



19" cabinet system TiRAX

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19" cabinet system NETcell

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Open 19" racks

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Floor-standing / wall-mounted
19" enclosure system VARI IT

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Wall-mounting systems

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Cabinet monitoring

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Distribution technology

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Accessories

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Read more about the apra-group's products at www.apra.de

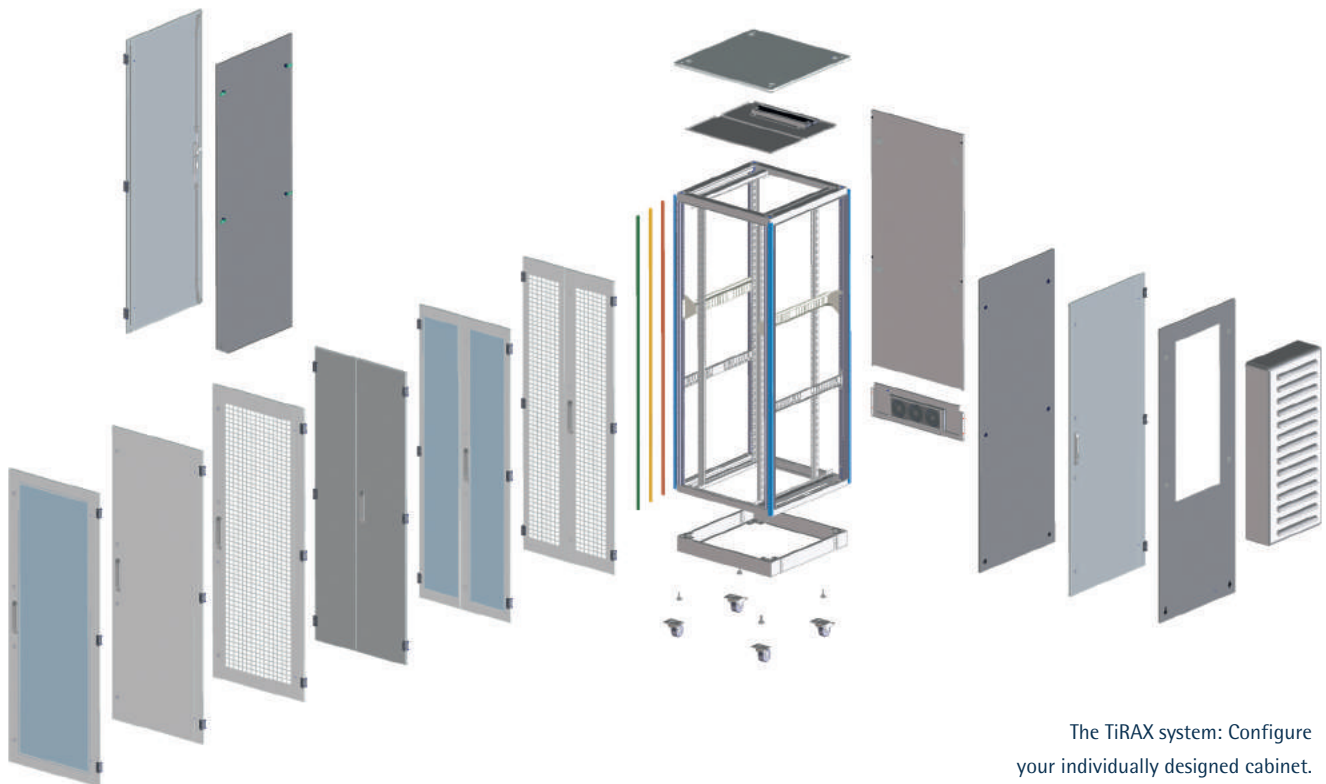


TiRAX

THE OPTIMAL SOLUTION FOR CABLING IN THE IT AND INDUSTRIAL SECTOR

The "classic" 19" cabinet system TiRAX comes as a server or network cabinet both individually and in Cabinet rows with enclosures for use. The TiRAX cabinet frame is designed as a rolled prefabricated construction based on just eight bolting points is easy to disassemble. With both force and form.

In addition to a very high degree of stability, a degree of protection of up to IP 54 is achieved. Thanks to its modular and fully symmetrical design, the TiRAX is not only popular with IT professionals, but also with innovative thinking and design-oriented technicians from the industry.



The TiRAX system: Configure your individually designed cabinet.

TiRAX Highlights

completely demountable

Extensive range of parts

Individually configurable

Fully symmetrical design

detachable design profile, customer specific colour scheme

Load capacity up to 1500 kg

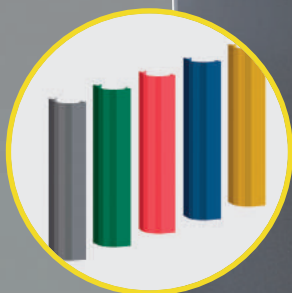
flexible Cabinet dimensions and modular interior design

Energy efficient Air conditioning through the use of enclosure components

Protection class up to IP 54



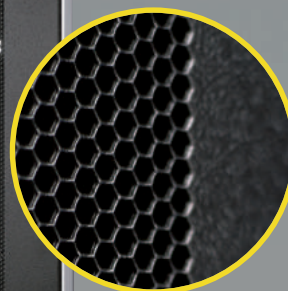
Code your cabinets
different colored design strips
by applications or departments
and give them one
own look.



Swivel handle lock in
mechanical or
electronic version



Passive ventilation
through perforated metal doors
(free Perforated plate cross
section 83 %)



Vertical cable routing on the side
the 19" level via cable clamp
or cable channels



TiRAX

completely demountable,
modular,
fully symmetric



TiRAX server cabinet IP 20

- dismantlable steel profile cabinet rack
- two lateral sash doors with quick lock mechanism
- front and rear perforated sheet metal door with three-point lock mechanism (perforated door surface: 83 %)
- installation of a profile half-cylinder possible
- 19" level 42 U, front and rear
- top panel with cable entry and/or fan module option
- base provided
- cover plates in the bottom area can be removed for cable entry
- for W = 800 mm: metal cable clamps 66 x 125 mm at the front 19" level (10 pieces)
- equipotential bonding set (installed)
- screw set M 5 (50x)

Finish:

Trim parts/base:

RAL 7035 light grey

Design profiles: RAL 5014 pigeon blue
(other colours possible on request)

or

Trim parts/base:

RAL 9005 jet black

Design profiles: RAL 7037 dusty grey
(other colours possible on request)

Delivery:

fully assembled, base provided



H mm	W mm	D mm	Colour	Order no.
2000	600	1000	RAL 9005 jet black	318-200-60
2000	800	1000	RAL 9005 jet black	318-200-61
2000	600	1200	RAL 9005 jet black	318-200-62
2000	800	1200	RAL 9005 jet black	318-200-63
2000	600	1000	RAL 7035 light grey	318-200-64
2000	800	1000	RAL 7035 light grey	318-200-65
2000	600	1200	RAL 7035 light grey	318-200-66
2000	800	1200	RAL 7035 light grey	318-200-67



TiRAX IP 20

- dismantlable steel profile cabinet rack
- front viewing door with tinted toughened safety glass
- rear sheet metal door (can also be mounted as side door if basic size is square)
- both doors can accommodate a profile half cylinder
- side panels (connector cabinet: without side panels, includes cabinet connectors)
- 19" level front and rear
- for W = 800 mm: metal cable clamps 66 x 125 mm at the front 19" level
- top panel with cable entry and/or fan module option
- open bottom plate
- base provided
- equipotential bonding set (installed)
- screw set M 5 (50x)

Finish:

Trim parts/base:

RAL 7035 light grey

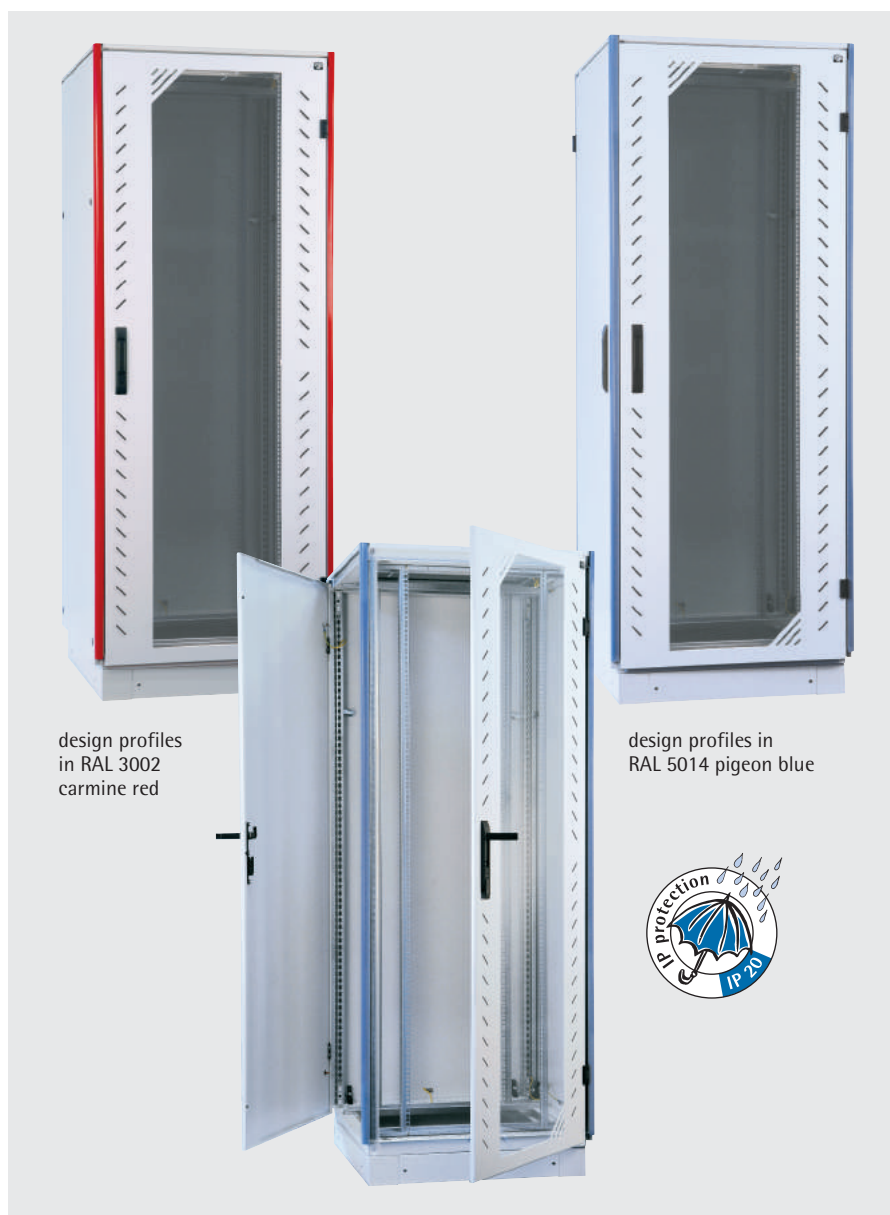
Design profiles:

RAL 3002 carmine red

(other colours on request)

Delivery:

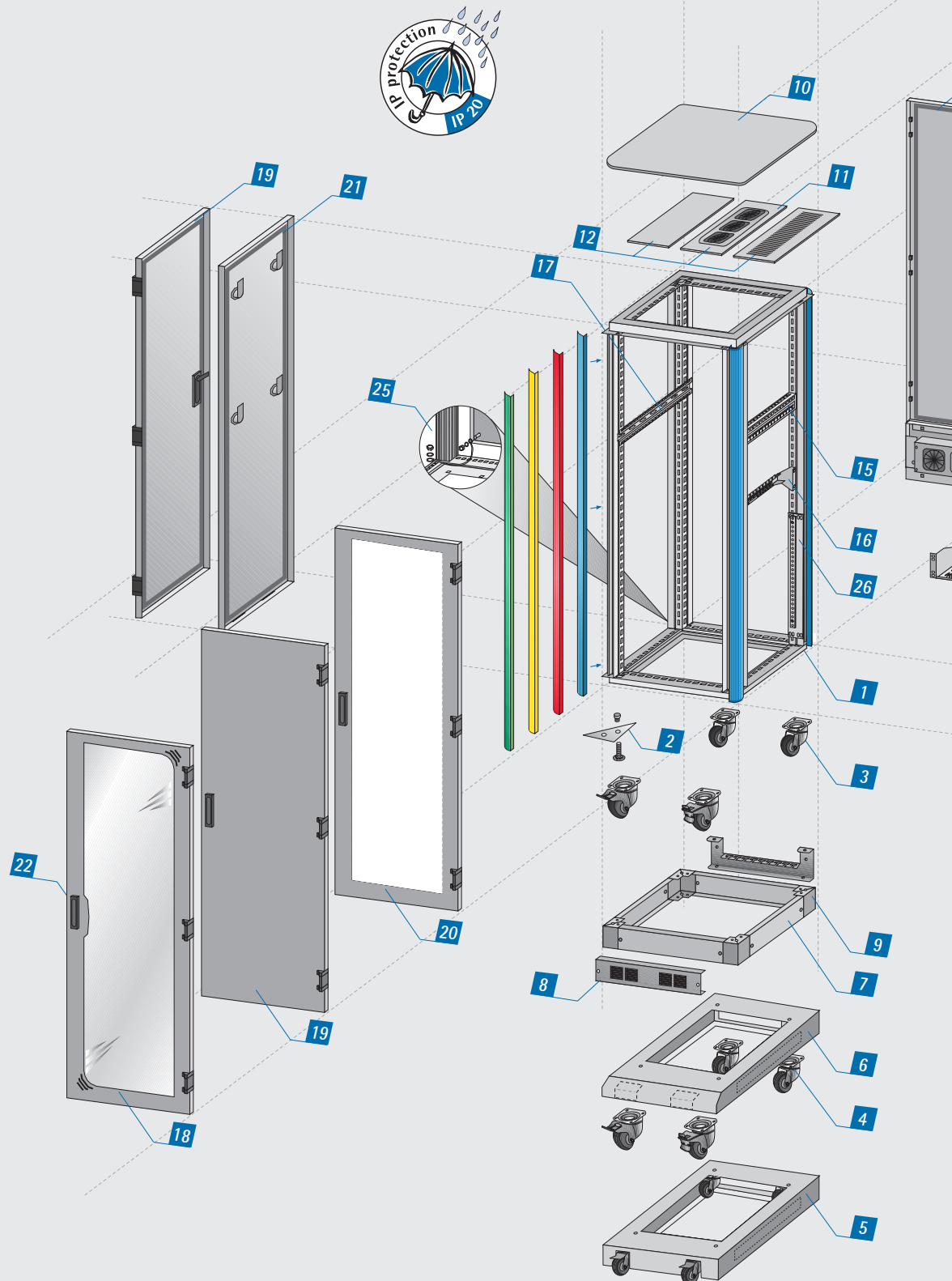
fully assembled, base provided



H mm	W mm	D mm	Basic cabinet	Connector cabinet
1200	600	600	317-200-40	317-200-50
1200	800	600	317-200-41	317-200-51
1200	600	800	317-200-42	317-200-52
1200	800	800	317-200-43	317-200-53
2000	600	600	317-200-44	317-200-54
2000	800	600	317-200-45	317-200-55
2000	600	800	317-200-46	317-200-56
2000	800	800	317-200-47	317-200-57

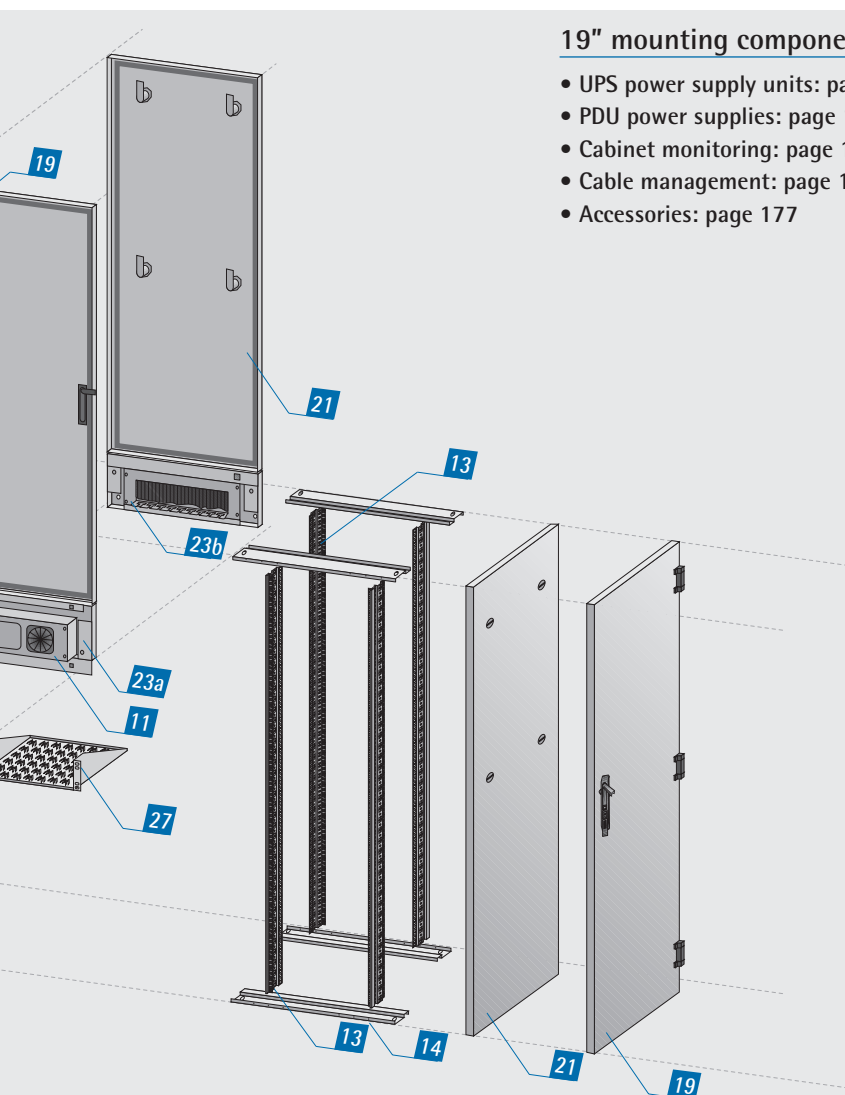


Configure your own individually designed cabinet.





Select the required cabinet components step by step:

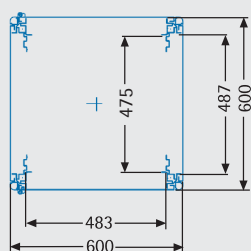


19" mounting components

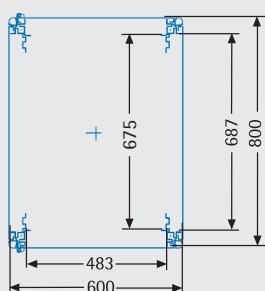
- UPS power supply units: page 150
- PDU power supplies: page 140
- Cabinet monitoring: page 155
- Cable management: page 163
- Accessories: page 177

Pos.	Description	Page
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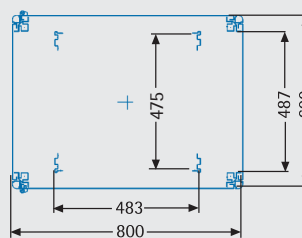
Technical information: max. 19" installation dimensions



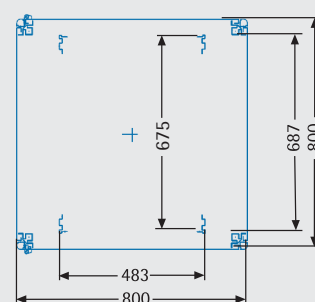
Top view cabinet rack
W x D = 600 x 600 mm



Top view cabinet rack
W x D = 600 x 800 mm



Top view cabinet rack
W x D = 800 x 600 mm



Top view cabinet rack
W x D = 800 x 800 mm



1 Cabinet rack, dismountable

The cabinet rack consists of two identical sheet metal frames (1), four sheet metal functional profiles (2) and four painted sheet metal design profiles (3) clipped onto the functional profiles.

