





KVS F3, KVS F4, KVS F5, KVS F6



Product Description:

The cabinets are made of glass fiber-reinforced polyester (SMC). Metal parts are made of stainless steel Nirosta A 2.

The labyrinth-like form of the door stop and of the roof area result in an effective ventilation and prevent condensation. The door has a 3-point locking mechanism, prepared for the installation of half profile cylinders with a length from 42 up to 46 mm. The lock is operated from the outside by means of a plastic handle. The installed half cylinder is covered by a plastic folding cover. The locking may be adjusted to existing lock systems. Swivel lever locks can alternatively be inserted into the sizes F4/F5/F6.

On the rear wall, threaded bushes are provided for the attachment of installations. When desired the housings can also be supplied removable. For this purpose, 3 threaded bushes M 10 instead of the angle irons for plinth attachment are provided on the side panels for fixing to an available frame. For assembly works in the box, the door can be taken off its hinges by simply removing the hinge pins.

For further product information on polyester-products, please request the polyester catalog. On the following pages, you will find some cross connection cabinets for telecom application.

KVS F3 for 300 pairs

Order No.	Cross Connection Cabinet F3	Pack
6818 1 103-01	KVS F3	1 pc

Plastic cabinet made of glass fiber-reinforced polyester (SMC), for free standing outdoor distributor usage (hinge variant), 3-point locking mechanism, prepared for profile half cylinder. Cabinet incl. thermal insulation, hinged door, frame for 300 pairs and ground plate with cable feed-in for 2 bays.
 Colour: RAL 7032 - grey

KVS F3 Frame 300 pairs

LSA-PROFIL Frame with 2-bays, incl. cable support rail, made of stainless steel: A2 quality. Prepared for 30 pcs LSA-PROFIL Modules series 2/10.

Dimensions: Outside: 486x735x205 mm (WxHxD)
 Bore: 414 mm
 Clearance: 654 mm

Weight: 14 kg



Picture without roof

Order No.	Plinth for F3	Pack
421 1 3000 103	KVS Plinth, type A, size 01, h=950mm	1 pc
421 1 3000 106	KVS Plinth, type A, size 01, h=1250mm	1 pc
421 1 3000 116	KVS Plinth, type B, size 01, h=1250mm	1 pc

KVS Plinth made of SMC, variant 1, delivered as kit.
 Type A with 4 cover sheets (see picture).
 Type B like type A but with two additional cover sheets

Weights: 421 1 3000 103 - 10kg
 421 1 3000 106 - 12kg
 421 1 3000 116 - 14kg





KVS F4 for 900/1800 pairs (LSA-PLUS-Series 2)

Order No.	Cross Connection Cabinet F4	Pack
6818 1 004-06	KVS F4/1000A, mounted	1 pc
6818 1 004-05	KVS F4/1000A, kit	1 pc

Plastic cabinet made of glass fiber-reinforced polyester (SMC), for free-standing outdoor distributor usage, withdrawable, with pivoted handle, 3-point locking mechanism, prepared for profile half cylinder. Cabinet incl. thermal insulation, document holder, door catch, frame for 900 pairs and KVS-ground plate with cable feed in for 3 bays.

Protection type: IP 54 according to IEC 529, EN 60529

KVS F4/1000 Frame 900 pairs

LSA-PROFIL Frame with 3-bays, incl. cable support rail, made of stainless steel: A2 quality. Prepared for 33 modules each bay, (pitch 22.5 mm, depth 50 mm). Incl. earthing and cable support rail.

Dimensions: Outside: 590x1000x340 mm (WxHxD)
Bore: 516 mm
Clearance: 844 mm

Weight: 35 kg



Order No.	Plinth for F4	Pack
421 1 4021 103	KVS-Plinth, Standard, size 0, h=950mm	1 pc
421 1 4021 106	KVS-Plinth, type A, size 0, h=1250mm	1 pc
421 1 4021 116	KVS-Plinth, type B, size 0, h=1250mm	1 pc

KVS-Plinth made of SMC, variant 1, delivered as kit.

Type A with 4 cover sheets (see picture).

