

CLOW FLAP VALVES, IBBM

CLOW VALVE COMPANY

Size Range	Working Pressure
4"–30"	Valves unseat and swing open under unseating pressure to release the outfall fluid and close when pressure is relieved

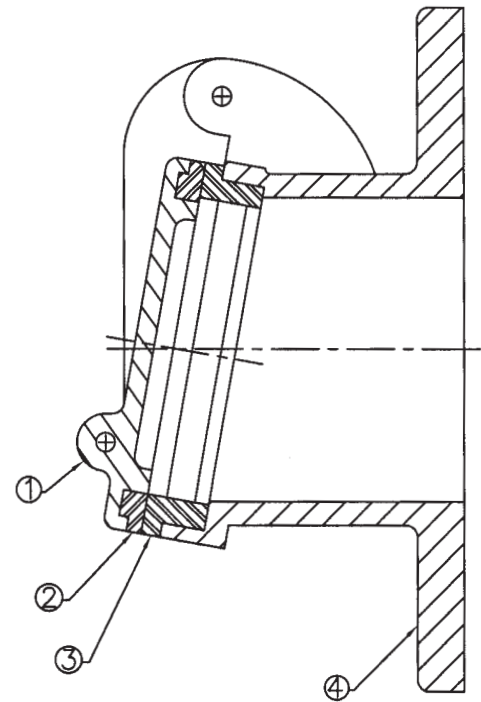
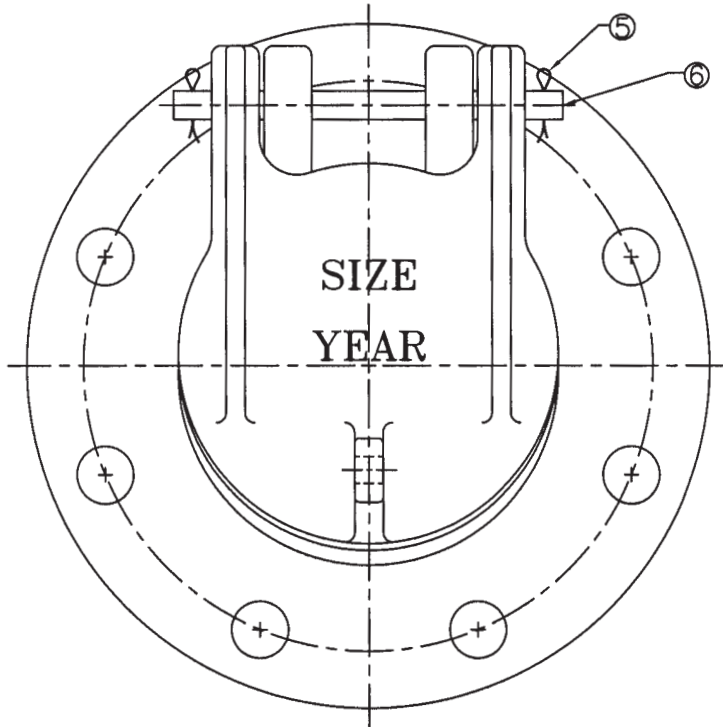
Available End Connections & Size Range
Flanged End 4"–30"

