

Ball valves



ISO 7-1

Model 58306

**2-part ATEX valve female/female BSP
Free from grease for use with oxygen
316 stainless steel**

1000 lbs/PN63 - Full bore - Lockable handle



Specifications

Dimensions: DN8 to DN50 (1/4" to 2")

Connection: BSP female thread in accordance with ISO 7-1

Pressure: PN63 (1000 lbs)

Temperature: -29°C to +175°C

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

PTFE gaskets

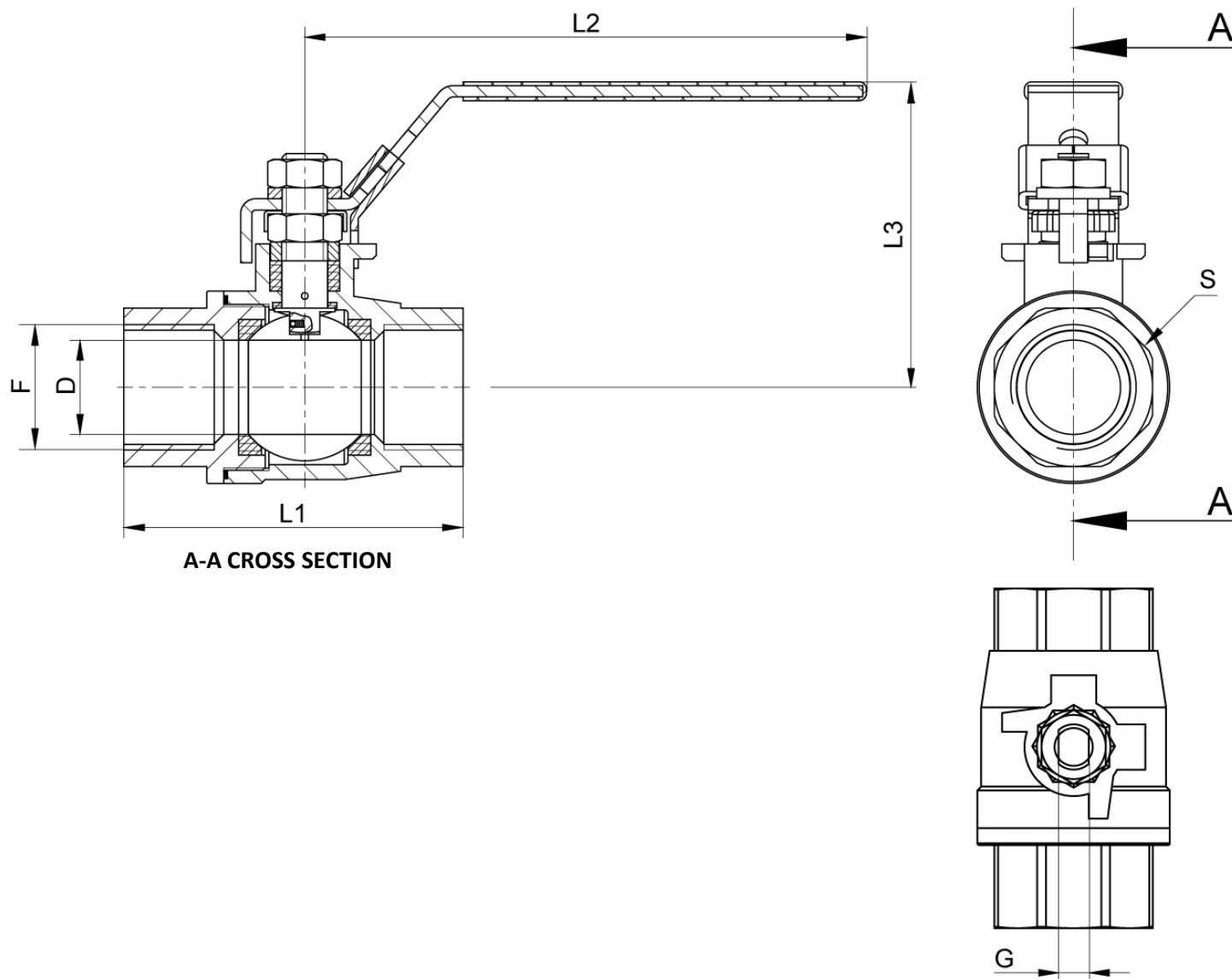
ATEX II 2 G D



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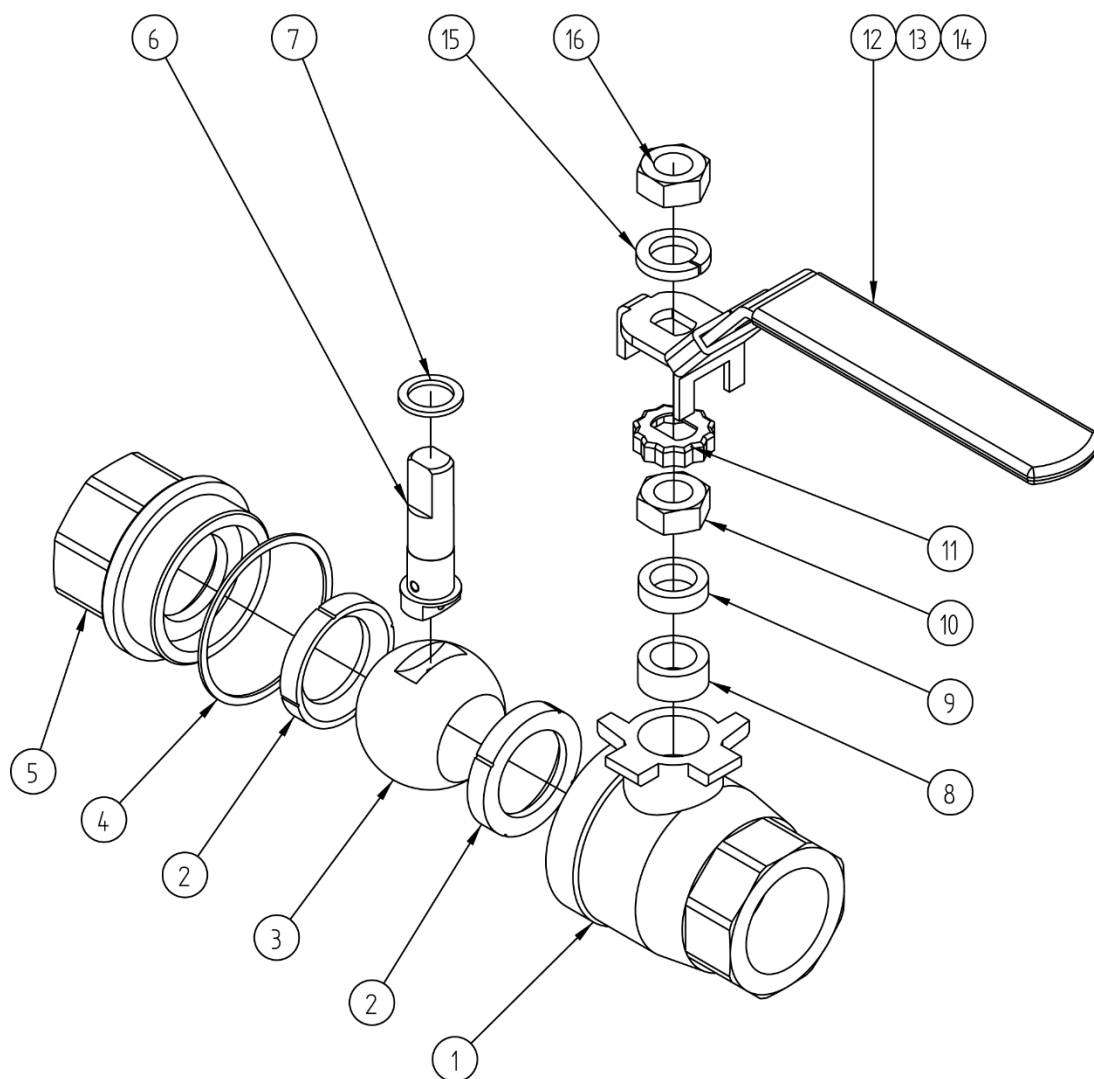
58306-D V0726



