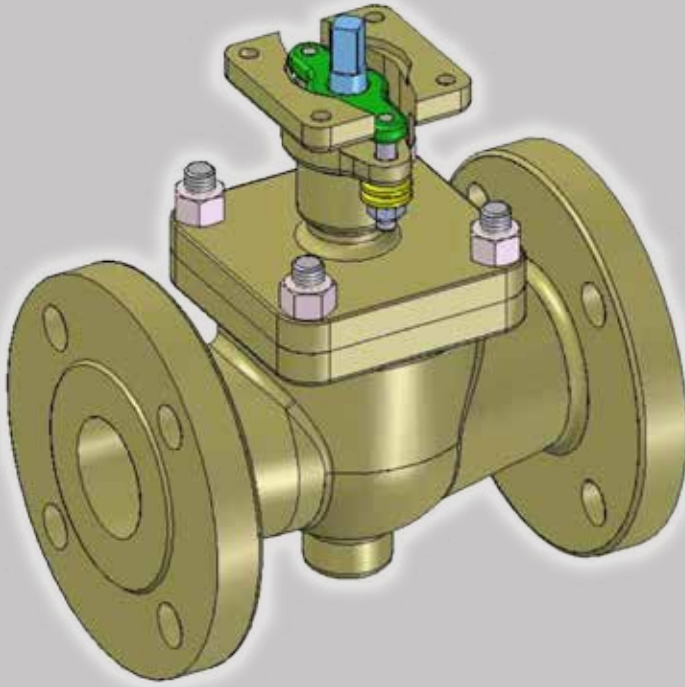




STANDARDS

- Body Rating: ANSI Class 150#, 300#, 600#, 900#, 1500#; ISO DIN PN 10, 16, 25, 40, 64, 100; JIS 10K, 20K, 30K, 40K 64K
- Face to Face: ASME B16.34; API 6D
- Testing: API 598, MSS SP-61, BS 6755

J Flow Controls 9400 JFlex Series Top Entry Rotary Control Valves

FEATURES & BENEFITS

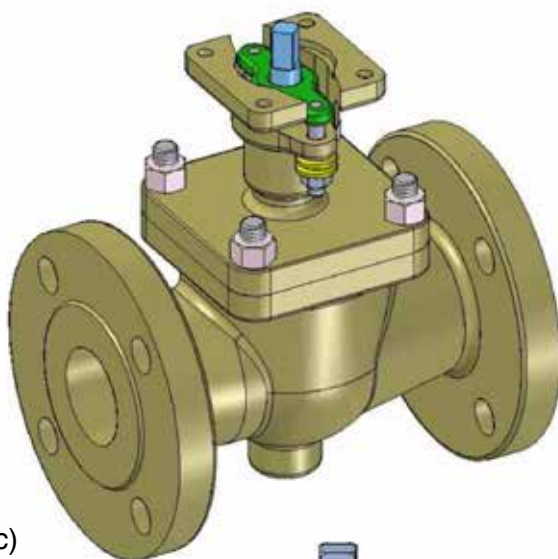
- Valve Size: 1/2" - 36"
- Bonnet Type: Plain, Extension, Cryogenic
- Max Working Temperature: up to 1112°F; Cryogenic: -323°F
- End Connection: Flange, Semi Wafer, Butt Welding
- Actuator Direct Mounting: ISO 5211

APPLICATIONS

- Chemical / Petrol - Chemical
- Liquefied Gas / Refrigeration
- Heavy / Industrial
- Power / Generation Plants
- Steel and Iron Works
- Pulp and Paper Mills
- Oil Refineries and Oil Field
- Ship Building

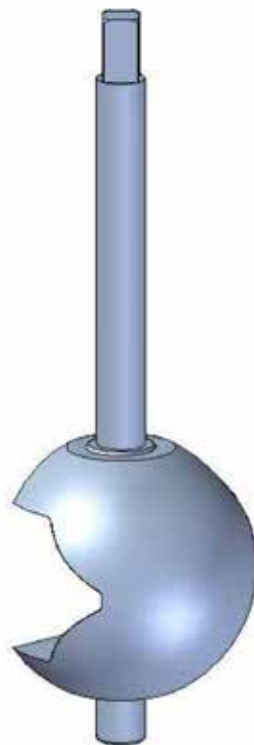
STANDARD SPECIFICATION

- Valve Size: 1/2" - 36"
- Body Rating:
 - ANSI Class: 150#, 300#, 600#, 900#, 1500#
 - ISO DIN PN 10, 16, 25, 40, 64, 100
 - JS 10K, 20K, 30K, 40K, 64K
- Bonnet Type
 - _ Plain, Extension, Cryogenic
- Face to Face
 - ASME B16.34
 - API 6D
- Max Working Temperature: up to 1112°F (-321°F Cryogenic)
- End Connection: Flange, Semi Wafer, Butt Welding
- Testing: API 598, MAA AP-61, BS 6755
- Actuator Direct Mounting: ISO 5211



GENERAL APPLICATION

- Chemical / Petrol - Chemical
- Liquefied Gas / Refrigeration
- Heavy Industrial
- Power / Generation Plants
- Steel and Iron Works
- Commercial
- Pulp and Paper Mills
- Oil Refineries and Oil Field
- Ship Building

