

ACCESSORY

P10B Float Pilot – Medium Pressure

REF **EFC-400** ISSUED 15 Jun 2026

SPECIFICATIONS

APPROVALS & CERTIFICATIONS

- ISO 9001

APPLICATIONS

- Service reservoirs
- Break-pressure tanks
- Medium-pressure level control



P10B Bi-Level Float Pilot

Part list & Material			
No.	Description	Material	Standard
1	Bonnet	Stainless Steel	AISI 304
2	Disc	Stainless Steel/Rubber	AISI 304-EPDM
3	Body	Stainless Steel	AISI 304
4	Bolt-Washer	Stainless Steel	A2
5	O-Ring	Rubber	NBR
6	O-Ring	Rubber	NBR
7	Split pin	Stainless Steel	A2
8	Split pin	Stainless Steel	A2
9	Plate	Stainless Steel	AISI 304
10	Bar1	Stainless Steel	AISI 304
11	Bar2	Stainless Steel	AISI 304
12	Screw	Stainless Steel	AISI 304
13	Up Rod	Stainless Steel	AISI 304
14	Stop collar	Stainless Steel	AISI 304
15	Float	Stainless Steel	AISI 304
16	Low rod	Stainless Steel	AISI 304
17	Piv rod & split pin	Stainless Steel	A2
18	Weight	Stainless Steel	AISI 304
19	Set Screw	Stainless Steel	A2
20	Nut-Washer	Stainless Steel	A2
21	Nut	Stainless Steel	A2
22	Roller	Stainless Steel	AISI 304

FEATURES

- The P10B float pilot is the medium-pressure variant of the P10 series, suitable for service reservoirs and tanks operating at higher supply pressures than the P10A can accommodate
- The reinforced pilot body and balanced float design maintain accurate level control at supply pressures up to 16 bar

ACCESSORY

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SECTION Technical drawing 1 of 2 REF EFC-400

Level Control Applications

The Ultra Alpine ACV valve can be used to control Water Level in Reservoirs and Tanks in a variety of different ways depending on many factors such as Pressure and Flow conditions and configurations of the installation. A logical way to classify the different methods to control level is by On-off or Modulation. Within both groups an almost unlimited combination of other functions can be added such as Pressure Sustaining, rate of Flow control, Solenoid override etc, which makes the Ultra Alpine ACV Control valve very versatile. In both groups the choice can be made to install the valve as a top-of-reservoir valve mounted inside (or outside) the reservoir, or as a bottom entry with the valve mounted on the bottom of the reservoir. Please note that a stilling well should be installed with the float pilot if water turbulence could affect the operation. The stilling well can be an appropriate diameter plastic pipe (normally 200mm).

Hydraulic Conditions

In order for Level control valves to operate effectively and provide long trouble-free life, flow and pressure conditions have to be investigated. Two pressure conditions can create problems i.e.

1) High Pressure

Dam (or reservoir) control valves have always been susceptible to two potential problems caused by high pressure conditions which can be overcome if one is aware of what the problems are.

Cavitation - Most control valves can handle a pressure drop ratio of no more than 3:1. Because of its unique features the Ultra Alpine ACV control valve can handle a 4:1 pressure drop ratio. Even so in a Level control application if one assumes a back pressure of 1 bar from the head of the reservoir downstream of the valve, the valve can only effectively cope with 4 bar upstream in order to provide a long life.

High Flow Rates - If a level control valve is allowed to go fully open and dynamic head is above 1.5bar, a flow rate far beyond the recommended can occur which can cause further damage. In both of the above situations the extent of the valve's life will be determined by the level of the upstream pressure. If the discharge into the dam is free with the valve installed at the end of the line, the problem is not as severe because cavitation will occur outside the valve, but one still has the high velocity problem.

Our recommendations for these installations are outlined below.

