



A-T Controls, Inc.



**Manual and Automated
Resilient Seated Butterfly Valves**



Wafer and Lug Style

Sizes 2" - 24" in Stock
(larger sizes available)

Rated to 200psi 2" - 12"

Featuring **TRIAC** CONTROLS Actuators and Accessories

A-T Controls Butterfly Valves

cover a wide range of industries from General Purpose to Chemical, Food and Beverage, Pulp and Paper, Waste Water applications and more. A-T Controls Butterfly Valves are designed to comply with MSS-SP-67 and API-609 and are tested to comply with API-598 standards. They are compatible with ANSI 125/150 flanges.



Standard Materials of Construction and Specifications

Body

Ductile iron (cast iron and stainless steel available)

Disc

Nickel plated ductile iron (316SS, Aluminum Bronze, Nylon coated ductile iron, Undercut 316, Undercut Aluminum Bronze, PTFE coated SS, PTFE coated ductile iron, 304SS) ... others may be available on request

Seat

EPDM (Buna-N, Food grade EPDM, High temp EPDM, Viton®, PTFE over EPDM, Neoprene) ... others may be available on request

Stem

416SS (316SS, 17-4PH and others available)

Stem Bushing

Bronze (PTFE available)

Stem Seal

Buna (Viton® available)

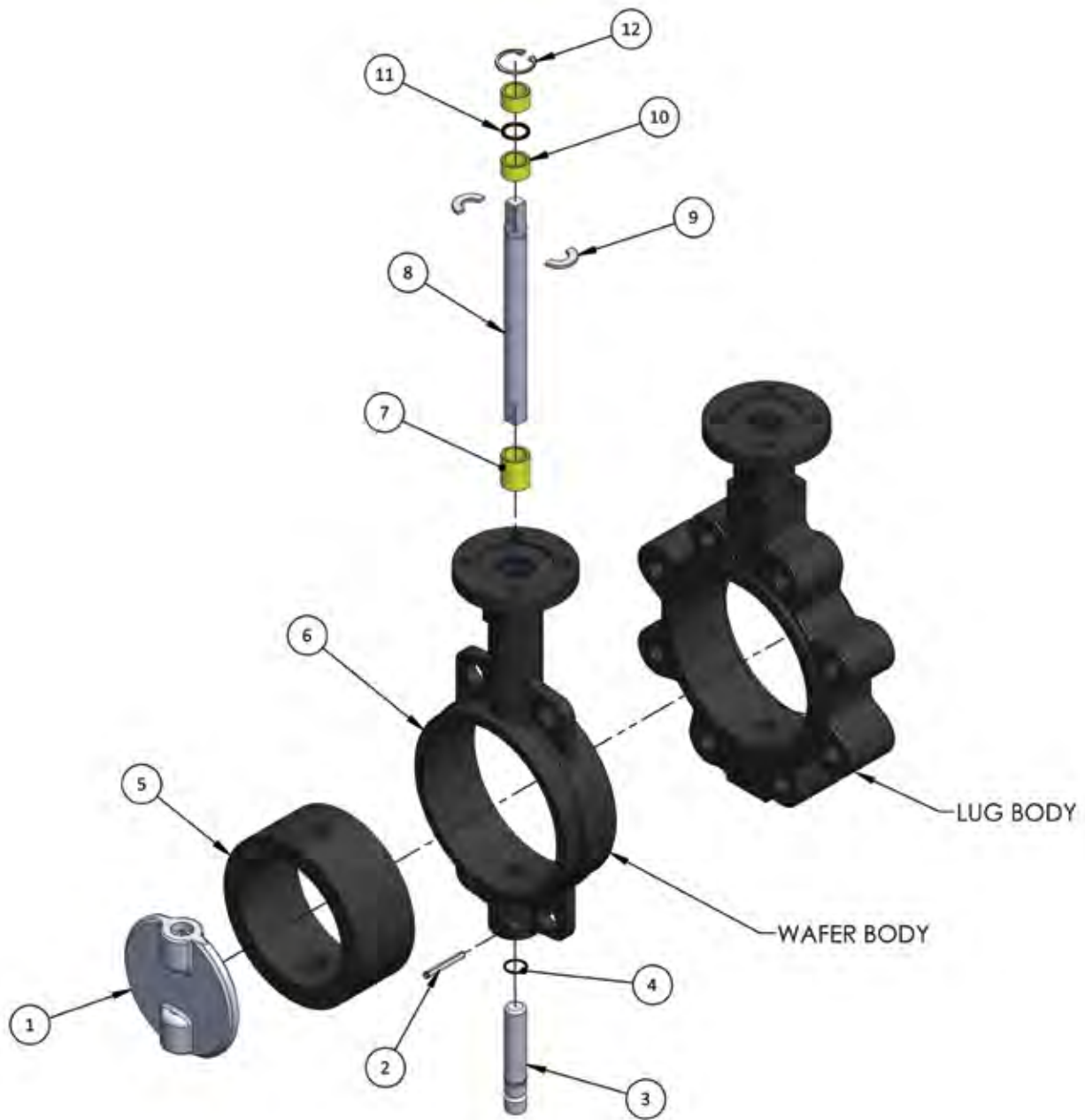
Each body is cast, precisely machined and epoxy-coated to meet rigid tolerances