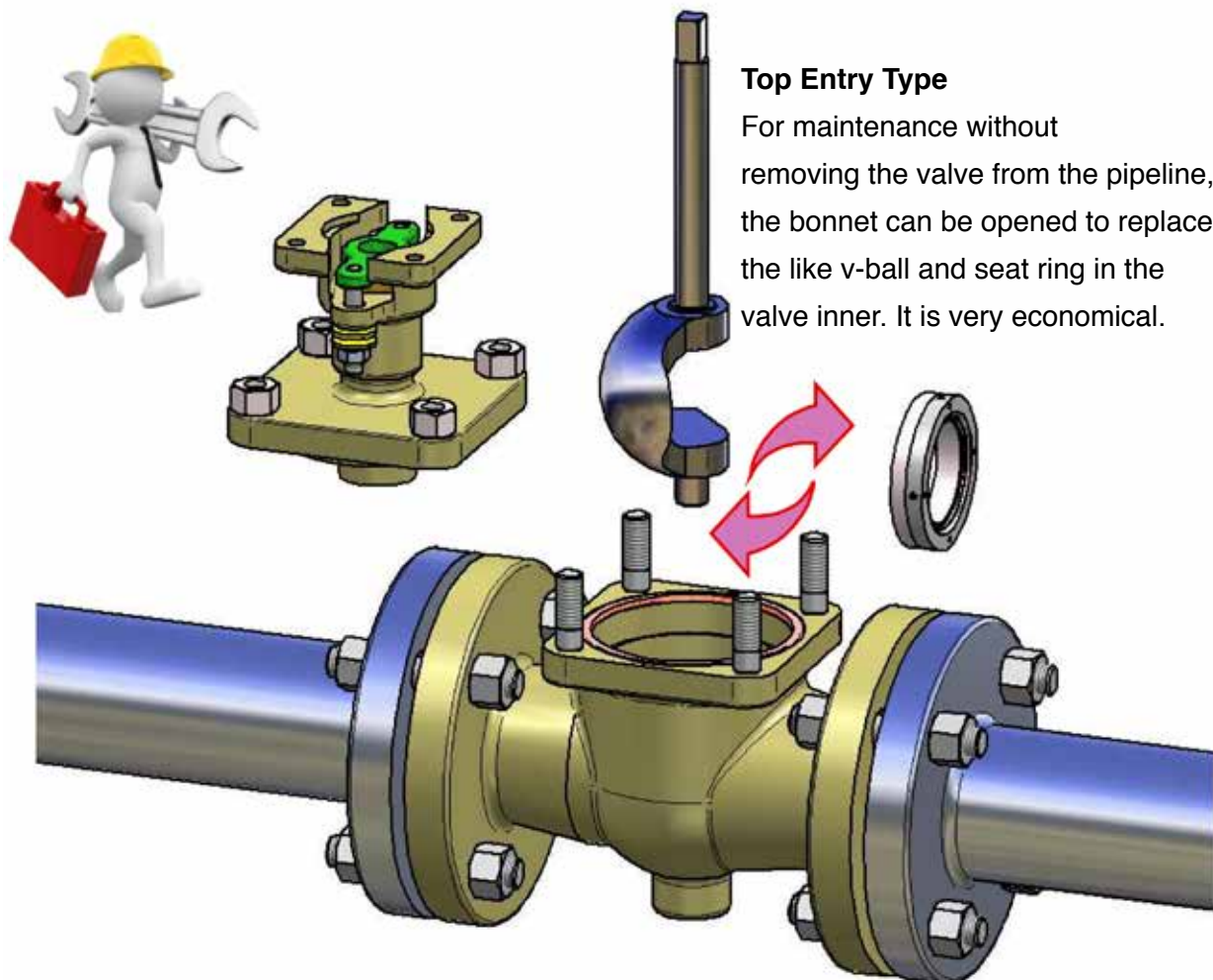


SEAT CONSTRUCTION

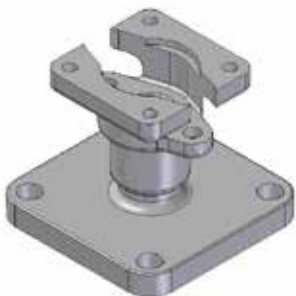
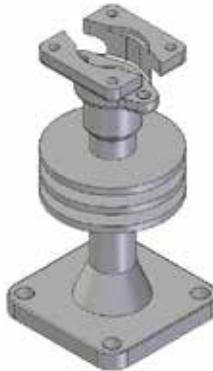
- | | | |
|------------------------------|---------------------------------|---------------------------------|
| • Soft Seat | • Metal Seat | • Fire Safety |
| - Blowout Proof Stem Design | - Blowout Proof Stem Design | - Blowout Proof Stem Design |
| - Lower Operating Torque | - Inherent Fire Safe Design | - Inherent Fire Safe Design |
| - Tight Shut-off | - Suitable for High Temperature | - Suitable for High Temperature |
| - Bi-directional Application | - Leakage Class V | - Leakage Class VI (zero) |
| - Leakage Class VI (zero) | | - Special Coating Type |

STANDARD SPECIFICATION

- Same performance as side entry v-notch valve (adjustment capability, large flow rate, economy)
- Top entry design, fully maintainable on line
- Low dead band construction (one pieces stem and ball)
- High Cv value: good rangeability
- EQ % Cv characteristic
- V-ball customized to suit specific Cv curve
- Low noise v-ball design
- Suitable for throttling service for both gas and liquid
- Unidirectional and bi-directional design available
- Extremely wide selection of materials for both body and internals including carbon steel, low alloy steels, stainless steels, Duplex 22/25 Cr, Ni-Alloys and titanium
- Hard facing / coating: stellite, tungsten and chromium carbide



BONNET TYPE

Plain Bonnet	Extension Bonnet	Cryogenic Bonnet
		
Working Temperature: -17°F ~ 446°F Features: - Most commonly used method - Direct mounting pad - Live loading packing	Working Temperature: More than 446°F -17°F ~ - 49°F Joint Type: - Welding Type - Flange Type Features: - Packing box apply heat sink - Direct mounting pad - Live loading packing	Working Temperature: -49°F ~ - 321°F Joint Type: - Welding Type - Flange Type Features: - Heat sink (customized specs) - Bonnet Height (customized specs) - Direct mounting pad application - Live loading Packing

