

# Gate Valves

**Model 50770** **CF8M stainless steel knife gate valve - 316 stainless steel gate - EPDM gasket (5848 I) with aluminium pneumatic actuator**



## Specifications

**Dimensions:** DN50 to DN300 (1/2" to 12")

**Connection:** flanges in accordance with EN 1092-1 PN10

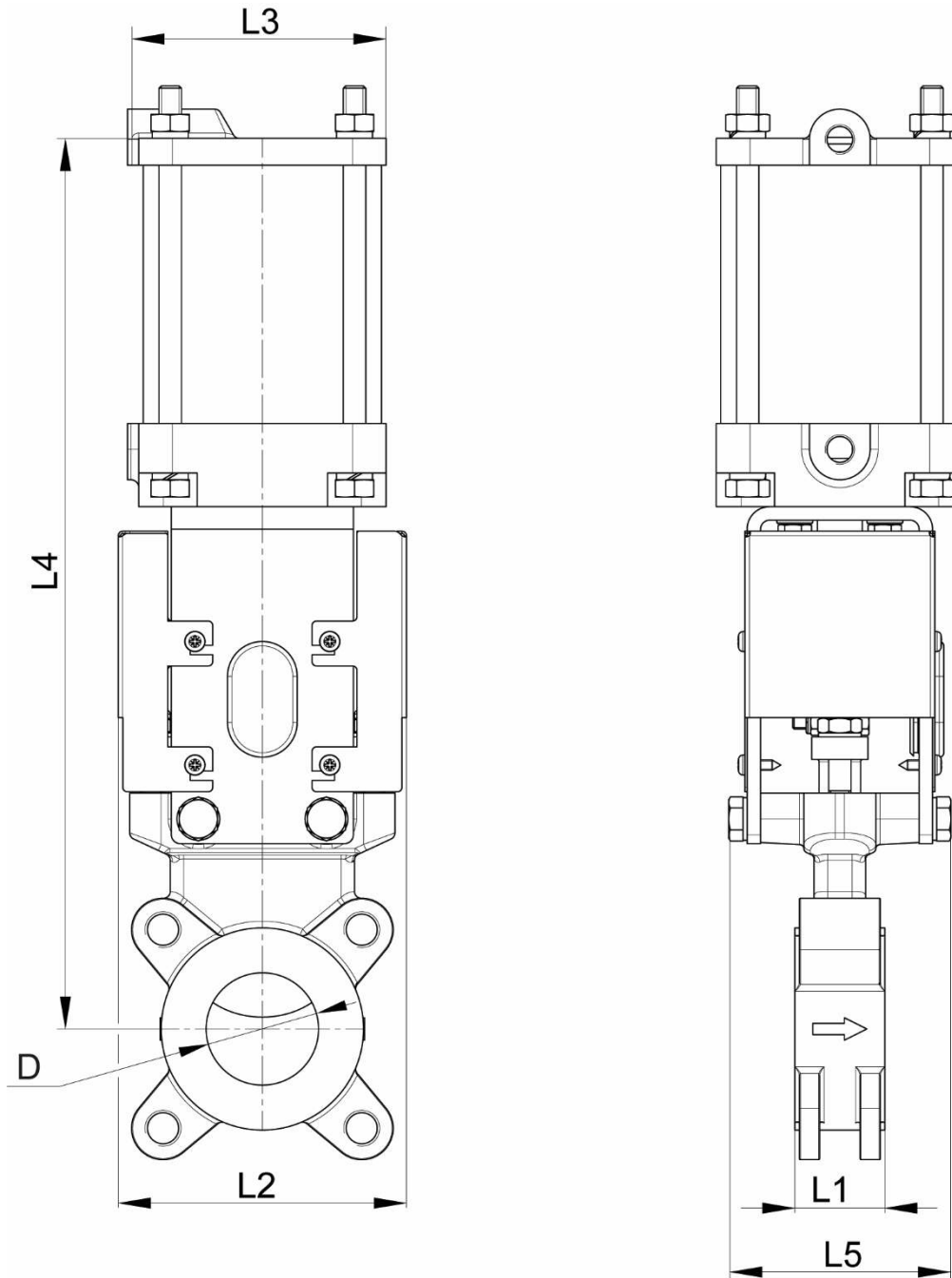
**Pressure:** 10 bar from DN50 to DN250  
6 bar for DN300

