

# HANTEMP Controls

## BALL VALVE CAPACITY TABLES

SS1 DRY SUCTION SHUT-OFF CAPACITIES (NOMINAL TONS); NH3															
Evap. Temp °F	Pressure Drop (psi)	3/4"		1"		1-1/4"		1-1/2"		2"		2-1/2"		3"	
		OP	VP	OP	VP	OP	VP	OP	VP	OP	VP	OP	VP	OP	VP
	Cv	43.2	21.8	48.0	24.2	52.8	26.6	219	102	250	117	480	234	600	293
-40	0.25	13.0	6.6	14.5	7.3	15.9	8.0	66	31	75	35	145	71	181	88
	0.5	17.4	8.8	19.3	9.7	21.2	10.7	88	41	101	47	193	94	241	118
	1	23.2	11.7	25.7	13.0	28.3	14.3	117	55	134	63	257	126	322	157
	2	30.9	15.6	34.3	17.3	37.8	19.0	156	73	179	84	343	168	429	209
-20	0.25	18.4	9.3	20.5	10.3	22.5	11.3	93	44	107	50	205	100	256	125
	0.5	26.3	13.3	29.2	14.7	32.2	16.2	133	62	152	71	292	143	365	178
	1	36.3	18.3	40.3	20.3	44.4	22.4	184	86	210	98	403	197	504	246
	2	43.2	21.8	48.0	24.2	52.8	26.6	219	102	250	117	480	234	600	293
0	0.25	21.2	10.7	23.5	11.9	25.9	13.0	107	50	122	57	235	115	294	144
	0.5	30.2	15.2	33.6	16.9	36.9	18.6	153	72	175	82	336	164	420	205
	1	41.7	21.0	46.3	23.4	51.0	25.7	211	99	241	113	463	226	579	283
	2	49.6	25.0	55.2	27.8	60.7	30.6	251	118	287	134	552	269	689	337
20	0.25	27.4	13.8	30.5	15.4	33.5	16.9	139	65	159	74	305	149	381	186
	0.5	39.2	19.8	43.5	22.0	47.9	24.1	198	93	227	106	435	213	544	266
	1	54.1	27.3	60.1	30.3	66.1	33.3	274	128	313	146	601	293	751	367
	2	64.3	32.4	71.5	36.0	78.6	39.7	326	152	372	174	715	349	894	436

\*To accommodate suction with liquid overfeed, use one valve size larger  
Contact HANTEMP Controls with system details or for other refrigerants/fluids

OP is Open Port Ball; VP is Characterized V-Port Ball  
OP provides good vapor modulation

## HL1 HIGH PRESSURE LIQUID MAKEUP NOMINAL CAPACITIES; NH3

100% OPEN; CAPACITIES TONS					75% OPEN; CAPACITIES TONS				
Port Size	Cv	Cv	TD	SL	Port Size	Cv	Cv	TD	SL
	TD	SL				TD	SL		
3/4"	4.1	1.4	301	100	3/4"	2.0	0.6	150	47
1"	4.5	1.5	334	111	1"	2.2	0.7	167	52
1-1/4"	5.0	1.7	367	122	1-1/4"	2.5	0.8	184	57
1-1/2"	20	3.1	1493	227	1-1/2"	11.5	2.5	854	185
2"	23	3.5	1707	260	2"	13.2	2.8	976	211

50% OPEN; CAPACITIES TONS					25% OPEN; CAPACITIES TONS				
Port Size	Cv	Cv	TD	SL	Port Size	Cv	Cv	TD	SL
	TD	SL				TD	SL		
3/4"	0.7	0.41	53	30	3/4"	0.18	0.14	13	10
1"	0.8	0.45	59	33	1"	0.20	0.15	15	11
1-1/4"	0.9	0.50	65	37	1-1/4"	0.22	0.17	16	12
1-1/2"	4.1	0.95	305	70	1-1/2"	1.75	0.32	130	23
2"	4.7	1.08	349	80	2"	2.00	0.36	148	27

