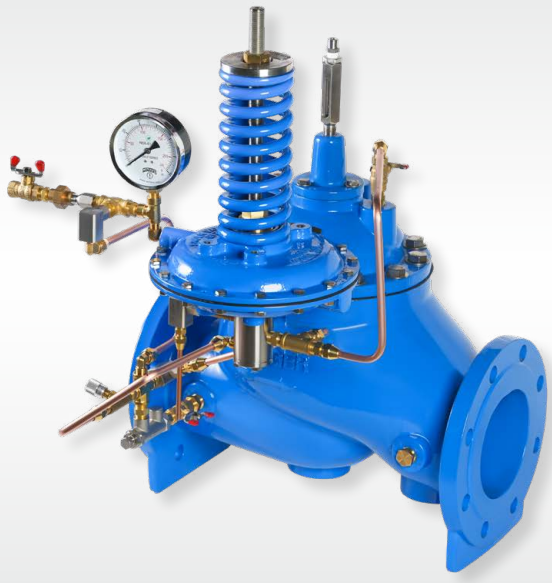
HYGRADE WATER

SINGER
a MUELLER brand

Two-Way Flow Altitude Control Valve

The Singer models 106-A-Type 1 / 206-A-Type 2 Altitude Control Valves are ideal for maintaining a preset maximum water level in a tank or reservoir.



TECHNICAL GUIDE: **AVH1.14**

Applications

- Potable water
- Tank level control
- Municipal
- Mining Applications
- Irrigation Applications

Product Attributes

- Prevents tank/tower/ reservoir overflow
- Superior repeatability
- Positive shut-off
- Maintains a preset maximum water level

Approvals/Standards

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

WaterMark *Licence Number: WMK/SMK26726*

This valve functions as a two position control valve, either fully open or fully closed. The Type 1 allows normal forward flow to fill the reservoir to the maximum level and then closes driptight at the set-point. It opens to allow reverse flow through the valve when the supply pressure drops a fixed amount below the reservoir head. When a higher supply pressure is restored, the Type 1 valve will then allow normal forward flow to refill the tank to the maximum level.

SELECTION

1. Generally select line size to minimise losses during normal forward flow.
2. Use the performance curves and sizing bulletin to determine the pressure drop across the valve.
3. Limit maximum continuous flow velocity to 6 m/s for 106 and 5 m/s for 206. Consult Hygrade if higher flows are expected.
4. The pilot system exhausts to atmosphere, ensuring the valve opens fully; requires that the displaced volume of water be taken to drain with each opening.
5. Select pilot spring range:
   - 1 to 6m
   - 3 to 18m
   - 12 to 38m
   - 18 to 67m
6. There is a non-adjustable differential required between the reservoir head and the supply pressure in order for the valve to open. It ranges from 0.3 m to 0.90 m for the pilot spring ranges listed.

STANDARD MATERIALS

Standard materials for pilot system components are:

- Ductile Iron
- Stainless Steel
- Brass
- Copper

ORDERING INSTRUCTIONS

- Refer to the order form and ordering instructions.
- Additionally, include the following information for this product:
  1. Single Chamber (106) or (206)
  2. Pilot Range

