M40Ti ISO

Reduced Bore Ball Valve for the Tobacco Industry DN25 to DN200 Flanged ASME 150 and ASME 300

Description

The M40Ti is a reduced bore ball valve, with a single piece body, having ISO mounting as standard. As a main feature the valve has UHMWPE seats.
The M40Ti has been designed for use as an isolating valve, not a control valve, and can be used on Teflon free process applications at moderate temperatures. The M40Ti ISO is not suitable for steam applications.

Available types

M40Ti2 ISO	Zinc plated carbon steel body, UHMWPE seats.
M40Ti3 ISO	Stainless steel body, UHMWPE seats.

Standards

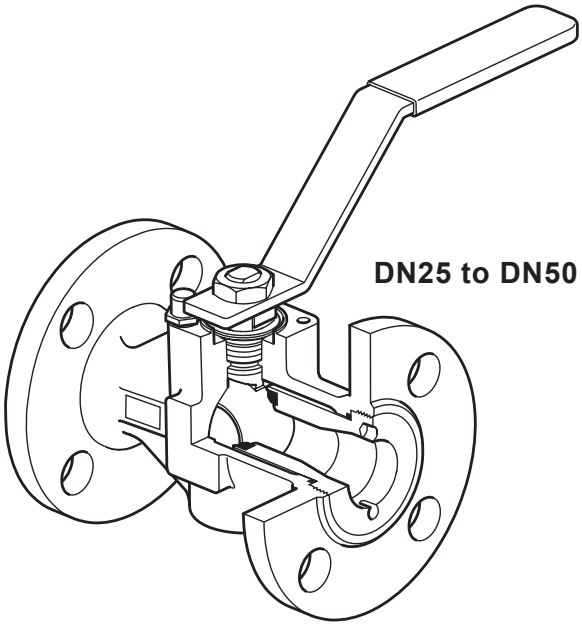
This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC and carries the CE mark when so required.

Certification

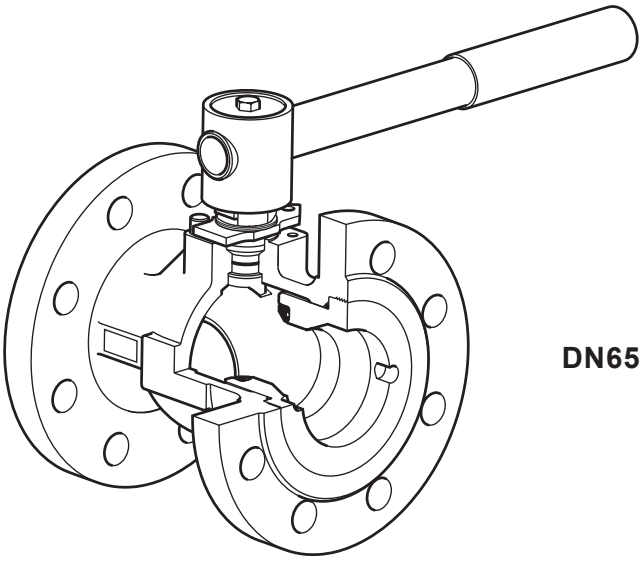
This product is available with certification to EN 10204 3.1.
Note: All certification/inspection requirements must be stated at the time of order placement.

Sizes and pipe connections

DN25, DN32, DN40, DN50, DN65, DN80, DN100, DN150 and DN200.
Standard flanges ASME 150 and ASME 300 with face-to.face dimensions according to ASME B16.10.



DN25 to DN50

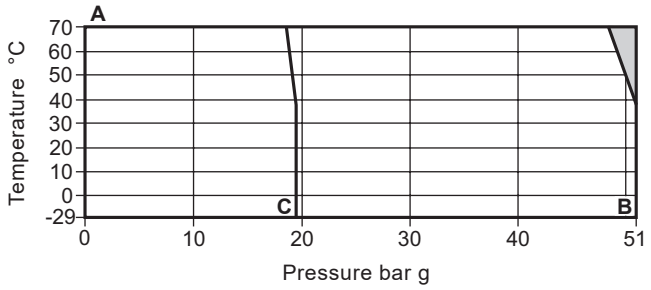


DN65

Technical data

Flow characteristic	Modified linear
Port	Reduced bore
Leakage test procedure to ISO 5208 (Rate A)/EN 12266-1 (Rate A)	
Antistatic device (optional) complies with ISO 7121 and BS 5351	

Pressure/temperature limits



The product **must not** be used in this region.

