

CLASS 150

4

3

2

1

NPS	ØA	BW	C	D	E	ØF	ØG	ØH	J	Cv	WEIGHT Lb
2"	2.00	8.50	13.19	15.63	20.38	0.75	1.25	8	2.16	245	42
2 1/2"	2.50	9.50	14.00	16.88	22.14	0.75	1.25	8	2.25	382	50
3"	3.00	11.12	14.78	18.56	24.26	0.87	1.37	10	3.03	570	67
4"	4.00	12.00	17.81	22.25	28.32	1.00	1.50	10	3.44	1045	97
6"	6.00	15.87	24.25	31.19	38.00	1.12	1.75	14	4.97	2440	180
8"	8.00	16.50	29.47	38.19	46.13	1.25	1.87	18	6.25	4485	278
10"	10.00	18.00	36.09	47.16	56.28	1.37	2.00	20	7.19	7153	456
12"	12.00	19.75	42.94	55.91	66.75	1.50	2.25	20	8.75	10475	646
DN										Kv	Kg
50	50.8	215.9	335	397	518	19.0	31.7	203	54.9	217	19
65	63.5	241.3	356	429	562	19.0	31.7	203	57.2	338	23
80	76.2	282.5	375	471	616	22.2	34.9	254	77.0	504	30
100	101.6	304.8	452	565	719	25.4	38.1	254	87.4	925	44
150	152.4	403.1	616	792	965	28.6	44.4	356	126.2	2159	82
200	203.2	419.1	749	970	1172	31.7	47.5	457	158.8	3969	126
250	254.0	457.2	917	1198	1430	34.9	50.8	508	182.6	6330	207
300	304.8	501.6	1091	1420	1695	38.1	57.1	508	222.3	9270	294

DETAIL #1: BUTTWELD END MACHINING
AS PER (ASME B16.25 Fig. 2a & 2b)

NPS	SCH	ØBA	ØBB	BC	BD
2"	STD/40	2.38	2.067	.231	.308
2 1/2"	STD/40	2.88	2.469	.305	.406
3"	STD/40	3.50	3.068	.324	.432
4"	STD/40	4.50	4.026	.356	.474
6"	STD/40	6.62	6.065	.420	.560
8"	STD/40	8.62	7.981	.483	.644
10"	STD/40	10.75	10.020	.548	.730
12"	STD	12.75	12.000	.563	.750
12"	40	12.75	11.938	.609	.812
DN					
50	STD/40	60.5	52.5	5.9	7.8
65	STD/40	73.2	62.7	7.7	10.3
80	STD/40	88.9	77.9	8.2	11.0
100	STD/40	114.3	102.3	9.0	12.0
150	STD/40	168.3	154.1	10.7	14.2
200	STD/40	219.1	202.7	12.3	16.4
250	STD/40	273.1	254.5	13.9	18.5
300	STD	323.9	304.8	14.3	19.1
300	40	323.9	303.2	15.5	20.6

PART	DESCRIPTION	QTY	MATERIAL	MATL SPEC	REMARKS
1	BODY	1	WCB	ASTM A216	
2	BONNET	1	WCB	ASTM A216	
4	STEM	1	410	ASTM A479	HARDENED
5	WEDGE	1	CA-15	ASTM A217	
9	SEAT	2	WCB	ASTM A216	13%Cr. FACE
11	PACKING FLANGE	1	CS	ASTM A105	STLT 6 FACE
12	GLAND BUSHING	1	CS	ASTM A105	
13A	PACKING RING	2	BRAID. GRAPH.	GARLOCK 1303 FEP	DRY FOR TEMP. > 850°F
13B	PACKING RING	3	GRAPH RIBBON	JC 237	OR EQUAL.
15A	GLAND STUD	2	GR B	ASTM A307	NOTE 2
15B	BODY/BONNET STUD	-	GR B7	ASTM A193	
16A	GLAND NUT	2	GR 2H	ASTM A194	2",2.5"(DN50,65)QTY.6
16B	BODY/BONNET NUT	-	GR 2H	ASTM A194	
18	BACKSEAT	1	410	ASTM A479	HARDENED
19	GASKET	1	CS/GRAPHITE	CORRUGATED	NOTE 3
26	KEY	1	CS	ASTM A108	
27	YOKE BUSHING	1	CS	ASTM A108	
29A	BEARING	1	TORRINGTON	NTA-4458	10"-12"
29B	THRUST RACE	2	TORRINGTON	TRA-4458	(250-300)
30	HANDWHEEL NUT	1	MALL. IRON	ASTM A47	
33	HANDWHEEL	1	MALL. IRON	ASTM A47	
34	GREASE FITTING	1	STEEL	COMMERCIAL	
39	GROOVE PIN	2	CS	ASTM A108	2",2.5"(DN50,65)NONE
55	BUSHING	1	CS	ASTM A108	2.5"(DN65)ONLY
57	WASHER	2	CS	SAE TYPE	
61	SPRING PIN	1	CS	COMMERCIAL	1/8"DIA.x3/4"LG
66A	NAMEPLATE	1	SS or ALUM.0	COMMERCIAL	MFG. OPTION
66B	TAG PLATE	1	SS	COMMERCIAL	OPTIONAL
67	RIVET	2	SS	COMMERCIAL	ALT. SPOTWELDED
88	STEM NUT	1	TYPE D-2C	ASTM A439	

