

CLOW BUTTERFLY VALVES

CLOW VALVE COMPANY

**CLOW AWWA Butterfly Valves
Meet or Exceed the Requirements
of AWWA C504**

Size Range	4"—48"
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Size Range	Water Working Pressure psi	Bubble Tight Test psi	Hydrostatic Test psi
4"—12"	150	150	300
14"—48"	150	150	300

Available End Connections & Size Range

Model No.

Flange	3"—24"	4500
Flange	30"—48"	1450
Wafer	4"—20"	4500
M.J.	4"—24"	4500
M.J.	30"—48"	1450
Flange & M.J.	6"—8"—12"—16"	4500

Accessories (Illustrated in the gate valve section)

Floorstands	Chainwheels
Extension Stems	2" Operating Nuts
Stem Guides	Handwheels
Traveling Nut & Screw Actuator	"T" Handles
*Worm Gear Actuators	Floor Boxes
Hand Lever Actuators	*Limit Switches
*Electric Motor Actuators	
*Cylinder Actuators	

Valve Size Minimum Allowable Mating Pipe or Adapter Inside Diameter

	4"	3- ³ / ₈ "
	6"	5- ¹¹ / ₁₆ "
	8"	7- ³ / ₄ "
	10"	9- ⁷ / ₁₆ "
	12"	11- ⁹ / ₁₆ "
	14"	12- ⁷ / ₈ "
	16"	14- ¹³ / ₁₆ "
	18"	16- ¹³ / ₁₆ "
	20"	18- ¹⁵ / ₁₆ "
	24"	22- ⁷ / ₈ "
	30"	26- ¹ / ₂ "
	36"	33- ¹ / ₈ "
	42"	39- ¹ / ₈ "
	48"	44- ³ / ₈ "

*Note: Call Factory for Special Applications

CLOW BUTTERFLY VALVE UNDERGROUND APPLICATIONS

CLOW VALVE COMPANY

CLOW AWWA C504 Butterfly Valves

- For Underground Applications
- Now, with CLOW Butterfly Valves you gain new valve reliability, plus economy
- 4500—4"—24"
- NSF Approved

The CLOW Butterfly valve is rugged and dependable; it will work easily any time you need it. Because of this ruggedness and reliability—plus positive, 100% shut-off—you achieve a more efficient, trouble-free distribution system.

No More Damaged Stems. Since the CLOW Butterfly Valve does not "freeze" shut or stick, it is always readily operable. Should inexperienced workmen attempt to overtighten it, the tough 450 pounds torque rating of the operator at ends of travel protects stem and operating parts against damage. This torque rating is unparalleled in standard valves for this application. When it is considered that conventional water-main valves have torque limitations as low as 150 foot pounds, the margin of safety provided by this exclusive CLOW design is an important factor in long, trouble-free valve life.

Bottle-Tight Seal. With the CLOW Butterfly Valve, you get positive 100% shut-off. Rubber vane-seat and stainless steel valve-seat construction provides a permanent uninterrupted 360-degree bottle-tight closure.

Water Sealed Out. Underground operator and end cover are permanently sealed against ground-water infiltration.

Working Parts Corrosion-Free. All critical bearing and sealing surfaces are stainless steel, Teflon® or rubber—assures easy and efficient valve operation, permanently.

Low Initial Cost. The CLOW Butterfly Valve has standardized components which offer you lowest initial cost and off-the-shelf availability. Expensive accessories are not required. No by-passes, special gearing, etc.

Easy Installation. The CLOW Butterfly Valves are compact, light-weight, easy to install. Installation costs are kept to a minimum.

Maintenance-Free. Permanently lubricated—no packing adjustment, no periodic exercising, no stem replacement of the CLOW Valve is required. The closing action of the vane is self-cleaning and there are no pockets in which sediment or sludge formations can deposit, resulting in longer lifetime service.

*DuPont registered trade name.

Available in class 250

CLOW 4500 AWWA Butterfly Valves C504

- For In-Plant Applications
- Engineered for long and trouble-free operation
- Eliminates expensive and time-consuming shutdowns

Name your criteria for in-plant valve evaluation... performance, economy, maintenance, reliability, versatility. The CLOW 4500 Butterfly Valve is Number One in every category.

This is a rugged valve, able to handle severe operating conditions and assure bottle-tight shut-off. It eliminates many nagging, frustrating problems of other valves.

For in-plant applications, the CLOW valve offers the many advantages of the underground model—ruggedness, shaft strength, bottle-tight seal, corrosion-free critical parts, freedom from excessive maintenance. In addition, you obtain...

Low Cost Installation. CLOW Butterfly Valves are compact, lightweight, easy to install. Installation costs are kept to a minimum.

Efficient Throttling. CLOW Butterfly Valves provide a highly effective method of throttling and control. The vane is held solidly, without chatter, in any desired control position.

Wide Selection of Operator and Pipe Connections. The cylinder, crank, hand-wheel, square nut, electric motor and hand-lever operators are available on all pipe-end

connections, in sizes four inches and larger. The hand-lever model has several latched vane positions from full-open to full-closed.

Interchangeable Parts and Operators.

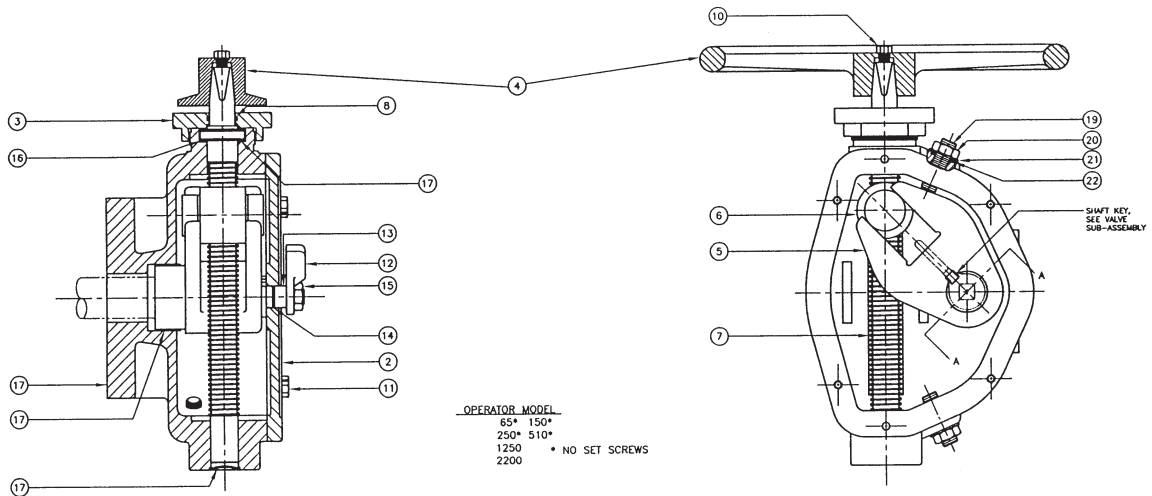
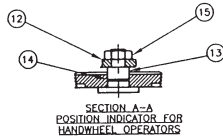
For Style 4500 Butterfly Valve, all component parts are 100% interchangeable between valves of the same size. If necessary operators can be interchanged in the plant, shop or warehouse. For example, if you should wish to change from a crank operator to a cylinder operator, you loosen two bolts, slide the crank operator from the drive shaft, replace with the cylinder operator—tighten bolts in accordance with factory instruction sheet. This exclusive interchangeability substantially reduces inventories and related costs.

Choice of Valve Types. Wafer and Flanged-end butterfly valves are ideal for in-plant applications.

Accessories. Floor stands, extension stems, chain wheels, solenoid valves, speed control valves, valve positioners, limit switches, etc., electric motor operators are available.

SUB-ASSEMBLY MANUAL OPERATOR

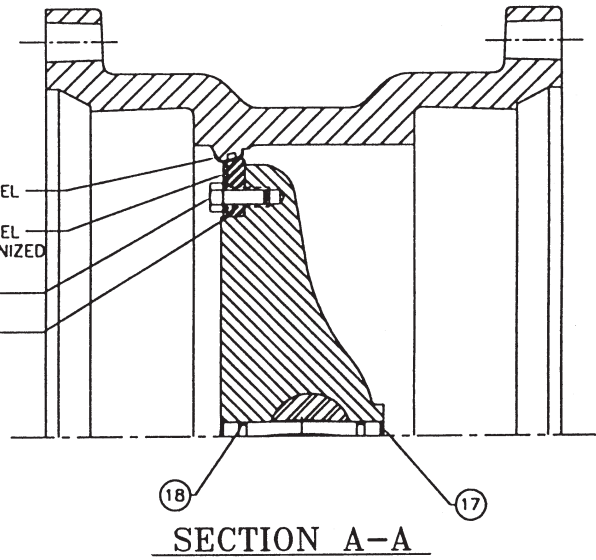
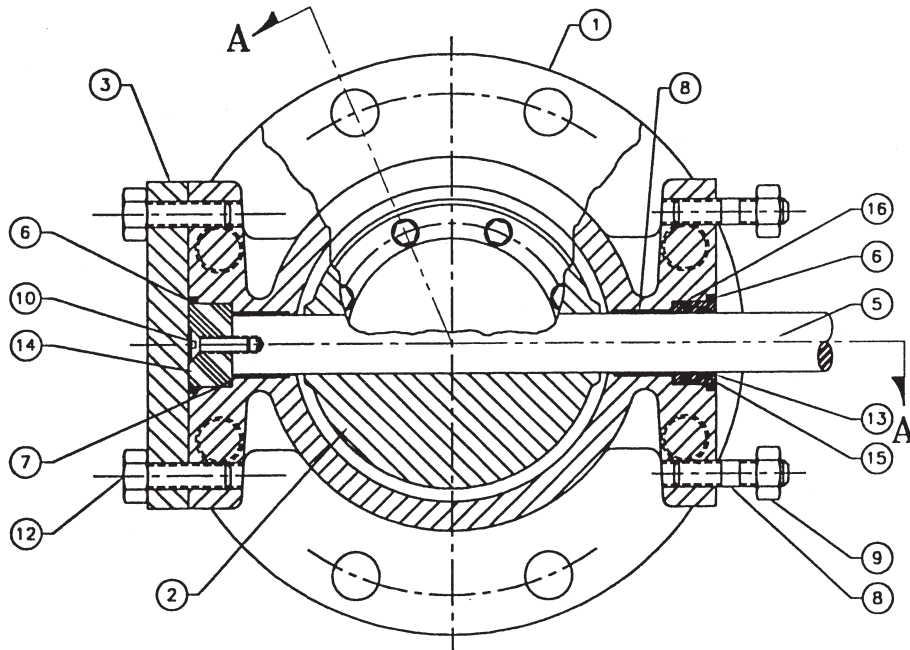
CLOW VALVE COMPANY



ITEM NO.	DESCRIPTION	MATERIAL
1	HOUSING OPERATOR	CAST IRON, A-126, CL. B
2	COVER, HOUSING	CAST IRON, A-126, CL. B
3	CAP, THRUST	CAST IRON, A-126, CL. B
4	AS REQUIRED	CAST IRON, A-126, CL. B
5	LEVER	DUCTILE IRON, A-536, GR. 80-45-06
6	CROSSHEAD	DUCTILE IRON, A-536, GR. 65-55-12
7	SHAFT, INPUT	C.D. STEEL, 12L14
8	SEAL (HOUSING)	BUNA "N"
9	SEAL (CAP)	BUNA "N"
10	GASKET, COVER	CORK-NEOPRENE
11	SHIELD, SHAFT	REINFORCED TEFLON
12	PLUG, EXPANSION	BRASS, COMM.
13	BOLT, HEX HD (AWWA NUT)	STEEL, COMM.
14	BOLT, HEX HD (COVER)	STEEL, COMM.
15	SLEEVE, CROSSHEAD	ALLOY IRON
16	RING, RETAINING	SPRING STEEL
17	INDICATOR	CAST IRON, A-126 CL. B
18	PIN, INDICATOR	STEEL, COMM.
19	SEAL, INDICATOR PIN	BUNA "N"
20	NUT, HEX	STEEL, COMM.
21	BEARING, NEEDLE	STEEL, COMM.
22	RACE, THRUST	HARDENED STEEL
23	SPACER	HARDENED STEEL
24	WASHER, THRUST	HARDENED STEEL
25	PIN, INPUT SHAFT	STEEL, COMM.
26	BUSHING	REINFORCED TEFLON