**Temperature:** - 10°C to +120°C

**Material:** 316 or CF8M stainless steel  
(for the parts that can come into contact with the transported fluid)

EPDM gasket

On request: spring return actuator, stainless steel actuator, manual override, limit switches

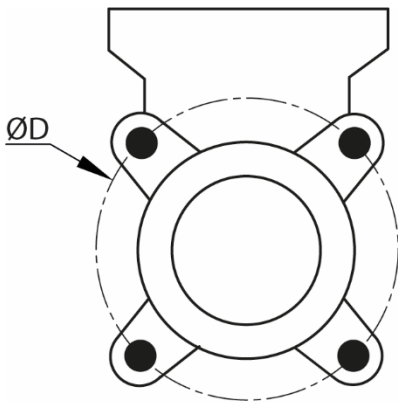


DN (mm)	NB (inches)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	Weight (kg)	EPDM Part number
50	2"	40	119	115	412	9.00	450770-50
65	2"1/2	40	134	115	454	10.00	450770-65
80	3"	50	149	115	497	11.00	450770-80
100	4"	50	170	115	558	14.00	450770-100
125	5"	50	180	140	632	20.00	450770-125
150	6"	60	210	140	708	25.00	450770-150
200	8"	60	265	175	872	44.00	450770-200
250	10"	70	320	220	1042	67.00	450770-250
300	12"	70	372	220	1192	82.00	450770-300

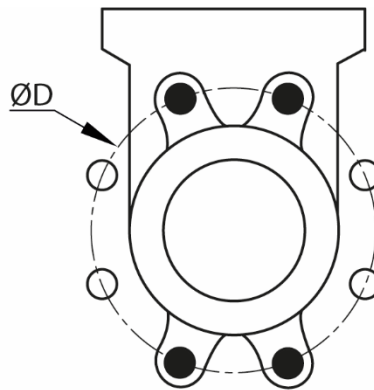
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Tel. N°: +33 (0)4 78 90 48 22 – Fax N°: +33 (0)4 78 90 69 59 – [www.bene-inox.com](http://www.bene-inox.com) – [bene@bene-inox.com](mailto:bene@bene-inox.com)

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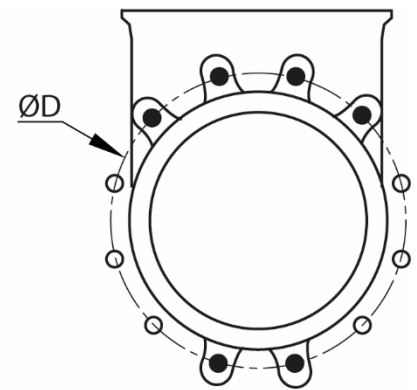
DN (mm)	NB (inches)	● No. of closed female threaded holes	○ No. of through holes	ØD (mm)	M (mm)	T (mm)
50	2"	4	0	125	M16	11
65	2 1/2"	4	0	145	M16	11
80	3"	4	4	160	M16	11
100	4"	4	4	180	M16	11
125	5"	4	4	210	M16	11
150	6"	4	4	240	M20	14
200	8"	4	4	295	M20	14
250	10"	6	6	350	M20	18
300	12"	6	6	400	M20	18



