

Howell 3-Piece Direct Mount Ball Valve

SPECIFICATIONS

Available in Carbon Steel and Stainless Steel

Full Port Design

1000 PSI for 1/4" to 2", 800 PSI from 2-1/2" to 4"

Threaded, Socket, Butt Weld, Extended Butt Weld and Grooved Ends

Blowout Proof Stem for Safety

ISO 5211 Direct Mounting Pad

Bottom Entry Stem for Safety

Anti-Static Device

Live Loaded Stem Design for High Cycle Life

Pressure Balanced Ball

Silicone Free

Material Traceability



STANDARDS:

CRN Registered

Conforms to MSS SP-110

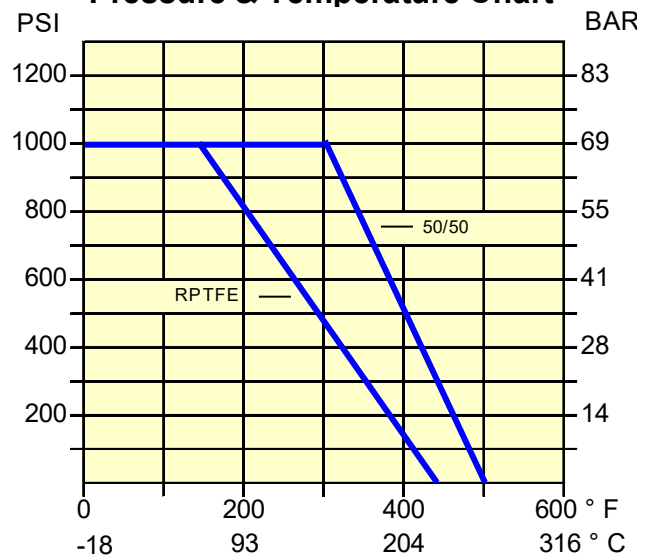
NACE – MR0175

EN1024 – DIN 50-049-3.1B

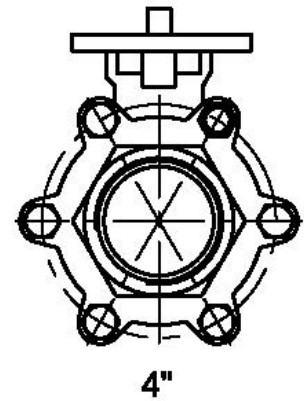
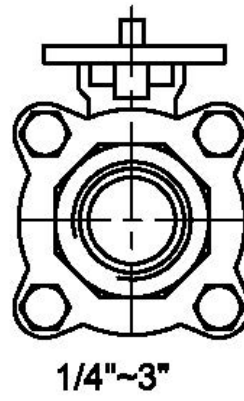
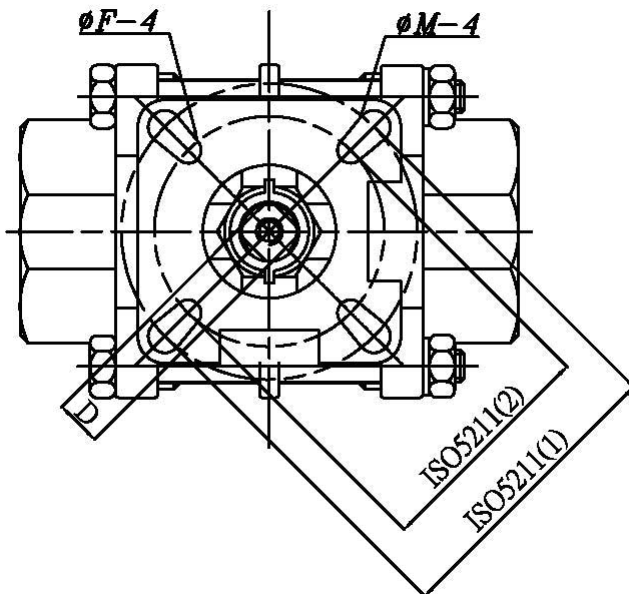
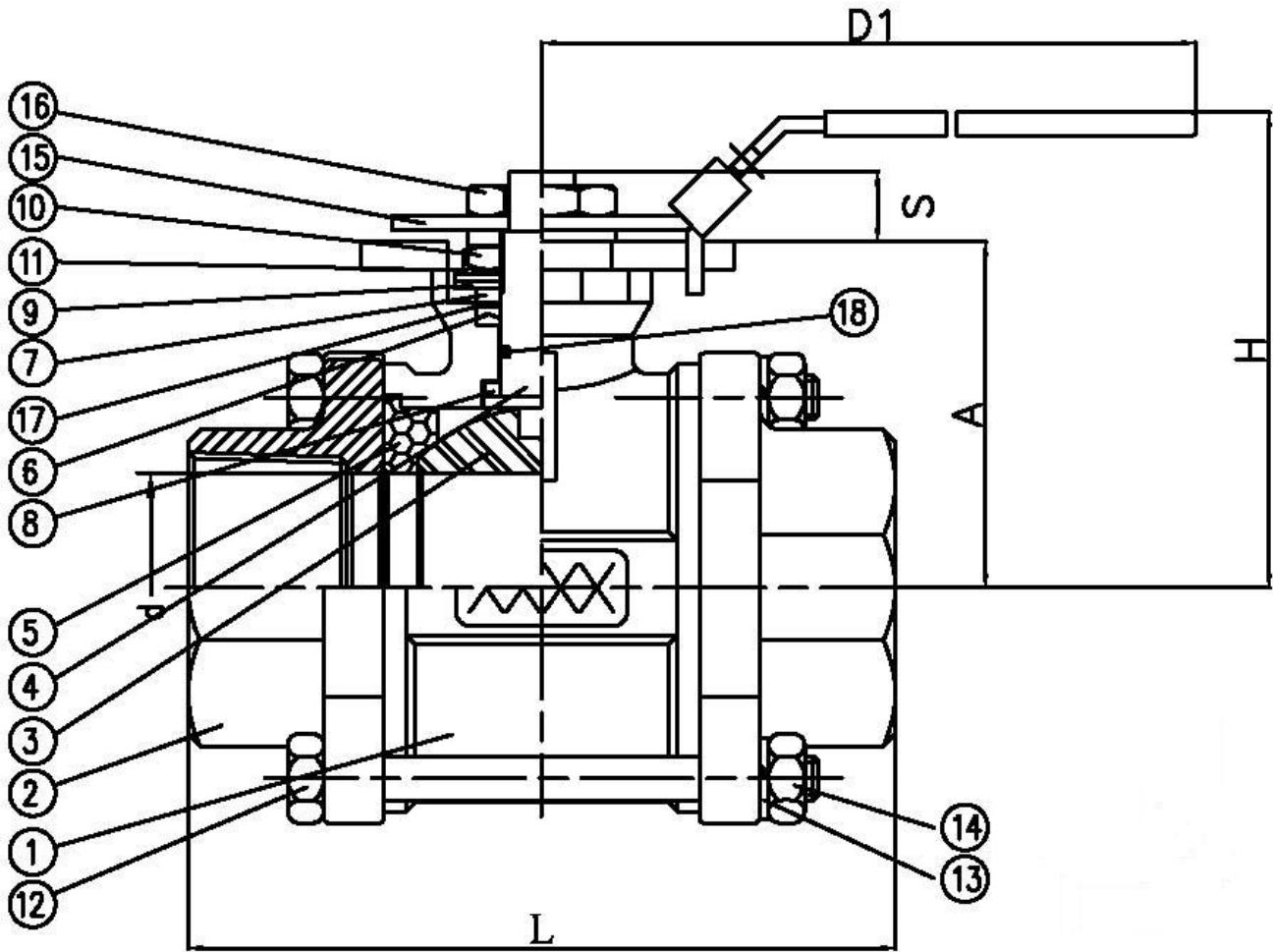
CE Approved for Europe

Valve Testing – API 598, MSS SP 61

Pressure & Temperature Chart