Dimensions:

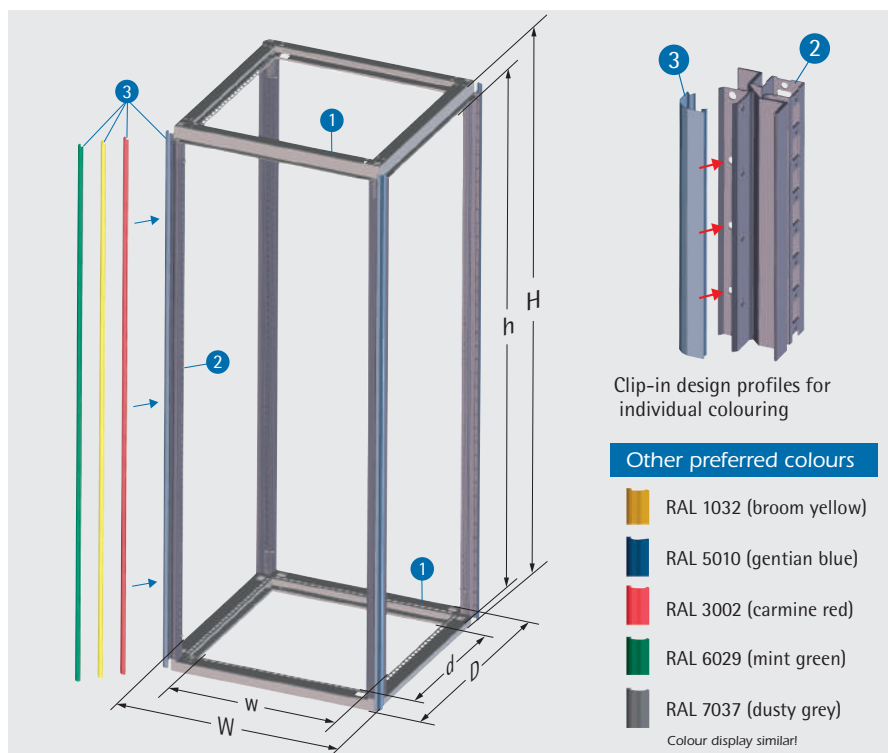
W: Cabinet width
w: clear opening width
 $w = W - 146 \text{ mm}$
D: Cabinet depth
d: clear opening depth
 $d = D - 146 \text{ mm}$
H: Cabinet height
h: clear opening height
 $h = H - 100 \text{ mm}$

Finish:

- (1) Top / bottom frame: RAL 7035 light grey
- (2) Functional profile: galvanised
- (3) Design profile: RAL 5014 pigeon blue

Delivery:

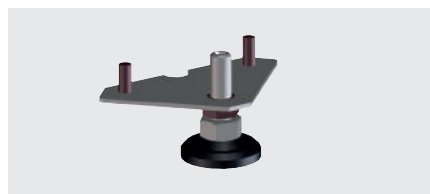
fully assembled



The design profile (3) can be matched to your company colour if desired.

Dimensions (W x D) mm	U	H mm	Order no.
600 x 600	24	1200	318-660-02
800 x 600			318-860-02
800 x 800			318-880-02
600 x 1000			318-601-02
800 x 1000			318-810-02
600 x 600	42	2000	318-660-10
800 x 600			318-860-10
800 x 800			318-880-10
600 x 1000			318-610-10
800 x 1000			318-810-10

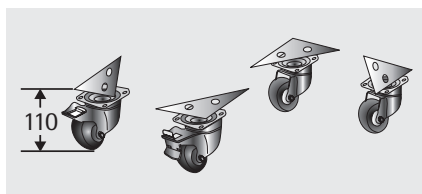
2 Adjusting feet



- to be screwed onto the rack (1) or to the corners of the base
- Height min. = 25 mm
- set = 4 pieces

Description	Order no.
Mounting on rack	318-026-00
Mounting on base	318-026-02

3 Castor set

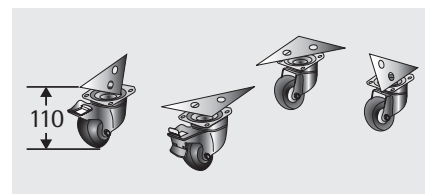


- to be screwed directly onto the cabinet rack (1)
- 4 swivel castors (2 with parking brake)

Load capacity:
450 kg

Order no.
318-026-10

4 Castor set, tilt prevention base



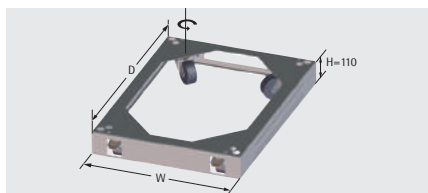
- to be screwed to tilt prevention base (6)
- 4 swivel castors (2 with parking brake)

Load capacity:
450 kg

Order no.
316-026-50



5 Castor base



- 4 swivel castors (2 with parking brake)
- cable entry from rear (opening with brush) and side

Finish:

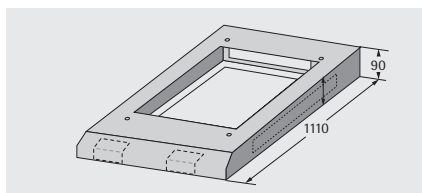
RAL 7035 light grey

Load capacity:

450 kg

W mm	D mm	Order no.
600	600	318-126-60
600	800	318-126-80
800	600	318-128-60
800	800	318-128-80

6 Tilt prevention base



- static base with integrated tilt prevention
- offers secure standing when drawers with heavy equipment are extracted
- rear or lateral cable entry

Material:

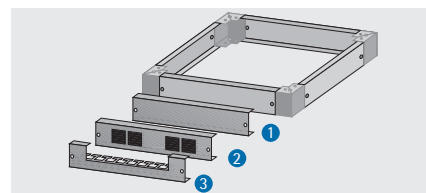
sheet metal

Finish:

RAL 7035 light grey

W mm	D mm	Order no.
600	1000	318-026-11
800	1000	318-028-11

7 Base covers



- for individual base construction combined with our base corner set
- 4 covers complete one base

Type 1: solid

Type 2: ventilated

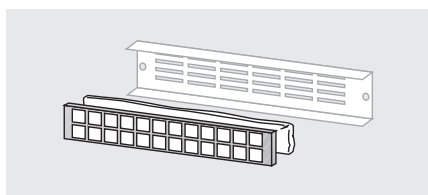
Type 3: with cable entry

Material: sheet metal

Finish: RAL 7035 light grey

W / D mm	Type	Order no.
600	1	318-100-10
800		318-100-20
1000		318-100-30
1200		318-100-50
600	2	318-100-12
800		318-100-22
600	3	318-100-14
800		318-100-24

8 Filter set for base covers



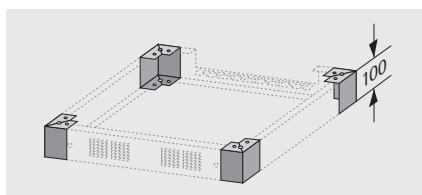
- matches base covers "Type 2 ventilated" (see pos. 7)

Material:

sheet metal galvanised, filter fleece

W / D mm	Order no.
600	318-100-16
800	316-101-99

9 Base corner set



- set = 4 pieces
- includes mounting materials
- extendable
- Height: 100 mm

Material:

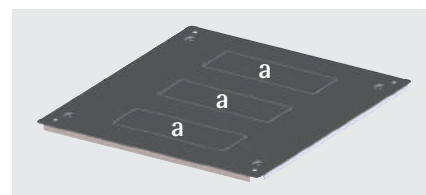
sheet metal

Finish:

RAL 7035 light grey

Order no.
318-100-00

10 Top



- can be raised mounted with lifting eye bolts (see below)
- for each pre-perforated field "a" extendable with **fan module** (see page 20) or **brush set** (see page 21)

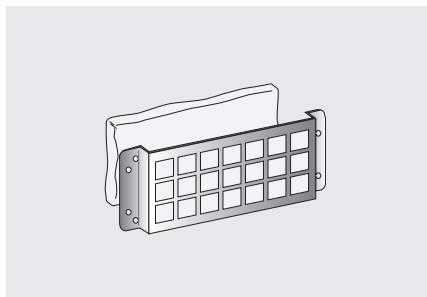
Material: sheet metal

Finish: RAL 7035 light grey

Dimensions (W x D) mm	No. of fields (a)	Order no.
600 x 600	2	317-016-62
600 x 800	2	317-018-62
600 x 1000	2	317-020-64
800 x 600	2	317-018-62
800 x 800	3	317-018-82
800 x 1000	4	317-020-82



Filter set



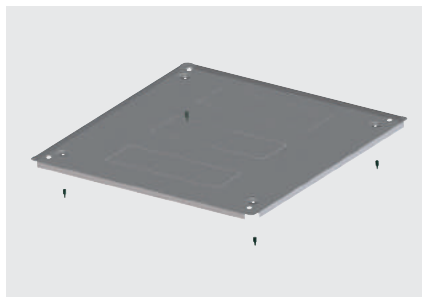
- for fan module or perforated cover plate

Material:

aluminium, filter fleece

Description	Order no.
Filter set	316-100-99
Spare filters (5 pieces)	671-200-05

Spacer bolts for top plates



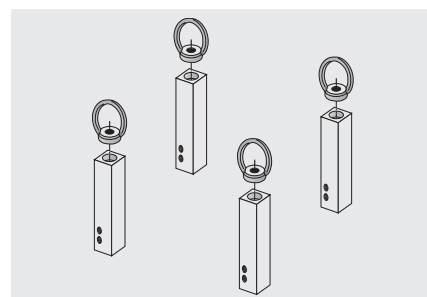
- The further lifting (H = 15 mm) of top panel is possible with additional spacer bolts.
- set = 4 pieces

Material:

steel

Order no.
316-016-65

Eye bolt kit



- lifting eye bolts for cabinet relocation
- set = 4 pieces

Load capacity:

500 kg

Order no.
318-026-20

11 Fan module



- fan module, fully pre-wired
- ventilation or extraction, depending on assembly position
- for installation in the top/bottom area of the cabinet
- different power cords available (see right side)

Material:

polycarbonate UL94 V-0

Finish:

similar to RAL 9005 jet black

Dimensions (H x W x D):

44 x 450 x 140 mm

Power cord standard, 3 m



Connection	Order no.
Earthing-pin	640-044-05
IEC connector	230-500-15
Without plug for fixed connection	230-500-16

Power cord 3 m with thermostat 0 - 60 °C



Connection	Order no.
Earthing-pin	230-500-04
IEC connector	230-500-05
Without plug for fixed connection	230-500-06

The fan characteristics and noise levels can be found in the diagrams on page 133.

The fan module „silent“ cannot be combined with an extension module!

Description	Unimpeded air flow	Basic module	Extension module
fan module 1-way	115 m³/h	230-500-01	230-500-11
fan module 2-way	120 m³/h	230-500-02	230-500-12
fan module 3-way	345 m³/h	230-500-03	230-500-13
fan module "silent"	240 m³/h	230-500-43	-



Roof ventilation unit "Silent" for TiRAX cabinet system

- This roof ventilation unit "Silent" distinguishes by its low noise level and large airflow.
- Due to these features it may be a good alternative to a climate control unit.
- The low noise level of the roof ventilation unit enables it for office application. The rear of the top cover offers a **break-out possibility for a cable entry (a)**.

Material:

sheet metal

Finish:

RAL 7035 light grey

Delivery:

roof including fan and mounting material

A sufficient volume of air inlet, e.g. in the bottom area or via a base with ventilation slots needs to be taken in consideration. A deficiency of the same may reduce efficiency of ventilation.



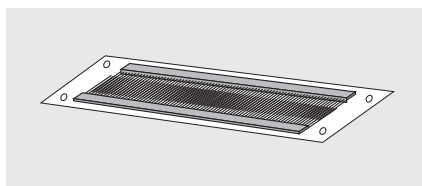
Technical information

Airflow (unimpeded)	1545 m ³ /h
Noise level	40 dB (A)
Operating voltage/frequency	230 V / 50-60 Hz
Power consumption	68 W / 50 Hz
Size of roof unit (H x W x D)	228 x 551 x 551mm

Order no.

Description	Dimensions W x D x H	Order no.
Roof plate with fan	800 x 800 x 230	318-019-08
Roof plate with fan	800 x 1000 x 230	318-019-10
Roof plate with fan	800 x 1200 x 230	318-019-12
Brush set for cable entry (a)		316-111-10
Power lead (3 m) with thermostat 0-60 °C		230-500-04

Brush set for roof ventilation unit "Silent"



- for use in the perforated breakthrough of the roof ventilator "Silent"
- for use in the openings (a) of the roof
- Dimensions W x D: 365 x 120 mm

Order no.
316-111-10

Power lead 3 m with thermostat 0-60 °C



- for installation of the roof ventilation unit "Silent"

Order no.
230-500-04

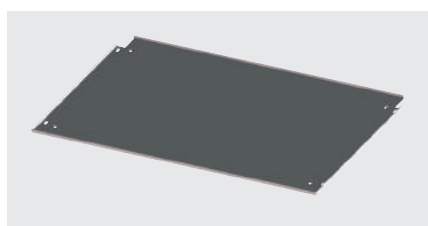


12 Cover plates

The cover plates can be mounted directly on the cabinet rack [1] (top or base) according to the layout shown.

	Depth (D) 600 mm	Depth (D) 800 mm	Depth (D) 1000 mm	Depth (D) 1200 mm
(W) 600 mm				
(W) 800 mm				

Cover plate, solid



- individual break-throughs on request

Size	Order no.
1	318-111-01
2	318-111-02
3	318-111-03
4	318-111-04
5	318-111-05
6	318-111-06
7	318-111-07

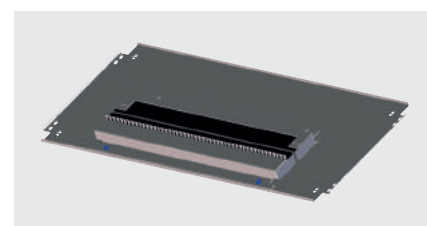
Cover plate for fan base module



- cover plate for mounting of fan modules [pos. 11]
- also mountable with filter set 316-100-99

Size	Order no.
1	318-111-21
2	318-111-22

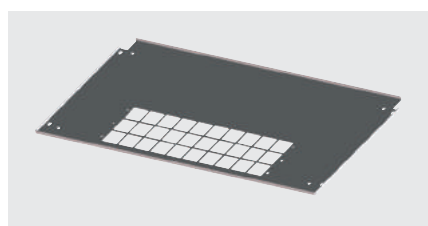
Cover plate for cable entry



- cover plate for sealed cable entry
- suitable for CEE-plugs

Size	Order no.
1	318-111-25
2	318-111-26
5	318-111-37
6	318-111-38

Cover plate perforated

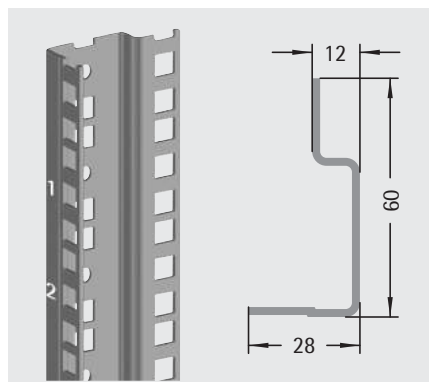


- extendable with filter set 316-100-99

Size	Order no.
1	318-111-23
2	318-111-24



13 19" vertical mounting



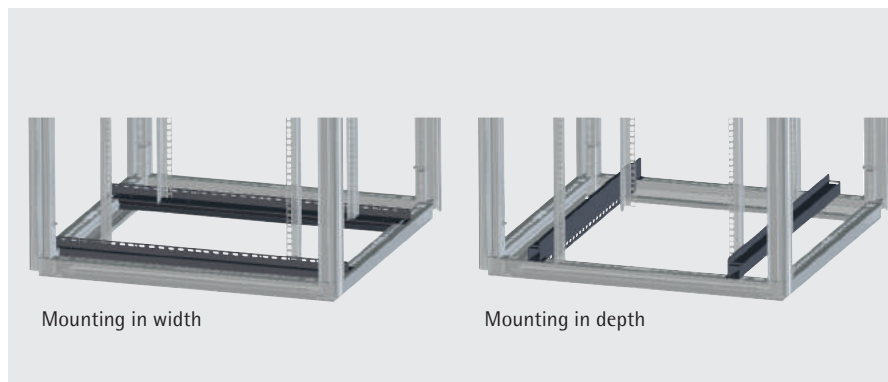
- ASA-perforation (1/2 19" perforation)
- with U-labelling

Material:

sheet metal, galvanised

U	Order no.
6	316-120-06
12	316-120-12
15	316-120-15
19	316-120-19
24	316-120-24
33	316-120-33
37	316-120-37
42	316-120-42
46	316-120-46
48	316-120-48

14 Cross bar for 19" integration



- to install the 19" vertical mountings two cross bars per 19" level are required
- steplessly depth adjustable
- at W = 800 mm the 19" level can be moved laterally

- in case of partial mounting, multipurpose crossbars (Pos. 15) are needed

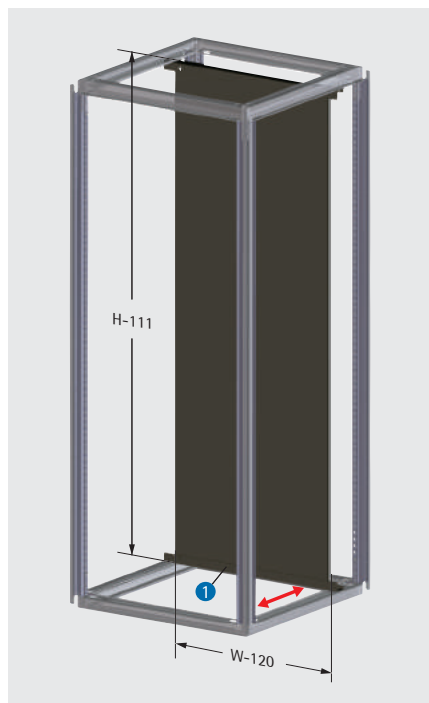
Material:

sheet metal, galvanised

U	W = 600 mm	W = 800 mm	D = 1000 mm	D = 1200 mm
6	318-121-76	318-121-78	318-121-80	318-121-82
12	318-121-76	318-121-78	318-121-80	318-121-82
15	318-121-76	318-121-78	318-121-80	318-121-82
19	318-121-77	318-121-79	318-121-81	318-121-83
24	318-121-76	318-121-78	318-121-80	318-121-82
33	318-121-76	318-121-78	318-121-80	318-121-82
37	318-121-77	318-121-79	318-121-81	318-121-83
42	318-121-76	318-121-78	318-121-80	318-121-82
46	318-121-77	318-121-79	318-121-81	318-121-83
48	-	318-121-70	318-121-72	318-121-74



Mounting plate



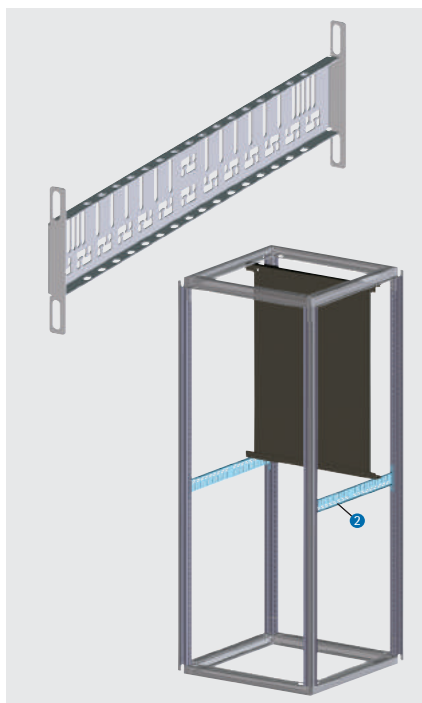
- for mounting heavy components and top hat rails
- is mounted on the cabinet with mounting rails [1] and can be pushed in laterally
- option to adjust the depth in 25mm steps
- multi-purpose crossbars (Pos. 15) are needed for partial mounting

Material:

sheet metal, galvanised

Height (H) mm	Order no. W=600 mm	Order no. W=800 mm
1200	318-130-12	318-130-32
1600	318-130-16	318-130-36
1800	318-130-18	318-130-38
2000	318-130-20	318-130-40
2200	318-130-22	318-130-42

