Instructions for the installation and assembly of the exterior switch cabinet for EPP

Item no. 107773

It is essential that you observe the points described in these instructions. Failure to do so will invalidate all warranty claims. For all additional items ordered from GRAF, separate installation instructions will be provided in the transport packaging.

It is essential that you check the components for possible damage before installation.

You will receive separate instructions for assembling the system.

Contents

1. Scope of supply and accessories

1.1 Scope of supply

The exterior switch cabinet for EPP consists of a base section and cover plate with:

- Lock mechanism, double-bit key
- Pre-assembled DN 100 edge seal
- Double power socket
- 2 M8 carriage bolts to assemble the EPP cabinet
- M20 x 1.5 cable gland for power supply

1.2 Essential accessories

The following are required for assembly of the Klaro EPP switch cabinet:

- 1x 45° DN 100 bend
- Air hoses of length 520 mm, 3x13 mm and 1x19 mm
- DN 100 empty pipe seal to provide a gas-tight seal for the technical pipe

For easy assembly, a convenient connection kit can be obtained from Otto Graf GmbH, order no. 107651. This consists of:

- 45° DN 100 bend
- DN 100 pipe with socket, l = 250 mm
- 4 colour-coded air hoses (3x13mm, 1x19mm), length 520 mm
- DN 100 empty pipe seal
- Tube of lubricant

1.3 Additional options

An LED alarm light, order no. 107231, is available as an option for connection to the KL24base, KL24plus or easyOne control unit.

A cooling fan is recommended for use in warm locations.

Order no. 107858 for Klaro Easy with KL24plus control unit

Order no. 107850 for easyOne and Klaro Easy with KL24base control unit

2. Selecting the location

When selecting the location for the switch cabinet, the following must be taken into account:

- The location must be protected from direct sunlight during the summer months.
- The rear side of the cabinet must be installed with at least 10 cm clearance from the nearest wall.
- The system generates noise! The air compressor located in the system generates a longer continuous noise (comparable to a freezer or an oil heating fan).
- The air hoses must be no longer than 20 metres.
- The switch cabinet must not be installed in groundwater. This also applies to groundwater or backwater that occurs only occasionally.
- There must be a permanent power supply to the cabinet. Ensure that the cabinet is adequately fused (16 A) and the power supply is **fitted with isolator switch for repair & maintenance.** Additional electrical components & consumers should not be using the same fuse as they could cause power failure and interfere with the cabinet operation.

The service duct/technical pipe is connected to the front of the switch cabinet. Additional service duct connections are provided on the other sides of the cabinet in which a further opening can be made on site.

3. Installing the exterior cabinet in the ground

Excavate a hole of sufficient size must be dug to contain the cabinet (installation depth 50 cm). The switch cabinet is placed in this excavation. Only coarse excavated soil that is free from stones may be used as filler. If the excavated material is unsuitable, round gravel should be used as filler (max. grain 8/16mm). Make sure that the cabinet is stable and is installed vertically in the excavation hole.

3.1 Connecting the service duct/technical pipe to the wastewater treatment system

The DN 100 empty service duct/technical pipe is routed into the cabinet through the edge seal. When using the empty pipe sealing cap, the socket of the pipe must be located inside the cabinet.
A 45° bend is to be inserted into the empty pipe with the opening facing upwards.

3.2 Inserting the underground power supply cable

The power cable is to be inserted into the cabinet using a M10 x 1.5 cable gland (suitable for a cable diameter of 8-13 mm).
To do this, a hole with diameter of 20 mm must be made.

3.3 Electrical connection

Fuse connections

The electrical connection of the switch cabinet must only be carried out by a qualified electrician.
An underground cable must be laid to supply power to the cabinet. **This cable must be protected by a 16 amp fuse via the building installation and must be fitted with isolator switch for repair & maintenance**.
The underground cable is connected to the pre-assembled power socket in the cabinet.

The power socket can be removed from the cabinet for easy assembly by detaching the two nuts from the holding plate.

4. Assembling the EPP switch cabinet

4.1 Installing the EPP cabinet

The EPP cabinet is fastened using the two carriage bolts and wing nuts supplied. The screws must pass through from the outside to the inside.
The fastening materials included with the EPP cabinet are not required.

