

Valves

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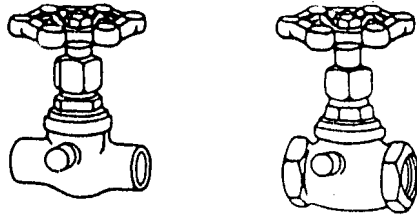
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PLUMBING VALVES

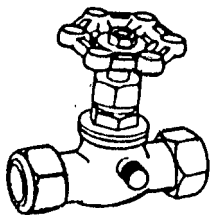
STOP AND WASTE VALVES



STANDARD PATTERN				
SIZE	SWEAT		THREADED	
	FIG. NO.	PRICE	FIG. NO.	PRICE
3/8	5853	-	-	-
1/2	5857	-	5798	-
3/4	5995	-	5800	-



COMPRESSION STOP AND WASTE VALVES

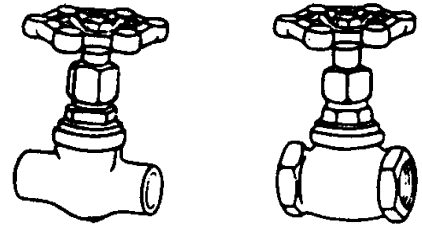


- ☞ Sweat to Copper
- ☞ Compression to Copper
- ☞ CPVC to CPVC

GREAT if you can't use an open flame or don't want to solder!

SIZE	FIG. NO.	PRICE
1/2	6031	
3/4	6032	

STOP VALVES



SIZE	SWEAT		THREADED	
	FIG. NO.	PRICE	FIG. NO.	PRICE
1/2	5795	-	5790	-
3/4	5796	-	5792	-

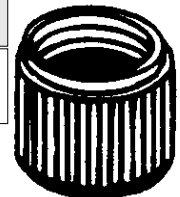
ANGLE STOP VALVES



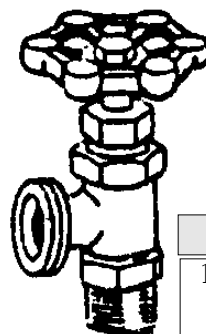
SIZE	SWEAT		THREAD	
	FIG. NO.	PRICE	FIG. NO.	PRICE
1/2	6005	-	6000	-
3/4	6007	-	6002	-

STOP AND WASTE CAPS

SIZE	FIG. NO.	PRICE
5/16	6201	
3/8	44411	



BOILER DRAINS



STANDARD PATTERN

SIZE	FIG NO	PRICE
1/2" SWT X MIP	6015	
3/4" MIP	6018	

MORE PLUMBING VALVES

TILE STOP



Available sweat or threaded for installation on tile walls

NEEDLE VALVE



SIZE	FIG	PRICE
1/8	6556	
1/4	6558	
3/8	6549	

LONG STEM VALVE



Perfect for hard to reach spots. Available threaded or sweat

ANGLE NEEDLE VALVE



Rated 250WOG

SEE PAGE 610 FOR MACPAC CURB STOP VALVES.

WATER SERVICE VALVES



MAC PAC Style also available in stock!



FLARE CURB STOP

SIZE	FIG NO	PRICE
1/2		
3/4	6732	
1	6733	
1 1/4	6734	
1 1/2	6735	
2	6736	

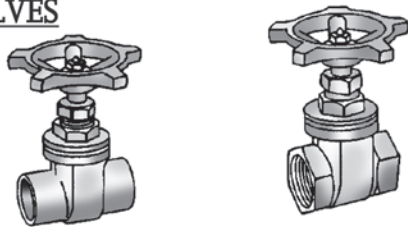


GROUND KEY STOP AND WASTE

SIZE	FIG NO	PRICE
1/2	6740	
3/4	—	
1	—	
1 1/4	—	
1 1/2	—	
2	—	

COMPACT PATTERN BRONZE VALVES
 PROVIDING AN ECONOMICAL ALTERNATIVE TO STANDARD PATTERN VALVES!

GATE VALVES



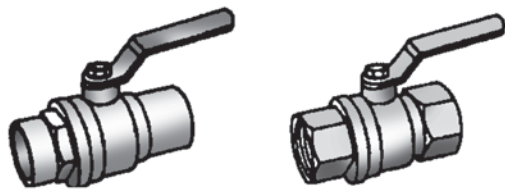
SIZE	SWEAT		THREADED	
	FIG. NO.	PRICE	FIG. NO.	PRICE
1/2	6761		6752	
3/4	6762		6753	
1	6763		6754	
1 1/4	6764		6755	
1 1/2	6765		6756	
2	6766		6757	
2 1/2	—		6758	
3	6768		6759	
4	—		6760	

CHECK VALVES



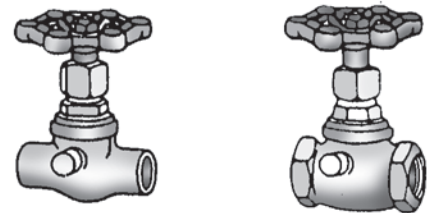
SIZE	SWEAT		THREADED	
	FIG. NO.	PRICE	FIG. NO.	PRICE
1/2	6780		6771	
3/4	6781		6772	
1	222985		6773	
1 1/4	6783		6774	
1 1/2	6784		6775	
2	6785		6776	
2 1/2	6786		6777	
3	—		6778	
4	6788		6779	

COMPACT PATTERN BALL VALVES



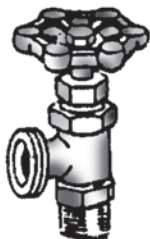
SIZE	SWEAT		THREADED	
	FIG. NO.	PRICE	FIG. NO.	PRICE
1/2	4163		4168	
3/4	247997		4169	
1	247998		22734	
1 1/4	247945		38837	
1 1/2	248001		38838	
2	248000		38839	
2 1/2	4170		4172	
3	4171		248202	
4	47421		4174	

COMPACT STOP AND WASTE VALVES



SIZE	SWEAT		THREADED	
	FIG. NO.	PRICE	FIG. NO.	PRICE
3/8	—		8873	
1/2	6206		6228	
3/4	6227		6229	

COMPACT BOILER DRAINS



SIZE	FIG	PRICE
1/2	6230	
3/4	6231	

MICRO BALL VALVE



SIZE	FIG. NO.
1/8"	250938

MINI BALL VALVE



SIZE	FIG. NO.
1/4"	96921
1/4" (MVF)	153150



See Page 15
 For Premium Ball Valves

**IDEAL FOR PUMP INSTALLATIONS,
 RESIDENTIAL PLUMBING AND HEATING JOBS!**

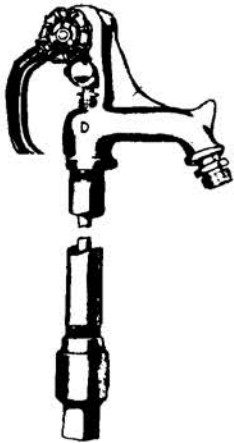
OUTSIDE FAUCETS

SILLCOCKS



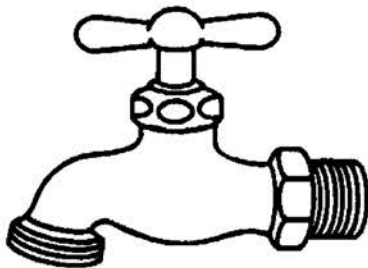
SIZE	SWEAT		THREAD	
	FIG. NO.	PRICE	FIG. NO.	PRICE
1/2	6011		6008	
3/4	6013		6010	

FROSTPROOF HYDRANTS



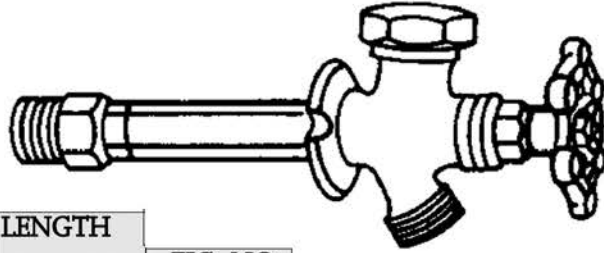
BURY SIZE	APPROX OVERALL LENGTH	FIG. NO.	PRICE
2'	5'	25449	
3'	6'	5304	
4'	7'	5306	
5'	8'	18460	

HOSE BIBBS



SIZE	ROUGH BRASS	
	FIG. NO.	PRICE
1/2	20316	
3/4	20317	

FROST PROOF SILLCOCKS



LENGTH	FIG. NO.
4	6019
6	6021
8	6022
10	6027
12	6028
14	6030

*All 1/2" SWT X MIP

ANTI-SYPHON PATTERN PROVIDES:

- **FREEZE PROTECTION** - Water from the hydrant will drain in a steady gentle stream for for approximately 15-20 seconds after the hydrant is turned off.
- **HEALTH PROTECTION** - In the event of back syphonage due to a drop in inlet pressure, the vacuum breaker will intake air through the post to break the syphoning action. Any water trying to make its way back to the potable water supply due to bad syphonage or backpressure will be blocked at the point of the backflow preventer/vacuum breaker and drain harmlessly to the ground through the air ports.

LOCKSHIELD SILLCOCKS



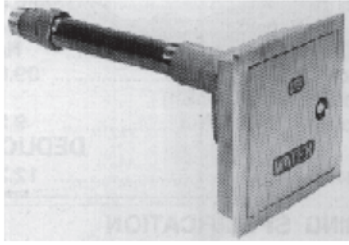
KEEP VANDALS AWAY FROM YOUR FAUCETS!

SIZE	FIG. NO.	PRICE
1/2	18067	
3/4	50828	

SILLCOCK KEY

FIG. NO.	PRICE
17491	

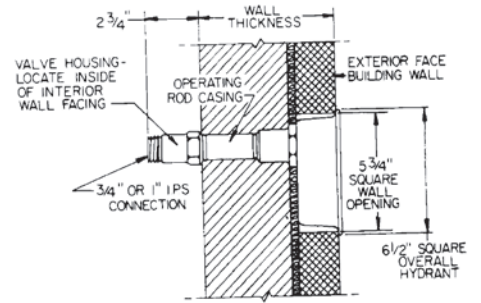
OUTSIDE FAUCETS



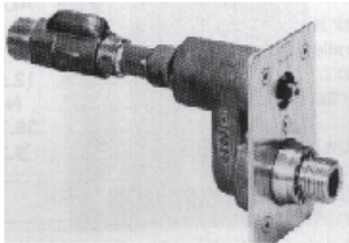
WALL HYDRANT *encased, non-freeze*

A flush, fully enclosed, fully protected installation in any type wall construction. Hinged box cover can be locked to prevent vandalism. The same key that unlocks operates hydrant. Amply wide flange of box extends over wall opening and provides neat, flush installation for modern

building facades.



Call or email us for available manufacturers and models.



WALL HYDRANT *exposed, non-freeze, automatic draining, anti-syphon*

Where the added security of a box hydrant is not required. Optional wall clamp shown to anchor hydrant in wall. Stainless steel face provides for flush installation and years of noncorroded appearance.

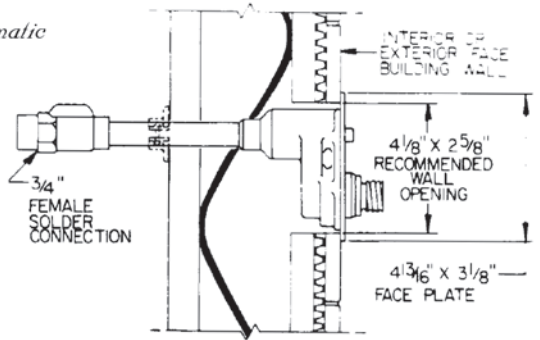
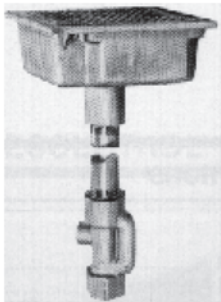
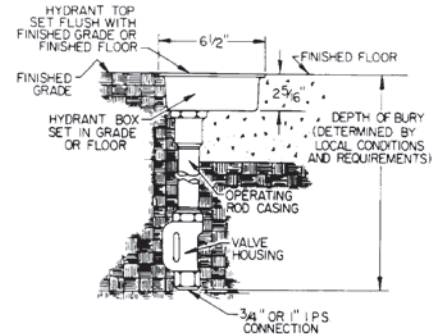


FIG NO	PRICE
DCZ1321	



POST HYDRANT EXPOSED, NON-FREEZE

A unique housing designed for aesthetic appeal. Siphon resistant drain port prevents sub-surface water contamination from entering hydrant. Upward movement of the washer guide when the hydrant is turned on, positions O Rings to seal off drain port. When hydrant is turned off, the washer guide moves down, clearing drain port to permit complete drainage



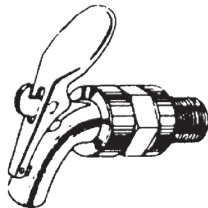
B A R R E L F A U C E T S



PLASTIC Conventional polyethylene construction. Two sizes offered, 3/4" NPT and 2" NPT. for use with steel and polyethylene drums. Instant "on" "off" control provides smooth, fast flow with no dribble.

2" size will empty 55 gal. drum of average materials in about 3 minutes.

SIZE	FIG NO	PRICE
3/4	18962	
2	30045	



DIE CAST Automatically self-closing. Push lever control; functions perfectly in all climactic conditions. Nylon valve and tempered coil spring. Can be padlocked in open or closed position.

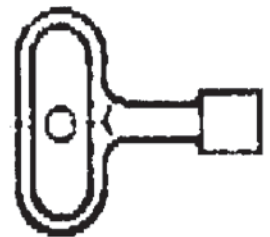
FIG NO	PRICE
5308	



BRASS Modern design; large flow capacity. Spring held plug assures easy turning and perfect adjustment. Cadmium plated steel handle

FIG NO	PRICE
5307	

HYDRANT KEYS

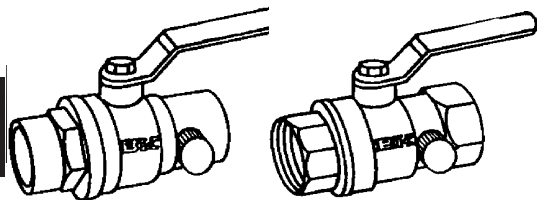


SIZE	FIG NO	PRICE
SMITH	29207	
ZURN	17997	

DUFF CO.

