

spirax sarco

TI-P133-78
ST Issue 1

M40Si ISO and M40Vi ISO Reduced Bore Ball Valves DN25 to DN150 ASME (ANSI) 150 and 300

Description

Both the M40Si and M40Vi are reduced bore ball valves, with a single piece body, having ISO mounting as standard. They are designed to be isolating valves, which can be used with the majority of industrial fluids, not control valves.

Available types

M40Si2 ISO	Zinc plated carbon steel body, PDR 0.8 seats.
M40Si3 ISO	Stainless steel body, PDR 0.8 seats.
M40Vi2 ISO	Zinc plated carbon steel body, PTFE seats.
M40Vi3 ISO	Stainless steel body, PTFE seats.

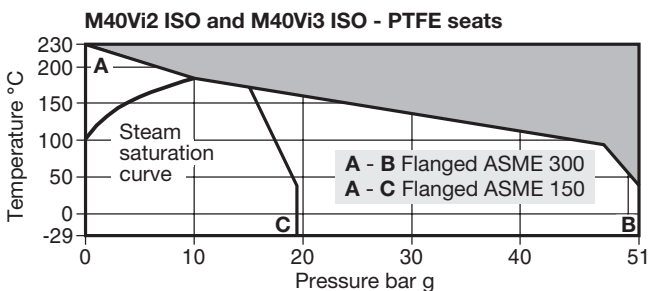
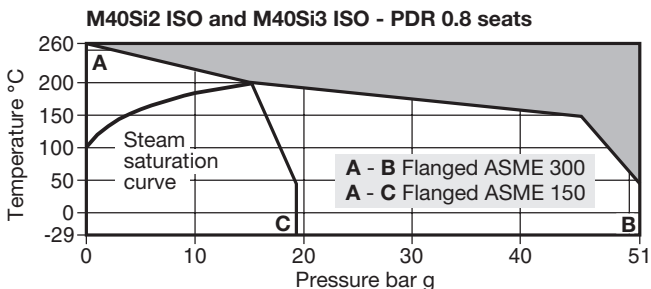
Standards

These products fully comply with the requirements of the European Pressure Equipment Directive 97/23/EC and carry the CE mark when so required.

Certification

These products are available with certification to EN 10204 3.1. **Note:** All certification/inspection requirements must be stated at the time of order placement.

Pressure/temperature limits



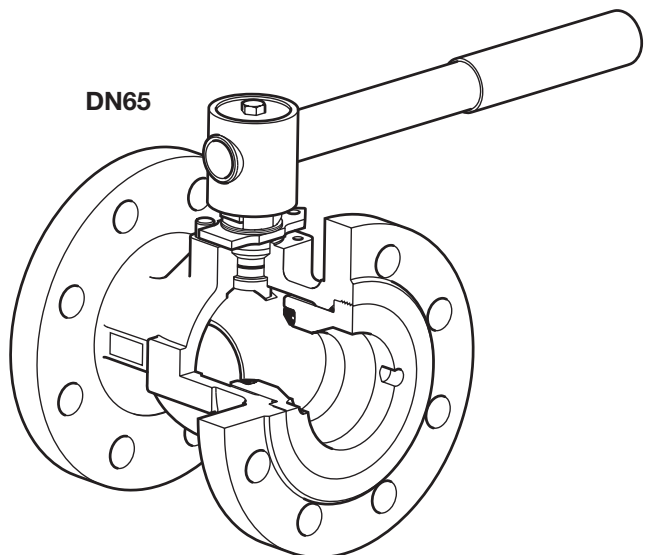
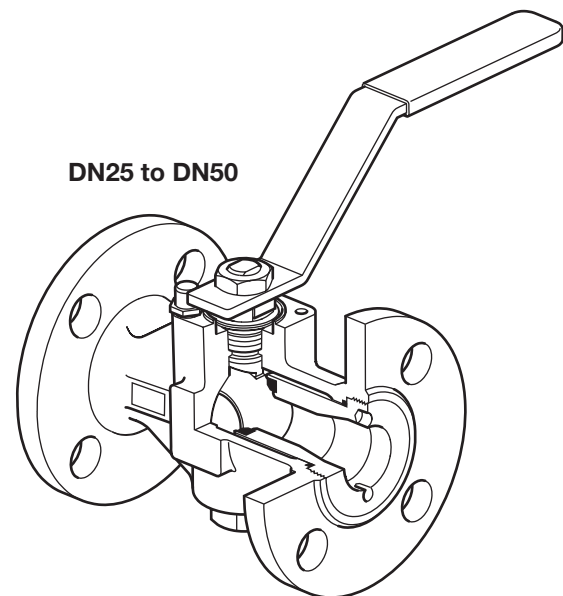
 The product **must not** be used in this region.