SUB-ASSEMBLY 4"-12" BFV
 ROUND SHAFT STYLE 4500
 MECHANICAL JOINT ENDS

CLOW VALVE COMPANY



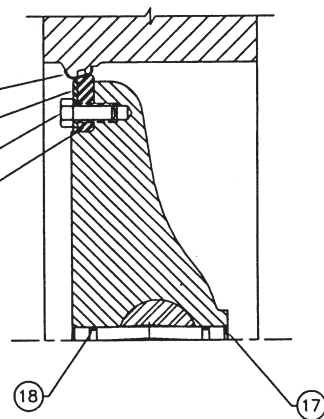
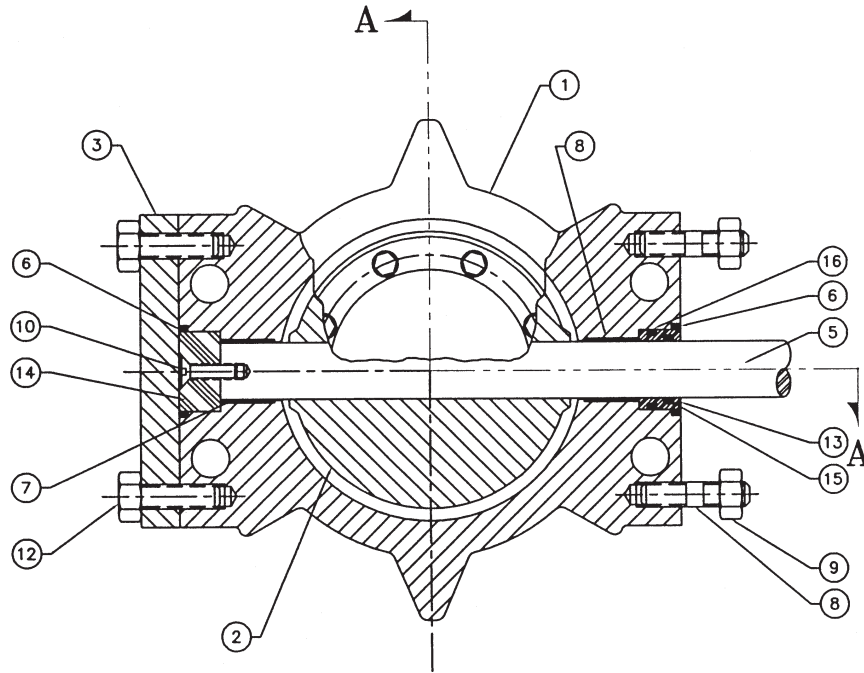
ITEM NO.	DESCRIPTION	MATERIAL
1	BODY, VALVE	C.I., A-126 CL.B W/304 ST. STEEL SEAT
2	VANE	CAST IRON, A-48 CL.40
3	COVER, END	CAST IRON, A-126 CL.B
4	SEAT RING, VANE	EPDM RUBBER W/ INSERT
5	SHAFT	304 ST. STEEL ASTM A-276
6	O-RING, SHAFT	EPDM (USED W/ 8", 10" & 12" ONLY)
7	O-RING, BODY	EPDM
8	BEARING, BODY	EPOXY FIBERGLASS W/ TEFLON LINER
9	STUD	STEEL, ASTM A-307 EL.ZINC PLD.
10	NUT, HVY, HEX	STEEL, ASTM A-563 GR-A EL.ZINC PLD.
11	FLAT H'D HEX SOCK, SCR.	18-8 ST. STEEL.
12	CAPSCREW, HEX.	18-8 ST. STEEL W/ NYLOK INSERT
13	CAPSCREW, HEX.	STEEL, ASTM A-307 EL.ZINC PLD.
14	CARTRIDGE SEAL	UHMW (POLYETHYLENE)
15	THRUST DISK	ACETEL
16	GROOVED PIN	393 ST. STEEL
17	O-RING, CARTRIDGE INSIDE	BUNA-N
18	O-RING, CARTRIDGE OUTSIDE	BUNA-N
19	O-RING, GROOVED PIN	BUNA-N

304 STAINLESS STEEL
 BODY SEAT
 304 STAINLESS STEEL
 CLAMP RING VULCANIZED
 TO SEAT

SECTION A-A

SUB-ASSEMBLY 4"-12" BFV
 ROUND SHAFT STYLE 4500
 WAFER STYLE

CLOW VALVE COMPANY

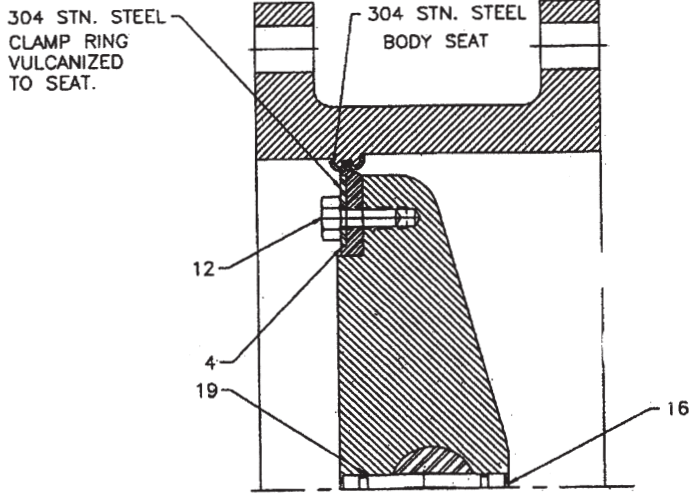
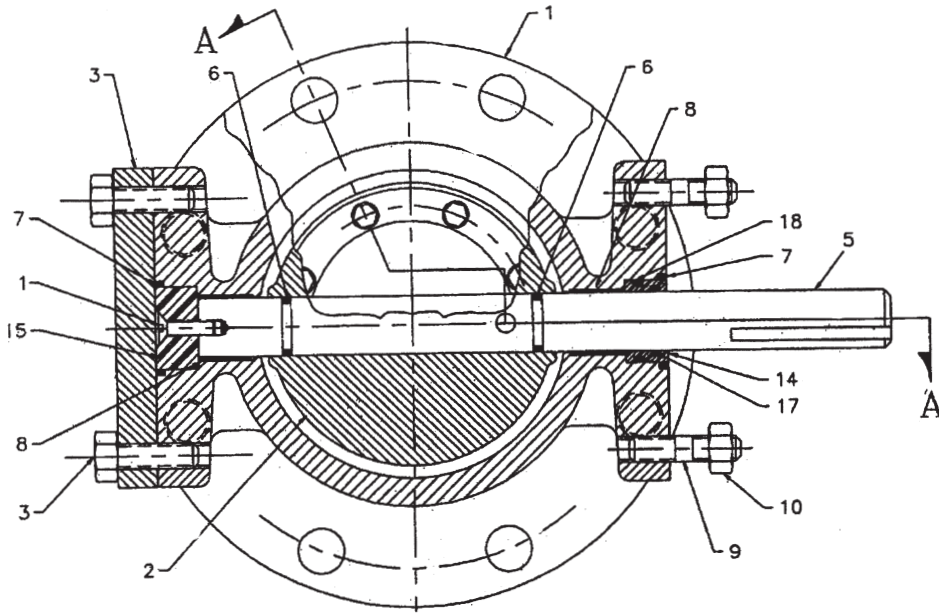


304 STAINLESS STEEL
 BODY SEAT
 304 STAINLESS STEEL
 CLAMP RING VULCANIZED
 TO SEAT

SECTION A-A

ITEM NO.	DESCRIPTION	MATERIAL
1	BODY, VALVE	C.I., A-126 CL.B W/304 ST. STEEL SEAT
2	VANE	CAST IRON, A-48 CL.40
3	COVER, END	CAST IRON, A-126 CL.B
4	SEAT RING, VANE	EPDM RUBBER W/ INSERT
5	SHAFT	304 ST. STEEL ASTM A-276
6	O-RING, SHAFT	EPDM (USED W/ 8", 10" & 12" ONLY)
7	O-RING, BODY	EPDM
8	BEARING, BODY	EPOXY FIBERGLASS W/ TEFLON LINER
9	STUD	STEEL, ASTM A-307 EL.ZINC PLD.
10	NUT, HVY, HEX	STEEL, ASTM A-563 GR-A EL.ZINC PLD.
11	FLAT H'D HEX SOCK, SCR.	18-8 ST. STEEL.
12	CAPSCREW, HEX.	18-8 ST. STEEL W/ NYLOK INSERT
13	CAPSCREW, HEX.	STEEL, ASTM A-307 EL.ZINC PLD.
14	CARTRIDGE SEAL	UHMW (POLYETHYLENE)
15	THRUST DISK	ACETEL
16	GROOVED PIN	393 ST. STEEL
17	O-RING, CARTRIDGE INSIDE	BUNA-N
18	O-RING, CARTRIDGE OUTSIDE	BUNA-N
19	O-RING, GROOVED PIN	BUNA-N

**SUB-ASSEMBLY 4"-12" BFV
ROUND SHAFT STYLE 4500
FLANGED ENDS
CLOW VALVE COMPANY**

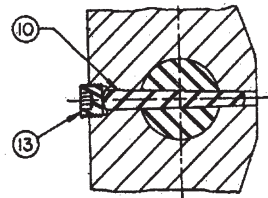
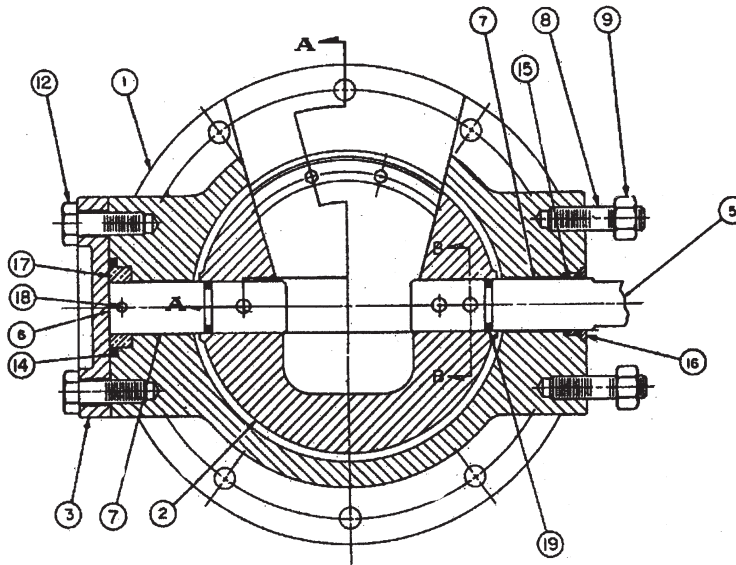


SECTION A-A

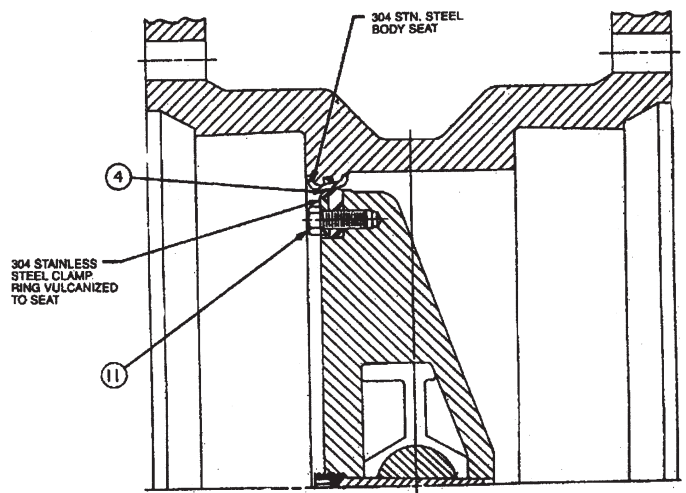
ITEM NO.	DESCRIPTION	MATERIAL
1	BODY, VALVE	C.I., A-126 CL.B W/304 ST. STEEL SEAT
2	VANE	CAST IRON, A-48 CL.40
3	COVER, END	CAST IRON, A-126 CL.B
4	SEAT RING, VANE	EPDM RUBBER W/ INSERT
5	SHAFT	304 ST. STEEL ASTM A-276
6	O-RING, SHAFT	EPDM (USED W/ 8", 10" & 12" ONLY)
7	O-RING, BODY	EPDM
8	BEARING, BODY	EPOXY FIBERGLASS W/ TEFLON LINER
9	STUD	STEEL, ASTM A-307 EL.ZINC PLD.
10	NUT, HVY. HEX	STEEL, ASTM A-563 GR-A EL.ZINC PLD.
11	FLAT H'D HEX SOCK, SCR.	18-8 ST. STEEL.
12	CAPSCREW, HEX.	18-8 ST. STEEL W/ NYLOK INSERT
13	CAPSCREW, HEX.	STEEL, ASTM A-307 EL.ZINC PLD.
14	CARTRIDGE SEAL	UHMW (POLYETHYLENE)
15	THRUST DISK	ACETEL
16	GROOVED PIN	393 ST. STEEL
17	O-RING, CARTRIDGE INSIDE	BUNA-N
18	O-RING, CARTRIDGE OUTSIDE	BUNA-N
19	O-RING, GROOVED PIN	BUNA-N

