ORMAZABAL
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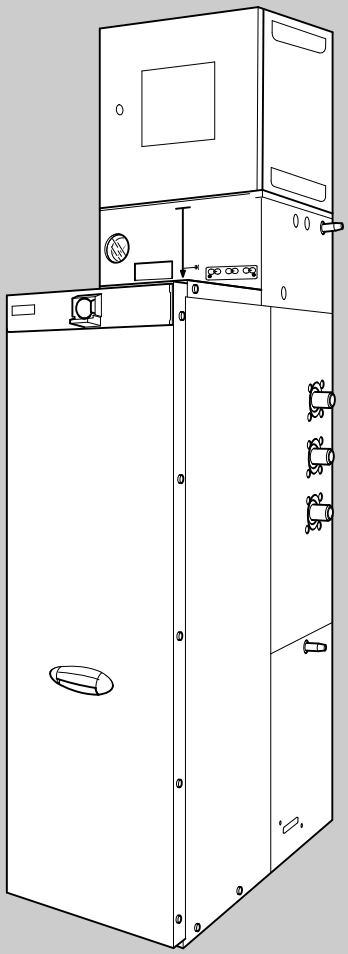
SF_6-insulated, extensible cable connection panel

Type GAE630 -1A1-/4/ for accessible switchgear rooms for rated voltages of up to 24 kV

OPERATING INSTRUCTIONS



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These operating instructions must only be used as a supplement to the operating instructions „SF_6-insulated, extensible ring cable panel, Type GAE630 -1K-/3/“ (No. 12244745). All notes and safety relevant instructions listed in these operating instructions must also be observed during installation, assembly, operation and maintenance of the cable connection panel GAE630 -1A1-/4/!

The outer and inner construction of the cable connection panel GAE630 -1A1-/4/ complies with the ring cable panel. The job specification for the cable connection panel does not require any circuitry. Therefore the panel is equipped without switching drive. Separation of the internal busbar is accomplished by switching of the adjacent panel.

As a measure against the removal of the front cover during operation the fastener on the front cover can be secured by means of the padlocking facility. An optional lead-sealing is possible.

Risk of electric shock!
The front cover is not equipped with any further interlocks.

Planning of installation – floor fastening measurements

Table 1 and Fig. 1 show the floor fastening and floor opening measurements for a pressure relief into the cable trench / raised floor.

Cable connection compartment	A [mm]	B [mm]	C [mm]
Standard	634	416	530
Deep	694	476	590

Table 1

*** Note!**

Is ensured that no LSF-panel and no metering panel are installed in the line, you may install the switchgear with its base having a minimum distance to the wall of 100 mm.

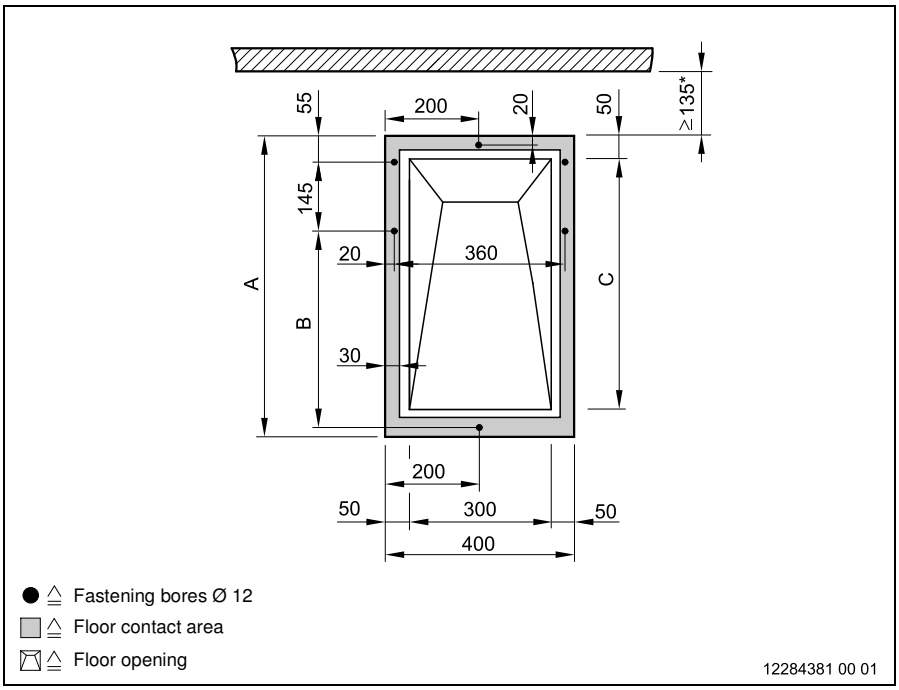

Fig. 1 (Measurements in mm)

Table 2 and Fig. 2 show the floor fastening and floor opening measurements for a pressure relief via the rear pressure absorber channel.

