

# MODELS 106-PFC / 206-PFC PRESSURE FLOW CONTROL (MODULATION) VALVE

## KEY FEATURES

- Reduces downstream pressure when demand is low to reduce leakage and pipe breaks.
- Compensates for pressure loss in the pipe to keep a fairly constant pressure at a distant point. This reduces the pressure during low flow in most of the system.
- Simple to set-up and adjust.
- Maximum pressure increase can be limited by simple adjustment.
- Pressure increase is adjustable.



## PRODUCT OVERVIEW

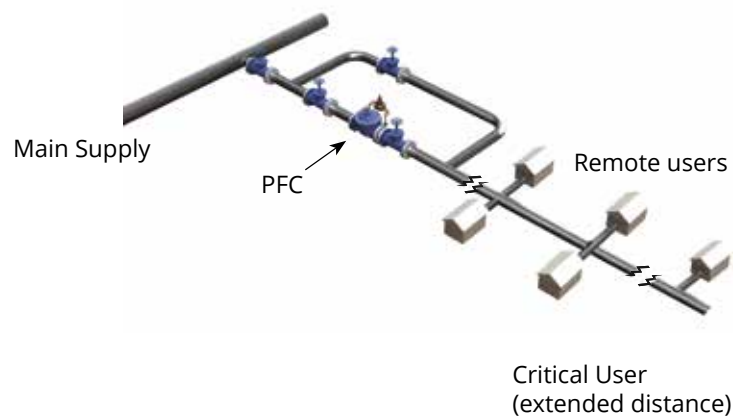
The 106-PFC / 206-PFC Pressure Flow Control Valve is a pressure reducing valve with a special (Patented) pilot that increases downstream pressure as flow increases.

The PFC valve controls the downstream pressure as a function of flow. This increased downstream pressure compensates partially for pipe friction and therefore maintains a relatively constant pressure at some remote location. The PFC valve will deliver consistent performance without any electrical components and is not affected by flooding. The valve can be used wherever a standard PRV is installed.

Please note that the downstream (controlled) pressure increases from low flow to selected maximum flow but reduces at flows higher than the selected maximum. This is due to the increased pressure drop of the orifice plate. If this reduction of the controlled pressure past the design maximum flow is a problem, contact Singer Valve or your Singer Valve representative for an engineered solution.

## TYPICAL APPLICATION

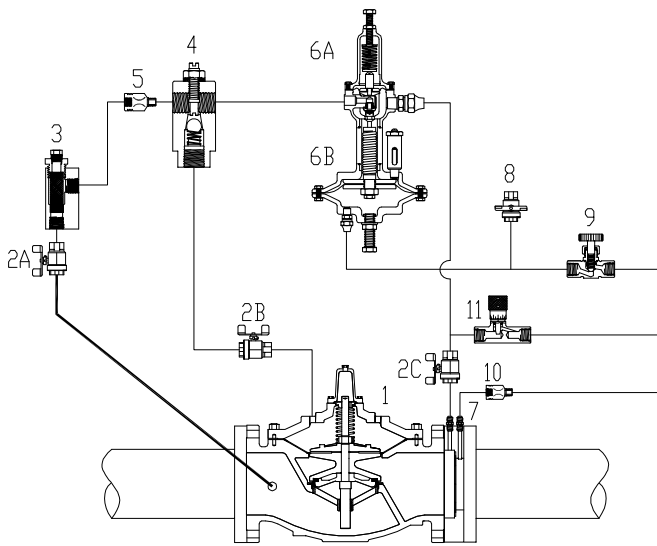
An orifice plate immediately downstream of the PFC Control Valve produces 3 psi / 0.2 bar pressure drop, at maximum flow. This pressure differential is applied to each side of an actuating diaphragm which is connected to the yoke of the pressure reducing pilot. Increasing the differential raises the pilot setting and raises downstream pressure to maintain virtually steady pressure on a critical distance user.