Body design conditions		ASME 150 and ASME 300	
PMA	Maximum allowable pressure	51 bar g @ 38°C	
TMA	Maximum allowable temperature	M40Si	260°C @ 0 bar g
		M40Vi	230°C @ 0 bar g
Minimum allowable temperature		-29°C	
PMO	Maximum operating pressure for saturated steam service	M40Si	17.5 bar g
		M40Vi	10.0 bar g
TMO	Maximum operating temperature	M40Si	260°C @ 0 bar g
		M40Vi	230°C @ 0 bar g
Minimum operating temperature		-29°C	

Note: For lower operating temperatures consult Spirax Sarco Δ PMX Maximum differential pressure is limited to the PMO
Designed for a maximum cold hydraulic test pressure of 76.5 bar g

Sizes and pipe connections

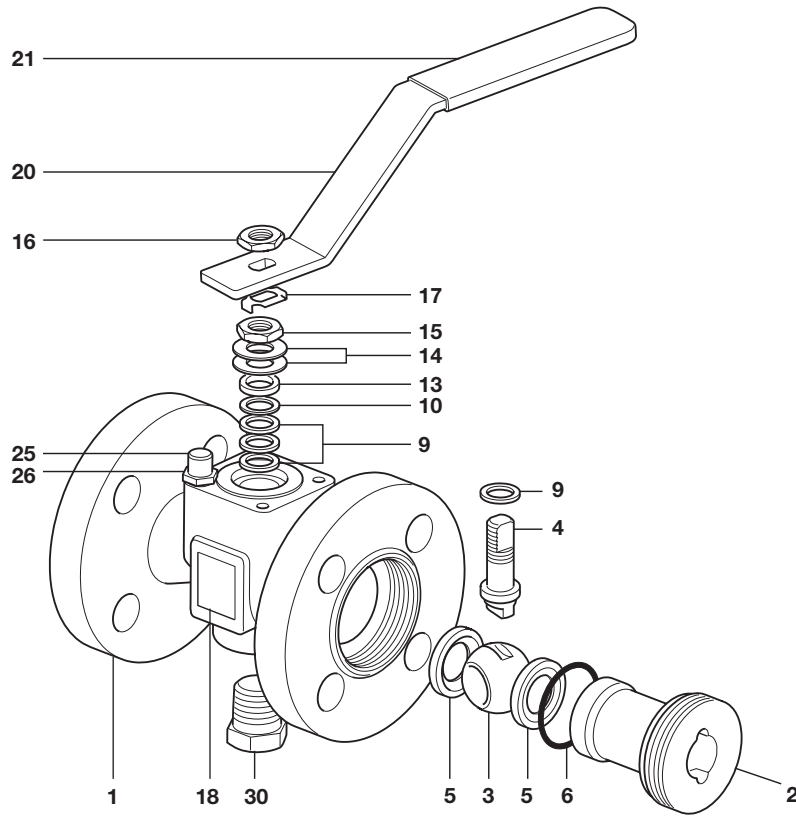
DN25, DN32, DN40, DN50, DN65, DN80, DN100 and DN150.
Standard flanges ASME Class 150 and ASME Class 300.



