

Cassettes

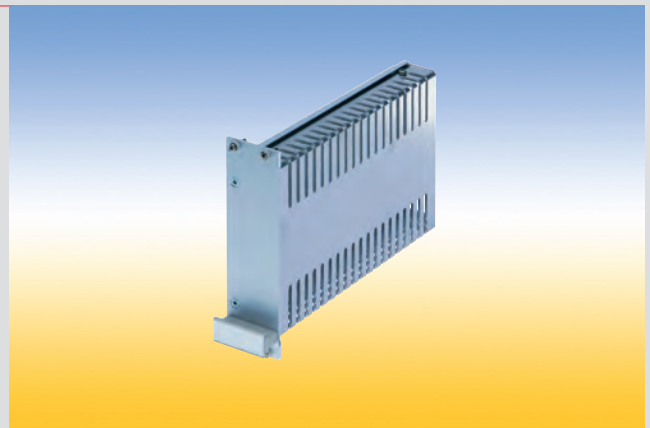
Cassette with Extruded Side Walls



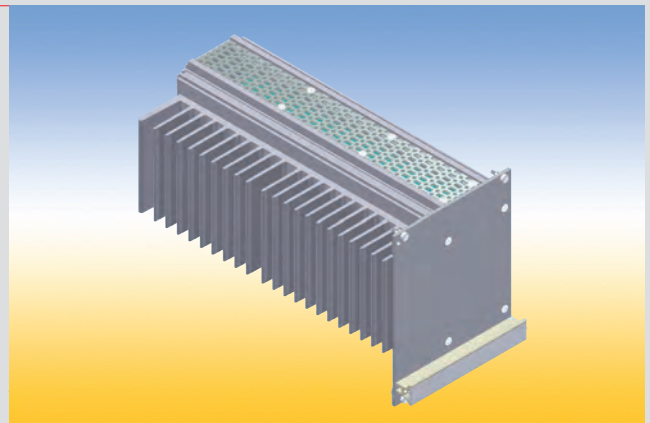
Cassette with four Depth Profiles



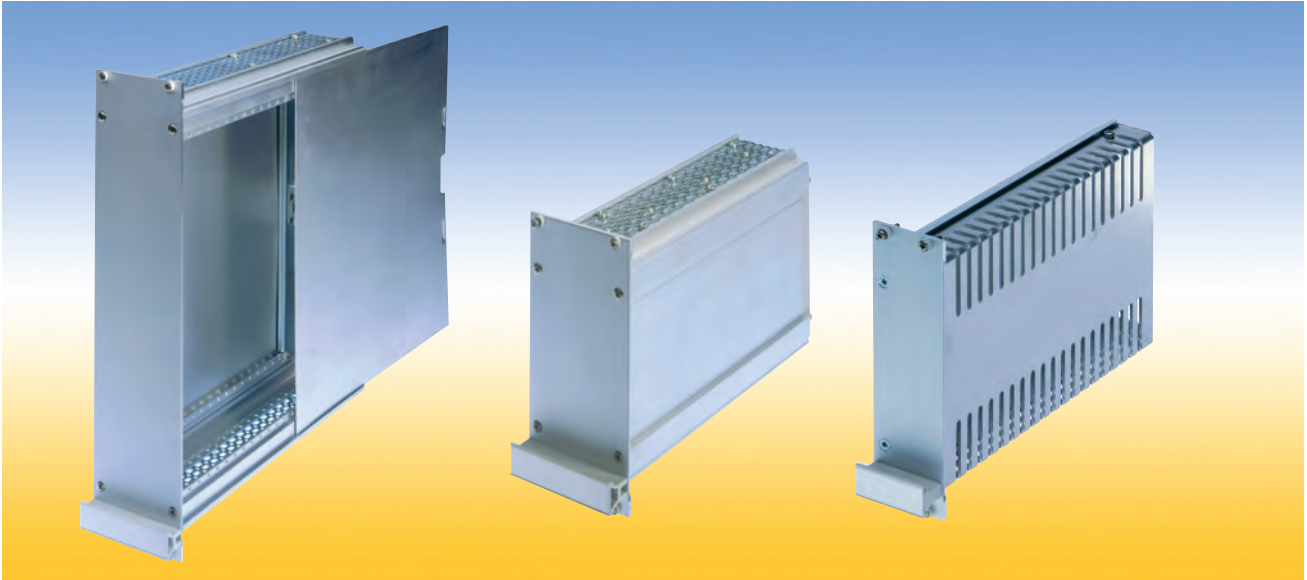
Cassette with Cover Hood



Cassette with Heat Sink



Cassettes



Description

The cassette has two functions:
It can be inserted into a subrack just like a PCB and it can accommodate plug-in boards.

Three cassette versions are available:

1. A cassette with extruded side walls
Extruded side walls in combination with a front panel and a rear panel make up the basic cassette which is then fitted with top and bottom plates.
2. A cassette with four depth profiles
Four identical depth profiles in combination with a front panel and a rear panel make up the basic cassette which is then fitted with top and bottom plates.
Two side service apertures are created which make the interior of the cassette easily accessible for inspection purposes. These apertures can be closed off using slide-in panels.
3. Cassette with cover hood
This version consists of a extruded side wall at the left to which the protective cover with an integrated rear wall is attached. The rear has a 4 HP aperture for installing an IEC 60 603-2 type B, C, D or F connector.

The special design features of the cassettes:

- ✓ The side edges of the front panel are slit for insertion of RFI gaskets which harmonically blend into the front panel grid and which require no additional space.
- ✓ The cassettes fit into all IEC 60 297 subracks.
- ✓ The cassette is fitted in the subrack using PCB guide mounts. For the right side of the cassette the guide mount is installed rotated by 180°.

- ✓ Suitable for accommodating Euroboards (3U, 6U) in accordance with IEC 60 297.
- ✓ The side walls and depth profiles have guide channels for insertion of 3U or 6U boards; only installation at the left is standardized.
- ✓ Additional guide mounts can be snapped into the top and bottom cover panels to accommodate internal boards.
- ✓ When used in a subrack the distance between the cassette and the PCB to the right of it is 2.47 mm.

