



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 WITH INCORPORATED ORIFICE	1	X44-A
4	PRESSURE RELIEF CONTROL	1	CRL / CRL-60
5	NEEDLE VALVE	1	6120

OPTIONAL FEATURES

No	Description	Qty	Type
C	ONE-WAY FLOW CONTROL (CLOSING SPEED)	1	CV
F	REMOTE SENSING	1	-
H	DRAIN TO ATMOSPHERE	1	-
S	ONE-WAY FLOW CONTROL (OPENING SPEED)	1	CV
M	MANUAL OPERATOR	2	RB-117
M1	MANUAL OPERATOR (DRAIN TO ATMOSPHERE)	2	RB-117

NOTES

AE/GE : DN 32 - DN 400 / NGE : DN 50 - DN 600
 The standard pressure relief control type : **CRL** can be replaced
 by a high precision sustaining valve type : **CRL-HS**

OPTIONAL FEATURES : _____
 NOT FURNISHED BY CLA-VAL : _____

▶ Operating data

1.1 ▶ PRESSURE RELIEF FEATURE

Pressure relief control CRL (4) is a "normally closed" control that responds to main valve (1) inlet pressure changes. An increase in inlet pressure tends to open pressure relief control (4) and a decrease in inlet pressure tends to close pressure relief control (4). This causes main valve cover pressure to vary and the main valve (1) to modulate (open and close) maintaining a relatively constant pressure at the main valve inlet. When inlet pressure is lower than chamber and the main valve closes.

Pressure relief control (4) adjustment: Turn the adjusting screw clockwise to increase the setting.

1.2 ▶ CLOSING / OPENING SPEED CONTROL

Calibrated orifice of strainer X44-A (3) and needle valve 6120 (5) control the closing speed of the main valve (1). Needle valve (5) controls the closing speed of the main valve (1).

Needle valve (5) adjustment: Turn the adjusting stem of needle valve (5) clockwise to make the main valve (1) 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).

If high speed opening and slow speed closing of main valve (1) are required by the hydraulic service's conditions, it may be necessary to replace the original orifice plug of strainer (3) by a smaller one.

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 (2) must be open during normal operation.

ITEM (3) - Y-Strainer with incorporated orifice:

The strainer X44-A (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 (C) - Closing speed:

Flow control CV (C) regulates the closing speed of main valve (1).

Flow control (C) adjustment: Turn the adjusting screw clockwise to make the valve close more slowly.

Suffix (F) - Remote sensing:

Remote sensing is obtained from a point upstream of the main valve (1) inlet, by a pipe size Ø 12 mm (not furnished by CLA-VAL Europe), which must not have any high points and so formation of air pockets and avoid any pulsation of control.

Suffix (H) - Drain to atmosphere:

The outlet of isolation ball valve (2C) is not connected to outlet of main valve (1), but directly to atmosphere.

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

Needle valve (5) 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 (5) 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.

Suffix (S) - Opening speed:

Flow control CV (S) regulates the opening speed of main valve (1).

Flow control (S) adjustment: Turn the adjusting screw clockwise to make the valve open more slowly.

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 valves (2) open.
- Periodic cleaning of strainer (3) is recommended.
- Needle valve (5) or [optional feature (C) or (S)] open 1 turn.
- Remote control line properly connected [optional feature (F)].
- Atmospheric drain line properly connected [optional feature (H)].
- Isolation ball valves [optional feature (MF) and (MO)] closed (if provided).