Figure No.
F-3012-T

Accessories
None

FLAP VALVE - FLANGE
PARTS LIST

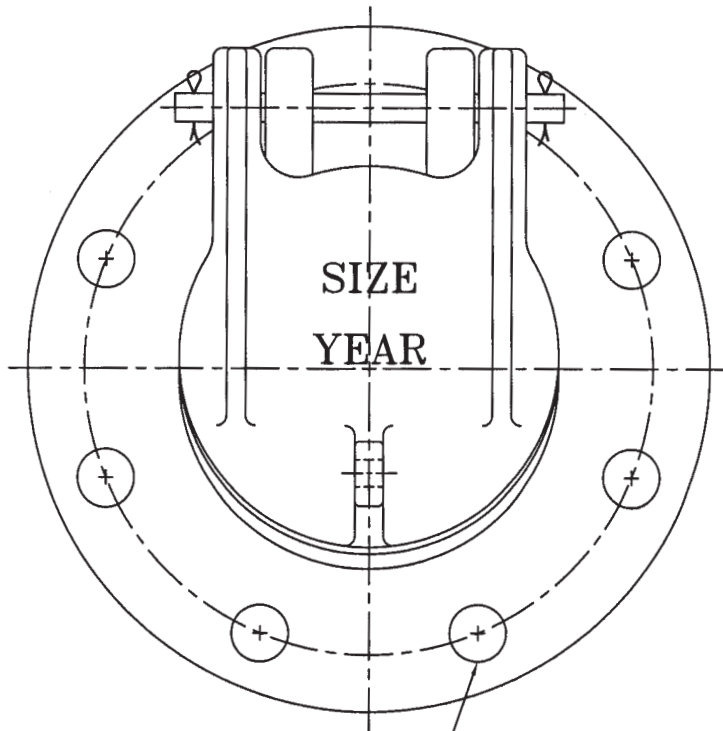
CLOW VALVE COMPANY



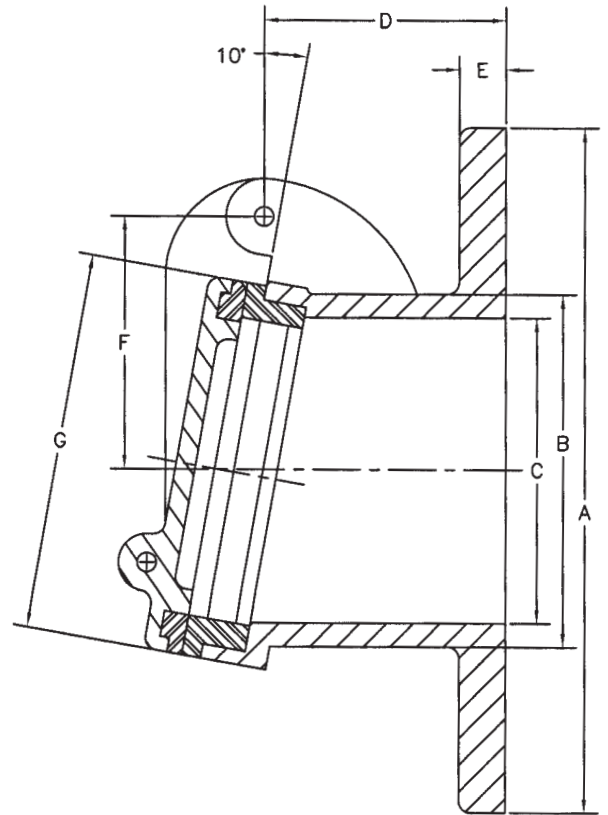
PARTS LIST			
ITEM	DESCRIPTION	REQ'D	MATERIAL
1	F/V DISC	1	CAST IRON A126 CL. B
2	DISC RING	1	BRONZE B62
3	SEAT RING	1	BRONZE B62
4	F/V BODY	1	CAST IRON A126 CL. B
5	COTTER PIN	2	BRASS CDA360
6	HINGE PIN	1	STAINLESS STEEL

FLAP VALVE - FLANGE
GENERAL DIMENSIONS

CLOW VALVE COMPANY



"H" Dia. of Holes
"J" No. of Holes
Equally spaced on
"K" B.C. - Straddle CL



DIMENSIONS										
ITEM	A	B	C	D	E	F	G	H	J	K
4	9.00	4.62	4.00	3.25	.62	3.44	5.00	.75	8	7.50
6	11.00	6.75	6.00	3.50	.69	4.50	7.00	.88	8	9.50
8	13.50	8.75	8.00	4.00	.75	5.62	9.25	.88	8	11.75
10	16.00	10.88	10.00	4.50	.81	6.88	11.50	1.00	12	14.25
12	19.00	13.00	12.00	4.50	.88	7.91	13.50	1.00	12	17.00
14	21.00	15.75	14.50	4.62	1.19	9.12	15.75	1.12	12	18.75
16	23.50	18.06	16.69	4.50	1.25	10.25	18.00	1.12	16	21.25
18	25.00	19.75	18.50	7.50	1.12	11.62	20.00	1.25	16	22.75
20	27.50	22.00	20.62	6.00	1.12	12.69	22.25	1.25	20	25.00
24	32.00	25.75	24.00	6.56	1.38	14.53	26.25	1.38	20	29.50
30	38.75	31.50	30.00	8.50	1.50	17.88	32.75	1.38	28	36.00

SUGGESTED SPECIFICATIONS
CLOW FLAP VALVES

CLOW VALVE COMPANY

Flap valves shall be of the circular port design with offset single pivoted hinge. They shall be of the iron body bronze mounted type and furnished with flanged end,

The assembly shall consist of three parts: flap gate, body and hinge pin. The flap gate and body shall be cast iron conforming to ASTM specifications A-126 Class B. The seats and hinge pin shall be furnished of bronze. The flap gate seat ring shall be rolled into a dove-tailed groove under pressure to make one inseparable unit. The body seat ring shall be threaded and screwed into place in the body. Both gate and body seat ring faces shall be machined to a smooth finish.

The valve shall be constructed with a 10° offset from vertical to ensure positive closure. The flange shall be drilled using an ANSI 125 pound template. Valves shall be as furnished by Clow Valve (F-3012-T) or approved equal.

CLOW VALVE COMPANY

General; Inspect all valves at time of delivery for shipping damage and to confirm compliance with order. The valve should be protected from rough handling. Water and debris should not be allowed to collect in valve.

I. **Installation**

- A. Check that valve end joints are clean.
- B. Remove any material used to restrain the gate during shipment and storage.
- C. The gate should be checked to insure freedom of motion and proper operation.
- D. When handling the valve, do not use the outside mechanisms for lifting.
- E. Prepare pipe end or manhole as required, and install valve as per appropriate instructions for the specified joint. Bolt holes should straddle the vertical centerline.

II. **Operation**

Once properly installed, the flap valve will operate as flow conditions dictate. The valve will open under direct pressure to release the outfall fluid and will close to prevent entrance of backwater when the direct pressure is relieved. The flap valve has a 10 degree inclined seating plane to insure positive seating.

III. **Maintenance**

Frequency of inspection should be at least on an annual basis. Joint should be visually inspected for leakage. Raise and lower the flap so pin can be checked for free operation.

Troubleshooting:

Exercise and lubricate the hinge/shaft pin (*with suitable lubricant) at least annually to assure free operation. Check bronze flap ring and seat ring for freedom from damage. Remove any debris found on inside of valve.

There are no recommended spare parts.

** Food grade grease similar to Mystik FG-2.*

Size Range	Working Pressure
4"–30"	Recommended for use in lines of low seating pressure only

Note: Seating pressure is pressure tending to push gate to seat

Available End Connections & Size Range

Flanged End Frame 4"–30"

Figure No.

