



**MILLIKEN  
AWWA BUTTERFLY  
VALVES**

**INSTALLATION,  
OPERATION & MAINTENANCE**

**FIGURE 511/510**

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## **Installation, Operation & Maintenance Manual**

The Milliken Valve Figure 511/510 Butterflies are heavy-duty, rubber seated & in full compliance with AWWA C-504 for use in municipal water treatment, power generation, and industrial applications. The Figure 511/510 valves are of the self-lubricating type which provide strength and low friction for easy operation and lifetime service. No special periodic maintenance is necessary.

### **Flange Requirements**

The Figure 511 valves are designed for installation between ANSI B16.1 Class 125 flat faced flange (iron valves). (Full face flange gaskets are required) The Figure 510 valves are mechanical joint valves for use in water distribution pipelines. MJ accessories or the pipe type used must be supplied by the installing contractor.

### **Pipe Requirements**

Any pipe with an inside diameter at the flange face greater than the “Q” dimension shown on Illustration #3 on page 5 can be used with these valves.

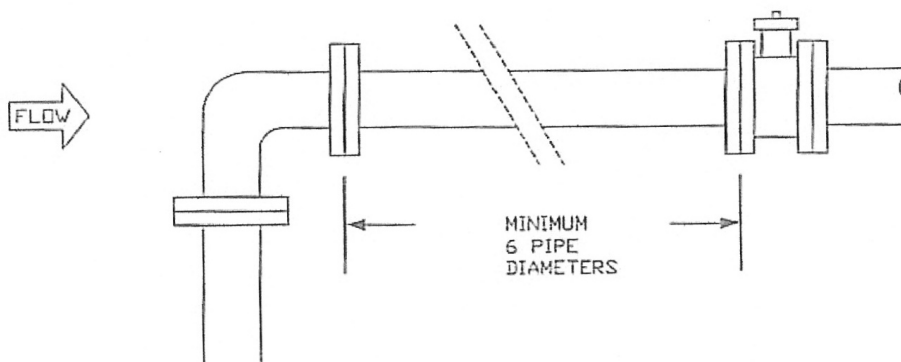
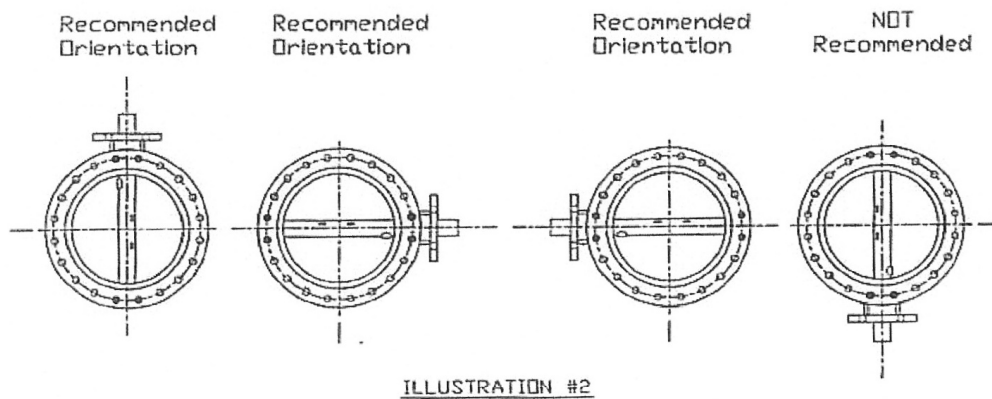
## OPERATION & MAINTENANCE

### Installation Instructions

The valve may be lifted by non-metallic slings attached to the mounting plate or the flange holes; never lift the valve by the actuator or the valve body opening. Adjacent piping must be positioned so that minimal piping stresses are transmitted to the flanged valve during or after installation.

#### Note:

1. The valve disc must be in the closed position before installation. (this is done to protect the disc edge)
2. The valve may be installed with the flow in either direction.
3. The valve shaft axis can be installed in either a vertical or horizontal position (**Illustration #1**).
4. For optimal performance, the valve should be located at least six (6) pipe diameters downstream of a pump or an elbow (**Illustration #2**).



## OPERATION & MAINTENANCE

### **WARNING:**

The valve is a pressure vessel. The valve must be depressurized prior to performing maintenance.

### **MAINTENANCE & REPAIRS:**

It is possible that after many years of service the rubber components of the Figure 511/510 BFV may show signs of wear. The valve stem packing is a replaceable component. In the unlikely event that the valve seat must be replaced, contact your Milliken Valve Company Representative. If valve leakage should occur, the following procedures should be followed.

### **PACKING REMOVAL:**

Remove packing SNAP RING (SEE Illustration #3, piece 10) which is attached to the slot on the valve stem (piece 9).

After the packing SNAP RING is removed, pull & remove the packing gland (piece 12). The packing (piece 8) can now be removed and replaced.

