabilità di dichiarare che altri esemplari avuti la stessa designazione siano conformi ad essi è del richiedente.  
 Senza l'autorizzazione scritta del CESI questo documento può essere riprodotto solo integralmente.

**n. pagine** 4

**data** 22 Novembre 1999

**elaborato** CERT - F. Zuccheri

**approvato** CERT - U. Colombo

*Franco Zuccheri*  
**CESI**  
 Centro Nazionale Italiano di Certificazione  
*U. Colombo*

**L'uso del marchio indica l'autorizzazione del subcontrattatore superiore del certificato n. 0118.**

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**CEISA** di Milano e **CECIS**  
 Capitale sociale 10 miliardi  
 di Milano e **ISOP**

**Sezione Centrale**  
 Tribunale di Milano  
 n. 11/19073/2001  
 C.P. 20133/00110

**Rapporto di prova** **CESITEST** **GR-99/010528** **p.1**

**cliente** IMEGANCA S.r.l. - BERGAMO

**oggetto in prova** Quadro elettrico a B.T. serie SH

**prova eseguita** Verifica del grado di protezione IP55 Cat.2

**documenti correlati** CEI EN 60439-1 (1995)

**data delle prove** 9 Aprile 1999 e 19 Maggio 1999

Questo rapporto di prova è stato redatto in base ai dati forniti dal cliente e ai risultati delle prove eseguite nel laboratorio di prova.  
 Il presente rapporto di prova è valido solo per il campione in prova e non può essere riprodotto integralmente.

**n. pagine** 21

**data** 7 Settembre 1999

**elaborato** TEST - A. Pedroni

**approvato** TEST - A. EI

*A. Pedroni*  
*A. EI*

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**CEI EN 61439-1 - Table 6 “Temperature rise limits”**

Parts of an Assembly	Temperature rise (K)
Built-in components a)	Built-in components a) In accordance with the relevant product standard requirements for the individual components or, in accordance with the component manufacturer's instructions f, taking into consideration the temperature in the Assembly.
Terminals for external insulated conductors	70 b)
Busbars and conductors	Limited by f): – mechanical strength of conducting material g); – possible effect on adjacent equipment; – permissible temperature limit of the insulating materials in contact with the conductor; – effect of the temperature of the conductor on the apparatus connected to it; – for plug-in contacts, nature and surface treatment of the contact material.
Manual operating means: – of metal – of insulating material	15 c) 25 c)
Accessible external enclosures and covers: – metal surfaces – insulating surfaces	30 d) 40 d)
Discrete arrangements of plug and socket-type connections	Determined by the limit for those components of the related equipment of which they form part e)

NOTE 1 The 105 K relates to the temperature above which annealing of copper is likely to occur. Other materials may have a different maximum temperature rise.

NOTE 2 The temperature rise limits given in this table apply for a mean ambient air temperature up to 35 °C under service conditions (see 7.1). During verification a different ambient air temperature is permissible (see 1-0.10.2.3.4).

a) The term "built-in components" means:

- conventional switchgear and controlgear;
- electronic sub-assemblies (e.g. rectifier bridge, printed circuit);
- parts of the equipment (e.g. regulator, stabilized power supply unit, operational amplifier).

b) The temperature-rise limit of 70 K is a value based on the conventional test of 10.10. An ASSEMBLY used or tested under installation conditions may have connections, the type, nature and disposition of which will not be the same as those adopted for the test, and a different temperature rise of terminals may result and may be required or accepted. Where the terminals of the built-in component are also the terminals for external insulated conductors, the lower of the corresponding temperature-rise limits shall be applied. The temperature rise limit is the lower of the maximum temperature rise specified by the component manufacturer and 70 K. In the absence of manufacturer's instructions it is the limit specified by the built-in component product standard but not exceeding 70 K.

c) Manual operating means within ASSEMBLIES which are only accessible after the ASSEMBLY has been opened, for example draw-out handles which are operated infrequently, are allowed to assume a 25 K increase on these temperature-rise limits.

d) Unless otherwise specified, in the case of covers and enclosures, which are accessible but need not be touched during normal operation, a 10 K increase on these temperature-rise limits is permissible. External surfaces and parts over 2 m from the base of the ASSEMBLY are considered inaccessible.

e) This allows a degree of flexibility in respect of equipment (e.g. electronic devices) which is subject to temperature-rise limits different from those normally associated with switchgear and controlgear.

f) For temperature-rise tests according to 10.10, the temperature-rise limits have to be specified by the original manufacturer taking into account any additional measuring points and limits imposed by the component manufacturer.

g) Assuming all other criteria listed have been satisfied, busbars and bare copper conductors a temperature rise of 150 K has not to be exceeded.



**CEI EN 61439-1 - Table D.1**

**List of the verifications and tests to be carried out on Assembly -**

N.	Characteristic to be verified clauses or subclauses	Norm's paragr.	Verification options available		
			Testing	Comparison with reference design	Evaluation
1	Strength of material and parts:	10.2	x		
	Resistance to corrosion	10.2.2	x		
	Properties of insulating materials	10.2.3	x		
	Thermal stability	10.2.3.1	x		
	Resistance to abnormal heat and fire due to internal electric effects	10.2.3.2	x		x
	Resistance to ultra-violet (UV) radiation	10.2.4	x		x
	Lifting	10.2.5	x		
	Mechanical impact	10.2.6	x		
	Marking	10.2.7	x		
2	Degree of protection of enclosures	10.3	x		x
3	Clearances 10.4	10.4	x		
4	Creepage distances	10.4	x		
5	Protection against electric shock and integrity of protective circuits:	10.5			
	Effective continuity between the exposed conductive parts of the device and the protective circuit	10.5.2	x		
	Short-circuit withstand strength of the protective circuit	10.5.3	x		
6	Incorporation of switching devices and components	10.6		x	x
7	Internal electrical circuits and connections	10.7			x
8	Terminals for external conductors	10.8			x
9	Dielectric properties:	10.9			
	Power-frequency withstand voltage	10.9.2	x		
	Impulse withstand voltage	10.9.3	x		x
10	Temperature-rise limits	10.10	x	x	x
11	Short-circuit withstand strength	10.11	x	x	
12	Electromagnetic compatibility (EMC)	10.12	x		
13	Mechanical operation	10.13	x		

## Dissipated powers

The CEI EN 61439-1 in Table D.1 shows the list of checks and tests to be performed on boards of BT type AS (series of switchboards) and ANS (pictures not standard): a the characteristics to be verified is the over temperature limit which must not exceed what is indicated in Table "Temperature rise limits" of this rule (see table). As manufacturers of cabinets and empty containers for electrical panels, we show the power dissipated from the package constitutes the framework and / or closet.

Referring to IEC publication 60890 corresponding to CEI 17-43 we have developed tables for ns. production from which the powers are dissipated according to Table 3 (Surface b-factor) of the above standard CEI 17-43. The processing of the calculations was performed taking into account the structure even for single modular cabinets side by side laterally.

The maximum power dissipation (Watts) indicated in the tables must be multiplied by the  $(TE - TI)$  where:

TE = temperature outside the cabinet ° C

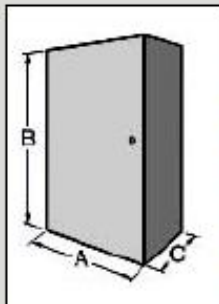
TI = desired interior temperature ° C

The result obtained is the exact mathematical value (Watt) be subtracted from the total value of the equipment and components installed in the enclosure (Watts). Only then can determine the type of equipment (anti-condensation heaters, fans, coolers and air conditioners) with suitable characteristics to be used as needed.

