

DRIESCHER - Air-Insulated Medium-Voltage Switchgears

- Type D 12 - 507519
- Rated voltage 12 kV
- Rated current 630 A
- Type D 24 - 601119
- Rated voltage 24 kV
- Rated current 630 A



D 24

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DRIESCHER - Medium-Voltage Switchgears Type D

in compliance with EN 62271-200

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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; B x T x H: 500 x 750 x 1900 mm**
2. **D 24 - 601119; B x T x H: 600 x 1100 x 1900 mm**

They are available as individual panels or as a combined switchgear, where the equipment, panel sequence etc. can be determined by the customer.

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 EN 62271-1.

Technical Standards

The design of the air-insulated switch panels corresponds to the specifications of the EN 62271-200. 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 EN 62271-1.

The degree of protection of the switch panels corresponds to IP 3X.

Technical data on the installed switchgear equipment are available for

- Switch-disconnector H 27 *see list 727*
- Earthing switch *see list 731*

Technical Data

Rated voltage	U _r 12 / 24 kV	Rated short-circuit duration	t _k 1 s
Rated lightning impulse withstand voltage	U _p 75 / 125 kV	Rated frequency	f _r 50 Hz
Rated short-time withstand voltage	U _d 28 / 50 kV		

Technical data for the installed switchgear equipment	Rated (operating) current I _r	Rated short-time current I _k	Rated peak current I _p
Panels with switch-disconnector H27	630 A	16 / 20 kA	40 / 50 kA

Description of the Switch Panels Type D

General

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

Design of the switch panels

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 rearrangeable. 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.

Encapsulation and Compartmentalisation

The side walls of the metal-encapsulated switch panels are made of 2 mm galvanised sheet steel. The switch panels are rear secured by using a galvanised sheet steel. The bottom can also be covered.

All switch panels of the type D 12 - 507519 are in the busbar area compartmentalised with glass-fibre-reinforced plastic sheets with bushings, from panel to panel compartmented.

All switch panels of the type D 24 - 601119 can be compartmented from panel to panel on demand.

When the switch disconnecter is OFF, an insulating protective barrier can be inserted as insulating cover of active parts. The insulating protective barrier can be inserted by panel door closed. The panel door can be opened by inserted insulating protective barrier.

Equipment

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

- Cable panel Type DK
- Transformer feeder panel Type DT
- Measuring panel Type DM
- Bus sectionalizer panel Type DÜ
- Bus sectionalizer/Measuring panel Type DÜM
- Riser panel Type DH

With pressure relief in upward direction, arc barriers of 250 mm in height are mounted across the front and the side walls. Connecting cables are fed in from the bottom into the switch panels and are fastened to cross bars which are adjustable in two dimensions

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 barrier 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 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.

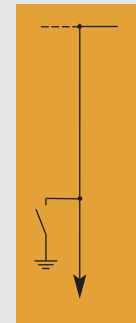
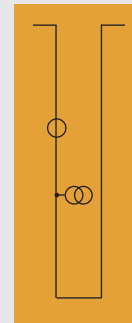
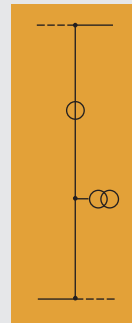
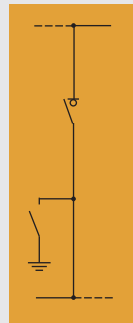
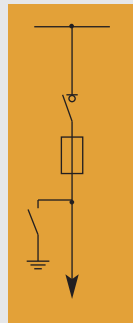
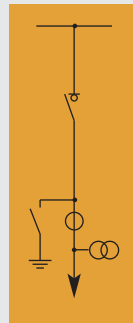
The doors and covers of the switchgear are painted in structural paint (available in different colours according to the customer's request).





















Air-Insulated Medium-Voltage Switch Panels Type D 12 - 507519 and Type D 24 - 601119

 optional

■ not possible

* only possible with current or voltage transformer



Switch Panels Type D 12 - 507519	(DK) Cable panel Fig. 2,10	(DT) Transformer feeder panel Fig. 3,11	(DÜ) Bus sectionalizer panel Fig. 4,12	(DM) Measuring panel Fig. 5,6,13,14	(DÜM) B. sectional- izer / Measuring panel Fig. 7,15	(DKH) Riser panel Fig. 8,16
Switch-disconnector	H 27 EK	H 27 SEA	H 27 EK	■	■	■
Earthing switch				■	■	
Current transformer		■	■			■
Voltage transformer		■	■			■
Switch Panels Type D 24 - 601119						
Switch-disconnector	H 27 EK	H 27 SuT	H 27 EK	■	■	■
Earthing switch				■	■	
Current transformer	 *	■	■			■
Voltage transformer	 *	■	■			■

