

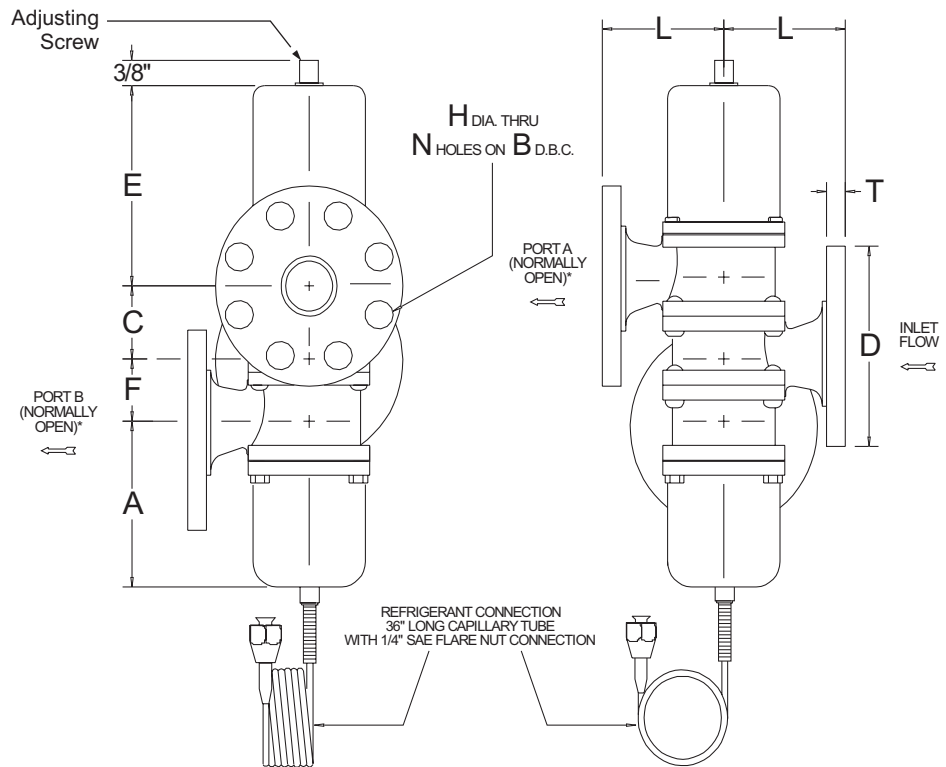
## SELECTION CRITERIA

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- Fresh water use
- Direct acting
- Actuation by pressure
- Open on pressure increase
- Flanged end connections
- 3-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
- Body material: See Table II
- ANSI Flange: See Table II



\*NOTE: Normally closed valves open on pressure increase, Normally open valves close on pressure increase.

Reference Metrex drawing 510P-FL-3W

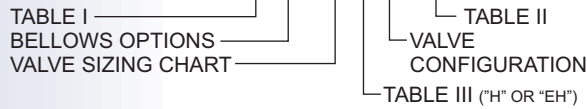
## VALVE SIZING CHART

VALVE PART NUMBER	VALVE SIZE	C <sub>v</sub>	VALVE DIMENSIONS					APPROX. SHIP WT.
			E	A	C	L	F	
51_P-200-FL_-3W	2"	26	6-3/4"	5-5/8"	1-15/16"	4-1/8"	1-15/16"	65#
51_P-250-FL_-2W	2-1/2"	37	7-3/16"	5-63/64"	2-1/2"	FL6= 4-3/8" FL5 & 7= 4-9/16"	2-1/2"	75#

## ORDERING INFORMATION

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

**BASIC PART NO.: 51\_P\_-2\_-FL\_-3W**



## BELLOWS OPTIONS

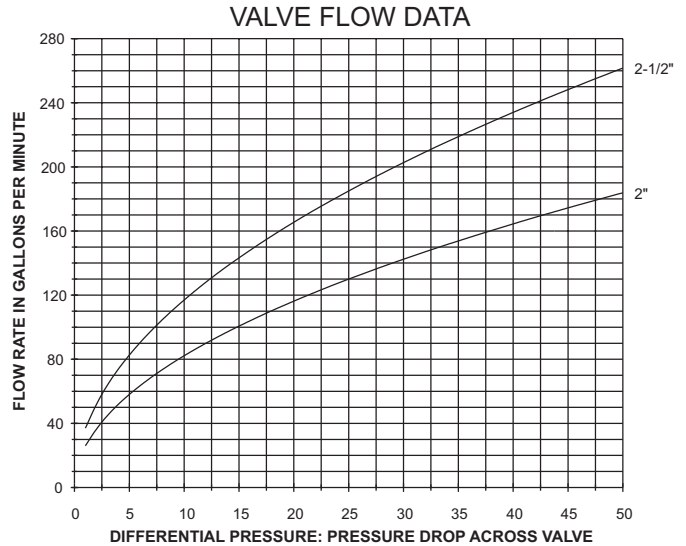
- The optional ammonia actuator includes is designated by an "A" after the P.

