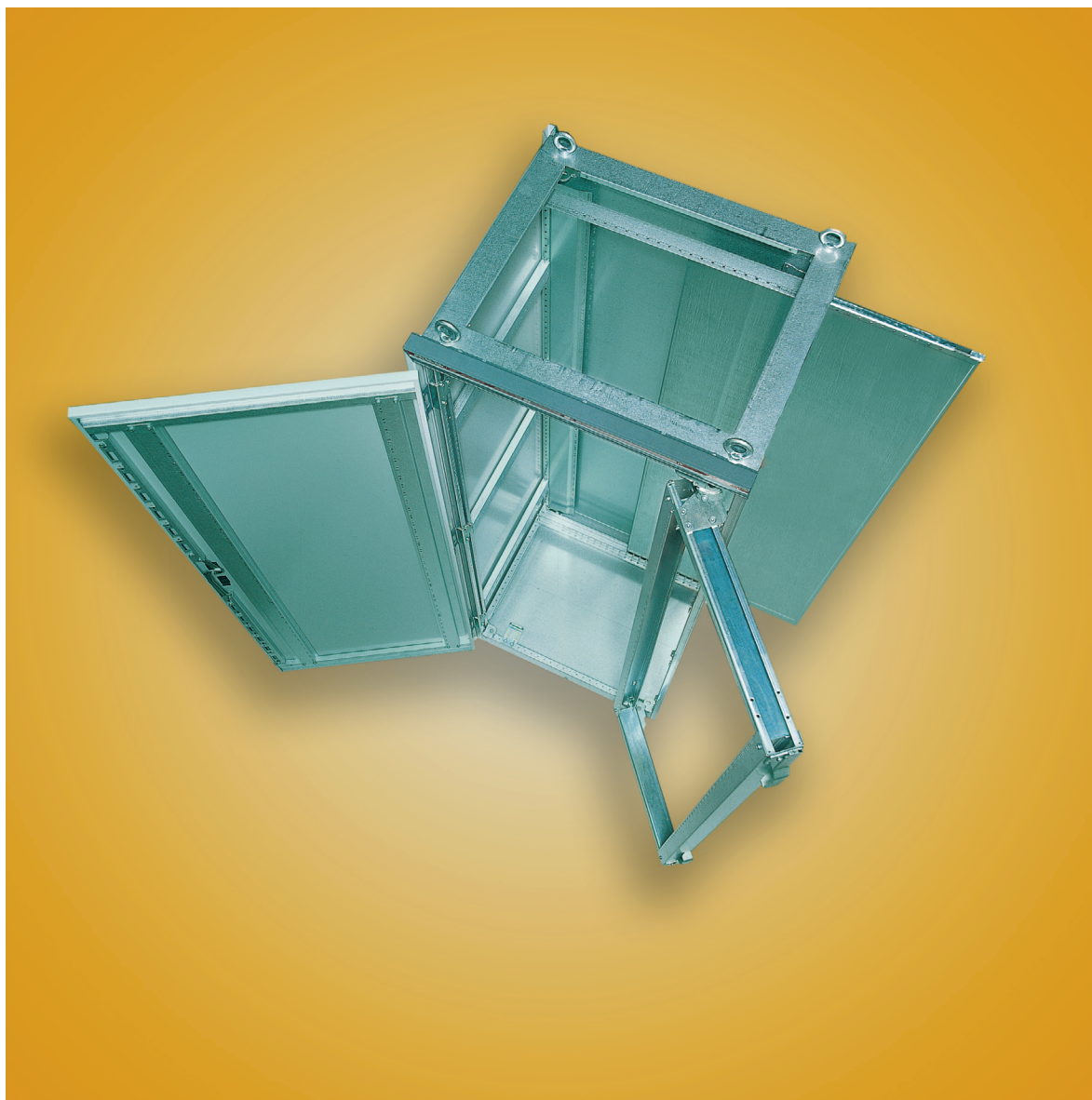


# MNS Select

Flexible cabinet for apparatus and electronics



**ABB**

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Aluzink® is a registered trademark.

Design, data and dimensions may be subject to change without prior notice.

# Introduction

MNS Select is suitable for enclosing not only simple distribution equipment, but also sophisticated electronic, relay and control systems. The construction principle is very flexible and allows you to obtain many different variants. MNS Select will grow to meet your demands.

## A great variety of combinations

The external dimensions of the cabinet can be selected in a variety of height, width and depth combinations, which makes it easy to find the appropriate cabinet size for every application.

The doors open to 180° and are available for both front and rear mounting. Double doors are available for cabinet width 800 mm and more.

MNS Select can be given nine different mounting planes. The open, bolted design simplifies the assembly of equipment in the cabinet from all directions.

## Short delivery time

It is easy for the user to rapidly design a truly customised MNS Select cabinet with the help of the Windows-based PC program, ProSelect .

The cabinet is supplied as a complete unit on a short delivery time.

## Environmentally friendly

The MNS Select cabinet has been developed to fulfil the environmental requirements of today and tomorrow. It is built from Aluzink® and zinc-coated sheet steel and designed to require the minimum of materials, which also means low weight. The bolted assembly system facilitates recycling.

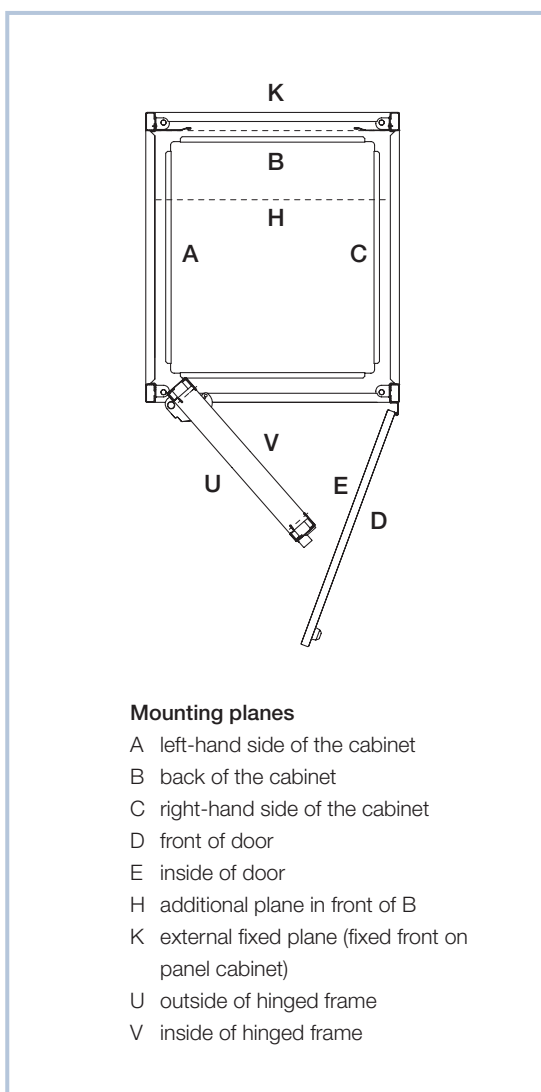
## Environmental adaption

MNS Select is designed and fitted for indoor use in a dry environment or at reasonable humidity and air pollution levels. The cabinets can be fitted with heating elements to prevent condensation.

## EMC adaption

Electrical equipment and systems play an important part in today's society. Electronics, power- and communication network, electrified railways and data networks are just a few examples. The electromagnetic energy can appear as electromagnetic fields, overvoltages and currents in the shape of transients and noise at different frequencies.

EMC (Electro Magnetic Compatibility) implies that two or more systems can work on the same premises without disturbing each other or themselves by generating electromagnetic waves. MNS Select is designed to provide effective screening against most types of electromagnetic waves.



### Mounting planes

- A left-hand side of the cabinet
- B back of the cabinet
- C right-hand side of the cabinet
- D front of door
- E inside of door
- H additional plane in front of B
- K external fixed plane (fixed front on panel cabinet)
- U outside of hinged frame
- V inside of hinged frame

## Standards

MNS Select cabinets are tested according to IEC standard publication EN 62208 Enclosures for electronic equipment, Mechanical dimensions in 19" according to IEC 60297.



Underwriters Laboratories Inc. (UL) is an American safety testing and certification organization for both industrial and consumer products.

MNS Select is tested according to the UL-standard Industrial Control Panel (UL508 typ 1). Manufacturing tests performed by independent testing institutes guarantee accomplishment of the standard all over the world.

## Introduction, cont.

### Degrees of protection

MNS Select cabinets are available with the following degrees of protection as per IEC 529: IP21, IP41, IP43, IP54.

Definition of degrees of protection under IEC 529, IPXY:

X = 2	Protected against solid objects greater than 12 mm
X = 4	Protected against solid objects greater than 1.0 mm
X = 5	Dust-protected
Y = 1	Protected against dripping water
Y = 3	Protected against spraying water
Y = 4	Protected against splashing water

### Material

The basic cabinet frame components are made of 1.5–2 mm corrosion-resistant sheet steel with a 20 µm Aluzink® coating. Other parts with a thickness of over 2 mm are made of zinc-coated sheet steel.

### Surface treatment

Only externally visible surfaces, i.e. doors and end panels, are powderpainted. Rear plates can be painted on request.

### Standard colour on painted surfaces

RAL 7035 structure, light grey. The base is painted in RAL 7043, dark grey. Other colours on request.

### EMC

Dampning measurement according to test arrangement EN 55011 has been performed.

### Vibrations

Resonance test has been performed according to IEC 68-2-6 Test Fc:

Frequency range:	5–100 Hz
Amplitude 5–13 Hz:	1 mm
Acceleration 13–100 Hz:	0,7 g

### Earthquake protection

MNS Select is tested to withstand seismic shocks according to IEEE 693 draft 5.

Under standard conditions the cabinets can sustain a maximum ground acceleration (ZPA) = 0.5 g.

By applying distance tubs in the bottom corner fittings the cabinets are capable of withstanding (ZPA) = 0.7 g.

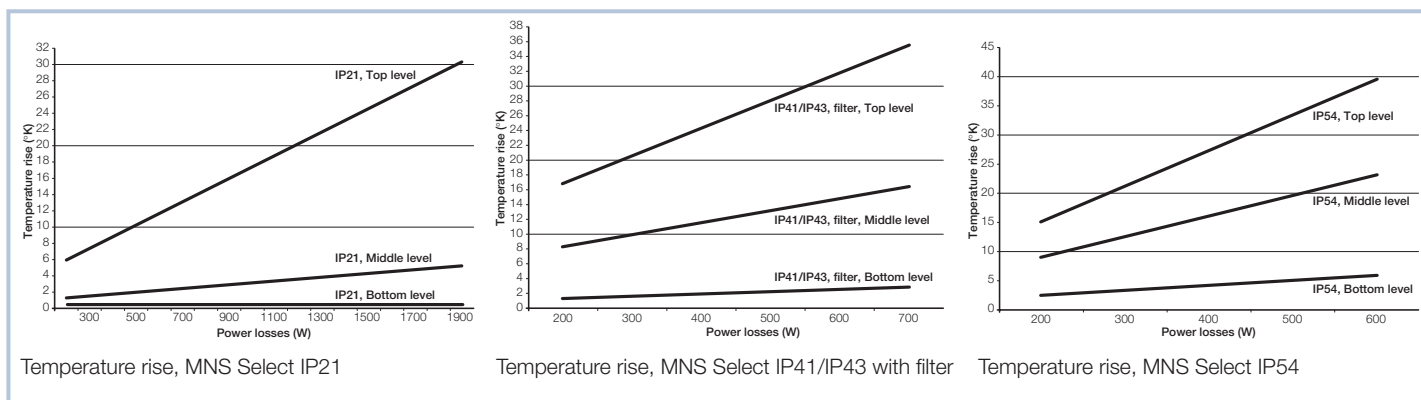
### Heat exchanger

MNS Select can be equipped with an air-air heat exchanger. Other variants available on request.

### Power losses, guidelines

The temperature rises in a cabinet due to the power losses from the equipment housed in it. It also depends on the cabinet's degree of protection (air-tightness). Self-ventilated cooling is also highly dependent on the type of equipment involved and where it is located in the cabinet.

Equipment placed to ensure free air circulation around a heat source can be expected to emit more heat for the same increase in temperature than equipment which is not so well situated. Expected power losses at certain permissible temperature rises can also only be given as guidelines as shown below. There are three measured levels in the cabinet, at the top, on the bottom and in the middle. The heat sources were placed evenly inside the cabinet.



# ProSelect

## ProSelect

ProSelect is a PC-based project planning and quotation tool for MNS Select.

