

# SMS Butterfly valves

## Butterfly valve with plain ends 304L or 316L stainless steel

**Model 61310** EPDM gasket

**Model 61410** Silicone gasket

**Model 61510** FKM gasket



### Specifications

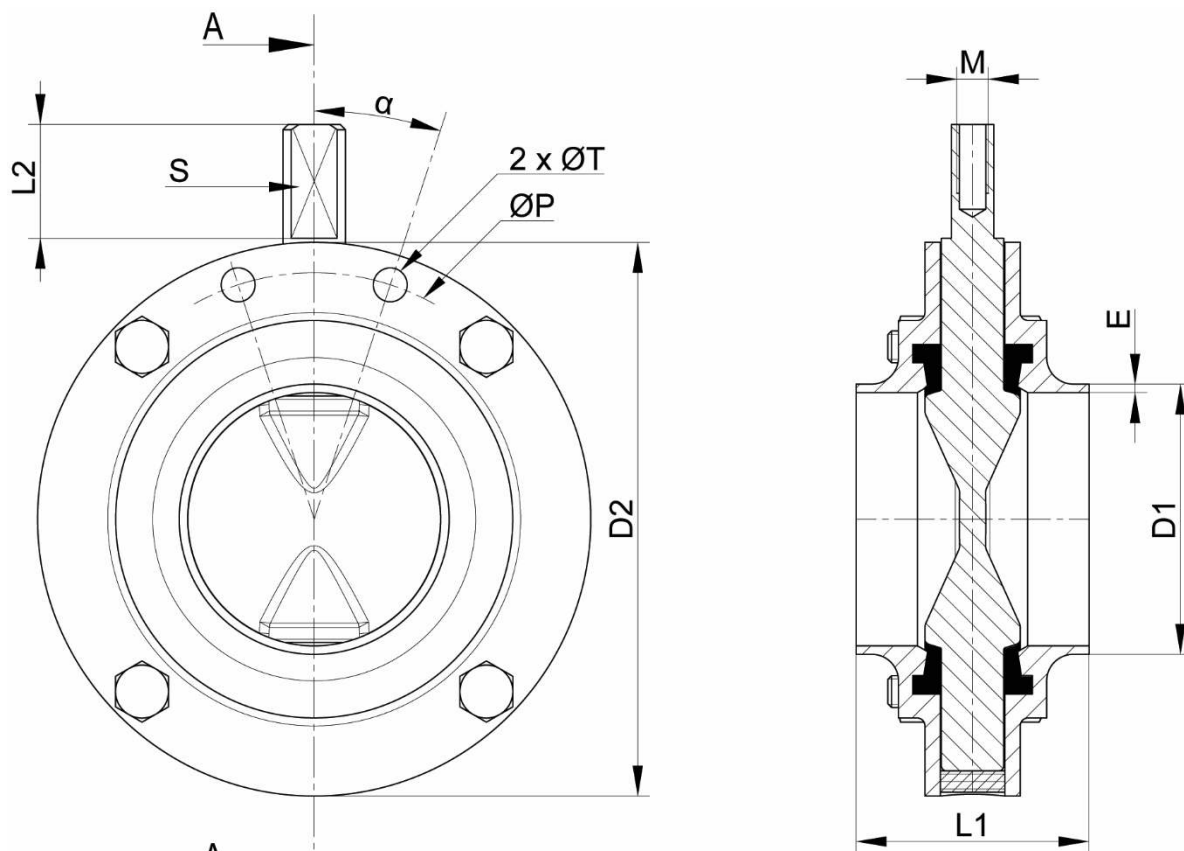
**Dimensions:** DN25 to DN104 (1" to 4")