CEI 17-43 Table 3—Surface b-factor based on installation type

Installation type	Surface b-factor
Top surface exposed	1,4
Upper surface covered, eg. recessed housings	0,7
Side parts exposed, eg. front wall, rear and side walls	0,9
Lateral parts covered, eg. rear of the enclosure for wall mounting	0,5
Lateral parts of the central casings	0,5
Background surface	not considered
Are not taken into consideration the sides of the fictitious compartments (5,2) that have been introduced for the sole purpose of calculating	

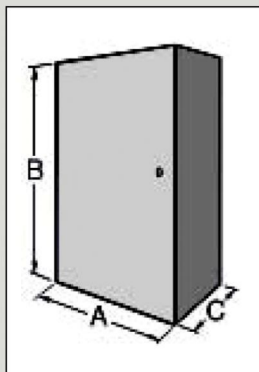
## Cabinets IP55 Series EN93.30



Articolo	A	B	C	Posa in opera		Potenza max dissipata Watt
				Pavimento	Parete	
6001	200	300	150	-	•	1,40
6002	300	400	150	-	•	2,15
6003	300	400	200	-	•	2,45
6004	400	500	200	-	•	3,60
6005	400	600	200	-	•	4,20
6006	400	600	250	-	•	5,40
6007	500	700	250	-	•	6,20
6008	600	800	250	•	•	7,90
6009	600	800	300	•	•	8,50
6010	600	1000	300	•	•	10,30
6011	800	1000	300	•	•	12,75
6012	800	1200	300	•	•	15,00

# Metallic cabinets - SH SERIES

## IP 55 cabinets - SH Series



Item	A	B	C	Installation		Max dissipated power Watt
				Floor	Wall	
04418	400	1805	400	●	-	15,50
04420	400	2005	400	●	-	17,10
04422	400	2205	400	●	-	18,70
04618	400	1805	600	●	-	19,70
04620	400	2005	600	●	-	21,70
04622	400	2205	600	●	-	23,70
04820	400	2005	800	●	-	26,30
04822	400	2205	800	●	-	28,70
06418	600	1805	400	●	-	19,70
06618	600	1805	600	●	-	24,20
06420	600	2005	400	●	-	21,70
06620	600	2005	600	●	-	26,60
06820	600	2005	800	●	-	31,50
06422	600	2205	400	●	-	23,70
06622	600	2205	600	●	-	29,00
06822	600	2205	800	●	-	34,30
08418	800	1805	400	●	-	23,90
08618	800	1805	600	●	-	28,70
08420	800	2005	400	●	-	26,30
08620	800	2005	600	●	-	31,50
08820	800	2005	800	●	-	36,70
08422	800	2205	400	●	-	28,70
08622	800	2205	600	●	-	34,30
08822	800	2205	800	●	-	40,00
10518	1000	1805	500	●	-	30,70
10520	1000	2005	500	●	-	33,60
10620	1000	2005	600	●	-	36,40
12418	1200	1805	400	●	-	32,30
12618	1200	1805	600	●	-	37,70
12420	1200	2005	400	●	-	35,50
12620	1200	2005	600	●	-	41,30
12820	1200	2005	800	●	-	47,10
12422	1200	2205	400	●	-	38,70
12622	1200	2205	600	●	-	44,90
12822	1200	2205	800	●	-	51,00



## Metallic cabinets - SH SERIES



*These structures are modular and consist of elements side by side banded, printed and assembled, forming the frame structure of the cabinet.*

*The perimeter drilling to DIN 43660 lattice 25 mm. gives the product the higher degree of modularity and, then of modularity. The structure, made of sheet-steel thickness 15/10, consists uprights to open profile that allow easy mounting of components, accessories, and related equipment operational. the door performed in front plate thickness 15/10, is provided with 4 hinges pressed steel locking system with four-point motion Central Ø 3mm double bar: Other systems with ergonomic handle can be applied in the same system by removing just the bottom bracket standard.*

*Moreover the door frame is provided with tubular reinforcement is running that full transparency.*

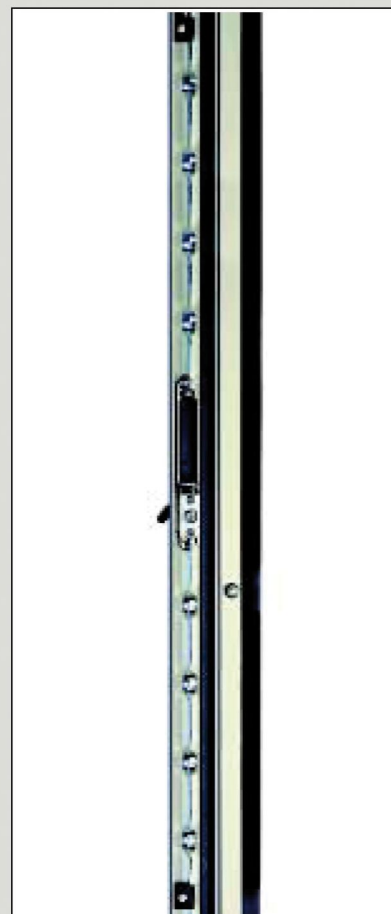
*The rear closing panel made of sheet thickness is 15/10 fixed with special screws with built-in spacer that allows a uniform pressure on the seals: similarly the side panels that are made of sheet thickness 15/10.*

*The inner door panel equipment made of sheet thickness 20/10 is equipped with a fastening system integrated in the panel itself and, therefore, requires no additional accessories: scrolling for the depth adjustment occurs on appropriate supports steel Galvanized fixed at the bottom and top with modular step grating 25 mm.*

**Fig. 1** Particolare sezione montanti in lamiera stampata spessore 2 mm.



**Fig. 2** Particolare cerniera in acciaio stampato



**Fig. 3** Particolare del sistema di chiusura a 4 punti con aste in acciaio stampato

# Metallic cabinets - SH SERIES

The cable entry, always in the lower part of the structure, is provided of removable panel with gasket sealing perimeter. The structure can be fixed directly to the floor or mounted hooves of various types.

The system provides the ultimate in multi-functionality within the cabinet as regards the distribution apparatus with Modular European standard being available with functional doors Related kit for mounting of the equipment.

A system of profiles perforated grating 25 mm. according to DIN 43660 makes it quick and easy installation of any electrical equipment: with regard to the electronic system is provided for of frames to racks 19" swivel for both fronts 600 that 800 mm. The painting of the structure is made with our standard cycle with epoxy polyester powder coating in RAL 7030, 7032 or 7035 GREY.

The degree of protection shall be IP 55 to CEI EN 60529 standards.

**NOTE:** It is recommended to consult the catalog stretching the table outside the text after this page: this operation will make it easy and proper choice of the most appropriate principle to their needs.



