1/4" – 2" (DN 6 – 50) SERIES 5H HIGH-PRESSURE SCREWED-END BALL VALVES

The Value-Line® Series 5H ball valve is a screwed-end valve designed specifically for handling a wide range of fluids and gases at higher pressures. It incorporates a unique flexible-lip seat design to provide long-lasting tight shut-off at pressures to 4500 psi (340 bar) in sizes 1/4" – 1" (DN 6 – 25) and 3000 psi (206 bar) in sizes 1-1/4" – 2" (DN 30 – 50).



FEATURES

Bubble-Tight Shut-Off

- Bubble-tight shut-off exceeds ANSI/FCI 70-2 Class VI leakage.
- Time-tested Double-Seal® seat design uses a unique flexible-lip seat to seal against the ball and provide long-lasting shut-off in either direction.



Easy Automation

- Rugged valve/actuator linkage supports up to 200 lb. (91 kg) loads in any direction without causing actuator misalignment and consequent stem-seal leakage.
- Advanced linkage design permits actuators to be mounted to installed valves without removing any body bolts.

Lockable Handle

- A slide-lock lever handle is supplied on all manual Series 5H valves as standard equipment.

Variety of Accessories Available

- In addition to a locking lever handle supplied on all manual Series 5H valves as standard, accessory options include stem extensions and round handles.

Single Source Responsibility

- Valves, actuators, and accessories may be purchased completely mounted from one source.

SPECIFICATIONS

Flow Data

The tables below provide flow coefficients of Series 5H valves. The C_v values represent the flow of water at +60°F through the valve in 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 m^3/hr at a pressure drop of 1 kg/cm. To convert C_v to K_v, multiply by 0.8569.

Valve Size Inches	Valve Size DN	C_v
1/4	6	6
3/8	10	10
1/2	15	13
3/4	20	44
1	25	44
1-1/4	30	46
1-1/2	40	95
2	50	111

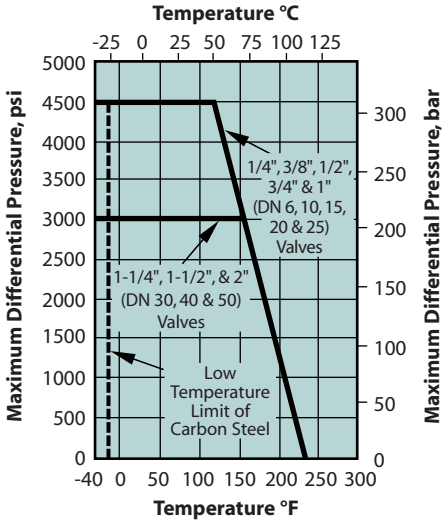
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Expect results

Seat Ratings

Seat ratings are based on differential pressure with the valve ball in the fully closed position. Valves in carbon steel are rated to -20°F (-29°C). Valves in 316 stainless steel are rated to -40°F (-40°C).

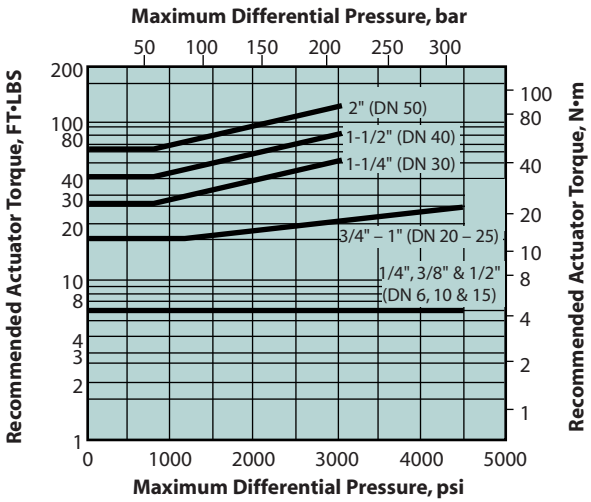
Series 5H Delrin® 100-AF Seat Rating



Torque Data

This torque chart is to be used as a guide for actuator selection. Additional requirements may be imposed by media characteristics, trim and frequency of valve operation. For clean lubrication fluid service, required torque may be reduced by 20%. For difficult services such as slurries and semi-solids increase values by 50%. If in doubt, select the next larger actuator.