LARGER VALVE

- Side Entry Type
- Top Entry Type



V-BALL DESIGN



General V-Ball Design
Rangeability: 1/50 (EQ %)



Micro Control V-Ball Design
Rangeability: Customer Orders



V-Ball Design for High Pressure
Rangeability: Customer Orders



V-Ball Design for High Pressure
Rangeability: Customer Orders

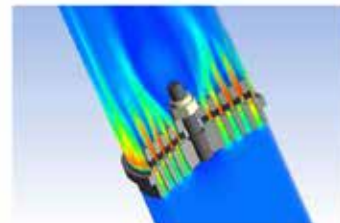


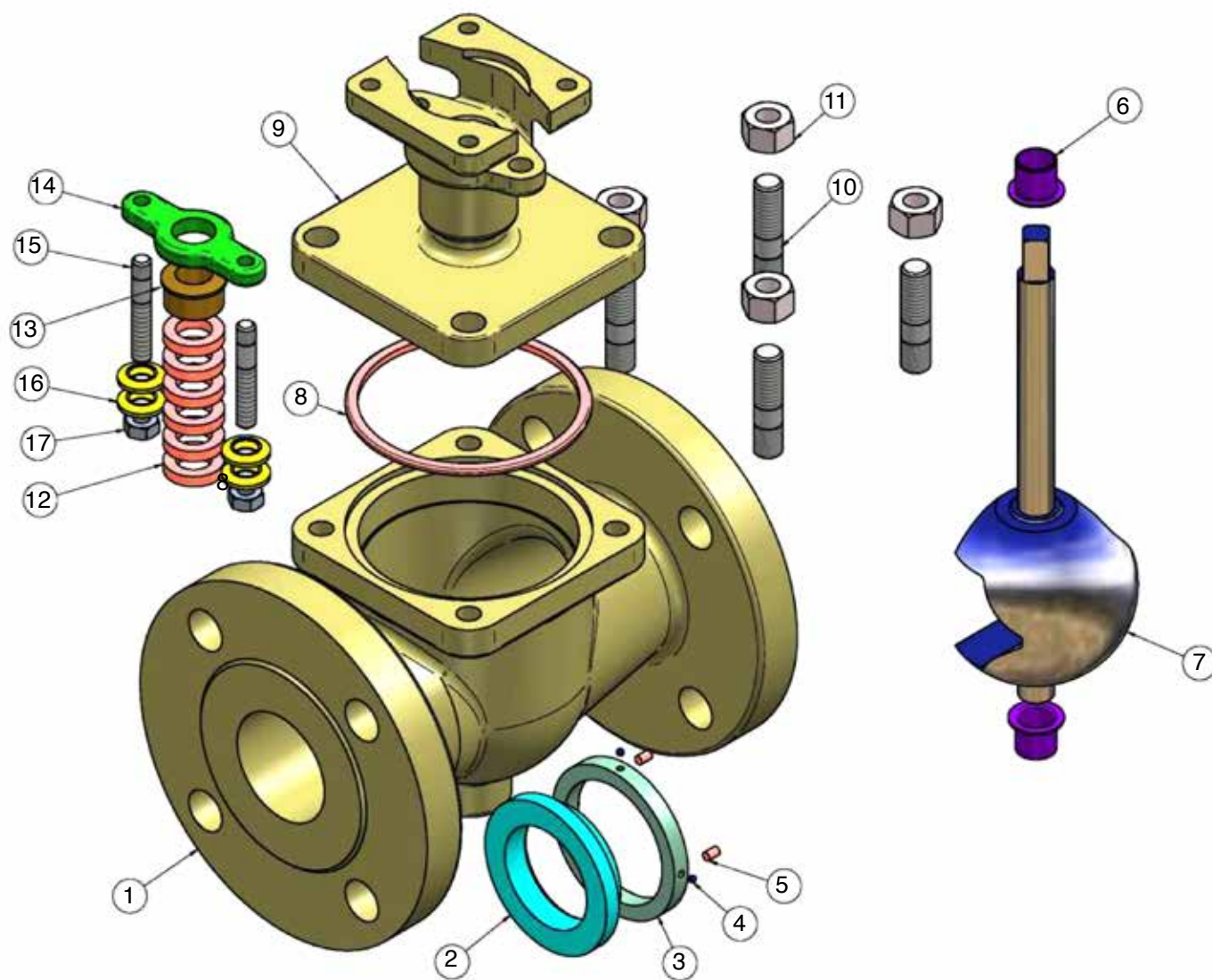
Linear B-Ball Design
Rangeability: Customer Orders