Type B like type A but with two additional cover sheets

Weights: 421 1 4021 103 - 18kg

421 1 4021 106 - 20kg

421 1 4021 116 - 21kg

Order No.	Groundplate for F4	Pack
0637 0 006-71	KVS-Groundplate for 3-bays	1 pc

Complete with cable seals. Weight: 1.3 kg

Order No.	Cable seals	Pack
320 025	Cable seal, double	1 pc
320 050	Cable seal, triple	1 pc



KVS F5 for 1200/2400 pairs (LSA-PLUS-Series 2)

Order No.	Cross Connection Cabinet F5	Pack
6818 1 001-12	KVS F5/1000A, mounted	1 pc
6818 1 001-07	KVS F5/1000A, kit	1 pc

Plastic cabinet made of glass fiber-reinforced polyester (SMC), for free standing outdoor distributor usage, withdrawable, with pivoted handle, 3-point locking mechanism, prepared for profile half cylinder. Cabinet incl. thermal insulation, document holder, door catch, frame for 1200 pairs and KVS ground plate with cable feed-in for 4 bays.
 Protection type: IP 54 according to IEC 529, EN 60529

KVS F5/1000 frame for 1200 pairs

LSA-PROFIL Frame with 4-bays, incl. cable support rail, made of stainless steel: A2 quality. Prepared for 33 modules each bay, (pitch 22.5 mm, depth 50 mm). Incl. earthing and cable support rail.

Dimensions: Outside: 785x1000x340 mm (BxHxT)
 Bore: 711 mm
 Clearance: 844 mm

Weight: 42 kg (incl. frame)



Order No.	Plinth for F5	Pack
421 1 5022 103	KVS Plinth, type A, size I, h=950mm	1 pc
421 1 5022 106	KVS Plinth, type A, size I, h=1250mm	1 pc
421 1 5022 116	KVS Plinth, type B, size I, h=1250mm	1 pc

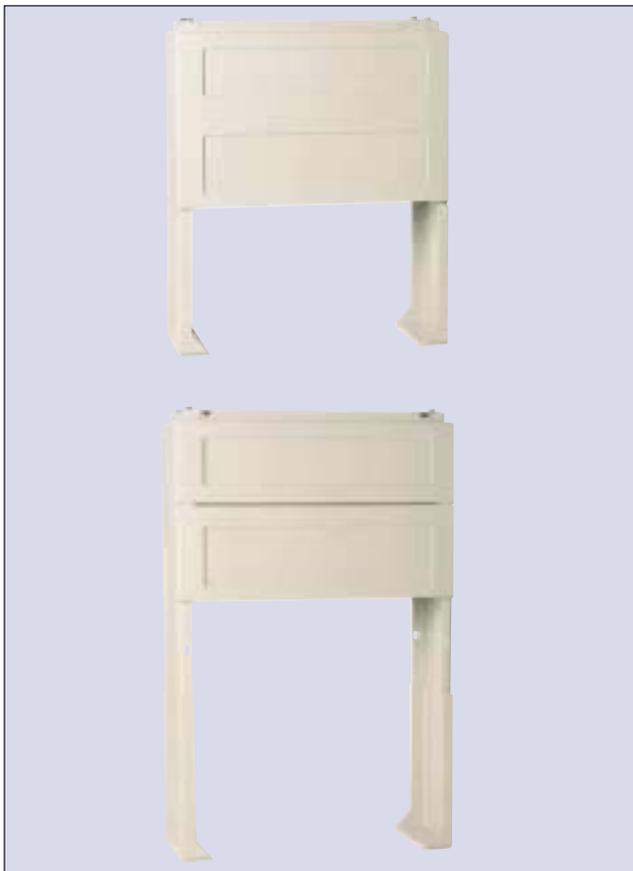
KVS Plinth made of SMC, variant 1, delivered as kit.
 Type A with 4 cover sheets (see picture).
 Type B like type A but with two additional cover sheets

Weights: 421 1 5022 103 - 21kg
 421 1 5022 106 - 24kg
 421 1 5022 116 - 25kg

Order No.	Groundplate for F5	Pack
0637 0 006-72	KVS Groundplate for 4 bays	1 pc

Complete with cable seals. Weight: 1.7 kg

Order No.	Cable seals	Pack
320 025	Cable seal, double	1 pc
320 050	Cable seal, triple	1 pc





KVS F6 for 1800/3600 pairs (LSA-PLUS-Series 2)

Order No.	Cross Connection cabinet F6	Pack
6818 1 006-06	KVS F6/1000A, mounted	1 pc
6818 1 006-05	KVS F6/1000A, kit	1 pc

Plastic cabinet made of glass fiber-reinforced polyester (SMC), for free-standing outdoor distributor usage, withdrawable, with pivoted handle, 3-point locking mechanism, prepared for profile half cylinder. Cabinet incl. thermal insulation, document holder, door catch, frame for 1800 pairs and KVS ground plate with cable feed in for 6 bays.