Delrin 100-AF Seats



Body Ratings

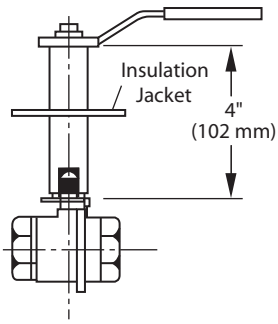
These are the maximum working pressure ratings for the valve body only. The seat ratings determine the practical pressure limitation in actual working pressure. The ratings are at -20°F to +100°F (-29°C to +38°C). Test pressure is recommended test pressure for hydrostatic test with the ball half open.

Valve Size inches		Carbon Steel, 316 Stainless Steel Body Ratings – psi
1/4 – 1	Working pressure Test pressure	4500 psi 6750 psi
1-1/4 – 2	Working pressure Test pressure	3000 psi 4500 psi

Valve Size DN		Carbon Steel, 316 Stainless Steel Body Ratings – bar
6 – 25	Working pressure Test pressure	310 bar 466 bar
30 – 50	Working pressure Test pressure	207 bar 310 bar

Stem Extensions

A standard 4" (102 mm) stem extension is offered for 1/4" – 1-1/4" (DN 6 – 30) Series 5H valves. Consult the factory for stem extensions on 1-1/2" & 2" (DN 40 & 50) valves.

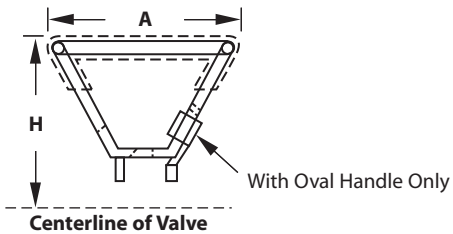


Valve Size Inches (DN)	Kit Number
1/4" – 1/2" (DN 6 – 15)	SE-072
3/4" – 1-1/4" (DN 20 – 30)	SE-073

Optional Handles

The Series 5H ball valves have optional handles available: a round handle (non-locking), an oval handle, and an extra-long lever handle. To order handles separately, specify the following part number:

