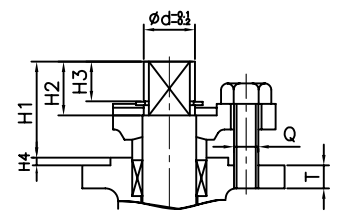
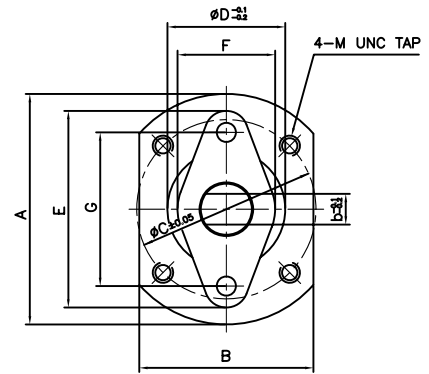
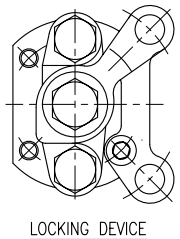
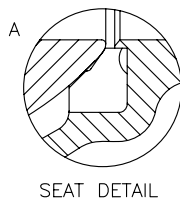
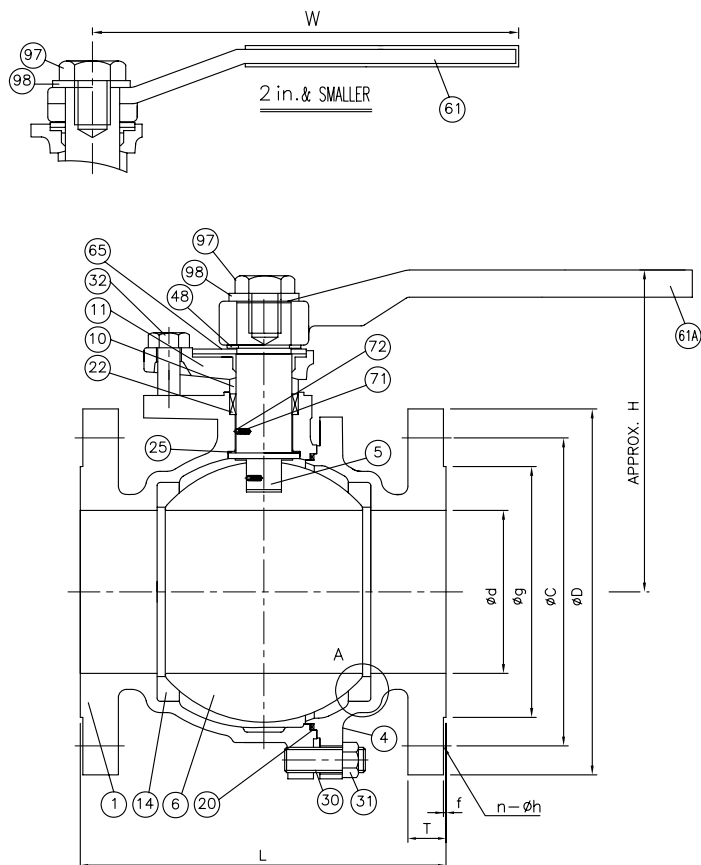


FIGURE NUMBER 6159



NOTE

1. ALL DIMENSIONS ARE IN INCHES & MILLIMETERS.
2. HYDROSTATIC AND PNEUMATIC TESTS ARE CONDUCTED PER STANDARD, API 598.
3. THE FINISHES OF CONTACT FACE OF END FLANGES ARE MACHINED 125 - 250AARH WITH SERRATED SPIRAL FINISH.
4. END FLANGE DIMENSIONS : ANSI B16.5
5. ISO MOUNTING PAD.(ISO 5211)
6. PADLOCKING DEVICE, OPEN & CLOSED.