Benefits

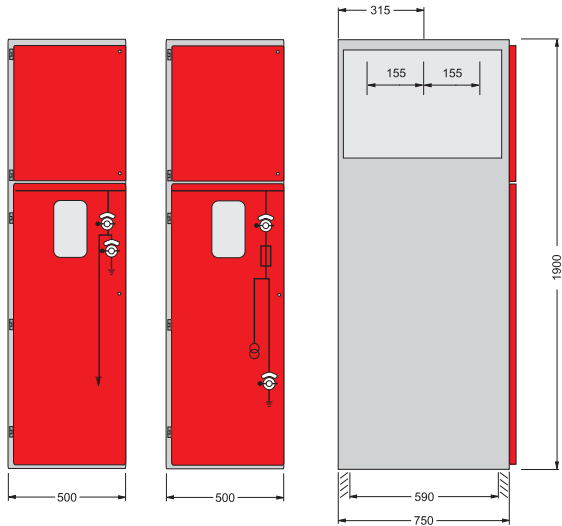
- **Flexible**, based on the combination possibility with panel type D 24
- **Safe and reliable** through the high quality of our products
- **Economical** based on continuous further development
- **Compact dimensions**
- **Easy handling**
- **Minimum amount of maintenance**
- **Minimized amount of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

Medium-Voltage Switch Panels Type D

- ① Pressure relief plate
- ② Bus terminal
- ③ Switch-disconnector H 27
- ④ Earthing switch
- ⑤ Insulating protective barrier*
- ⑥ Current transformer
- ⑦ Voltage transformer
- ⑧ HV-HBC fuse
- ⑨ Cable terminal

* The insulating protective barrier can be inserted when the switchgear unit is switched off

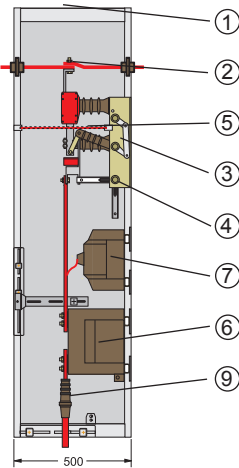
Medium-Voltage Switch Panels Type D 12 - 507519



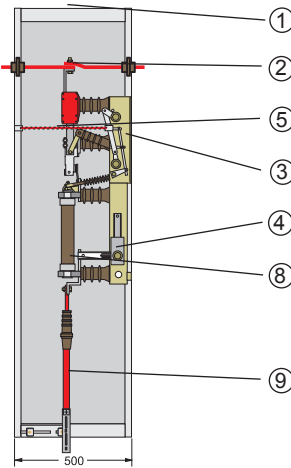
12 kV Switch panel in compliance with drawing HA3-094658

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

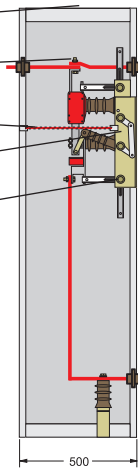
*Fig. 1:
D 12 Cable and transformer feeder panel
in front and side view*



*Fig. 2:
D 12 Cable panel with
switch-disconnector H 27 EK*

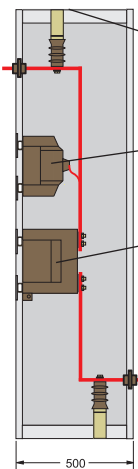


*Fig. 3:
D 12 Transformer Feeder panel with
switch-fuse combination H 27 SEA*

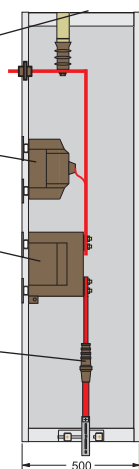


*Fig. 4:
D 12 Bus sectionalizer panel with
switch-disconnector H 27 EK*

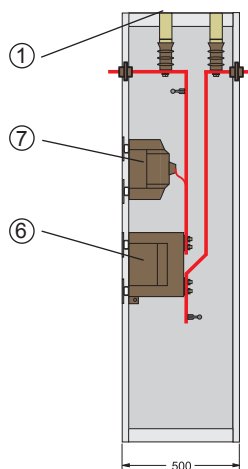
Earthing switch on top is only possible at an end panel on the right side



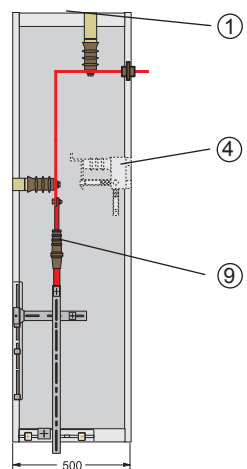
*Fig. 5:
D 12 Measuring panel with
current and voltage transformer*