VALVES

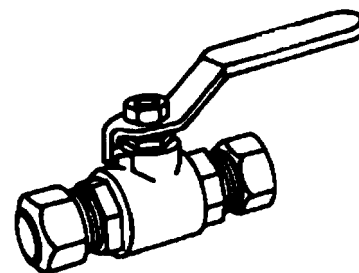
BALL VALVE WITH WASTE



SIZE	SWEAT		THREADED	
	FIG. NO.	PRICE	FIG. NO.	PRICE
1/2	17609		17612	
3/4	17610		17613	
1	17611		17614	

COMPRESSION BALL VALVE

Heavy duty brass construction. Rated for 600 PSI of water, oil or air. Teflon seals. Compression end for solderless connection to copper tubing.



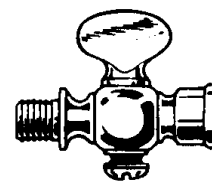
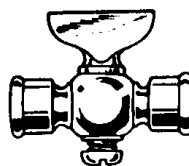
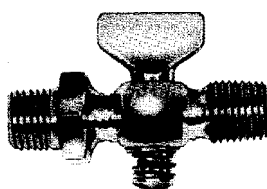
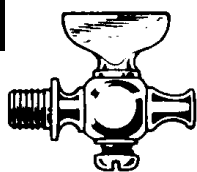
SIZE	FIG NO
1/2	42935
3/4	42936
1	42937

Look for Sharkbite Valves on page 16B



PET COCKS

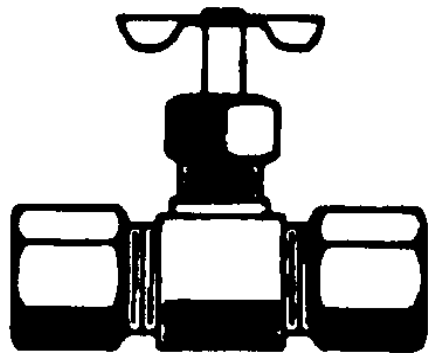
Tested at 80 LBS air pressure - Standard - Spring bottom, 5/32" port



See page 16B for Mini Ball Valves

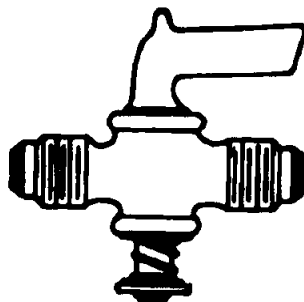
SIZE	AIR COCK		DOUBLE MALE		DOUBLE FEMALE		MALE X FEMALE	
	FIG NO	PRICE	FIG NO	PRICE	FIG NO	PRICE	FIG NO	PRICE
1/8	8450		8460		8469		8479	
1/4	8453		8462		8471		8481	
3/8	8456		8464		8473		8482	
1/2	8458		8466		8475		8483	

COMPRESSION VALVE



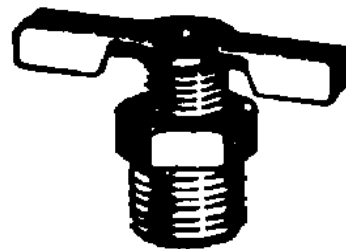
TUBE OD SIZE	FIG NO	PRICE
1/4	4996	
3/8	4997	

FLARE VALVE



TUBE OD SIZE	FIG NO	PRICE
1/4	5003	
3/8	5007	
1/2	—	

DRAIN COCK



PIPE SIZE	FIG NO	PRICE
1/8	5042	
1/4	5045	
3/8	5047	
1/2	5052	

DUFF T[💡]IP:

How to Select Valves for Your Service

The purpose of a valve is to stop or control the flow of material through a piping system. Valves are manufactured in various configurations. Practically any type of end connection is available.

GATE VALVE

As the name implies this particular valve has a gate that moves perpendicular to flow of the service. In the up position it is open. In the down position it is closed. The flow is straight through, so it does not lend itself for use as a metering valve. The gate valve is used mainly as an on-and-off valve. Gate valves are furnished in screwed, socket weld, screwed by socket weld, raised face flange, flat face flange, RTJ face and butt weld end connections.

Gate valve extras include:

1. Split, Flex or Solid Wedge
2. Stellite Seat & Disc
3. Rising or Non-Rising Stem

GLOBE VALVE

In the globe valve, the flow pattern is offset and not a straight through flow. This design affords a better closure than a gate valve and can be used for metering. All end connections previously mentioned in this manual are available.

Valves are supplied in a wide variety of materials. Smaller sizes, 2" and under, are manufactured in both forged and cast material. Above 2" are generally in cast material. For material specifications see page 18.

TRIM

Trim refers to stem, seat and disc in Gate Valves and Disc Plug in Globe Valves.

A variety of trims can be used on the seat, stem, or disc. 11% to 13% chrome (F6,410SS) is accepted as standard on most types of valves.

NEEDLE VALVE

This valve is generally used on instrumentation because of its excellent control of flow. The stem is a tapered needle and the flow pattern is offset.

CHECK VALVE

This valve is used to stop back flow to the upstream side of the valve. The design is quite simple. A hinged door or ball is placed inside the valve. With the pressure coming upstream the door or ball is held open; when the pressure increases on the downstream side, it forces the door or ball to close, stopping any back flow.

The wide variety of check valves available makes this valve quite versatile:

HORIZONTAL SWING

Designed to operate in the horizontal position.

PISTON

This valve works up and down providing a strong, firm seal under high pressure conditions.

BALL

Uses a ball rather than a clapper.

BALL VALVE

(Reduced Pattern Design)
A ball is set between two seats, with a hole through the center. By turning the handle 90° you go from full on to full off. This design does not lend itself to metering. All end connections available.

BUTTERFLY VALVE

Similar to a ball valve except a door or rotating "gate" is used. A turn of 90° on the handle goes from full on to full off.

PLUG VALVE

A solid plug is set in the body with a hole through the center. The straight through flow pattern does not permit metering. Like Ball and Butterfly valves, a 90° turn on handle goes from full on to full off. All end connections available.

FLOW CHARACTERISTICS and RESISTANCE

DUFF TIP:

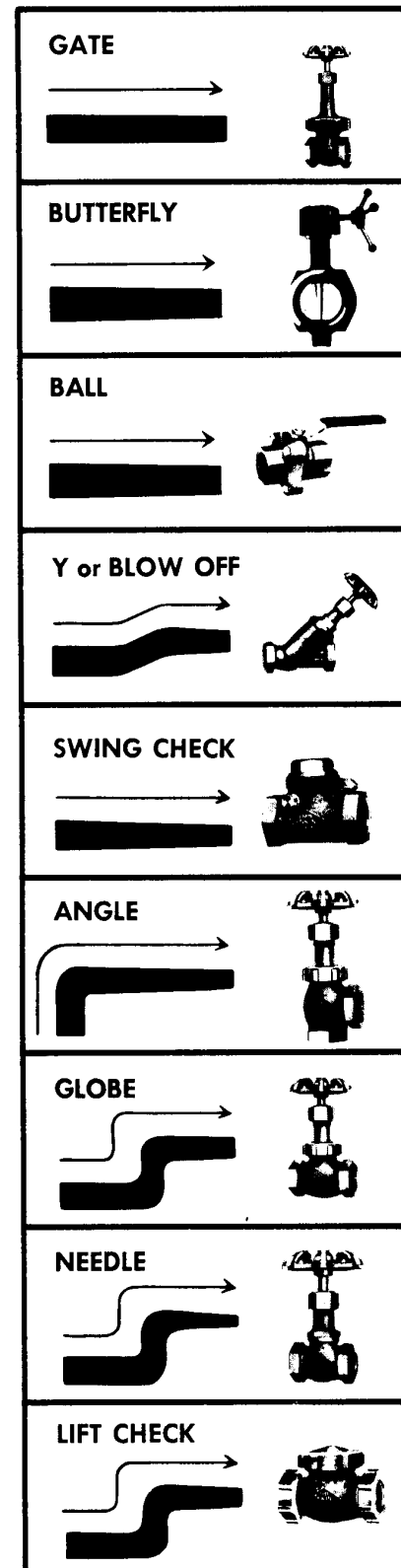
The amount of fluid permitted to pass through a valve varies with its basic pattern. Generally, the greater the degree of pressure control, the greater the restriction of flow, pressure drop and energy loss. Many formulas and equations have been developed to determine precisely pressure drops and energy losses for specific sizes of valves, types of valves, fluids, and flow conditions.

To assist in making average calculations, the diagrams on the right indicate the **relative capacity and direction of flow permitted by several basic valve patterns**, and the table at the bottom of the page gives the approximate **flow resistance of full open valves compared to the equivalent feet of schedule 40 pipe**.

As indicated, gate valves allow maximum flow, with butterfly, ball, Y, swing check, angle, globe, and lift check patterns following in increasing order of flow resistance.

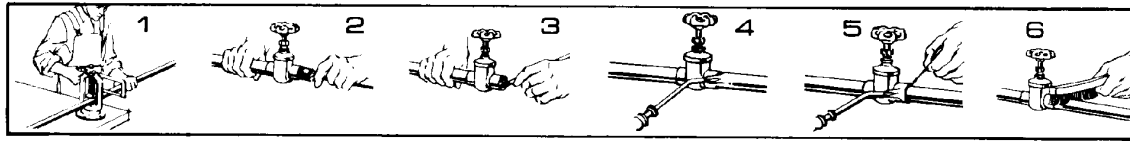
VALVE TYPE

VALVE SIZE, IN.	GATE	BLV	BFV	Y	SWING CHECK	ANGLE	GLOBE
½	0.4	2	—	3.6	4	8	16
¾	0.5	1.5	—	4.5	5	12	22
1	0.6	1.9	—	6.3	7	15	27
1¼	0.8	2.4	—	8.0	9	18	37
1½	0.9	2.8	—	10.0	11	21	44
2	1.2	3	2.2	12.5	14	28	55
2½	1.4	—	2.6	13.5	15	32	65
3	1.6	4.7	2.9	18.0	19	41	80
3½	2.0	—	—	20.0	22	50	100
4	2.2	4.4	3.9	22.5	25	55	120
5	2.9	—	5.4	28.0	32	70	140
6	3.5	9.7	6.3	36	40	80	160
8	4.5	—	6.8	45	50	110	220
10	5.5	—	7.5	58	65	140	280
12	6.5	—	9.0	68	75	160	340
14	8.0	—	—	81	90	190	380
16	9.0	—	—	95	105	220	430
18	10.0	—	—	108	120	250	500
20	12.0	—	—	117	130	270	550
24	14.0	—	—	135	150	380	650



CALL OR FAX DUFF'S VALVE EXPERTS
PHONE 610-275-4453
FAX 610-279-6299

VALVE INSTALLATION TIPS

**SOLDERING AND SILVER BRAZING**

Analyze the application to determine which valve is best suited for installation, keeping in mind the service for which the valve is recommended. Before installing the correct valve, review the installation instructions to prevent damage to the valve and assure its maximum efficiency.

1. Cut tube and square. Ream, burr and size.
2. Use sand cloth or steel wire brush to clean both tube and cut to bright metal. Steel wool is not recommended.
3. Apply flux to outside of tube and inside of solder cup. Surfaces to be joined must be completely covered. Use flux sparingly.
4. Be sure that valve is fully open. Apply heat to tube first. Transfer as much heat as possible through tube into valve. Avoid prolonged heating of valve itself.

4a. Silver Brazing Method:

Assemble parts to be brazed. If fluxed parts are allowed to stand, the water in the flux will evaporate; and dried flux is liable to flake off, exposing metal surfaces to oxidation. Assemble joint by inserting tube into socket hard against the stop. The assembly should be firmly supported so that it will remain in alignment during the brazing operation. Removal of bonnet is recommended when installing U-Valves or globe valves with soft seats.

NOTE: On one inch and larger valves, it is difficult to bring the whole joint up to temperature at one time. It will frequently be found desirable to use a double tip torch to maintain the proper temperature over the larger area. A mild pre-heating of the whole socket area is recommended. Larger valves should be disassembled or the bonnets wrapped with wet rags or padding. Apply heat to parts to be joined. The preferred method is by oxy-acetylene flame. Heat tube first beginning one inch from edge of valve. Sweep flame around tube in short strokes up and down at right angles to run of tube. To avoid burning through tube, the flame should be in continuous motion and not allowed to remain on any one point.

Apply flame to valve at base of socket. Heat uniformly, sweeping flame from valve to tube until flux on valve becomes quiet. Avoid excessive heating of valve.

When flux appears liquid and transparent on both tube and valve, start sweeping flame back and forth along axis of joint to maintain heat on parts to be joined, especially toward base of valve socket.

5. Use just enough solder; with wire solder, use 3/4" for a 3/4" valve, etc. If too much solder is used, it may flow past tube stop and clog seating area. When joint is filled, a continuous run of solder or brazing alloy will be visible.

5a. Silver Brazing Method:

Apply brazing wire or rod at point where tube enters valve socket. Keep flame away from rod or wire as it is fed into the joint. Move flame back and forth as alloy is drawn into joint. When the proper temperature is reached, alloy will flow readily into space between tube outer wall and valve socket. When joint is filled, a continuous rim of brazing alloy will be visible.

6. Remove excess solder with small brush while plastic, leaving a fillet around end of valve as it cools.

SILVER BRAZING

The strength of a brazed joint does not vary appreciably with the different brazing materials, but depends to a large extent upon the maintenance of proper clearance between the outside of the tube and the valve socket. The interior dimensions of silver brazing valve sockets are machined to the closest tolerances and finished smooth to promote full capillary attraction.

NOTE: Care should be observed in cleaning and in removing residues of the cleaning medium. Attempting to braze a contaminated or improperly cleaned surface will result in an unsatisfactory joint. Silver brazing alloys will not flow over or bond to oxides. Oily or greasy surfaces repel fluxes, leaving bare spots which oxidize and result in voids and inclusions.

THREADING

Grit, dirt or any foreign matter accumulated in the pipe can hinder efficient valve operation and seriously damage vital valve parts. Thoroughly clean pipe internally with air or steam. When threading pipe, gauge pipe threads for size and length to avoid jamming pipe against seat and disc. Thoroughly clean threaded end to remove any harmful steel or iron deposits. For a good joint, use teflon tape or pipe dope. If pipe dope is used, apply sparingly on pipe threads, never on valve threads. Do not allow any pipe dope into valve body in order to avoid damage to disc and seat. Before installation, check line of flow through valve so that valve will function properly. Close valve completely before installation. Apply wrench to hex next to pipe and guard against possible distortion. After installation of valve, support line; a sagging pipe line can distort the valve and cause failure.

