

spirax/sarco

M31S ISO Full Bore Ball Valve 2" to 8" ANSI 150 and ANSI 300

Description

The M31S ISO is a full bore ball valve, with a two-piece body and cap design which can be used with the majority of industrial fluids. Applications include steam, condensate, water, oil, gases and other fluids within its operating limits. The M31S ISO ANSI has as standard an ISO mounting pad in accordance with ISO 5211.

Available types

M31S2 ISO	Zinc plated carbon steel body, PDR 0.8 seats and ISO mounting.
M31S3 ISO	Stainless steel body, PDR 0.8 seats and ISO mounting.

Options

- Self-venting ball.
- Operation by manual handwheel for bigger sizes (4" to 8").
- Operation by pneumatic actuator BVA300 series for all sizes.
- Other ball materials are available on request (i.e: 11-13% Cr).

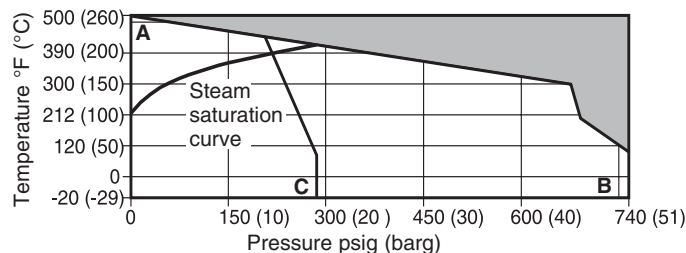
Sizes and pipe connections

DN50, DN65, DN80, DN100, DN150 and DN200.
Standard flange ANSI B 16.5 Class 300 and 600.
Face-to-face dimensions according to B 16.10

Technical data

Flow characteristic	Modified linear
Port	Full bore
Leakage	Test procedure to ISO 5208 (rate A)
Antistatic	Complies with ISO 7121

Pressure/temperature limits



■ The product must not be used in this region.

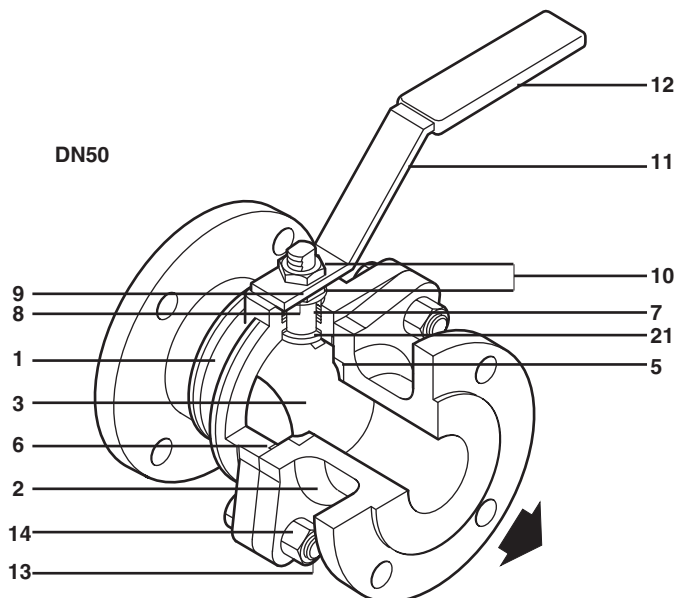
- A - B** Flanged ANSI 300
A - C Flanged ANSI 150

Body design conditions		BS 5351
	ANSI 150	300 psig (20 barg)
PMA	Maximum allowable pressure	100°F (38°C)
	ANSI 300	740 psig (51 barg)
		100°F (38°C)
TMA	Maximum allowable temperature	500°F (260°C)
	Minimum allowable temperature	-20°F (-29°C)
PMO	Maximum operating pressure for saturated steam service	254 psig (17.5 barg)
TMO	Maximum operating temperature	500°F (260°C)
		0 psi (0 barg)
	Minimum operating temperature	-20°F (-29°C)

Note: For lower operating temperatures consult Spirax Sarco.

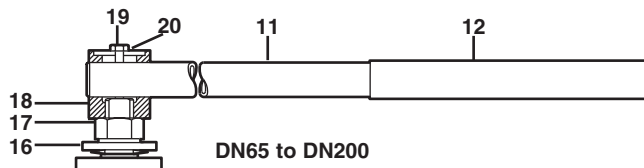
Δ PMX	Maximum differential pressure is limited to the PMO	
Designed for a maximum	ANSI 150	415 psig (28.5 barg)
cold hydraulic test pressure of:	ANSI 300	1100 psig (76.5 barg)

Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only.
In the interests of development and improvement of the product, we reserve the right to change the specification.