F-3000-T

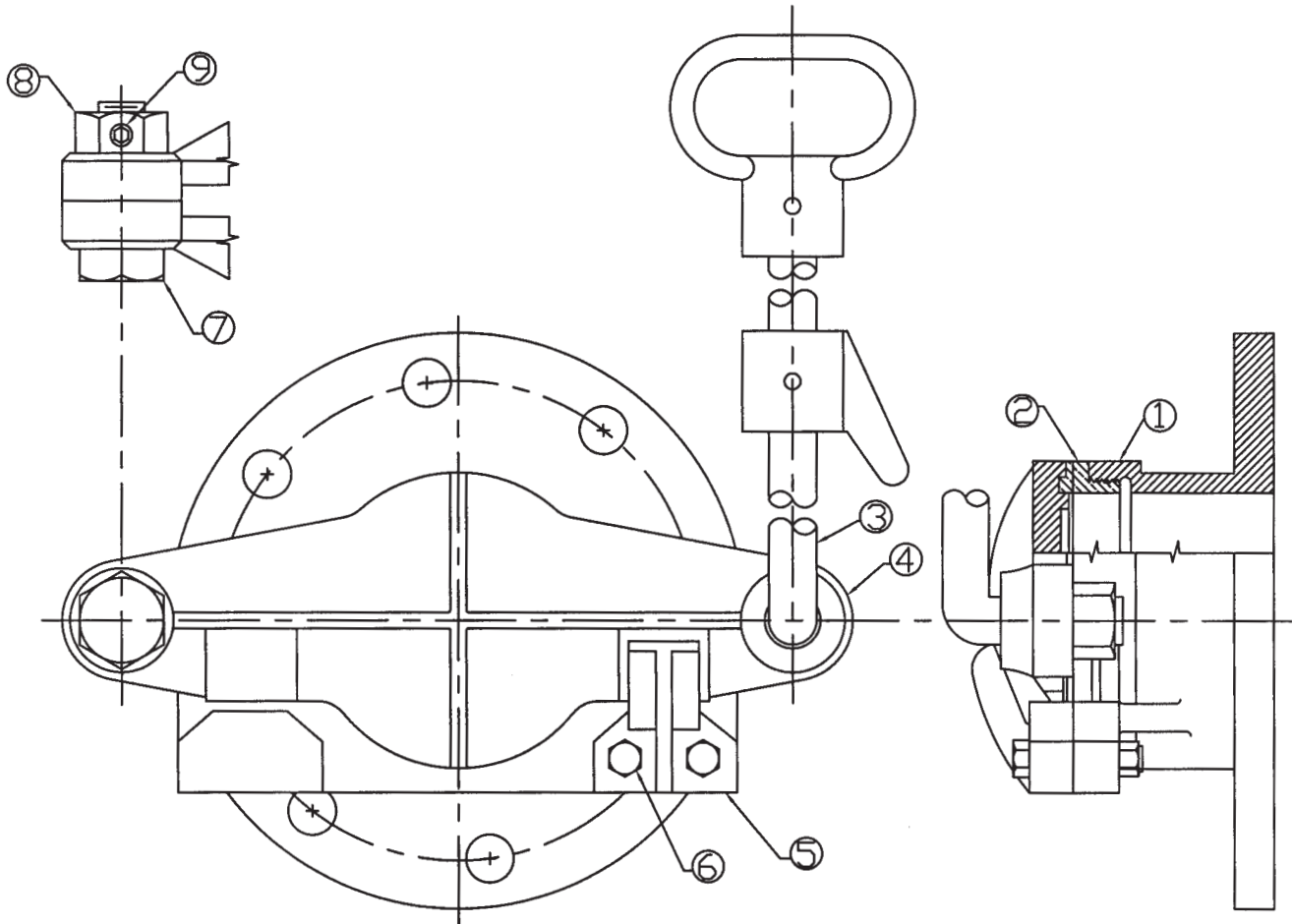
Note: Flanged End Frame are faced and drilled to ANSI 125 pound template.

