

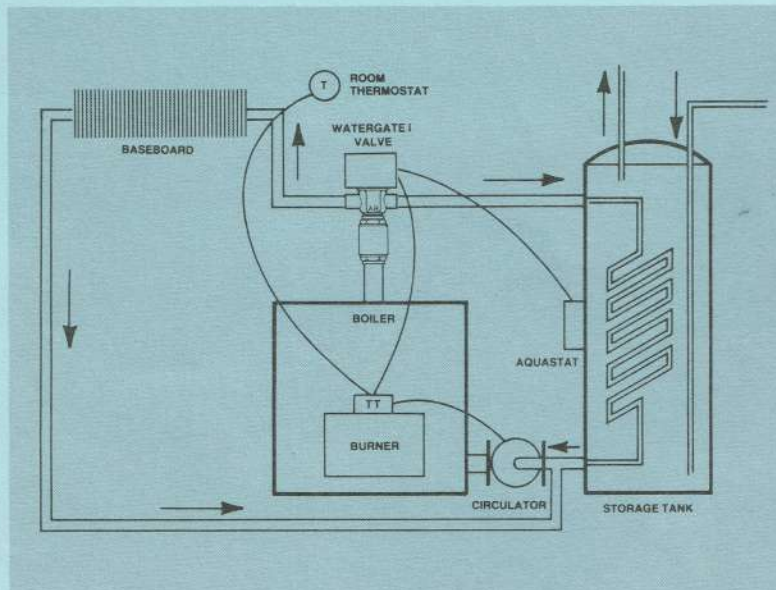
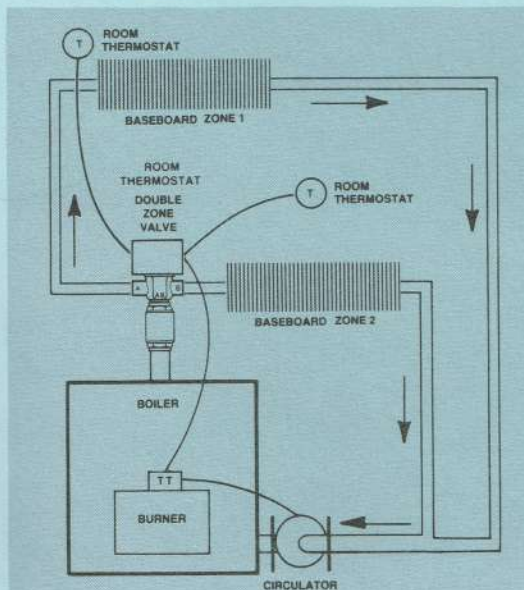
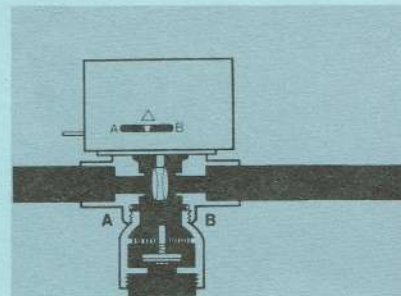
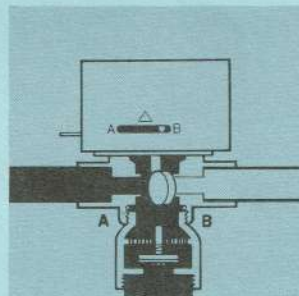
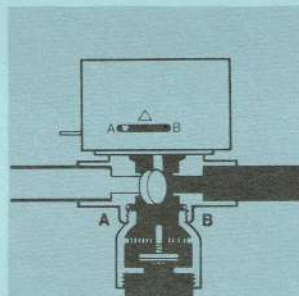
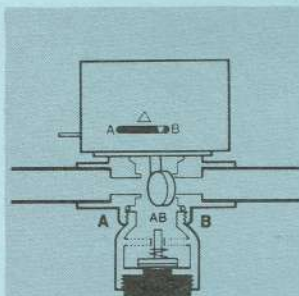
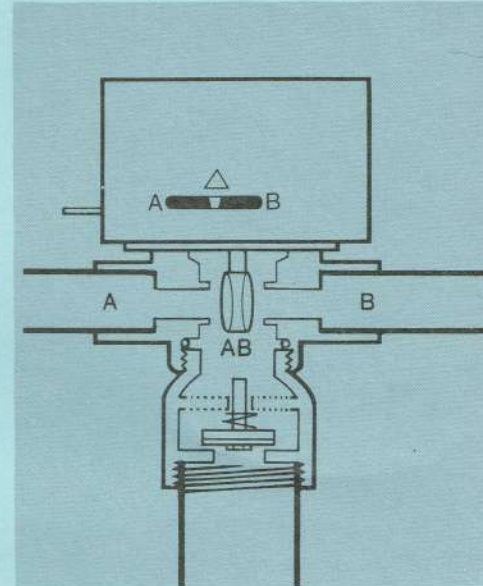
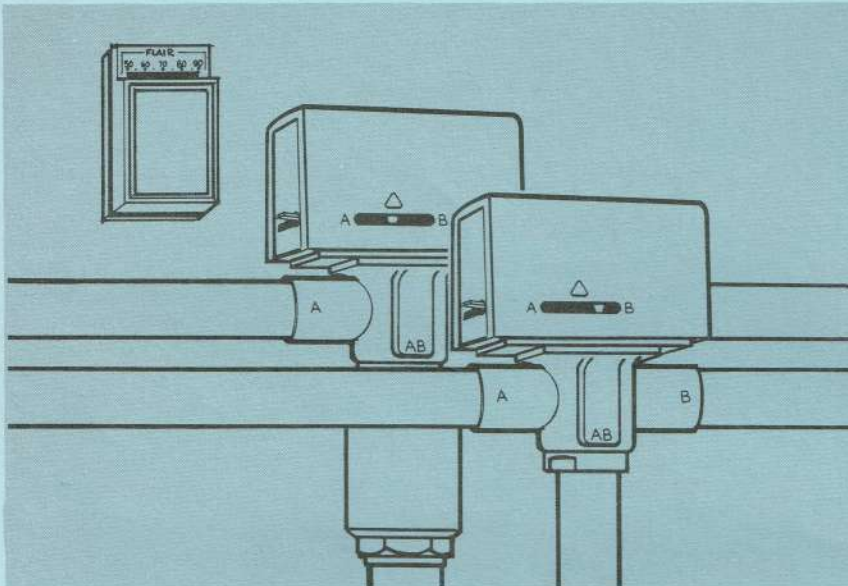
SUPERIOR VALVES WATERGATE I, II AND DOUBLE ZONE