Howell reserves the right to alter design specifications without notice.



MATERIALS LIST

Item	Part	For Stainless Steel Valve	For Carbon Steel Valve	Quantity
1	Body	ASTM A351 CF8M	ASTM A216 WCB	1
2	End Cap	ASTM A351 CF8M	ASTM A216 WCB	2
3	Ball	ASTM A351 CF8M	ASTM A351 CF8M	1
4	Stem	316 SS	316 SS	1
* 5	Seat	RPTFE / 15% G.F.	RPTFE / 15% G.F.	2
* 6	Stem Packing	RPTFE / 15% G.F.	RPTFE / 15% G.F.	1
7	Gland Bushing	304 SS	304 SS	1
* 8	Thrust Washer	RPTFE / 15% G.F.	RPTFE / 15% G.F.	1
9	Belleville Washer	SUS304-CSP	SUS304-CSP	1
10	Handle Nut	304 SS	304 SS	1
11	Stop	304 SS	304 SS	1
12	Bolts	ASTM 193 B8	ASTM 193 B8	4-6
13	Bolt Washers	304 SS	304 SS	4-6
14	Bolt Nuts	ASTM 194 B8	ASTM 194 B8	4-6
15	Handle	304 SS	304 SS	1
16	Handle Nut	304 SS	304 SS	1
* 17	Thrust Washer	RPTFE / 25% G.F.	RPTFE / 25% G.F.	1
* 18	O-Ring	Viton	Viton	1