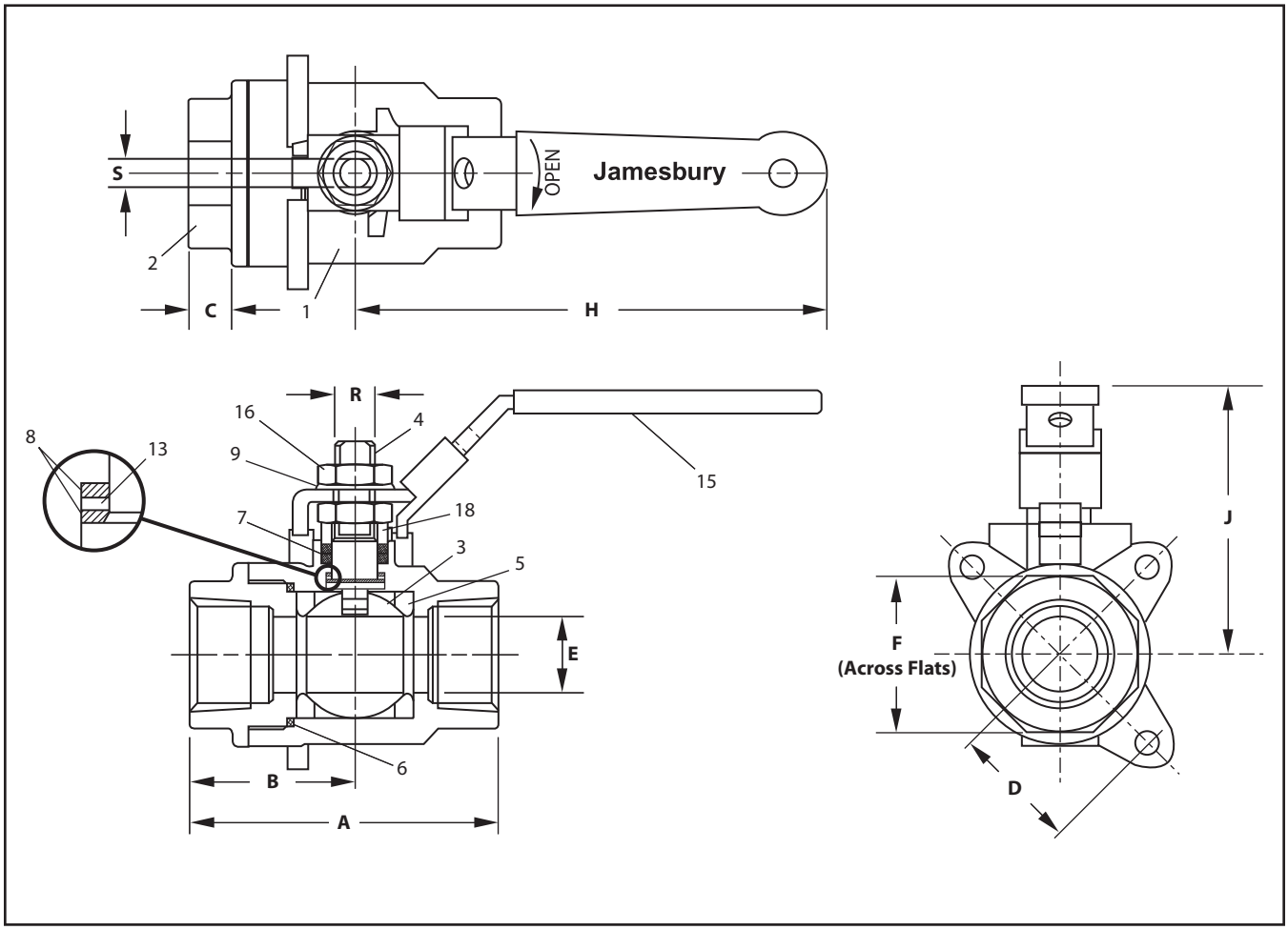
Handle Type	1/4" – 1/2" (DN 6 – 15)	3/4" – 1-1/4" (DN 20 – 30)	1-1/2" – 2" (DN 40 – 50)
Round Handles	012-0785-22	012-0786-22	—
Lockable Oval Handles	012-0794-22	012-0795-22	—
12" Long Lockable Lever Handles			012-0822-30



Valve Size	Oval and Round Handle Dimensions, inches	
inches	A	H
1/4 & 1/2	3.35	2.82
3/4	4.64	3.49
1	4.64	3.62
1-1/4	5.87	4.20

Valve Size	Oval and Round Handle Dimensions, mm	
DN	A	H
6 & 15	85	72
20	118	89
25	118	92
30	149	107

DIMENSIONS



Valve Size Inches	Approximate Dimensions – inches										Approx. Weight, lb
	A	B	C	D	E	F	H	J	R	S	
1/4	2.73	1.55	0.50	1.03	0.45	1.00	4.00	2.26	0.31	0.19	0.9
3/8	2.73	1.55	0.50	1.03	0.50	1.00	4.00	2.26	0.31	0.19	1.0
1/2	2.73	1.55	0.50	1.03	0.50	1.25	4.00	2.26	0.31	0.19	1.1
3/4	3.50	1.92	0.50	1.38	0.88	1.63	5.50	3.10	0.50	0.31	2.7
1	3.60	1.92	0.50	1.38	0.88	1.75	5.50	3.10	0.50	0.31	2.8
1-1/4	3.93	2.10	0.56	1.63	1.00	2.00	5.50	3.23	0.50	0.31	3.7
1-1/2	4.55	2.47	0.75	1.88	1.25	2.38	7.00†	3.93	0.63	0.38	5.0
2	4.94	2.66	0.75	2.12	1.50	2.88	7.00†	4.12	0.63	0.38	6.8