Watergate valves provide for space heating and domestic hot water when installed on a system with a boiler and coil equipped hot water storage tank.

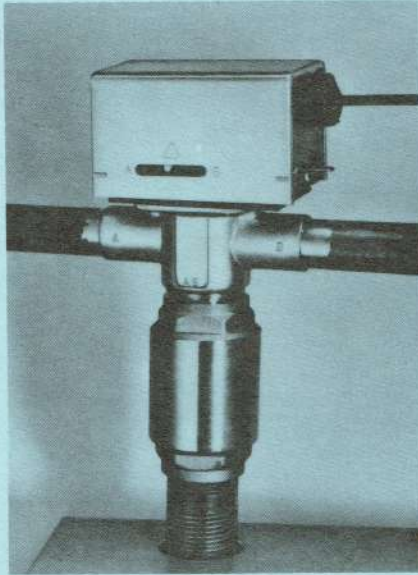
Double Zone valves allow for a low cost installation of dependable and economical two zone hydronic heating.

FOUR YEAR LIMITED WARRANTY

Some restrictions apply. Details of limited warranty available upon written request.



WATERGATE I AND II VALVES



The SUPERIOR WATERGATE valve with an integral flow check, paddle position indicator, solid state logic circuit, 48" cable and manual operator.

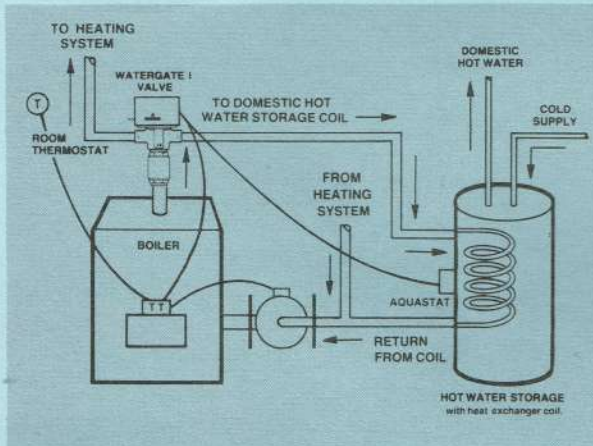
The SUPERIOR WATERGATE valve is a 3 port motorized valve with the ability to provide control of hydronic heating and domestic hot water. Designed to work with a boiler and coil-equipped hot water storage tank, WATERGATE valves will provide heat and hot water simultaneously or will give preference to domestic hot water.