Rear panel:

Three different rear panels are available:

1. Cassette „RG“ (rear panel closed):
This cassette is particularly suitable for any installation.
2. Cassette „RT“ (rear panel with partial aperture):
The rear panel has a 4HP aperture for installation of a connector.
3. Cassette „RV“ (rear panel with full aperture):
The rear panel has an aperture across its full width and is perforated for installation of connectors.

Dimensions

The cassette design is based on the following grid:

Horizontal pitch 5.08 mm
Height pitch 44.45 mm
Depth pitch 10.00 mm

Technical data

| | |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Standards | IEC 60297, Part 3 |
| Material | „RV“ rear panel, top and bottom panels: sheet steel mounting parts: steel handles: plastic other parts: aluminum |
| Finish | side panel, covers, „RV“ rear panel: untreated front panel: front anodized, rear and edges untreated other parts: passivated |
| Protection class | IP 30 |
| Utilization category | -25 °C to 70 °C, =< 75 % relative humidity, condensation possible |
| Electrical requirements | all parts are electrically bonded to one another following assembly in accordance with VDE 100 § 8 Nb. |

RFI shielding of Cassettes.

The Cassettes are manufactured from electrically conductive materials and screwed together. The RFI shielding can be further enhanced by increasing the number of screws used in vulnerable areas to obtain a superior RFI seal:

1. Top and bottom plates / front panels
Additional mounting blocks can be used between the top and bottom covers and the front plate. The top and bottom covers are pierced every 5.08 mm and by drilling extra holes in the front plane, additional contact points can be made.
2. Top and bottom plates / rear panels
Additional mounting blocks can be used between the top and bottom plates and the rear panels. The top and bottom plates are pierced every 5.08 mm

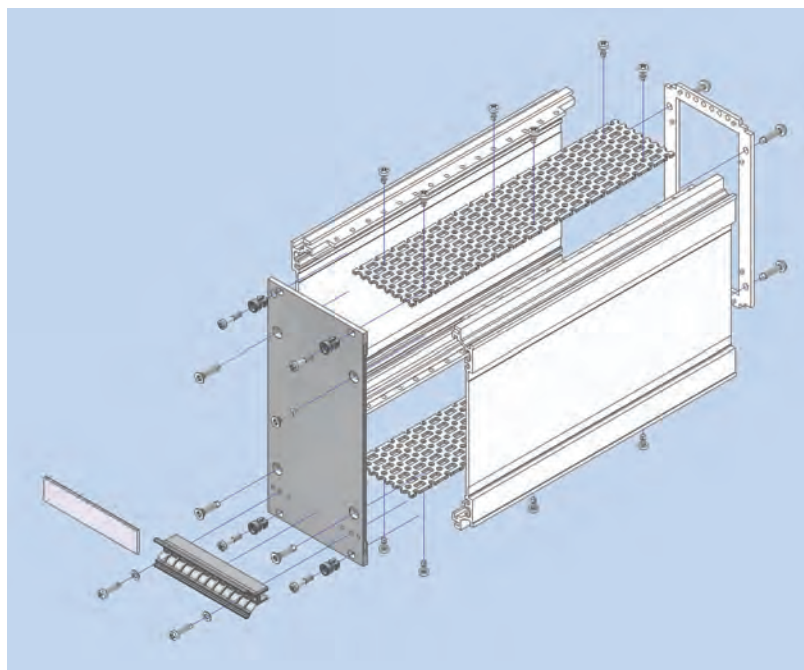
and by drilling extra holes in the rear panel types “R” and “RT”, additional contact points can be made. Rear panel type “RV” are pre-punched at 5.08 mm as standard and require no further modification.

3. 6 U Side wall / front panel
Two additional screws can be used in the front panel (one each side) to gain extra contact points to the side extrusion. Both the front panel and the extrusion require additional drilling.

Intermas Cassettes have excellent RFI Shielding properties as standard. But should you wish to enhance the RFI shielding, then please contact one of our specialists for further assistance.

Please ask your local representative for your
personal assistance.
You find your contact person on our homepage:
www.intermas-el.com

Cassette with Extruded Side Walls



Cassette with Extruded Side Walls

The cassette kits includes following rear panels:

1. Rear panel with partial aperture (RT)
2. Rear panel closed (RG)
3. Rear panel with full aperture (RV).

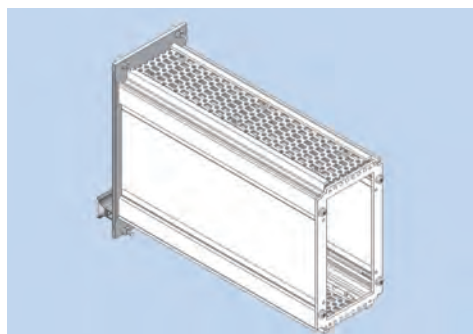
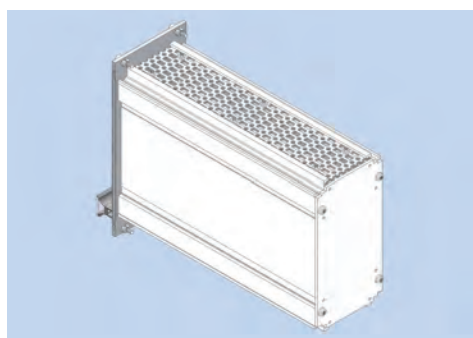
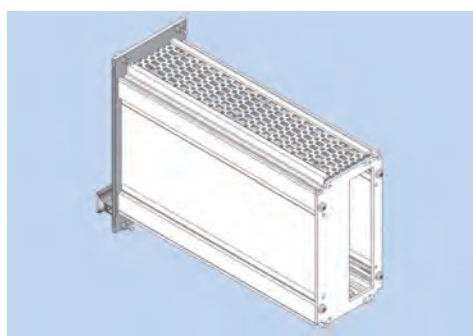
Kit consists of:

- 2 extruded side walls
- 1 rear panel
- 2 top/bottom plate
- 1 front panel, with slits in the side edges for insertion of RFI gaskets
- 1 handle
- 1 aluminum ident-plate
- Mounting parts