ITEM #12 (1/2) G31-BV-1018

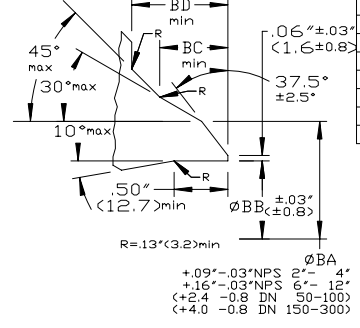
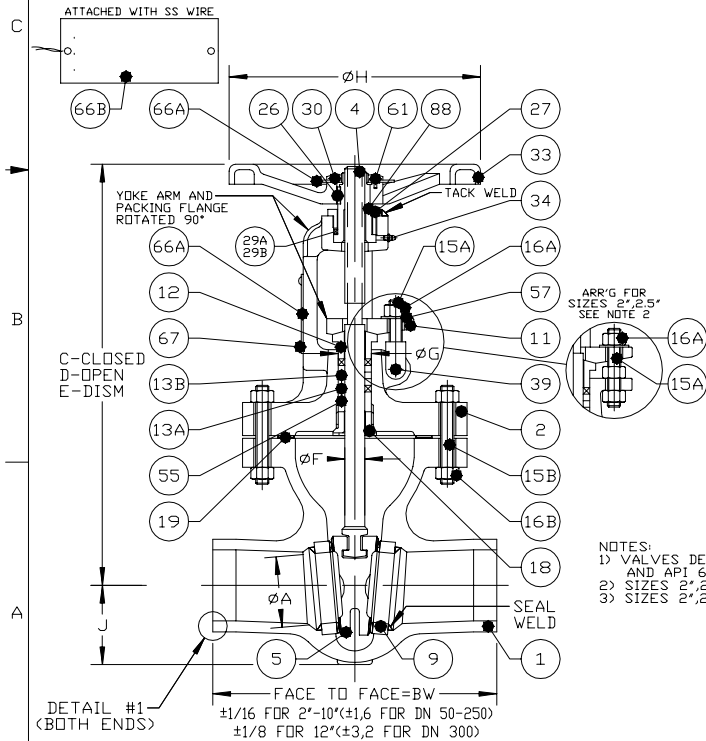
0 G42-BV-1018