The WATERGATE valve is controlled by a room thermostat for space heating and a storage tank aquastat for domestic water. On demand, the WATERGATE valve will direct a flow of hot water to either the heating system or the domestic hot water storage tank. Because of the ability to accurately direct the flow of hot water where needed, WATERGATE valves eliminate the extra circulator, circulator relay and piping usually needed to accomplish the same goal.

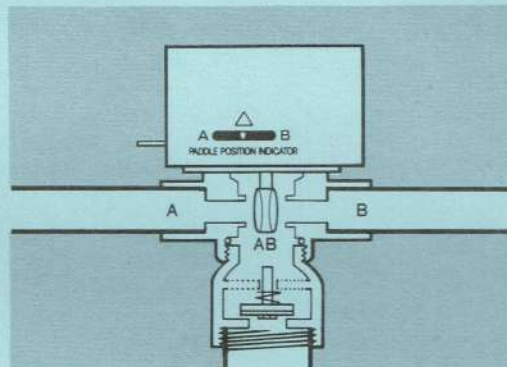
Customized ports and an integral spring loaded flow check eliminate the need for adapters, couplings, reducers and dramatically reduce installation time and material costs.

The WATERGATE II valve can provide heat and hot water simultaneously.

The WATERGATE I valve gives preference to the domestic hot water supply.

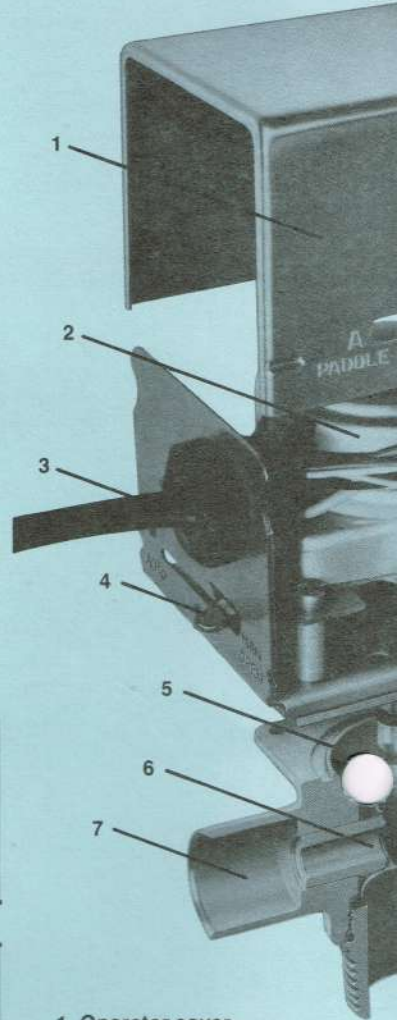


The WATERGATE I valve is wired to an aquastat on a coil-equipped water storage tank. The room thermostat connects directly to the TT terminals on the boiler control.



The valve paddle of the WATERGATE II has the ability to open the "A" port or the "B" port or to open both ports together by stopping in the mid position. The valve will respond to a demand for heat from either the room thermostat, the storage tank aquastat, or both.

The WATERGATE I does not have mid position capability.



1. Operator cover
2. Motor
3. 48 inch cable
4. Manual lever
5. Paddle shaft and seals
6. Orifices
7. Outlet "A" port (sweat)

HOW WATERGATE I FUNCTIONS:

NOTE: "B" port is connected to the heating system and the "A" port to the domestic hot water storage tank.

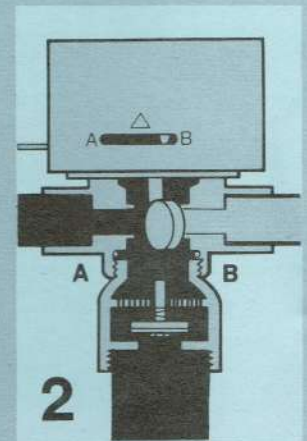
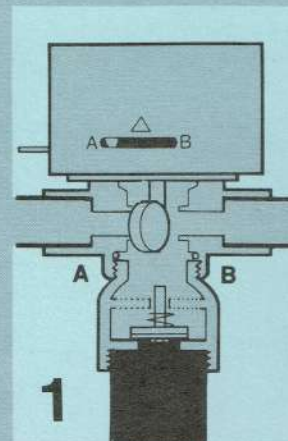
1. NO DEMAND: The burner/circulator relay is not activated. The flow check is closed. No circulation. The A port is closed.