Multiple seat and disc material options are available to meet a wide variety of process applications

Square Stem design to facilitate direct mounting of actuators

Each stem is machined to fit tightly into the upper disc for smooth operation and minimal hysteresis

Bushings are available in bronze and teflon®. Both are corrosion resistant with minimal effect on valve torque



ITEM	QTY.	DESCRIPTION	MATERIAL	OPTIONAL MATERIALS
1	1	DISC	DUCTILE IRON - ENP PLATED	ALUMINUM BRONZE, 316 STAINLESS STEEL, NYLON COATED, PTFE COATED STAINLESS STEEL, AND PTFE COATED DUCTILE IRON
2	1	LOWER SHAFT RETAINER PIN	ASTM A-582	
3	1	LOWER SHAFT	416 STAINLESS STEEL	316 STAINLESS STEEL
4	1	LOWER SHAFT O-RING	BUNA-N	EPDM, VITON®
5	1	SEAT	BUNA-N	EPDM, VITON®, EPDM BACKED PTFE
6	1	BODY	DUCTILE IRON	CAST IRON, 316 STAINLESS STEEL
7	1	LOWER BUSHING	BRONZE	OTHERS ON REQUEST
8	1	UPPER SHAFT	416 STAINLESS STEEL	316 STAINLESS STEEL
9	1	SHAFT KEEPER RING	STEEL	
10	2	UPPER BUSHING	BRONZE	OTHERS ON REQUEST
11	1	UPPER SHAFT O-RING	BUNA-N	EPDM, VITON®
12	1	RETAINING RING	STEEL	



Butterfly Valve Cv Values (US-GPM @ 1 Δ P) - Rated Flow Coefficients

Valve Size	10°	20°	30°	40°	50°	60°	70°	80°	90°
2"	0.9	6	12	22	38	59	93	125	155
2 1/2"	1.5	10	21	38	61	97	152	213	262
3"	2	14	31	55	91	145	245	340	417
4"	3	24	55	100	163	261	444	640	773
5"	5	39	88	160	261	421	716	1053	1267
6"	8	54	120	224	369	521	1020	1500	1771
8"	13	99	226	421	698	1125	1862	2789	3230
10"	21	162	366	686	1135	1826	3044	4471	5327
12"	28	240	542	1026	1687	2739	4563	6832	8117
14"	39	286	689	1308	2081	3187	5460	8804	10878
16"	53	429	995	1887	2954	4659	7907	11854	14062
18"	69	557	1292	2436	3786	6005	10440	14457	17884
20"	86	689	1622	2916	4738	7223	12537	18573	22484
24"	241	1016	2368	4095	6783	10574	17132	25462	31320

Approximate Operating Torque (In·lbs)

SIZE	Δ P= 50 PSI		Δ P= 100 PSI		Δ P= 150 PSI	
	WET	DRY	WET	DRY	WET	DRY
2"	109	174	115	184	123	196
2 1/2"	115	218	122	231	136	258
3"	175	332	186	353	192	364
4"	276	505	309	565	328	600
5"	433	753	476	828	512	890
6"	672	1182	748	1316	831	1462
8"	1214	2088	1360	2339	1527	2626
10"	1902	3233	2200	3740	2530	4310
12"	2781	4533	3284	5353	3794	6184
14"	3548	5322	4125	6187	4870	7305
16"	4415	6622	5590	8385	6685	10027
18"	5780	8670	7354	11031	8958	13437
20"	7410	11115	9670	14505	11950	17925
24"	11580	17370	14860	22290	18680	28020

