



M40Si ISO (Medium Pressure Application) and M40Vi ISO (Low Pressure Application) Reduced Bore Ball Valves 1" to 6" ASME 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

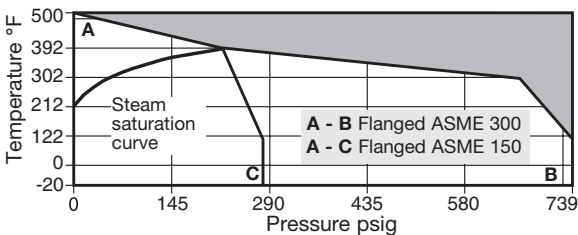
These products fully comply with the requirements of the European Pressure Equipment Directive 97/23/EC and carry the CE mark when so required.

Certification

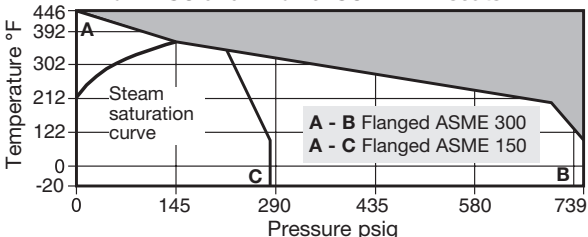
These products are available with certification to EN 10204 3.1. **Note:** All certification/inspection requirements must be stated at the time of order placement.

Pressure/temperature limits

M40Si2 ISO and M40Si3 ISO - PDR 0.8 seats



M40Vi2 ISO and M40Vi3 ISO - PTFE seats



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

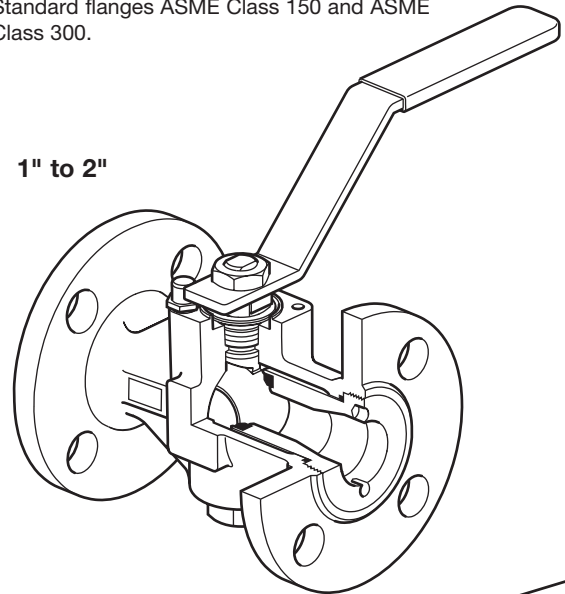
PMA	Maximum allowable pressure	739 psig @ 100°F
TMA	Maximum allowable temperature	M40Si 500°F @ 0 psig
		M40Vi 446°F @ 0 psig
Minimum allowable temperature -20°F		
PMO	Maximum operating pressure for saturated steam service	M40Si 253 psig
		M40Vi 145 psig
TMO	Maximum operating temperature	M40Si 500°F @ 0 psig
		M40Vi 446°F @ 0 psig
Minimum operating temperature -20°F		

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 1109 psig

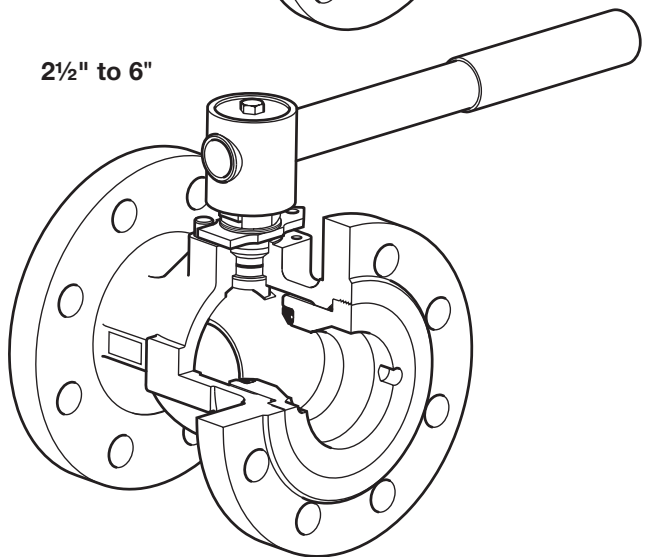
Sizes and pipe connections

1", 1¼", 1½", 2", 2½", 3", 4" and 6".

