



spirax sarco

TI-D221-05
BR Rev.00

M40F ISO Ball Valve - Firesafe DN25 to DN150 ANSI Class 150 and ANSI Class 300

Description

The M40F ISO is a reduced bore ball valve, with a single piece body, having ISO mounting and firesafe design as standard. It is an isolating valve, which can be used with the majority of industrial fluids, not a control valve.

Firesafe design

In normal working conditions, the ball rests against R-PTFE seals ensuring total closure. **Note:** R-PTFE is PTFE reinforced with carbon and graphite.

When the valve is submitted to temperature above the limits R-PTFE can withstand, the seat becomes deformed and renders the R-PTFE to extrusion. When the R-PTFE has been totally destroyed, the ball will come to rest firmly against the metal seat in the cap, producing a metal-metal closing. This secondary seat in the valve cap ensures the valve will operate to international API Spec 6 FA and BS 6755 part 2 standards.

ISO mounting

The integral ISO body mounting allows the valve to be automated without losing seal integrity, as the body does not require disassembly.

Manual to remote control may therefore be safely and easily accomplished by the ISO range of Spirax Sarco ball valves.

Available types

M40F2 ISO Zinc plated carbon steel body and PDR 0.8 seats.

M40F3 ISO Stainless steel body and PDR 0.8 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.

Options

- Self-venting ball.
- Extended stems 50 mm (2") and 100 mm (4") to allow full insulation.
- Operation by manual handwheel for bigger sizes (DN100 to 150).
- Operation by pneumatic actuator BVA200 series for all sizes.

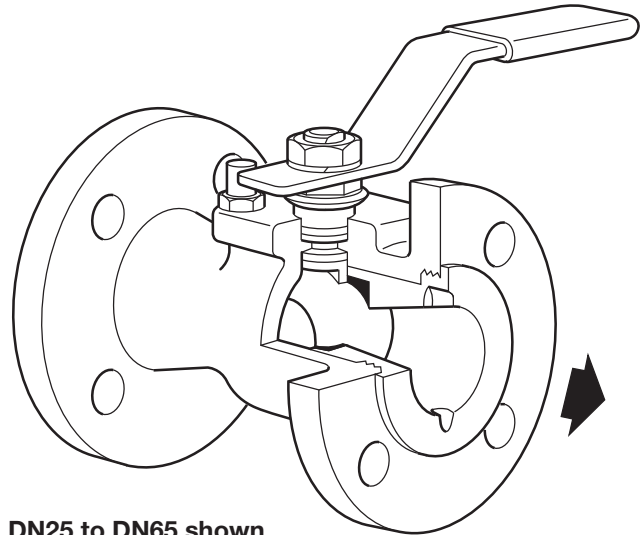
Sizes and pipe connections

DN25, DN40, DN50, DN65, DN80, DN100 and DN150.

Standard flanges ANSI Class 150 and ANSI Class 300 with face-to-face dimensions according to B 16.10.