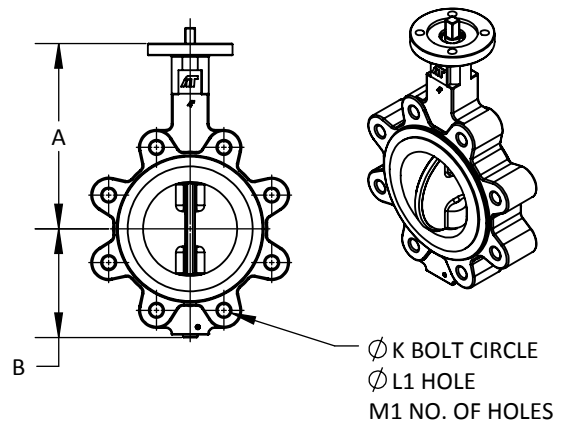
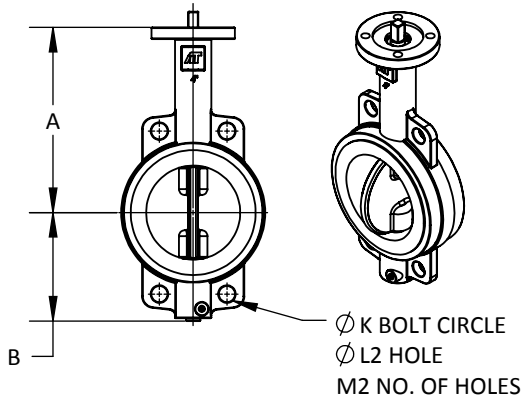
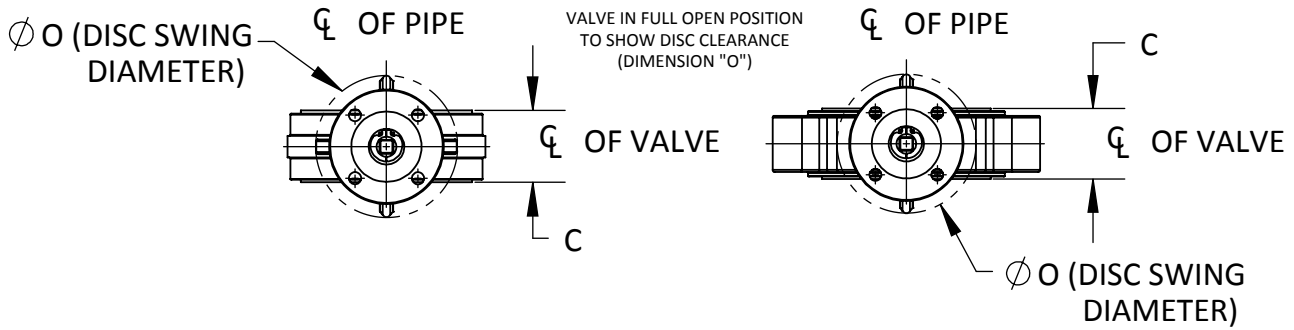
CONSULT FACTORY FOR UNDERCUT DISC TORQUES.

Seat Temperature Ratings

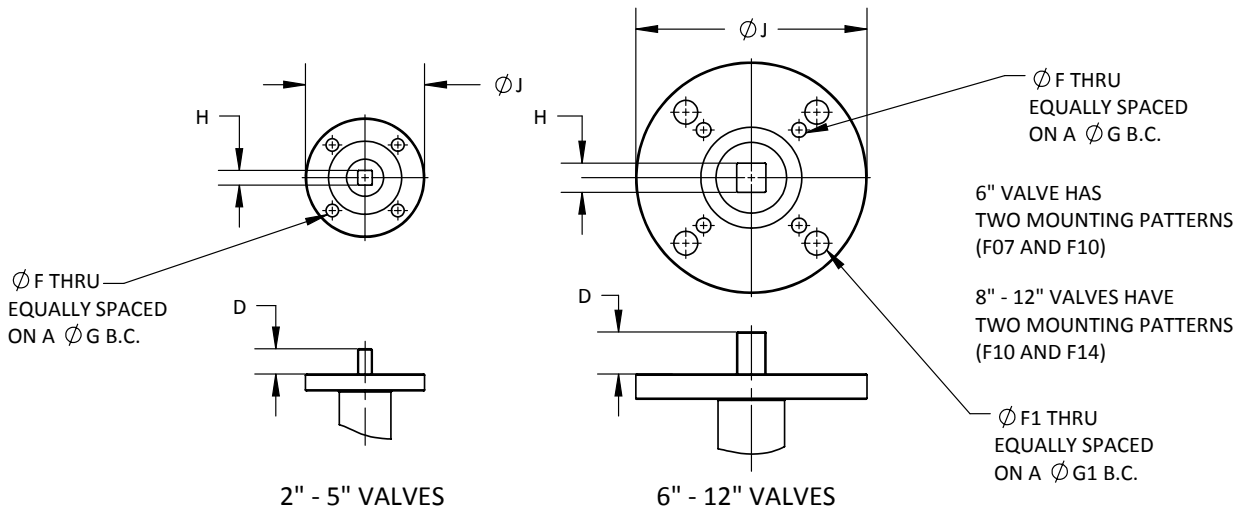
Material	Temperature Ratings °F
Buna-N	0° to 200°
EPDM	-20° to 250°
PTFE over EPDM	0° to 275°
Viton®	-10° to 325°