15 Multi-purpose crossbar



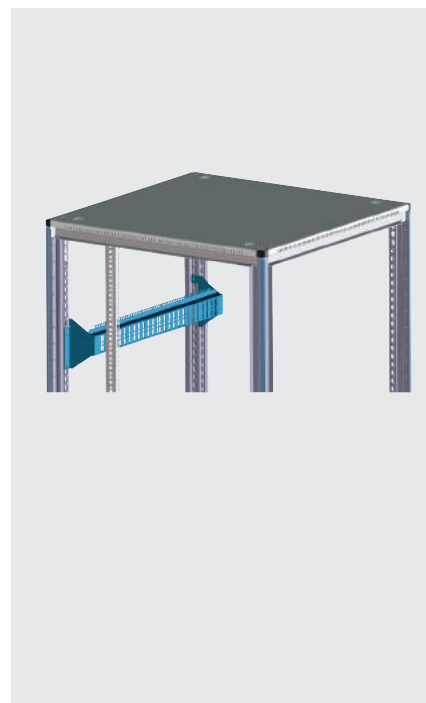
- for 19" partial mounting
- for clean cable entry
- infinitely depth adjustable
- Delivery: 1 piece

Material:

sheet metal, galvanised

Depth (D) / Width (W) mm	Order no.
600	318-120-06
800	318-120-08
1000	318-120-19
1200	318-120-23
500 - 850 (extendable)	318-122-40
700 - 1050 (extendable)	318-122-44

16 Reduction crossbar



- reduces W = 800 mm to 19"
- with integrated cable management bracket
- can be hung up or screwed on

Material:

sheet metal, galvanised

Depth (D) / Width (W) mm	Order no.
600	318-120-10
800	318-120-12
1000	318-120-14
1200	318-120-21



180° hinge kit for pivot frame



- to increase the pivot angle of the 19" pivot frame to 180°

Order no.
318-129-20

19" pivot frame



- for cabinet width 800 mm
- pivot angle 95°
- installation centric or asymmetrical

Material:

sheet metal

Finish:

RAL 7035 light grey

Load capacity:

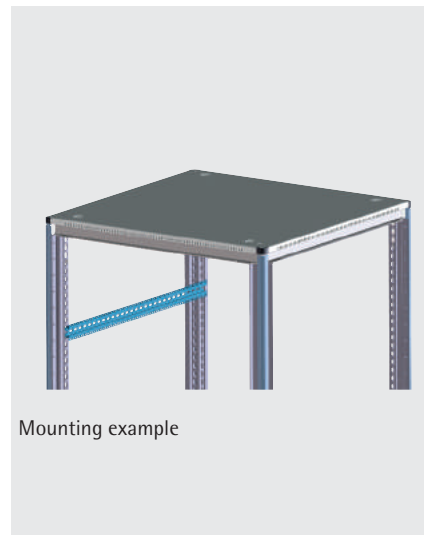
250 kg

Delivery:

incl. crossbars

U	Order no.
21	318-129-24
39	318-129-30

17 Cable guarding rail



Mounting example

- with integrated cable management bracket
- holds cables in place with cable ties and cable clips

Material:

Aluminium, anodised

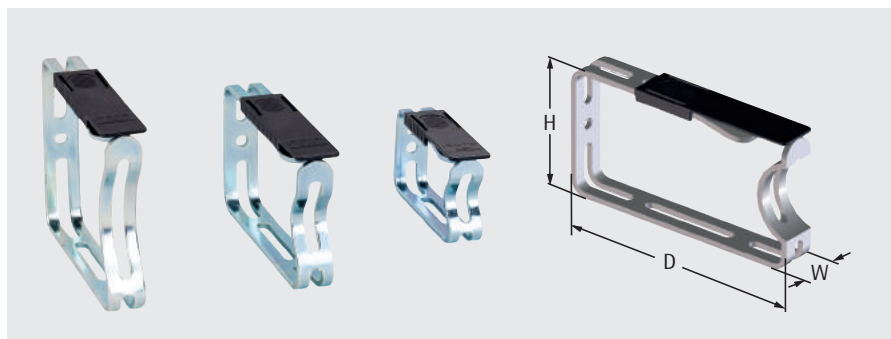
Delivery:

mounting material included

Cable clamps can be found on page 167.

Depth (D) / Width (W) mm	Order no.
600 mm	318-121-10
800 mm	318-121-11
Adapter for 1000 mm	316-103-25

Cable clamp, metal (set)

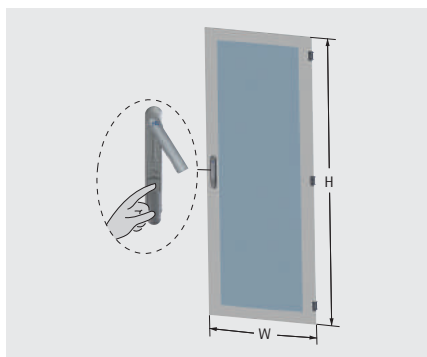


- for securing cables vertically to a 19" frame (for 800 mm wide cabinets)
- set = 10 pieces
- mounting material included

Dimensions (H x W x D) mm	Order no.
44 x 85 x 23	640-036-11
66 x 125 x 23	640-036-12
88 x 125 x 23	640-036-13



18 Viewing door



- with turning lever lock for profile half cylinder, L = 40 mm (with push button opening)

Material:

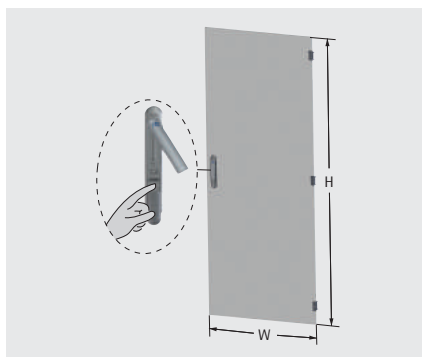
frame: sheet metal,
glass: toughened safety glass 4 mm, grey

Finish:

RAL 7035 light grey

Dimensions (H x W) mm	Order no.
1200 x 600	317-612-01
1200 x 800	317-812-01
2000 x 600	317-620-01
2000 x 800	317-820-01

19 Door, solid



- with turning lever lock for profile half cylinder, L = 40 mm (with push button opening)

Material:

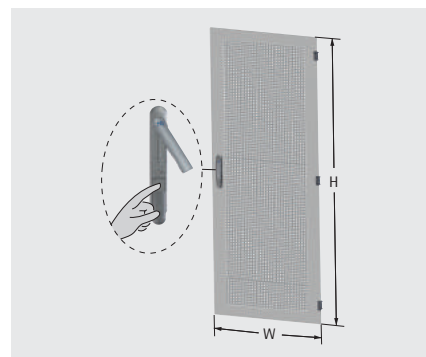
sheet metal

Finish:

RAL 7035 light grey

Dimensions (H x W) mm	Order no.
1200 x 600	317-612-02
1200 x 800	317-812-02
2000 x 600	317-620-02
2000 x 800	317-820-02

20 Door, perforated



- Perforation 83 %
- with turning lever lock for profile half cylinder, L = 40 mm (with push button opening)

Material:

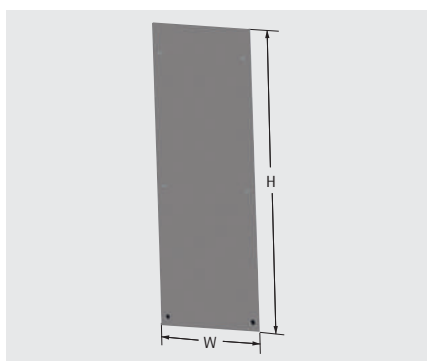
sheet metal, perforated insert

Finish:

RAL 7035 light grey

Dimensions (H x W) mm	Order no.
1200 x 600	318-612-16
1200 x 800	318-812-16
2000 x 600	318-620-16
2000 x 800	318-820-16

21 Sash door



- with 2 or 4 sash fasteners and "double bit key 5 mm" mechanism

Material:

sheet metal

Finish: RAL 7035 light grey

Dimensions (H x W) mm	Order no.
1200 x 600	317-612-23
1200 x 800	317-812-23
1200 x 1000	317-012-23
2000 x 600	317-620-23
2000 x 800	317-820-23
2000 x 1000	317-020-23

22 Locking systems for doors

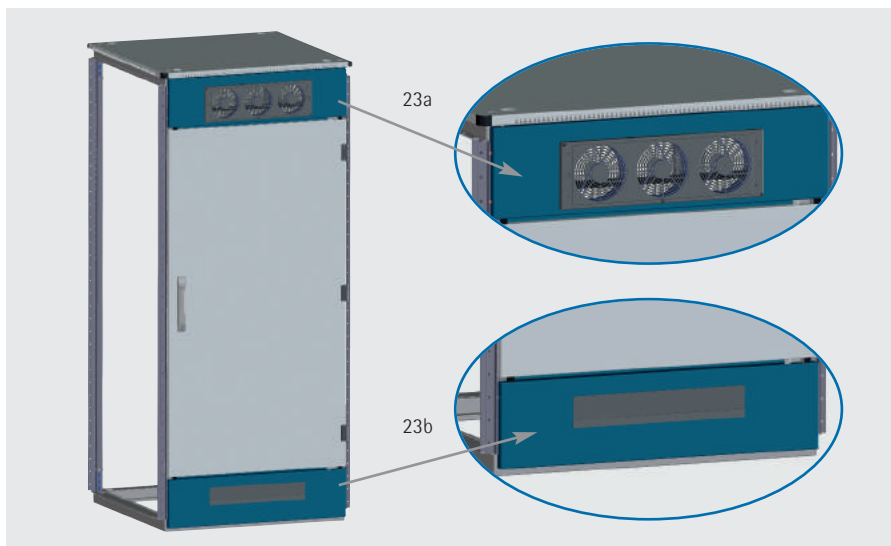


- **profile semi-cylinder** L = 40 mm with EK 333 closing for turning lever lock of doors (18 to 20)
- **adapter** for installing a profile semi-cylinder with L = 40 mm acc. to DIN 18252
- **sash fastener** with EK 333 closing for locking the sash door (21)

Description	Order no.
profile semi-cylinder	676-316-00
cylinder sash fastener	676-181
Adapter	676-316-10
Sapre key EK 333	676-200



23 a/b Universal modules



- can be used with shortened doors [18] - [20] or sash doors [21]
- modules can be positioned freely above and/or below the doors shortened by 200 mm
- the fan installation module [23 a] is suitable for use with the basic fan module [11]

Ausführung	Description	W / D mm	Order no.
23a	Fan installation module	600	318-700-00
23a	Fan installation module	800	318-800-10
23b	Cable entry module	600	318-600-02
23b	Cable entry module	800	318-800-02

24 Cabinet connection set IP 20



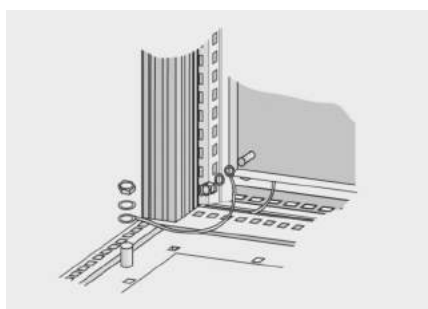
- for connecting as many cabinets as required next to or behind each other
- the design profile of the cabinet remains unchanged

Delivery:

connecting plates, clip-on seals;
assembly material included

Order no.
317-105-10

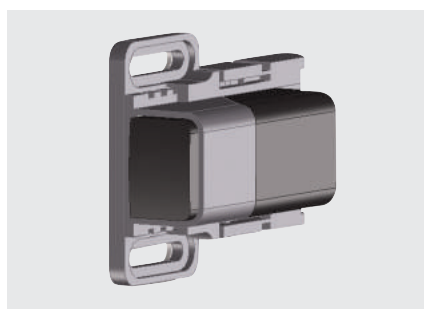
25 Earthing set TiRAX



- for earthing according to VDE standards
- for conductive connection of the cabinet's components (cable cross section 2,5 mm²)

Order no.
318-150-00

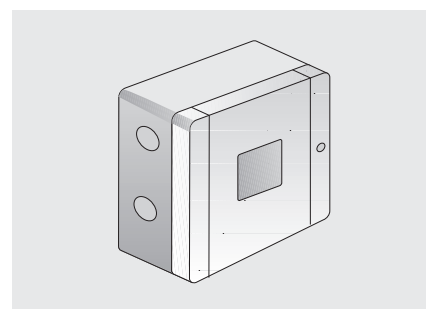
Door contact switch



- for switching IEC connector etc. on and off
- mounting material included

Order no.
640-071-00

Terminal box

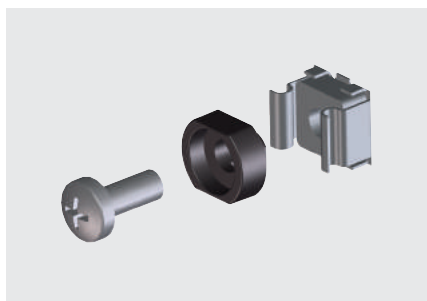


- for use as a cable distribution socket
- simple and quick installation

Order no.
640-059



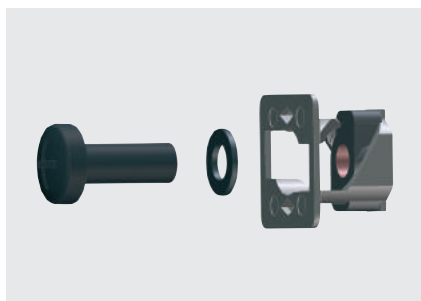
Screw set M 5 / M 6 / Torx (50x)



- necessary for mounting of 19" components into racks or enclosures
- consisting of:
 - 50 lens head screws M 5 x 12 / M 6 x 16
 - 50 cage nuts M 5 - 8 / M 6 - 8
 - 50 rosettes for screws M 5 / M 6, with standards flattened

Description	Order no.
M 5	630-991
M 6	630-994
Torx M 6	350-001-20

TiRAX screw set

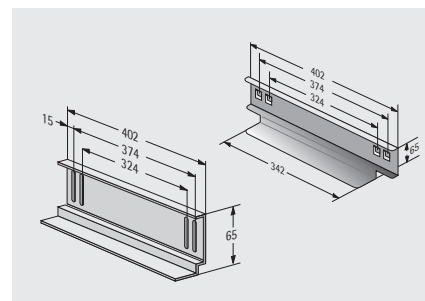


- can be inserted circumferentially in the TiRAX cabinet rack

Delivery:
each with 20x special cage nuts M 6, lens head screw M 6 x 16 and washer

Order no.
630-998

Slide rail, screwable / hook-in

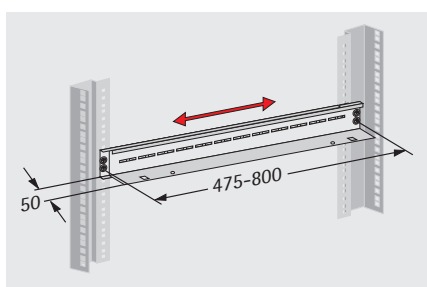


- **screwed/hooked** in onto 19" vertical mountings
- to support heavy 19" plug-in units
- two 19" levels are required for mounting
- Delivery: 1 pair

Material:
sheet metal, galvanised
Load capacity:
50 kg

Description	Order no.
screwable	312-544
hook-in	316-544-00

Slide rail, variable depth



- for 19" plug-in units irrespective of the clearance to the 19" levels
- depth-adjustable
- for use as of a cabinet depth of 800 mm
- Delivery: 1 pair

Material:
sheet metal 1,5 mm, galvanised
Load capacity:
50 kg

Order no.
316-544-20

LED cabinet lamp



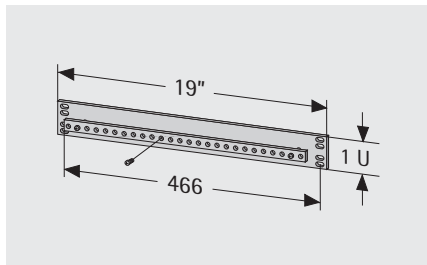
- cost-optimised LED technology with a power consumption of 5 W (light intensity equivalent to a 75 W light bulb)
- internal power supply unit with wide range voltage 100 - 230 V / AC
- long-life and no maintenance (service life at 20 °C = 60,000 h)
- available with switch or motion detector
- magnetic attachment for individual mounting in the cabinet
- pressure clamp connection

Connection sockets and connections must be ordered separately!

Description	Order no.
LED cabinet light with switch	640-143-05
LED cabinet light with motion detector	640-143-06
Connection with Euro plug, L = 2.5 m	640-143-08



26 19" Potential equalisation bar 1 U

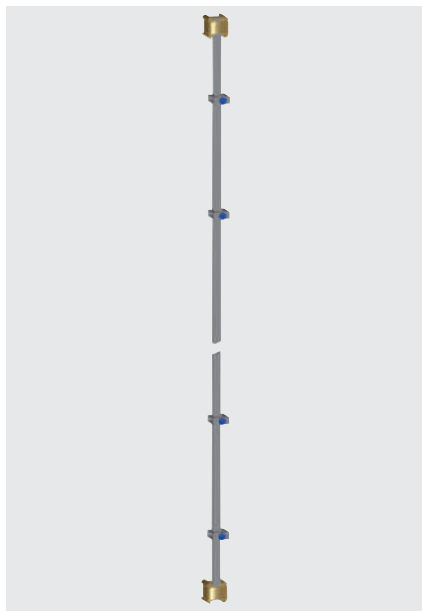


- for 19" or cabinet rack installation
- connection options: 27 × M 5
- rail cross-section: 50 mm²

Material:

sheet metal, copper

26 Potential equalisation bar 1 U



- 30 mm² inkl. 10 pull bows
- mounting material included

Order no.
640-028-00

L mm	Order no.
2000	640-028-08
1800	640-028-10

Noise absorption foam



- absorbs up to 10 dB(A) of sound in enclosures (e.g. fan noise)
- self-adhesive on one side
- thermal conductivity: 0.033 W/mk (acc. to DIN 52612)
- temperature range: -40 °C to +100 °C

Material:

grey PUR ester foam (10 mm), with indentations, partially compressed (air permeable)

Delivery:

unmounted

Delivery:

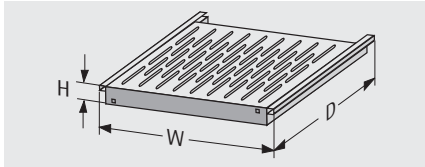
1 m²

If required, we will be happy to affix the noise absorption foam for you before delivering your cabinets or enclosures!