Accessories

Lifting Handle & Hooks

SHEAR GATE - FLANGE END
SINGLE WEDGE

CLOW VALVE COMPANY



PARTS LIST

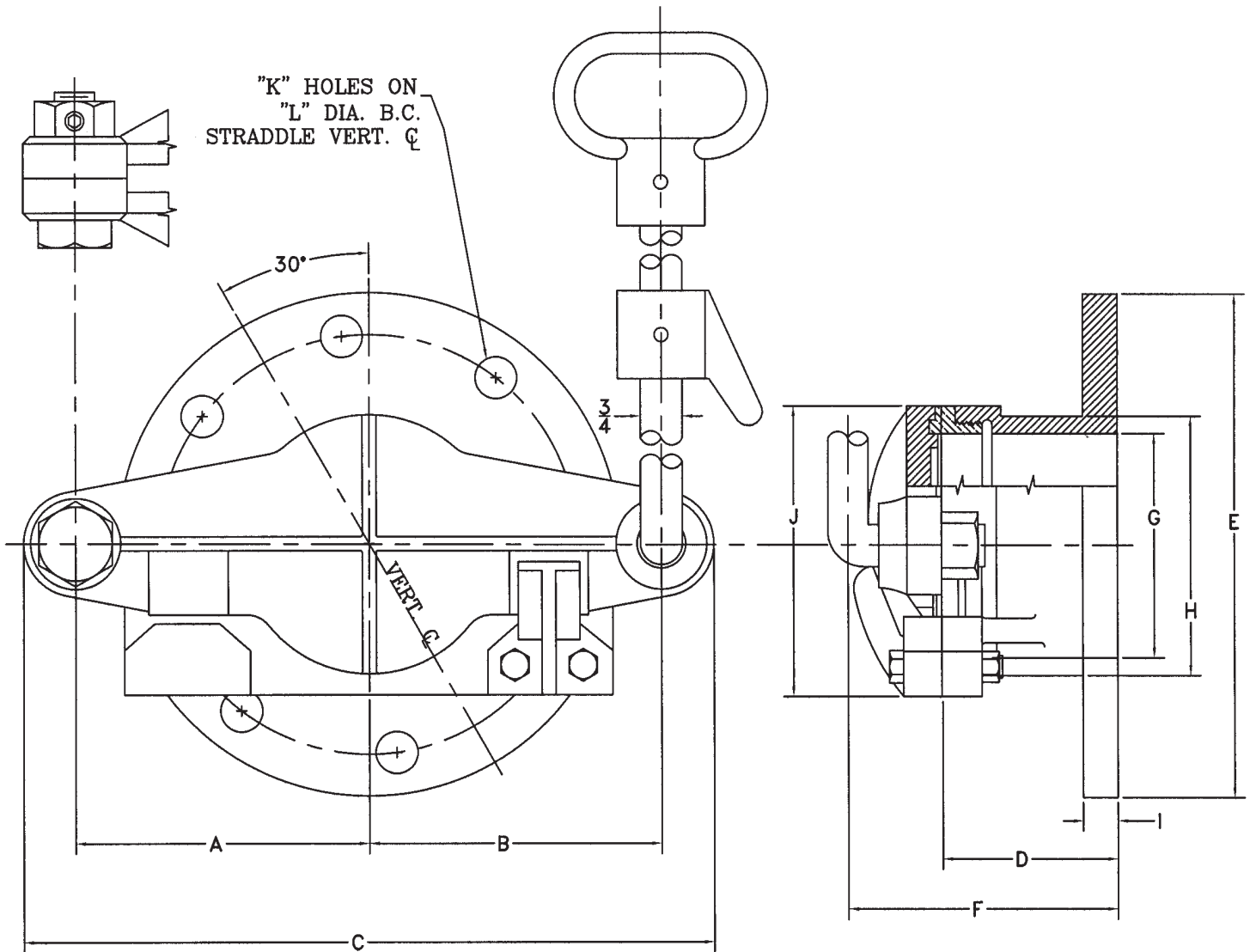
ITEM	DESCRIPTION	REQ'D	MATERIAL	ASTM	
1	BODY	1	CAST IRON	A126	CL. B
2	SEAT RING	1	BRONZE	B62	
3	LIFT HANDLE DISC W/BR	1	STEEL	A107	GR. 1115
4	DISC RING	1	CAST IRON	A126	CL. B
5	RIGHT HAND WEDGE	1	CAST IRON	A126	CL. B
6	WEDGE BOLT	2	STEEL		ASA B18.2
7	HINGE BOLT	1	BRONZE	B62	
8	HINGE BOLT NUT	1	BRONZE	B62	
9	SET SCREW	1	STEEL		PLATED

FURNISHED WITH TWO FOOT LIFT
HANDLE AND CATCH

LONGER LIFT HANDLE
FURNISHED WHEN SPECIFIED

SHEAR GATE - FLANGE END
SINGLE WEDGE

CLOW VALVE COMPANY



VALVE SIZE	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"
A	5 $\frac{1}{4}$	6 $\frac{1}{2}$	8	9 $\frac{3}{8}$	11	13 $\frac{1}{2}$	14 $\frac{1}{2}$	15 $\frac{1}{2}$	18	21	24
B	5 $\frac{1}{4}$	6 $\frac{1}{2}$	8	9 $\frac{3}{8}$	11	13 $\frac{1}{2}$	14 $\frac{1}{2}$	15 $\frac{1}{2}$	18	21	24
C	12 $\frac{3}{8}$	15 $\frac{1}{8}$	18 $\frac{3}{8}$	21 $\frac{3}{8}$	24 $\frac{3}{4}$	31	33 $\frac{1}{2}$	36	41	47	53 $\frac{1}{2}$
D	3 $\frac{1}{4}$	3 $\frac{3}{8}$	3 $\frac{5}{8}$	4	4 $\frac{3}{8}$	4 $\frac{3}{4}$	5 $\frac{1}{2}$	6	6	6 $\frac{1}{2}$	6 $\frac{1}{2}$
E	9	11	13 $\frac{1}{2}$	16	19	21	23 $\frac{1}{2}$	25	27 $\frac{1}{2}$	32	38 $\frac{3}{4}$
F	5	5 $\frac{1}{4}$	5 $\frac{3}{8}$	6	6 $\frac{5}{8}$	7 $\frac{1}{4}$	8 $\frac{9}{16}$	9 $\frac{3}{8}$	9 $\frac{1}{2}$	10 $\frac{1}{2}$	10 $\frac{3}{4}$
G	4	6	8	10	12	14	16	18	20	24	30
H	4 $\frac{5}{8}$	6 $\frac{3}{4}$	8 $\frac{3}{4}$	10 $\frac{7}{8}$	13	15 $\frac{1}{4}$	17 $\frac{1}{4}$	19 $\frac{1}{4}$	21 $\frac{1}{2}$	25 $\frac{3}{4}$	32
I	5 $\frac{5}{8}$	11 $\frac{1}{16}$	3 $\frac{1}{4}$	13 $\frac{1}{16}$	7 $\frac{7}{8}$	1	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$	1 $\frac{3}{8}$	1 $\frac{1}{2}$
J	5	7	9 $\frac{1}{4}$	11 $\frac{1}{2}$	13 $\frac{1}{2}$	15 $\frac{3}{4}$	18	20	22 $\frac{1}{4}$	26 $\frac{1}{4}$	32 $\frac{3}{4}$
K	8- $\frac{3}{4}$	8- $\frac{7}{8}$	8- $\frac{7}{8}$	12-1	12-1	12-1 $\frac{1}{8}$	16-1 $\frac{1}{8}$	16-1 $\frac{1}{4}$	20-1 $\frac{1}{4}$	20-1 $\frac{3}{8}$	28-1 $\frac{3}{8}$
L	7 $\frac{1}{2}$	9 $\frac{1}{2}$	11 $\frac{3}{4}$	14 $\frac{1}{4}$	17	18 $\frac{3}{4}$	21 $\frac{1}{4}$	22 $\frac{3}{4}$	25	29 $\frac{1}{2}$	36

SUGGESTED SPECIFICATIONS
CLOW SHEAR GATES

CLOW VALVE COMPANY

Shear gates shall be full opening, circular port, iron body bronze mounted design and furnished with flanged end.