Wafer Style Body

Lug Style Body

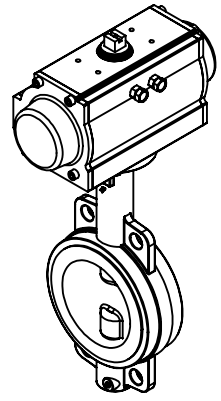
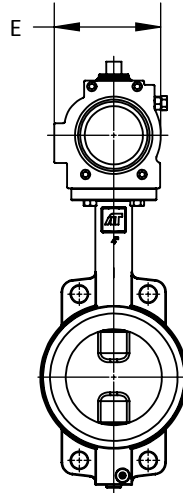
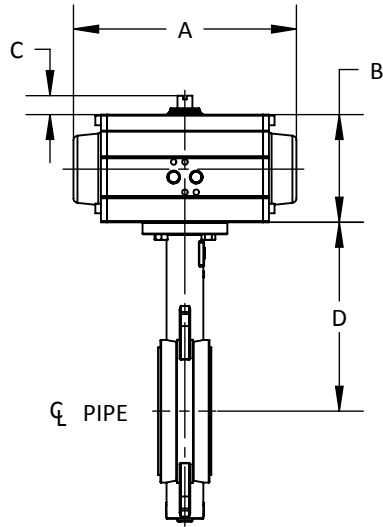


Mounting Pad Details



SIZE	A	B	C	D	E	F	F1	G	G1	H	J	K	L1	L2	M1	M2	WAFER	LUG	O	ISO5211
2"	6.38	3.13	1.75	0.67	0.496	0.38	N/A	2.756	N/A	0.354	3.54	4.75	5/8-11 UNC	0.75	4	4	6 LBS	9 LBS	2.00	F07
2-1/2"	6.88	3.50	1.88	0.67	0.496	0.38	N/A	2.756	N/A	0.354	3.54	5.50	5/8-11 UNC	0.75	4	4	7 LBS	13 LBS	2.50	F07
3"	7.13	3.75	1.88	0.67	0.496	0.38	N/A	2.756	N/A	0.354	3.54	6.00	5/8-11 UNC	0.75	4	4	10 LBS	14 LBS	3.10	F07
4"	7.88	4.75	2.13	0.67	0.620	0.38	N/A	2.756	N/A	0.433	3.54	7.50	5/8-11 UNC	0.75	8	4	13 LBS	19 LBS	4.10	F07
5"	8.38	5.00	2.25	0.71	0.745	0.38	N/A	2.756	N/A	0.551	3.54	8.50	3/4-10 UNC	0.88	8	4	18 LBS	22 LBS	4.85	F07
6"	8.88	5.50	2.25	0.71	0.745	0.38	0.44	2.756	4.015	0.551	4.92	9.50	3/4-10 UNC	0.88	8	4	21 LBS	31 LBS	6.12	F07/F10
8"	10.25	6.88	2.50	0.71	0.870	0.44	0.71	4.015	5.511	0.669	6.88	11.75	3/4-10 UNC	0.88	8	4	34 LBS	49 LBS	7.96	F10/F14
10"	11.50	8.00	2.75	1.02	1.120	0.44	0.71	4.015	5.511	0.748	6.88	14.25	7/8-9 UNC	1.00	12	4	45 LBS	72 LBS	9.86	F10/F14
12"	13.25	9.50	3.13	1.18	1.244	0.44	0.71	4.015	5.511	0.866	6.88	17.00	7/8-9 UNC	1.00	12	4	74 LBS	105 LBS	11.88	F10/F14

DIMENSION "C" REPRESENTS VALVE SEAT IN RELAXED CONDITION. APPROXIMATELY 1/8" OF TOTAL COMPRESSION IS REQUIRED FOR PROPER SEALING WITH PIPE FLANGES.