FLANGED

There are several steps to follow to make sure that a flanged joint will be properly assembled. First clean the joint carefully. Then loosely assemble the joint by putting in the bottom two or three bolts. Then carefully insert the gasket into place. The bottom bolts will help locate the gasket and hold it in position. Then insert the rest of the bolts into place and tighten all of the bolts evenly - not in rotation, but by the cross over method to load the bolts evenly and eliminate concentrated stresses. The bolts should be checked for tightness after an appropriate interval of use and retightened if necessary.

BRONZE GATE, GLOBE AND CHECK VALVES CLASS 125 VALVES

125 PSI SATURATED STEAM, 200 PSI NON-SHOCK COLD WATER, OIL OR GAS



SIZE	GATE VALVE		GLOBE VALVE		*ANGLE GLOBE		**SWING CHECK	
	SWEAT	THREAD	SWEAT	THREAD	THREAD		SWEAT	THREAD
	FIG NO	PRICE	FIG NO	PRICE	FIG NO	PRICE	FIG NO	PRICE
1/4	-	3551	37556	3620	38645	-	3657	
3/8	3586	3553	37557	3634	38646	37559	3662	
1/2	3598	3554	17760	3640	38647	3696	3668	
3/4	3601	3562	17761	3643	38648	3704	3674	
1	3605	3563	17762	3648	38649	3717	3683	
1 1/4	4111	3566	17763	4118	38650	4124	4121	
1 1/2	4116	3568	17764	4119	38651	4125	4122	
2	3608	3573	17765	3652	38652	3721	3691	
2 1/2	4117	3578	-	-	-	38621	-	
3	3618	3582	-	-	-	38622	-	

*BRONZE ANGLE GLOBE VALVES ALSO AVAILABLE WITH SWEAT ENDS.

**Y-PATTERN CHECK VALVES MAY BE INSTALLED IN BOTH HORIZONTAL AND VERTICAL LINES WITH UPWARD FLOW OR IN ANY INTERMEDIATE POSITION.



LET OUR PIPE
AND VALVE
EXPERTS HELP
YOU!

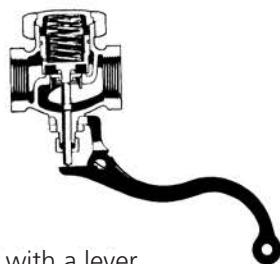
610-275-4453

BRONZE GATE, GLOBE AND CHECK VALVES
CLASS 150 VALVES

150 PSI SATURATED STEAM, 300 PSI NON-SHOCK COLD WATER, OIL OR GAS



SIZE	GATE VALVE NON-RISING STEM		GATE VALVE RISING STEM		GLOBE VALVE		ANGLE GLOBE		SWING CHECK	
	SWEAT		THREAD		SWEAT		THREAD		THREAD	
	FIG NO	PRICE	FIG NO	PRICE	FIG NO	PRICE	FIG NO	PRICE	FIG NO	PRICE
1/4	-	3729	3777		4591	4442	18341		88892	
3/8	3968	3731	3785		4597	4445	18342		4640	
1/2	3973	3736	3789		4599	4447	18288		4646	
3/4	4052	3740	3795		4604	4451	18343		4663	
1	4075	3743	3801		4606	4455	18344		4668	
1	4139	3749	3805		4611	4461	18345		4681	
1/4	4136	3754	3811		4614	4467	18346		4685	
1	4076	3760	3816		4618	4478	18347		4688	
1/2	4137	3768	3819		4622	4486	-		4691	
2	4096	3773	3828		4629	4493	-		4694	



Specify if ordering with a lever



Can be ordered spring loaded

LEVER OPERATED GLOBE 1/4" TO 2"	LIFT CHECK (150 PSI WOG)	
	HORIZONTAL	
	SIZE	FIG NO
PROVIDE SIZE, SERVICE (STEAM OR WATER), AND WHETHER A LEVER IS NEEDED	1/4	
	3/8	
	1/2	Call or email us for availability
	3/4	
	1	
	1 1/4	116289
	1 1/2	94045
	2	96579

CLASS 300 VALVES

300 PSI SATURATED STEAM, 600 PSI NON-SHOCK COLD WATER, OIL OR GAS



GATE		GLOBE		SWING CHECK		NEEDLE GLOBE 200 PSI	
------	--	-------	--	-------------	--	-------------------------	--

SIZE	FIG NO	PRICE	FIG NO	PRICE	FIG NO	PRICE	FIG NO	PRICE
1/8	-	-	-	-	-	-	4804	-
1/4	3834	-	4500	-	4698	-	-	-
3/8	3844	-	4509	-	4703	-	-	-
1/2	3848	-	4547	-	4709	-	-	-
3/4	3851	-	4556	-	4714	-	-	-
1	3852	-	4562	-	4715	-	-	-
1 1/4	4127	-	4565	-	4716	-	-	-
1 1/2	4128	-	4579	-	4717	-	-	-
2	3961	-	4587	-	4720	-	-	-
2 1/2	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-



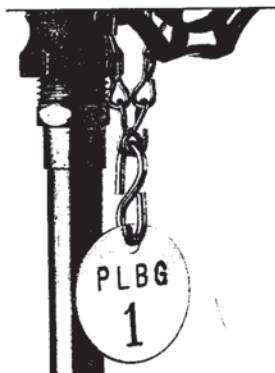
PIPE MARKERS



AVAILABLE IN ALL WORDING

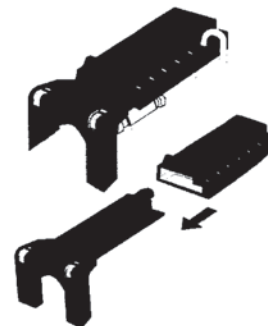
**ALL DUFF IDENTIFICATION
PRODUCTS READILY AVAILABLE!**

VALVE TAGS



AVAILABLE NUMBERED
OR LETTERED!

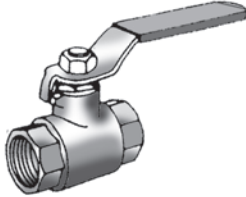
VALVE LOCKOUT



BALL VALVES AVAILABLE 3/8" TO 2 1/2"
GATE VALVES 1" TO 10"

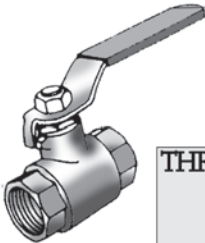
BALL VALVES

BRONZE - TWO PIECE - 600 PSI
FULL PORT UP TO 1" * CONVENTIONAL PORT 1 1/4" TO 3"
FULL PORT AVAILABLE IN ALL SIZES
 15 SWP, 600 WOG, CHROME PLATED BALL, REINFORCED TFE SEATS



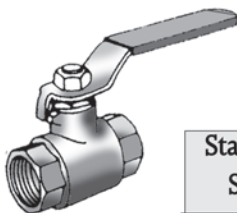
		1/4"	3/8"	1/2"	3/4"	1	1 1/4"	1 1/2"	2	2 1/2"	3	4
SWEAT	FIG. NO.	38108	3726	3737	3741	3772	3823	3765	3823	3837	4058	-
THREAD	FIG. NO.	3673	3677	3679	3684	3686	3703	3708	3711	3713	3716	-

BRONZE - TWO PIECE WITH SS BALL & STEM - 600 PSI
FULL PORT UP TO 1" * CONVENTIONAL PORT 1 1/4" TO 3"
FULL PORT AVAILABLE IN ALL SIZES
 600 WOG, 316SS BALL AND STEM, REINFORCED TFE SEATS



		1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
THREAD	FIG. NO.	50394	50395	50396	50397	50398	50399	50400	50401	50402	50403
SWEAT	FIG. NO.	50383	50384	50385	50386	50387	50388	50389	50390	50391	50392

STAINLESS AND CARBON STEEL - TWO PIECE - 2000 PSI
1/2" - 2" = STANDARD PORT * THREADED ENDS
 1/2" - 1" ARE RATED AT 2000 PSI * 1 1/4" - 2" ARE RATED AT 1500 PSI



		1/4"	3/8"	1/2"	3/4"	1	1 1/4"	1 1/2"	2	3
Stainless Steel	FIG. NO.	4114	4115	4120	4123	4126	4129	4131	4132	-
Carbon Steel	FIG. NO.	4072	4078	4088	4083	4091	4093	4112	4113	-

DUFFNOTE:  **APOLLO VALVES ALSO AVAILABLE**
manufactured in the USA by CONBRICO Industries

BALL VALVES

BRONZE - TWO PIECE - 600 PSI - LOCKING HANDLE

CONVENTIONAL PORT



PROTECT YOUR EMPLOYEES AND
YOURSELF!

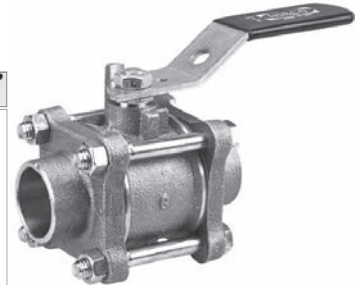


		1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
SWEAT	FIG. NO.	50570	50571	50572	50573	50574	50575	50576	50577	—	—
THREADED	FIG. NO.	50560	50561	50562	50563	50564	50565	50566	50567	—	—

BRONZE * THREE PIECE

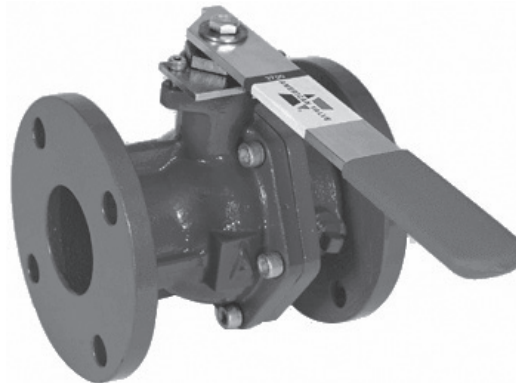
FULL PORT, STAINLESS AND CARBON STEEL ARE ALWAYS AVAILABLE

		1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"
SWEAT	FIG. #	4147	4148	4149	4150	4152	93836	4156	4159	4161
THREAD	FIG. #	4133	4135	4138	4140	4141	4142	4143	4144	4145



FLANGED * CAST IRON

SAME FACE TO FACE DIMENSION AS A GATE VALVE



	2	2 1/2	3	4	6	8
FIG. NO.	18136	18137	18138	18139	18140	53214

**ALSO
AVAILABLE WITH
GEAR
OPERATOR!**



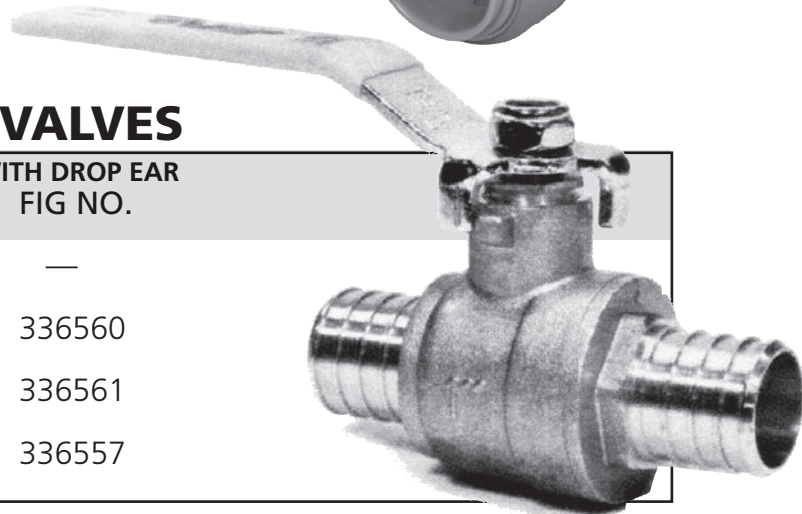
SHARKBITE BALL VALVES

SIZE	FIG NO.
1/2"	197275
3/4"	197276
1"	220616



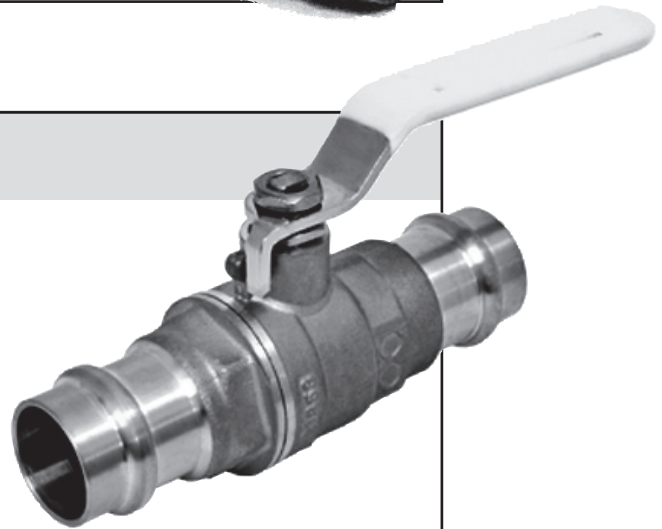
PEX INSERT BALL VALVES

SIZE	FIG NO.	WITH DROP EAR FIG NO.
3/8"	172824	—
1/2"	172827	336560
3/4"	172828	336561
1"	172829	336557



PRESS BALL VALVES

SIZE	FIG NO.
1/2"	252857
3/4"	252858
1"	252859
1-1/4"	252860
1-1/2"	252861
2"	252862

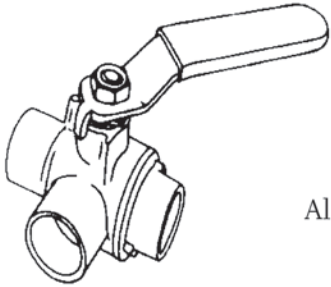


Call for available sizes and manufacturers

See page 213A for supply stop valves including Pex and SharBite

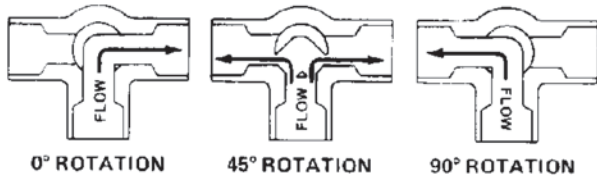
BALL VALVES

BRONZE THREE WAY BALL VALVE



Also available stainless or carbon steel

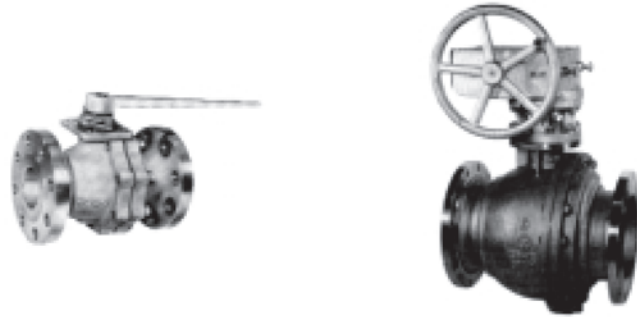
	SWEAT		THREADED	
SIZE	FIG NO	PRICE	FIG NO	PRICE
1/4				
3/8				
1/2	50472		4177	
3/4	50473		4178	
1	50474		4179	
1 1/4			4180	
1 1/2			4182	
2			4186	
2 1/2				
3				



This full port three way ball valve is the ideal choice fluid systems requiring minimum pressure loss and "diverter" operation. Use for water, oil or gas up to 400 psi.