Order no.
671-211



27 Shelf without 19" extension "fixed installation"



- for mounting into cabinet rack without 19" level
- extraction length 500 mm

Material:

sheet metal

Finish:

RAL 7035 light grey

Load capacity:

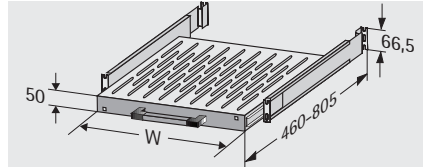
80 kg (distributed load)

Dimensions (H x W x D):

1,5 U (66,5 mm) x 465 x 410 mm

Cabinet width	Order no.
600 mm	318-141-08
800 mm	318-141-05

27 Shelf without 19" extension "extractable"



- for mounting into cabinet rack without 19" level
- extraction length 500 mm
- simple one-person assembly

Material:

sheet metal

Finish:

RAL 7035 light grey

Load capacity:

60 kg (distributed load)

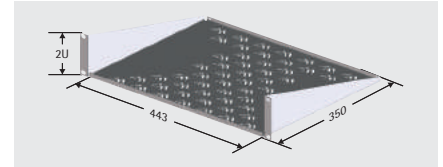
Dimensions (H x W x D):

1,5 U (66,5 mm) x 465 x 410 mm

1,5 U (66,5 mm) x 665 x 410 mm

Cabinet width	Order no.
600 mm	318-141-04
800 mm	318-141-06

27 19" shelf 2U "fixed"



- simple assembly on a 19" grid (only one 19" level required)
- ventilated
- Footprint: 443 x 350 mm

Material:

sheet metal

Finish:

RAL 7035 light grey

Load capacity:

15 kg (distributed load)

Dimensions (H x W x D):

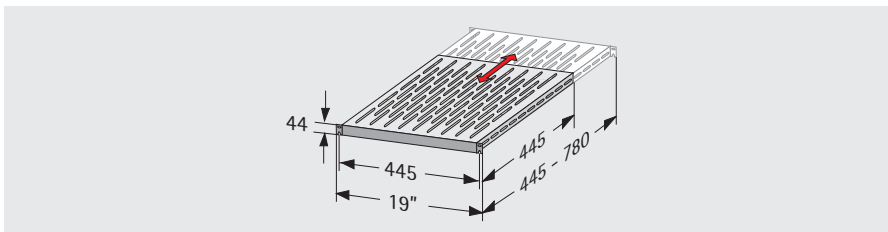
2 U (88 mm) x 19" (482,6 mm) x 350 mm

Floor space (w x d):

443 x 350 mm

Order no.
315-810-20

27 19" shelf 1 U "VARiplain" fixed installation with 19" grid



- depth variable due to VARiplain technology
- telescopic: 445 - 780 mm (see fig.)
- simple one-person assembly through open long hole in the 19" front (hook-in)
- mounting material included

Material:

sheet metal 2 mm

Finish:

RAL 7035 light grey

Load capacity:

150 kg (distributed load)

Dimensions (H x W x D):

1 U (44 mm) x 19" (482,6 mm) x

445 - 780 mm

Floor space (w x d):

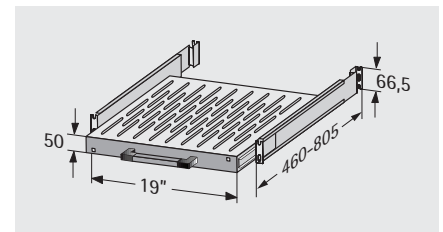
445 x (445 - 780) mm

Delivery:

mounting material included

Order no.
316-036-99

27 19"-shelf 1,5 U "extractable"



- variable-depth installation
- extraction 500 mm
- simple one-person assembly

Material:

sheet metal

Finish:

RAL 7035 light grey

Load capacity:

60 kg (distributed load)

Dimensions (H x W x D):

1,5 U (66,5 mm) x 19" (482,6 mm) x 465 - 665 mm

Floor space (w x d):

410 x (465 - 665) mm

D mm	Order no.
465	318-141-00
665	318-141-01



TiRAX "plug & play"

- dismantlable steel profile cabinet rack
- two lateral sash doors with quick lock mechanism
- front viewing door with three-point locking and tinted toughened safety glass
- rear sheet metal door with three-point locking, installation as side door possible
- both doors can accommodate a profile half cylinder, L = 40 mm
- 19" level 42 U / 24 U, front and rear
- 10 metal cable clamps at the front 19" mount (6 clamps at H = 1200 mm)
- two cable guard rails with integrated cable management bracket
- top plate 2-part, with triple fan module
- 19" power strip 1 U (9-way)
- multi-part bottom plate with rubber foam cable entry

- cabinet lamp with power outlet and magnetic holder
- equipotential bonding set (installed)
- cable entry base H = 100 mm
- screw set M 5 (50x)

Finish:

Trim parts, base

RAL 7035 light grey

Design profiles:

RAL 5014 pigeon blue

Delivery:

fully assembled, prewired on central socket and tested / base provided



Dimensions (H x W x D) mm	Order no.
(2000 + 100) x 800 x 800	318-200-01
(1200 + 100) x 800 x 800	318-200-29

TiRAX "active"

- dismantlable steel profile cabinet rack
- two lateral sash doors with quick lock mechanism
- front viewing door with three-point locking and tinted toughened safety glass
- rear sheet metal door with three-point locking, installation as side door possible
- both doors can accommodate a profile half cylinder, L = 40 mm
- 19" level 42 U / 24 U, front and rear
- 10 metal cable clamps (6 clamps at H = 1200 mm) at the front 19" level
- 2-part cover plates in top sheet, with 3-way fan module
- 19" power strip 1 U (9-way)
- multi-part bottom plate with rubber foam cable entry
- equipotential bonding set (installed)
- cable entry base H = 100 mm
- screw set M 5 (50x)

Finish:

Trim parts, base

RAL 7035 light grey

Design profiles:

RAL 5014 pigeon blue

Delivery:

fully assembled, base provided



Dimensions (H x W x D) mm	Order no.
(2000 + 100) x 800 x 800	318-200-02
(1200 + 100) x 800 x 800	318-200-09



TiRAX "passive", IP 54

- dismountable steel profile cabinet rack
- two lateral sash doors with quick lock mechanism
- front viewing door with three-point locking and tinted toughened safety glass
- rear sheet metal door with three-point locking, installation as side door possible
- both doors can accommodate a profile half cylinder, L = 40 mm
- 19" level 42 U / 24 U, front and rear
- 10 metal cable clamps (6 clamps at H = 1200 mm) at the front 19" level
- top panel, single-piece, liftable if necessary
- multi-part bottom plate with rubber foam cable entry
- equipotential bonding set (installed)
- cable entry base H = 100 mm
- screw set M 5 (50x)

Finish:

Trim parts, base

RAL 7035 light grey

Design profiles:

RAL 5014 pigeon blue

Delivery:

fully assembled, base provided



Dimensions (H x W x D) mm	Order no.
(2000 + 100) x 800 x 800	318-200-03
(1200 + 100) x 800 x 800	318-200-08



TiRAX "cool-box", IP 54 TiRAX "cool-roof", IP 54

- dismountable steel profile cabinet rack
- two lateral sash doors with quick lock mechanism
- front viewing door with three-point locking and tinted toughened safety glass
- rear sheet metal door with three-point locking
- both doors can accommodate a profile half cylinder, L = 40 mm
- 19" level 42 U, front and back
- 10 metal cable clamps at the front 19" level
- top panel, single-piece
- 19" power strip 1 U (9-way)
- equipotential bonding set (installed)
- door contact switch for shutdown of air conditioning if front door is opened
- cable entry base H = 100 mm
- screw set M 5 (50x)
- multi-part bottom plate with rubber foam cable entry

TiRAX "cool-box":

- air conditioning 1050 W (Ta35 / Ti35) installed on lateral hinged door (mounted alternatively right or left)

TiRAX "cool-roof":

- air conditioning 1050 W (Ta35 / Ti35), installed on the top

Finish:

Trim part, base:

RAL 7035 light grey

Design profiles:

RAL 5014 pigeon blue

Delivery:

partially assembled (air conditioning mountable with 6 screws on lateral hinged door or on top panel), base provided

Air conditioning: cooling capacities of up to 6 KW possible on request. Contact us to find more!



Dimensions (H x W x D) mm	Description	Order no.
(1200 + 100) x (800 + 140) x 800	TiRAX "cool-box" 24 U	318-200-55
(2000 + 100) x (800 + 140) x 800	TiRAX "cool-box" 42 U	318-200-04
(1200 + 100) x (800 + 140) x 1000	TiRAX "cool-box" server cabinet 24 U	318-200-54
(2000 + 100) x (800 + 140) x 1000	TiRAX "cool-box" server cabinet 42 U	318-200-11
(2000 + 500) x 800 x 800	TiRAX "cool-roof" 42 U	318-200-05
(2000 + 500) x 800 x 1000	TiRAX "cool-roof" server cabinet 42 U	318-200-28



19" TiRAX "heavy-weight" pivot frame cabinet

The "heavy-weight" pivot frame cabinet is based on the TiRAX cabinet series and enables a pivot integration of 19" plug-in units with **high loads of up to 250 kg** (e.g. power amplifiers).

- visually stylish cabinet system
- protection class IP 54
- consists of stable cabinet rack and easily detachable trim parts
- good accessibility for plant engineering and on-site installation
- cable entry possible as standard from below, above or from the sides
- optional mounting plate in the rear area enables the installation of connection splitters, cable ducts, c-profiles or top hat rails
- lateral offset mounting possible
- maximum mounting depth: 440 mm
- pivot frame can be hinged on the left as well as on the right side and is equipped with a double-bit key lock
- frame can be pivoted up to 95°

Finish:

Trim parts, base

RAL 7035 light grey

Design profiles:

RAL 5014 pigeon blue

Dimensions (H x W x D):

(2000 + 100) x 800 x 800 mm

Delivery:

fully assembled, base provided

Further sizes on request!

Order no.
318-200-40

Slide rails



- to support heavy and / or deep plug-in units
 - Delivery: 1 Paar
- Load capacity:** 50 kg

Order no.
318-129



(Fig. does not correspond to standard delivery)

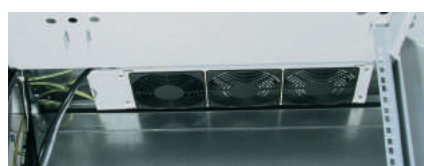
Cabinet bottom with pivot frame crossbar and flexible cable entry via foam rubber



Delivery

Pos.	pc.	Description
1	1	Cabinet rack
2	1	Heavy load pivot frame with 19" level 39 U
3	1	Viewing door with turning lever lock
4	1	Rear door with turning lever lock
5	2	Lateral sash doors with quick lock mechanisms
6	1	Two piece bottom panel with cable entry
7	1	Top, height-adjustable (for passive ventilation)
8	1	equipotential bonding set, installed
9	1	Base H = 100 mm, front side with ventilated cover panel
10	1	Screw set M 5 (50x)

3-way fan module



- unimpeded air flow: 345 m³/h
- complete with connecting cable, temperature regulation and adapter for cabinet mounting

Order no.
318-100-55

Pivot frame panel



- to cover the lateral area in case of off-set installation

Finish: RAL 7035 light grey

Order no.
318-129-22



19" EMC cabinet TiRAX "60 dB"

Based on the TiRAX cabinet series, the EMC cabinet "60 dB" offers a reliable EMC and IP protection even in rough industrial environment conditions.

- fully symmetrical cabinet construction: all doors and lateral sash doors are universally mountable
- protection class IP 54
- stylish design: two-tone look with coloured design profiles
- modular interior construction: symmetrical design of cabinet rack enables cable ducts, multi-purpose struts etc. to be universally mountable
- all enclosure parts are connected to each other conductively via EMC sealings
- double-walled trim parts
- the milled and laser welded profile of the cabinet's galvanised sheet metal side rail ensures high rigidity and permanent electrical conductivity

Finish:

Trim parts, base

RAL 7035 light grey

Design profiles:

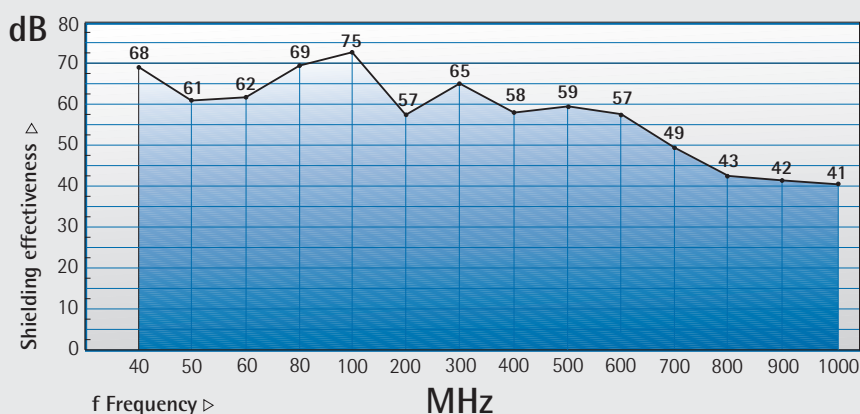
RAL 5014 pigeon blue

Dimensions (H x W x D):

(2000 + 100) x 600 x 800 mm

Delivery:

fully assembled



Delivery

Pos.	pc.	Description
1	1	Cabinet rack
2	2	19" level 42 U
3	2	Front and rear door, solid, with turning lever lock
4	2	Sash doors, lateral
5	1	Bottom panel, solid
6	1	Top panel, solid
7	1	equipotential bonding set, installed
8	1	Base H = 100 mm

Further sizes on request!

Order no.
318-210-10



TiRAX "cool & safe", IP 54

- dismountable steel profile cabinet frame
- two lateral sash doors with quick release
- front door with three-point locking and tinted tempered safety glass
- rear sheet metal door with three-point locking (installation also possible as side door)
- both doors suitable for receiving a profile half-cylinder
- 19" level front and rear
- roof, one-piece
- floor panel multi-part, with foam cable entry
- earthing set, mounted
- base H = 100 mm
- screw set M 5 (50-fold)
- **19" Fire extinguishing system:**
 - master module 2 HE
 - door contact switch for suppressing the deletion when opening the doors
 - slide rail set, depth-variable
 - two multifunction crossbeams
- **Air conditioning:**
Air conditioner 1050 W (Ta35 / Ti35) mounted on lateral sash door (door can be mounted on the right or left)

Finish:

Trim parts, base

RAL 7035 light grey

Design profiles:

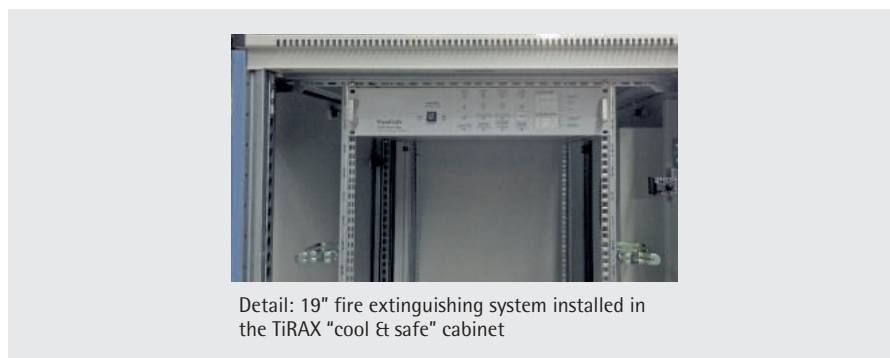
RAL 5014 pigeon blue

Dimensions (H x W x D):

(2000 + 100) x (800 + 138) x 1000 mm

Delivery:

fully assembled, base provided



Detail: 19" fire extinguishing system installed in the TiRAX "cool & safe" cabinet

Order no.
318-202-76



19" TiRAX Colocation cabinet

The colocation cabinets are based on the TiRAX cabinet system and were especially designed for IT facilities and data centres.

- all compartments are separated holohedral by shelves
- cable inlet to each compartment by a separate cable duct
- 19" levels are individually adjustable in depth at each compartment
- with perforated front and rear doors that can be locked separately
- electronic locking systems available on request
- closed bottom plate
- mounted equipotential bonding set
- set of cable clamps (10 fold)
- 19" screw set M 5 (50-fold)

Finish:

Rack, cover panels:

RAL 9005 jet black

Design profiles:

RAL 7037 dusty grey

Dimensions (H x W x D):

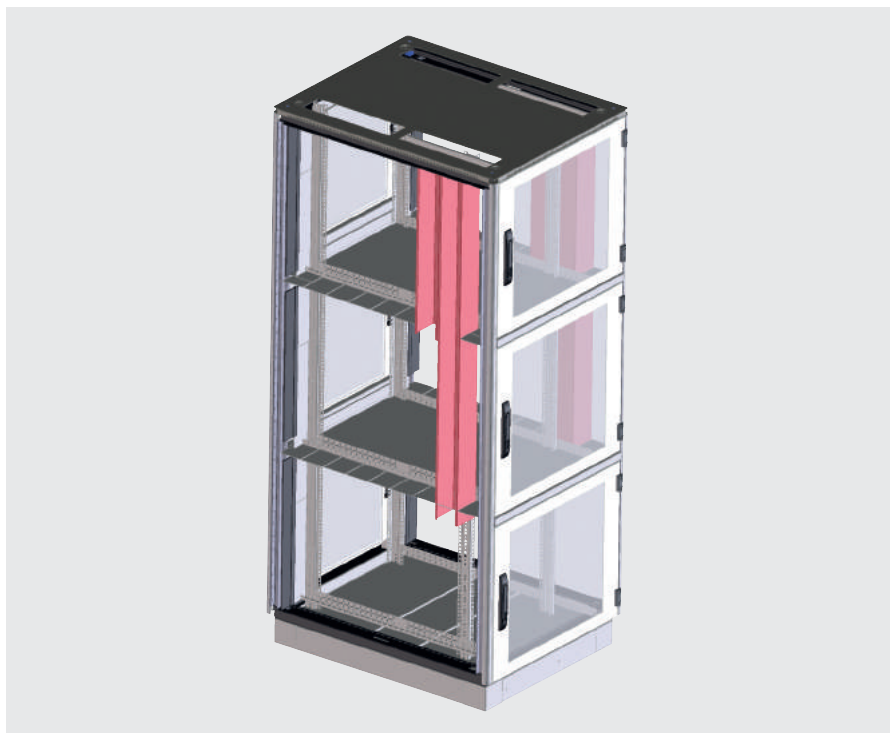
2000 x 800 x 1000 mm

Protection system:

IP 20

Delivery:

fully assembled, base provided



Further accessories like locking systems, etc. can be found at www.apra.de!

Delivery

Item	pc.	Description
1	1	Rack
2	2	19" extension set (2 levels per compartment)
3	4/6	Perforated doors
4	1/2	Separating shelves
5	1	Cable duct per compartment
6	1	Top cover with cable entry (cutout covered with brush)
7	2	Side panels

Description	Order no.
double: 2 x 19 U	318-911-40
triple: 3 x 12 U	318-908-60



19" TiRAX Computer Cabinet

- enables the installation of a reliable, user-friendly and also visually stylish computer workstation in adverse environmental conditions in industrial fields
- protection class IP 54
- cooling system can be integrated
- can be fitted with 19" components or be built as complete tower solution
- cables entry from underneath as standard, but top or lateral cable entry also possible
- three-part bottom panel with cable entry through foam rubber pad
- a profile half cylinder locks the keyboard cover
- doors with turning lever lock (concealed) for profile half cylinder

Material:

sheet metal, galvanised

Finish:

Trim parts, base

RAL 7035 light grey

Design profiles:

RAL 5014 pigeon blue

Protection system:

IP 54

Delivery:

fully assembled



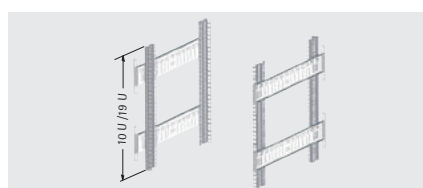
Delivery

Pos.	pc.	Description
1	1	Cabinet rack
2	1	Two part front, consisting of viewing door, including operating unit, solid door
3	1	Rear door with turning lever lock
4	2	Side panels
5	(1) (1)	Two part bottom panel with cable entry (with D = 600 mm) Three part bottom panel with cable entry (with D = 800 mm)
6	1	Top panel, detachable
7	1	equipotential bonding set, installed
8	1	Base, H = 100 mm

A wide range of ventilation and air conditioning components can be found in the section "Air conditioning technology" from page 129. We will be pleased to put your system together!

