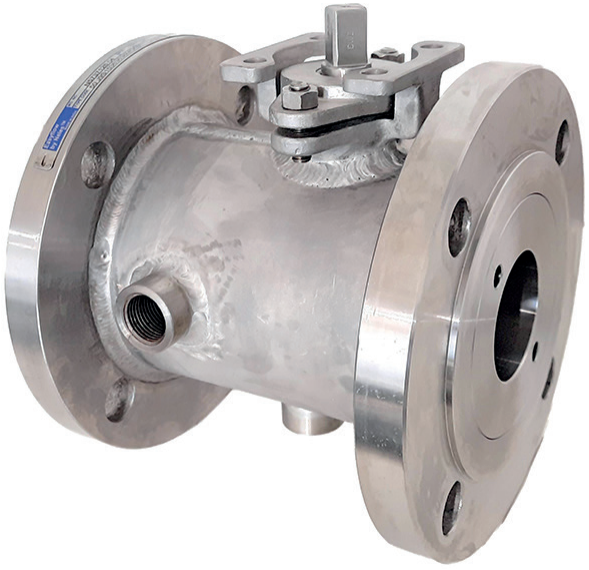
Neles Easyflow™ jacketed flanged ball valve
Series J9S

J9S series fully jacketed flanged seat supported ball valve provides long, reliable performance. Valve comes with single piece body construction and a structurally sound solid mirror finished ball with large end flanges (sizes higher than valve NPS) to accommodate full jacketing. Spring loaded v-ring packing provides extremely long cycle life with minimum maintenance. Direct actuator mounting capability makes it easy to automate with accurate alignment. Complete package reliability and single source responsibility with actuators, switches, and intelligent valve controllers.



Technical description

- Sizes DN25 to 100 (NPS 1 to 4)
- ASME Class 150
- Rugged body with fully jacketed construction
- One-piece solid ball
- Blow-out proof single piece stem with live-loaded stem packing
- Bi-directional bubble-tight shut-off to full rated pressure
- Suitable for vacuum service

Features

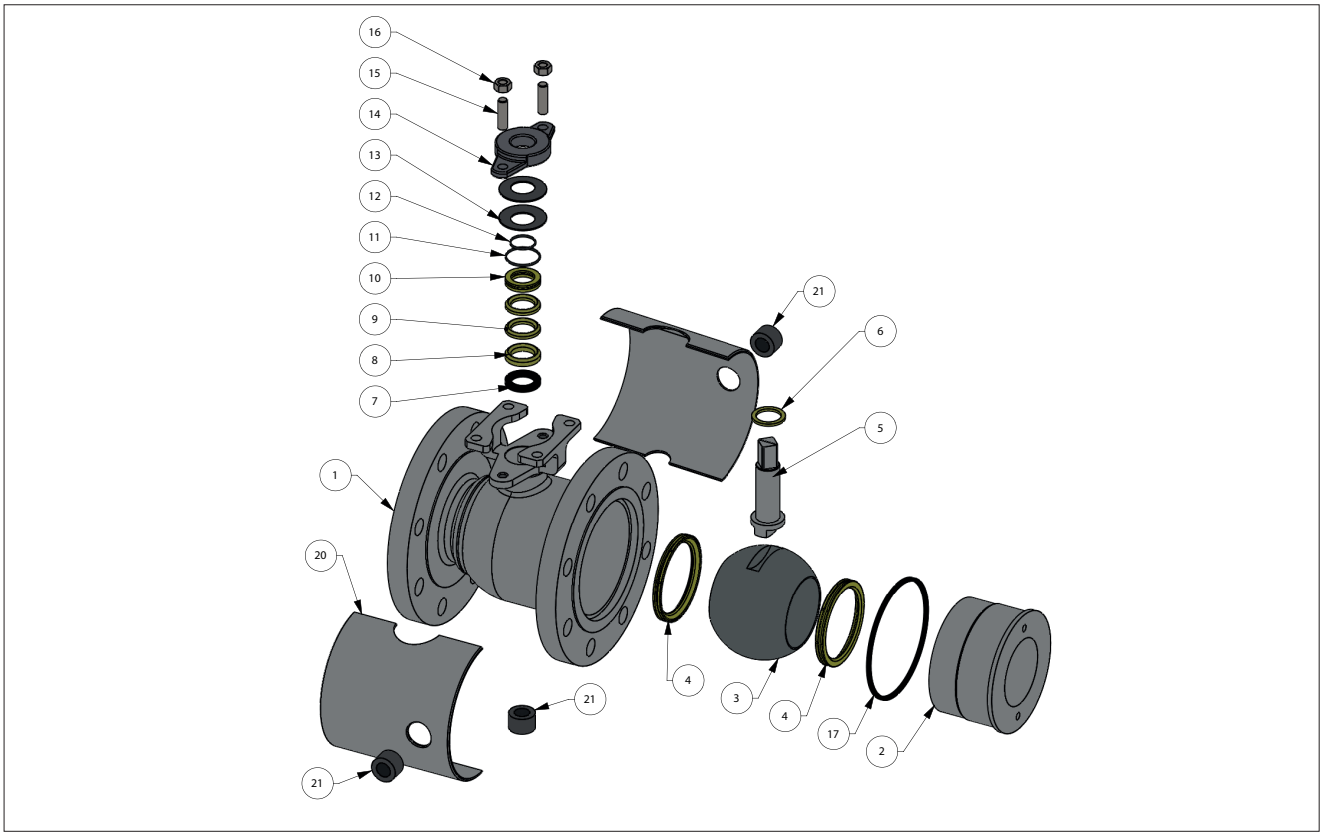
- Fully jacketed body with higher size end flanges (same flange size on both ends)
- Uni-body design inherently avoids problem of body joint leak
- Fully welded jacket ensures maximum heat input
- Unique low torque seat design maintains tight shut-off through pressure and temperature cycles
- ISO 5211 mounting pad for direct mounting of handle, gear operator, manual override, or actuator
- Internal entry blow-out proof stem design
- Spring loaded stem seal provides long cycle life and low emissions with minimal maintenance
- An extremely tight fit drive between the stem and ball ensures accurate and repeatable shut-off and control
- Anti-static grounding between ball and stem as well as stem and body is standard
- Every valve is factory tested, serialised & quality tagged prior to shipment
- SIL-3 qualified