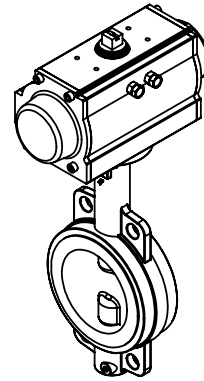
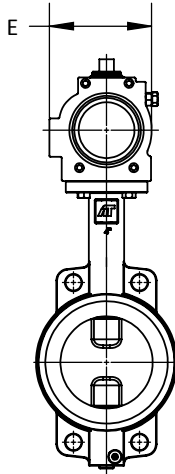
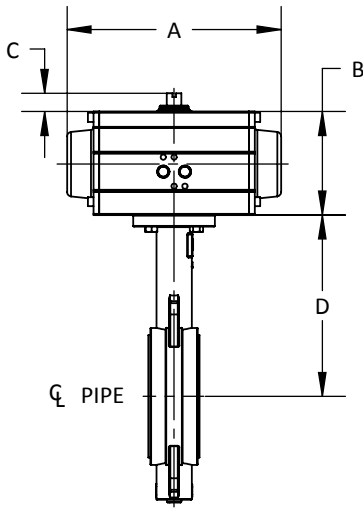


SELECT "WET" OR "DRY" MEDIUM APPLICATION AND THE CORRESPONDING PRESSURE DROP VALUE. THEN SELECT THE VALVE SIZE AND REFERENCE THE CORRECT ACTUATOR DIMENSION SET BELOW.

VALVE SIZE	WET			DRY		
	PRESSURE DROP					
	50	100	150	50	100	150
	ACTUATOR DIMENSION SET					
2"	1	1	1	1	1	1
2-1/2"	2	2	2	2	2	2
3"	3	3	3	14	14	14
4"	4	5	5	5	5	5
5"	6	6	6	15	15	15
6"	7	7	7	16	16	17
8"	8	9	9	9	18	18
10"	10	11	11	19	19	19
12"	12	12	13	13	13	13

DIMENSION SET	A	B	C	D	E	ACTUATOR
1	7.95	3.43	0.79	6.34	3.29	2R40DA
2	7.95	3.43	0.79	6.89	3.29	2R40DA
3	7.95	3.43	0.79	7.13	3.29	2R40DA
4	7.95	3.43	0.79	7.87	3.29	2R40DA
5	9.29	4.49	0.79	7.87	4.41	2R80DA
6	9.29	4.49	0.79	8.39	4.41	2R80DA
7	10.87	4.88	0.79	8.90	4.69	2R130DA
8	11.46	5.28	0.79	10.24	5.06	2R200DA
9	13.90	6.18	0.79	10.24	5.91	2R300DA
10	13.90	6.18	0.79	11.50	5.91	2R300DA
11	15.16	6.93	1.18	11.50	6.50	2R500DA
12	15.16	6.93	1.18	13.27	6.50	2R500DA
13	20.95	8.31	1.18	13.27	6.89	2R850DA
14	9.29	4.49	0.79	7.13	4.41	2R80DA
15	10.87	4.88	0.79	8.39	4.69	2R130DA
16	11.46	5.28	0.79	8.90	5.06	2R200DA
17	13.90	6.18	0.79	8.90	5.91	2R300DA
18	15.16	6.93	1.18	10.24	6.50	2R500DA
19	20.95	8.31	1.18	11.50	6.89	2R850DA

CONSULT FACTORY FOR ACTUATOR SIZING ON VALVES LARGER THAN 12"