14"-24" STYLE 4500 SUB-ASSEMBLY-BFV
(ROUND SHAFT) MECHANICAL JOINT

CLOW VALVE COMPANY



SECTION B-B

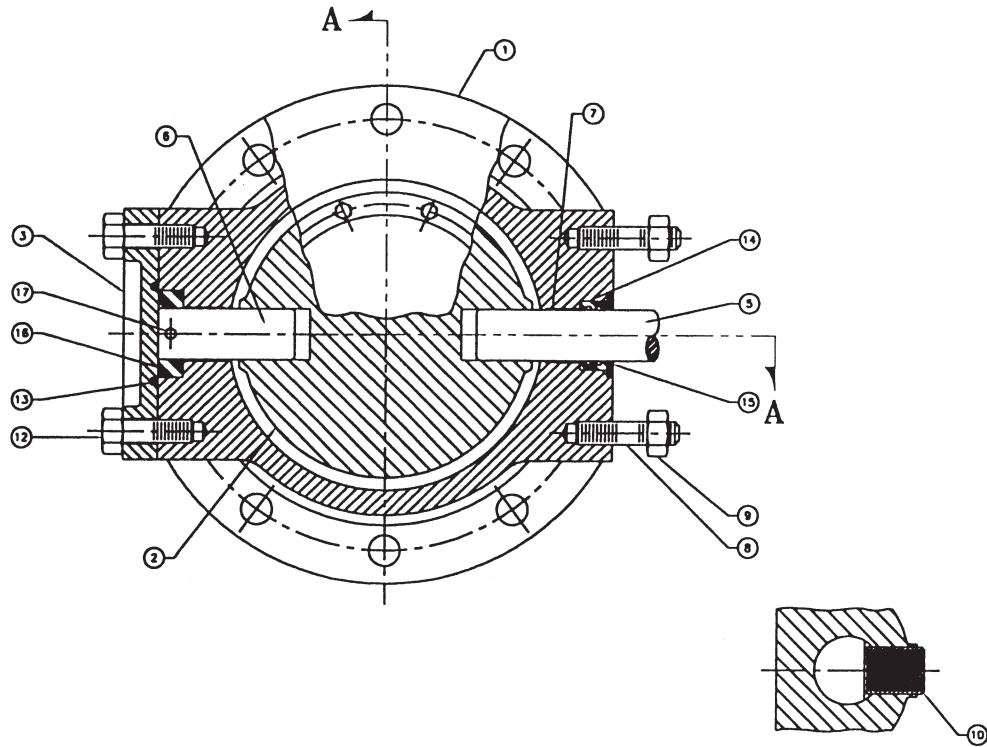


SECTION A-A

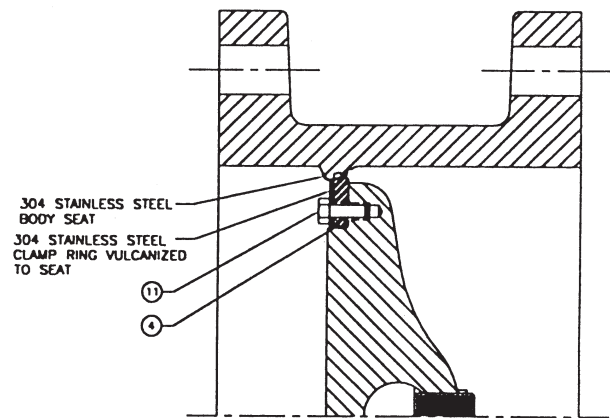
ITEM NO.	DESCRIPTION	MATERIAL
1	BODY, VALVE	CAST IRON, A-126, CL. B W/304 STN. STL. SEAT
2	VANE	CAST IRON, A-48, CL. 40
3	COVER, END	CAST IRON, A-126, CL. B
4	SEAT RING, VANE	EPDM W/304 STN. STL. INSERT
5	SHAFT, OPERATOR	A-276 TYPE 304 COLD FINISH CENTERLESS GROUND
6	SHAFT, THRUST	A-276 TYPE 304 COLD FINISH CENTERLESS GROUND
7	BUSHING	REINFORCED TEFLON
8	STUD	STEEL, ASTM A-307 ELECTRO ZINC PLATED
9	NUT, HEX	STEEL, ASTM A-563 ELECTRO ZINC PLATED
10	TAPER PIN	316 STN. ST.
11	CAPSCREW, HEX	18-8 STN. ST. W/ NYLOK INSERT
12	BOLT, HEX HEAD	STEEL, ASTM A-307 ELECTRO ZINC PLATED
13	PLUG, PIPE	MALLEABLE IRON
14	GASKET, END COVER	EPDM
15	SHAFT SEAL	EPDM
16	SEAL RING	STEEL C-1018
17	THRUST COLLAR	BEARING BRONZE ASTM B144 ALLOY 3B
18	ROLL PIN	STN. STEEL, A.I.S.I. 420
19	"O" -RING	BUNA "N"

14"-24" SUB-ASSEMBLY-BFV
(ROUND SHAFT) FLANGED END

CLOW VALVE COMPANY



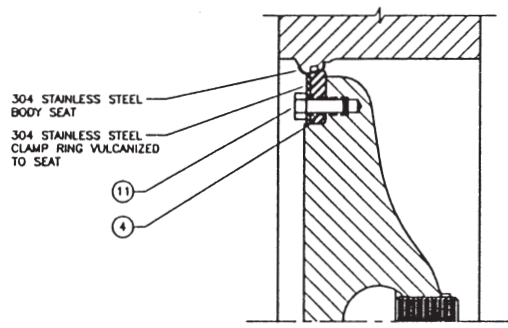
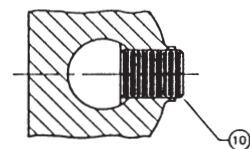
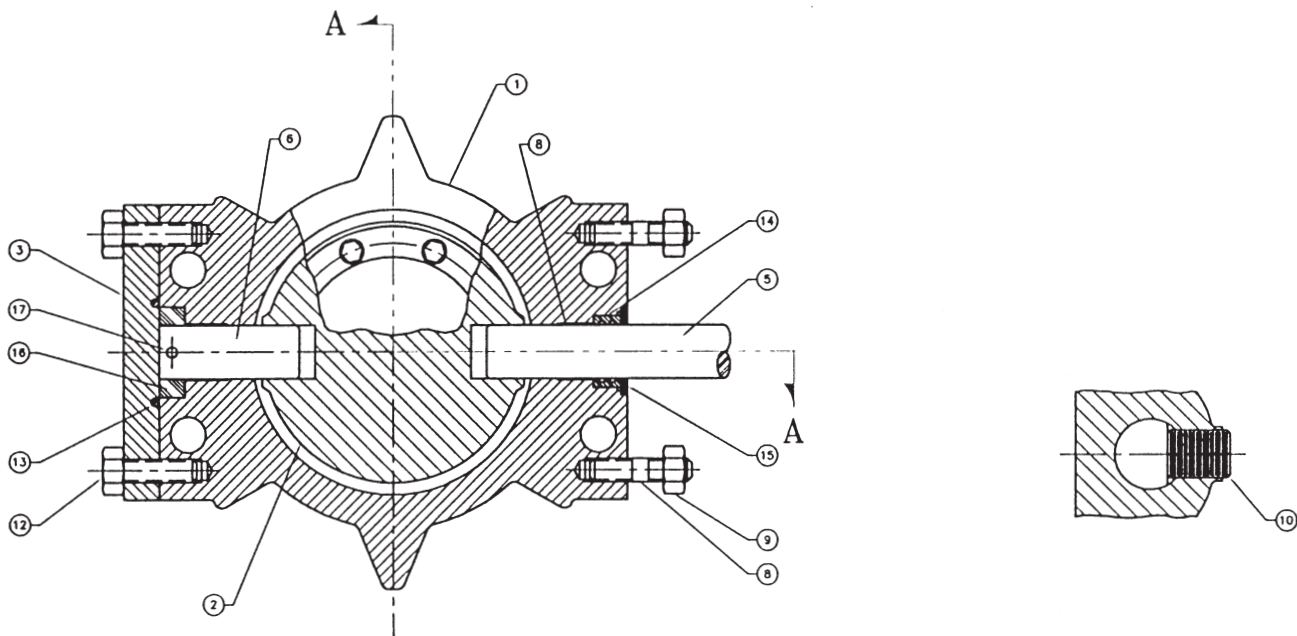
ITEM NO.	DESCRIPTION	MATERIAL
1	BODY, VALVE	CAST IRON, A-126, CL. B W/304 STN. STL. SEAT
2	VANE	CAST IRON, A-48, CL. 40
3	COVER, END	CAST IRON, A-126, CL. B
4	SEAT RING, VANE	EPDM W/304 STN. STL. INSERT
5	SHAFT, OPERATOR	A-276 TYPE 304 COLD FINISH CENTERLESS GROUND
6	SHAFT, THRUST	A-276 TYPE 304 COLD FINISH CENTERLESS GROUND
7	BUSHING	REINFORCED TEFLON
8	STUD	STEEL, ASTM A-307 ELECTRO ZINC PLATED
9	NUT, HEX	STEEL, ASTM A-563 ELECTRO ZINC PLATED
10	TAPER PIN	316 STN. ST.
11	CAPSCREW, HEX	18-8 STN. ST. W/ NYLOK INSERT
12	BOLT, HEX HEAD	STEEL, ASTM A-307 ELECTRO ZINC PLATED
13	PLUG, PIPE	MALLEABLE IRON
14	GASKET, END COVER	EPDM
15	SHAFT SEAL	EPDM
16	SEAL RING	STEEL C-1018
17	THRUST COLLAR	BEARING BRONZE ASTM B144 ALLOY 3B
18	ROLL PIN	STN. STEEL, A.I.S.I. 420
19	"O" -RING	BUNA "N"



SECTION A-A

14"-20" SUB-ASSEMBLY-BFV
(ROUND SHAFT) W/ WAFER END

CLOW VALVE COMPANY

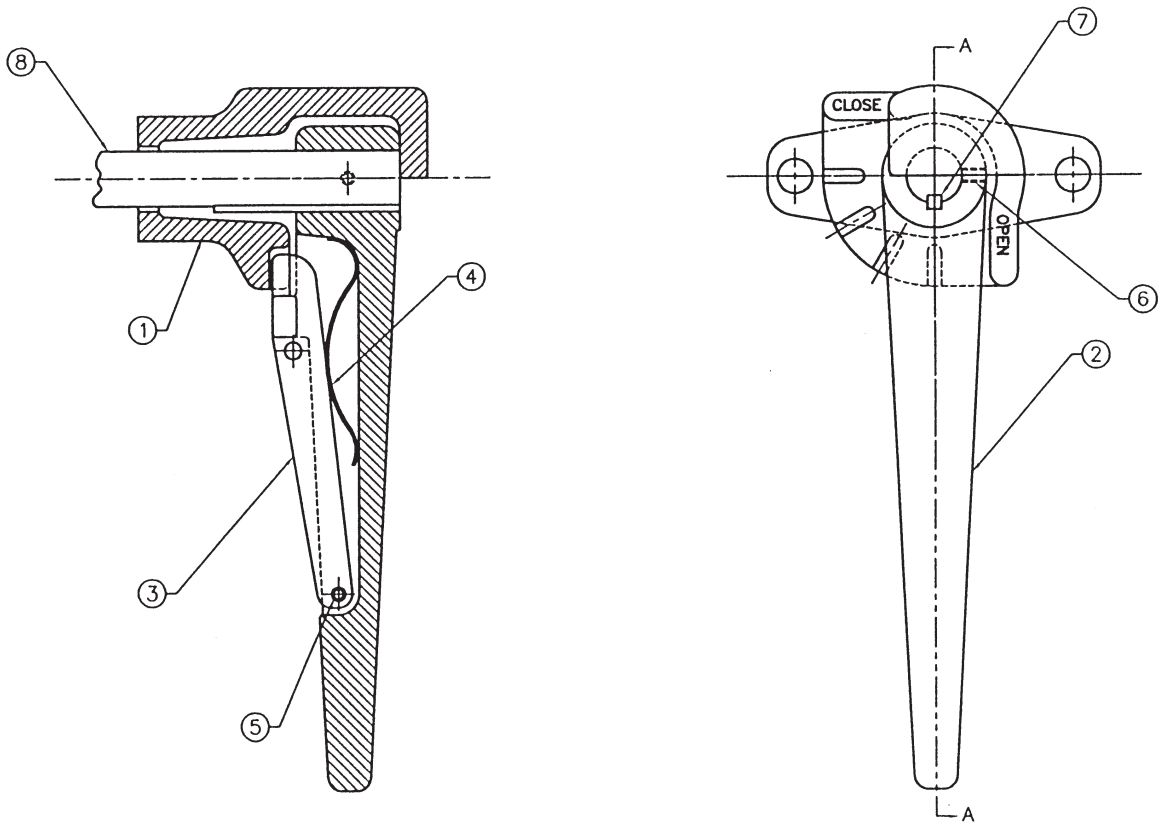


SECTION A-A

ITEM NO.	DESCRIPTION	MATERIAL
1	BODY, VALVE	CAST IRON, A-126, CL. B W/ 304 STN. STL. SEAT
2	VANE	CAST IRON, A-48, CL. 40
3	COVER, END	CAST IRON, A-126, CL. B
4	SEAT RING, VANE	EPDM W/ 304 STN. STL. INSERT
5	SHAFT, OPERATOR	A-276 TYPE 304 COLD FINISH CENTERLESS GROUND
6	SHAFT, THRUST	A-276 TYPE 304 COLD FINISH CENTERLESS GROUND
7	BUSHING	REINFORCED TEFLON
8	STUD	STEEL, ASTM A-307 ELECTRO ZINC PLATED
9	NUT, HEX	STEEL, ASTM A-563 ELECTRO ZINC PLATED
10	TAPER PIN	316 STN. ST.
11	CAPSCREW, HEX	18-8 STN. ST. W/ NYLOK INSERT
12	BOLT, HEX HEAD	STEEL, ASTM A-307 ELECTRO ZINC PLATED
13	PLUG, PIPE	MALLEABLE IRON
14	GASKET, END COVER	EPDM
15	SHAFT SEAL	EPDM
16	SEAL RING	STEEL C-1018
17	THRUST COLLAR	BEARING BRONZE ASTM B144 ALLOY 3B
18	ROLL PIN	STN. STEEL, A.I.S.I. 420
19	"O"-RING	BUNA "N"

SUB-ASSEMBLY-HAND LEVER OPERATOR

CLOW VALVE COMPANY

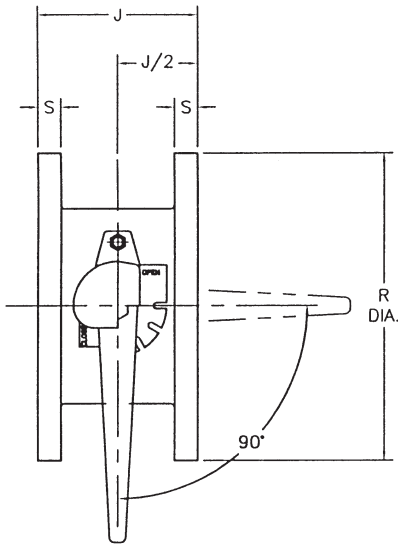


ITEM NO.	DESCRIPTION	MATERIAL
1	BRACKET	CAST IRON, A-126, CL. B
2	LEVER	CAST IRON, A-126, CL. B
3	LATCH	CAST IRON, A-126, CL. B
4	SPRING	SPRING STEEL, CADMIUM PLATED
5	SPRING, PIN	STEEL, CADMIUM PLATED
6	PLATE, IDENTIFICATION	ALUMINUM
7	SCREW, SOCKET SET	ALLOY STEEL

