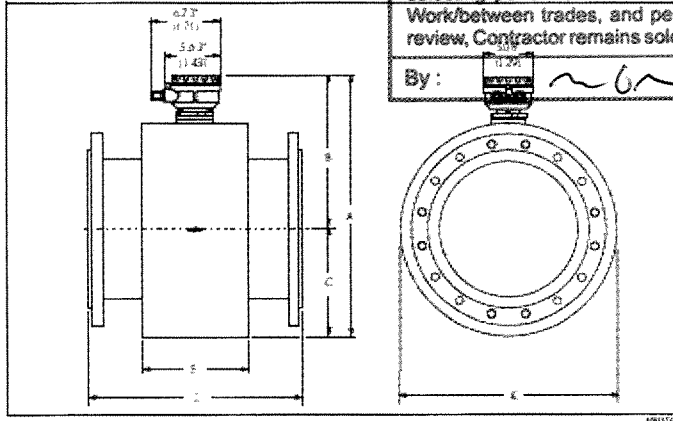


Mechanical Construction: (Flow Tube)

Submission No. :	/ SUBMITTAL REVIEW AECOM	
Project No. :	60114979	Discipline :
<input checked="" type="checkbox"/> Reviewed - No Comment	<input type="checkbox"/> Reviewed - Revise and Resubmit	
<input type="checkbox"/> Reviewed - As Noted	<input type="checkbox"/> Review by Consultant Not Required	
<p>Review is solely for general conformity with contract. The Consultant does not warrant or represent that information in this submittal is accurate or complete. Review does not relieve Contractor of responsibility for errors/omissions in designs, including this submittal, that are the Contractor's responsibility, and for conforming/correlating with all quantities/dimensions, performing the Work, selecting performance means/methods, coordinating with other parts of the Work/between trades, and performing the Work safely. Notwithstanding this review, Contractor remains solely responsible for contract compliance.</p>		
By :	<i>[Signature]</i>	Date : JAN 15/10

Remote version 2 14" (DN 350)



DN	L	A	B	C	K	E	
EN ⁽¹⁾ (DN) / AS ⁽²⁾ (mm)	ANSI / AWWA ⁽²⁾ (inches)	inches (mm)	inches (mm)	inches (mm)	inches (mm)	inches (mm)	
350	14"	21.0 (530)	26.9 (683.5)	15.8 (401.5)	11.1 (282.0)	22.2 (564)	10.9 (279)
400	16"	23.0 (600)	29.0 (735.5)	16.9 (427.5)	12.1 (308.0)	24.2 (610)	10.9 (279)
450	18"	25.0 (650)	30.9 (785.5)	17.8 (452.5)	13.1 (333.0)	26.2 (666)	11.3 (292)
500	20"	25.0 (650)	32.9 (836.5)	18.8 (478.0)	14.1 (358.5)	28.2 (717)	11.3 (292)
600	24"	30.7 (780)	37.0 (940.5)	20.9 (530.0)	16.2 (413.5)	32.3 (821)	15.0 (381)
700	28"	35.8 (910)	43.0 (1103.5)	24.9 (631.5)	20.1 (512.0)	40.3 (1024)	23.2 (589)
750	30"	38.4 (975)	45.0 (1143.5)	24.9 (631.5)	20.1 (512.0)	40.3 (1024)	24.0 (610)
800	32"	40.0 (1040)	46.7 (1186.5)	25.7 (653.0)	20.0 (508.0)	42.0 (1067)	25.5 (647)
900	36"	46.0 (1170)	52.7 (1339.5)	28.7 (729.5)	24.0 (610.0)	48.0 (1220)	30.9 (785)
1000	40"	51.2 (1300)	58.7 (1491.5)	31.7 (805.5)	27.0 (686.0)	54.0 (1372)	33.9 (862)
1050	42"	53.7 (1365)	60.7 (1543.5)	32.7 (831.5)	28.0 (712.0)	56.0 (1424)	35.9 (912)
1200	48"	61.4 (1560)	68.5 (1741.5)	36.0 (914.5)	31.0 (791.0)	62.0 (1572)	39.0 (992)
1350	54"	69.5 (1765)	76.5 (1943.5)	40.0 (1016.5)	35.0 (891.0)	71.0 (1804)	42.3 (1072)
1400		1820	2093.5	1106.5	987.0	1974	1252
1500	60"	76.8 (1950)	84.3 (2141.5)	44.5 (1130.5)	39.0 (1011)	79.0 (2022)	54.0 (1392)
1600		2080	2231.5	1175.5	1050	2112	1482
1650	66"	84.4 (2145)	90.9 (2309.5)	47.7 (1212.5)	43.0 (1093)	86.0 (2186)	58.3 (1482)
1800	72"	92.3 (2340)	98.2 (2499.5)	51.5 (1307.5)	46.0 (1168.0)	93.0 (2376)	64.2 (1632)
2000	78"	102.3 (2600)	102.2 (2595.5)	53.4 (1357.5)	48.7 (1238.0)	97.0 (2476)	68.2 (1732)

The fitting length (L) is always the same, regardless of the pressure rating.
⁽¹⁾ Only DN 350, 400, 500 and 900 are available if flanges according to AS are used.
⁽²⁾ DN < 700 only to ANSI, DN > 600 only to AWWA.