* included in repair kit with lock saddle

DIMENSIONS

SIZE	A		D1		d		D		H		L		S		Ø F-4		Ø M-4	
IN	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM
1/4"	1.5	37.0	4.4	112.0	0.5	11.5	0.35	9.0	2.9	73.0	2.5	63.5	0.33	8.5	0.2	6	0.2	6
3/8"	1.5	37.0	4.4	112.0	0.5	12.5	0.35	9.0	2.9	73.0	2.5	63.5	0.33	8.5	0.2	6	0.2	6
1/2"	1.5	37.0	4.4	112.0	0.6	15.0	0.35	9.0	2.9	73.0	2.5	63.5	0.33	8.5	0.2	6	0.2	6
3/4"	1.8	45.0	4.4	112.0	0.8	20.0	0.35	9.0	3.2	80.8	2.9	72.5	0.33	8.5	0.2	6	0.2	6
1"	2.1	53.5	5.4	136.0	1.0	25.0	0.43	11.0	3.6	90.5	3.2	81.0	0.45	11.4	0.2	6	0.3	7
1-1/4"	2.3	59.0	7.3	185.0	1.3	32.0	0.43	11.0	3.9	98.7	3.7	94.5	0.45	11.4	0.2	6	0.3	7
1-1/2"	2.9	74.8	7.8	197.9	1.5	38.0	0.55	14.0	4.5	115.3	4.3	108.0	0.55	14.0	0.3	7	0.4	9
2"	3.3	83.5	7.8	197.9	2.0	50.0	0.55	14.0	4.9	124.0	4.8	121.5	0.54	13.7	0.3	7	0.4	9
2-1/2"	4.3	108.8	10.4	264.0	2.6	65.0	0.67	17.0	6.1	155.0	6.2	157.5	0.71	18.0	0.4	9	0.4	11
3"	4.7	118.3	10.4	264.0	3.1	80.0	0.67	17.0	8.2	208.5	7.5	190.0	0.71	18.0	0.4	9	0.4	11
4"	6.1	153.8	12.8	325.0	3.9	100.0	0.87	22.0	8.5	216.7	8.9	225.0	0.91	23.0	0.4	11	0.5	13

TORQUES, CV VALUES & WEIGHTS

Break Away Torques & Mounting			Estimated Cv Values *		Valve Weights		
Size	(in/lbs)	(ISO 5211)	Size	Cv Value	Size	(KG)	(LB)
1/4"	35	F03-F04	1/4"	18	1/4"	0.5	1.0
3/8"	35	F03-F04	3/8"	18	3/8"	0.5	1.0
1/2"	44	F03-F04	1/2"	18	1/2"	0.6	1.3
3/4"	71	F03-F04	3/4"	42	3/4"	0.8	1.8
1"	106	F04-F05	1"	74	1"	1.1	2.5
1-1/4"	133	F04-F05	1-1/4"	130	1-1/4"	1.7	3.8
1-1/2"	186	F05-F07	1-1/2"	210	1-1/2"	2.5	5.5
2"	354	F05-F07	2"	380	2"	3.4	7.4
2-1/2"	451	F07-F10	2-1/2"	645	2-1/2"	6.8	15.0
3"	611	F07-F10	3"	890	3"	11.3	25.0
4"	752	F10-F12	4"	1620	4"	19.0	42.0

* not for v-port design

The torque values listed can be used as a guide to size and select an actuator. The actuator should provide a greater torque capability than shown in the chart. With sizing an actuator the following factors need to be considered that will affect the torque:

- Frequency of use
- Media
- Temperature, high or low
- Seat & packing material
- Pressure
- Piping arrangement

HOW TO ORDER – Manual Ball Valve

1	SERIES	4	- SEAT	5	- SIZE
H3DM	H3DM 3PC	R	RPTFE *	14	1/4"
		T	PTFE	38	3/8"
		S	50/50 Stainless/TFE	12	1/2"
		P	Peek	34	3/4"
		C	Cavity Filled PTFE	1	1"
				114	1-1/4"
				112	1-1/2"
				2	2"
				212	2-1/2"
				3	3"
				4	4"