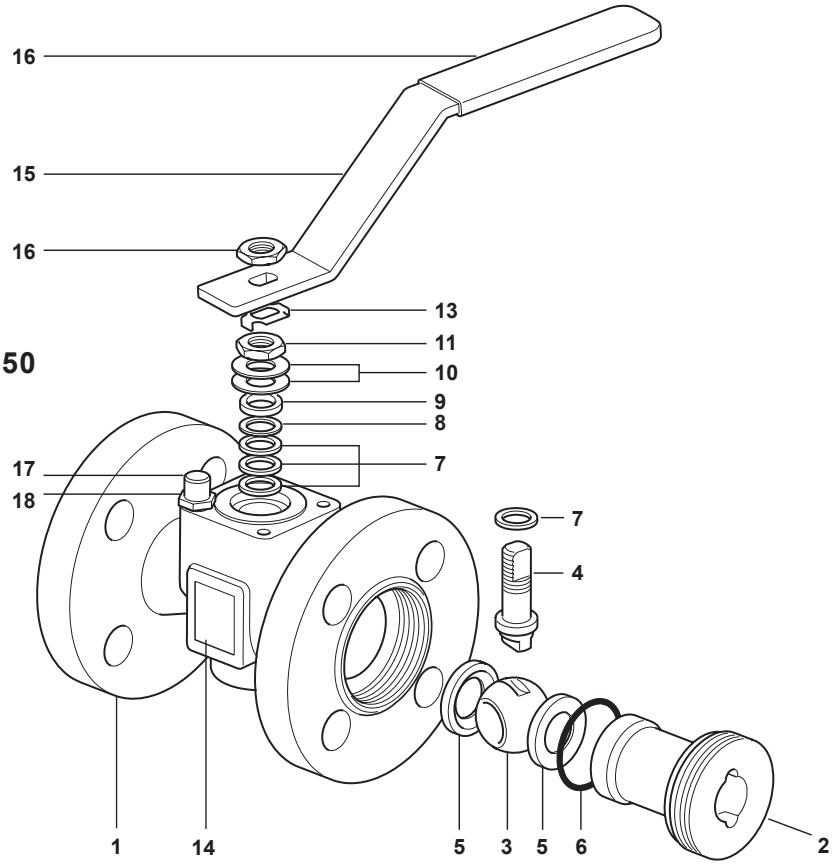
A - B Flanged ASME 300.

A - C Flanged ASME 150.

Body design conditions			ASME B 16.34
PMA	Maximum allowable pressure	ASME 150	19 bar g @ 38 °C
		ASME 300	51 bar g @ 38 °C
TMA	Maximum allowable temperature	ASME 150	70 °C @ 18 bar g
		ASME 300	70 °C @ 48 bar g
Minimum allowable temperature			-29 °C
PMO	Maximum operating pressure	ASME 150	19 bar g @ 38 °C
		ASME 300	51 bar g @ 38 °C
TMO	Maximum operating temperature	ASME 150	70 °C @ 18 bar g
		ASME 300	70 °C @ 48 bar g
Minimum operating temperature **Note:** For lower operating temperatures consult Spirax Sarco			-29 °C
ΔPMX	Maximum differential pressure is limited to the PMO		
Designed for a maximum cold hydraulic test pressure of:		ASME 150	28.5 bar g
		ASME 300	76.5 bar g