(E7)



Power & Mine Supply
 City of Winnipeg
 Bid Opp# 831-2009

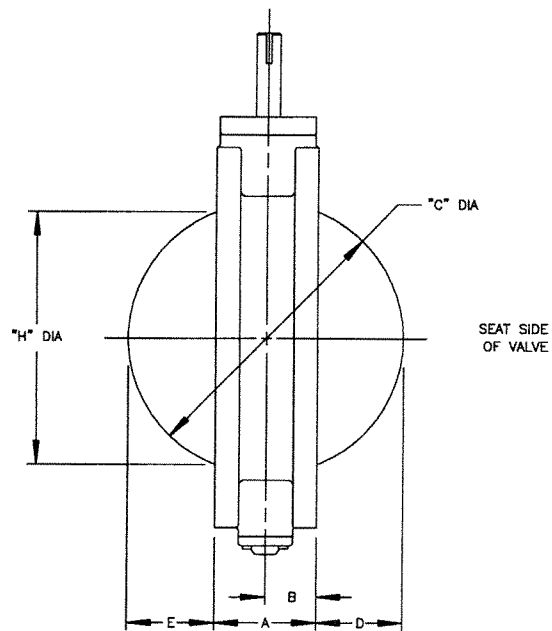
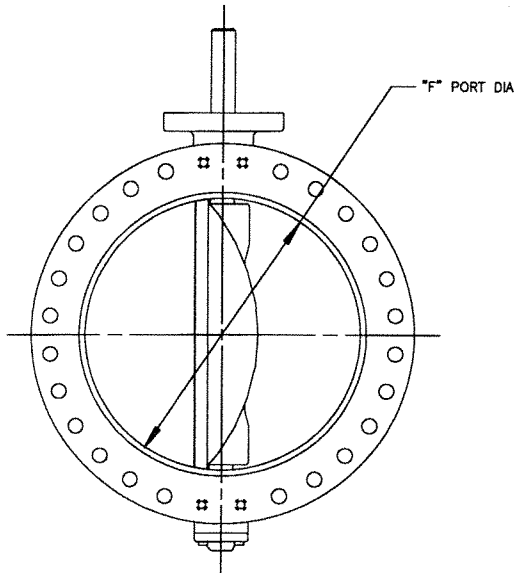
VALVE SIZE		VALVE CLASS	DIMENSIONS							
INCH	MM		A	B	C	D	E	F	H	
24	600	150B & F1 (250B)	8.00	4.00	23.06	7.51	7.51	22.91	21.68	
			203	102	586	191	191	582	551	
24	600	F2 (250B)	12.00	6.00	23.06	5.51	5.51	22.91	19.75	
			305	152	586	140	140	582	502	
28	700	150B & F1 (250B)	12.00	6.00	27.06	7.41	7.41	26.76	23.92	
			305	152	687	188	188	680	608	
30	750	25A, 75B, 150B & F1 (250B)	12.00	6.00	29.06	8.53	8.53	28.91	26.85	
			305	152	738	217	217	734	682	
36	900	25A, 75B, 150B & F1 (250B)	12.00	6.00	35.06	11.53	11.53	34.91	33.33	
			305	152	891	293	293	887	847	
36	900	F2 (250B)	15.00	7.50	35.06	10.03	10.03	34.91	31.81	
			381	191	891	255	255	887	808	
42	1100	25A, 75B, 150B & F1 (250B)	12.00	6.00	41.06	14.53	14.53	40.91	39.74	
			305	152	1043	369	369	1039	1009	
42	1100	F2 (250B)	15.00	7.50	41.06	13.03	13.03	40.91	38.71	
			381	191	1043	331	331	1039	983	
48	1200	25A, 75B, 150B & F1 (250B)	15.00	7.50	47.06	16.02	16.02	46.91	44.70	
			381	191	1195	407	407	1192	1135	
48	1200	F2 (250B)	15.00	7.50	47.06	16.02	16.02	46.91	44.70	
			381	191	1195	407	407	1192	1135	
54	1400	25A, 75B, 150B & F1 (250B)	15.00	7.50	53.06	19.04	19.04	53.00	51.00	
			381	191	1348	484	484	1346	1295	
54	1400	F2 (250B)	15.00	7.50	53.06	19.04	19.04	53.00	51.00	
			381	191	1348	484	484	1346	1295	
60	1500	75B & 150B	15.00	7.50	59.06	22.04	22.04	59.00	57.28	
			381	191	1500	560	560	1499	1455	
66	1700	75B & 150B	18.00	9.00	65.06	23.54	23.54	65.00	62.61	
			457	229	1653	598	598	1651	1590	
72	1800	75B & 150B	18.00	9.00	71.06	26.54	26.54	71.00	68.83	
			457	229	1805	674	674	1803	1748	

SIZE	"G" (VALVE WEIGHT)									
	24	28	30	36	42	48	54	60	66	72
25A	N/A	N/A	1450	2200	3225	4250	N/A	N/A	N/A	N/A
75B	N/A	N/A	1700	2650	3600	4950	6550	8500	10350	13100
150B & F1 (250B)	915	1360	1850	2800	4050	5750	7500	9825	12100	15150
F2 (250B)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NOTE:

- "G" IS BARE SHAFTED VALVE WEIGHT (LBS).
- F1 (250B) PER ANSI B16.1 CLASS 125.
F2 (250B) PER ANSI B16.1 CLASS 250.

Submission No. :	1 SUBMITTAL REVIEW		AECOM
Project No. :	60114979		Discipline :
<input checked="" type="checkbox"/> Reviewed - No Comment	<input type="checkbox"/> Reviewed - As Noted		<input type="checkbox"/> Reviewed - Revise and Resubmit
			<input type="checkbox"/> Review by Consultant Not Required
<p>Review is solely for general conformity with contract. The Consultant does not warrant or represent that information in this submittal is accurate or complete. Review does not relieve Contractor of responsibility for errors/omissions in designs, including this submittal, that are the Contractor's responsibility, and for conforming/correlating with all quantities/dimensions, performing the Work, selecting performance means/methods, coordinating with other parts of the Work/between trades, and performing the Work safely. Notwithstanding this review, Contractor remains solely responsible for contract compliance.</p>			
By: <i>[Signature]</i>		Date: <i>Jan 15/10</i>	



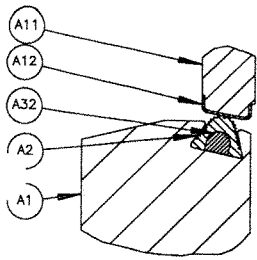
Power & Mine Supply
City of Winnipeg
Bid Opp# 831-2009