REPLACES 2 BALL VALVES AND A TEE

CLASS 150 AND 300 FLANGED BALL VALVES



STAINLESS STEEL - BRONZE - CARBON STEEL
SIZES THROUGH 12"

ACTUATED BALL VALVES



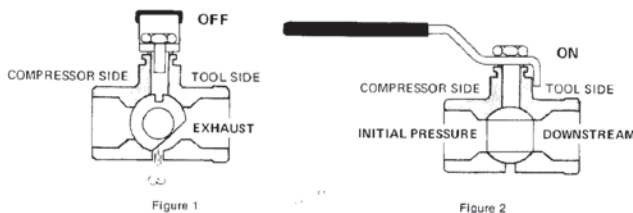
PNEUMATIC



ELECTRIC

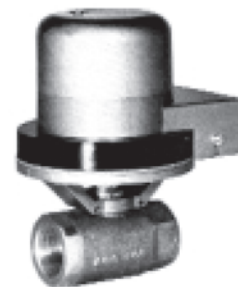
Actuators available for all size valves

BALL VALVES FOR COMPRESSED AIR



The safety exhaust valve body and ball are drilled to provide vent for relieving air pressure downstream. In the closed, or off position (figure 1), the valves provide continuous air relief on the downstream side of the valve to 175 psi. Ideal for use when applied pressure to downstream equipment must be relieved for safety reasons. In the open, or on position (Figure 2), the valves provide bubble tight and leakproof service to the downstream side of the valve.

ELECTRIC MOTOR VALVES



SIZES 3/4" THROUGH 2"

BALL VALVE OPTIONS
(Every option not available for every valve)



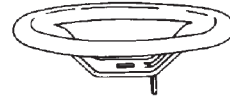
Ground Washer
GROUND STEM
(Ground Washer)
Stainless steel washer used for grounding the lever and stem to the body of the valve to prevent the build-up of static electric charge.



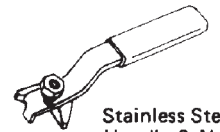
Round Handle
ROUND HANDLE
Safety handle resistant to accidental operation



Tee Handle
TEE HANDLE
Compact handle ideally suitable where space is a problem for safety reasons.



Oval Handle - Low Profile
OVAL HANDLE
LOW PROFILE
Used in lieu of lever handles for safety. Also visually indicates open or closed positions. Extension is 1".



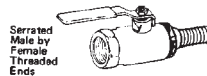
Stainless Steel Handle & Nut
STAINLESS STEEL HANDLE & NUT
For use on bronze and carbon steel ball valves where the atmosphere is corrosive. Standard on s8000/s8500 series stainless steel valves.



Extended Handle
EXTENDED HANDLE
For insulated pipe in heating or air conditioning systems. Extension is 3".



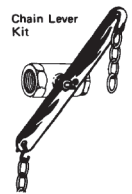
Latch-Lok
LATCH-LOK
(Handle Only)
This patented option provides the ability to latch as well as lock the ball valve in both the on or off position. Ideal for hazardous pipe lines where tamperproof protection is a must.



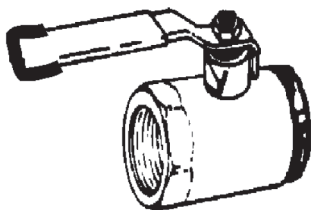
Serrated Male by Female Threaded Ends
SERRATED MALE BY FEMALE THREADED ENDS
Commonly used with plastic and rubber hose connections; for positive shut-off.



Oval Handle - High Profile
OVAL HANDLE
HIGH PROFILE
Used on insulated piping service. Extension of the handle is 2".



Chain Lever Kit
CHAIN LEVER KIT
For industrial showers and other remote pipe requirements. Chain not furnished.



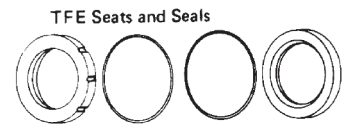
ROUGH CHROME
For matching up with any laboratory, restaurant or hospital equipment (chrome) where appearance is important.



UL PLATE
UL listed for various services.



Balancing Stop
BALANCING STOP PLATE
For any throttling or semi-open valve requirements such as in the balancing of heating and air conditioning system.



TFE SEATS AND SEALS (VIRGIN)
For food processing, pharmaceutical and similar industries where filled seats are not approved.
DURAFILL SEATS
When not standard.
450 degrees F @ 50 psi
150 psi steam
NYLON SEATS
Used for high pressure, low temperature service.

est. 1947

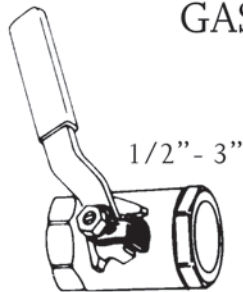
DUFF CO.

When you need it now... or don't know how

INFO@DUFFCO.COM

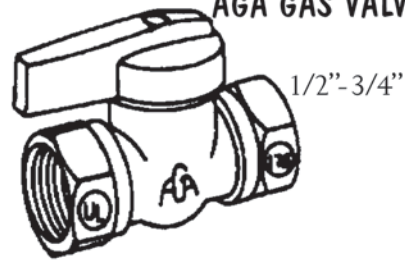
For Fast Service
email your order Today!
info@duffco.com

FULL PORT GAS RATED BALL VALVE



GAS COCKS

AGA GAS VALVE



SIZE	FIG. NO.	PRICE	FIG. NO.	PRICE
1/2	41975		50802	
3/4	41976		50803	
1	47873		-	
1 1/4	6349		-	
1 1/2	6352		-	
2	49737		-	
2 1/2	50788		-	
3	50789		-	

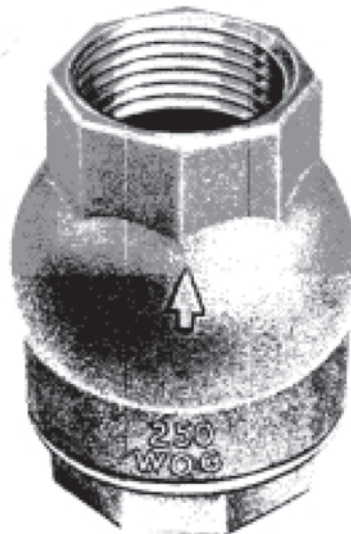
FULL PORT SWEAT BALL VALVES



SIZE	FIG NO
1/2"	55119
3/4"	47872
1"	47874
1-1/4"	62810
1-1/2"	62811
2"	62813
2-1/2"	168473
3"	117059

SPRING LOADED IN-LINE CHECK VALVE

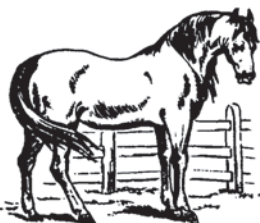
Rated 250- PSIG WOG 125 SWP (with Teflon disc) for horizontal or vertical installation.



BUYING QUALITY PRODUCTS IS LIKE BUYING OATS . . .

If you want nice, clean, fresh oats, you must pay a fair price. However, if you can be satisfied with oats that have already been through the horse

Well . . . That Comes A Little Cheaper



SIZE	THREADED		SWEAT	
	FIG. NO.	PRICE	FIG. NO.	PRICE
3/8	6034		44415	
1/2	6035		6071	
3/4	6046		6075	
1	6038		19012	
1 1/4	6040		44412	
1 1/2	6042		44413	
2	6069		44414	

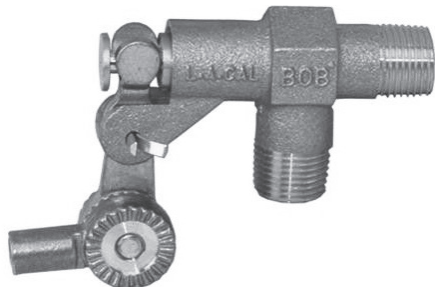
FLOATS, FLOAT AND FILL VALVES



SINGLE SPUD ROUND FLOAT

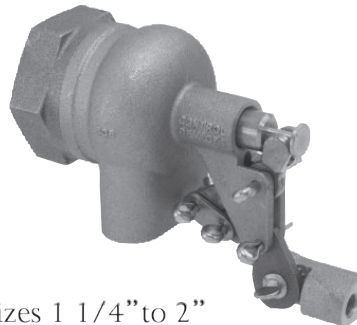
FLOAT DIAMETER	TAPPING	COPPER FOR STANDARD SERVICE		STAINLESS STEEL TYPE 304 STANDARD FOR CORROSIVE AND NON-CORROSIVE FLUIDS TO 800 DEGREES F. AND 150 PSI	
		FIG. NO.	PRICE	FIG. NO.	PRICE
3	1/4-20 SAE	4937		4974	
4	1/4-20 SAE	4938		4978	
5	1/4-20 SAE	4942		4981	
6	1/4-20 SAE	4944		4991	
7	3/8 F.I.P.	4945			
8	3/8 F.I.P.	4946		5011	
10	3/8 F.I.P.	4962			
12	3/8 F.I.P.	4969		5015	

BRASS AUTOMATIC FILL VALVE



Sizes 3/8" to 1"
Threaded Inlet and Outlet

SIZE	FIG NO	PRICE
3/8	4915	
1/2	4919	
3/4	4921	
1	4926	
1 1/4	4928	
1 1/2	4931	
2	47589	



Sizes 1 1/4" to 2"
Threaded Inlet/Free Flow Outlet

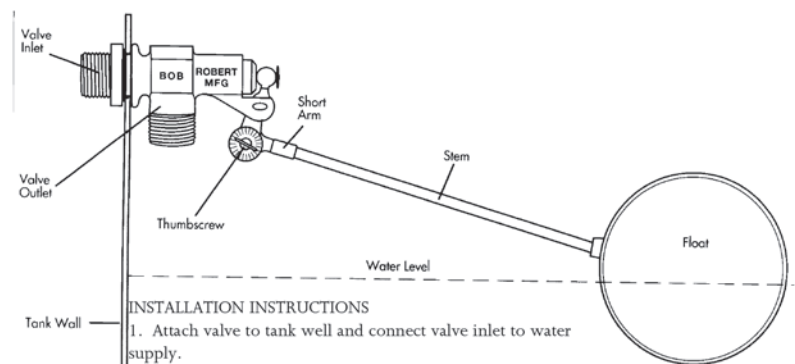
FLOAT ROD



1/4 X 20 SAE

SIZE	FIG NO	PRICE
8"	15056	
9"	15057	
10"	15058	
12"	15059	

TYPICAL FILL VALVE INSTALLATION



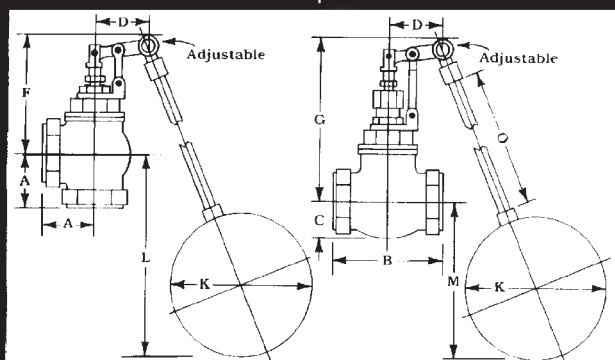
INSTALLATION INSTRUCTIONS

1. Attach valve to tank well and connect valve inlet to water supply.
2. Valve outlet must be 90 degrees to water level for bind-free operation.
3. Screw stem and float to short arm.
4. Rotate arm and stem for desired water level, tighten short arm thumbscrew.

Stainless steel floats and valves ready for immediate shipment

BRASS INDUSTRIAL FLOAT VALVES

Dimensions / Specifications



Direct Float Valve for open tank service. Angle type shown. Globe straight-through type also available.

Direct Float Valve with stuffing box for closed tank or submerged service. Globe straight-through type shown. Angle type also available.

APPLICATION

Float valves are recommended for controlling a constant level in storage tanks, reservoirs, cooling towers, filtering plants and in all types of industries such as paper mills, packing plants, chemical plants, steel mills, textile mills, laundries, breweries, etc.

OPERATION

The standard operation is where a fall in liquid level will open the valve and a rise in the level will close the valve. However, by reversing the linkage the opposite of the above operation will occur.

Approximate Gallons-Per-Minute Flow Capacity @55 P.S.I.

Valve Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"
GPM	30	50	75	100	125	175	400

Pressure Ratings/Float Sizes/Rod Sizes/Dimensions Gade Float & Lever Valves

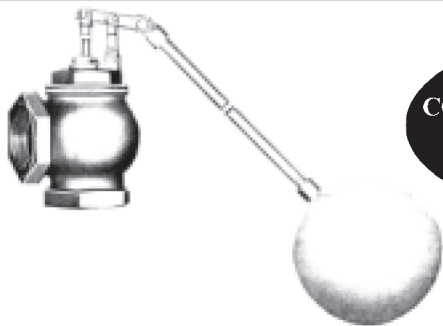
NPT Valve Size (IPS)	Maximum Inlet Pressure	Standard Float Size	Standard Float Rod	Dimensions in Inches												
				A	B	C	D	E	F	G	H	J	K	L	M	O
1/2"	100#	5"	1/4"IPS x 16"	1 3/8	2 1/2	1 3/8	2 1/4	1	4	5 1/2	6	12 1/4	5	11	11	16
3/4"	100#	5"	1/4"IPS x 16"	1 1/2	3	7/8	2 1/4	1	4	5 1/2	6	12 1/4	5	11 1/2	11	16
1"	100#	6"	1/4"IPS x 18"	1 3/4	4	1 3/8	2 1/4	1	4 1/4	6	6 3/8	12 1/4	6	11 1/2	11 1/2	18
1 1/4"	100#	6"	1/4"IPS x 18"	2	4 1/4	1 3/8	2 1/4	1	4 3/4	6 1/2	6 7/8	12 1/4	6	11 3/4	12 1/2	18
1 1/2"	100#	6"	1/4"IPS x 18"	2 1/8	4 1/2	1 1/2	2 1/4	1	5	6 3/4	7 1/8	12 1/4	6	11 1/2	11 3/8	18
2"	75#	8"	3/8"IPS x 20"	2 1/2	5 3/4	2	3 1/4	1 1/2	6	8 3/4	9 3/4	15	8	14	13 1/2	20
3"	75#	8"	3/8"IPS x 24"	3 3/4	8	3	3 3/4	1 1/2	7	9 1/2	11 1/2	15	8	20	19	24

KECKLEY
OUR TRADE MARK YOUR GUARANTEE

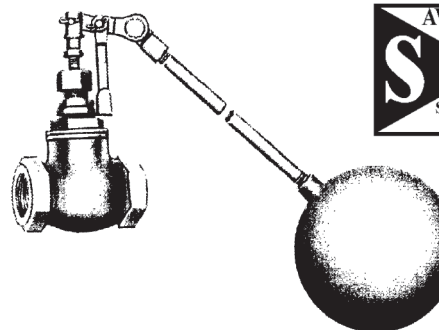
Hoffman SPECIALTY

WATSON M'DANIEL

Gadren



MOST COMMON FLOAT VALVE!