* RPTFE Seats are Standard

2	- BODY
CS	Carbon Steel
SS	Stainless Steel

* Special Order

Sample Part# and Description

Part# H3DM-SS-IP-R-112
H3DM 3PC SS IP DIRECT MT RPTFE FP BALL 1-1/2"

HOW TO ORDER – Automated with Pneumatic Actuator

1 ACTUATOR		5 SEAT		7 - ACCESSORIES / OPTIONS	
S50	HSR-50 Spring Return	R	RPTFE *	4L	Nema 4 Limit Switch
S65	HSR-65 Spring Return	T	PTFE	7L	Nema 7 Limit Switch
S80	HSR-80 Spring Return	S	50/50 Stainless/TFE	4S1	Nema 4 Namur Solenoid Valve 120vac
S100	HSR-100 Spring Return	P	Peek	4S2	Nema 4 Namur Solenoid Valve 24vdc
S125	HSR-125 Spring Return	C	Cavity Filled PTFE	7S1	Nema 7 Namur Solenoid Valve 120vac
S140	HSR-140 Spring Return			7S2	Nema 7 Namur Solenoid Valve 24vdc
D40	HDA-40 Double Acting	* RPTFE Seats are Standard		4S0	Nema 4 Namur Solenoid Valve special voltage
D50	HDA-50 Double Acting			7S0	Nema 7 Namur Solenoid Valve special voltage
D65	HDA-65 Double Acting				
D80	HDA-80 Double Acting				
D100	HDA-100 Double Acting				
2 - SERIES		6 SIZE			
3D	H3DM 3PC	14	1/4"		
		38	3/8"		
		12	1/2"		
		34	3/4"		
		1	1"		
		114	1-1/4"		
		112	1-1/2"		
3 BODY		2	2"		
C	Carbon Steel	212	2-1/2"		
S	Stainless Steel	3	3"		
		4	4"		
4 VALVE ENDS					
IP	Iron Pipe, NPT Threaded				
SW	Socket Weld				
BW	Butt Weld				
EW	Extended Butt Weld				
GR	Grooved				

The following product codes are common assemblies sized for on/off service of 150 psi line pressure of water. Correct valve and actuator selection is required for reliable operation and will vary for different applications. Conditions that affect the valve operating torque include operation frequency, media type, pressure and temperature. Please contact Howell for accessory specifications, modulating applications, and dry or slurry media service.

PNEUMATIC DOUBLE ACTING

Carbon Steel NPT			Stainless Steel NPT		
Size	Sized for 80 PSI	Sized for 60 PSI	Size	Sized for 80 PSI	Sized for 60 PSI
1/4"	D50-3DCIPR14	D50-3DCIPR14	1/4"	D50-3DSIPR14	D50-3DSIPR14
3/8"	D50-3DCIPR38	D50-3DCIPR38	3/8"	D50-3DSIPR38	D50-3DSIPR38
1/2"	D50-3DCIPR12	D50-3DCIPR12	1/2"	D50-3DSIPR12	D50-3DSIPR12
3/4"	D50-3DCIPR34	D50-3DCIPR34	3/4"	D50-3DSIPR34	D50-3DSIPR34
1"	D50-3DCIPR1	D50-3DCIPR1	1"	D50-3DSIPR1	D50-3DSIPR1
1-1/4"	D50-3DCIPR114	D50-3DCIPR114	1-1/4"	D50-3DSIPR114	D50-3DSIPR114
1-1/2"	D65-3DCIPR112	D65-3DCIPR112	1-1/2"	D65-3DSIPR112	D65-3DSIPR112
2"	D65-3DCIPR2	D65-3DCIPR2	2"	D65-3DSIPR2	D65-3DSIPR2
2-1/2"	D80-3DCIPR212	D80-3DCIPR212	2-1/2"	D80-3DSIPR212	D80-3DSIPR212
3"	D80-3DCIPR3	D80-3DCIPR3	3"	D80-3DSIPR3	D80-3DSIPR3
4"	D100-3DCIPR4	D100-3DCIPR4	4"	D100-3DSIPR4	D100-3DSIPR4

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PNEUMATIC DOUBLE ACTING

Carbon Steel Socket Weld		
Size	Sized for 80 PSI	Sized for 60 PSI
1/4"	D50-3DCSWR14	D50-3DCSWR14
3/8"	D50-3DCSWR38	D50-3DCSWR38
1/2"	D50-3DCSWR12	D50-3DCSWR12
3/4"	D50-3DCSWR34	D50-3DCSWR34
1"	D50-3DCSWR1	D50-3DCSWR1
1-1/4"	D50-3DCSWR114	D50-3DCSWR114
1-1/2"	D65-3DCSWR112	D65-3DCSWR112
2"	D65-3DCSWR2	D65-3DCSWR2
2-1/2"	D80-3DCSWR212	D80-3DCSWR212
3"	D80-3DCSWR3	D80-3DCSWR3
4"	D100-3DCSWR4	D100-3DCSWR4

