

# Medium voltage switchgears type D 12 - 507519 type D 24 - 601119

rated voltage 12 and 25 kV  
rated current 400 and 630 A



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ISO 9001  
BUREAU VERITAS  
Certification



## General

The metal-encapsulated, air-insulated medium voltage switchgears, Type D are for universal application:

They range from compact ring cable switchgears up to complex power distribution switchgears. Tailored to meet the needs of public utility networks and power supply companies in industry and municipal buildings.

These medium voltage switchgears meet the user's specific requirements in full and ensure a satisfactory power distribution.

The standard panel types are available in two different dimensional sizes:

1. **D 12** - 507519; BxDxH: 500 x 750 x 1900 mm,
2. **D 24** - 601119; BxDxH: 600 x 1100 x 1900 mm.

They are available as individual panels or as combined switchgear, where the customer can determine the equipment, panel sequence etc. The switch panels are type-tested in compliance with DIN VDE 0670, part 6.

## Operating conditions

The switch panels of Type D are installed in closed electrical operating areas, which are only to be entered by skilled personnel, and appropriately instructed persons. The equipment can be used at an altitude of up to 1000 m above sea level.

For installations above an altitude of 1000 m the rated insulating level of the switchgear must be corrected accordingly. The switch panels are designed for use under normal operating conditions in compliance with the standard DIN VDE 0670, part 1000 (IEC 60694).

## Technical standards

The design of the air-insulated switch panels corresponds to the specifications of the EN 62271-102 norm. The resistance to accidental arcs of the switch panels has been determined at 16 kA and 20

kA; 1 s, by and independent testing institute. The installed switchgear equipment is designed in compliance with DIN VDE 0670, Part 1000.

## Technical data

rated voltage	12 kV	25 kV
rated frequency	50 Hz	
rated lightning impulse withstand voltage	75 kV	125 kV
rated short-time withstand voltage	28 kV	50 kV
rated short-circuit duration	1 s	
rated current – panels with load disconnecter H 27	400 and 630 A	
rated short-time current – panels with load disconnecter H 27	20 kA	
rated peak current – panels with load disconnecter H 27	50 kA	
degree of protection	IP 3X	

## Description of the switch panels type D

### Design

The air-insulated medium voltage switch panels of type D with a panel width of 500 mm and 600 mm are metal-encapsulated.

The switch panel frame is made of a screwed, hot-galvanized composite structure. The front of the switch panels has a single-wing door of steel sheet with door hinge optionally on the right or left. At Type D 12 the door hinge is locally rearrange able. A window of compound glass is inserted in the door.

The cover in front of the bus bar compartment is either screwed on or designed as a door for the relay box positioned behind it. Each switch panel has a screwed on rear panel of galvanized sheet metal. Connecting cables are conducted into

the switch panels from below and are mounted on cross rails, which can be adjusted in two dimensions. The doors and covers of the switchgear are painted in structural paint (available in different colours according to the customer's request).

### Equipment

The switch panels of type D are available in the following versions:

- cable panel DK
- transformer feeder panel DT
- measuring panel DM
- bus sectionaliser panel DÜ
- bus sectionaliser / measuring panel DÜM
- riser panel DKH

All switch panels of type D 12 - 507519 are partitioned off from panel to panel, in the bus bar area, by means of fibrous-glass reinforced plastic plates with lead-in openings. All switch panels of type D 24 - 601119 will be partitioned off from panel to panel, on request.

Pressure relief can be in upward or downward direction.

Switch panels equipped with load disconnectors can optionally be fitted with an earthing switch and a set of voltage measuring transformers as well.

The optional interlocking of the equipment practically rules out any form of incorrect operation. All built-in switchgear equipment can be operated

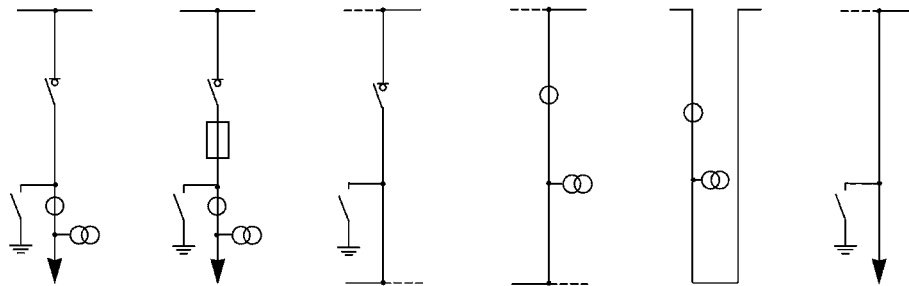
manually or via motor-operated mechanisms when the panel door is closed.

Earthing switches or spherical fixed points are available for earthing and short-circuiting. An insulating protective plate can be inserted when the panel door is closed. It is possible to install appropriate surge voltage protectors in the panel, if required.