AVAILABLE IN
S S
STAINLESS STEEL

ANGLE PATTERN

SIZE	COLD WATER		HOT WATER	
	FIG. NO.	PRICE	FIG. NO.	PRICE
1/2	5018		5058	
3/4	5022		5060	
1	5026		5068	
1 1/4	5031		5071	
1 1/2	5034		5076	
2	5036		50522	
3	5037		5078	

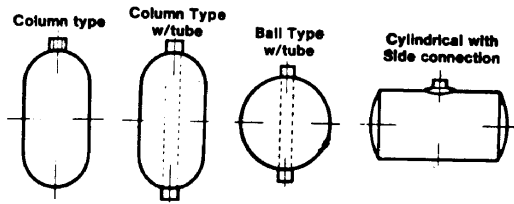
GLOBE PATTERN

SIZE	COLD WATER		HOT WATER	
	FIG. NO.	PRICE	FIG. NO.	PRICE
1/2	50521		5080	
3/4	5040		5082	
1	5044		5083	
1 1/4	5046		5088	
1 1/2	5048		5089	
2	5051		5238	
3	5053		5240	

STAINLESS STEEL AVAILABLE FOR IMMEDIATE SHIPMENT

MORE FLOAT & LEVER VALVES

OTHER STANDARD FLOAT BALLS



LEVER VALVE



FLOAT ADAPTERS

All sizes available.



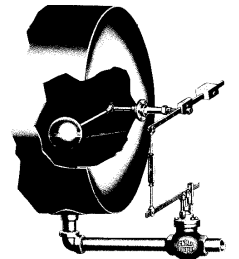
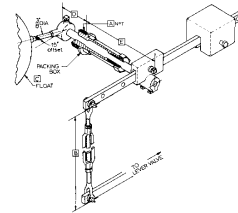
FLANGED FLOAT VALVE

Sizes through 8"
Available in globe or angle pattern



FLOAT MECHANISM

For operating all lever valves



STEAM FLOAT VALVE

Sizes 1/2" to 6"

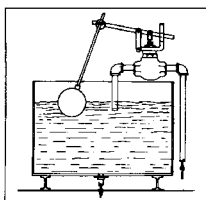


FLOAT BOX

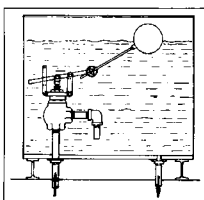
For use in connection with closed tanks



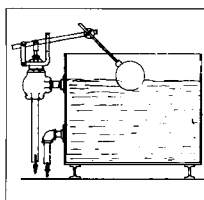
Typical Applications



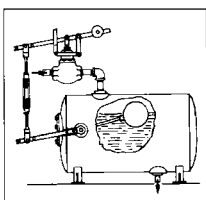
Filling Control



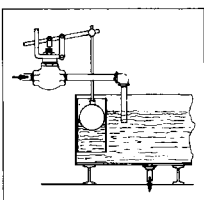
Submerged Filling Control



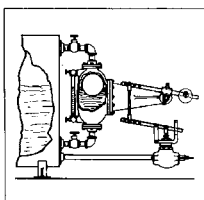
Drainage Control



Filling Control



Guided Filling Control



Filling Control

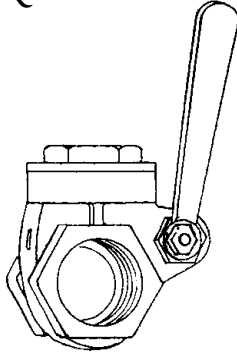
TYPICAL APPLICATIONS

- *Open or closed storage tanks
- *Vats
- *Process Tanks
- *Cooling towers
- *Basins
- *Standpipes
- *Receivers
- *Feed water heaters
- *Condensate tanks
- *Reservoirs
- *Sprinkler services
- *Swimming pools
- *All valves can be used on filling control (close on level rise) or drainage control (open on level rise) applications.

OPTIONS:

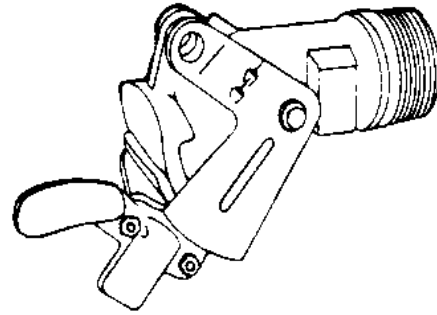
- *Floats - all materials, sizes and connections
- *Float Rods - brass, stainless steel or galvanized pipe
- *Swivel adapter - vertical operation of float rod; replaces rosette and joins the lever and float rod
- *Trim - main valve and seat can be brass or stainless steel.
- *Discs and cups - Teflon for temperatures exceeding 125 degrees F to maximum of 350 degrees F.

QUICK OPENING GATE



SIZE	FIG NO	PRICE
3/8		
1/2	5311	
3/4	5312	
1		
1 1/4	5315	
1 1/2	5317	
2	5318	
2 1/2	5319	
3	5321	
4	5322	

MOLASSES GATE



SIZE	FIG NO	PRICE
3/4	5241	
1	5243	
1 1/4	5244	
1 1/2	5245	
2	5246	
3	5248	
4	5249	

FACE TO FACE DIMENSIONS **OF FLANGED IRON VALVES**

GATE VALVES and BALL VALVES			GLOBE and SWING CHECK VALVES		ANGLE VALVES CENTRE TO FACE	
SIZE	125 LBS.	250 LBS.	125 LBS.	250 LBS.	125 LBS.	250 LBS.
2	7	8 1/2	8	10 1/2	4	5 1/4
2 1/2	7 1/2	9 1/2	8 1/2	11 1/2	4 1/2	5 3/4
3	8	11 1/8	9 1/2	12 1/2	4 3/4	6 1/4
4	9	12	11 1/2	14	5 3/4	7
5	10	15	13	15 3/4	6 1/2	7 7/8
6	10 1/2	15 7/8	14	17 1/2	7	8 3/4
8	11 1/2	16 1/2	19 1/2	21	-	10 1/2
10	13	18	24 1/	24 1/2	-	-
12	14	19 3/4	27 1/2	28	-	-
14	15	22 1/2	31	-	-	-
16	16	24	27 1/2*	-	-	-
18	17	26	30 1/2*	-	-	-
20	18	28	32 1/2*	-	-	-
24	20	31	-	-	-	-

*These sizes are not covered by ANSI B16.10 specifications. All others in accordance with ANSI B16.10.



All Iron Body Valves of the same size have the same face-to-face dimensions, no matter who the manufacturer is.

CLASS 125 IRON BODY BRONZE MOUNTED GATE, GLOBE AND CHECK VALVES



SIZE	FLANGED GATE VALVE RISING STEM		FLANGED GATE VALVE NON-RISING STEM		FLANGED GLOBE VALVE STRAIGHT		FLANGED GLOBE VALVE ANGLE FLANGED		CHECK VALVE	
	FIG. NO.	PRICE							FIG. NO.	PRICE
2	4819		AVAILABLE FOR IMMEDIATE DELIVERY!						4846	
2 1/2	4823								4851	
3	4824								4855	
4	4831								4858	
5	4836								4861	
6	4840								4867	
8	4842								4869	

ALL FLANGED GATES, GLOBES AND CHECKS AVAILABLE IN 250 SB 500 WOG RATINGS. CALL FOR IMMEDIATE DELIVERY!

ALL IRON GATE, GLOBE and CHECK VALVES



CALL OR EMAIL US FOR IMMEDIATE DELIVERY



NON-RETURN STOP CHECK VALVES



Y-PATTERN



STRAIGHT

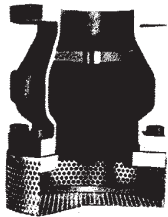


ANGLE

SIZES 3" TO 10"

These valves are recommended as a check valve on each boiler in a multiple unit plant.

FOOT VALVES

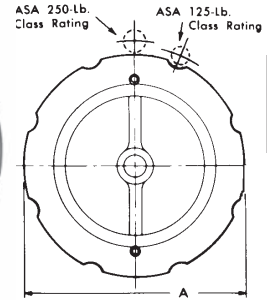


1/2" THROUGH 30"

For positive prime with silent operation. Full flow area positive shut-off at all ranges. Silent operation.

More foot valves in pump section!

SILENT CHECK VALVES



SIZE	FIG NO	PRICE
2	44434	
2 1/2	44435	
3	44436	
4	44437	
5	44438	
6	44439	
8	44440	
10	44441	

Use only with flat face flange and full-face gasket

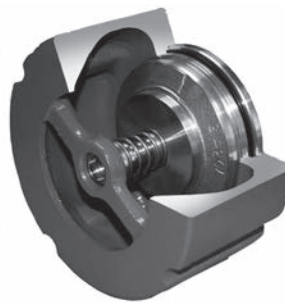
SILENT CHECK VALVES

125 WOG

IDEAL FOR WHEN CHECK VALVE IS LOCATED ON DISCHARGE SIZE OF PUMP. RESULTS IN A SAFE AND SILENT PIPING SYSTEM.

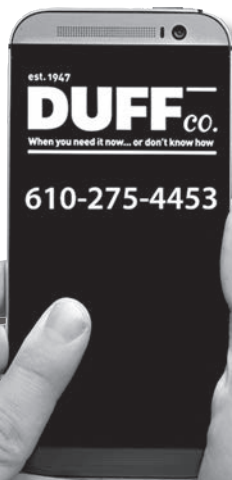
GLOBE STYLE

TWIN DISC STYLE



WARNING: Silent check valves may not be used as steam valve or for any air service. Install 3 to 4 pipe diameters from pump discharge or elbows to avoid flow turbulence.

CALL DUFF FIRST.



BUTTERFLY VALVES

- OPERATING LIFE** Butterfly valves can operate for more than 10,000 cycles and still provide ‘bubble tight’ shut off. (There are not many valves that can take that kind of punishment).
- PRESSURE DROP** Energy costs go up with excessive pressure drop prevalent. Point to keep in mind - the valve or valves are but one factor in a piping system that contribute to pressure drop. Of equal concern are these factors:
- ☞ Flow area of piping
 - ☞ Friction loss against pipe walls.
 - ☞ Change of flow direction via fittings.
 - ☞ Butterfly valve have flow characteristics three times better than globe valves and approximately 75% of an equivalent size gate valve.
- VERSATILITY** Butterfly valves can used for on/off service and throttling/balancing. they are superior in ‘versatility’ as compared to a gate or globe valve. Butterfly valves have a wider range of chemical resistance due to the trim options and choice of elastomeric liners.
- WEIGHT** Installation of dollars saved with lightweight butterfly valves as compared to heavyweight cast iron valves, ie, a 10” butterfly valve may weigh 490 pounds. This can be an important consideration when it is added up over an entire system. The heavier the system, the stronger the pipe hangers, and the more expensive they become. So, by considering the weight of a valve one can also reduce piping costs.
- PHYSICAL SIZE** Butterfly valves take up approximately 1/6 the space of a gate valve. Every cubic foot of a building costs money; ie, 10” butterfly valve is about 21” high, 10” iron gate is about 43” high.
- BUBBLE TIGHT SHUT-OFF** Gate and globe (metal to metal) seats cannot provide bubble tight shut-off.
- EASE OF OPERATION** Butterfly valves offer 1/4 turn (90 degree) open to close. Gates and globes require multiple turns to open and close. Ease of opening or closing means that butterfly valves can employ less expensive operators.
- COST** A butterfly valve is generally 40% the cost of an iron gate. Not only low initial cost but low installation costs also.
- MAINTENANCE** Butterfly valves because of their high flow coefficients and resilient seats are virtually self cleaning and are less susceptible to failure due to trash material in the line.
Butterfly valves are bi-directional and may be installed in either direction.
- BI-DIRECTIONAL POSITION** The stem can be installed in any position.

Screw and Bolt Data

VALVE SIZE	ALLBOLTING			WAFERTYPE	LUGTYPE	
	DIA	NUMBER		MACHINE BOLTS-LENGTH(A)	MACHINE BOLTS-LENGTH(B)	CAPSCREW-LENGTH(C)
	MACHINE & STUD	CAP SCREW				
2"	.625 (5/8")	4	8	4.50	5.00	1.50
2 1/2"	.625 (5/8")	4	8	4.50	5.50	1.50
3"	.625 (5/8")	4	8	4.50	5.50	1.625
4"	.625 (5/8")	8	16	5.00	6.50	1.875
5"	.750 (3/4")	8	16	5.50	6.00	2.00
6"	.750 (3/4")	8	16	5.50	8.00	2.00
8"	.750 (3/4")	8	16	6.00	8.50	2.25
10"	.875 (7/8")	12	24	6.50	7.50	2.25
12"	.875 (7/8")	12	24	7.00	7.50	2.50

CAUTION

1. Class 250 cast iron and Class 300 steel flanges can not be used on these valve.
2. Rubber faced or mechanical flanges are not recommended
3. This valve is not recommended for steam service.
4. Valves should not be assembled to the flanges and then welded into the piping system.
5. Lever-lock handles are not recommended for use on 8" and larger valves.