Delivery

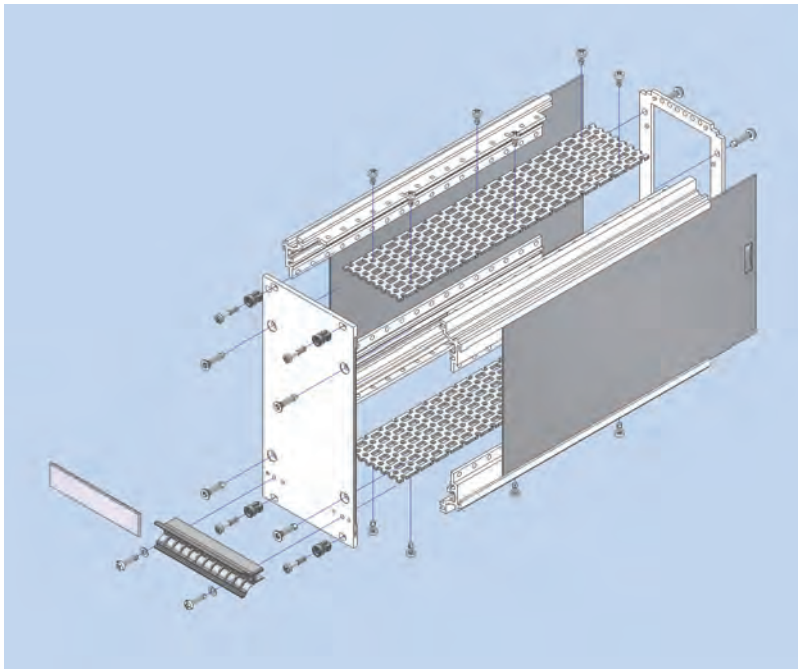
The cassette is delivered unassembled as individual parts or as a kit.

Ordering details kit cassette with extruded side walls



| | nom. height [U] | nom. width [HP] | nom. depth 160 mm order no. 409 | nom. depth 220 mm order no. 409 |
|----|--------------------|--------------------|------------------------------------------|------------------------------------------|
| RT | 3 | 08 | 165617 | 165625 |
| RG | 3 | 10 | 165602 | 165610 |
| RG | 3 | 12 | 165603 | 165611 |
| RG | 3 | 14 | 165604 | 165612 |
| RG | 3 | 21 | 165605 | 165613 |
| RG | 3 | 28 | 165606 | 165614 |
| RG | 3 | 42 | 165607 | 165615 |
| RV | 3 | 10 | 165634 | 165642 |
| RV | 3 | 12 | 165635 | 165643 |
| RV | 3 | 14 | 165636 | 165644 |
| RV | 3 | 21 | 165637 | 165645 |
| RV | 3 | 28 | 165638 | 165646 |
| RV | 3 | 42 | 165639 | 165647 |

Cassette with four Depth Profiles



Cassette with four Depth Profiles

The cassette kits includes following rear panels:

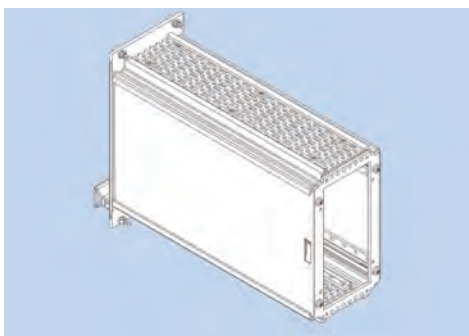
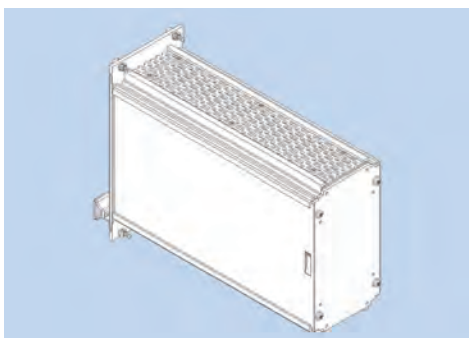
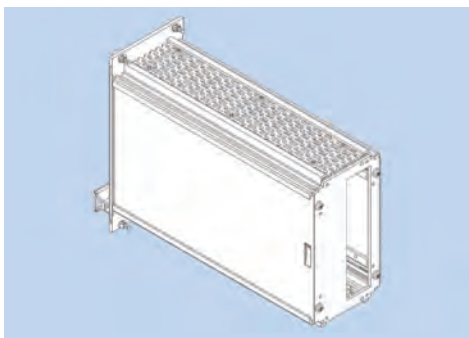
1. Rear panel with partial aperture (RT)
2. Rear panel closed (RG)
3. Rear panel with full aperture (RV).

Kit consists of:

- 4 depth profiles
- 2 struts
- 2 side plates
- 1 rear panel 3 U / 2 rear panels 6 U
- 2 top/bottom plate
- 1 front panel, with slits in the side edges for insertion of RFI gaskets
- 1 handle
- 1 aluminum ident-plate
- Mounting parts

Delivery

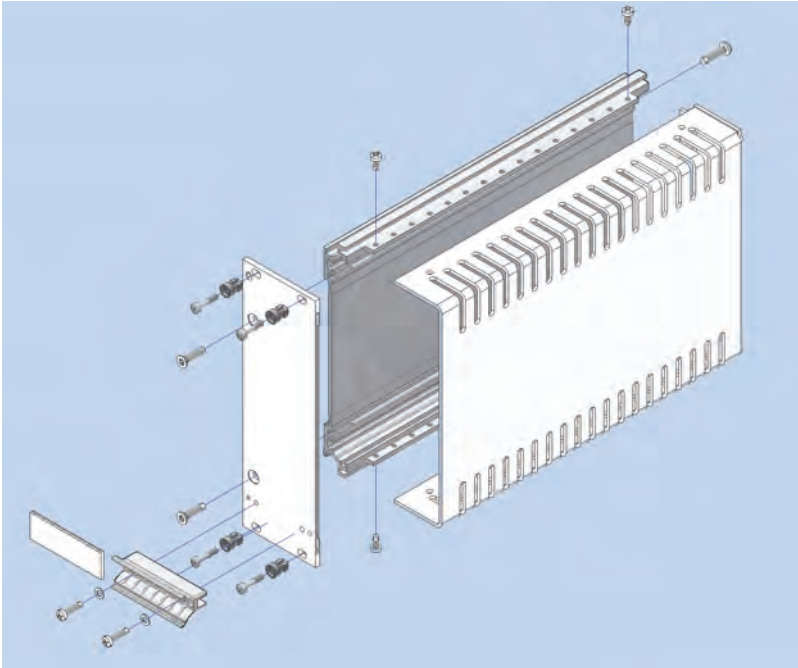
The cassette is delivered unassembled as individual parts or as a kit.