Linear V-Ball Design (Micro Control)
Rangeability: Customer Orders

ANTI-CAVITATION / LOW NOISE



BILL OF MATERIALS

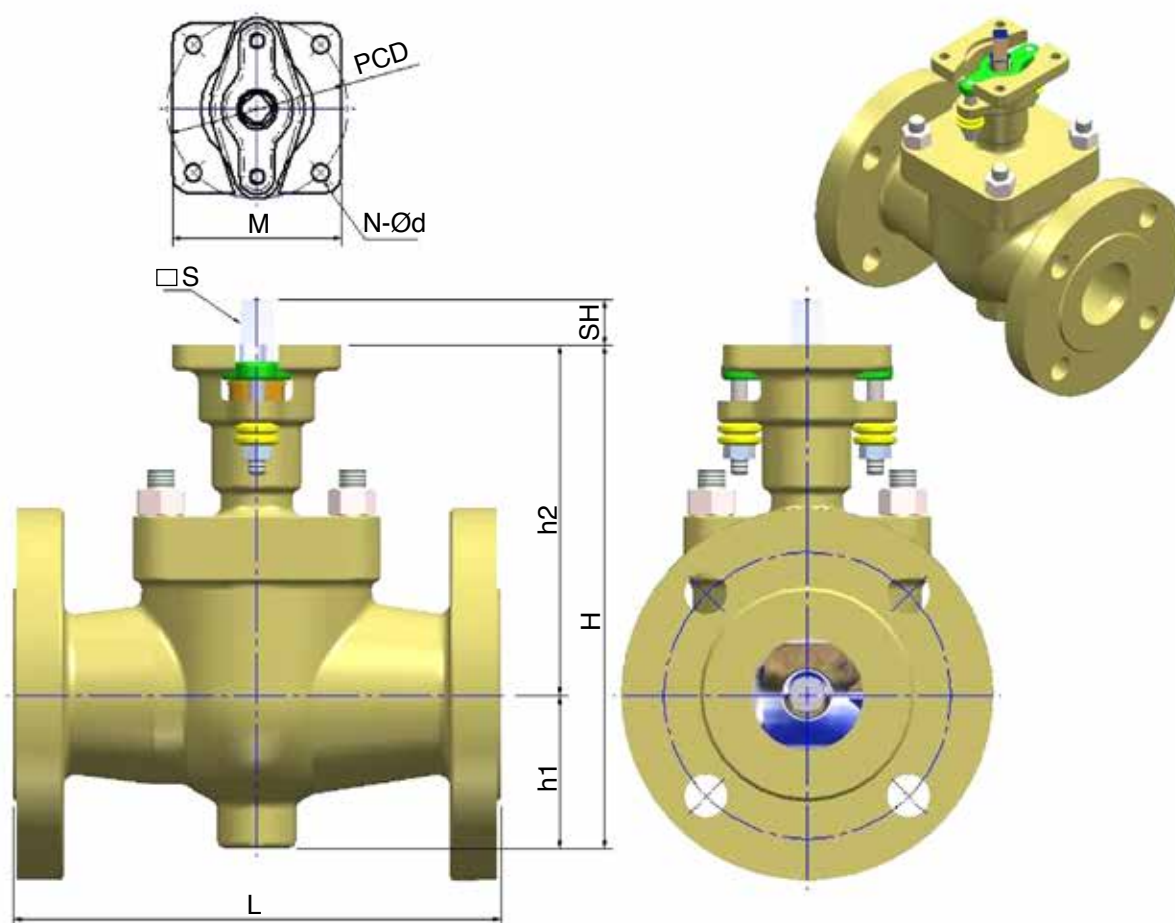
No	Part Name	Materials	No	Part Name	Materials
1	Body	WCB; SCS 13; SCS 14	10	Stud Bolt	STD
2	Seat Ring	SUS 304, SUS 316; PTFE	11	Hex Nut	STD
3	Retainer	SUS 304, SUS 316	12	Packing	PTFE; Graphite
4	Buckle Ball	SUS 304, SUS 316	13	Gland Follower	SUS 304
5	Set Screw	SUS 304, SUS 316	14	Gland Flange	SUS 304
6	Flange Bush	SUS 316	15	Gland Bolt	STD
7	V-Ball	SUS 304, SUS 316	16	Coned Disc Spring	SUS 304
8	Bonnet Gasket	Non-Asbestos	17	Hex Nut	STD
9	Bonnet	WCB; SUS 304; SUS 316			

9400 Series JFlex Series Top Entry Rotary Control Valve

ACTUATOR SIZING

Valve Size	Seat Material	150# (JIS 10K)		300# (JIS 20K)	
		Spring Return	Double Acting	Spring Return	Double Acting
1/2"	Metal	AS50	AD50	AS50	AD50
	Soft	AS50	AD50	AS50	AD50
3/4"	Metal	AS60	AD50	AS60	AD50
	Soft	AS60	AD50	AS60	AD50
1"	Metal	AS80	AD60	AS80	AD60
	Soft	AS80	AD60	AS80	AD60
1-1/2"	Metal	AS80	AD60	AS100	AD80
	Soft	AS80	AD60	AS100	AD80
2"	Metal	AS100	AD80	AS100	AD100
	Soft	AS100	AD80	AS100	AD100
2-1/2"	Metal	AS100	AD80	AS125	AD100
	Soft	AS100	AD80	AS125	AD100
3"	Metal	AS125	AD100	AS140	AD125
	Soft	AS125	AD100	AS140	AD125
4"	Metal	AS125	AD100	AS140	AD125
	Soft	AS125	AD100	AS140	AD125
5"	Metal	AS140	AD125	AS160	AD140
	Soft	AS140	AD125	AS160	AD140
6"	Metal	AS160	AD140	AS200	AD160
	Soft	AS160	AD140	AS200	AD160
8"	Metal	AS200	AD160	AS250	AD200
	Soft	AS200	PD160	AS250	AD200
10"	Metal	AS250	AS200	AS300	AD250
	Soft	AS250	AS200	AS300	AD250
12"	Metal	AS300	AD250	AS350	AD300
	Soft	AS300	AD250	AS350	AD300
14"	Metal	AS300	AD250	AS350	AD300
	Soft	AS300	AD250	AS350	AD300
16"	Metal	AS350	AD300	AS350	AD300
	Soft	AS350	AD300	AS350	AD300