Applications

- Chemical and petrochemicals
- Pulp & paper
- Food and beverage
- Pharmaceutical

Exploded view and parts list

DN25 to DN100 one-piece body construction



Bill of material and parts list			
Part No.	Part name	Material	
		Carbon steel	Stainless steel
		-22	-36
1	Body	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	End piece insert	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
3	Ball	316 Stainless steel	
4	Seat	TFM™ 1600	
5	Stem	316 Stainless steel	
6	Stem washer	Carbon filled PTFE	
7	Stem seal	Graphite	
8	Stem retainer 1	Glass filled PTFE	
9	V-ring stem seal	TFM™ 1600	
10	Stem retainer 2	Glass filled PTFE	
11	Outer stem O-ring	Fluoroelastomer (FKM)	
12	Inner stem O-ring	Fluoroelastomer (FKM)	
13	Disc spring	Spring steel	
14	Gland flange	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
15	Gland stud	ASTM A193 Gr. B7	ASTM A193 Gr. B8M
16	Gland nut	ASTM A194 Gr. 2H	ASTM A194 Gr. 8M
17	Body seal	Graphite	
20	Body jacket	ASTM A516 Gr. 70	ASTM A240 Gr. 316
21	Drain & vent plug	316 Stainless steel	

Technical specifications

Rating /Nominal diameter:	ASME Class 150 DN 25 – DN 100 (NPS 1 – 4)
Flange accommodation:	ASME B16.5
Face to face length:	ASME B16.10
Vacuum rating:	29.91 inch Hg gauge (759.98 mm Hg gauge or 2x10-^{2} Torr or 4x10-^{4} psia or 99.99% vacuum)
Leakage:	No visible leakage
Standards followed:	ISO 17292, ASME B16.34, API 598, BS EN 12266
Safety level:	SIL-3 capable
Testing:	API 598

Flow data

The table at right provides flow coefficients for J9S series valves covered in this bulletin. C_v values represent the flow of water at +60°F through the valve in US gallons per minute at a pressure drop of 1 psi. The metric equivalent, K_v, is the flow of water at +16°C through the valve in cubic meters per hour at a pressure drop of 1 bar. Cv = 1.167 Kv

Valve size		Cv	Kv
DN	NPS		
25	1	103	88
40	1 1/2	253	217
50	2	441	378
65	2 1/2	741	635
80	3	1290	1105
100	4	2310	1979

Valve body ratings

These are the maximum working pressure ratings of the valve body. The seat ratings, shown on the next page, determine the practical temperature and pressure limitations according to actual service conditions. Test pressures are recommended pressures for hydrostatic test with the valve ball half open.