Standard flanges ASME Class 150 and ASME Class 300.



1" to 2"

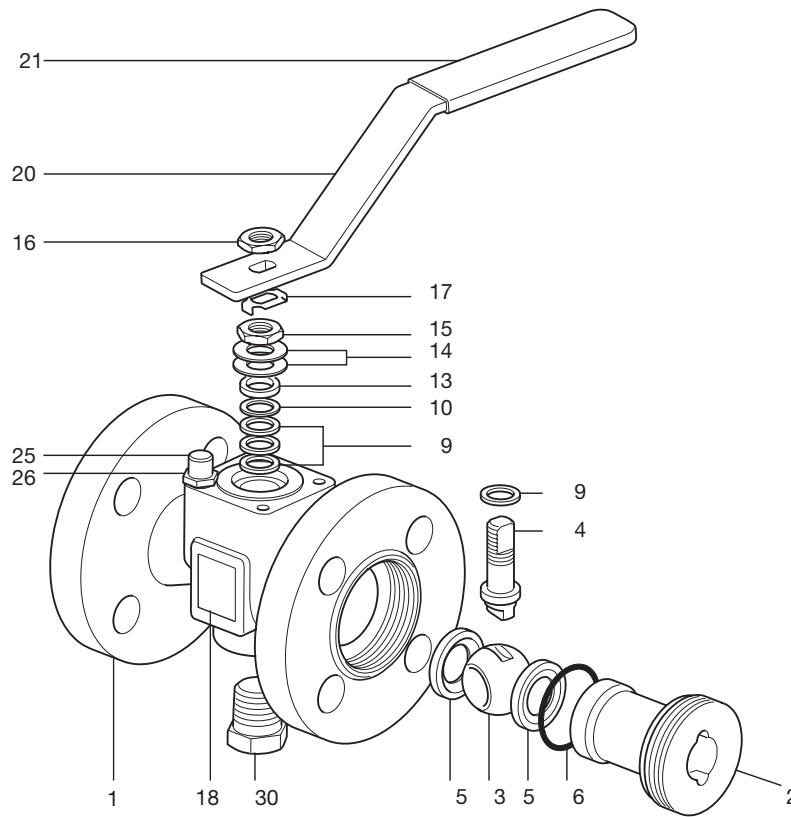


2½" to 6"

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	

1" to 2"

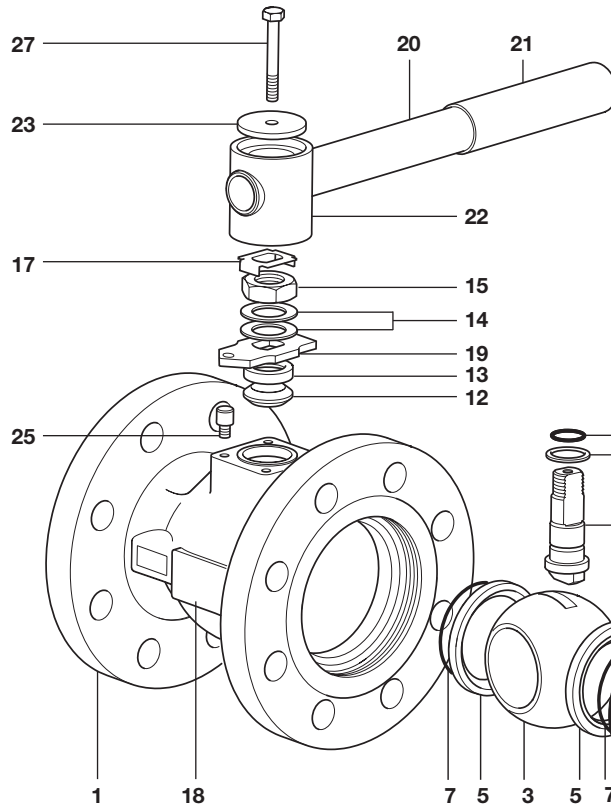


Materials

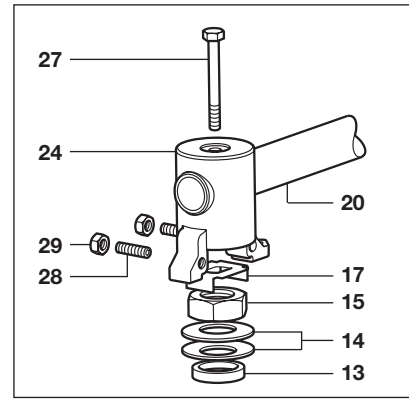
No.	Part		Material	
1	Body	M40Si2 ISO and M40Vi2 ISO	Zinc plated carbon steel	ASTM A216 WCB
		M40Si3 ISO and M40Vi3 ISO	Stainless steel	ASTM A351 CF8M
2	Insert	M40Si2 ISO and M40Vi2 ISO	Zinc plated carbon steel	SAE 1040
		M40Si3 ISO and M40Vi3 ISO	Stainless steel	AISI 316
3	Ball		Stainless steel	AISI 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	1" only	Carbon steel / stainless steel	

*Note: Available spare parts sold as a kit.

