



### STANDARD EQUIPMENT

No	Description	Qty	Type
1	MAIN VALVE HYTROL AE/GE/NGE	1	100-01/KH
2	ISOLATION BALL VALVE	1	RB-117
3A	STRAINER	1	X43
3B	FLOW CLEAN STRAINER	1	X46A
4	NEEDLE VALVE	1	6120
5	4-WAY ON/OFF FLOAT LEVEL CONTROL	1	CF1-C1

### OPTIONAL FEATURES

No	Description	Qty	Type
F	REMOTE SENSING	1	-
M	MANUAL OPERATOR	2	RB-117
M1	MANUAL OPERATOR (DRAIN TO ATMOSPHERE)	2	RB-117

### NOTES

AE/GE : Rp 1/2" - DN 150 / NGE : DN 50 - DN 200  
 (#) = According to valve size this feature type could change

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



# CLA-VAL 100-CF1

## On/Off Float Level Control Valve

### ▶ Operating data

#### 1.1 ▶ FLOAT CONTROL FEATURE

Float level control CF1-C1 (5) must be installed in the storage tank, over the top of the maximum level of the reservoir. The float should be protected by a stilling well, preventing any water turbulence to disturb its proper operation.

Float level control (5) is a float actuated, multi-port plate type pilot valve, that supplies or relieves pressure in the cover chamber of the main valve (1) and therefore induces the closing or opening of main valve (1). The float ball floats on top of the water in the reservoir, sliding up or down along the float rod. Adjustable stops on the float rod determine the high and low water levels.

At maximum level, the float ball is pushing the upper stop and lets the float level control (5) tilt in the closing position, connecting its port "S"-1", respectively "2"-D". The inlet valve control pressure is flowing through "S"-1" into the cover chamber of the main valve (1), which is closing. Therefore, the main valve inlet pressure is forced through needle valve (4) into the main valve (1) control chamber, which is producing the drip tight closure of the main valve (1).

At minimum level, the float ball, which has slid down the float rod without changing the working position of the float level control (5), is touching the lower stop and lets tilt the float control pilot valve in the opening position, connecting its ports "S"-2", respectively "1"-D". The control chamber of the main valve (1) is connected to the atmosphere, allowing through needle valve (4) to the outlet of the float control pilot valve (5), producing its opening.

#### 1.2 ▶ CLOSING / OPENING SPEED CONTROL

Flow control 6120 (4) regulates the working speed of the main valve (1) (closing or opening speed).

**Needle valve (4) adjustment:** Turn the adjusting stem of needle valve (4) clockwise to make the main valve close / open more slowly.

**Note:** Do not close needle valve (4) completely otherwise the main valve (1) will not close or open (suggested initial setting of needle valve is 1 turn open).

#### 1.3 ▶ (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 isolation ball valves must be open during normal operation.

ITEM (3A) - 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.

Suffix (3B) - Internal strainer self-cleaning:

In some applications the self-cleaning strainer CLA-VAL, type X46A (3B) screwed at the inlet of main valve (1) reduces maintenance generated by the cleaning of the standard strainer screen (3A).

The cleaning of the strainer X46A (3B) is requesting its removal from the main valve body (1).

#### 1.4 ▶ OPTIONAL FEATURES

Suffix (F) - Independent operating pressure:

Pilot supply pressure is obtained from an independent source, which must be equal or bigger than pressure at the main valve inlet at all times.



# CLA-VAL 100-CF1

## On/Off Float Level Control Valve

Suffix **(M)** - manual operator or Suffix **(M1)** - manual operator (discharge to atmosphere):

Needle valve **(4)** closed, but the number of closing turn(s) must be registered.

The opening of isolation valve **(MF)** produces the closing of main valve **(1)**; the opening of isolation valve **(MO)** produces a partial **(M)** opening (depending of the rate of flow through the main valve) or a complete **(M1)** opening [regardless the rate of flow through the main valve **(1)**]. The closing of both isolation valves **(MF)/ (MO)** permits to maintain the main valve **(1)** in any partial lift.

In normal service, the needle valve **(4)** must be open at the same number of opening turn(s) as registered in the closing cycle. The two isolation valves **(MF)/ (MO)** must be closed.

### 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 ball valve **(2)** open.
- Isolation ball valves [optional feature **(MF)** and **(MO)**] closed (if provided).
- Periodic cleaning of the strainer screen **(3A)** is recommended.
- Periodical checking of the self-cleaning strainer **(3B)**.
- Needle valve **(4)** open to 1 turn.
- Remote control lines properly connected between the main valve **(1)** and the float level control **(5)**.
- Remote control line properly connected [optional feature **(F)**].