2. DOMESTIC WATER "calls": Paddle moves to close "B" port. Burner/circulator relay is activated. Action of circulator lifts the flow check. Circulation is to coil in domestic hot water storage tank. When demand is satisfied, the burner/circulator relay is deactivated, the paddle returns to close "A" port. The flow check closes. As in paragraph 1, the A port remains closed.

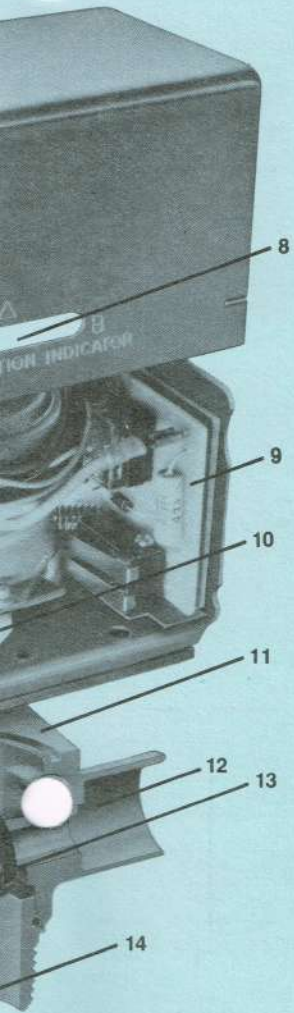
3. HEATING SYSTEM "calls": Because the room thermostat is connected directly to the TT terminal of the boiler control, a demand will activate the burner/circulator relay causing circulation in the heating system only.

NOTE: Demand from domestic hot water storage tank will cause the paddle to close "B" port and direct the flow of hot water to the storage tank only.

Flow check is optional and may not be required with low water content boilers.



DOUBLE ZONE VALVES

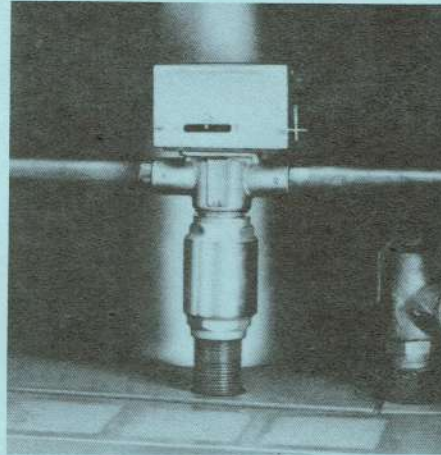


- 8. Indicator window
- 9. Logic circuit board
- 10. Paddle position indicator
- 11. Valve body
- 12. Outlet "B" port (sweat)
- 13. Paddle
- 14. Inlet (NPT)

The SUPERIOR DOUBLE ZONE valve is a 3 port motorized valve designed to provide two zone hydronic heating using only one zone valve. The DOUBLE ZONE valve may be installed on a hydronic system having a single circulator and split loop piping.

When installed and wired into the system, the DOUBLE ZONE valve is controlled by two room thermostats. On demand, the valve and the burner/circulator relay will be activated and the flow of hot water will be directed to either or both heating zones. Electronic circuitry gives the DOUBLE ZONE valve the unique ability to open either port or both ports, at the same time.

A wide choice of inlet and outlet sizes combined with an integral spring loaded flow check eliminate most of the additional pipe connections and accessory fittings normally required for a two zone system.



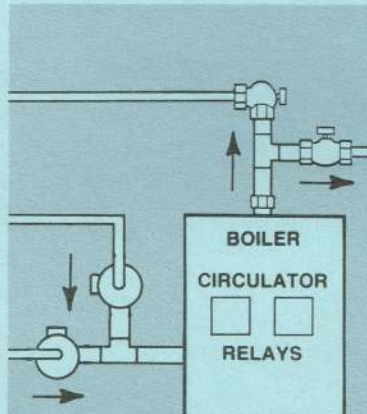
Installation of a DOUBLE ZONE valve gives true 2 zone control at a fraction of the time and material costs of a conventional 2 zone system. The DOUBLE ZONE valve is a customized valve with "off-the-shelf" availability and a competitive price.

