

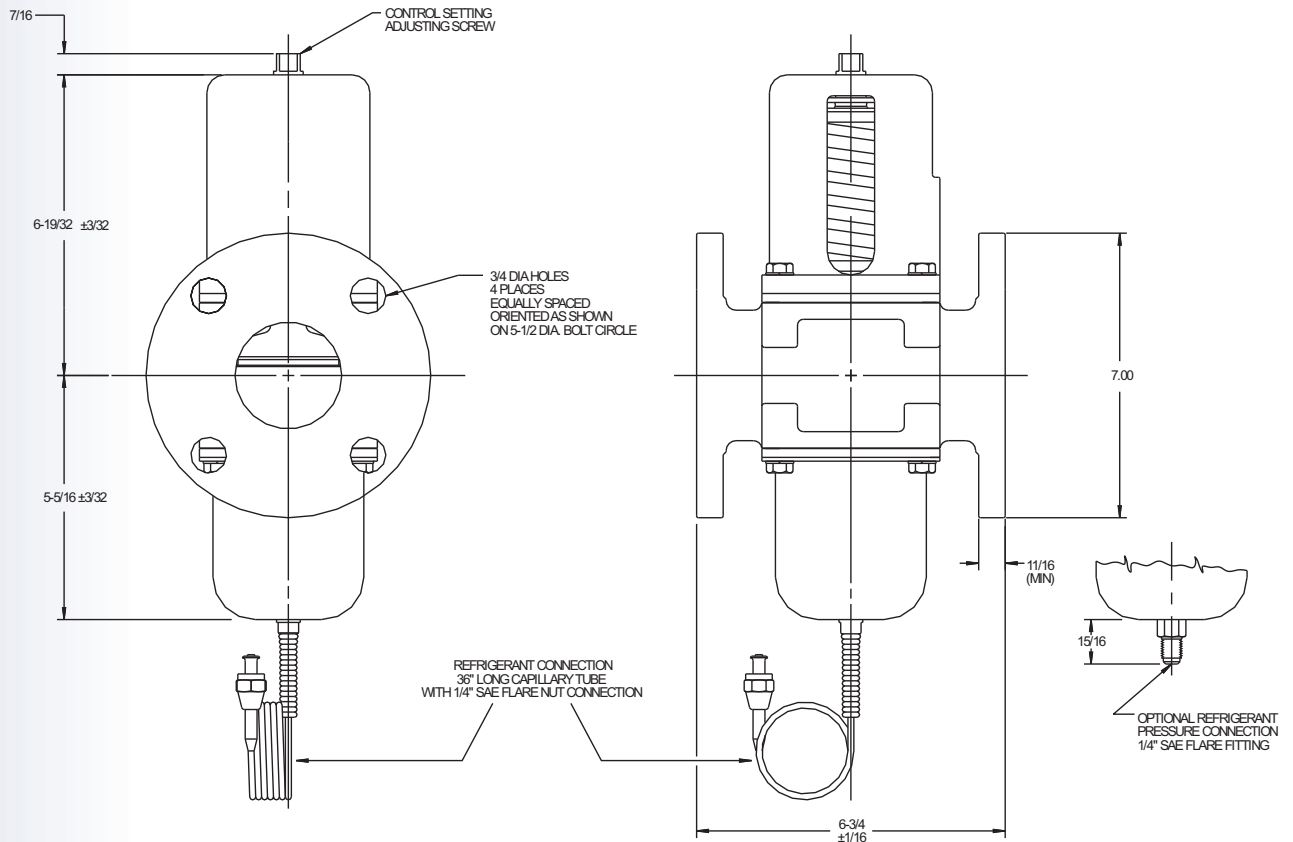
## SELECTION CRITERIA

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- Fresh water use
- Cv=30 min.
- Direct acting
- Actuation by pressure
- Open on pressure increase
- Optional open on pressure decrease
- Flanged end connections
- 2-way configuration
- 2-1/2" NPS
- 150 PSI water pressure rating
- 225 PSI proof pressure

## CONSTRUCTION DETAILS

- Brass internals
- Buna-N diaphragms & seals
- Cast iron body
- ANSI B16.1 Class 125 Flanges

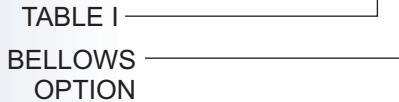


ALL DIMENSIONS ARE IN INCHES

## ORDERING INFORMATION

- Create part number based on pressure range adjustment and bellows option.