Protection type: IP 54 according to IEC 529, EN 60529

KVS F4/1000 Frame 1800 pairs

LSA-PROFIL Frame with 6-bays, incl. cable support rail, made of stainless steel: A2 quality. Prepared for 33 modules each bay, (pitch 22.5 mm, depth 50 mm). Incl. earthing and cable support rail.

Dimensions: Outside 1115x1000x340 mm (WxHxD)
Bore: 1040 mm
Clearance: 844 mm

Weight: 55 kg



Order No.	Plinth for F6	Pack
421 1 6024 103	KVS Plinth, type A, size II, H=950mm	1 pc
421 1 6024 106	KVS Plinth, type A, size II, H=1250mm	1 pc
421 1 6024 116	KVS Plinth, type B, size II, H=1250mm	1 pc

KVS-Plinth made of SMC, variant 1, delivered as kit.

Type A with 4 cover sheets (see picture).

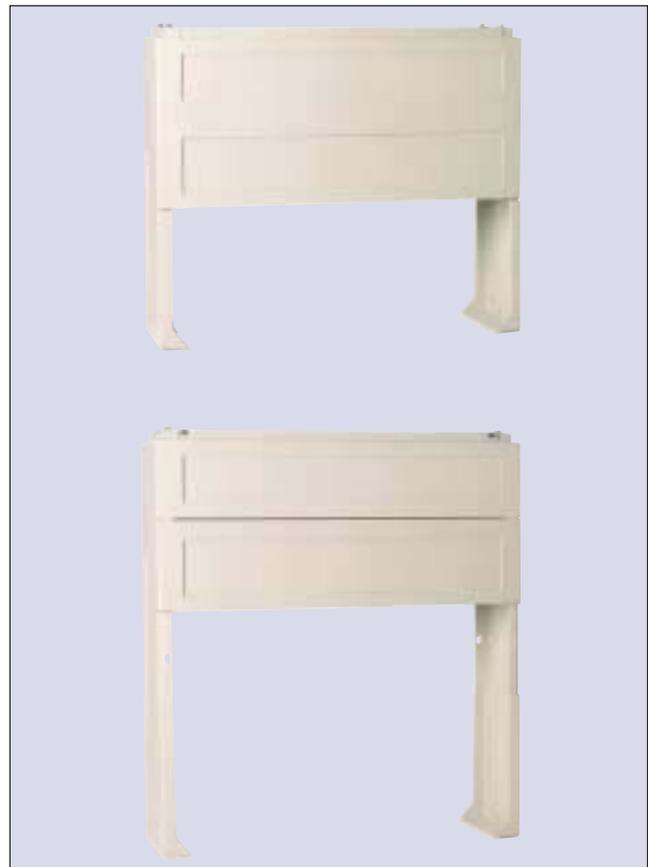
Type B like type A but with two additional cover sheets

Weights: 421 1 6024 103 - 24kg
421 1 6024 106 - 29kg
421 1 6024 116 - 31kg

Order No.	Ground plates for F6	Pack
0637 0 006-73	KVS Ground plate for 4 bays	1 pc

Complete with cable seals. Weight: 2.5 kg

Order No.	Cable seals	Pack
320 025	Cable seal, double	1 pc
320 050	Cable seal, triple	1 pc





Polyester Production



KRONE manufactures:

- Free-standing standard distribution cabinets
- Clamp cabinets
- Specially designed distribution cabinets
- Wall mount cabinets
- Insulator plates
- Support insulators made of glass fiber-reinforced Polyester

KRONE plans and designs:

- Counter and power distributors
- Switching units
- Control cabinets
- Connection boxes for houses
- Distribution cabinets for construction sites

KRONE offers:

- Quality and safety
- Technical mature solutions
- Specially designed products
- Quick and reliable processing

For more detailed information on energy technology products, please ask for the **Polyester Catalogue** from KRONE GesmbH - TRUMAU / AUSTRIA - Tel.: +43 2253 7521-0.



Unicab Vario

UniCab -Vario

UniCab® -Vario is a double-walled, weather-proof protective cabinet for the accommodation of electronic equipment outdoors guaranteeing reliable functionality. UniCab® -Vario protects the installed components against the effects of weather, electromagnetic disturbances and extreme temperatures.

Applications:

- Telecommunications: Collocation, xDSL, UMTS, cable television, DLC, RSLU
- Electronics Measurement and control
- Traffic control technology

Advantages / Benefits

- Maintenance-free surface made of proven, environmentally resistant plastic
- Double-walled cabinet
- EMC protection
- Passive or active cooling systems
- Flexible fixing arrangement for components meeting either the ETSI or the 19" standards
- Economical, due to the possibility of installation over existing housing and plinth
- Low weight compared to metal cabinets of the same size and function
- All materials recyclable
- The cabinet can be delivered completely assembled or as a kit.
- Replacement of external housing parts without interruption of service.