K	00012	06/24/06
J	00012	06/28/06
I	00012	01/19/06
H	01372	12/06/05
G	01159	09/13/04
F	00015	08/11/02
E	00712	05/11/02
D	01060	12/03/00
C	00012	05/09/97
B	00012	02/07/97
A		

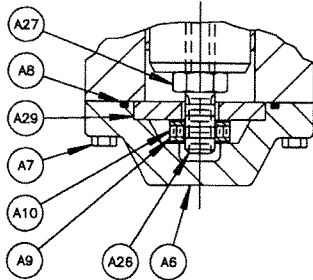
DeZURIK
Sartell, MN USA 56377
www.dezurik.com

24-72 FLANGED AWWA BUTTERFLY VALVES SHOWING DISC CLEARANCE IN FULL OPEN POSITION, VALVE WEIGHTS AND PORT DIAMETER			
DOCT. CODE	DRAWN	APPROVED	
C1	KW	WCB	
CHECKED	DATE		
WCB	01/13/97		

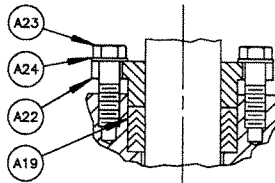
A47550



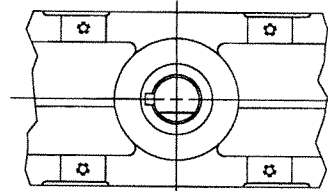
DETAIL "A"
(ENLARGED)



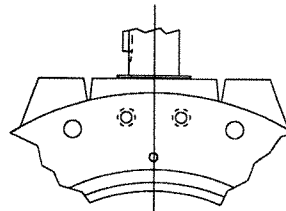
DETAIL "B"
(ENLARGED)



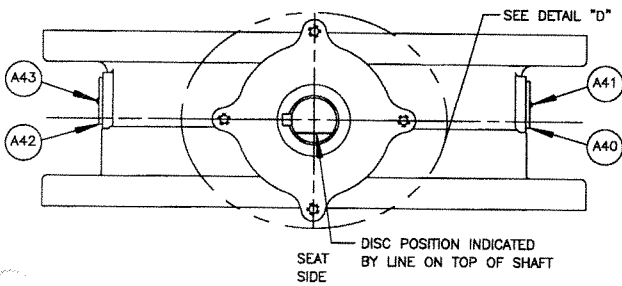
DETAIL "E"
(ENLARGED)
ADJUSTABLE PACKING
(OPTIONAL)



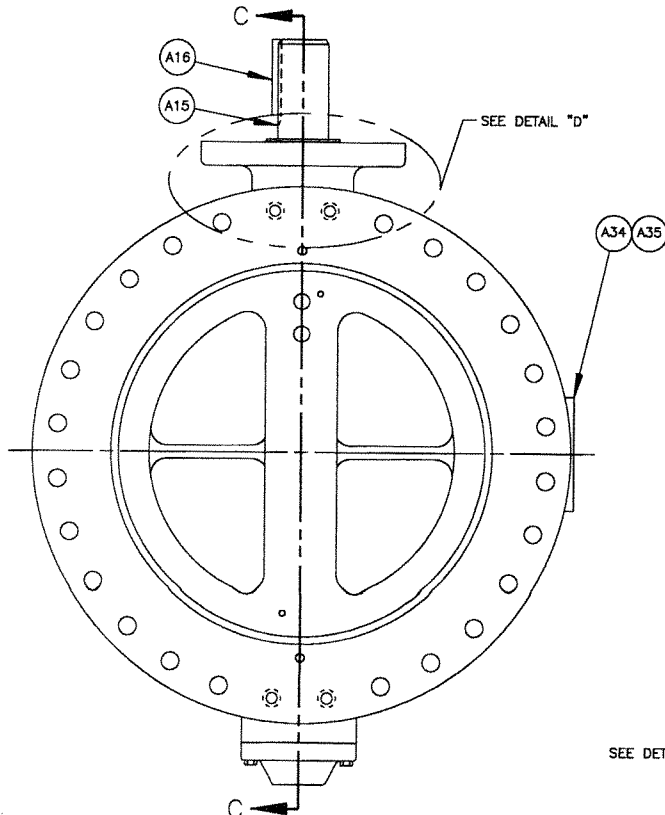
SEAT SIDE



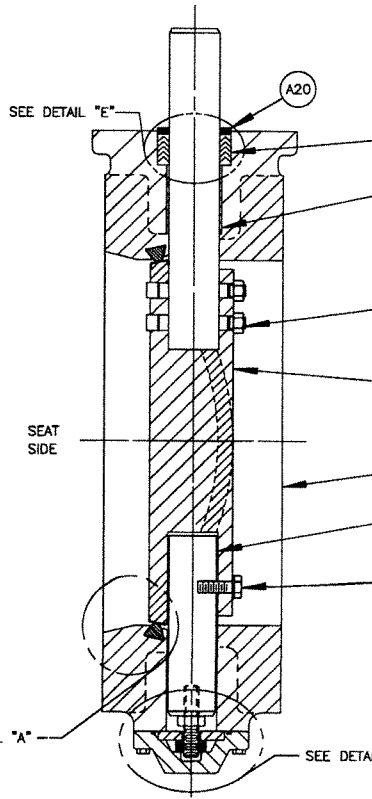
DETAIL "D"
ACTUATOR MOUNTING
STYLE FOR 250B
28-48 SIZE VALVES



DISC POSITION INDICATED
BY LINE ON TOP OF SHAFT
SEAT SIDE



SECTION C-C



SEAT SIDE

SEE DETAIL "A"

SEE DETAIL "E"