Contact HANTEMP Controls with details or for other refrigerants/fluids

Note: TD is Tear Drop Port Ball; SL is Slotted Port Ball

## HG1 HOT GAS NOMINAL DEFROST CAPACITY RANGES (TONS); NH3

MCBV Size	3/4"	1"	1-1/4"	1-1/2"	2"
Tons* ΔP>10psi	15 to 35	18 to 45	21 to 55	60 to 140	75 to 180

## OL1 OVERFEED LIQUID SUPPLY - 3:1; NH3

### 100% OPEN; CAPACITIES TONS

Port Size	Cv	ΔP Across Valve (psid)				
		5	10	15	20	30
3/4"	4.1	58	82	101	116	143
1"	4.5	65	92	113	129	159
1-1/4"	5.0	71	101	124	142	175
1-1/2"	20	288	409	503	577	711
2"	23	330	468	575	659	813

### 75% OPEN; CAPACITIES TONS

Port Size	Cv	ΔP Across Valve (psid)				
		5	10	15	20	30
3/4"	2.0	29	41	51	58	72
1"	2.3	32	46	56	65	80
1-1/4"	2.5	36	51	62	71	88
1-1/2"	11.6	166	235	289	331	408
2"	13.2	189	268	330	378	466

### 50% OPEN; CAPACITIES TONS

Port Size	Cv	ΔP Across Valve (psid)				
		5	10	15	20	30
3/4"	0.7	10	15	18	21	25
1"	0.8	11	16	20	23	28
1-1/4"	0.9	13	18	22	25	31
1-1/2"	4.1	59	84	103	118	145
2"	4.7	67	96	118	135	166

### 25% OPEN; CAPACITIES TONS

Port Size	Cv	ΔP Across Valve (psid)				
		5	10	15	20	30
3/4"	0.18	2.6	3.7	4.5	5.2	6.4
1"	0.20	2.9	4.1	5.0	5.7	7.1
1-1/4"	0.22	3.2	4.5	5.5	6.3	7.8
1-1/2"	1.5	21	30	37	42	52
2"	1.7	24	34	42	48	59

Note: Liquid Selections are for Tear-Drop Ball (TD)  
Contact HANTEMP Controls with details or for other refrigerants/fluids