DN/ NPS	ød	b	A	B	øC	M UNC	øD	E
1/2"	10	6	55	39	42	1/4-20	24	57
3/4"	10	6	55	39	42	1/4-20	24	57
1"	14	8	65	48	50	1/4-20	35	65
1 1/2"	20	12	90	68	70	5/16-18	46	80
2"	20	12	90	68	70	5/16-18	46	80
2 1/2"	27	17	125	95	102	3/8-16	62	110
3"	27	17	125	95	102	3/8-16	62	110
4"	34	22	125	95	102	3/8-16	70	110

DN/ NPS	F	G	Q	H1	H2	H3	H4	T	ISO 5211
1/2"	24	42	5/16	19	9.5	-	1	7	F04
3/4"	24	42	5/16	19	9.5	-	1	8	F04
1"	32	49	5/16	21.7	9.7	-	1	9	F05
1 1/2"	36	60	3/8	31	14.5	9.6	1	9	F07
2"	36	60	3/8	31	14.5	9.6	1	9	F07
2 1/2"	58	84	1/2	44.5	23	18.1	2	13	F10
3"	58	84	1/2	43.5	23	18.1	1	12	F10
4"	58	84	1/2	49	30	24.7	3	12	F10

NPS	BORE	FACE TO FACE	CENTER TO TOP	LENGTH	END FLANGE						WEIGHT (Kg)	Q'TY
					OD	BCD	OD OF RF	THICK.	DEPTH	NO. & DIA.		
	d	L	H	W	D	C	g	T	f	n-øh		
1/2	13	108	84	130	89	60.5	35	11.2	1.6	4-16	1.8	-
	.51	4.25	3.3	5.1	3.5	2.38	1.38	.44	.06	4-62		
3/4	19	117	88	130	99	70.0	43	11.2	1.6	4-16	2.3	-
	.75	4.61	3.46	5.1	3.88	2.75	1.69	.44	.06	4-62		
1	25	127	102	155	108	79.2	51	11.2	1.6	4-16	3.2	-
	1	5.0	4.01	5.1	4.25	3.12	2.0	.44	.06	4-62		
1 1/2	38	165	127	230	127	98.6	73	14.3	1.6	4-16	6.6	-
	1.5	6.5	5	9.1	5.0	3.88	2.88	.56	.06	4-62		
2	51	178	142	230	152	120.7	92	15.8	1.6	4-19	9.8	-
	2	7.0	5.59	9.1	6.0	4.75	3.62	.62	.06	4-75		
2 1/2	64	191	152	350	178	139.7	105	17.5	1.6	4-19	15.8	-
	2.5	7.5	5.98	13.8	7.0	5.5	4.12	.69	.06	4-75		
3	76	203	170	350	191	152.4	127	19.1	1.6	4-19	21.3	-
	3	8.0	6.69	13.8	7.5	6.0	5.0	.75	.06	4-75		
4	102	229	206	450	229	190.5	157	23.9	1.6	8-19	34.7	-
	4	9.0	8.11	17.7	9.0	7.5	6.19	.94	.06	8-75		

QTY	PART NAME	MATERIAL	REMARKS
1	TOP WASHER	A240-304	
1	TOP BOLT	A193-B8	
2	LOCKING PLATE BOLT	A193-B8	
1	LOCKING PLATE	A240-304	
1 Set	STATIC BALL	A276-316	
1 Set	SPRING	A580-316	
1	STOPPER	A240-304	
1	HANDLE	A536	2 1/2 & LARGER
1	VINYL COATED HANDLE	A283-D	2 & SMALLER
1	SNAP RING	A686-W1	1 1/2 & LARGER Cr plate
2	GLAND BOLT	A193-B8	
1 Set	CAP BOLT NUT	A194-8	
1 Set	CAP BOLT	A193-B8	
1	THRUST WASHER	PTFE	
1	GLAND PACKING	PTFE	
1	GASKET	PTFE	
2	SEAT RING	PTFE	
1	GLAND FLANGE	A351-CF8	
1	GLAND	B574-N10276	
1	BALL	A494-CW-12MW	OR EQ.
1	STEM	B574-N10276	
1	CAP	A494-CW-12MW	
1	BODY	A494-CW-12MW	