NO.	PART NAME	QTY
A1	BODY	1
A2	SEAT	1
A3		
A4		
A5		
A6	THRUST BEARING COVER	1
A7	SCREW	4
A8	O-RING	1
A9	THRUST COLLAR	1
A10	SET SCREW	2
A11	DISC	1
A12	DISC EDGE	
A13	PIN	2
A14	NUT	2
A15	UPPER SHAFT	1
A16	KEY	1
A17	BEARING	2
A18		
A19	PACKING	1
A20	SPACER (28-48 VALVES ONLY)	1
A21		
A22	GLAND (OPTIONAL)	1
A23	SCREW	2
A23	SCREW (SIZE 48 CL 150B & 250B)	3
A24	WASHER	2
A24	WASHER (SIZE 48 CL 150B & 250B)	3
A25	LOWER SHAFT	1
A26	ADJUSTING SCREW	1
A27	JAM NUT	1
A28		
A29	THRUST PLATE	1
A30	SCREW	1
A31	LOCKWASHER	1
A32	EPOXY	1
A33	O-RING	2
A34	SCREW	2
A35	CAUTION TAG	1
A40	VALVE CLASSIFICATION PLATE (WHEN REQ'D)	1
A41	DRIVE SCREW (USED WITH A40)	2
A42	SARTELL VALVES NAME PLATE (WHEN REQ'D)	1
A43	DRIVE SCREW (USED WITH A42)	2

NOTE:

1. WHEN ORDERING PARTS, SPECIFY VALVE SIZE AND MODEL NUMBER FROM DATA PLATE, ALSO GIVE DRAWING NUMBER WITH PART NAME, ITEM NUMBER AND QUANTITY.
2. RECOMMENDED SPARE PARTS ARE ITEMS NO. A2, A8, A17, A19 AND A20.

Submission No. : 6011479	Discipline : A14, A33	Reviewed - No Comment	Reviewed - Revise and Resubmit	Review is solely for general conformity with contract. The Consultant does not warrant or represent that information in this submittal is accurate or complete. Review does not relieve Contractor of responsibility for errors/omissions in designs, including this submittal, that are the Contractor's responsibility, and for conforming/coordinating with all quantities/dimensions, performing the Work, selecting performance means/methods, coordinating with other parts of the Work/between trades, and performing the Work safely. Notwithstanding this review, Contractor remains solely responsible for contract compliance.
		Reviewed - As Noted	Reviewed by Consultant Not Required	
Project No. : 6011479		By : <i>[Signature]</i>		Date : 3/20/10

L	8/13/04	07/14/08
K	9/03/02	05/12/08
J	8/18/03	05/09/07
H	9/03/02	07/19/08
G	07/12	02/13/04
F	06/12	06/15/02
E	06/12	10/20/00
D	07/01	06/25/00
C	06/12	05/01/06
B	04/02	1/25/97
A	06/12	01/09/97

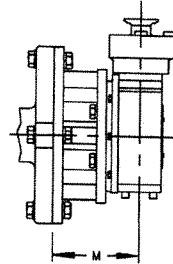
DeZURIK
Sartell, MN USA 56377
www.dezurik.com

BAW BUTTERFLY VALVES SIZE 24 - 48 CL 150B AND CL 250B AND 20 CL 250B FLANGED VALVE ASSEMBLY

DOCT. CODE	DRAWN	PJ	APPROVED	WCB
C1	CHECKED	WCB	DATE	12/12/96

A47719

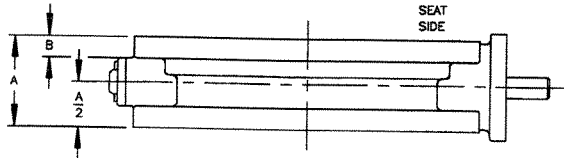
VALVE SIZE	DIMENSIONS INCHES											
	A	B	C	D	E	F	G	H	J	K	L	M
30	12.00	2.25	23.00	22.62	36.00	1.38					38.75	12.41
	305	57	584	575	914	36	24	1-1/4-7 UNC	4	2.09	984	315
36	12.00	2.50	27.38	25.62	42.75	1.82					46.00	
	305	84	695	651	1086	41	24	1-1/2-6 UNC	8	2.38	1168	
42	12.00	2.75	30.91	30.42	49.50	1.82					53.00	
	305	70	785	773	1257	41	28	1-1/2-6 UNC	8	2.59	1346	
48	15.00	2.88	35.38	33.00	56.00	1.62					59.50	
	381	73	899	838	1422	41	36	1-1/2-6 UNC	8	2.75	1511	



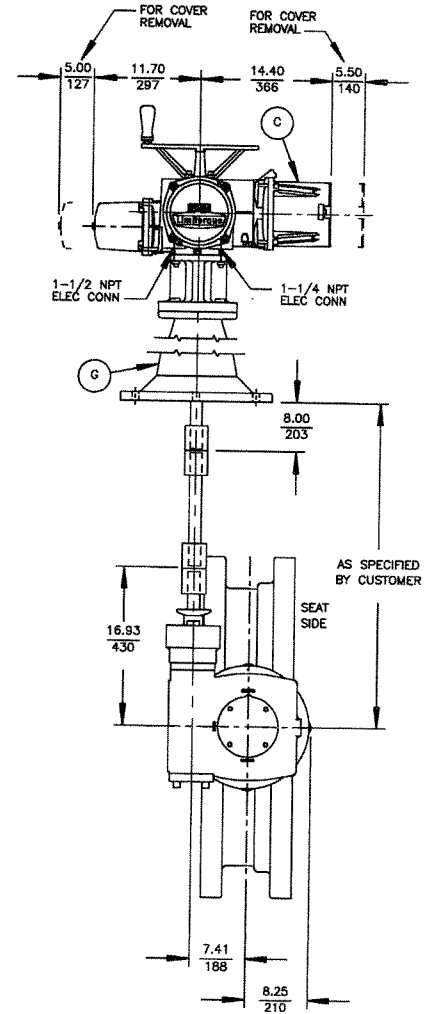
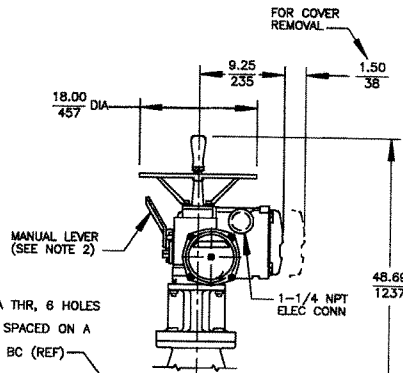
DETAIL "A"
OPTIONAL ADJUSTABLE
PACKING CONSTRUCTION