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	

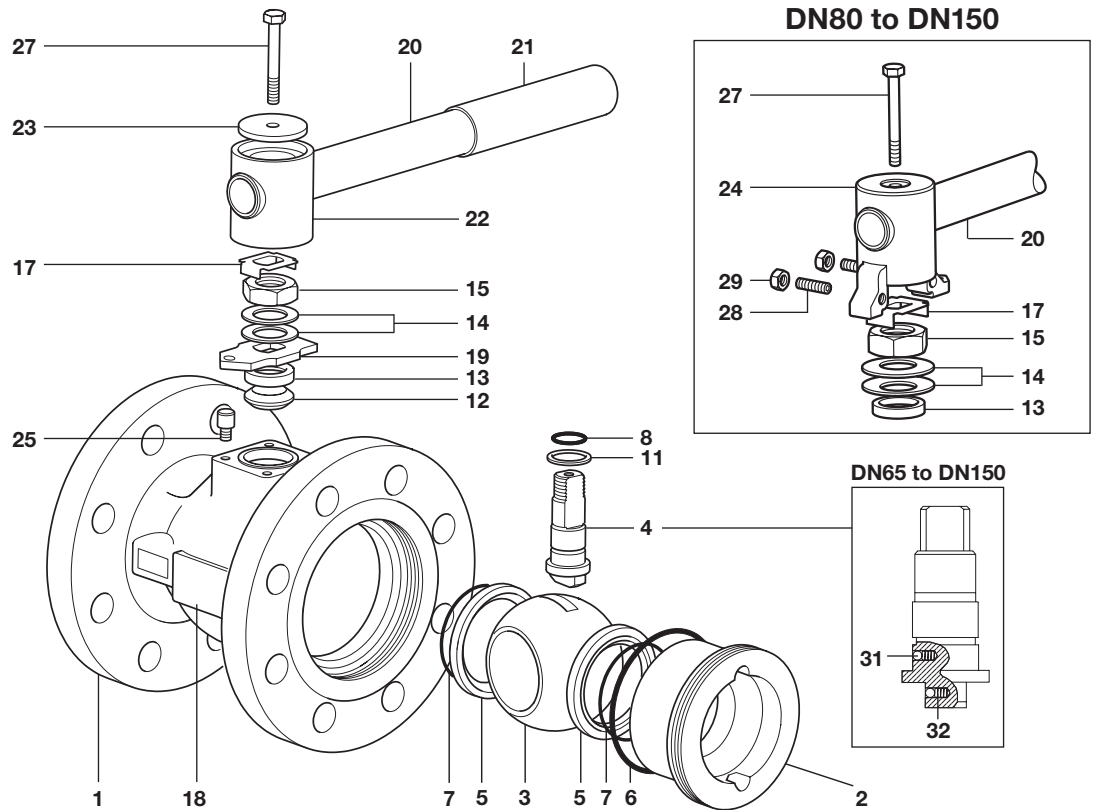
DN25 to DN50



Materials

No.	Part	Material
1	Body	M40Si2 ISO and M40Vi2 ISO Zinc plated carbon steel ASTM A216 WCB
		M40Si3 ISO and M40Vi3 ISO Stainless steel ASTM A351 CF8M
2	Insert	M40Si2 ISO and M40Vi2 ISO Zinc plated carbon steel SAE 1040
		M40Si3 ISO and M40Vi3 ISO Stainless steel AISI 316
3	Ball	Stainless steel AISI 316
4	Stem	Stainless steel AISI 316/AISI 420
5	Seats	M40Si2 ISO and M40Si3 ISO Carbon and graphite reinforced PTFE PDR 0.8
		M40Vi2 ISO and M40Vi3 ISO Virgin PTFE
6	Insert 'O' ring	EPDM Geothermal
9	Stem seals	Antistatic R-PTFE
10	Stem seals	Stainless steel AISI 304
13	Separator	Zinc plated carbon steel SAE 1010
14	Belleville washer	Stainless steel AISI 301
15	Gland nut	Zinc plated carbon steel SAE 1010/SAE 12L14
16	Upper stem nut	Zinc plated carbon steel SAE 1010/SAE 12L14
17	Locking plate	Stainless steel AISI 304
18	Name-plate	Stainless steel AISI 430
20	Lever	Zinc plated carbon steel SAE 1010
21	Grip	Vinyl
25	Stop screw	Zinc plated carbon steel SAE 12L14
26	Split locker washer	Stainless steel AISI 304
30	Plug	DN25 only Carbon steel / stainless steel