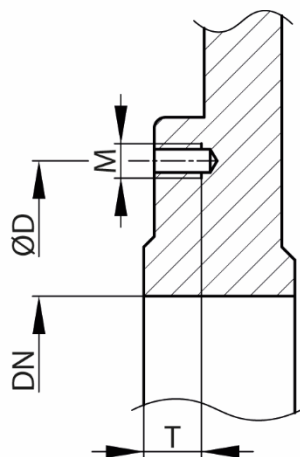
DN 50 - 65



DN 80 - 200



DN 250 - 300

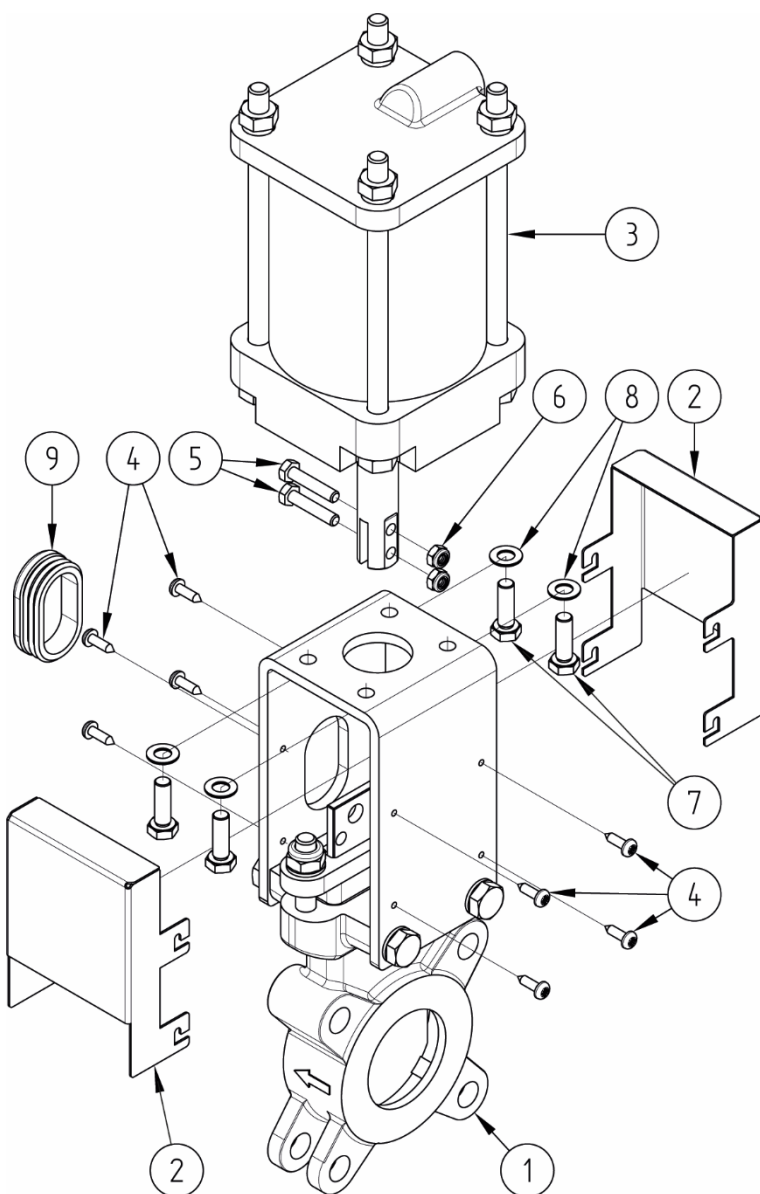


## Use

### Fluids

You can use this valve with fluids containing suspended solids for applications in the following main sectors:

- Paper manufacturing
- Water treatment
- Food and beverages
- Mining
- Energy production
- Chemical manufacturing
- Solids handling



N°	Part Name	Material
1	GATE VALVE	STAINLESS STEEL
2	HOUSING	STAINLESS STEEL
3	PNEUMATIC ACTUATOR	STAINLESS STEEL
4	HOUSING SCREW	A2
5	FIXING BOLT	A2
6	FIXING NUT	A2
7	ACTUATOR SCREW	A2
8	LOCK WASHER	A2
9	COVER	PE