Example: 510PA-200-FL4-3W

The optional 1/4" male SAE flare fitting for refrigerant pressure connection is designated by an "F" after the P. The 1/4" SAE flare fitting replaces the 36" long capillary tube with 1/4" SAE flare nut connection.

Example: 510PF-200-FL1-3W.

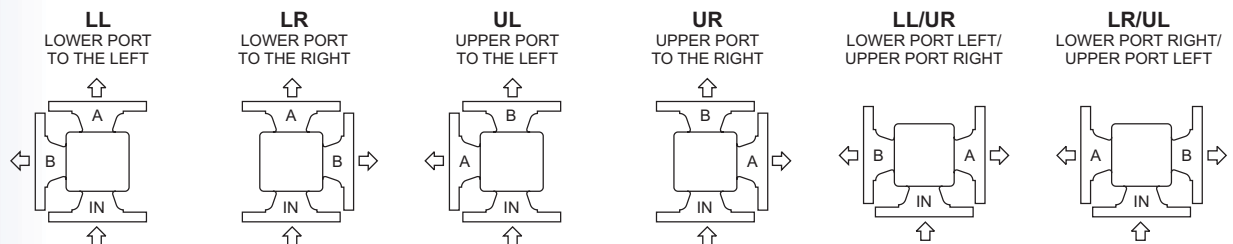
PRESSURE RATING	STANDARD	H	EH
DESIGN PRESSURE	350 PSI	400 PSI	500 PSI
PROOF PRESSURE	525 PSI	600 PSI	750 PSI



ASSEMBLY NUMBER	CRACK POINT ADJ. RANGE	PRESS. RISE FOR FULL OPEN
511P	25 to 150, for R-12	35 PSI
512P	80 to 210, for R-22	43 PSI
513P	120 to 250 PSI	50 PSI

ASSEMBLY NUMBER	MATERIAL	FLANGE SPECIFICATION	FLANGE DIMENSIONS				
			N	H	B	D	T
-200-FL5-	DUCTILE	ANSI B16.1 CLASS 250 LB.	8	3/4"	5"	6-1/2"	7/8"
-200-FL6-	BRONZE	ANSI B16.24 CLASS 300 LB.	8	3/4"	5"	6-1/2"	3/4"
-200-FL7-	STAINLESS STEEL	ANSI B16.5 CLASS 300 LB.	8	3/4"	5"	6-1/2"	7/8"
-250-FL5-	DUCTILE	ANSI B16.1 CLASS 250 LB.	8	7/8"	5-7/8"	7-1/2"	1"
-250-FL6-	BRONZE	ANSI B16.24 CLASS 300 LB.	8	7/8"	5-7/8"	7-1/2"	13/16"
-250-FL7-	STAINLESS STEEL	ANSI B16.5 CLASS 300 LB.	8	7/8"	5-7/8"	7-1/2"	1"

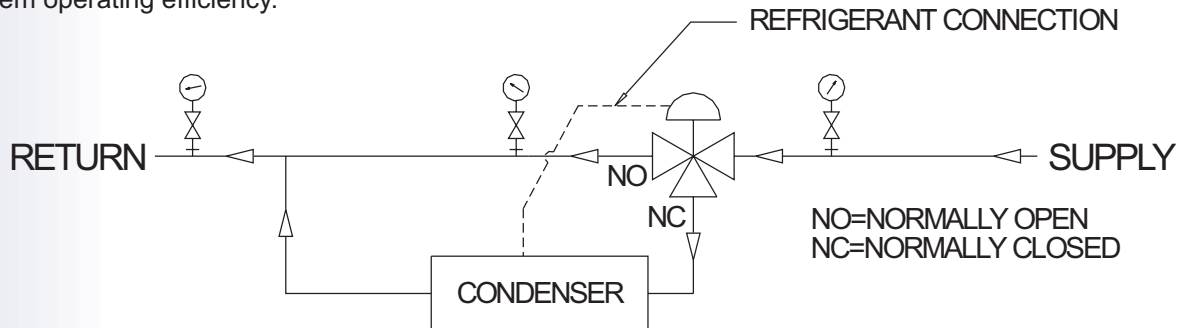
## VALVE CONFIGURATION



## 3-WAY HEAD PRESSURE REGULATOR TYPICAL APPLICATION

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- Typically used to modulate the cooling water through a condenser in response to a pressure signal from the condenser. Refrigerant head pressure is maintained over a wide range of operating conditions for a maximum system operating efficiency.



## 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.
- Connect capillary tube (1/4" flare nut) to refrigerant head pressure connection on condenser.

## 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 refrigerant pressure 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

- All valves in 2" and 2-1/2" sizes are multi-range valves applicable to both R-12 and R-22 service (see Table I). The refrigerant pressure at which the valve begins to open can be adjusted from (see Table I). A 35-50 PSI increase of pressure (depending on range option) is required to open the valve fully.

To adjust condensing head pressure, use wrench and turn adjusting screw on top of the spring housing. Turn to the right (counter clockwise) to raise the opening point and the left (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.