The principle is that you enter suitable cabinet size and functional units. The proposals can then be accepted or changed. When the complete cabinet proposal is considered satisfactory, all the relevant data can be printed on paper.

## Input

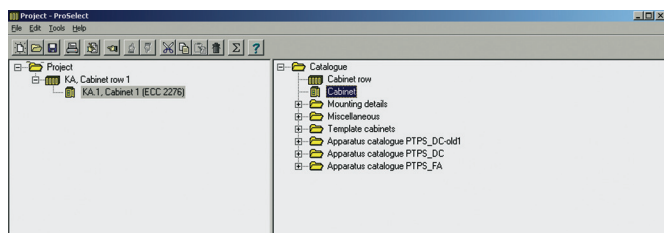
The input consists of general cabinet data, e.g. size, mounting planes, degree of protection and mounting parts e.g. frame, mounting and cover plates, terminal blocks etc.

## Easy to change

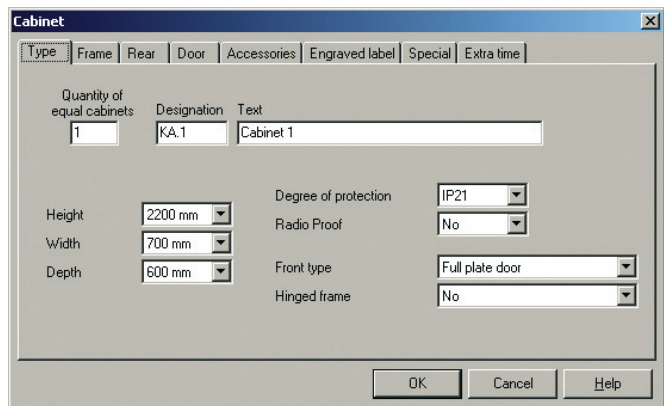
The cabinet selected in ProSelect can be simply changed, e.g. frames and mounting plates can be moved in order to get optimum utilization of the cabinet space.

## Simplifies in many ways

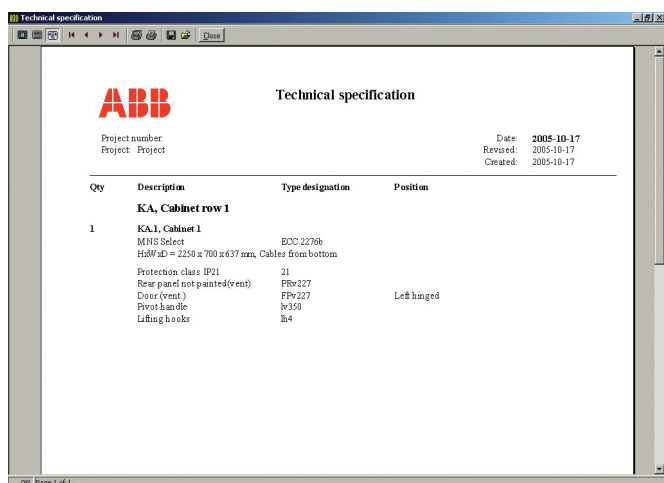
ProSelect is used through the whole process, from tendering to production. The system is also a very useful aid for consultants, industries and utilities during preplanning to find out space requirements etc..



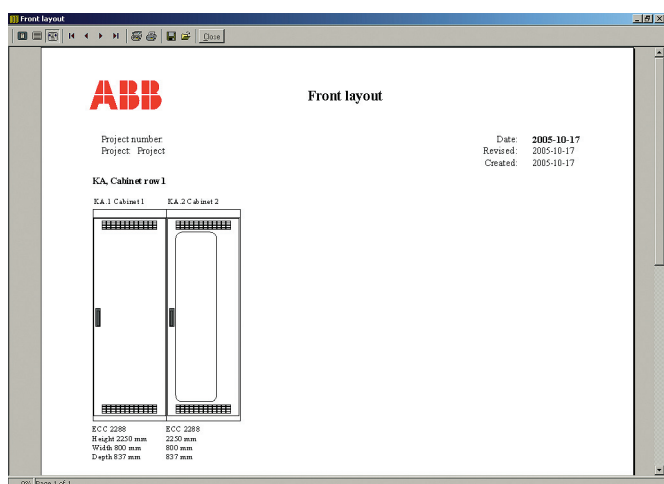
Cabinet selection.



Design selection.



Copy on technical specification.



Cabinet layout.

# Design

## Cabinet frame

The cabinet frame consists of four pillars, eight corner fittings, a roof plate, a bottom plate and a holder for the legend plate.

The pillars have mounting holes at each 25 mm.

Roof and bottom plates are available with or without holes (for cable entrance). For cable entrance cover plates and EMC cover plates are available.

Thanks to the open design the inside of the cabinet are easily accessible.

## Doors

The cabinets are available with different types of doors, left- and right-hand hinged, with or without glass. The opening angle is 180°.

The door locks are of spagnolet design and can be opened and locked by means of a handle. As an option the doors can be provided with keylock, padlock or DIN-handle.

Tightness and ventilation depends on the cabinets degree of protection and environmental adaption.

## Rear panel

The rear panel is unpainted in standard design but can be painted as an option.

IP21 has ventilation openings at the top and bottom.

IP41 has ventilation openings with mesh.

IP43 has ventilation openings with louver and mesh.

IP54 has no ventilation openings.

## Hinged frame

The cabinets can be provided with hinged frame (not applicable to 600 mm wide cabinets). The opening angle is 180°. An opening stop with lock in the end position can be fitted on request. The opening angle is thereby limited to 135°.

The frame is designed to carry 150 kg load evenly mounted with center of gravity at a maximum of 150 mm from the front mounting plane (plane U). For "earthquake-proof" cabinets maximum load is 100 kg. The frame has two mounting planes with 19" dimension standard: one plane for equipment mounted from outside and another plane for equipment mounted from inside of the frame.

On request the frame can be provided with vertical cable ducts on left- and right-hand side. The frame can be moved sideways and/or in depth.

## End panels

The outer sides (left- and right-hand) in a row of cabinets and of one single cabinet shall be provided with end panels available on request.

## Partition walls

Partition walls can be provided between cabinets in a row. For EMC design screen walls are used.

## Rear mounting plane

The rear mounting plane consists of two vertical assembly brackets according to 19" or 24" dimension standard or a mounting plate. The mounting plate can be placed centered or displaced to one side of the cabinet. On delivery the rear mounting plate is placed 25 mm in front of the rear panel but can be repositioned in depth in steps of 25 mm.

The cabinets can be provided with a vertical cable duct and/or a vertical earthing bar on the rear mounting plane.

Mounting bars are an alternative to mounting plate.

These can also be repositioned in depth in steps of 25 mm.

## Horizontal earthing bar

On request a horizontal earthing bar can be mounted in the cabinet. Joints for connection between cabinets are included.

The main earthing bar has the dimensions 30 x 5 mm and is available with or without connection clamps.



Frame



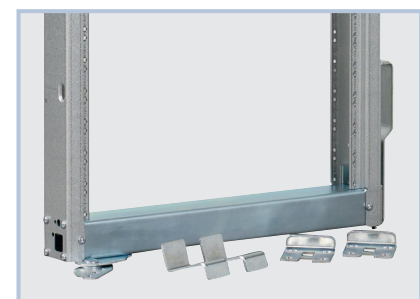
Doors



Rear panel

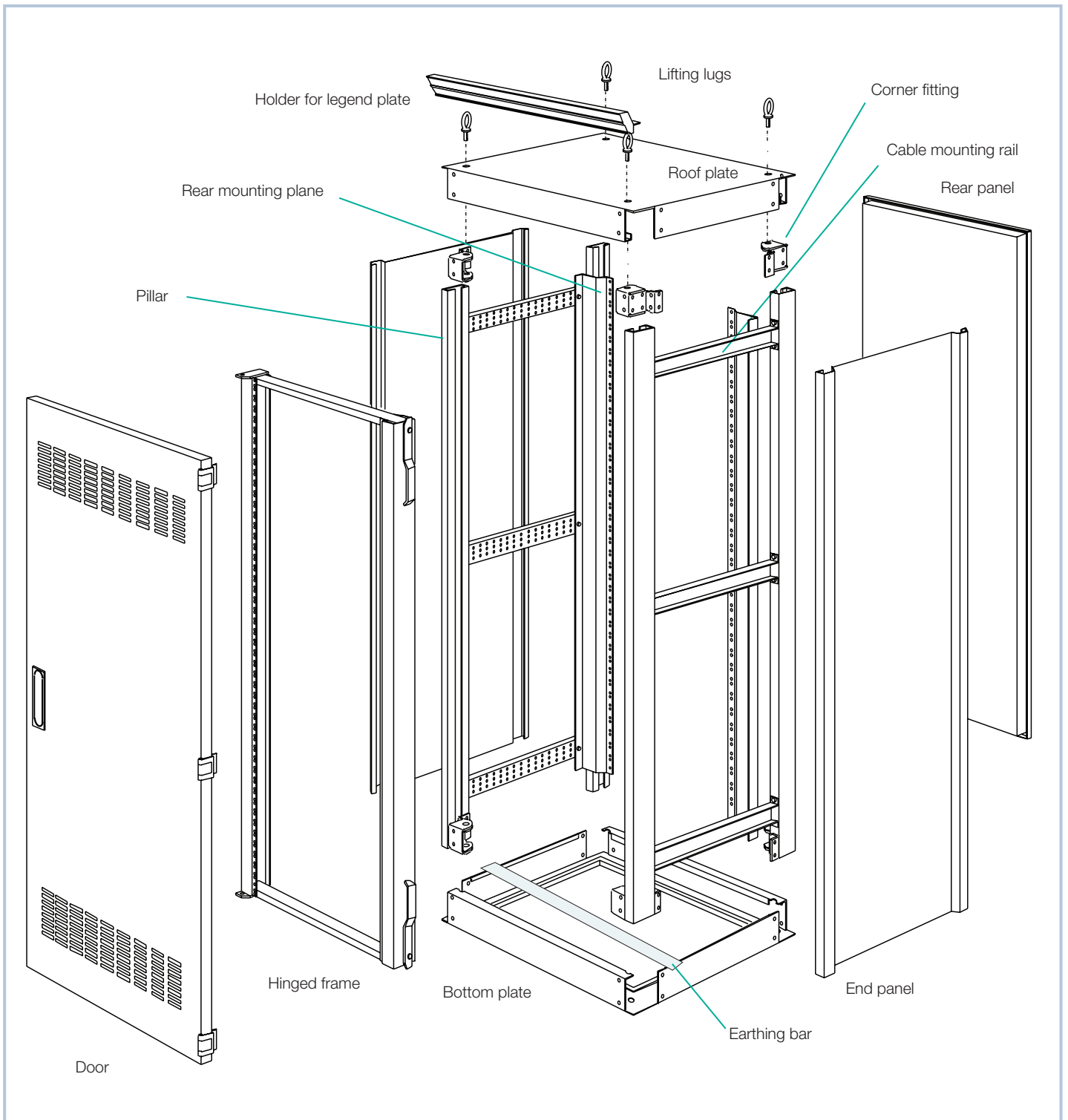


End panel



Hinged frame



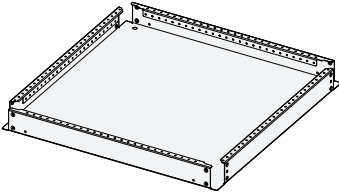
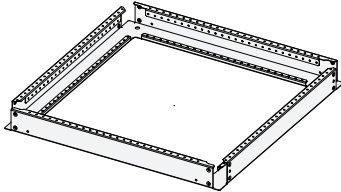


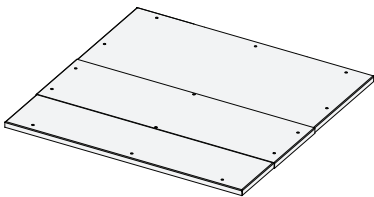
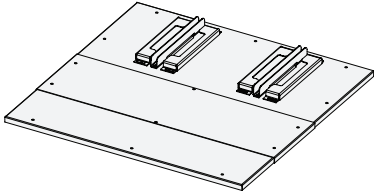
# Cabinet selection

A single cabinet or a row of cabinets can be ordered. All selection alternatives from 1 – 6 must be taken into consideration for all cabinets to be ordered. The cabinets are delivered as assembled units.

Example: Cabinet code ECC2086 implies height 2000, width 800 and depth 600.