DN65



Materials

No.	Part		Material	
1	Body	M40Si2 ISO and M40Vi2 ISO	Zinc plated carbon steel	ASTM A216 WCB
		M40Si3 ISO and M40Vi3 ISO	Stainless steel	ASTM A351 CF8M
2	Insert	M40Si2 ISO and M40Vi2 ISO	Zinc plated carbon steel	SAE 1040
		M40Si3 ISO and M40Vi3 ISO	Stainless steel	AISI 316
3	Ball		Stainless steel	AISI 316
4	Stem		Stainless steel	AISI 316/AISI 420
5	Seats	M40Si2 ISO and M40Si3 ISO	Carbon and graphite reinforced PTFE	PDR 0.8
		M40Vi2 ISO and M40Vi3 ISO	Virgin PTFE	
6	Insert 'O' ring		EPDM	Geothermal
7	Seat 'O' ring		EPDM	Geothermal
8	Stem 'O' ring		EPDM	Geothermal
11	Lower stem seals		Antistatic R-PTFE	
12	Upper stem packaging		Virgin PTFE	
13	Separator		Zinc plated carbon steel	SAE 1010
14	Belleville washer		Stainless steel	AISI 301
15	Gland nut		Zinc plated carbon steel	SAE 1010/SAE 12L14
17	Locking plate		Stainless steel	AISI 304
18	Name-plate		Stainless steel	AISI 430
19	Stop plate with indicator	DN65 only	Zinc plated carbon steel	SAE 1010
20	Lever		Zinc plated carbon steel	SAE 1010
21	Grip		Vinyl	
22	Adaptor		Zinc plated SG iron	
23	Adaptor plate		Zinc plated carbon steel	SAE 1010
24	Adaptor with indicator	DN80 to DN150	Zinc plated SG iron	
25	Stop screw	DN80 to DN150	Zinc plated carbon steel	SAE 12L14
27	Adaptor screw		Zinc plated carbon steel	Grade 5
28	Stop screw	DN80 to DN150	Carbon steel	
29	Adaptor hex. nut	DN80 to DN150	Zinc plated carbon steel	
31	Antistatic device ball		Stainless steel	
32	Antistatic device spring		Stainless steel	AISI 301

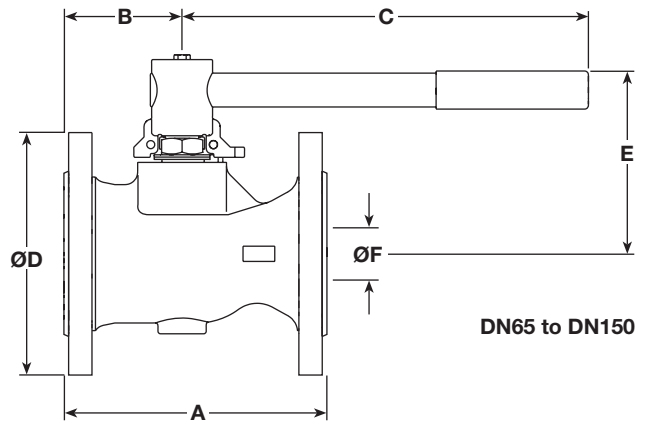
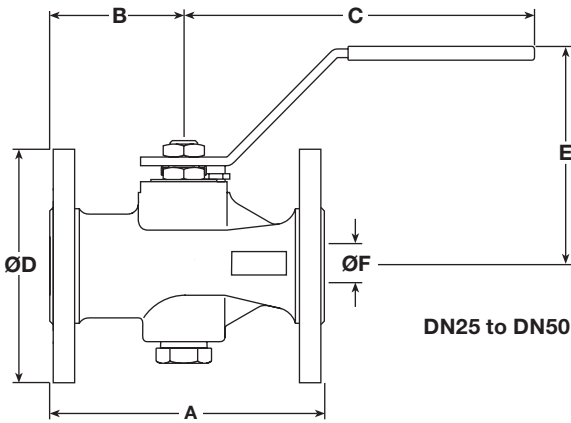
Dimensions/weights (approximate) in mm and kg

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	190	157	57	15.8
DN100	229	98	517	229	172	75	24.8
DN150	267	130	700	279	205	100	43.8

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



K_v values

DN	25	32	50	40	65	80	100	150
K _v	30	40	81	103	197	248	581	735

For conversion: C_v (UK) = K_v x 0.963 C_v (US) = K_v x 1.156

Operating torques (N m)

DN	25	32	40	50	65	80	100	150
N m	20	25	35	45	55	90	120	140

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.

How to order

Specify	Size	Seats	
	Model		S = Reinforced PTFE - PDR 0.8
			V = Virgin PTFE
	Seats	Body material	2 = Carbon steel
	Material		3 = Stainless steel

Example: 1 off Spirax Sarco DN50 M40Vi2 ISO ball valve having flanged ASME 150 connections.

