



**Waukesha
Cherry-Burrell**

**Read and understand this manual prior to operating or
servicing this valve**

**200 Valves Series Butterfly Valves
250 Series Ball Valves
Manual & Automatic Actuators**

*Revision date
May 5, 1999*

Waukesha Cherry-Burrell Valves

**Operation
Maintenance
Parts List**

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SAFETY

Warnings, cautions and notes are contained in this manual. To avoid serious injury and/or possible damage to equipment, pay attention to these messages.

WARNING Hazards or unsafe practices which **COULD** result in severe personal injury or death and how to avoid it.

CAUTION Hazards or unsafe practices which **COULD** result in minor personal injury or product or property damage.

NOTE Important information pertaining directly to the subject.
(Information to be aware of when completing the task.)

WARNING
Stop Machinery to Clean,
Service or Repair

WARNING
DO NOT OPERATE
WITHOUT GUARD IN PLACE

WARNING
To avoid electrocution, ALL electrical should be done by a registered Electrician, following Industry Safety Standards.
All power must be OFF and LOCKED OUT during installation.

WARNING
TO AVOID POSSIBLE SERIOUS INJURY,
SHUT OFF AND DRAIN PRODUCT FROM VALVE PRIOR TO DISCONNECTING PIPING.

WARNING
TO AVOID SERIOUS INJURY, DO NOT INSTALL OR SERVICE VALVE UNLESS ALL POWER IS OFF AND LOCKED OUT.

CAUTION
To avoid possible injury;
SHUT OFF and LOCK OUT all power; relieve system pressure before servicing.

WARNING
KEEP FINGERS OUT OF PORTS

REPLACEMENT LABEL

REPLACEMENT LABEL

Read and understand this manual prior to installing, operating or maintaining this valve.

WARRANTY

WAUKESHA CHERRY-BURRELL WARRANTY

Seller warrants its products to be free from defects in materials and workmanship for a period of one (1) year from the date of shipment. This warranty shall not apply to products which require repair or replacement due to normal wear and tear or to products which are subjected to accident, misuse or improper maintenance. This warranty extends only to the original Buyer. Products manufactured by others but furnished by Seller are exempted from this warranty and are limited to the original manufacturer's warranty.

Seller's sole obligation under this warranty shall be to repair or replace any products that Seller determines, in its discretion, to be defective. Seller reserves the right either to inspect the products in the field or to request their prepaid return to Seller. Seller shall not be responsible for any transportation charges, duty, taxes, freight, labor or other costs. The cost of removing and/or installing products which have been repaired or replaced shall be at Buyer's expense.

Seller expressly disclaims all other warranties, express or implied, including without limitation any warranty of merchantability of fitness for a particular purpose. The foregoing sets forth Seller's entire and exclusive liability, and Buyer's exclusive and sole remedy, for any claim of damages in connection with the sale of products. In no event shall Seller be liable for any special consequential incidental or indirect damages (including without limitation attorneys' fees and expenses), nor shall Seller be liable for any loss of profit or material arising out of or relating to the sale or operation of the products based on contract, tort (including negligence), strict liability or otherwise.

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INSTALLATION

INSPECTION ON ARRIVAL

Each valve is inspected prior to shipping. Upon arrival, carefully check for damage that may have occurred in transit. If any damage is found, immediately notify the applicable freight agent and then file a claim. The transportation company is responsible for any loss or damage during shipment.

PIPELINE SUPPORTS

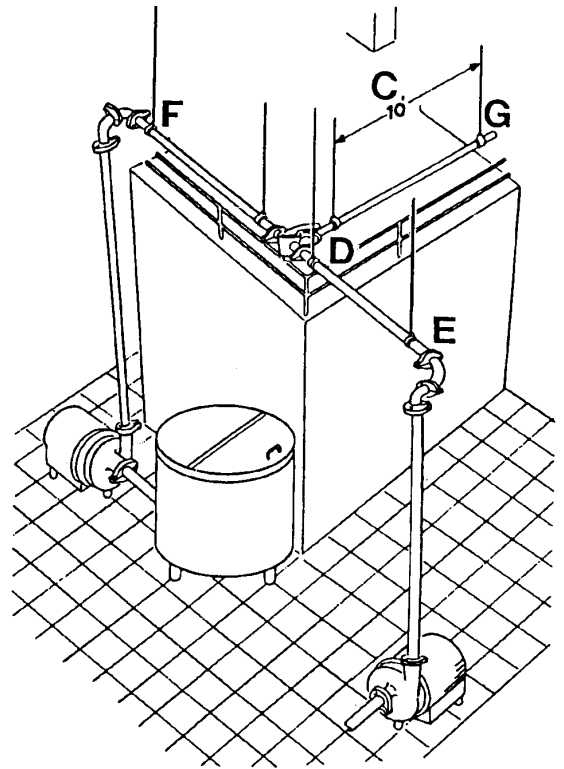
As a general rule, support pipelines in such a way that they “float”. This is particularly important when lines contain automatic valves, temperature changes in the lines may cause expansion and contraction that can distort valve bodies causing leaks.

Install adequate supports to prevent strain on fittings, valves, and equipment connections. (See figure)

1. Install supports on straight runs of piping at least every ten feet. **(C)**
2. Install supports on both sides of valves as close to the connections as possible. **(D)**
3. Install supports at each change of pipeline direction. **(E and F)**
4. For pipelines passing through walls, floors, or ceilings, provide at least 1” of clearance around the pipe to allow for expansion and contraction. **(G)**

CAUTION

Before attempting to butt-weld an automatic valve into a line, disassemble the body from the actuator. Dissipate heat away from the valve body to prevent warping.



Pipeline Support Recommendations

CARE OF STAINLESS STEEL

The stainless steel components in Waukesha Cherry-Burrell equipment are machined, welded and assembled by skilled craftsmen using manufacturing methods that preserve the corrosion-resistant quality of the stainless steel.

Retention of corrosion-resistant qualities under processing conditions requires regular attention to the precautions listed below.