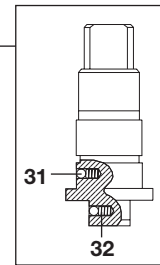
2½" to 6"



3" to 6"



2½" to 6"



Materials

No.	Part	Material	
1	Body	M40Si2 ISO and M40Vi2 ISO	Zinc plated carbon steel
		M40Si3 ISO and M40Vi3 ISO	Stainless steel
2	Insert	M40Si2 ISO and M40Vi2 ISO	Zinc plated carbon steel
		M40Si3 ISO and M40Vi3 ISO	Stainless steel
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
		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 2½"	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 3" to 6"	Zinc plated SG iron	
25	Stop screw 3" to 6"	Zinc plated carbon steel	SAE 12L14
27	Adaptor screw	Zinc plated carbon steel	Grade 5
28	Stop screw 3" to 6"	Carbon steel	
29	Adaptor hex. nut 3" to 6"	Zinc plated carbon steel	
31	Antistatic device ball	Stainless steel	
32	Antistatic device spring	Stainless steel	AISI 301

*Note: Available spare parts sold as a kit.

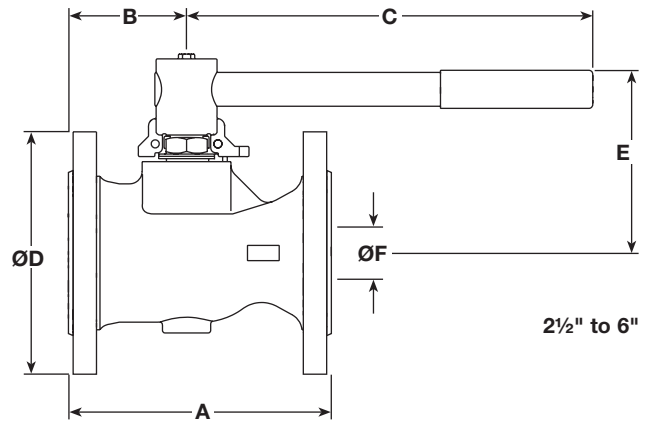
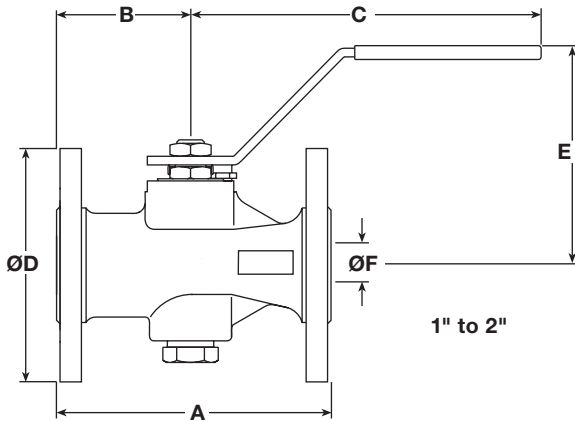
Dimensions/weights (approximate) inches and lb

Flanged ASME 150

Size	A	B	C	D	E	F	Weight
1"	5.0	2.4	6.4	4.3	3.9	0.7	6.3
1¼"	5.5	2.6	7.2	4.6	4.2	0.9	8.3
1½"	6.5	2.7	7.3	5.0	4.6	1.2	11.8
2"	7.0	3.0	7.3	5.9	4.8	1.5	17.4
2½"	7.5	3.1	10.9	7.0	5.7	2.0	26.4
3"	7.9	3.6	16.4	7.5	6.2	2.2	34.8
4"	9.0	3.9	20.3	9.0	6.8	3.0	54.6
6"	10.5	5.1	27.5	10.9	8.1	3.9	96.4

