MODELS 106-A-TYPE 4 / 206-A-TYPE 4
ONE-WAY FLOW ALTITUDE CONTROL VALVE WITH DIFFERENTIAL CONTROL

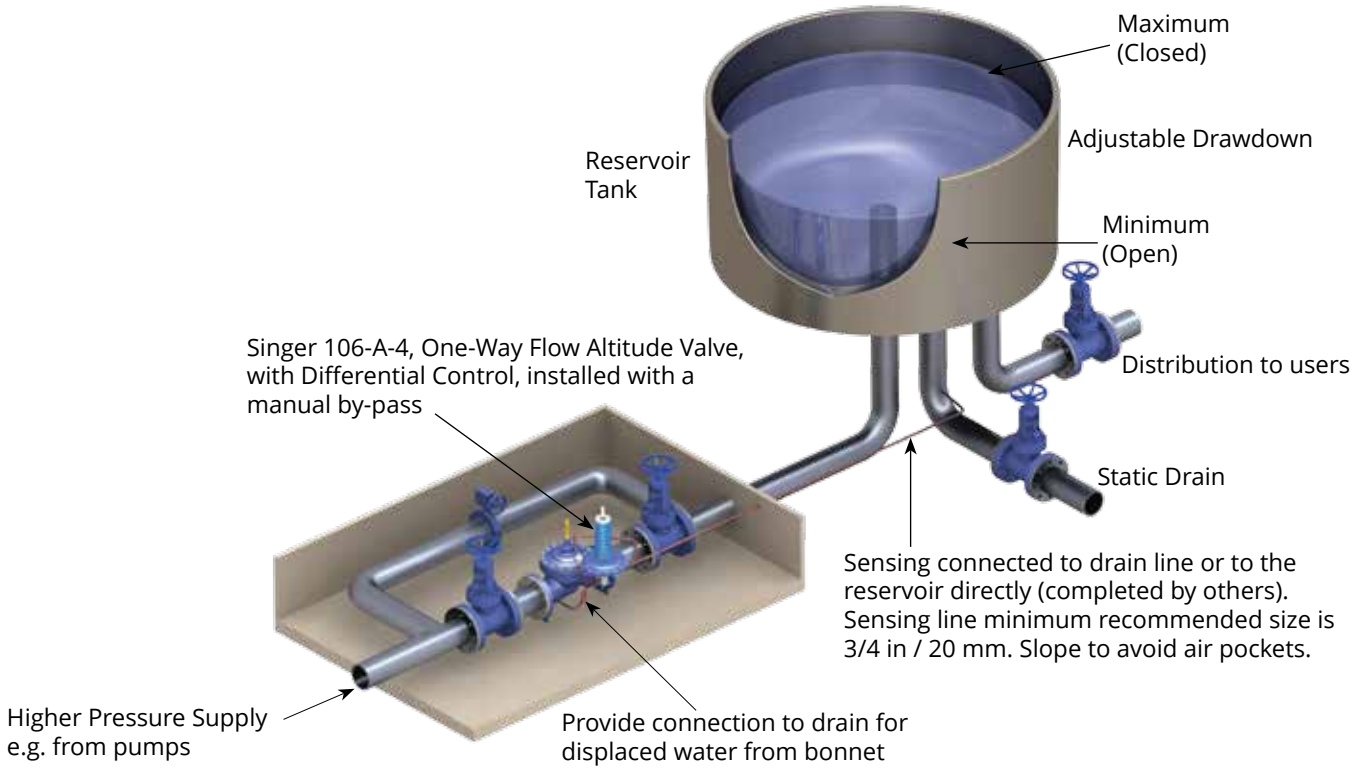
KEY FEATURES

- No overflows
- Adjustable draw-down level (differential) set-point
- Superior repeatability
- Positive shut-off
- Adjustable draw-down for improved water cycling

PRODUCT OVERVIEW

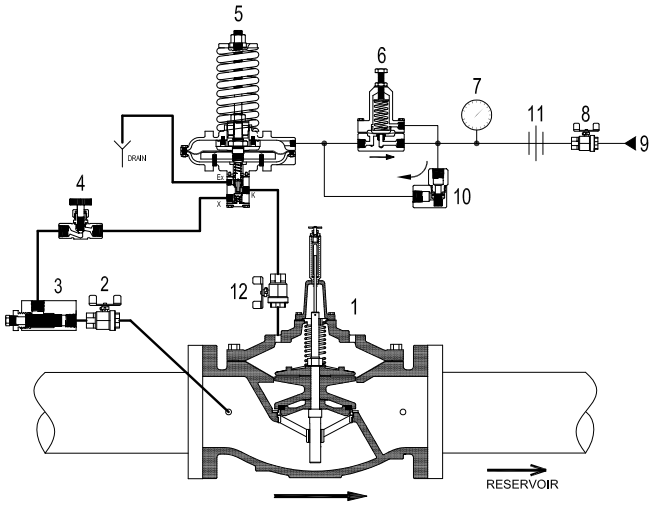
The 106-A-Type 4 and 206-A-Type 4 altitude control valves are based on the 106-PG or 206-PG main valve, and are ideal for maintaining a preset maximum water level. The valve functions as a two position control valve, either fully open or fully closed.
The Type 4 allows normal forward flow to fill the reservoir to the maximum level, then closes drip-tight at the set-point. It opens to refill the tank once the level drops an adjustable amount below the high water level.
Distribution from the reservoir is through a separate pipeline.
Note: This valve does not operate as a check valve to prevent reverse flow.

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. Closing Speed Control
5. Model 301-4 Altitude Pilot
6. Model 106-RD Differential Pilot
7. Altitude Gauge - dual scale - feet and meter
8. Isolation Valve
9. Sensing connection to reservoir - complete in field
10. Model 10 Check Valve
11. Union
12. Isolation Valve



Schematic A-0415C

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 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 the 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 differential pilot spring range. Standard is 5 to 15 ft / 1.5 to 4.6 m and 10 to 50 ft / 3 to 15 m. Specify for 12 to 50 ft / 3.7 to 15 m. The total differential includes the non-adjustable differential of the altitude pilot.
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.

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 range

106-A-Type 4	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-Type 4	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 4	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 4	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	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]	230.0	370.0	520.0	780.0	810.0	830.0	1210.0	1850.0	1850.0	1870.0	1900.0	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