(1/2) G31-BV-1020

0 G42-BV-1020

ITEM #18 (1/2) G31-BV-1041

0 G42-BV-1041

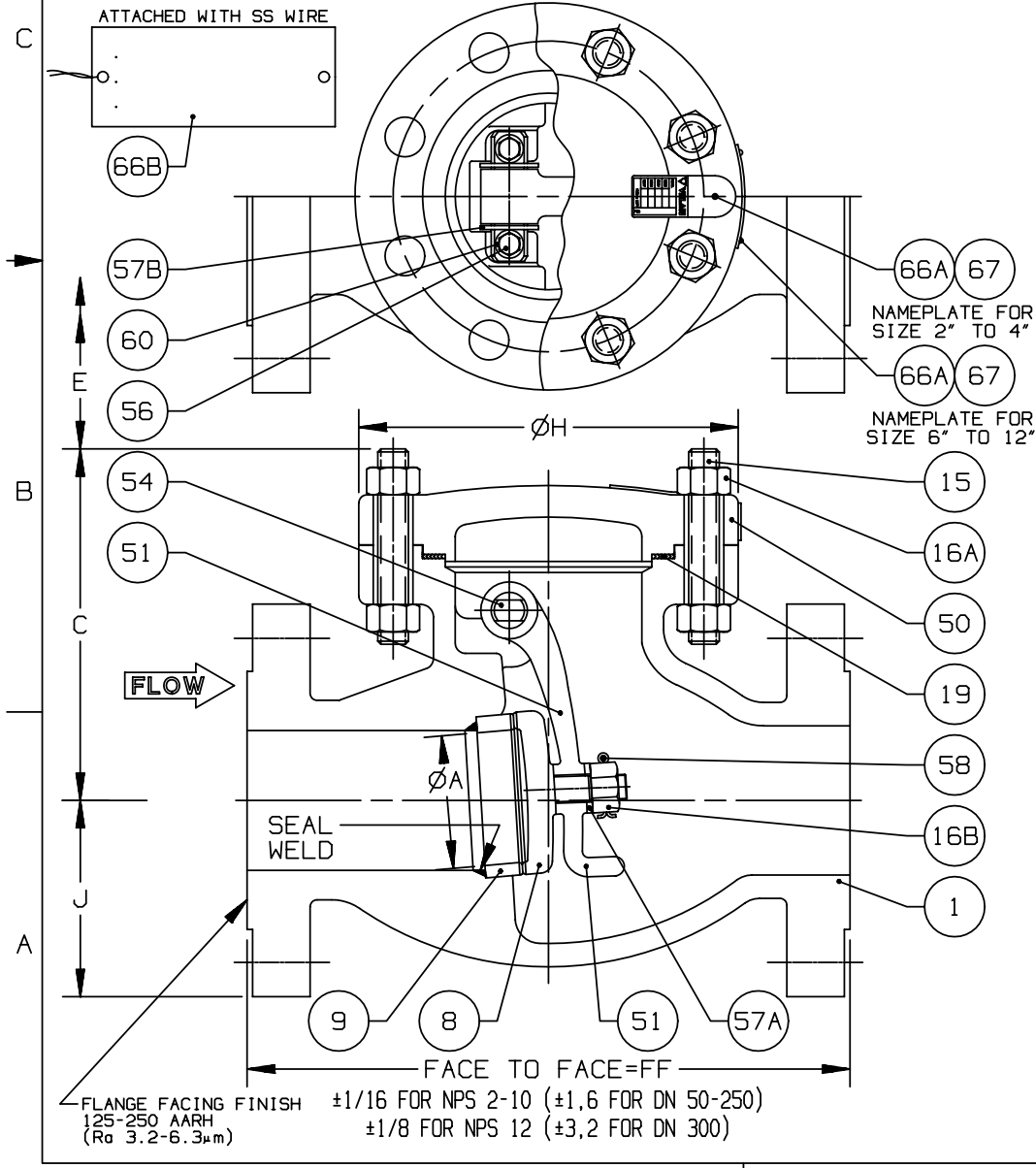


NOTES:
1) VALVES DESIGN IN ACCORDANCE WITH ASME B16.34 AND API 600MIN WALL THICKNESS IS TO API 600.
2) SIZES 2",2.5"(DN 50,65) STUD GR B7 ASTM A193
3) SIZES 2",2.5"(DN 50,65) MAT'L 316/GRAPHITE/SPIRAL WOUND.

REV	DESCRIPTION	DATE	DWN	APVD	CR
9946-000	9937-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	9910-001
9919-000	9928-001	9910-001	9910-001	9910-001	9910-001
9901-000	9901-001	9910-001	9910-001	9910-001	9910-001
9946-000	9955-001	9910-001	9910-001	9910-001	

CLASS 150										
NPS	ØA	FF	C	E	ØH	J	Cv	WEIGHT		
								Lb		
2	2.00	8.00	5.75	2.00	6.75	3.00	95	40		
2 1/2	2.50	8.50	6.25	2.50	6.75	3.50	150	44		
3	3.00	9.50	7.75	3.00	8.50	3.75	220	78		
4	4.00	11.50	8.75	4.00	10.25	4.50	410	121		
6	6.00	14.00	10.75	6.00	12.50	5.50	950	212		
8	8.00	19.50	12.75	8.00	15.75	6.75	1750	360		
10	10.00	24.50	15.50	10.00	18.50	8.00	2800	586		
12	12.00	27.50	17.00	12.00	20.50	9.50	4100	823		
DN							Kv	Kg		
50	50.8	203.2	146.1	50.8	171.5	76.2	81	18		
65	63.5	215.9	158.8	63.5	171.5	88.9	128	20		
80	76.2	241.3	196.9	76.2	215.9	95.3	187	35		
100	101.6	292.1	222.3	101.6	260.4	114.3	349	55		
150	152.4	355.6	273.1	152.4	317.5	139.7	808	96		
200	203.2	495.3	323.9	203.2	400.1	171.5	1488	163		
250	254.0	622.3	393.7	254.0	469.9	203.2	2380	266		
300	304.8	698.5	431.8	304.8	520.7	241.3	3485	374		