LUG TYPE

BUTTERFLY VALVES



Without Operator
2"-12"



Lever Operator
2"-12"



Gear Operator
2"-4"



Gear Operator
5"-12"



Babbitt Sprocket
Ports 2"-12"

WAFER TYPE WITH LEVER OPERATOR

LUG TYPE WITH LEVER OPERATOR

SIZE	FIG. NO.	PRICE	SIZE	FIG. NO.	PRICE
2 1/2	5283		2 1/2	5294	
3	5284		3	5296	
4	5289		4	5297	
5	5290		5	5299	
6	5292		6	5300	
8	5293		8	5303	

WAFER TYPE



Without Operator
2"-12"



Lever Operator
2"-12"



Gear Operator
2"-4"



Gear Operator
5"-14"



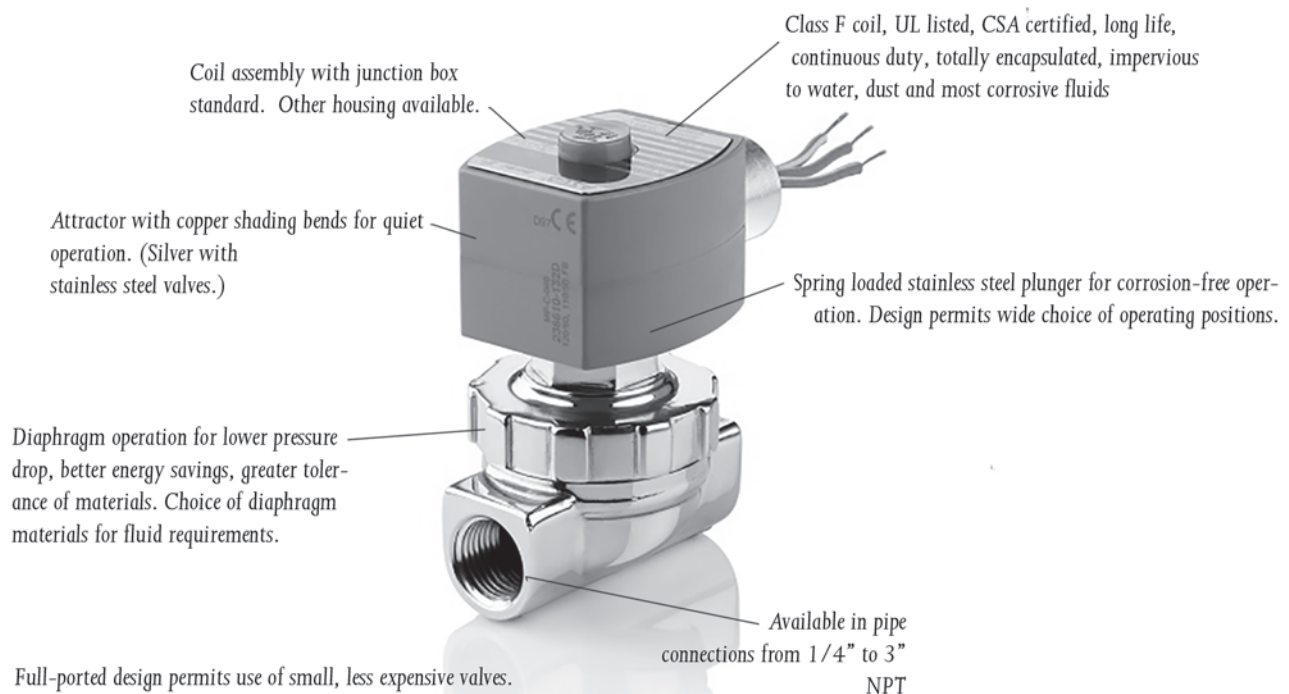
Babbitt Sprocket
Ports 2"-14"

CAUTION

1. Class 250 cast iron and Class 300 steel flanges can not be used on these valve.
2. Rubber faced or mechanical flanges are not recommended
3. This valve is not recommended for steam service.
4. Valves should not be assembled to the flanges and then welded into the piping system.
5. Lever-lock handles are not recommended for use on 8" and larger valves.



SOLENOID VALVES FOR INDUSTRIAL APPLICATIONS



Solenoid valves are electrically operated devices used to control flow. The valve is used for the remote on/off or directional control of liquids, gases and steam. Solenoid valves do not regulate flow.

**OPERATION**

Solenoid valves consist of two main elements; 1) an electrical coil (the solenoid), and 2) a valve body or pressure vessel. The solenoid is the electromagnetic unit that powers (acts to open or close) the valve. The valve is the pressure containing unit that acts to shut off or open media flow.

when the solenoid is energized by an electrical signal, current flow results in the build up of magnetic field. The field attracts a moveable plunger in the valve. Physical movement of the plunger opens or closes a valve orifice which give the valve on/off or directional control of media.

In general, solenoid valves are constructed to be 1) direct-acting, and 2) pilot-operated. In a direct-acting valve, the plunger is in direct contact with the body main orifice, and opens or closes the orifice. In a pilot-operated valve the main orifice is not directly controlled by the plunger but by a diaphragm. This diaphragm, covering the main orifice, contains both a pilot and a bleed orifice.



DUFF SUPPLY
FOR ALL YOUR VALVE NEEDS

TYPES OF SOLENOID-PILOT OPERATED

OPERATIONAL SEQUENCE, PILOT OPERATED - (normally-closed)

TO OPEN:

When the solenoid receives an electrical signal a magnetic field is formed which attracts the plunger. The plunger, covering the pilot orifice, lifts off causing system pressure (holding the diaphragm closed) to drop.

As system pressure on top of the diaphragm is reduced, full system pressure on the opposite side of the diaphragm acts to lift the diaphragm away from the main orifice thus allowing full media flow through the valve. Since the bleed orifice is dimensionally small that th pilot orifice, system pressure cannot rebuild on top of the diaphragm as long as the pilot orifice remains open.

TO CLOSE:

When the solenoid is de-energized it releases its hold on the plunger. The plunger drops and covers the pilot orifice. System pressure then builds orifice, forcing the diaphragm down until it covers the main orifice and stops media flow through the valve.

OPERATIONAL SEQUENCE, PILOT-OPERATED (normally open)

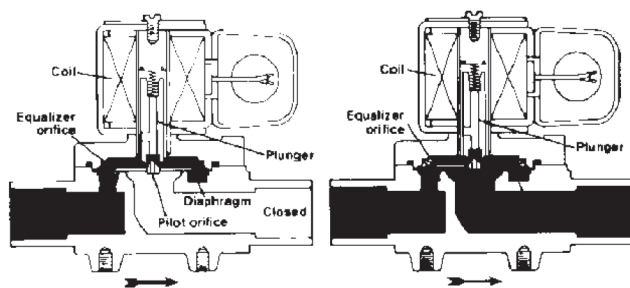
In a normally-open valve, the sequence of operation is reversed from that of a normally closed valve, the main orifice is open when the solenoid is de-energized. All other relationships (eg, the size relationship between the pilot and bleed orifice) still apply.

TO OPEN

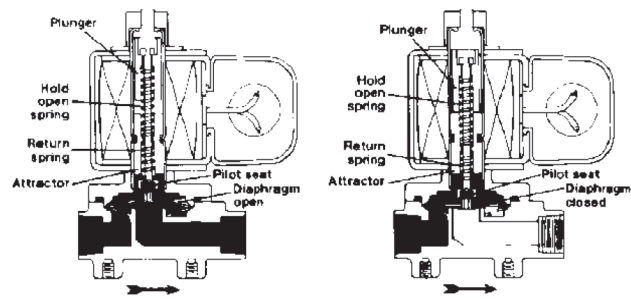
When the solenoid is de-energized it releases its hold on the plunger. The plunger uncovers the pilot orifice causing system pressure holding the diaphragm closed to drop. As system pressure on top of the diaphragm is reduced, full system pressure on the opposite side of the diaphragm acts to lift the diaphragm away from the main orifice thus allowing full media flow through the valve.

TO CLOSE

When the solenoid is energized it attracts the plunger. The plunger covers the pilot orifice. System pressure then builds up on the top of the diaphragm through the bleed orifice, forcing the diaphragm down until it covers the main orifice and stops media flow through the valve.



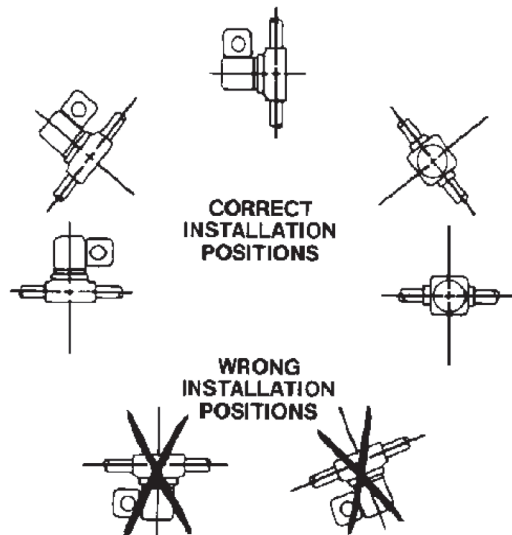
Coil De-energized, Valve Closed Coil Energized, Valve Open



Coil De-energized, Valve Open Coil Energized, Valve Closed

INSTALLATION INSTRUCTIONS

Proper flow direction is indicated by an arrow on the valve body. The ideal installation is in a horizontal line with the coil located directly on top of the valve. However, solenoid valves may be installed in any position as long as the coil assembly is never lower than the centerline of the valve body.

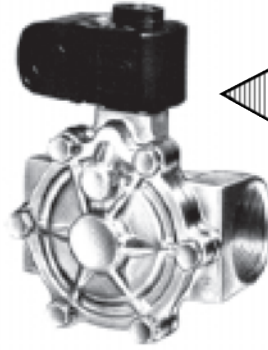


SOLENOID VALVES



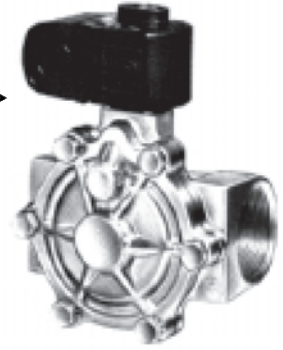
1/4 to 1

Minimum pressure = 1 Lbs.
Maximum pressure = 150 Lbs.
Maximum Temp = 225° F



1 1/4 to 1 1/2

Minimum pressure = 5 Lbs.
Maximum pressure = 125 Lbs.
Maximum Temp = 180° F



2 to 3

Minimum pressure = 2 Lbs.
Maximum pressure = 125 Lbs.
Maximum Temp = 180° F

NORMALLY CLOSED VALVES

SIZE	VALVE ONLY		VALVE WITH 24 VOLT COIL		VALVE WITH 110-120 VOLT COIL		VALVE WITH 240 VOLT COIL	
	FIG. NO.	PRICE	FIG. NO.	PRICE	FIG. NO.	PRICE	FIG. NO.	PRICE
1/4	38741		—		45195		—	
3/8	38742		45200		45198		45199	
1/2	38743		45206		45201		45202	
3/4	38744		45209		45207		45208	
1	38745		45212		45210		45211	
1 1/4	—		45230		45222		45229	
1 1/2	41399		45233		45231		45232	
2	—		45215		45213		45214	
3	38750		45221		45219		45220	



- 2-way Normally Closed
- Pilot-Operated
- Piston-Type
- Bronze Construction
- UL Listed
- Variety of Voltages
- Maximum Temperature 195°F
- Pressure Range 5 - 150 psi water
- Pressure Range 5 - 100 psi air
- Horizontal Installation
- 120 Volt — other voltages available

SIZE	VOLTAGE	FIG NO
1/2"	120V	45201
3/4"	120V	45207
1"	120V	45210



SOLENOID VALVES



STEAM SOLENOID VALVES

Maximum steam pressure 50PSIG
 Minimum pressure 1 LB
 Maximum pressure 50 LB
 Maximum temperature 360°F

STEAM SOLENOID VALVES - NORMALLY CLOSED								
VALVE ONLY		VALVE WITH 24 VOLT COIL		VALVE WITH 110-120 VOLT COIL		VALVE WITH 220 VOLT COIL		
SIZE	FIG. NO.	PRICE	FIG. NO.	PRICE	FIG. NO.	PRICE	FIG. NO.	PRICE
1/4			45235		45236		45234	
3/8	38752		45239		45237		45238	
1/2			45242		45240		45241	
3/4			45245		45243		45244	
1	38755		45248		45246		45247	

THREE-WAY SOLENOID - NORMALLY CLOSED

**CALL OR EMAIL US
FOR AVAILABLE SIZES**



COILS

VOLTAGE	FIG. NO.	PRICE
24	45226	
110-120	5081	
208-240	45228	

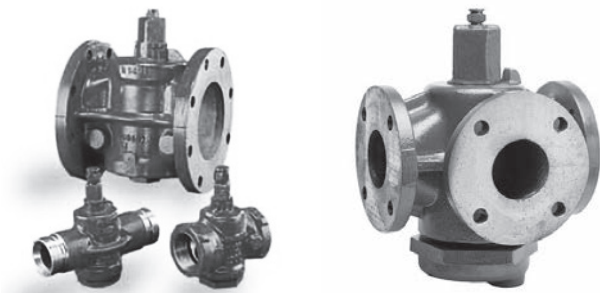
**ALL GATE, GLOBE, CHECK, AND BALL VALVES CAN BE
CHROME PLATED!**

LUBRICATED PLUG VALVES




STRAIGHTWAY (THREADED)					FLANGED VALVE			
VALVE			WRENCH		VALVE		WRENCH	
SIZE	FIG. NO.	PRICE	FIG. NO.	PRICE	FIG. NO.	PRICE	FIG. NO.	PRICE
1	5086		5105		5095		5105	
1 1/4	5087		5106		5096		5106	
1 1/2	5090		5106		5097		5106	
2	5091		5106		5098		5106	
2 1/2	5092		5104		5099		5104	
3	5093		5104		5100		5104	
4	5094		5107		5101		5107	
5	-		-		5102		5108	
6	-		-		5103		5108	

OTHER PATTERN PLUG VALVES



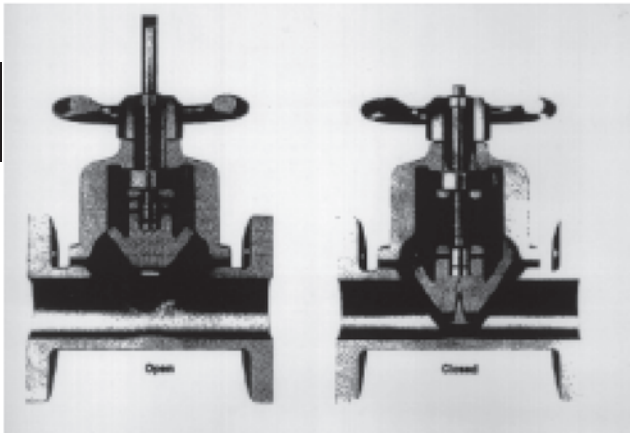
PLUG VALVE
LUBRICANT
AVAILABLE

HOMESTEAD[®] VALVES

DUFF  **TIP:**
OXYGEN

*All Valves
(Ball, Gate, Globe and Check)
can be cleaned
for oxygen service.*

DIAPHRAGM VALVES



VISCOUS
FLUIDS
ABRASIVES
FIBROUS
SLURRIES
SLUDGES
SUSPENDED
SOLIDS

WITH NO METAL TO
METAL
CONTACT
ONLY THE
GASKET COMES IN
CONTACT WITH
FLUID

Hundreds of combinations of body material, linings, end connections and types combined with diaphragm selection and modes of operation, add up to thousands of possible combinations while eliminating any metal to metal contacts.