Materials

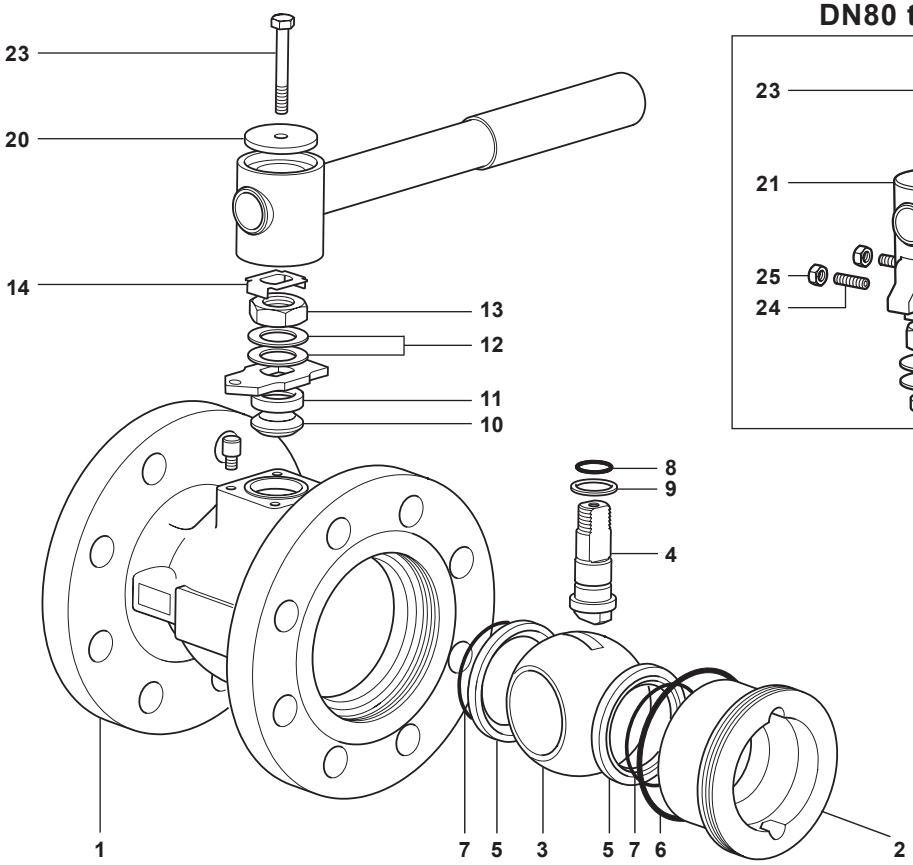
DN25 to DN50



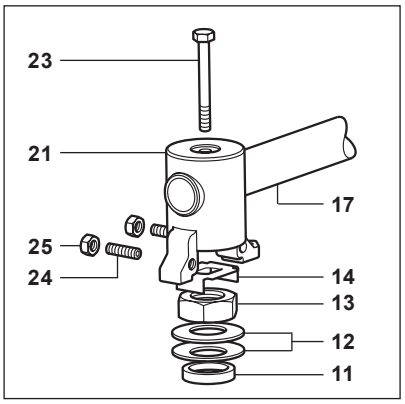
No.	Part		Material	
1	Body	M40Ti2 ISO	Zinc plated carbon steel	ASTM A216 WCB
		M40Ti3 ISO	Stainless steel	ASTM A351 CF8M
2	Insert	M40Ti2 ISO	Zinc plated carbon steel	SAE 1040
		M40Ti3 ISO	Stainless steel	AISI 316
3	Ball		Stainless steel	AISI 316
4	Stem		Stainless steel	AISI 316
5	Seat		UHMWPE	
6	Insert 'O' ring		EPDM	Geothermal
7	Stem seal		UHMWPE	
8	Stem seal		Stainless steel	AISI 304
9	Separator		Zinc plated carbon steel	SAE 1010
10	Belleville washer		Stainless steel	AISI 301
11	Gland nut		Zinc plated carbon steel	SAE 1010 / SAE 12L14
12	Upper stem nut		Zinc plated carbon steel	SAE 1010 / SAE 12L14
13	Locking plate		Stainless steel	AISI 304
14	Nameplate		Stainless steel	AISI 430
15	Lever		Zinc plated carbon steel	SAE 1010
16	Grip		Vinyl	Light blue
17	Stop screw		Zinc plated carbon steel	SAE 12L14
18	Split lock washer		Stainless steel	AISI 304