(Note: Corrosion resistance is greatest when a layer of oxide film is formed on the surface of stainless steel; should this film be disturbed or destroyed, stainless steel becomes active and much less resistant to corrosion.)

1. Regularly check all electrical devices connected to the equipment in any way for stray currents caused by improper grounding, damaged insulation or other defects.

Corrosion: "Pitting" often occurs when stray currents come in contact with moist stainless steel.

2. Never leave rubber mats, fittings, wrenches, ect. in contact with stainless steel.

Corrosion: Pitting or galvanic action. Objects retard complete drying, preventing air from reforming the protective oxide film. Galvanic corrosion occurs when two dissimilar metals touch when wet.

3. Use water conditioner when the water supply contains foreign matter which may cause discoloration or deposits.

Corrosion: Pitting, deposits, discoloration. Deposits counteract the best cleaning practices and cause corrosion of the best quality stainless steel.

4. Immediately rinse equipment after use with warm water until the rinse water is clear. Clean the equipment (manual or CIP) as soon as possible after rinsing.

Corrosion: Discoloration, deposits, pitting. Product deposits often cause pitting beneath the particles.

5. Use only recommended cleaning compounds. Purchase chemicals from reputable and responsible chemical manufacturers, familiar with stainless steel processing equipment. They continuously check the effects of their products on stainless steel.

6. Use cleaning chemicals exactly as specified by the manufacturer. Do not use excessive concentrations, temperatures or exposure times.

Corrosion: Pitting, discoloration, stress cracks. Permanent damage often occurs from excessive chemical concentrations, temperatures, or exposure times.

7. For manual cleaning, use only soft non-metallic brushes, sponges, or pads. Brush with the grain on polished surfaces, avoid scratching the surface.

Corrosion: Pitting, scratches. Metal brushes or sponges will scratch the surface and promote corrosion over a period of time. Metal particles allowed to remain on a stainless steel surface will cause pitting.

8. Use chemical bactericides exactly as prescribed by the chemical manufacturer in concurrence with local health authority. Use the lowest permissible concentration, temperature, and exposure time possible. Flush immediately after bactericidal treatment. In no case should the solution be in contact with stainless steel more than 20 minutes.

Corrosion: Protective film destroyed. Chlorine and other halogen bactericides can destroy the protective film. A few degrees increase in temperature greatly increases chemical activity, and accelerates corrosion.

9. Regularly inspect the joints in pipelines. Be sure all connections are tight fitting without binding.

Corrosion: Crevice corrosion. Small crevices caused by improperly seated gaskets will promote crevice corrosion. Stainless steel under stress will develop stress cracking especially in the presence of bactericides containing chlorine.

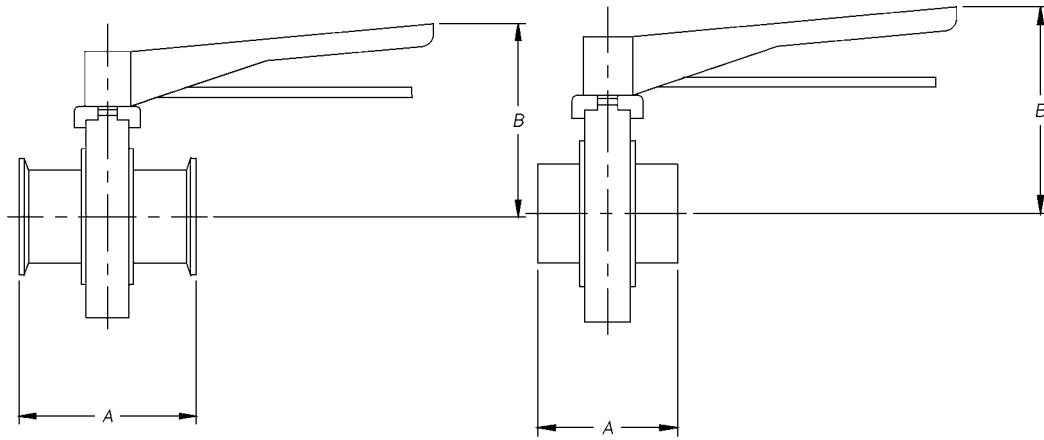
10. Regularly inspect equipment for surface corrosion (i.e. pitting, deposits, stress cracks, etc.). If deposit or color corrosion is detected, remove it immediately using mild scouring powder and detergents. Rinse thoroughly and allow to air dry. Review production and cleaning procedures to determine the cause.

Note: If corrosion is not removed, the protective film cannot be restored and corrosion will continue at an accelerated rate.

BUTTERFLY VALVES MANUAL

S-LINE & BUTT-WELD DIMENSIONS

Size (in)	A S-Line	A Butt-Weld	B
1	2-1/2	2-1/2	3-3/4
1-1/2	2-13/16	2-13/16	4
2	2-13/16	2-13/16	4-1/4
2-1/2	3	3	4-5/8
3	3-15/16	3-15/16	4-7/8
4	4-3/32	4-3/32	5-7/32
6	4-9/16	4-9/16	—



S-Line

Butt-Weld

BALL VALVES MANUAL

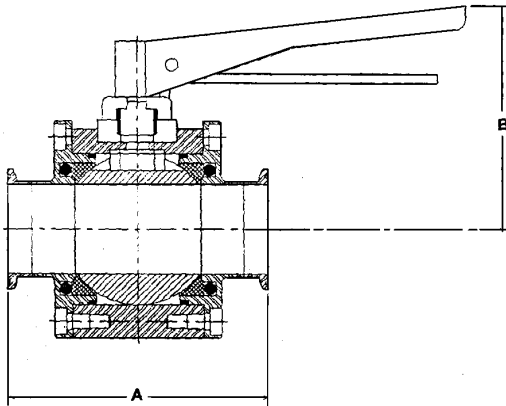
S-LINE & BUTT-WELD DIMENSIONS

Size (in)	A S-Line	A Butt-Weld	B
1/2	4-3/16	3-1/16	3-15/32
3/4	—	3-1/16	—
1	4-13/16	3-11/32	4-1/8
1-1/2	4-15/16	4-3/32	4-9/16
2	5-7/16	4-13/16	4-27/32
2-1/2	6-27/32	5-15/16	5-13/32
3	7-1/4	6-3/8	5-29/32
4	7-1/2	7-7/16	6-7/16