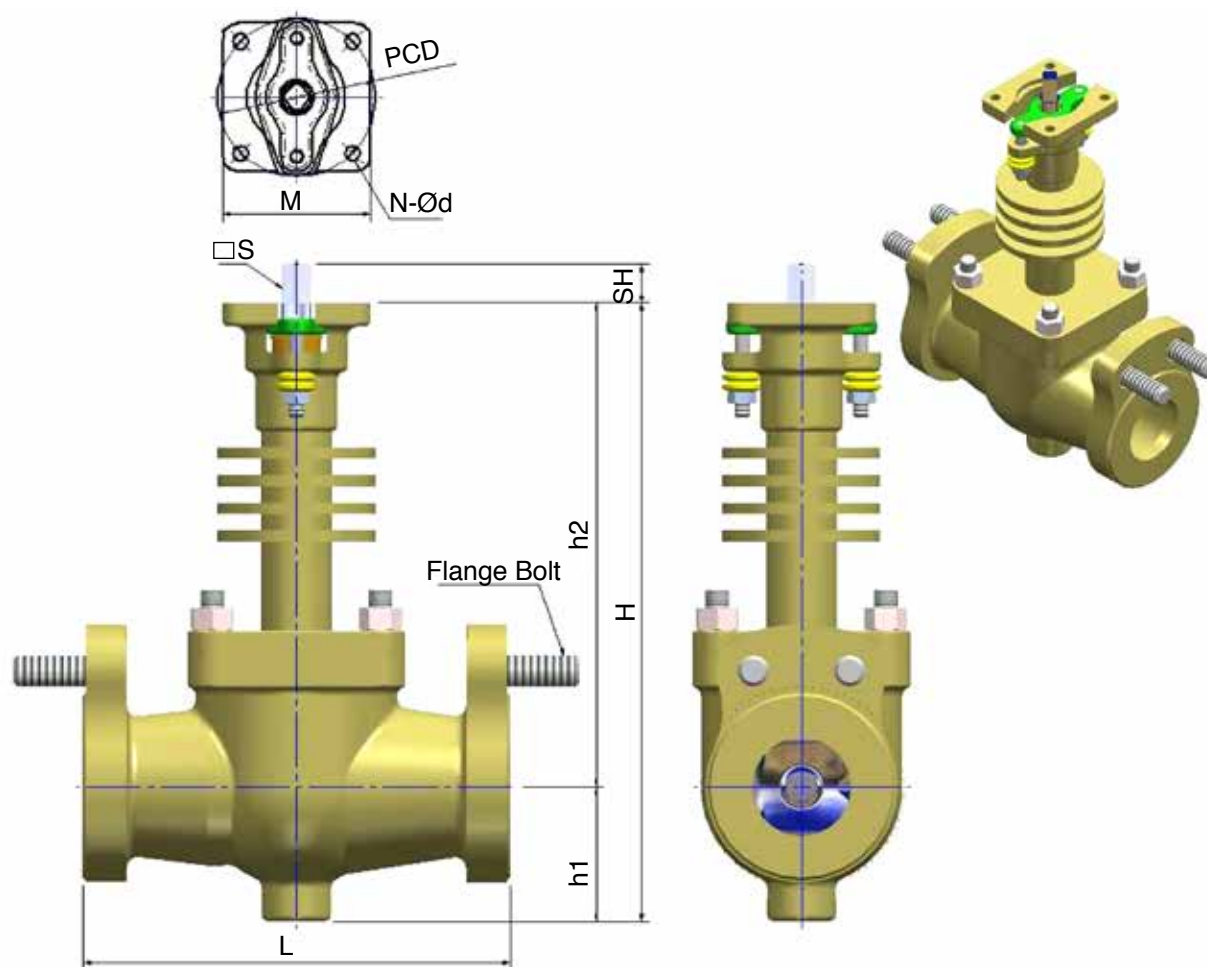
DIMENSIONS [FLANGE TYPE]



Size	L			h1	Plain		□S	SH	Mounting Pad			Extension		Cryogenic	
	150#	300	600#		h2	H			□M	PCD	N-Ød	h2	H	h2	H
1/2"	4.3	5.5	6.5	1.3	3.9	5.2	0.43	0.55	2.8	2.8	0.16-Ø0.43	9.8	11.1	25.6	26.9
3/4"	4.6	6.0	7.5	1.5	4.1	5.6	0.43	0.55	2.8	2.8	0.16-Ø0.43	1.0	11.5	25.8	27.3
1"	5.0	6.5	8.5	1.7	4.3	6.0	0.43	0.55	2.8	2.8	0.16-Ø0.43	10.2	11.9	26.0	27.6
1-1/2"	6.5	7.5	9.5	2.3	4.7	7.0	0.43	0.55	2.8	2.8	0.16-Ø0.43	10.6	12.9	26.4	28.7
2"	7.0	8.5	11.5	2.5	5.3	7.8	0.43	0.55	2.8	2.8	0.16-Ø0.43	11.2	13.7	27.0	29.5
2-1/2"	7.5	9.5	13.0	2.8	5.9	8.7	0.43	0.55	2.8	2.8	0.16-Ø0.43	11.8	14.6	27.6	30.4
3"	8.0	11.1	14.0	3.5	6.9	10.4	0.55	0.67	3.6	4.0	0.16-Ø0.51	12.8	16.3	28.5	32.0
4"	9.0	12.0	17.0	3.9	7.2	11.1	0.55	0.67	3.6	4.0	0.16-Ø0.51	13.1	17.0	29.0	32.8
5"	14.0	15.0	20.0	5.1	9.3	14.4	0.67	0.78	4.9	4.9	0.16-Ø0.59	15.2	20.3	31.0	36.0
6"	15.5	15.9	22.0	5.5	9.6	15.2	0.87	0.98	5.5	5.5	0.16-Ø0.75	15.6	21.1	31.3	36.8
8"	18.0	19.8	26.0	7.1	12.2	19.3	1.1	1.2	6.5	6.5	0.16-Ø0.91	18.1	25.2	33.9	40.9
10"	21.0	22.4	31.0	8.7	14.2	22.8	1.4	1.5	6.5	6.5	0.16-Ø0.91	20.1	28.7	35.8	44.5
12"	24.0	25.5	33.0	9.8	16.3	26.2	1.4	1.5	Ø11.8	10.0	0.31-Ø0.75	22.2	32.1	38.0	47.8
14"	27.0	30.0	35.0	11.4	18.7	30.1	1.8	1.9	Ø11.8	10.0	0.31-Ø0.75	24.6	36.0	40.4	51.8
16"	30.0	33.0	39.0	12.2	21.7	33.8	1.8	1.9	Ø13.8	11.7	0.31-Ø0.91	27.6	39.8	43.3	55.5

