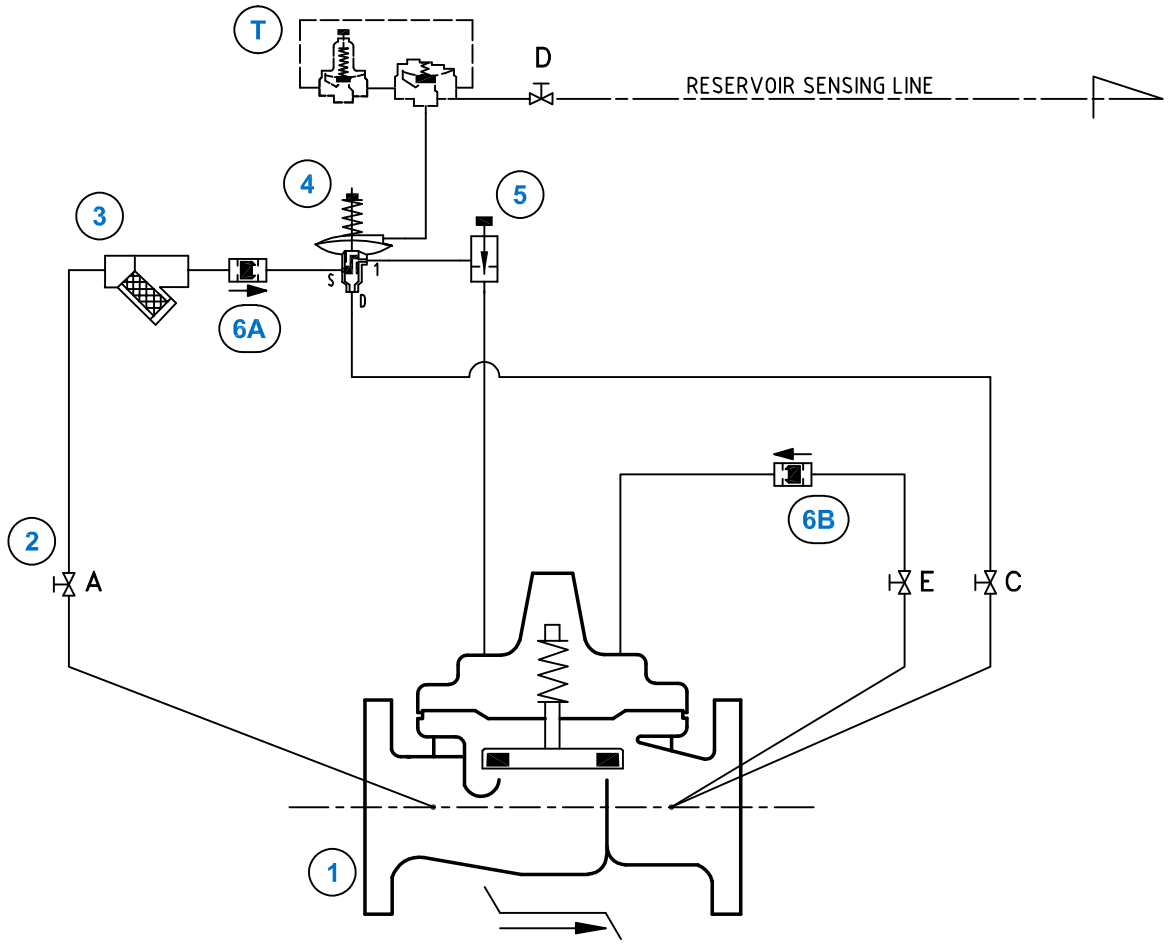
CLA-VAL 210-31

On/Off Altitude Level Control Valve with non-Return Feature



STANDARD EQUIPMENT			
No	**Description**	**Qty**	**Type**
1	MAIN VALVE HYTROL AE/GE/NGE	1	100-01
2	ISOLATION BALL VALVE	4	RB-117
3	STRAINER	1	X43
4	3-WAY ON/OFF ALTITUDE LEVEL CONTROL	1	CDS-6A
5	NEEDLE VALVE	1	6120
6	CHECK VALVE	2	CDC-1 (#)