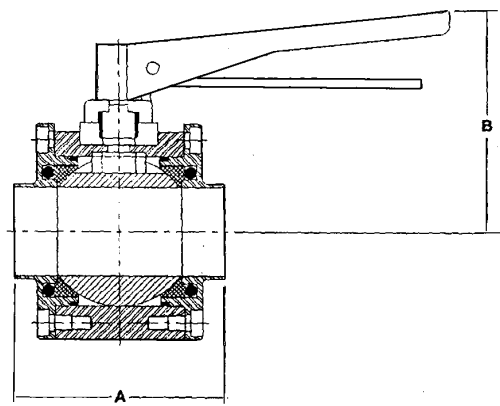
max pressure 1/2" 1-1/2" : 260 PSI
 2" to 4": 174 PSI

max temperature 275°F

max. steam temp: short term 284°F



S-Line

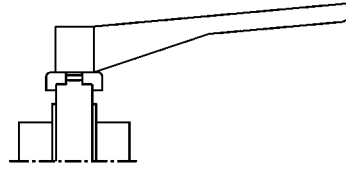


Butt-Weld

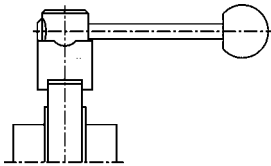
TORQUE RATING BALL VALVES

Size	Ft.Lbs.
1/2"	7.38
3/4"	7-3/8
1"	11.07
1-1/2"	14.76
2"	18.45
2-1/2"	22.14
3"	25.83
4"	29.52

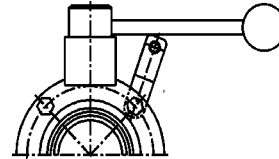
WAUKESHA CHERRY-BURRELL MANUAL ACTUATOR PROGRAM



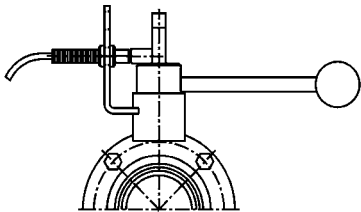
"STANDARD TRIGGER HANDLE"
*HANDLE MAY BE SOLD SEPARATELY



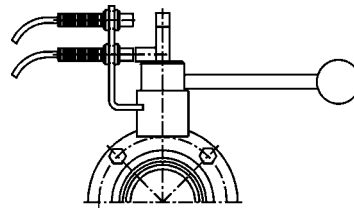
"PULL STYLE HANDLE"
*HANDLE MAY BE SOLD SEPARATELY



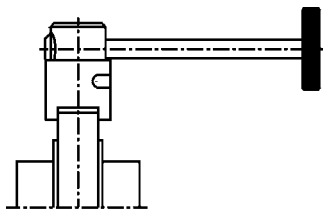
"PULL STYLE W/PADLOCK TRAVEL STOP"
*MUST BE FACTORY INSTALLED



"PULL STYLE W/SINGLE PROXIMITY"
*HANDLE MAY BE SOLD SEPARATELY



"PULL STYLE W/DOUBLE PROXIMITY"
*HANDLE MAY BE SOLD SEPARATELY

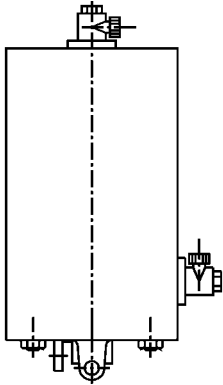


"STEPLESSLY ADJUSTABLE LOCKING"
*HANDLE MAY BE SOLD SEPARATELY

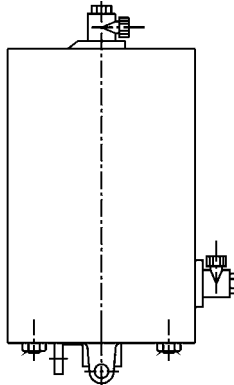


"INTERMEDIATE STEPS" (NOTCHED)
*HANDLE MAY BE SOLD SEPARATELY

WAUKESHA CHERRY-BURRELL AUTOMATIC ACTUATOR PROGRAM



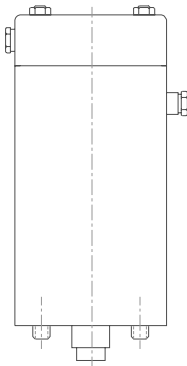
3" DIA ACTUATOR—AIR TO AIR OR AIR TO SPRING
(1/2" THRU 1-1/2" SIZE VALVES ONLY)



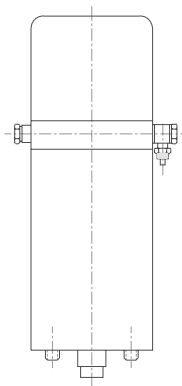
4" DIA ACTUATOR—AIR TO AIR OR AIR TO SPRING
(1" THRU 4" SIZE VALVES.)



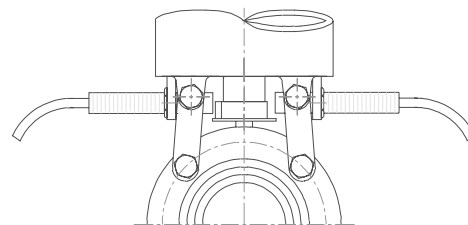
4" DIA ACTUATOR—AIR TO SPRING
(1" THRU 4" SIZE VALVES.)



4" ACTUATOR W/(2) MICROSWITCHES.