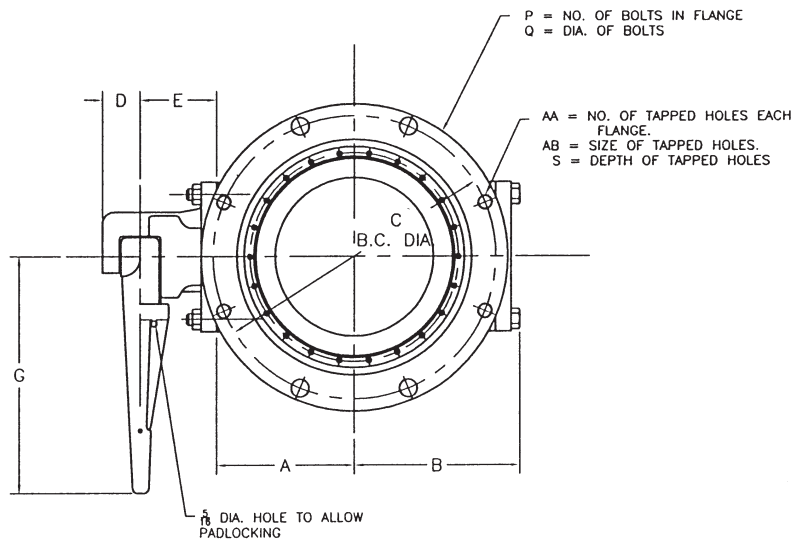
ASSEMBLY-STYLE 4500 SERIES FLANGED BUTTERFLY VALVE W/LEVER OPERATOR

CLOW VALVE COMPANY

- NOTES:
 1. VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.
 2. FLOW MAY BE IN EITHER DIRECTION



WITH 125# A.N.S.I. FLANGES & DRILLING PER AWWA C-504



VALVE SIZE	A	B	C	J	P	Q	R	S	AA	AB
4"	4	5 ⁷ / ₁₆	7 ¹ / ₂	5	8	5/8	9	1 ⁵ / ₁₆	4	5/8-11
6"	5	6 ¹ / ₂	9 ¹ / ₂	5	8	3/4	11	1	4	3/4-10
8"	6	7 ⁹ / ₁₆	11 ¹ / ₄	6	8	3/4	13 ¹ / ₂	1 ¹ / ₈	4	3/4-10

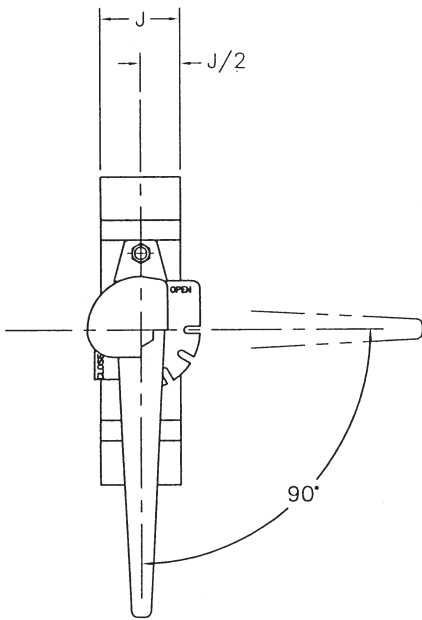
VALVE SIZE	OPERATOR MODEL	D	E	G
4"	65	1 ¹ / ₂	3 ¹ / ₁₆	11
6"	150	1 ¹ / ₂	3 ¹ / ₁₆	11
8"	250	1 ¹ / ₂	4 ¹ / ₁₆	11

ASSEMBLY-STYLE 4500 SERIES WAFER BUTTERFLY VALVE W/LEVER OPERATOR

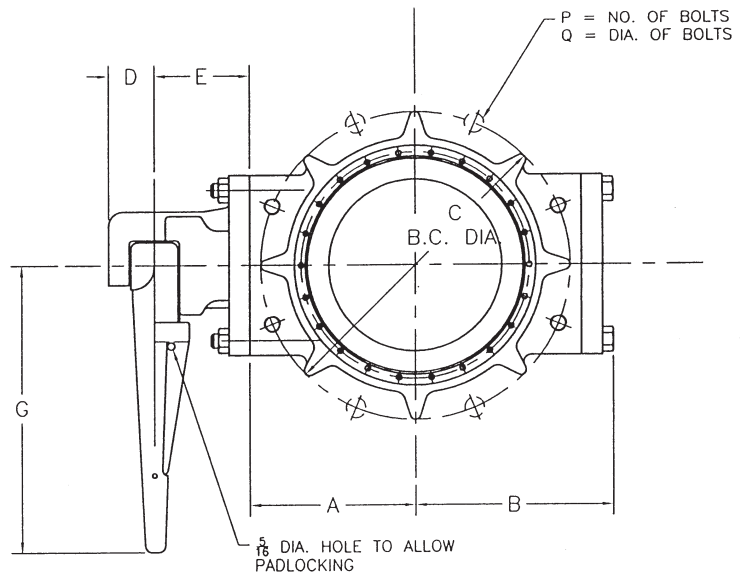
CLOW VALVE COMPANY

NOTES:

1. VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.
2. FLOW MAY BE IN EITHER DIRECTION



WITH 125# A.N.S.I. FLANGES & DRILLING PER AWWA C-504



FOR INSTALLATION BETWEEN 125# OR 150# ANSI FLANGES

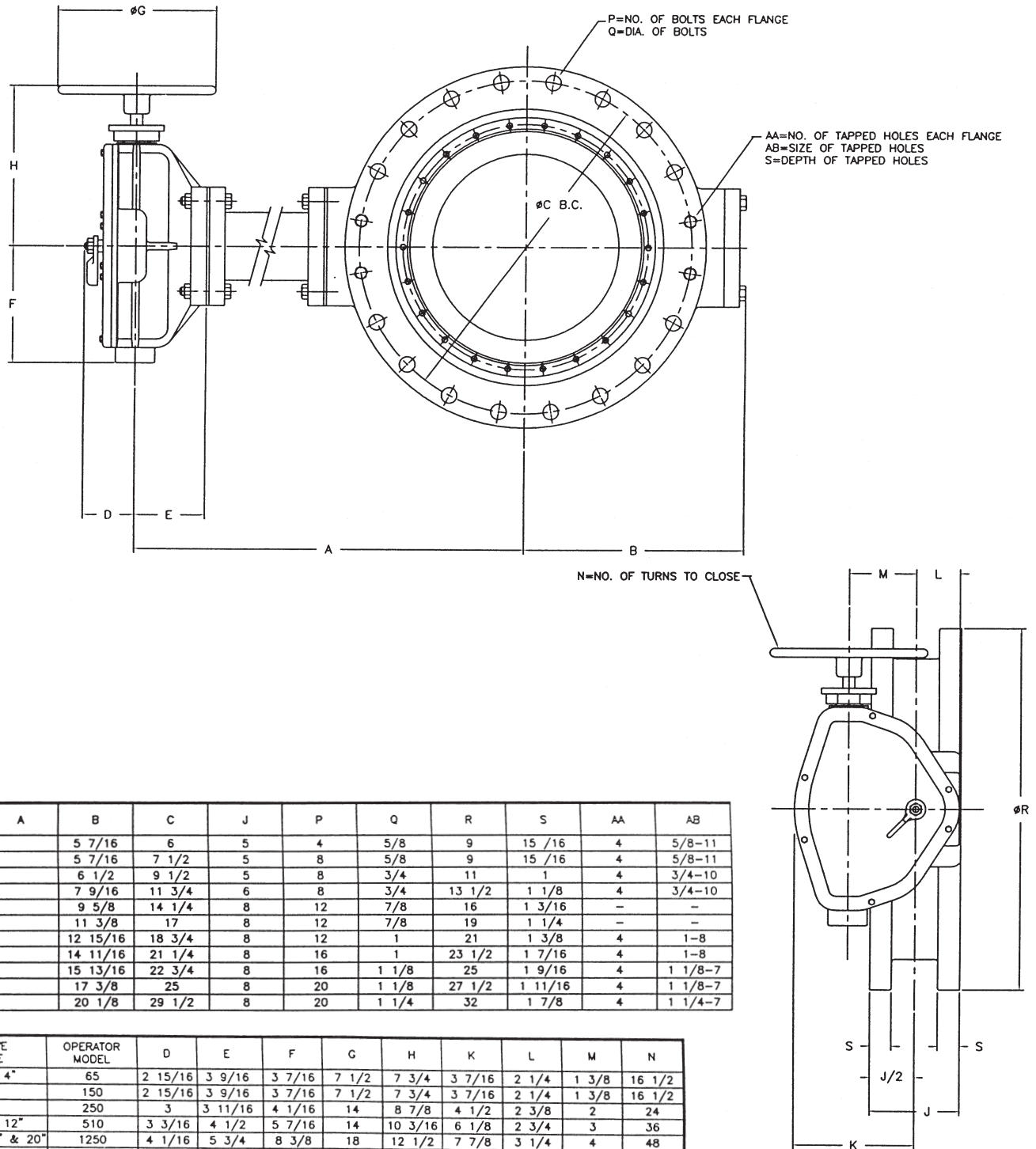
VALVE SIZE	A	B	C	J	P	Q
4"	4	5 ⁷ / ₁₆	7 ¹ / ₂	2 ¹ / ₂	8	5/8
6"	5	6 ¹ / ₂	9 ¹ / ₂	2 ¹ / ₂	8	3/4
8"	6	7 ⁷ / ₁₆	11 ³ / ₄	2 ³ / ₄	8	3/4

VALVE SIZE	OPERATOR MODEL	D	E	G
4"	65	1 ¹ / ₂	3 ¹³ / ₁₆	11
6"	150	1 ¹ / ₂	3 ¹³ / ₁₆	11
8"	250	1 ¹ / ₂	4 ¹ / ₁₆	11

ASSEMBLY-STYLE 4500 SERIES FLANGED BUTTERFLY VALVE W/HANDWHEEL OPERATOR EXTENDED BONNET

CLOW VALVE COMPANY

- NOTES:
 1. FLOW MAY BE IN EITHER DIRECTION
 2. VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.
 3. REFERENCE AWWA C-504 FLANGES & DRILLING (A.N.S.I. 125)



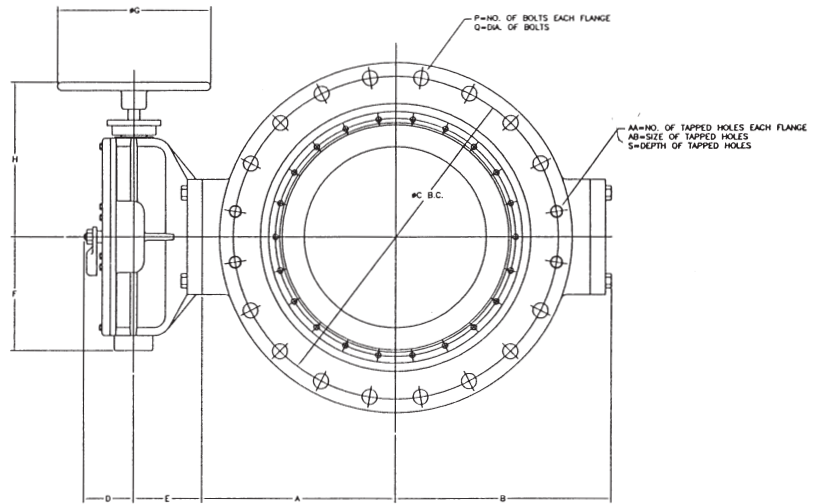
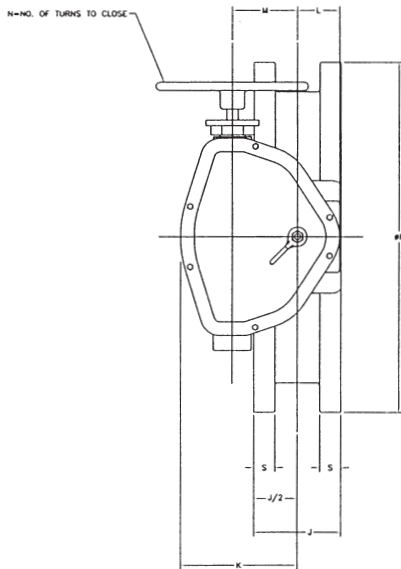
VALVE SIZE	A	B	C	J	P	Q	R	S	AA	AB
3"		5 7/16	6	5	4	5/8	9	15 1/16	4	5/8-11
4"		5 7/16	7 1/2	5	8	5/8	9	15 1/16	4	5/8-11
6"		6 1/2	9 1/2	5	8	3/4	11	1	4	3/4-10
8"		7 9/16	11 3/4	6	8	3/4	13 1/2	1 1/8	4	3/4-10
10"		9 5/8	14 1/4	8	12	7/8	16	1 3/16	-	-
12"		11 3/8	17	8	12	7/8	19	1 1/4	-	-
14"		12 15/16	18 3/4	8	12	1	21	1 3/8	4	1-8
16"		14 11/16	21 1/4	8	16	1	23 1/2	1 7/16	4	1-8
18"		15 13/16	22 3/4	8	16	1 1/8	25	1 9/16	4	1 1/8-7
20"		17 3/8	25	8	20	1 1/8	27 1/2	1 11/16	4	1 1/8-7
24"		20 1/8	29 1/2	8	20	1 1/4	32	1 7/8	4	1 1/4-7

VALVE SIZE	OPERATOR MODEL	D	E	F	G	H	K	L	M	N
3" & 4"	65	2 15/16	3 9/16	3 7/16	7 1/2	7 3/4	3 7/16	2 1/4	1 3/8	16 1/2
6"	150	2 15/16	3 9/16	3 7/16	7 1/2	7 3/4	3 7/16	2 1/4	1 3/8	16 1/2
8"	250	3	3 11/16	4 1/16	14	8 7/8	4 1/2	2 3/8	2	24
10" & 12"	510	3 3/16	4 1/2	5 7/16	14	10 3/16	6 1/8	2 3/4	3	36
14", 16", 18" & 20"	1250	4 1/16	5 3/4	8 3/8	18	12 1/2	7 7/8	3 1/4	4	48
24"	2200	4 1/16	6 1/4	10 3/8	18	14 1/2	10 3/4	3 7/8	6	72

ASSEMBLY-STYLE 4500 SERIES FLANGED BUTTERFLY VALVE W/HANDWHEEL OPERATOR

CLOW VALVE COMPANY

- NOTES:**
 1. FLOW MAY BE IN EITHER DIRECTION.
 2. VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER ANNA STANDARD C-504 FOR APPLICABLE CLASS.
 3. REFERENCE ANNA C-504 FLANGES & DRILLING (A.N.S.I. 125)

