



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.



CLA-VAL 210-31

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

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).