**Connection:** to be welded

**Operating pressure:** 12 bar (10 bar for DN104)

**Temperature:** from -20°C to +150°C (depending on the gasket)

**Material:** 304L or 316L stainless steel  
(for the parts that can come into contact with the transported fluid)



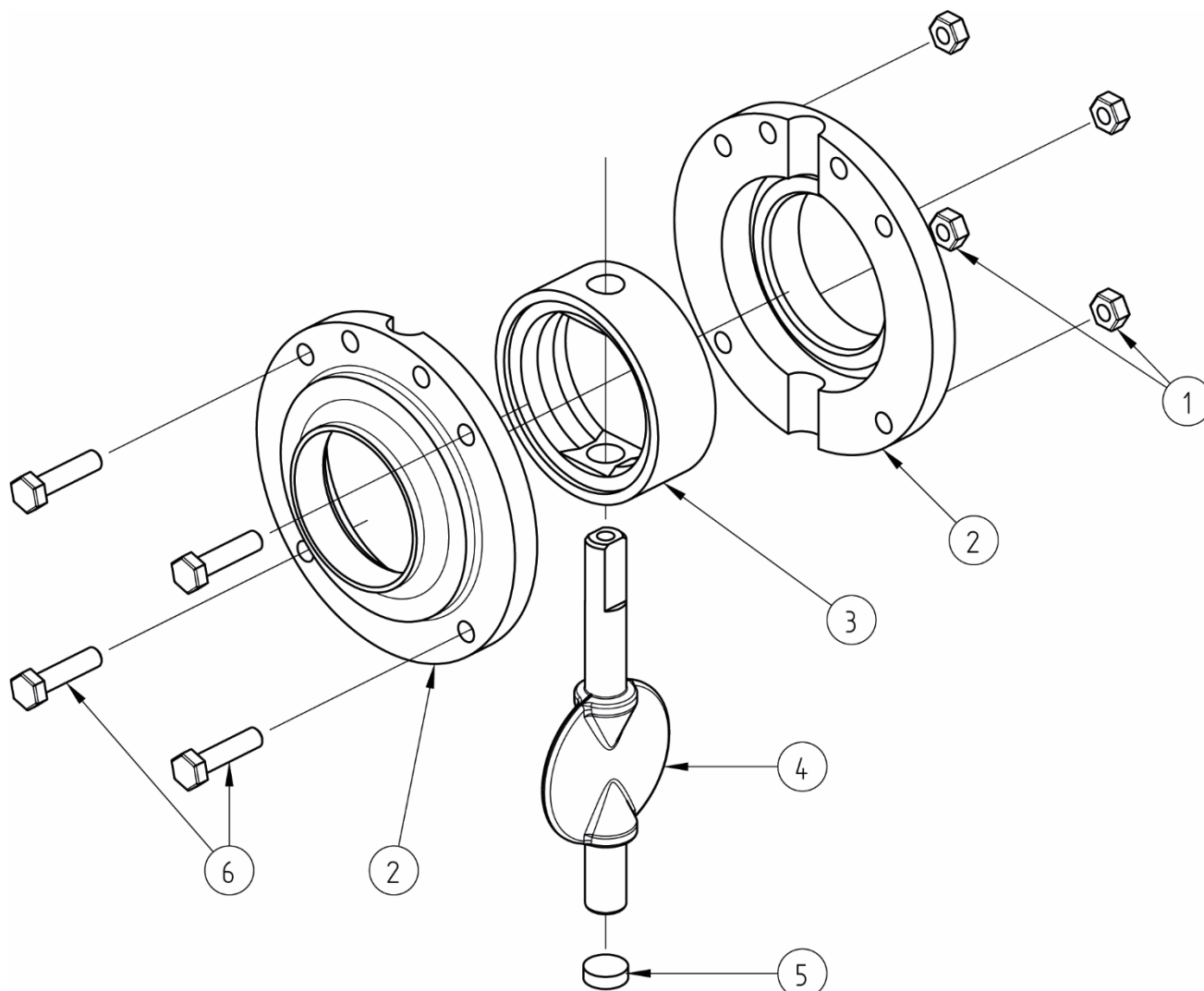
**A-A CROSS SECTION**

DN (mm)	NB (inches)	D1 (mm)	D2 (mm)	E (mm)	L1 (mm)	L2 (mm)	S (mm)	M (mm)	ØT (mm)	ØP (mm)	α (°)	Weight (kg)
25	1"	25	79	1.2	44	21.5	8 (flat side)	M6	6.4	68	24	0.68
38	1 1/2"	38	92	1.2	44	21.5	8 (flat side)	M6	6.4	81	21	0.87
51	2"	51	105	1.2	44	21.5	8 (flat side)	M6	6.4	93	18	1.11
63	2 1/2"	63.5	112	1.5	44	21.5	8 (flat side)	M6	6.4	99	18	1.14
76	3"	76.1	125	1.6	44	21.5	8 (flat side)	M6	6.4	112	15	1.47
104	4"	104	162	2.0	64	13.5	9.5 x 9.5 (square)	M5	-	-	-	3.85