9400 Series JFlex Series Top Entry Rotary Control Valve

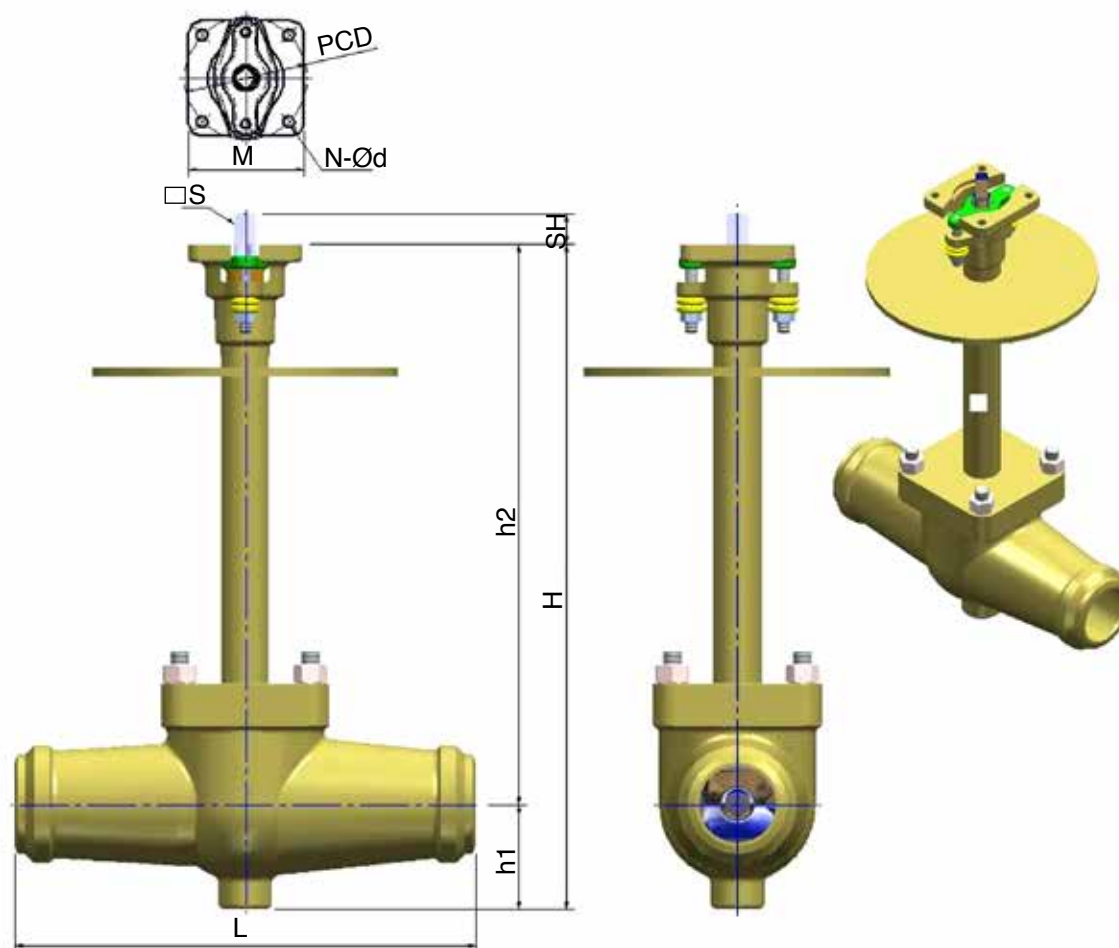
DIMENSIONS -WAFER TYPE]