Cable connection compartment	A [mm]	B [mm]	C [mm]	D [mm]
Standard	1119	416	465	164
Deep	1179	476	525	224

Table 2

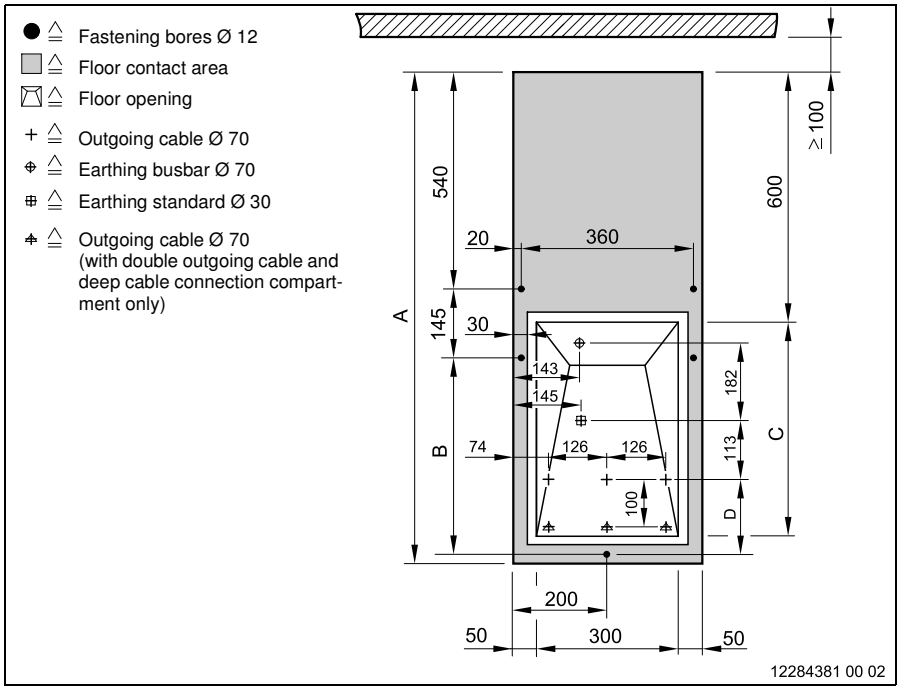

Fig. 2 (Measurements in mm)