LINING MATERIAL	FLANGED PLASTIC LINED			FLANGED RUBBER LINED			FLANGED LINED ANGLE	
	CAST IRON	DUCTILE IRON	CAST STEEL	CAST IRON	DUCTILE IRON	CAST IRON	DUCTILE IRON	IRON
PVC	X							
SARAN	X	X	X					
POLYPROPYLENE	X	X	X					
TEFZEL	X	X	X					
KYNAR		X						
NEOPRENE #7				X	X			X
SOFT RUBBER #5				X	X			X
HARD RUBBER #10				X	X			X
BUTYL #16				X				
HYPALON #9				X				
SOFT GUM RUBBER #11				X				
#S471				X				
GLASS				X		X	X	X

DIAPHRAGM OPTIONS:

Gum rubber, black butyl, hypalon, ethylene propylene, buna N, natural rubber, neoprene, viton, white buty TFE

FOR SPECIFIC APPLICATIONS, LET OUR VALVE CONSULTANTS ASSIST YOU IN SELECTING PROPER BODIES, LININGS AND DIAPHRAGMS TOO NUMEROUS TO DETAIL!



KNIFE GATE VALVE

Duff Company now offers the industry a versatile line of knife gate valves that can meet your highest quality and engineering standards. We can customize this line of valves to meet diverse customer needs - manual, electric, hydraulic, and pneumatic actuation are available in a wide variety of accessories.

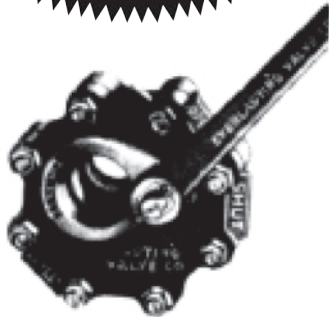


MANUALLY OPERATED PINCH VALVES

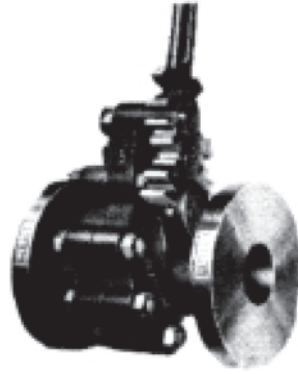
Ideal for reliable operation and long life on a variety of tough slurries, abrasives and chemicals, because the flexible rubber sleeve is the only part exposed to abrasion. They will outlast gate, ball or plug valves whose metal seats will wear quickly.

QUICK OPENING BOILER VALVES

**EVERLASTING
VALUE!**



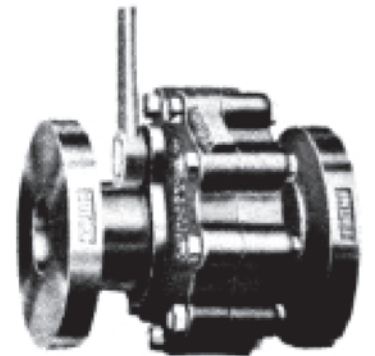
SIZE	FIG NO	PRICE
3/4	—	
1	5263	
1 1/4	5264	
1 1/2	5266	
2	5268	
2 1/2	—	



**HOW FIGURE 4000 SERIES
OPERATES**

Line pressure and heavy spring hold disc firmly against the body seat, sealing off the flow. When operated, the disc slides across the body seat pushing harmful boiler scale away, and wiping clean the precision lapped surfaces.

Hand adjustment of the post packing is eliminated. Post packing is self-adjusted by a spring and line pressure. This prevents destructive erosion or leakage of stuffing box.



FEATURES

- *Straight through flow
- *Leak proof seal disc has self lapping action, actually improves with use
- *Self wiping action of disc cannot hang up on boiler scale.

SLOW OPENING VALVES
(meet ASME/ANSI codes)



HOW THIS VALVE OPERATES

Line pressure and heavy spring hold disc firmly against the body seat, sealing off the flow. When operated, the disc slides across the body seat pushing harmful boiler scale away, and wiping clean the precision lapped surfaces.

Hand adjustment of the post packing is eliminated. Post packing is self-adjusted by a spring and line pressure. This prevents destructive erosion or leakage of stuffing box.

FEATURES

- Valve can be installed with hand wheel in any position.
- Straight through-flow
- Leakproof seal-disc has self lapping action, actually improves with use.
- Seal-disc has wiping action: cannot hang-up on boiler scale.
- No retightening after cool down; seal not affected by temperature change.
- Real slow opening
- Hard seat (700 BHN)resists erosion

SLOW OPENING VALVES
(meet ASME/ANSI codes)



Sectional view of Angle and "Y" valve

HOW THIS VALVE OPERATES

These valves are of the outside screw and yoke type. The seat and disc are capable of withstanding the severe erosive flow of blow-down service. While quick opening valve holds boiler water, the seat and disc can be easily removed for repair without removing the valve form the line.

BLOW OFF VALVES



SINGLE BOILER BLOW OFF VALVES

ANGLE VALVE FLANGE

- ❖ Iron bodyron Bod
- ❖ Steel Body



SINGLE BOILER BLOW OFF VALVES

ANGLE VALVE SCREWED

- ❖ Iron Body
- ❖ Steel Body



SINGLE BOILER BLOW OFF VALVES

STRAIGHTWAY VALVE - SCREWED

- ❖ Iron Body
- ❖ Steel Body

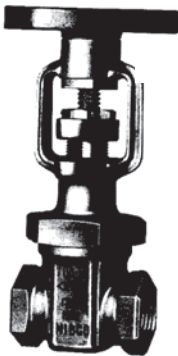


SINGLE BOILER BLOW OFF VALVES

STRAIGHTWAY VALVE FLANGED

- ❖ Iron Body
- ❖ Steel Body

FIRE PROTECTION VALVES



- ❖ 175 LB WWP Bronze Gate
- ❖ Threaded
- ❖ JL/ULC listed
- ❖ FM approved
- ❖ Block pattern
- ❖ Screw-over bonnet
- ❖ Outside screw and yoke
- ❖ Solid wedge
- ❖ 175 PSI non-shock cold water (400 psi non-shock WOG general service)
- ❖ Approved by the New York City Board of Standards.

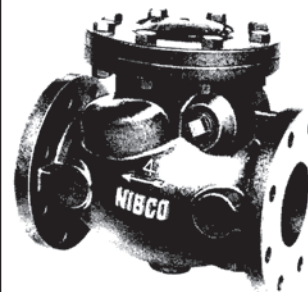


- ❖ 175 LB WWP Iron Body Gate
- ❖ Flanged
- ❖ UL/ULC listed
- ❖ FM approved
- ❖ Bolted bonnet
- ❖ Outside screw and yoke
- ❖ Solid wedge
- ❖ Pre-grooved stem for tamper switch mounting.
- ❖ 175 psi non-shock cold water
- ❖ Approved by the New York City board of Standards and Appeals



- ❖ 175 LB WWP Bronze hose Gate
- ❖ Threaded with cap and chain
- ❖ UL listed
- ❖ FM approved
- ❖ Screw in bonnet
- ❖ Non-rising stem
- ❖ Solid wedge
- ❖ 175 PSI non-shock cold water
- ❖ Female NPT inlet x Male thread hose outlet

SIZE	FIG NO	PRICE
1 1/2	83706	
2 1/2		
3 X 2 1/2	83708	



- ❖ 175 LB WWP iron body check
- ❖ Flanged
- ❖ UL/ULC listed
- ❖ FM approved
- ❖ Bolted bonnet
- ❖ Horizontal Swing
- ❖ Renewable seat and disc
- ❖ 175 PSI non-shock cold water
- ❖ Approved by the New York City board of Standards and Appeals



- ❖ 300 LB WWP Bronze Hose Gate
- ❖ Threaded with cap and chain
- ❖ UL listed
- ❖ FM approved
- ❖ Screw in bonnet
- ❖ Rising stem
- ❖ Screw-in bonnet
- ❖ 300 PSI non-shock cold water

SIZE	FIG NO	PRICE
1 1/2	83690	
2 1/2	83692	










- ❖ 1/2" Automatic Ball Drip
- ❖ For installation on DCF908W
- ❖ Closes against pressure
- ❖ Opens when pressure is off, allowing water to drain from the fire department connection

FIG. NO. DCBALLDRIP

FOR ADDITIONAL FIRE PROTECTION VALVES, SEE PAGES 143-148

STAINLESS STEEL VALVES
 CHOOSE FROM OUR FULL LINE
 OF HIGH QUALITY VALVES
 TO MEET YOUR NEEDS

 <p>Threaded Stainless Steel Gate Valve</p>	 <p>Threaded Stainless Steel Full Port Gate Valve</p>	 <p>Threaded Stainless Steel Swing Check Valve</p>																																		
 <p>Threaded Stainless Steel Ball Valve</p>	<table border="1"> <thead> <tr> <th>SIZE</th> <th>FIG NO.</th> </tr> </thead> <tbody> <tr> <td>1/4"</td> <td>4114</td> </tr> <tr> <td>3/8"</td> <td>4115</td> </tr> <tr> <td>1/2"</td> <td>4120</td> </tr> <tr> <td>3/4"</td> <td>4123</td> </tr> <tr> <td>1"</td> <td>4126</td> </tr> <tr> <td>1-1/2"</td> <td>4131</td> </tr> <tr> <td>2"</td> <td>4132</td> </tr> </tbody> </table>	SIZE	FIG NO.	1/4"	4114	3/8"	4115	1/2"	4120	3/4"	4123	1"	4126	1-1/2"	4131	2"	4132	<table border="1"> <thead> <tr> <th>SIZE</th> <th>FIG NO.</th> </tr> </thead> <tbody> <tr> <td>1/2"</td> <td>5250</td> </tr> <tr> <td>3/4"</td> <td>5252</td> </tr> <tr> <td>1"</td> <td>5254</td> </tr> <tr> <td>1-1/4"</td> <td>5255</td> </tr> <tr> <td>1-1/2"</td> <td>5256</td> </tr> <tr> <td>2"</td> <td>5257</td> </tr> <tr> <td>2-1/2"</td> <td>58964</td> </tr> <tr> <td>3"</td> <td>61785</td> </tr> </tbody> </table>	SIZE	FIG NO.	1/2"	5250	3/4"	5252	1"	5254	1-1/4"	5255	1-1/2"	5256	2"	5257	2-1/2"	58964	3"	61785
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**DUFF gladly accepts
 VISA & Mastercard**



IRON BODY AWWA VALVES



AWWA inside screw, non-rising stem, bronze trim, solid wedges, O-ring gland, square operating nut.

Conforms to AWWA specifications and has identifying AWWA cast on bonnet. Generally recommended for shut-off on water lines.

☉200 psi water, 4"-12"; 175 psi 14"; 150 psi 16"-20"

TYPE OF ENDS:

tyton, 4"-12"

Flanged X Mechanical Joint, 4"-12"

Mechanical Joint, 4"-20"

Flanged X Tyton, 4" - 12"

Flanged X Ring - Tite, 4"-12"



AWWA inside screw, non-rising stem, bronze trim, solid wedges, Wheel operated

This valve contained flanged ends. Sizes up to 20" fitted with O-ring gland. larger sizes have conventional packing box.

☉200 psi water, 4"-12"

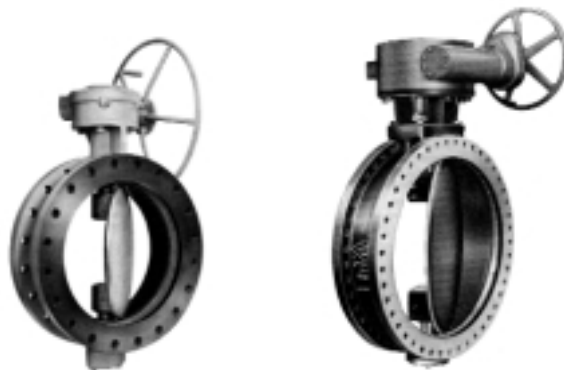
☉175 psi water 14"

☉150 psi water 16"-48"

Flanged, 4"-10"

Flanged, 24" - 48"

IRON BODY AWWA BUTTERFLY VALVES



These butterfly valves are manufactured to AWWA C-5604 specifications and are available with various types of ends in a full range of pressures and velocity with manual, electric, hydraulic, or pneumatic actuators. Positioners for flow regulation and actuators with special features to suit individual requirements can also be supplied.

The rubber seat is precision molded of natural rubber and constructed so that it can be accurately adjusted over 360 degrees seating surface to endure bubble-tight shut-off on pressures to a maximum rating of 250 psig.

Optional materials are available for special services and pressure applications.

MOUNTING BRACKETS



MOUNTING BRACKETS

☛ Mounting brackets and couplings are available in a wide variety of configurations to suit specific applications.

PNEUMATIC ACTUATORS



PNEUMATIC ACTUATORS

Many basic models - air to close; air to open, spring to close, air to close, spring to open
☛ Choice of double-acting or spring-return fail-safe models.

VALVE ACTUATORS

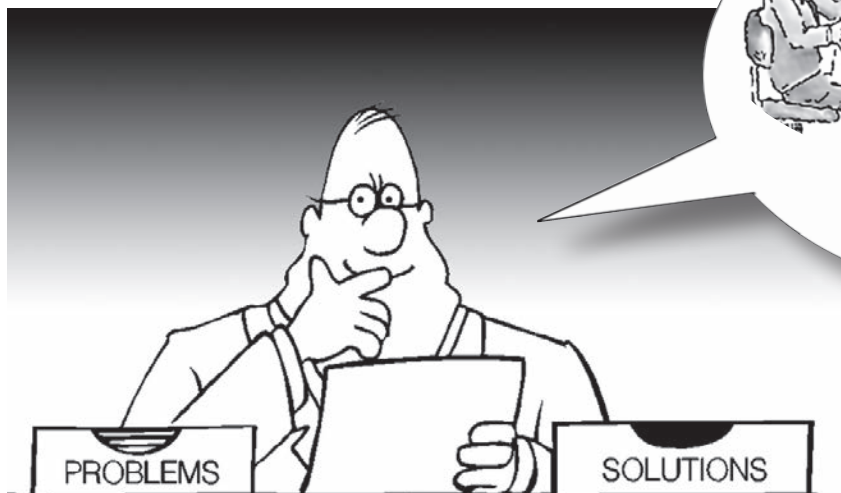


ELECTRIC ACTUATOR

Many basic models - brushless induction motors
☛ 35 45,000 lb-in. rated torque outputs
☛ 2 to 20 second standard cycle speeds (90 degree travel). Special cycle time also available
☛ Reversible models precision adjustable up to 260 degrees rotation
☛ All models are available unidirectional.

