Range 58
VALVES

Ball valves

ISO 7-1 (except for NPT)

2-part ATEX female/female ball valve - 316 stainless steel

1000 lbs/PN63 - Full bore - Lockable handle

Model 58303 BSP female thread

Model 58305 NPT female thread

Specifications

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

Connection: BSP ISO 7-1 or NPT female thread

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 GD zones

ISO 9001 BUREAU VERITAS Certification

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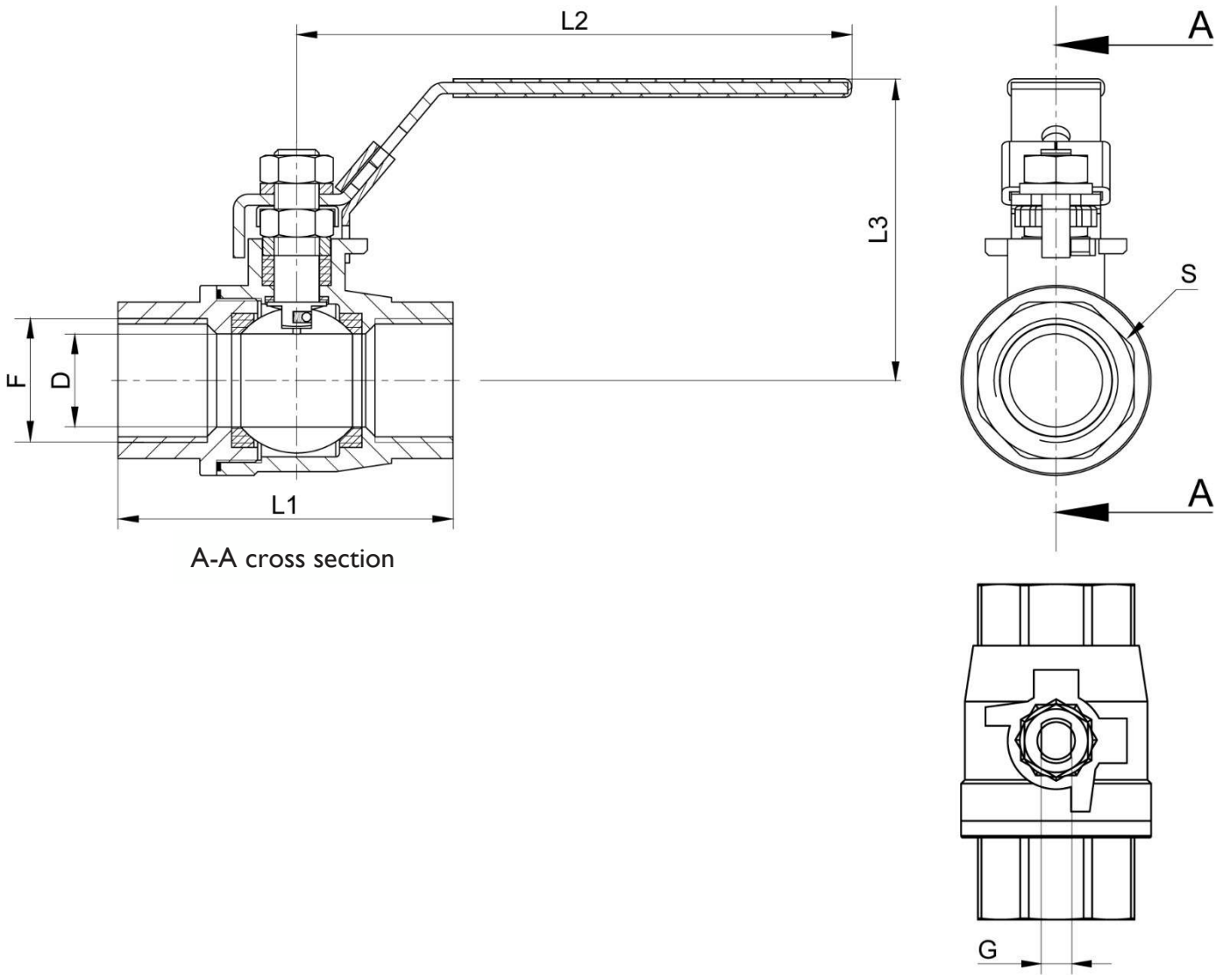
58303/58305-C V0424



A-A cross section

DN (mm)	NB (inches)	D (mm)	F (inches)	G (mm)	L1 (mm)	L2 (mm)	L3 (mm)	S (mm)	Weight (kg)	BSP part n°	NPT part n°
8	**1/4"**	10.6	1/4"	5	58	100	59	24	0.27	**458303-8**	**458305-8**
10	**3/8"**	12	3/8"	5	58	100	59	24	0.27	**458303-10**	**458305-10**
15	**1/2"**	15	1/2"	5	75	100	59	29	0.35	**458303-15**	**458305-15**
20	**3/4"**	20	3/4"	6.5	80	129	66	35	0.49	**458303-20**	**458305-20**
25	**1"**	25	1"	8	90	156	79	42	0.81	**458303-25**	**458305-25**
32	**1"1/4**	32	1"1/4	8	110	156	86	52	1.17	**458303-32**	**458305-32**
40	**1"1/2**	38	1"1/2	10	120	183	98	59	1.80	**458303-40**	**458305-40**
50	**2"**	50	2"	10	140	183	107	72	2.75	**458303-50**	**458305-50**

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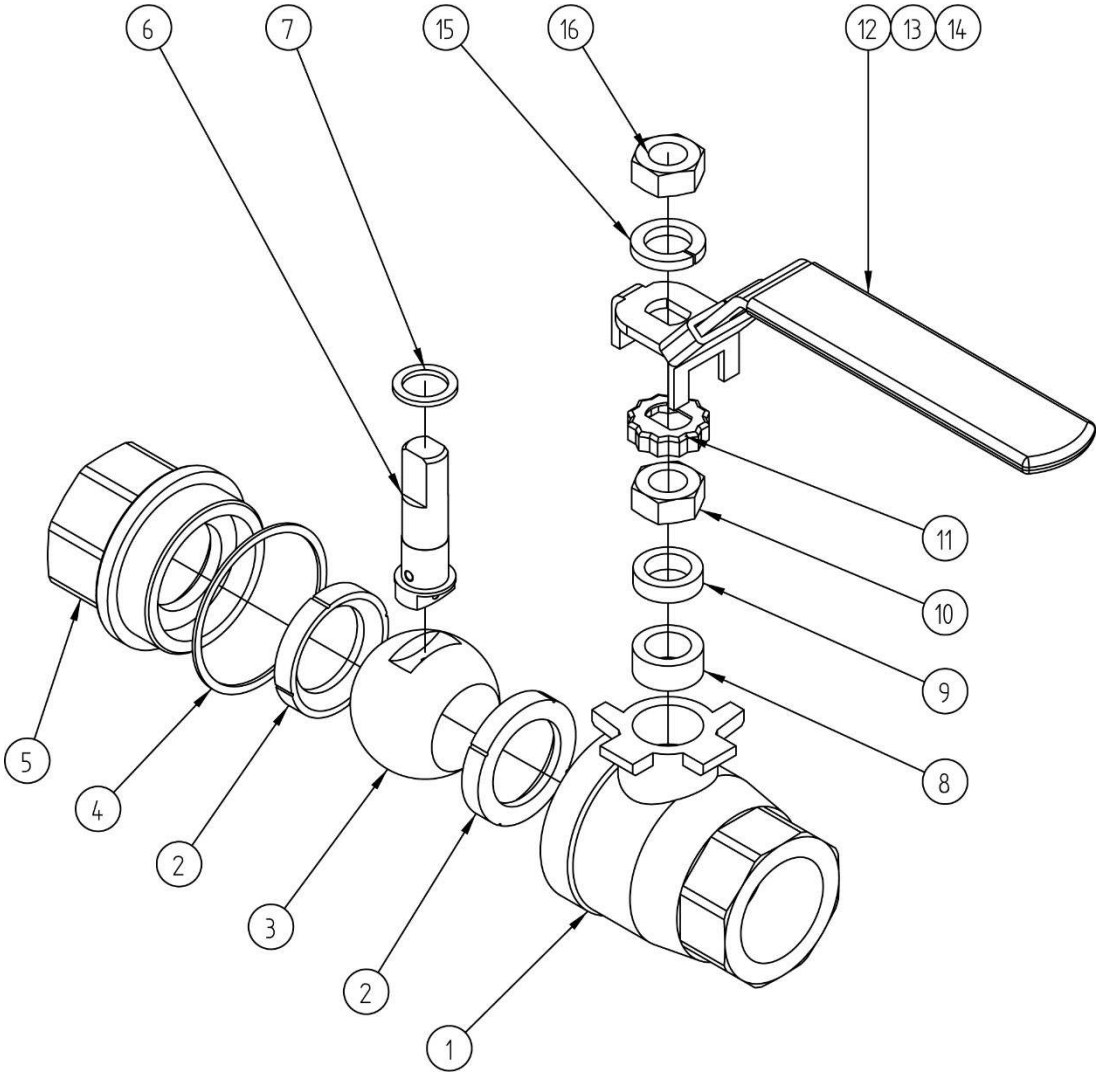

N°	Part Name	Material
1	BODY	ASTM CF8M
2	SEAT	PTFE
3	BALL	ASTM CF8M
4	BODY GASKET	PTFE
5	FLANGE (FEMALE THREADED END)	ASTM CF8M
6	SHAFT + ANTISTATIC	AISI 316
7	SHAFT RING	PTFE
8	SHAFT PACKING	PTFE
9	SPACER	AISI 316
10	SHAFT NUT (GLAND)	A194-8
11	STOP NUT	AISI 304
12	HANDLE COVERING	PVC
13	HANDLE	AISI 304
14	LOCKING DEVICE	AISI 304
15	LOCK WASHER	AISI 304
16	HANDLE NUT	A194-8

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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.

To operate the valve, lift the locking device **14** so that the valve's handle **13** can be turned 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.

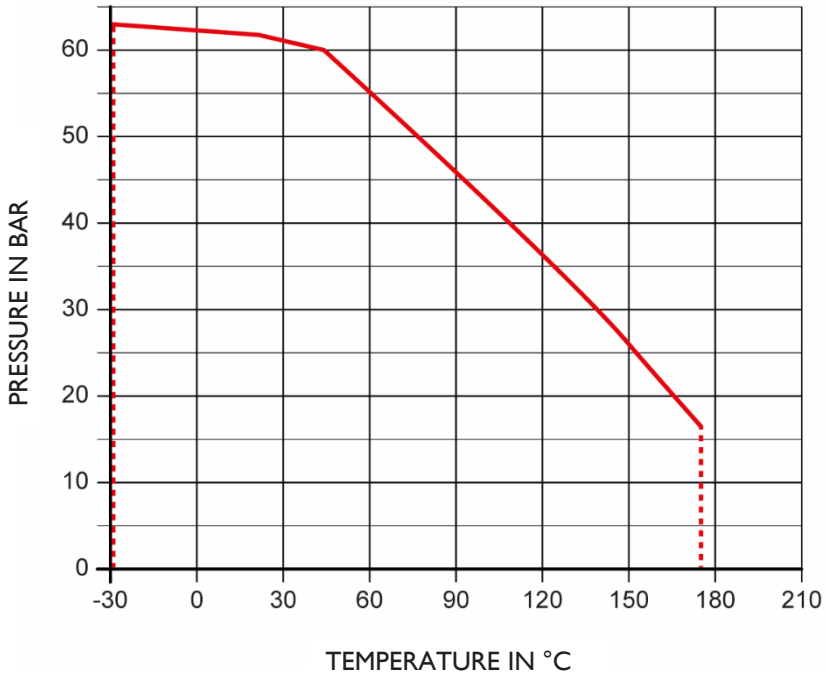
The valve is open if the handle is in line with the piping.
You can lock the handle with a padlock, in the open or closed position.

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.

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 (m^3/h)	14	20	26	48	83	147	234	407

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:

$\Delta P = \frac{Q^2}{Kv^2}$ so: $Kv = \frac{Q}{\sqrt{\Delta P}}$

Q in m^3/h
ΔP in bar

Kv in m^3/h
Cv in GPM (Gallons per minute - US)

$Cv = 1.16 \times Kv$

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, models **58303** and **58305**, can be used in ATEX II 2 GD zones.

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.

<u>How to install a valve with threaded ends:</u>
Use a wrench that is suitable for the hexagon-shaped valve end. 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.

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 (see table **A** on 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" section 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 valve's body **1** in order to remove it and remove the flat PTFE 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 ball valve.
Pressure test the valve and check that it can be opened and closed before you put the installation back into service.

Table A	Dimensions	DN 8	DN 10	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80
Tightening torque for shaft nut (gland)	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

Gasket kits

A gasket kit contains:
- 2 seat rings **2**
- 1 body gasket **4**
- 1 shaft ring **7**
- 1 shaft packing **8**

(quantity could vary according to the DN)

DN (mm)	NB (inches)	Part number
8	1/4"	958303-8
10	3/8"	958303-10
15	1/2"	958303-15
20	3/4"	958303-20

DN (mm)	NB (inches)	Part number
25	1"	958303-25
32	1"1/4	958303-32
40	1"1/2	958303-40
50	2"	958303-50

Standards and compliance

- This valve is designed in accordance with ASME B16.34 and EN 12516-3 standards.
- Connection: BSP female thread in accordance with ISO 7-1 (Rp) or NPT taper thread in accordance with ASME B1.20.1.
- 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 Rev. 01
  - II 2G Ex h IIB T3 Gb (gas and vapour)
  - II 2D Ex h IIIC T180°C Db (combustible dust).