Materials

DN65



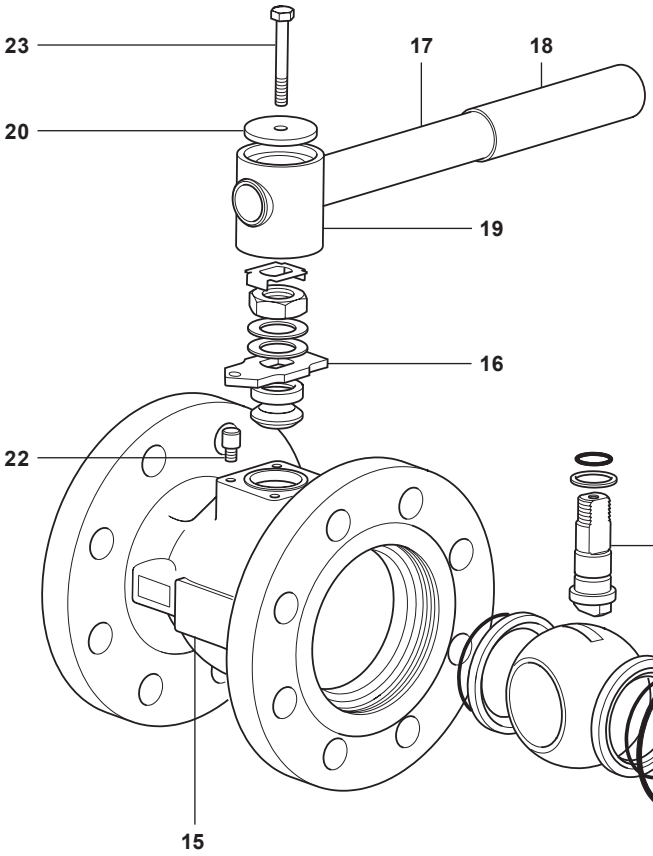
DN80 to DN200



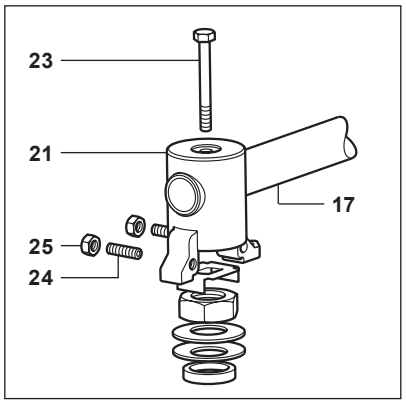
No.	Part		Material	
1	Body	M40Ti2 ISO	Zinc plated carbon steel	ASTM A216 WCB
		M40Ti3 ISO	Stainless steel	ASTM A351 CF8M
2	Insert	M40Ti2 ISO	Zinc plated carbon steel	SAE 1040
		M40Ti3 ISO	Stainless steel	AISI 316
3	Ball		Stainless steel	AISI 316
4	Stem		Stainless steel	AISI 316 / AISI 420
5	Seat		UHMWPE	
6	Insert 'O' ring		EPDM	Geothermal
7	Seat 'O' ring		EPDM	Geothermal
8	Stem 'O' ring		EPDM	Geothermal
9	Lower stem seal		UHMWPE	
10	Upper stem packing		UHMWPE	
11	Separator		Zinc plated carbon steel	SAE 1010
12	Belleville washer		Carbon steel / Stainless steel	
13	Gland nut		Zinc plated carbon steel	SAE 1010 / SAE 12L14
14	Locking plate		Carbon steel	AISI 304

Materials (continued)

