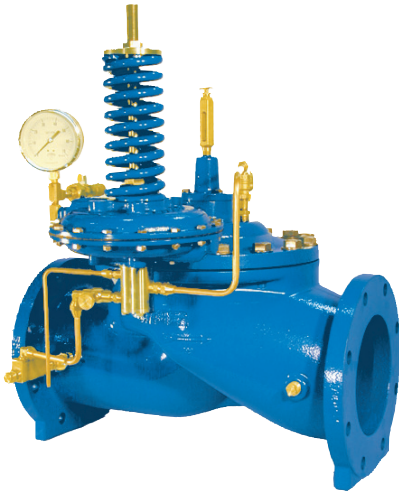


# Models 106-A-Type 2 / 206-A-Type 2 One-Way Flow Altitude Control Valve



206-A-Type 2 Globe

## KEY FEATURES

- No overflows - high level shut-off maintained to close tolerances
- Superior repeatability
- Positive shut-off
- Easily serviceable at ground level

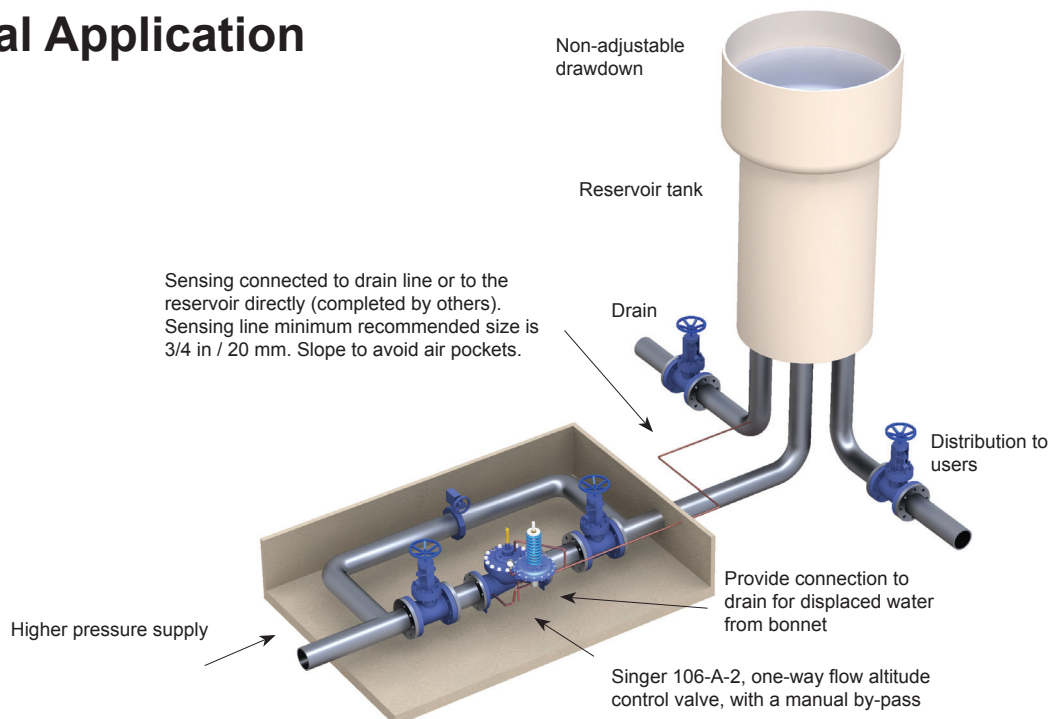
## Product Overview

The 106-A-Type 2 and 206-A-Type 2 altitude control valves are based on the 106-PG or 206-PG main valve and are ideal for maintaining a preset maximum water level.

The valve functions as a two position control valve, either fully open or fully closed. The Type 2 valve allows normal forward flow to fill the reservoir to the maximum level and then closes drip-tight at the set-point. It opens to refill the tank once the level drops a fixed distance below the high water level.

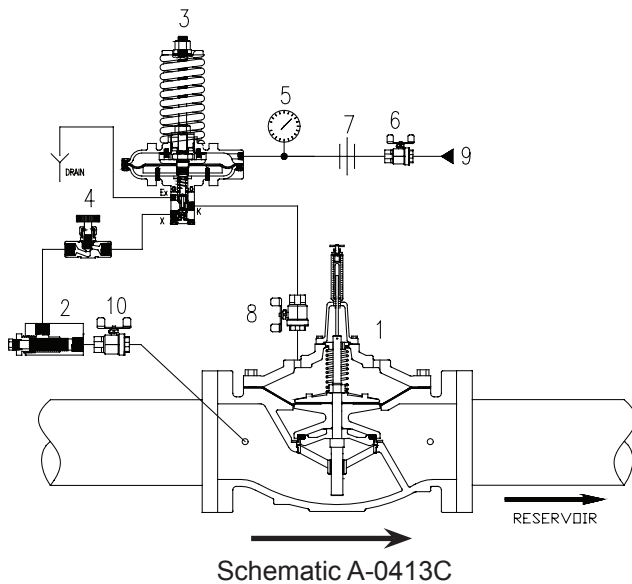
Note: This valve does not operate as a check valve to prevent reverse flow.

