

# MODELS 106-PR-R / 206-PR-R PRESSURE REDUCING AND PRESSURE SUSTAINING VALVE

## KEY FEATURES

- Excellent low flow stability
- Ensures minimum upstream pressure
- Easily and precisely set downstream pressure



## PRODUCT OVERVIEW

The 106-PR-R and 206-PR-R pressure reducing and pressure sustaining valves are based on the 106-PG or 206-PG main valve with the addition of the sustaining pilot 81-RP and pressure reducing 160 PR.

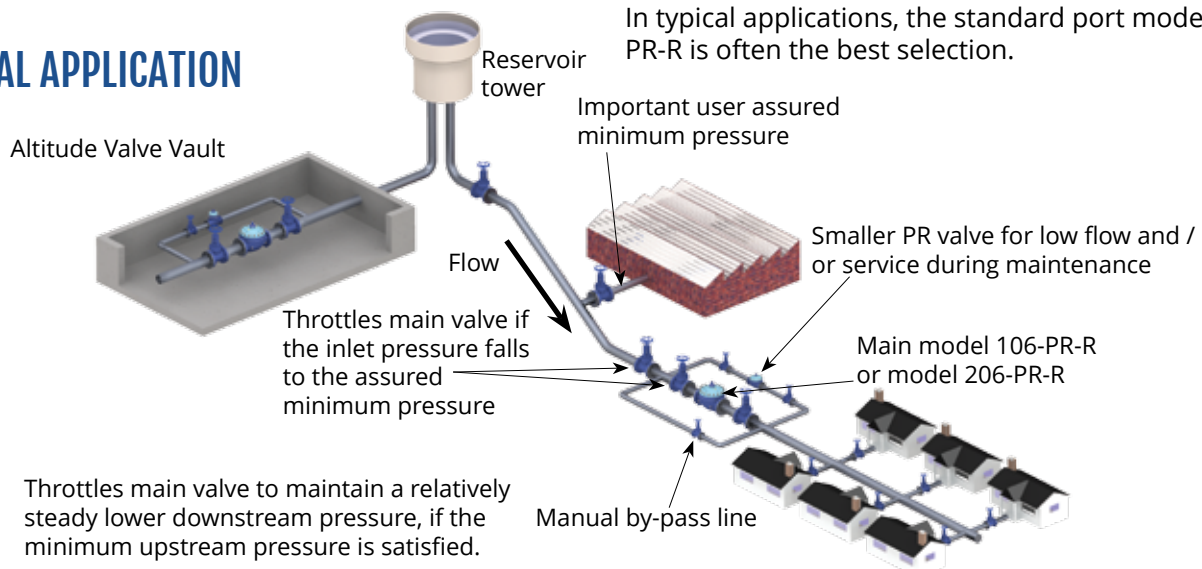
Provided the upstream pressure setting is satisfied, the 81-RP pilot is kept open, permitting the valve to be controlled by the 160 pilot. The 160 pilot senses downstream pressure and under flowing conditions, it reacts to small changes in pressure to control the valve position by modulating the pressure above the diaphragm.

Should high demand cause the inlet pressure to fall to the 81-RP pilot setting, the upstream pressure has priority and the valve will modulate to prevent the upstream pressures from dropping below the set-point.

When the valve is modulating to sustain upstream pressure above the minimum 81-RP pilot set-point, the downstream 160 PR pilot may try to open the valve to maintain its set-point, but upstream has priority and downstream pressures will fall below expectations.

In typical applications, the standard port model 206-PR-R is often the best selection.