Fig. 4 Particolare pannello di chiusura laterale e vista golfari di sollevamento



Fig. 5 Particolare entrata cavi e vista foratura modulare della struttura a reticolo DIN 43660



Fig. 6 Particolare pannello interno regolabile su guide secondo DIN 43660





# Metallic cabinets - SH SERIES



*Pict. 7 Cabinet base execution with adjustable inside panel*



*Pict. 8 Cabinet base execution with inside panel and inner door mounted on segregation frame*



*Pict. 9 Cabinet base execution with adjustable inside panel width 1200 mm*



*Pict. 10 Cabinet with transparent door*



*Pict. 11 Cabinet with transparent door: modular equipment mounted on segregation frame inside view*



*Pict. 12 Cabinet width 600 mm with 19" rack frame, 180° revolving*



*Pict. 13 Cabinet width 1200 mm with transparent doors*



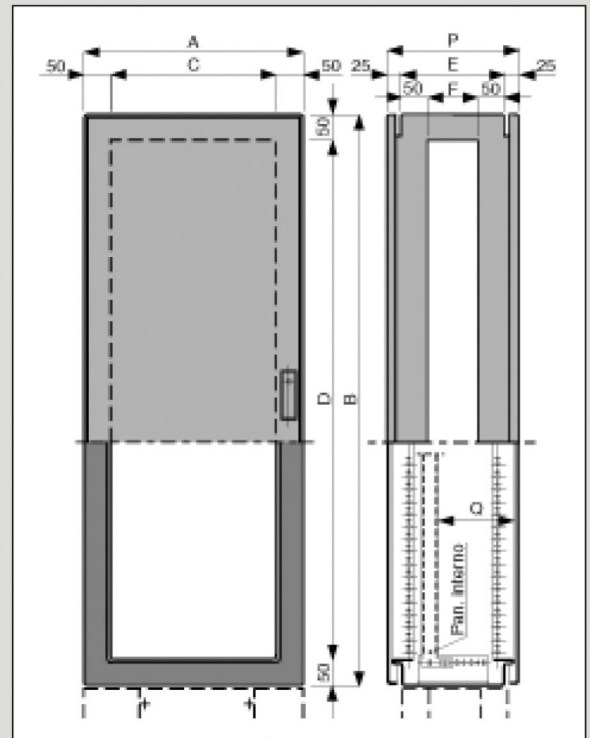
*Pict. 14 Cabinet width 1200 mm with transparent doors: modular equipment mounted on segregation frame - two 600 mm compartments*



*Pict. 15 Cabinet width 600 mm with 19" rack frame, with 180° revolving side panel*



# Metallic cabinets - SH SERIES



## Construction Characteristics

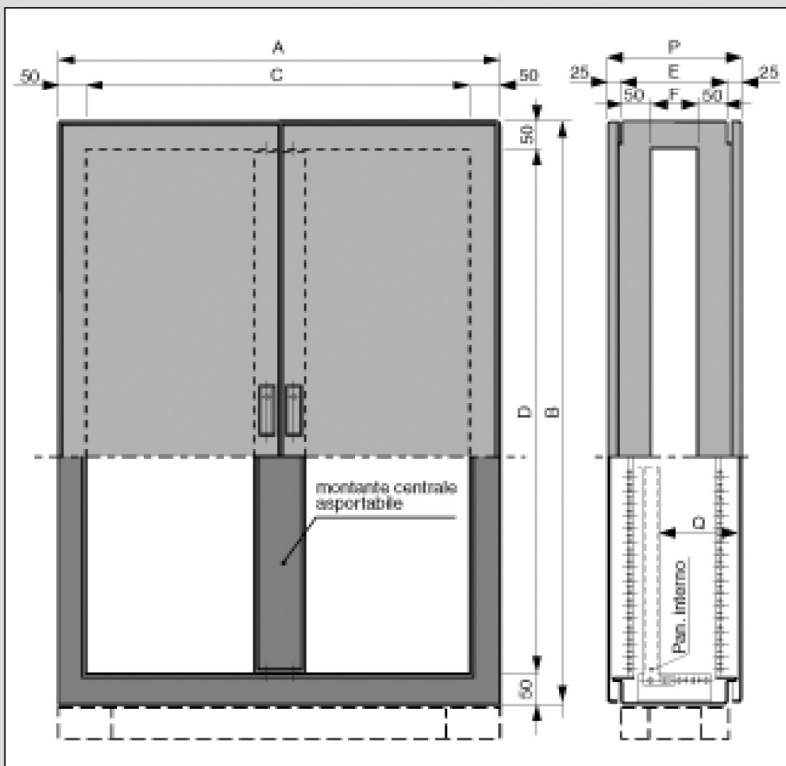
- Structure bent and molded 15/10 thickness.
- Front door in full or transparent sheet 15/10 thickness with tubular reinforcing frame and locking system on four points with central double bar  $\varnothing$  mm. 3: the door is left/right reversible
- Closing rear panel thickness 15/10 set by means of special screws with spacer incorporated.
- Lower cable entry compartment fitted with a removable panel.
- M12 lifting eyebolts positioned on the center of gravity of the uprights.

- Thermosetting epoxy powder coated with color GREY RAL 7030, 7032 or 7035 after phosphodegreasing.
- Responds to the classification CEI EN 61439-1 European standard
- Degree of protection IP 55 according to CEI EN 60529.

Note: The inner door panel devices is to be ordered separately.

Full front door Item	Transp. front door Item	Cabinet front dimension				Cabinet depth			
		A	B	C	D	P	E	F	Q (max)
06418	06418-TRS	600	1805	500	1705	400	350	250	315
06618	06618-TRS	600	1805	500	1705	600	550	450	515
06420	06420-TRS	600	2005	500	1905	400	350	250	315
06620	06620-TRS	600	2005	500	1905	600	550	450	515
06820	06820-TRS	600	2005	500	1905	800	750	650	715
06422	06422-TRS	600	2205	500	2105	400	350	250	315
06622	06622-TRS	600	2205	500	2105	600	550	450	515
06822	06822-TRS	600	2205	500	2105	800	750	650	715
08418	08418-TRS	800	1805	700	1705	400	350	250	315
08618	08618-TRS	800	1805	700	1705	600	550	450	515
08420	08420-TRS	800	2005	700	1905	400	350	250	315
08620	08620-TRS	800	2005	700	1905	600	550	450	515
08820	08820-TRS	800	2005	700	1905	800	750	650	715
08422	08422-TRS	800	2205	700	2105	400	350	250	315
08622	08622-TRS	800	2205	700	2105	600	550	450	515
08822	08822-TRS	800	2205	700	2105	800	750	650	715
10518	-	1000	1805	900	1705	500	450	350	415
10520	-	1000	2005	900	1905	500	450	350	415
10620	-	1000	2005	900	1905	600	550	450	515

# Metallic cabinets - SH SERIES



## Construction Characteristics

- Structure bent and molded 15/10 thickness.
- Removable central upright for the introduction of internal panel, adapted to receive front doors and rear panels.
- Front door in full or transparent sheet 15/10 thickness with tubular reinforcing frame and locking system on four points with central double bar  $\varnothing$  mm. 3: the door is left/right reversible
- Closing rear panel thickness 15/10 set by means of special screws with spacer incorporated.
- Lower cable entry compartment fitted with a removable panel.
- M12 lifting eyebolts positioned on the center of gravity of the uprights.
- Thermosetting epoxy powder coated with color GREY RAL 7030, 7032 or 7035 after phospho-degreasing.
- Responds to the classification CEI EN 61439-1 European standard
- Degree of protection IP 55 according to CEI EN 60529.

Note: The inner door panel devices is to be ordered separately.