In most applications, a SUPERIOR DOUBLE ZONE valve, a thermostat and a 20va transformer are all the material needed to add a second zone to a hydronic system. Use of the DOUBLE ZONE valve is limited to two zones per circulator.

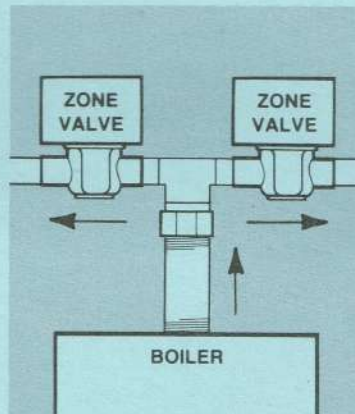
DOUBLE ZONE valves may also be installed on the systems return. However the flow check MUST be installed on the supply side or boiler outlet.

NOTE: System must be designed as split series loop. Request a copy of installation instructions for complete details.

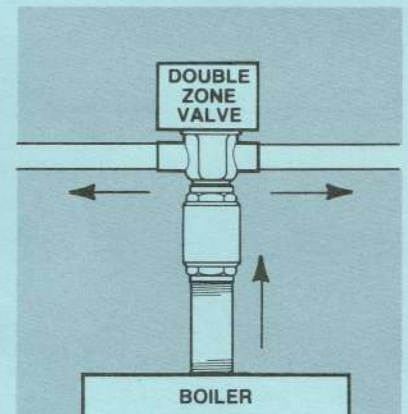
Flow check is optional and may not be required with low water content boilers.



A second zone can be added the "old way", with an additional thermostat, circulator, circulator relay, flow check, fittings, adapters, and the related labor.



A second zone can be added with two zone valves, a thermostat, 40va transformer, fittings, adapters, couplings and related labor. Cost is 18% less than the "old way".



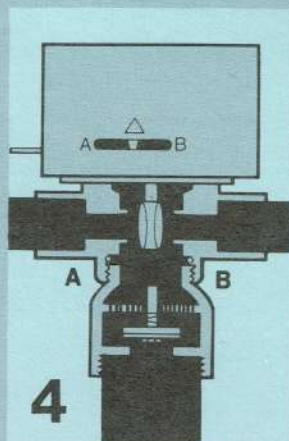
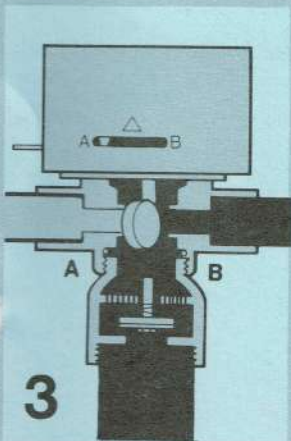
A second zone can be added with one DOUBLE ZONE valve with a built-in flow check, a thermostat, a 20va transformer and related labor. Cost is 38% less than the "old way".

* Based on average installation.

HOW DOUBLE ZONE FUNCTIONS:

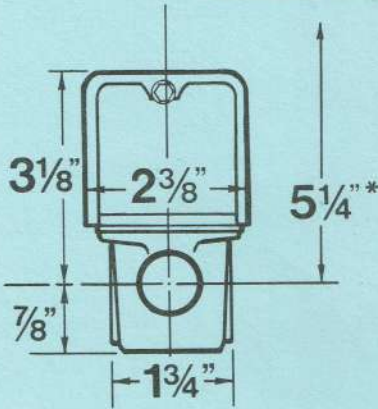
NOTE: The valve outlets A and B are connected to two zone system piping.

1. **NO CALL FOR HEATING:** Paddle may be in either the "A" or "B" position. Burner/circulator relay is deactivated, flow check is closed, no circulation.
2. **ZONE "A"** calls for heat. Paddle moves to close "B" port. Burner/circulator relay is activated, action of circulator lifts flow check and circulation is to zone A. When the demand is satisfied, the burner/circulator relay is deactivated, the paddle remains in the "B" position, the flow check closes and circulation stops.
3. **ZONE "B"** calls for heat. Paddle moves to close "A" port. Burner/circulator relay activated, action of circulator lifts flow check and circulation is to zone B. When the demand is satisfied, the burner/circulator relay is deactivated, the paddle remains in the "A" position, the flow check closes and circulation stops.
4. **BOTH ZONES** call for heat. The paddle moves to the mid position leaving both the "A" and "B" ports open, burner/circulator relay is activated, action of the circulator lifts the flow check and the circulation goes to both zones. When the demand from both zones is satisfied, the paddle will, at random, move to either the "A" or "B" position, the burner/circulator relay is deactivated, the flow check closes and circulation stops.



