HYGRADEWATER INFRASTRUCTURE

SINGER® a MUELLER brand

Single Chamber, Full Bore Main Control Valve

The Singer 106-PG full bore control 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: **AVH1.11**

Applications

- Potable water
- Pressure systems
- Municipal
- Mining Applications
- Irrigation Applications

WaterMark ***Licence Number:*** *WMK/SMK26726*

Product Attributes

- Versatile valve that can be configured for a variety of applications
- Anti-cavitation option for high pressure drop situations
- Available in globe and angle style

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 106 Control Valve is the Ductile Iron 106-PG Full Bore Main Valve Body. These are hydraulically controlled to operate as pressure flow, or level control valves.

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.

Our 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. Refer to Hygrade for more details.

The 106-PG single chambered valve is the basic valve used in practically every model bearing the 106 description. The pilot systems are designed to meet the functional and performance requirements of specific applications. Sizing is ultimately determined by the specific application.

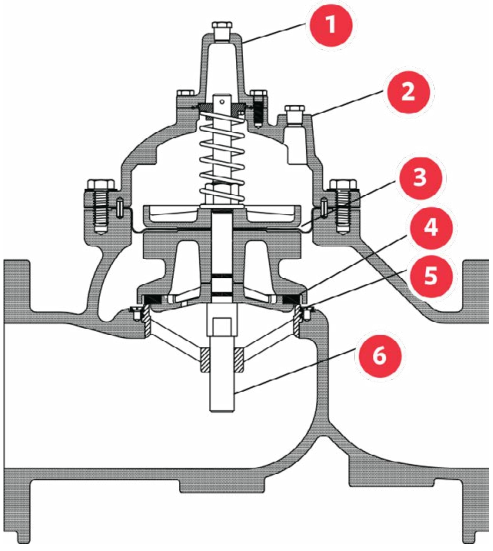
Refer to the Singer Control Valve Sizing Calculator on our website for assistance.

FIG. 1 Alternative model A106-PG Angle

FIG. 2 Alternative model 106-PG THREADED

Schematic Drawing

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



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

Pilots & Accessories, Materials of construction

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

Model PGM

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

Anti-Cavitation Trim

Model 106-AC allows very high pressure drops in one valve, while retaining the standard 106 valve features.

Ordering Instructions

Refer to the order form and ordering instructions.

TABLE 1 Valve Styles and Sizes

	Ductile Iron		Stainless Steel	
Available Sizes	**Threaded**	**Flanged**	**Threaded**	**Flanged**
Globe	25-80mm	40-900mm	15-50mm	40-150mm
Angle	25-80mm	50-300mm, 400mm	N/A	N/A

TABLE 2 Valve Components

	Ductile Iron		Stainless Steel	
	Standard	**Optional**	**Standard**	**Optional**
1 .Valve Body, Cover	65-45-12 Ductile Iron	-	316 Stainless Steel	-
2. Seat Ring	316 Stainless Steel	-	316 Stainless Steel	-
3. Disc Retainer	B16 Brass / B62 Bronze / A536 Ductile Iron	316 Stainless Steel	316 Stainless Steel	-
4. Stem	316 Stainless Steel	-	316 Stainless Steel	-
5. Stem Nut	B16 Brass	316 Stainless Steel	316 Stainless Steel	-
6. Spring	316 Stainless Steel	-	316 Stainless Steel	-
7. Guide Bushings	B16 Brass or SAE 660 Bronze	316 Stainless Steel	316 Stainless Steel	-
8. Diaphragm	EPDM	Buna-N / Viton (limited sizes)	EPDM	Buna-N / Viton (limited sizes)
9. Resilient Disc	EPDM	Buna-N / Viton (limited sizes)	EPDM	Buna-N / Viton (limited sizes)
10. Coating	NSF61 Approved Fusion Bonded Epoxy Thickness 250-350 microns in accordance to AS/NZS 4158	Consult factory	-	-
11. Fasteners	18-8 Stainless Steel	316 Stainless Steel	18-8 Stainless Steel	316 Stainless Steel

TABLE 3 106-PG Flow Capacity at 14m/s

Item Code	**Size** (mm)	**Momentary** (L/s)
Indent	15	2
Indent	20	3
Indent	25	7
Indent	32	11
CV040BODY106S-PG	40	16
CV050BODY106S-PG	50	30
CV065BODY106S-PG	65	42
CV080BODY106S-PG	80	65
CV100BODY106S-PG	100	114
CV150BODY106S-PG	150	252
CV200BODY106S-PG	200	442
CV250BODY106S-PG	250	694
CV300BODY106S-PG	300	1009
CV350BODY106S-PG	350	1199
CV400BODY106S-PG	400	1577
Indent	500	2461
Indent	600	3546
Indent	900	7868

Scan for more information

June 2025

+61 7 38059186
hygradewater.com.au

BRISBANE (Head Office) 42-44 Blue Eagle Drive,Meadowbrook, QLD 4131
SYDNEY 2/35 Prime Dr, Seven Hills NSW 2147, Australia
MELBOURNE 20A Frances Drive, Dandenong South 3175

HYGRADE WATER INFRASTRUCTURE