Optional extras:

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

DN25 to DN50 - Spare parts (see page 6 for sizes DN65 - DN150)

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

Available spares

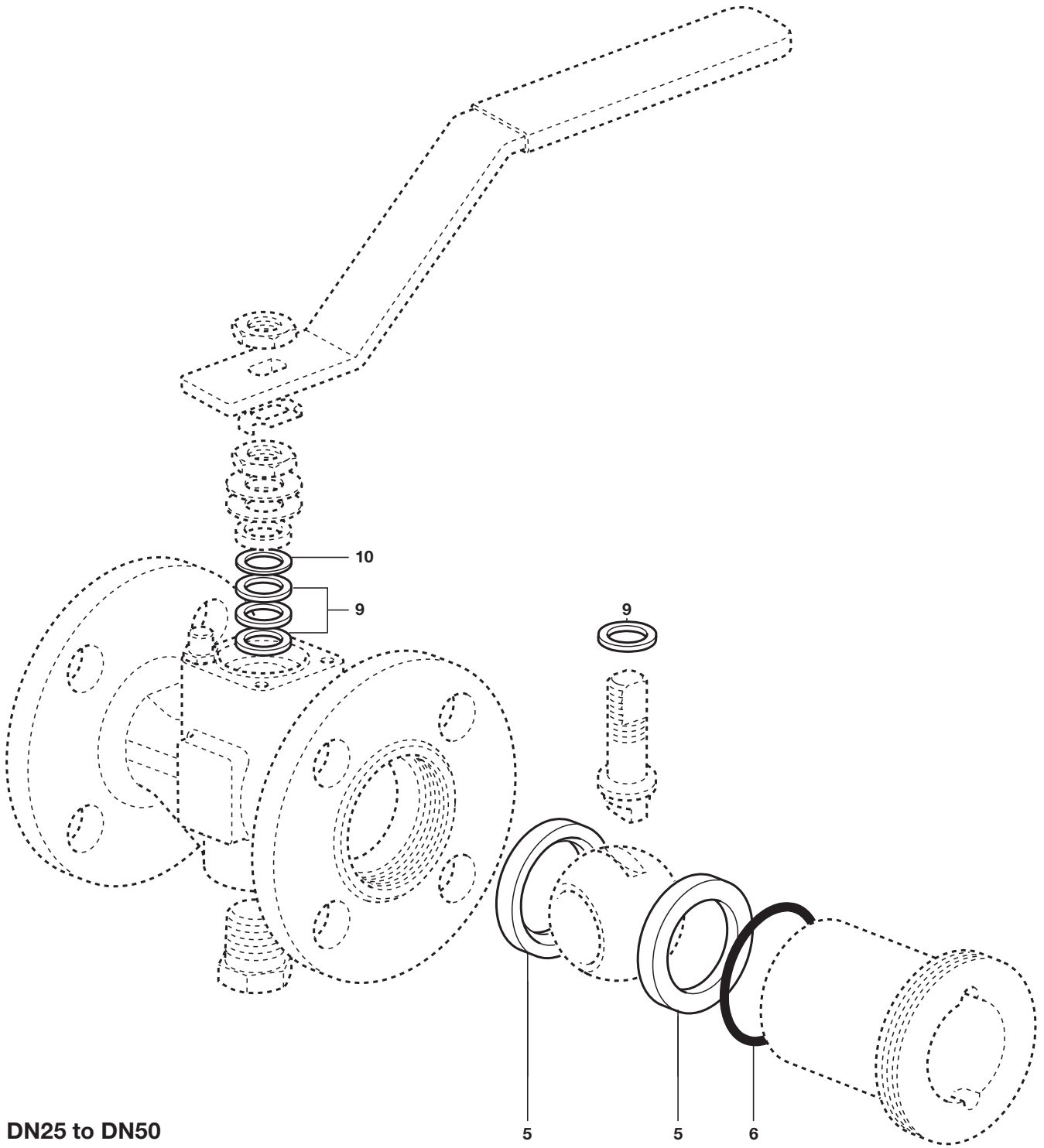
Seats, insert 'O' ring and stem seals

5, 6, 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 and stem seals for a Spirax Sarco DN50 flanged ASME 150 M40Si2 ball valve.



