POWER INDUSTRY CABINETS

CATALOGUE

2003

ZPAS

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POWER INDUSTRY CABINETS

Zakład Produkcji Automatyki Sieciowej S.A.

About the company

The company **Zakład Produkcji Automatyki Sieciowej (ZPAS)** was founded in 1973 initially as the Experimental Department of the Power System Automation Institute of Wrocław. At the beginning of 1980s it became the part of the Research and Manufacturing Centre for Power System Automation. In 1990 the company achieved full independence and in 1992 was transformed into a private stock company. Experience got in 30 years history, and mainly during political changes which started in 1989, enable us to keep steady development of the company, extension of infrastructure and forming modern process lines.

Modern and high-tech equipment, well-educated and selected personnel determine the guarantee of high quality and flexibility of company's offer. ZPAS S.A. has got both the Quality Assurance System certificate ISO 9001:2000 and Environmental Management System certificate ISO 14001:1996.

The product line-up of ZPAS S.A. mainly refers to needs of relatively young IT branch. Our products are frequently important part of teletechnical protection of modern telecommunication, computing and power industry systems.

New technological solutions made by ZPAS S.A. created uniform and comprehensive product line-up. Due to these solutions, it was possible to join previously divided groups of products of computing and power industry branch.

We offer the following product line-up and services:
- 19", 21" and 10" cabinets for data and telecommunication networks (in floor-standing and wall-mounted versions),
- outdoor cabinets,
- cabinets in EMC standard,
- structural cabling system PowerLink,
- fibre optic distribution frames in OptiTel and OptiLan series,
- power industry cabinets,
- mimic panels,
- dispatch and control desks,
- system of supervising climatic conditions ZPAS-Control M-Bus,
- products made of stainless and acid-proof steel,
- other products on customers' request.

Gateway to the plant

Administration Building

In 2002 we introduced brand new products: OptiTel - system of module fibre optic distribution frames, PowerLink - structural cabling system, SZE2 - new series of power industry cabinets, SD and SJ - wall-mounted cabinets, KCS-1 - cassette of central signalling, ZPAS-Control M-Bus - system of supervising climatic conditions. All detailed information about the product line-up are on our website: **http://www.zpas.com.**

View of the upper part of the plant

Z P A S   S. A.

About the company

Road to the lower part of the plant

View from the company's car park

Marketing Department Building

Electrical Plant Building

The plant is located on the former coal mine grounds RUDOLF (after 1945 coal plant BOLESŁAW) and the former steelworks BARBARA. In 1948 the buildings of steelworks became property of the Central Repair Shop for Coal Industry. From 1964 to 1973 this was a foundry belonging to Świdnica Wagons Factory.

Historic buildings from the beginning of the second half of 19th century of the former steelworks BARBARA (presently ZPAS's Mechanical Plant) are registered as historic monuments. All remodelling and development must conform to preservation service directives.

Mechanical Plant

ZPAS S. A.

About the company

ZPAS S. A. Mechanical Plant: 1. - 3. numerically controlled machinery for sheet working, 4. - 5. welding robot.

About the company
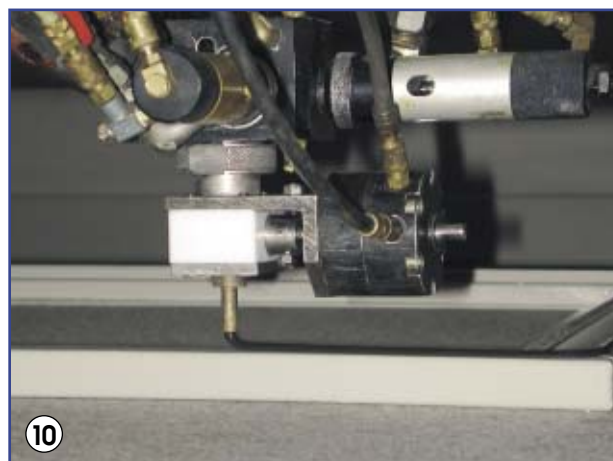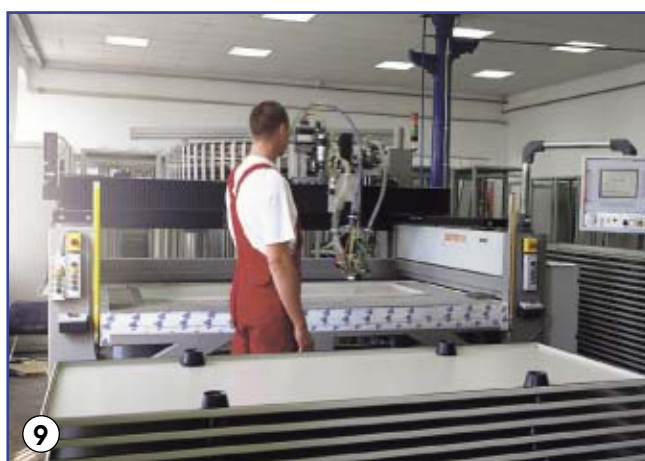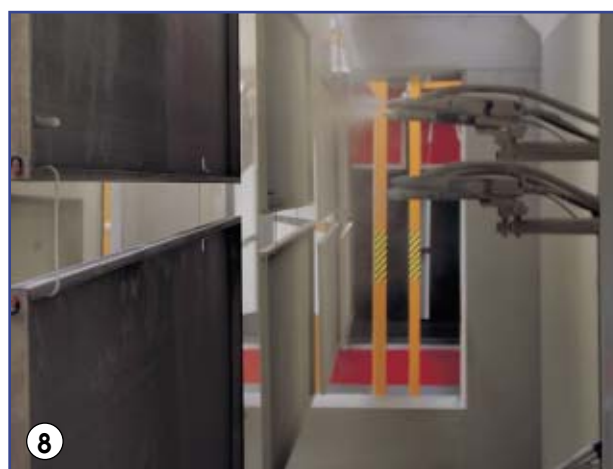
ZPAS S. A. Mechanical Plant: 6. - 8. automated powder paint shop, 9. - 10. cast gasket machinery.

Z P A S   S . A .

ISO 9001, ISO 14001

GUARANTEE

The guarantee period for products produced by ZPAS S.A. is 5 years.
The post-guarantee service period is provided life-long without deadline.

Note: ZPAS S.A. reserves the rights to changes in construction of its products.

Z P A S   S . A .

SZE2 floor standing cabinets

SZE2 floor standing cabinets

Front view of the cabinet

- **Universal cabinets for power industry designed for both external and internal conditions.**
- **Construction of the cabinet allows easy joining in rows.**
- **Manufactured in 19 standard dimensions, according to the chart below. Cabinets of non-standard dimensions can be manufactured on individual customer's request.**

CHART OF STANDARD CABINET DIMENSIONS

Overall width of the cabinet [mm]		Overall depth of the cabinet [mm]	Height of the cabinet without plinth [mm]	
			1800	2000
with flushed-in side shields	with external side shields		Catalogue numbers of standard dimensions	
Single-door cabinets 600	650	400	-	1951-1-3-50
		500	1951-1-3-24	1951-1-3-12
		600	1951-1-3-23	1951-1-3-11
		800	-	1951-1-3-10
800	850	400	-	1951-1-3-49
		500	1951-1-3-21	1951-1-3-9
		600	1951-1-3-20	1951-1-3-8
		800	-	1951-1-3-7
Double-door cabinets 1000	1050	500	-	1951-1-3-6
		600	-	1951-1-3-5
1200	1250	500	1951-1-3-15	1951-1-3-3
		600	1951-1-3-14	1951-1-3-2
		800	-	1951-1-3-1

Cabinet 600 mm wide with mounting plate, without side shields

TECHNICAL DATA

Kind of the element	Material sheet steel	Surface finishing
Cabinet's frame - top and bottom plate - posts	2.0 mm 2.5 mm	Standard cabinet is powder painted in **RAL 7035** (epoxide-polyester paint of coarse-grained structure, applied for internal conditions). On customer's request it is possible to use special paint with an increased resistance to atmosphere factors and using polyzinc base.
Doors	2.0 mm	
Shields	1.5 mm	
Roof	1.5 mm	
Plinth - corners - connectors	2.5 mm 1.25 mm	
Mounting plate	3.0 mm	Zinc-coated
Mounting bars	1.5 and 2.0 mm	Al-Zn coated

Protection degree according to PN-92/E-08106 / EN 60 529 / IEC 529
IP 64 for single-door cabinet, **IP 54** for double-door cabinet

DESCRIPTION OF SZE2 CONSTRUCTION

Welded framework of the cabinet

- Side frames of the framework have got cut-outs for assembling the system of mounting rails or mounting plate.
- In top and bottom plate of the framework there are openings for cable entries or fan units assembling. In standard the openings are covered with solid blind covers.

Front door, rear shield

- Cabinets 1000 and 1200 mm wide are equipped with two-wing door, cabinets 800 and 600 mm wide are equipped with one-wing door. Rear shield can be changed into rear door.
- Easy change of the direction of the door opening by turning the handle.

Rear view of the cabinet

SZE2 FLOOR STANDING CABINETS

SZE2 floor standing cabinets

The cabinet with the roof and flushed in side shields

The cabinet with the roof and external side shields

The cabinet with the roof, flushed in side shields and lifting eyes

Mounting manner of grounding and neutralisation/screening strip set

- Standard door are equipped with three-point, rod-latch lock with an insert for patent key and strengthening frame with openings for cable channels, bundles of cables etc.
- On customer's request it is possible to manufacture a door with a glass window and/or perforation.
- Maximum door opening angle is 120°.

Two kinds of side shields
- Flushed in shields - kept within cabinet's framework dimensions.
- External shields - expending cabinet's width by 25 mm from each side; recommended for cabinets placed outside the buildings.

Roof
- Is a part of supplementary accessories.
- Provides protection of fan units mounted in the top plate of the framework.
- Also recommended for cabinets placed outside the buildings.

Lifting eyes
- Four lifting eyes are added as supplementary accessories. They are screwed to the cut-outs in the top plate of the framework.

Base
- The cabinet should be set on the 100 mm or 200 mm plinth.
- It is allowable to set the cabinet directly on the cable duct. All details about dimensions of the cable duct should be agreed with ZPAS's technical department.

Cast gasket
- Doors, shields and solid blind covers of the top plate have got cast gasket of polyurethane foam.

Grounding, screening, neutralization
- Construction of each components of the cabinet enables to carry out grounding connections.
- Grounding cables, groundings strips, screening strips or neutralization strips are delivered as supplementary accessories.

Manners of fastening appliances in the cabinet
- Mounting plate - directly fastened to the framework, no need to use additional intermediate elements.
- Mounting bars - enables to make configurations of any frame inside the cabinet (cut-outs on the bars are adapted both to the horizontal and vertical openings in the framework).
- Supporting bars in 19" spacing.
- 19" swing frame for cabinets 800 mm wide.

Joining cabinets in rows
- The cabinets are adjusted to be joint in rows.
- Cabinets joining in rows can be equipped with partition.