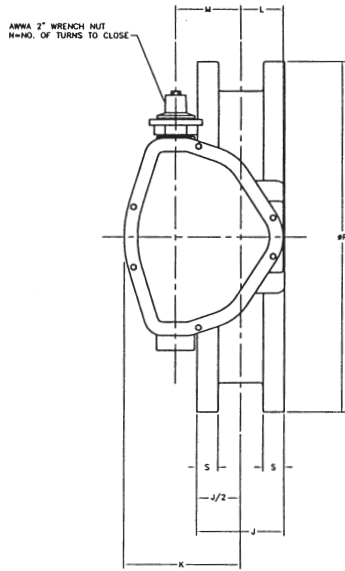


VALVE SIZE	A	B	C	J	P	Q	R	S	AA	AB
4"	4	5 ⁷ / ₁₆	7 ¹ / ₂	5	8	5 ⁸ / ₁₆	9	1 ¹⁵ / ₁₆	4	9/8-11
6"	5	6 ¹ / ₂	9 ¹ / ₂	5	8	3 ⁴ / ₁₆	11	1	4	3/4-10
8"	6	7 ⁷ / ₁₆	11 ³ / ₄	6	8	3 ⁴ / ₁₆	13 ¹ / ₂	1 ¹ / ₈	4	3/4-10
10"	7 ³ / ₄	9 ⁹ / ₁₆	14 ¹ / ₄	8	12	7 ⁷ / ₁₆	16	1 ¹³ / ₁₆	-	-
12"	9 ¹ / ₂	11 ⁹ / ₁₆	17	8	12	7 ⁷ / ₁₆	19	1 ¹ / ₄	-	-
14"	10 ⁷ / ₁₆	12 ¹⁵ / ₁₆	18 ³ / ₄	8	12	1	21	1 ³ / ₈	4	1-8
16"	12 ³ / ₁₆	14 ¹¹ / ₁₆	21 ¹ / ₄	8	16	1	23 ¹ / ₂	1 ⁷ / ₁₆	4	1-8
18"	13 ⁹ / ₁₆	15 ¹³ / ₁₆	22 ³ / ₄	8	16	1 ¹ / ₈	25	1 ⁹ / ₁₆	4	1 ¹ / ₈ -7
20"	14 ⁷ / ₈	17 ⁹ / ₁₆	25	8	20	1 ¹ / ₈	27 ¹ / ₂	1 ¹¹ / ₁₆	4	1 ¹ / ₈ -7
24"	17 ¹³ / ₃₂	20 ¹ / ₈	29 ¹ / ₂	8	20	1 ¹ / ₄	32	1 ¹ / ₈	4	1 ¹ / ₄ -7

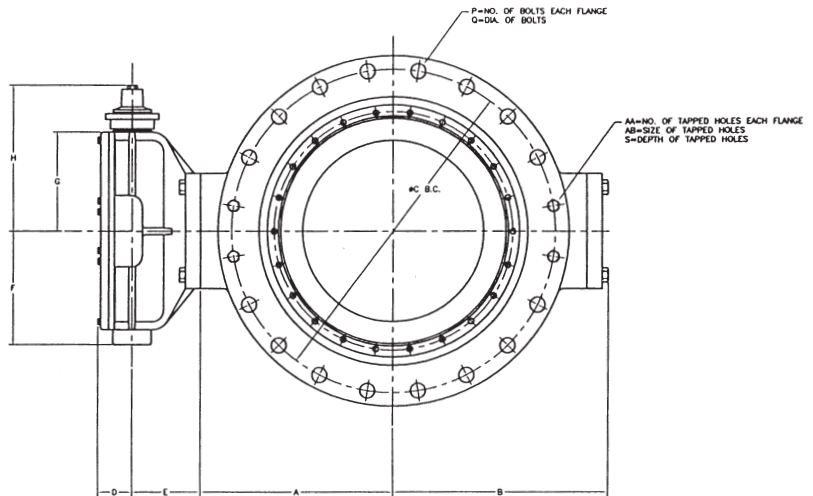
VALVE SIZE	OPERATOR MODEL	D	E	F	G	H	K	L	M	N
4"	65	2 ¹⁵ / ₁₆	3 ³ / ₁₆	3 ³ / ₁₆	7 ¹ / ₂	7 ³ / ₄	3 ³ / ₁₆	2 ¹ / ₄	1 ³ / ₈	16 ¹ / ₂
6"	150	2 ¹⁵ / ₁₆	3 ³ / ₁₆	3 ³ / ₁₆	7 ¹ / ₂	7 ³ / ₄	3 ³ / ₁₆	2 ¹ / ₄	1 ³ / ₈	16 ¹ / ₂
8"	250	3	3 ¹¹ / ₁₆	4 ¹ / ₁₆	12	8 ⁷ / ₈	4 ¹ / ₂	2 ³ / ₈	2	24
10"-12"	510	3 ⁹ / ₁₆	4 ¹ / ₂	5 ⁵ / ₁₆	12	10 ³ / ₁₆	6 ¹ / ₈	2 ³ / ₄	3	36
14"-16"-18"-20"	1250	4 ¹ / ₁₆	5 ³ / ₄	8 ³ / ₈	18	12 ¹ / ₂	7 ⁷ / ₈	3 ³ / ₄	4	48
24"	2200	4 ¹ / ₁₆	6 ¹ / ₄	10 ³ / ₈	18	14 ¹ / ₂	10 ³ / ₄	3 ³ / ₈	6	72

ASSEMBLY-STYLE 4500 SERIES FLANGED BFV W/BURIED OPERATOR

CLOW VALVE COMPANY



- NOTES:**
 1. FLOW MAY BE IN EITHER DIRECTION
 2. VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AMWA STANDARD C-504 FOR APPLICABLE CLASS.
 3. REFERENCE AMWA C-504 FLANGES & DRILLING (A.N.S.I. 125)

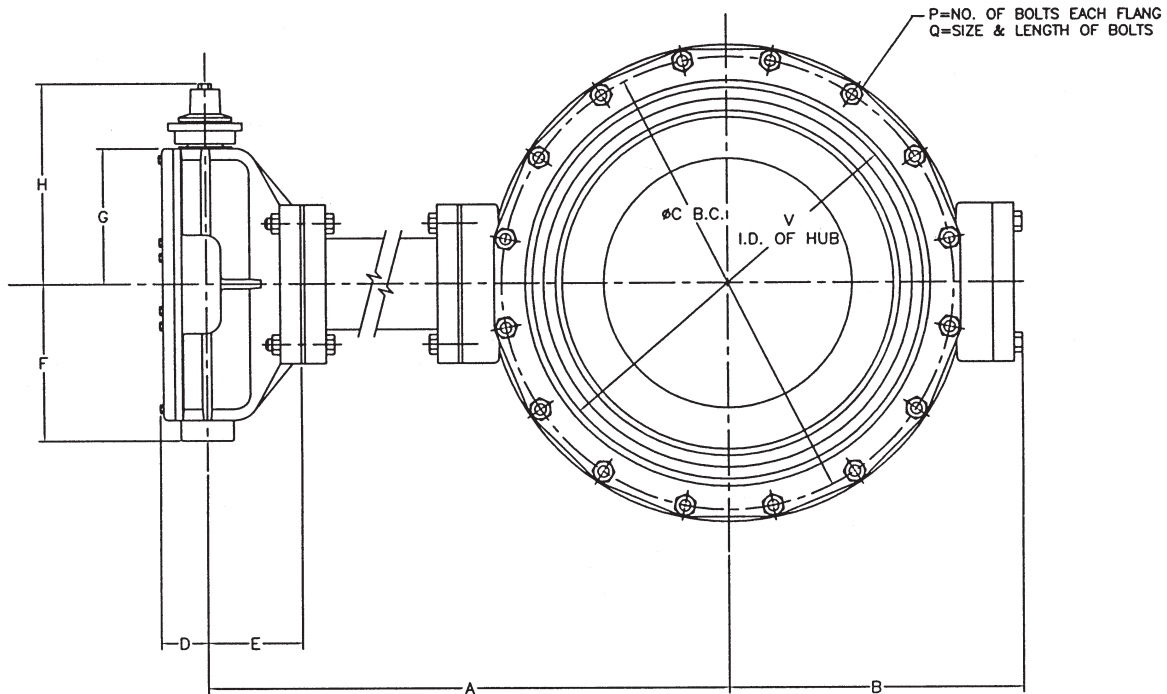


VALVE SIZE	A	B	C	J	P	Q	R	S	AA	AB
4"	4	5 ¹ / ₁₆	7 ¹ / ₂	5	8	5 ¹ / ₈	9	1 ⁵ / ₁₆	4	5/8-11
6"	5	6 ¹ / ₂	9 ¹ / ₂	5	8	3/4	11	1	4	3/4-10
8"	6	7 ⁹ / ₁₆	11 ³ / ₄	6	8	3/4	13 ¹ / ₂	1 ¹ / ₈	4	3/4-10
10"	7 ³ / ₄	9 ⁹ / ₁₆	14 ¹ / ₄	8	12	7/8	16	1 ³ / ₁₆	—	—
12"	9 ¹ / ₂	11 ³ / ₈	17	8	12	7/8	19	1 ¹ / ₄	—	—
14"	10 ⁷ / ₁₆	12 ¹⁵ / ₁₆	18 ³ / ₄	8	12	1	21	1 ⁹ / ₁₆	4	1-8
16"	12 ³ / ₁₆	14 ¹¹ / ₁₆	21 ¹ / ₄	8	16	1	23 ¹ / ₂	1 ⁷ / ₁₆	4	1-8
18"	13 ⁹ / ₁₆	15 ¹³ / ₁₆	22 ³ / ₄	8	16	1 ¹ / ₈	25	1 ⁹ / ₁₆	4	1 ¹ / ₈ -7
20"	14 ⁷ / ₈	17 ³ / ₈	25	8	20	1 ¹ / ₈	27 ¹ / ₂	1 ¹¹ / ₁₆	4	1 ¹ / ₈ -7
24"	17 ¹⁹ / ₃₂	20 ¹ / ₈	29 ¹ / ₂	8	20	1 ¹ / ₄	32	1 ¹ / ₈	4	1 ¹ / ₄ -7

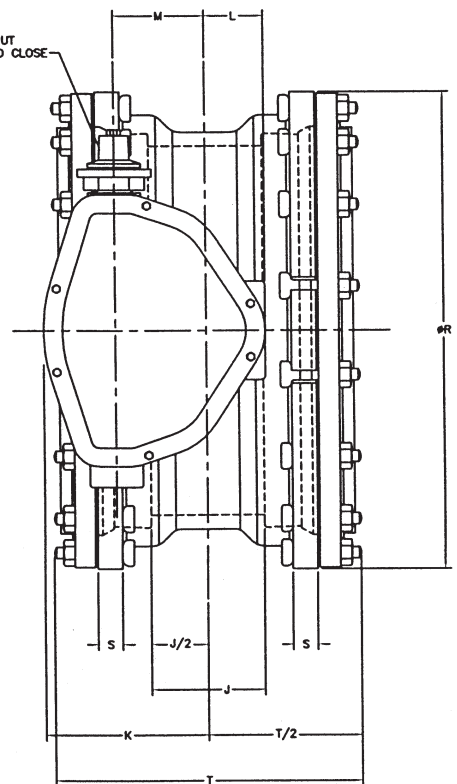
VALVE SIZE	OPERATOR MODEL	D	E	F	G	H	K	L	M	N
4"	65	2	3 ³ / ₁₆	3 ⁷ / ₁₆	3	7 ³ / ₄	3 ³ / ₁₆	2 ¹ / ₄	1 ³ / ₈	16 ¹ / ₂
6"	150	2	3 ³ / ₁₆	3 ⁷ / ₁₆	3	7 ³ / ₄	3 ³ / ₁₆	2 ¹ / ₄	1 ³ / ₈	16 ¹ / ₂
8"	250	2 ¹ / ₁₆	3 ¹¹ / ₁₆	4 ¹ / ₁₆	3 ⁷ / ₈	8 ³ / ₄	4 ¹ / ₂	2 ³ / ₈	2	24
10"-12"	510	2 ¹ / ₄	4 ¹ / ₂	5 ¹ / ₁₆	5 ³ / ₁₆	10 ¹ / ₄	6 ³ / ₈	2 ³ / ₄	3	36
14"-16"-18"-20"	1250	3 ⁹ / ₁₆	5 ³ / ₄	8 ³ / ₈	7	12 ⁹ / ₁₆	7 ⁷ / ₈	3 ³ / ₄	4	48
24"	2200	3 ³ / ₁₆	6 ¹ / ₄	10 ³ / ₈	9	14 ⁵ / ₁₆	10 ³ / ₄	3 ³ / ₈	6	72

