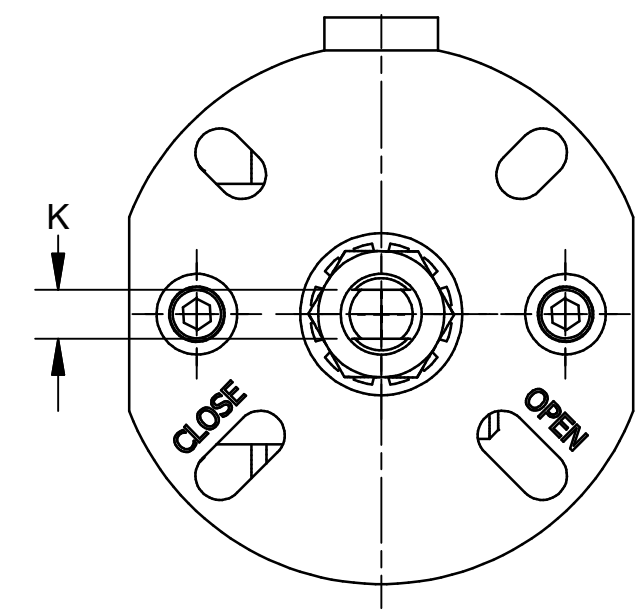
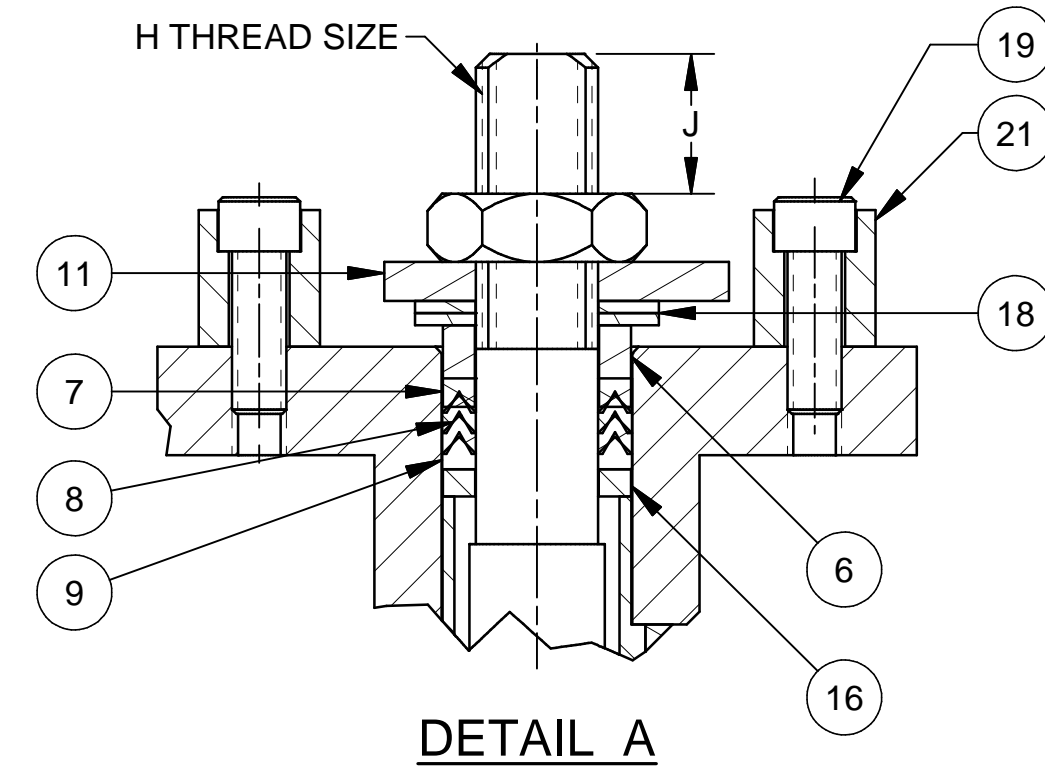
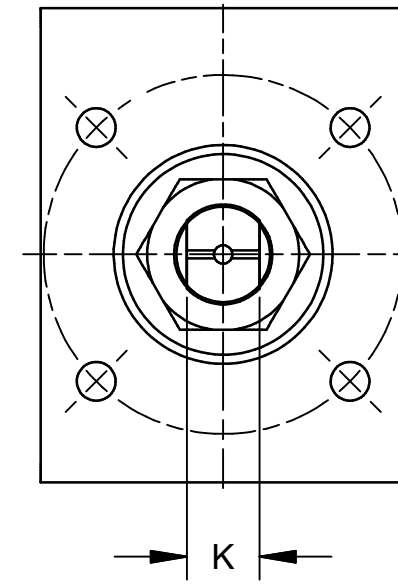