Dimensions (H x W x D) mm	Order no.
(1800 + 100) x 600 x 600	318-202-65
(1800 + 100) x 600 x 800	318-202-85

19" extension set



Extension set 10 U

Cabinet depth (D)	Order no.
600 mm	318-201-81
800 mm	318-201-82

- 19" vertical mountings with crossbars for individual installation (each 4 pieces)
- Extension kit 10 U: installation behind the upper glazed door
- Extension kit 19 U: installation behind the lower closed door

Extension set 19 U

Cabinet depth (D)	Order no.
600 mm	318-201-83
800 mm	318-201-84



[A] 19" standing workstation with wooden desktop (without figure)

- work surface of the desktop (W x D = 712 x 800 mm)

[B] 19" stand-alone distribution system with a single-piece top panel of sheet metal

- dismantlable cabinet rack
- front-side tinted viewing door with turning lever lock (profile half cylinder accommodation possible)
- 19" level 19 U, front and back
- 4 crossbars for depth adjustment of 19" levels
- rear cable entry point with brush, top-mounted for feeding through screen and keyboard cables (see fig. 2), for the 19" stand-alone distribution system bottom-mounted for cable entry
- levelling feet to align the workstation

Finish:

Trim parts, desktop:

RAL 7035 light grey

Design profile:

RAL 5014 pigeon blue

Delivery:

fully assembled



Delivery

Pos.	pc.	Description
1	1	Cabinet rack, dismantlable
2	1	Tinted viewing door with turning lever lock
3	3	Sash doors (rear/side)
4	4	Vertical mountings 19 U
5	4	Depth crossbars
6	1	Two piece bottom panel
7	1	Desktop (only for 19" standing workstation) Top panel (only for 19" stand-alone distribution system)
8	1	Rear cable entry point with brush seal top-mounted (for 19" standing workstation) bottom-mounted (for 19" stand-alone distribution system)
9	4	Levelling feet
10	1	equipotential bonding set (only for 19" stand-alone distribution system)
11	1	19" screw set M 5 (50 x)

Other preferred colours



RAL 1032 (broom yellow)



RAL 5010 (gentian blue)



RAL 3002 (carmine red)



RAL 6029 (mint green)



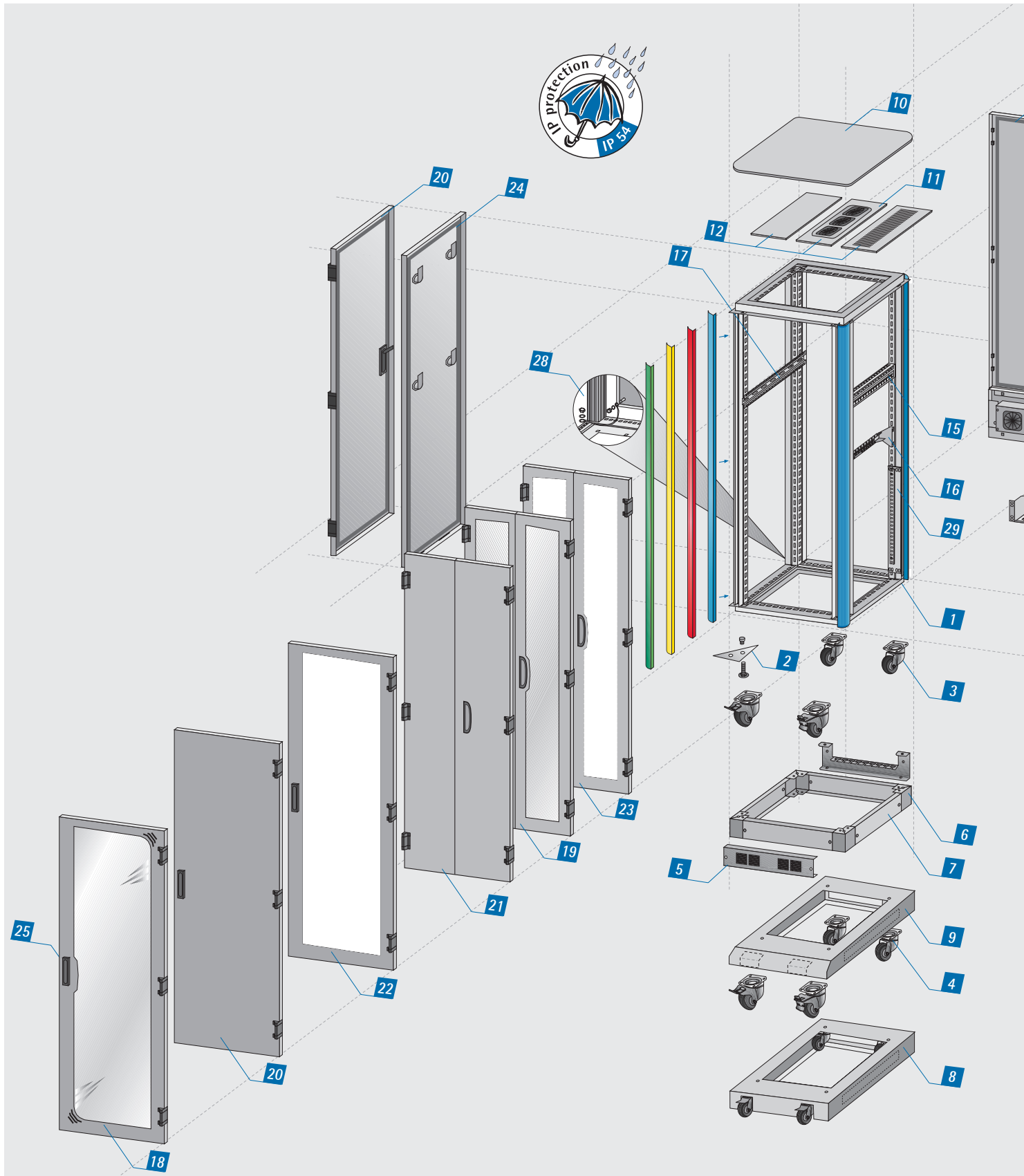
RAL 7037 (dusty grey)

Colour display similar!

Description	Dimensions (H x W x D) mm	Order no.
19" standing workstation	1100 x 712 x 800	318-202-75
19" distribution system	1100 x 600 x 800	318-202-30

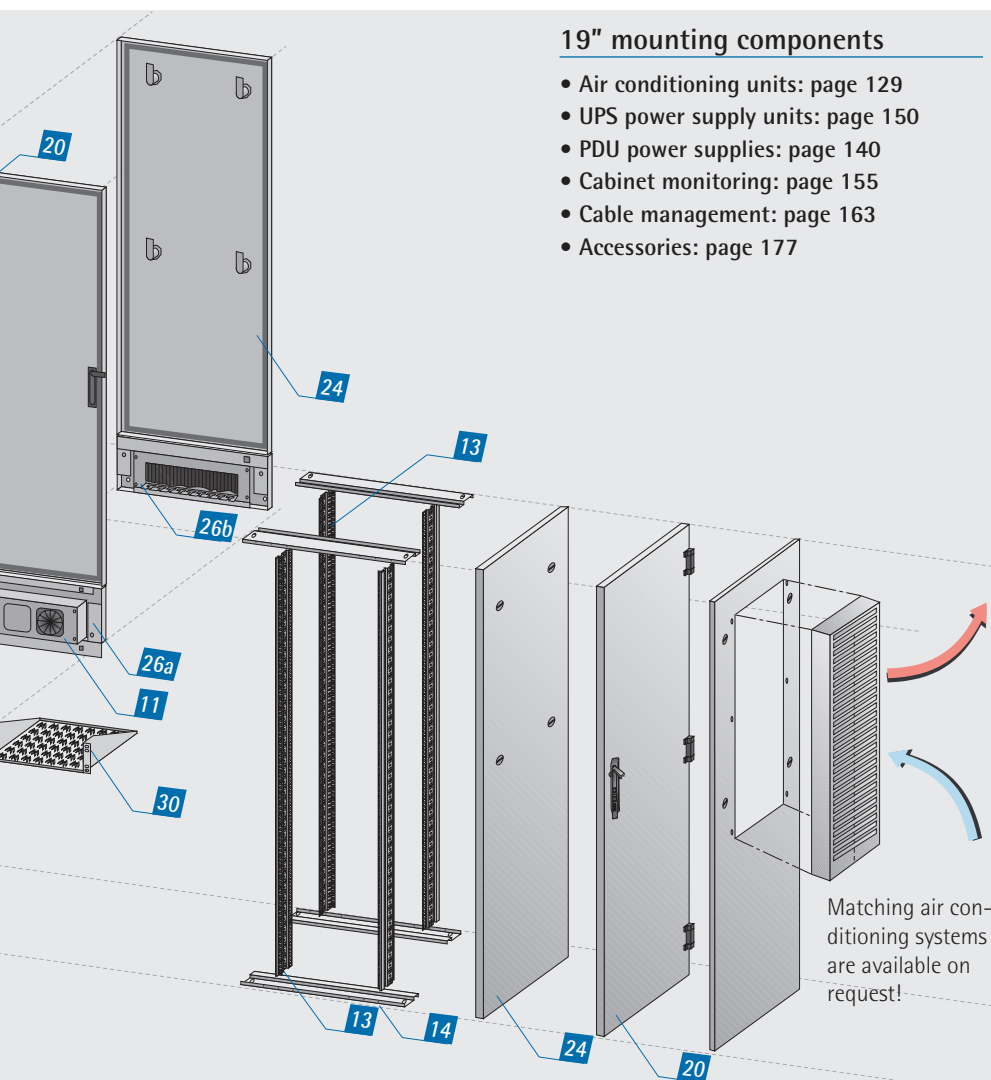


Configure your own individually designed cabinet.





Select the required cabinet components step by step:



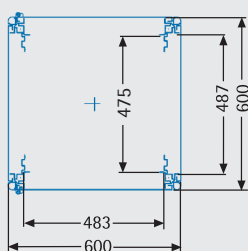
19" mounting components

- Air conditioning units: page 129
- UPS power supply units: page 150
- PDU power supplies: page 140
- Cabinet monitoring: page 155
- Cable management: page 163
- Accessories: page 177

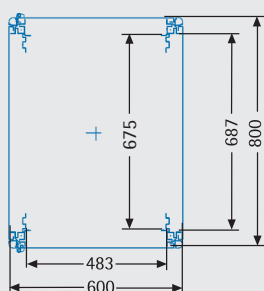
Item	Description	Page
1	Cabinet rack	42
2	Adjusting feet	43
3	Castor set	43
4	Castor set, tilt-prevention	43
5	Castor base	43
6	Tilt prevention base	43
7	Base covers	43
8	Filter set	44
9	Base corner set	44
10	Top	44
11	Fan module	45
12	Cover plates	47
13	19" vertical mounting	48
14	Cross bar for 19" integration	48
15	Multi-purpose crossbar	49
16	Reduction crossbar	49
17	Cable guarding rail	50
18	Viewing door	51
19	Viewing door, split	51
20	Solid door	51
21	Solid door, split	52
22	Perforated door	52
23	Perforated door, split	52
24	Sash door	53
25	Locking system for doors	53
26a	Fan installation module	54
26b	Cable entry module	54
27	Cabinet connection set	54
28	Earthing set	54
29	Potential equalisation rail	56
30	Shelves	57

Matching air conditioning systems are available on request!

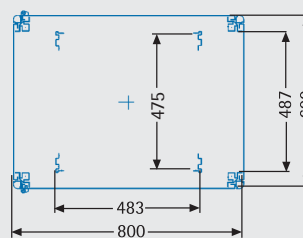
Technical information: max. 19" installation dimensions



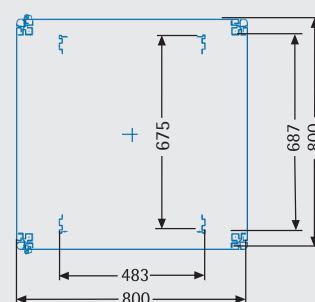
Top view cabinet rack
W x D = 600 x 600 mm



Top view cabinet rack
W x D = 600 x 800 mm



Top view cabinet rack
W x D = 800 x 600 mm



Top view cabinet rack
W x D = 800 x 800 mm



1 Cabinet rack, dismountable

The cabinet rack consists of two identical sheet metal frames (1), four sheet metal functional profiles (2) and four painted sheet metal design profiles (3) clipped onto the functional profiles.

Dimensions:

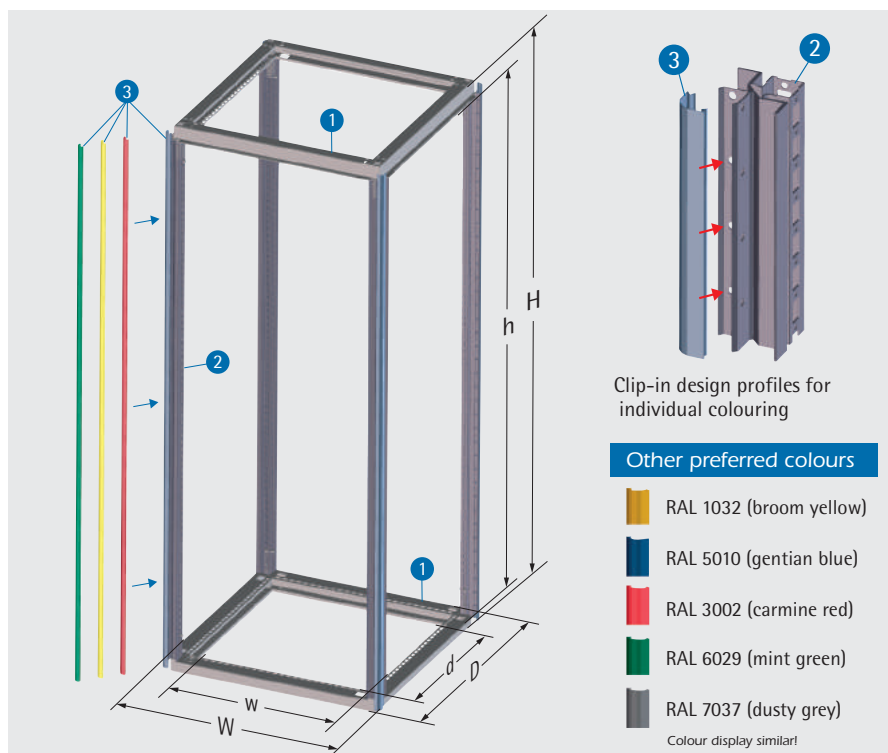
W: Cabinet width
w: clear opening width
 $w = W - 146 \text{ mm}$
D: Cabinet depth
d: clear opening depth
 $d = D - 146 \text{ mm}$
H: Cabinet height
h: clear opening height
 $h = H - 100 \text{ mm}$

Finish:

(1) Top / bottom frame:
RAL 7035 light grey
(2) Functional profile: galvanised
(3) Design profile: RAL 5014 pigeon blue

Delivery:

fully assembled

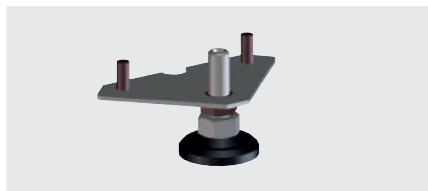


The design profile (3) can be matched to your company colour if desired.

Dimensions (W x D) mm	U	H mm	Order no.
600 x 600	24	1200	318-660-02
800 x 600			318-860-02
800 x 800			318-880-02
600 x 1000			318-601-02
800 x 1000	33	1600	318-810-02
600 x 600			318-660-06
800 x 600			318-860-06
800 x 800			318-880-06
600 x 600	37	1800	318-660-08
800 x 600			318-860-08
800 x 800			318-880-08
600 x 600			318-660-10
800 x 600	42	2000	318-860-10
800 x 800			318-880-10
600 x 1000			318-610-10
800 x 1000			318-810-10
600 x 1200	46	2200	318-612-10
800 x 1200			318-812-10
600 x 600			318-660-12
800 x 600			318-860-12
800 x 800			318-880-12
600 x 1000			318-610-12
800 x 1000			318-810-12
600 x 1200			318-612-12
800 x 1200			318-812-12



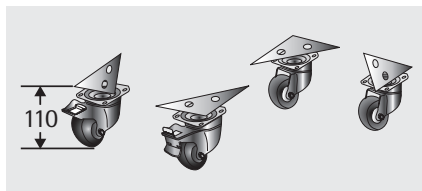
2 Adjusting feet



- to be screwed onto the rack (1) or to the corners of the base
- Height min. = 25 mm
- set = 4 pieces

Description	Order no.
Mounting on rack	318-026-00
Mounting on base	318-026-02

3 Castor set

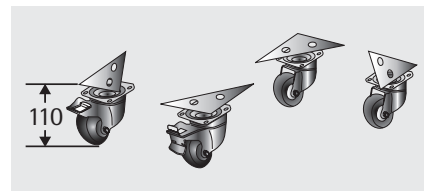


- to be screwed directly onto the cabinet rack (1)
- 4 swivel castors (2 with parking brake)

Load capacity:
450 kg

Order no.
318-026-10

4 Castor set, tilt prevention base

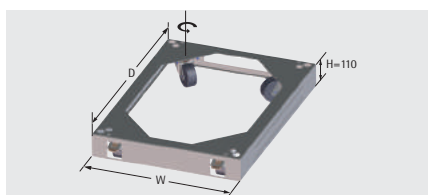


- to be screwed directly onto the cabinet rack (1)
- 4 swivel castors (2 with parking brake)

Load capacity:
450 kg

Order no.
316-026-50

5 Castor base

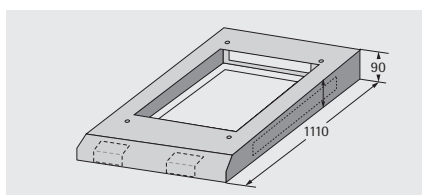


- 4 swivel castors (2 with parking brake)
- cable entry from rear (opening with brush) and side

Finish:
RAL 7035 light grey
Load capacity:
450 kg

W mm	D mm	Order no.
600	600	318-126-60
600	800	318-126-80
800	600	318-128-60
800	800	318-128-80

6 Tilt prevention base

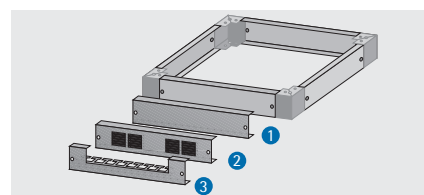


- static base with integrated tilt prevention
- offers secure standing when drawers with heavy equipment are extracted
- rear or lateral cable entry

Material:
sheet metal
Finish:
RAL 7035 light grey

W mm	D mm	Order no.
600	1000	318-026-11
800	1000	318-028-11

7 Base covers



- for individual base construction combined with our base corner set
- 4 covers complete one base

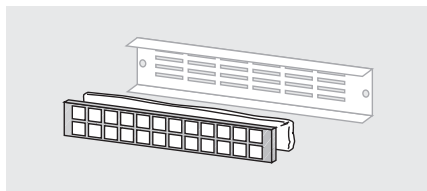
Type 1: solid
Type 2: ventilated
Type 3: with cable entry

Material:
sheet metal
Finish:
RAL 7035 light grey

W / D mm	Type	Order no.
600	1	318-100-10
800		318-100-20
1000		318-100-30
1200		318-100-50
600	2	318-100-12
800		318-100-22
600		318-100-14
800	3	318-100-24



8 Filter set for base covers



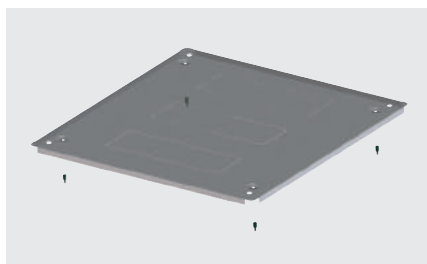
- matches base covers "Type 2 ventilated" (see pos. 7)

Material:

sheet metal galvanised, filter fleece

W / D mm	Order no.
600	318-100-16
800	316-101-99

Spacer bolts for top plates



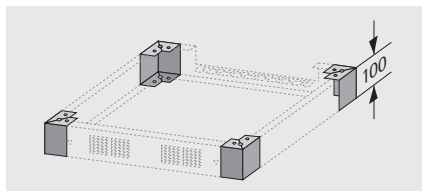
- The further lifting (H = 15 mm) of top panel is possible with additional spacer bolts.
- set = 4 pieces

Material:

steel

Order no.
316-016-65

9 Base corner set



- set = 4 pieces
- includes mounting materials
- extendable
- Height: 100 mm

Material:

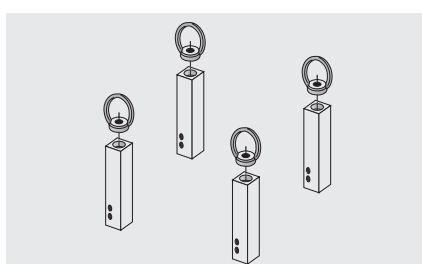
sheet metal

Finish:

RAL 7035 light grey

Order no.
318-100-00

Eye bolt kit



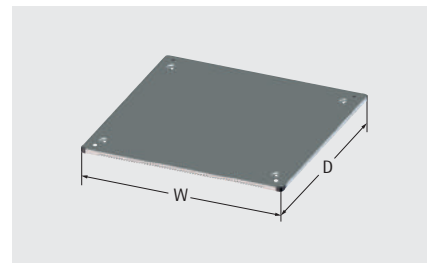
- lifting eye bolts for cabinet relocation
- set = 4 pieces

Load capacity:

500 kg

Order no.
318-026-20

10 Top, solid



- can be raised up to 15 mm for ventilation (using lifting eye bolts, see below)
- suitable for IP 54

Finish:

RAL 7035 light grey

Dimensions mm	Order no.
600 x 600	318-016-60
600 x 800	318-016-80
600 x 1000	318-020-60
600 x 1200	318-022-60
800 x 600	318-018-60
800 x 800	318-018-80
800 x 1000	318-020-80
800 x 1200	318-022-80



11 Basic fan module



- fan module, fully pre-wired
- ventilation or extraction, depending on assembly position
- for installation in the top/bottom area of the cabinet
- different power cords available (see right side)

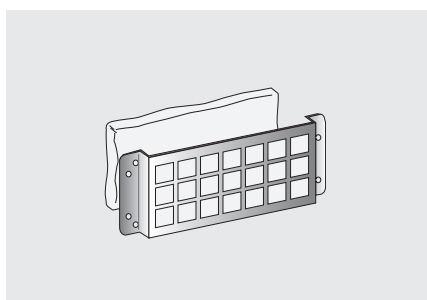
Material:
polycarbonate UL94 V-0
Finish:
similar to RAL 9005 jet black
Dimensions (H x W x D):
44 x 450 x 140 mm

The fan characteristics and noise levels can be found in the diagrams on page 133.

The fan module „silent“ cannot be combined with an extension module!