ASSEMBLY-STYLE 4500 SERIES MECHANICAL
JOINT BUTTERFLY VALVE W/BURIED OPERATOR
EXTENDED BONNET

CLOW VALVE COMPANY



AWWA 2" WRENCH NUT
N=NO. OF TURNS TO CLOSE



VALVE SIZE	A	B	C	J	P	Q	R	S	T	V
4"	4	5 ¹ / ₁₆	7 ¹ / ₂	2 ¹ / ₂	4	¾ x 3 ¹ / ₂	9 ⁹ / ₁₆	1	12 ³ / ₄	4.90 ± .02
6"	5	6 ¹ / ₂	9 ¹ / ₂	2 ⁷ / ₁₆	6	¾ x 3 ¹ / ₂	11 ¹ / ₁₆	1 ¹ / ₁₆	13	7.00 ± .02
8"	6	7 ⁷ / ₁₆	11 ³ / ₄	3	6	¾ x 4	13 ³ / ₁₆	1 ¹ / ₈	14	9.15 ± .02
10"	7 ³ / ₄	9 ⁹ / ₁₆	14 ¹ / ₄	4 ¹ / ₄	8	¾ x 4	15 ¹¹ / ₁₆	1 ³ / ₁₆	15 ¹ / ₈	11.20 ± .02
12"	9 ¹ / ₂	11 ³ / ₈	16 ¹ / ₄	4 ¹ / ₄	8	¾ x 4	17 ⁹ / ₁₆	1 ¹ / ₄	15	13.30 ± .02
14"	10 ⁷ / ₁₆	12 ¹ / ₈	18 ³ / ₄	5 ¹ / ₄	10	¾ x 4	20 ⁵ / ₁₆	1 ³ / ₁₆	17 ⁷ / ₈	15.44 ± .02
16"	12 ³ / ₁₆	14 ¹ / ₁₆	21	5 ¹ / ₄	12	¾ x 4 ¹ / ₂	22 ⁹ / ₁₆	1 ³ / ₈	18 ¹ / ₂	17.54 ± .02
18"	13 ³ / ₁₆	15 ³ / ₁₆	23 ¹ / ₄	6 ¹ / ₈	12	¾ x 4 ¹ / ₂	24 ¹³ / ₁₆	1 ⁷ / ₁₆	19 ¹ / ₄	19.64 ± .02
20"	14 ⁷ / ₈	17 ³ / ₈	25 ¹ / ₂	6 ¹ / ₈	14	¾ x 4 ¹ / ₂	27 ¹ / ₁₆	1 ¹ / ₂	19 ⁷ / ₈	21.74 ± .02
24"	17 ¹ / ₃₂	20 ¹ / ₈	30	7 ¹ / ₂	16	¾ x 5	31 ¹ / ₁₆	1 ⁵ / ₈	21 ¹ / ₄	25.94 ± .02

VALVE SIZE	OPERATOR MODEL	D	E	F	G	H	K	L	M	N
4", 6" & 8"	150	2 15/16	3 9/16	3 7/16	3	7 3/4	3 7/16	2 1/4	1 3/8	16 1/2
10", 12" & 14"	510	3 3/16	4 1/2	5 7/16	5 3/16	10 1/16	6 1/8	2 3/4	3	36
16", 18" & 20"	1250	4 1/16	5 3/4	8 3/8	7	12 5/16	7 7/8	3 1/4	4	48
24"	2200	4 1/16	6 1/4	10 3/8	9	14 5/16	10 3/4	3 7/8	6	72

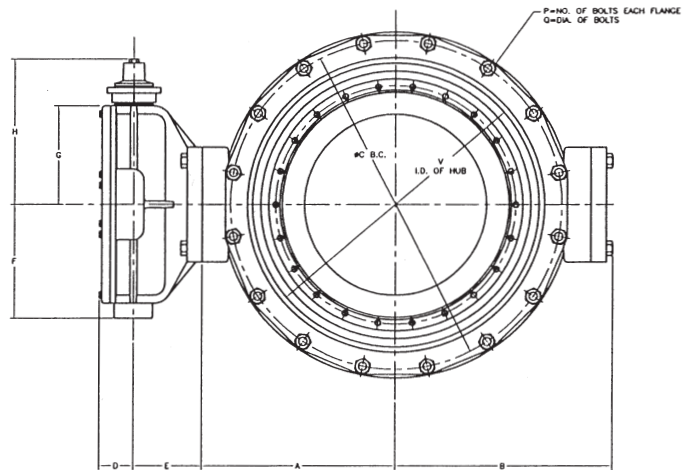
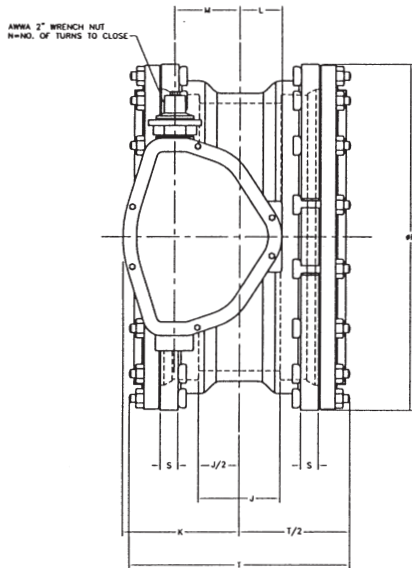
NOTES:

1. FLOW MAY BE IN EITHER DIRECTION
2. GASKETS, GLANDS & BOLTS FOR MECHANICAL JOINT ARE FURNISHED WITH VALVE WHEN SPECIFIED ON ORDER.
3. VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.
4. REFERENCE AWWA STD. C-111 (A.N.S.I. A21-11)

ASSEMBLY-STYLE 4500 SERIES MECHANICAL JOINT BUTTERFLY VALVE W/BURIED OPERATOR

CLOW VALVE COMPANY

- NOTES:**
1. FLOW MAY BE IN EITHER DIRECTION
 2. GASKETS, GLANDS & BOLTS FOR MECHANICAL JOINT ARE FURNISHED WITH VALVE WHEN SPECIFIED ON ORDER.
 3. VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER ANNA STANDARD C-504 FOR APPLICABLE CLASS.
 4. REFERENCE ANNA STD. C-111 (A.N.S.I. A21-11)



VALVE SIZE	A	B	C	J	P	Q	R	S	T	V
4"	4	5 ⁷ / ₁₆	7 ¹ / ₂	2 ¹ / ₂	4	3/4 x 3 ¹ / ₂	9 ¹ / ₈	1	12 ³ / ₄	4.90 ^{.07} / _{.03}
6"	5	6 ¹ / ₂	9 ¹ / ₂	2 ⁷ / ₈	6	3/4 x 3 ¹ / ₂	11 ¹ / ₈	1 ¹ / ₁₆	13	7.00 ^{.07} / _{.03}
8"	6	7 ⁹ / ₁₆	11 ³ / ₄	3	6	3/4 x 4	13 ³ / ₈	1 ¹ / ₈	14	9.15 ^{.07} / _{.03}
10"	7 ³ / ₄	9 ⁵ / ₈	14 ¹ / ₄	4 ¹ / ₄	8	3/4 x 4	15 ¹ / ₁₆	1 ³ / ₁₆	15 ¹ / ₈	11.20 ^{.07} / _{.03}
12"	9 ¹ / ₂	11 ³ / ₈	16 ¹ / ₄	4 ¹ / ₄	8	3/4 x 4	17 ¹ / ₁₆	1 ¹ / ₄	15	13.30 ^{.07} / _{.03}
14"	10 ⁷ / ₁₆	12 ¹ / ₈	18 ³ / ₄	5 ¹ / ₄	10	3/4 x 4	20 ¹ / ₁₆	1 ⁵ / ₁₆	17 ⁷ / ₈	15.44 ^{.07} / _{.03}
16"	12 ³ / ₁₆	14 ¹ / ₁₆	21	5 ¹ / ₄	12	3/4 x 4 ¹ / ₂	22 ⁹ / ₁₆	1 ³ / ₈	18 ¹ / ₂	17.54 ^{.07} / _{.03}
18"	13 ³ / ₁₆	15 ¹ / ₈	23 ¹ / ₄	6 ¹ / ₈	12	3/4 x 4 ¹ / ₂	24 ¹ / ₁₆	1 ⁷ / ₁₆	19 ¹ / ₄	19.64 ^{.07} / _{.03}
20"	14 ⁷ / ₈	17 ³ / ₈	25 ¹ / ₂	6 ¹ / ₈	14	3/4 x 4 ¹ / ₂	27 ¹ / ₁₆	1 ¹ / ₂	19 ⁵ / ₈	21.74 ^{.07} / _{.03}
24"	17 ¹ / ₃₂	20 ¹ / ₈	30	7 ¹ / ₂	16	3/4 x 5	31 ¹ / ₁₆	1 ⁵ / ₈	21 ¹ / ₄	25.94 ^{.07} / _{.03}

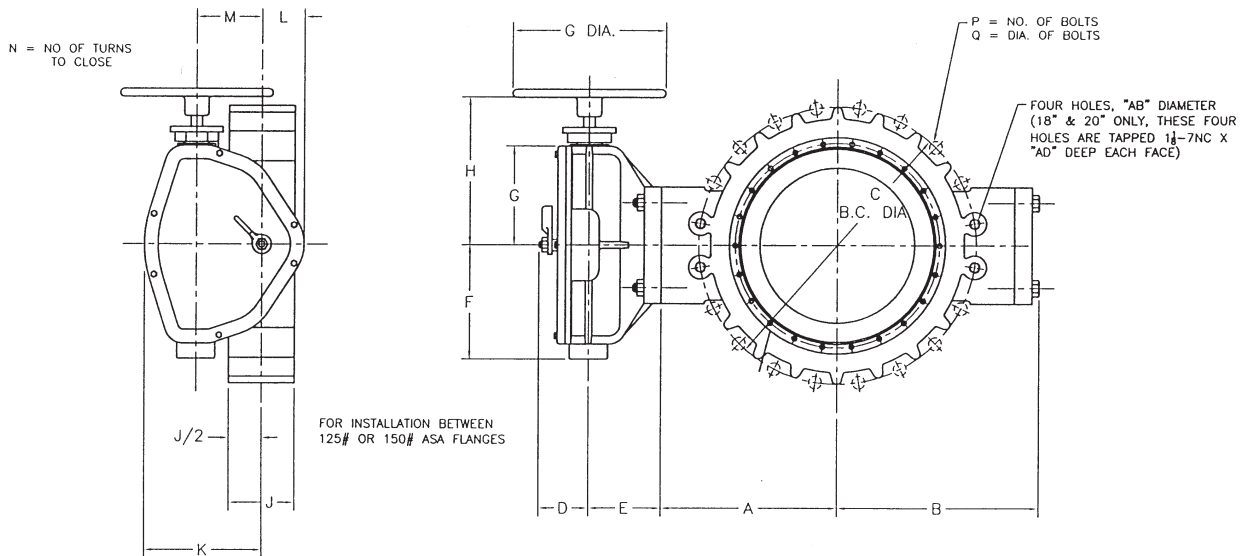
VALVE SIZE	OPERATOR MODEL	D	E	F	G	H	K	L	M	N
4"	65	2	3 ³ / ₁₆	3 ³ / ₁₆	3	7 ³ / ₄	3 ³ / ₁₆	2 ¹ / ₄	1 ¹ / ₈	16 ¹ / ₂
6"	150	2	3 ³ / ₁₆	3 ³ / ₁₆	3	7 ³ / ₄	3 ³ / ₁₆	2 ¹ / ₄	1 ¹ / ₈	16 ¹ / ₂
8"	250	2 ¹ / ₁₆	3 ¹ / ₁₆	4 ¹ / ₁₆	3 ³ / ₈	8 ³ / ₄	4 ¹ / ₂	2 ³ / ₈	2	24
10"-12"	510	2 ¹ / ₄	4 ¹ / ₂	5 ⁷ / ₁₆	5 ³ / ₁₆	10 ¹ / ₁₆	6 ¹ / ₈	2 ³ / ₄	3	36
14"-16"-18"-20"	1250	3 ³ / ₁₆	5 ³ / ₄	8 ³ / ₈	7	12 ⁹ / ₁₆	7 ⁷ / ₈	3 ¹ / ₄	4	48
24"	2200	3 ³ / ₁₆	6 ¹ / ₄	10 ³ / ₈	9	14 ⁹ / ₁₆	10 ³ / ₄	3 ⁷ / ₈	6	72

ASSEMBLY-STYLE 4500 SERIES WAFER BUTTERFLY VALVE W/HANDWHEEL OPERATOR

CLOW VALVE COMPANY

NOTES:

1. FLOW MAY BE IN EITHER DIRECTION
2. VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.
3. REFERENCE AWWA C-504 FLANGES & DRILLING (A.N.S.I. 125)



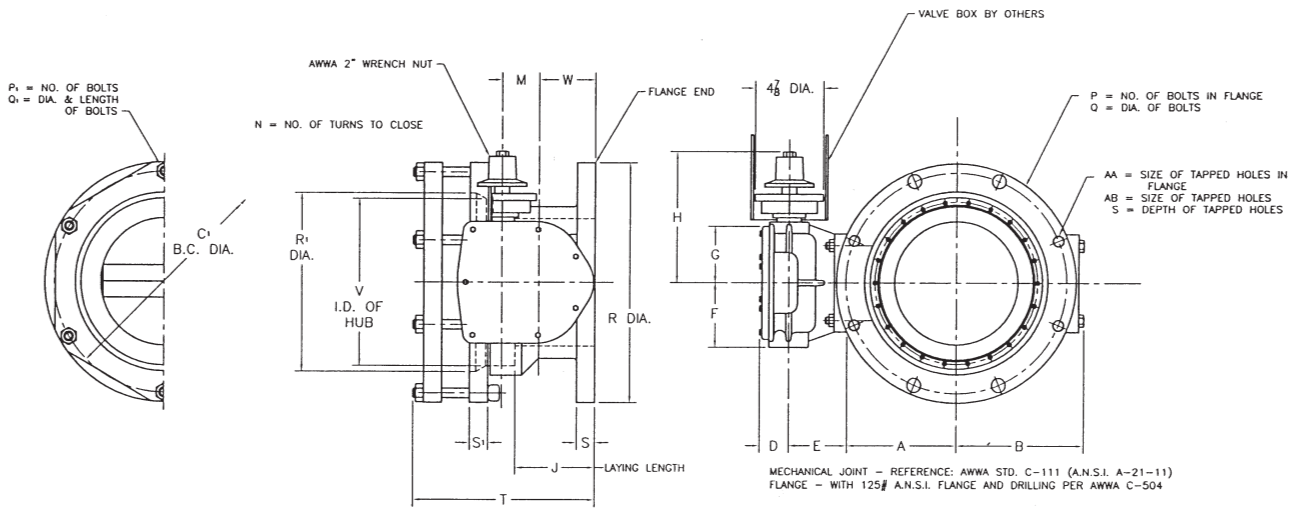
VALVE SIZE	A	B	C	J	P	Q	AA	AD
4"	4	5 ⁷ / ₁₆	7 ¹ / ₂	2 ¹ / ₂	8	5 ⁸ / ₁₆	—	—
6"	5	6 ¹ / ₂	9 ¹ / ₂	2 ¹ / ₂	8	3 ⁴ / ₁₆	—	—
8"	6	7 ⁹ / ₁₆	11 ³ / ₄	2 ³ / ₄	8	3 ⁴ / ₁₆	—	—
10"	7 ³ / ₄	9 ⁵ / ₁₆	14 ¹ / ₄	3 ¹ / ₄	12	7 ⁸ / ₁₆	—	—
12"	9 ¹ / ₂	11 ³ / ₈	17	3 ¹ / ₄	12	7 ⁸ / ₁₆	—	—
14"	10 ⁷ / ₁₆	12 ¹⁵ / ₁₆	18 ³ / ₄	4 ¹ / ₂	12	1	—	—
16"	12 ³ / ₁₆	14 ¹ / ₁₆	21 ¹ / ₄	4 ¹ / ₂	16	1	—	—
18"	13 ⁵ / ₁₆	15 ¹³ / ₁₆	22 ³ / ₄	5 ³ / ₄	16	1 ¹ / ₈	1 ¹ / ₈ -7	1 ³ / ₈
20"	14 ⁷ / ₁₆	17 ⁵ / ₁₆	25	5 ³ / ₄	20	1 ¹ / ₈	1 ¹ / ₈ -7	1 ¹ / ₄