Cabinet 800 mm wide with 19" swing frame

Cabinet 800 mm wide with supporting bars in 19" spacing, without side shields

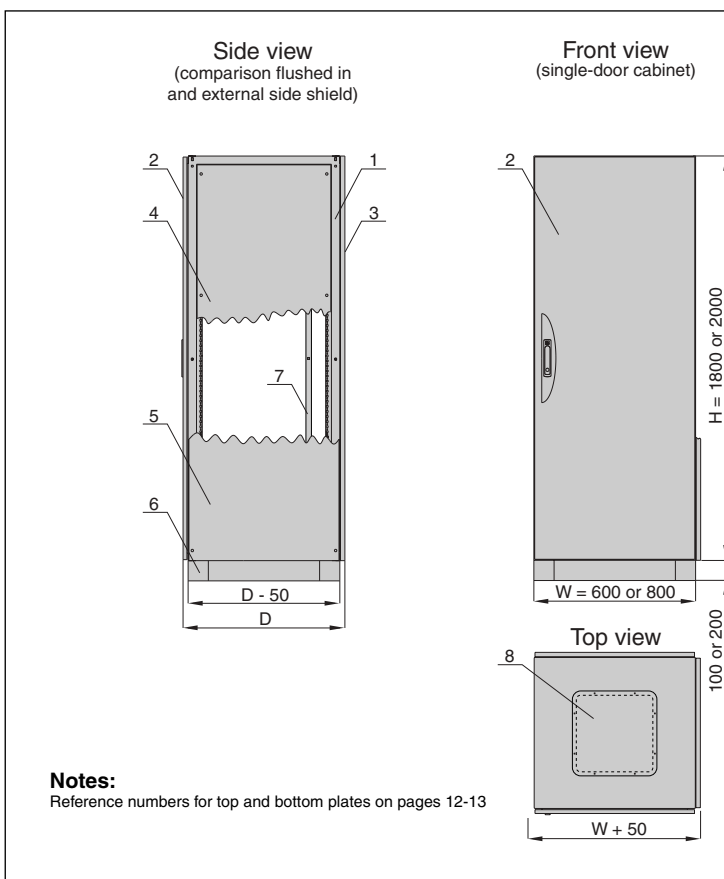Mounting manner of supporting bar in cabinet 800 mm wide

The manner of joining cabinets in rows by using mounting plates connector

Example of the rack assembled of mounting bars and shelves

SZE2 FLOOR STANDING CABINETS

Construction of SZE2 cabinets

SZE2 cabinet 1200 mm wide, without side shields, intended for joining in rows

Side view
(comparison flushed in and external side shield)

Front view
(single-door cabinet)

D - 50
D

H = 1800 or 2000
W = 600 or 800
100 or 200

Top view
W + 50

Notes:
Reference numbers for top and bottom plates on pages 12-13

ORDERING INSTRUCTION

Placing an order for SZE2 cabinet and supplementary accessories shall be done by using catalogue numbers from the charts.

*) **SZE2 cabinet - basic configuration:** cabinet's frame, front door, rear shield, mounting plate for the full height of the cabinet, solid blind covers for all openings in top and bottom plate.
Note: side shields, plinth, roof, lifting eyes and other supplementary accessories should be ordered separately.
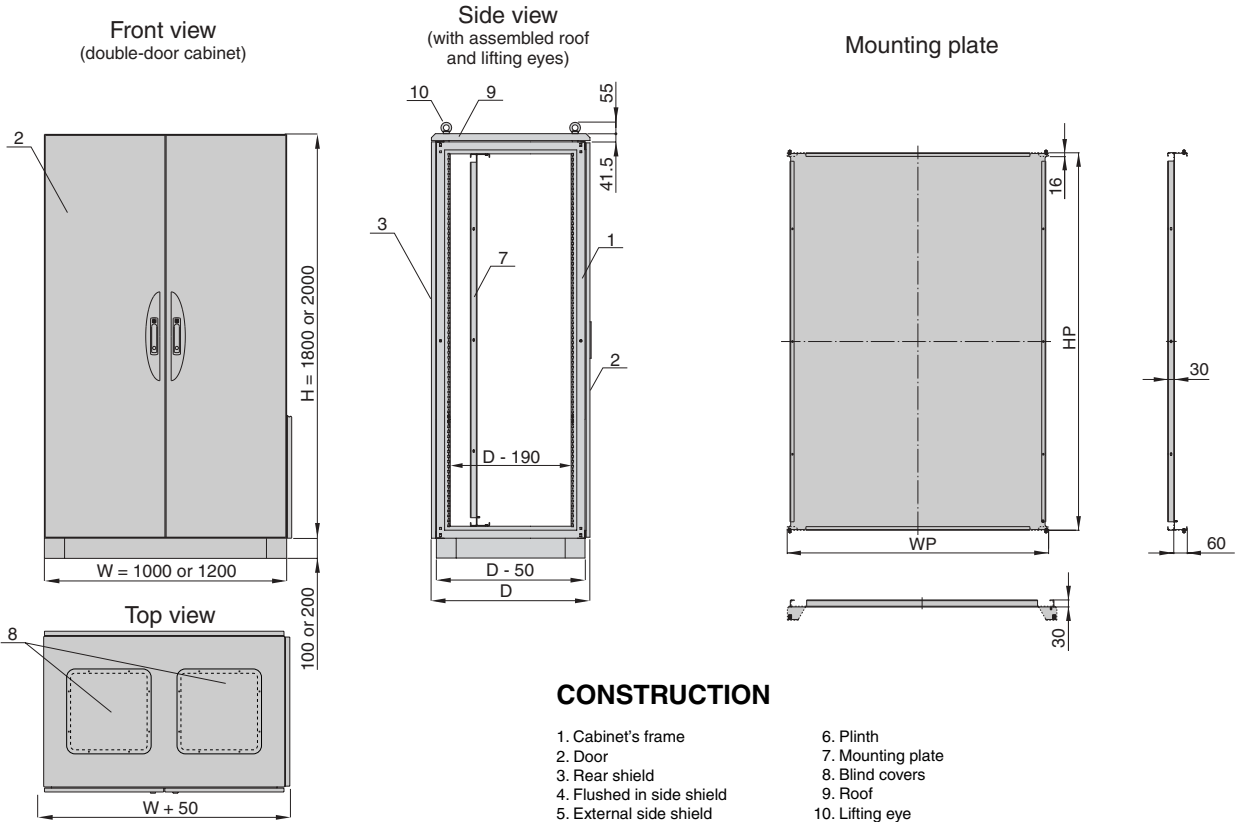**Material:**
Look at technical data on page 8.
) **Detailed list of supplementary accessories:
page 14 - 24.

REFERENCE CHART

Dimensions of cabinet's frame [mm]	Height H	1800					
	Width W	600		800		1200	
	Depth D	500	600	500	600	500	600
Door's type	Quantity of wings	1	1	1	1	2	2
Dimensions of mounting plate [mm]	Height HP	1679	1679	1679	1679	1679	1679
	Width WP	560	560	760	760	1160	1160

		Package	CATALOGUE NUMBERS					
SZE2 Cabinet*		1 pc.	1951-1-3-24	1951-1-3-23	1951-1-3-21	1951-1-3-20	1951-1-3-15	1951-1-3-14
Supplementary accessories**	Flushed in side shields	2 pcs.	1951-9-0-6	1951-9-0-5	1951-9-0-6	1951-9-0-5	1951-9-0-6	1951-9-0-5
	External side shields	2 pcs.	1951-7-0-14	1951-7-0-13	1951-7-0-14	1951-7-0-13	1951-7-0-14	1951-7-0-13
	Roof for cabinet with flushed in side shields	1 pc.	1951-27-0-13	1951-27-0-12	1951-27-0-9	1951-27-0-8	1951-27-0-3	1951-27-0-2
	Roof for cabinet with external side shields	1 pc.	1951-28-0-13	1951-28-0-12	1951-28-0-9	1951-28-0-8	1951-28-0-3	1951-28-0-2
	100 mm plinth	1 pc.	1C6045	1C6055	1C8045	1C8055	1C12045	1C12055
	200 mm plinth	1 pc.	2C6045	2C6055	2C8045	2C8055	2C12045	2C12055
	Mounting plates connector	1 pc.	1951-47-0-2	1951-47-0-2	1951-47-0-2	1951-47-0-2	1951-47-0-2	1951-47-0-2
	19'' swing frame	1 pc.	—	—	1951-29-2-2	1951-29-2-2	—	—
	Grounding strip set	1 pc.	1951-24-2-4	1951-24-2-4	1951-24-2-3	1951-24-2-3	1951-24-2-1	1951-24-2-1
	Neutralization strip	1 pc.	1951-25-0-4	1951-25-0-4	1951-25-0-3	1951-25-0-3	1951-25-0-1	1951-25-0-1
	Cable bar	1 pc.	1951-22-4	1951-22-4	1951-22-3	1951-22-3	1951-22-1	1951-22-1
	Lightening set	1 set	1951-38-2-4	1951-38-2-4	1951-38-2-3	1951-38-2-3	1951-38-2-1	1951-38-2-1

Construction of SZE2 cabinets

Front view
(double-door cabinet)

H = 1800 or 2000

W = 1000 or 1200

100 or 200

2

Top view

8

W + 50

Side view
(with assembled roof and lifting eyes)

10 9 55

41.5

3 7 1

2

D - 190

D - 50

D

Mounting plate

16

HP

30

WP

60

30

CONSTRUCTION

1. Cabinet's frame
2. Door
3. Rear shield
4. Flushed in side shield
5. External side shield
6. Plinth
7. Mounting plate
8. Blind covers
9. Roof
10. Lifting eye

2000												
600				800				1000		1200		
400	500	600	800	400	500	600	800	500	600	500	600	800
1	1	1	1	1	1	1	1	2	2	2	2	2
1879	1879	1879	1879	1879	1879	1879	1879	1879	1879	1879	1879	1879
560	560	560	560	760	760	760	760	960	960	1160	1160	1160