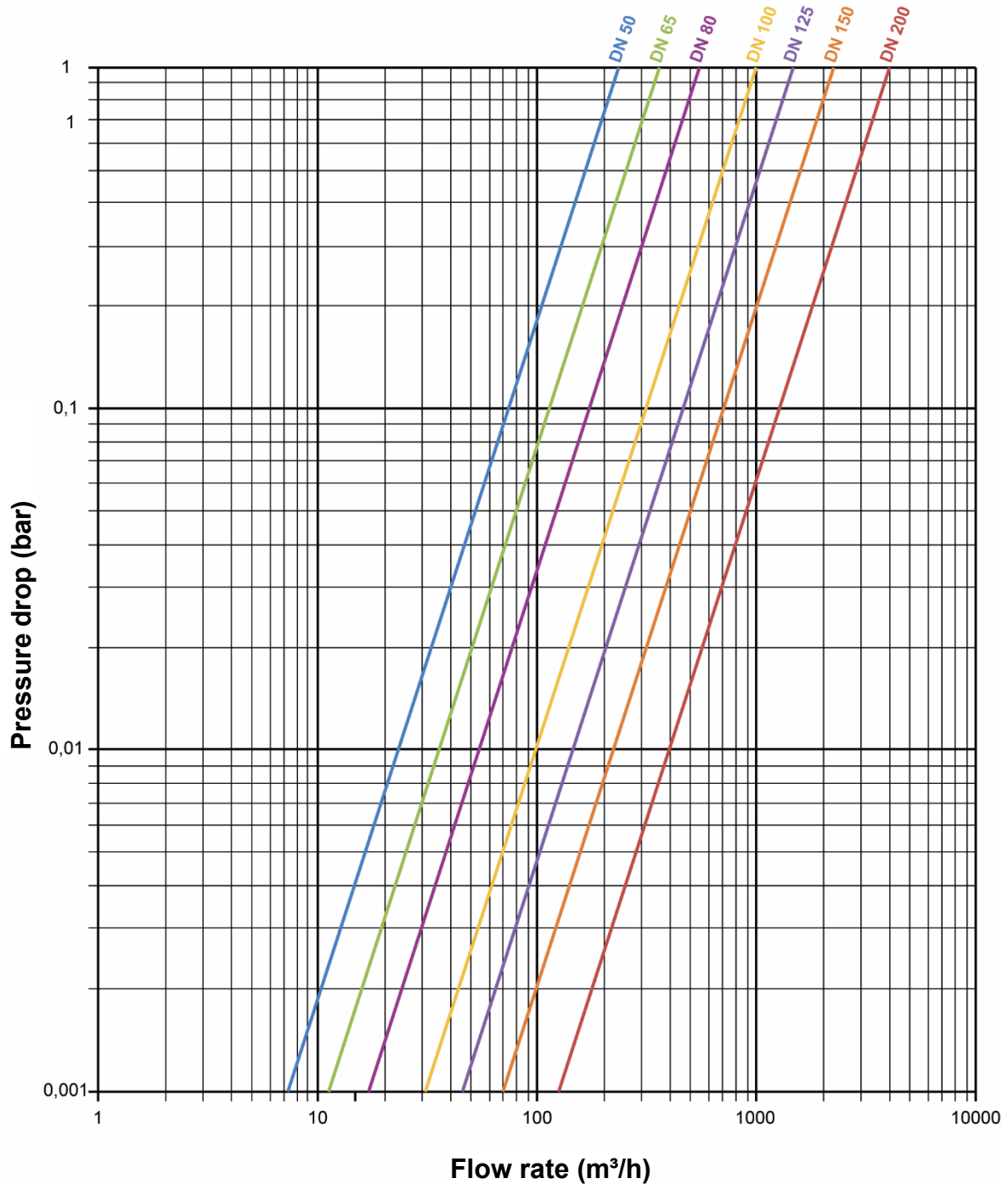
### Assembly / Disassembly

Unscrew the screws **4** and remove the housing **2**, you do not need to completely remove the screws **4**.