Ordering details kit cassette with four depth profiles

| | nom. height [U] | nom. width [HP] | nom. depth 160 mm order no. 409 | nom. depth 220 mm order no. 409 |
|----|--------------------|--------------------|------------------------------------------|------------------------------------------|
| RT | 3 | 08 | 165713 | 165721 |
| RG | 3 | 10 | 165698 | 165706 |
| RG | 3 | 12 | 165699 | 165707 |
| RG | 3 | 14 | 165700 | 165708 |
| RG | 3 | 21 | 165701 | 165709 |
| RG | 3 | 28 | 165702 | 165710 |
| RG | 3 | 42 | 165703 | 165711 |
| RV | 3 | 10 | 165730 | 165738 |
| RV | 3 | 12 | 165731 | 165739 |
| RV | 3 | 14 | 165732 | 165740 |
| RV | 3 | 21 | 165733 | 165741 |
| RV | 3 | 28 | 165734 | 165742 |
| RV | 3 | 42 | 165735 | 165743 |
| RT | 6 | 08 | 165873 | 165881 |
| RG | 6 | 10 | 165842 | 165850 |
| RG | 6 | 12 | 165843 | 165851 |
| RG | 6 | 14 | 165844 | 165852 |
| RG | 6 | 21 | 165845 | 165853 |
| RG | 6 | 28 | 165846 | 165854 |
| RG | 6 | 42 | 165847 | 165855 |
| RV | 6 | 10 | 165858 | 165866 |
| RV | 6 | 12 | 165859 | 165867 |
| RV | 6 | 14 | 165860 | 165868 |
| RV | 6 | 21 | 165861 | 165869 |
| RV | 6 | 28 | 165862 | 165870 |
| RV | 6 | 42 | 165863 | 165871 |

Cassette with Cover Hood



Cassette with Cover Hood

Kit consists of:

- 1 extruded side wall
- 1 cover hood
- 1 front panel, with slits in the side edges for insertion of RFI gaskets
- 1 handle
- 1 aluminum ident-plate
- Mounting parts

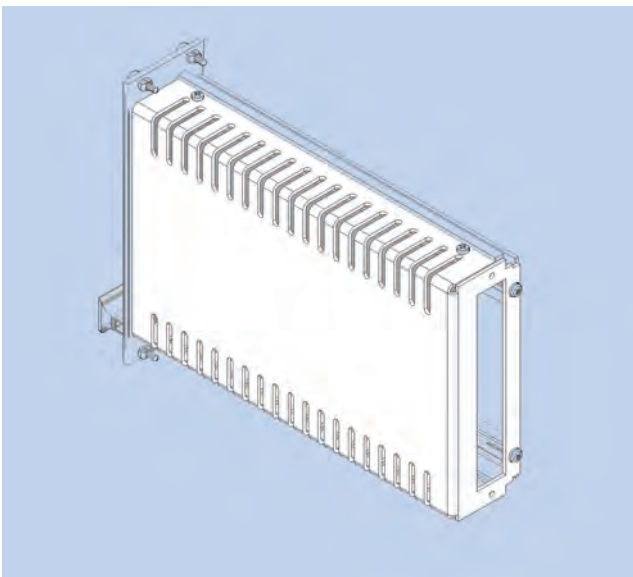
Delivery

The cassette is delivered unassembled as individual parts or as a kit.

Ordering details kit cassette with cover hood

| nom. height [U] | nom. width [HP] | nom. depth 160 mm order no. 409 | nom. depth 220 mm order no. 409 |
|--------------------|--------------------|--------------------------------------------------------|--------------------------------------------------------|
| 3 | 6 | 166112 | 166116 |
| 3 | 7 | 166113 | 166117 |
| 3 | 8 | 166114 | 166118 |

Individual parts of the cassettes



Cover Hood

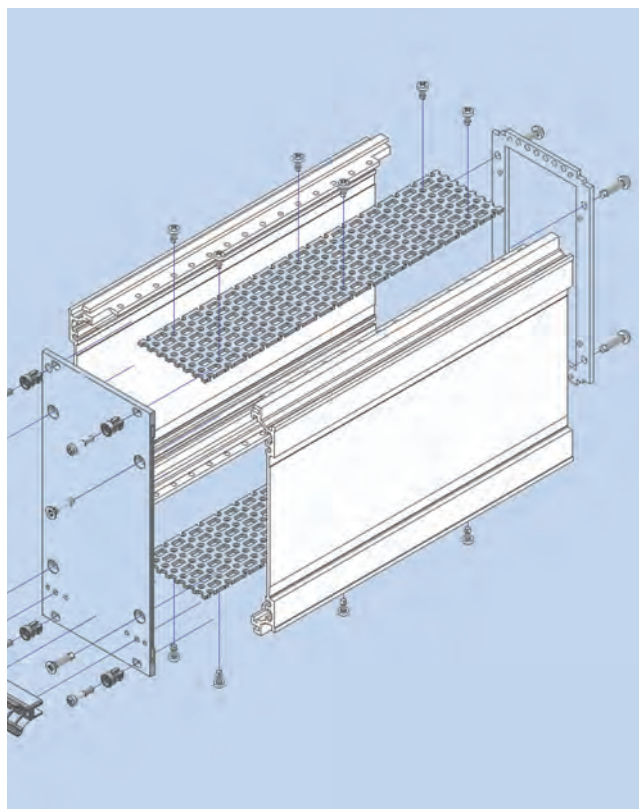
Material: aluminum

Finish: blank

Ordering details cover hood

| nom. height [U] | nom. width [HP] | nom. depth 160 mm order no. 409 | nom. depth 220 mm order no. 409 |
|--------------------|--------------------|--------------------------------------------------------|--------------------------------------------------------|
| 3 | 6 | 165896 | 166100 |
| 3 | 7 | 165897 | 166101 |
| 3 | 8 | 165898 | 166102 |