The Housing

consists of a metal inner shell with an outer plastic shell made of glass fiber-reinforced polycarbonate. This plastic has proved itself for over 20 years in the area of cross connection cabinets (CCC) for Deutsche Telekom and on the international market.

The outer dimensions satisfy the international guidelines EN 301169-2.

The roof

The plastic roof has a water-drip protection lip both front and back. It is possible to set up cabinets side-by-side. On the sides of the roof there are small areas for customer-specific identification. The exchange of air for climate control of the installed components is via slits.

The outer plastic shell

is fixed to the frame and can be installed or removed part by part (side panels, back wall, doors) without interruption of service.

- The outer surface of the doors and back wall are fluted vertically, this makes it difficult to put up illegal posters
- The doors have a 3-point locking mechanism and can be held open.
- Double or single locking mechanism with revolving handle for profile cylinders satisfying DIN 18252.
- Door contact sensors
- Hidden closing and locking elements make vandalism difficult.
- Removable front panel, locked from within, for access to lower part of the cabinet.

The inner structural frame made of aluminium profiles



- creates a closed metal inner shell on the mounting of metal shielding sheets, the base plates and shielding sheets placed in the inside of the door; this shell then serves to protect the installed equipment against environmental influences and electromagnetic disturbances (Faraday cage).
- is designed for installation of:
 - a frame for fixing sub-racks satisfying the ETSI standard (ETS 300 119-4) or the 19" standard.
 - cable connection and distribution equipment for both copper and fiber optic networks.
 - mounting plates, frames or rails for customer-specific solutions.

The base-plate

- protects the inner space against moisture rising up from the ground
- sealed feed-in of underground cables
- is part of the shield protection against EMC, together with the other metal sheeting of the inner shell
- divides the cabinet into a component accommodation area, above the baseplate, and for the installation of buffer batteries as well as cable and plinth fixing elements, below the baseplate.

On delivery, the base-plate is closed. It can be opened by the customer as required for the feed-in of cables. In series deliveries customer-specific requirements can be taken into consideration.

Environmental Module

Depending upon how much energy is generated by the installed equipment and the temperature difference to the outside, the inner space of the cabinet will become warmer. Without proper ventilation the temperature can exceed the permissible ambient temperature for the installed equipment.

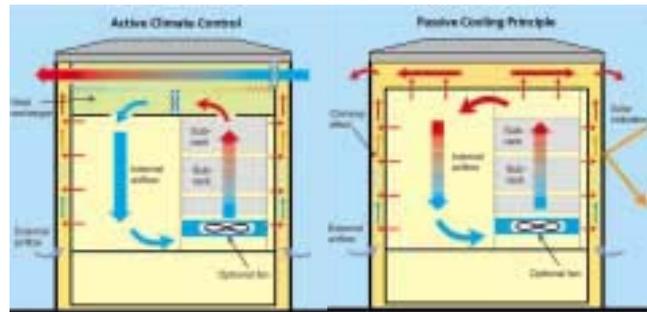
Unicab Vario

Passive Cooling

The energy given off by the active components warms up the inner metal shell. The cooler air from without circulating between the inner and outer shells (chimney effect) leads the heat out over the roof. To enhance the cooling effect and to avoid „hot spots“ it is recommended that fans be used to increase air circulation.

Active cooling

In addition, heat is dissipated by means of an air-to-air heat exchanger in the roof. This variant makes possible a higher heat dissipation. In both variants the inner space of the cabinet is protected from the environment so that neither dust nor splashing water can enter. (Protection class IP54 acc. to IEC 529)