## Typical Application



# Models 106-A-Type 2 / 206-A-Type 2 One-Way Flow Altitude Control Valve

## Schematic Drawing



1. Main Valve - 106-PG or 206-PG - with X107 position indicator
2. Strainer - 40 mesh stainless steel screen
3. Model 301-4 Altitude Pilot
4. Closing Speed Control
5. Altitude Gauge
6. Isolation Valve
7. Union
8. Isolation Valve
9. Sensing connection to reservoir (complete in field by others)
10. Isolation Valve

## Standard Materials

Standard materials for pilot system components are:

- Ductile Iron
- Stainless Steel
- Brass
- Copper

## Selection Summary

1. Generally select line size to minimize losses during normal forward flow.
2. Use the performance curves and sizing bulletin to determine the pressure drop across the valve.
3. Maximum continuous flow - 106 is 20 ft/s / 6 m/s, 206 is 16 ft/s / 5 m/s. Consult Singer Valve 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. Standard (301-4) is 10 to 60 ft / 3 to 18 m. Specify for 301-4 ranges 4 to 20 ft / 1 to 6 m, 40 to 125 ft / 12 to 38 m, 60 to 220 ft / 18 to 67 m.
6. Level drop required to open: 1 ft to 3 ft / 0.3 m to 0.91 m approximate.
7. If the fill line discharges below the reservoir surface, an internal drop check or separate check valve is suggested. This prevents return flow on loss of supply pressure.

# Models 106-A-Type 2 / 206-A-Type 2 One-Way Flow Altitude Control Valve

## Specifications

- The valve shall be a Singer Valve model 106-A-Type 2 / 206-A-Type 2, size “\_\_\_\_\_”, ANSI Class 150 (ANSI 300, ANSI flanges drilled to ISO PN 10 / 16 / 25 or 40) pressure rating / flange standard, globe (angle), style valve. The Model 301-4 Altitude Pilot spring range (elevation) shall be “\_\_\_ to \_\_\_” feet / meters, with set-point preset at Singer Valve to “\_\_\_” feet / meters. Assembly shall be according to Schematic A-0413C.
- The valve allows normal forward flow to fill the reservoir to the maximum level then closes drip-tight at the set-point. It opens to refill the tank once the level drops a fixed distance below the high water level.
- Refer to Main Valve section, page 11, 106-PG (or 206-PG) and Main Valve Options section, Model X107 Position Indicator for detailed information pertaining to valve sizes and materials, selection criteria and specifications.
- Refer to Pilot and Accessories section, page 249, Model 301-4 Altitude Pilot for detailed information pertaining to materials and specifications.

## Ordering Instructions

Refer to page 286 for the order form and ordering instructions.

Additionally, include the following information for this product:

- Full port (106) and reduced port (206)
- Pilot range

106-A-Type2	Flow Coefficient $C_v$ (See 106-PG in Main Valve section for other valve data)			
Size (inches)	3 in	4 in	6 in	8 in
Size (mm)	80 mm	100 mm	150 mm	200 mm
$C_v^1$	110	200	460	800
$K_v^2$	26	47	110	190

106-A-Type2	Flow Coefficient $C_v$ (See 106-PG in Main Valve section for other valve data)						
Size (inches)	10 in	12 in	14 in	16 in	20 in	24 in	36 in
Size (mm)	250 mm	300 mm	350 mm	400 mm	500 mm	600 mm	900 mm
$C_v^1$	1300	2100	2575	3300	5100	7600	16340
$K_v^2$	310	500	610	780	1210	1800	3875

206-A-Type 2	Flow Coefficient $C_v$ (See 206-PG in Main Valve section for other valve data)			
Size (inches)	3 in	4 in	6 in	8 in
Size (mm)	80 mm	100 mm	150 mm	200 mm
$C_v^1$	60	150	250	505
$K_v^2$	14	36	60	120

206-A-Type 2	Flow Coefficient $C_v$ (See 206-PG in Main Valve section for other valve data)										
Size (inches)	10 in	12 in	16 in	18 in	20 in	24 x 16 in	24 x 20 in	28 in	30 in	32 in	36 in
Size (mm)	250 mm	300 mm	400 mm	450 mm	500 mm	600 x 400 mm	600 x 500mm	700 mm	750 mm	800 mm	900 mm
$C_v^1$	985	1550	2200	3300	3400	3500	5100	7800	7800	7900	8000
$K_v^2$	230	370	520	780	810	830	1210	1850	1850	1870	1900

<sup>1</sup> $C_v$  = USGPM at 1 psi pressure drop  
<sup>2</sup> $K_v$  = L / s at 1 bar pressure drop

Note: based on fully open valve

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