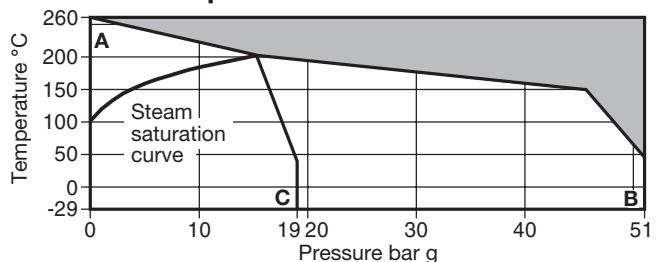
Technical data

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 DN65 shown

Pressure/temperature limits

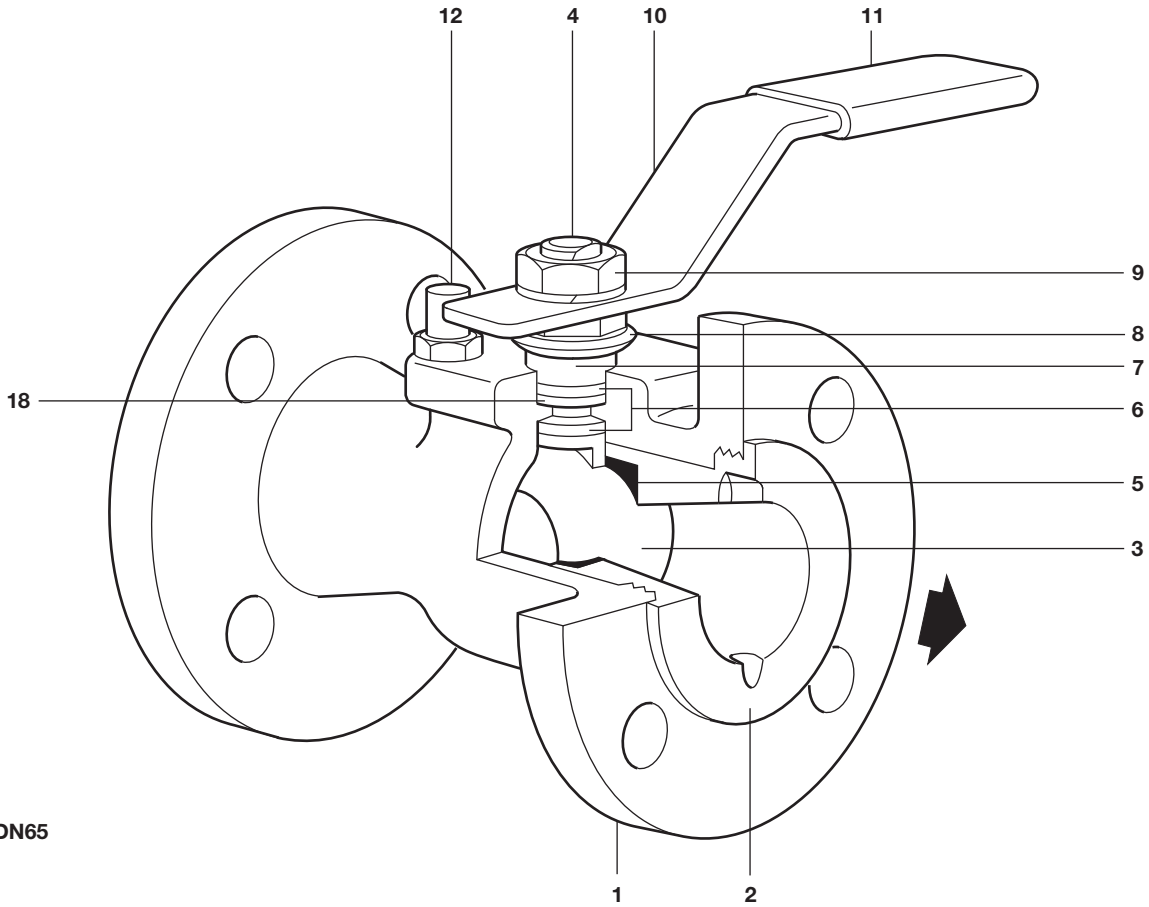


The product **must not** be used in this region.

A - B Flanged ANSI 300

A - C Flanged ANSI 150

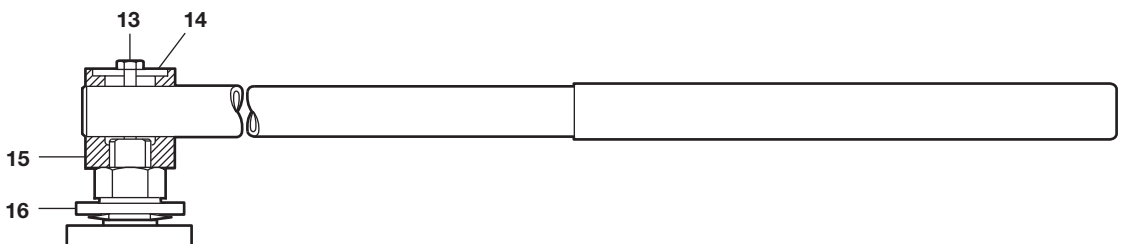
Body design conditions	BS 5351
PMA Maximum allowable pressure	51 bar g @ 45°C
TMA Maximum allowable temperature	260°C @ 0 bar g
Minimum allowable temperature	-29°C
PMO Maximum operating pressure for saturated steam service	17.5 bar g
TMO Maximum operating temperature	260°C @ 0 bar g
Minimum operating temperature	-29°C
Note: For lower operating temperatures consult Spirax Sarco	
ΔPMX Maximum differential pressure is limited to the PMO	
Designed for a maximum cold hydraulic test pressure of 150 bar g	