DN (mm)	NB (inches)	Part number EPDM/304L	Part number EPDM/316L	Part number Silicone/304L	Part number Silicone/316L	Part number FKM/304L	Part number FKM/316L
25	1"	361310-25	661310-25	361410-25	661410-25	361510-25	661510-25
38	1 1/2"	361310-38	661310-38	361410-38	661410-38	361510-38	661510-38
51	2"	361310-51	661310-51	361410-51	661410-51	361510-51	661510-51
63	2 1/2"	361310-63	661310-63	361410-63	661410-63	361510-63	661510-63
76	3"	361310-76	661310-76	361410-76	661410-76	361510-76	661510-76
104	4"	361310-104	661310-104	361410-104	661410-104	361510-104	661510-104

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Technical information, illustrations and photographs are provided for information only, they are not contractual. Some may vary according to the tolerances accepted in the profession and the applicable standards. All instructions for use, disassembly and maintenance are recommendations only. These could also vary depending on product usage conditions, its installation environment and purchaser requirements – of which the purchaser alone is responsible for their definition.

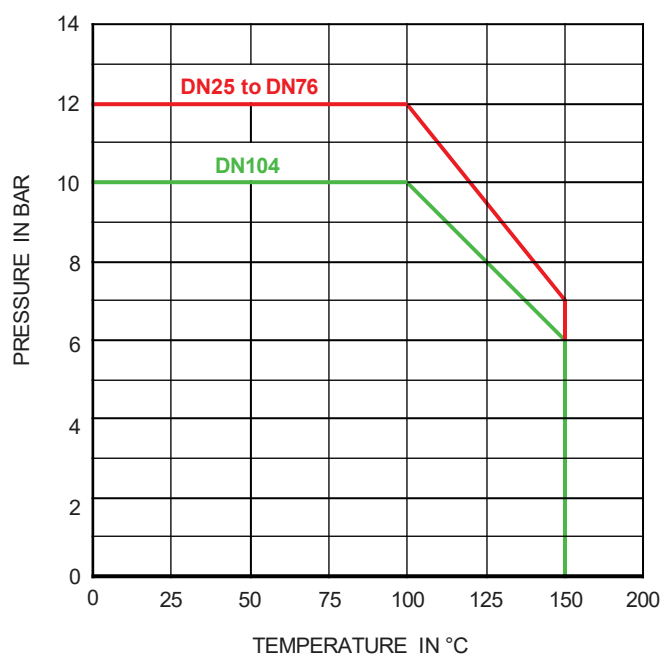


N°	Part Name	Material
1	NUT	A2-70 STAINLESS STEEL
2	PLAIN END FLANGE	304L/316L STAINLESS STEEL
3	GASKET	EPDM / FKM / SILICONE
4	BUTTERFLY	316L STAINLESS STEEL
5	SHAFT PLUG	SILICONE
6	BOLT	A2-70 STAINLESS STEEL

## Use

### Pressure and temperature

For pressure/temperature ratings, see the graph below.



