



1. Intended use / product description



Order No. 411-00



Order No. 412-00

Medium: Potable water

Max. operating temperature: 0°-40°

Max. operating pressure: 16 bar

Material: Body: GJS-400, Hawle epoxy powder coated

Spindle: stainless steel

Wedge nut: Brass

Wedge: GJS-400, inside and outside EPDM according to DVGW W270 for water

Seals: EPDM according to DVGW W270 for water

metal materials in contact with potable water according to the positive list of the German Federal Environmental Agency (UBA)*

Standard basics: Order No. 411-00 Face-to-face length basic series 15 according to DIN EN 558-1

Order No. 412-00 Face-to-face length basic series 14 according to DIN EN 558-1

Flange connection dimensions: according to EN 1092-2

Hawle exchange gate valves with restraint loose flange system are suitable for use in new buildings and, above all, for replacing existing valves and fittings. The loose flanges are movable in the longitudinal direction of the gate valve and can be rotated up to 360°.

The loose flange system also offers storage benefits. The flanges can be changed quickly and easily from PN 10 to PN 16 or vice versa.

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

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. 411-00 can be shortened. (see point 2.1)

Operation can be via handwheel, extension spindle or motorised rotary actuators (from DN 50, 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 Hawle-gate valve must be protected from damage during transport.

When loading and transporting the gate valve with cranes, it may only be suspended from the ring bolts provided for this purpose. The spindles are equipped with internal threads into which ring bolts can be turned. The handwheel must not be suspended.

The pipeline must be cleaned before installing the Hawle gate valve. No impurities or 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.

During installation and maintenance operations, the applicable standards and guidelines, accident prevention regulations and the regulations of professional associations are to be observed and complied with.

Installation and maintenance operations may be performed by qualified personnel only.

Accessories:

- Loose flanges for Exchange gate valve, Ord.No. 709-00 (see point 2.2)
- Surface box for valves rigid version, Ord.No. 180-00
- Surface box for valves height adjustable, with locking bolt, Ord.No. 180-02
- Hawle screw-type surface box with cover for valves, height adjustable, Ord.No. 187-00
- Surface box for valves with cover, for rolling in, Ord.No. 187-01
- Surface box rigid version, Ord.No. 200-00
- Surface box for gate valves with cover, height adjustable, Ord.No. 200-02
- Universal base plate for surface boxes for gate valves and valves, Ord.No. 204-00
- Base plate of concrete for surface box (Ord.No. 212), Ord.No. 204-05
- Screw-type surface box for gate valve, height adjustable, with locking bolt, Ord.No. 207-00
- Surface box for gate valves with cover, for rolling in, Ord.No. 207-01
- Handwheel for gate valves and butterfly valves, Ord.No. 780-00
- Rigid extension spindle for gate valve, Ord.No. 900-00
- Rigid extension spindle (type S) for service valve and valve saddle, Ord.No. 910-00
- Telescopic extension spindle, Ord.No. 950-00
- Telescopic extension spindle of stainless steel, Ord.No. 952-00
- Telescopic extension spindle (type S) for service valve and valve saddle, Ord.No. 960-00

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

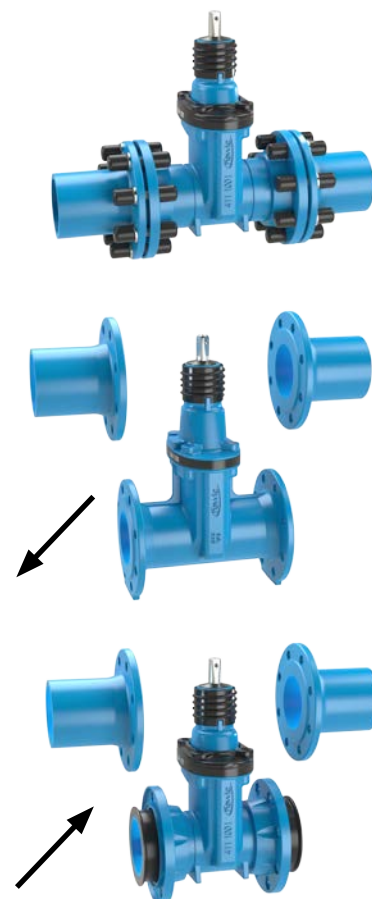
5.Inserting the exchange gate valve. The movable flanges, liner seals and stop rings for the loose flanges for restraint are already mounted on the gate valve tip ends ready for assembly.

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° 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°. (see table for further details)

9.Selection of the extension spindle or handwheel



Nominal Diameter	Pressure rating	Bolts				
	PN	Quantity		Size	Length	max. Tightening torque
DN 40	10/16	4	x	M16	65 mm	100 Nm
DN 50	10/16	4	x	M16	70 mm	100 Nm
DN 65	10/16	4	x	M16	70 mm	100 Nm
DN 80	10/16	8	x	M16	70 mm	100 Nm
DN 100	10/16	8	x	M16	70 mm	100 Nm
DN 125	10/16	8	x	M16	80 mm	100 Nm
DN 150	10/16	8	x	M20	80 mm	120 Nm
DN 200	10	8	x	M20	80 mm	120 Nm
DN 200	16	12	x	M20	80 mm	120 Nm
DN 250	10	12	x	M20	90 mm	120 Nm
DN 250	16	12	x	M24	90 mm	150 Nm
DN 300	10	12	x	M20	90 mm	120 Nm
DN 300	16	12	x	M24	90 mm	150 Nm
DN 400	10	16	x	M24	95 mm	150 Nm
DN 400	16	16	x	M27	95 mm	200 Nm

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 (only Ord. No. 411-00)

The Hawle exchange gate valves Ord. No. 411-00 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 40	20 mm
DN 50	20 mm
DN 65	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
DN 400	50 mm

4. At metallic blank points use 2-component repair material Order No. 600 000 0020 to make them corrosion-resistant
5. Apply loose flange to spigot end
6. Install the liner seal - the stop ring is not required!

2.2 Exchange the flange



Pull off the collar seal.



Dismantle the locking ring

Note: The ring is slotted -> easily bend apart and remove.

to DN200: Locking ring POM

off DN250: Locking ring stainless steel



Take off the flange.



Assemble again in reverse order.
Put on the flange.



Assemble the locking ring.

Attention: Locking ring POM
(DN40 to DN200) has a slope
in the contour.

The slope must point to the flange.

The locking ring must be lie in the slot.



Push the collar seal on the spigot end.

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

4. Service and maintenance

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.

4.1 Spare Parts

	
 Spare bonnet for gate valve "E2" / "E3" (see operating instructions) Ord.No. 868 E00	 collar seal DN40-400 Ord.No. 709 000 0040 - 709 000 0400

* 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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