DUFF DIFFERS

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info@duffco.com**

ADD-A-VALVE

DIMENSIONS IN INCHES

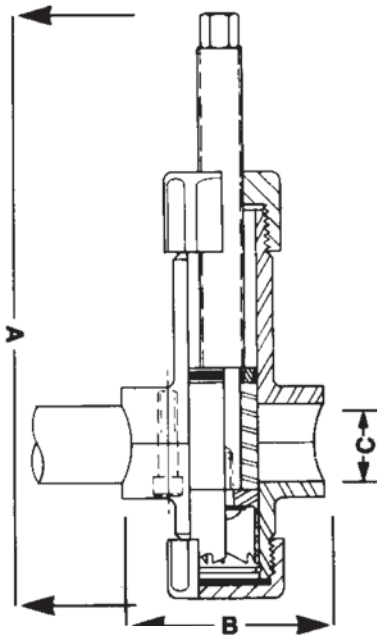


FIG NO.	VALVE SIZE	A	B	C	OPEN	CLOSED
96496	1/2"	3.83	1.96	.62	5.86	4.37
181148	3/4"	4.76	2.28	.87	7.28	5.00
165928	1"	5.66	2.63	1.12	8.81	6.29
164566	1-1/4"	6.93	3.27	1.37	10.59	7.55
164567	1-1/2"	7.89	3.62	1.62	12.08	8.54
173409	2"	9.98	4.44	2.12	15.15	10.59

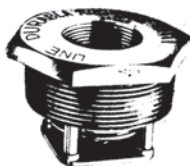
ADD A VALVE WITHOUT SHUTTING OFF THE WATER ... IN 30 SECONDS OR LESS!

Designed for use on L&K type copper tubing - on cold water systems only, ADD-A-VALVE is not recommended for type M or thinner wall copper tubing and carries absolutely no guarantee!

To install the ADD-A-VALVE under pressure, on L or K type copper tubing without shutting off the water, simply disassemble the ADD-A-VALVE body by removing the (4) SS316 allen screws. Brush a thin coat of Jomar Seal WOG, hard set, thread sealant on the inner surface of both ADD-A-VALVE cavities, the width of both valve bodies and allow to dry for three minutes, then assemble the ADD-A-VALVE around the copper tubing. Reinsert the 4 allen screws and tighten evenly in an X pattern to align the ADD-A-VALVE body evenly on the

copper tubing. Use a 3.9" manual, ratchet type, socket wrench on the 1/2", 3/4" and 1" sizes and a 9/16" on the 1 1/4", 1 1/2" and 2" sizes to drive the finely threaded 316SS stem and cutter assembly down until you have through both wall of the copper tubing. the stem and cutter assembly will then seat inside the body cavity on the newly designed internal shut off stop. CONTINUE TO MANUALLY RATCHET THE SOCKET WRENCH AN ADDITIONAL 1 AND 1/2 TURNS TO EXPAND THE VITON SEAL. The above process, if properly executed will completely seal off the water flow in he copper tubing under pressure from 0 psi to 145 psi. next remove the cleanout cap at the bottom of the valve body, if there is a leak, tighten down the steam assembly until the flow of water stops. Remove the two (2) copper wall slugs with a pair of needle nose pliers, making sure that both the inside of the cutter and the cleanout cap are free of all debris by opening the valve and flushing out the line into a light plastic bucket suspended on the copper line with an "S" hanger. Reinsert the cleanout cap into the valve body and tighten. Once you have replaced the defective valve or installed a new ball valve down stream, you may fully open the ADD-A-VALVE by reversing the stem with a Makita type battery powered drill or by using a manual socket wrench and backing out the stem until a full water flow is restored to the line. The ADD-A-VALVE is now a permanent part of the copper tube installation. THE CLEANOUT CAP SERVES AS A LINE TAP BY ADDING AN ADAPTER.

DURABLE Basic check valves



Silent, sure, shockproof piping system protection. Stainless steel, 300 lb, WSP at 500 degrees Fahrenheit. Combines with almost any standard pipe fitting, forms a complete check valve suitable for practically all services - oil, water, refrigerants, light hydrocarbons, gas and steam. They can also operate in any position. Operates easily with low pressure drop, closes positively without leakage in any position. **AVAILABLE 3/4" TO 2"**

BABBIT SPROCKET RIMS

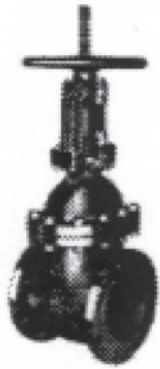
brings high valves within reach



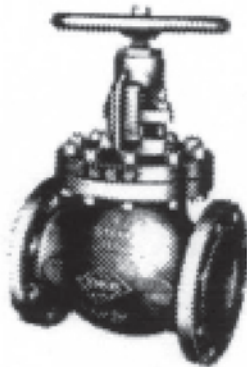
BABBIT ADJUSTABLE SPROCKET RIMS WITH CHAIN GUIDE: Overhead or inaccessible valves, when equipped with this devise, may be conveniently and safely operated from the floor. Attached directly to hand wheels, the adjustable sprocket rim with chain guide can be quickly and easily installed. Rims and guides are available in cast or ductile iron.

SIZE	DIA OF SPROCKET WHEEL	WEIGHT IN LBS.	DIA OF VALVE WHEELS RIM WILL FIT	CHAIN SIZE NO	CHAIN WEIGHT PER 100 LBS.
0	4	2	2-4	1	10
1	5 7/8	4	4 1/8-5 7/8	2	17 1/2
1 1/2	7 1/2	5	6-7 1/2	2	17 1/2
2	9	8	7 3/4-9	2	17 1/2
2 1/2	12 1/2	15	9 1/4-12 1/2	3	30
3	15 1/2	21	12 3/4-15 1/2	3	30
3 1/2	19	25	15 3/4-19	3	30

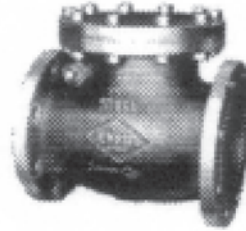
CAST STEEL VALVES



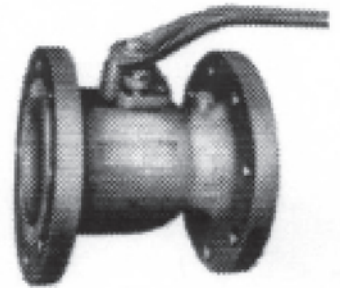
CLASS 150 GATE O.S.&Y.,
BOLTED BONNET FLEXIBLE
AND SOLID WEDGE



CLASS 150 GLOBE O.S.&Y.,
BOLTED
BONNET



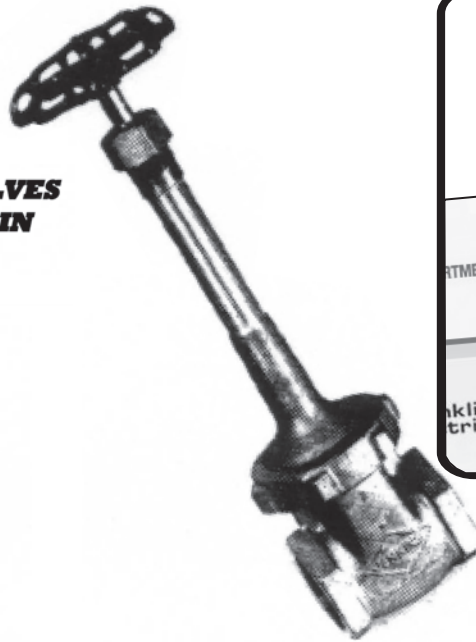
CLASS 150 SWING CHECK
BOLTED COVER



CLASS 150 BALL VALVE TWIN SEAL,
TFE SEATS

CRYOGENIC VALVES

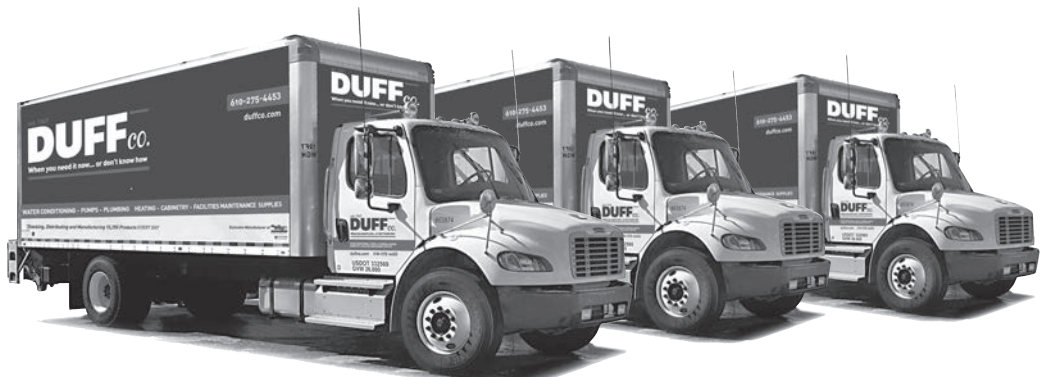
**GATE, GLOBE AND CHECK VALVES
(THREADED AND FLANGED) IN
BRONZE AND STAINLESS**



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product numbers

descriptions

quantities

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WATER TREATMENT EQUIPMENT - PUMPS - PLUMBING - HEATING - INDUSTRIAL SUPPLIES - PUMPS
STEAM SPECIALTIES - PIPE - VALVES - FITTINGS - SOFTENERS - FILTERS

201 EAST LAFAYETTE STREET, P.O. BOX 618, NORRISTOWN, PA 19401

PHONE: 610-275-4453 FAX: 610-279-6299

SOLD TO:

SHIP TO:

YOUR NAME: _____ PURCHASE ORDER NO. _____

TODAY'S DATE: _____ REQUIRED DATE: _____

QTY	FIG. NO.	DESCRIPTION	PRICE/EA	TOTAL



TERMS: NET - 10TH OF MONTH FOLLOWING PURCHASE
WE WILL PREPAY AND ADD FREIGHT FOR ALL ORDERS SHIPPED UPS OR COMMON CARRIER

All accounts are to be paid in full to Duff Supply Company monthly by the tenth (10th) day of the month following invoice date, a 1% service charge and a 1% interest charge will be made on any balance open at the end of the month following invoice, and in the event that legal action or lien be undertaken, or the service of a collection agency are used to collect this account, the customer shall pay all expenses incurred by Duff Supply Company, such as, but not limited to, costs and collection, legal and lien fees.

QTY	FIG. NO.	DESCRIPTION	PRICE/EA	TOTAL

*Thank You
for your business!*



Contact name _____ Contact Date _____

	<h2 style="margin: 0;">DUFF COMPANY</h2> <p style="margin: 0;">201 East Lafayette Street Norristown, PA 19401</p> <p style="margin: 0;">Phone: 610-275-4453 Fax: 610-279-6761</p>	
---	---	---

Legal Name _____

Name in which business is conducted _____

Billing Address _____

City _____ State _____ Zip _____

Purchasing Phone _____ A/P Phone _____ Fax _____



Principal's Name _____

Principal's Address _____

City _____ State _____ Zip _____

Phone (Office) _____ (Cell) _____ E-mail address _____

Website address (If applicable) _____

Primary Contact _____ Title _____



SHIPPING ADDRESS - IF DIFFERENT

Shipping Address _____ Phone _____

City _____ State _____ Zip _____

Tax Exempt Number _____ Provide a copy of Certificate. We CAN NOT set up a Tax Exempt Account without certification.



TYPE OF BUSINESS

Plumbing _____ Pumps _____ Heating _____ Municipality _____ Hotel or Apts. _____ Well Drilling _____
Hospital _____ Factory (OEM) _____ Factory (Mtn) _____ Office Building _____ Shopping Center _____
Golf Course _____ Water Treatment _____ Environmental _____ Other (Please name) _____

Have you been contacted by one of our salesman? _____ Name _____

If YES, please explain _____

Name of person authorized to pick up _____

D&B Rating _____ Check one: Corporation _____ Partnership _____ Individual Proprietor _____

If division of another company, name parent company and relationship _____

DUFF COMPANY

201 East Lafayette Street, Norristown, PA 19401

TRADE REFERENCES

Name _____ Type of business _____

Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____



Name _____ Type of business _____

Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____



Name _____ Type of business _____

Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____



Bank reference _____

Branch Address _____

City _____ State _____ Zip _____

Branch officer who handles account _____

In consideration of your opening the above account and/or extended credit, the undersigned hereby agrees that all information supplied in this application is correct, that all accounts are to be paid in full to Duff Company monthly by the tenth day of the month following the invoice date, that a 1% service charge and a 1% interest charge will be made on any balance open at the end of the month following invoice date, and that in the event that legal action or lien be taken, or the service of a collection agency are used to collect this account, the undersigned shall pay all expenses incurred by the Duff company, such as, but not limited to, collection fees, costs and legal fees.

Applicant (Name of Account) _____

By _____ Title _____

The undersigned _____ and _____ for good and valuable consideration, hereby jointly, severally and personally unconditionally guarantee, warrant and promise the full and prompt (within terms) payments of all bills and other obligations (as set forth above) of the applicant in connection with any credit extended to the applicant by Duff Company.*

Principal _____ Witness _____ Principal's Spouse _____ Witness _____

Principal _____ Witness _____ Principal's Spouse _____ Witness _____

We routinely fax invoices to our customers. Please provide a fax number where we can send invoices _____

PLEASE FAX FORM TO 610-275-6761

*As appropriate, we may also require the guarantee of a principal and, in some cases, the principal's spouse.

For Duff Company Use Only

Credit Limit: _____	Contact: _____	Certificate Recd: _____
Tax Jurisdiction: _____	General Manager _____	Type: _____
Salesman: _____	Class: _____	Controller: _____
	Date Approved: _____	