

# Single Chamber, Reduced Bore Main Control Valve

The Singer 206-PG series main valve is used as the basis for a large variety of control valve applications such as pressure, flow or level control. This hydraulically operated valve introduces or releases water from the control chamber above the diaphragm to effectively maintain accurate water control.



TECHNICAL GUIDE: **VH1.20**

## Applications

Potable water  
Pressure systems  
Municipal  
Mining Applications  
Irrigation Applications

## Product Attributes

Versatile valve that can be configured for a variety of applications  
Available in globe and angle style  
Reduced bore for enhanced control

## Approvals/Standards

AS 5081:2008  
Flanges to AS/NZS 4087 Fig. B5  
Coating complies with AS/NZS 4158

## Quality

ISO 9001:2015 Quality Management Systems

The heart of any Singer 206 Control Valve is the Ductile Iron 206-PG Full Bore Main Valve Body. These are hydraulically controlled to operate as pressure, flow, or level control valves.

This hydraulically operated valve introduces or releases water from the control chamber above the diaphragm to effectively maintain water control. Further adapt the valve to provide control for a wide range of functions by selecting from Singer Valve's wide range of pilot and accessories options. Customise for functions like controlling pressure, flow or level or in almost limitless combinations to suit specific applications.

### Selection

Automatic control valves operate by introducing or exhausting water from above the diaphragm at controlled rates. A pressure differential is required and is either inlet to outlet or inlet to atmosphere, depending on the application. Valves are sized to provide an appropriate pressure drop for each application. Most valves require a minimum of 0.7 bar pressure drop to operate. This applies mostly to valves that have the bonnet vented to downstream. With minimum of 0.35 bar downstream pressure, many valves can be made to open fully by venting the bonnet to atmosphere.

Singer Valve control valves are designed for use with clean potable water. Applications for other media are possible. Consult with Hygrade.

Careful consideration of the possibility of cavitation must be given. Anti-cavitation trim is available to control the cavitation, reduce noise and prevent damage. Contact Hygrade for more details on the 106-AC Anti-Cavitation Control Valve.

The Singer Model 206-PG single chambered valve is the basic valve used in practically every model bearing the 206 description. The pilot systems are designed to meet the functional and performance requirements of specific applications. Sizing is ultimately determined by the specific application.

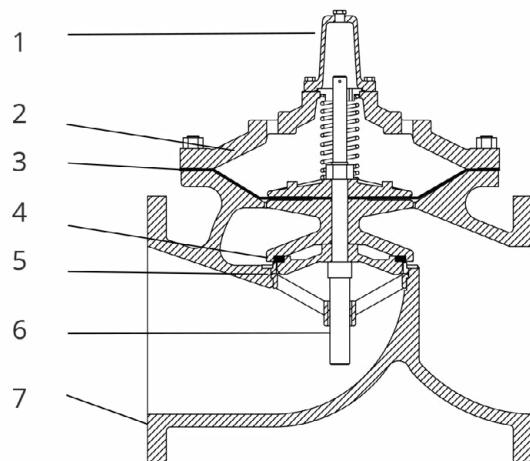
Refer to the Singer Control Valve Sizing Calculator on our website for assistance.

### Schematic Drawing

1. Removable Stem Cap
2. ASTM A536 Ductile Iron Construction
3. Diaphragm Buna-N or EPDM
4. Buna-N or EPDM Resilient Disc
5. AISI 316 Stainless Steel Seat
6. AISI 316 Stainless Steel Stem
7. NSF 61 Fusion Bonded Epoxy Coating



FIG. 1 Alternative models A206-PG Angle



## AVAILABLE OPTIONS

Further customise the valve by adding any of the available options below.

### Main valve options

Position Indicators (Available for install during assembly or as a field modification)

- Model X107 stem mounted position indicators
- Model X129 limit switch assembly with Single Pole Double Throw limit switch (Double Pole Double Throw optional)
- Model X156 position transmitter (4 to 20 mA)
- Oxy-Nitride Stem
- Internal Drop Check
- External Spring Lift
- Grooved Ends
- Reclaimed Water

### Materials of construction

Individual components can be upgraded from ductile iron, bronze and brass to stainless steel, for most sizes. Consult with Hygrade.

### Model PGM

Provides a fully operational back-up system in the event of a diaphragm or pilot failure.

**TABLE 1** Valve Styles and Sizes

	Standard (Flanged)	Optional
Globe	80-1200mm	-
Angle	100-200mm	-

**TABLE 2** Valve Components

	Standard	Optional
1. Valve Body, Cover	65-45-12 Ductile Iron	-
2. Seat Ring	316 Stainless Steel	-
3. Disc Retainer	B16 Brass / B62 Bronze / A536 Ductile Iron	316 Stainless Steel
4. Stem	316 Stainless Steel	-
5. Stem Nut	B16 Brass	316 Stainless Steel
6. Spring	316 Stainless Steel	-
7. Guide Bushings	B16 Brass or SAE 660 Bronze	316 Stainless Steel
8. Diaphragm	EPDM	Buna-N / Viton (limited sizes)
9. Resilient Disc	EPDM	Buna-N / Viton (limited sizes)
10. Coating	NSF61 Approved Fusion Bonded Epoxy - Thickness 250-300 microns in accordance to AS/NZS 4158	Consult factory
11. Fasteners	AISI 18-8 Stainless Steel	AISI 316 Stainless Steel

**TABLE 3** 206-PG Flow Capacity at 14m/s

Code	Size (mm)	Momentary (L/s)
VC80BODY206S	80	36
VC100BODY206S	100	78
VC150BODY206S	150	136
VC200BODY206S	200	303
VC250BODY206S	250	530
VC300BODY206S	300	833
VC400BODY206S	400	1211
VC450BODY206S	450	1893
Indent	500	1896
Indent	600 x 400	1899
Indent	600 x 500	2461
Indent	700	4255
Indent	750	4258
Indent	800	4261
Indent	900	4268
Indent	1000	3912



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