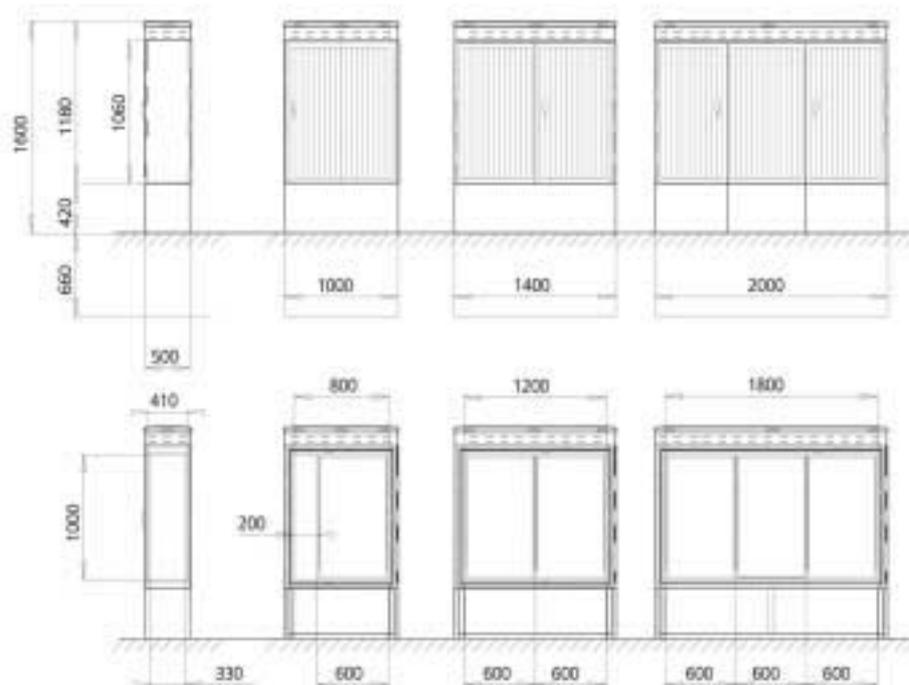
Plinth

For each cabinet size a corresponding plinth is available. The previous upper part of the plinth (Deutsche Telekom AG) has been integrated into the cabinet for both appearance and technical environmental reasons. The separation between the cabinet and the plinth is at about earth level. The plinth is made of steel. Support grids with large surface areas distribute the weight of the cabinet at the bottom of the excavation. The upper half is covered with plastic sheets. Cable routing elements are available for guiding the cables into the cabinet and ensuring that the minimum bend radius is kept. Cable conduit pipes can be connected over a connection. Predetermined break-point elements form the interface between the cabinet and the plinth. These reduce the effect of accidents since the plinth, which is in the ground, usually remains undamaged. As a result expensive excavation work after accidents is usually not necessary. Defective predetermined breakpoint elements can be easily replaced. For set-up of the UniCab-Vario on concrete slabs or roofs, a suitable steel carrier is available.



Unicab Vario

Dimensions:



Technical Data Empty Cabinet:

Dimensions	see dimensional figure
Application temperature range	-40 bis +50°C
Protection class of the inner shell	IP 54 acc. to IEC 529
Heat conductivity	
Passive (convection cooling)	10 W / K - 20W / K
Active (with air-to-air heat exchanger)	45 W / K or 75 W / K
EMC-version:	
Screen attenuation level	up to 1 GHz \geq 20 dB
(acc.to VG 95373 * Part 15.1	1 - 2,5 GHz \geq 10 dB
Measuring protocol KS 04 G) *	VG = German military spec.

Materials used:

Plastics:

Plastic cover (outer shell)	glass-fiber reinforced polycarbonate, painted grey, similar to RAL 7038
Plinth cover	the same as the outer shell but unpainted
Cable seals	Santoprene
Flammability class	UL94 V0

Metals:

Inner shell/	Aluminium
Mounting frame	chrome-plate
Other parts	stainless steel or steel galvanised and chrome plated

Recycling:

1 door	
2 doors	
3 doors	

Cabinet:

ca.115 kg
ca.150 kg
ca.185 kg

Plinth:

ca. 51 kg
ca. 60 kg
ca. 75 kg

Optional Accessories:

Mains power connection on 19" sub-rack.

Power supply 230 V/ AC, low-voltage power fuse 25A.
Distribution: max. 5 circuits over a fuse in acc. with DIN / VDE 0100.
2 sockets 230V/ AC

Frame for ETSI and 19" components,

consisting of 2 mounting rails ETSI / 19" with metric pitch in acc. with DIN 43356 and 19" pitch (ASA). Insertion height 38 SU / 21 U.
4 depth profiles with 12.5 mm pitch for fixing of the mounting rails at various depths in the cabinet. With fixing material.

Potential equalisation bar

Fan insert 19", 1 U

48V/DC, temperature-controlled, disturbance sensor contacts.
Max. air turnover 600 m³ / h

Air-to-air heat exchanger

for installation in the roof, 48V/DC, temperature-controlled. Specific thermal output: 45W / K or 75W/K. Higher thermal output on request.
Versions with additional heating on request.

Sensor

for signalling that a door is open or closed

Battery carrier, can be pulled out, for fixing of back-up batteries.