1 Select cabinet size from the table below											Note the code. Ordering example, see page 9.
Depth mm	Height mm										
	1900	2000			2100	2200					
	Width mm										
	800	600	700	800	800	600	700	800	900	1000	
400		ECC2064	ECC2074	ECC2084					ECC2294		
475	ECC1985				ECC2185						
600		ECC2066	ECC2076	ECC2086		ECC2266	ECC2276	ECC2286		ECC22106	
800			ECC2078	ECC2088		ECC2268	ECC2278	ECC2288			

2 Select covered or open bottom		Note the code. Ordering example, see page 9.
<p><b>2a</b> <b>Covered bottom</b> The cabinet bottom is covered with a plate</p> <p><i>This alternative to be selected when no cables come from below. Continue at point 4.</i></p>		Specify code: <b>BC</b>
<p><b>2b</b> <b>Open bottom</b> The cabinet bottom consists of a plate with opening for cables</p> <p><i>This alternative to be selected when cables come from below. To be completed with cover plates according to point 3</i></p>		Specify code: <b>BCc</b>

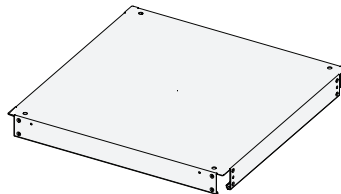
3 Select cover plates for bottom		Note the code. Ordering example, see page 9.
<p><b>3a</b> <b>Cover plates</b> The plates can easily be dismantled for making of holes.</p> <p><i>2 or 3 cover plates depending on cabinet size. Placing of cover plates, see page 24.</i></p>		Specify code: <b>CP</b>
<p><b>3b</b> <b>Cover plates with EMC inlet</b></p>		Specify code: <b>HFCP</b>



## 4 Select type of roof

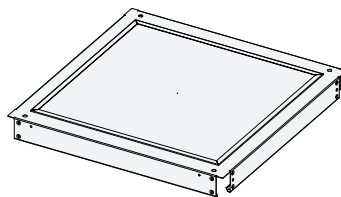
Note the code.  
Ordering example, see below

- 4a Completely covered roof**  
The roof consists of a fixed entire plate.  
*This alternative to be selected when no cables come from above.*



Specify code: **TC**

- 4b Roof with cover plate**  
The plate can easily be dismantled for making of holes.  
*This alternative to be selected when cables come from above or if the roof is ventilated.*



Specify code: **TCc**

## 5 Select degree of protection

Note degree of protection  
Ordering example, see below

<b>Touch protected</b> Protected against solid objects $\geq 12$ mm <b>Drop protected</b> Protected against dripping water	<b>Touch safe</b> Protected against solid objects $\geq 1.0$ mm <b>Drop protected</b> Protected against dripping water	<b>Touch protected</b> Protected against solid objects $\geq 1.0$ mm <b>Spray protected</b> Protected against spraying water	<b>Dust protected</b> Protected against dust penetration <b>Spray protected</b> Protected against splashing water
<b>IP21</b>	<b>IP41</b>	<b>IP43</b>	<b>IP54</b>

## 6 Select whether EMC design is require or not

Note the code.  
Ordering example, see below

EMC design implies that the cabinet is provided with conducting seals to withstand electromagnetic radiation.	<b>EMC design not required</b>	<b>EMC design required</b>
	<b>6N</b>	<b>6Y</b>

### Ordering example *Refer to 3 identical cabinets*


Point	Item	Quantity	State when ordering
1	Cabinet frame	3	<b>ECC2078</b>
2	Bottom	3	<b>BCc</b>
3	Cover plates for bottom	3	<b>CP</b>
4	Roof	3	<b>TC</b>
5	Degree of protection	3	<b>IP41</b>
6	EMC design	3	<b>6Y</b>


**Supplementing cabinet details to be selected on the following pages.**


# Accessories


## Front

	Unventilated door				
	Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
	600		1TSA 340 003 R0018		1TSA 340 003 R0022
	700		1TSA 340 003 R0019		1TSA 340 003 R0023
800	1TSA 340 003 R0017	1TSA 340 003 R0020	1TSA 340 003 R0021	1TSA 340 003 R0024	

	Ventilated door				
	Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
	600		1TSA 340 003 R0002		1TSA 340 003 R0006
	700		1TSA 340 003 R0003		1TSA 340 003 R0007
800	1TSA 340 003 R0001	1TSA 340 003 R0004	1TSA 340 003 R0005	1TSA 340 003 R0008	


	Unventilated double door				
	Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
	800	1TSA 340 012 R0001	1TSA 340 012 R0003	1TSA 340 012 R0005	1TSA 340 012 R0007
	900				1TSA 340 012 R0009
1000				1TSA 340 012 R0011	

	Ventilated double door				
	Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
	800	1TSA 340 012 R0002	1TSA 340 012 R0004	1TSA 340 012 R0006	1TSA 340 012 R0008
	900				1TSA 340 012 R0010
1000				1TSA 340 012 R0012	

	Ventilated glass door				
	The two lowest and the two upper modules of the hinged frame are not visible.				
	Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
	600		1TSA 340 003 R0010		1TSA 340 003 R0014
700		1TSA 340 003 R0011		1TSA 340 003 R0015	
800	1TSA 340 003 R0009	1TSA 340 003 R0012	1TSA 340 003 R0013	1TSA 340 003 R0016	



<b>Unventilated glass door</b>				
Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
600		1TSA 340 003 R0026		1TSA 340 003 R0030
700		1TSA 340 003 R0027		1TSA 340 003 R0031
800	1TSA 340 003 R0025	1TSA 340 003 R0028	1TSA 340 003 R0029	1TSA 340 003 R0032



<b>Ventilated, extended glass door, right hand</b> The two lower modules of the hinged frame are not visible.				
Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
600		1TSA 340 003 R0042		1TSA 340 003 R0046
700		1TSA 340 003 R0043		1TSA 340 003 R0047
800	1TSA 340 003 R0041	1TSA 340 003 R0044	1TSA 340 003 R0045	1TSA 340 003 R0048



<b>Ventilated, extended glass door, left hand</b> The two lower modules of the hinged frame are not visible.				
Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
600		1TSA 340 003 R0034		1TSA 340 003 R0038
700		1TSA 340 003 R0035		1TSA 340 003 R0039
800	1TSA 340 003 R0033	1TSA 340 003 R0036	1TSA 340 003 R0037	1TSA 340 003 R0040




<b>Panel front</b>				
The panel front is available in two design variants. One is screwed onto the frame, the other has recessed hinges and can be opened.				
<b>Fixed panel front</b>				
Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
600		1TSA 340 004 R0043		1TSA 340 004 R0051
700		1TSA 340 004 R0045		1TSA 340 004 R0053
800	1TSA 340 004 R0041	1TSA 340 004 R0047	1TSA 340 004 R0049	1TSA 340 004 R0055
<b>Panel front to be opened</b>				
Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
600		1TSA 340 004 R0044		1TSA 340 004 R0052
700		1TSA 340 004 R0046		1TSA 340 004 R0054
800	1TSA 340 004 R0042	1TSA 340 004 R0048	1TSA 340 004 R0050	1TSA 340 004 R0056

## Rear

	Unventilated rear panel – not painted				
	Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
600		1TSA 340 004 R0005		1TSA 340 004 R0021	
700		1TSA 340 004 R0009		1TSA 340 004 R0025	
800	1TSA 340 004 R0001	1TSA 340 004 R0013	1TSA 340 004 R0017	1TSA 340 004 R0029	
900				1TSA 340 004 R0033	
1000				1TSA 340 004 R0037	

	Unventilated rear panel – painted				
	Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
600		1TSA 340 004 R0006		1TSA 340 004 R0022	
700		1TSA 340 004 R0010		1TSA 340 004 R0026	
800	1TSA 340 004 R0002	1TSA 340 004 R0014	1TSA 340 004 R0018	1TSA 340 004 R0030	
900				1TSA 340 004 R0034	
1000				1TSA 340 004 R0038	

	Ventilated rear panel – not painted				
	Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
600		1TSA 340 004 R0007		1TSA 340 004 R0023	
700		1TSA 340 004 R0011		1TSA 340 004 R0027	
800	1TSA 340 004 R0003	1TSA 340 004 R0015	1TSA 340 004 R0019	1TSA 340 004 R0031	
900				1TSA 340 004 R0035	
1000				1TSA 340 004 R0039	

	Ventilated rear panel – painted				
	Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
600		1TSA 340 004 R0008		1TSA 340 004 R0024	
700		1TSA 340 004 R0012		1TSA 340 004 R0028	
800	1TSA 340 004 R0004	1TSA 340 004 R0016	1TSA 340 004 R0020	1TSA 340 004 R0032	
900				1TSA 340 004 R0036	
1000				1TSA 340 004 R0040	

### Alternative


You can select a door even for the rear. To be selected on page 10-11.

# Hinged frame

The hinged frame fits the cabinet widths 700 and 800.  
 The frame can be left- or right-hand. It can be locked by means of two locking devices, one on top and one at the bottom.  
 The mountingplane U (in front of the frame) and V (in the back) are divided into S-modules. One S-module being 44,45 mm.


Number of S-modules in the hinged frame

Cabinet height mm	2200	2100	2000	1900
S-modules	43	41	39	37



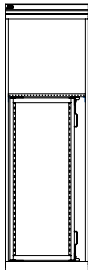
**Hinged frame, design A**  
 The frame can be moved *sideways*  
*Specify left- or right-hand frame when ordering* *Example: 1TSA 340 005 R0001 left-hand*

Cabinet height 1900 mm	Cabinet height 2000 mm	Cabinet height 2100 mm	Cabinet height 2200 mm
1TSA 340 005 R0001	1TSA 340 005 R0007	1TSA 340 005 R0017	1TSA 340 005 R0013



**Hinged frame, design B**  
 The frame can be moved *sideways and in depth*  
*Specify left- or right-hand frame when ordering* *Example: 1TSA 340 005 R0010 right-hand*

Cabinet depth mm	Cabinet height 1900 mm	Cabinet height 2000 mm	Cabinet height 2100 mm	Cabinet height 2200 mm
400		1TSA 340 005 R0010		
475	1TSA 340 005 R0002		1TSA 340 005 R0018	
600		1TSA 340 005 R0006		1TSA 340 005 R0012
800		1TSA 340 005 R0008		1TSA 340 005 R0014



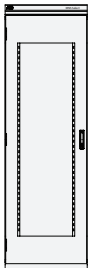
**Hinged frame, divided**  
*Specify left- or right-hand frame when ordering* *Example: 1TSA 340 005 R0032 right-hand*

Modules	Width mm	Cabinet height 1900 mm	Cabinet height 2000 mm	Cabinet height 2100 mm	Cabinet height 2200 mm
29	700	1TSA 340 005 R0032	1TSA 340 005 R0032	1TSA 340 005 R0032	1TSA 340 005 R0032
	800	1TSA 340 005 R0033	1TSA 340 005 R0033	1TSA 340 005 R0033	1TSA 340 005 R0033
25	700	1TSA 340 005 R0030	-	-	1TSA 340 005 R0030
	800	1TSA 340 005 R0021	-	-	1TSA 340 005 R0031
21	700	1TSA 340 005 R0028	1TSA 340 005 R0028	-	-
	800	1TSA 340 005 R0029	1TSA 340 005 R0029	-	-
19	700	-	-	-	1TSA 340 005 R0026
	800	-	-	-	1TSA 340 005 R0027



**Hinged frame with panel**

Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
600				
700		1TSA 340 003 R0077		1TSA 340 003 R0080
800		1TSA 340 003 R0078		1TSA 340 003 R0081




**Ventilated door with 19" mounting plane built-in**  
 Max. component weight 50 kg.

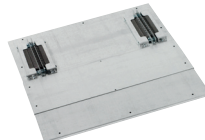
Width mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
600		1TSA 340 005 R0025		
700		1TSA 340 005 R0020		1TSA 340 005 R0019
800	1TSA 340 005 R0023	1TSA 340 005 R0021	1TSA 340 005 R0024	1TSA 340 005 R0022


## Cover plates for bottom and roof


These ordering tables are intended for supplement ordering of cover plates.

When complete cabinets are ordered the tables on page 8-9 should be followed.