NO	DATE	DESCRIPTION	PRE'D	APP'D
3				
2	APR,07.09	FOR REFERENCE	<i>jjj.Him</i>	<i>w.w.Sec</i>
1	FEB,06.09	FOR REFERENCE	<i>jjj.Him</i>	<i>w.w.Sec</i>
0	AUG,27.08	FOR REFERENCE	<i>jjj.Him</i>	<i>w.w.Sec</i>

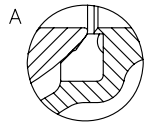
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CLASS 150 CAST NICKEL ALLOY STEEL BALL VALVE BOLTED CAP, RF, FULL BORE, LEVER.

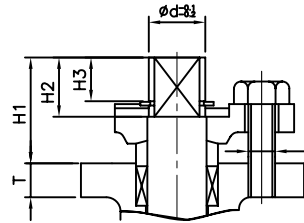
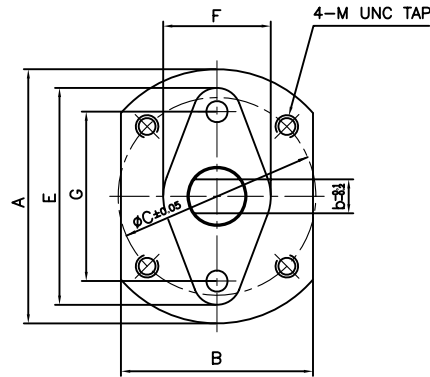
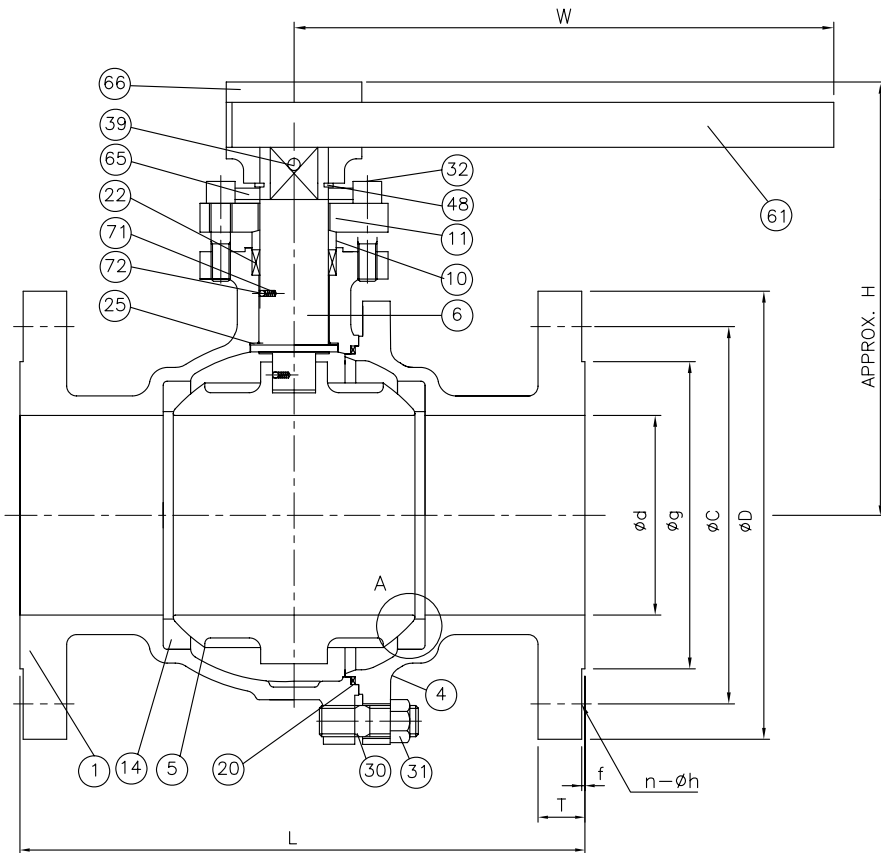
WARREN VALVE

