Type 3 Two-Way Flow Altitude Control Valve with Differential Control

SINGER®
a MUELLER brand

Technical Guide W4.73

The 106-A-Type 3, and 206-A-Type 3 Altitude Control Valves are based on the 106-PG, or 206-PG main valve, and are ideal for maintaining preset maximum level.

Applications

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

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

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

Quality

ISO 9001:2015 Quality Management Systems

We are the supply partner of choice for New Zealand's civil construction industry, specialising in water and infrastructure based solutions.

HYNDSwater

The Type 3 allows normal forward flow to fill the reservoir to the maximum level, then closes drip-tight at the set-point. The valve opens to permit reverse flow through the valve when the supply pressure drops an adjustable amount below the reservoir head.

The Type 3 will then allow normal forward flow to refill the tank to the maximum level, when a higher supply pressure is restored.

STANDARD MATERIALS

Standard materials for pilot system components are:

- Ductile Iron
- Stainless Steel

SELECTION SUMMARY

1. Generally, select line size to minimise losses during normal forward flow.
2. Use the performance curves to determine the pressure drop across the valve.
3. Limit maximum continuous flow velocity to less than 6m/s for 106 and less than 5m/s for 206.
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- refer to 106, 206 Tech guides for this amount.
5. Select pilot spring range. Standard *(301-4)* is:
   - 3 - 18 m.

   Specify for:
   - 1 to 6m
   - 12 to 38m
   - 18 to 67m
6. Select the adjustable differential pilot spring range. Standard is:
   - 2 to 5m

   Specify for:
   - 3.7 to 9.1m
   - 8 to 15m

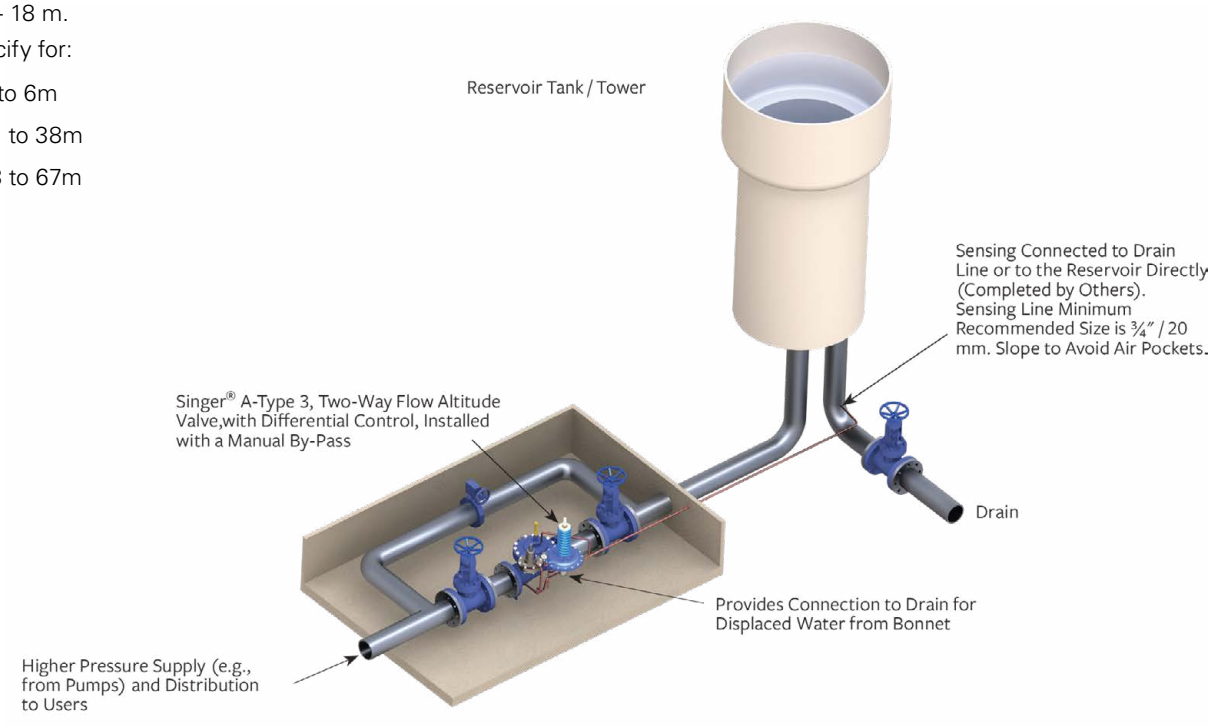
   The total differential includes the non-adjustable differential of the altitude pilot.