A	VALVE
B	ACTUATOR
C	MOTOR
G	FLOORSTAND
P	CONNECTING PARTS

- NOTE:
1. FLANGES ARE FLAT FACED WITH DIMENSIONS AND DRILLING TO ANSI B16.1 CLASS 125 EXCEPT FOR TAPPED HOLES AS INDICATED. SEE A-28506 FOR NON-ANSI FLANGED DATA.
 2. FOR MANUAL OPERATION PUSH LEVER IN DIRECTION OF ARROW ONLY. UNIT REMAINS IN HAND OPERATION UNTIL MOTOR IS ENERGIZED.
 3. FLOW MAY BE IN EITHER DIRECTION. FOR MAINTENANCE PURPOSES THE SEAT SIDE SHOULD BE ACCESSIBLE.



Power & Mine Supply
City of Winnipeg
Bid Opp# 831-2009



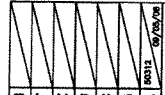
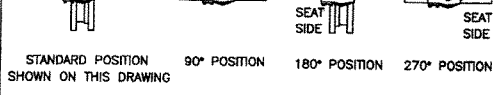
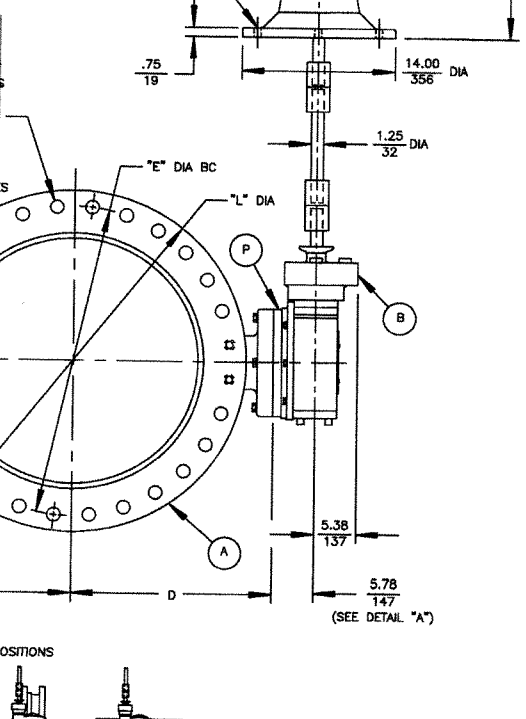
Submission No.: **1** SUBMITTAL REVIEW **AECOM**
Discipline: _____
Project No.: **60114979**

Reviewed - No Comment	Reviewed - Revise and Resubmit
Reviewed - As Noted	Reviewed by Consultant Not Required

Review

Review is solely for general conformity with contract. The Consultant does not warrant or represent that information in this submittal is accurate or complete. Review does not relieve Contractor of responsibility for design, specifications, and construction, including this submittal, that are the Contractor's responsibility and for coordinating with all quantities/dimensions, permits, and specifications of the Work, selecting performance means/methods, and performing the Work safely. No work shall be performed until approved by the Contractor. Reviewer/Contractor remains solely responsible for contract compliance.

Date: _____



DeZURIK
Sartell, MN USA 56377
www.dezurik.com

BAW BUTTERFLY VALVES SIZE 30-48 FLANGED LIMITORQUE PT_-120-SG GEAR UNIT ACTUATORS W/MX10 MOTOR MOUNTED ON FLOORSTAND

DCY. CODE	DRAWN	APPROVED	BV
C1	CHECKED	DATE	10/16/06

J55151

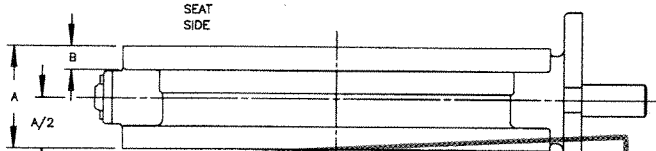
VALVE SIZE	DIMENSIONS										
	INCHES MILLIMETERS										
	A	B	C	D	E	F	G	H	J	K	L
30	12.00 305	2.25 57	23.00 584	22.82 575	36.00 914	1.38 35	24	1-1/4 - 7 UNC	4	2.09 53	38.75 984
36	12.00 305	2.50 64	27.38 695	25.62 651	42.75 1086	1.62 41	24	1-1/2 - 6 UNC	8	2.38 60	46.00 1168
42	12.00 305	2.75 70	30.91 785	30.41 772	49.50 1257	1.62 41	28	1-1/2 - 6 UNC	8	2.59 66	53.00 1346
48	15.00 381	2.88 73	35.38 899	33.00 838	56.00 1422	1.62 41	36	1-1/2 - 6 UNC	8	2.75 70	59.50 1511