Flanged ASME 300

Size	A	B	C	D	E	F	Weight
1"	6.5	2.4	6.4	4.9	3.9	0.7	9.9
1¼"	7.0	2.6	7.2	5.3	4.2	0.9	12.5
1½"	7.5	2.7	7.3	6.1	4.6	1.2	180.4
2"	8.5	3.0	7.3	6.5	4.8	1.5	22.6
2½"	9.5	3.1	10.9	7.5	5.7	2.0	35.2
3"	11.1	3.6	16.4	8.3	6.2	2.2	49.1
4"	12.0	3.9	20.3	10.0	6.8	3.0	79.4
6"	15.9	5.1	27.5	12.5	8.1	3.9	146.5



Cv values

Inches	1"	1¼"	1½"	2"	2½"	3"	4"	6"
Cv	34	46	93	119	227	286	671	849

Operating torques (ft - lb)

Inches	1"	1¼"	1½"	2"	2½"	3"	4"	6"
ft-lb	14	18	26	33	41	66	89	103

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

Installation and Maintenance Instructions, IM-P133-79.

How to order

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

Example: 1 off Spirax Sarco 2" 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.*
- *manual operation only

1" to 2" - Spare parts

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

Available spares

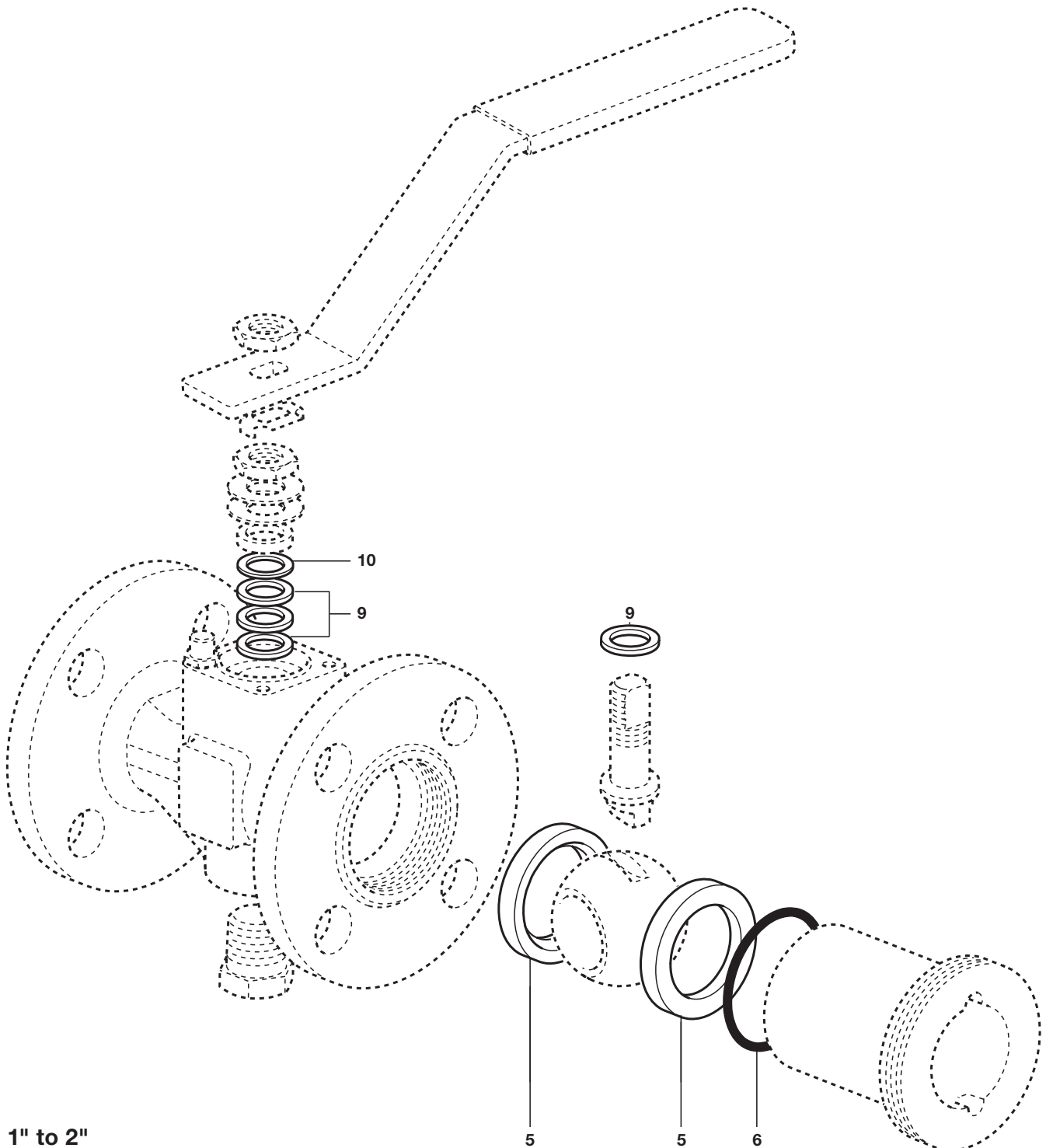
Seats, insert 'O' ring and stem seals

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 2" flanged ASME 150 M40Si2 ball valve.