MATERIAL LIST (O2TY-150)					
PART	DESCRIPTION	QTY	MATERIAL	MATL SPEC	REMARKS
1	BODY	1	WCB	ASTM A216	
8	DISC (MFG. OPTION)	1	CA15	ASTM A217	
			WCB	ASTM A216	13%Cr. FACE
9	SEAT (MFG. OPTION)	1	CS	ASTM A105	STLT 6 FACE
			CS	ASTM A106	STLT 6 FACE
15	BODY/COVER STUD	-	GR B7	ASTM A193	
16A	BODY/COVER NUT	-	GR 2H	ASTM A194	
16B	DISC NUT	1	GR 2H	ASTM A194	
19	GASKET	1	316L or 347/GRAPHITE	SPIRAL WOUND	
50	COVER	1	WCB	ASTM A216	
51	HINGE LEVER	1	WCB	ASTM A216	
54	HINGE PIN	1	410	ASTM A479	HARDENED
56	HINGE PIN HHCS	2	GR B7 or B8 CL.1	ASTM A193	NOTE 2
57A	DISC WASHER	1	CS or SS	COMMERCIAL	MFG. OPTION
57B	WASHER	-	CS or SS	COMMERCIAL	MFG. OPTION
58	COTTER PIN	1	SS	COMMERCIAL	
60	TAB WASHER	2	CS or SS	COMMERCIAL	LOCK WASHER 2"-2.5"
66A	NAMEPLATE	1	SS	COMMERCIAL	
66B	TAG PLATE	1	SS	COMMERCIAL	OPTIONAL
67	RIVET	1-2	SS	COMMERCIAL	ALT. SPOTWELDED



NOTES:
 1) VALVES DESIGN IN ACCORDANCE WITH ASME B16.34 AND API 600(MIN WALL THICKNESS IS TO API 600).
 2) PART 56 SIZES 2", 2.5" (DN 50,65) SHCS ALLOY STEEL ASTM A574.

REV	DESCRIPTION	DATE	DWN	APVD	IR CERT
9952-000	7498-700	9943-001	9934-001	9907-001	9916-001
9925-000	9934-001	9907-001	9907-001	9916-001	9916-001
9907-000	9907-001	9916-001	9916-001	9916-001	9916-001
REF NO	MASTER DWG: 4F-0114C-02TY-01	VELAN ORDER NO: . CUSTOMER: ORDER NO: PROJECT: JOB NO:			
		DRAWN : Y.AUDET 97-09-25 APVD : C.BERUBE 97-09-25 IND REV CERTIFIED : J.DESLANDES 97-09-25 DWG NO : 4F-0114C-02TY-01 SHEET 1 OF 1 REV.0 DATE: 97-09-25			
CLASS 150 / PN 20					