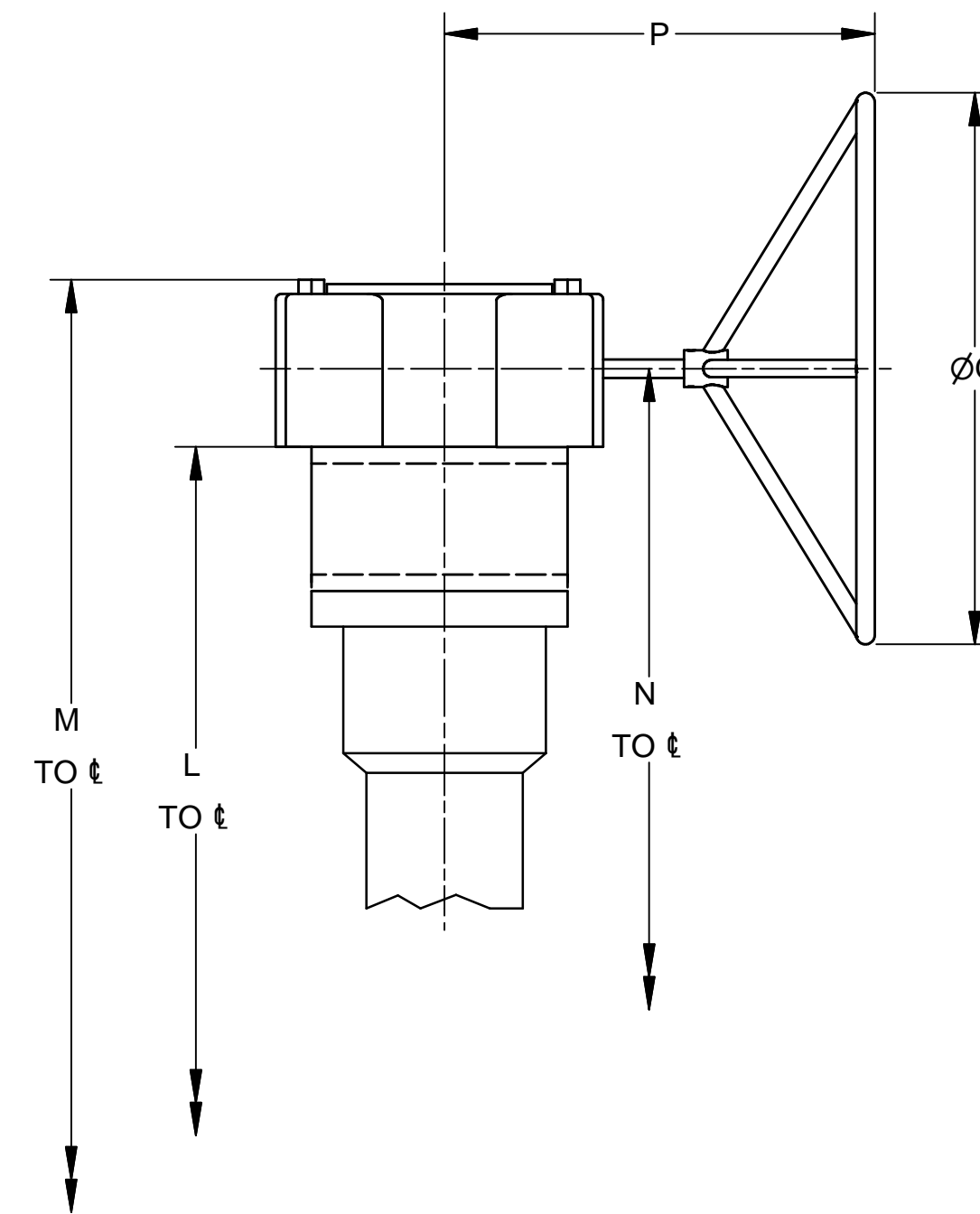
**1/2" - 2" MOUNTING CONFIGURATION**



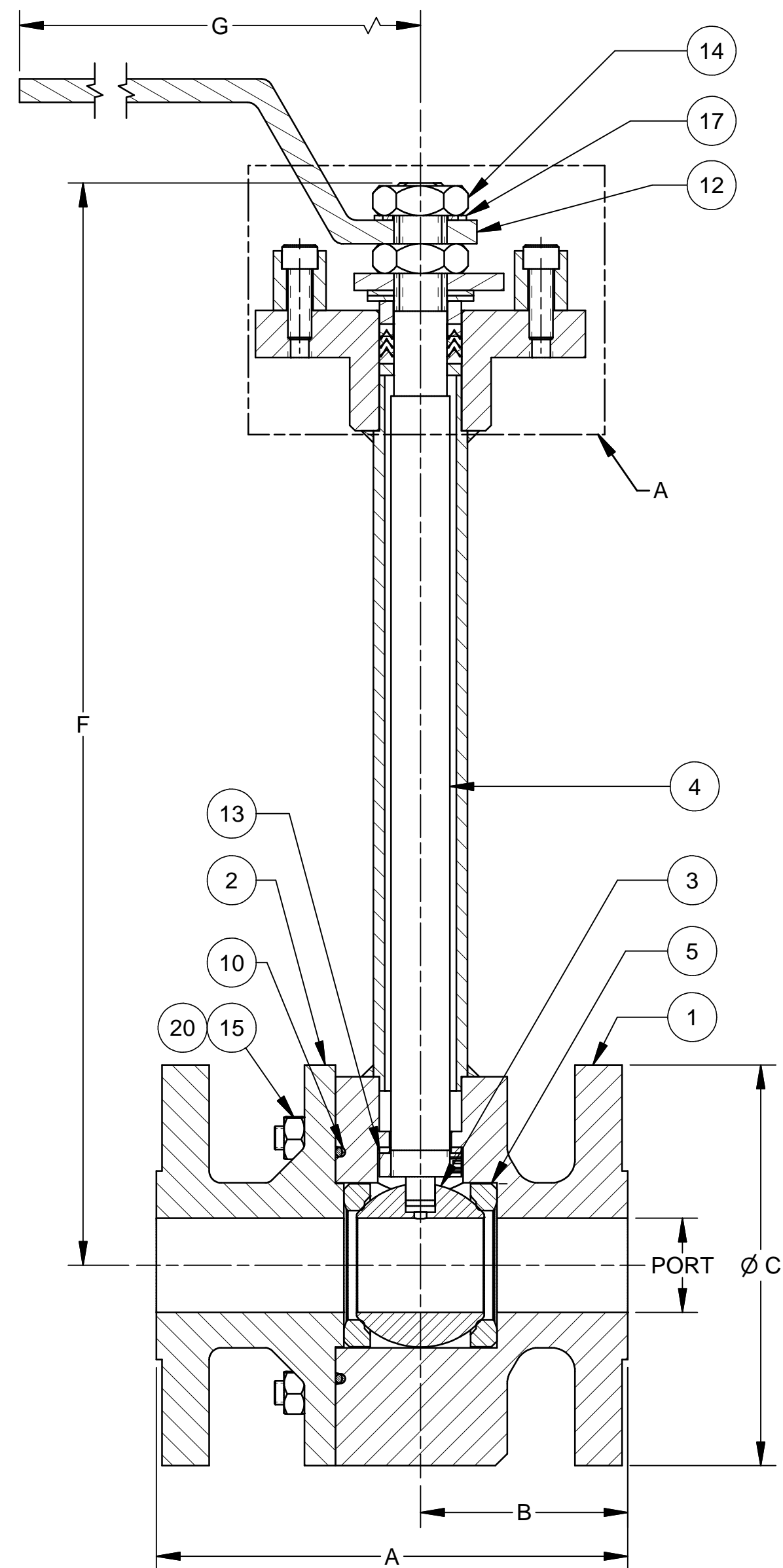
**3" - 8" MOUNTING CONFIGURATION**



**DETAIL A**



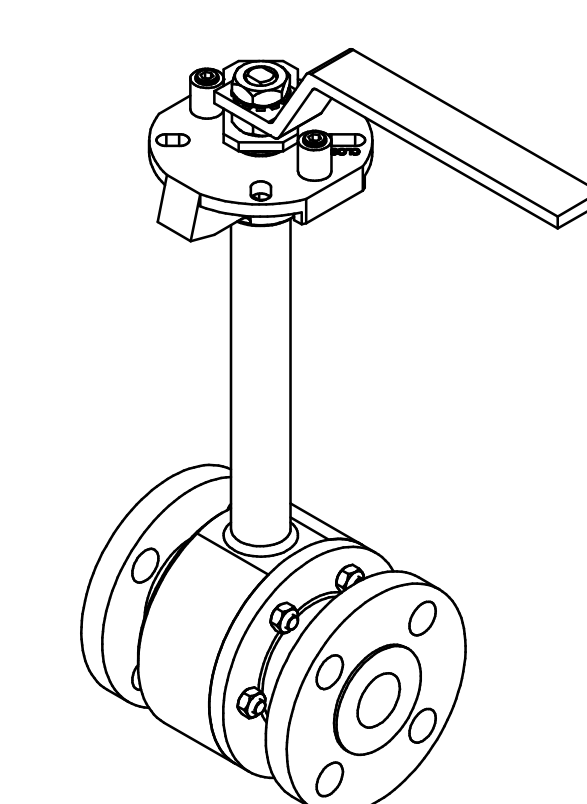
**GEAR OPERATOR**



21/18 SERIES FULL PORT CLASS 150																
SIZE	PORT	A	B	ØC	D	E	F	G	H	J	K	L	M	N	P	ØQ
1/2"	0.50 [12.7]	4.25 [108.0]	1.75 [44.5]	3.50 [88.9]	9.98 [253.5]	7.98 [202.7]	8.92 [226.6]	5.50 [139.7]	.434-20	-	.30 [7.6]	-	-	-	-	-
3/4"	0.75 [19.1]	4.62 [117.3]	1.96 [49.8]	3.88 [98.6]	10.33 [262.4]	8.19 [208.0]	9.35 [237.5]	5.50 [139.7]	.563-18	-	.34 [8.6]	-	-	-	-	-
1"	1.00 [25.4]	5.00 [127.0]	2.13 [54.1]	4.25 [108.0]	12.72 [323.1]	10.28 [261.1]	11.60 [294.6]	7.55 [191.8]	.563-18	-	.34 [8.6]	-	-	-	-	-