Remove the cover **9** and unscrew the fixing bolts **5** from their nuts **6**.

Unscrew the screws **7** and then remove the actuator **3**.

**Pressure drop diagram**



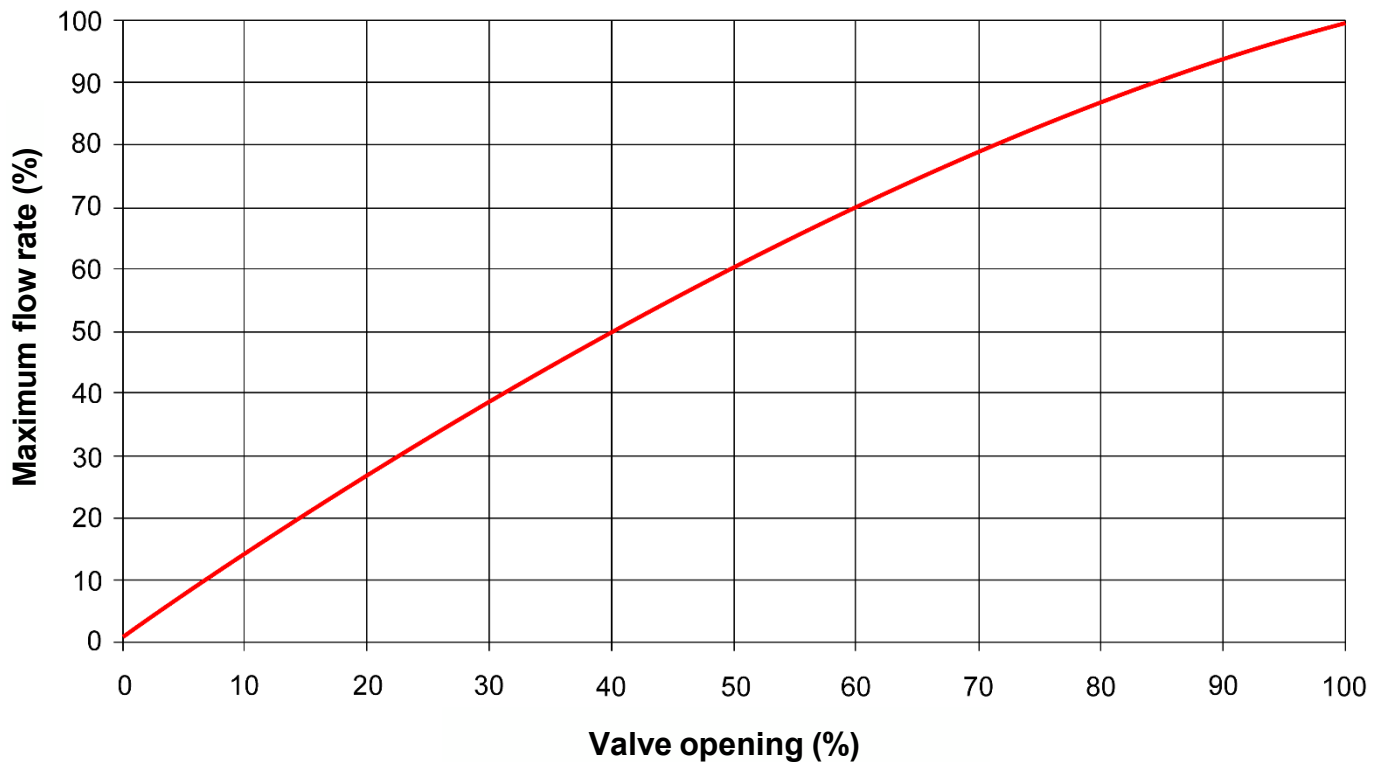
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## Flow coefficient