**BASIC PART NO.: 810P-250 -FL**



## PRESSURE RANGE ADJUSTMENT

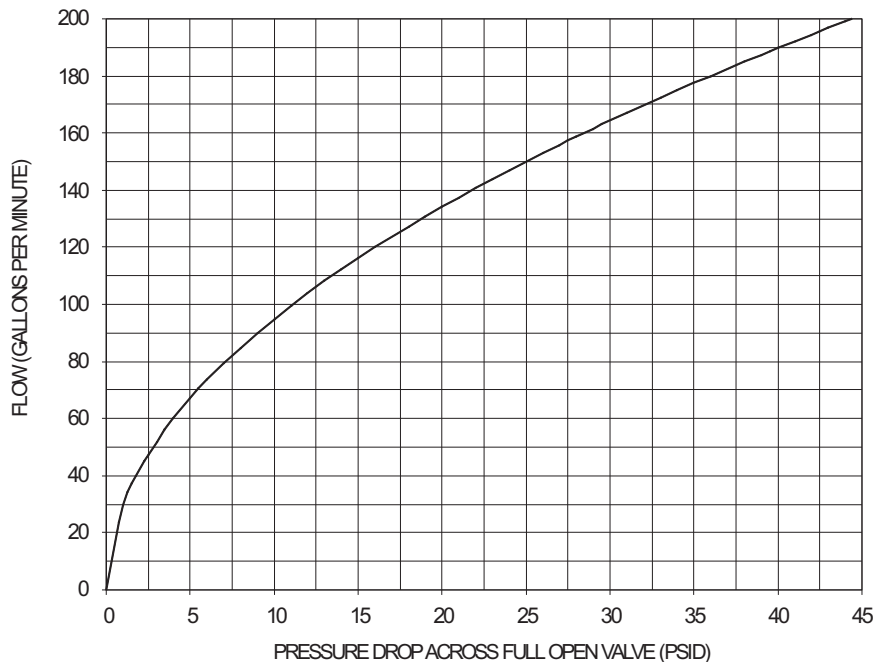
- The refrigerant pressure range at which the valve begins to open can be adjusted. Select appropriate part number based on refrigerant pressure start-to-open point range. See Table I.

## BELLOWS OPTION

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

Example: 810P-2502F-FL.

TABLE I		
PART NUMBER	REFRIGERANT PRESSURE ADJUSTMENT RANGE FOR START-TO-OPEN (CRACK) POINT (PSI)	APPROXIMATE REFRIGERANT PRESSURE RISE TO ACHIEVE FULL CAPACITY (Ψ)
810P-2501-FL	25 TO 150	40
810P-2502-FL	80 TO 210	45
810P-2503-FL	150 TO 250	50



## VALVE FLOW DATA

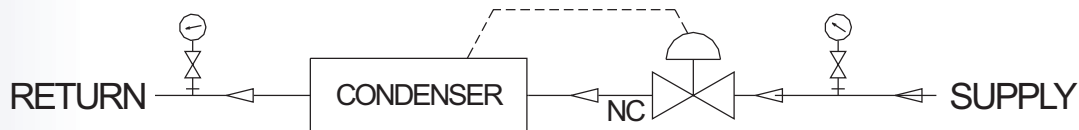
FLOW VALUES ARE BASED UPON A REFRIGERANT PRESSURE RISE ABOVE VALVE START-TO-OPEN (CRACK) POINT AS SHOWN BELOW:

- 810P-2501 VALVE: A 40 PSI REFRIGERANT PRESSURE RISE.
- 810P-2502 VALVE: A 45 PSI REFRIGERANT PRESSURE RISE.
- 810P-2503 VALVE: A 50 PSI REFRIGERANT PRESSURE RISE.

## 2-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 810P series valves are direct acting, modulating water regulating valves utilizing a diaphragm construction to give a smooth, well balanced action. The pressure-balanced design and low frictional co-efficient of the diaphragm assure fast response to changes in refrigerant pressure and protection against both gradual and sudden water pressure changes. All sliding parts and adjustment springs are isolated from the water flow by the leak proof diaphragms.

## ADJUSTMENT

- The 810P-250-FL series valve is a multi-range valve applicable to R-134a, R-22 and R-404a service (see Table I). The refrigerant pressure at which the valve begins to open can be adjusted from (see Table I). A 40-50 PSI increase of refrigerant 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.