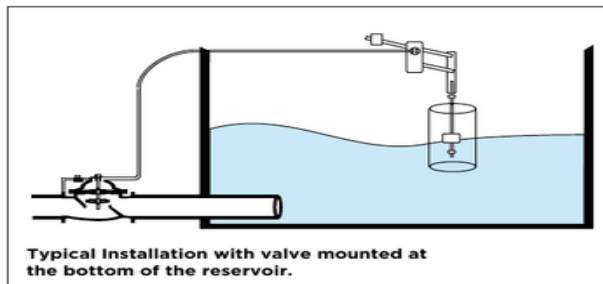
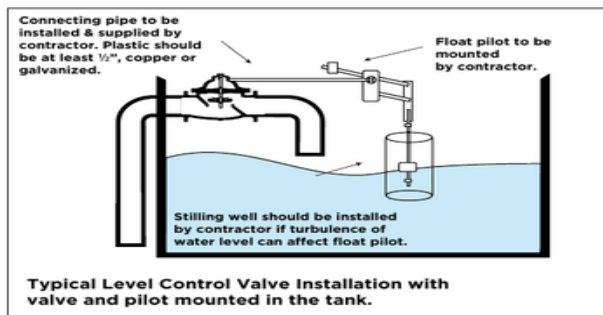
• Upstream Dynamic head between 5 and 10 bar

Install a Flow control pilot on the Ultra Alpine ACV Level Control Valve to limit flow rate to an acceptable level and install an orifice plate downstream of the valve to provide an artificial back pressure. The valve will still

experience cavitation during the opening and closing cycles, but as long as the cycles are not too frequent and closing and opening speed is not too long, the above recommendations should ensure a reasonable valve life.

• Upstream Dynamic head over 10 bar

Install a Flow control pilot on the Ultra Alpine ACV Level Valve and install an additional Pressure Reducing valve upstream of the Level control valve. The Pressure Reducing valve can be either a pilot operated Ultra Alpine ACV valve or a Ultra Ratio Reducing valve which operates without a pilot and can handle pressure drops of up to 5:1.



2) Low Pressure

Flowing line pressure should be 50kPa or more to ensure that sufficient head is available to open the valve fully. This assumes there is not pressure in the control chamber. The other factor to be aware of is that with the valve at the bottom of the reservoir and the float pilot at the top, the static head in the control tubing is the minimum pressure which can be achieved in the control chamber with the normal pilot hook-up. A "rule of thumb" which can be used to check this condition is as follows:

The flowing line pressure in PSI should be greater than or equal to the vertical distance in feet between the valve and the float pilot.

ACCESSORY

P10B Float Pilot – Medium Pressure

SECTION Technical drawing 2 of 2 REF EFC-400

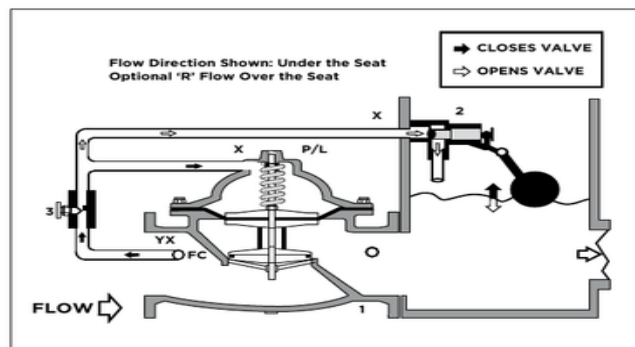
FIG BT110-10

Float Control - Modulating (Constant Level)

The FIG B110-10 maintains a constant level in storage tanks and reservoirs. Valve controlled flow into the tank is proportional to discharge flow, keeping the tank full.

NOTE: The modulating float control FIG B110-10, is remote mounted unless specified valve mounted. A stilling well around the float should be installed if the liquid surface is subject to turbulence, ripples or wind.

Quick Sizing: Valve size same as fill line or one size smaller if discharge line is smaller than the fill. Match size/capacity to discharge requirements.