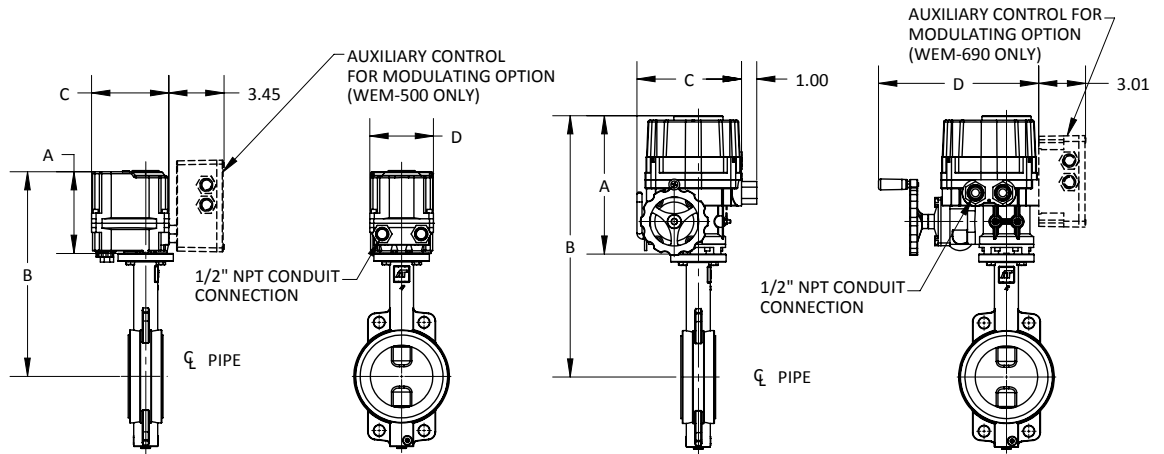


SELECT "WET" OR "DRY" MEDIUM APPLICATION AND THE CORRESPONDING PRESSURE DROP VALUE. THEN SELECT THE VALVE SIZE AND REFERENCE THE CORRECT ACTUATOR DIMENSION SET BELOW.

VALVE SIZE	WET			DRY		
	PRESSURE DROP					
	50	100	150	50	100	150
ACTUATOR DIMENSION SET						
2"	1	1	1	1	1	1
2-1/2"	2	2	2	2	2	13
3"	3	3	3	14	15	15
4"	4	4	4	16	16	16
5"	5	5	5	5	5	5
6"	6	6	6	17	17	18
8"	7	7	8	19	19	19
10"	9	10	10	20	CF	CF
12"	11	12	12	CF	CF	CF

DIMENSION SET	A	B	C	D	E	ACTUATOR
1	9.29	4.49	0.79	6.34	4.41	2R80SR
2	9.29	4.49	0.79	6.89	4.41	2R80SR
3	9.29	4.49	0.79	7.13	4.41	2R80SR
4	10.87	4.88	0.79	7.87	4.69	2R130SR
5	13.90	6.18	0.79	8.39	5.91	2R300SR
6	13.90	6.18	0.79	8.90	5.91	2R300SR
7	15.16	6.93	1.18	10.24	6.50	2R500SR
8	20.95	8.31	1.18	10.24	6.89	2R850SR
9	20.95	8.31	1.18	11.50	6.89	2R850SR
10	22.68	9.17	1.18	11.50	7.60	2R1200SR
11	22.68	9.17	1.18	13.27	7.60	2R1200SR
12	24.37	10.12	1.18	13.27	8.31	2R1750SR
13	10.87	4.88	0.79	6.89	4.69	2R130SR
14	10.87	4.88	0.79	7.13	4.69	2R130SR
15	11.46	5.28	0.79	7.13	5.06	2R200SR
16	13.90	6.18	0.79	7.87	5.91	2R300SR
17	15.16	6.93	1.18	8.90	6.50	2R500SR
18	20.95	8.31	1.18	8.90	6.89	2R850SR
19	22.68	9.17	1.18	10.24	7.60	2R1200SR
20	24.37	10.12	1.18	11.50	8.31	2R1750SR

CONSULT FACTORY FOR ACTUATOR SIZING ON VALVES LARGER THAN 12"



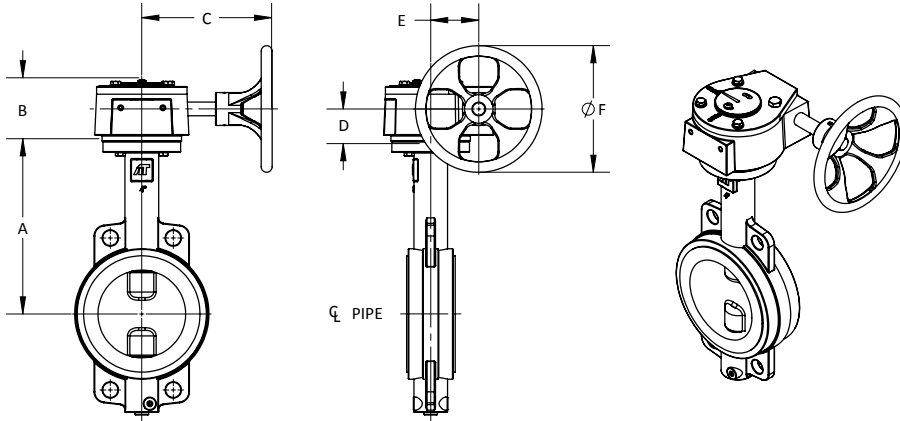
SELECT "WET" OR "DRY" MEDIUM APPLICATION AND THE CORRESPONDING PRESSURE DROP VALUE. THEN SELECT THE VALVE SIZE AND REFERENCE THE CORRECT ACTUATOR DIMENSION SET BELOW.