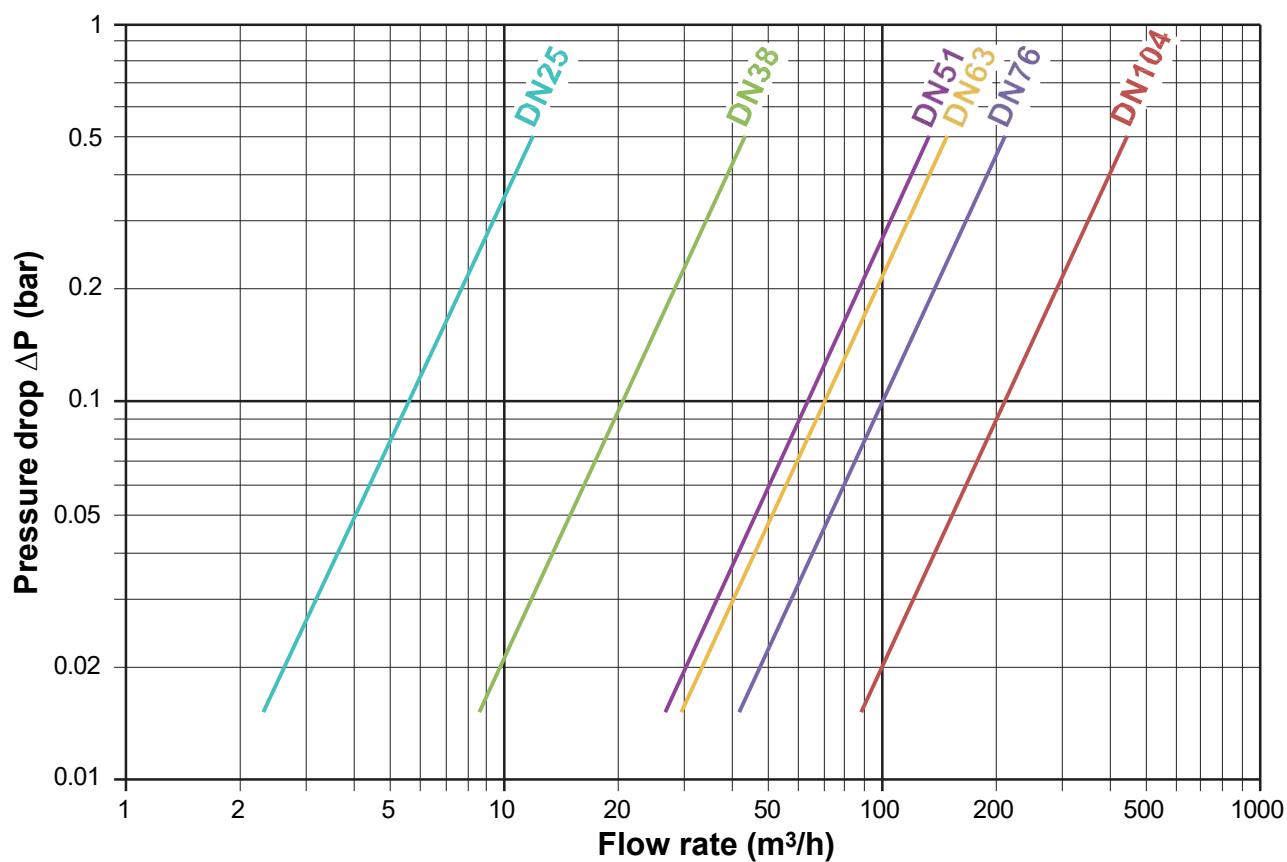
Warning: If the valve is used with fluids that have a temperature above 60°C then people could burn themselves if they touch the valve.

### Fluids

This valve is suitable for non-abrasive and non-coagulable fluids, as long as the fluids are chemically compatible with the valve parts that they can come into contact with.

## Pressure drop

Pressure drop diagram:



## Assembly and maintenance instructions

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### Installation

You can install the butterfly valve in any position. However, check that all fluids can flow through it freely, so that no fluid remains inside the valve when it is in use.

Check that there is enough space to move the valve's handle and to carry out maintenance operations where you are planning to install 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 butterfly valve.

#### How to install a valve with plain ends:

Welding must be carried out by qualified personnel.

Disassemble the valve to avoid damaging the gasket **3** during welding.

Tack weld the fitted valve or use a jig to make sure that the end flanges **2** are aligned correctly. Disassemble the valve (gasket **3** must not be in contact with the end flanges **2**), then weld both end flanges **2** to the piping.

After welding, reassemble the valve.

Clean the installation and check that the equipment is clean and free from foreign bodies that could damage the valve.

Pressure test the installation according to the relevant standards (e.g. EN 12266-1), but do not exceed the valve's specifications.

### Maintenance

You may need to change some of the valve's parts due to wear and tear, or if a fluid has damaged the valve and caused a leak or malfunction.

In this case, see the "Assembly / Disassembly" section below.

## Assembly / Disassembly

*The maintenance and the removal/installation of the butterfly 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 the valve.

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

Remove the handle or the actuator (see the relevant product data sheet).

Loosen the bolts **1**.

Remove the 4 nuts **6** holding the end flanges **2** together.

Separate the two end flanges **2** and take out the butterfly **4** + gasket **3**.

Remove the shaft plug **5** from underneath the butterfly's shaft.

Remove the worn gasket.