1" to 2"

2½" to 6" - Spare parts

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

Available spares

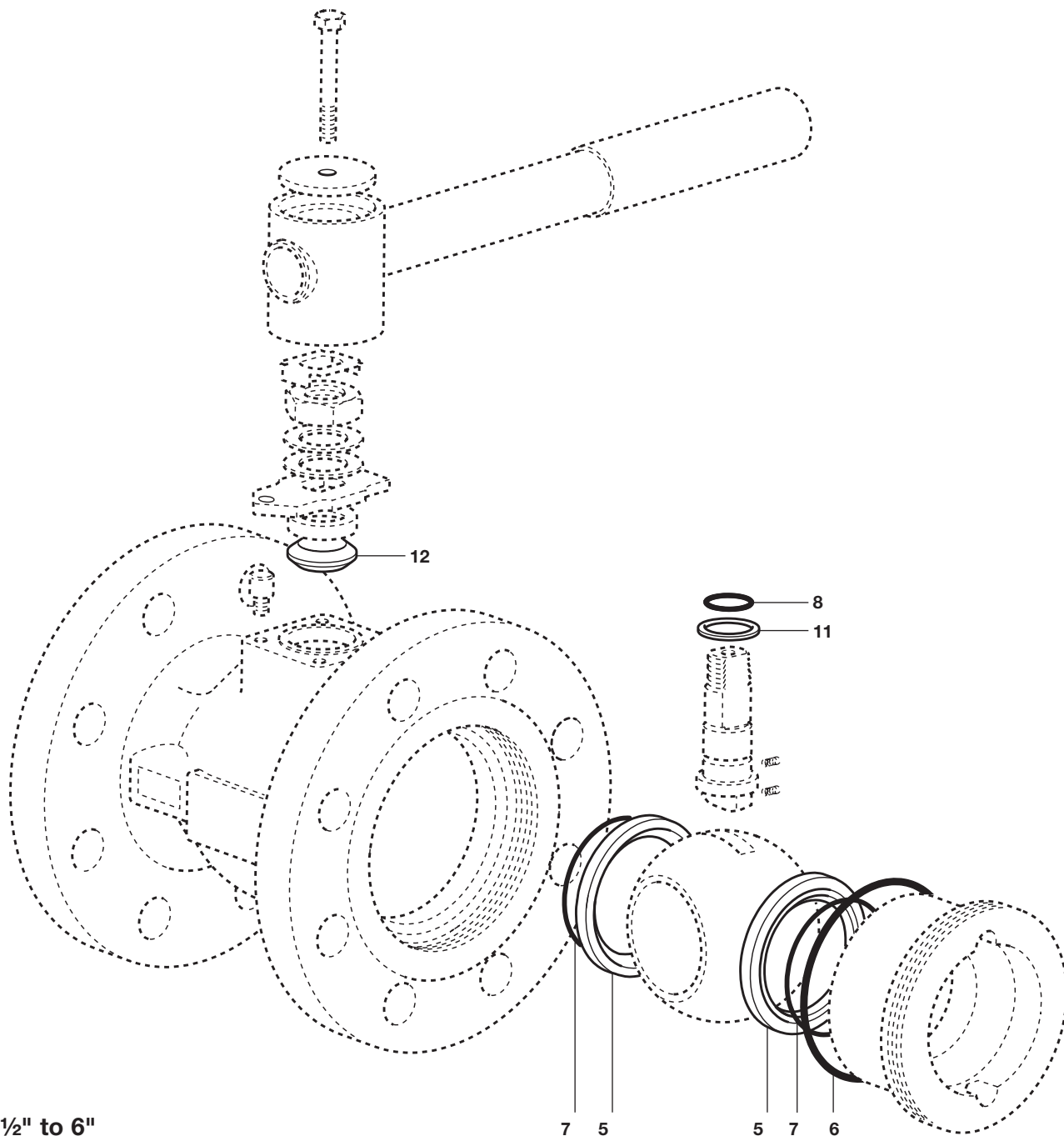
Seats, insert 'O' ring, seat 'O' ring, stem 'O' ring, lower stem seals and upper stem packaging

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 2" flanged ASME 150 M40Si2 ball valve.



2½" to 6"

7 5

5 7 6