DN25 to DN65

Materials

No.	Part	Material	
1	Body	Zinc plated carbon steel	ASTM A 216 WCB
		Stainless steel	ASTM A 351 CF8M
2	Insert		SAE 1040 / AISI 316
3	Ball	Stainless steel	AISI 316
4	Stem	Stainless steel	AISI 316
5	Seat	Carbon and graphite R-PTFE	PDR 0.8
6	Stem seal	R-PTFE	
7	Separator		SAE 1010 / 1045
8	Belleville washer	Stainless steel	AISI 301
9	Stem nut	Zinc plated carbon steel	SAE 12L14
10	Lever	Zinc plated carbon steel	SAE 1010
11	Grip	Vinyl (red)	
12	Stop screw	Zinc plated carbon steel	
13	Fixing screw	Zinc plated carbon steel	
14	Support washer	Zinc plated carbon steel	SAE 1045
15	Stem adaptor	Zinc plated SG iron	
16	Stop plate	Zinc plated carbon steel	SAE 1010
17	Name-plate (Not shown)	Stainless steel	AISI 430
18	Stem seal	Graphite	

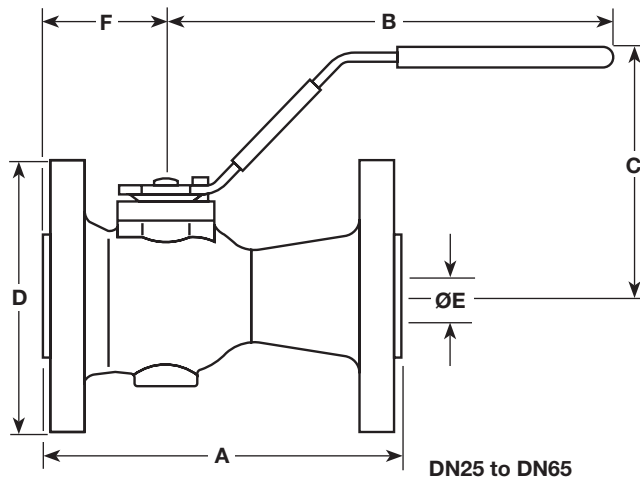
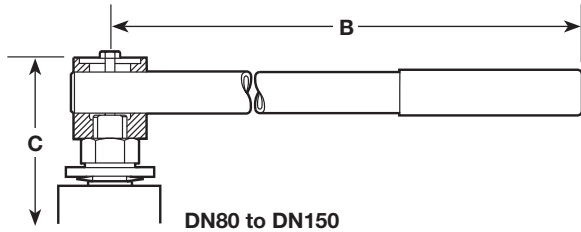


DN80 to DN150

Dimensions / weights (approximate) in mm and kg

Flanged ANSI 150

Size	A	B	C	D	E	F	Weight
DN25	127	180	100	108	20	49	2.30
DN40	165	180	115	127	31	54	4.50
DN50	178	220	129	152	36	61	6.80
DN65	190	220	142	178	50	63	9.70
DN80	203	275	144	190	57	73	14.00
DN100	229	415	172	229	75	82	21.00
DN150	267	700	220	279	100	118	38.00



Flanged ANSI 300

Size	A	B	C	D	E	F	Weight
DN25	165	180	100	124	20	59	4.10
DN40	190	180	115	156	31	64	7.65
DN50	216	220	129	165	36	69	9.60
DN65	241	220	142	191	50	75	13.50
DN80	283	275	162	210	57	87	20.40
DN100	305	415	178	254	75	97	32.40
DN150	403	700	220	318	100	118	62.00

K_v values

DN	25	40	50	65	80	100	150
K _v	21	81	94	197	248	581	730

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

Operating torques (N m)

DN	25	40	50	65	80	100	150
N m	12	18	23	40	50	65	200

The torque figures shown are for a valve at maximum operating pressure that is operated frequently. Valves that are subject to long static periods, may require 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	V = Virgin PTFE
	Model		S = Reinforced PTFE
	Seats	Body material	2 = Carbon steel
	Material		3 = Stainless steel

Example: 1 off Spirax Sarco DN50 M40V2 ISO ball valve having flanged ANSI 150 connections.

Optional extras:

- Self-venting ball.
- Extended stems 50 mm (2") and 100 mm (4") to allow full insulation.

Spare parts

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

Available spares

Seat and stem seal set	5, 6, 18
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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 - Seat and stem seal set for a Spirax Sarco DN50 M40V2 ISO ball valve.