<b>DN</b>	<b>50</b>	<b>65</b>	<b>80</b>	<b>100</b>	<b>125</b>	<b>150</b>	<b>200</b>	<b>250</b>	<b>300</b>
<b>Inches</b>	<b>2"</b>	<b>2"1/2</b>	<b>3"</b>	<b>4"</b>	<b>5"</b>	<b>6"</b>	<b>8"</b>	<b>10"</b>	<b>12"</b>
<b>Cross section (cm<sup>2</sup>)</b>	20	33	50	79	123	177	314	491	707
<b>Kv (m<sup>3</sup>/h)</b>	233	350	535	966	1589	2217	3992	5927	8709

## Flow rate



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# Assembly and maintenance instructions

## Installation



Do not lift up the valve by its actuator or its protective elements. These are not designed to carry weight, so they could be damaged easily. Do not lift the valve by its orifice. This could damage the surface of the seats and gaskets.

You should install the valve vertically.

This valve allows fluid to flow in one direction only, so you must install it so that the highest pressure will act on the seat (in the direction of the arrow). The inscription “SEAT SIDE” indicates the position of the seat. The direction of fluid flow does not necessarily correspond to the pressure direction.

Check that the installation is clean and free from foreign bodies that could damage the valve.

Check that all piping is perfectly aligned and that the piping support structure is dimensioned so that the valve is not subject to any external stresses. The piping support structure must only support the pipes, not the valve.

### How to install a valve with flanges:

Weld flanges (e.g. flanges with collar) onto the piping and respect the required spacing and alignment of the mounting holes. You must check that the valve is correctly lined up with the flanges during installation. For heavy parts, use lifting devices if necessary (do not lift the valve by the actuator).

If you do not align the flanges correctly, this could deform the valve’s body and make it difficult to open and close the valve.

The following table shows the required screw tightening torques and the depth you should insert the screws into the closed holes on the valve’s body.

DN	50	65	80	100	125	150	200	250	300
Depth (mm)	10	10	10	10	10	14	14	18	18
Torque (Nm)	59	59	59	59	69	69	69	108	108

The following sections are linked to the Assembly / Disassembly section on the **58481/58482/58483** product data sheet.

You should use the **58481/58482/58483** product data sheet to identify each part using their **part number** and the exploded product view on p3 of the **58481/58482/58483** product data sheet.

## Maintenance

You will only need to plan to change the packing **6** and the seat gaskets **2** of the sealed knife gate valves.

The lifespan of these sealing products will depend on the working conditions of the valve including operating pressure, temperature, level of abrasion, chemical attacks and the number of times it is opened/closed.

If the valve is never opened or closed during normal operation then you should regularly open and close the valve to check that it is still working correctly.

You should tighten the packing box **7** if there is a leak around the packing. You should tighten the packing box screws in a criss-cross pattern until the leak stops. Check that there is no contact between the gate and the packing box.

If the packing box is overtightened, you will need to use more force to operate the valve. This will make it harder to open or close the valve and it will also reduce the lifespan of the packing.

The following table shows the maximum packing box tightening torques.

DN	50	65	80	100	125	150	200	250	300
Tightening torque (Nm)	20	20	20	20	30	30	30	35	35



## Assembly / Disassembly

The maintenance and removal/installation of the valve must be carried out by personnel who are qualified and trained for this type of intervention.



Warning: Before you work on the valve, check that the installation has been stopped and that the piping is empty and is not pressurised.

Warning: If the valve is used with fluids that have a temperature above 60°C then people could burn themselves if they touch it.

Warning: Beware of hazardous materials - follow the instructions provided by the suppliers.

### How to replace the packing:

You should work with the valve in the closed position.

Rising shaft valve (Photo 1): remove the shaft **11** and the gate **4**.

Unscrew the screws from the bridge **15** and remove them.