Temperature °C	Maximum working pressure, barg	
	Class 150	
	Carbon steel WCB	Stainless steel CF8M
-29 to +38	19.6	19
100	17.7	16.2
150	15.8	14.8
200	13.8	13.7
250	12.1	12.1
Test pressure	30	29

Temperature °F	Maximum working pressure, psig	
	Class 150	
	Carbon steel WCB	Stainless steel CF8M
-20 to +100	285	275
200	260	235
300	230	215
400	200	195
500	170	170
Test pressure	450	425

Valve jacket ratings

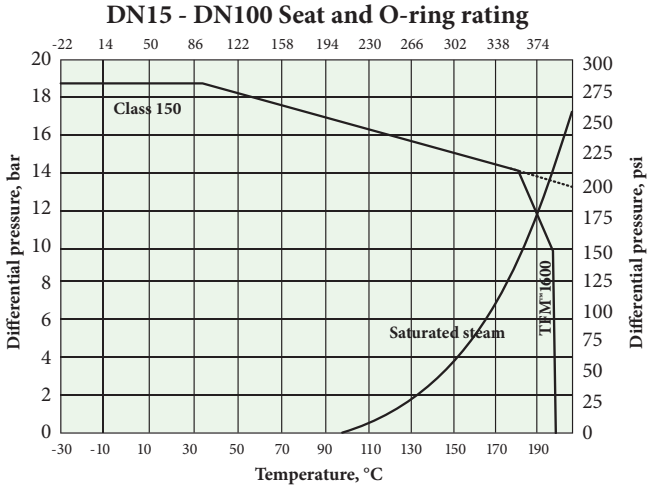
These are the maximum working pressure ratings of the valve jacket. The seat ratings, shown on the next page, determine the practical temperature and pressure limitations according to actual service conditions. Test pressures are recommended pressures for hydrostatic test of the valve jacket.

Temperature °C	Maximum working pressure, barg	
	Class 150	
	Carbon steel ASTM A516 Gr. 70	Stainless steel ASTM A20 Gr. 316
-29 to +38	3.6	3.6
100	3.6	3.6
150	3.6	3.6
200	3.6	3.6
Test pressure	4	4

Temperature °F	Maximum working pressure, psig	
	Class 150	
	Carbon steel ASTM A516 Gr. 70	Stainless steel ASTM A20 Gr. 316
-20 to +100	53	53
200	53	53
300	53	53
400	53	53
Test pressure	58	58

Valve seat ratings

Seat ratings, indicated by solid line in the chart, are based on differential pressure with the valve ball in the fully closed position. The dotted lines indicate the maximum working pressures for WCB carbon steel valve bodies. The combination of dotted and solid lines indicates the maximum valve rating at specific pressure and temperature conditions. Carbon steel valves are rated to -29°C (-20°F). Low temperature limit for TFM™ seat and body seal O-ring is -30°C (-22°F).



Valve torque data

Use this torque chart as a guide for actuator selection. The recommended minimum actuator torque includes a safety factor, so it is suitable for difficult services such as slurries, semi-solids and non-lubricating media.

Valve Size		Class 150 Minimum actuator torque	
DN	NPS	N.m	lb-ft
25	1	9	7
40	1 1/2	23	17
50	2	30	23
65	2 1/2	48	36
80	3	66	49
100	4	144	107

Actuator selection

Selected rack and pinion actuator sizes in the chart are based on the recommended minimum actuator torque and 4 barg minimum air supply pressure. Selected spring return actuator size is suitable for fail open or fail close configuration. Unless otherwise specified, actuator will be set for fail close.

Actuators may be direct mounted or direct mounted with sleeve or mounted using bracket & coupler. For all these cases, the mounting sets include respective fasteners in addition to the above said components.