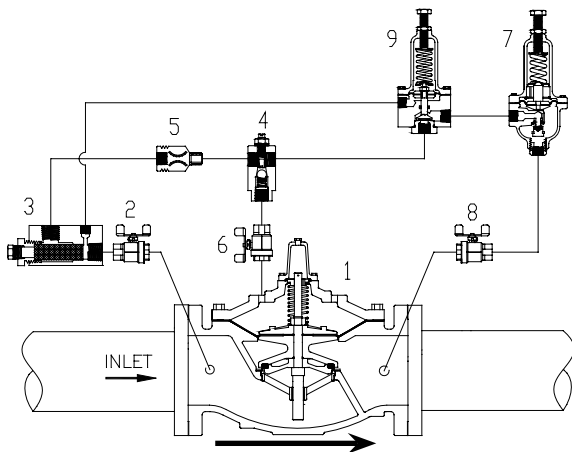
## TYPICAL APPLICATION



# MODELS 106-PR-R / 206-PR-R PRESSURE REDUCING AND PRESSURE SUSTAINING VALVE

## SCHEMATIC DRAWING

1. Main Valve - 106-PG or 206-PG
2. Isolation Valve - standard 4 in / 100 mm and larger
3. Strainer - standard 4 in / 100 mm and larger
4. Model 26 Flow Stabilizer / Opening Speed Control
  - Standard on valves 8 in / 200 mm 106, 10" / 250 mm 206 and smaller
5. Fixed Restriction
6. Isolation Valve - standard 4 in / 100 mm and larger
7. Model 160 PR pilot
  - Specify for 5 to 50 psi / 0.35 to 3.5 bar, 10 to 80 psi / 0.70 to 5.5 bar, 20 to 200 psi / 1.38 to 13.8 bar, 100 to 300 psi / 6.9 to 20.7 bar.
8. Isolation Valve - standard all sizes
9. Model 81-RP pilot - specify for 5 to 50 psi / 0.35 to 3.5 bar; 10 to 80 psi / 0.7 to 5.5 bar; 100 to 300 psi / 6.9 to 20.7 bar; 20 to 200 psi / 1.38 to 13.8 bar standard.



Schematic A-0332C

## STANDARD MATERIALS

Standard materials for pilot system components are:  
ASTM B62 bronze or ASTM B16 brass  
AISI 303/316 stainless trim

## SELECTION SUMMARY

1. Select the valve series and size with sufficient capacity
2. Check the operating flow against valve minimum.
3. If the outlet pressure is less than 35% of the inlet pressure, check for cavitation.
4. Ensure that the flange rating exceeds the maximum operating 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. Pilot ranges

# MODELS 106-PR-R / 206-PR-R

## PRESSURE REDUCING AND PRESSURE SUSTAINING VALVE

106-PR-R	Flow Capacity (See 106-PG in Main Valve section for other valve data)								
Size (inches)	1/2 in	3/4 in	1 in	1-1/4 in	1-1/2 in	2 in	2-1/2 in	3 in	4 in
Size (mm)	15 mm	19 mm	25 mm	32 mm	40 mm	50 mm	65 mm	80 mm	100 mm
Minimum (USGPM) Flat Diaphragm	1	1	1	1	1	5	5	5	10
Minimum (L/s) Flat Diaphragm	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.6
Maximum Continuous (USGPM)	12	19	49	93	125	210	300	460	800
Maximum Continuous (L/s)	0.8	1	3	6	8	13	19	29	50

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

206-PR-R	Flow Capacity (See 206-PG in Main Valve section for other valve data)								
Size (inches)	3 in	4 in	6 in	8 in	10 in	12 in	16 in	18 in	20 in
Size (mm)	80 mm	100 mm	150 mm	200 mm	250 mm	300 mm	400 mm	450 mm	500 mm
Minimum (USGPM) Flat Diaphragm	5	5	10	20	40	-	-	-	-
Minimum (USGPM) Rolling Diaphragm	-	-	-	-	-	3	3	3	3
Minimum (L/s) Flat Diaphragm	0.3	0.3	0.6	1.3	2.5	-	-	-	-
Minimum (L/s) Rolling Diaphragm	-	-	-	-	-	0.2	0.2	0.2	0.2
Maximum Continuous (USGPM)	300	580	1025	2300	4100	6400	9230	16500	16500
Maximum Continuous (L/s)	19	37	65	145	260	404	582	1040	1040

206-PR-R	Flow Capacity (See 206-PG in Main Valve section for other valve data)						
Size (inches)	24 x 16 in	24 x 20 in	28 in	30 in	32 in	36 in	40 in
Size (mm)	600 mm	600 mm	700 mm	750 mm	800 mm	900 mm	1000 mm
Minimum (USGPM) Rolling Diaphragm	3	3	10	10	10	10	20
Minimum (L/s) Rolling Diaphragm	0.2	0.2	0.6	0.6	0.6	0.6	1.3
Maximum Continuous (USGPM)	16500	21700	33600	33650	33700	33800	62000
Maximum Continuous (L/s)	1040	1370	2120	2123	2126	2132	3912