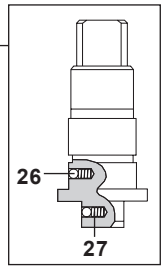
DN65



DN80 to DN200



DN65 to DN150

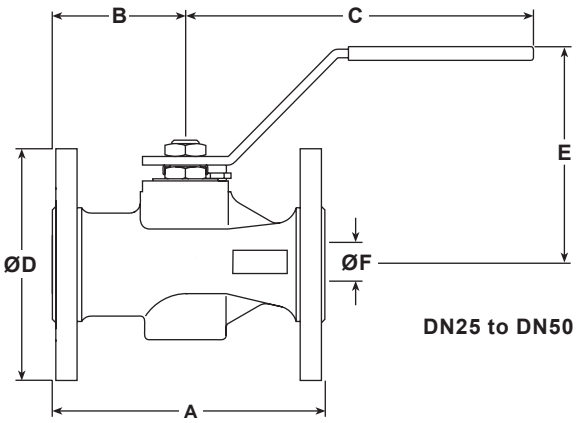


No.	Part		Material	
15	Nameplate		Stainless steel	AISI 430
16	Stop plate with indicator	DN65 only	Zinc plated carbon steel	SAE 1010
17	Lever		Zinc plated carbon steel	SAE 1010
18	Grip		Vinyl	Light blue
19	Adaptor	DN65 only	Zinc plated SG iron	
20	Adaptor plate	DN65 only	Zinc plated carbon steel	SAE 1010
21	Adaptor with indicator	DN80 to DN200	Zinc plated SG iron	
22	Stop screw	DN80 to DN200	Zinc plated carbon steel	SAE 12L14
23	Adaptor screw		Zinc plated carbon steel	Grade 5
24	Stop screw	DN80 to DN200	Carbon steel	
25	Adaptor hex. nut	DN80 to DN200	Zinc plated carbon steel	
26	Antistatic device ball		Stainless steel	AISI 302
27	Antistatic device spring		Stainless steel	AISI 301

Dimensions/weights (approximate) in mm and kg

Flanged ASME 150

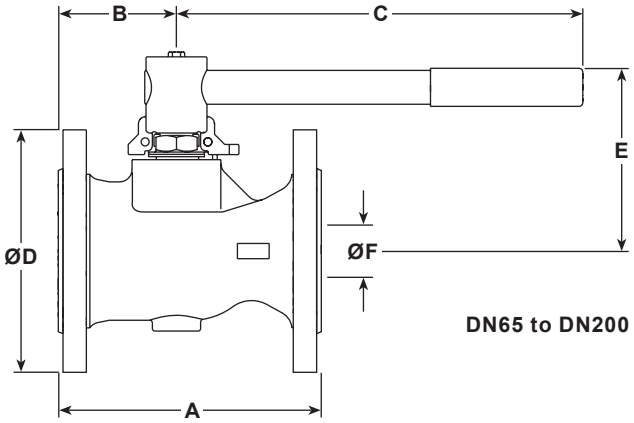
Size	A	B	C	D	E	F	Weight
DN25	127	62	162	108	101	19	2.9
DN32	140	65	182	118	106	25	3.8
DN40	165	70	186	127	118	30	5.4
DN50	178	75	186	152	123	37	7.9
DN65	190	79	278	178	144	50	12.0
DN80	203	91	417	191	157	57	15.8
DN100	229	98	517	229	172	75	24.8
DN150	267	130	700	279	205	100	43.8
DN200	292	146	850	343	286	150	82.5



DN25 to DN50

Flanged ASME 300

Size	A	B	C	D	E	F	Weight
DN25	165	62	162	124	101	19	4.5
DN32	178	65	182	134	106	25	5.7
DN40	190	70	186	156	118	30	8.2
DN50	216	75	186	165	123	37	10.3
DN65	241	79	278	190	144	50	16.0
DN80	283	91	417	210	157	57	22.3
DN100	305	98	517	254	172	75	36.1
DN150	403	130	700	318	205	100	66.6
DN200	419	146	850	381	286	150	117.5



DN65 to DN200

K_V values

DN	25	32	40	50	65	80	100	150	200
K_V	30	40	81	103	197	248	581	735	1 600

For conversion:
C_V (UK) = K_V x 0.963
C_V (US) = K_V x 1.156

Operating torques (Nm)

DN	25	32	40	50	65	80	100	150	200
N m	10	15	20	25	50	70	100	155	720

Note: The torque figures shown are for a valve that is frequently operated at the maximum operating pressure. Valves that are subject to long static periods, may require a greater break-out torque.

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions supplied with the product.

Welding

Only the models that have connections designed for welding (SW, BW, Imperial Tube connections) should be welded. Valves with flanged connections must not be welded to avoid damages to the valve and/or injury to personnel

How to order

Specify	Body material	
		2 = Zinc plated carbon steel
		3 = Stainless steel

Example: 1 off Spirax Sarco DN50 M40Ti2 ISO ball valve having flanged ASME 150 connections.

Optional extras:

- Self-venting ball.
- Extended stems to allow full insulation: 50 mm (2") for DN25 to DN50 sizes and 100 mm (4") for DN25 to DN200 sizes.
- Lockable handle.
- 100 mm extended stem with lockable handle.

DN25 to DN50 - Spare parts (see page 9 for sizes DN65 - DN200)

The spare parts available are shown in solid outline. Parts drawn in a grey line are not supplied as spares.