Size	L			h1	Plain		S	SH	Mounting Pad			Extension		Cryogenic	
	150#	300	600#		h2	H			M	PCD	N-Ød	h2	H	h2	H
1/2"	4.3	5.5	6.5	1.3	3.9	5.2	0.43	0.55	2.8	2.8	0.16-Ø0.43	9.8	11.1	25.6	26.9
3/4"	4.6	6.0	7.5	1.5	4.1	5.6	0.43	0.55	2.8	2.8	0.16-Ø0.43	1.0	11.5	25.8	27.3
1"	5.0	6.5	8.5	1.7	4.3	6.0	0.43	0.55	2.8	2.8	0.16-Ø0.43	10.2	11.9	26.0	27.6
1-1/2"	6.5	7.5	9.5	2.3	4.7	7.0	0.43	0.55	2.8	2.8	0.16-Ø0.43	10.6	12.9	26.4	28.7
2"	7.0	8.5	11.5	2.5	5.3	7.8	0.43	0.55	2.8	2.8	0.16-Ø0.43	11.2	13.7	27.0	29.5
2-1/2"	7.5	9.5	13.0	2.8	5.9	8.7	0.43	0.55	2.8	2.8	0.16-Ø0.43	11.8	14.6	27.6	30.4
3"	8.0	11.1	14.0	3.5	6.9	10.4	0.55	0.67	3.6	4.0	0.16-Ø0.51	12.8	16.3	28.5	32.0
4"	9.0	12.0	17.0	3.9	7.2	11.1	0.55	0.67	3.6	4.0	0.16-Ø0.51	13.1	17.0	29.0	32.8
5"	14.0	15.0	20.0	5.1	9.3	14.4	0.67	0.78	4.9	4.9	0.16-Ø0.59	15.2	20.3	31.0	36.0
6"	15.5	15.9	22.0	5.5	9.6	15.2	0.87	0.98	5.5	5.5	0.16-Ø0.75	15.6	21.1	31.3	36.8
8"	18.0	19.8	26.0	7.1	12.2	19.3	1.1	1.2	6.5	6.5	0.16-Ø0.91	18.1	25.2	33.9	40.9
10"	21.0	22.4	31.0	8.7	14.2	22.8	1.4	1.5	6.5	6.5	0.16-Ø0.91	20.1	28.7	35.8	44.5
12"	24.0	25.5	33.0	9.8	16.3	26.2	1.4	1.5	Ø11.8	10.0	0.31-Ø0.75	22.2	32.1	38.0	47.8
14"	27.0	30.0	35.0	11.4	18.7	30.1	1.8	1.9	Ø11.8	10.0	0.31-Ø0.75	24.6	36.0	40.4	51.8
16"	30.0	33.0	39.0	12.2	21.7	33.8	1.8	1.9	Ø13.8	11.7	0.31-Ø0.91	27.6	39.8	43.3	55.5

9400 Series JFlex Series Top Entry Rotary Control Valve

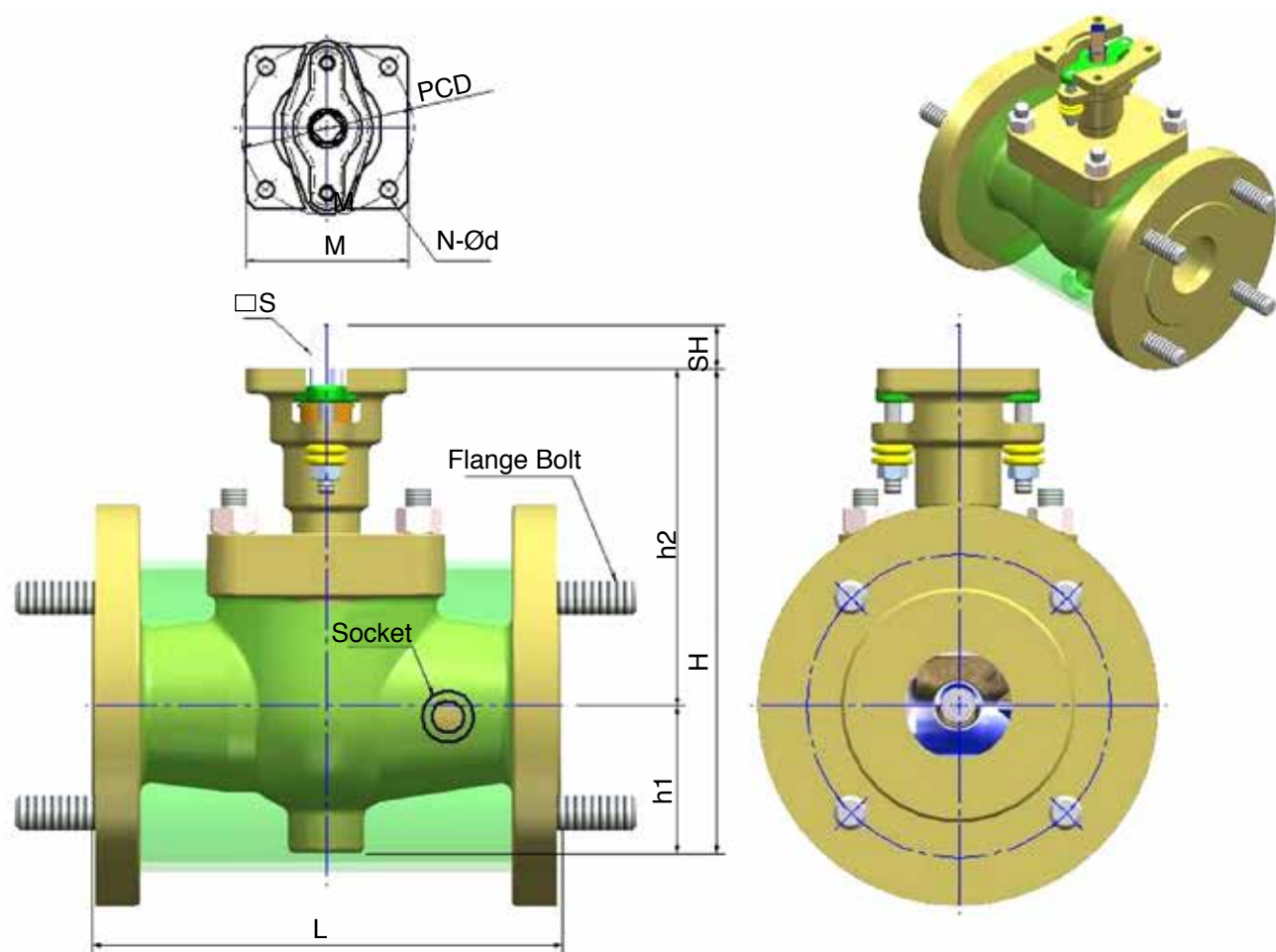
DIMENSIONS [BUTT WELD TYPE]



