



Cert. No. LRQ 0963008

ISO 9001

spirax sarco

TI-P133-48

ST Issue 2

M45 ISO Ball Valve DN25 to DN150

Description

The M45 ISO is a flanged reduced bore single piece ball valve with metal seats. This makes it suitable for working with fluids that contain solids in suspension, high temperature fluids and flow control applications.

The valve has an ISO mounting making it easy and safe to automate.

Available types

M452V ISO Zinc plated carbon steel body, Viton 'O' ring.

M452K ISO Zinc plated carbon steel body, Kalrez 'O' ring.

M453V ISO Stainless steel body, Viton 'O' ring.

M453K ISO Stainless steel body, Kalrez 'O' ring.

Options

- Self-venting ball.
- Extended stem to 50 mm (2") and 100 mm (4") to allow full insulation.
- Lockable handle
- Oval handle for confined spaces.

Sizes and pipe connections

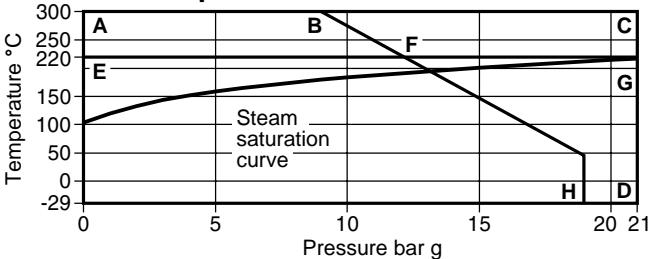
DN25, DN40, DN50, DN65, DN80, DN100 and DN150.

Standard flange ANSI 150 and ANSI 300.

Technical data

Flow characteristic	Equal percentage
Port	Reduced bore
Leakage	Test procedure to ANSI B 16.104 Class IV
Antistatic (optional)	Complies with ISO 7121 and BS 5351

Pressure/temperature limits



E-F-H ANSI 150 Viton **A-B-H** ANSI 150 Kalrez

E-G-D ANSI 300 Viton **A-C-D** ANSI 300 Kalrez

Body design conditions BS 5351

PMA	Maximum allowable (operating) pressure (MOP)	M45V	ANSI 150	19 bar g @ 38°C
			ANSI 300	21 bar g @ 220°C
TMA	Maximum allowable temperature	M45V	ANSI 150	220°C
			ANSI 300	220°C
		M45K	ANSI 150	300°C
			ANSI 300	300°C

Minimum allowable temperature -29°C

PMO	Maximum operating pressure for saturated steam service	ANSI 150	13 bar g @ 200°C
		ANSI 300	21 bar g @ 220°C

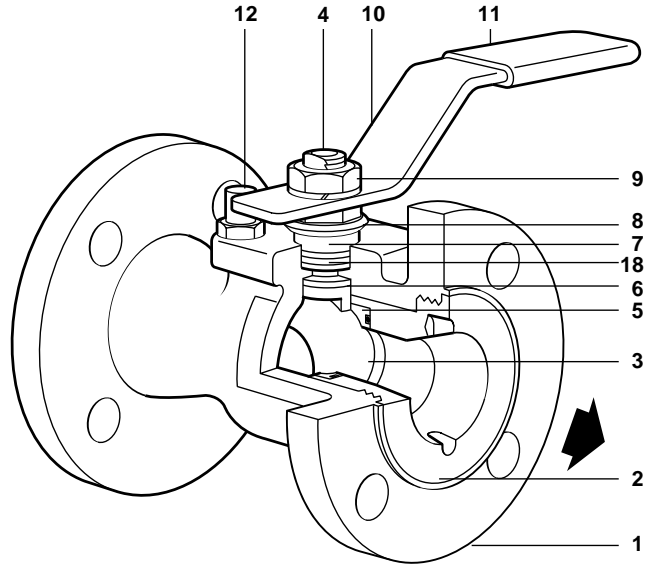
TMO Maximum operating temperature is the same as the TMA

Minimum operating temperature -29°C

Note: For lower operating temperatures consult Spirax Sarco.