Full front door Item	Transp. front door Item	Cabinet front dimension				Cabinet depth			
		A	B	C	D	P	E	F	Q (max)
12418	12418-TRS	1200	1805	1100	1705	400	350	250	315
12618	12618-TRS	1200	1805	1100	1705	600	550	450	515
12420	12420-TRS	1200	2005	1100	1905	400	350	250	315
12620	12620-TRS	1200	2005	1100	1905	600	550	450	515
12820	12820-TRS	1200	2005	1100	1905	800	750	650	715
12422	12422-TRS	1200	2205	1100	2105	400	350	250	315
12622	12622-TRS	1200	2205	1100	2105	600	550	450	515
12822	12822-TRS	1200	2205	1100	2105	800	750	650	715

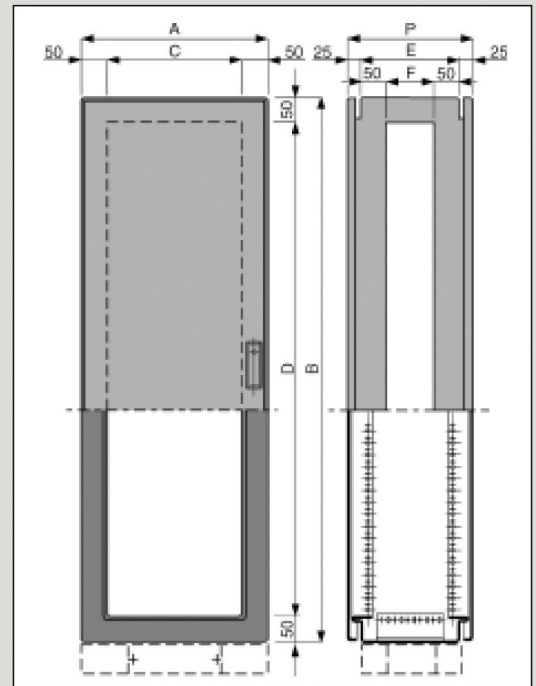


# Cable rising module



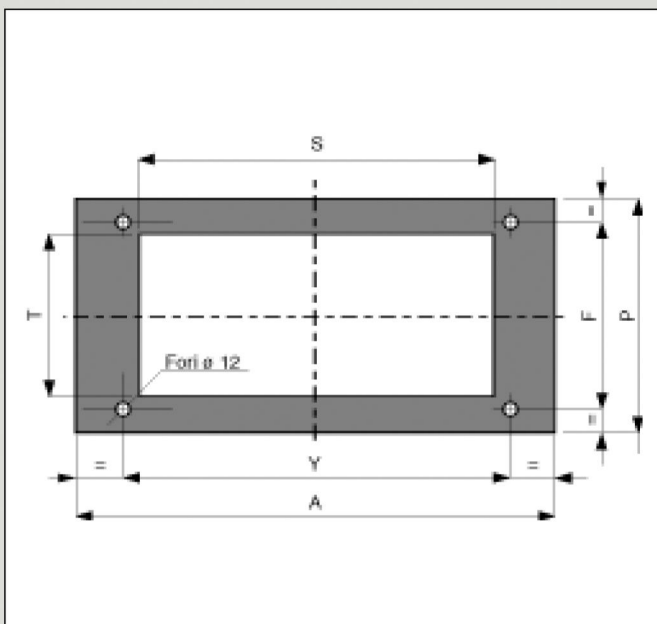
## Construction Characteristics

- Structure bent and molded 15/10 thickness.
- Front door in full or transparent sheet 15/10 thickness with tubular reinforcing frame and locking system on four points with central double bar  $\varnothing$  mm. 3: the door is left/right reversible
- Closing rear panel thickness 15/10 set by means of special screws with spacer incorporated.
- Lower cable entry compartment fitted with a removable panel.
- M12 lifting eyebolts positioned on the center of gravity of the uprights.
- Thermosetting epoxy powder coated with color GREY RAL 7030, 7032 or 7035 after phospho-degreasing.
- Responds to the classification CEI EN 61439-1 European standard
- Degree of protection IP 55 according to CEI EN 60529.



Cable rising Item	Cabinet front dimension				Cabinet depth		
	A	B	C	D	P	E	F
04418	400	1805	300	1705	400	350	250
04518	400	1805	300	1705	500	450	350
04618	400	1805	300	1705	600	550	450
04420	400	2005	300	1905	400	350	250
04520	400	2005	300	1905	500	450	350
04620	400	2005	300	1905	600	550	450
04820	400	2005	300	1905	800	750	650
04422	400	2205	300	2105	400	350	250
04622	400	2205	300	2105	600	550	450
04822	400	2205	300	2105	800	750	650

## Floor fixing scheme and cable entrance dimension



Cabinet dimensions		Floor fixing		Cable entrance	
A	P	Y	F	S	T
400	400	190	279	160	154
400	500	190	379	160	254
400	600	190	479	160	354
400	800	190	679	160	554
600	400	390	279	360	154
600	500	390	379	360	254
600	600	390	479	360	354
600	800	390	679	360	554
800	400	590	279	560	154
800	500	590	379	560	254
800	600	590	479	560	354
800	800	590	679	560	554
1000	400	790	279	760	154
1000	500	790	379	760	254
1000	600	790	479	760	354
1200	400	990	279	960	154
1200	500	990	379	960	254
1200	600	990	479	960	354
1200	800	990	679	960	554



# Accessories

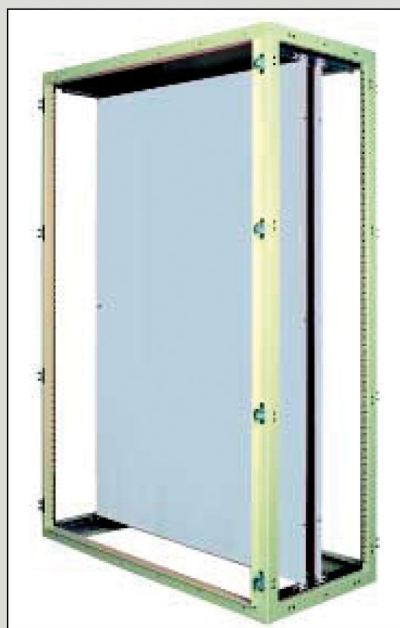
## Equipment's door inside panel system



Solid door



Transparent door



Double cabinet structure



Double cabinet with solid doors

Double cabinet with compensation item between panels and equipment's door



# Accessories

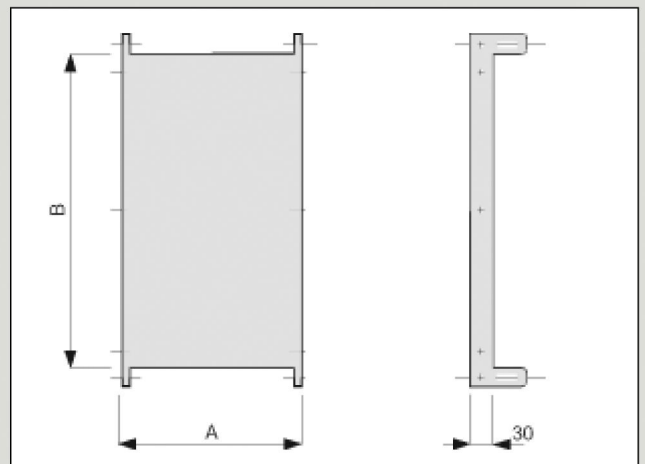
As shown it is a complete system particularly suited to specific functions of the automation sector. The system also allows to insert the double panels (front-back) for a greater use of space destined to the equipment.

Scrolling and adjusting by modular rate of mm. 25 is possible on the upper and lower brackets supplied with the enclosure itself.

The intermediate panel allows to obtain the floor continuity of adjacent cabinets in case of wiring needs.

## Adjustable inside panels

Cabinet dimension		Item	A	B
600	1605	26012	480	1490
800	1605	26016	680	1490
600	1805	26001	480	1690
600	2005	26002	480	1890
600	2205	26003	480	2090
800	1805	26004	680	1690
800	2005	26005	680	1890
800	2205	26006	680	2090
1000	1805	26010	880	1690
1000	2005	26011	880	1890
1200	1805	26007	1080	1690
1200	2005	26008	1080	1890
1200	2205	26009	1080	2090

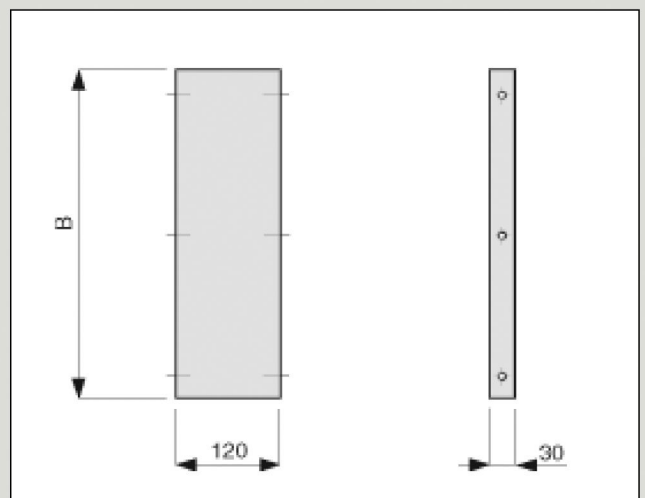


- SENDZIMIR 20/10 sheet execution
- Pack complete with mounting hardware.

## Intermediate continuity panels for adjacent cabinets

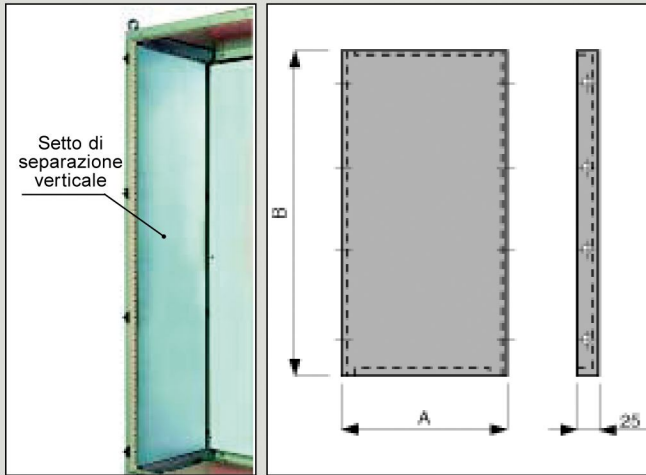
- SENDZIMIR 20/10 sheet execution
- Pack complete with mounting hardware.

Cabinet height	Item	B
1805	26013	1690
2005	26014	1890
2205	26015	2090



# Accessories

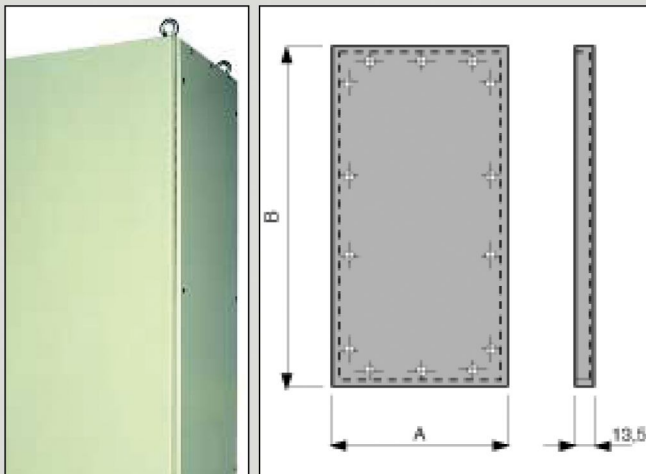
## Vertical separation partitions



- Partitions to use for the total segregation between two cabinets.
- Galvanized type SENDZIMIR 15/10 execution.
- Direct mounting to the uprights of the cabinet.
- Individual packaging with mounting accessories.

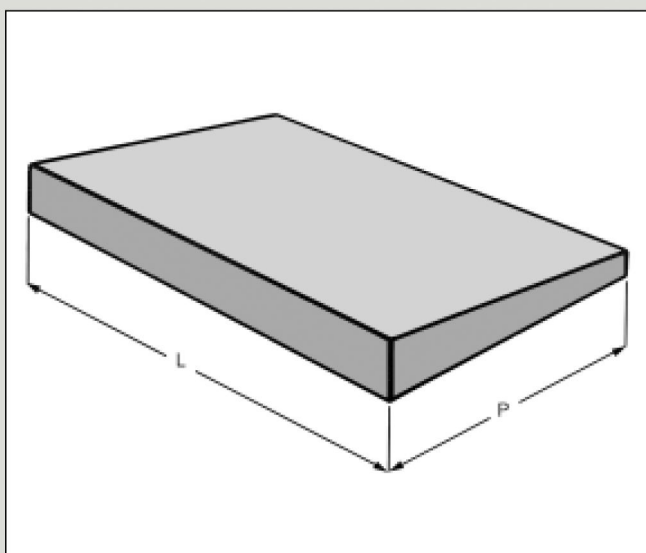
Cabinet dimensions		Item	A	B
Depth	Height			
400	1805	26020	250	1705
400	2005	26021	250	1905
400	2205	26022	250	2105
500	1805	26028	350	1705
500	2005	26029	350	1905
600	1805	26023	450	1705
600	2005	26024	450	1905
600	2205	26025	450	2105
800	2005	26026	650	1905
800	2205	26027	650	2105

## Set of side closing panels



Cabinet dimensions		Item	A	B
Depth	Height			
400	1805	26030	345	1790
400	2005	26031	345	1990
400	2205	26032	345	2190
500	1805	26038	445	1790
500	2005	26039	445	1990
600	1805	26033	545	1790
600	2005	26034	545	1990
600	2205	26035	545	2190
800	2005	26036	745	1990
800	2205	26037	745	2190

## Rain protection covering



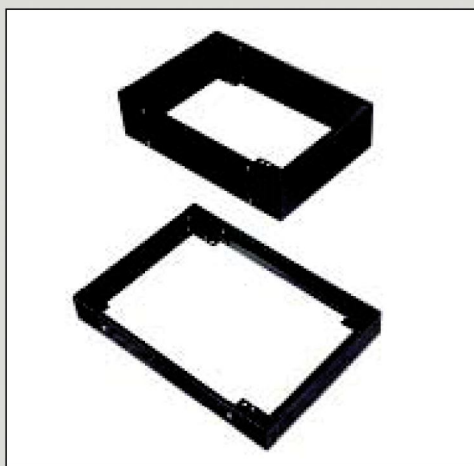
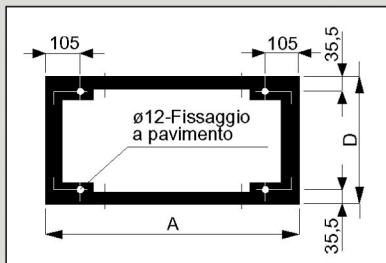
Cabinet dimensions		Item	L	P
Depth	Height			
600	400	26041	600	440
600	500	26195	600	540
600	600	26042	600	640
600	800	26043	600	840
800	400	26044	800	440
800	500	26017	800	540
800	600	26045	800	640
800	800	26046	800	840
1000	400	26018	1000	440
1000	500	26019	1000	540
1000	600	26196	1000	640
1200	400	26047	1200	440
1200	500	26129	1200	540
1200	600	26048	1200	640
1200	800	26049	1200	840



# Accessories

Modular base

H=100 - H=200



- Execution sheet 15/10.
- Complete with sealing gasket.
- Paint color GREY RAL 7030,7032,7035.
- Packing of n ° 2 pieces complete with mounting hardware.

NOTE: This article identifies the pair of panels.

Cubicle dimension		H=100	H=200	A	D
Wide	Depth	Item	Item		
400	400	26050	26051	400	350
400	500	26083	26084	400	450
400	600	26052	26053	400	550
400	800	26054	26055	400	750
600	400	26056	26057	600	350
600	500	26096	26097	600	450
600	600	26058	26059	600	550
600	800	26060	26061	600	750
800	400	26062	26063	800	350
800	500	26098	26099	800	450
800	600	26064	26065	800	550
800	800	26066	26067	800	750
1000	400	26106	26107	1000	350
1000	500	26108	26109	1000	450
1000	600	26117	26118	1000	550
1200	400	26068	26069	1200	350
1200	500	26127	26128	1200	450
1200	600	26070	26071	1200	550
1200	800	26072	26073	1200	750

The system is essentially based on segregation frame to frame that performs the basic task related to electrical safety and Mechanical: in fact after assembly with the relative doors Modular in all light or inner door opening front door enclosure prevents accidental contact with live parts, and Furthermore, by interposing between the various modular doors transoms "OR-I" is guaranteed throughout the complex degree of protection IP 40. The assembly of all components of the system is simple and intuitive. The frame of segregation on the cabinet frame is modular same and it is sufficient to use a single key as the screws of kit are provided with a round head and square head under: analog system is provided for all doors and modular for the inner door throughout light.

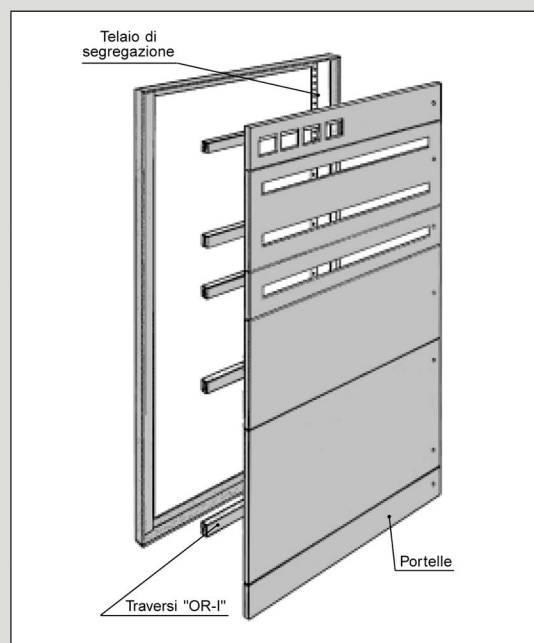
The chassis frame is made of segregation in galvanized steel type SENDZIMIR 20/10.

Single packing in kit with accessories.

The modular doors and storm door are made of steel sheet thickness 15/10 equipped with a screw for grounding and painted in color GREY RAL 7030, 7032, 7035.

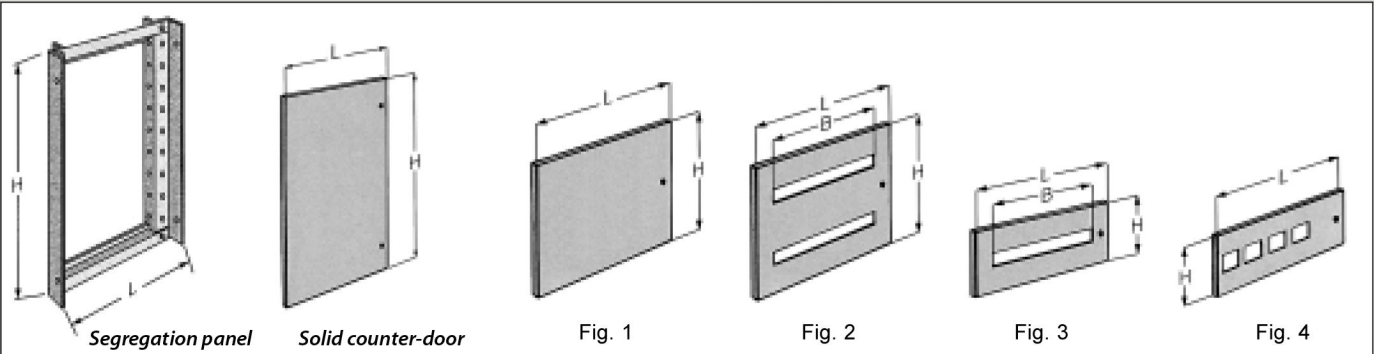
Single packing of the inner door complete with mounting accessories.

Packing of n ° 2 pieces for modular doors with mounting accessories





# Accessories

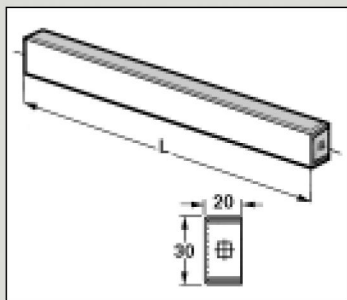


Cabinet dimensions		Segreg. Panel	Solid counter-door		Modular doors: solid or perforated for modular equipment and instruments												
					Fig 1		Fig 2		Fig 3			Fig 4					
L	H	Item	L	H	Item	H= 200		H= 400	H= 400 (n°2)		H= 200 (n°1)		H= 200				
						Item	Max nr. of doors in height	Item	Item	Nr. of poles x row	Poles total	Item	Nr. of poles x row	Max nr. of doors in height	Item	Nr. of instrum. 96x96	
600	1605	26086	490	1398	26206	490	26110	7	26112	26115	24	48	26120	24	7	26125	2
600	1805	26090	490	1598	26100	490	26110	8	26112	26115	24	48	26120	24	8	26125	2
600	2005	26091	490	1798	26101	490	26110	9	26112	26115	24	48	26120	24	9	26125	2
600	2205	26092	490	1998	26102	490	26110	10	26112	26115	24	48	26120	24	10	26125	2
800	1605	26087	690	1398	26207	690	26111	7	26113	26116	36	72	26121	36	7	26126	4
800	1805	26093	690	1598	26103	690	26111	8	26113	26116	36	72	26121	36	8	26126	4
800	2005	26094	690	1798	26104	690	26111	9	26113	26116	36	72	26121	36	9	26126	4
800	2205	26095	690	1998	26105	690	26111	10	26113	26116	36	72	26121	36	10	26126	4
1000	1805	26200	890	1598	26208	-	-	-	-	-	-	-	-	-	-	-	-
1000	2005	26201	890	1798	26209	-	-	-	-	-	-	-	-	-	-	-	-

NOTE: For cabinets width 1200 provide for the use of No. 2 rooms 600

### Crossbars "OR-I"

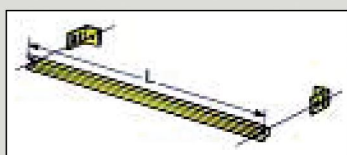
- Printed shet 15/10.
- Package of 4 pieces with screws.



Cabinet width	L	Item
600	454	26132
800	654	26133

### Mounting Kit for modular devices in accordance with European Norms (Form 17.5)

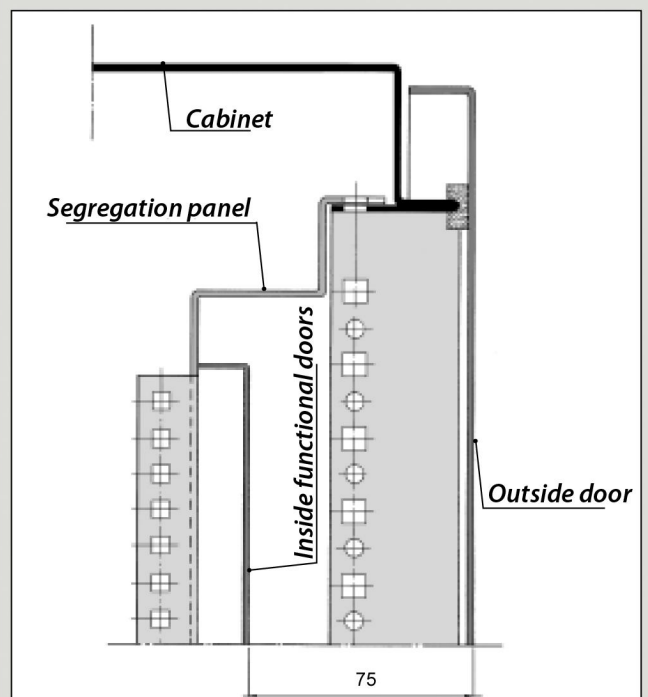
- Package of 4 pieces with screws.