1 1/2"	1.50 [38.1]	6.50 [165.1]	2.78 [70.6]	5.00 [127.0]	12.91 [327.9]	10.47 [265.9]	11.79 [299.5]	7.55 [191.8]	.563-18	.66 [16.8]	.34 [8.6]	-	-	-	-	-
2"	2.00 [50.8]	7.00 [177.8]	3.14 [79.8]	6.00 [152.4]	11.66 [296.2]	9.59 [243.6]	11.71 [297.4]	18.50 [469.9]	1.000-14	0.94 [23.9]	-	-	-	-	-	-
3"	3.00 [76.2]	8.00 [203.2]	3.69 [93.7]	7.50 [190.5]	-	15.88 [403.4]	-	-	1.380-12	-	1.00 [25.4]	-	-	23.00 [584.2]	15.00 [381.0]	15.00 [381.0]
4"	4.00 [101.6]	9.00 [228.6]	4.50 [114.3]	9.00 [228.6]	-	18.30 [464.8]	21.65 [549.9]	-	1.750-12	1.41 [35.8]	1.25 [31.8]	24.30 [617.2]	27.48 [697.9]	25.80 [655.2]	16.44 [417.6]	30.00 [762.0]
6"	6.00 [152.4]	15.50 [393.7]	6.88 [174.8]	11.00 [279.4]	-	19.91 [505.7]	23.15 [588.0]	-	1.750-12	1.67 [42.4]	1.25 [31.8]	-	32.50 [825.5]	27.40 [695.9]	20.00 [508.0]	18.00 [457.2]