The body (frame), gate and wedge shall be of cast iron conforming to ASTM specification A-126 Class B.

The valve shall be furnished with a wedge bolted to the body so they can easily be removed and replaced due to wear.

The gate shall be sturdily proportioned and pivot on a solid bronze hinge bolt.

The bronze gate (seat) ring shall be rolled into a dovetailed groove under pressure to make one inseparable unit. The bronze gate ring face shall be machined to a smooth finish. The body seat ring shall be bronze, threaded and screwed into place and the face machined to a smooth finish.

Lift rods are used to manually raise and lower the Shear Gate disc from a position above the gate. A cast iron catch hook may be adjusted on the lift rod to allow the rod to be hung on a hanger placed in the wall. Lift rod material is 3/4" dia. carbon steel. Catch and loop handle are cast iron. Lift rods may be made to specified length in 6" increments.

CLOW VALVE COMPANY

General; Inspect all assemblies at time of delivery for shipping damage and to confirm compliance with order. The valve should be protected from rough handling. Water and debris should not be allowed to collect in the valve.

Installation;

- A. Check that valve end joints are clean.
- B. Remove any material used to restrain the gate during shipment and storage.
- C. The gate should be checked to insure freedom of motion and proper operation.
- D. When handling the valve, do not use outside mechanisms for lifting.
- E. Prepare pipe end as required, and install valve as per appropriate instructions for the specified joint. The valve is mounted 30 degrees offset from the vertical centerline to allow for proper closure.

Operation; Once installed, operation of the shear gate is simple and straight forward, using the lift handle to open and close the gate. The valve may be held in various open positions by using the adjustable catch hook on the lift handle.

Maintenance; Inspection should be conducted at least once a year. Joint should be visually inspected for leakage. Raise and lower the gate to check for free operation. Check bronze gate ring and seat ring for freedom from damage. The seating may be adjusted by tightening or loosening the hinge bolt nut to change the relationship between the hinge bolt and wedge. Use a feeler gauge of .004 to adjust gate disc to the proper seat gap around the total seating circumference. Remove any debris found on inside of valve.

Periodic visual inspection of the coating is recommended with field cleaning and painting as required.

There are no recommended spare parts.

There are no lubrication requirements.

CLOW SLUICE GATES, IBBM

CLOW VALVE COMPANY

Size Range	Working Pressure
4" - 6"	Max. 5 Ft. unseating Max. 10 Ft. seating

Note: Unseating - pressure pushing gate away from seat.
Seating - pressure pushing gate to seat

Available End Connections & Size Range

Flange End

4" - 6"

Figure No.

F-5350-T

ACCESSORIES (ILLUSTRATED IN THE GATE VALVE SECTION)

Handwheels

2" Square Operating Nut

Floorstands (NRS or R.S.)