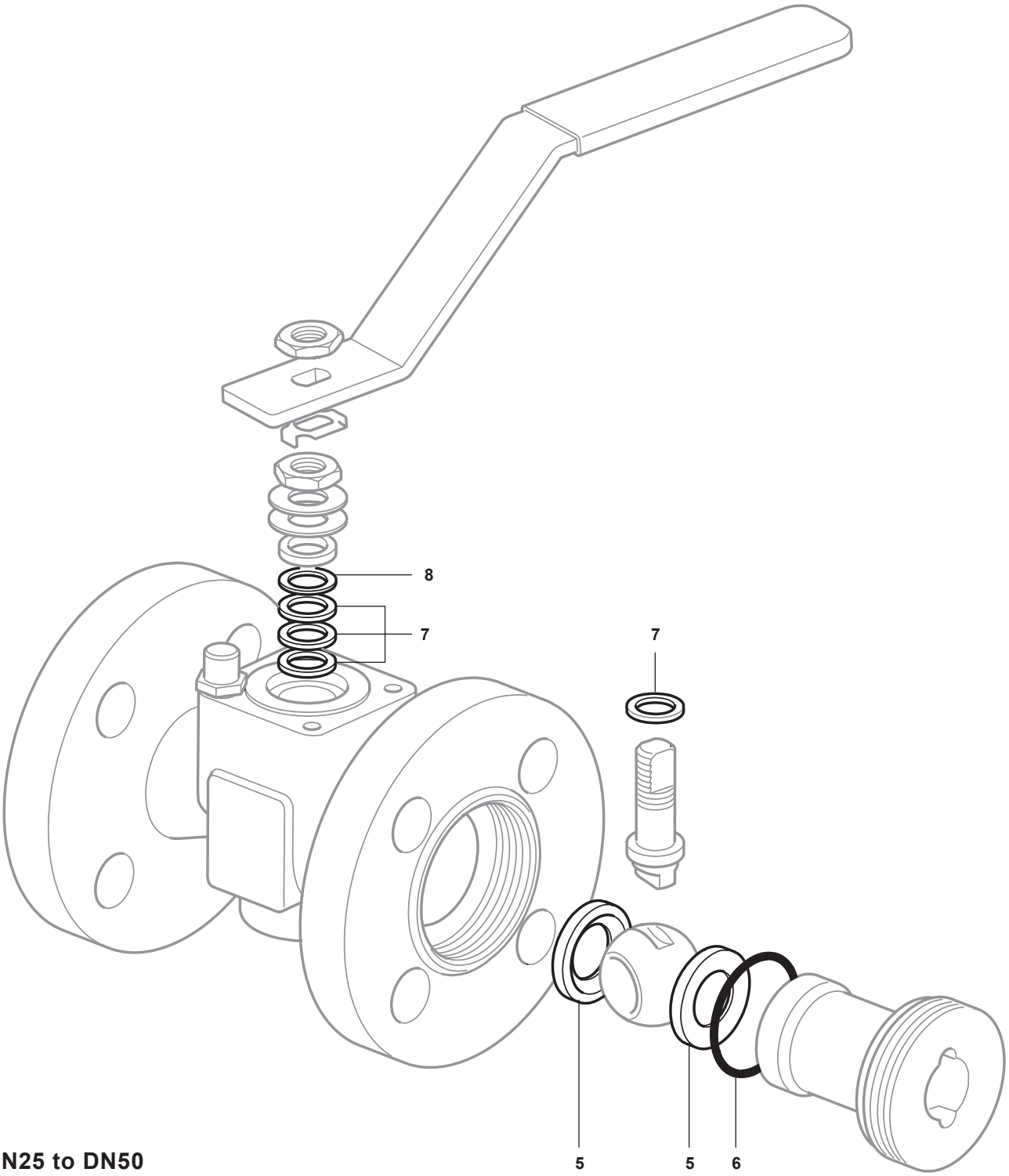
Available spares

Seats, insert 'O' ring and stem seals	**5, 6, 7, 8**

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and type of ball valve.

Example: 1 set of seats, insert 'O' ring and stem seals for a Spirax Sarco DN50 flanged ASME 150 M40Ti2 ball valve.



DN25 to DN50

DN65 to DN200 - Spare parts (see page 8 for sizes DN25 - DN50)

The spare parts available are shown in solid outline. Parts drawn in a grey line are not supplied as spares.

