

# **IRON VALVES**

# SUPREME DURABILITY AND SUPERIOR HYDRAULIC PERFORMANCE







BASIC IRON GROOVED VALVE



PRESSURE REDUCING ELECTRIC IRON FLANGED VALVE



## PRODUCT ADVANTAGES

- Unique design allows a straight flow pattern with lowest friction loss in the industry.
- Superb hydraulic performance with low operating pressure.
- Direct sealing diaphragm for positive opening and closing.
- Simple inline installation with minimal parts provides low maintenance requirements.
- Protective polyester coating for resistance to corrosive elements and UV protection.

#### **APPLICATIONS**

- High pressure applications
- Drip and sprinkler irrigation systems
- Center pivot control
- Permanent systems

### **SPECIFICATIONS**

- Optional Functions: Manual, Electric, Pressure Reducing, Pressure Sustaining, Hydraulic Remote Control, Quick Relief, Flow Control, Surge Anticipating, Float Control and more
- Maximum Water Temperature: 176° F
- Connections: Threaded ANSI NPT Female Grooved ANSI/AWWA C-606 Flanged ANSI CL-125

#### **MATERIALS**

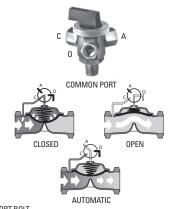
- Body and Bonnet: Cast Iron (ASTM A 125 CLB)
- Spring: Stainless Steel (AISI 302)
- Nuts, Bolts, Washers: Stainless Steel (BS 5216)
- Diaphragm: Natural Rubber

| AVAILABLE MODELS & SIZES |    |      |    |       |     |        |    |       |    |       |    |       |     |    |     |     |
|--------------------------|----|------|----|-------|-----|--------|----|-------|----|-------|----|-------|-----|----|-----|-----|
| MATERIAL/CONNECTION      | 1" | 1 ½″ | 2" | 2" AN | 323 | 323 AN | 3″ | 3" AN | 4" | 4" AN | 6" | 6" AN | 868 | 8" | 10" | 12" |
| IRON FLANGED             | -  | -    | -  | -     | -   | -      | Χ  | -     | Х  | Χ     | X  | Χ     | Х   | Χ  | Х   | Х   |
| IRON THREADED            | Х  | Χ    | Χ  | Χ     | Х   | -      | Χ  | Χ     | -  | -     | -  | -     | -   | -  | -   | -   |
| IRON GROOVED             |    | -    | Χ  | -     | Х   | -      | Χ  | Χ     | X  | -     | Х  | -     | -   | -  |     |     |

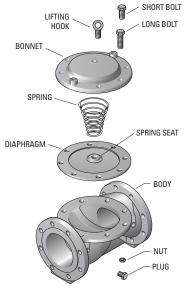
#### **IRON VALVES**

# **MANUAL VALVE OPERATION WITH A 3-WAY SELECTOR**

- CLOSED (C): Upstream pressure or pressure from an external source is applied to the control chamber. Initiated by the spring, the diaphragm is pressed down to close the valve drip-tight.
- OPEN (0): Relieving the water or air pressure to the atmosphere from the control chamber causes the valve to open.
- AUTOMATIC (A): The automatic port of the 3-Way selector is connected to a solenoid, hydraulic relay or pilot which controls the valve. The common port of the 3-Way selector connects the control chamber to either A, O or C, depending on the direction the selector is pointed.



|                |            | LOW RATE VS. PRESSURE LOSS  |    |  |  |  |  |  |
|----------------|------------|---|----|--|--|--|--|--|
|                |            | 3" ANGLE 323 3" 3" 4" 6" 6" 10" 1 1/2" 2" 3" 3" 4" ANGLE 8" 8" 1" 1 | 2″ |  |  |  |  |  |
|                | 8          |   |    |  |  |  |  |  |
|                | 7          |   |    |  |  |  |  |  |
|                | 6          |   |    |  |  |  |  |  |
| HEADLOSS (PSI) | 5          |   |    |  |  |  |  |  |
|                | 4          |   |    |  |  |  |  |  |
|                | 3          |   |    |  |  |  |  |  |
|                | 2          |   |    |  |  |  |  |  |
|                | 1          |   |    |  |  |  |  |  |
|                |            | 3 4 5 6 7 8 9 100 2 3 4 5 6 7 8 9 1,000 2 3 4 5 6                   |    |  |  |  |  |  |
|                | FLOW (GPM) |   |    |  |  |  |  |  |