Extension Stems

"T" Handles

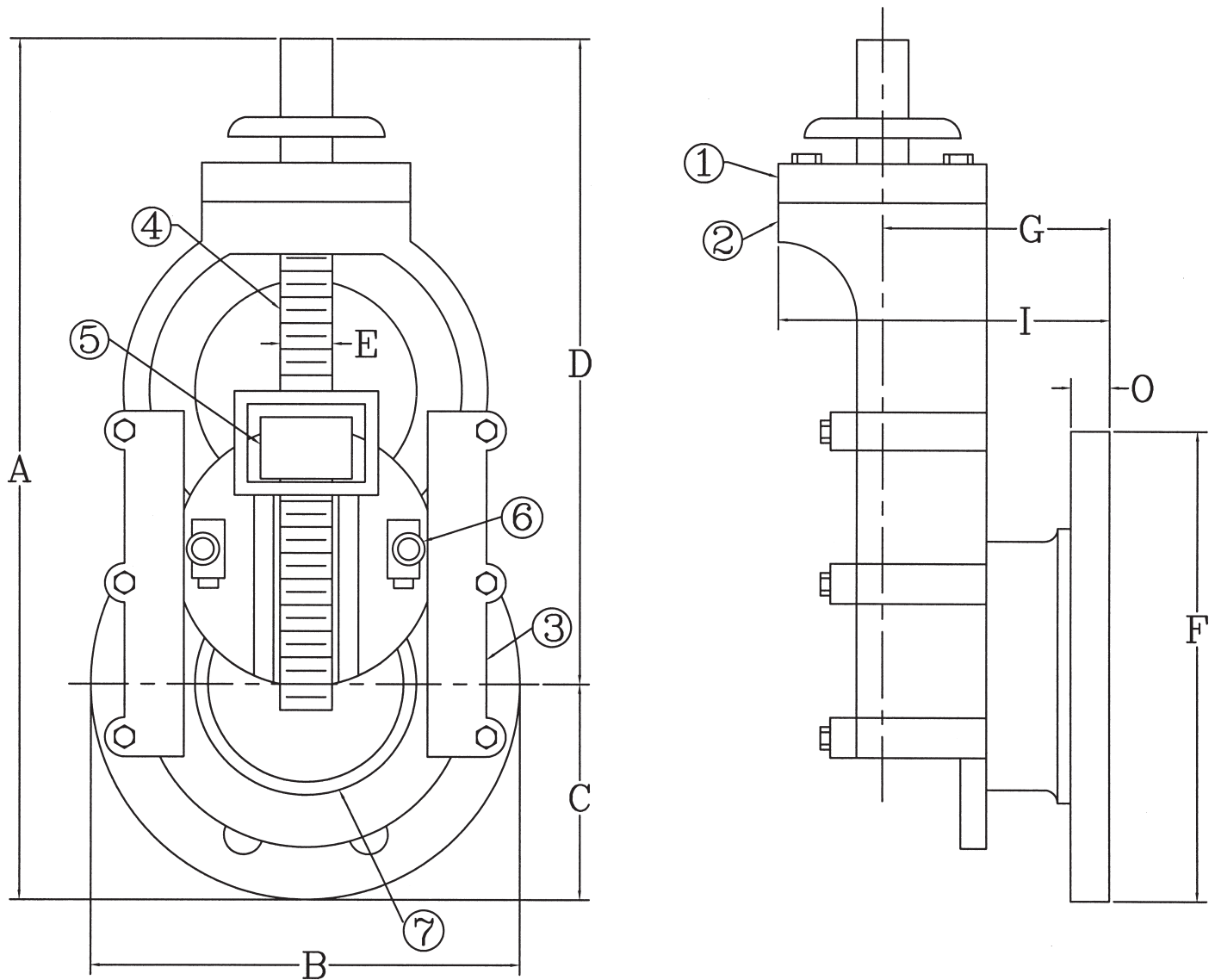
Stem Guides

Floor Boxes

Note: Call Factory For Special Accessories and Applications.

SLUICE GATE
N.R.S.

CLOW VALVE COMPANY



SIZE	A	B	C	D	E	F	G	I	O
4	16-1/2	8-1/4	4-1/2	12	1	9	4-3/8	7	3/4
6	21	11-1/4	5-1/2	15-1/2	1-1/8	11	5-1/2	7-1/2	7/8

ITEM	DESCRIPTION	REQ'D	MATERIAL
1	CAP	1	C.I A126B
2	BODY	1	C.I A126B
3	GUIDE L&R	1 EA.	C.I A126B
4	STEM	1	BRZ. B584
5	THRUST NUT	1	BRZ. B132A
6	WEDGE L&R	1 EA.	BRZ. B62
7	SEAT	2	BRZ. B62

CLOW VALVE COMPANY

Size Range	Working Pressure
4"–24"	Mud valves are recommended for use in applications with low seating or unseating pressures only.

Available in either non-rising, rising or sliding stem.

Available End Connections & Size Range**Figure No.**

Flanged End, Non-Rising Stem 4"–24"

F-3075–T

Flanged End, Rising Stem 4"–24"

F-3085–T

Note: Flanged ends are faced and drilled to ANSI 125 pound template except holes under where attached to flange are omitted.

Accessories

Handwheels

"T" Handles

2" Square Operating Nut

Stem Guides

Floorstands (NRS and RS)