Materials

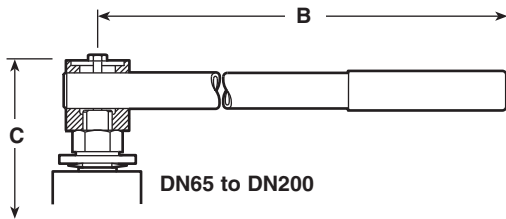
No.	Part	Material
1	Body	M31S2 ISO Zinc plated carbon steel ASTM A 216 WCB
		M31S3 ISO Stainless steel ASTM A 351 CF8M
2	Insert	M31S2 ISO Zinc plated carbon steel ASTM A 216 WCB
		M31S3 ISO Stainless steel ASTM A 351 CF8M
3	Ball	Stainless steel AISI 316
4	Stem	Stainless steel AISI 316 / AISI 420
5	Seats	Carbon and graphite R-PTFE PDR 0.8
6	Body gasket	Graphoil
7	Stem seals	Carbon and graphite R-PTFE PDR 0.8
8	Separator	Zinc plated carbon steel SAE 1010
9	Belleville washer	Stainless steel AISI 316
		Carbon steel (DN150 and DN200)
10	Nut	Zinc plated carbon steel SAE 12L14
11	Handle	Zinc plated carbon steel SAE 1010
12	Grip	Vinyl (Orange)
13	Bolt	Zinc plated carbon steel Grade 5
14	Nut	Zinc plated carbon steel
15	Stop screw (Not shown)	Zinc plated carbon steel SAE 12L14
16	Stop plate	Zinc plated carbon steel SAE 1010
17	Nut	Zinc plated carbon steel Grade 5
18	Handle adaptor	Zinc plated SG iron
19	Screw	Carbon steel Grade 5
20	Adapter washer	Carbon steel SAE 1045
21	Stem seal	Carbon and graphite R-PTFE PDR 0.8



Dimensions/weights (approximate) in inches (mm) and lbs (kg)

Flanged ANSI 150

Size		A	B	C	D	E	F	Weight
2"	DN50	7.01 (178)	7.30 (185)	5.60 (140)	5.99 (152)	1.97 (50)	2.80 (71)	23 (10.2)
2-1/2"	DN65	7.49 (190)	16.40 (415)	6.60 (166)	7.01 (178)	2.48 (63)	2.92 (74)	36 (16.3)
3"	DN80	8.00 (203)	16.40 (415)	7.10 (180)	7.53 (191)	2.96 (75)	3.47 (88)	45 (20.0)
4"	DN100	9.02 (229)	27.60 (700)	8.60 (218)	9.02 (229)	3.94 (100)	4.14 (105)	76 (34.3)
6"	DN150	15.52 (394)	33.50 (850)	10.50 (266)	11.00 (279)	5.87 (149)	7.76 (197)	168 (76.0)
8"	DN200	18.00 (457)	37.50 (950)	12.30 (311)	13.50 (343)	7.80 (198)	8.98 (228)	285 (129.0)



Flanged ANSI 300

Size		A	B	C	D	E	F	Weight
2"	DN50	8.51 (216)	7.30 (185)	5.60 (140)	6.50 (165)	1.97 (50)	2.72 (69)	35 (15.7)
2-1/2"	DN65	9.50 (241)	16.40 (415)	6.60 (168)	7.53 (191)	2.52 (64)	3.27 (83)	52 (23.4)
3"	DN80	11.15 (283)	16.40 (415)	7.10 (182)	8.27 (210)	2.96 (75)	3.94 (100)	69 (31.2)
4"	DN100	12.02 (305)	27.60 (700)	8.60 (218)	10.00 (254)	3.94 (100)	4.65 (118)	118 (53.3)
6"	DN150	15.88 (403)	33.50 (850)	10.50 (266)	12.53 (318)	5.91 (150)	6.86 (174)	239 (108.0)
8"	DN200	19.78 (502)	37.50 (950)	12.30 (315)	15.01 (381)	7.88 (200)	8.04 (204)	405 (184.0)

Cv values

DN	50	65	80	100	150	200
Cv	346	497	890	1190	2760	5240

Operating torque (ft - lbs)

DN	50	65	80	100	150	200
ft-lbs.	30	37	52	150	440	550

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 at least 75% greater break out torque.

Maintenance

Full Installation and Maintenance Instructions are provided with the product.

How to order

	Size	Seats	S = PDR 0.8
Specify:	Model		
	Seats	Body material	2 = Carbon steel
	Material		3 = Stainless steel

Example: 1 of Spirax Sarco DN50 flanged ANSI 150 M31S2 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

Seats, stem seals and body gasket set 5, 6, 7, 21

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 seals and body gasket set for a Spirax Sarco DN200 flanged ANSI 150 M31S2 ISO ball valve.

