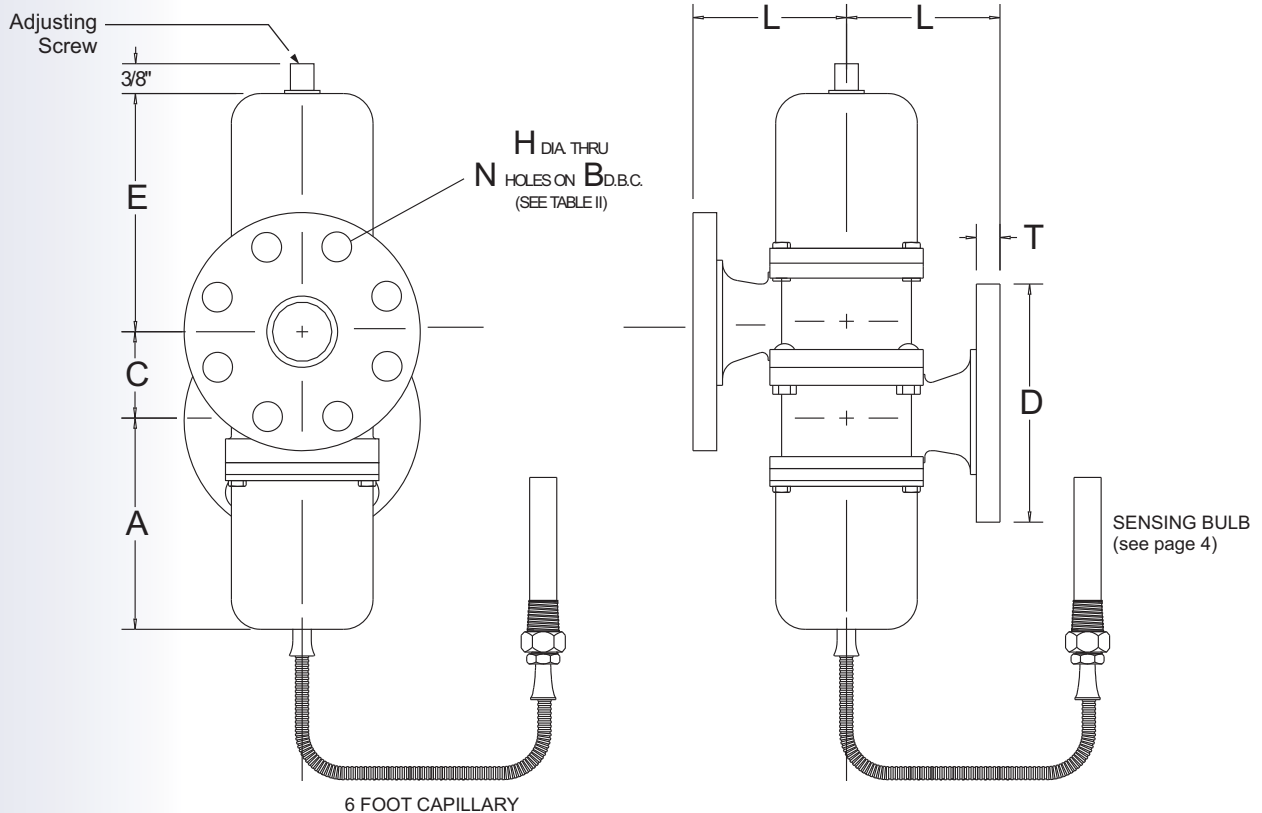


## SELECTION CRITERIA

- Fresh water use
- Direct acting
- Actuation by temperature
- Open on temperature increase
- ANSI Flanged end connections
- 2-Way configuration
- 2" & 2-1/2" sizes
- 350 PSI water pressure standard
- Available water pressure to 500 PSI

## CONSTRUCTION DETAILS

- Brass & Stainless Steel internals
- Buna-N diaphragms & seals
- Leak-proof O-Ring water seals
- Body material: Bronze
- Flange: ANSI B16.24 CLASS 300



Reference Metrex drawing 510P-200-FL-2W

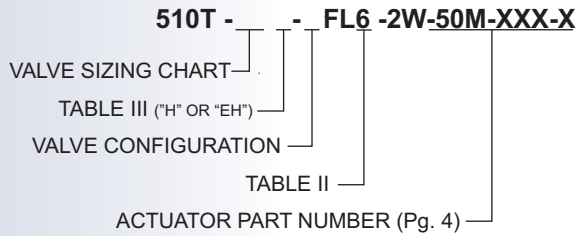
## VALVE SIZING CHART

VALVE PART NUMBER	VALVE SIZE	C <sub>v</sub>	VALVE DIMENSIONS				APPROX. SHIP WT.
			A	C	E	L	
510T-200-FL6-2W	2"	26	5-7/32"	1-15/16"	6-3/4"	4-1/8"	50#
510T-250-FL6-2W	2-1/2"	37	5-1/4"	2-1/2"	7-3/16"	4-3/8"	60#