VALVE FUNCTION

- Maintains a constant liquid level in a tank.
- Remote mounted pilot is sensitive to slight changes in level and controls main valve:
 - Opens when level drops
 - Closes when level rises

ACCESSORIES

Located as indicated
Included as marked

- X - Isolation Cocks
- Y - Y Strainer
- P - Position Indicator
- FC - Flo-Clean Strainer
- L - Limit Switch

COMPONENTS

1. Main Valve
2. Fig. 10-11 Modulating Float Control
3. Needle Valve - Adj. Closing Speed

FIG BT110-14

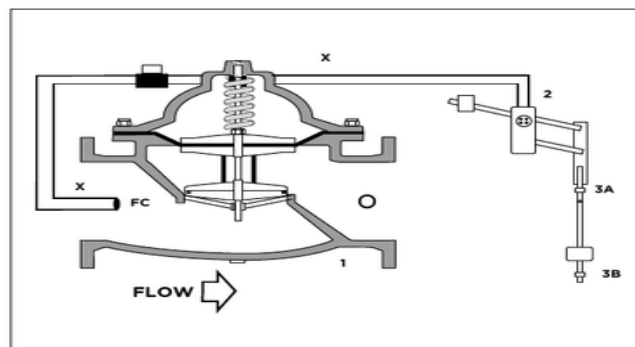
Float Control-On/Off (Open/Close) Adj. Hi/Lo Levels

The FIG B110-14 opens fully when the level reaches the preset low point and shuts off drip tight when the high level is reached. The on/off ball valve pilot is equipped with a vertical rod which allows the float to rise and drop to the adjustable upper and lower stops.

NOTE: The pilot is remote mounted unless it is specified valve mounted. Standard equipped with brass rods and plastic floats. Stainless steel rods and floats are available. Provide a stilling well around the float if a liquid surface is subject to turbulence, ripples or wind.

Specify: If the Pilot is to be mounted on the valve. Contact Ultra staff if unsure about anything.

Quick Sizing: Valve size same as fill line.



VALVE FUNCTION

- Valve opens when float reaches lower level stop (adjustable)
- Valve closes when float reaches upper level stop (adjustable)
- High and low level adjustments allows for calculated draw down
 - Opens when level drops
 - Closes when level rises

ACCESSORIES

Located as indicated
Included as marked
Large size valves may require an accelerator Pilot.

- X - Isolation Cocks
- Y - Y Strainer
- FC - Flo-Clean Strainer
- L - Limit Switch

COMPONENTS

1. Main Valve
2. Fig. 10-13 Float Pilot
3. Level Adjustment Stops
- 3A - Upper Level
- 3B - Lower Level

ACCESSORY

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SECTION Dimensions per size REF EFC-400

SIZE	L	ØD_PN10	ØK_PN10	H_A900	H_R900	ØD_PN25	ØK_PN25	ØD_PN16	ØK_PN16
DN50	230	165	125	177	—	—	—	—	—
DN65	290	185	145	202	180	—	—	—	—
DN80	310	200	160	219	182	—	—	—	—
DN100	350	220	180	243	225	235	190	—	—
DN125	400	250	210	—	243	270	220	—	—
DN150	480	285	240	333	243	300	250	—	—
DN200	600	340	295	428	345	360	310	—	—
DN250	730	405	350	478	440	425	370	405	355
DN300	850	460	400	538	450	485	430	—	410
DN350	980	520	460	550	—	555	490	—	470
DN400	1100	—	515	710	—	580	550	550	525
DN450	1200	—	565	720	—	670	600	640	585
DN500	1250	725	620	822	—	715	660	715	650
DN600	1450	842	725	885	—	840	770	840	770
DN700	1650	910	840	—	—	960	875	—	840
DN800	1850	—	950	1260	—	1085	990	1025	—

All dimensions in millimetres unless stated otherwise. Values are nominal; tolerances confirmed at quote.