8"	8.00 [203.2]	18.00 [457.2]	8.29 [210.6]	13.50 [342.9]	-	26.59 [675.4]	32.00 [812.8]	2.5-12	-	-	-	-	45.00 [1143.0]	37.36 [948.9]	20.00 [508.0]	24.00 [609.6]

21/18 SERIES FULL PORT CLASS 300																
SIZE	PORT	A	B	ØC	D	E	F	G	H	J	K	L	M	N	P	ØQ
1/2"	0.50 [12.7]	5.50 [139.7]	2.21 [56.1]	3.75 [95.3]	9.98 [253.5]	7.98 [202.7]	8.92 [226.6]	5.50 [139.7]	.375-24	-	.23 [5.8]	-	-	-	-	-
3/4"	0.75 [19.1]	6.00 [152.4]	2.60 [66.0]	4.62 [117.3]	10.33 [262.4]	8.19 [208.0]	9.35 [237.5]	5.50 [139.7]	.438-20	-	.30 [7.6]	-	-	-	-	-
1"	1.00 [25.4]	6.50 [165.1]	2.75 [69.9]	4.88 [124.0]	12.72 [323.1]	10.28 [261.1]	11.60 [294.6]	7.55 [191.8]	.563-18	.67 [17.0]	.34 [8.6]	-	-	-	-	-
1 1/2"	1.50 [38.1]	7.50 [190.5]	3.78 [96.0]	6.12 [155.4]	12.91 [327.9]	10.47 [265.9]	11.79 [299.5]	7.55 [191.8]	.563-18	.66 [16.8]	.34 [8.6]	-	-	-	-	-