Individual Parts of the Cassette

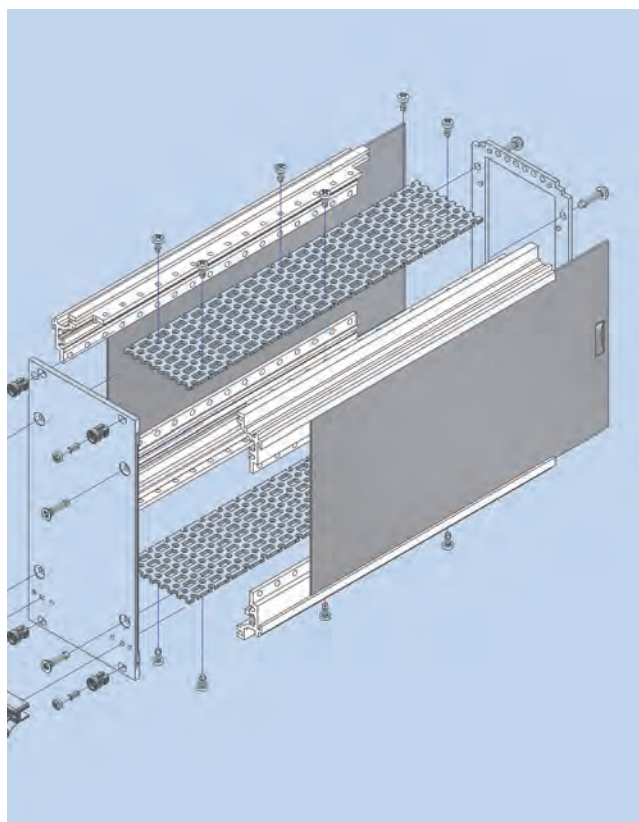


Extruded Side Wall

Material: aluminum
Finish: passivated

Ordering details extruded side walls

| nom. depth [mm] | 3 U order no. 409 |
|--------------------|-------------------------|
| 160 | 079202 |
| 220 | 079203 |



Depth Profiles

Material: aluminum
Finish: passivated

Ordering details depth profiles

| nom. depth [mm] | order no. 409 |
|--------------------|------------------|
| 160 | 039603 |
| 220 | 039604 |

Side Plates

Material: aluminum
Finish: blank

Ordering details side plates

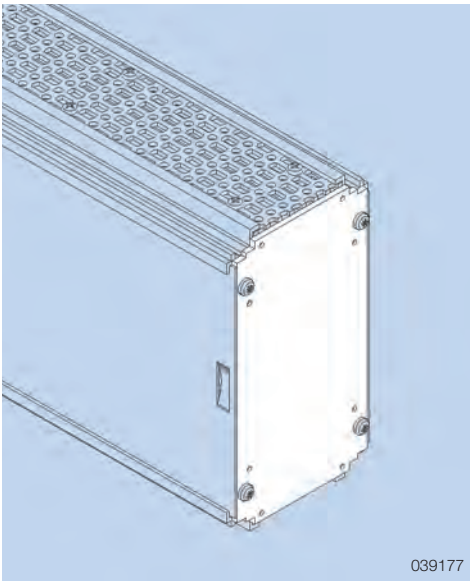
| nom. depth [mm] | 3 U order no. 409 | 6 U order no. 409 |
|--------------------|-------------------------|-------------------------|
| 160 | 039542 | 039546 |
| 220 | 039543 | 039547 |

Strut 6 U

Material: aluminum
Finish: passivated

order no.: 409039540

Individual Parts of the Cassettes



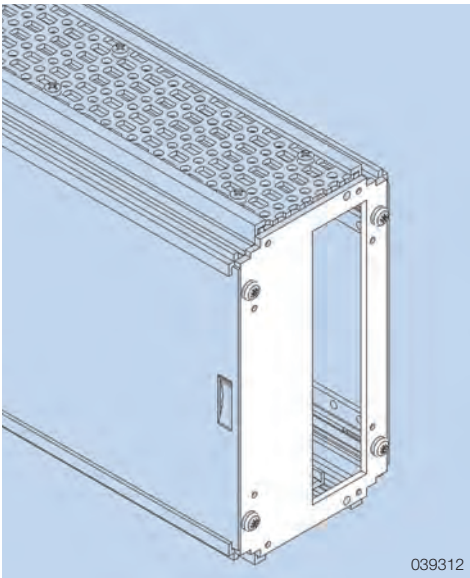
Rear Panel RG

3 U panel wall closed. 6 U cassettes require two 3 U rear panels.

Material: aluminum
Finish: blank

Ordering details rear panel RG

| nom. width [HP] | order no. 409 |
|--------------------|------------------|
| 8 | - |
| 10 | 166237 |
| 12 | 166238 |
| 14 | 166239 |
| 21 | 166240 |
| 28 | 166241 |
| 42 | 166242 |



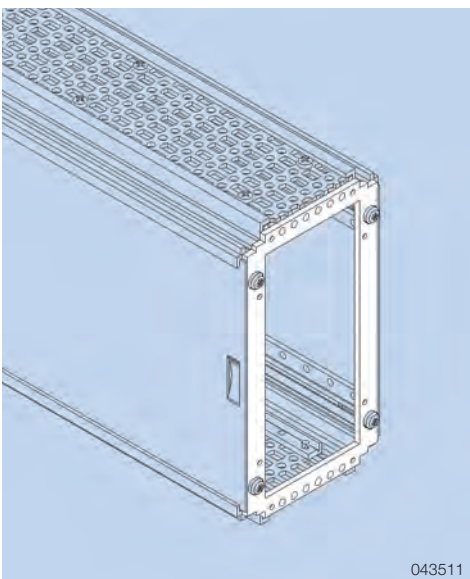
Rear Panel RT

3 U rear panel with partial aperture. 6 U cassettes require two 3 U rear panels.

Material: aluminum
Finish: blank

Ordering details rear panel RT

| nom. width [HP] | order no. 409 |
|--------------------|------------------|
| 8 | 166243 |
| 10 | - |
| 12 | - |
| 14 | - |
| 21 | - |
| 28 | - |
| 42 | - |