| SIZE/CONNECTION | LENGTH            | HEIGHT   | WEIGHT *  |  |  |  |
|-----------------|-------------------|----------|-----------|--|--|--|
| 1" THREADED     | 4 3/4"            | 2"       | 2.2 LBS.  |  |  |  |
| 1 1/2" THREADED | 6 11/16"          | 3 11/16" | 4.9 LBS.  |  |  |  |
| 2" THREADED     | 7 7/16"   4 9/16" |          | 7.0LBS.   |  |  |  |
| 323 THREADED    | 8 7/8"   5"       |          | 9.9 LBS.  |  |  |  |
| 3" THREADED     | 8 7/8"            | 5"       | 24.0 LBS. |  |  |  |
| 2" GROOVED      | 7 1/2"            | 4"       | 5.7 LBS.  |  |  |  |
| 323 GROOVED     | 7 15/16           | 4 3/4"   | 6.6 LBS.  |  |  |  |
| 3" GROOVED      | 11 1/4"           | 4 7/8"   | 24.3 LBS. |  |  |  |
| 4" GROOVED      | 12 1/2"           | 5 1/4"   | 26.4 LBS. |  |  |  |
| 6" GROOVED      | 15 7/16"          | 9 7/8"   | 68.3 LBS. |  |  |  |
| 3" FLANGED      | 11 1/4"           | 7 3/4"   | 37.5 LBS. |  |  |  |
| 4" FLANGED      | 12"               | 9 1/16"  | 48.5 LBS. |  |  |  |
| 6" FLANGED      | 15 3/8"           | 12 3/8"  | 101 LBS.  |  |  |  |
| 868 FLANGED     | 15 3/16"          | 13 3/4"  | 110 LBS.  |  |  |  |
| 8" FLANGED      | 18 1/8"           | 15 3/4"  | 176 LBS.  |  |  |  |
| 10" FLANGED     | 21 1/16"          | 17 1/2"  | 258 LBS.  |  |  |  |

22 7/8"

19 1/2"

344 LBS.

**IRON VALVES DIMENSIONS & WEIGHT** 

IRON FLANGED VALVE SHOWN

| HYDRAULIC SPECIFICATIONS |                                  |                  |                                     |  |  |  |  |
|--------------------------|----------------------------------|------------------|-------------------------------------|--|--|--|--|
| SIZE                     | MAX. RECOMMENDED FLOW RATE (GPM) | FLOW FACTOR (Cv) | OPERATING PRESSURE<br>RANGE (psi) * |  |  |  |  |
| 1″                       | 44                               | 20               | 17 - 230                            |  |  |  |  |
| 1 1/2"                   | 110                              | 75               | 17 - 230                            |  |  |  |  |
| 2"                       | 176                              | 110              | 21 - 230                            |  |  |  |  |
| 323                      | 176                              | 110              | 21 - 230                            |  |  |  |  |
| 3"                       | 396                              | 200              | 17 - 230                            |  |  |  |  |
| 4"                       | 440                              | 260              | 17 - 230                            |  |  |  |  |
| 6"                       | 1,540                            | 700              | 21 - 230                            |  |  |  |  |
| 868                      | 1,540                            | 780              | 21 - 230                            |  |  |  |  |
| 8"                       | 2,112                            | 930              | 10 - 230                            |  |  |  |  |
| 10"                      | 4,268                            | 1,460            | 10 - 230                            |  |  |  |  |
| 12"                      | 6,160                            | 2,220            | 10 - 230                            |  |  |  |  |

12" FLANGED

<sup>\*</sup> HIGH PRESSURE DIAPHRAGM - LOW PRESSURE DIAPHRAGMS AVAILABLE FOR ALL SIZES MINIMUM FLOW RATE FOR ALL SIZES: <1



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<sup>\*</sup> WEIGHT FOR BASIC VALVE