Valve Size		Class 150 Actuator, 4 barg min. air supply	
DN	NPS	RNP DA	RNP SR
25	1	RNP 40	RNP 50 SR 40
40	1 1/2	RNP 63	RNP 80 SR 40
50	2	RNP 63	RNP 90 SR 40
65	2 1/2	RNP 80	RNP 110 SR 40
80	3	RNP 90	RNP 110 SR 40
100	4	RNP 100	RNP 150 SR 40

For details of mounting kits, please contact factory

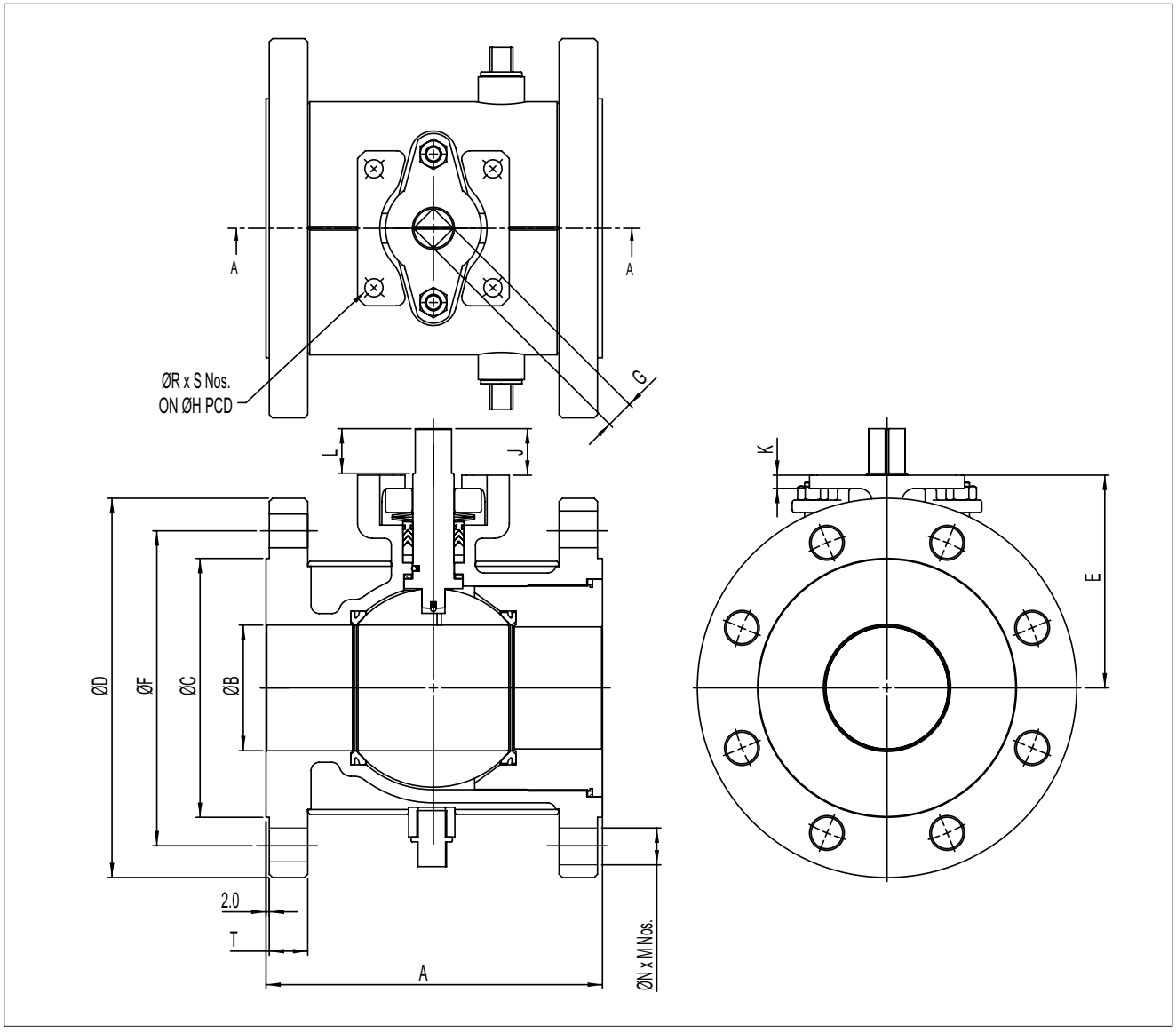
Hand lever

Valve size		Hand lever code	Mounting set number
DN	NPS		
25	1	RHL 0915036	EASYFLOW MOUNTING SET 69
40	1.½	RHL 1115036	EASYFLOW MOUNTING SET 70
50	2	RHL 1420036	EASYFLOW MOUNTING SET 71
65	2. ½	RHL 1420036	EASYFLOW MOUNTING SET 71
80	3	RHL 1725036	EASYFLOW MOUNTING SET 94
100	4	RHL 1725036	EASYFLOW MOUNTING SET 94