Rear Panel RV

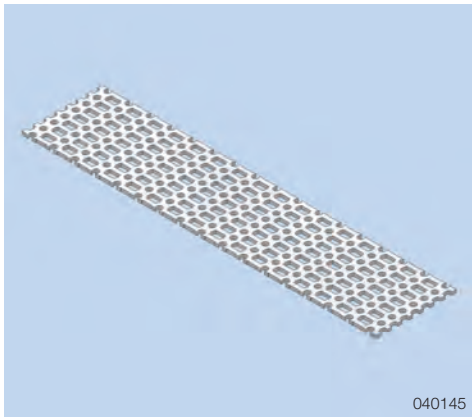
3 U Rear panel with full aperture. 6 U cassettes require two 3 U rear panels.

Material: steel
Finish: galvanized und passivated

Ordering details rear panel RV

| nom. width [HP] | order no. 409 |
|--------------------|------------------|
| 8 | - |
| 10 | 043514 |
| 12 | 043516 |
| 14 | 043518 |
| 21 | 043525 |
| 28 | 043532 |
| 42 | 043546 |

Individual Parts of the Cassettes



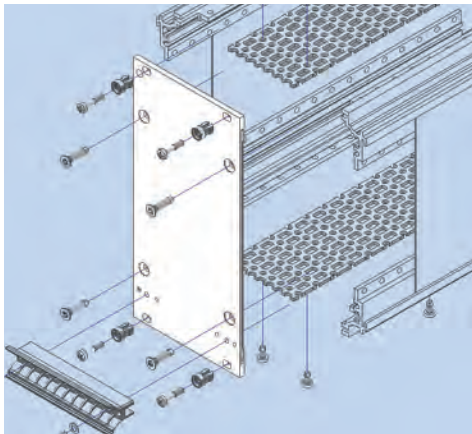
040145

Top/Bottom Plate

Material: steel
Finish: galvanized and passivated

Ordering details top/bottom plate

| nom. width [HP] | nom. depth 160 mm order no. 409 | nom. depth 220 mm order no. 409 |
|--------------------|------------------------------------------|------------------------------------------|
| 8 | 038687 | 038763 |
| 10 | 038689 | 038765 |
| 12 | 038691 | 038767 |
| 14 | 038693 | 038769 |
| 21 | 038700 | 038776 |
| 28 | 038707 | 038783 |
| 42 | 038721 | 038797 |



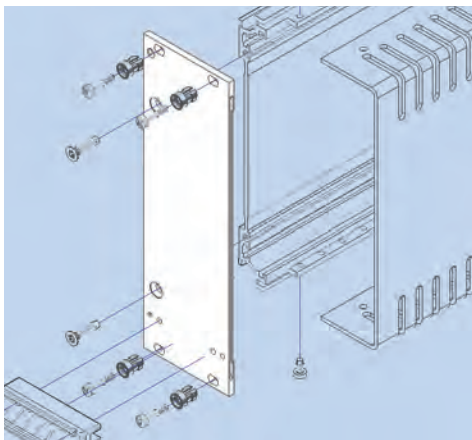
Front Panel

For cassette with extruded side panel or depth profiles.

Material: aluminum
Finish: front anodized, rear and edges blank

Ordering details front panel for cassette

| nom. width [HP] | 3 U order no. 409 | 6 U order no. 409 |
|--------------------|-------------------------|-------------------------|
| 8 | 115005 | 119024 |
| 10 | 115007 | 119026 |
| 12 | 115009 | 119028 |
| 14 | 115011 | 119030 |
| 21 | 115018 | 119037 |
| 28 | 115025 | 119044 |
| 42 | 115039 | 119058 |



Front Panel

For cassette with cover hood.

Material: aluminum
Finish: front anodized, rear and edges blank

Ordering details front panel for cassette cover hood

| nom. width [HP] | 3 U order no. 409 |
|--------------------|-------------------------|
| 6 | 122380 |
| 7 | 120282 |
| 8 | 120283 |

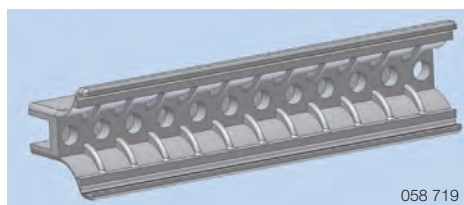
Individual Parts of the Cassettes

Handle FP for Front Panels

Assembled with M 2.5 screws and with 1 additional self tapping screw from 6 HP. The handle is held against torsion by means of two nipples.

Technical data

| | |
|------------------------|------------------------------------------------------|
| Material | Polycarbonate, colored 10% fiber-glass reinforced |
| Color | gray RAL 7032, black |
| Continuous temperature | – 40 °C to + 100 °C) |
| Fire protection class | UL 94 V-0 |

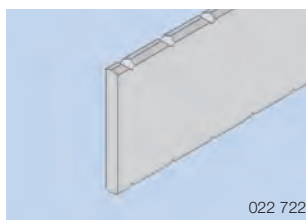


Ordering details handle FP

| width [HP] | length [mm] | gray order no. 409 | black order no. 409 |
|---------------|----------------|--------------------------|---------------------------|
| 6 | 29.04 | 103006 | 103206 |
| 7 | 34.12 | 103007 | 103207 |
| 8 | 39.20 | 103008 | 103208 |

Ordering details handle strip FP

| width [HP] | length [mm] | gray order no. 409 | black order no. 409 |
|---------------|----------------|--------------------------|---------------------------|
| 10 | 49.36 | 103810 | 058910 |
| 12 | 59.52 | 103812 | 058912 |
| 14 | 69.68 | 103814 | 058914 |
| 21 | 105.24 | 103821 | 058921 |
| 28 | 150.80 | 103828 | 058928 |
| 42 | 211.92 | 103842 | 058942 |



Ident-Plate

for handle FP.
The ident-plate is markable and printable, snapped in after mounting the handle to the front panel.