Planning of installation – dimensions

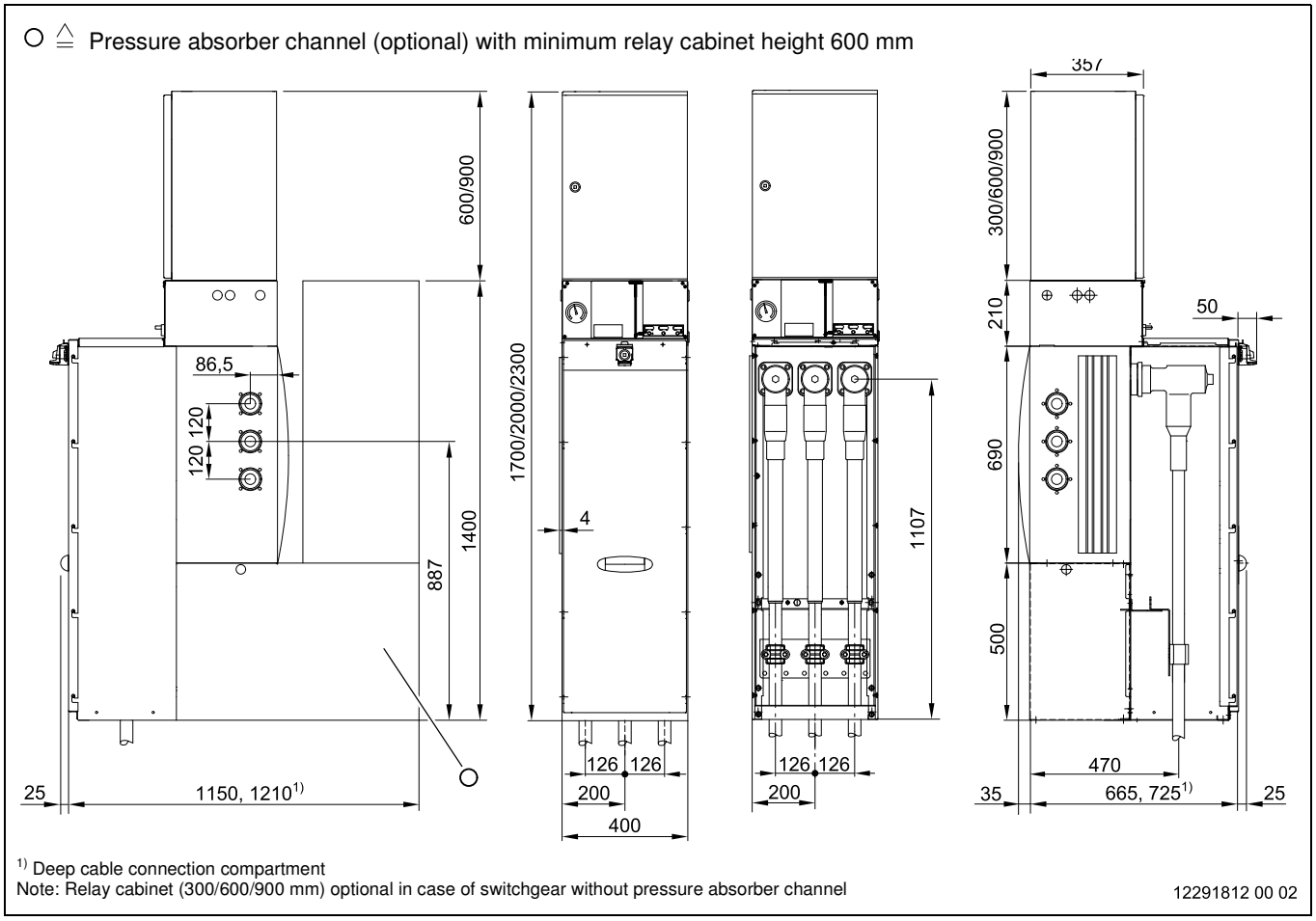

Fig. 3 Cable connection panel GAE630 -1A1-/4/ (all dimensions are nominal dimensions [mm])

Planning of installation – installation possibilities

Attention!

During installation make sure not to damage the bursting plate in the bottom of the gas tank.

This diaphragm opens in case of an internal arc fault. The gases emerging must be discharged as shown in Fig. 4.

The cable trench must have a defined minimum cross-section. For the optional pressure relief of the cable trench the following rule of thumb must be applied:

- up to 3 panels:
  1 metal cooling stretch arrangement (400 x 600 mm)
- from 4 panels:
  1 second metal cooling stretch arrangement of the same size.

The metal cooling stretch arrangement must be arranged on site in a way that the cable trench is evenly divided.

In order to enhance the stability the switchgear can be fastened with two steel angles (not included in the scope of delivery) to the rear wall of the station. For this purpose use the screws from the transport device.

Please ask for our assistance in the planning and installation of the station.

The construction of the building and the switchgear room must withstand the expected mechanical loads and the internal pressure caused by a short-circuit arc. Appropriate calculations for these purposes are recommended. Switchgear related pressure calculations can be requested as part of the services provided by the sales department at Ormazabal GmbH.