The product program is completed by special measuring panels, which are fitted with current and voltage measuring transformers.

All switch panels are designed with central locking and double-bit key. There are additional locking features available in the form of profile cylinders or padlocks, if required.

## Air-insulated medium voltage switch panels type D 12 - 507519 and type D 24 - 601119



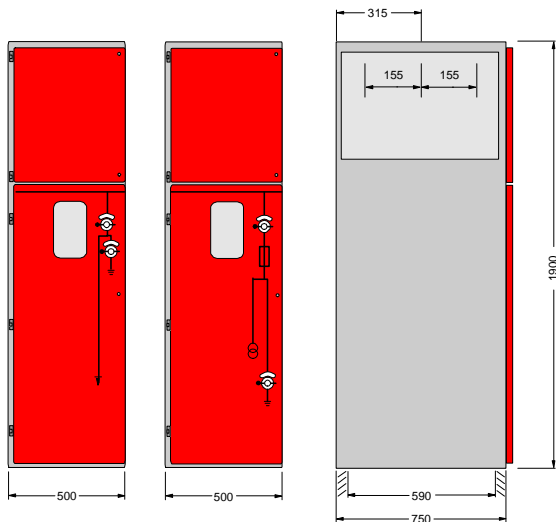
Switch panel type D 12 - 507519	DK Cable panel	DT Transformer feeder panel	DÜ Bus sectionaliser panel	DM Measuring panel	DÜM Bus section. / Measuring panel	DKH Riser panel
Load disconnector	H 27 EK	H 27 SEA	H 27 EK	-	-	-
Earthing switch	•	•	•	-	-	•
Current measuring transformer	•	•*	-	•	•	-
Voltage measuring transformer	•	•*	-	•	•	-
Switch panels type D 24 - 601119	DK	DT	DÜ	DM	DÜM	DKH
Load disconnector	H 27 EK	H 27 SuT	H 27 EK	-	-	-
Earthing switch	•	•	•	-	-	•
Current measuring transformer	•*	-	-	•	•	-
Voltage measuring transformer	•*	-	-	•	•	-

- Optional
- Not possible
- \* Only possible with current **or** voltage measuring transformer

## Benefits

- **Flexible**, based on the combination possibility with panel type D 24
- **Safe and reliable** through the high quality of our products
- **Economical** based on continuous further development
- **Compact dimensions**
- **Easy handling**
- **Minimum amount of maintenance**
- **Minimized amount of plastics**

# Medium voltage switch panels type D 12 - 507519



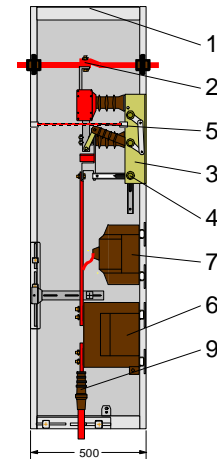
## D 12 switch panel

- Rated voltage 12 kV
- Rated (operating) current 630 A
- Rated insulation level 75 kV / 28 kV
- Resistance to accidental arc 20 kA; 1 s

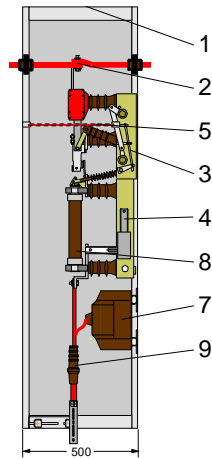
### Position:

- 1 Pressure relief plate
- 2 Bus terminal
- 3 Load disconnecter H 27
- 4 Earthing switch
- 5 Withdraw able plate\*
- 6 Current measuring transformer
- 7 Voltage measuring transformer
- 8 HV-HBC fuse
- 9 Cable terminal

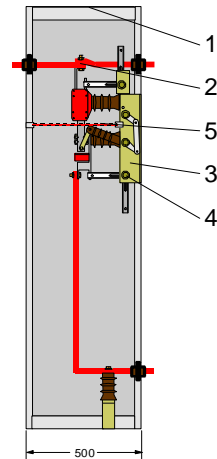
\* The FRP withdraw able plate can be inserted when the switchgear unit is switched off.