VALVE SIZE	OPERATOR MODEL	D	E	F	G	H	K	L	M	N
4"	65	2 ¹⁵ / ₁₆	3 ⁹ / ₁₆	3 ⁷ / ₁₆	7 ¹ / ₂	7 ³ / ₄	3 ³ / ₁₆	2 ¹ / ₄	1 ⁵ / ₈	16 ¹ / ₂
6"	150	2 ¹⁵ / ₁₆	3 ⁹ / ₁₆	3 ⁷ / ₁₆	7 ¹ / ₂	7 ³ / ₄	3 ³ / ₁₆	2 ¹ / ₄	1 ⁵ / ₈	16 ¹ / ₂
8"	250	3	3 ¹ / ₁₆	4 ¹ / ₁₆	12	8 ⁷ / ₁₆	4 ¹ / ₂	2 ³ / ₈	2	24
10"-12"	510	3 ⁹ / ₁₆	4 ¹ / ₂	5 ⁷ / ₁₆	12	10 ³ / ₁₆	6 ⁵ / ₁₆	2 ³ / ₄	3	36
14"-16"-18"-20"	1250	4 ¹ / ₁₆	5 ³ / ₄	8 ⁵ / ₁₆	18	12 ¹ / ₂	7 ⁷ / ₁₆	3 ¹ / ₄	4	48
24"	2200	4 ¹ / ₁₆	6 ¹ / ₄	10 ³ / ₈	18	14 ¹ / ₂	10 ³ / ₄	3 ³ / ₈	6	72

**ASSEMBLY-STYLE 4500 SERIES FLANGED X
MECHANICAL JOINT END BUTTERFLY VALVE
W/M.J. ACCESSORIES AND BURIED OPERATOR**

CLOW VALVE COMPANY

- NOTES:
 1. GASKET, GLAND, & BOLTS FOR MECHANICAL JOINT ARE FURNISHED WITH VALVE WHEN SPECIFIED ON ORDER.
 2. VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD C-504 FOR APPLICABLE CLASS.
 3. FLOW MAY BE IN EITHER DIRECTION



MECHANICAL JOINT - REFERENCE: AWWA STD. C-111 (A.N.S.I. A-21-11)
 FLANGE - WITH 125# A.N.S.I. FLANGE AND DRILLING PER AWWA C-504

VALVE SIZE	OPERATOR MODEL	D	E	F	G	H	K	L	M	N
6"	150	2	3 ⁹ / ₁₆	3 ³ / ₁₆	3	7 ³ / ₄	3 ⁷ / ₁₆	2 ¹ / ₄	1 ¹ / ₈	16 ¹ / ₂
8"	250	2 ¹ / ₁₆	3 ¹ / ₁₆	4 ¹ / ₁₆	3 ⁷ / ₈	8 ³ / ₄	4 ¹ / ₂	2 ³ / ₈	2	24
12"	510	2 ¹ / ₄	4 ¹ / ₂	5 ⁷ / ₁₆	5 ⁹ / ₁₆	10 ¹ / ₁₆	6 ¹ / ₈	2 ³ / ₄	3	36
16"	1250	3 ³ / ₁₆	5 ³ / ₄	8 ³ / ₈	7	12 ⁵ / ₁₆	7 ³ / ₈	3 ³ / ₄	4	48

VALVE SIZE	A	B	C	C ₁	J	P	P ₁	Q	Q ₁	R	R ₁	S	S ₁	T	V	W	AA	AB
6"	5	6 ¹ / ₂	9 ¹ / ₂	9 ¹ / ₂	14 ³ / ₁₆	8	6	3/4	3/4 X 3 ¹ / ₂	11	11 ¹ / ₈	1	1 ¹ / ₁₆	9 ¹ / ₁₆	7.00 ⁻⁰⁷ / ₋₀₃	2 ¹ / ₂	4	3/4-10
8"	6	7 ¹ / ₁₆	11 ³ / ₄	11 ³ / ₄	5	8	6	3/4	3/4 X 4	13 ¹ / ₂	13 ³ / ₈	1 ¹ / ₈	1 ¹ / ₈	10 ¹ / ₁₆	9.15 ⁻⁰⁷ / ₋₀₃	3	4	3/4-10
12"	9 ¹ / ₂	11 ³ / ₈	17	16 ¹ / ₄	6 ³ / ₈	12	8	7/8	3/4 X 4	19	17 ¹ / ₁₆	1 ¹ / ₄	1 ¹ / ₄	12 ⁷ / ₁₆	13.30 ⁻⁰⁷ / ₋₀₃	4	—	—
16"	12 ³ / ₁₆	14 ¹ / ₁₆	21 ¹ / ₄	21	16 ³ / ₁₆	16	12	1	3/4 X 4 ¹ / ₂	23 ¹ / ₂	22 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	13 ¹ / ₄	17.54 ⁻⁰⁷ / ₋₀₃	4	4	1-8

ASSEMBLY-STYLE 4500 SERIES FLANGED BUTTERFLY VALVE W/ CYLINDER OPERATOR

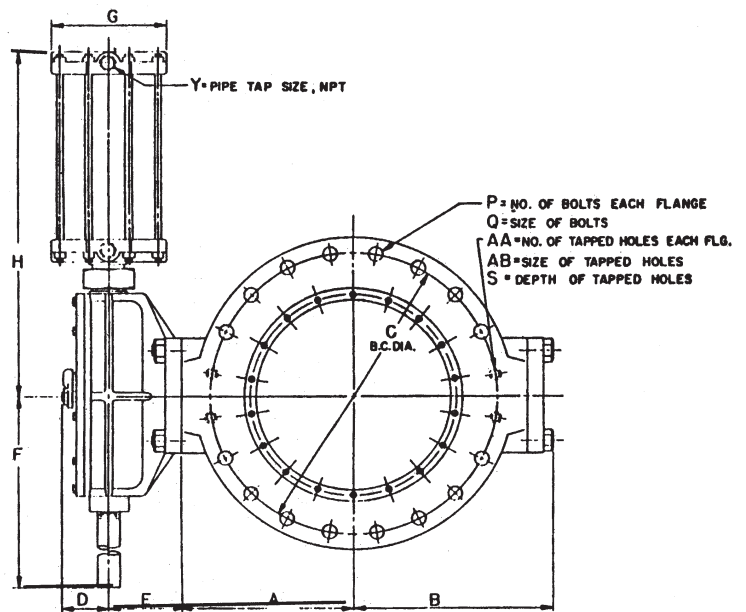
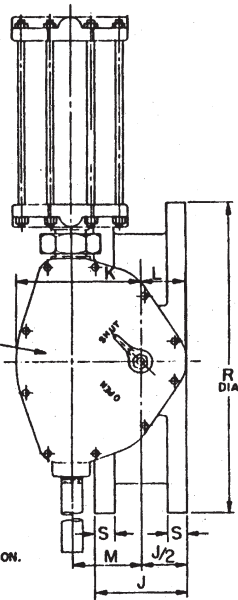
CLOW VALVE COMPANY

VALVE IDENTIFICATION PLATE--
ATTACHED TO HOUSING COVER
(STAMPED WITH VALVE PART NUMBER
AT FINAL ASSEMBLY)

NOTE
VALVE SHAFT WILL MEET OR EXCEED
REQUIREMENTS OF SHAFT TABLE PER
AWWA STANDARD C-504 FOR APPLICABLE
CLASS.

NOTE: FLOW MAY BE IN EITHER DIRECTION.

WITH 125# A.N.S.I.
FLANGES & DRILLING
PER AWWA C-504

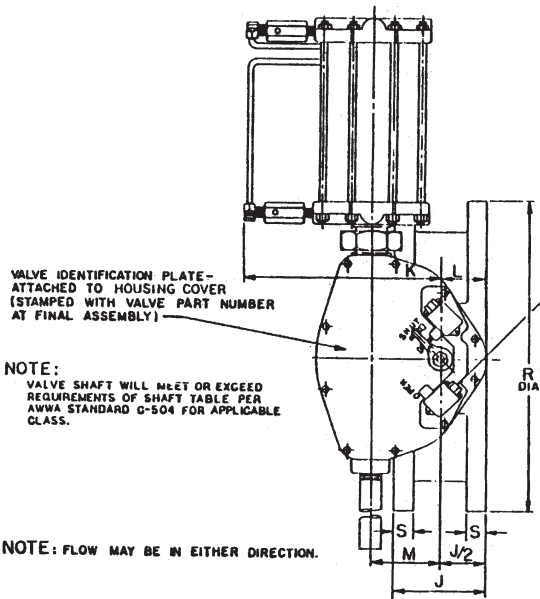


VALVE SIZE	A	B	C	J	P	Q	R	S	AA	AB
4"	4	5 ⁷ / ₁₆	7 ¹ / ₂	5	8	5/8	9	1 ⁵ / ₁₆	4	5/8-11
6"	5	6 ¹ / ₂	9 ¹ / ₂	5	8	3/4	11	1	4	3/4-10
8"	6	7 ⁹ / ₁₆	11 ³ / ₄	6	8	3/4	13 ¹ / ₂	1 ¹ / ₈	4	3/4-10
10"	7 ³ / ₄	9 ⁹ / ₁₆	14 ¹ / ₄	8	12	7/8	16	1 ³ / ₁₆	-	-
12"	9 ¹ / ₂	11 ³ / ₈	17	8	12	7/8	19	1 ¹ / ₄	-	-
14"	10 ⁷ / ₁₆	12 ¹⁵ / ₁₆	18 ³ / ₄	8	12	1	21	1 ⁵ / ₈	4	1-8
16"	12 ³ / ₁₆	14 ¹¹ / ₁₆	21 ¹ / ₄	8	16	1	23 ¹ / ₂	1 ⁷ / ₁₆	4	1-8
18"	13 ⁹ / ₁₆	15 ¹³ / ₁₆	22 ³ / ₄	8	16	1 ¹ / ₈	25	1 ⁹ / ₁₆	4	1 ¹ / ₈ -7
20"	14 ⁷ / ₈	17 ³ / ₈	25	8	20	1 ¹ / ₈	27 ¹ / ₂	1 ¹¹ / ₁₆	4	1 ¹ / ₈ -7
24"	17 ¹ / ₃₂	20 ¹ / ₈	29 ¹ / ₂	8	20	1 ¹ / ₄	32	1 ⁷ / ₈	4	1 ¹ / ₄ -7

OPERATOR MODEL	CYLINDER SIZE BORE	STROKE	D	E	F	G	H	K	L	M	N
65	5	2 ³ / ₄	2 ¹⁵ / ₁₆	3 ⁹ / ₁₆	7 ¹ / ₄	5 ¹ / ₂	12 ¹ / ₄	3 ⁷ / ₁₆	2 ¹ / ₄	1 ¹ / ₈	3/8-18
150	5	2 ³ / ₄	2 ¹⁵ / ₁₆	3 ⁹ / ₁₆	7 ¹ / ₄	5 ¹ / ₂	12 ¹ / ₄	3 ⁷ / ₁₆	2 ¹ / ₄	1 ¹ / ₈	3/8-18
250	5	4	3	3 ¹¹ / ₁₆	9 ¹ / ₈	5 ¹ / ₂	14 ¹ / ₂	4 ¹ / ₂	2 ³ / ₈	2	3/8-18
510	6	6	3 ⁹ / ₁₆	4 ¹ / ₂	12 ³ / ₈	6 ¹ / ₂	18 ³ / ₈	6 ¹ / ₈	2 ³ / ₄	3	1/2-14
1250	8	8	4 ¹ / ₁₆	5 ³ / ₄	17	10	24	7 ⁷ / ₈	3 ¹ / ₄	4	3/4-14
2200	8	12	4 ¹ / ₁₆	6 ¹ / ₄	23	10	30	10 ³ / ₄	10 ³ / ₄	6	3/4-14

ASSEMBLY-STYLE 4500 SERIES FLANGED BUTTERFLY VALVE W/CYLINDER OPERATOR SOLENOID VALVE, SPEED CONTROLS, & LIMIT SWITCHES

CLOW VALVE COMPANY

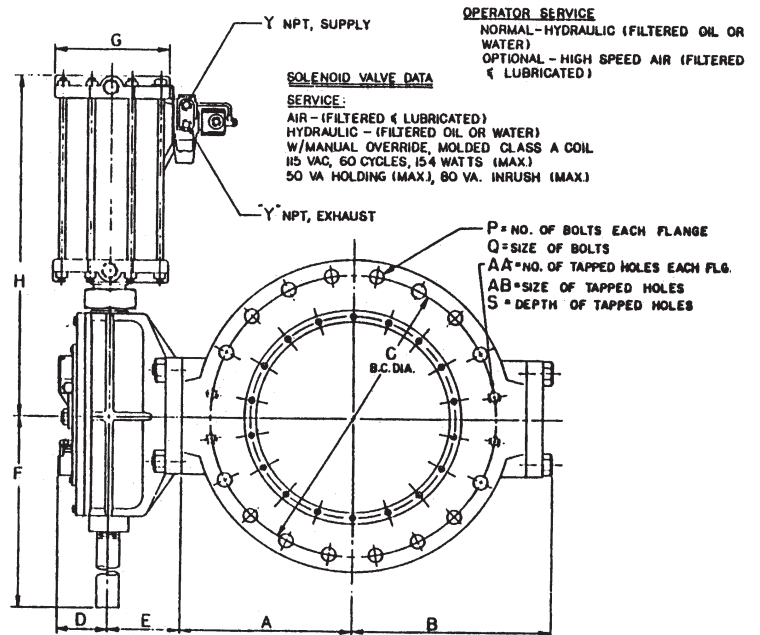


1/4-14 NPSM FEMALE THREAD FOR CONDUIT CONNECTION

NOTE:
VALVE SHAFT WILL MEET OR EXCEED REQUIREMENTS OF SHAFT TABLE PER AWWA STANDARD G-504 FOR APPLICABLE CLASS.