2"	2.00 [50.8]	8.50 [215.9]	3.88 [98.5]	6.50 [165.1]	11.66 [296.2]	9.59 [243.6]	11.71 [297.4]	18.5 [469.9]	1.000-14	-	-	-	-	-	-	-
3"	3.00 [76.2]	11.12 [282.4]	4.75 [120.7]	8.25 [209.6]	-	15.87 [403.1]	18.32 [465.3]	-	1.380-12	.81 [20.6]	1.00 [25.4]	20.87 [530.1]	23.00 [584.2]	22.37 [568.2]	15.00 [381.0]	30.00 [762.0]
4"	4.00 [101.6]	12.00 [304.8]	5.00 [127.0]	10.00 [254]	-	18.66 [474.0]	24.30 [617.2]	-	1.750-12	1.65 [41.9]	1.25 [31.8]	26.66 [677.2]	25.50 [647.7]	-	15.00 [381.0]	30.00 [762.0]
6"	6.00 [152.4]	15.88 [403.4]	6.88 [174.8]	12.5 [317.5]	-	19.90 [505.5]	23.58 [598.9]	-	-	1.60 [40.6]	1.37 [34.8]	-	32.50 [825.5]	-	20.00 [508.0]	18.00 [457.2]
8"	8.00 [203.2]	19.75 [501.7]	8.97 [227.8]	15.00 [381.0]	-	26.50 [673.1]	31.94 [811.3]	-	2.500-12	1.81 [45.9]	1.75 [44.5]	34.5 [876.3]	45.00 [1143.0]	37.27 [946.6]	23.00 [584.2]	24.00 [609.6]