	Cover plates for cabinet bottom					
	Cabinet depth mm	Cabinet width 600 mm	Cabinet width 700 mm	Cabinet width 800 mm	Cabinet width 900 mm	Cabinet width 1000 mm
400	1TSA 340 009 R0001	1TSA 340 009 R0004	1TSA 340 009 R0007	1TSA 340 009 R0011		
475			1TSA 340 009 R0008			
600	1TSA 340 009 R0002	1TSA 340 009 R0005	1TSA 340 009 R0009		1TSA 340 009 R0012	
800	1TSA 340 009 R0003	1TSA 340 009 R0006	1TSA 340 009 R0010			


	Cover plates with cable sealing for EMC in the bottom					
	Cabinet depth mm	Cabinet width 600 mm	Cabinet width 700 mm	Cabinet width 800 mm	Cabinet width 900 mm	Cabinet width 1000 mm
400	1TSA 340 009 R0016	1TSA 340 009 R0019	1TSA 340 009 R0022	1TSA 340 009 R0026		
475			1TSA 340 009 R0023			
600	1TSA 340 009 R0017	1TSA 340 009 R0020	1TSA 340 009 R0024		1TSA 340 009 R0027	
800	1TSA 340 009 R0018	1TSA 340 009 R0021	1TSA 340 009 R0025			


	Cover plates for the roof					
	Cabinet depth mm	Cabinet width 600 mm	Cabinet width 700 mm	Cabinet width 800 mm	Cabinet width 900 mm	Cabinet width 1000 mm
400				1TSA 310 009 P0073		
475			1TSA 310 009 P0070			
600	1TSA 310 009 P0066	1TSA 310 009 P0068	1TSA 310 009 P0071		1TSA 310 009 P0074	
800	1TSA 310 009 P0067	1TSA 310 009 P0069	1TSA 310 009 P0072			

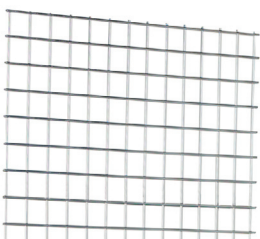
	Cover plates with FL 21 inlets for the roof				(Number of inlets within brackets)	
	Cabinet depth mm	Cabinet width 600 mm	Cabinet width 700 mm	Cabinet width 800 mm	Cabinet width 900 mm	Cabinet width 1000 mm
600	1TSA 400 009 P0045 (3 x FL 21)	1TSA 400 002 P0073 (3 x FL 21) 1TSA 400 002 P0049 (6 x FL 21)	1TSA 400 002 P0074 (3 x FL 21) 1TSA 400 009 P0091 (6 x FL 21)			
800				1TSA 400 009 P0023 (6 x FL 21)		




## Other accessories

	<b>End panels</b> End panels are designed to be mounted on both sides of a single cabinet or on the two outermost sides in a row of cabinets. Each end panel adds 20 mm to the width of the cabinet and 28 mm in front and rear respectively.				
	Cabinet depth mm	Cabinet height 1900 mm	Cabinet height 2000 mm	Cabinet height 2100 mm	Cabinet height 2200 mm
	400		1TSA 340 006 R0002		1TSA 340 006 R0006
	475	1TSA 340 006 R0001		1TSA 340 006 R0005	
	600		1TSA 340 006 R0003		1TSA 340 006 R0007
800		1TSA 340 006 R0004		1TSA 340 006 R0008	


	<b>Cable mounting rail</b> For mounting of cable ducts and cables on cabinet side or rear.			
	<b>For cabinet side</b> <i>Specify quantity of mounting rails when ordering</i> <span style="float: right;"><i>Example: 1TSA 340 010 R0007 6 pcs</i></span>			
	Depth 400 mm	Depth 475 mm	Depth 600 mm	Depth 800 mm
	1TSA 340 010 R0006	1TSA 340 010 R0007	1TSA 340 010 R0008	1TSA 340 010 R0009
	<b>For cabinet rear</b> <i>Specify quantity of mounting rails when ordering</i> <span style="float: right;"><i>Example: 1TSA 400 009 R0037 4 pcs</i></span>			
Width 600 mm	Width 700 mm	Width 800 mm	Width 1000 mm	
1TSA 400 009 P0092	1TSA 400 009 P0037	1TSA 400 009 P0036	1TSA 400 009 P0021	

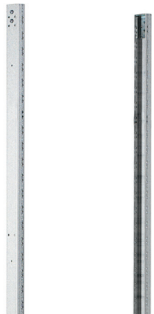
	<b>Cable mounting grid</b> To be mounted on left- or right-hand side of the cabinet. The grid mesh is 50 x 50 mm.		
	<i>Specify left- or right-hand side when ordering</i> <span style="float: right;"><i>Example: 1TSA 340 010 R0016 left-hand</i></span>		
	Depth mm	Height 2000 mm	Height 2200 mm
	400	1TSA 340 010 R0016	1TSA 340 010 R0020
	600	1TSA 340 010 R0017	1TSA 340 010 R0021
800	1TSA 340 010 R0018	1TSA 340 010 R0022	

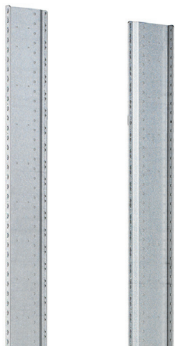
	<b>Cable duct</b> The cable duct is fitted in the middle of the cabinet side. 3 cable mounting rails are needed. <span style="float: right;"><i>Example: 1TSA 340 010 R0014 left-hand</i></span>	
	<i>Specify left- or right-hand side when ordering</i>	
	Cable duct width x height	
	120 x 60 mm	1TSA 340 010 R0014

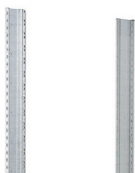
Door handles and locks			
Door handle			Lock insert for pivot handle
Pivot handle	DIN 5	Padlock	Lock insert. Two keys are provided.
			
1TSA 340 010 R0051	1TSA 340 010 R0063	1TSA 340 010 R0062	1TSA 340 010 R0044

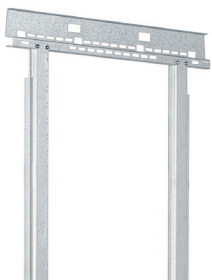
Other accessories, cont.


	<b>Cable shelf</b> The cable shelf is intended for cables running between cabinets in a row. It is fitted uppermost inside the cabinet.				
	Width 600 mm	Width 700 mm	Width 800 mm	Width 900 mm	Width 1000 mm
	1TSA 340 010 R0001	1TSA 340 010 R0002	1TSA 340 010 R0003	1TSA 340 010 R0009	1TSA 340 010 R0005


	<b>19" bars</b> The bars make it possible to mount equipment directed both forwards and backwards in the cabinet and also to run with cables on both sides of the cabinet. The bars can be positioned in depth in steps of 25 mm.				
	Depth mm	Height 1900 mm 38 S modules	Height 2000 mm 40 S modules	Height 2100 mm 42 S modules	Height 2200 mm 44 S modules
	400		1TSA 340 008 R0040		1TSA 340 008 R0047
	475	1TSA 340 008 R0039		1TSA 340 008 R0043	
	600		1TSA 340 008 R0042		1TSA 340 008 R0044
800		1TSA 340 008 R0041		1TSA 340 008 R0045	

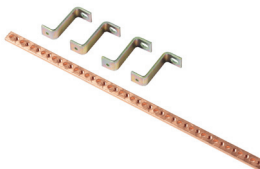
	<b>19" brackets for mounting plane B</b> The brackets are normally fitted at the back of the cabinet. They are available for left-hand, right-hand and centred mounting and can be positioned in depth in steps of 25 mm if cable duct is available.				
	Width mm	Height 1900 mm 39 S modules	Height 2000 mm 41 S modules	Height 2100 mm 43 S modules	Height 2200 mm 45 S modules
	<b>Bracket for left-hand or right-hand mounting</b>				
	700		1TSA 340 008 R0016		1TSA 340 008 R0025
	<b>Bracket for centred mounting</b>				
	600		1TSA 340 008 R0009		1TSA 340 008 R0023
	700		1TSA 340 008 R0018		1TSA 340 008 R0027
800	1TSA 340 008 R0008	1TSA 340 008 R0019	1TSA 340 008 R0022	1TSA 340 008 R0031	

	<b>24" bracket</b> The brackets is normally fitted centred at the back of the cabinet. It can be positioned in depth in steps of 25 mm if cable duct is available. 19" and 24" brackets can be combined.				
	Width mm	Height 1900 mm 39 S modules	Height 2000 mm 41 S modules	Height 2100 mm 43 S modules	Height 2200 mm 45 S modules
	800	1TSA 340 008 R0053		1TSA 340 008 R0054	


	<b>19" bracket for mounting plane E</b> The bracket is fitted at the inside of the door. Can be used on covered or ventilated doors but not on glass doors. Max. loading 50 kg.				
	Width mm	Height 1900 mm 36 S modules	Height 2000 mm 38 S modules	Height 2100 mm 40 S modules	Height 2200 mm 42 S modules
	700		1TSA 340 008 R0062		1TSA 340 008 R0066
	800	1TSA 340 008 R0060	1TSA 340 008 R0063	1TSA 340 008 R0064	1TSA 340 008 R0067



	<b>Earth wire</b> L = 250 mm. Gn/Gy with two cable lugs M6. Connects the door or hinged frame with the cabinet frame. One earth wire is always provided. Two additional earth wires can be ordered. <b>State quantity when ordering</b> <span style="float: right;"><i>Example: 1TSA 340 008 R0007 2 pcs</i></span>				
	Earth wire				
	1TSA 340 008 R0007				

	<b>Horizontal earthing bar</b> Can be fitted at the top or at the bottom of the cabinet. Available with or without clamps for max 10 mm <sup>2</sup> cable are. A jointing piece for connection between cabinets is provided. <i>State whether the earthing bar shall be fitted at the top or the bottom.</i>				
	Width 600 mm	Width 700 mm	Width 800 mm	Width 900 mm	Width 1000 mm
	<b>Earthing bar 30 x 5 mm</b> <i>Example: 1TSA 340 010 R0025 at the top</i>				
	1TSA 340 010 R0023	1TSA 340 010 R0025	1TSA 340 010 R0027	1TSA 340 010 R0029	1TSA 340 010 R0031
	<b>Earthing bar 30 x 5 mm + 10 connection clamps (5231 0162-3)</b> <i>Example: 1TSA 340 010 R0030 at the bottom</i>				
1TSA 340 010 R0024	1TSA 340 010 R0026	1TSA 340 010 R0028	1TSA 340 010 R0030	1TSA 340 010 R0032	


	<b>Vertical earthing bar and cable duct</b> The vertical earthing bar is intended for earthing of incoming cable shields and earth wires. 3 cable mounting rails are needed. The earthing bar is connected to the horizontal earthing bar. The dimensions are 12 x 3 mm. Cable duct dimensions are 25 x 30 mm. Suitable single-screw clamp is SK 117 909-AA. <i>State left or right side of the cabinet</i> <span style="float: right;"><i>Example: 1TSA 340 010 R025 right</i></span>			
	Earthing bar	Earthing bar + cable duct	Insulated earthing bar	Earthing bar tin-plated
	1TSA 340 008 R0068	1TSA 340 008 R0059	1TSA 340 008 R0069	2631 525-61

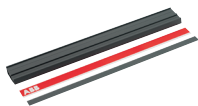
<b>Earth screw</b> M10, to be mounted on one of the corner fittings.	
1TSA 340 010 R0050	


	<b>Partition wall / Screen wall</b> Full-size partition wall for cabinet side. Screen wall for EMC design. <i>State left or right side</i> <span style="float: right;"><i>Example: 1TSA 340 006 R0015 left</i></span>				
	Cabinet depth mm	Cabinet height 1900 mm	Cabinet height 2000 mm	Cabinet height 2100 mm	Cabinet height 2200 mm
	<b>Partition wall</b>				
	400		1TSA 340 006 R0010		1TSA 340 006 R0014
	475	1TSA 340 006 R0009		1TSA 340 006 R0013	
	600		1TSA 340 006 R0011		1TSA 340 006 R0015
	800		1TSA 340 006 R0012		1TSA 340 006 R0016
	<b>Screen wall for EMC design</b> Conducting seal to be fitted in the slot between partition wall and frame.				
	400		1TSA 340 006 R0033		1TSA 340 006 R0037
	475	1TSA 340 006 R0032		1TSA 340 006 R0036	
600		1TSA 340 006 R0034		1TSA 340 006 R0038	
800		1TSA 340 006 R0035		1TSA 340 006 R0039	

		<b>Accessories for hinged frame</b>		
	<b>Frame stop</b>	The frame stop limits the opening angel to 135°. The stop can be easily unhooked and the opening angel will be 180°.		1TSA 340 008 R0006
		<b>Cable duct</b>	The cable duct is fitted on the back of the hinged frame. The dimensions are 25 x 60 mm. <i>State quantity, 1 or 2.</i> <i>When ordering 1 cable duct also state lock side or hinge side</i>	

Other accessories, cont.