NOTE: FLOW MAY BE IN EITHER DIRECTION.

WITH 125# A.N.S.I. FLANGES & DRILLING PER AWWA C-504



OPERATOR SERVICE
NORMAL - HYDRAULIC (FILTERED OIL OR WATER)
OPTIONAL - HIGH SPEED AIR (FILTERED & LUBRICATED)

SOLENOID VALVE DATA

SERVICE:

AIR - (FILTERED & LUBRICATED)
HYDRAULIC - (FILTERED OIL OR WATER)
W/MANUAL OVERRIDE, MOLDED GLASS A COIL
115 VAC, 60 CYCLES, 154 WATTS (MAX.)
50 VA HOLDING (MAX.), 80 VA. INRUSH (MAX.)

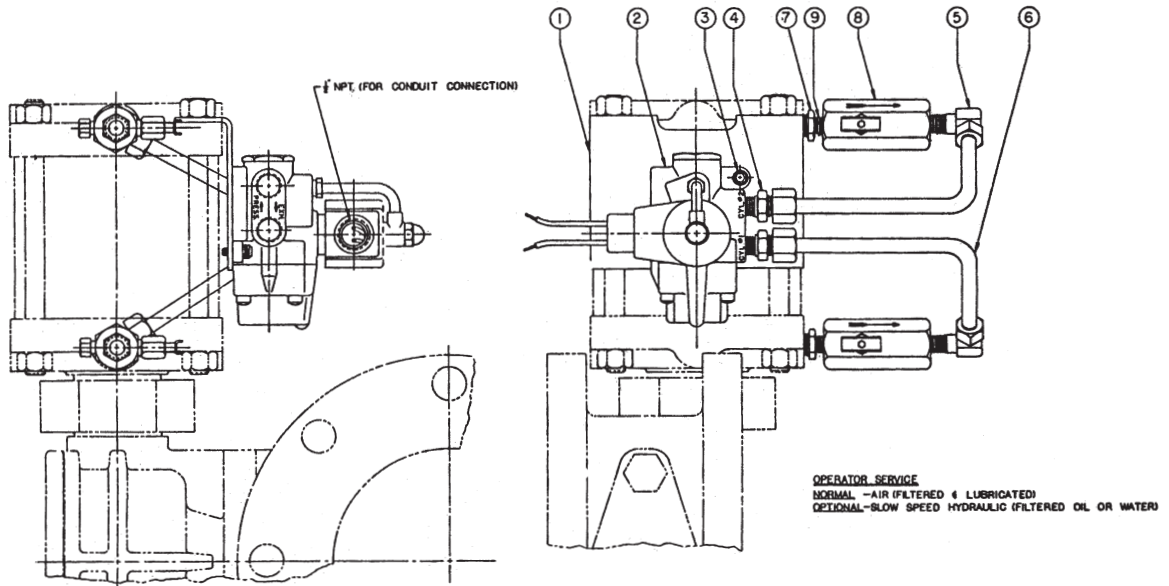
P = NO. OF BOLTS EACH FLANGE
Q = SIZE OF BOLTS
AA = NO. OF TAPPED HOLES EACH FLG.
AB = SIZE OF TAPPED HOLES
S = DEPTH OF TAPPED HOLES

VALVE SIZE	A	B	C	J	P	Q	R	S	AA	AB
4"	4	5 ⁷ / ₁₆	7 ¹ / ₂	5	8	5 ⁸ / ₁₆	9	1 ¹⁵ / ₁₆	4	3 ⁸ / ₁₆ -11
6"	5	6 ¹ / ₂	9 ¹ / ₂	5	8	3 ⁴ / ₁₆	11	1	4	3 ⁴ / ₁₆ -10
8"	6	7 ⁹ / ₁₆	11 ³ / ₄	6	8	3 ⁴ / ₁₆	13 ¹ / ₂	1 ¹ / ₁₆	4	3 ⁴ / ₁₆ -10
10"	7 ³ / ₄	9 ⁹ / ₁₆	14 ¹ / ₄	8	12	7 ⁸ / ₁₆	16	1 ¹³ / ₁₆	-	-
12"	9 ¹ / ₂	11 ⁹ / ₁₆	17	8	12	7 ⁸ / ₁₆	19	1 ¹ / ₄	-	-
14"	10 ⁷ / ₁₆	12 ¹⁵ / ₁₆	18 ³ / ₄	8	12	1	21	1 ³ / ₁₆	4	1-8
16"	12 ³ / ₁₆	14 ¹ / ₁₆	21 ¹ / ₄	8	16	1	23 ¹ / ₂	1 ⁷ / ₁₆	4	1-8
18"	13 ⁵ / ₁₆	15 ¹³ / ₁₆	22 ³ / ₄	8	16	1 ¹ / ₁₆	25	1 ⁹ / ₁₆	4	1 ¹ / ₁₆ -7
20"	14 ⁷ / ₁₆	17 ⁹ / ₁₆	25	8	20	1 ¹ / ₁₆	27 ¹ / ₂	1 ¹¹ / ₁₆	4	1 ¹ / ₁₆ -7
24"	17 ¹⁹ / ₃₂	20 ¹ / ₈	29 ¹ / ₂	8	20	1 ¹ / ₄	32	1 ¹ / ₁₆	4	1 ¹ / ₄ -7

OPERATOR MODEL	CYLINDER SIZE BORE	STROKE	D	E	F	G	H	K	L	M	N
65	5	2 ³ / ₄	3 ¹ / ₂	3 ⁹ / ₁₆	7 ¹ / ₄	5 ¹ / ₂	12 ¹ / ₄	8 ⁵ / ₁₆	3 ⁵ / ₁₆	1 ³ / ₁₆	3 ⁸ / ₁₆ -18
150	5	2 ³ / ₄	3 ¹ / ₂	3 ⁹ / ₁₆	7 ¹ / ₄	5 ¹ / ₂	12 ¹ / ₄	8 ⁵ / ₁₆	3 ⁵ / ₁₆	1 ³ / ₁₆	3 ⁸ / ₁₆ -18
250	5	4	3 ⁵ / ₈	3 ¹¹ / ₁₆	9 ¹ / ₈	5 ¹ / ₂	14 ¹ / ₂	9 ¹ / ₄	3 ⁵ / ₁₆	2	3 ⁸ / ₁₆ -18
510	6	6	3 ³ / ₄	4 ¹ / ₂	12 ⁵ / ₁₆	6 ¹ / ₂	18 ³ / ₈	11 ¹ / ₄	3 ⁵ / ₁₆	3	3 ⁸ / ₁₆ -18
1250	8	8	4 ¹ / ₂	5 ³ / ₄	17	10	24	15 ¹ / ₂	3 ³ / ₄	4	1 ¹ / ₂ -14
2200	8	12	4 ¹ / ₂	6 ¹ / ₄	23	10	30	17 ¹ / ₂	3 ³ / ₄	6	1 ¹ / ₂ -14

SUB-ASSEMBLY SOLENOID VALVE & SPEED CONTROLS
FOR NORMAL AIR SERVICE

CLOW VALVE COMPANY



ITEM NO.	DESCRIPTION	MATERIAL
1	PLATE, MOUNTING	MILD STEEL, COMM.
2	VALVE, 4-WAY SOLENOID	"ASCO" BULL. #8342 OR #8344
3	CAPSCREW, HEX. SOC. HD.	STEEL, COMM.
4	CONNECTOR, MALE	BRASS TUBE FITTING
5	ELBOW, MALE	BRASS TUBE FITTING
6	TUBE, WATER	COPPER, TYPE "L"
7	BUSHING, REDUCING	BRASS, COMM.
8	VALVE, FLOW CONTROL	BRASS, COMM.
9	NIPPLE, CLOSE	BRASS, COMM.

CLOW BUTTERFLY VALVE SUGGESTED SPECIFICATIONS 4" THROUGH 24"

CLOW VALVE COMPANY

A. General

All butterfly valves shall be of the rubber-seated tight-closing type. They shall meet or exceed AWWA Standard C504. All valves shall be CLOW 4500 butterfly valves, or approved equal.

Both valve ends shall be mechanical-joint (or other, as available) per AWWA Standard C111. Accessories (bolts, glands, and gaskets) shall be supplied by the valve manufacturer.

All valves must use full AWWA C504 Class 150B valve shaft diameter, and full Class 150B underground-service-operator torque rating throughout entire travel, to provide capability for operation in emergency service. All valves shall be NSF approved.

B. Valve

Valve body shall be high-strength cast iron ASTM A126 Class B with 18-8 Type 304 stainless steel body seat. Valve vane shall be high-strength cast iron ASTM A48 Class 40, having rubber seat mechanically secured with an integral 18-8 stainless steel clamp ring and 18-8 stainless steel self-locked screws.

Rubber seat shall be a full-circle 360 degree seat not penetrated by the valve shaft. For valves 4"-12" the valve shaft shall be one piece, extending full size through the entire valve. Valve shaft shall be 304 stainless steel. Packing shall be O-ring cartridge designed for permanent duty in underground service. For 14" and larger valve shaft shall be 18-8 stainless steel stub shaft design keyed to the vane with stainless steel torque plugs.

Body Type

All butterfly valves shall be of the rubber-seated tight-closing type. They shall meet or exceed AWWA Standard C504. All valves shall be CLOW butterfly valves, or approved equal.

Valve ends shall be: (Select desired)

Wafer Type Body

Suitable for installation between 125# or 150# ASA flanges (available 4" thru 20"). Note: Laying lengths not in accord with Table 2 of AWWA Spec C504.

Flanged

Short body valves per Table 2 of AWWA Spec C504. Flanges shall be 125# ANSI (available all sizes). Also flanged by MJ in 6", 8", 12" and 16" sizes.

Mechanical Joint

Both ends of valve shall be "MJ" per AWWA C111. "MJ" accessories (bolts, glands, gaskets) must be supplied by valve manufacturer. (Available all sizes—also flanged by MJ in 6", 8", 12" and 16" sizes.)

Operator

Valve operator shall be of the traveling-nut type, esaled, gasketed, and lubricated for underground service. It shall be capable of withstanding an overload input torque of 450 ft. lbs. at full-open or full-closed position without damaged to the valve or valve operator. It shall be designed for submergence in water to 25 ft. head pressure for up to 72 hours. Number of turns to operate valve shall be as listed below in order to closely resemble conventional distribution valve practices; and to minimize water hammer.

Pipe and Valve Size	Turns to Close	Pipe and Valve Size	Turns to Close
4"-6"	16 1/2	14"-20"	48
8"	24	24"	72
10"-12"	36		

Valve shall be capable of easy closure by one man using standard valve key, even under emergency line-break conditions. Operators come with easy external adjument.

All valves shall open left (right), and be equipped with 2" AWWA operat- ing nut.

Crank, Handwheel or Chainwheel

All manual operators for service other than underground shall have posi- tion indicator and shall be totally enclosed and permanently lubricated. In any event, a maximum pull of 80 lbs. on the crank or wheel shall produce full Table 1 output torque throughout entire travel. Operators shall accept 300 lbs. pull on the wheel at full-open and full-closed positions without damage to valve or operator. Operators shall be of the "Traveling- Nut" type. All valves shall open left (clockwise to close).

Cylinder

Cylinder operator shall be of the base mounted configuration. Cylinder barrel shall be of molybdenum-disulfide lined glass fiber reinforced epoxy tubing, to provide a corrosion-free, self-lubricated high strength barrel. Rod seal shall be of urethane, molybdenum-disulfide filled, to provide a self-lubricated, long life seal.

Piston rod shall be of hard chromium plated 18-8 stainless steel, and shall be top and bottom guided in a heavy cast iron mechanism housing for positive alignment. Guiding shall be accomplished by bronze bearings at ends of housing straddling all side loads improved in operation. Entire operator including piston rod shall be fully enclosed.

CLOW BUTTERFLY VALVE SUGGESTED
SPECIFICATIONS 4" THRU 24"

CLOW VALVE COMPANY

Operator shall produce full AWWA Standard C504 Table 1 output torque **throughout entire travel** for Class (25A) (25B) (75B) (150B) with a minimum supply pressure of () psi (water) (air) (oil).

D. Coating

Standard coating shall be Universal Primer. Coating shall be applied to entire valve body and vane before final assembly.

Epoxy (optional) shall be applied to all surfaces of valve body and vane to an average minimum film thickness of 5 mils, conforming to AWWA C-550 Standard.

E. Tests

All valves shall be tested bottle-tight at rated working pressure by the manufacturer as follows:

4" thru 12"	150 psi
14" Up	150 psi

In addition, a hydrostatic test with vane partially open shall be given to the assembled valve. As follows:

4"	300 psi
14" Up	300 psi

Class 250 Available