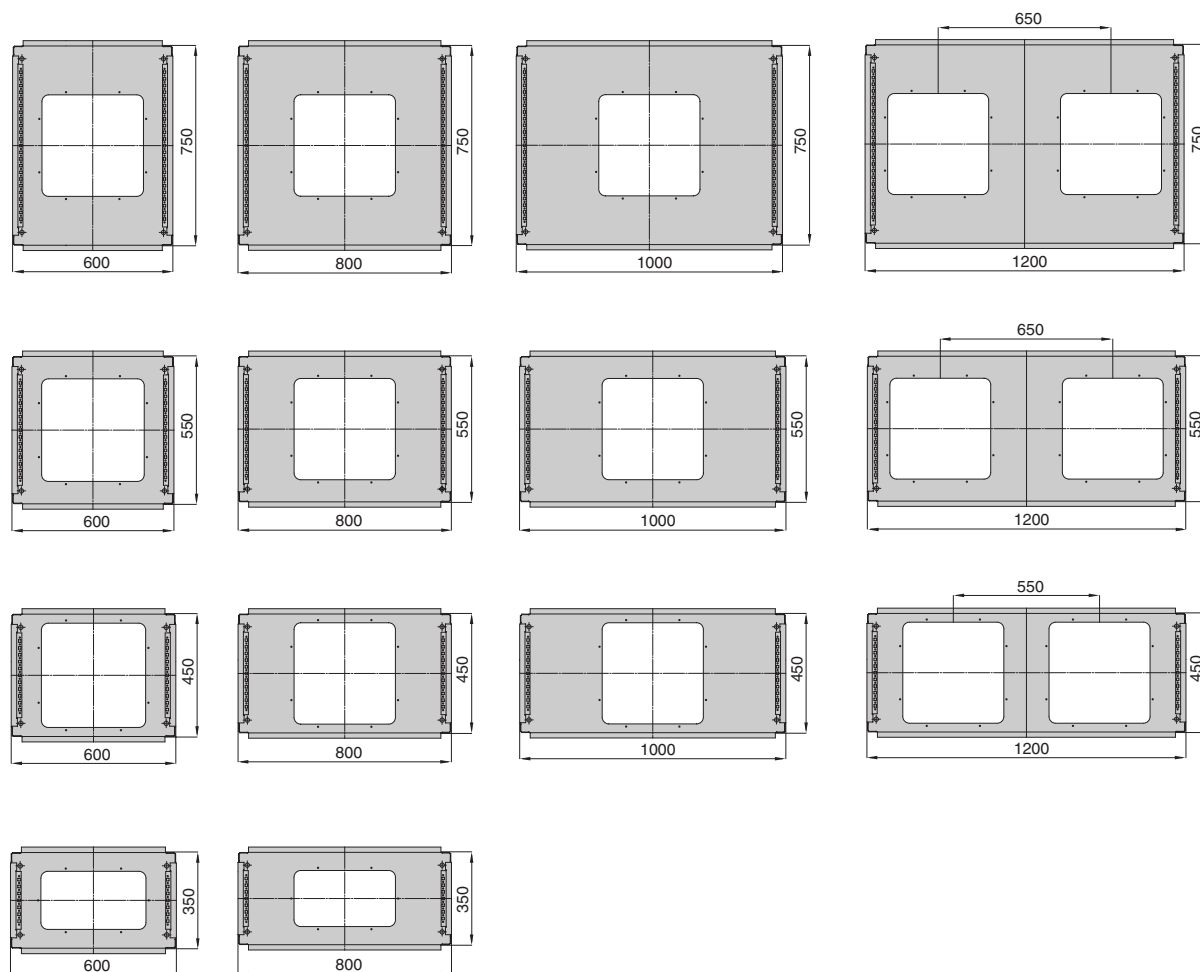|												
1951-1-3-50	1951-1-3-12	1951-1-3-11	1951-1-3-10	1951-1-3-49	1951-1-3-9	1951-1-3-8	1951-1-3-7	1951-1-3-6	1951-1-3-5	1951-1-3-3	1951-1-3-2	1951-1-3-1
1951-9-0-13	1951-9-0-3	1951-9-0-2	1951-9-0-1	1951-9-0-13	1951-9-0-3	1951-9-0-2	1951-9-0-1	1951-9-0-3	1951-9-0-2	1951-9-0-3	1951-9-0-2	1951-9-0-1
1951-7-0-29	1951-7-0-7	1951-7-0-6	1951-7-0-5	1951-7-0-29	1951-7-0-7	1951-7-0-6	1951-7-0-5	1951-7-0-7	1951-7-0-6	1951-7-0-7	1951-7-0-6	1951-7-0-5
1951-27-0-14	1951-27-0-13	1951-27-0-12	1951-27-0-11	1951-27-0-10	1951-27-0-9	1951-27-0-8	1951-27-0-7	1951-27-0-6	1951-27-0-5	1951-27-0-3	1951-27-0-2	1951-27-0-1
1951-28-0-14	1951-28-0-13	1951-28-0-12	1951-28-0-11	1951-28-0-10	1951-28-0-9	1951-28-0-8	1951-28-0-7	1951-28-0-6	1951-28-0-5	1951-28-0-3	1951-28-0-2	1951-28-0-1
1C6035	1C6045	1C6055	1C6075	1C8035	1C8045	1C8055	1C8075	1C10045	1C10055	1C12045	1C12055	1C12075
2C6035	2C6045	2C6055	2C6075	2C8035	2C8045	2C8055	2C8075	2C10045	2C10055	2C12045	2C12055	2C12075
1951-47-0-1	1951-47-0-1	1951-47-0-1	1951-47-0-1	1951-47-0-1	1951-47-0-1	1951-47-0-1	1951-47-0-1	1951-47-0-1	1951-47-0-1	1951-47-0-1	1951-47-0-1	1951-47-0-1
—	—	—	—	1951-29-2-1	1951-29-2-1	1951-29-2-1	1951-29-2-1	—	—	—	—	—
1951-24-2-4	1951-24-2-4	1951-24-2-4	1951-24-2-4	1951-24-2-3	1951-24-2-3	1951-24-2-3	1951-24-2-3	1951-24-2-2	1951-24-2-2	1951-24-2-1	1951-24-2-1	1951-24-2-1
1951-25-0-4	1951-25-0-4	1951-25-0-4	1951-25-0-4	1951-25-0-3	1951-25-0-3	1951-25-0-3	1951-25-0-3	1951-25-0-2	1951-25-0-2	1951-25-0-1	1951-25-0-1	1951-25-0-1
1951-22-4	1951-22-4	1951-22-4	1951-22-4	1951-22-3	1951-22-3	1951-22-3	1951-22-3	1951-22-2	1951-22-2	1951-22-1	1951-22-1	1951-22-1
1951-38-2-4	1951-38-2-4	1951-38-2-4	1951-38-2-4	1951-38-2-3	1951-38-2-3	1951-38-2-3	1951-38-2-3	1951-38-2-2	1951-38-2-2	1951-38-2-1	1951-38-2-1	1951-38-2-1

SZE2 FLOOR STANDING CABINETS

Construction of SZE2 cabinets

S Z E 2   F L O O R   S T A N D I N G   C A B I N E T S

TYPES OF TOP PLATES

750 / 600	750 / 800	750 / 1000	650 / 750 / 1200
550 / 600	550 / 800	550 / 1000	650 / 550 / 1200
450 / 600	450 / 800	450 / 1000	550 / 450 / 1200
350 / 600	350 / 800		

TYPES OF OPENINGS FOR BLIND COVERS OR CABLE PLATES

400
380
200

8 x □9.2

R25

200
380
400

400
380
200

6 x □9.2

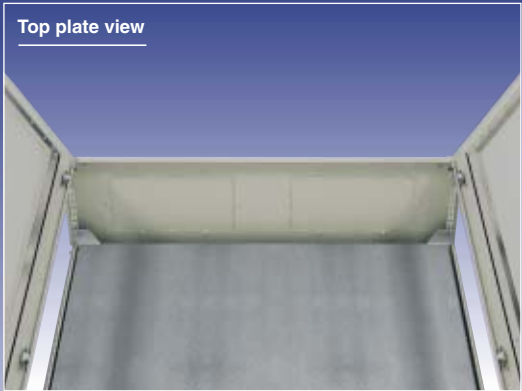210
230

6 x □9.2

380

76.5
50

R25
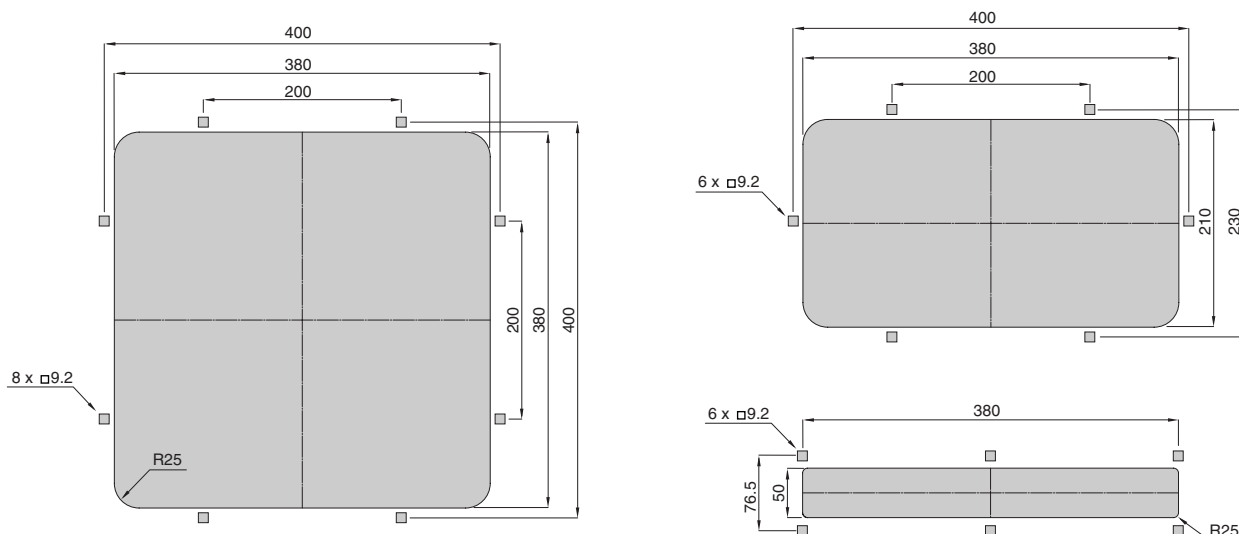
Construction of SZE2 cabinets

TYPES OF BOTTOM PLATES
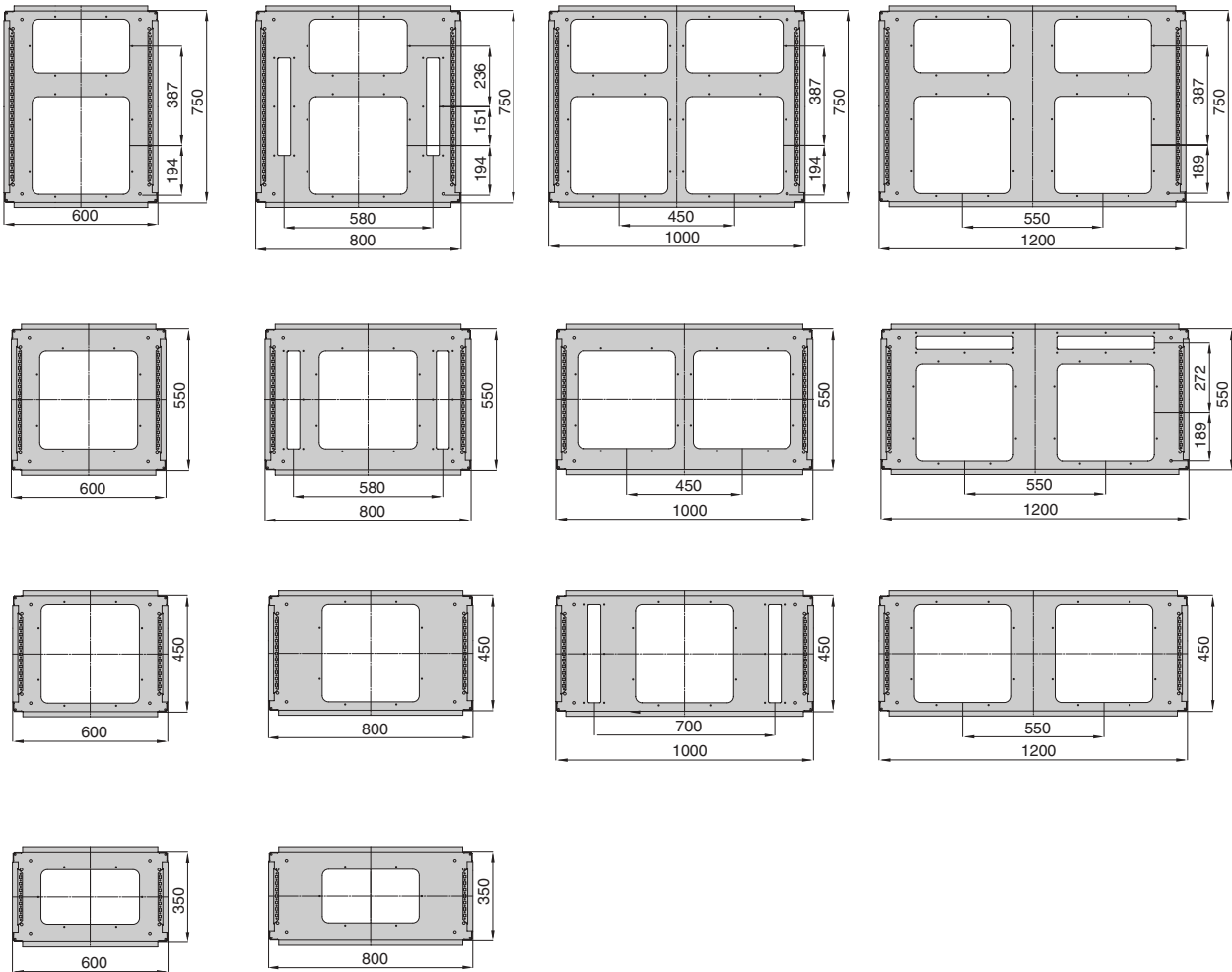
Top plate view

Bottom plate view

Openings in top and bottom plates are in standard covered by solid blind covers. Other types of blind covers on page 23-24.

Supplementary accessories for SZE2 cabinets

SZE2 FLOOR STANDING CABINETS

SIDE SHIELDS

They are offered in two types:
1) flushed in side shields - they do not cause the enlargement of cabinet's frame dimensions, in case of joining in rows they can be used as partitions.
2) external side shields - they cause the enlargement of the cabinet by 25 mm from each side.
All side shields are equipped with cast gasket made of polyurethane foam and stud-bolts for grounding cables mounting.

Material:
1.5 mm thick sheet steel powder painted in RAL 7035.

Supply includes:
2 side shields (flushed in or external) with fixing accessories for mounting into the cabinet.

For cabinet		Catalogue number	
height [mm]	depth [mm]	Flushed in side shields	External side shields
2000	800	1951-9-0-1	1951-7-0-5
	600	1951-9-0-2	1951-7-0-6
	500	1951-9-0-3	1951-7-0-7
	400	1951-9-0-13	1951-7-0-29
1800	600	1951-9-0-5	1951-7-0-13
	500	1951-9-0-6	1951-7-0-14

Package: 2 pcs.

ROOF

Each cabinet can be equipped with a roof in two widths:
- roof for cabinet with flushed in side shields (roof's width accordant with cabinet's frame width).
- roof for cabinet with external side shields (roof's width enlarged by 50 mm in comparison with cabinet's frame).
Roof's height with distance screws: 41.5 mm.

Material:
1.5 mm thick sheet steel powder painted in RAL 7035.

Supply includes:
Roof with 4 distance screws for mounting.
(Assembly screws M12 are delivered with the cabinet.)

Distance screws

For cabinet		Catalogue number	
width [mm]	depth [mm]	Roof for cabinet with flushed in side shields	Roof for cabinet with external side shields
1200	800	1951-27-0-1	1951-28-0-1
	600	1951-27-0-2	1951-28-0-2
	500	1951-27-0-3	1951-28-0-3
1000	600	1951-27-0-5	1951-28-0-5
	500	1951-27-0-6	1951-28-0-6
800	800	1951-27-0-7	1951-28-0-7
	600	1951-27-0-8	1951-28-0-8
	500	1951-27-0-9	1951-28-0-9
	400	1951-27-0-10	1951-28-0-10
600	800	1951-27-0-11	1951-28-0-11
	600	1951-27-0-12	1951-28-0-12
	500	1951-27-0-13	1951-28-0-13
	400	1951-27-0-14	1951-28-0-14

Package: 1 pc.

Supplementary accessories for SZE2 cabinets

LIFTING EYES

They are screwed to the cut-outs in the top plate of the frame or (when the roof is used) to the distance screws.
There are 4 lifting eyes needed to each cabinet.

Diameter of the lifting eye's opening: 30 mm
Thread: M12

Material:
Zinc coated steel.

Supply includes:
Screw with eye: 1 pc.

Package	Catalogue number
1 pc.	0653.137.161

PARTITION

For the cabinets joining in rows.
It is assembled in exactly the same way as flushed in side shield.

Material:
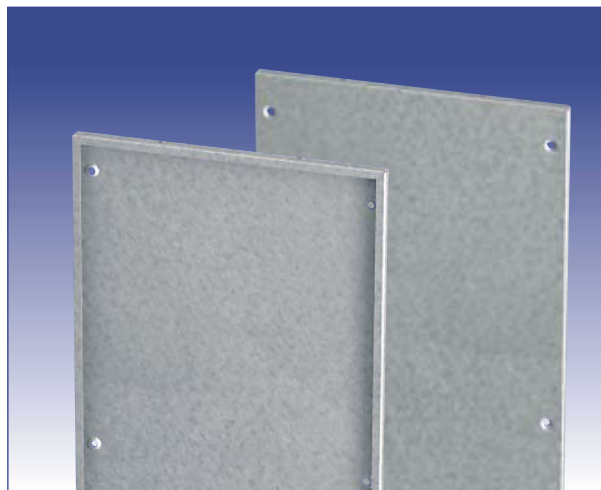1.5 mm thick Al-Zn coated sheet steel.

Supply includes:
Partition (1 pc.) with fixing accessories for mounting into the cabinet.

| For cabinet		Catalogue number
height [mm]	depth [mm]	
2000	800	1951-31-0-1
	600	1951-31-0-2
	500	1951-31-0-3
	400	1951-31-0-13
1800	600	1951-31-0-5
	500	1951-31-0-6

Package: 1 pc.

SET OF ELEMENTS FOR JOINING CABINETS

For cabinets joining in rows.
One set is intended for joining two cabinets together.

Type of element	Pack. = 1 set	Catalogue number
Screw M8x25	6 pcs.	
Nut M8	6 pcs.	
Washer 8.4	12 pcs.	1951-45-2
Corrugated washer 8.4	6 pcs.	
Self-adhesive gasket	6 m	

Package: 1 set.

SZE2 FLOOR STANDING CABINETS
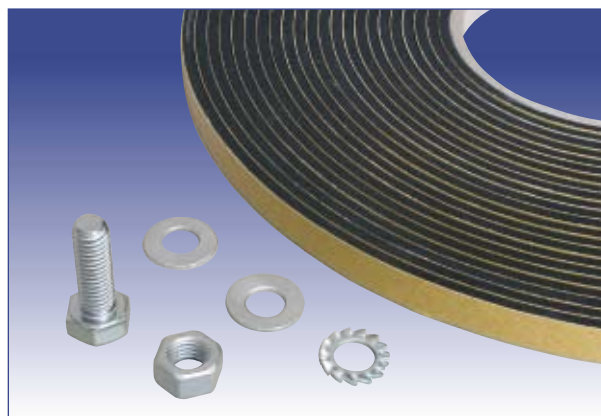
Supplementary accessories for SZE2 cabinets

19'' SWING FRAME

Intended for cabinets 800 mm wide.
Equipped with door-stop.
Maximum opening angle ca. 130°.

Material:
Sheet steel and steel profiles powder painted in RAL 7035.

Supply includes:
Swing frame with fixing accessories for mounting into the cabinet.

For cabinet height [mm]	Useful height of the frame [U=44.45 mm]	Catalogue number
2000	40 U	1951-29-2-1
1800	35 U	1951-29-2-2

Package: 1 pc.

Swing frame mounted into the cabinet

PLINTH

Offered in two heights.
It is possible to fix the plinth into the floor with option usage of four rubber vibro shock absorbers.

Material:
Plinth: 2.5 mm thick (corners) and 1.25 mm thick (connectors) sheet steel, powder painted in RAL 7035.
Vibro shock absorbers: rubber 10 mm thick.
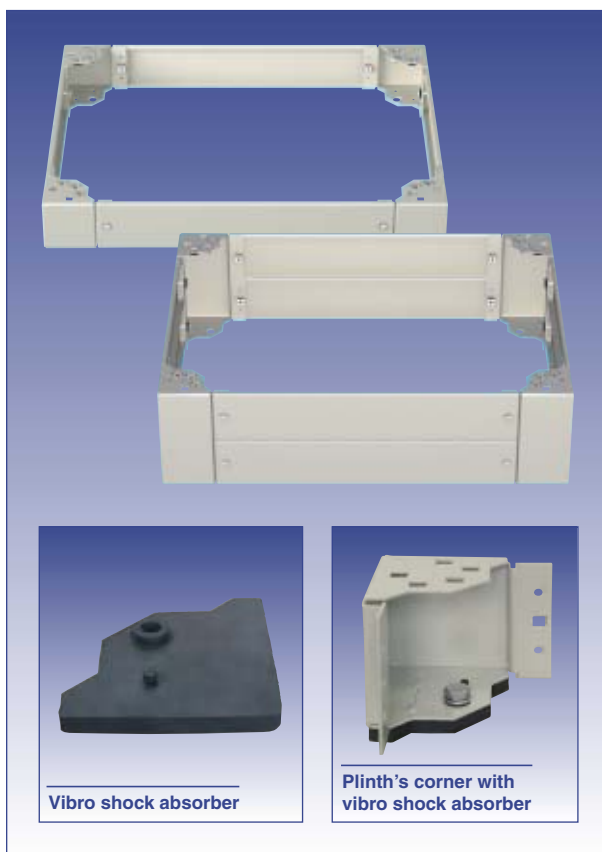
Supply includes:
Plinth with fixing accessories for mounting into the cabinet.
Vibro shock absorbers should be ordered separately.

For cabinet		Catalogue number		
width [mm]	depth [mm]	Plinth 100 mm high	Plinth 200 mm high	Vibro shock absorber (1 pc.)
1200	800	1C12075	2C12075	
	600	1C12055	2C12055	
	500	1C12045	2C12045	
1000	600	1C10055	2C10055	
	500	1C10045	2C10045	
800	800	1C8075	2C8075	1951 - 43
	600	1C8055	2C8055	
	500	1C8045	2C8045	
	400	1C8035	2C8035	
600	800	1C6075	2C6075	
	600	1C6055	2C6055	
	500	1C6045	2C6045	
	400	1C6035	2C6035	

Package: Plinth - 1 pc.
Vibro shock absorber - 1 pc.

Vibro shock absorber

Plinth's corner with vibro shock absorber

Supplementary accessories for SZE2 cabinets

MOUNTING PLATES CONNECTOR

The connector enables to achieve uniform mounting plane in cabinets joining in rows.

Material:
3 mm thick Al-Zn coated sheet steel.

Supply includes:
Mounting plates connector with fixing accessories for mounting into the cabinet.

For the cabinet's height [mm]	Connector's dimensions [mm] (H x W x D)	Catalogue number
2000	1800 x 65 x 30	1951-47-0-1
1800	1600 x 65 x 30	1951-47-0-2

Package: 1 pc.

Manner of joining plates

SUPPORTING BAR

For mounting 19" appliances in cabinets 600 or 800 mm wide. They are fixed into the cabinet's frame by using mounting bars; in order to have the 19" spacing in cabinets 800 mm wide it is necessary to use outriggers, but in cabinets 1000 and 1200 mm wide - individual rack made of mounting bars.
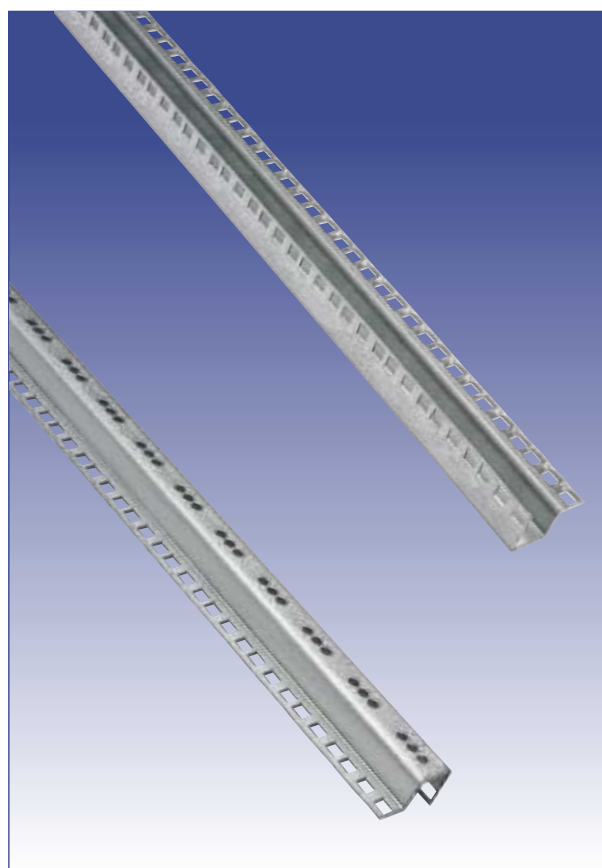
Material:
2 mm thick Al-Zn coated sheet steel.

Supply includes:
Supporting bar without fixing accessories.

Length of supporting bar		Catalogue number
[mm]	[U=44.45mm]	
1867.6	42 U	SZB-00-00-01/2
1778.7	40 U	SZB-00-00-01/3
1734.25	39 U	SZB-00-00-01/13
1689.8	38 U	SZB-00-00-01/4
1600.9	36 U	SZB-00-00-01/5
1467.55	33 U	SZB-00-00-01/14
1423.1	32 U	SZB-00-00-01/6
1334.2	30 U	SZB-00-00-01/15
1245.3	28 U	SZB-00-00-01/7
1200.85	27U	SZB-00-00-01/16
1067.5	24 U	SZB-00-00-01/8
934.15	21U	SZB-00-00-01/17
800.8	18 U	SZB-00-00-01/9
667.45	15 U	SZB-00-00-01/10
534.1	12 U	SZB-00-00-01/11
445.2	10 U	SZB-00-00-01/12

Package: 1 pc.

OUTRIGGERS

For fixing supporting bars in SZE2 cabinet 800 mm wide.
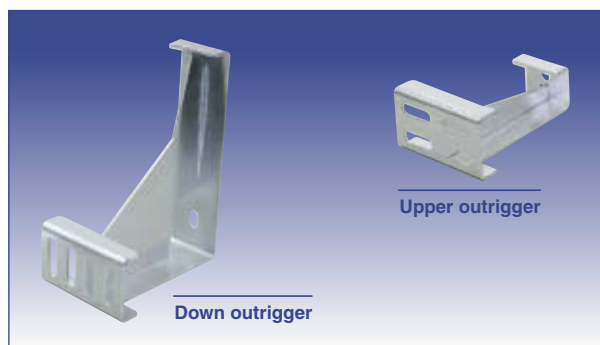They are available in two types.