Material: aluminum
Finish: anodized

Ordering details ident-plate

| width [HP] | length [mm] | order no. 409 |
|---------------|----------------|------------------|
| 6 | 29.04 | 022792 |
| 7 | 34.12 | 022793 |
| 8 | 39.20 | 022794 |
| 10 | 49.36 | 022796 |
| 12 | 59.52 | 022798 |
| 14 | 69.86 | 022800 |
| 21 | 105.24 | 022807 |
| 28 | 150.80 | 022814 |
| 42 | 211.92 | 040652 |

Mounting parts of the cassette

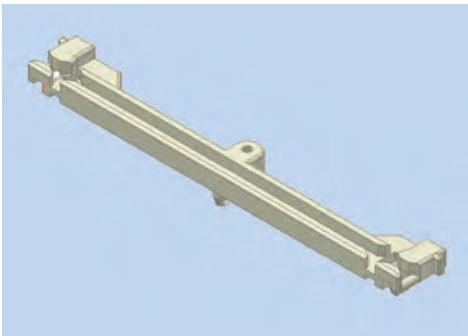
Minimum order quantity each 100 pieces

| | |
|-----------------------------------------------------------|------------------|
| | order no. 409 |
| To assemble the strut and the top/bottom plates to the pr | |
| Oval head screw M 2.5 x 5 | 039691 |
| To assemble the rear plate to the pr | |
| Oval head screw M 3 x 12 | 108963 |
| Spring washer A 3 | 040969 |
| To assemble the front panel to the pr | |
| Counter sunk screw M 3 x 12 | 108962 |
| To assemble the cassette into the subrack | |
| Screw retainer 2.5, gray | 100539 |
| Pan Head Screw M 2.5 x 11.3 | 101917 |

Mounting parts for handles:

Minimum order quantity each 100 pieces

| | |
|-------------------------------|------------------|
| | order no. 409 |
| Washer 2.7 | 013911 |
| Self tapping screw M 2.5 x 10 | 040401 |



Accessories

Pan head screw M2,2 x 6,5

Minimum order quantity 100 pieces

order no.: 409022672

Card Guide for Cassette

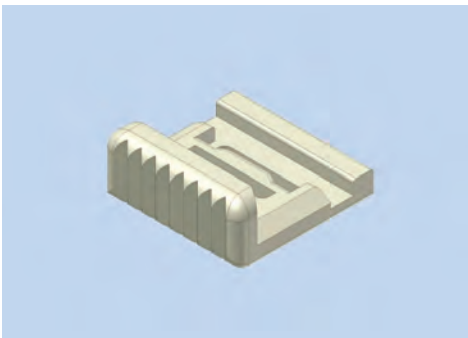
This card guide is snap-in and screw-on type.

Technical data

| | |
|------------------------|---------------------|
| Material | Noryl |
| Color | RAL 7035 |
| Continuous temperature | - 40 °C to + 115 °C |
| Fire protection class | UL 94 V-0 |

Ordering details

| | nom. length [mm] | PCB thickness [mm] | order no. 409 |
|-------------------------|---------------------|-----------------------|------------------|
| Card guide for cassette | 100 | 1.6 | 041012 |
| Card guide for cassette | 160 | 1.6 | 041008 |



PCB Retainer

To secure PCB's inside the cassette.
Assembled together with the card guide.

Technical data

| | |
|------------------------|---------------------|
| Material | Noryl |
| Color | RAL 7035 |
| Continuous temperature | - 40 °C to + 115 °C |
| Fire protection class | UL 94 V-0 |

order no.: 409043488



Male Connector Assembly Kit

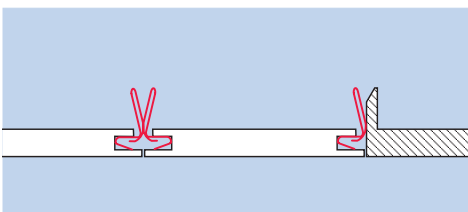
To assemble male connectors of type B, C, D, E, F, G, or H
reg. DIN EN 60603 in rear panels.

Material: steel

Finish: galvanized und passivated

Delivery: 1 male connector bracket top
1 male connector bracket bottom
Mounting parts

order no.: 409046098



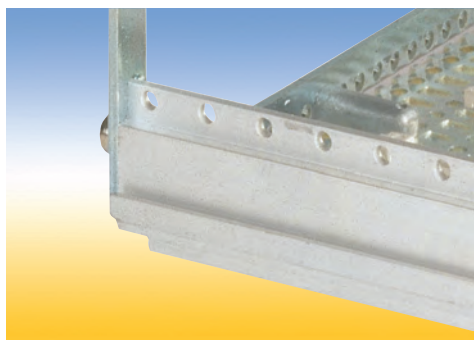
RFI-Spring F3

The RFI-contact spring for inserting into the side edges of the front panel.

Ordering details

| | |
|-------------------------------------|------------------|
| | order no. 409 |
| ont panel 2 RFI-springs are needed. | |
| RFI spring F3 - 3U | 111112 |
| RFI spring F3 - 6U | 111116 |
| For assemble the RFI spring F3 | |
| Roller cutter | 118433 |

Accessories for Cassettes



Mounting Block

To connect top/bottom plate with rear panel.
The mounting block can also be used to enhance RFI shielding in conjunction with blank rear panel RG. The rear panel can be additionally drilled for extra contact points.

order no.: **409044090**

Backplane Holder

To assemble backplanes on top/bottom plate.

order no.: **409119013**

Accessories

Minimum order quantity each 100 pieces

order no.
409

To assemble the rear plate and the backplane holder at the top/bottom plates

Oval head screw M 2.5 x 6

046999

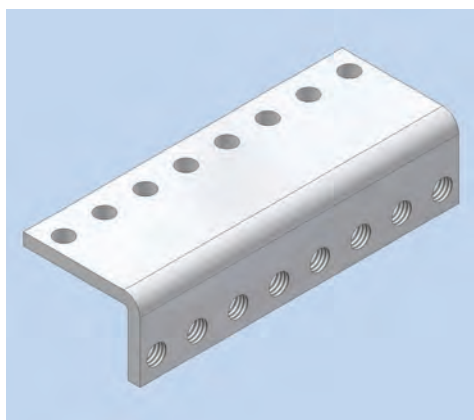
To assemble the backplane or the rear panel at the mounting block or backplane holder

Oval head screw Taptite M 2.5 x 10

040401

Spring washer 2.7

013911



Cassette Angle

To assembly a free wiring level inside of the cassette.
Mounted on the top/bottom plate.