Valve Size DN	Approximate Dimensions – mm										Approx. Weight, kg
	A	B	C	D	E	F	H	J	R	S	
6	65	39	13	26	11	25	102	57	8	5	0.41
10	65	39	13	26	13	25	102	57	8	5	0.45
15	65	39	13	26	13	32	102	57	8	5	9.5
20	89	49	13	35	22	41	140	79	13	8	1.2
25	92	49	13	35	22	44	140	79	13	8	1.3
30	100	53	14	41	25	51	140	82	13	8	1.7
40	116	63	19	48	32	60	178†	100	16	10	2.3
50	126	67	19	54	38	73	178†	105	16	10	3.1

† Optional 12" (305 mm) handle available.

BILL OF MATERIAL AND PARTS LIST

Part No.	Part Name	Carbon Steel (22)	316 Stainless Steel (36)
1	Body	Carbon steel	316 Stainless steel
2	Body Cap	Carbon steel	316 Stainless steel
3	Ball	316 Stainless steel	
4	Stem	17-4PH Stainless steel	
5	Seat	Delrin® 100 AF	
6	Body Seal	PTFE	
7	Stem Seal	PTFE	
8	Stem Bearing	Delrin 100 AF	
9	Shakeproof Washer	Carbon steel	304 Stainless steel
13	Secondary Stem Seal	Graphite	
15	Handle	Carbon steel	304 Stainless steel
16	Stem Nut	304 Stainless steel	
18	Compression Ring	304 Stainless steel	

HOW TO ORDER

To specify a Series 5H high-pressure ball valve, simply make a selection from each of the boxes below.

1	2	3	4	5
2"	5H	—	22HB	RT

Example: The example above is for a 2" (DN 50) series 5H high-pressure screwed-end ball valve constructed of carbon steel body, 316 stainless steel ball,17–4PH stainless steel stem, Delrin 100-AF seats, and PTFE seats.

1	Size							
inches	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
DN	6	10	15	20	25	30	40	50

2	Valve Style
5H	High-pressure screwed-end ball valve

3	Special Construction (Optional)
—	Standard (no entry)

4	Body/Ball/Stem Material
22HB	Carbon steel body/316 stainless steel ball/17–4PH stem
36HB	316 stainless steel body and ball/ 17–4PH stem

5	Seat/Seal Material
RT[1]	Delrin 100-AF seats/PTFE seals

Delrin is a registered trademark of E.I. DuPont Co.

1 Not a self-relieving seat design

Subject to change without prior notice.

Metso Automation Inc.

Europe, Vanha Porvoontie 229, P.O. Box 304, FI-11301 Vantaa, Finland.
Tel. +358 20 483 150. Fax +358 20 483 151

North America, 44 Bowditch Drive, P.O. Box 8044, Shrewsbury, MA 01545, USA.
Tel. +1 508 852 0200. Fax +1 508 852 8172

South America, Av. Independência, 2500- Iporanga, 18087-101, Sorocaba-São Paulo
Brazil. Tel. +55 15 2102 9700. Fax +55 15 2102 9748/49

Asia Pacific, 20 Kallang Avenue, Lobby B, #06-00, PICO Creative Centre, Singapore 339411, Singapore.
Tel. +65 6511 1011. Fax +65 6250 0830

China, 19/F, the Exchange Beijing, No. 118, Jianguo Lu Yi, Chaoyang Dist, 100022 Beijing, China.
Tel. +86-10-6566-6600. Fax +86-10-6566-2575

Middle East, Roundabout 8, Unit AB-07, P.O. Box 17175, Jebel Ali Freezone, Dubai,
United Arab Emirates. Tel. +971 4 883 6974. Fax +971 4 883 6836

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