4" ACTUATOR/CONTROL TOP
MSW & SOL. VALVE
PROX. SW. & SOL. VALVE



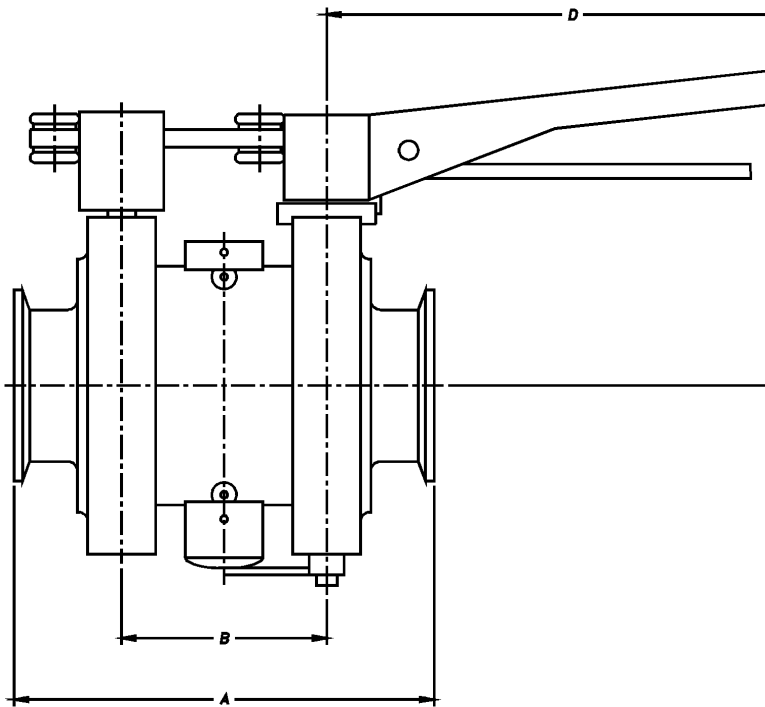
VALVE W/PROXIMITY SWITCHES (2) MOUNTED
THRU THE BRACKET.

TECHNICAL DATA FOR BUTTERFLY VALVE

Size (in)	Average Torque Requirement (ft. lbs.)			Max. Pressure (psi)	Cv (gal/min)
	Silicone	EPDM	Viton		
1	14.76	11.07	18.45	217.5	22
1-1/2	18.45	14.76	22.14	217.5	66
2	18.45	14.76	22.14	203.0	132
2-1/2	22.14	18.45	25.83	188.5	254
3	29.52	25.83	33.21	145.0	358
4	36.90	33.21	40.59	116.0	809
6	40.59	36.90	44.28	87.0	—

BUTTERFLY BLOCK-AND-BLEED VALVE S-LINE DIMENSIONS (FOR MANUALLY ACTUATED VALVES)

SIZE (in)	A	B	C	D
1	5-3/16	2-11/16	3-3/4	7
1-1/2	5-1/2	2-11/16	3-15/16	7
2	5-1/2	2-11/16	4-1/4	7
2-1/2	6	3-1/16	4-5/8	7
3	7-1/2	3-11/16	5-1/16	7
4	8-1/2	4-7/16	5-7/16	7
6	11	6-1/2	7-1/2	13



Block And Bleed Valve With S-Line Fittings

DRAIN VALVE UNIT FOR BUTTERFLY BLOCK-AND-BLEED VALVE

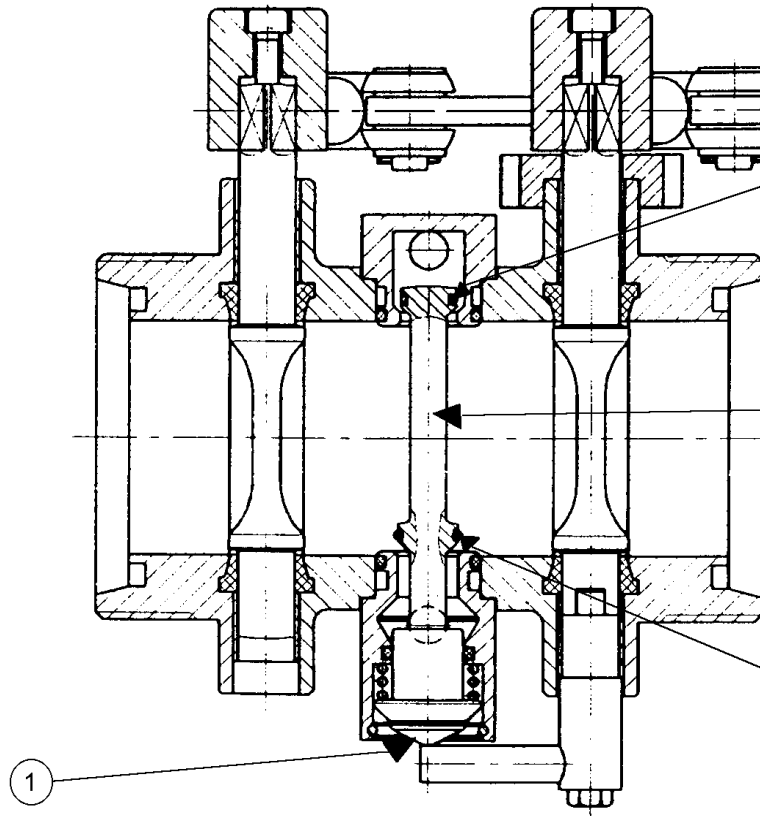
HOW IT WORKS

During valve closing, the lifting swivel arm swings out and makes contact with the tapered (rounded) end of the drain/vent piston (1). This action raises the piston (A), and opens both the vent (2), and the drain (3) ports.

Should any product get by the valve seat, it will exit the drain port.

The above operation can also be performed Pneumatically.

NOTE Valves that use the vent and drain option must always be installed with the handle or actuator in the vertical position. If laid horizontally, the drain/vent procedure will not work.