Actuator mounting set

Class 150		
Valve size	Actuator model	Mounting set number
DN25 (1)	RNP 40	EASYFLOW MOUNTING SET 53
	RNP 50	EASYFLOW MOUNTING SET 53
DN40 (1.1/2)	RNP 63	EASYFLOW MOUNTING SET 62
	RNP 80	EASYFLOW MOUNTING SET 63
DN50 (2)	RNP 63	EASYFLOW MOUNTING SET 221
	RNP 90	EASYFLOW MOUNTING SET 108
DN65 (2.1/2)	RNP 80	EASYFLOW MOUNTING SET 108
	RNP 110	EASYFLOW MOUNTING SET 182
DN 80 (3)	RNP 90	EASYFLOW MOUNTING SET 37
	RNP 110	EASYFLOW MOUNTING SET 184
DN 100 (4)	RNP 100	EASYFLOW MOUNTING SET 184
	RNP 150	EASYFLOW MOUNTING SET 185

Dimensions



Valve size		A	T	ØB	ØC	ØD	ØF	ØN	M	E	L	K	ISO 5211	S	ØR	ØH	G	J	Weight (kg)
DN	NPS																		
25x50	1x2	127	14.3	25	92.1	150	120.7	19.1	4	59.8	12	5	F05	4	M6	50	9	8.3	5.8
40x65	1.1/2x2.1/2	165	15.9	38	104.8	180	139.7	19.1	4	85	17	6	F05	4	8	50	11	7.3	10.8
50x80	2x3	178	17.5	50.8	127	190	152.4	19.1	4	96	21.5	6	F07	4	9	70	14	18.2	13.5
65x100	2.1/2x4	190	22.3	64.1	157.2	230	190.5	19.1	8	118.6	21.5	6	F07	4	9	70	14	18.8	23.7
80x100	3x4	203	22.3	76.2	157.2	230	190.5	19.1	8	129	27	8	F10	4	11	102	17	28.2	26.5
100x150	4x6	229	23.9	100	215.9	280	241.3	22.2	8	153	26.3	12	F10	4	11	102	17	23.5	45

All dimensions are in mm.
Weight indicated is for valve with NPT threads for jacketing.
Please contact factory for manual hand lever option.

How to order

1.		2.	3.	4.	5.	6.	7.	8.	9.
50		J9S	15	22	36	36	ZG	53	

1.	Size, DN (NPS ref.) x end flange
25	25 (1) x 50 (2)
40	40 (1.1/2) x 65 (2.1/2)
50	50 (2) x 80 (3)
65	65 (2.1/2) x 100 (4)
80	80 (3) x 100 (4)
100	100 (4) x 150 (6)

e.g. 25 = DN 25 (1) x DN 50 (2) Valve will have nominal bore sizes of DN 25 (1) with both side end flanges of DN 50 (2) size

2.	Series
J9S	Fully jacketed

3.	Flange / rating
15	ASME Class 150

4.	Body Material
22	Carbon steel (WCB)
36	Stainless steel (CF8M)

5.	Ball material
36	316 Stainless steel

6.	Stem material
36	316 Stainless steel
43	17-4PH Stainless steel

7.	Seat and seal materials
ZG	TFM™ 1600 / Graphite

8.	O-Ring material
53	Fluoroelastomer (FKM)

9.	Options
-	Blank, standard option with jacket connections 3 x ½" NPT female screw
FC	Jacket connections 3 x ½" flanges Class 150

TFM™ is a trademark of Dyneon, a 3M Company

NOTE:
As the use of the valve is application specific, a number of factors should be taken into account when selecting a valve for a given application.
Therefore, some of the applications in which the valves are used are outside the scope of this document.
If you have any questions concerning the use, application or compatibility of the valve with the intended service, contact nearest Valmet sales office for more information.

Valmet Flow Control Oy
Vanha Porvoontie 229, 01380 Vantaa, Finland.
Tel. +358 10 417 5000.
www.valmet.com/flowcontrol