21/18 SERIES FULL PORT CLASS 600																
SIZE	PORT	A	B	ØC	D	E	F	G	H	J	K	L	M	N	P	ØQ
1/2"																
3/4"																
1"	1.00 [25.4]	8.50 [215.9]	3.36 [85.3]	4.88 [123.9]	12.58 [319.5]	10.14 [257.6]	11.48 [291.6]	7.54 [191.5]	.563-18	0.65 [16.5]	0.34 [8.6]	-	-	-	-	-
1 1/2"	1.50 [38.1]	9.50 [241.3]	3.91 [99.3]	6.12 [155.5]	12.66 [321.6]	10.43 [264.9]	11.79 [299.5]	7.55 [191.8]	.563-18	0.63 [16.0]	0.34 [8.6]	-	-	-	-	-
2"	2.00 [50.8]	11.50 [292.1]	4.48 [113.8]	6.50 [165.1]	11.60 [294.6]	9.59 [243.6]	11.69 [296.9]	19.31 [490.5]	1.00-14	0.90 [22.9]	0.75 [19.1]	-	-	-	-	-
3"	3.00 [76.2]	14.00 [355.6]	5.25 [133.4]	8.25 [209.6]	-	17.98 [456.7]	23.32 [592.3]	-	1.375-12	1.50 [38.1]	1.00 [25.4]	-	-	-	-	-
4"																
6"	6.00 [152.4]	22.00 [558.8]	8.75 [215.1]	14.00 [355.6]	-	24.94 [630.5]	30.33 [771.2]	-	1.75-12	2.71 [68.8]	1.75 [44.5]	-	-	-	-	-
8"																



ITEM	DESCRIPTION	SPARES
1	BODY WELDMENT	
2	ENDPLATE	
3	BALL	
4	STEM ASSY	
5	SEAT	*
6	FOLLOWER	
7	STEM SEAL	*
8	STEM SEAL	*
9	STEM SEAL	*
10	BODY SEAL	*
11	LOCK STOP	
12	HANDLE	
13	THRUST BEARING	*
14	STEM NUT	
15	BODY NUT	
16	SEAL WASHER	
17	LOCK WASHER	
18	BELLEVILLE WASHER	
19	CAP SCREW	
20	STUD	
21	STOP CAM	

NOTES:  
 1. REFER TO TBV™ CRYOGENIC BALL VALVE BROCHURE FOR MATERIAL SPECIFICATIONS AND ADDITIONAL INFORMATION.  
 2. CONTACT TBV ENGINEERING FOR DIMENSIONAL INFORMATION NOT LISTED ABOVE.

SURFACE TREATMENT		DO NOT SCALE			VALVES & MEASUREMENT
DRAWN BY: VJAY		DATE: 13 Oct 14			
MATERIAL & HEAT TREAT		CHECKED BY: M.RAVI		DIMENSIONAL DRAWING 1/2" - 8" FP CLASS 150,300,600 21/18 TBV™ CRYO BALL VALVE	
		DATE: 13 Oct 14			
		APPROVED BY: M.GLAVIN			
		DATE: 13 Oct 14			
ESTIMATED WEIGHT:	16.3 LBS 7.4 KG	INITIAL USE BM:		SHEET 1 of 1	REV: 01

8M-701-2693