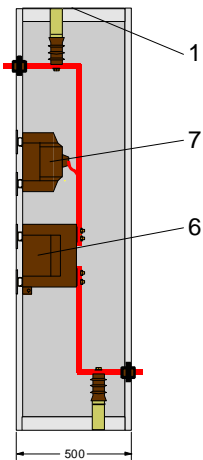
D 12 Cable panel with load disconnecter H 27 EK



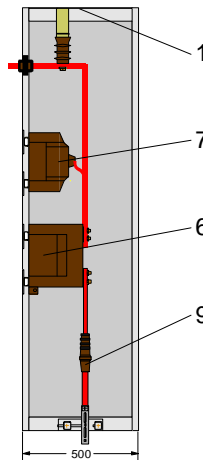
D 12 Transformer Feeder panel with load disconnecter H 27 SEA



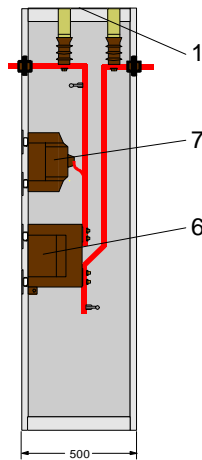
D 12 Bus sectionaliser panel with load disconnecter H 27 EK\*



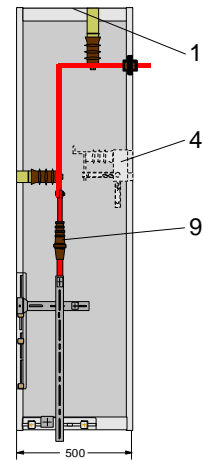
D 12 Measuring panel with current and voltage measuring transformer



D 12 Cable / measuring panel



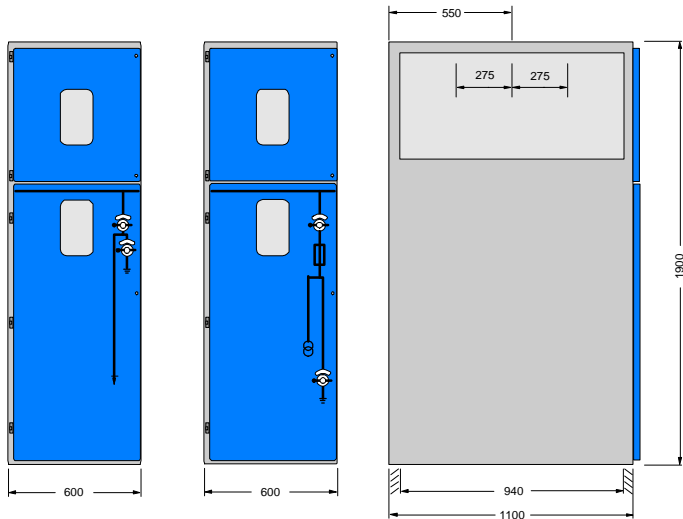
D 12 Bus sectionaliser / measuring panel in longitudinal rails



D 12 Riser panel with earthing switch optional

\* Earthing switch on top is only possible at the end panel on the right side.

## Medium voltage switch panels type D 24 - 601119



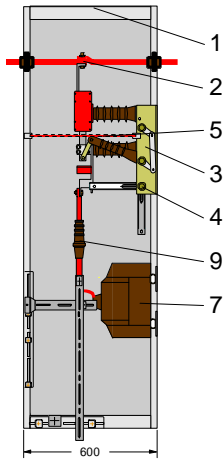
### D 24 switch panel

- Rated voltage 25 kV
- Rated (operating) current 400 or 630 A
- Rated insulation level 125 kV / 50 kV
- Resistance to accidental arc 16 kA / 20 kA; 1 s

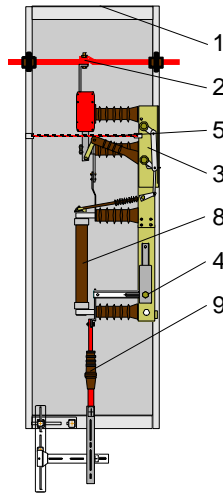
### Position:

- 1 Pressure relief plate
- 2 Bus terminal
- 3 Load disconnecter H 27
- 4 Earthing switch
- 5 Withdraw able plate\*
- 6 Current measuring transformer
- 7 Voltage measuring transformer
- 8 HV-HBC fuse
- 9 Cable terminal

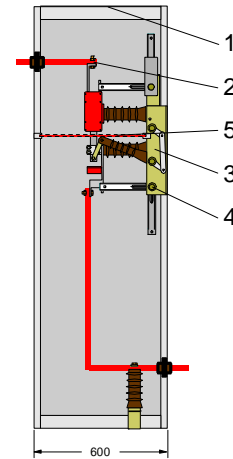
\* The FRP withdraw able plate can be inserted when the switchgear unit is switched off.