Description	Unimpeded air flow	Basic module	Extension module
fan module 1-way	115 m³/h	230-500-01	230-500-11
fan module 2-way	120 m³/h	230-500-02	230-500-12
fan module 3-way	345 m³/h	230-500-03	230-500-13
fan module "silent"	240 m³/h	230-500-43	-

Filter set for fan module



Material:
Aluminium, filter fleece

Description	Order no.
Filter set	316-100-99
Spare filter (5 pieces)	671-200-05

Power cord standard, 3 m



Connection	Order no.
Earthing-pin	640-044-05
IEC connector	230-500-15
Without plug for fixed connection	230-500-16

Power cord 3 m with thermostat 0 - 60 °C



Connection	Order no.
Earthing-pin	230-500-04
IEC connector	230-500-05
Without plug for fixed connection	230-500-06



Roof ventilation unit "Silent" for TiRAX cabinet system

- This roof ventilation unit "Silent" distinguishes by its low noise level and large airflow.
- Due to these features it may be a good alternative to a climate control unit.
- The low noise level of the roof ventilation unit enables it for office application. The rear of the top cover offers a **break-out possibility for a cable entry (a)**.

Material:

sheet metal

Finish:

RAL 7035 light grey

Delivery:

roof including fan and mounting material

A sufficient volume of air inlet, e.g. in the bottom area or via a base with ventilation slots needs to be taken in consideration. A deficiency of the same may reduce efficiency of ventilation.



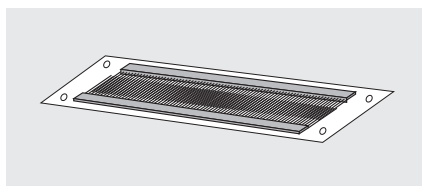
Technical information

Airflow (unimpeded)	1545 m ³ /h
Noise level	40 dB (A)
Operating voltage/frequency	230 V / 50-60 Hz
Power consumption	68 W / 50 Hz
Size of roof unit (H x W x D)	228 x 551 x 551mm

Order no.

Description	Dimensions W x D x H	Order no.
Roof plate with fan	800 x 800 x 230	318-019-08
Roof plate with fan	800 x 1000 x 230	318-019-10
Roof plate with fan	800 x 1200 x 230	318-019-12
Brush set for cable entry (a)		316-111-10
Power lead (3 m) with thermostat 0-60 °C		230-500-04

Brush set for roof ventilation unit "Silent"



- for use in the perforated breakthrough of the roof ventilator "Silent"
- for use in the openings (a) of the roof
- Dimensions W x D: 365 x 120 mm

Order no.
316-111-10

Power lead 3 m with thermostat 0-60 °C



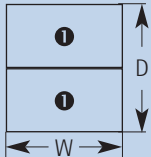
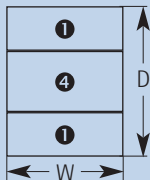
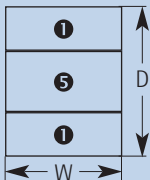
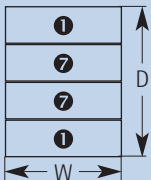
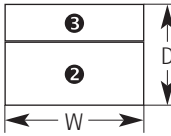
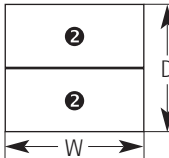
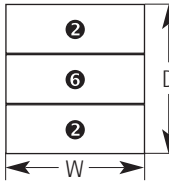
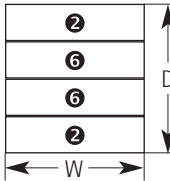
- for installation of the roof ventilation unit "Silent"

Order no.
230-500-04

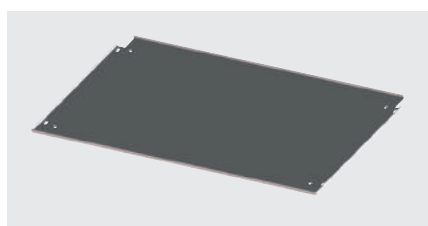


12 Cover plates

The cover plates can be mounted directly on the cabinet rack [1] (top or base) according to the layout shown.

	Depth (D) 600 mm	Depth (D) 800 mm	Depth (D) 1000 mm	Depth (D) 1200 mm
(W) 600 mm				
(W) 800 mm				

Cover plate, solid



- individual break-throughs on request

Size	Order no.
1	318-111-01
2	318-111-02
3	318-111-03
4	318-111-04
5	318-111-05
6	318-111-06
7	318-111-07

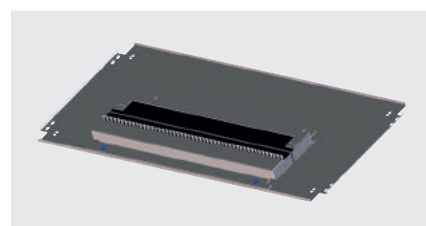
Cover plate for fan base module



- cover plate for mounting of fan modules [pos. 11]
- also mountable with filter set 316-100-99

Size	Order no.
1	318-111-21
2	318-111-22

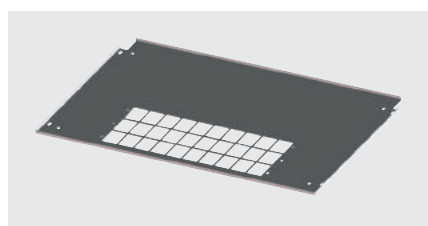
Cover plate for cable entry



- cover plate for sealed cable entry
- suitable for CEE-plugs

Size	Order no.
1	318-111-25
2	318-111-26
5	318-111-37
6	318-111-38

Cover plate perforated

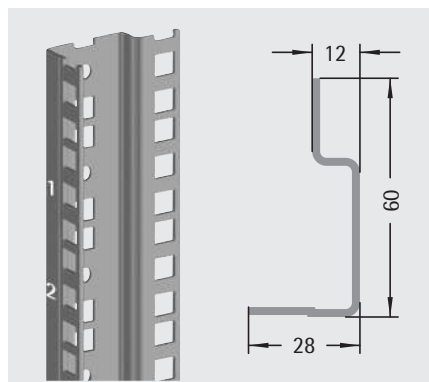


- extendable with filter set 316-100-99

Size	Order no.
1	318-111-23
2	318-111-24



13 19" vertical mounting



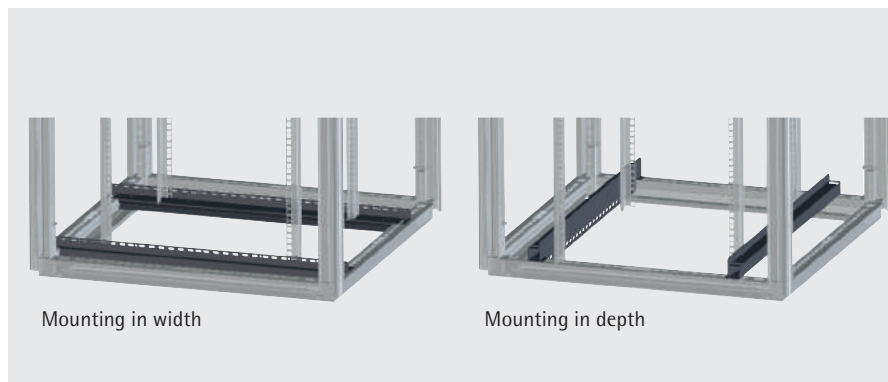
- ASA-perforation (1/2 19" perforation)
- with U-labelling

Material:

sheet metal, galvanised

U	Order no.
6	316-120-06
12	316-120-12
15	316-120-15
19	316-120-19
24	316-120-24
33	316-120-33
37	316-120-37
42	316-120-42
46	316-120-46
48	316-120-48

14 Cross bar for 19" integration



- to install the 19" vertical mountings two cross bars per 19" level are required
- steplessly depth adjustable
- at W = 800 mm the 19" level can be moved laterally

- in case of partial mounting, multipurpose crossbars (Pos. 15) are needed

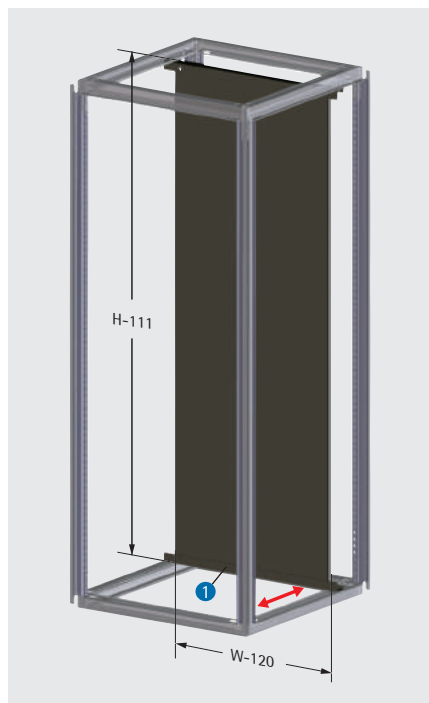
Material:

sheet metal, galvanised

U	W = 600 mm	W = 800 mm	D = 1000 mm	D = 1200 mm
6	318-121-76	318-121-78	318-121-80	318-121-82
12	318-121-76	318-121-78	318-121-80	318-121-82
15	318-121-76	318-121-78	318-121-80	318-121-82
19	318-121-77	318-121-79	318-121-81	318-121-83
24	318-121-76	318-121-78	318-121-80	318-121-82
33	318-121-76	318-121-78	318-121-80	318-121-82
37	318-121-77	318-121-79	318-121-81	318-121-83
42	318-121-76	318-121-78	318-121-80	318-121-82
46	318-121-77	318-121-79	318-121-81	318-121-83
48	-	318-121-70	318-121-72	318-121-74



Mounting plate



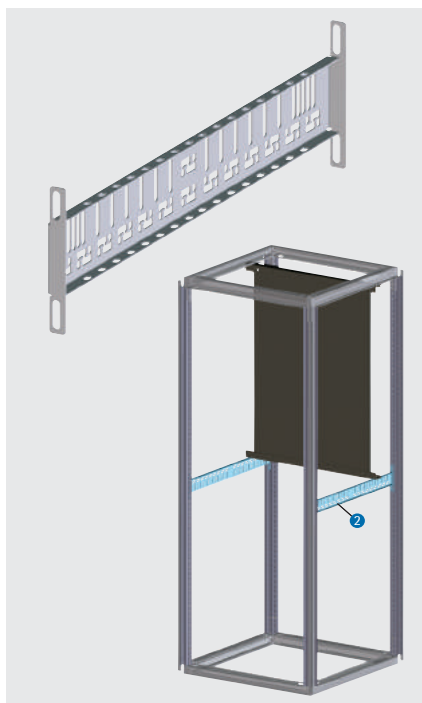
- for mounting heavy components and top hat rails
- is mounted on the cabinet with mounting rails [1] and can be pushed in laterally
- option to adjust the depth in 25mm steps
- multi-purpose crossbars (Pos. 15) are needed for partial mounting

Material:

sheet metal, galvanised

Height (H) mm	Order no. W=600 mm	Order no. W=800 mm
1200	318-130-12	318-130-32
1600	318-130-16	318-130-36
1800	318-130-18	318-130-38
2000	318-130-20	318-130-40
2200	318-130-22	318-130-42

15 Multi-purpose crossbar



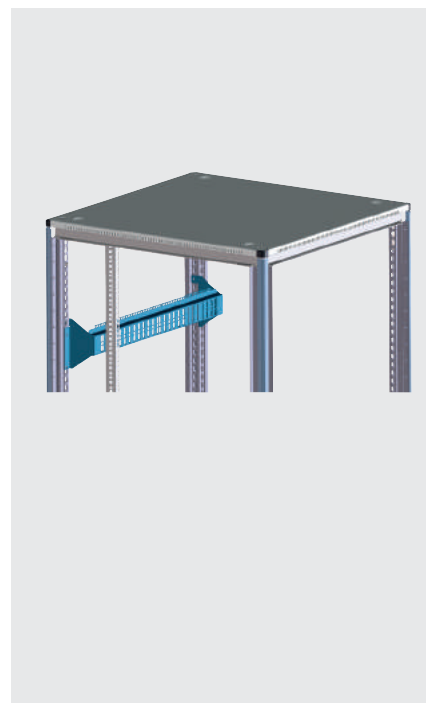
- for 19" partial mounting
- for clean cable entry
- infinitely depth adjustable
- Delivery: 1 piece

Material:

sheet metal, galvanised

Depth (D) / Width (W) mm	Order no.
600	318-120-06
800	318-120-08
1000	318-120-19
1200	318-120-23
500 - 850 (extendable)	318-122-40
700 - 1050 (extendable)	318-122-44

16 Reduction crossbar



- reduces W = 800 mm to 19"
- with integrated cable management bracket
- can be hung up or screwed on

Material:

sheet metal, galvanised

Depth (D) / Width (W) mm	Order no.
600	318-120-10
800	318-120-12
1000	318-120-14
1200	318-120-21



180° hinge kit for pivot frame



- to increase the pivot angle of the 19" pivot frame to 180°

Order no.
318-129-20

19" pivot frame



- for cabinet width 800 mm
- pivot angle 95°
- installation centric or asymmetrical

Material:

sheet metal

Finish:

RAL 7035 light grey

Load capacity:

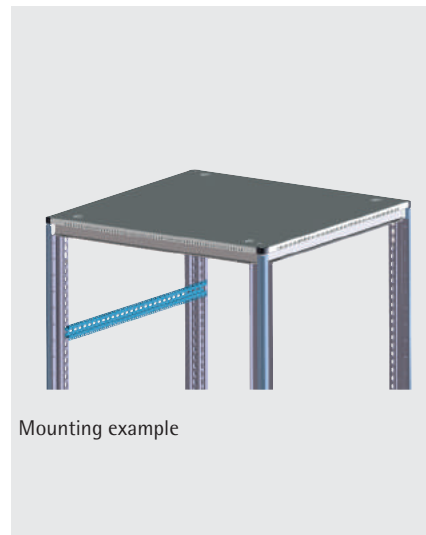
250 kg

Delivery:

incl. crossbars

U	Order no.
21	318-129-24
39	318-129-30

17 Cable guarding rail



Mounting example

- with integrated cable management bracket
- holds cables in place with cable ties and cable clips

Material:

Aluminium, anodised

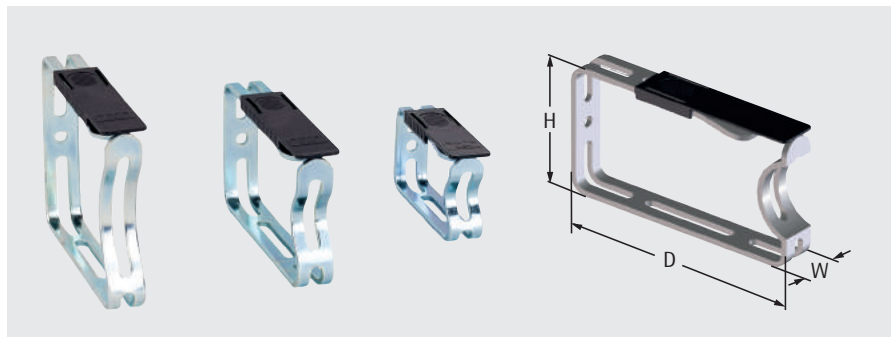
Delivery:

mounting material included

Cable clamps can be found on page 167.

Depth (D)/Width (W) mm	Order no.
600 mm	318-121-10
800 mm	318-121-11
Adapter for 1000 mm	316-103-25

Cable clamp, metal (set)

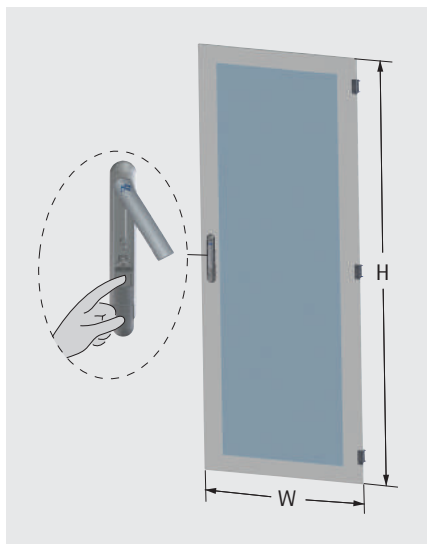


- for securing cables vertically to a 19" frame (for 800 mm wide cabinets)
- set = 10 pieces
- mounting material included

Dimensions (H x W x D) mm	Order no.
44 x 85 x 23	640-036-11
66 x 125 x 23	640-036-12
88 x 125 x 23	640-036-13



18 Viewing door



- with turning lever lock for profile half cylinder, L = 40 mm (with push button opening)

Material:

Frame: sheet metal

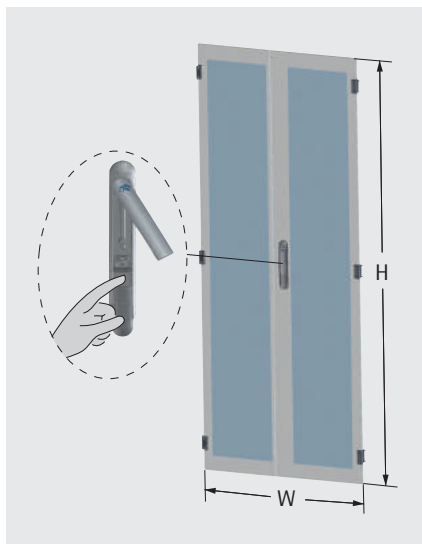
glass: toughened safety glass 4 mm, grey

Finish:

RAL 7035 light grey

Dimensions (H x W) mm	Order no.
1200 x 600	318-612-01
1200 x 800	318-812-01
1600 x 600	318-616-01
1600 x 800	318-816-01
1800 x 600	318-618-01
1800 x 800	318-818-01
2000 x 600	318-620-01
2000 x 800	318-820-01
2200 x 600	318-622-01
2200 x 800	318-822-01

19 Viewing door, split



- with turning lever lock for profile half cylinder, L=40 mm (with push button opening)

Material:

frame: sheet metal,

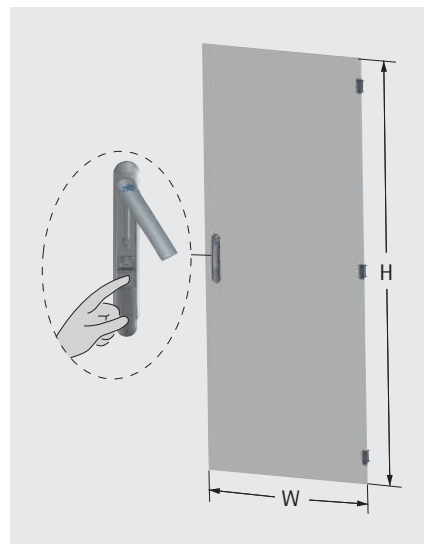
glass: toughened safety glass 5 mm, grey

Finish:

RAL 7035 light grey

Dimensions (H x W) mm	Order no.
2000 x 800	318-820-08
2200 x 800	318-822-08

20 Door, solid



- with turning lever lock for profile half cylinder, L=40 mm (with push button opening)

Material:

sheet metal

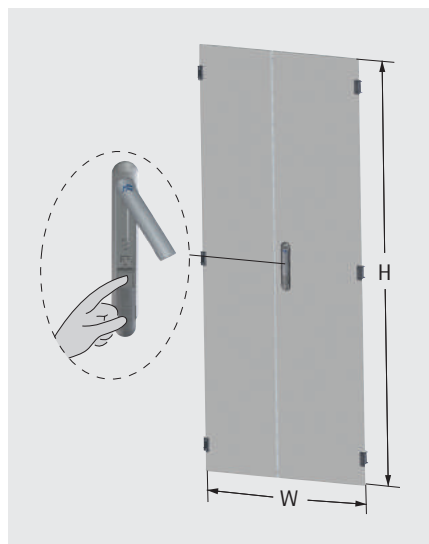
Finish:

RAL 7035 light grey

Dimensions (H x W) mm	Order no.
1200 x 600	318-612-02
1200 x 800	318-812-02
1600 x 600	318-616-02
1600 x 800	318-816-02
1800 x 600	318-618-02
1800 x 800	318-818-02
2000 x 600	318-620-02
2000 x 800	318-820-02
2200 x 600	318-622-02
2200 x 800	318-822-02



21 Split door, solid



- with turning lever lock for profile half cylinder, L=40 mm (with push button opening)

Material:

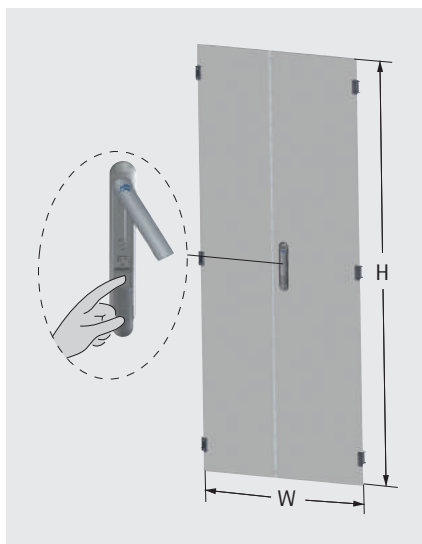
sheet metal

Finish:

RAL 7035 light grey

Dimensions (H x W) mm	Order no.
2000 x 800	318-820-26
2200 x 800	318-822-26

22 Door, perforated



- perforation (83 %)
- with turning lever lock for profile half cylinder, L=40 mm (with push button opening)

Material:

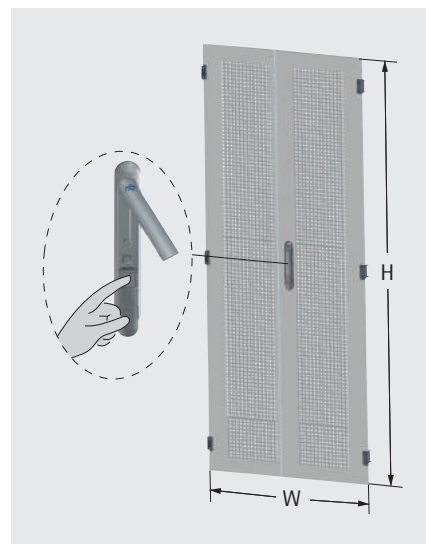
sheet metal, perforated insert

Finish:

RAL 7035 light grey

Dimensions (H x W) mm	Order no.
1200 x 600	318-612-16
1200 x 800	318-812-16
1600 x 600	318-616-16
1600 x 800	318-816-16
1800 x 600	318-618-16
1800 x 800	318-818-16
2000 x 600	318-620-16
2000 x 800	318-820-16
2200 x 600	318-622-16
2200 x 800	318-822-16

23 Split door, perforated



- perforation (83 %)
- with turning lever lock for profile half cylinder, L=40 mm (with push button opening)

Material:

sheet metal, perforated insert

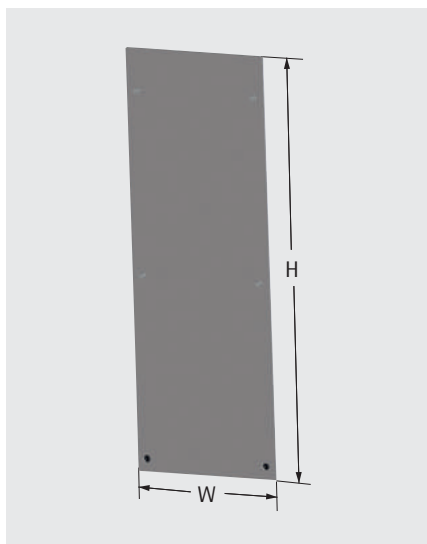
Finish:

RAL 7035 light grey

Dimensions (H x W) mm	Order no.
2000 x 800	318-820-25
2200 x 800	318-822-25



24 Sash door



- with 2 or 4 sash fasteners and "double bit key 5 mm" mechanism

Material:

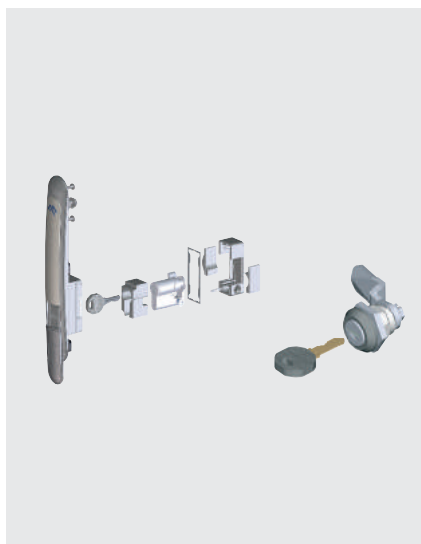
sheet metal

Finish:

RAL 7035 light grey

Dimensions (H x W) mm	Order no.
1200 x 600	318-612-03
1200 x 800	318-812-03
1200 x 1000	318-012-03
1600 x 600	318-616-03
1600 x 800	318-816-03
1800 x 600	318-618-03
1800 x 800	318-818-03
2000 x 600	318-620-03
2000 x 800	318-820-03
2000 x 1000	318-020-03
2000 x 1200	318-020-48
2200 x 600	318-622-03
2200 x 800	318-822-03
2200 x 1000	318-022-03
2200 x 1200	318-022-48

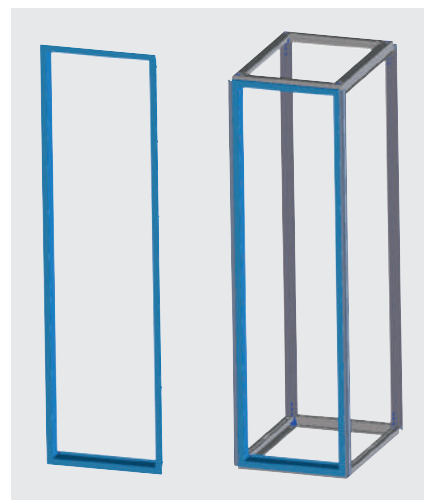
25 Locking systems for doors



- **profile semi-cylinder** L = 40 mm with EK 333 closing for turning lever lock of doors pos 18 - 23
- **adapter** for installing a profile semi-cylinder with L = 40 mm acc. to DIN 18252
- **sash fastener** with EK 333 closing for locking the sash door pos. 24

Description	Order no.
profile semi-cylinder	676-316-00
cylinder sash fastener	676-181
Adapter	676-316-10
Sapre key EK 333	676-200

Front cover set for 600 mm wide cabinets



- for covering the cabinet frame up to the 19 "level

Finish:

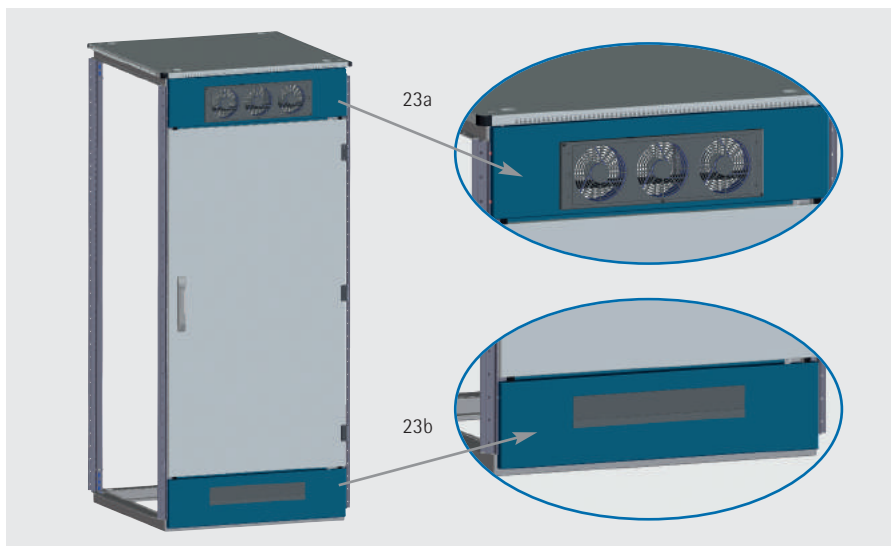
RAL 7035 light grey

The front cover set can only be mounted **without** the use of a front door!

Dimensions (H x W) mm	Order no.
1000 x 600	318-610-22
1200 x 600	318-612-22
1600 x 600	318-616-22
1800 x 600	318-618-22
2000 x 600	318-620-22
2200 x 600	318-622-22



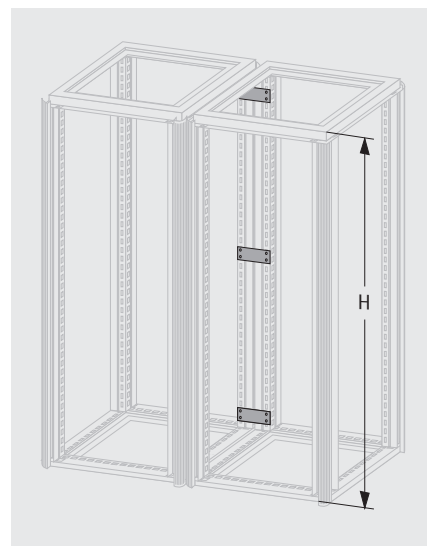
26 a/b Universal modules



- can be used with shortened doors [18] - [23] or sash doors [24]
- modules can be positioned freely above and/or below the doors shortened by 200 mm
- the fan installation module [26 a] is suitable for use with the basic fan module [11]

Ausführung	Description	W / D mm	Order no.
26a	Fan installation module	600	318-700-00
26a	Fan installation module	800	318-800-10
26b	Cable entry module	600	318-600-02
26b	Cable entry module	800	318-800-02

27 Cabinet connection set IP 20



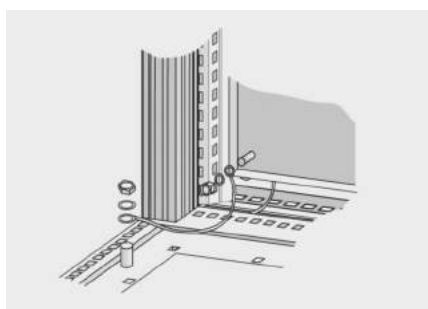
- for connecting as many cabinets as required next to or behind each other
- the design profile of the cabinet remains unchanged

Delivery:

connecting plates, clip-on seals;
assembly material included

Order no.
318-105-10

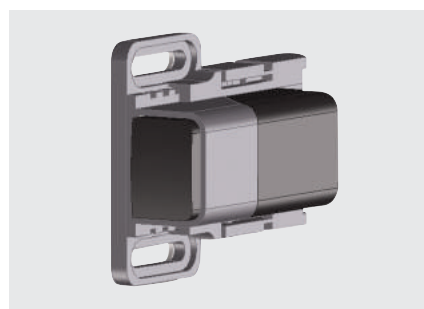
28 Earthing set TiRAX



- for earthing according to VDE standards
- for conductive connection of the cabinet's components (cable cross section 2,5 mm²)

Order no.
318-150-00

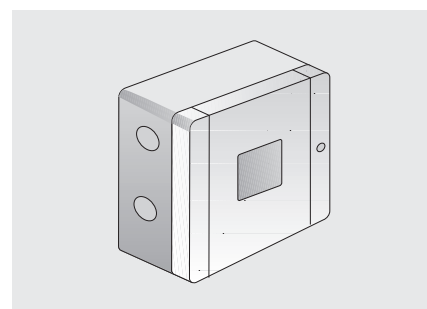
Door contact switch



- for switching IEC connector etc. on and off
- mounting material included

Order no.
640-071-00

Terminal box

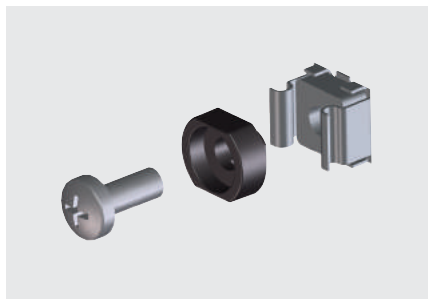


- for use as a cable distribution socket
- simple and quick installation

Order no.
640-059



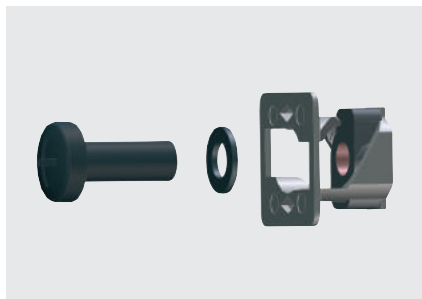
Screw set M 5 / M 6 / Torx (50x)



- necessary for mounting of 19" components into racks or enclosures
- consisting of:
 - 50 lens head screws M 5 x 12 / M 6 x 16
 - 50 cage nuts M 5 - 8 / M 6 - 8
 - 50 rosettes for screws M 5 / M 6, with standards flattened

Description	Order no.
M 5	630-991
M 6	630-994
Torx M 6	350-001-20

TiRAX screw set

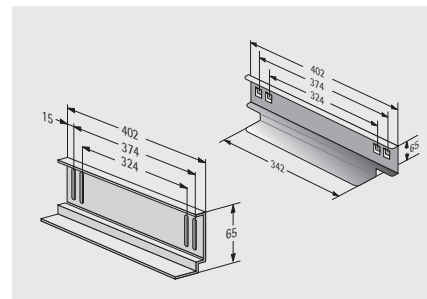


- can be inserted circumferentially in the TiRAX cabinet rack

Delivery:
each with 20x special cage nuts M 6, lens head screw M 6 x 16 and washer

Order no.
630-998

Slide rail, screwable / hook-in

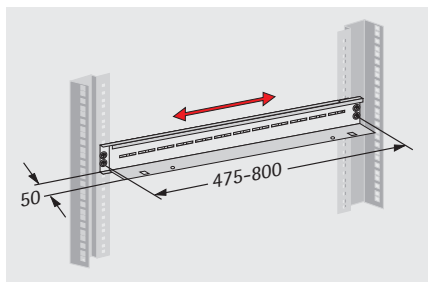


- **screwed/hooked** in onto 19" vertical mountings
- to support heavy 19" plug-in units
- two 19" levels are required for mounting
- Delivery: 1 pair

Material:
sheet metal, galvanised
Load capacity:
50 kg

Description	Order no.
screwable	312-544
hook-in	316-544-00

Slide rail, variable depth



- for 19" plug-in units irrespective of the clearance to the 19" levels
- depth-adjustable
- for use as of a cabinet depth of 800 mm
- Delivery: 1 pair

Material:
sheet metal 1,5 mm, galvanised
Load capacity:
50 kg

Order no.
316-544-20

LED cabinet lamp



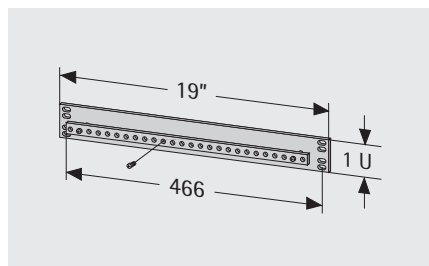
- cost-optimised LED technology with a power consumption of 5 W (light intensity equivalent to a 75 W light bulb)
- internal power supply unit with wide range voltage 100 - 230 V / AC
- long-life and no maintenance (service life at 20 °C = 60,000 h)
- available with switch or motion detector
- magnetic attachment for individual mounting in the cabinet
- pressure clamp connection

Connection sockets and connections must be ordered separately!

Description	Order no.
LED cabinet light with switch	640-143-05
LED cabinet light with motion detector	640-143-06
Connection with Euro plug, L = 2.5 m	640-143-08



29 19" Potential equalisation bar 1 U

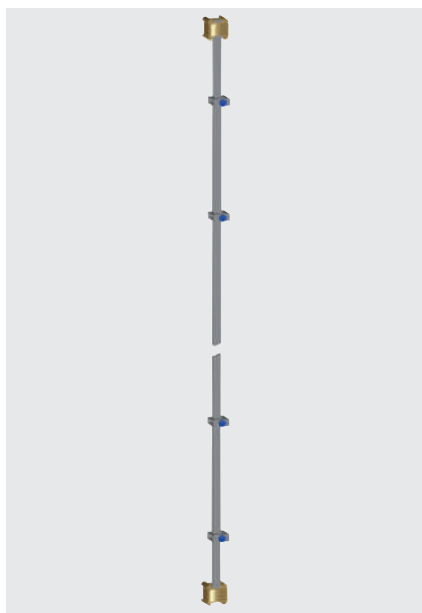


- for 19" or cabinet rack installation
- connection options: 27 × M 5
- rail cross-section: 50 mm²

Material:

sheet metal, copper

29 Potential equalisation bar 1 U



- 30 mm² inkl. 10 pull bows
- mounting material included

Order no.
640-028-00

L mm	Order no.
2000	640-028-08
1800	640-028-10

Noise absorption foam



- absorbs up to 10 dB(A) of sound in enclosures (e.g. fan noise)
- self-adhesive on one side
- thermal conductivity: 0.033 W/mk (acc. to DIN 52612)
- temperature range: -40 °C to +100 °C

Material:

grey PUR ester foam (10 mm), with indentations, partially compressed (air permeable)

Delivery:

unmounted

Delivery:

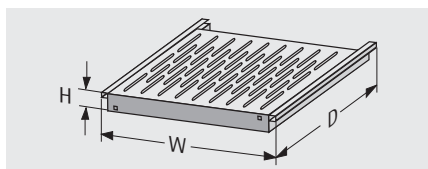
1 m²

If required, we will be happy to affix the noise absorption foam for you before delivering your cabinets or enclosures!

Order no.
671-211



30 Shelf without 19" extension "fixed installation"



- for mounting into cabinet rack without 19" level
- extraction length 500 mm

Material:

sheet metal

Finish:

RAL 7035 light grey

Load capacity:

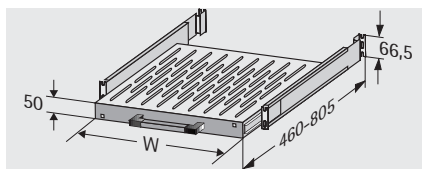
80 kg (distributed load)

Dimensions (H x W x D):

1,5 U (66,5 mm) x 465 x 410 mm

Cabinet width	Order no.
600 mm	318-141-08
800 mm	318-141-05

30 Shelf without 19" extension "extractable"



- for mounting into cabinet rack without 19" level
- extraction length 500 mm
- simple one-person assembly

Material:

sheet metal

Finish:

RAL 7035 light grey

Load capacity:

60 kg (distributed load)

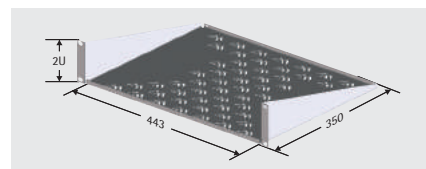
Dimensions (H x W x D):

1,5 U (66,5 mm) x 465 x 410 mm

1,5 U (66,5 mm) x 665 x 410 mm

Cabinet width	Order no.
600 mm	318-141-04
800 mm	318-141-06

30 19" shelf 2U "fixed"



- simple assembly on a 19" grid (only one 19" level required)
- ventilated
- Footprint: 443 x 350 mm

Material:

sheet metal

Finish:

RAL 7035 light grey

Load capacity:

15 kg (distributed load)

Dimensions (H x W x D):

2 U (88 mm) x 19" (482,6 mm) x

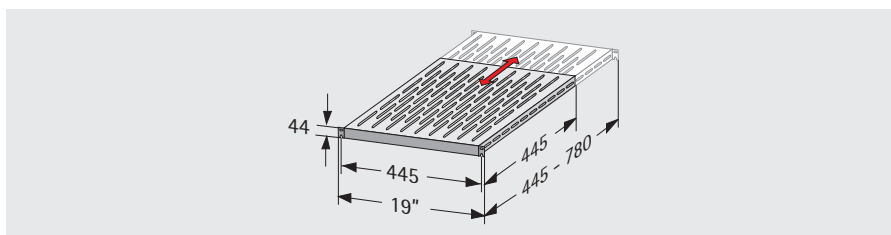
350 mm

Floor space (w x d):

443 x 350 mm

Order no.
315-810-20

30 19" shelf 1 U "VARiplain" fixed installation with 19" grid



- depth variable due to VARiplain technology
- telescopic: 445 - 780 mm (see fig.)
- simple one-person assembly through open long hole in the 19" front (hook-in)
- mounting material included

Material:

sheet metal 2 mm

Finish:

RAL 7035 light grey

Load capacity:

150 kg (distributed load)

Dimensions (H x W x D):

1 U (44 mm) x 19" (482,6 mm) x

445 - 780 mm

Floor space (w x d):