Material: steel

Finish: galvanized and passivated

Ordering details cassette angle

| length [mm] | for cassette nom. width [HP] | order no. 409 |
|----------------|------------------------------------|-------------------------|
| 9.18 | 8 | 039851 |
| 19.34 | 10 | 039853 |
| 29.50 | 12 | 039855 |
| 39.66 | 14 | 039857 |
| 75.22 | 21 | 039864 |
| 110.78 | 28 | 039954 |
| 181.90 | 42 | 039968 |

Accessories

Minimum order quantity each 100 pieces

order no.
409

To assemble the cassette angle at the top/bottom plates

Oval head screw M 2.5 x 5

039691

To assemble the connectors at the cassette angle

Tapered screw M 2.5 x 6.5

032708

Accessories for Cassettes



Shell

To cover the open space between the top and bottom rear panels for 6-U-cassette. The shell is assembled at the strut.

Material: aluminum
Finish: passivated

Ordering details

| | nom. width [HP] | order no. |
|----------|--------------------|---------------|
| | | 409 |
| Shell 08 | 8 | 040348 |
| Shell 10 | 10 | 040350 |
| Shell 12 | 12 | 040352 |
| Shell 14 | 14 | 040354 |
| Shell 21 | 21 | 040361 |
| Shell 28 | 28 | 040368 |
| Shell 42 | 42 | 040382 |

Accessories

Oval head screw M 3 x 12

Minimum order quantity 100 pieces

order no.: **409108963**



Screw retainer, press-fit bushing and screw

Screw retainer 2.5 - M 2.5

To 2.5 mm thickness front panels, for pushing in the screw

Technical data

| | |
|------------------------|---------------------|
| Material | POM |
| Color | gray or black |
| Continuous temperature | - 40 °C to + 100 °C |

Ordering details

Minimum order quantity 100 pieces

| | Color | order no. |
|----------------------------|-------|---------------|
| | | 409 |
| Screw retainer 2.5 - M 2.5 | gray | 100539 |
| Screw retainer 2.5 - M 2.5 | black | 100538 |

Press-fit bushing M 2.5

To press in to the front panel in order to get electrical bounding to the cassette even when the front panel is anodized.

Material: brass (lead-free), nickel plated

Minimum order quantity 10 pieces

order no.: **409140266**

Screw M 2.5 x 11.3

for 2.5 mm thick Front panels

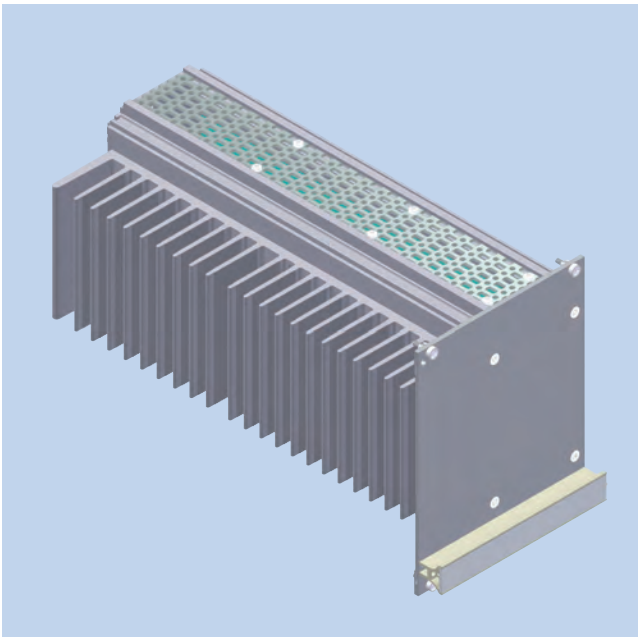
Material: Knurled head screw:
steel nickel plated
Others: stainless steel

Ordering details

Minimum order quantity 100 pieces

| | head form | order no. |
|-----------------------------|------------|---------------|
| | | 409 |
| Cylinder head screw | slotted | 100540 |
| Pan head screw M 2.5 x 11.3 | cross slot | 101917 |
| Knurled head screw | knurled | 101918 |

Cassette with Heat Sink



Cassette with Heat Sink

This cassette is designed for passive cooling of electronic sub assemblies and systems. The thermal power loss which is generated in the 19" cassette is dissipated by a heat sink which also serves as sidewall. The heat sink is covered by an asymmetric front panel. Euroboards are being fitted into card guides which can be snapped in every possible position in the cassette. A wide range of accessories, for example rear cover, handle and handle strip in different colors and types are available. The front panel can be fitted with RFI springs to realize RFI shielding of the front of the subrack. Optionally the complete cassette can be RFI shielded.

Delivery

- 4 depth profiles
- 1 side plates
- 1 heat sink, aluminum blank
- 1 rear panel 3 U
- 2 top/bottom plate
- 1 front panel, with slits in the side edges for insertion of RFI gaskets
- 1 handle
- 1 aluminum ident-plate
- Mounting parts

Delivery

The cassette is delivered unassembled as individual parts or as a kit.

Ordering details cassette with heat sink

| height [U] | depth [mm] | cassette + heat sink- width [HP] | order no. 409 |
|---------------|---------------|-------------------------------------------|-------------------------|
| 3 | 160 | 12 + 8 | 168938 |
| 3 | 160 | 28 + 8 | 168939 |
| 3 | 220 | 12 + 8 | 168940 |
| 3 | 220 | 28 + 8 | 168941 |

Accessories

| | |
|----------------------------------------------------|-------------------------|
| | order no. 409 |
| For one flat front panel 2 RFI-springs are needed. | |
| RFI spring F3 - 3U | 111112 |
| For assemble the RFI spring F3 | |
| Roller cutter | 118433 |