Warning: Take care not to damage the butterfly if you use a sharp tool (e.g. a cutter) to cut the gasket!

Warning: Check the condition of the butterfly – there should not be any scratches on the shaft, any dents on the disc nor any deposit build up, etc.

How to install a new gasket:

Lightly lubricate the butterfly's shaft **4** (at both ends).



Warning: Grease based products are generally not suitable for EPDM gaskets – only use soapy water or food-grade silicone grease (e.g. Klüber Paralic GTE703) for EPDM gaskets.

Warning: For FKM or SILICONE gaskets use a “conventional” food-grade oil or grease.

First insert the longer part of the butterfly's shaft **4** into the gasket **3**, then insert the shorter part by bending the gasket. For small diameters (between DN25 and DN51), bend the gasket **3** by flattening it along the butterfly **4** while levering it with a non-sharp round tool (e.g. a screwdriver with a blade that has been cut/filed, rounded and polished). See the photos on page 8.



For valve's from DN63 and above, bend the seal manually without using any tools.

Once the gasket **3** has been fitted to the butterfly, insert the assembly between the valve's two end flanges **2**, with the longer part of the butterfly's shaft on the side with the two actuator mounting holes. Leave the butterfly slightly open.

Insert the four bolts **6** (with all the bolt heads on the same side of the valve) and position the four nuts **1** on the bolts.  
Tighten the four nuts in a criss-cross pattern.  
Refit the shaft plug **5** under the butterfly's shaft.



Warning: If you do not carry out this operation correctly the gasket may tear.

Pressure test the valve and check that it can be opened and closed before you put the installation back into service.



## Butterfly valve accessories

Here is a list of all of our butterfly valve accessories:

### Butterfly valve gaskets

Model **61317**: EPDM gasket for butterfly valves

Model **61318**: Silicone gasket for butterfly valves

Model **61319**: FKM gasket for butterfly valves

### Butterfly valve butterflies

Model **61316**: Butterfly for butterfly valves

### Butterfly valve handles

Model **61320**: Stainless steel lever with plastic handle for butterfly valves Ø25 to Ø76

Model **61322**: Plastic handle with trigger for butterfly valves Ø25 to Ø76

Model **61343**: Plastic multi-position handle with trigger for butterfly valves Ø25 to Ø76

Model **61344**: Stainless steel multi-position handle with trigger for butterfly valves Ø25 to Ø76

Model **61323**: Stainless steel multi-position pull tab handle for butterfly valves Ø25 to Ø104

Model **61345**: Stainless steel lockable pull tab handle for butterfly valves Ø25 to Ø104

Model **61346**: Stainless steel open/closed position pull tab handle for butterfly valves Ø25 to Ø104

Model **61324**: Stainless steel lever with plastic handle for butterfly valves Ø25 to Ø76

Model **61347**: Stainless steel lever and handle for butterfly valves Ø25 to Ø76

### Micrometric handles for flow adjustment

Model **61325**: Micrometric handle for flow adjustment for butterfly valves Ø25 to Ø104

### Pneumatic actuators

Model **61326**: Spring return 1/4-turn pneumatic actuator

Model **61327**: Double-acting type 1/4-turn pneumatic actuator

Model **61301**: **Small size** spring return 1/4-turn pneumatic actuator

Model **61302**: **Small size** double-acting type 1/4-turn pneumatic actuator

## Pneumatic and electric actuators

Model **61520**: Aluminium pneumatic actuator with fixing bracket - spring return or double-acting type

Model **61521**: Stainless steel pneumatic actuator with fixing bracket - spring return or double-acting type

Model **61523**: Electric actuator UMA with fixing bracket - IP65

Model **61527**: Electric actuator ER+ with fixing bracket - IP66

Model **61528**: Fail-safe electric actuator ER+ with fixing bracket - IP66

Model **61529**: Positioner electric actuator ER+ with fixing bracket - IP66

Model **61531**: Electric actuator VR with fixing bracket - IP68

Model **61532**: Fail-safe electric actuator VR with fixing bracket - IP68

Model **61533**: Positioner electric actuator VR with fixing bracket - IP68

## Standards and compliance

- This valve complies with the European Pressure Equipment Directive (PED) 2014/68/EU, Article 4 paragraph 3. It does not have CE marking.
- This valve complies with EC Directive 1935/2004.