Stainless Steel Socket Weld		
Size	Sized for 80 PSI	Sized for 60 PSI
1/4"	D50-3DSSWR14	D50-3DSSWR14
3/8"	D50-3DSSWR38	D50-3DSSWR38
1/2"	D50-3DSSWR12	D50-3DSSWR12
3/4"	D50-3DSSWR34	D50-3DSSWR34
1"	D50-3DSSWR1	D50-3DSSWR1
1-1/4"	D50-3DSSWR114	D50-3DSSWR114
1-1/2"	D65-3DSSWR112	D65-3DSSWR112
2"	D65-3DSSWR2	D65-3DSSWR2
2-1/2"	D80-3DSSWR212	D80-3DSSWR212
3"	D80-3DSSWR3	D80-3DSSWR3
4"	D100-3DSSWR4	D100-3DSSWR4

PNEUMATIC SPRING RETURN

Carbon Steel NPT		
Size	Sized for 80 PSI	Sized for 60 PSI
1/4"	S50-3DCIPR14	S50-3DCIPR14
3/8"	S50-3DCIPR38	S50-3DCIPR38
1/2"	S50-3DCIPR12	S50-3DCIPR12
3/4"	S50-3DCIPR34	S50-3DCIPR34
1"	S50-3DCIPR1	S50-3DCIPR1
1-1/4"	S50-3DCIPR114	S65-3DCIPR114
1-1/2"	S65-3DCIPR112	S65-3DCIPR112
2"	S65-3DCIPR2	S80-3DCIPR2
2-1/2"	S80-3DCIPR212	S80-3DCIPR212
3"	S80-3DCIPR3	S80-3DCIPR3
4"	S100-3DCIPR4	S100-3DCIPR4

Stainless Steel NPT		
Size	Sized for 80 PSI	Sized for 60 PSI
1/4"	S50-3DSIPR14	S50-3DSIPR14
3/8"	S50-3DSIPR38	S50-3DSIPR38
1/2"	S50-3DSIPR12	S50-3DSIPR12
3/4"	S50-3DSIPR34	S50-3DSIPR34
1"	S50-3DSIPR1	S50-3DSIPR1
1-1/4"	S50-3DSIPR114	S65-3DSIPR114
1-1/2"	S65-3DSIPR112	S65-3DSIPR112
2"	S65-3DSIPR2	S80-3DSIPR2
2-1/2"	S80-3DSIPR212	S80-3DSIPR212
3"	S80-3DSIPR3	S80-3DSIPR3
4"	S100-3DSIPR4	S100-3DSIPR4

Carbon Steel Socket Weld		
Size	Sized for 80 PSI	Sized for 60 PSI
1/4"	S50-3DCSWR14	S50-3DCSWR14
3/8"	S50-3DCSWR38	S50-3DCSWR38
1/2"	S50-3DCSWR12	S50-3DCSWR12
3/4"	S50-3DCSWR34	S50-3DCSWR34
1"	S50-3DCSWR1	S50-3DCSWR1
1-1/4"	S50-3DCSWR114	S65-3DCSWR114
1-1/2"	S65-3DCSWR112	S65-3DCSWR112
2"	S65-3DCSWR2	S80-3DCSWR2
2-1/2"	S80-3DCSWR212	S80-3DCSWR212
3"	S80-3DCSWR3	S80-3DCSWR3
4"	S100-3DCSWR4	S100-3DCSWR4

Stainless Steel Socket Weld		
Size	Sized for 80 PSI	Sized for 60 PSI
1/4"	S50-3DSSWR14	S50-3DSSWR14
3/8"	S50-3DSSWR38	S50-3DSSWR38
1/2"	S50-3DSSWR12	S50-3DSSWR12
3/4"	S50-3DSSWR34	S50-3DSSWR34
1"	S50-3DSSWR1	S50-3DSSWR1
1-1/4"	S50-3DSSWR114	S65-3DSSWR114
1-1/2"	S65-3DSSWR112	S65-3DSSWR112
2"	S65-3DSSWR2	S80-3DSSWR2
2-1/2"	S80-3DSSWR212	S80-3DSSWR212
3"	S80-3DSSWR3	S80-3DSSWR3
4"	S100-3DSSWR4	S100-3DSSWR4