Material:
2 mm thick zinc coated sheet steel.

Supply includes:
1 outrigger (upper or down) with fixing accessories for mounting into the supporting bar and mounting bar.

Type of outrigger	Package	Catalogue number
upper	1 pc.	SZB-24-00-00
down	1 pc.	1610-6-1/A

Upper outrigger

Down outrigger
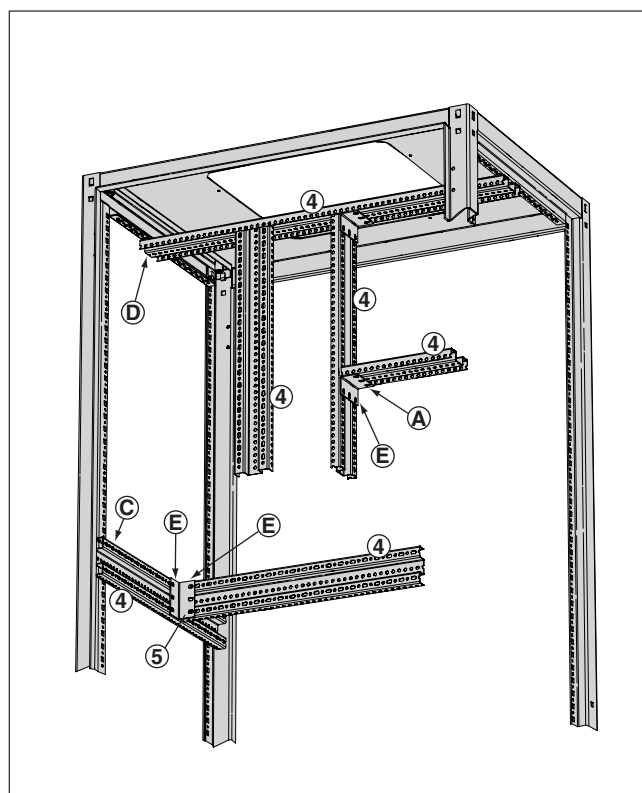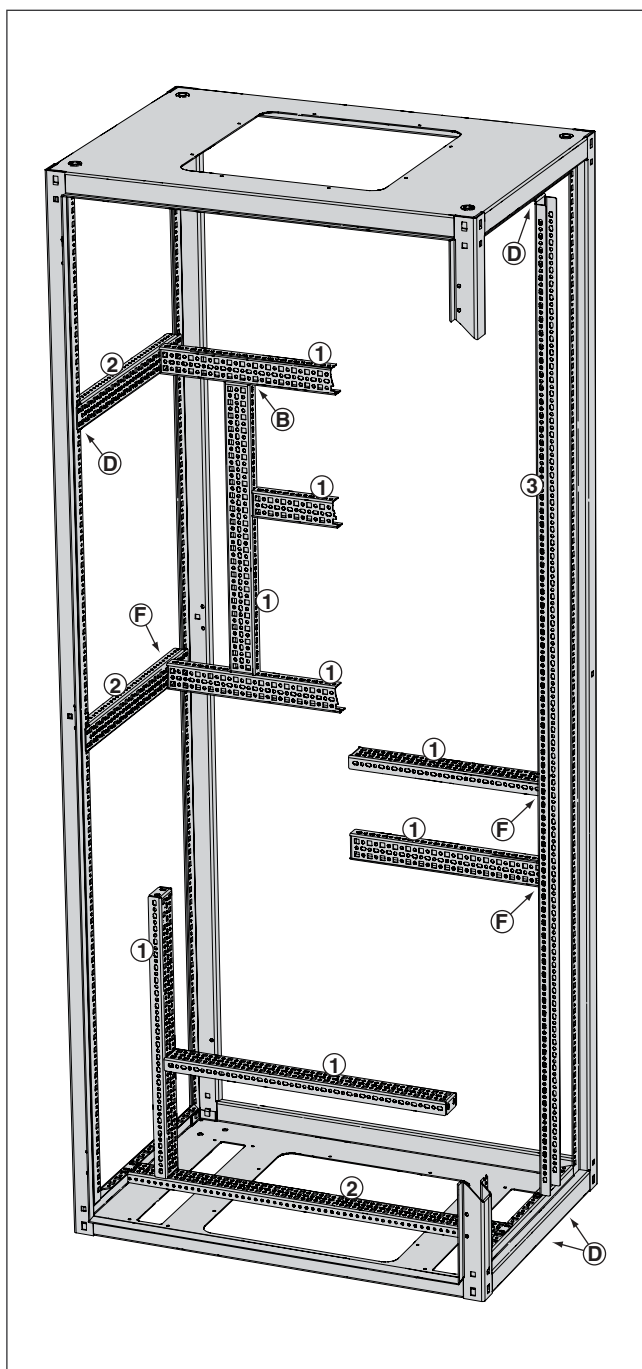
SZE2 FLOOR STANDING CABINETS

Supplementary accessories for SZE2 cabinets

MANNERS OF CONSTRUCTING RACKS

CLASSIC SYSTEM

1. Mounting bar CLASSIC

2. Cross bar CLASSIC

3. Vertical bar CLASSIC

Detailed description and catalogue numbers of bars on page 19.

UNI SYSTEM

4. Mounting bar UNI

5. Angle-element for joining mounting bars UNI

Detailed description and catalogue numbers of bars and angle element on page 20.

FIXING ACCESSORIES

	Description	pcs.	From set* cat. No
A	screw with nut and washers	1	1951-44-2-3
B	screw with nut and washers	2	1951-44-2-3
C	self-forming screw	1	1951-44-2-1
	or screw with cage nut and washer	2	1951-44-2-2
D	self-forming screw	2	1951-44-2-1
	or screw with cage nut and washer	2	1951-44-2-2
E	self-forming screw	2	1951-44-2-1
	or screw with nut and washers	2	1951-44-2-3
F	screw with cage nut and washer	2	1951-44-2-2
	or screw with nut and washers	2	1951-44-2-3

*) Fixing accessories are sold in sets 20 pcs/1 set.
   Detailed description on page 20.

Supplementary accessories for SZE2 cabinets

MOUNTING BAR CLASSIC

For rack construction inside SZE2 cabinet.
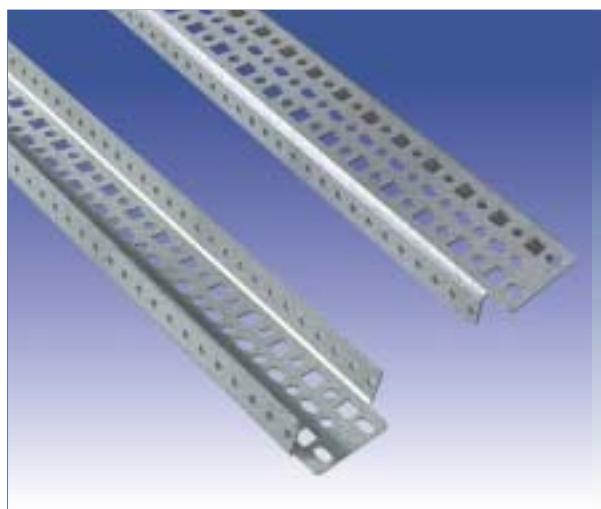Fixed to the cross bars.

Material:
2.0 mm thick Al-Zn coated sheet steel.

Supply includes:
Mounting bar without fixing accessories (fixing accessories on page 20).

Mounting bar length [mm]	Catalogue number	Mounting bar length [mm]	Catalogue number
1200	573-12-1	650	573-12-13
1150	573-12-2	600	573-12-14
1100	573-12-3	550	573-12-15
1050	573-12-4	525	573-12-16
1000	573-12-5	500	573-12-17
950	573-12-6	450	573-12-18
900	573-12-7	400	573-12-19
850	573-12-8	350	573-12-20
800	573-12-9	300	573-12-21
ï ï í	573-12-10	275	573-12-22
750	573-12-11	250	573-12-23
700	573-12-12	225	573-12-24
		200	573-12-25

Package: 1 pc.

VERTICAL BAR CLASSIC

Fixed to bottom and top plate of cabinet's frame.

Material:
2.0 mm thick AL-Zn coated sheet steel.

Supply includes:
Vertical bar withoutfixing accessories
(fixing accessories on page 20).

Cabinet's height [mm]	Bar's lenght [mm]	Catalogue number
2000	1875	1951-48-0-1
1800	1675	1951-48-0-2

Package: 1 pc.

CROSS BAR CLASSIC

Fixed to vertical or horizontal cut-outs in the cabinet's frame.

Material:
2.0 mm thick Al-Zn coated sheet steel.

Supply includes:
Mounting bar without fixing accessories (fixing accessories on page 20).

For cabinet		Bar's length [mm]	Catalogue number
width [mm]	depth [mm]		
-	800	640	1951-46-0-1
-	600	440	1951-46-0-2
-	500	340	1951-46-0-3
-	400	240	1951-46-0-4
1200	-	1152,5	1951-46-0-5
1000	-	952,5	1951-46-0-6
800	-	752,5	1951-46-0-7
600	-	552,5	1951-46-0-8

Package: 1 pc.

Supplementary accessories for SZE2 cabinets

MOUNTING BAR UNI

Mounting bars UNI enable configuration of any rack inside the cabinet. Slots in the bars are adjusted both for horizontal and vertical cut-outs in the cabinet's frame.

Standard offer includes bars which length is adjusted to the cabinet's dimensions (look at the chart below). Other lengths of bars on individual customer's request.

It is possible to select the length of bar individually by cutting bars during the assembly.

Material:
1.5 mm thick Al-Zn coated sheet steel.

Supply includes:
Mounting bar without fixing accessories.

For cabinet			Length of mounting bar [mm]	Catalogue number
height [1] [mm]	width [2] [mm]	depth [3] [mm]		
2000	-	-	1875	1951-19-0-1
1800	-	-	1675	1951-19-0-2
1600	-	-	1475	1951-19-0-3
1200	-	-	1075	1951-19-0-4
-	1200	-	1162.5	1951-19-0-5
-	1000	-	962.5	1951-19-0-6
-	800	-	762.5	1951-19-0-7
-	600	-	562.5	1951-19-0-8
-	-	800	700	1951-19-0-9
-	-	600	500	1951-19-0-10
-	-	500	400	1951-19-0-11
-	-	400	300	1951-19-0-12

Package: 1 pc.
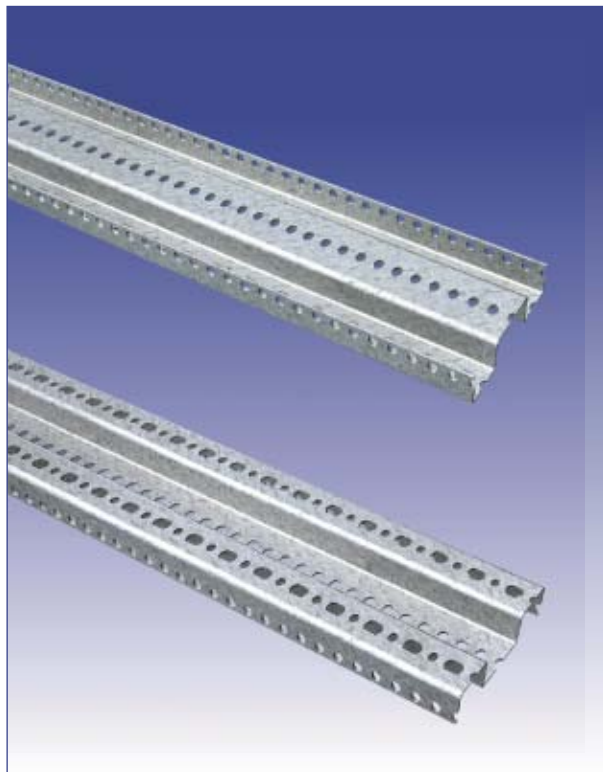
Manners of fastening bars in the cabinet (look at page 18):
[1]) Indirect fastening by bars cat. No from 1951-19-0-5 to 1951-19-0-8.
[2]) Direct fastening to the bottom or top plate.
[3]) Direct fastening to the cabinet's posts.
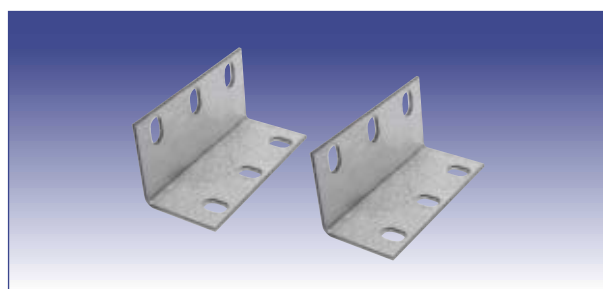
ANGLE ELEMENT FOR JOINING MOUNTING BARS

Material:
1.5 mm thick Al-Zn coated sheet steel.