Cabinet width	L	Item
600	444	26130
800	644	26131

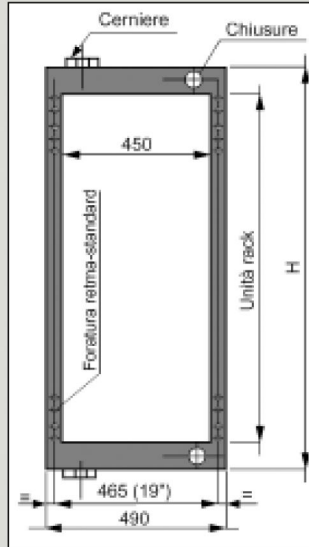
NOTE: Since the brackets are reversible it is possible to mount devices with depth different or equal to mm. 15

### Maximum distance between outside and inside doors



# Accessories

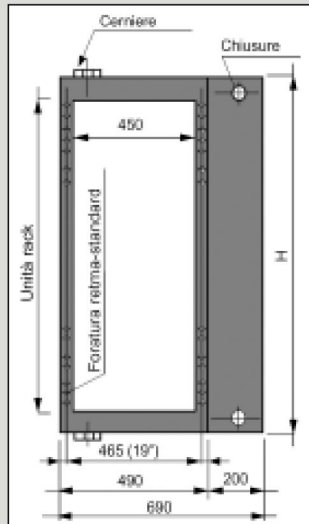
## Rack frame for cabinets 600mm width



Printed metal sheet thickness 20/10.  
 Kit of 2 strong hinges for easy mounting on the cabinet at the bottom and on top.  
 Right-Left mounting.  
 Ø 3mm double bar closing.  
 Special profiles for closing stop of the frame.  
 Maximum distance from the front of the frame to the front door = mm. 75.  
 Maximum depth of containment baskets, with 180° rotation = mm. 120.  
 Painting color gray RAL 7030, 7032, 7035.  
 Pack complete with mounting accessories.

Cabinet height	Item	H	Rack
1805	26135	1640	34
2005	26136	1840	39
2205	26137	2040	43

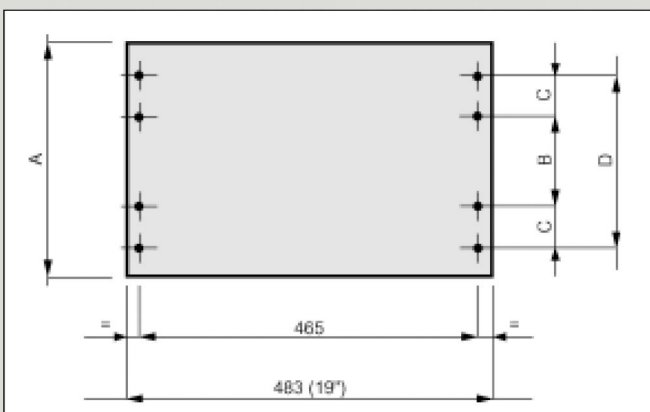
## Rack frame for cabinets 800 mm width



Printed metal sheet 20/10 with side panel.  
 Kit of 2 strong hinges for easy mounting on the cabinet at the bottom and on top.  
 Right-Left mounting.  
 Ø 3mm double bar closing.  
 Special profiles for closing stop of the frame.  
 Maximum distance from the front of the frame to the front door = mm. 75.  
 Maximum depth of containment baskets, with 180° rotation = mm. 440.  
 Painting color GREY RAL 7030, 7032, 7035.  
 Pack complete with mounting accessories.

Cabinet height	Item	H	Rack
1805	26138	1640	34
2005	26139	1840	39
2205	26140	2040	43

## Front panels 19"



Aluminum thickness 30/10.  
 Satin finish and natural anodized.  
 Packing of n° 2 pieces.

Item	Rack	A	B	C	D
1.A	1	43,6	=	=	31,70
2.A	2	88,9	76,20	=	=
3.A	3	133,35	57,15	=	=
4.A	4	177,80	101,60	=	=
5.A	5	222,25	146	=	=
6.A	6	266,70	190,40	=	=
7.A	7	311,15	120,65	57,15	=
8.A	8	355,60	165,10	57,15	=

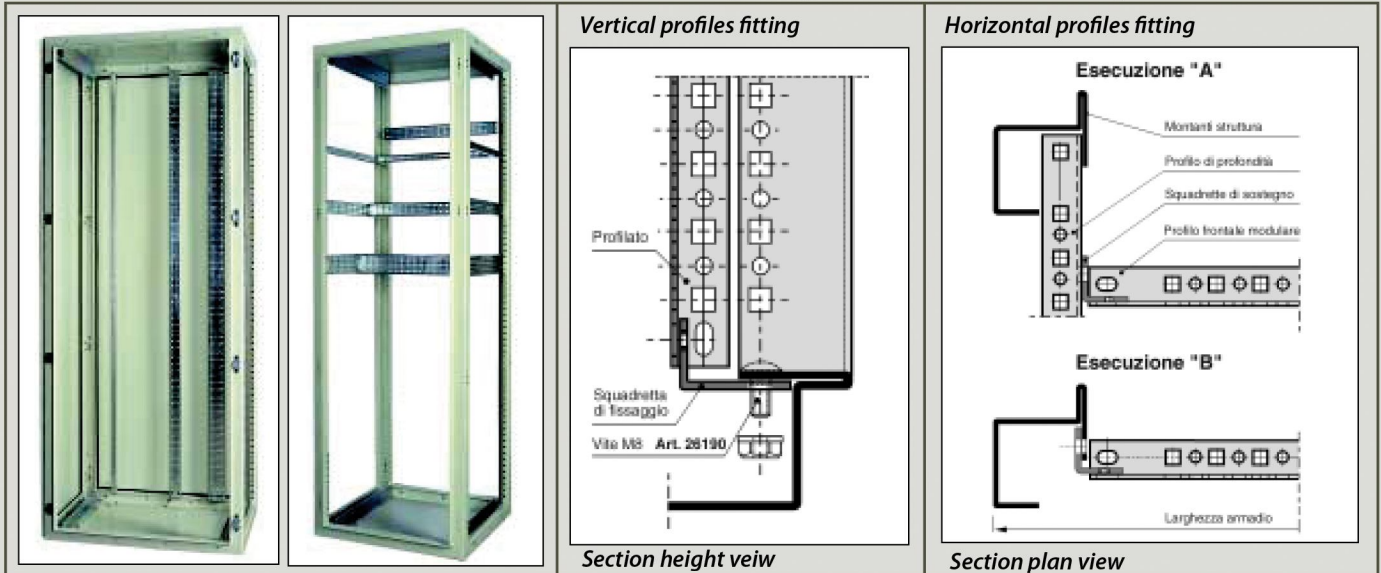


# Accessories

## System profiles for interior fittings

Vertical profiles - mounting brackets as per section height for vertical profiles brackets for front sections. The system is composed of a wide range of profiles suitable to solve fast every installation requirement of equipment.

Important feature is the modular drilling pattern 25 mm. according to DIN 43660 which after assembly is always reflected drilling modular structure forming the cabinet. The construction is made of galvanized sheet type SENDZIMIR 20/10 while the support brackets and adjustment are performed in sheet SENDZIMIR 30/10 with M6 threaded holes and through holes suitable to receive our carriage bolts and framework under head M8 x 16 (Art. 26190) complete with mock knurled nut for maximum tightening of security mechanical seal in place.