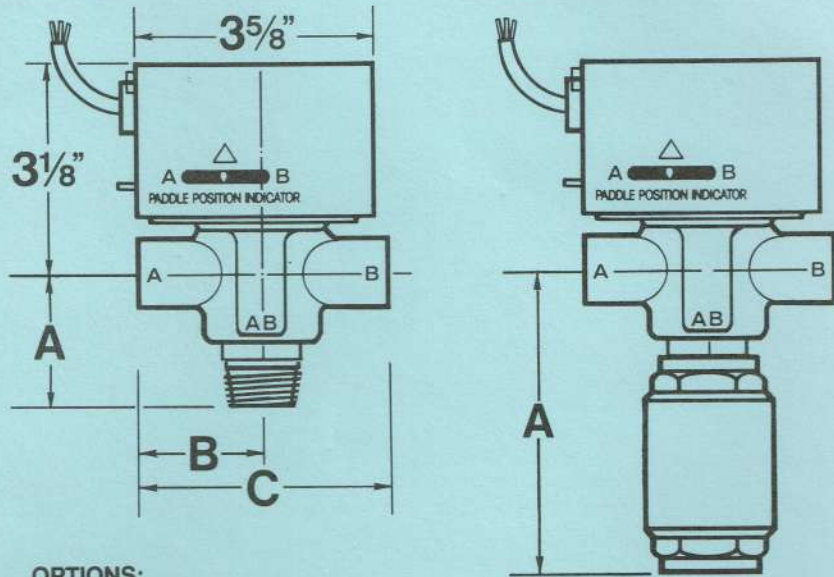
SPECIFICATIONS

DIMENSIONS WITHOUT FLOW CHECK



* CLEARANCE TO REMOVE VALVE COVER

DIMENSIONS WITH FLOW CHECK



SPECIFICATIONS:

Voltage 24V 50/60HZ
 Thermostat anticipator setting ... 0.3AMP
 Electrical connection 48" cable
 Motor Stall type synchronous
 End switch 1 AMP @ 24VAC

PRESSURE LIMITS:

Maximum differential pressure (ΔP) 6PSI (20 FT/HD)
 Static water pressure . 125 PSIG maximum
 Test pressure 300 PSIG

MAXIMUM TEMPERATURE LIMITS:

..... 40° to 220°F/4° to 105°C (water)
 Ambient 100°F/43°C (air)

OPTIONS:

TERMINAL WIRING BLOCK
 JIS, BSP, NPT and mm pipe sizes.

| INLET SIZE | | DIMENSION A | |
|------------|-----|-----------------|--------------------|
| | | WITH FLOW CHECK | WITHOUT FLOW CHECK |
| 3/4" | NPT | 3 3/4" | 1 3/4" |
| 1" | | 4 1/2" | 1 3/4" |
| 1 1/4" | | 4 3/4" | 1 3/4" |

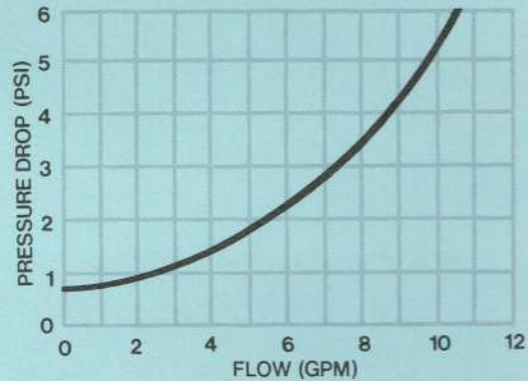
| OUTLET SIZE | | DIMENSIONS | |
|-------------|---------------|------------|--------|
| | | B | C |
| 1/2" | UNION (FLARE) | 3 1/4" | 6 1/2" |
| 3/4" | | 3 13/16" | 7 5/8" |
| 1" | | 4 3/16" | 8 3/8" |
| 1/2" | C x C | 1 7/8" | 3 3/4" |
| 3/4" | | 1 7/8" | 3 3/4" |
| 1" | | 1 7/8" | 3 3/4" |
| 1 1/4" | | 1 7/8" | 3 3/4" |

DIMENSIONS INCLUDE ALL FITTINGS AND ADAPTERS.

WITHOUT FLOW CHECK



WITH FLOW CHECK



SUPERIOR VALVES T.M.

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