

## 1. Intended use / product description



Order No. 481-00  
municipal sewage water according to EN 1085



Order No. 482-00

**Medium:**

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municipal sewage water according to EN 1085

**Max. operating pressure:** 10 bar

**Material:**

Body: GJS-400, Hawle epoxy powder coated  
Spindle, shut-off blade: stainless steel  
O-Ring gasket package: POM/NBR  
O-Ring-bush/spindle nut: brass/gunmetal\*

**Standard basics:**

Order No. 481-00 Face-to-face length basic series 15 according to EN 558-1  
Order No. 482-00 Face-to-face length basic series 14 according to EN 558-1  
Flange connection dimensions: according to EN 1092-2

Hawle exchange gate valves for sewage water with restraint loose flange system are suitable for use in new buildings and, above all, for replacing existing valves.

The loose flanges are movable in the longitudinal direction of the gate valve and can be rotated up to 360°.

The flat gaskets are already included in the cone seals. This eliminates the need for wedging between the flanges.

The reliable and tight shut-off function is ensured via a shut-off blade of hard-rolled stainless steel and an O-ring gasket package. The gasket package prevents solids from sticking to the spindle and, in case of repair, permits the exchange of the valve bonnet without taking the pressure line out of service.

In addition to its actual function as a shut-off valve, exchange gate valve also serves as an extension piece via the integrated loose flange system (no additional extension piece required).

The exchange gate valve Order No. 481-00 can be shortened. (see point 2.1)

Operation can be via handwheel, extension spindle or motorised rotary actuators (from DN 80, on request).

The typical applications for gate valves are "open" or "closed". Gate valves are not control valves! The gate valve is actuated by an extension spindle with underground installation. The handwheel or electric actuator must be used in the chamber or system area. Lever extensions for operation are not permitted.

The pipeline must be cleaned before installing the Hawle gate valve. No foreign bodies must be present, as these can lead to malfunctions.

When installing gate valves with electric actuators, the relevant operating instructions and CE labelling regulations must be observed.

When laying, installing the pipes and during maintenance, it is necessary to refer to and comply with applicable standards and regulations, accident prevention regulations and regulations from trade associations. Installation, assembly and maintenance should only be carried out by qualified personnel

## 2. Assembly



Open-end spanner, torque wrench

1. Exposure of the flange gate valve to be replaced including the counter-flanges.
2. Loosening the flange connections
3. Removal of the flange gate valve including the flat gaskets. As the gate valve is usually under high tension due to the compression of the flat gaskets, suitable tools must be used (either levers, wedges, mounting irons or other working tools)
4. Cleaning the sealing surface of the counter-flanges
5. Inserting the exchange gate valve. The movable flanges, liner seals and stop rings for the loose flanges for restraint are already mounted on the gate valve tip ends ready for assembly.

### Installation position

The installation of the gate valve is preferably in a horizontal pipeline with the spindle vertical ( $\pm 30^\circ$ ). Up to DN 200 the installation in a vertical pipeline with horizontal spindle is possible. From DN 250 on the installation position depends on the type of wastewater.

6. Turn the loose flanges to bring the hole pattern of the counter-flange and loose flange so they overlap.
7. Make sure that the pipe axes and the gate valve longitudinal axis are aligned and that the loose flanges are parallel to the counter-flanges. Angular deflections of the gate valve tip ends of more than  $3^\circ$  within the movable loose flange are not permitted.
8. Install stainless screws, nuts, washers through flange holes. In order to achieve a uniform compression of the liner seal, the screw connections must be tightened with an offset of  $180^\circ$ . (see table for further details)
9. Selection of the extension spindle or handwheel (see table)



| Nominal diameter | Pressure rating | Bolts           |        |                        | Extension spindle and Handwheel                         |
|------------------|-----------------|-----------------|--------|------------------------|---------------------------------------------------------|
|                  | PN              | Quantity x Size | Length | max. Tightening torque |                                                         |
| DN 50            | 10              | 4 x M16         | 70 mm  | 100 Nm                 | Extension spindle for Service valve and Handwheel DN 40 |
| DN 80            | 10              | 8 x M16         | 70 mm  | 100 Nm                 | DN 50                                                   |
| DN 100           | 10              | 8 x M16         | 70 mm  | 100 Nm                 | DN 50                                                   |
| DN 125           | 10              | 8 x M16         | 80 mm  | 100 Nm                 | DN 65/800                                               |
| DN 150           | 10              | 8 x M20         | 80 mm  | 120 Nm                 | DN 65/800                                               |
| DN 200           | 10              | 8 x M20         | 80 mm  | 120 Nm                 | DN 125/150                                              |
| DN 250           | 10              | 12 x M20        | 90 mm  | 120 Nm                 | DN 250/300                                              |
| DN 300           | 10              | 12 x M20        | 90 mm  | 120 Nm                 | DN 250/300                                              |

**Note:**

For easier installation, we recommend using 2 - 3 screws slightly longer (min. 15 mm) during installation, as the loose flange must first be tightened to the counter-flange via the sealing sleeve. After attaching the remaining standard length screws (see table), the longer screws can be replaced with standard length screws.

**2.1 Reduction**

The gate valve Order No. 481-00 can be shortened on one or both sides at the spigot ends on site. The permissible reduction per spigot end can be taken from the table.

**Caution:** If the gate valve is reduced the restraint is lost!

1. Push the loose flange back in the direction of the gate valve body
2. Remove the liner seal, stop ring and loose flange from the spigot end
3. Cut spigot end to length with straight cut (max. measurements see table)

| DN     | max. Reduction per side |
|--------|-------------------------|
| DN 50  | 20 mm                   |
| DN 80  | 25 mm                   |
| DN 100 | 25 mm                   |
| DN 125 | 25 mm                   |
| DN 150 | 30 mm                   |
| DN 200 | 30 mm                   |
| DN 250 | 40 mm                   |
| DN 300 | 40 mm                   |

4. At metallic blank points use 2-component repair material Order No. 600 000 0026 to make them corrosion-resistant.
5. Apply loose flange to spigot end
6. Install the liner seal - the stop ring is not required!

**3. Service and maintance**

Hawle gate valves are maintenance-free, testing according to DVGW leaflet W400-3.

To ensure trouble-free operation, we recommend actuating the gate valve once a year (earlier if deposits are to be expected).

For gate valves with electric actuators, a visual inspection of the gate valve, actuator and electrical installation is required at least once a year in addition to the functional check. European regulations on CE labelling (e.g. EC Machinery Directive, EC EMC Directive, accident prevention regulations, ... ) must be observed.

**3.1 Replacement of the valve bonnet under pressure (up to DN 200)**

1. Open the gate valve completely
2. Loosen the body screws
3. Remove the upper part of the valve
4. Mount a complete new upper part

**4. Commissioning and pressure testing**

After successful installation, a pressure test must be carried out in an open pipe trench, observing the maximum operating pressures in accordance with DWA-regulations.

Following the pressure testing, a functional check must be carried out.

\* Brass/red brass components > 0.1% lead acc. to Regulation (EU) No. 1907/2006 (REACH Regulation)

[Should you have questions or need further information, please contact:](#)

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