To ensure better air circulation the EPP cabinet's cover plate should not be used.

No
cover plate

4.2 Connecting the air hoses

The ventilation hoses and the three air lift pumps must be connected to the hose connectors on the Strip of valves in the switch cabinet.

For the lifters, hoses with 13 mm inner diameter are required, while a hose with 19 mm inner diameter is needed for the ventilation. When connecting, make sure that the hoses are attached to the correct connectors.

To avoid leakage, we recommend warming the hoses and additionally sealing the feed hose connection (red) with Teflon tape.

In order to avoid confusion, the lifters in the setting-up kit, the ventilation downpipe and the four connectors on the switch cabinet are all colour coded:

Feed lifter	→	**red**
Stainless steel ventilation	→	**blue**
Outflow lifter	→	**black**
Excess sludge lifter	→	**white**

As a general rule, the connectors are to be attached to the same coloured hoses and fixed with hose clamps.

Once the hoses have been laid and attached, the empty pipe must be sealed in order to prevent gas exchange between the wastewater treatment system and the interior of the cabinet (moisture, odours).

Seal empty
pipe

Hose connections should ideally be carried out using the optional accessory, hose sealing cap DN 100 with hose connector 3x13 mm, 1x19 mm (art. no. 107613). The hose sealing cap is also included in the convenient connection kit.
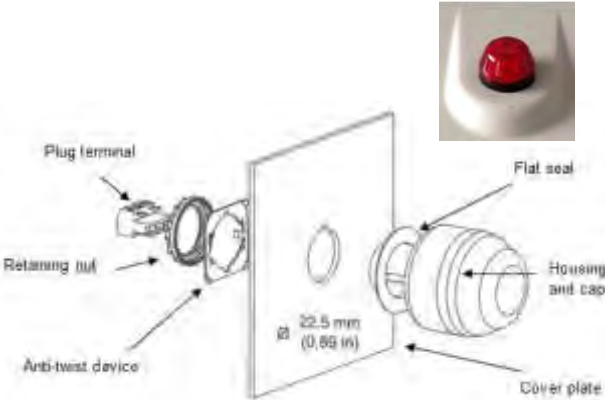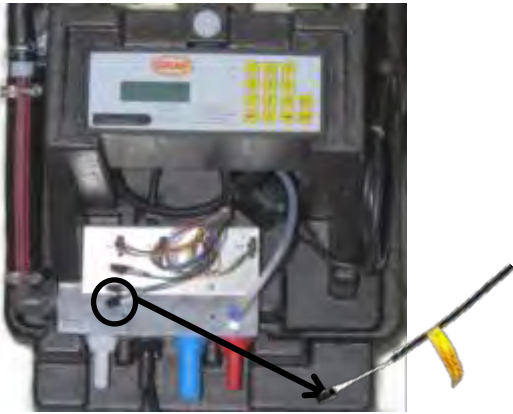
If PU foam is used for sealing, the hose surfaces and pipe walls are to be cleaned with water, and should be dampened slightly with water before foaming; when foaming, make sure that each hose is covered on all sides with PU foam. To ensure good insertion of foam and proper coating of the hoses, these should be moved slightly in a longitudinal direction when inserting the PU foam.

5. Installing the warning light (optional accessory)

1.	Individual warning light components (for KL24base, KL24plus and easyOne control, art. no. 107231)	2.
	Use a tapered drill bit to drill a 23 mm opening in the cover's surface.	
3.	Fit warning light with seal, anti-twist mechanism and fastening nuts in drilled opening.	4.
	Fit tension relief with Spax screws in inside of cover. Secure spiral cable with cable ties. Check whether connector is correctly plugged into warning light.	
5.	Connect connector of spiral cable with connectors on control's wiring harness (X 1.5 connector for KL24base and KL24plus controls, X 1.4 for easyOne controls)	6.

Labels in step 3 diagram: Plug terminal, Retaining nut, Anti-twist device, Flat seal, Housing and cap, Cover plate, Ø 22.5 mm (0.89 in)

6. Dimensions

Geländeoberkannte
ground level
niveau du sol
nivel del suelo

1420

920

500

Geländeoberkante - ground level - niveau du sol - nivel del suelo

400

450

GRAF