Remove the nuts from the packing box **7** (Photo 2).



Photo 1

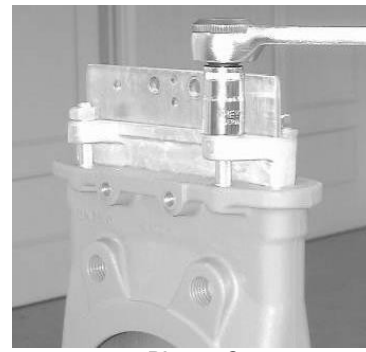


Photo 2

Remove the packing **6** that needs replacing and clean its housing.

Install the new packing by using alternating unions (install the gasket symmetrically on one side of the gate and then the other) (Photo 3).

Tighten the nuts on the packing box **7** in a criss-cross pattern for the first time (Photo 2).

Put the bridge (with the shaft nut **14**) into place and tighten it.

Fix the shaft **11** to the gate **4** (Photo 1).

Open and close the valve a few times once you have filled the piping and then retighten the packing box **7** to make sure that there are no leaks.

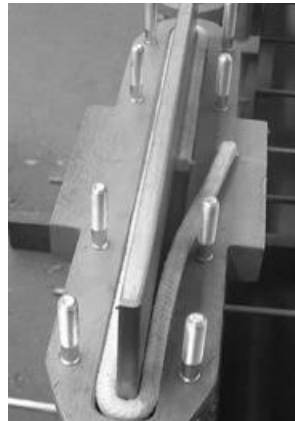


Photo 3

Replace the seat gasket **2**:

Remove the valve from the piping.

Rising shaft valve (Photo 1): remove the shaft **11** and the gate **4**.

Unscrew the screws from the bridge **15** and remove them.

Remove the nuts from the packing box **7** (Photo 2).

Remove the packing **6** that needs replacing, the gate **4** and clean the housing.

Remove the binding **3** holding the seat **2**.

Remove the seat that needs replacing and clean its housing.

Check that the gasket length is correct and place it in its housing, with the join at the top (Photos 4 and 5).

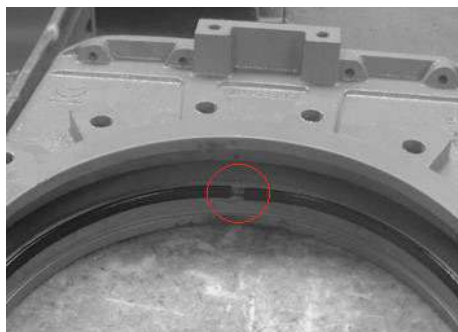


Photo 4

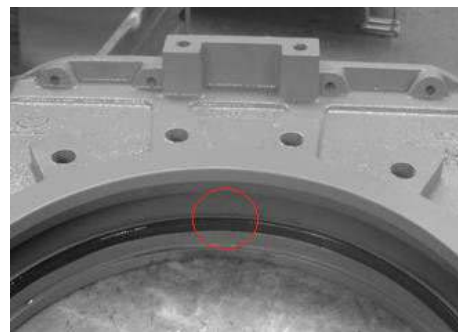


Photo 5

Gasket length:

DN	50	65	80	100	125	150	200	250	300
Length (mm)	202	255	295	365	440	510	680	860	1020

Place the binding **3** in its housing and finish installing it (Photo 6 and 7).



Photo 6



Photo 7

Replace the gate **4**.

Install the packing box **7** by following the steps in the previous section “How to replace the packing”.

You should grease the shaft twice a year: remove the upper cap **22** and refill the cover **21** with a grease with the following characteristics:

- insoluble in water
- low ash content
- excellent adhesion

## Standards and compliance

- Flange standards: EN 1092-1 PN10
- Leak testing according to EN 12266 / API 598
- This valve complies with European Pressure Equipment Directive (PED) 2014/68/EU (formerly 97/23/EC)