



### STANDARD EQUIPMENT

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

### OPTIONAL FEATURES

No	Description	Qty	Type
H1	DRAIN TO MAIN VALVE OUTLET	1	CDC-1 & RB-117
T	DELAYED OPENING	1	CVC & 81-01

### NOTES

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

OPTIONAL FEATURES : \_\_\_\_\_  
NOT FURNISHED BY CLA-VAL : \_\_\_\_\_



### ▶ Operating data

#### 1.1 ▶ ALTITUDE VALVE FEATURE

Altitude 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 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 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

Needle valve 6120 (5) controls the reaction speed and particularly the closing speed of the main valve (1).

**Needle valve (5) adjustment:** Turn the adjusting screw of needle valve (5) clockwise to make the main valve (1) close slower.

**Note:** Do not close the needle valves (5) completely or the main valve (1) will not close or open. Recommended adjustment = 1 turn open.

#### 1.3 ▶ (E\*) EUROPEAN STANDARDS

ITEM (2) - Isolation ball valve:

The isolation ball valves RB-117 (2A) and (2D) are used to isolate the pilot system from main line pressure. These isolation ball 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.

#### 1.4 ▶ OPTIONAL FEATURES

Suffix (H1) - Pilot drain to outlet:

Check valve (H) and isolation ball valve (C) are used when pilot drain to atmosphere is not desired. When outlet pressure is higher than inlet pressure check valve (H) closes, maintaining main valve (1) in position of partial opening.

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 control (4). When the reservoir is filled and the main valve 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 control (4). When the level lowers to the desired reopening point, differential control CVC opens and releases the trapped pressure from altitude 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 210-01

## On/Off Altitude Level Control Valve

### 1.5 ▶ 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 valves **(2A)**, **(2D)** and [optional feature H1 **(C)**, if mounted] open.
- Periodical cleaning of the filter screen **(3)**.
- Flow control **(5)** minimum 1 turn open.
- Reservoir sensing line connected without high point(s) or high point(s) to be equipped with venting cock(s).