DN (mm)	NB (inches)	D (mm)	F (inches)	G (mm)	L1 (mm)	L2 (mm)	L3 (mm)	S (mm)	Weight (kg)	Part number
8	1/4"	10.5	Rp 1/4"	5	58	100	59	24	0.27	458306-8
10	3/8"	12	Rp 3/8"	5	58	100	59	24	0.27	458306-10
15	1/2"	15	Rp 1/2"	5	75	100	59	29	0.35	458306-15
20	3/4"	20	Rp 3/4"	6.5	80	129	66	35	0.49	458306-20
25	1"	25	Rp 1"	8	90	153	83	42	0.81	458306-25
32	1"1/4	32	Rp 1"1/4	8	110	153	87	50	1.17	458306-32
40	1"1/2	38	Rp 1"1/2	10	120	182	99	56	1.80	458306-40
50	2"	50	Rp 2"	10	140	182	107	72	2.75	458306-50

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N°	Part Name	Material
1	BODY	CF8M
2	SEAT RING	PTFE
3	BALL	CF8M
4	BODY GASKET	PTFE
5	FLANGE (FEMALE THREADED END)	CF8M
6	SHAFT + ANTI-STATIC	AISI 316
7	SHAFT RING	PTFE
8	SHAFT PACKING	PTFE
9	SPACER	AISI 304
10	SHAFT NUT (GLAND)	AISI 304
11	STOP NUT	AISI 304
12	HANDLE COVERING	PLASTIC
13	HANDLE	AISI 304
14	LOCKING DEVICE	AISI 304
15	LOCK WASHER	A2
16	HANDLE NUT	A2

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Use

This valve is a shut-off valve: it must be either fully open or fully closed.

Do not leave the valve partially open: an opening default, or leaving the ball valve partially open to decrease flow, could lead to cavitation which is likely to damage the valve.

You must lift the locking device **I4** to be able to turn the valve's handle **I3**. You must always turn the handle by a complete 1/4 turn, until it cannot be turned any further.

Turn the valve's handle 1/4 turn (90°) clockwise to close the valve or 1/4 turn (90°) anti-clockwise to open it.

The valve is open if the handle is in line with the piping.

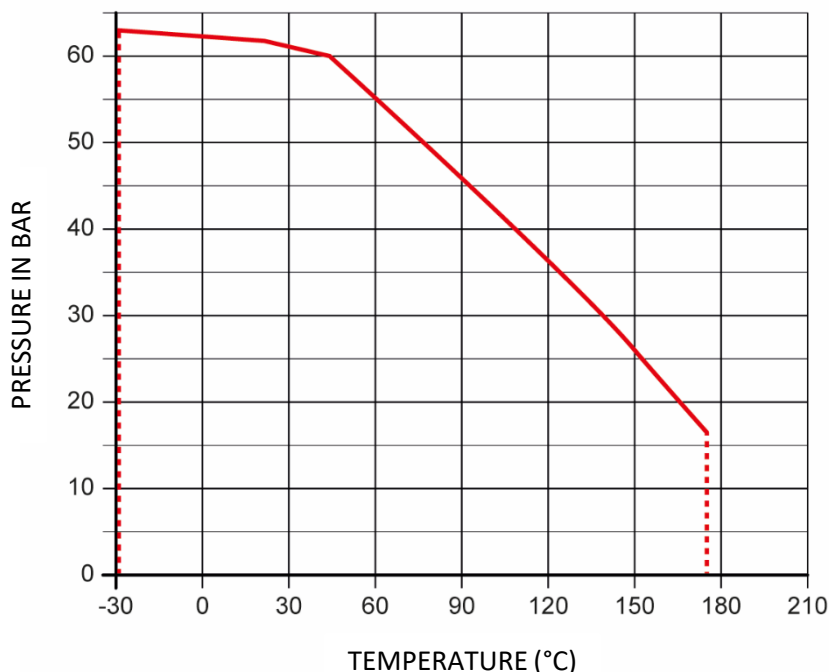
You can lock the handle with a padlock, in the open or closed position.

Pressure and temperature

The data plate indicates the valve's maximum operating pressure and the minimum and maximum operating temperatures.