Supply includes:
1 angle element without fixing accessories.

| Package	Catalogue number
1 pc.	1951-21

FIXING ACCESSORIES FOR CLASSIC AND UNI TYPE BARS

Usage in accordance with instruction on page 18.
The are sold in sets 20 pcs. each.

Type of element	Package = 1 set	Catalogue number
1) Self forming screw M6x16	20 pcs.	1951-44-2-1

2) Screw M6x16
    Cage nut M6
    Washer 6.4
	20 pcs.
	20 pcs.
	20 pcs.
		1951-44-2-2

3) Screw M6x16
    Nut M6
    Washer 6.4
	20 pcs.
	20 pcs.
	40 pcs.
		1951-44-2-3
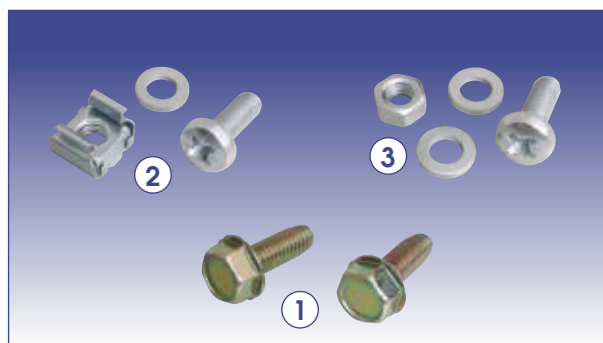
Supplementary accessories for SZE2 cabinets

GROUNDING STRIP SET

Consists of grounding strip and horizontal mounting bar intended for fixing on the horizontal profiles of the cabinet's frame.
Grounding strip with threaded openings M6 for cables fixing.

Material:
Grounding strip: zinc coated steel rail 30 x 4 mm.
Mounting bar: 1.5 mm thick Al-Zn coated sheet steel.

Supply includes:
Grounding strip set with fixing accessories for assembling into the cabinet.

Cabinet's width [mm]	Length of mounting bar [mm]	Length of grounding strip	Catalogue number of set
1200	1162.5	1113.5	1951-24-2-1
1000	962.5	913.5	1951-24-2-2
800	762.5	713.5	1951-24-2-3
600	562.5	513.5	1951-24-2-4

Package: 1 pc.
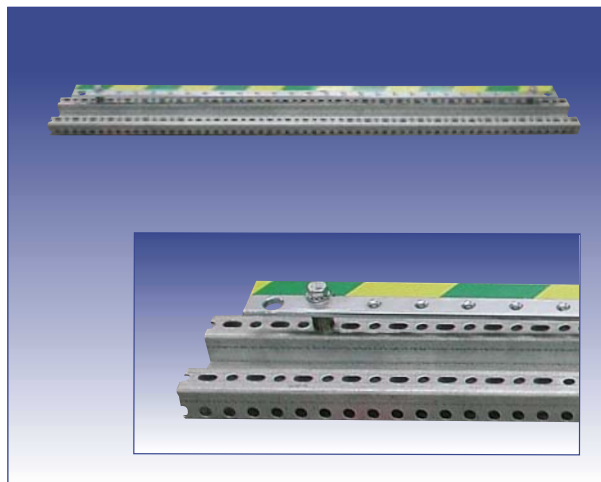
SCREENING OR NEUTRALIZATION STRIP

Fixed on the mounting bar, which is the part of grounding strip set.
With threaded openings M6 for cables fixing.

Material:
Copper bar 30 x 4 mm.

Supply includes:
Screening/neutral earthing strip with 3 insulators and screws for fixing strip on the mounting bar.

Cabinet's width [mm]	Length of strip	Catalogue number
1200	1113.5	1951-25-2-1
1000	913.5	1951-25-2-2
800	713.5	1951-25-2-3
600	513.5	1951-25-2-4

Package: 1 pc.

Mounting manner of screening strip on the mounting bar
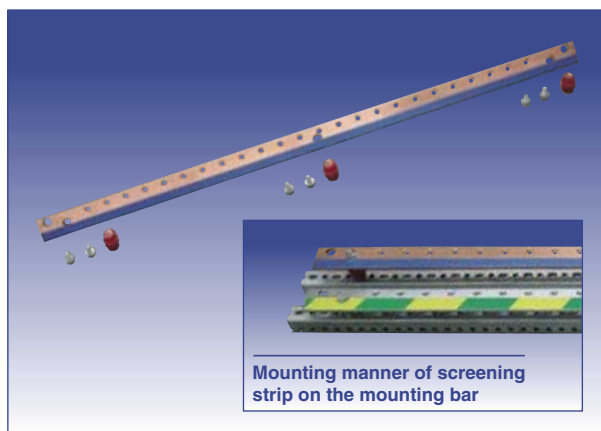
GROUNDING CABLES SET

Copper cables for joining removable elements of the cabinet with grounding strip, equipped with contact eyes for M6 screws.
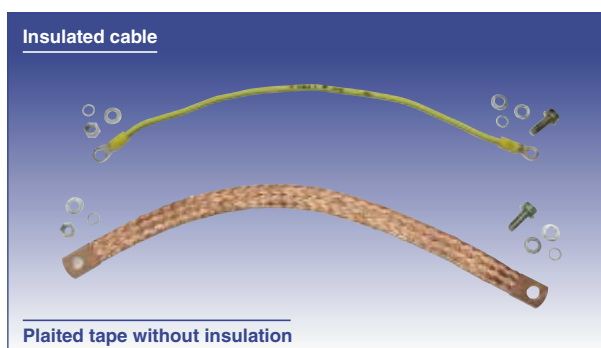
Material:
Copper.

Supply includes:
Set: 8 insulated cables, full section 6 mm^2, 3 plaited tapes without insulation about 20 mm^2, fixing accessories.

Note: Plaited tapes are intended for door and mounting plate grounding.

Package	Catalogue number
1 set	1951-33

Insulated cable

Plaited tape without insulation

Supplementary accessories for SZE2 cabinets
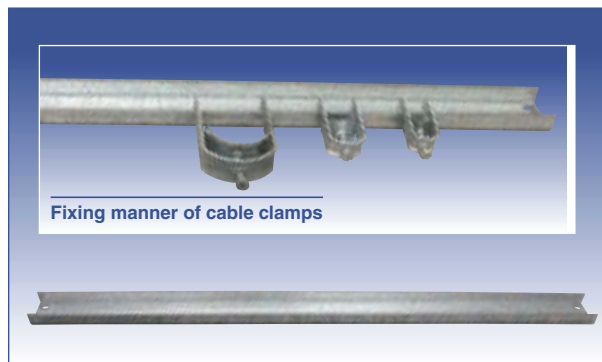
CABLE BAR, CABLE CLAMPS

For fixing cables with cable clamps.
Cable bar is to be mounted on horizontal profile of the cabinet's frame.

Material:
Cable bar - 2.0 mm thick Al-Zn coated sheet steel.
Cable clamps - zinc coated sheet steel.

Supply includes:
Cable bar sold without fixing accessories
(fixing accessories on page 20).
Cable clamps should be ordered separately.

Fixing manner of cable clamps

Cable clamps

Cable diameter [mm]	Package	Catalogue number
16 - 20	1 pc.	1131.153.205
24 - 28	1 pc.	1131.153.206
36 - 40	1 pc.	1131.153.208
40 - 44	1 pc.	1131.153.215
44 - 48	1 pc.	1131.153.209
52 - 56	1 pc.	1131.153.207

Cable bar

Cabinet's width [mm]	Bar's dimensions [mm] (length x width x height)	Pack.	Catalogue number
1200	1158 x 49 x 20	1 pc.	1951-22-1
1000	958 x 49 x 20	1 pc.	1951-22-2
800	758 x 49 x 20	1 pc.	1951-22-3
600	558 x 49 x 20	1 pc.	1951-22-4

DOOR STOP

Protects hinges from damage.
Equipped with blockade.
Fixed into the door's frame and cabinet's frame.
In case of self assembling it is necessary to punch two 6 mm cut-outs in jigsaw places.
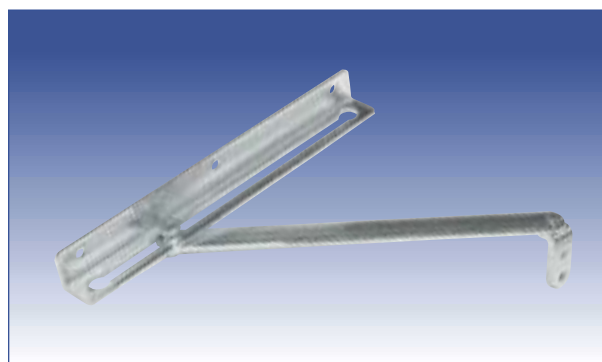
Material:
Zinc coated sheet steel.

Supply includes:
Door stop with fixing accessories for mounting into the cabinet.

Package	Catalogue number
1 pc.	1951-32-2

LIGHTENING SET

Fixed into the horizontal openings in the top part of the cabinet's frame.

Material:
Mounting bracket - 1.5 mm thick sheet steel powder painted in RAL 7035.
Mounting bar - 1.5 mm thick Al-Zn coated steel (only for cabinets 1000 an 1200 mm thick).

Supply includes:
Set: lightening rim with pipe-shape 60 W bulb, mounting bracket, mounting bar (for cabinets 1000 and 1200 mm wide), fixing accessories for mounting lightening set into the cabinet.

Cabinet's width [mm]	Catalogue number of set
1200	1951-38-2-1
1000	1951-38-2-2
800	1951-38-2-3
600	1951-38-2-4

Package: 1 set
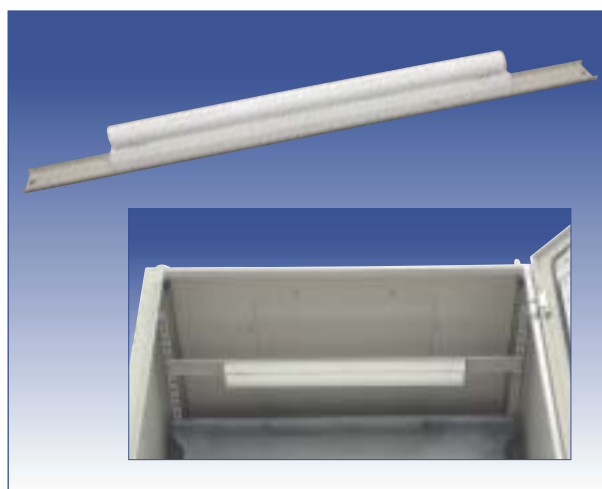
Supplementary accessories for SZE2 cabinets

BLIND COVERS FOR OPENINGS IN BOTTOM AND TOP PLATE OF CABINET'S FRAME

Types, dimensions and places of openings in bottom an top plate: pages 12 - 13.