Size	L			h1	Plain		□S	SH	Mounting Pad			Extension		Cryogenic	
	150#	300	600#		h2	H			□M	PCD	N-Ød	h2	H	h2	H
1/2"	4.3	5.5	6.5	1.3	3.9	5.2	0.43	0.55	2.8	2.8	0.16-Ø0.43	9.8	11.1	25.6	26.9
3/4"	4.6	6.0	7.5	1.5	4.1	5.6	0.43	0.55	2.8	2.8	0.16-Ø0.43	1.0	11.5	25.8	27.3
1"	5.0	6.5	8.5	1.7	4.3	6.0	0.43	0.55	2.8	2.8	0.16-Ø0.43	10.2	11.9	26.0	27.6
1-1/2"	6.5	7.5	9.5	2.3	4.7	7.0	0.43	0.55	2.8	2.8	0.16-Ø0.43	10.6	12.9	26.4	28.7
2"	7.0	8.5	11.5	2.5	5.3	7.8	0.43	0.55	2.8	2.8	0.16-Ø0.43	11.2	13.7	27.0	29.5
2-1/2"	7.5	9.5	13.0	2.8	5.9	8.7	0.43	0.55	2.8	2.8	0.16-Ø0.43	11.8	14.6	27.6	30.4
3"	8.0	11.1	14.0	3.5	6.9	10.4	0.55	0.67	3.6	4.0	0.16-Ø0.51	12.8	16.3	28.5	32.0
4"	9.0	12.0	17.0	3.9	7.2	11.1	0.55	0.67	3.6	4.0	0.16-Ø0.51	13.1	17.0	29.0	32.8
5"	14.0	15.0	20.0	5.1	9.3	14.4	0.67	0.78	4.9	4.9	0.16-Ø0.59	15.2	20.3	31.0	36.0
6"	15.5	15.9	22.0	5.5	9.6	15.2	0.87	0.98	5.5	5.5	0.16-Ø0.75	15.6	21.1	31.3	36.8
8"	18.0	19.8	26.0	7.1	12.2	19.3	1.1	1.2	6.5	6.5	0.16-Ø0.91	18.1	25.2	33.9	40.9
10"	21.0	22.4	31.0	8.7	14.2	22.8	1.4	1.5	6.5	6.5	0.16-Ø0.91	20.1	28.7	35.8	44.5
12"	24.0	25.5	33.0	9.8	16.3	26.2	1.4	1.5	Ø11.8	10.0	0.31-Ø0.75	22.2	32.1	38.0	47.8
14"	27.0	30.0	35.0	11.4	18.7	30.1	1.8	1.9	Ø11.8	10.0	0.31-Ø0.75	24.6	36.0	40.4	51.8
16"	30.0	33.0	39.0	12.2	21.7	33.8	1.8	1.9	Ø13.8	11.7	0.31-Ø0.91	27.6	39.8	43.3	55.5

9400 Series JFlex Series Top Entry Rotary Control Valve

DIMENSIONS -WAFER TYPE]



Size	L			h1	Plain		□S	SH	Mounting Pad			Extension		Cryogenic	
	150#	300	600#		h2	H			□M	PCD	N-Ød	h2	H	h2	H
1/2"	4.3	5.5	6.5	1.3	3.9	5.2	0.43	0.55	2.8	2.8	0.16-Ø0.43	9.8	11.1	25.6	26.9
3/4"	4.6	6.0	7.5	1.5	4.1	5.6	0.43	0.55	2.8	2.8	0.16-Ø0.43	1.0	11.5	25.8	27.3
1"	5.0	6.5	8.5	1.7	4.3	6.0	0.43	0.55	2.8	2.8	0.16-Ø0.43	10.2	11.9	26.0	27.6
1-1/2"	6.5	7.5	9.5	2.3	4.7	7.0	0.43	0.55	2.8	2.8	0.16-Ø0.43	10.6	12.9	26.4	28.7
2"	7.0	8.5	11.5	2.5	5.3	7.8	0.43	0.55	2.8	2.8	0.16-Ø0.43	11.2	13.7	27.0	29.5
2-1/2"	7.5	9.5	13.0	2.8	5.9	8.7	0.43	0.55	2.8	2.8	0.16-Ø0.43	11.8	14.6	27.6	30.4
3"	8.0	11.1	14.0	3.5	6.9	10.4	0.55	0.67	3.6	4.0	0.16-Ø0.51	12.8	16.3	28.5	32.0
4"	9.0	12.0	17.0	3.9	7.2	11.1	0.55	0.67	3.6	4.0	0.16-Ø0.51	13.1	17.0	29.0	32.8
5"	14.0	15.0	20.0	5.1	9.3	14.4	0.67	0.78	4.9	4.9	0.16-Ø0.59	15.2	20.3	31.0	36.0
6"	15.5	15.9	22.0	5.5	9.6	15.2	0.87	0.98	5.5	5.5	0.16-Ø0.75	15.6	21.1	31.3	36.8
8"	18.0	19.8	26.0	7.1	12.2	19.3	1.1	1.2	6.5	6.5	0.16-Ø0.91	18.1	25.2	33.9	40.9
10"	21.0	22.4	31.0	8.7	14.2	22.8	1.4	1.5	6.5	6.5	0.16-Ø0.91	20.1	28.7	35.8	44.5
12"	24.0	25.5	33.0	9.8	16.3	26.2	1.4	1.5	Ø11.8	10.0	0.31-Ø0.75	22.2	32.1	38.0	47.8
14"	27.0	30.0	35.0	11.4	18.7	30.1	1.8	1.9	Ø11.8	10.0	0.31-Ø0.75	24.6	36.0	40.4	51.8
16"	30.0	33.0	39.0	12.2	21.7	33.8	1.8	1.9	Ø13.8	11.7	0.31-Ø0.91	27.6	39.8	43.3	55.5



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