Lateral depth - direct attack on the uprights of the structure

	12 pcs pack	Cabinet depth	Item	L
		400	26141	340
		600	26142	540
		800	26143	740

Front - attack exec. "A" and exec. "B"

	12 pcs pack	Cabinet width	Item	L
		400	26150	295
		600	26151	495
		800	26152	695
1200	26153	1095		

Lateral depth - direct attack on the uprights of the structure

	6 pcs pack	Cabinet depth	Item	L
		400	26144	340
		600	26145	540
		800	26146	740

Front - attack exec. "A" and exec. "B"

	6 pcs pack	Cabinet width	Item	L
		400	26154	295
		600	26155	495
		800	26156	695
1200	26157	1095		

Lateral depth - direct attack on the uprights of the structure

	6 pcs pack	Cabinet depth	Item	L
		400	26147	340
		600	26148	540
		800	26149	740

Front - attack exec. "A" and exec. "B"

	6 pcs pack	Cabinet width	Item	L
		400	26158	295
		600	26159	495
		800	26160	695
1200	26161	1095		

Vertical depth - mounting as per side section view

	6 pcs pack	Art. 26162
	Art. 26163	
	Art. 26164	

Brackets for vertical profiles

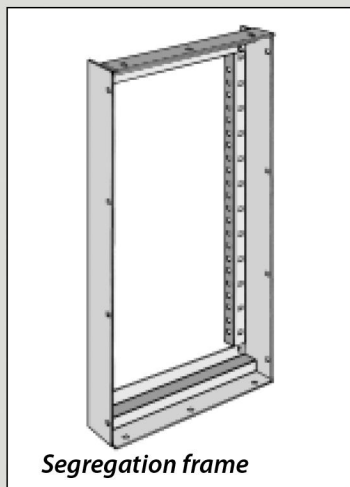
	10 pcs pack	Art. 26165 (for 75 mm depth)
	Art. 26166 (for 50 mm depth)	
	Art. 26167 (for 25 mm depth)	

Brackets for front profiles

	10 pcs pack	Art. 26168 (for 75 mm depth)
	Art. 26169 (for 50 mm depth)	
	Art. 26170 (for 25 mm depth)	



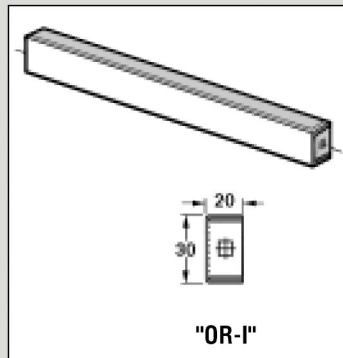
# Accessories



Segregation frame

Table for the quick choice of frames and crossbars

Cabinet dimensions		Nr. of 200 mm modules insertable in height	Segregation frame Item	OR-I crossbar Item
Width	Height			
600	1605	7	26086	26132
600	1805	8	26090	26132
600	2005	9	26091	26132
600	2205	10	26092	26132
800	1605	7	26087	26133
800	1805	8	26093	26133
800	2005	9	26094	26133
800	2205	10	26095	26133



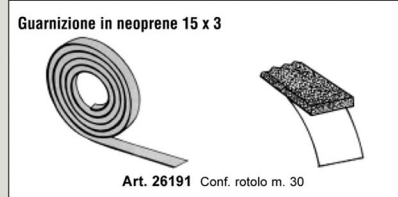
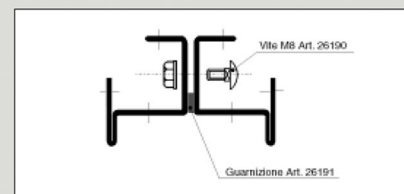
"OR-I"

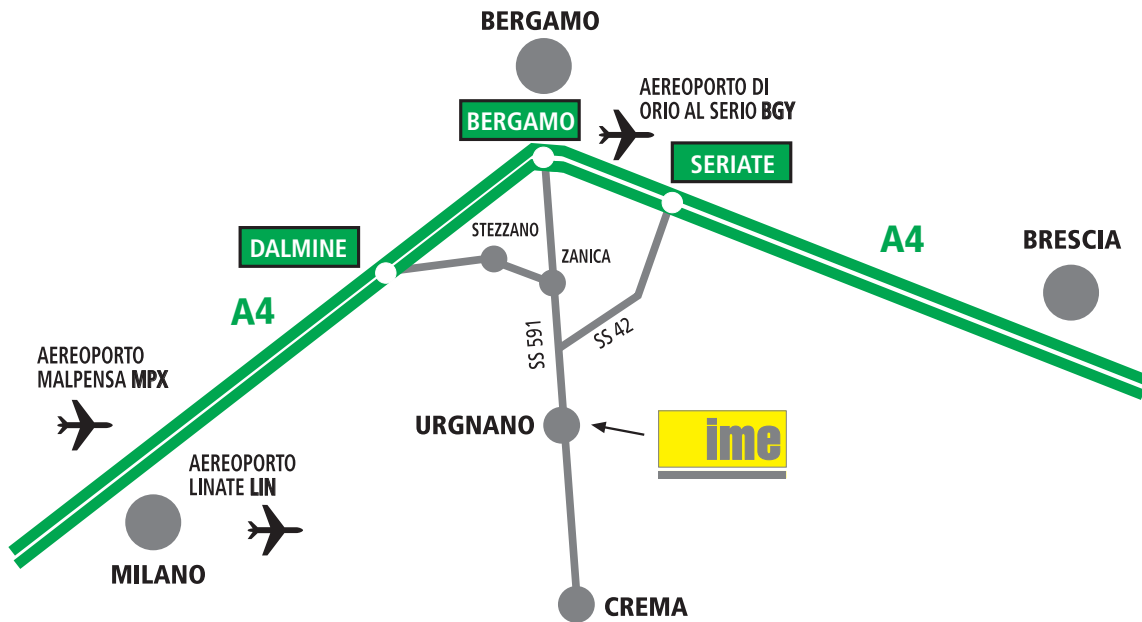
Indicative table of maximum molded case circuit breakers for power from 125÷1600 A

Pos.	Cabinets width	Cell's dimensions		Item	Amount of molded case circuit breakers insertable															
		Width	Height		0÷125 A		160 A		160÷250 A		160+250 A		400 A		630÷800 A		1250÷1600 A			
					3 poli	4 poli	3 poli	4 poli	3 poli	4 poli	3 poli	4 poli	3 poli	4 poli	3 poli	4 poli	3 poli	4 poli		
1	600	454	196	28001	4	3	4	3	-	-	-	-	-	-	-	-	-	-		
2	600	454	296	28002	-	-	-	-	3	2	-	-	-	-	-	-	-	-		
3	600	454	396	28003	-	-	-	-	-	-	3	2	3	2	-	-	-	-		
4	600	454	596	28004	-	-	-	-	-	-	-	-	-	-	2	1	2	1		
5	800	654	196	28005	7	5	6	4	-	-	-	-	-	-	-	-	-	-		
6	800	654	296	28006	-	-	-	-	5	3	-	-	-	-	-	-	-	-		
7	800	654	396	28007	-	-	-	-	-	-	5	4	4	3	-	-	-	-		
8	800	654	596	28008	-	-	-	-	-	-	-	-	-	-	3	2	3	2		

As shown, the section comprising the structure of the cabinet allows direct coupling between cabinets using the square holes provided on the cabinet by inserting them between the relevant seals. For further requirements related to high flow rates and with more than 2 connected cabinets, we recommend the use of external brackets Item 26187.

**Coupling Kit Item 26191:**  
 Nr. 1 piece of Item 26191 (30 mt of sealing roll)  
 Nr. 1 box of M8 screws (30 pcs.) Item 26190  
 Nr. 4 special brackets





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