SOLID BLIND COVERS

Available in two versions:
- with cast gaskets of polyurethane foam - for covering openings in top plate in order to keep appropriate protection degree of the cabinet (IP 64 for single-door cabinets, IP 54 for double-door cabinets).
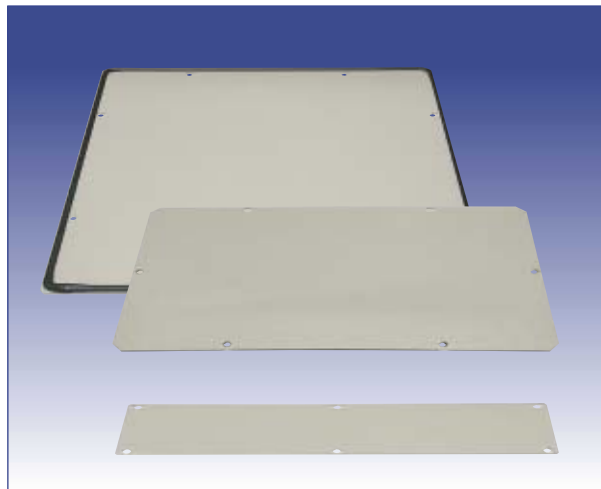- without gaskets - for bottom plate.

Material:
1.5 mm thick sheet steel, powder painted in RAL 7035.

Supply includes:
Blind cover with fixing accessories for mounting into the cabinet.

Opening dimensions [mm]	Package	Catalogue number	
		Blind cover with gasket	Blind cover without gasket
380 x 380	1 pc.	1441-35/A	1718-38-1-1/7035
380 x 210	1 pc.	1951-26	1718-38-1-2/7035
380 x 50	1 pc.	-	1718-9-1-2/7035

BLIND COVERS WITH PERFORATION

They have ventilation cut-outs 2.5 mm wide.
In case of mounting perforated blind covers to the top plate, the protection degree of the cabinet is IP 20 (cabinet without roof) or IP 21 (cabinet with roof).
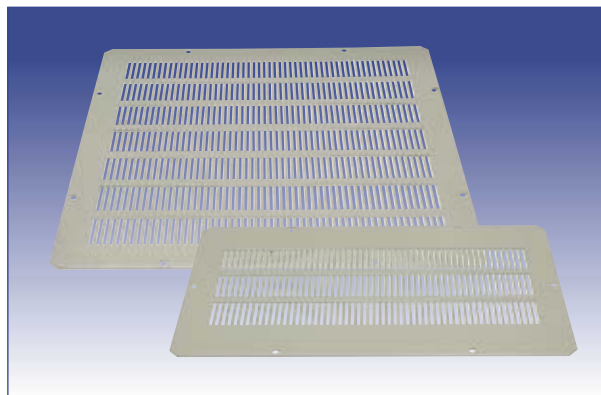
Material:
1.5 mm thick sheet steel, powder painted in RAL 7035.

Supply includes:
Blind cover with fixing accessories for mounting into the cabinet.

Opening dimensions [mm]	Package	Catalogue number
380 x 380	1 pc.	1718-39-1-1/7035
380 x 210	1 pc.	1718-39-1-2/7035

FABRIC BLIND COVER

They have fabric insert which filters the air coming into the cabinet.
In case of mounting fabric blind covers to the top plate, the protection degree of the cabinet is IP 10 (cabinet without roof) or IP 21 (cabinet with roof).
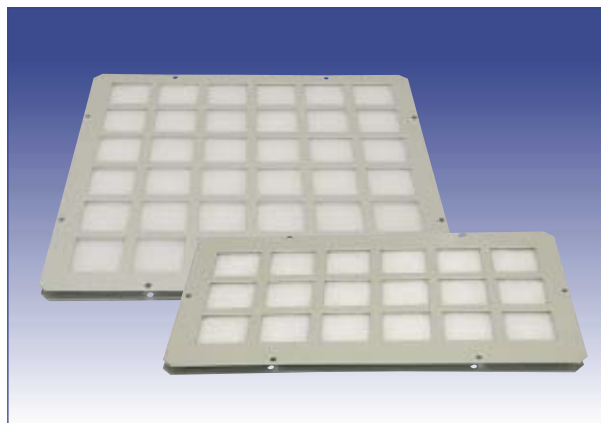
Material:
1.5 mm thick sheet steel, powder painted in RAL 7035; replaceable insert made of filtering fabric.

Supply includes:
Blind cover with fixing accessories for mounting into the cabinet.

Opening dimensions [mm]	Package	Catalogue number
380 x 380	1 pc.	1718-42-2-1/7035
380 x 210	1 pc.	1718-42-2-2/7035

SZE2 FLOOR STANDING CABINETS

Supplementary accessories for SZE2 cabinets

BLIND COVERS FOR OPENINGS IN BOTTOM AND TOP PLATE OF CABINET'S FRAME

Types, dimensions and places of openings in bottom an top plate: pages 12 - 13.

BLIND COVER WITH BRUSH CABLE OPENING

Blind covers for openings dimensions 380 x 380 or 380 x 210 mm have got rectangular cut-out (dimensions 320 x 50 mm) for cable entry with brush insert for protecting from dust. Blind covers for side openings (dimensions 380 x 50 mm) consist of brush insert and mounting rim made of metal.

In case of mounting blind covers with brush cable opening to the top plate, the protection degree of the cabinet is IP 10 (cabinet without roof) or IP 21 (cabinet with roof).

Material:
Blind covers for opening dimensions 380 x 380 or 380 x 210 mm:
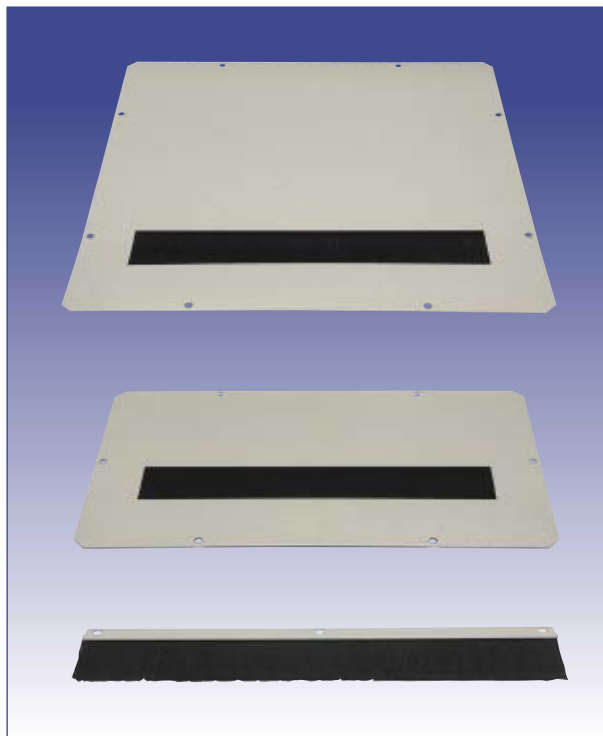1.5 mm thick sheet steel powder painted in RAL 7035, brush insert with plastic rim.
Blind covers for opening dimensions 380 x 50 mm:
1.25 mm thick sheet steel powder painted in RAL 7035, brush insert with metal rim.

Supply includes:
Blind cover with fixing accessories for mounting into the cabinet.

Opening dimensions [mm]	Package	Catalogue number
380 x 380	1 pc.	1718-37-2-1/7035
380 x 210	1 pc.	1718-37-2-2/7035
380 x 50	1 pc.	1718-8-2-2/7035

BLIND COVER WITH FOAM CABLE OPENING

They have got rectangular cut-outs for cable entry with foam insert.
In case of mounting blind covers with foam cable opening to the top plate, the protection degree of the cabinet is IP 10 (cabinet without roof) or IP 21 (cabinet with roof).
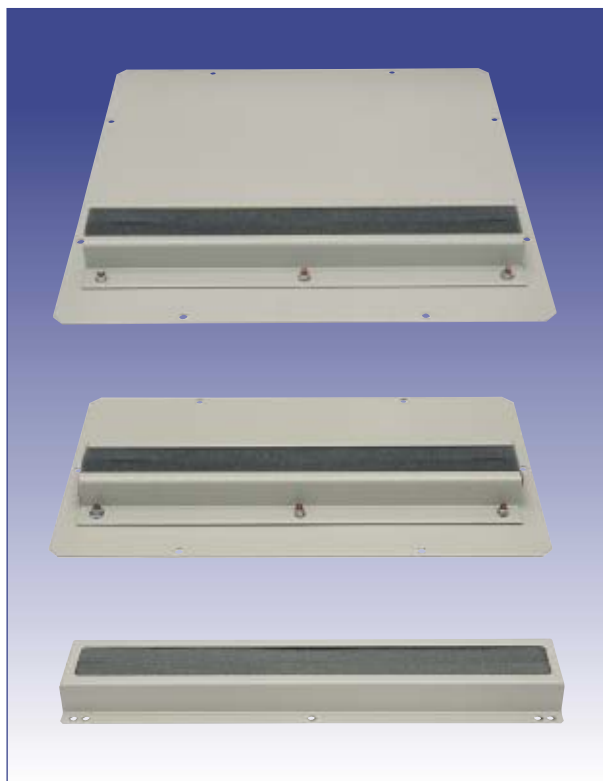
Material:
1.5 mm thick sheet steel powder painted in RAL 7035, polyurethane foam insert.

Supply includes:
Blind cover with fixing accessories for mounting into the cabinet.

Opening dimensions [mm]	Package	Catalogue number
380 x 380	1 pc.	1718-40-2-1/7035
380 x 210	1 pc.	1718-40-2-2/7035
380 x 50	1 pc.	1718-7-2-2/7035

SZE2 FLOOR STANDING CABINETS

SWN wall-mounted cabinets

SWN wall-mounted cabinets

- **Compact wall mounted cabinets, designed for installing electrical devices, which require protection from excess, dust and humidity.**
- **In standard they are foreseen for indoor usage.**
- **Manufacture in 20 different standard dimensions in accordance with the chart below.**

REFERENCE CHART

Width [mm]	Depth [mm]	Height [mm]					
		300	400	500	600	800	1000
		Catalogue numbers of standard dimensions of SWN cabinets					
200	115	2285-1-3-1	-	-	-	-	-
300	150	2285-1-3-2	-	-	-	-	-
	210	-	2285-1-3-3	-	-	-	-
400	150	-	-	-	-	-	-
	210	2285-1-3-4	2285-1-3-5	2285-1-3-6	-	-	-
	250	-	-	-	2285-1-3-7	-	-
	300	-	2285-1-3-8	2285-1-3-9	-	-	-
500	210	-	-	2285-1-3-10	-	-	-
	250	-	2285-1-3-11	-	2285-1-3-12	-	-
	300	-	-	-	2285-1-3-13	-	-
600	250	-	2285-1-3-14	-	2285-1-3-15	2285-1-3-16	2285-1-3-17
	300	-	-	-	-	2285-1-3-18	-
800	300	-	-	-	-	2285-1-3-19	2285-1-3-20

TECHNICAL DATA

Type of element	Material sheet steel	Surface finish
Body	1.25 mm or 1.5 mm depending on cabinet's dimensions	Epoxide-polyester thick-texture powder paint in **RAL 7035**, intended for indoor usage
Door		
Blind cover	1.5 mm	
Mounting plate	2.0 mm	Al-Zn coated

*) On customer's request it is possible to use facade paint with better resistance on atmosphere factors with optional usage of polyzinc base.

Protection degree
IP 65 in accordance with norm PN-92/E-08106 / EN 60 529 / IEC 529

DESCRIPTION OF SWN CONSTRUCTION

Body

- The body of SWN is tight welded sheet metal construction. Maximum enlargement of entrance opening enables using bigger mounting plate, what means more useful space.
- Multiplied bend of the trough protects from getting dust and water into the cabinet, even with the door open.
- In the bottom of the body there is opening for cable plate. Dimensions of the opening depend on dimensions of the cabinet.
- Inside the body there are self-tapping screws for mounting plate fixing.
- On the rear side of the body there are cut-outs for mounting the cabinet directly on the wall or by using lifting brackets.

SWN wall-mounted cabinets

Door

- Cabinets have got one-wing door.
- Depending on the door's height, the are used one or two locks without handle with shaped insert „doppelbart" type:
  - cabinets up to 400 mm high - one lock in the middle;
  - cabinets from 500 to 1000 mm high - two locks.
- There are hinges fixed to the door, quantity depends on cabinet's height: from 300 to 600 mm - two hinges, from 800 to 1000 mm - three hinges.
- On the inside of the door there are cast gasket and grounding bolts.
- Easy change of direction of door open.
- Maximum door opening angle 120°.