A	VALVE
B	ACTUATOR
C	MOTOR
G	FLOORSTAND
P	CONNECTING PARTS

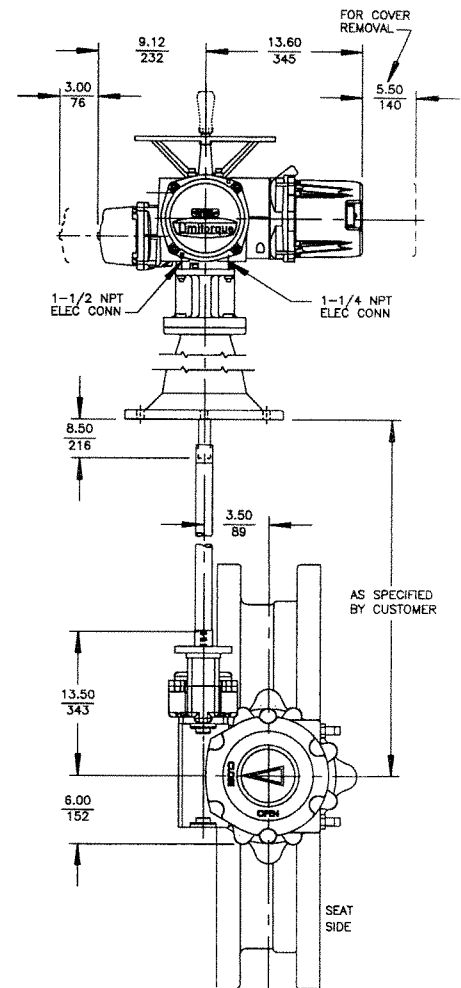
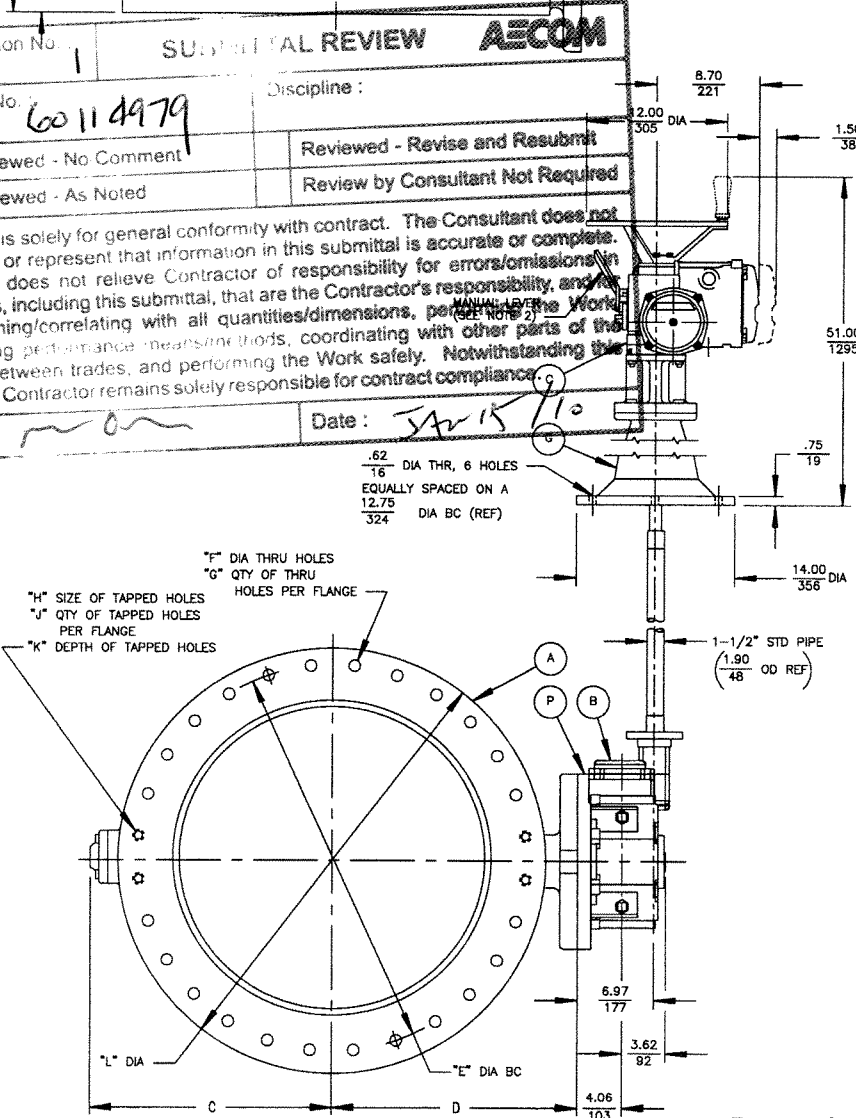
NOTE:

1. FLANGES ARE FLAT FACED WITH DIMENSIONS AND DRILLING TO ANSI B16.1 CLASS 125 EXCEPT FOR TAPPED HOLES AS INDICATED. SEE A-26506 FOR NON-ANSI FLANGED DATA.
2. FOR MANUAL OPERATION PUSH LEVER IN DIRECTION OF ARROW ONLY. UNIT REMAINS IN HAND OPERATION UNTIL MOTOR IS ENERGIZED.

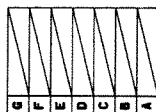
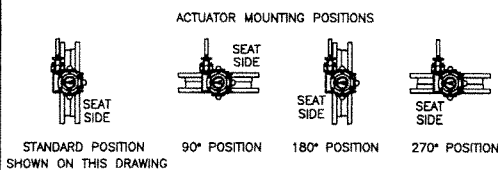
NOTICE
THIS DRAWING DOES NOT SHOW ACTUATOR ACCESSORIES. IF ACCESSORIES ARE REQUIRED, REFER TO THE APPROPRIATE ACCESSORY INSTALLATION DRAWING FOR DIMENSIONS AND OTHER RELATED INFORMATION.