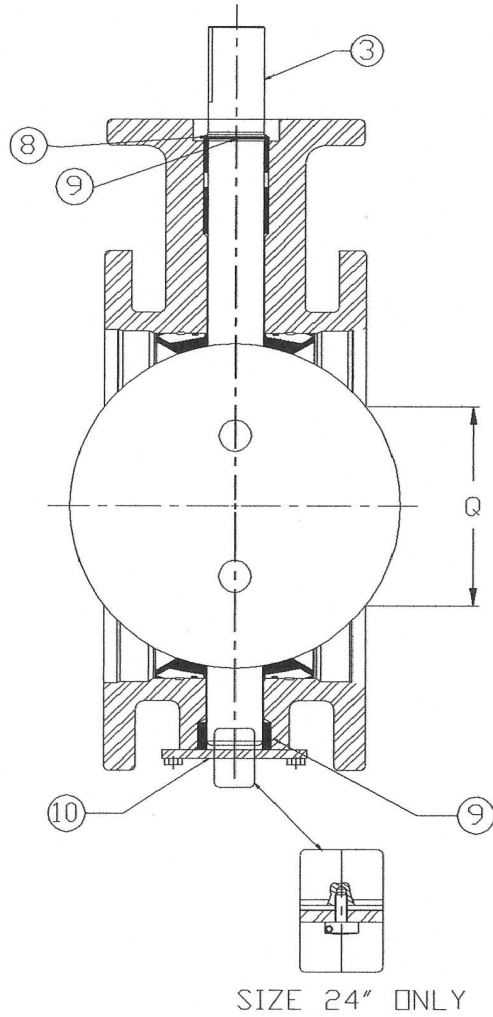
Repeat Step 2 for removing the lower packing, except first remove the bottom cover plate (piece 5).

### **FIGURE 511/510 VALVE ASSEMBLY & TESTING:**

To be completed by factory personnel only.

# OPERATION & MAINTENANCE

## ILLUSTRATION 3

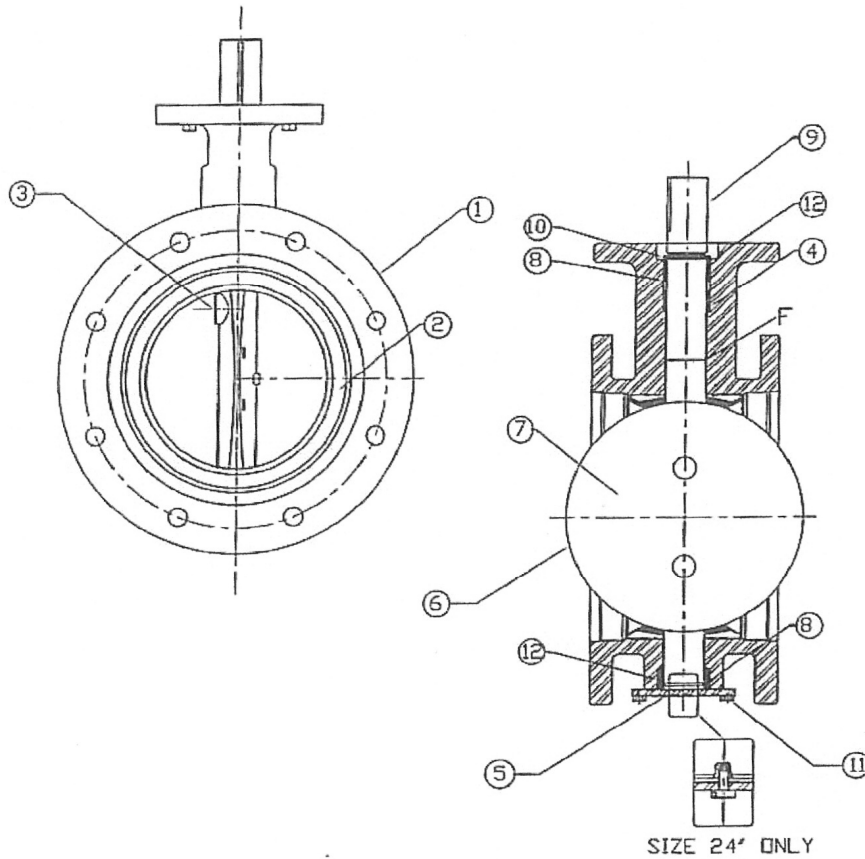


### "Q" DIMENSION

3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
-----	-----	2.75	4.88	5.57	8.38	10.5	13.13	15.25	17.38	21.38

## OPERATION & MAINTENANCE

**Figure 511 Flanged (3"-24")  
Figure 510 MJ (3"-24")**



### Parts List

SIZE	DESCRIPTION	MATERIAL
1	Body	ASTM A536 Ductile Iron
2	Seat	BUNA N/EPDM
3	Disc Pin	316 Stainless Steel
4	Shaft Bearing	Nylatron
5	Bottom Cover Plate	ASTM A36 Steel
6	Disc Edge	316 Stainless Steel
7	Disc	ASTM A536 Ductile Iron
8	Packing	BUNA N/EPDM
9	Shaft	304 Stainless Steel
10	Snap Ring	Spring Steel
11	Cap Screws	ASTM A36 Steel
12	Packing Gland	Bronze