Floor Boxes

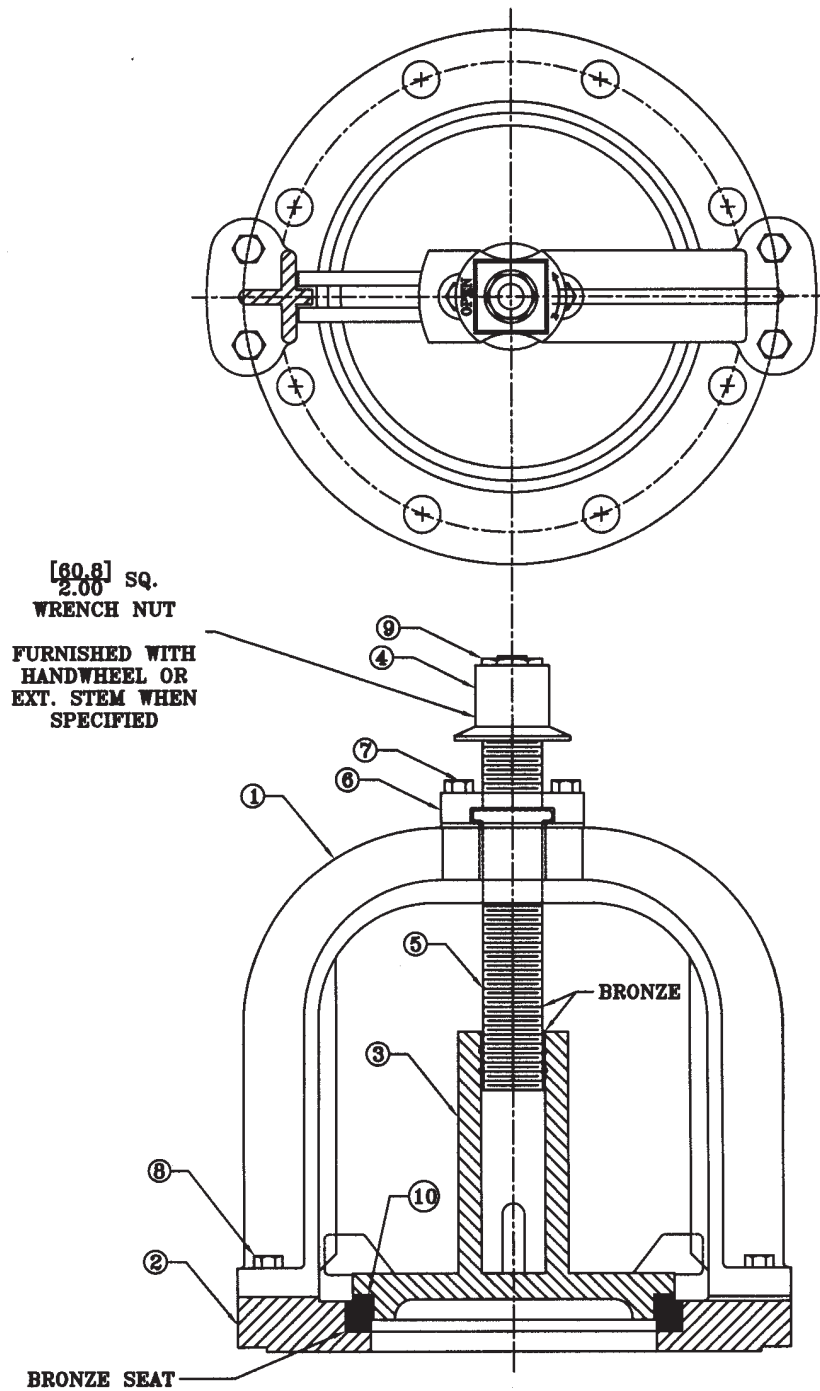
*Extension Stems

*Note: Consult Factory Rep. or Dist. for material other than cold rolled steel.

*Note: Call Factory for special applications.

RESILIENT SEATED MUD VALVE - RISING &
NON-RISING STEMS

CLOW VALVE COMPANY

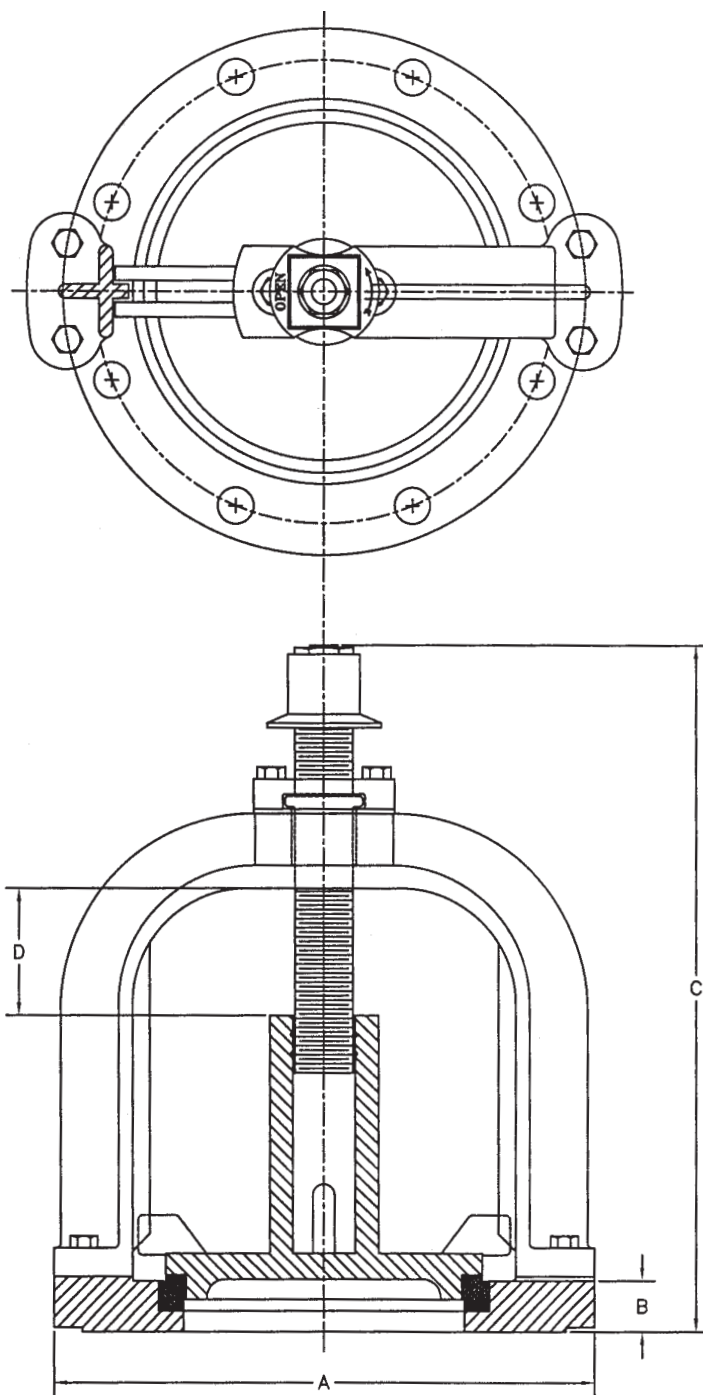


PARTS LIST

ITEM	DESCRIPTION	REQ'D	MATERIAL	ASTM	
1	YOKE	1	CAST IRON	A126	CL. B
2	FRAME W/BRZ RING	1	CAST IRON	A126	CL. B
3	PLUG	1	CAST IRON	A126	CL. B
4	WRENCH NUT	1	CAST IRON	A126	CL. B
5	STEM	1	BRONZE	B136	ALLOY 675
6	STEM CAP	1	CAST IRON	A126	CL. B
7	CAP SCREW	2	STEEL		ASA B18.6.2
8	CAP SCREW	4	STEEL		ASA B18.6.2
9	CAP NUT	1	STEEL	A307	GR. B PLT'D
10	PLUG SEAT	1	BUNA-N		50 DURO