	<b>Bottom plinth</b> Height 100 mm. Cover plates are removable from outside. Painted in dark grey RAL7043 .					
	Depth mm	Width 600 mm	Width 700 mm	Width 800 mm	Width 900 mm	Width 1000 mm
	400	1TSA 340 009 R0041	1TSA 340 009 R0042	1TSA 340 009 R0043	1TSA 340 009 R0035	
	475			1TSA 340 009 R0034		
	600	1TSA 340 009 R0032	1TSA 340 009 R0033	1TSA 340 009 R0037		1TSA 340 009 R0036
800	1TSA 340 009 R0039	1TSA 340 009 R0040	1TSA 340 009 R0038			


	<b>Legend plates and holders</b>				
	Width 600 mm	Width 700 mm	Width 800 mm	Width 900 mm	Width 1000 mm
	<b>Legend plate holder</b> Dark grey holder with space for two legend plates.				
	1TSA 330 001 P0036	1TSA 330 001 P0037	1TSA 330 001 P0038	1TSA 330 001 P0039	1TSA 330 001 P0040
	<b>Cabinet plate</b> Red plate with ABB logotype.				
1TSA 330 001 P0021	1TSA 330 001 P0022	1TSA 330 001 P0023	1TSA 330 001 P0024	1TSA 330 001 P0025	
<b>Legend plate</b> Dark grey, for engraving product name, type designation etc. White text, text height 15 mm, max. 40 signs. <i>State the desired text</i>					
1TSA 330 001 P0026	1TSA 330 001 P0027	1TSA 330 001 P0028	1TSA 330 001 P0029	1TSA 330 001 P0030	


	<b>Mesh frame, louver and dust filter</b>			
	Cabinet width	Mesh frame	Louver	Dust filter
	600 mm single door/rear	1TSA 340 011 R0035	1TSA 340 011 R0037	1TSA 340 011 R0001
	700 mm single door/rear	1TSA 340 011 R0018	1TSA 340 011 R0038	1TSA 340 011 R0002
	800/900 mm single door/rear	1TSA 340 011 R0019	1TSA 340 011 R0039	1TSA 340 011 R0003
	800 mm double door, 2 pcs/set	1TSA 340 011 R0042	1TSA 340 011 R0043	1TSA 340 011 R0004
	900 mm double door, 2 pcs/set	1TSA 340 011 R0042	1TSA 340 011 R0043	1TSA 340 011 R0004
	1000 mm double door, 2 pcs/set	1TSA 340 011 R0042	1TSA 340 011 R0043	1TSA 340 011 R0004
1000 mm rear	1TSA 340 011 R0041	1TSA 340 011 R0040	1TSA 340 011 R0005	


	<b>Shelves</b>				
	Width 600 mm	Width 700 mm	Width 800 mm	Width 900 mm	Width 1000 mm
	<b>Fixed shelves</b> depth 214 mm				
	1TSA 400 007 P0098	1TSA 400 007 P0096	1TSA 400 007 P0076		
	<b>Withdrawable shelves</b> depth 400 mm				
				1TSA 340 011 R0029	
	<b>Withdrawable shelves</b> depth 600 mm				
	1TSA 340 011 R0022	1TSA 340 011 R0024	1TSA 340 011 R0027		1TSA 340 011 R0030
	<b>Withdrawable shelves</b> depth 800 mm				
	1TSA 340 011 R0023	1TSA 340 011 R0025	1TSA 340 011 R0028		
<b>Withdrawable shelf</b> for 19", depth 300 mm 1TSA 340 011 R0034					
<b>Fixed shelf</b> for 19", depth 300 mm 2175 797-54					

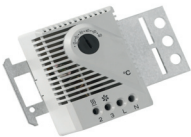
	<b>Heat exchanger</b> The heat exchanger is fitted on the left- or right-hand end panel outside of cabinet. Range of work -5 – +55 °C, voltage 230 V AC ± 10 %, heating effect 50 W/K <i>State left- or right-hand side</i> <span style="float: right;"><i>Example: 1TSA 340010 R0038 left-hand</i></span>				
	Cabinet dimensions				
	Depth mm	Height 1900 mm	Height 2000 mm	Height 2100 mm	Height 2200 mm
	400		1TSA 340 010 R0037		1TSA 340 010 R0041
	475	1TSA 340 010 R0036		1TSA 340 010 R0040	
	600		1TSA 340 010 R0038		1TSA 340 010 R0042
	800		1TSA 340 010 R0039		1TSA 340 010 R0043

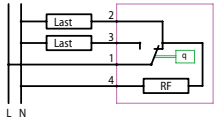
	Sealing strips <i>State length in meters</i>		
	Sealing of rear panel	16 x 13 mm	1856 1961-7
	Sealing of door cant	6 x 12 mm	1TSA 330 001 P0002
	Sealing for bottom cover plates	10 x 17 mm	1TSA 330 001 P0003
	EMC sealing for cabinet end panel	3 x 10 mm	1TSA 330 001 P0004
	Sealing for cabinet end panel	2 x 14 mm	1TSA 382 110-50
EMC sealing for cabinet door	6 x 12 mm	1TSA 383 011-1	


	Roof ventilation <i>(also select roof with cover plate)</i>			
	Depth mm	Width 600 mm	Width 700 mm	Width 800 mm
	600	1TSA 400 035 P0010	1TSA 400 035 P0006	1TSA 400 035 P0008
	800		1TSA 400 035 P0045	1TSA 400 035 P0043

	Heater, 110 - 240 V
	The heater is fitted in the bottom of the cabinet. AC/DC, 100 W. This ceramic PTC resistance heater has high making impulse. When using ABB:s MCB at least 3 A, K-characteristic or 6 A, C-characteristic must be selected. If more than one heater is supplied the rated current shall be increased correspondingly.
	1TSA 340 010 R0034

	Anchor rail	
	For supporting incoming and outgoing cables in the bottom of the cabinet. State left- or right-hand side.	
	Depth mm	
	400	1TSA 340 010 R0010
	475	1TSA 340 010 R0011
600	1TSA 340 010 R0012	
800	1TSA 340 010 R0013	

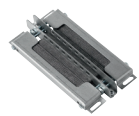
	Thermostat	
	The thermostat is fitted on the front pillar inside the door. Range of work +5 - +60 °C Voltage 230 and 127 V AC	
	230 V	1TSA 340 010 R0035
	127 V	1TSA 340 010 R0064





	Lifting lugs
	For lifting with lifting strops. The ordering number includes 4 pcs.
	1TSA 340 008 R0001


	Blind bolt M12
	For roof instead of lifting lugs.
	1TSA 340 008 R0002


	Cabinet lighting
	To be turned on via a switch when the door is opened. Bulb 250 V, base E27.
	1TSA 340 010 R0033

	EMC inlet, 1 set
	1TSA 400 004 R0032

	Wall socket
	Double, earthed 250 V, 16 A.
	1TSA 340 010 R0048

	Earthquake reinforcement
	A set of 4 distance tubes to be mounted in the bottom corner fittings when anchoring the cabinet to the floor. With distance tubes the cabinet can withstand a ground acceleration (ZPA) 0,7 g (without distance tubes 0,5 g).
	1TSA 340 007 R0006

	Touch up paint 50 ml
	RAL 7035 tinned, with brush
	1TSA 090 000 P0032

	Sealing for EMC inlet in bottom of the cabinet	
	35x14x170	1TSA 330 001 P0011
	51x14x150	1TSA 330 001 P0012
	51x14x300	3BSC 980 080 R0001

# Equipment frame and cover plates

## 19" equipment frame

Frames are drilled for fitting terminal bases for plug-in relays of Combiflex design.

The equipment frames are available in two versions:

- With apparatus frame
- With support frame

Equipment frames with apparatus frame are designed for direct mounting of terminal bases, while equipment frames with support frame are used for apparatus groups assembled on apparatus bars.

The height of the frame is 4 S modules. The total width is 19" and the internal space for fitting equipment is 60 C = 420 mm. 1 C = 7 mm.

A strip showing C modules numbered from 01 to 60 is fitted on top of the apparatus and support frames.

### With ends or mounting brackets

Equipment frames are available with ends or mounting brackets. Equipment frames with ends are used in hinged frames, while those with mounting brackets are designed to be fitted on the rear mounting planes of cabinets (plane B).

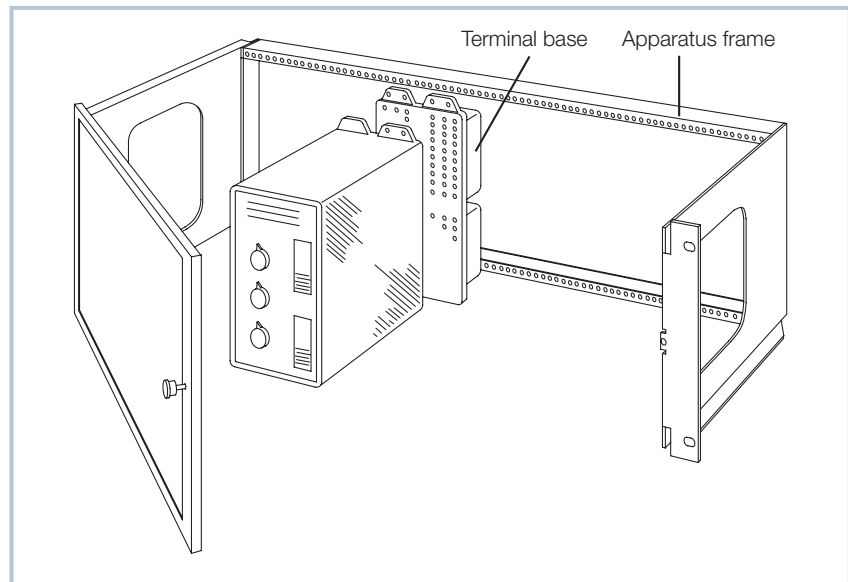
Equipment frames with ends have a cable-attachment rail on the left-hand side to which cables can be affixed with ties.

### Front door

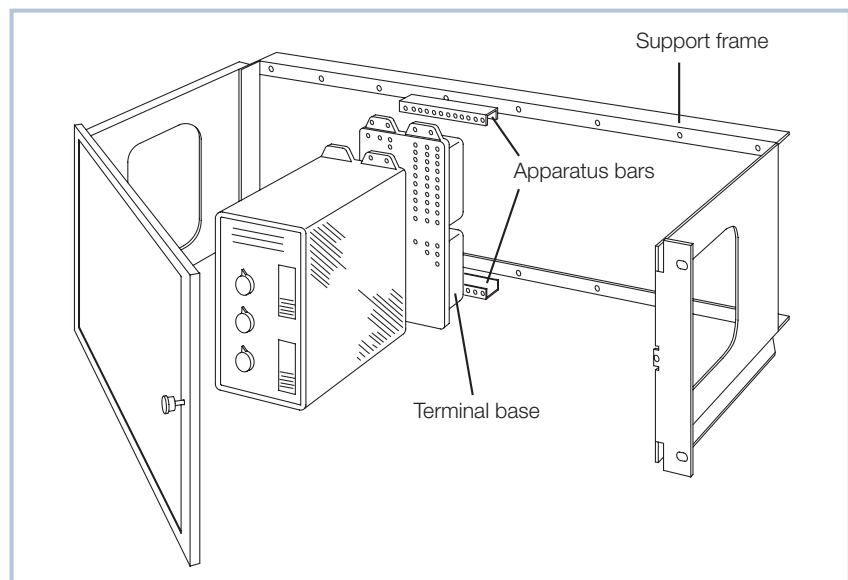
Equipment frames with ends are available with full-size sheet steel front door or with window of self-extinguishing carbonate plastic. The door is 4 S modules high.

### General

Frames, ends and mounting brackets are galvanized. Doors are painted with RAL 7035 structure, light grey.



Equipment frame with apparatus frame, ends and glass door.





Equipment frame with support frame, ends and glass door.