*Fig. 6:
D 12 Cable/Measuring
panel*



*Fig. 7:
D 12 Bus sectionalizer/ Measuring
panel in longitudinal rails*



*Fig. 8:
D 12 Riser panel with
earthing switch optional*

Medium-Voltage Switch Panels Type D 24 - 601119



24 kV Switch panel in compliance with drawing HA3-67050

- Rated voltage 24 kV
- Rated (operating) current 630 A
- Rated insulation level 125 kV / 50 kV
- Resistance to accidental arc 16/20 kA; 1 s

Fig. 9:
D 24 Cable and Transformer feeder panel
in front and side view

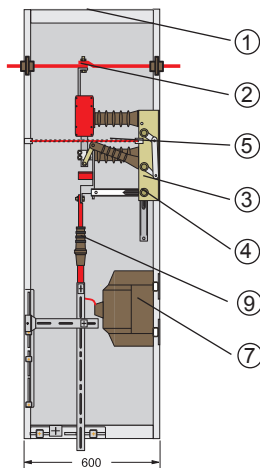


Fig. 10:
D 24 Cable panel with
switch-disconnector H 27 EK

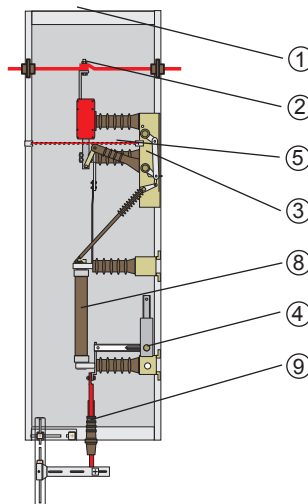


Fig. 11:
D 24 Transformer Feeder panel with
switch-fuse combination H 27 SuT

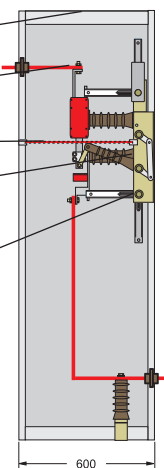


Fig. 12:
D 24 Bus sectionalizer panel with
switch-disconnector H 27 EK

Earthing switch on top is only possible at an end panel on the right side

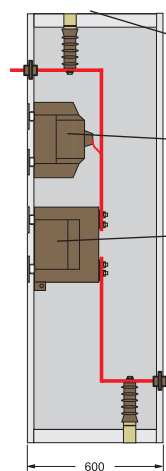


Fig. 13:
D 24 Measuring panel with
current and voltage transformer

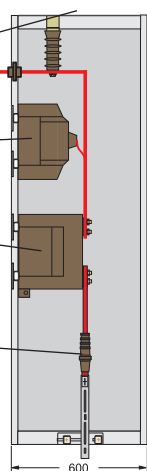


Fig. 14:
D 24 Cable/Measuring
panel

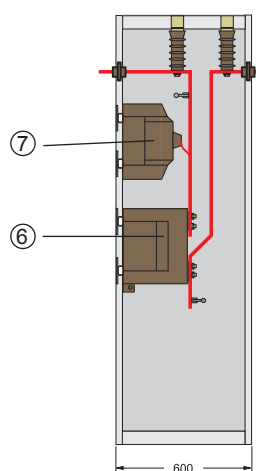


Fig. 15:
D 24 Bus sectionalizer/
Measuring panel in longitudinal rails

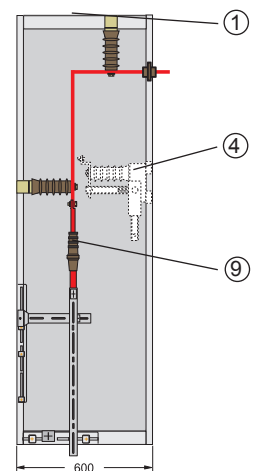


Fig. 16:
D 24 Riser panel with
earthing switch optional

DRIESCHER - Medium-Voltage Switchgears Type D

Available auxiliary equipment

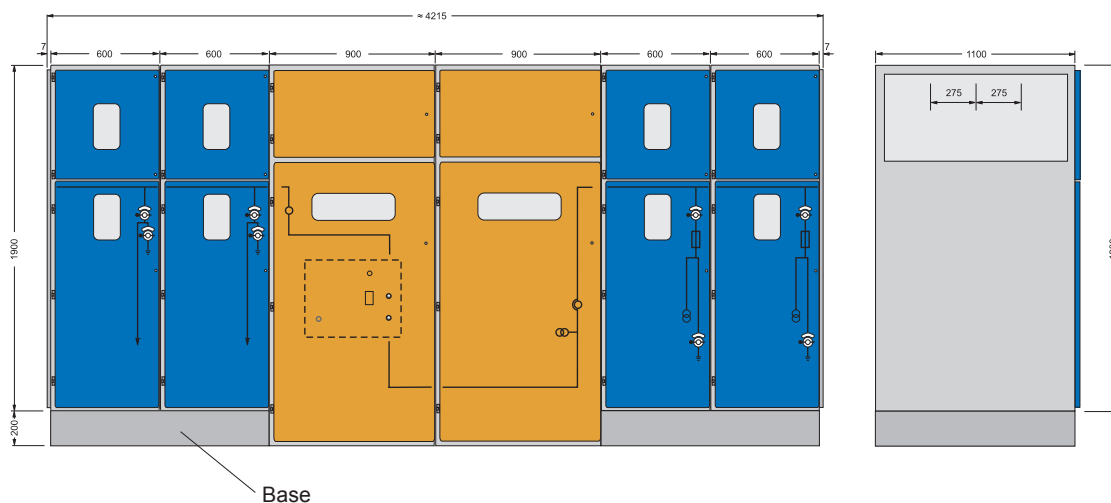
Designation	Zeichnungs-Nr. 12 kV	Zeichnungs-Nr. 24 kV
• Cable panel with surge voltage protector	-	HA 2 - 67020
• Cable panel with measuring loop	-	HA 2 - 67009
• Installation of test sockets for capacitive voltage tapping	-	HA 2 - 67004
• Busbar segregation from panel to panel	-	HA 4 - 66997
• Attachment of a fuse box	-	HA 4 - 67061
• Cable panel with switch-disconnector 630 A / 20 kA	HA 3 - 094658	HA 1 - 68722
• Transformer panel with switch-disconnector 630 A / 20 kA	HA 3 - 094659	HA 1 - 67064
• Additional locking features with profile cylinder and lockable operating mechanisms	-	HA 2 - 44652
• Base (200 mm or 320 mm high)	-	HA 2 - 63903
• 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

Designation

- 1 manual operating lever
- 1 door key with double-bit DIN 43668, size 5