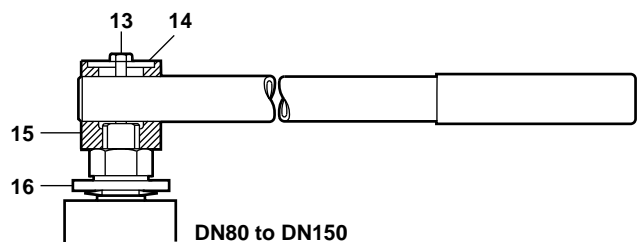
Δ PMX Maximum differential pressure is limited to the PMO

Designed for a maximum cold hydraulic test pressure of 1.5 x MOP



Material

No. Part	Material
1 Body	Zinc plated carbon steel ASTM A 216 WCB
	Stainless steel ASTM A 351 CF8M
2 Insert	Zinc plated carbon steel SAE 1040
	Stainless steel AISI 316
3 Ball	Stainless steel (hardened) AISI 316 + CrN
4 Stem	Stainless steel AISI 316
5 Seat	Stainless steel (hardened) AISI 316 + CrN
6 Stem seal	PEEK
7 Separator	Zinc plated carbon steel SAE 1010 / 1045
8 Belleville washer	AISI 301
9 Stem nut	Zinc plated carbon steel SAE 12L14
10 Lever	Zinc plated carbon steel SAE 1010
11 Grip	Vinyl
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 'O' ring	M45V Viton
	M45K Kalrez
18 Stem seal	PTFE Reinforced with graphite



DN80 to DN150

Local regulations may restrict the use of this product to below the conditions quoted.

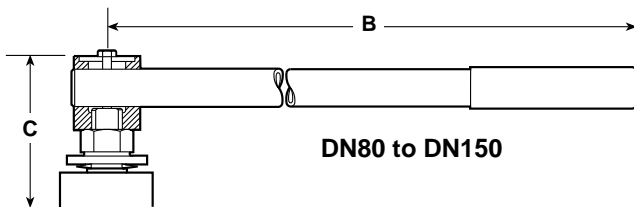
In the interests of development and improvement of the product, we reserve the right to change the specification.

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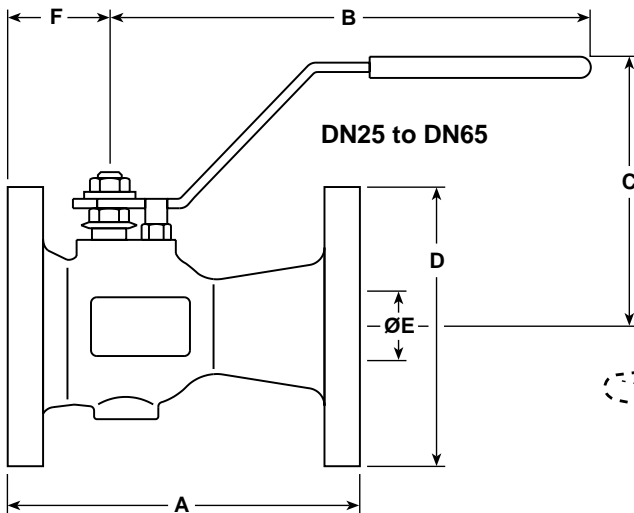
Dimensions / weights (approximate) in mm and kg

ANSI 150

Size	A	B	C	D	E	F	Weight
DN25	127	180	100	108	20	49	2.3
DN40	165	180	115	127	31	54	4.5
DN50	178	220	129	152	36	61	7.1
DN65	190	220	142	178	50	63	9.7
DN80	203	275	144	190	57	73	14.0
DN100	229	415	172	229	75	82	21.0
DN150	267	700	220	279	100	118	38.0



DN80 to DN150



DN25 to DN65

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	153	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	26.5	81	94	197	248	479	641

For conversion: $C_v(\text{UK}) = K_v \times 0.963$ $C_v(\text{US}) = K_v \times 1.156$

Operating torque (N m)

DN	25	40	50	65	80	100	150
N m	12	20	25	60	80	200	400

The indicated torque values are for valves frequently operated, and submitted to a maximum differential pressure.

How to order

Specify:	Size	Model	Body material	
Seats			2 = Carbon steel	
Material			3 = Stainless steel	
			V = Viton	
			'O' ring	K = Kalrez

Example: 1 off Spirax Sarco DN50 flanged ANSI 150 M452V ISO ball valve.

Spare parts

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

Available spares

Ball	3
Seat, stem seal set and 'O' ring	5, 6, 17, 18
Special tool (not shown) for the removal of insert (2)	

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, stem seal set and 'O' ring for a Spirax Sarco DN50 M452V ISO ball valve.