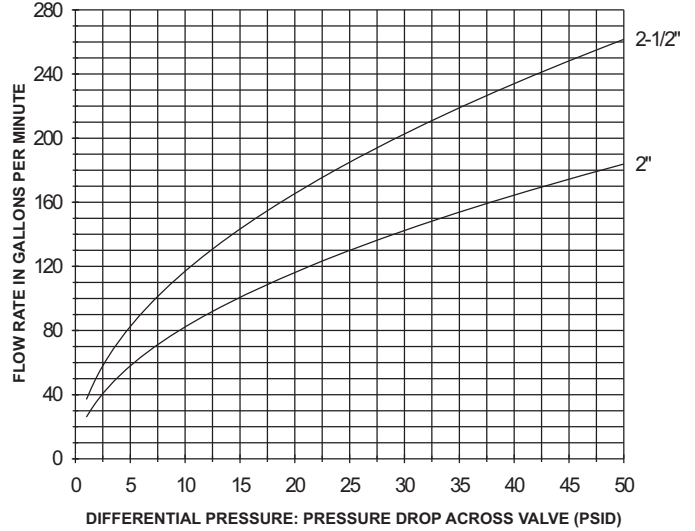
## ORDERING INFORMATION

- Use the valve sizing chart on the preceding page, tables, and charts below to determine the complete part number.

### BASIC PART NO.:



### VALVE FLOW DATA



## TEMPERATURE RANGES

Range Designator	Crack Open Temperature Adjustment Range	Change to Full Open Across the Range*
L low	5 to 105 F (-15 to 40 C)	35 to 12 F (19 to 7 C)
X cross ambient	60 to 140 F (15 to 60 C)	25 to 12 F (14 to 7C)
S standard	90 to 140 F (30 to 60 C)	20 to 12 F (11 to 7 C)
H high	100 to 170 F (40 to 80 C)	25 to 12 F (14 to 7C)
V very high	160 to 230 F (70 to 110 C)	40 to 21 F (22 to 12 C)

\* The temperature change necessary to bring the valve from crack to full open decreases exponentially from the low end of the Crack Open Temperature to the high end of the Crack Open Temperature in each range. Example: a valve with a S (standard) range actuator set to open at 95°F will require an approximate rise in temperature of 20°F to go full open. The same valve set to open at 135°F will require an approximate rise in temperature of 12°F to go full open.

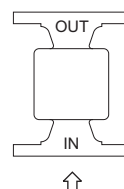
## FLANGE DATA

TABLE II							
ASSEMBLY NUMBER	MATERIAL	FLANGE SPECIFICATION	FLANGE DIMENSIONS				
			N	H	B	D	T
-200-FL6-	BRONZE	ANSI B16.24 CLASS 300 LB.	8	3/4"	5"	6-1/2"	3/4"
-250-FL6-	BRONZE	ANSI B16.24 CLASS 300 LB.	8	7/8"	5-7/8"	7-1/2"	13/16"

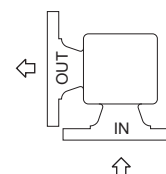
## VALVE RATING & CONFIGURATION

TABLE III			
PRESSURE RATING	STANDARD	H	EH
DESIGN PRESSURE	350 PSI	400 PSI	500 PSI
PROOF PRESSURE	525 PSI	600 PSI	750 PSI