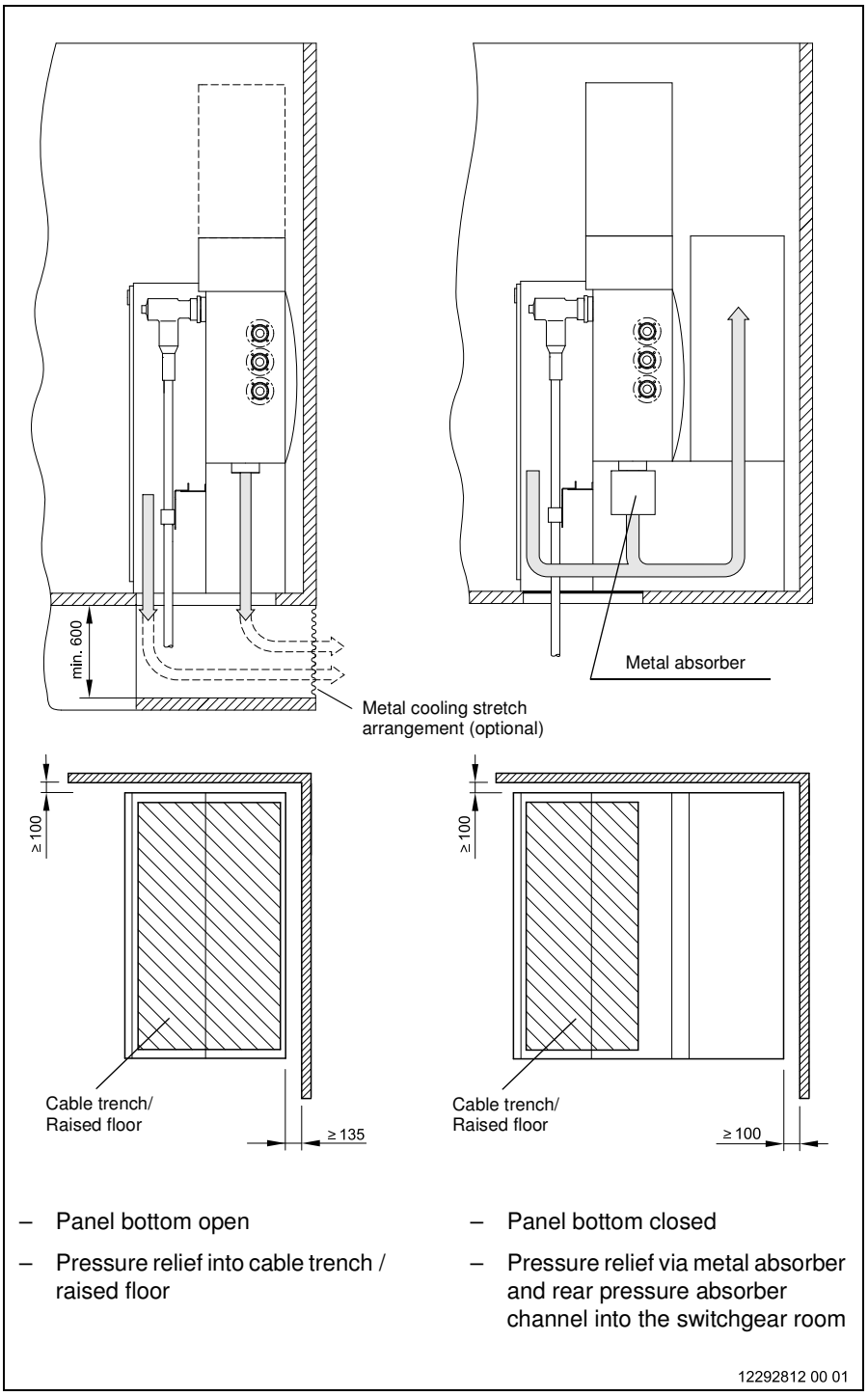

Fig. 4

Connection of the power cables

Please proceed as follows to connect the power cables:

– Remove the front cover (see chapter 5, "Operation" of the operating instructions „SF_6-insulated, extensible ring cable panel type GAE630 -1K-/3/“, order no. 12244745).

– Dismantle the Z profile.

– Only on variants with bottom plates: Remove the front bottom plate and the rubber cable grommets. Push the rubber cable grommets onto the power cables to be connected.

– Route the power cables through the floor opening, cut to length, put in place and mount the male cable connector or cable adapter by following the instructions of the respective manufacturer.

– Only on variants with bottom plates: Insert the power cables with the rubber cable grommets into the cutouts in the rear bottom plate.

– Connect power cables to the panel.

– Fix power cables to the cable fixing iron using the cable clamps so they are free of strain.