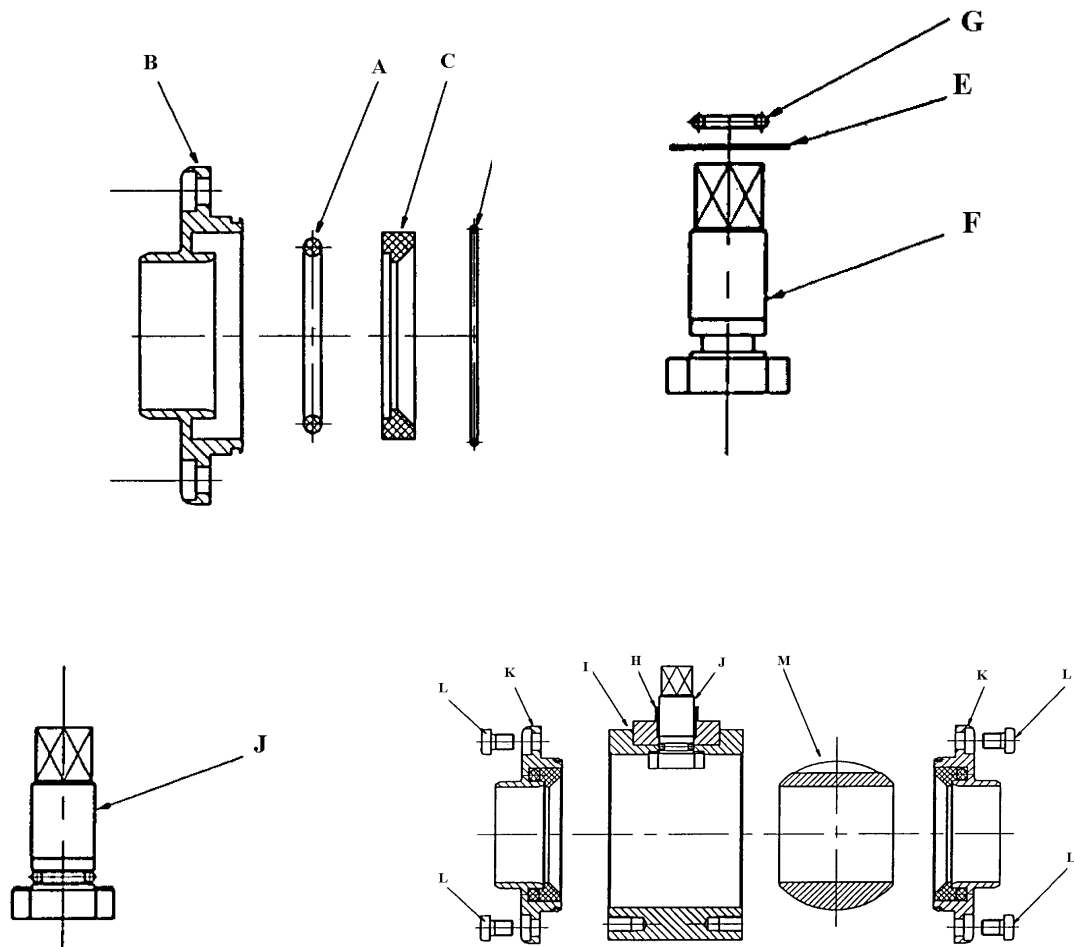
BUTTERFLY VALVE DISASSEMBLY AND MAINTENANCE

In the event that repair or replacement becomes necessary, the following procedures are suggested:

1. Drain and flush the piping surrounding the valve.
2. To remove handle, remove the socket head capscrew found at the top of the valve handle with the proper sized allen wrench. *(For proper removal of automatic actuator, see mounting instructions on page 15)*
3. Remove the nuts and capscrews.
4. Separate the valve body halves.
5. Set the butterfly disc to the open position.
6. Squeeze the seal until oval shaped, then slide the short end of the stem from the seal.
7. Pinch the disc between the thumb and forefinger, and pull the long end of the stem from the seal.
8. Check for and replace a cracked or worn seal, stem and disc, or screw threads.
9. Reassembly is opposite of disassembly.

BALL VALVE DISASSEMBLY AND MAINTENANCE

1. Insert O-ring (**A**) in housing flange (**B**).
2. Press seat (**C**) into groove of housing flange.
3. Slip on O-ring (**D**) for sealing of central housing (**I**).
REPEAT STEP 1-3 FOR FLANGE ON THE OTHER SIDE OF THE VALVE.
4. Slip PTFE discs (**E**) on switch shaft (**F**).
5. Slip O-ring (**G**) on switch shaft (**F**) and lubricate.
6. Press DU-bushing (**H**) into central housing (**I**) use suitable mandrel or screw-clamp for press.
7. Press complete rotary shaft (**J**) from inside through hole in central housing (**I**).
8. Insert housing flange (**K**) in central housing (**I**) and tighten lightly with hexagon socket.
9. Adjust switch shaft (**J**) so that the flats are parallel to longitudinal axis of central housing (**I**).
10. Slowly insert ball (**M**).
11. Screw second housing (**K**) flange onto central housing (**I**).
12. Tighten housing halves evenly on both sides (**K**) adjusting ball manually (**M**) or with a suitable piece of material so that
the product passage will be in line with the housing flange.