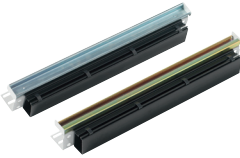
## 19" equipment frame

Description	With apparatus frame	With support frame
<b>19" equipment frame 4 S, 60 C</b>		
with mounting brackets	<b>1TSA 340 015 R0001</b>	<b>1TSA 340 015 R0005</b>
with ends but no door	<b>1TSA 340 015 R0002</b>	<b>1TSA 340 015 R0006</b>
with ends and door	<b>1TSA 340 015 R0003</b>	<b>1TSA 340 015 R0007</b>
with ends and glass door	<b>1TSA 340 015 R0004</b>	<b>1TSA 340 015 R0008</b>
Door	<b>1TSA 340 015 R0027</b>	




	<b>Cover and mounting plates</b> Plates are designed to hold apparatus and components which cannot be fitted in a 19" equipment frame or on a 19" mounting plane. They can also be used in unused sections in a hinged frame. Plates are available in different height modules.	
	<b>S modules</b>	
	1	1TSA 340 014 R0001
	2	1TSA 340 014 R0002
	3	1TSA 340 014 R0003
	4	1TSA 340 014 R0004
	5	1TSA 340 014 R0005
	6	1TSA 340 014 R0006
	7	1TSA 340 014 R0007
	8	1TSA 340 014 R0008
	9	1TSA 340 014 R0009
	10	1TSA 340 014 R0010
	11	1TSA 340 014 R0011
	12	1TSA 340 014 R0012
	13	1TSA 340 014 R0013
	14	1TSA 340 014 R0014
	15	1TSA 340 014 R0015
16	1TSA 340 014 R0016	

	<b>Ventilation plate</b> Can be placed at the top and at the bottom of a hinged frame to give better air circulation.	
	Ventilation plate 2 S	1TSA 340 014 R0018

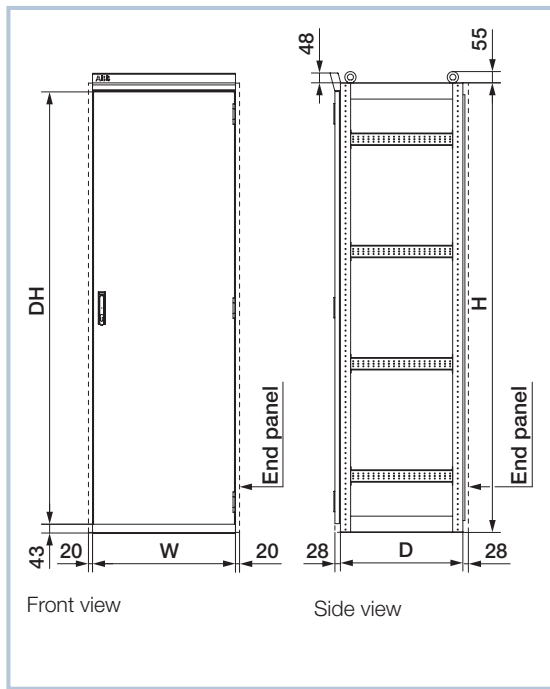
	<b>Terminal block holders</b> Designed for 19" mounting plane. Available with G-rail or top-hat rail. Cable duct included.	
	With G-rail	1TSA 340 010 R0045
	With top-hat rail	1TSA 340 010 R0046

<b>Cable bracket</b> 12 x 3 mm. For fastening of cables in 19" equipment frame.	
2172 1169-3	

	<b>Full-size mounting plate</b> The plate is normally placed at the back of the cabinet, but can be repositioned in depth in steps of 25 mm. The size of the plate is 50 mm less than the width of the cabinet and 161 mm less than the height.				
	<b>Cabinet dimensions</b>				
	<b>Width mm</b>	<b>Height 1900 mm</b>	<b>Height 2000 mm</b>	<b>Height 2100 mm</b>	<b>Height 2200 mm</b>
	600		1TSA 340 013 R0002		1TSA 340 013 R0006
	700		1TSA 340 013 R0003		1TSA 340 013 R0007
	800	1TSA 340 013 R0001	1TSA 340 013 R0004	1TSA 340 013 R0005	1TSA 340 013 R0008
	900				1TSA 340 013 R0009
1000				1TSA 340 013 R0010	

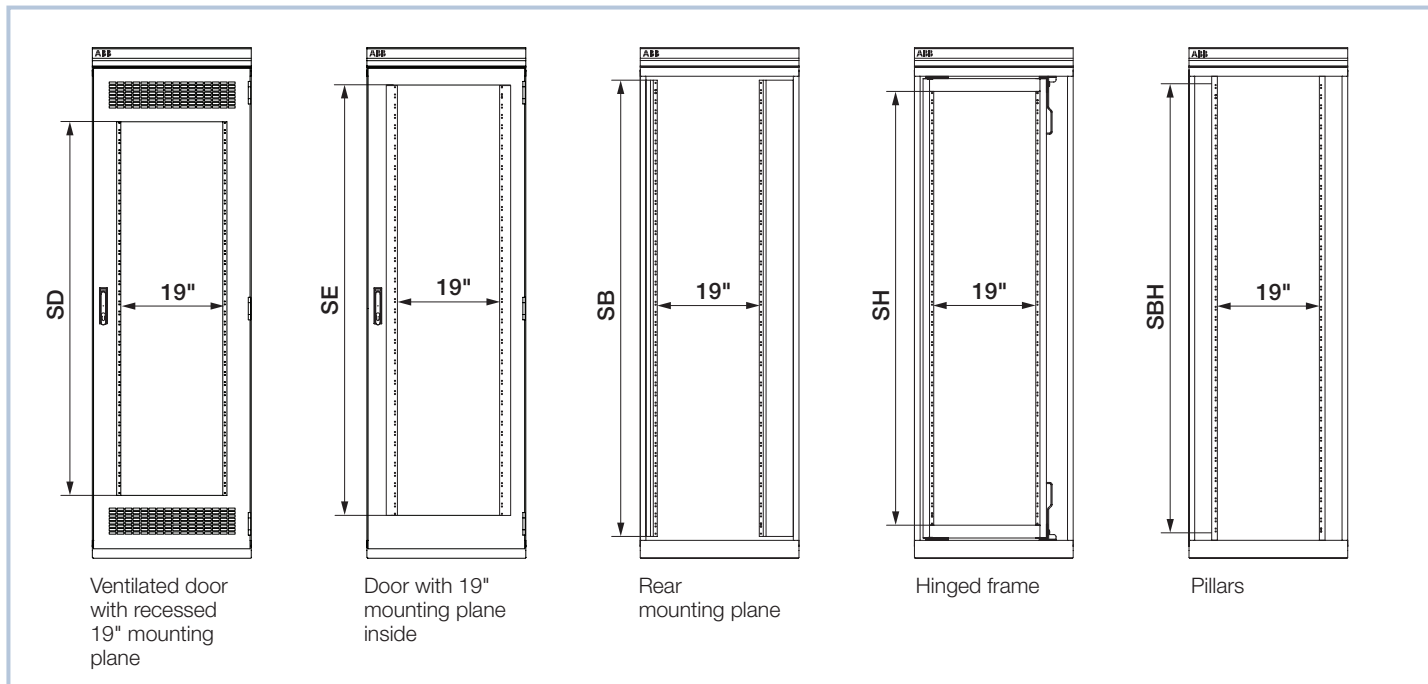
# Dimension drawings

## Cabinet



### Cabinet

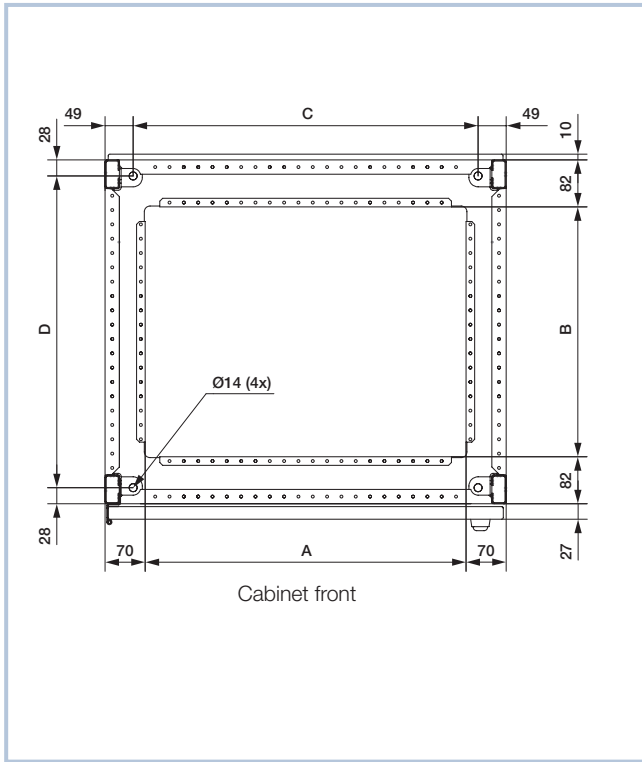
Type designation	Cabinet height (H)	Cabinet width (W)	Cabinet depth (D)	Door height (DH)
ECC1985	1900	800	475	
ECC2064	2000	600	400	
ECC2066	2000	600	600	
ECC2074	2000	700	400	
ECC2076	2000	700	600	
ECC2078	2000	700	800	
ECC2084	2000	800	400	
ECC2086	2000	800	600	
ECC2088	2000	800	800	
ECC2185	2100	800	475	
ECC2266	2200	600	600	
ECC2268	2200	600	800	
ECC2276	2200	700	600	
ECC2278	2200	700	800	
ECC2286	2200	800	600	
ECC2288	2200	800	800	
ECC2294	2200	900	400	
ECC22106	2200	1000	600	



Total number of S modules					
Type designation	SD	SE	SB	SH	SBH
ECC1985	31	36	39	37	38
ECC2064	-	38	39	-	40
ECC2074	33	38	41	39	40
ECC2076	33	38	41	39	40
ECC2078	33	38	41	39	40
ECC2084	33	38	41	39	40
ECC2086	33	38	41	39	40
ECC2088	33	38	41	39	40

Total number of S modules (cont.)					
Type designation	SD	SE	SB	SH	SBH
ECC2185	35	40	43	41	42
ECC2266	-	42	45	-	44
ECC2268	-	42	45	-	44
ECC2276	37	42	45	43	44
ECC2278	37	42	45	43	44
ECC2286	37	42	45	43	44
ECC2288	37	42	45	43	44

