

Diaphragm valves



ISO 228-1

Model **58613**

**Manual diaphragm valve female/female BSP
316L stainless steel**



Specifications

Dimensions: DN15 to DN80 (1/2" to 3")

Connection: BSP female thread ISO 228-1

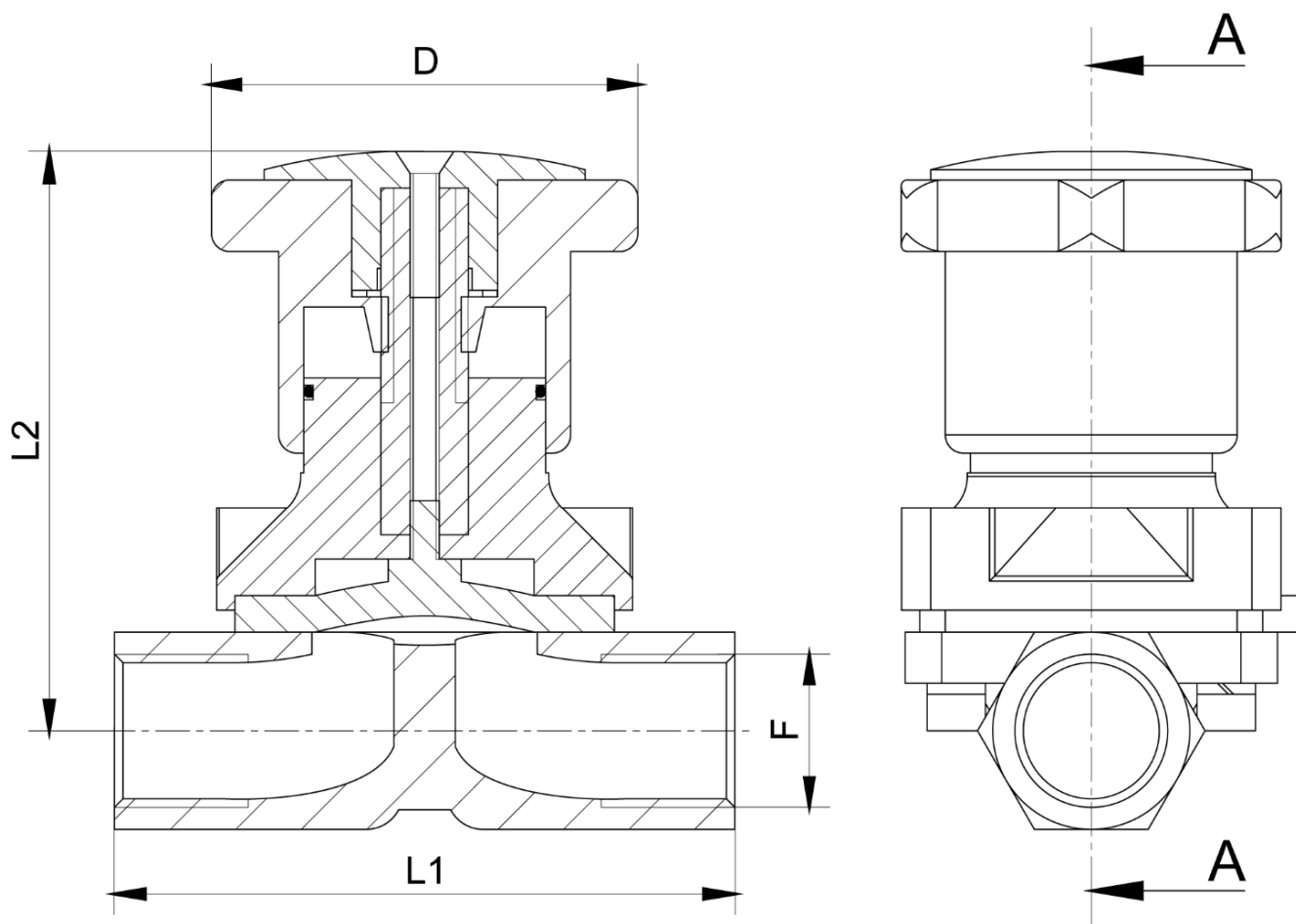
Pressure: 0-6 bar - DN15

0-10 bar - DN20 to DN50

Operating temperature: -10°C to +80°C

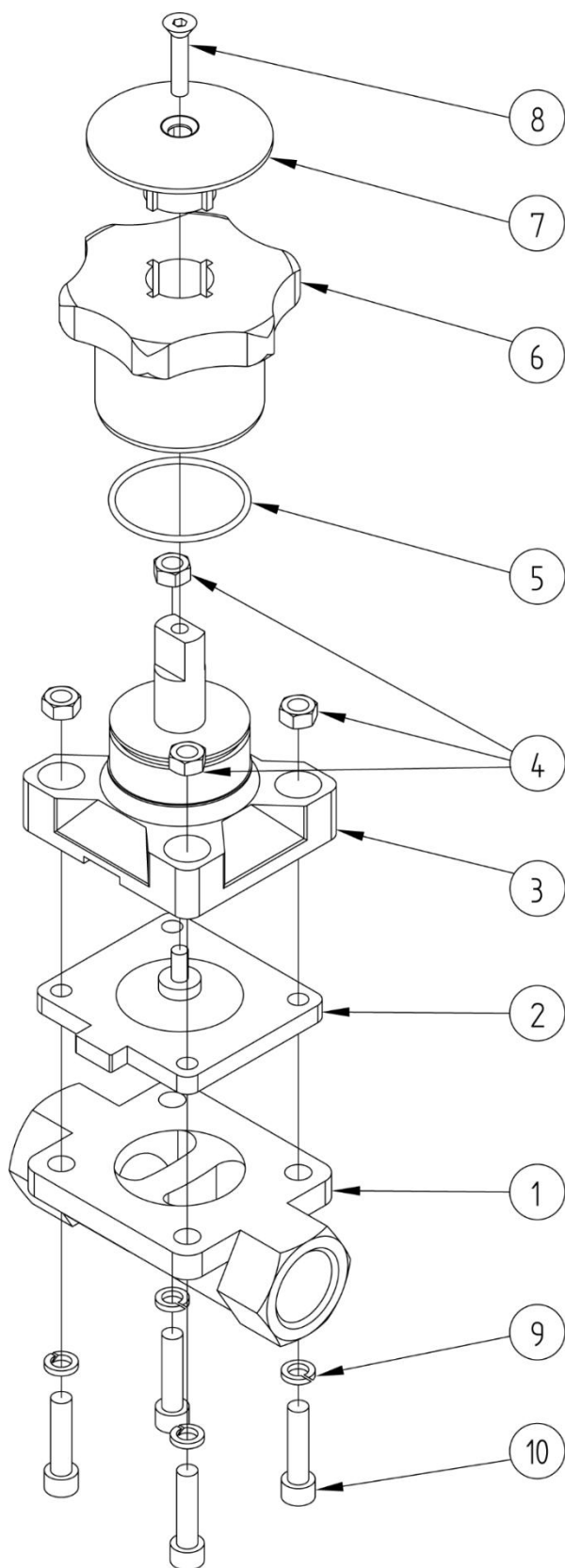
Material: 316L stainless steel cast body -
EPDM diaphragm

On request: forged body, lower Ra, electrolytic
polishing and PTFE diaphragm etc.



A-A cross section

DN (mm)	NB (inches)	D (mm)	F (inches)	L1 (mm)	L2 (mm)	Weight (kg)	Part number
15	1/2"	59	G 1/2"	85	90	0.60	658613-15
20	3/4"	80	G 3/4"	85	115	0.90	658613-20
25	1"	80	G 1"	110	120	1.20	658613-25
32	1"1/4	120	G 1"1/4	120	151	1.90	658613-32
40	1"1/2	120	G 1"1/2	140	153	2.50	658613-40
50	2"	120	G 2"	165	176	3.60	658613-50