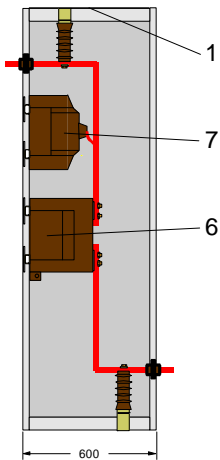
D 24 Cable panel with load disconnecter H 27 EK



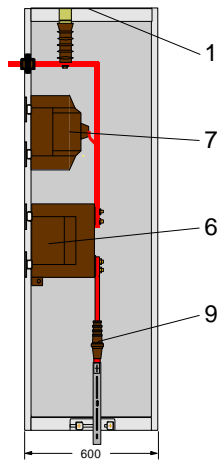
D 24 Transformer Feeder panel with load disconnecter H 27 SuT



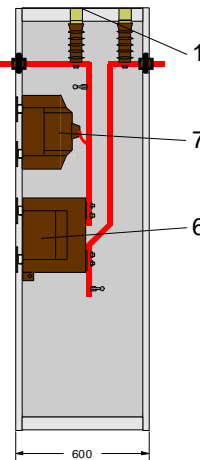
D 24 Bus sectionaliser panel with load disconnecter H 27 EK\*



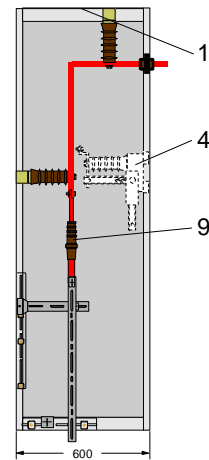
D 24 Measuring panel with current and voltage measuring transformer



D 24 Cable / measuring panel



D 24 Bus sectionaliser / measuring panel in longitudinal rails



D 24 Riser panel with earthing switch optional

\* Earthing switch on top is only possible at the end panel on the right side.

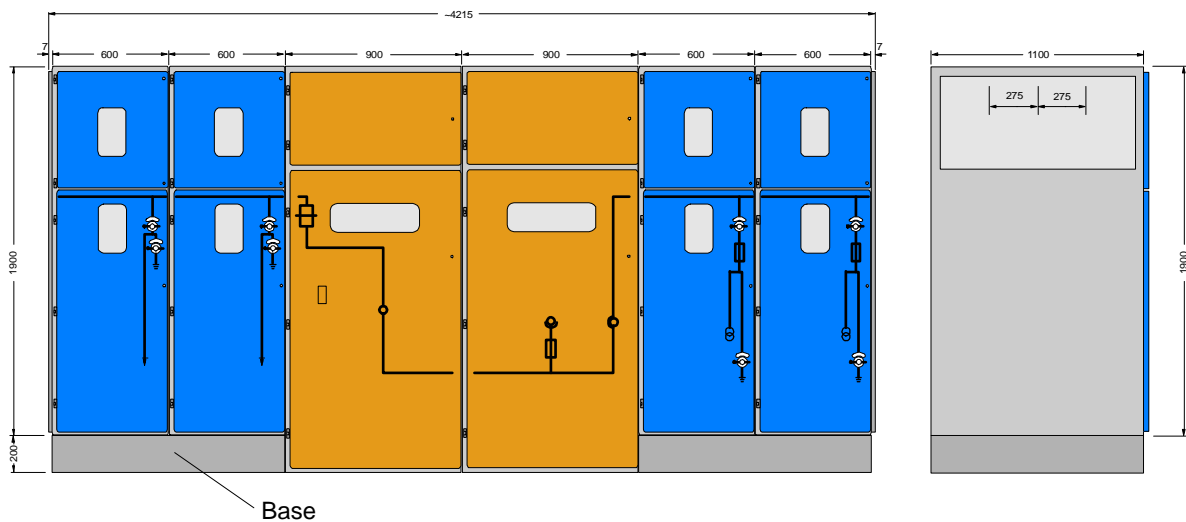
## Available auxiliary equipment

- Cable panel with surge voltage protector
- Cable panel with measuring loop
- Installation of test sockets for capacitive voltage tapping
- Bus bar segregation from panel to panel
- Cable panel with load disconnecter 630 A
- Transformer panel with load disconnecter 630 A
- Additional locking features with profile cylinder and lockable operating mechanisms
- Base (200 mm or 320 mm height)
- Attachment of a fuse box
- Installation of various short-circuit display systems
- Delivery is possible with voltage display and transformer system DEHNcap / AWS for measuring phase-to-earth and phase-to-phase voltages for control and protection

## Required plant accessories

- 1 manual operating lever
- 1 door key with double-bit DIN 43668, size 5
- 1 FRP withdraw able plate, red, type 1165, VDE 0681, part 8

## Combination D 24 - 601119 and W 24 - 901121



## Weights

Type	Designation	Weight approx. kg
DK 12 kV / 25 kV	cable panel	175 / 200
DT 12 kV / 25 kV	transformer feeder panel	180 / 210
DÜ 12 kV / 25 kV	bus sectionaliser panel	180 / 200
DM 12 kV / 25 kV	measuring panel (longitudinal rails)	200 / 250
DM 12 kV / 25 kV	measuring panel (cable bridge)	200 / 250
DH 12 kV / 25 kV	riser panel	120 / 150