The operating temperature is between -29°C and +175°C for PTFE shaft packings.

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 it.

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Flow coefficient and pressure loss

Dimensions	DN8	DN10	DN15	DN20	DN25	DN32	DN40	DN50
	1/4"	3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"
Kv (m³/h)	14	20	26	48	83	147	234	407

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

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

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.

Use in ATEX zones

Manual valves, model **58306**, can be used in ATEX II 2 GD zones.

The valve's anti-static shaft ensures electrical continuity between the valve's ball, shaft and body.

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 handle when you are tightening the assembly (this could damage the valve). Use a product that is suitable for the working conditions (e.g. PTFE tape) to make sure the valve's threaded connections are sealed correctly.

You must disassemble and reassemble the valve with the ball in the open position.

Clean the installation leaving the valve open so that there are no foreign bodies between the ball and the body. 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.

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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.

If any leaks appear around the shaft **6**, during operation or during the valve installation testing phase, tighten the shaft nut (gland) **10**. You can usually stop leaks by tightening the nut by 30 to 60°. But you must not over tighten the nut, as this could reduce the system's service life. You must adhere to the tightening torques in table **A** (see page 7).

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

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 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.

Unscrew flange **5** and remove the PTFE seat rings **2** and the body gasket **4**.

Close the valve to remove the ball **3**. Check the condition of the ball's surface. You must replace it at the same time as the two seat rings **2** if it is scratched or damaged.

If you need to replace the shaft's sealing, remove the parts from the upper part of the valve in the following order: handle nut **16**, lock washer **15** and manual valve handle **13** (otherwise remove the valve's motorisation), then the shaft nut **10** and the spacer **9**.

Push the shaft **6** towards the inside of the body **1** in order to remove it, and remove the PTFE shaft ring **7** (be careful you do not scratch the shaft).

Remove the PTFE shaft packing (v-washers) **8** from its housing (be careful you do not scratch the surface of this housing).

Clean and inspect all of the parts of the valve. Replace any worn parts. You are strongly advised to replace all the shaft's sealing parts (gaskets and PTFE packing) if it has been disassembled, as well as the ball's PTFE seat rings.

Follow the disassembly steps in reverse to reassemble the valve.

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

Table A Tightening torque for shaft nut (gland)	Dimensions	DN 8	DN 10	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80
	Nm	8.0~ 9.0	8.0~ 9.0	8.0~ 9.0	8.0~ 9.0	9.0~ 11.3	9.0~ 11.3	15.8~ 18.1	15.8~ 18.1	20.4~ 22.6	20.4~ 22.6

Spare parts

Gasket kits

A gasket kit contains:

- 2 seat rings **2**
- 1 body gasket **4**
- 1 shaft ring **7**
- 1 shaft packing **8**

DN (mm)	NB (inches)	Gasket kit Part no.
8	1/4"	D5391-8
10	3/8"	D5391-10
15	1/2"	D5391-15
20	3/4"	D5391-20

DN (mm)	NB (inches)	Gasket kit Part no.
25	1"	D5391-25
32	1"1/4	D5391-32
40	1"1/2	D5391-40
50	2"	D5391-50

Handle **12; 13; 14**



DN (mm)	NB (inches)	Handle Part no.
8 to 15	1/4" to 1/2"	D5111-815
20	3/4"	D5111-20
25 to 32	1" to 1"1/4	D5111-2532
40 to 50	1"1/2 to 2"	D5111-4050

Standards and compliance

- This valve is designed in accordance with ASME B16.34, API 608 and EN 12516-3 standards.
- Connection: BSP female thread in accordance with ISO 7-1 (Rp).
- Leak testing according to EN 12266/API 598.
- This valve complies with European Pressure Equipment Directive (PED) 2014/68/EU
 - from DN8 according to Annex I Paragraph 4.3.
 - from DN32 according to Annex III Module H: Certificate No. DGR 0036-QS-1045-23.
- ATEX Group II Category 2 G D in accordance with Directive 2014/34/EU: Certificate No. EX9A 082326 0003
 - II 2G Ex h IIC T6...T1 Gb (gas and vapour).
 - II 2D Ex h IIIC T85°C...T450°C Db (combustible dust).

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