Note: Overfeed Rate does not control temperature

## VALVE CHOICES

### Applications

Hot Gas Supply

Room Temperature

Suction Shut-Off

Liquid Line

Reheat/Recovery

Flooded Legs

Chiller Suction

Manual

### Conventional

Solenoid Valve

Solenoid Valve or Back Pressure Regulator

Gas Powered Valve

Solenoid Valve

Pressure Regulator w/ Shut-Off

Gas Powered Valve

Pressure Regulator w/ Shut-Off

Globe Valve / Hand Expansion

### New

HANTEMP MCBV

HANTEMP MCBV

HANTEMP MCBV

HANTEMP MCBV

HANTEMP MCBV

HANTEMP MCBV

HANTEMP MCBV

COBRA-NECK® w/ handle

## MCBV FLANGED INSTALLATION DIMENSIONS; 3/4" to 2 1/2"

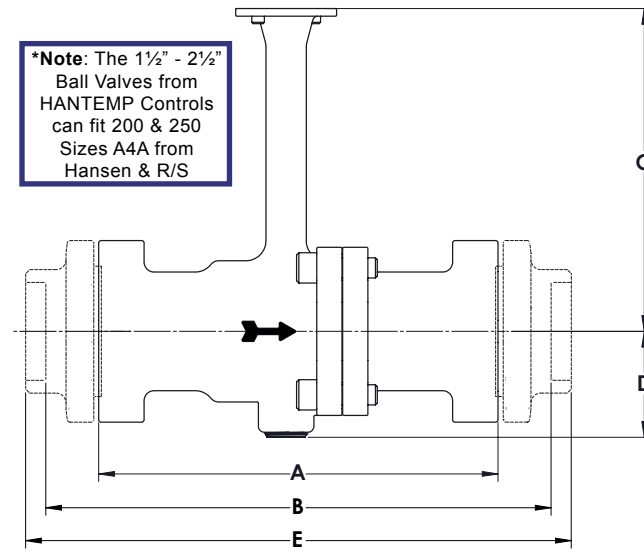
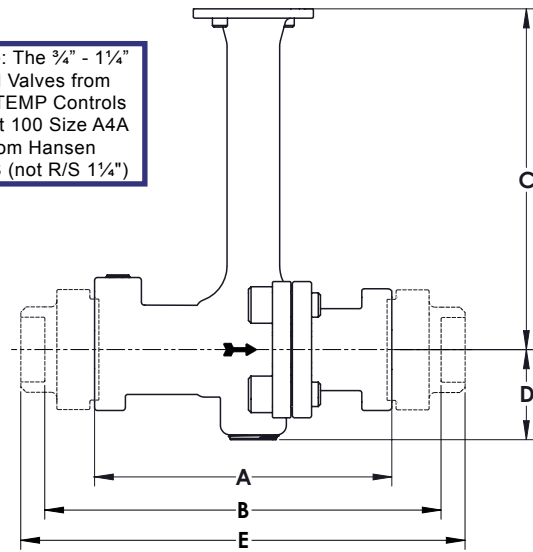
Note: Flanged models are advantageous for internals servicing

3/4" to 1 1/4" Ball Valves  
(20mm – 32mm)

1 1/2" to 2 1/2" Ball Valves  
(40mm – 60mm)

\*Note: The 3/4" - 1 1/4" Ball Valves from HANTEMP Controls can fit 100 Size A4A from Hansen & R/S (not R/S 1 1/4")

\*Note: The 1 1/2" - 2 1/2" Ball Valves from HANTEMP Controls can fit 200 & 250 Sizes A4A from Hansen & R/S



Dimensions

Valve Size (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Weight (kg)
3/4" - 1 1/4" (20-32)	6.19" (157)	8.31" (211)	7.00" (178)	1.85" (50)	9.31" (236)	7.8 lbs (3.5)
1 1/2" - 2 1/2" (40-65)	9.88" (251)	12.50" (318)	8.00" (203)	2.63" (67)	13.50" (343)	19.2 lbs (8.7)

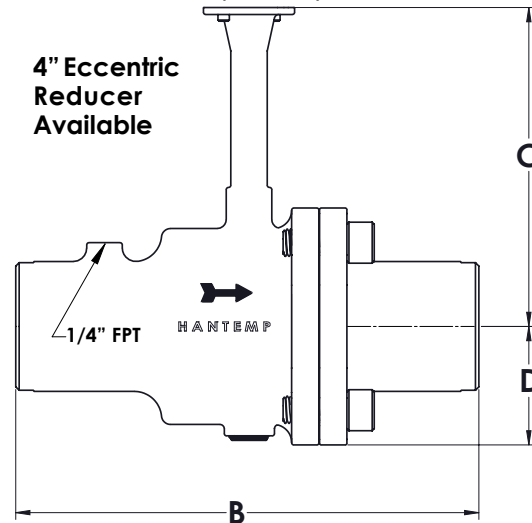
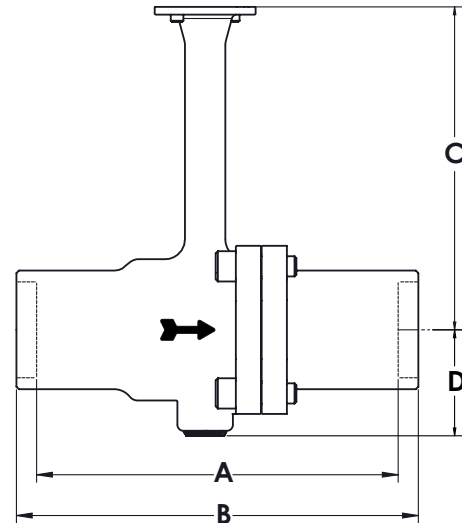
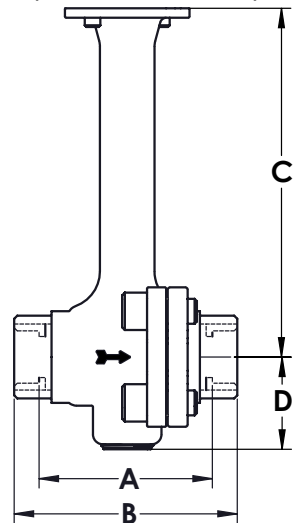
## MCBV WELD IN-LINE INSTALLATION DIMENSIONS; 3/4" to 3"