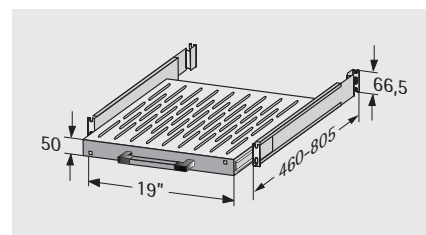
445 x (445 - 780) mm

Delivery:

mounting material included

Order no.
316-036-99

30 19"-shelf 1,5 U "extractable"



- variable-depth installation
- extraction 500 mm
- simple one-person assembly

Material:

sheet metal

Finish:

RAL 7035 light grey

Load capacity:

60 kg (distributed load)

Dimensions (H x W x D):

1,5 U (66,5 mm) x 19" (482,6 mm) x

465 - 665 mm

Floor space (w x d):

410 x (465 - 665) mm

D mm	Order no.
465	318-141-00
665	318-141-01



Cable duct

- structured, lateral cable routing over the entire cabinet height
- optionally breakable, large breakouts for side and rear cable entry or execution, retrofittable with plastic edge protection frame
- stable front plastic cable clamps each U for defined cabling in front of the 19" level
- lockable on the front side by pivoting hinged covers
- additional cable fixing in the rear maneuvering area by pluggable cascading
- no impairment of the air flow in the cabinet
- increased clarity
- symmetrical construction (can be mounted in the cabinet on the right and left side)

Material:

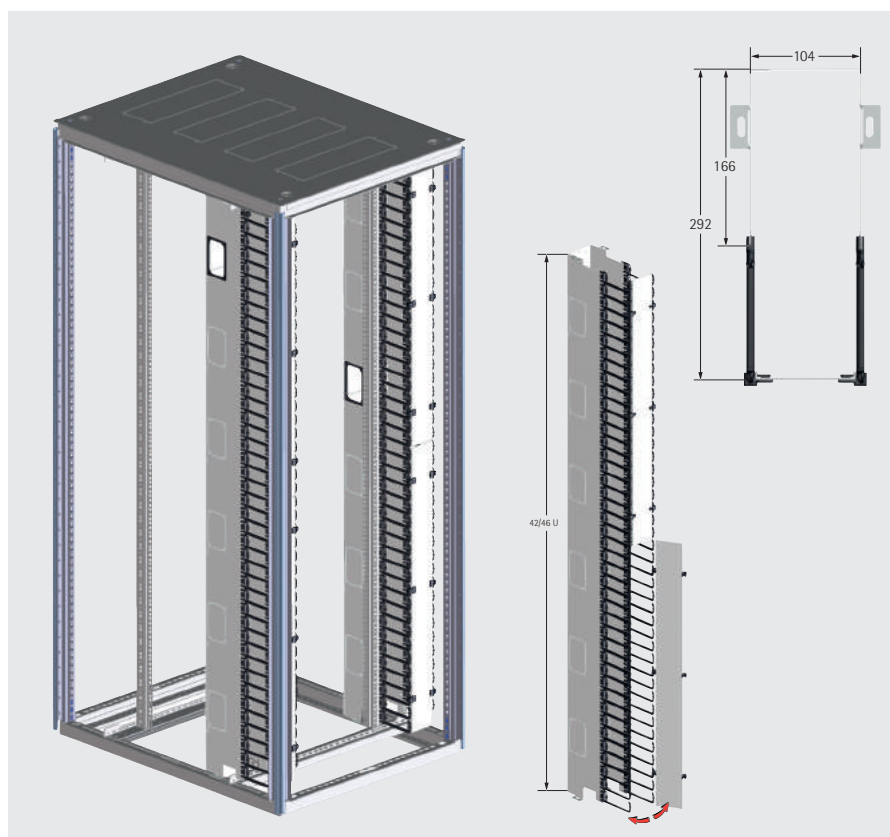
duct: sheet metal
hinged cover: aluminum
cable clamps and hinges:
plastic UL94 V-0, black

Finish:

sheet panel: RAL 7035 light grey or
RAL 9005 deep black

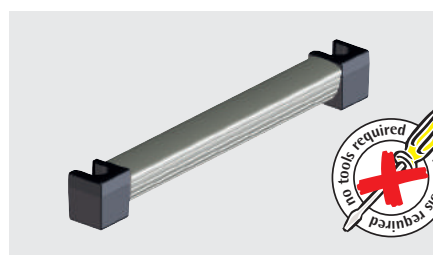
Delivery:

duct with cable clamps and drop shutter,
mounting material included

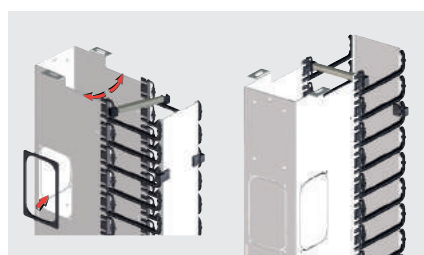


U	H mm	Colour	Order no.
42	2000	RAL 7035 light grey	318-123-50
42	2000	RAL 9005 jet black	318-123-55
46	2200	RAL 7035 light grey	318-123-60
46	2200	RAL 9005 jet black	318-123-65

Cascading for cable duct



- for partially locking the excess-length section of the cable duct
- can be quickly and easily installed on each of the cable clamps, no tools required
- pluggable, rotatable
- set = 5 pieces



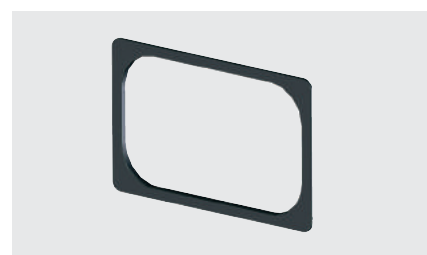
Material:

Aluminum profile,
hinges: plastic UL94 V-0, black

Delivery:

5 pieces Al profile incl. hinge, right and left

Edge protection frame "apra"



- can be clipped into the pre-perforated cut-outs (lateral or rear of cable duct)
- set = 10 pieces

Material:

plastic UL94 V-0, black

Order no.
318-123-90

Order no.
583-001-10



Partition panel kit

- to partition the lateral movable space for 800 mm wide cabinet between 19" level and side panel
- 3 × 1 U field per panel
- with cable clamps [a] (max. 4 pieces per panel) extendable (see page 50)

Material:
sheet metal

H mm	Finish	Order no.
2000	RAL 7035	318-121-84
2000	RAL 9005	318-121-85
2200	RAL 7035	318-121-87
2200	RAL 9005	318-121-88

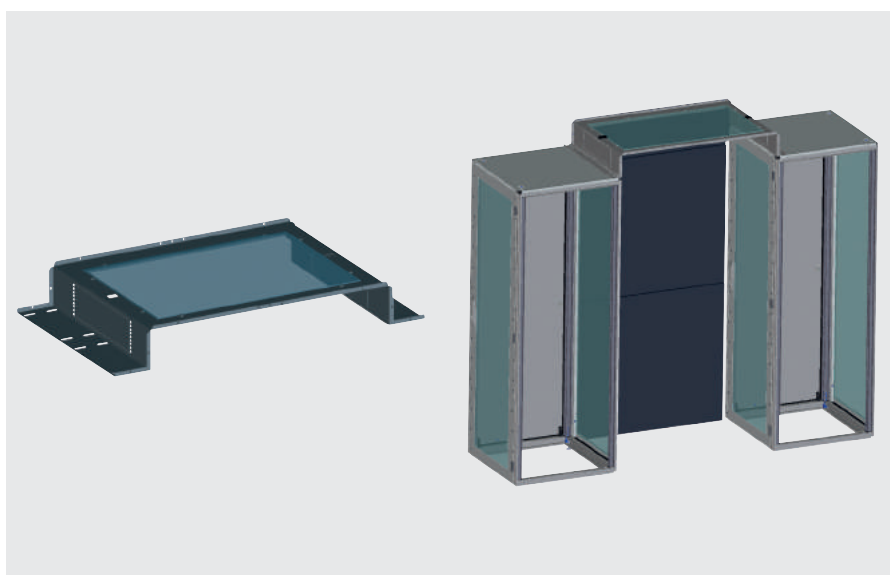


Corridor cover for cooling corridor

- for easy mounting on the cabinet system
- with 19" 3 U mounting section for power distributors, light systems etc.
- with toughened safety glass
- for aisle width 1.2 m

Material:
sheet metal, toughened safety glass

W mm	Finish	Order no.
800	RAL 7035	318-124-32
600	RAL 7035	318-124-66
600	RAL 9005	318-124-67
800	RAL 9005	318-124-75

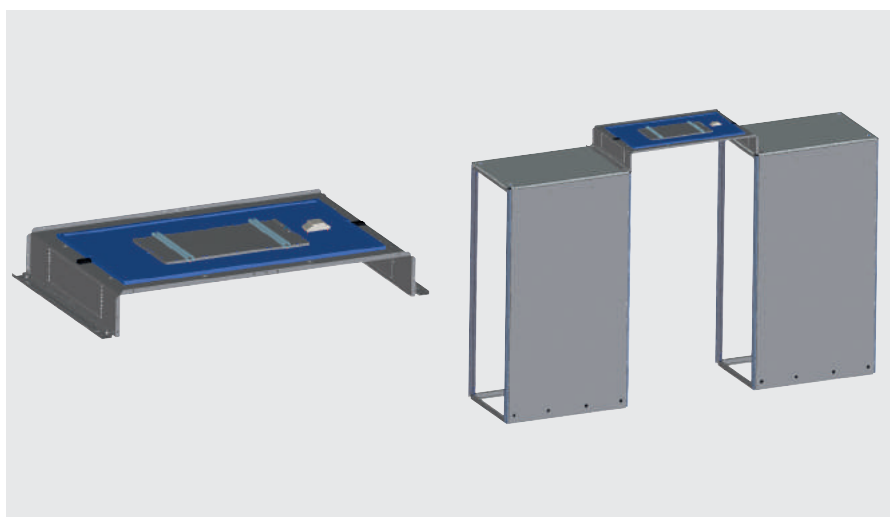


Corridor cover with LED panel

- easy installation on the TiRAX cabinet systems
- for optimum illumination of the cold / warm aisle
- LED panel with 24 W, 6000 K, 2400 lm
- incl. 19" panel 3 U for mounting power distributions etc.
- for aisle width 1.2 m

Material:
Corridor cover: steel sheet
LED-Panel: aluminium, acryl

W mm	Finish	Order no.
800	RAL 7035	318-125-60
800	RAL 9005	318-125-65



Technical changes and errors reserved. Pictures may be different from the product.



Swing door system

- to finish a TiRAX cold / warm aisle housing
- Opening possibility in both directions
- 180 ° opening angle for optimum access
- Ensuring pressure equalization in the cold aisle (for example, when the extinguishing system is triggered)
- High energy efficiency, as the cold aisle is always closed automatically
- Protection of persons in dangerous situations (escape door)
- for aisle width 1200 mm and cabinet height H = 2000 mm (42 U)

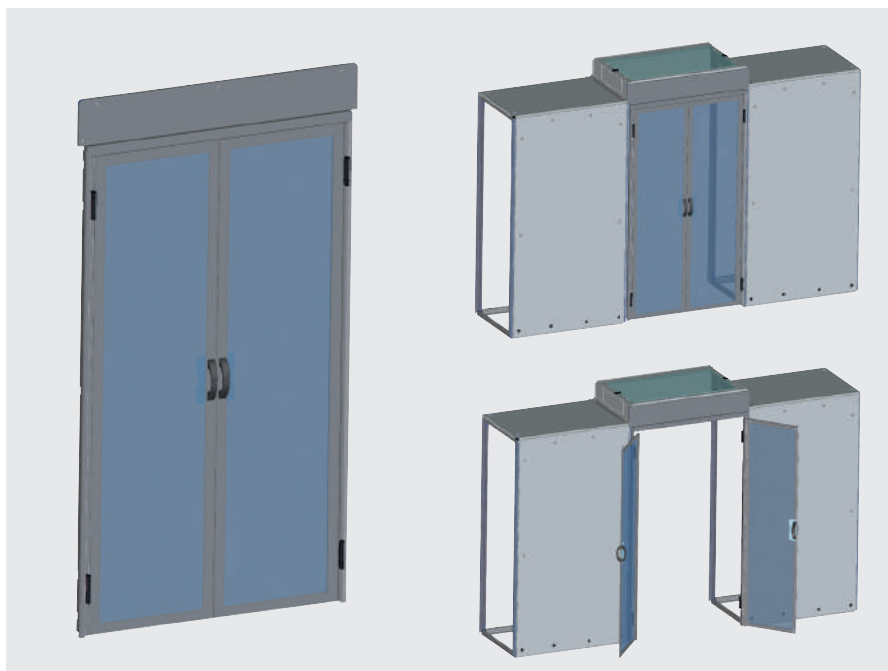
Material:

Mounting frame: sheet metal

Door profiles: aluminum, tempered glass

Delivery:

1 door pair, incl. mounting frame



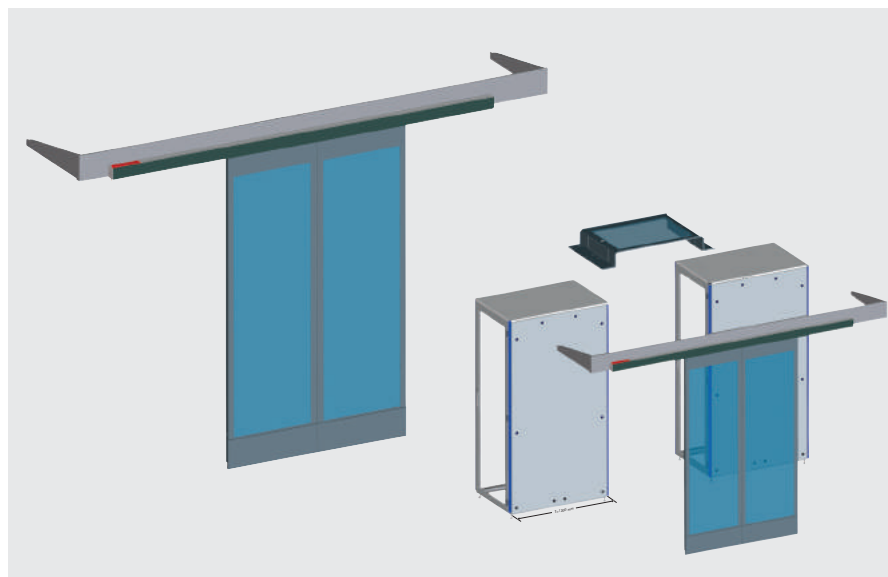
Finish	Order no.
RAL 7035 / aluminium look	318-004-70
RAL 9005 / aluminium look	318-004-50

Sliding door system

- for cabinet depth D = 1200 mm
- simple and quick installation
- for aislewidth 1.2 m
- height adjustment towards floor is possible

Material:

sheet metal, toughened safety glass



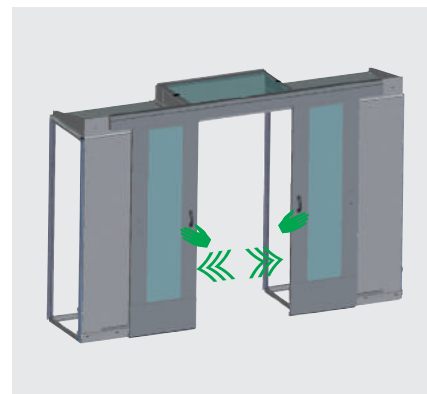
H mm	Description	Finish	Order no.
2000	manual	RAL 7037 dusty grey	318-124-70
		RAL 9005 jet black	318-124-80
	electric	RAL 7037 dusty grey	318-125-00
		RAL 9005 jet black	318-125-05
2200	manual	RAL 7037 dusty grey	318-124-55
		RAL 9005 jet black	318-124-65
	electric	RAL 7037 dusty grey	318-125-10
		RAL 9005 jet black	318-125-15



Extension set synchronous run for sliding door system

- for synchronous opening or closing of both door leaves
- to extend the manual sliding door system

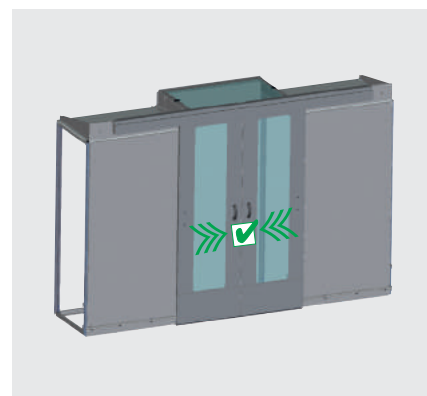
Order no.
583-003-36



Extension set synchronous operation with linear feedback

- synchronous opening of both door leaves with independent closing
- mechanical return system
- high energy efficiency, as the cold aisle is always closed automatically
- to extend the manual sliding door system

Order no.
583-003-62



Corridor Backboard Set

- Set = 2 pieces rear panels, incl. mounting brackets and completion of the corridor cover
- horizontally split mounting
- to complete a cold / warm aisle housing for aisle width 1200 mm

Material:

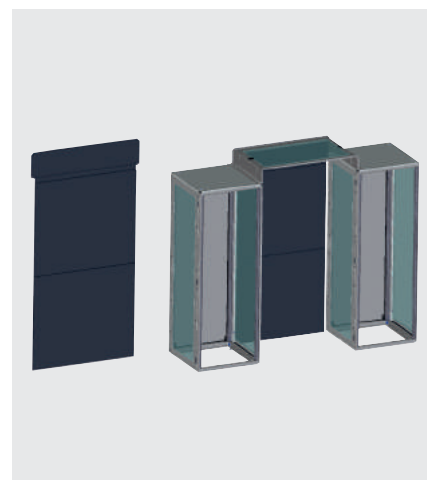
sheet steel

Finish:

RAL 7035 light grey

RAL 9005 jet black

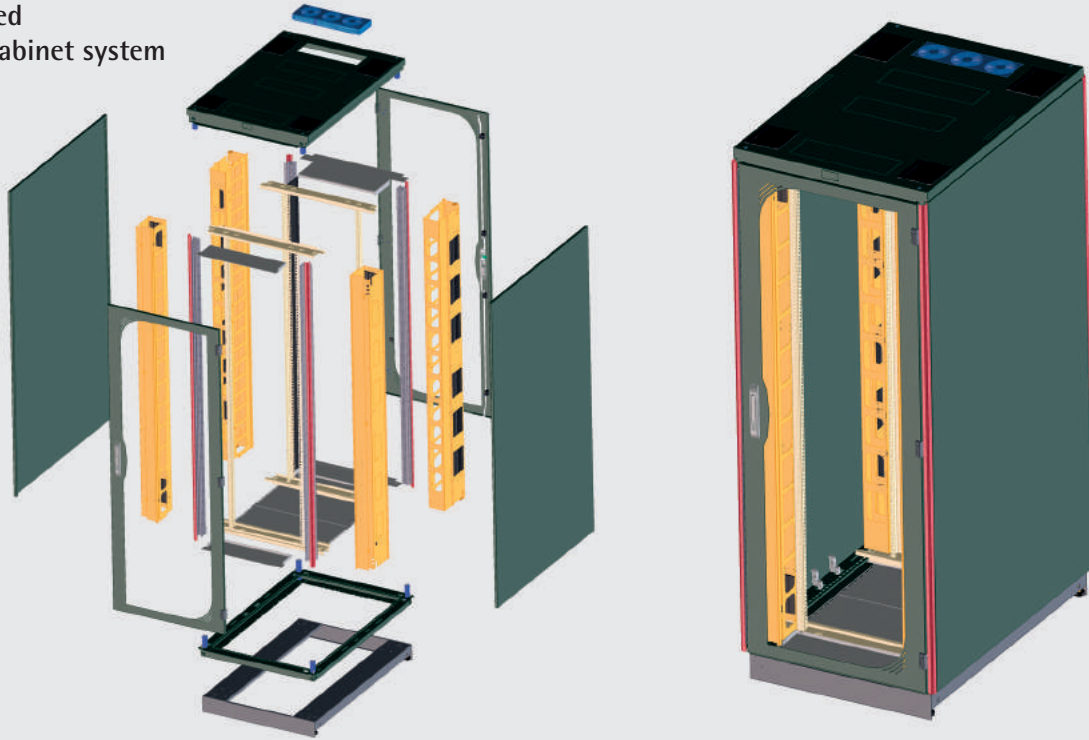
Finish	H = 2000	H = 2200
RAL 7035	318-125-80	318-125-70
RAL 9005	318-125-86	318-125-66





From conceptual planning to installation

Exploded
Tirax-cabinet system



Project:
Datacenter





in the data center – all from one source!



[illegible]

Questions for the sales team: