

Ball valves

Model 58268**2-part ATEX ball valve with class 150
flanges and ISO mounting plate - API 607
316 stainless steel****Full bore - Lockable handle**

Specifications

Dimensions: 1/2" to 8" (DN15 to DN200)**Connection:** with flanges according to ASME B16.5**Pressure:** Class 150 (equivalent to PN20)**Temperature:** -29°C to +200°C**Material:** 316 or 1.4408 stainless steel

TFM 1600 seats

PTFE + Graphite + FKM gaskets

ISO 5211 mounting plate for pneumatic or
electric actuator

ATEX II 2 G D

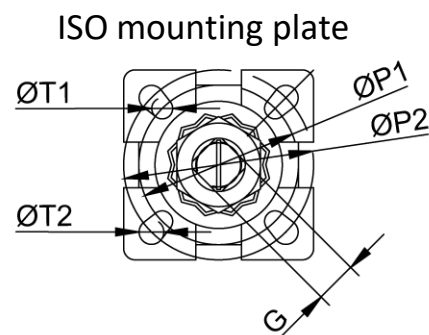
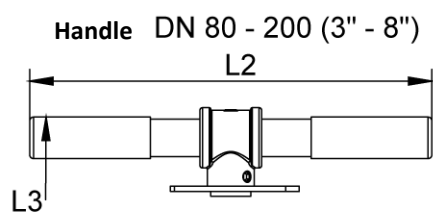
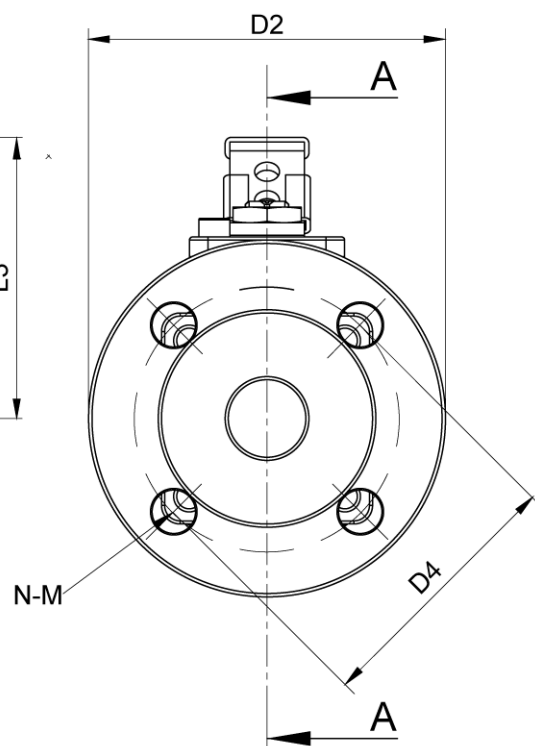
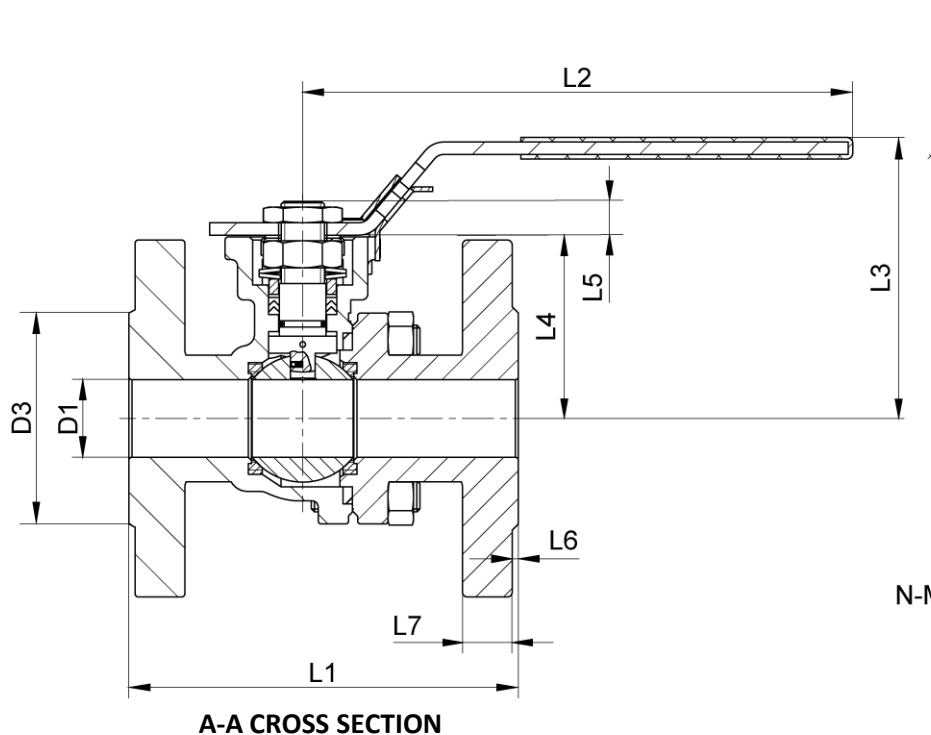
API 607 (fire safety)



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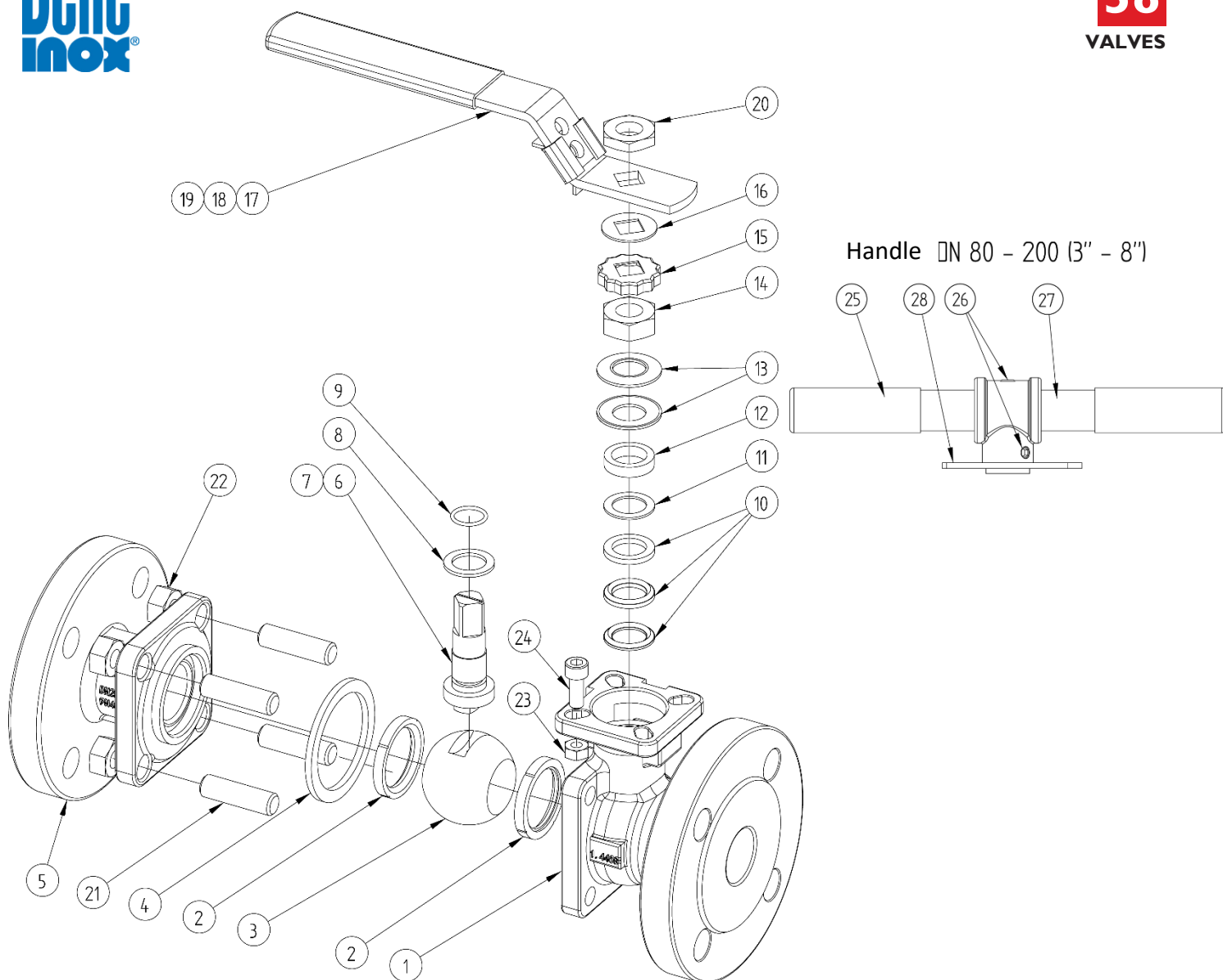
58268-G V0726



DN	NB	D1	D2	D3	D4	L1	L2	L3	L4	L5	L6	L7
(mm)	(inches)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
15	1/2"	15	90	35	60.3	108	147	79	49	9	2	8
20	3/4"	20	100	43	69.9	117	147	84	53	9	2	8.9
25	1"	25	110	51	79.4	127	177	90	59	11	2	9.6
32	1"1/4	32	115	64	88.9	140	177	102	71	11	2	11.2
40	1"1/2	38	125	73	98.4	165	197	110	76	14	2	12.7
50	2"	50	150	92	120.7	178	197	115	82	14	2	14.3
65	2"1/2	64	180	105	139.7	190	267	150	102	17	2	15.9
80	3"	76	190	127	152.4	203	300*	176	112	17	2	17.5
100	4"	100	230	157	190.5	229	400*	211	140	22	2	22.3
125	5"	125	255	186	215.9	356	600*	263	183	27	2	22.3
150	6"	150	280	216	241.3	394	800*	284	204	27	2	23.9
200	8"	200	345	270	298.5	457	800*	334	253	27	2	27.0

DN	NB	G	M	N	ØP1	ØP2	ØT1	ØT2	ISO mounting plate	Weight (kg)	Part number
(mm)	(inches)	(mm)	(mm)	(Qty)	(mm)	(mm)	(mm)	(mm)			
15	1/2"	9	16	4	36	42	6	6	F03-F04	2.54	458268-15
20	3/4"	9	16	4	36	50	6	7	F03-F05	3.64	458268-20
25	1"	11	16	4	42	50	6	7	F04-F05	4.55	458268-25
32	1"1/4	11	16	4	42	70	6	9	F04-F07	5.17	458268-32
40	1"1/2	14	16	4	50	70	7	9	F05-F07	8.69	458268-40
50	2"	14	19	4	50	70	7	9	F05-F07	10.9	458268-50
65	2"1/2	17	19	4	70	102	9	11	F07-F10	17.5	458268-65
80	3"	17	19	4	70	102	9	11	F07-F10	27.3	458268-80
100	4"	22	19	8	-	102	-	11	F10	41.8	458268-100
125	5"	27	22.3	8	125	-	14	-	F12	67.6	458268-125
150	6"	27	22.3	8	125	-	14	-	F12	100.6	458268-150
200	8"	27	22.3	8	125	-	14	-	F14	170.0	458268-200

* positionable tubular handle



N°	Part Name	Material
1	BODY	ASTM CF8M
2	SEAT RING	TFM1600
3	BALL	AISI 316
4	BODY GASKET	SPIRAL GASKET 316 + GRAPHITE
5	END FLANGE	ASTM CF8M
6	SHAFT	AISI 316
7	SPRING + BALL BEARING (ANTI-STATIC)	AISI 316
8	SHAFT RING	PTFE
9	SHAFT O-RING	FKM
10	SHAFT PACKING	GRAPHITE
11	SUPPORT RING	AISI 304
12	SPACER	AISI 316
13	BELLEVILLE WASHER	AISI 301
14	SHAFT NUT (GLAND)	A194-8

N°	Part Name	Material
15	STOP NUT	AISI 304
16	FLAT WASHER	AISI 304
17	HANDLE (DN 15-65)	AISI 304
18	HANDLE COVERING	PVC
19	LOCKING DEVICE	AISI 304
20	HANDLE NUT (DN 15-65)	A194-8
21	SCREW (FLANGE)	A193-B8
22	NUT (FLANGE)	A194-8
23	NUT (HANDLE STOP)	A2-70
24	BOLT (HANDLE STOP)	A2-70
25	HANDLE COVERING (DN 80-100)	PVC
26	SCREW (DN 80-100)	A2-70
27	TUBULAR HANDLE (DN 80-200)	GALVANISED STEEL
28	HANDLE ADAPTER (DN 80-200)	CF8M

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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 **19** to be able to turn the valve's handle **17**. You must always turn the handle by a complete 1/4 turn, until it cannot be turned any further.

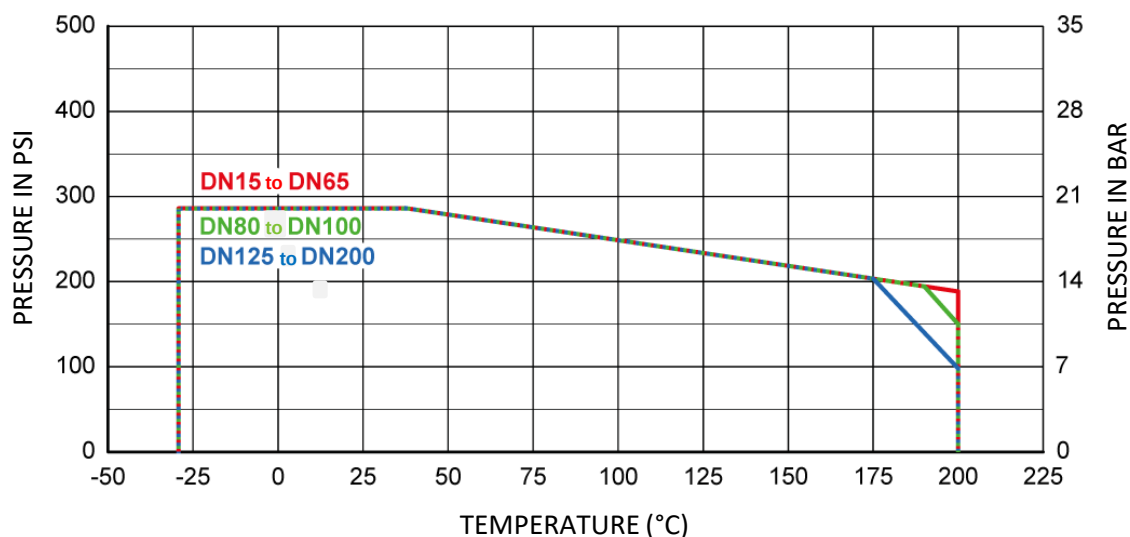
Turn the valve's handle 1/4 turn (90°) clockwise to close the valve or 1/4 turn (90°) anti-clockwise to open it.

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 (but this information does not cover any associated actuator or servo motor, so if you use one of these with the valve please also check their respective data plates to find this information). The operating temperature is between -29°C and +200°C for TFM I600 seats.

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	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
Kv (m³/h)	26	48	83	147	234	407	675	995	1817	3028	4325	8218

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:

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

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.

Motorisation

You can motorise the valve through direct mounting using its ISO mounting plate (ISO 5211 standard), see the corresponding product data sheets.

- Model **50330**: Valve with spring return or double-acting type aluminium pneumatic actuator
- Model **50331**: Valve with spring return or double-acting stainless steel pneumatic actuator
- Model **50333**: Valve with electric servo motor IP65
- Model **50337 - 50338 - 50339**: Valve with electric servo motor IP68
- Model **50341 - 50342 - 50343**: Valve with electric servo motor IP68
- Model **50345 - 50346 - 50347**: Valve with ATEX electric servo motor IP68

Required operating torque for valve motorisation

Dimensions	-	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200
Operating torque for water at 10 bar	Nm	5	6	10	13	19	29	45	72	110	210	306	430
Operating torque for water at 20 bar	Nm	5	6	11	15	22	32	49	81	122	245	340	487
Operating torque for water at 50 bar	Nm	5	6	11	17	24	35	54	90	135	285	530	760
Coupling characteristics	Mounting plate	F03 F04	F03 F05	F04 F05	F04 F07	F05 F07	F05 F07	F07 F10	F07 F10	F10	F12	F12	F12
	Square	9x9	9x9	11x11	11x11	14x14	14x14	17x17	17x17	22x22	27x27	27x27	27x27

It is recommended to use a minimum safety factor of +30% for motorisation with a pneumatic actuator and +50% for motorisation with an electric actuator.

You can find this information on the product data sheet for each actuator.

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Use in ATEX zones

Manual valves (model **58268**) and pneumatic valves (models **50330** and **50331**) 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.

If you add any other element (e.g. position detection, solenoid valves etc.), you must check that this addition can be used in ATEX zones.

You **cannot use** models **50333**, **50337**, **50341** and **50345** etc. (valves with electric servo motors) **in ATEX zones**.

You can only use models **50345**, **50346** and **50347** with ATEX electric actuators 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.

How to install a valve with flanges:

Weld flanges (e.g. flanges with a 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 its handle).

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) **14**. 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 **B** (see page 9).

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.

Rinse the valve's body before you disassemble the valve, to do this place the ball at 45°, i.e. in the half open position.

Unscrew the nuts **22** from the bolts **21** in the end flange **5**. Separate the end flange **5** from the valve's body **1**.

Remove the seats **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 **20**, handle **19** and flat washer(s) **16** in the case of a manual valve (otherwise remove the valve's motorisation), then the stop nut **15**, shaft nut **14**, Belleville washers **13** and stainless steel rings (**11** + **12**).

Push the shaft **6** towards the inside of the body **1** in order to remove it and remove the shaft o-ring **9** and the PTFE shaft ring **8** (be careful you do not scratch the shaft).

Remove the graphite packing (v-washers) **10** 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 the sealing packing) if it has been disassembled, as well as the ball's seat rings.

Follow the disassembly steps in reverse to reassemble the valve.

You must adhere to the tightening torques for the shaft nut (gland) **14** in table **B** and the tightening torques for the nuts and bolts that hold the 2 parts of the valve's body together **21 + 22** (see table **A**).

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

Table A	Dimensions	M8	M10	M12	M14	M16	M18	M20	M22
Max. tightening torque Flange nuts and bolts	Nm	14~19	28~38	50~67	80~107	127~170	173~230	248~331	344~458

Table B	Dimensions	DN15-20	DN25-32	DN40-50	DN65-80	DN100	DN125-150	DN200
Max. tightening torque Shaft nut	Nm	9~12	12~16	17~22	25~32	42~50	65~75	80~90

Spare parts



Gasket kits

A gasket kit contains:

- 2 seat rings **2**
- 1 body gasket **4**
- 1 shaft ring **8**
- 1 o-ring **9**
- 1 shaft packing **10**
- 1 support ring **11**

(quantity could vary according to the DN)

DN (mm)	NB (inches)	Gasket kit Part no.
15	1/2"	D5381-15
20	3/4"	D5381-20
25	1"	D5381-25
32	1"1/4	D5381-32
40	1"1/2	D5381-40
50	2"	D5381-50

DN (mm)	NB (inches)	Gasket kit Part no.
65	2"1/2	D5381-65
80	3"	D5381-80
100	4"	D5381-100
125	5"	D5381-125
150	6"	D5381-150
200	8"	D5381-200

Handle **17; 18; 19**

For DN15 to DN65

DN (mm)	NB (inches)	Handle Part no.
15 to 20	1/2" to 3/4"	D5121-820
25 to 32	1" to 1"1/4	D5121-2532
40 to 50	1"1/2 to 2"	D5121-4050
65	2"1/2	D5121-6580
80	3"	D5121-80

DN (mm)	NB (inches)	Handle Part no.
100	4"	D5121-100
125	5"	D5121-125
150	6"	D5121-150
200	8"	D5121-200

Tubular handle **25; 26; 27; 28**

For DN80 to DN200

Customisation possibilities



Position raiser with ISO mounting plate



DN (mm)	NB (inches)	Length (mm)	Position raiser with ISO plate Part no.
15 to 20	1/2" to 3/4"	100	458208-1
25 to 32	1" to 1 1/4"	100	458208-2
40 to 50	1 1/2" to 2"	100	458208-3
65 to 80	2 1/2" to 3"	100	458208-4
100	4"	100	458208-5
125 to 150	5" to 6"	120	458208-6

Oval operating wheel



DN (mm)	NB (inches)	Operating wheel Part no.
15 to 20	1/2" to 3/4"	458136-1
25 to 32	1" to 1 1/4"	458136-2
40 to 50	1 1/2" to 2"	458136-3

Spring return (deadman) handle



DN (mm)	NB (inches)	Deadman handle Part no.
15 to 20	1/2" to 3/4"	458136-1
25 to 32	1" to 1 1/4"	458136-2
40 to 50	1 1/2" to 2"	458136-3

Standards and compliance

- This valve is designed in accordance with ASME B16.34 and API 608 standards.
- Connection: flanges in accordance with ASME B16.5.
- 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-I045-23.
- 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).
- This valve meets fire safety regulations according to API 607 and ISO 10497 standards.