OPTIONAL FEATURES			
No	**Description**	**Qty**	**Type**
T	DELAYED OPENING	1	CVC & 81-01

NOTES

AE/GE : DN 32 - DN 400 / NGE : DN 50 - DN 600

(#) = According to valve size this feature type could change

OPTIONAL FEATURES : —— —— —— ——

NOT FURNISHED BY CLA-VAL : —— – —— – ——

Operating data

1.1 ALTITUDE VALVE FEATURE

Altitude level control CDS-6A (**4**) is a spring loaded, 3-way, diaphragm actuated control that senses pressure in the reservoir. When the reservoir pressure (liquid level) is lower than the set point of control (**4**), ports "I" and "D" are interconnected. This relieves main valve cover pressure to atmosphere and the main valve (**1**) opens to fill the reservoir. Reservoir sensing pressure increases as the liquid level rises in the reservoir. When reservoir pressure increases to the set point of control (**4**), control (**4**) shifts, interconnecting ports "S" and "I". This pressurizes the main valve cover and the main valve (**1**) closes.

Altitude control (4) adjustment: Turn the spring adjusting nut clockwise to increase the liquid level shutoff point, counter clockwise to decrease the liquid level shutoff point.

1.2 CLOSING / OPENING SPEED CONTROL

Needle valve 6120 (**5**) controls the closing speed and the opening speed of the main valve (**1**).

Needle valve (5) adjustment: Turn the adjusting stem of needle valve (**5**) clockwise to make the main valve close/open more slowly.

Note: Do not close needle valve (**5**) completely or the main valve (**1**) will not close or open (suggested initial setting of needle valve is 1 turn open).

1.3 CHECK VALVE FEATURE

When outlet pressure is greater than inlet pressure, check valve CDC-1 (**6B**) opens and check valve CDC-1 (**6A**) closes. This directs the higher downstream pressure into the main valve cover and the main valve (**1**) closes, preventing any reverse flow.

1.4 (E*) EUROPEAN STANDARDS

ITEM (**2**) - Isolation ball valve:

The isolation ball valves RB-117 (**2**) are used to isolate the pilot system from main line pressure. These valves must be open during normal operation.

ITEM (**3**) - Y-Strainer:

The strainer X43 (**3**) is installed in the pilot supply line to protect the pilot system from foreign particles. The strainer screen must be cleaned periodically.

1.5 OPTIONAL FEATURES

Suffix (**T**) - Delayed opening feature:

Differential control CVC is closed during the reservoir filling cycle. As the liquid level rises in the reservoir, check valve 81-01 opens. This directs static reservoir pressure into the sensing chamber of altitude level control (**4**). When the reservoir is filled and the main valve (**1**) closes, the liquid level has reached the high point and check valve 81-01 closes. As the reservoir level lowers, check valve 81-01 remains closed, trapping pressure in the sensing chamber of altitude level control (**4**). When the level lowers to the desired reopening point, differential control CVC opens and releases the trapped pressure from altitude level control (**4**) which shifts, permitting the main valve to reopen and fill the reservoir.

Differential control CVC adjustment: Turn the adjusting screw clockwise to increase the delay of opening.

1.6 ▸ CHECK LIST FOR PROPER OPERATION

- ☐ System valves open upstream and downstream.
- ☐ Air removed from the main valve cover and pilot system at all high points.
- ☐ Isolation ball valves (**2**) open.
- ☐ Periodic cleaning of strainer (**3**) is recommended.
- ☐ Needle valve (**5**) open at least 1 turn.
- ☐ Reservoir sensing line connected without high point(s) or high point(s) to be equipped with venting cock(s).