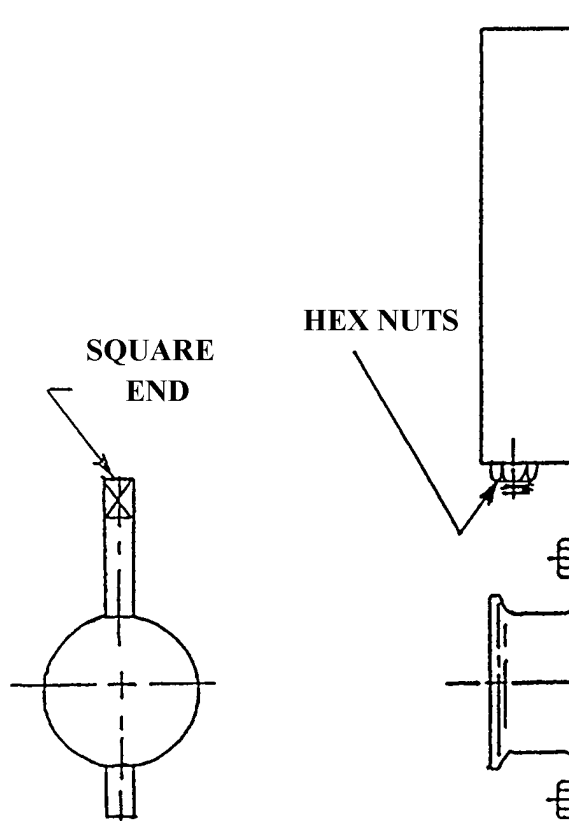


REVERSE VALVE ACTION (MANUAL)

1. Remove the socket head capscrew found at the top of the valve handle.
2. Remove handle from atop the valve spider by lifting straight up.
3. With the valve handle in hand, rotate handle 90 degrees to the left or right, then replace handle.
4. Replace the socket head capscrew and tighten. **NOTE:** the tighter the capscrew, the greater the pressure that will be needed to turn the valve handle.

REVERSE VALVE ACTION (AUTOMATIC)

1. Remove the two hex nuts on the bottom of the actuator.
2. Lift off the actuator and carefully lay aside.
- 3a. For air to open:
 - Place the disc in the 'closed' position.
 - Replace the actuator back over the square stem.
 - Replace hex nuts and tighten.
- 4b. For air to close:
 - Place the disc in the 'open' position.
 - Replace the actuator back over the square stem.
 - Replace the hex nuts and tighten.



AUTOMATIC ACTUATOR MOUNTING INSTRUCTIONS

1. Insert bracket (1) at bottom of actuator and tighten with two lock-nuts (2).
2. Loosen bracket arms (3) on bracket with bolts (4). Bracket arms are marked with size of actuator, or valves respectively.
3. Place actuator, with loosened bracket arms, on valve. Choose normally open, or normally closed position of disc.
4. Push bolts (5) through valve housing.
5. Align actuator with valve visually.
6. Tighten bolts evenly.

WARNING: Carefully tighten bolts step by step.

AUTOMATIC ACTUATOR REPAIR INSTRUCTIONS

PISTON/COVER O-RING REPAIR

(For piston O-ring replacement, the spring, piston and housing cover can be removed as an assembly.)

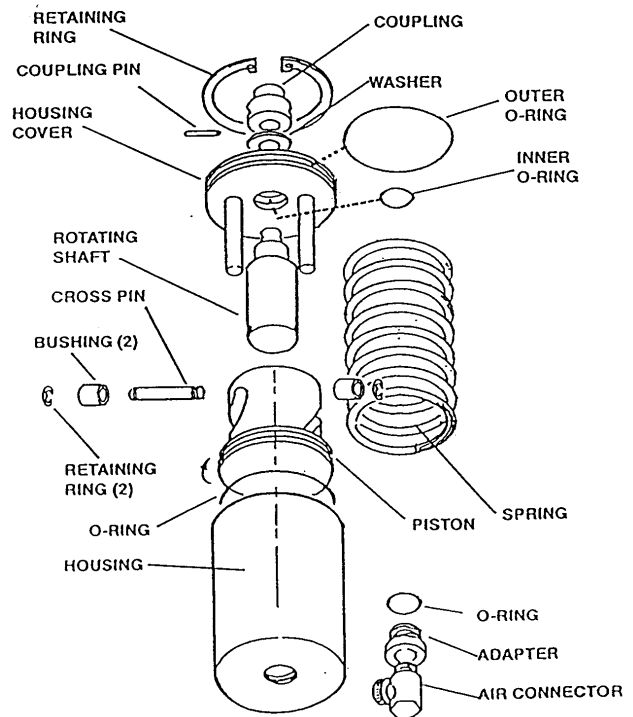
- Remove retaining ring with proper tool.
- Pull off cylinder. (Spring assembly remains in a pre-loaded condition)
- Remove O-rings from piston and cover.
- Fill grooves with grease and install new O-rings.
- Coat inside of cylinder with proper grease.
- Push cylinder carefully over piston and replace the retaining ring.

TOTAL COMPONENT REPAIR/REPLACEMENTS

REMOVE ACTUATOR FROM SYSTEM

- Remove retaining ring.
- Pull off cylinder. (Spring assembly remains in a pre-loaded condition)
- Remove piston and cover O-rings.

PART NUMBER	DESCRIPTION
302 8552	AIR CONNECTOR
302 8553	ADAPTER
302 8556	SPRING
	HOUSING
302 8554	PISTON
302 8555	SEALKIT PIN
	BUSHING
	RETAINING RING
302 8557	ROTATING SHAFT
302 8559	HOUSING COVER
302 8562	COUPLING PIN
302 8561	WASHER
302 8560	COUPLING
302 8558	RETAINING RING
302 8551	O-RING KIT
	INNER O-RING
	OUTER O-RING
	PISTON O-RING
	ADAPTER O-RING



Disassemble Spring Assembly

NOTE: For unloading spring, use a manual press.

- Press piston of air/spring actuator down, remove pin from coupling.
- Open press slowly, Remove coupling and washer; pull off housing cover and spring.
- Remove retaining rings from cross pin; remove pin.
- Remove brass bushings from piston.
- Pull rotating shaft out of main bearing spindle.
- Lubricate and replace all four O-rings during re-assembly.
- Re-assemble in reverse order. Lubricate all moving parts during assembly.

NOTE: Preload the spring assembly with press. Align piston and rotating shaft to accept the cross pin.

Place coupling pin through coupling before releasing spring press.

