

# MODELS 106-A-TYPE 3 / 206-A-TYPE 3 TWO-WAY FLOW ALTITUDE CONTROL VALVE WITH DIFFERENTIAL CONTROL

## KEY FEATURES

- No overflows
- Superior repeatability while operating within close limits
- Positive shut-off

## PRODUCT OVERVIEW

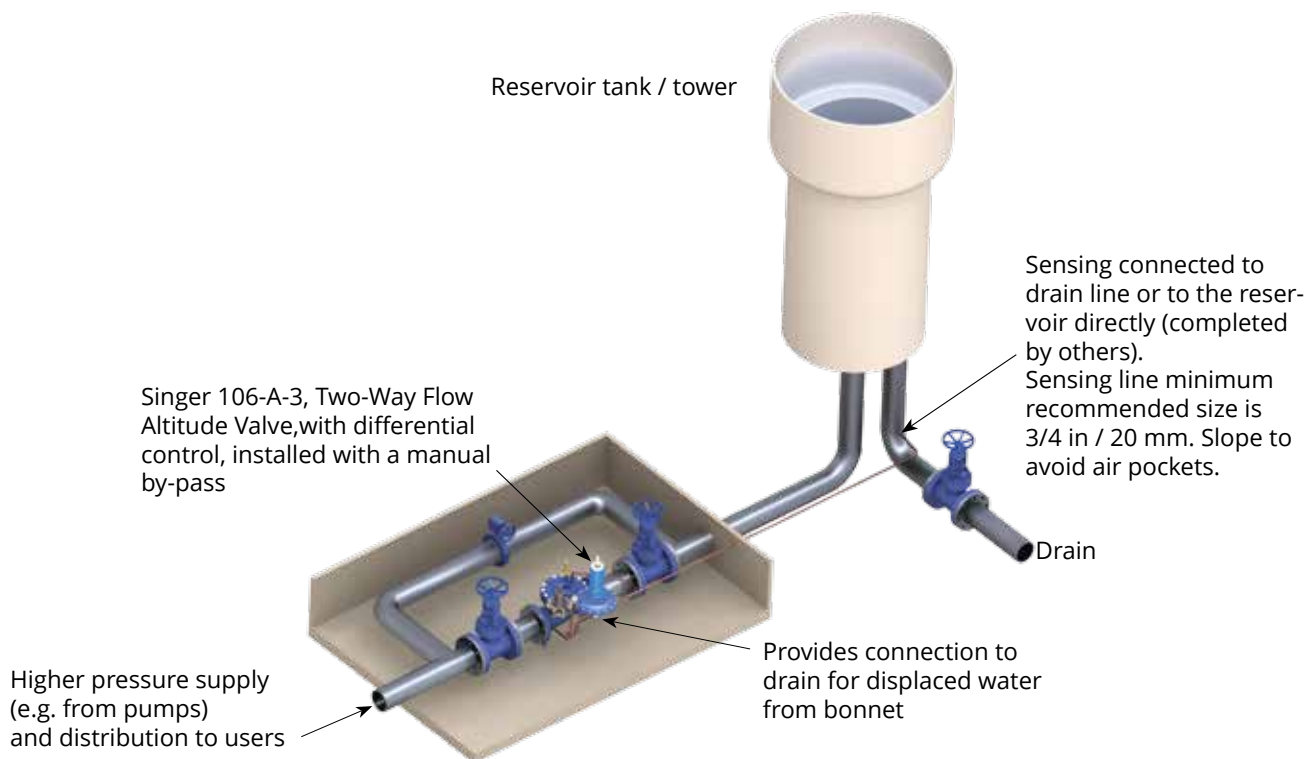
The 106-A-Type 3 and 206-A-Type 3 altitude control valves are based on the 106-PG or 206-PG main valve, and are ideal for maintaining preset maximum level.

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.

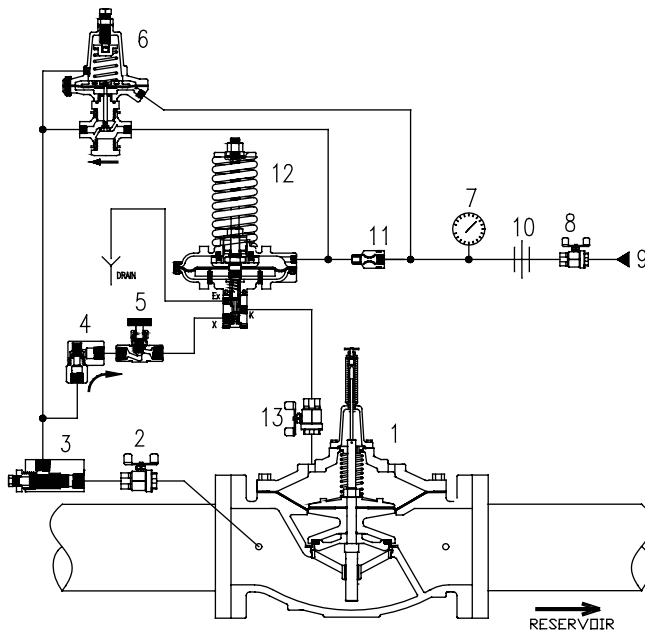


## TYPICAL APPLICATION



## 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 - 1/8 in / 3.2 mm
12. Model 301-4 Altitude Pilot;
13. Isolation Valve



Schematic A-0414D

## STANDARD MATERIALS

Standard materials for pilot system components are:

- Ductile Iron
- Stainless Steel

## SELECTION SUMMARY

1. Generally select line size to minimize 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 20 ft/s / 6 m/s for 106 and less than 16 ft/s / 5 m/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 section 106-PG or 206-PG, page 12, for displaced volume
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. Select the adjustable differential pilot spring range. Standard is 5 to 15 ft / 2 to 5 m. Specify for 12 to 30 ft / 3.7 to 9.1 m or 25 to 50 / 8 to 15 m. The total differential includes the non-adjustable differential of the altitude pilot.

## ORDERING INSTRUCTIONS

Refer to page 244 for the order form and ordering instructions.

Additionally, include the following information for this product:

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

# MODELS 106-A-TYPE 3 / 206-A-TYPE 3

## TWO-WAY FLOW ALTITUDE CONTROL VALVE WITH DIFFERENTIAL CONTROL

106-A-Type3	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-Type3	Flow Coefficient $C_v$ (See 106-PG in Main Valve section for other valve data)						
Size (in)	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 3	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 3	Flow Coefficient $C_v$ (See 206-PG in Main Valve section for other valve data)											
Size (in)	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	40 in
Size (mm)	250 mm	300 mm	400 mm	450 mm	500 mm	600 x 400 mm	600 x 500 mm	700 mm	750 mm	800 mm	900 mm	1000 mm
$C_v^1$	985	1550	2200	3300	3400	3500	5100	7800	7800	7900	8000	18000
$K_v^2$	230	370	520	780	810	830	1210	1850	1850	1870	1900	4265

\* $C_v$  = USGPM at 1 psi pressure drop

\*\* $K_v$  = L / s at 1 bar pressure drop

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

Note: based on fully open valve