- 1 insulating protective barrier, red, Type 1165, VDE 0682, Part 552
- For additional station accessories please refer to List 773

Kombination D 24 - 601119 and W 24 - 901121



Weights

Type	Designation	Weight approx. kg	Drawing-no.
DK 12 kV / 24 kV	Cable panel	175 / 200	HA3 - 094658 / HA3 - 67050
DT 12 kV / 24 kV	Transformer feeder panel	180 / 210	HA3 - 094659 / HA3 - 67050
DÜ 12 kV / 24 kV	Bus sectionalizer panel	180 / 200	- / HA3 - 67050
DM 12 kV / 24 kV	Measuring panel (longitudinal rails)	200 / 250	- / HA3 - 67050
DM 12 kV / 24 kV	Measuring panel (cable bridge)	200 / 250	- / HA3 - 67050
DH 12 kV / 24 kV	Riser panel	120 / 150	- / HA3 - 67050

For assembly, commissioning and maintenance always proceed as specified in the appropriate instructions.

Our range of products includes:

Medium-voltage systems

- Single-bus and duplicate-bus switchgear
- Non-withdrawable, withdrawable and truck-type units
- Compact switchgear assemblies
- Customer-specific models
- Industrial systems

Medium-voltage switches

- Indoor switches, disconnectors, and earthing switches (single and triple pole)
- Indoor circuit breakers (low oil content and vacuum)
- Outdoor switches (low oil content and vacuum)
- Railway switches for power supply and catenary
- High-voltage high-breaking-capacity fuses
- Customer-specific models

Low-voltage systems

- Open-framework design
- Enclosed break devices (up to 6.300 A)
- Cable and fixed-station distribution cabinets

Low-voltage switchgear

- Switch disconnectors
- Switch and fuse blocks
- Low-voltage high-breaking-capacity fuses

Compact sub-station

- Concrete construction
- Container construction

Driving gear

- Hand-operated and motor-operated mechanisms
- Indoor and outdoor driving gear

Accessories

- For medium and low voltages
- For station equipment
- Insulators (0.5 kV - 38.5 kV)
- Plastic and glass-reinforced plastic screening

Service

- Maintenance and Service of all switches and switchgears
- Training courses and seminars
- Thermography; Live-line working

Dimensions, weights , diagrams and descriptions in the list are non-binding. Subject to change without notice.

switching • electricity • safely

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