3/4" to 1 1/4" Ball Valves  
(20mm – 32mm)

1 1/2" to 2 1/2" Ball Valves  
(40mm – 65mm)

3" Ball Valves  
(80mm)

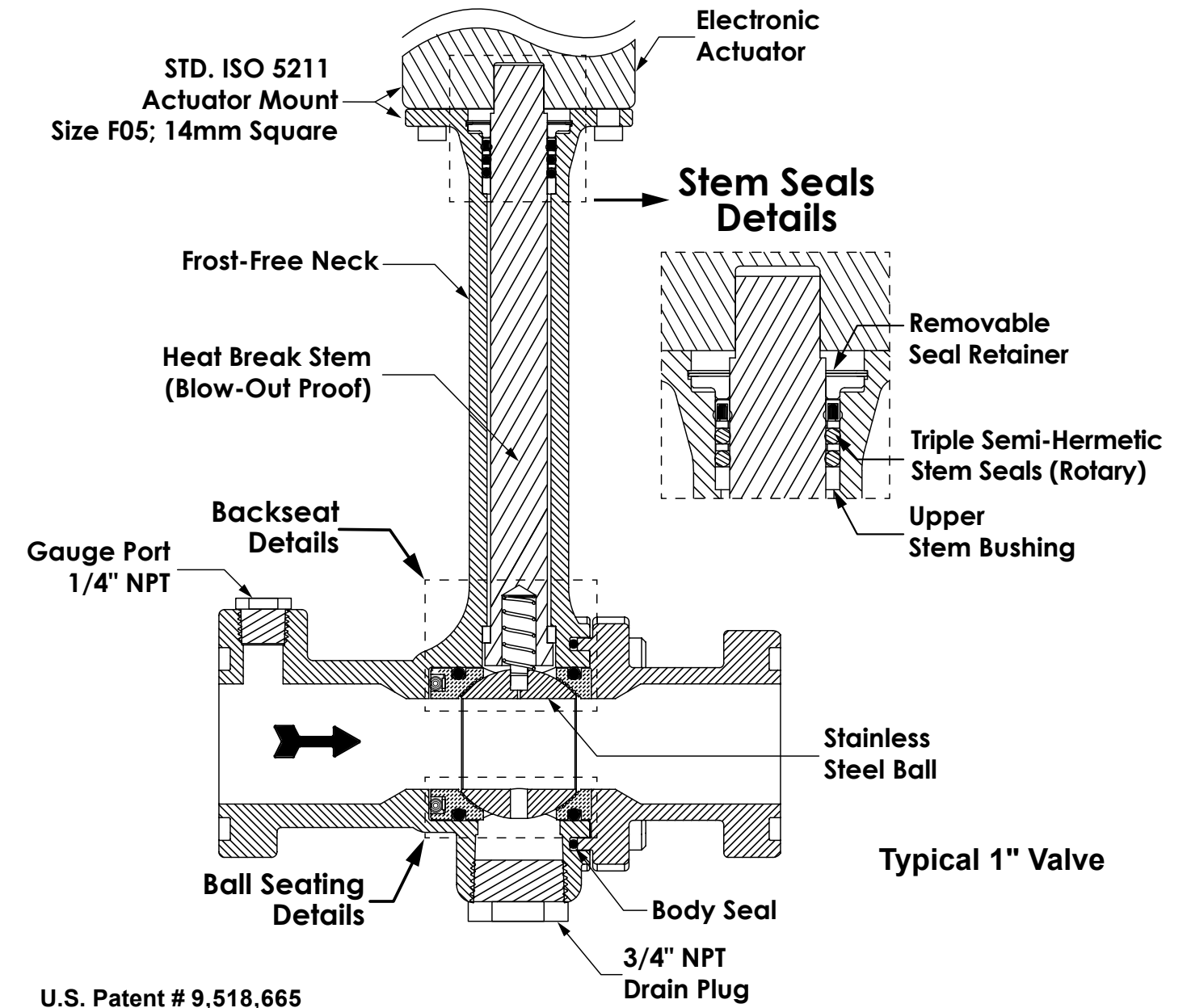
4" Eccentric Reducer Available



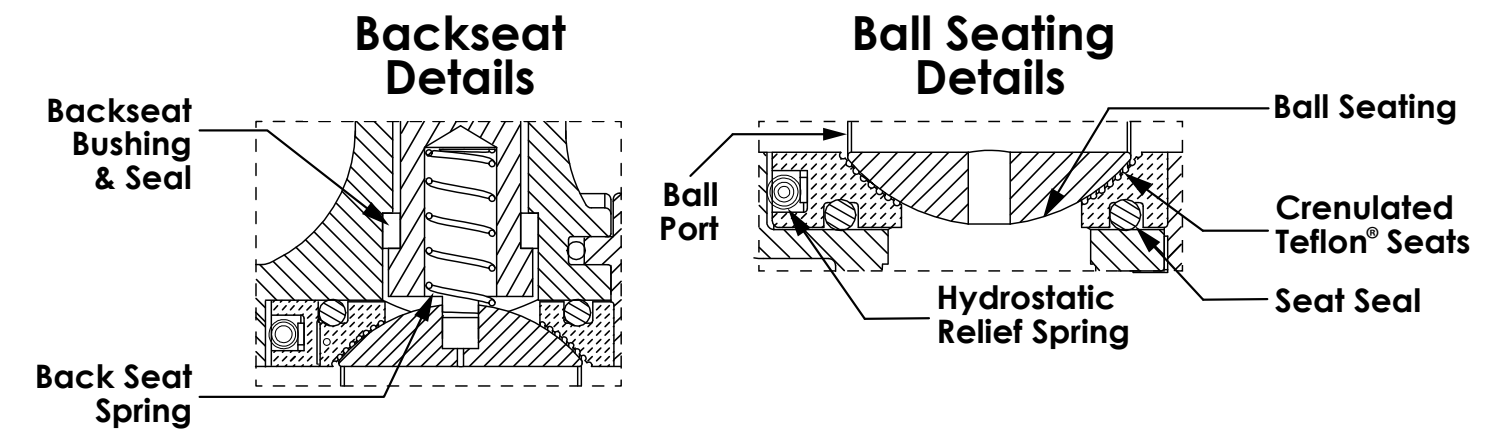
Dimensions

Size (mm)	A (mm) SW	B (mm) BW	C (mm)	D (mm)	Weight (kg)
3/4" - 1 1/4" (20-32)	3.48" (88)	4.48" (114)	7.00" (178)	1.85" (50)	5.2 lbs (2.2)
1 1/2" - 2 1/2" (40-65)	8.95" (227)	9.95" (253)	8.00" (203)	2.63" (67)	13 lbs (6)
3" (80)	N/A	12.70" (322)	8.75" (222)	3.25" (83)	30 lbs (14)

## MCBV Cross Section STAINLESS STEEL



U.S. Patent # 9,518,665



HANTEMP Controls reserves the right to alter product specifications, materials, and pricing without notice.