

Pressure Reducing Valve

The pressure reducing valves sense the downstream pressure through a connection at the valve outlet. Under flowing conditions, the pilot reacts to small changes in pressure to maintain a steady set-point.



TECHNICAL GUIDE: **AVH1.8**

Applications

Potable water
Municipal
Mining Applications
Irrigation Applications
Water loss management

Product Attributes

Ideal for maintaining accurate downstream pressure
Responds quickly and effectively

Quality

AS 5081:2008
Flanging to AS/NZS 4087
Coating to AS/NZS 4158



The pressure reducing valves are based on the 106-PG or 206-PG main valves.

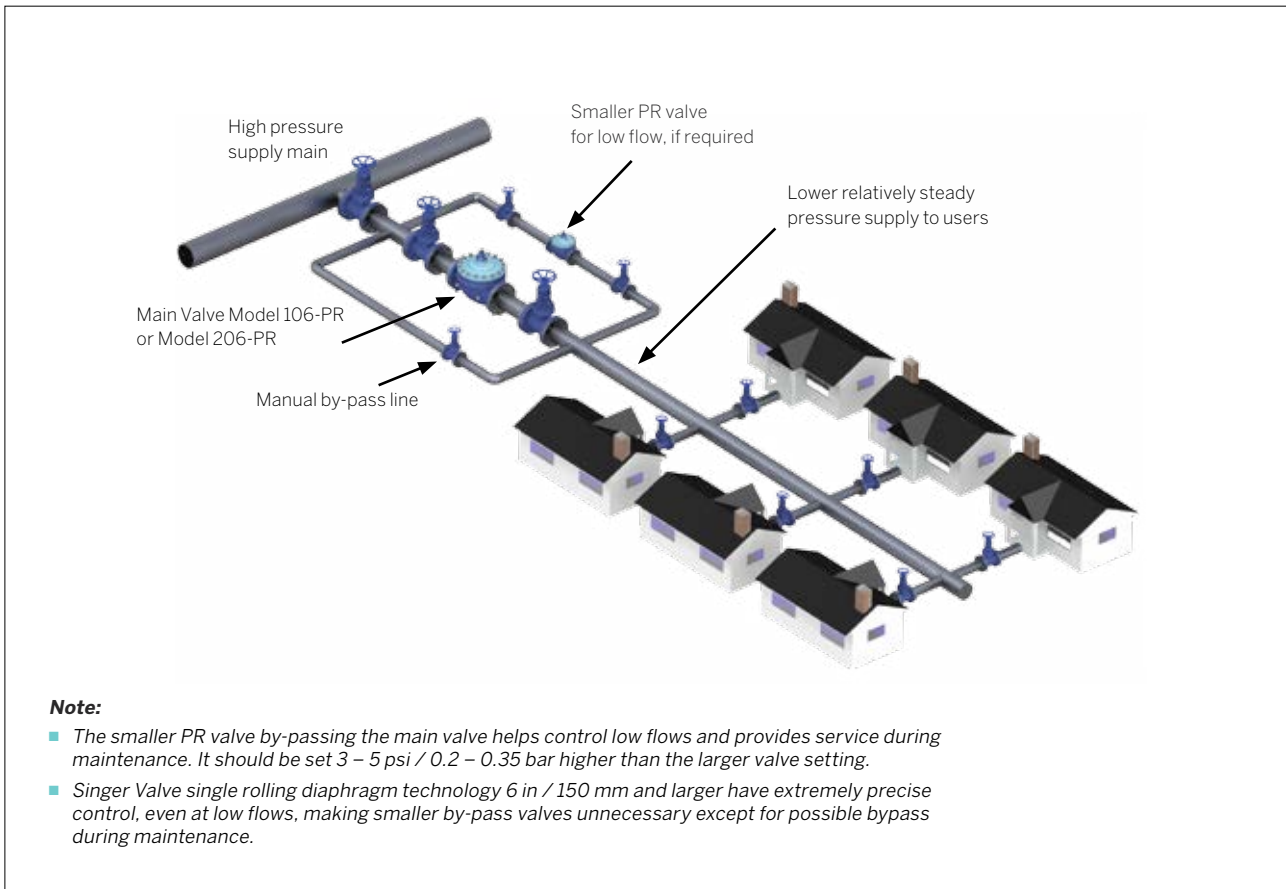


FIG. 1 Typical application

The pilot valves sense the downstream pressure through a connection at the valve outlet. Under flowing conditions, the pilot reacts to small changes in pressure to control the valve position by modulating the pressure above the diaphragm. The downstream pressure is maintained virtually steady at the pilot set-point.