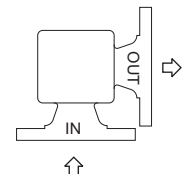
FL  
OUTLET PARALLEL



LFL  
OUTLET TO THE LEFT

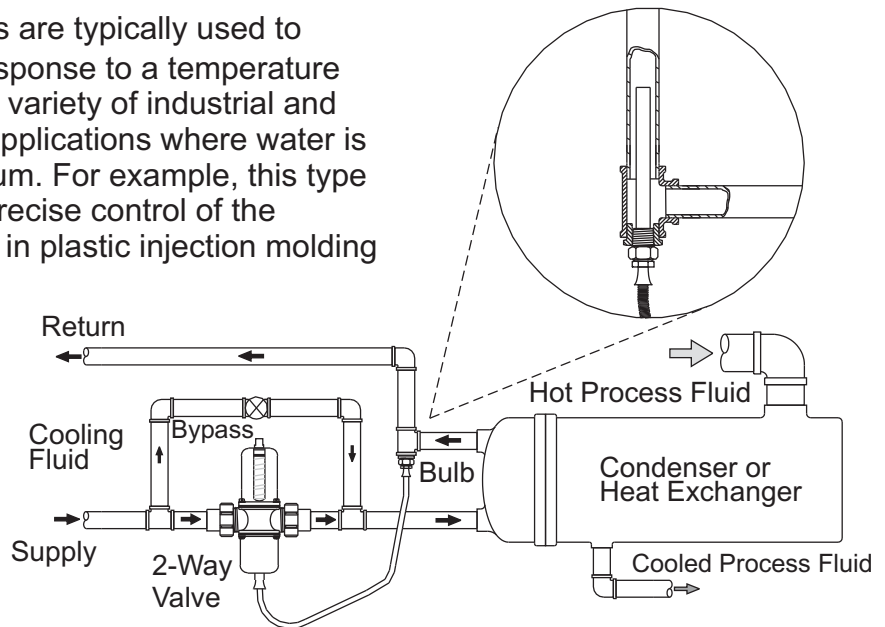


RFL  
OUTLET TO THE RIGHT



## 2-WAY TEMPERATURE REGULATOR TYPICAL APPLICATION

- Thermostatic actuated valves are typically used to modulate the water flow in response to a temperature signal and are used in a wide variety of industrial and commercial process control applications where water is used as a heat transfer medium. For example, this type of valve is used to maintain precise control of the temperature of hydraulic fluid in plastic injection molding equipment.



The Bypass valve allows an adjustable, continuous low flow of water (usually 10% of maximum flow) through the heat exchanger to transport heat to the sensing bulb. Valves with internal bypass are available.

## INSTALLATION INSTRUCTIONS

- Valves can be mounted in any position without affecting performance. However, for ease of adjustment consider the accessibility of the adjusting screw.
- Connect the incoming water line to the valve inlet. Direction of water flow (see drawing) is indicated by the arrow cast on the side of the valve body.
- Insert/install sensing bulb in desired location.

## GENERAL DESCRIPTION

- The 510 series valves are high water pressure, direct acting, modulating water regulating valves utilizing internal diaphragm construction to give a smooth, well balanced action. The pressure-balanced design assures fast response to changes in temperature and protection against both gradual and sudden water pressure changes. All water pressure boundaries are o-ring sealed for leak-proof, set & forget reliability.

## ADJUSTMENT

- To adjust temperature setting, use wrench and turn adjusting screw on top of the spring housing. Turn counter clockwise to raise the temperature and clockwise to lower.

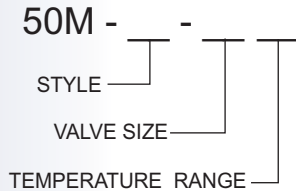
## MANUAL OVERRIDE

- All valves may be manually flushed by inserting a screwdriver in openings at opposite sides of the spring housing and lifting the lower spring plate to open the valve. The valve adjustment is not affected by manual flushing.



## TO DETERMINE ACTUATOR PART NUMBER

1. Select the desired Bulb style for the appropriate valve series.
2. Select the Applicable Valve size.
3. Select the Temperature Range to reference the part number.



Example: For a 2" 2-Way application to control at 110°F, you could select our 900 Series valve and specify a 50M-203-2S thermostatic actuator (see Model 203 on right).

MODEL 190 • FINNED TUBE AIR SENSING TYPE • "A"=3/4"			
VALVE SIZE	TEMPERATURE RANGE (°F)	L (in)	PART NUMBER
2, 2-1/2	90-140	20.00	50M-190-2S
	100-170 or 160-230	20.00	50M-190-2H or 2V

MODEL 203 • 3/4" NPT INSERTION TYPE • "A"=3/4"			
VALVE SIZE	TEMPERATURE RANGE (°F)	L (in)	PART NUMBER
2, 2-1/2	5-105 or 60-140	41.00	50M-203-2L or 2X
	90-140	11.00	50M-203-2S
	100-170 or 160-230	11.00	50M-203-2H or 2V

MODEL 230 • 1/2" NPT INSERTION TYPE • "A"=9/16"			
VALVE SIZE	TEMPERATURE RANGE (°F)	L (in)	PART NUMBER
2, 2-1/2	90-140	21.00	50M-230-2S
	100-170 or 160-230	21.00	50M-230-2H or 2V

MODEL 338 • PLAIN TUBE STRAP-ON TYPE • "A"=3/4"			
VALVE SIZE	TEMPERATURE RANGE (°F)	L (in)	PART NUMBER
2, 2-1/2	5-105 or 60-140	41.00	50M-338-2L or 2X
	90-140	11.00	50M-338-2S
	100-170 or 160-230	11.00	50M-338-2H or 2V

MODEL 346 • 1" NPT INSERTION TYPE • "A"=1"			
VALVE SIZE	TEMPERATURE RANGE (°F)	L (in)	PART NUMBER
2, 2-1/2	5-105 or 60-140	26.00	50M-346-2L or 2X