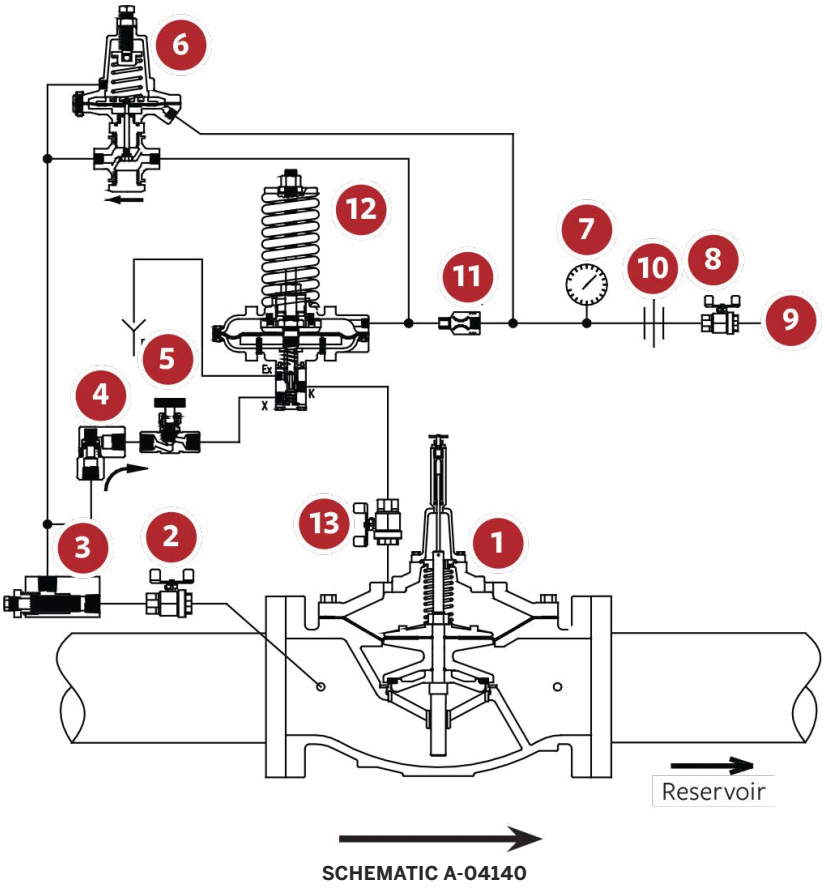
ORDERING INSTRUCTIONS

Refer to the order form and ordering instructions.

Additionally, include the following information for this product.

1. Single chamber *(106)*, or *(206)*
2. Pilot ranges





SCHEMATIC A-04140

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 625-RPD Differential Relief Pilot
7. Altitude Gauge
8. Isolation Valve
9. Sensing Connection to Reservoir – Complete in Field
10. Union
11. Fixed Restriction – 3.2mm
12. Model 301-4 Altitude Pilot
13. Isolation Valve

TABLE 1 **106-A-Type 3 and 206-A-Type 3 Flow Coefficent Cv**

Size (mm)	K_V²	
	106-A-Type 3	**206-A-Type 3**
80	95	52
100	173	130
150	398	216
200	692	437
250	1125	852
300	1817	1341
350	2227	
400	2855	1903
450		2855
500	4412	2941
600	6574	
600 x 400		3028
600 x 500		4412
700		6747
750		6747
800		6834
900	14134	6920
1000		14134
1200		14134

**K_V = m^3/h at 1 bar pressure drop

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

Note: Based on fully open valve