In typical pressure reducing applications, the reduced port model 206-PR is often the best selection.

STANDARD MATERIALS

Standard materials for pilot system components are:

- ASTM B62 bronze or ASTM B16 brass
- AISI 303 / 316 stainless steel trim
- Buna-N / EPDM diaphragm and seals

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.

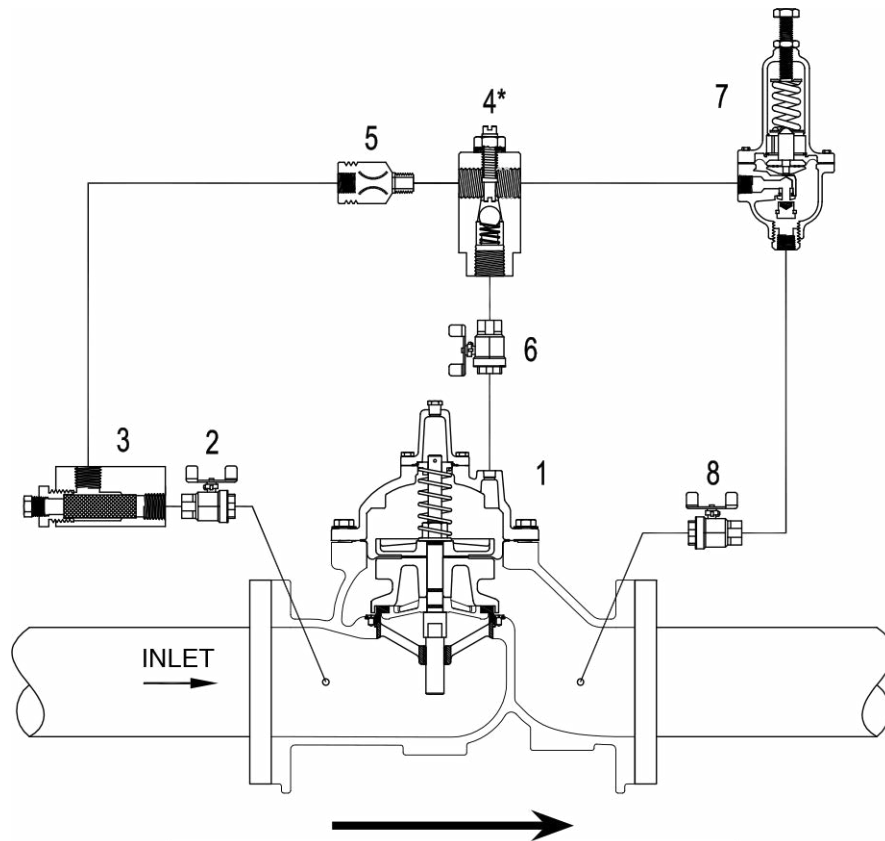


FIG. 2 Schematic A-0306C

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 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

Note: SRD shown is available for 6" 106-PG and larger.

106-PR	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	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	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	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 x 400 mm	600 x 500 mm	700 mm	700 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	0.6
Maximum Continuous (USGPM)	16500	21700	33600	33650	33700	33800	62000
Maximum Continuous (L/s)	1041	1370	2120	2123	2126	2132	3912



Scan for more information

Disclaimer: While every effort has been made to ensure that the information in this document is correct and accurate, users of Hygrade Water Infrastructure product or information within this document must make their own assessment of suitability for their particular application. Product dimensions are nominal only, and should be verified if critical to a particular installation. No warranty is either expressed, implied, or statutory made by Hygrade Water Infrastructure unless expressly stated in any sale and purchase agreement entered into between Hygrade Water Infrastructure and the user. **April 2024**