DWG NO : BF2-A15-F-015_100-RF-12MW-L0-Rev.2

FIGURE NUMBER 6159



SEAT DETAIL



NOTE

1. ALL DIMENSIONS ARE IN INCHES & MILLIMETERS.
2. HYDROSTATIC AND PNEUMATIC TESTS ARE CONDUCTED PER STANDARD, API 598.
3. THE FINISHES OF CONTACT FACE OF END FLANGES ARE MACHINED 125 - 250AARH WITH SERRATED SPIRAL FINISH.
4. END FLANGE DIMENSIONS : ASME B16.5
5. FACE TO FACE DIMENSIONS : ASME B16.10
6. ISO MOUNTING PAD.(ISO 5211)

NO	PART NAME	Q'TY	MATERIAL	REMARKS
72	STATIC BALL	1	A276-316	
71	SPRING	1	A580-316	
66	HANDLE GUIDE	1	A216-WCB	
65	STOPPER	1	A240-304	
61	HANDLE	1	CARBON STEEL	
48	SNAP RING	1	A686-W1	Ni PLATED
39	SET SCREW	1	A193-B8	
32	GLAND BOLT	2	A193-B8	
31	CAP BOLT NUT	1 Set	A194-8	
30	CAP BOLT	1 Set	A193-B8	
25	THRUST WASHER	1	PTFE	
22	GLAND PACKING	1	PTFE	
20	GASKET	1	PTFE	
14	SEAT RING	2	PTFE	
11	GLAND FLANGE	1	A351-CF8	
10	GLAND	1	B574-N10276	
6	STEM	1	A494-CW-12MW	OR EQ.
5	BALL	1	B574-N10276	
4	CAP	1	A494-CW-12MW	
1	BODY	1	A494-CW-12MW	

NPS	ød	b	A	B	øC	M UNC	E
5"	44	26	153	116.4	125	1/2-13	118
6"	44	26	153	116.4	125	1/2-13	118
8"	51	32	175	134	140	5/8-11	150
10"	50	38	210	165	165	3/4-10	164

NPS	F	G	Q	H1	H2	H3	T	ISO 5211
5"	65	90	1/2	59	34	27	16	F12
6"	65	90	1/2	59	34	27	16	F12
8"	78	118	5/8	73	42	34.8	19	F14
10"	91	118	5/8	100.5	52	46.3	24	F16

NPS	BORE d	FACE TO FACE L	CENTER TO TOP H	LENGTH W	END FLANGE						WEIGHT (Kg)	Q'TY
					OD D	BCD C	OD OF RF g	THICK. T	DEPTH f	NO. & DIA. n-øh		
5	127	354	311	600	255	215.9	185.7	23.9	1.6	8-22	61	-
	5	13.9	12.24	23.6	10.0	8.50	7.31	.94	.06	8-.88		
6	152	394	331	600	279	241.3	216	25.4	1.6	8-22	74	-
	6	15.5	13.03	23.6	11.0	9.5	8.5	1.0	.06	8-.88		
8	203	457	406	800	343	298.5	270	28.5	1.6	8-22	131	-
	8	18.0	15.98	31.5	13.5	11.75	10.62	1.12	.06	8-.88		
10	254	533	480	800	406	362	324	30.2	1.6	12-25	206	-
	10	21.0	18.39	31.5	16.0	14.25	12.75	1.19	.06	12-1		

NO	DATE	DESCRIPTION	PRE'D	APP'D
3				
2	APR,07.09	FOR REFERENCE	jj.kim	ww.lee
1	FEB,06.09	FOR REFERENCE	jj.kim	ww.lee
0	AUG,27.08	FOR REFERENCE	jj.kim	ww.lee

CLASS 150 CAST NICKEL ALLOY STEEL BALL VALVE
BOLTED CAP, RF, FULL BORE, LEVER.

WARREN VALVE

DWG NO : BF2-A15-F-125_250-RF-12MW-L0-Rev.2