– Connect the earthing cables to the earthing terminals of the cable fixing iron.

– Only on variants with bottom plates: Re-fit the front bottom plate. During this process ensure the rubber cable grommet is correctly inserted between the bottom plates.

– Re-fit Z profile.

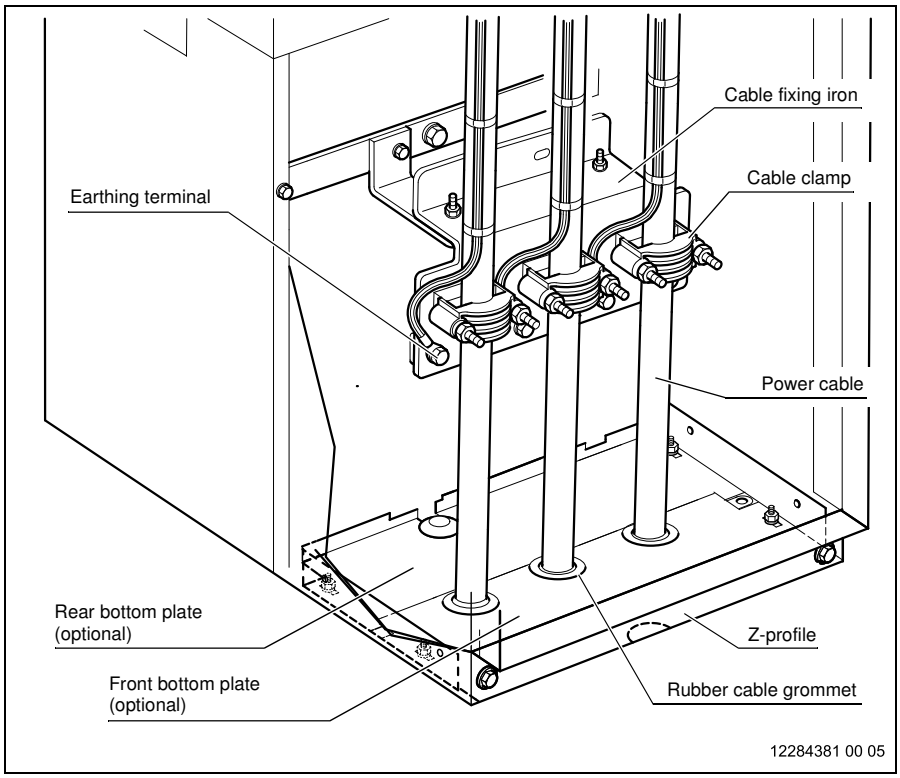

Fig. 5

Technical data GAE630 -1A1-/4/

General data

Rated filling pressure of the insulating gas at 20 °C and 101,3 kPa		130 kPa (30 kPa overpressure)
Insulating gas		SF_6
SF_6-filling weight at 20 °C and 101,3 kPa		0.7 kg
Rated density of the insulating gas		7.9 kg/m^3
Ambient temperature	without secondary equipment	−25 to +40 °C (−40 to +40 °C on request)
	with secondary equipment[1)]	−5 to +40 °C (−25 to +40 °C on request)
	with reduced rated currents	above +40 °C
Relative humidity		maximum 95% (indoor conditions)
Enclosure of HV compartment		sealed pressure system acc. to IEC, IP65/IP4X
Enclosure of the drive housing		IP44
Enclosure of connection compartment		IP44
Internal arc classification according to VDE 0671 part 200 or IEC 62271-200		IAC AFL 20 kA 1 s for HV compartment and connection compartment
Coloration of equipment		RAL 7035 (light grey)
Loss of service continuity category		LSC 2A
Partition class		PM
Weight		approx. 140 kg (approx. 230 kg with pressure absorber channel)

Table 3

1) dependent on the secondary technology used

Rated values

Rated frequency	f_r	50/60 Hz
Rated voltage	U_r	12/24 kV
Rated normal current busbar	I_r	630 A
Rated normal current cable connection	I_r	630 A
Rated short-duration power-frequency withstand voltage 1 min	U_d	50 kV
Rated lightning impulse withstand voltage	U_w	125 kV
Rated peak withstand current	I_p	50 kA
Rated short-time withstand current 1 s (optional 3 s)	I_K	20 kA

Table 4

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