Submission No. 1	SUBMITTAL REVIEW AECOM	
Project No. 60114979	Discipline:	
Reviewed - No Comment	Reviewed - Revise and Resubmit	
Reviewed - As Noted	Review by Consultant Not Required	
<p>Review is solely for general conformity with contract. The Consultant does not warrant or represent that information in this submittal is accurate or complete. Review does not relieve Contractor of responsibility for errors/omissions in designs, including this submittal, that are the Contractor's responsibility, and conforming/correlating with all quantities/dimensions, performing the Work, selecting performance measurement methods, coordinating with other parts of the Work between trades, and performing the Work safely. Notwithstanding this review, Contractor remains solely responsible for contract compliance.</p>		
By: <i>[Signature]</i>	Date: <i>Jan 15 2010</i>	



Power & Mine Supply
City of Winnipeg
Bid Opp# 831-2009



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Sartell, MN USA 56377
www.dezurik.com

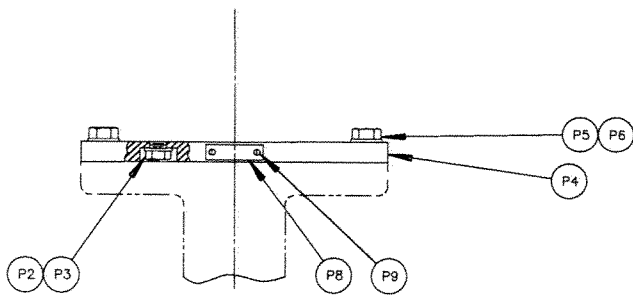
BAW BUTTERFLY VALVES SIZE 30-48 FLANGED LIMITORQUE PTA-60/6.6 GEAR ACTUATOR W/MX-05 MOTOR ACTUATOR MOUNTED ON EXTENDED FLOORSTAND			
DOCT. CODE	DRAWN	BMP	APPROVED
C1	CHECKED	CK	CK
DATE 03/12/08			J55917

LE: .125
ZE: 30
GEAR UNIT: M7
CHWHL: 8

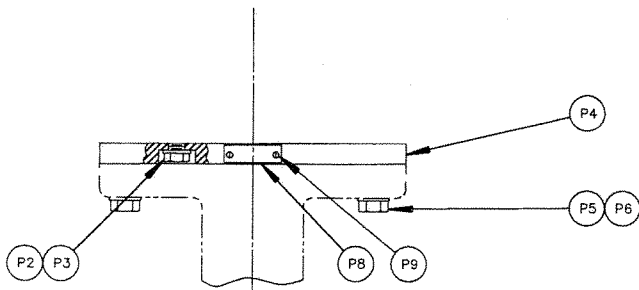
NO	PART NAME	QT
P1		
P2	SCREW	4
P2	SCREW	6
P2	SCREW	12
P3	LOCKWASHER	4
P3	LOCKWASHER	8
P3	LOCKWASHER	12
P4	ADAPTOR	1
P5	SCREW	3
P5	SCREW	4
P5	SCREW	6
P6	LOCKWASHER	4
P6	LOCKWASHER	4
P6	LOCKWASHER	6
P7		
P8	DATA PLATE	1
P9	DRIVE SCREW	2

NOTE:

- WHEN ORDERING PARTS, INCLUDE VALVE SIZE AND PART NUMBER FROM DATA PLATE. ALSO INCLUDE THIS DRAWING NUMBER WITH PART NAME, NUMBER AND QUANTITY.

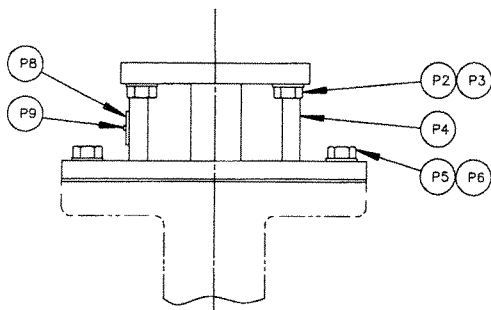


24 - 36 VALVE CONSTRUCTION

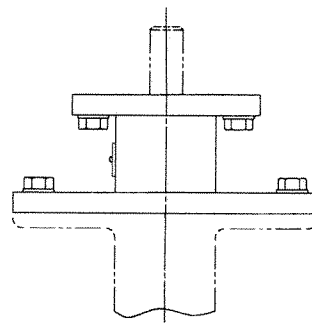


42 & 48 VALVE CONSTRUCTION
30 & 36 VALVE WITH OVERSIZE ACTUATOR

Submission No. : 11 SUBMITTAL REVIEW		AECOM
Project No. : 60114979		Discipline :
<input checked="" type="checkbox"/> Reviewed - No Comment	<input type="checkbox"/> Reviewed - Revise and Resubmit	
<input type="checkbox"/> Reviewed - As Noted	<input type="checkbox"/> Review by Consultant Not Required	
<p>Review is solely for general conformity with contract. The Consultant does not warrant or represent that information in this submittal is accurate or complete. Review does not relieve Contractor of responsibility for errors/omissions in designs, including this submittal, that are the Contractor's responsibility, and for conforming/correlating with all quantities/dimensions, performing the Work, selecting performance means/methods, coordinating with other parts of the Work/between trades, and performing the Work safely. Notwithstanding this review, Contractor remains solely responsible for contract compliance.</p>		
By : <i>[Signature]</i>		Date : JAN 15/10