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## SCHEMATIC DRAWING

1. Main Valve - 106-PG or 206-PG
2. Isolation Valve (2A, 2B, 2C)
3. Strainer - 40 Mesh
4. Model 26 Flow Stabilizer / Opening speed Control
  - Standard on 8" (200 mm) 106 / 10" (250 mm) 206 and smaller
  - Optional on 10" (250 mm) 106 / 12" (300 mm) 206 and larger
5. Fixed Restriction
6. Model 160-PFC Pressure/Flow Control Pilot
  - 6A
  - 6B
7. Orifice housing and plate
8. Test Valve
9. Speed Control
10. Fixed Restriction
11. PIP Adjustment - Model 852-B



Schematic A-8270D12

## SELECTION SUMMARY

1. The Singer model 106-PFC / 206-PFC should be sized as a normal pressure reducing valve. Refer to section 106-PR / 206-PR, page 96, for size selection and main pilot spring ranges.
2. Installation is the same as a standard pressure reducing valve. See section 106-PR / 206-PR, page 96.
3. Maximum pressure increase over base setting: 35 psi / 2.4 bar.
4. For correct application provide
  - i. Maximum & minimum inlet pressure and base (minimum) outlet pressure setting
  - ii. Maximum & minimum flow rates
  - iii. Pressure increase \_\_\_\_ psi / \_\_\_\_ bar at \_\_\_\_ USGPM / L/s
  - iv. Maximum pressure increase at any flow \_\_\_\_ psi / \_\_\_\_ bar.
5. Ensure the flange ratings exceed the maximum working pressure.

## ORDERING INSTRUCTIONS

Refer to page 244 for the order form and ordering instructions.

Additionally, include the following information for this product:

1. Single chamber (106) or (206)
2. Outlet pressure range
3. Minimum / maximum flow rate
4. Pressure increase at high flow

# MODELS 106-PFC / 206-PFC PRESSURE FLOW CONTROL (MODULATION) VALVE

106-PFC	Flow Capacity (See 106-PG in Main Valve section for other valve data)										
	3 in	4 in	6 in	8 in	10 in	12 in	14 in	16 in	20 in	24 in	36 in
Size (inches)	3 in	4 in	6 in	8 in	10 in	12 in	14 in	16 in	20 in	24 in	36 in
Size (mm)	80 mm	100 mm	150 mm	200 mm	250 mm	300 mm	350 mm	400 mm	500 mm	600 mm	900 mm
Minimum Continuous (USGPM) Flat Diaphragm	5	10	20	40	-	-	-	-	-	-	-
Minimum Continuous (USGPM) Rolling Diaphragm	-	-	1	1	3	3	3	3	10	10	20
Minimum Continuous (L/s) Flat Diaphragm	0.3	0.6	1.3	2.5	-	-	-	-	-	-	-
Minimum Continuous (L/s) Rolling Diaphragm	-	-	0.1	0.1	0.2	0.2	0.2	0.2	0.6	0.6	0.6
Maximum Continuous (USGPM)	460	800	1800	3100	4900	7000	8500	11000	17500	25800	55470
Maximum Continuous (L/s)	29	50	114	196	309	442	536	694	1104	1628	3500

206-PFC	Flow Capacity (See 206-PG in Main Valve section for other valve data)														
	4 in	6 in	8 in	10 in	12 in	16 in	18 in	20 in	24 x 6 in	24 x 20 in	28 in	30 in	32 in	36 in	40 in
Size (inches)	4 in	6 in	8 in	10 in	12 in	16 in	18 in	20 in	24 x 6 in	24 x 20 in	28 in	30 in	32 in	36 in	40 in
Size (mm)	100 mm	150 mm	200 mm	250 mm	300 mm	400 mm	450 mm	500 mm	600 x 400 mm	600 x 500 mm	700 mm	750 mm	800 mm	900 mm	1000 mm
Minimum Continuous (USGPM) Flat Diaphragm	5	10	20	40	-	-	-	-	-	-	-	-	-	-	-
Minimum Continuous (USGPM) Rolling Diaphragm	-	-	-	-	3	3	3	3	3	3	10	10	10	10	20
Minimum Continuous (L/s) Flat Diaphragm	0.3	0.6	1.3	2.5	-	-	-	-	-	-	-	-	-	-	-
Minimum Continuous (L/s) Rolling Diaphragm	-	-	-	-	0.2	0.2	0.2	0.2	0.2	0.2	0.6	0.6	0.6	0.6	0.6
Maximum Continuous (USGPM)	580	1025	2300	4100	6400	9230	16500	16500	16500	21700	33600	33650	33700	33800	62000
Maximum Continuous (L/s)	37	65	145	259	404	582	1040	1040	1040	1370	2120	2123	2126	2132	3912