RESILIENT SEATED MUD VALVE - RISING &
NON-RISING STEMS

CLOW VALVE COMPANY



NON-RISING STEM MUD VALVE

SIZE	A	B	C	D
3"	7 $\frac{1}{2}$	3 $\frac{3}{4}$	11 $\frac{3}{8}$	1 $\frac{3}{4}$
4"	9	1 $\frac{5}{8}$	14 $\frac{1}{4}$	1 $\frac{7}{8}$
6"	11	1	16 $\frac{3}{8}$	3 $\frac{1}{8}$
8"	13 $\frac{1}{2}$	1 $\frac{1}{8}$	19 $\frac{3}{8}$	4 $\frac{5}{16}$
10"	16	1 $\frac{3}{8}$	22 $\frac{7}{8}$	5 $\frac{3}{8}$
12"	19	1 $\frac{1}{4}$	24 $\frac{3}{4}$	6 $\frac{9}{16}$
14"	21	1 $\frac{3}{8}$	27 $\frac{1}{4}$	7 $\frac{5}{8}$
16"	23 $\frac{1}{2}$	1 $\frac{7}{8}$	29 $\frac{7}{8}$	8 $\frac{7}{16}$
18"	25	1 $\frac{9}{8}$	32 $\frac{3}{4}$	8 $\frac{7}{8}$
20"	27 $\frac{1}{2}$	1 $\frac{11}{8}$	37	9 $\frac{7}{8}$
24"	32	1 $\frac{7}{8}$	41 $\frac{7}{8}$	12 $\frac{1}{4}$

RISEING STEM MUD VALVE

SIZE	A	B	C	D
4"	9	1 $\frac{5}{8}$	10 $\frac{3}{4}$	1 $\frac{7}{8}$
6"	11	1	12 $\frac{7}{8}$	3 $\frac{1}{8}$
8"	13 $\frac{1}{2}$	1 $\frac{1}{8}$	14 $\frac{1}{4}$	4 $\frac{5}{16}$
10"	16	1 $\frac{3}{8}$	16 $\frac{1}{4}$	5 $\frac{3}{8}$
12"	19	1 $\frac{1}{4}$	18 $\frac{3}{8}$	6 $\frac{9}{16}$
14"	21	1 $\frac{3}{8}$	20 $\frac{3}{8}$	7 $\frac{5}{8}$
16"	23 $\frac{1}{2}$	1 $\frac{7}{8}$	21 $\frac{1}{4}$	8 $\frac{7}{16}$
18"	25	1 $\frac{9}{8}$	23 $\frac{1}{8}$	8 $\frac{7}{8}$

SUGGESTED SPECIFICATIONS
CLOW MUD VALVES

CLOW VALVE COMPANY

The Mud valve shall be of the heavy duty flanged type designed to provide a positive seal under both seating and unseating head conditions. The Valve shall be (non rising) (rising) stem style as detailed on the schedule or the plans.

The frame, yoke and gate shall be sturdily proportioned for strength and rigidity and be of cast iron conforming to ASTM specifications A 126 Class B.

The stem, and stem nut shall be bronze. The stem shall be machined with accurately cut modified acme threads.

The seat ring shall be bronze with a tapered, accurately machined seating face. The plug seat shall be a seamless molded ring of BUNA-N tapered to accurately mate with the seat ring to form a positive seal.

Mud valves shall be F-3075-T non-rising stem design or F-3085-T rising stem design as furnished by Clow Valve or approved equal.

CLOW VALVE COMPANY

General;

Clow Mud valves are designed for settling basin drain lines, sump blow-offs, swimming pool drains, waterworks, sewage and filtration plants, irrigation systems, and industrial installations. They are recommended for use in lines of low seating or unseating pressures only.

Clow Mud Valves are either rising stem, non-rising stem or sliding stem type. Bodies are cast iron. The stem, stem nut, and seat ring are bronze. The plug seat is seamless molded buna-n tapered to mate with bronze seat ring. Bolts and nuts are rust proof steel.

Clow Mud Valves can be furnished with handwheel or operating nut as required. They can also be furnished with extension stem, with plain or indicating floorstand.

When ordering extension stem, state length, and give distance from bottom face of flange to top of handwheel or nut, or to base of floorstand.

Installation;

- A. Valve should be mounted to a standard 125# flange. Flange should be flush with the floor, level and free of debris.
- B. Check that the valve end joints are clean.
- C. Remove packing material, if any.
- D. Operate valve before installation. Check that seat is free of defects.
- E. Do not lift or sling on sealing or operating surfaces.
- F. Install valve to flange using a full face soft rubber flange gasket and proper sized bolts/studs and nuts for valve size.
- G. Tighten all bolts evenly using a star tightening pattern. Do not overtighten. Uneven tightening, jacking or overtightening may result in excessive leakage.
- H. Before filling tanks, operate valve and insure that there is no binding or warping of the seat due to uneven torque on mounting bolts or studs.
- I. Specific valve installation, in relation to container base, varies per application and should be responsibility of design engineer.

Operation;

The operation of the Clow Mud Valve is straight forward, the gate is seated and unseated by rotating operating nut or handwheel in proper direction (unless sliding stem). The valve seats with the pressure in normal installations. Excess torque is not required.

Maintenance/Troubleshooting;

At least once per year or whenever the tank or pool is drained, the valve should be inspected. Valve should be rinsed clean and seats inspected for damage. All bolts and nuts should be tightened as necessary. Operate valve to insure proper operation. Record all inspections with comments on work performed.

Lubrication Requirements;

Periodic lubrication of the bronze valve operating stem is recommended using a
* suitable lubricant.

Recommended Spare Parts;

None required.

Field disassembly is not required or recommended by factory.

* Food grade grease similar to Mystik FG-2.