NOTE: Large actuators have two coupling pins

S-LINE BUTTERFLY VALVES

Valve less handle

Description	Size (in)	304SS Part No.	316L Part No.
Clamp Black EPDM Seat	1	BFV00001	BFV00022
	1-1/2	BFV00002	BFV00023
	2	BFV00003	BFV00024
	2-1/2	BFV00004	BFV00025
	3	BFV00005	BFV00026
	4	BFV00006	BFV00027
	6	BFV00007	BFV00028
Clamp White Silicone Seat	1	BFV00008	BFV00029
	1-1/2	BFV00009	BFV00030
	2	BFV00010	BFV00031
	2-1/2	BFV00011	BFV00032
	3	BFV00012	BFV00033
	4	BFV00013	BFV00034
Clamp Viton Seat	6	BFV00014	BFV00035
	1	BFV00015	BFV00036
	1-1/2	BFV00016	BFV00037
	2	BFV00017	BFV00038
	2-1/2	BFV00018	BFV00039
	3	BFV00019	BFV00040
	4	BFV00020	BFV00041
	6	BFV00021	BFV00042

BUTT-WELD BUTTERFLY VALVES

Valve less handle

Description	Size (in)	304SS Part No.	316L Part No.
Butt-weld EPDM Seat	1	BFV00043	BFV00064
	1-1/2	BFV00044	BFV00065
	2	BFV00045	BFV00066
	2-1/2	BFV00046	BFV00067
	3	BFV00047	BFV00068
	4	BFV00048	BFV00069
Butt-weld White Silicone Seat	6	BFV00049	BFV00070
	1	BFV00050	BFV00071
	1-1/2	BFV00051	BFV00072
	2	BFV00052	BFV00073
	2-1/2	BFV00053	BFV00074
	3	BFV00054	BFV00075
Butt-weld Viton Seat	4	BFV00055	BFV00076
	6	BFV00056	BFV00077
	1	BFV00057	BFV00078
	1-1/2	BFV00058	BFV00079
	2	BFV00059	BFV00080
	2-1/2	BFV00060	BFV00081
	3	BFV00061	BFV00082
	4	BFV00062	BFV00083
	6	BFV00063	BFV00084

S-LINE BALL VALVES

Style	Size (in)	304SS Part No.	316L Part No.
Straight, Less Handle	1/2	BVALVE00001	BVALVE00009
	3/4	BVALVE00002	BVALVE00010
	1	BVALVE00003	BVALVE00011
	1-1/2	BVALVE00004	BVALVE00012
	2	BVALVE00005	BVALVE00013
	2-1/2	BVALVE00006	BVALVE00014
	3	BVALVE00007	BVALVE00015
	4	BVALVE00008	BVALVE00016
	6	—	—
Straight, Less Handle w/Cavity Cleaning	1/2	—	—
	3/4	—	—
	1	BVALVE000201	BVALVE000207
	1-1/2	BVALVE000202	BVALVE000208
	2	BVALVE000203	BVALVE000209
	2-1/2	BVALVE000204	BVALVE000210
	3	BVALVE000205	BVALVE000211
	4	BVALVE000206	BVALVE000212
	6	—	—
Straight, w/Trigger Handle	1/2	BVALVE00033	BVALVE00041
	3/4	BVALVE00034	BVALVE00042
	1	BVALVE00035	BVALVE00043
	1-1/2	BVALVE00036	BVALVE00044
	2	BVALVE00037	BVALVE00045
	2 1/2	BVALVE00038	BVALVE00046
	3	BVALVE00039	BVALVE00047
	4	BVALVE00040	BVALVE00048
	6	—	—
Straight, w/Trigger Handle and Cavity Cleaning	1/2	—	—
	3/4	—	—
	1	BVALVE000225	BVALVE000231
	1-1/2	BVALVE000226	BVALVE000232
	2	BVALVE000227	BVALVE000233
	2-1/2	BVALVE000228	BVALVE000234
	3	BVALVE000229	BVALVE000235
	4	BVALVE000230	BVALVE000236
	6	—	—

BUTT-WELD BALL VALVES

Style	Size (in)	304SS Part No.	316L Part No.
Straight, Less Handle	1/2	BVALVE00017	BVALVE00025
	3/4	BVALVE00018	BVALVE00026
	1	BVALVE00019	BVALVE00027
	1-1/2	BVALVE00020	BVALVE00028
	2	BVALVE00021	BVALVE00029
	2-1/2	BVALVE00022	BVALVE00030
	3	BVALVE00023	BVALVE00031
	4	BVALVE00024	BVALVE00032
	6	—	—
Straight, Less Handle w/Cavity Cleaning	1/2	—	—
	3/4	—	—
	1	BVALVE000213	BVALVE000219
	1-1/2	BVALVE000214	BVALVE000220
	2	BVALVE000215	BVALVE000221
	2-1/2	BVALVE000216	BVALVE000222
	3	BVALVE000217	BVALVE000223
	4	BVALVE000218	BVALVE000224
	6	—	—
Straight, w/Trigger Handle	1/2	BVALVE00049	BVALVE00057
	3/4	BVALVE00050	BVALVE00058
	1	BVALVE00051	BVALVE00059
	1-1/2	BVALVE00052	BVALVE00060
	2	BVALVE00053	BVALVE00061
	2-1/2	BVALVE00054	BVALVE00062
	3	BVALVE00055	BVALVE00063
	4	BVALVE00056	BVALVE00064
	6	—	—
Straight, w/Trigger Handle and Cavity Cleaning	1/2	—	—
	3/4	—	—
	1	BVALVE000237	BVALVE000243
	1-1/2	BVALVE000238	BVALVE000244
	2	BVALVE000239	BVALVE000245
	2-1/2	BVALVE000240	BVALVE000246
	3	BVALVE000241	BVALVE000247
	4	BVALVE000242	BVALVE000248
	6	—	—

200 SERIES BUTTERFLY VALVE SPARE PARTS

VALVE BODIES

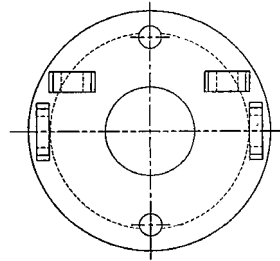
	1"	3029463		1"	3029493
	1-1/2"	3029464		1-1/2"	3029494
	2"	3029465		2"	3029495
304SS(S-Line)	2-1/2"	3029466	316SS(S-Line)	2-1/2"	3029496
	3"	3029467		3"	3029497
	4"	3029468		4"	3029498