# Cut-out in floor



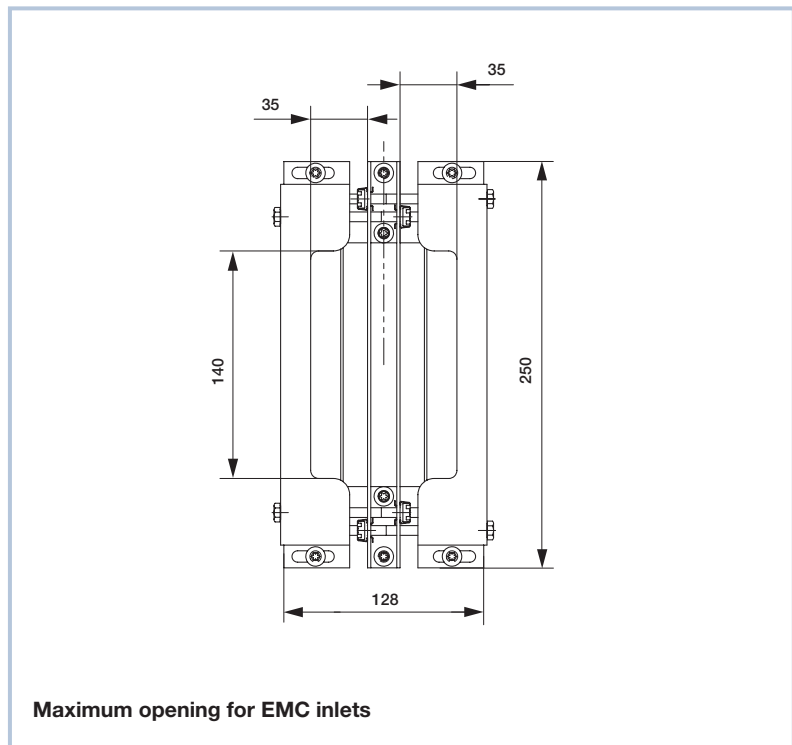
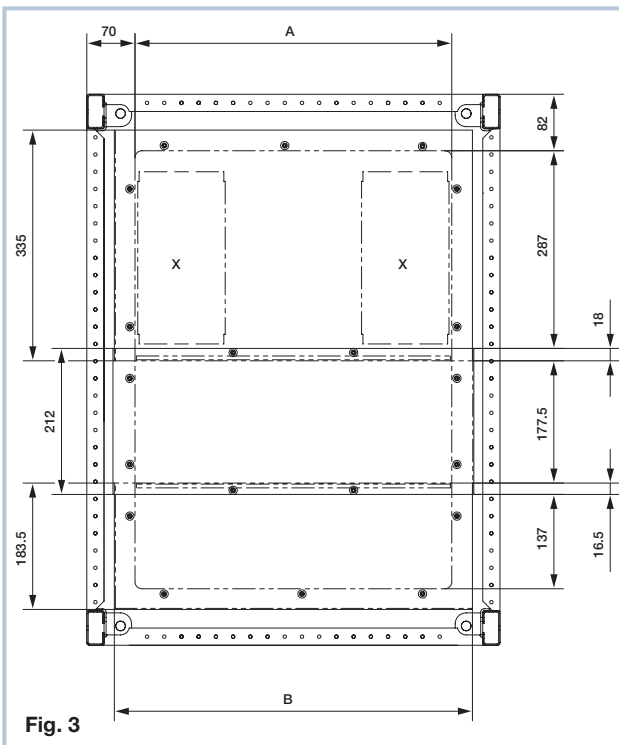
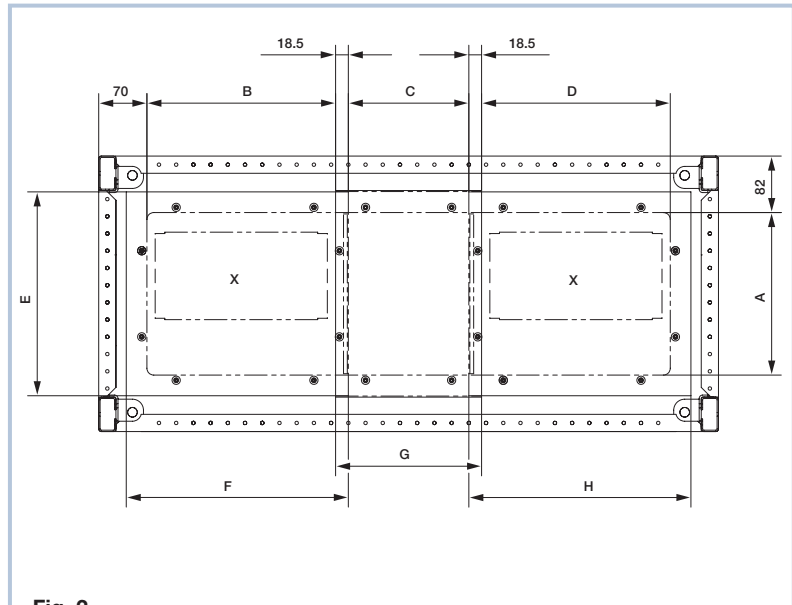
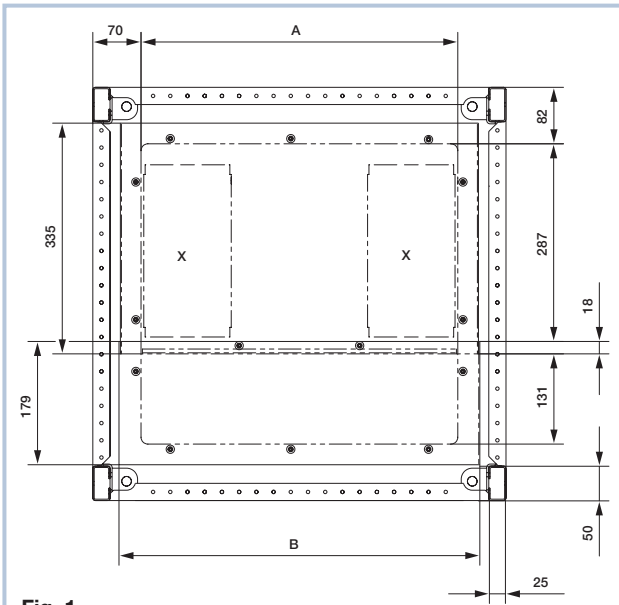
## Cut-out in floor

The size of the cut-out underneath the cabinet depends on the cabinet's width and depth.

Type designation	Cabinet size Width x Depth	Max cut-out		Distance between foundation bolts	
		A	B	C	D
ECC1985	800 x 475	660	311	702	419
ECC2064	600 x 400	460	236	502	344
ECC2066	600 x 600	460	436	502	544
ECC2074	700 x 400	560	236	602	344
ECC2076	700 x 600	560	436	602	544
ECC2078	700 x 800	560	636	602	744
ECC2084	800 x 400	660	236	702	344
ECC2086	800 x 600	660	436	702	544
ECC2088	800 x 800	660	636	702	744
ECC2185	800 x 475	660	311	702	419
ECC2266	600 x 600	460	436	502	544
ECC2268	600 x 800	460	636	502	744
ECC2276	700 x 600	560	436	602	544
ECC2278	700 x 800	560	636	602	744
ECC2286	800 x 600	660	436	702	544
ECC2288	800 x 800	660	636	702	744
ECC2294	900 x 400	760	236	802	344
ECC22106	1000 x 600	860	436	902	544

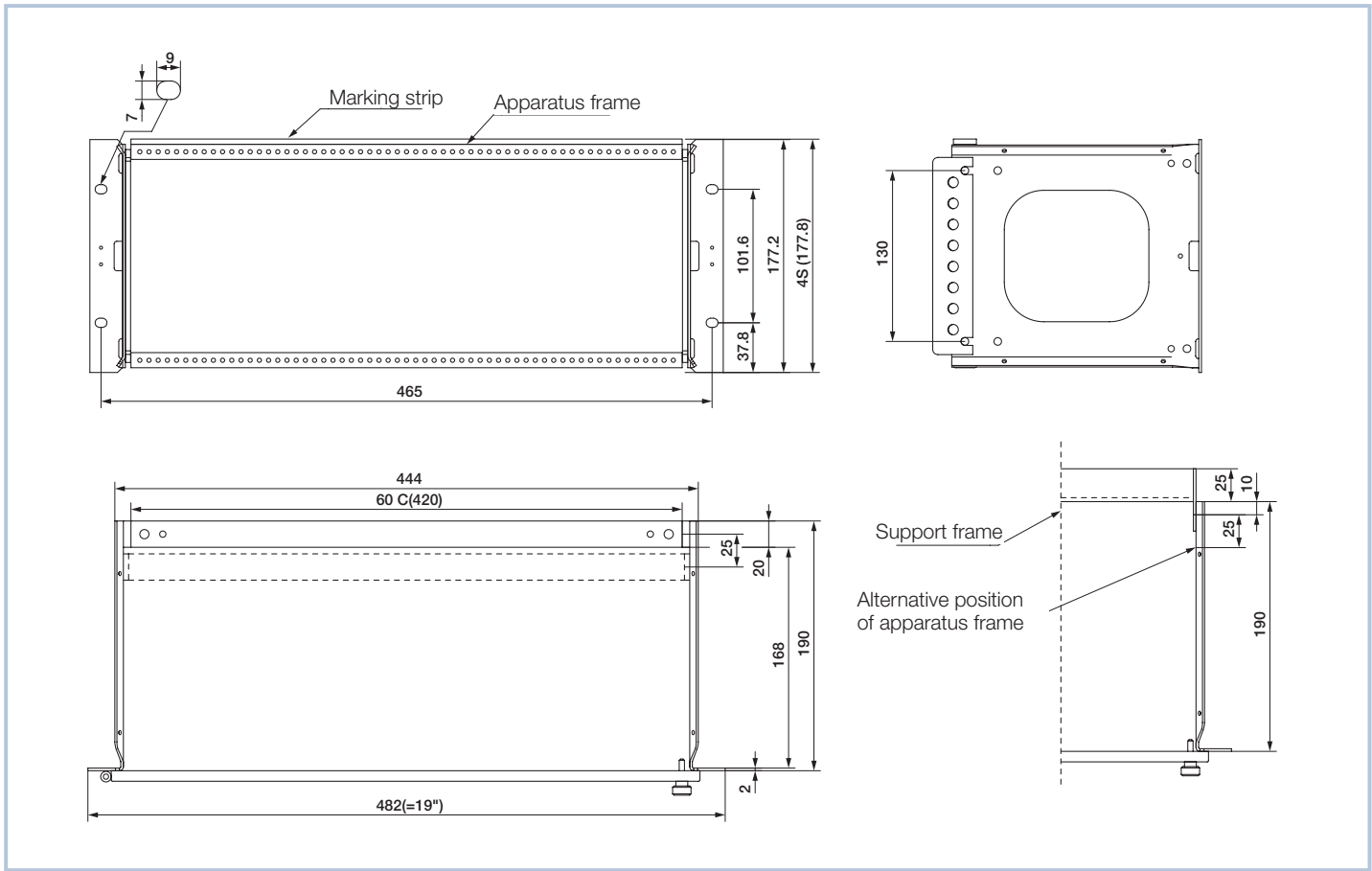
# Cover plates for floor

Cabinet depth mm	Cabinet width mm	See fig.	Number of plates	Dimensions								
				A	B	C	D	E	F	G	H	
600	600	1	2	460	520	-	-	-	-	-	-	-
	700	1	2	560	620	-	-	-	-	-	-	-
	800	1	2	660	720	-	-	-	-	-	-	-
	1000	1	2	860	920	-	-	-	-	-	-	-
400	600	2	2	236	274	179	-	296	322,5	216	-	-
	700	2	2	236	274	-	267,5	296	322,5	-	316	-
	800	2	3	236	274	75	274	296	322,5	112	322,5	-
	900	2	3	236	274	175	274	296	322,5	212	322,5	-
475	475	2	3	311	149,5	324	149,5	371	198	361	198	-
800	600	3	3	460	520	-	-	-	-	-	-	-
	700	3	3	560	620	-	-	-	-	-	-	-
	800	3	3	660	720	-	-	-	-	-	-	-