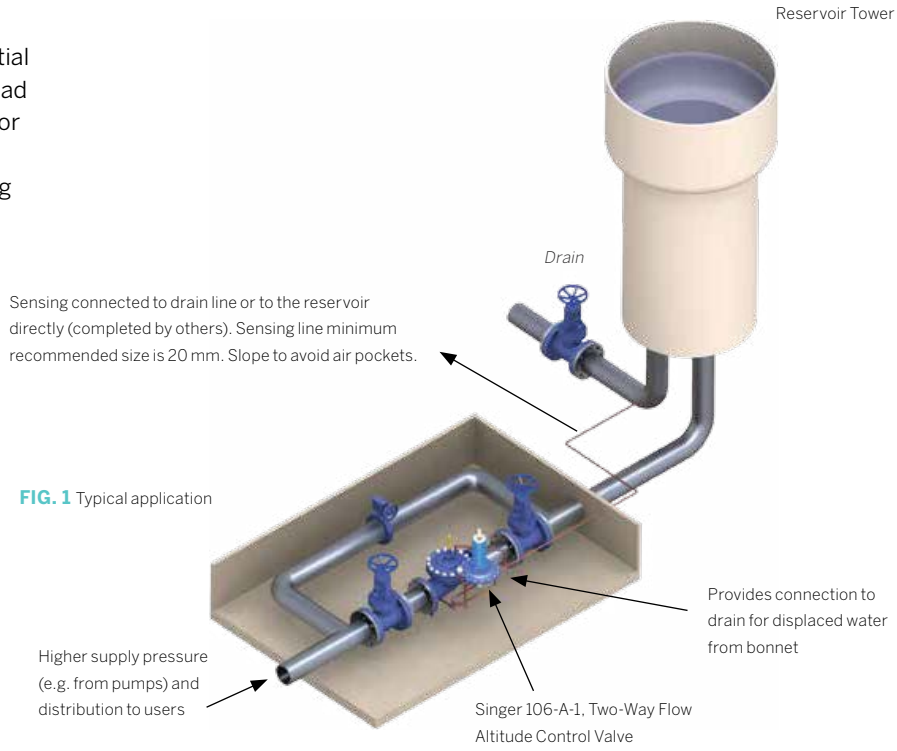


FIG. 1 Typical application

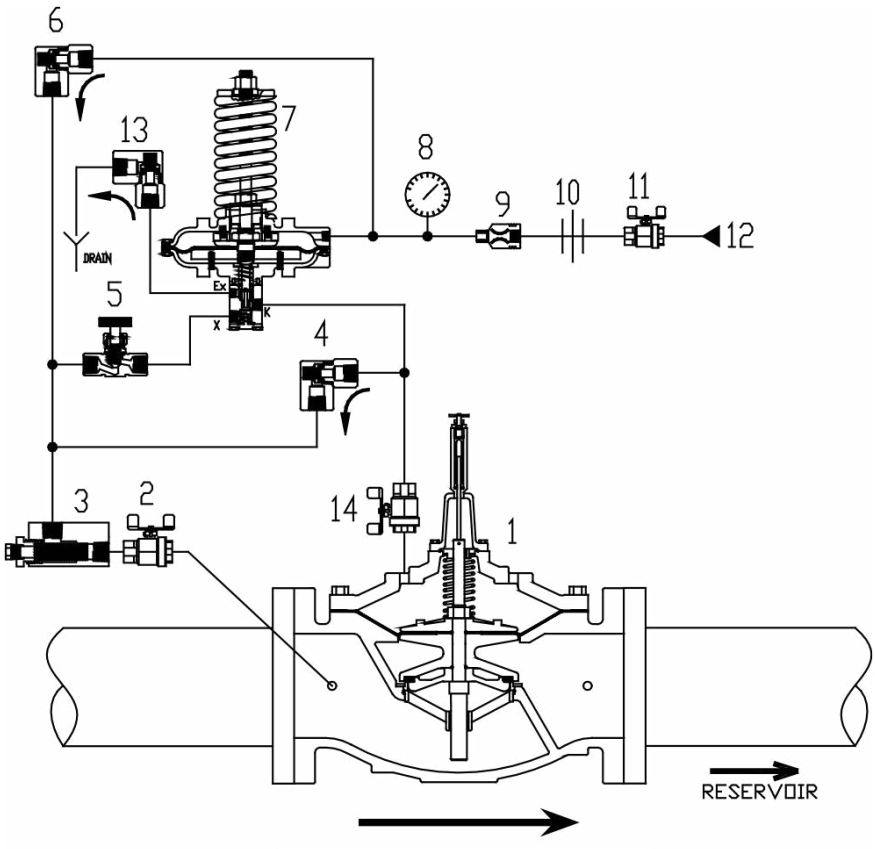


FIG. 2 Schematic A-0412D

SCHEMATIC DRAWING

1. Main Valve - 106-PG or 206-PG - with X107 position indicator
2. Isolation Valve
3. Strainer - 40 mesh stainless steel screen
4. Model 10 Check Valve
5. Closing Speed Control
6. Model 12 Check Valve
7. Model 301-4 Altitude Pilot
8. Altitude Gauge
9. Fixed Restriction - 3.2 mm, 1.58 mm
10. Union
11. Isolation Valve
12. Connection to Reservoir - complete in field
13. Model 12 Check Valve
14. Isolation Valve

TABLE 1 106-A-Type 1 and 206-A-Type 1 Flow Coefficient Cv

Size (mm)	K_V²	
	106-A-Type 1	**206-A-Type 1**
80	26	-
100	47	-
150	110	-
200	190	-
250	310	230
300	500	370
350	610	-
400	780	520
450	-	780
500	1210	810
600	1800	-
600 x 400	-	830
600 x 500	-	1210
700	-	1850
750	-	1850
800	-	1870
900	3875	1900
1000	-	4265

**K_V = L / s at 1 bar pressure drop

($Q = K_V \sqrt{\Delta P}$)

Note: Based on fully open valve

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 products 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 for critical installation. No warranty is either expressed, implied, or statutory made by Hygrade Water Infrastructure unless expressly stated in a sales agreement or purchase agreement between Hygrade Water Infrastructure and the user.
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