VALVE DISCS

	1"	3028539		1"	3028545
	1-1/2"	3028540		1-1/2"	3028546
	2"	3028541		2"	3028547
304SS	2-1/2"	3028542	316SS	2-1/2"	3028548
	3"	3028543		3"	3028549
	4"	3028544		4"	3028550

VALVE BRACKETS

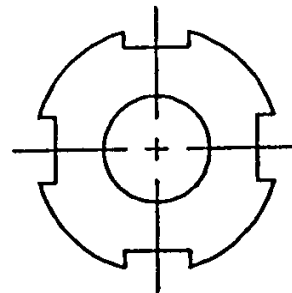
1"	3028458
1-1/2"	3028459
2"	3028460
2-1/2"	3028461
3"	3028462
4"	3028463



ACTUATOR BRACKET

VALVE SPIDER

1"	43-142
1-1/2"	43-142
2"	43-142
2-1/2"	43-142
3"	43-143
4"	43-143



SPIDER TYPE B

200 SERIES BUTTERFLY VALVE SPARE PARTS CON'T

VALVE SEATS

	1"	3028464
	1-1/2"	3028465
	2"	3028466
EPDM	2-1/2"	3028467
	3"	3028468
	4"	3028469
	6"	3029549

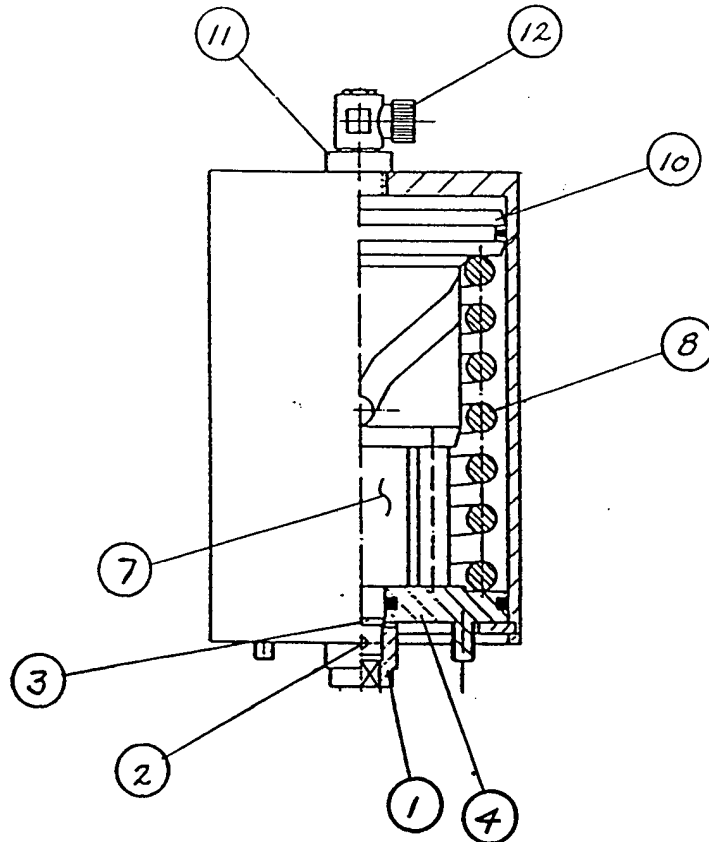
	1"	3028470
	1-1/2"	3028471
	2"	3028472
SILICONE	2-1/2"	3028473
	3"	3028474
	4"	3028475
	6"	3029548

	1"	20-265
	1-1/2"	20-266
	2"	20-267
VITON	2-1/2"	20-268
	3"	20-269
	4"	20-270
	6"	20-279

250 SERIES BALL, AND 200 SERIES BUTTERFLY VALVE ACTUATOR SPARE PARTS

ITEM	Description	3" ACTUATOR	4" ACTUATOR
1*	Coupling	3028560	3028560
2	Pin	3029933	3028562
3	Washer	3029934	3028561
4	Housing Cover	3029935	3028559
5	Retaining Ring	3029936	3028558
6	O-ring Kit	3029937	3028551
7	Rotating Shaft	3029938	3028557
8	Spring	3028556	3028556
9	Kit	3029939	3028555
10	Piston	3029940	3028554
11	Adapter	3028553	3028553
12	Air Connector	3028552	3028552

* For 4" valves the part number is 3029868



BALL VALVE ACTUATOR SPARE PARTS

AUTOMATIC ACTUATORS*

SIZE (in)	3" ACTUATOR	4" ACTUATOR
1/2	3029856	3028456
3/4	3029856	3028456
1	3029856	3028456
1-1/2	3029856	3028456
2	—	3029541
2-1/2	—	3029541
3	—	3029541
4	—	3029541

*For valve sizes 0.5: thru 1.0", the 3" actuator is used. The 4" actuator is used on valve sizes 2" thru 4". The 1.5" valve can be equipped with either the 3", or the 4" actuator.

ACTUATOR ACCESSORIES

SIZE (in)	BRACKET	BOLT	NUT	CAPSCREW	CAM COLLAR	CAM PIN
1/2	3029895	30-163	36-41	—	3028457	—
3/4	3029895	30-163	36-41	—	3028457	—
1	3029893	30-163	36-41	30-273	3029882	3029884
1-1/2	3029893*	30-163	36-41	30-273	3029882	3029884
2	3029894	30-163	36-41	30-248	3029883	3029884
2-1/2	3029894	30-163	36-41	30-248	3029883	3029884
3	3029894	30-163	36-41	30-248	3029883	3029884
4	3029894	30-163	36-41	30-248	3029883	3029884

* For use with a 4" actuator, The part number is 3029896.

Manual Purchase Price
\$10.00 US

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