CLASS 300

4

3

2

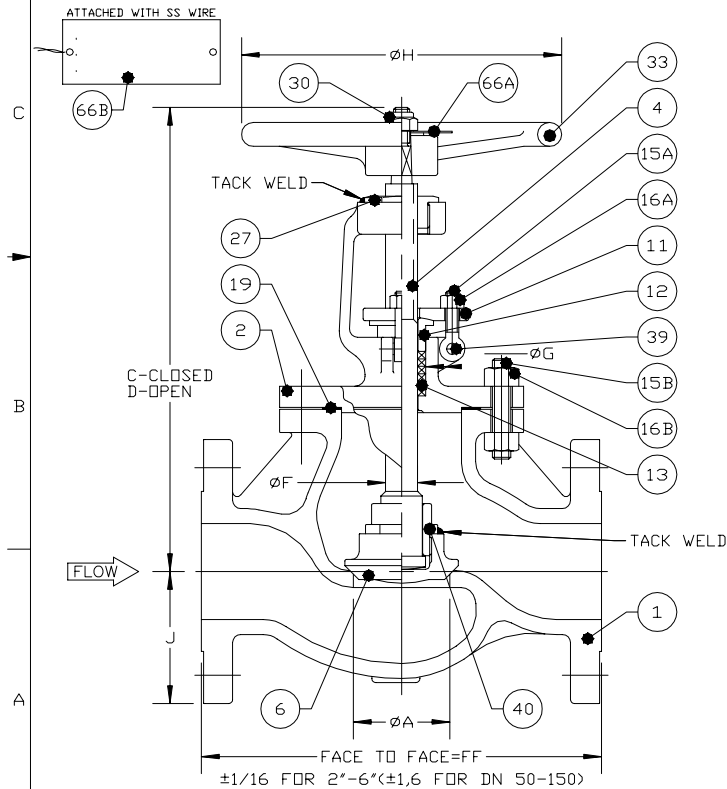
1

NPS	øA	FF	C	D	øF	øG	øH	J	Cv	WEIGHT Lb
2"	2.00	10.50	10.19	11.06	0.68	1.25	8	3.25	35	45
2 1/2"	2.50	11.50	11.06	12.25	0.87	1.37	10	3.75	60	70
3"	3.00	12.50	12.37	13.75	1.00	1.47	10	4.12	92	89
4"	4.00	14.00	14.87	16.44	1.06	1.50	10	5.00	180	130
6"	6.00	17.50	19.00	21.37	1.43	2.06	14	6.25	430	252
DN									Kv	Kg
50	50.8	266.7	258.8	281.0	17.3	31.7	203	82.5	30	20
65	63.5	292.1	281.0	311.1	22.2	34.9	254	95.2	51	32
80	76.2	317.5	314.2	349.2	25.4	37.3	254	104.6	78	40
100	101.6	355.6	377.7	417.6	26.9	38.1	254	127.0	153	59
150	152.4	444.5	482.6	542.8	36.3	52.3	356	158.7	366	114

MATERIAL LIST				(13SX-300)	
PART	DESCRIPTION	QTY	MATERIAL	MATL SPEC	REMARKS
1	BODY	1	CF8M	ASTM A351	
2	BONNET	1	CF8M	ASTM A351	
4	STEM	1	316	ASTM A479	
6	DISC	1	CF8M	ASTM A351	
11	PACKING FLANGE	1	CF8M	ASTM A351	
12	GLAND BUSHING	1	316	ASTM A479	
13	PACKING RING	6-8	TEFLON	COMMERCIAL	QTY. VARY
15A	GLAND STUD	2	304	ASTM A479	
15B	BODY/BONNET STUD	-	GR B8M CL.2	ASTM A193	
16A	GLAND NUT	2	GR 8M	ASTM A194	
16B	BODY/BONNET NUT	-	GR 8M	ASTM A194	
19	GASKET	1	304/TEFLON	WIRE MESH.	ALT. TEFLON
27	YOKER BUSHING	1	TYPE D-2C	ASTM A439	
30	HANDWHEEL NUT	1	MALL. IRON	ASTM A47	ALT. CS A108
33	HANDWHEEL	1	MALL. IRON	ASTM A47	
39	GROOVE PIN	2	304	ASTM A479	
40	DISC UNION	1	CF8M	ASTM A351	
66A	NAMEPLATE	1	SS or ALUM.	COMMERCIAL	MFG. OPTION
66B	TAG PLATE	1	SS	COMMERCIAL	OPTIONAL

NOTES:
1) VALVES DESIGN IN ACCORDANCE WITH ASME B16.34

ITEM #16 <1/2> G31-BV-1039
0 G42-BV-1039



REV	DESCRIPTION	DATE	DWN	APVD	CR
1	VELAN ORDER NO.				
1	CUSTOMER				ORDER NO:
1	PROJECT				JOB NO:
1			DRAWN	YAUDET	97-10-28
1			APVD		99-03-30
1	2"-6" DN 50-150 (FLANGED ENDS)		IND REV		99-03-30
1	CAST STAINLESS STEEL GLOBE VALVES WITH INTEGRAL SEAT (MODEL 'A')		DWG NO :	4F-1074C-13SX-04	
1	CLASS 300 / PN 50		SHEET	1 OF 1	
REF NO	MASTER DWG 4F-1074C-13SX-04		REVA	DATE: 99-03-30	