VALVE SIZE	WET			DRY		
	PRESSURE DROP					
	50	100	150	50	100	150
	ACTUATOR DIMENSION SET					
2"	1	1	1	1	1	1
2-1/2"	2	2	2	2	2	2
3"	3	3	3	3	3	3
4"	4	4	4	12	12	12
5"	6	6	6	13	13	13
6"	7	7	7	7	7	14
8"	8	9	9	15	15	15
10"	10	10	10	16	16	16
12"	11	11	11	17	18	18

DIMENSION SET	A	B	C	D	ACTUATOR
1	5.24	11.57	4.98	4.15	WE-500
2	5.24	12.12	4.98	4.15	WE-500
3	5.24	12.36	4.98	4.15	WE-500
4	5.24	13.11	4.98	4.15	WE-500
5	5.24	13.62	4.98	4.15	WE-500
6	8.66	17.04	6.69	10.16	WE-690
7	10.24	19.13	9.02	13.31	WE-1350
8	10.24	20.47	9.02	13.31	WE-1350
9	10.24	20.47	9.02	13.31	WE-1700
10	11.42	22.91	10.20	14.49	WE-2640
11	11.42	24.68	10.20	14.49	WE-4400
12	8.66	16.53	6.69	10.16	WE-690
13	10.24	18.62	9.02	13.31	WE-1350
14	10.24	19.13	9.02	13.31	WE-1700
15	11.42	21.65	10.20	14.49	WE-2640
16	11.42	22.91	10.20	14.49	WE-4400
17	11.42	24.68	10.20	14.49	WE-5200
18	12.40	25.66	11.69	16.14	WE-6900

CONSULT FACTORY FOR ACTUATOR SIZING ON VALVES LARGER THAN 12"

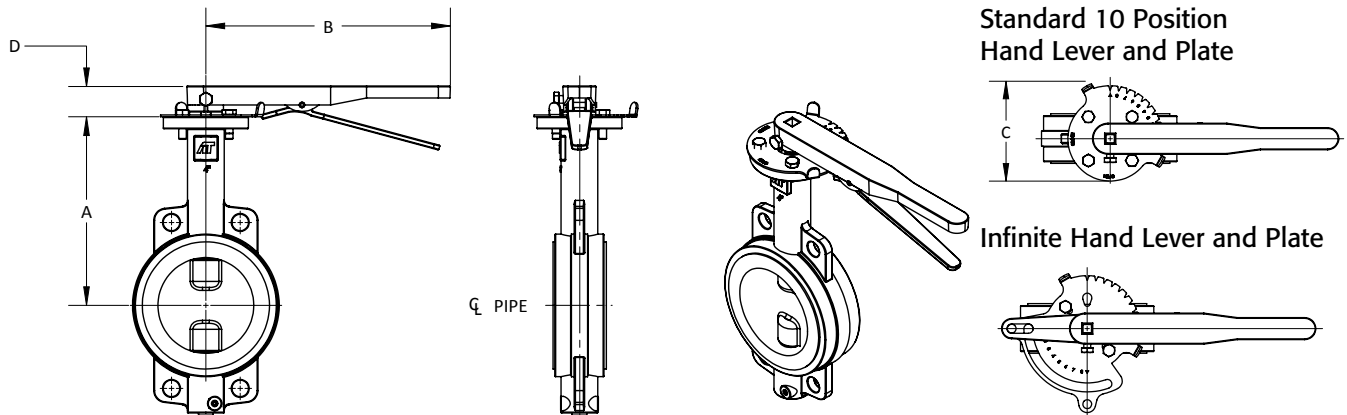
Gear Operator



SIZE	A	B	C	D	E	F
2"	6.38	2.79	6.00	1.48	1.77	5.87
2-1/2"	6.88	2.79	6.00	1.48	1.77	5.87
3"	7.13	2.79	6.00	1.48	1.77	5.87
4"	7.88	2.79	6.00	1.48	1.77	5.87
5"	8.38	2.79	6.00	1.48	1.77	5.87
6"	8.88	2.79	6.00	1.48	1.77	5.87
8"	10.25	3.30	8.75	1.57	2.60	11.62
10"	11.50	3.30	8.75	1.57	2.60	11.62
12"	13.25	3.30	8.75	1.57	3.01	11.62