DN25 to DN50

DN65 to DN150 - Spare parts (see page 5 for sizes DN25 - DN50)

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

Available spares

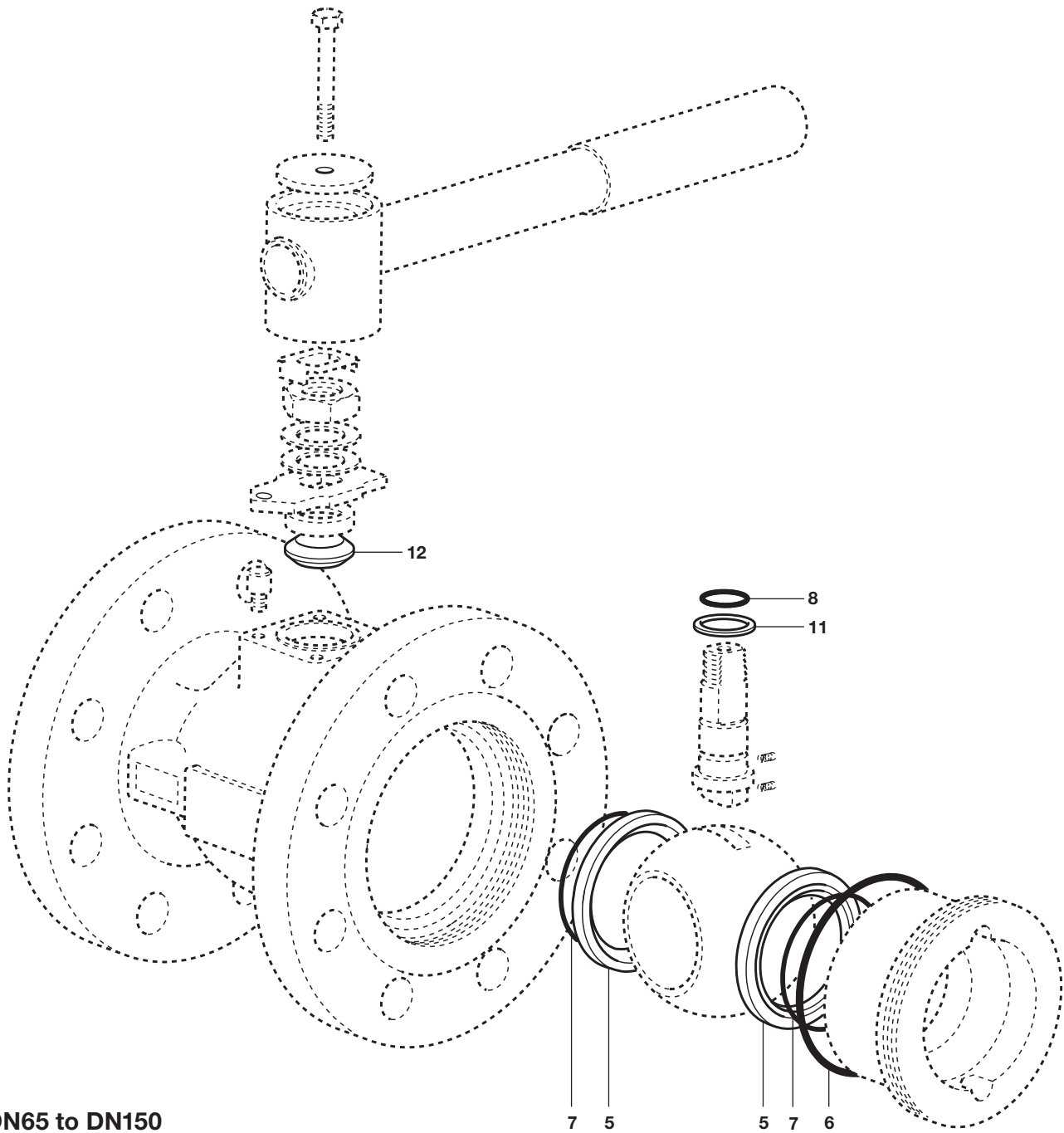
Seats, insert 'O' ring, seat 'O' ring, stem 'O' ring, lower stem seals and upper stem packaging

5, 6, 7, 8, 11, 12

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 seals and upper stem packaging for a Spirax Sarco DN50 flanged ASME 150 M40Si2 ball valve.



DN65 to DN150