N°	Part Name	Material
1	BODY	AISI 316L
2	DIAPHRAGM	EPDM
3	CAP WITH SHAFT	AISI 316L PLASTIC
4	NUT	A2-70
5	GASKET	EPDM
6	HANDWHEEL	PLASTIC
7	WASHER	A2-70
8	SCREW (CAP)	A2-70
9	GROWER WASHER	A2-70
10	FIXING BOLT	A2-70

Use

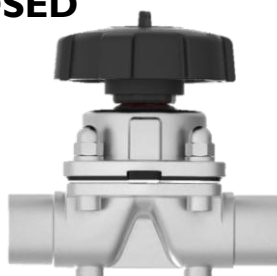
Operating principal

Turn the valve's handwheel clockwise to close it or anti-clockwise to open it.

The red element below the valve's handle (manual handwheel) on its plastic upper body is a visual indicator that shows if the valve is open or closed.

When you cannot see the red element, the valve is closed. When you can see all of the red element, the valve is open as far as it can go.

CLOSED



OPEN



Fluids

This valve can be used with abrasive or coagulable fluids as long as the fluids are chemically compatible with the valve parts that they can come into contact with.

Flow coefficient and pressure loss

Dimensions	DN15	DN20	DN25	DN32	DN40	DN50
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Kv (m³/h)	4.2	12	14	36	40	78

The flow coefficient Kv defines water flow rate through a device (valve, check valve etc.) for a pressure loss (ΔP) of 1 bar. Kv is expressed mathematically as:

$$\Delta P = \frac{Q^2}{K_v^2} \quad \text{so:} \quad K_v = \frac{Q}{\sqrt{\Delta P}} \quad \begin{array}{l} Q \text{ in m}^3/\text{h} \\ \Delta P \text{ in bar} \end{array} \quad \begin{array}{l} K_v \text{ in m}^3/\text{h} \\ C_v \text{ in GPM (Gallons} \\ \text{per minute - US)} \end{array} \quad C_v = 1.16 \times K_v$$

Assembly and maintenance instructions

Installation

You can install the valve in any position. However, check that there is enough space to move the valve's handle where you are planning to install the valve.

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 threaded ends:

Use a wrench that is suitable for the hexagon-shaped valve ends. You must not use the valve's body or its handwheel when you are tightening the assembly (this could damage the valve).

Clean the installation leaving the valve open.

Check the valve is operating correctly.

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

Maintenance

The valve does not require any specific maintenance if it is used in normal operating conditions.

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 may need to change the valve's diaphragm if it has been damaged mechanically or chemically.

If this is the case see the 'Assembly / Disassembly' and 'Spare Parts' sections below.

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 diaphragm 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.

You should work with the valve in the open position.

Open the valve before you start to disassemble it.

Unscrew the bolts **10** to separate the cap **1** from the rest of the valve.

Unscrew the diaphragm **2** from the shaft **3**. Turn the handwheel **6** clockwise until it is removed from the shaft.

Clean and replace the diaphragm if necessary.

Follow the instructions below to reassemble the valve:

Open the valve before you start to reassemble it.

Screw the diaphragm **2** on to the shaft **3**. Be careful not to stretch the diaphragm.

If you feel any resistance, unscrew the diaphragm slightly to line up its holes with the holes for the bolts.

Turn the valve's handwheel **6** to the open position.

Assemble the cap **3** to **8** and the valve's body **1** using 4 bolts **10**.

Do not forget the washers **9**.

Tighten the bolts in a criss-cross pattern.

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

Spare parts



Diaphragm **2**



DN (mm)	NB (inches)	Part number
15 to 20	1/2" to 3/4"	D5521-1520
25	1"	D5521-25
32 to 40	1"1/4 to 1"1/2	D5521-3240
50	2"	D5521-50

Standards and compliance

- Leak testing according to EN 12266.
- This valve complies with European Pressure Equipment Directive (PED) 2014/68/EU (formerly 97/23/EC module D1).
- This diaphragm valve can be used in ATEX zones in accordance with EC Directive 94/9/CE.
- Connection: BSP female thread in accordance with EN ISO 228-1 (G).