Mounting plate

- Fixed into the rear side of the body.
- In cabinets up to 600 mm height it is used flat mounting plate, in cabinets 800 and 1000 mm height it is used bent mounting plate in order to improve firmness.
- There are cut-outs in the mounting plate for grounding strip fixing.

Blind cover - cable plate

- Fixed to the opening in the bottom plate by self-tapping screws.
- It has cast gasket and grounding bolt.
- On customer's request it is possible to make cable plate with cut-outs for gland seals.
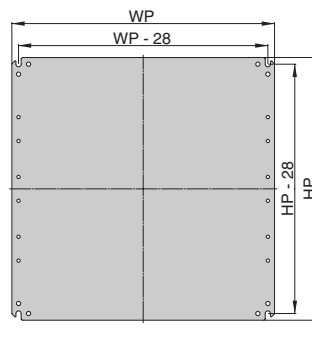
Grounding and screening

- Cabinet's door and blind cover have got threaded grounding bolts.
- Grounding strip, screening strip (for fixing on the mounting plate) and grounding cables can be delivered as supplementary accessories.
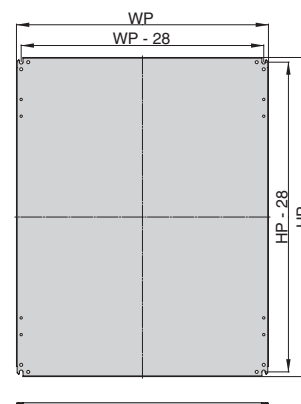

Blind cover fixed to the cabinet's bottom

SWN WALL-MOUNTED CABINETS

Construction of SWN cabinets

S W N   W A L L - M O U N T E D   C A B I N E T S

Flat mounting plate
(for cabinets from
300 to 600 mm high)

WP
WP - 28
HP - 28
HP

Bent mounting plate
(for cabinets 800 and 1000
mm high)

WP
WP - 28
HP - 28
HP

REFERENCE CHART									
Cabinet's dimensions [mm]	**Height H**	300			400				
	Width W	200	300	400	300	400	400	500	600
	Depth D	115	150	210	210	210	300	250	250
Quantity of locks in the door		1	1	1	1	1	1	1	1
Quantity of hinges in the door		2	2	2	2	2	2	2	2
Mounting plate dimensions [mm]	**Height HP**	251	251	251	351	351	351	351	351
	Width WP	151	251	251	251	351	251	451	551
Cable plate dimensions	**A dimension**	172	172	341	172	341	341	349	540
	B dimension	82	82	101	82	101	101	159	159

		Package	CATALOGUE NUMBERS							
SWN cabinet*		1 pc.	2285-1-3-1	2285-1-3-2	2285-1-3-4	2285-1-3-3	2285-1-3-5	2285-1-3-8	2285-1-3-11	2285-1-3-14
Supplementary accessories	**Screening strip**	1 pc.	2285-10-1-1	2285-10-1-1	2285-10-1-1	2285-10-1-1	2285-10-1-1	2285-10-1-1	2285-10-1-2	2285-10-1-2
	Grounding set	1 set	2285-13-2							
	Set of hanging brackets for wall mounting	1 set = 4 pcs.	2285-14-2							

*) SWN cabinet - supply includes: body, door, mounting plate, blind cover (cable plate).

Construction of SWN cabinets

Front view of the cabinet

W
$Wz = W - 40$
B

A | A

H

$Hz = H + 30$

2

B

5

A - A section

4

B
$B - 40$

D

$A - 40$
A

B - B section

20 | D

3

1

2

5 | 4
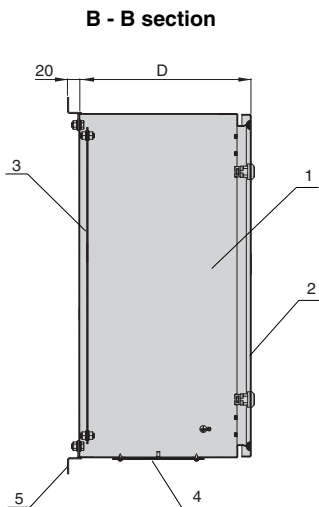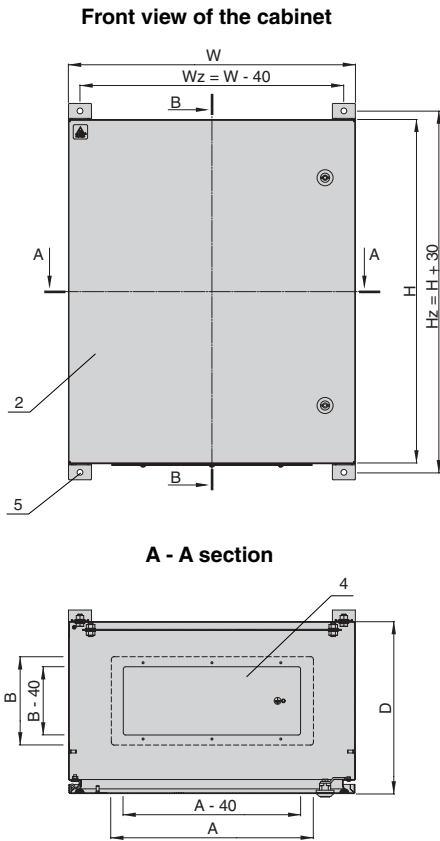
CONSTRUCTION:

1. Body
2. Door
3. Mounting plate
4. Blind cover - cable plate
5. Hanging bracket

Note:
Hanging brackets are supplementary accessories.

500			600				800			1000	
400	400	500	400	500	500	600	600	600	800	600	800
210	300	210	250	250	300	250	250	300	300	250	300
2	2	2	2	2	2	2	2	2	2	2	2
2	2	2	2	2	2	2	3	3	3	3	3
451	451	451	551	551	551	551	751	751	751	951	951
351	351	451	351	451	451	551	551	551	751	551	751
341	341	349	341	349	349	540	540	540	540	540	540
101	101	159	101	159	159	159	159	159	159	159	159

2285-1-3-6	2285-1-3-9	2285-1-3-10	2285-1-3-7	2285-1-3-12	2285-1-3-13	2285-1-3-15	2285-1-3-16	2285-1-3-18	2285-1-3-19	2285-1-3-17	2285-1-3-20
2285-10-1-1	2285-10-1-1	2285-10-1-2	2285-10-1-1	2285-10-1-2	2285-10-1-2	2285-10-1-2	2285-10-1-2	2285-10-1-2	2285-10-1-2	2285-10-1-2	2285-10-1-2

2285-13-2

2285-14-2

SWN WALL - MOUNTED CABINETS

Supplementary accessories for SWN cabinets

SCREENING STRIP

Fixed to the mounting plate by insulators (cut-outs for fixing screening strip into the mounting plate are made during assembly).
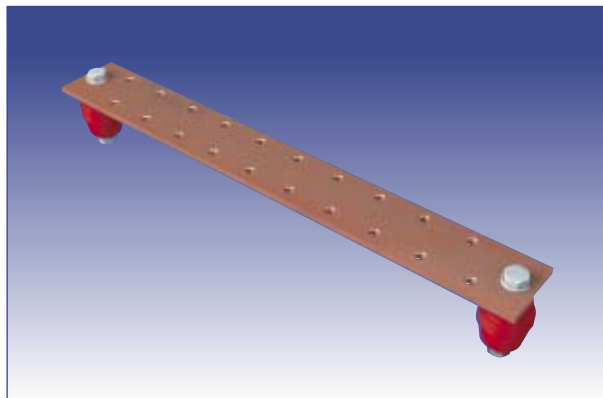With threaded openings M5 for fixing wires.

Material:
Copper strip 30 x 4 mm.

Supply includes:
Screening strip with 2 insulators and screws for fixing on the mounting plate.

SWN cabinet's width [mm]	Strip's length [mm]	Package	Catalogue number
200 - 400	130	1 pc.	2285-10-1-1
500 - 800	230	1 pc.	2285-10-1-2

GROUNDING SET

Consists of grounding strip and 2 grounding cables.

Grounding strip
- Fixed to the mounting plate by distance pins (standard mounting plate has cut-outs for grounding strip fixing).
- With threaded openings M5 for fixing wires.

Grounding cables
- Insulated copper wires for joining removable elements of the cabinet with grounding strip or directly with cabinet's body.
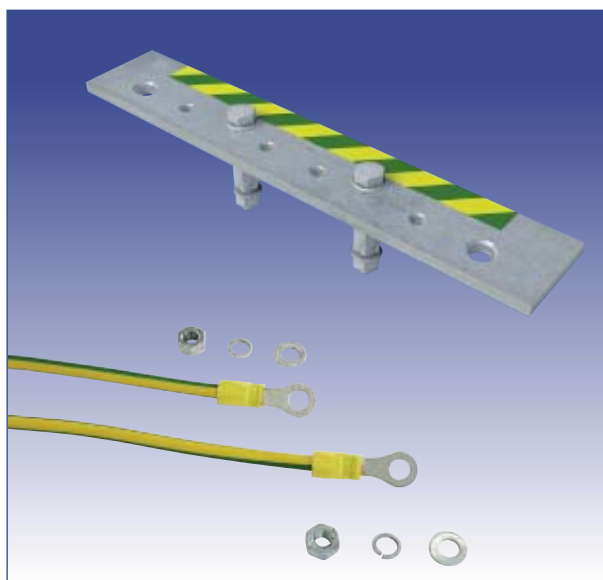- With contact eyes.

Material:
Zinc coated steel rail 30 x 4 x 170 mm.
Copper cables, full section 6 mm^2.

Supply includes:
Set: grounding strip 170 mm long with distance pins, washers and nuts for fixing to the mounting plate, 2 grounding cables 300 mm long, fixing accessories.

Package	Catalogue number
1 set.	2285-13-2

SET OF HANGING BRACKETS FOR WALL MOUNTING

Hanging brackets are fixed to the openings in the rear side of the cabinet horizontally or vertically. Diameter of openings: 10 mm. Spacing between rear side of the cabinet and the wall: 20 mm.
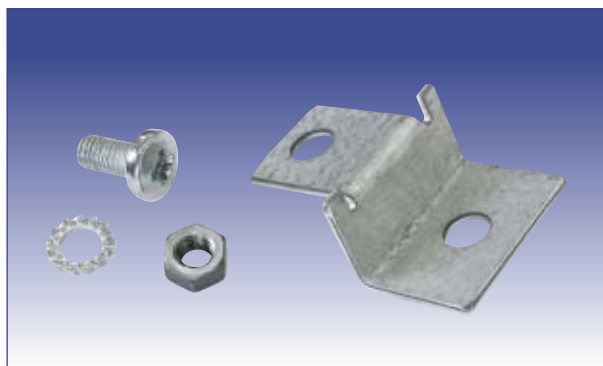1 set = 4 brackets is needed for mounting one cabinet on the wall.

Material:
2 mm thick Al-Zn coated sheet steel.

Supply includes:
Set: 4 hanging brackets with screws, nuts and washers for fixing into the rear shield.

Package	Catalogue number
1 set = 4 pcs.	2285-14-2

SWN WALL - MOUNTED CABINETS

Floor standing and wall mounted cabinets with electrical equipment

Cabinet of measuring transducers for Power Plant Rybnik

Control box for Power Plant Bełchatów on the basis of SWN cabinet

ZPAS S.A. also offers floor standing and wall mounted cabinets with electrical equipment and wiring:

- lower voltage up to 2500 A distributor cabinets,
- AC and DC guaranteed voltage distribution cabinets,
- cross and cables cabinets,
- meter cabinets,
- protection, control and signalling cabinets,
- remote control engineering cabinets and others.

Floor standing and wall mounted cabinets with electrical equipment

Distribution cabinet of low voltage in Zinc Plant Galess in Świdnica

Notes

Zakład Produkcji Automatyki Sieciowej S.A.
Przygórze 209, 57-431 Wolibórz, Poland