54 - 72 VALVE CONSTRUCTION
AND 24 - 48 VALVES W/ADJUSTABLE
PACKING GLAND



54 - 72 VALVE CONSTRUCTION AND
24 - 48 VALVES W/ADJUSTABLE PACKING GLAND
ALTERNATE VIEW SHOWING
ADAPTOR CONSTRUCTION

Power & Mine Supply
City of Winnipeg
Bid Opp# 831-2009

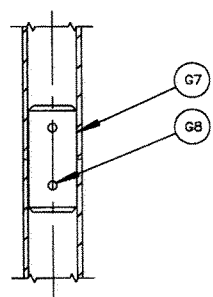
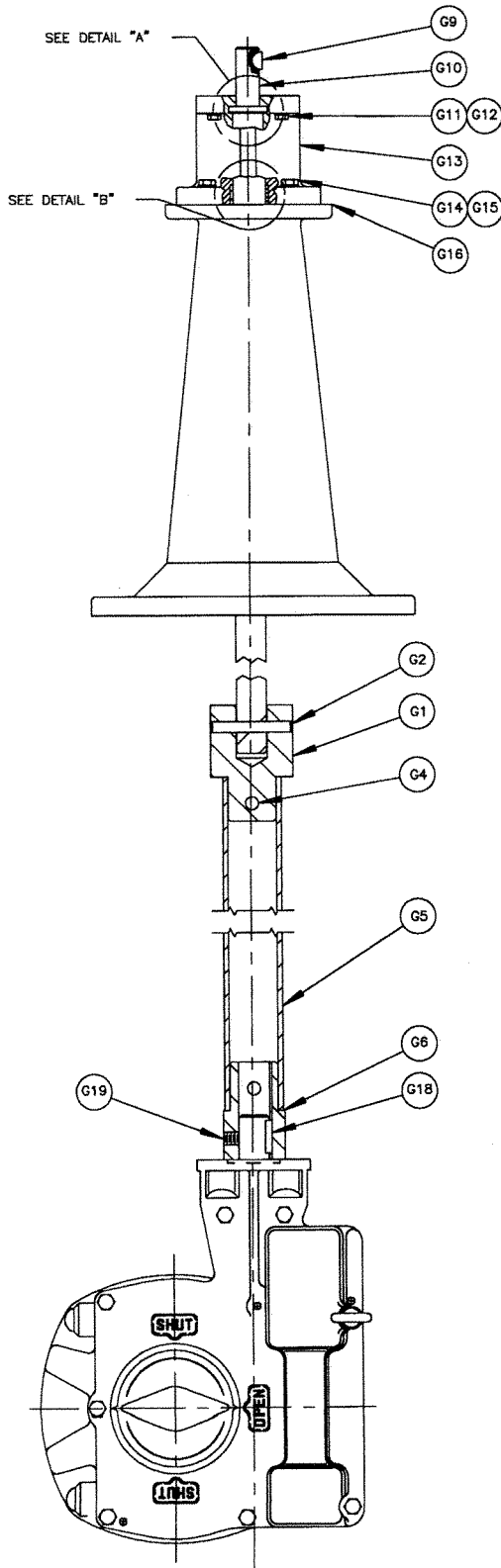
U	L	E	D	C	B	A
					81158	1118
					02/19/04	03/29/03
					8071	718

DeZURIK
Sartell, MN USA 56377
www.dezurik.com

DOCT. CODE	DRAWN	APPROVED	JDM
C1	CHK	DATE	08/08/95

CONNECTING PARTS FOR USE WITH PURCHASED ACTUATOR
ON 24 - 72 AWWA BUTTERFLY VALVES

J14943

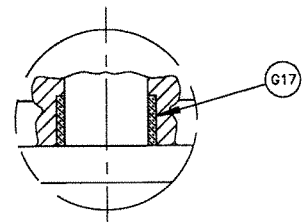
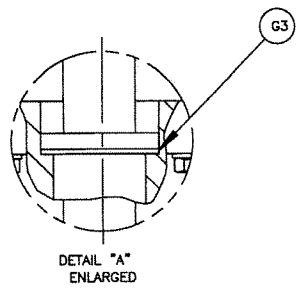


ITEMS #G7 & #G8 ARE USED WHEN ITEM #G5, PIPE EXCEEDS $\frac{252.00}{6401}$ INCHES / MILLIMETERS IN LENGTH.

NO	PART NAME	QTY
G1	COUPLING	1
G2	PIN	1
G3	THRUST BEARING	1
G4	PIN	3
G5	PIPE	-
G6	COUPLING	1
G7	COUPLING	-
G8	PIN	-
G9	KEY	1
G10	SHAFT	1
G11	SCREW	4
G12	LOCKWASHER	4
G13	MOTOR ADAPTOR	1
G14	SCREW	4
G15	LOCKWASHER	4
G16	FLOORSTAND	1
G17	BEARING	1
G18	KEY	1
G19	SET SCREW	1

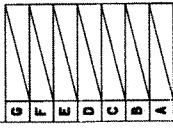
NOTE:

1. WHEN ORDERING PARTS, INCLUDE VALVE SIZE AND PART NUMBER FROM DATA PLATE. ALSO INCLUDE THIS DRAWING NUMBER WITH PART NAME, NUMBER AND QUANTITY.
2. DIMENSIONS SHOWN IN $\frac{\text{INCHES}}{\text{MILLIMETERS}}$ UNLESS OTHERWISE INDICATED.



Submission No. :	1 SUBMITTAL REVIEW ENLARGED		AECOM
Project No. :	60114979	Discipline :	
<input checked="" type="checkbox"/> Reviewed - No Comment	<input type="checkbox"/> Reviewed - Revise and Resubmit		
<input type="checkbox"/> Reviewed - As Noted	<input type="checkbox"/> Review by Consultant Not Required		
<p>Review is solely for general conformity with contract. The Consultant does not warrant or represent that information in this submittal is accurate or complete. Review does not relieve Contractor of responsibility for errors/omissions in designs, including this submittal, that are the Contractor's responsibility, and for conforming/correlating with all quantities/dimensions, performing the Work, selecting performance means/methods, coordinating with other parts of the Work/between trades, and performing the Work safely. Notwithstanding this review, Contractor remains solely responsible for contract compliance.</p>			
By :	MGM	Date :	JAN 15/10

Power & Mine Supply
 City of Winnipeg
 Bid Opp# 831-2009



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 Sartell, MN USA 56377
 www.dezurik.com

MOTORIZED FLOORSTAND, FUW PURCHASED MANUAL ACTUATORS			
DOCT. CODE	DRAWN	APPROVED	BY
C1	CHECKED	BV	03/08/07
			J55335