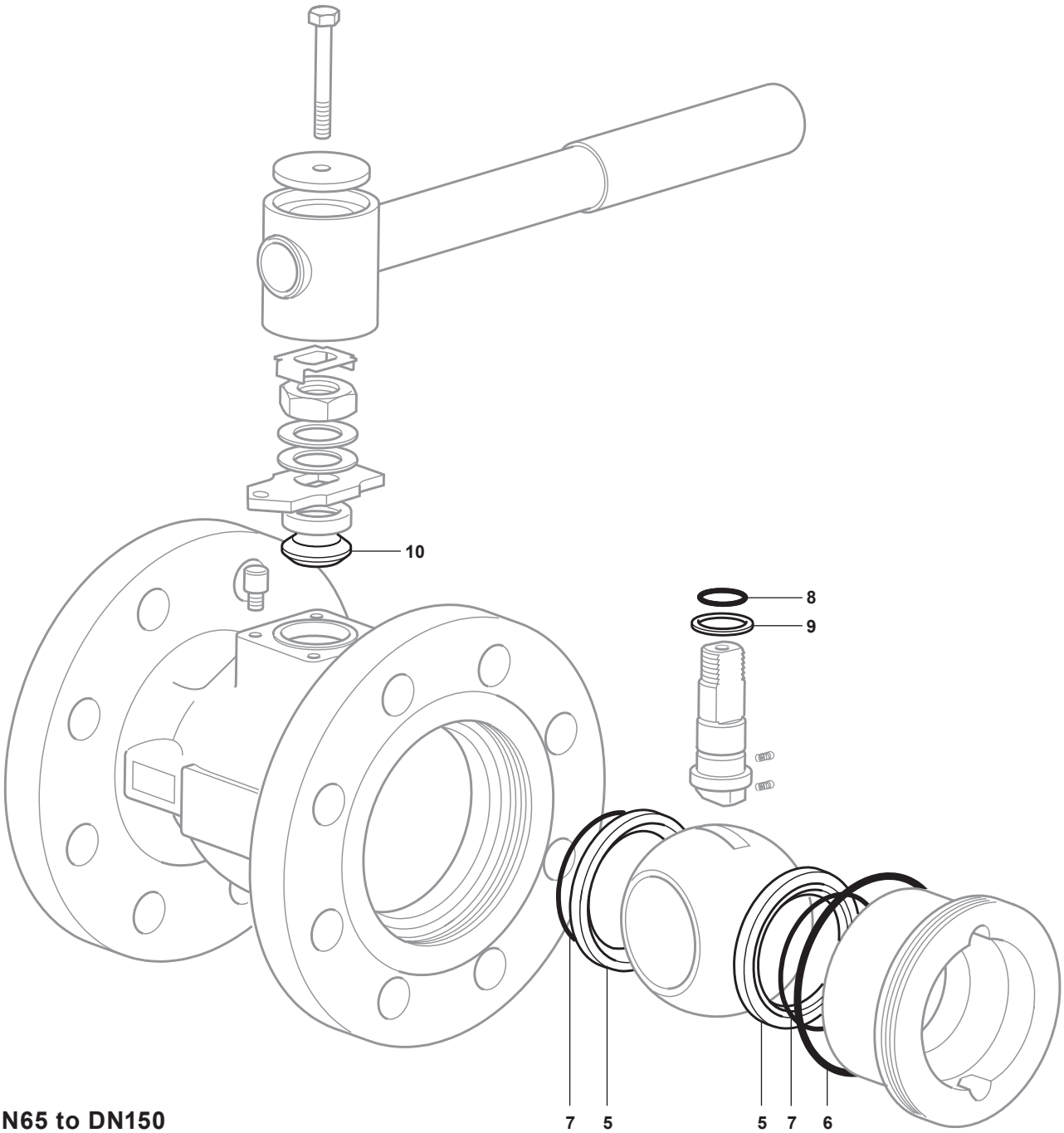
Available spares

Seats, insert 'O' ring, seat 'O' ring, stem 'O' ring, lower stem seal and upper stem packing	**5, 6, 7, 8, 9, 10**

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and type of ball valve.

Example: 1 set of seats, insert 'O' ring, seat 'O' ring, stem 'O' ring, lower stem seal and upper stem packing for a Spirax Sarco DN80 flanged ASME 150 M40Ti2 ball valve.



DN65 to DN150