CONSULT FACTORY FOR GEAR ACTUATOR SIZING ON VALVES LARGER THAN 12"

Hand Lever



SIZE	A	B	C	D
2"	6.38	10.51	4.45	1.18
2-1/2"	6.88	10.51	4.45	1.18
3"	7.13	10.51	4.45	1.18
4"	7.88	10.51	4.45	1.18
5"	8.38	10.51	4.45	1.18
6"	8.88	10.51	4.45	1.18
8"	10.25	14.13	6.63	1.32
10"	11.50	14.13	6.63	1.32
12"	13.25	20.75	6.63	1.44



1 Valve Series	
OC	A-T BFV DD Stem
OS	A-T BFV Square Stem (standard)

2 Body Material	
blank (No Designation)= Stainless Steel Body	
I	Cast Iron
B	Ductile Iron (standard)

3 End Connection	
L1	125/150# Lug
W1	125/150# Wafer with Guide Holes
W2	125/150# Wafer (no Guide Holes)

4 Valve Size			
0200	2"	1000	10"
0250	2-1/2"	1200	12"
0300	3"	1400	14"
0400	4"	1600	16"
0500	5"	1800	18"
0600	6"	2000	20"
0800	8"	2400	24"
(larger sizes available)			

5 Seat Material/Style	
B	Buna
E	EPDM
F	Food Grade EPDM
H	High Temp EPDM
P	PTFE
V	Viton®

6 Disc Material/Style	
S	316 SST
B	Aluminum Bronze
N	Nylon Coated Ductile Iron
Z	Undercut 316
U	Undercut Aluminum Bronze
T	PTFE Coated 316 SST
D	Ductile Iron (Nickel Plated)
P	PTFE Coated Ductile Iron

7 Stem Bushing	
R	Teflon®
B	Bronze (standard)

8 Operator Designation	
X	Bare Stem
H	Standard 10 point Handle
I	Infinite adjustment Handle
G	Gear Operator

9 Stem	
blank	(No Designation) = 316 SST Stem
E	416 SST Stem (standard)

10 Additional Specials	
D	End of Service

How to Order Manual Butterfly Valves													
1	2	-	3	-	4	-	5	6	7	-	8	9	10
↓↓			↓		↓		↓↓↓				↓↓↓		↓
OSB			W1		0200		E	D	B		X		E

How to Order Automated Butterfly Valves													
1	2	-	3	-	4	-	5	6	7	-	8	9	/ actuator size - options
↓↓			↓		↓		↓↓↓				↓↓		↓
OSB			W1		0200		E	D	B		X	E	/ 2R3S - XX
(see Actuator Size Legend)													

Pneumatic Accessories



Stainless Steel Actuators



Solenoids, Positioners, Limit Switches, Lock Up Valves, Declutchable Gear Operators, Speed Controls, Quick Exhaust Valves and more

Electric Actuator Options & Features



Explosion Proof

Options Specification

- Voltage Options: 110VAC, 220 VAC, 24 VDC/VAC, 12 VDC, 440 VAC, 460 VAC, 480 VAC
- Potentiometer unit (1K)
- (TMC) Electronic Modulating Card
- 4-20mA, 1-5mA, 0-10 VDC, 1-5 VDC, 0-135 Ohm Command Signal
- Current position transmitter (Output 4~20mA DC)
- Multi (24 VAC/DC)
- DC motor (24 VDC)
- Local control unit: remote/local/stop and open/close



TMC3 Electronic Modulating Card

- Auto Calibration for easy setup
- 10 Bit Microprocessor controller for precise positioning and control
- 4-20mA, 1-5mA, 0-10 VDC, 1-5 VDC, 0-135 Ohm or Command Signal Potentiometer
- TMC3 Can be programmed to Fail in Place, Fail CW, or Fail CCW on loss of command signal
- Characterized Control-Linear, quick opening (Square root), or Equal Percentage (Square)
- OnBoard 4-20 mA transmitter (optional)
- AS-i Network Card
- Boiler Feedwater Application



Manual and Automated Resilient Seated Butterfly Valves

ASSEMBLED IN USA (Through 12")



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