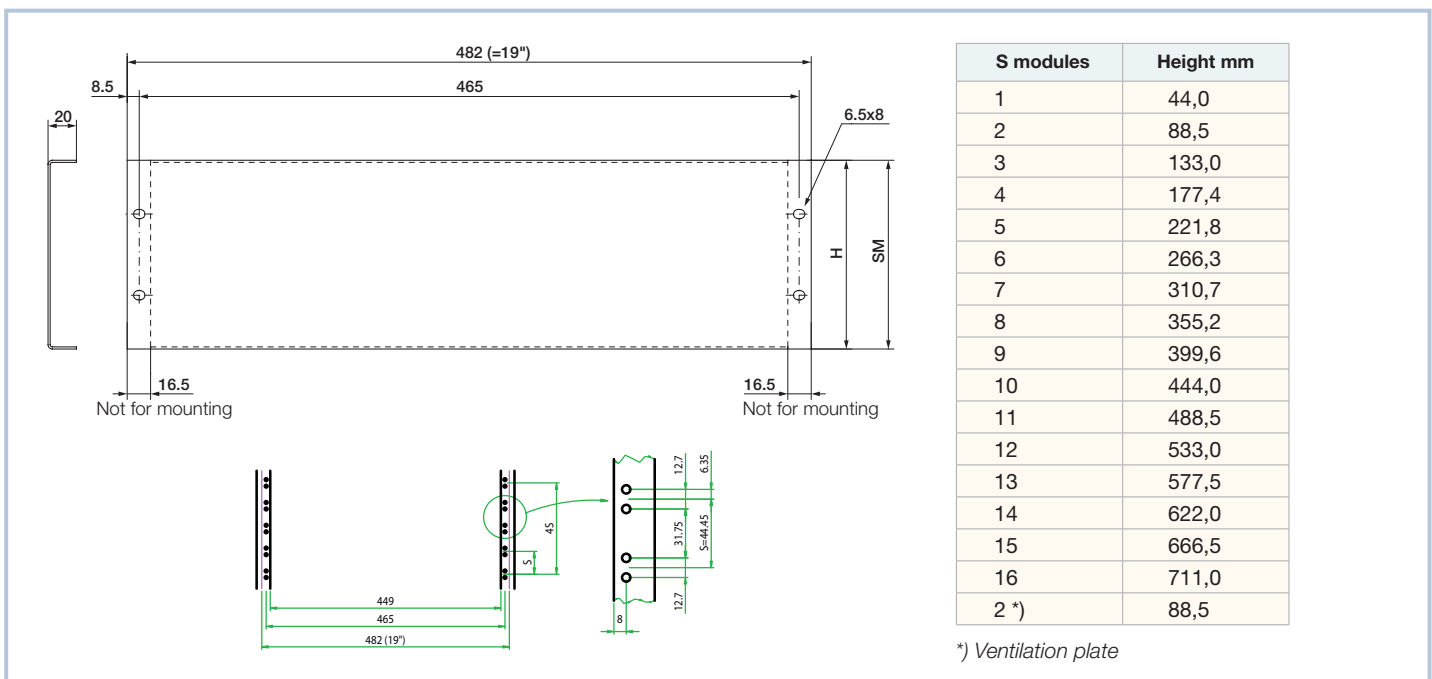


# Equipment frame

## 19" equipment frame

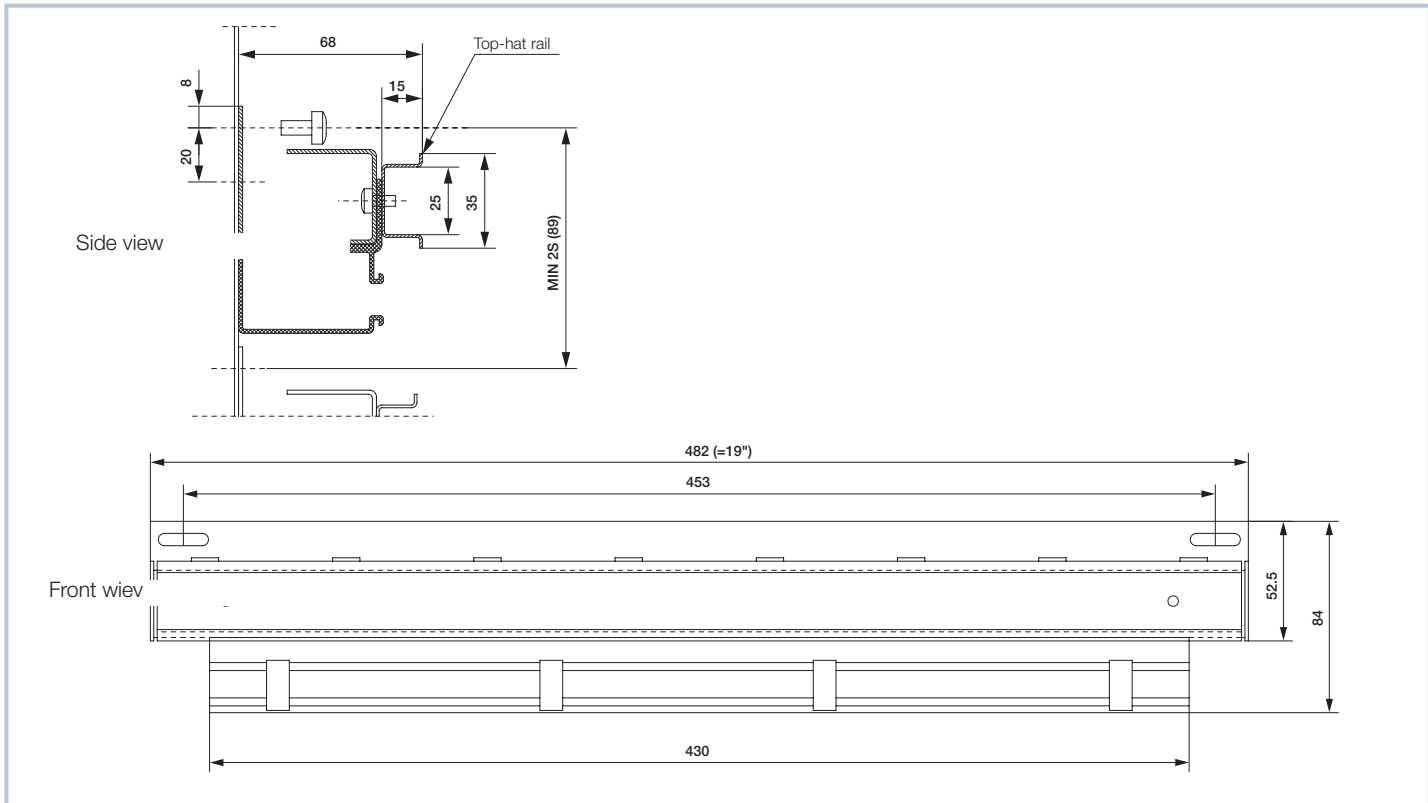


## 19" cover and mounting plates

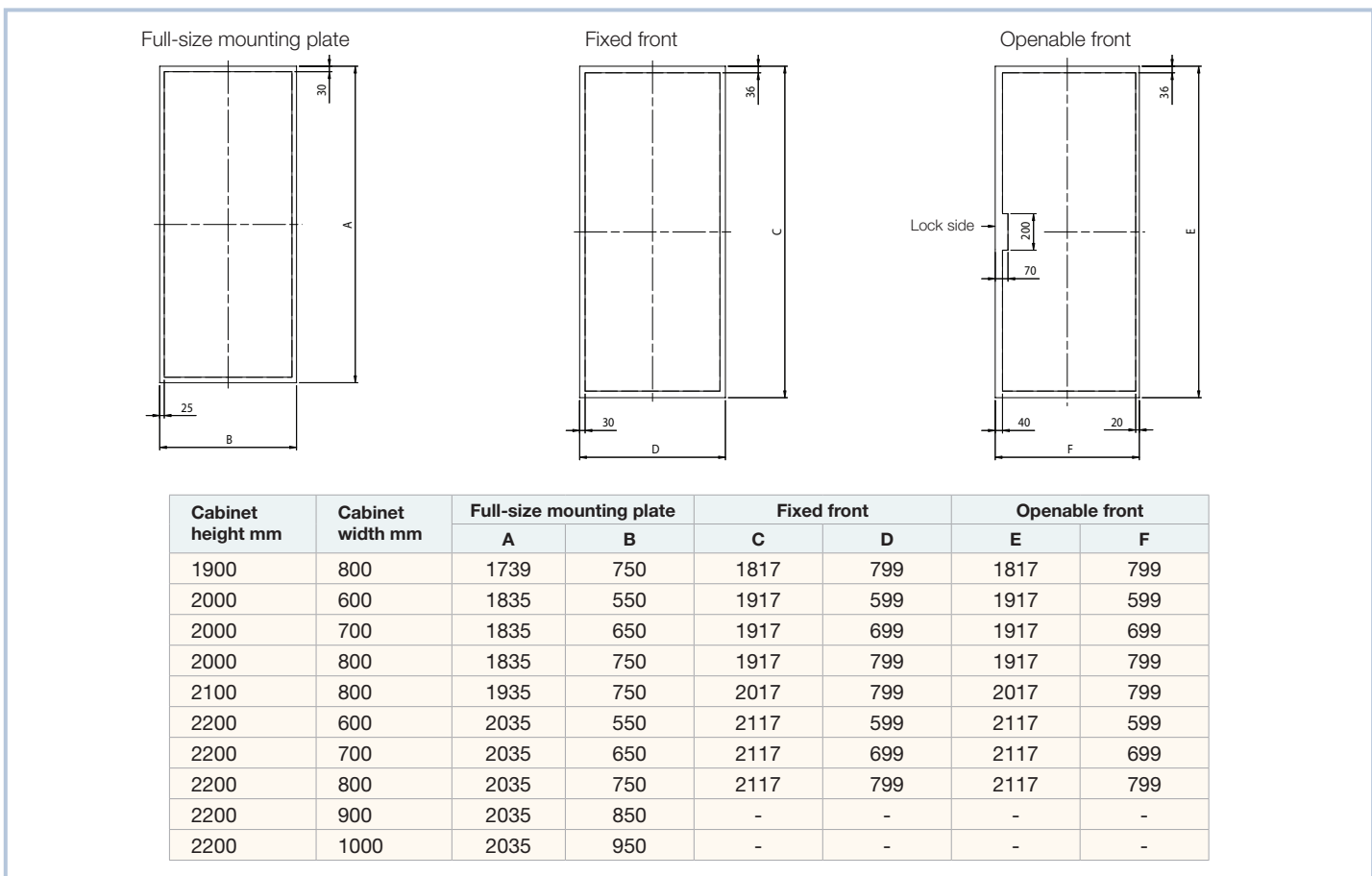


# Terminal block holder, full-size mounting plate

## Terminal block holder



## Mounting space

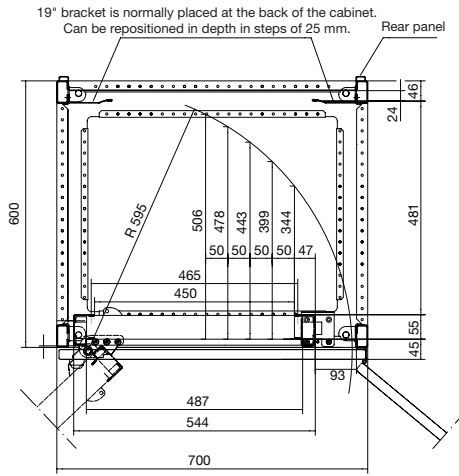




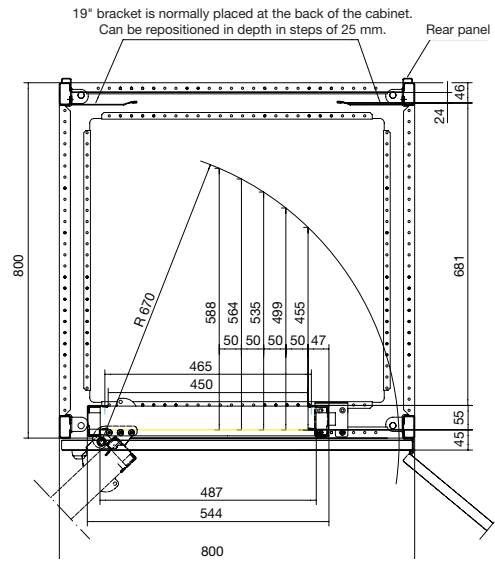
# Mounting space

## Cabinet

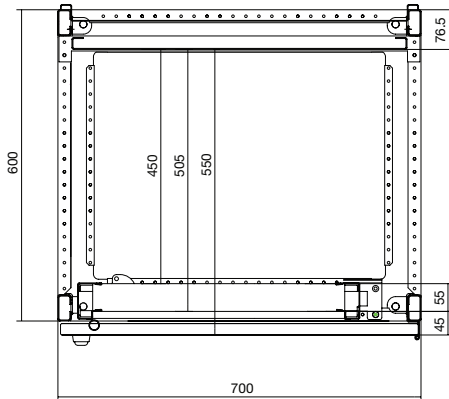
Cabinet width 700 mm. With hinged frame.



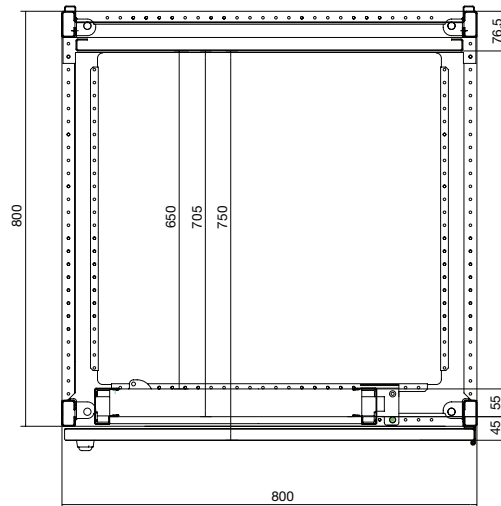
Cabinet width 800 mm. With hinged frame.



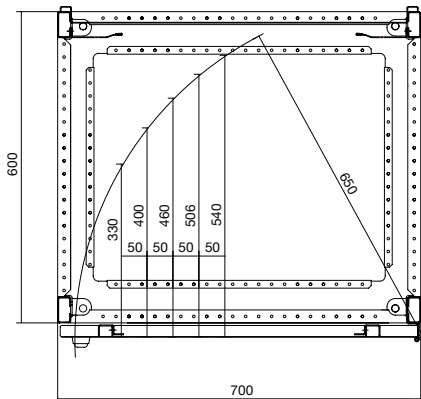
Cabinet width 700 mm. With mounting plate.



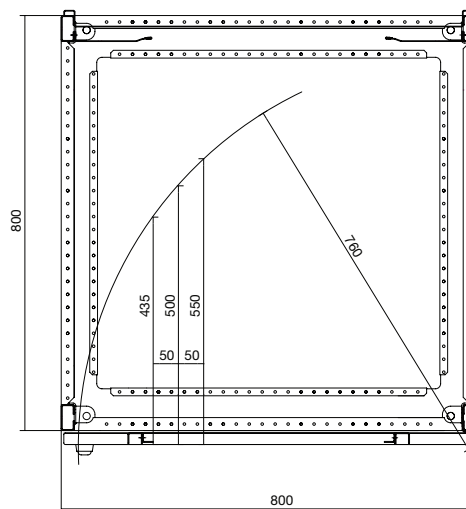
Cabinet width 800 mm. With mounting plate.



Cabinet width 700 mm. Door with 19" holes.



Cabinet width 700 mm. Door with 19" holes.





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