



— MODEL — **40-28**

Rate of Flow Control and Fuel Shut-off Valve



- Positive Flow Limitation
- "Fail Safe" Construction
- Closes Tight on Signal From Float Control
- Adjustable Maximum Flow Rate Setting
- No Packing Glands Assure Leak-Proof Service
- Position Indicator is Standard Equipment

The Cla-Val Model 40-28 Rate of Flow Control and Fuel Shut-off Valve limits the flow to a pre-set maximum and also closes quickly in response to a signal from the Float Control of a Fuel-Water Filter/Separator. It is a hydraulically-operated, pilot controlled, diaphragm-type, globe valve. Should the diaphragm become damaged the valve will close tight, providing "fail safe" operation.

The rate of flow control pilot is actuated by differential pressure produced across a calibrated stainless steel orifice plate installed at the valve inlet. The flow rate setting is adjustable from 90 percent to 112 percent of rated capacity of the Filter/Separator. This Valve has an accuracy of plus or minus 5 percent of the adjusted rate setting. An auxiliary 3-way diaphragm control pilot provides immediate response to operating pressure signal from the Float Control.

Typical Application

The Cla-Val 40-28 is installed on the outlet of a Fuel-Water Filter Separator where the flow rate is limited to a pre-selected maximum for optimum water removal and filtration. This valve works in conjunction with a float operated pilot control which responds to changes in level of the interface of water and fuel in the Filter/Separator sump. The Float Control automatically activates the 40-28 valve and if equipped, the Water Drain Valve (Cla-Val 100AF). If water level rises in the sump higher than the Water Drain Valve open position, the float signals the 40-28 to rapidly close. This prevents water carry over from Filter/Separator sump into the outlet line.

Float Controls

Several types of Cla-Val Float Controls may be used, however, the Filter/Separator configuration will dictate the most efficient one to use.

FLANGED FLOAT CONTROLS

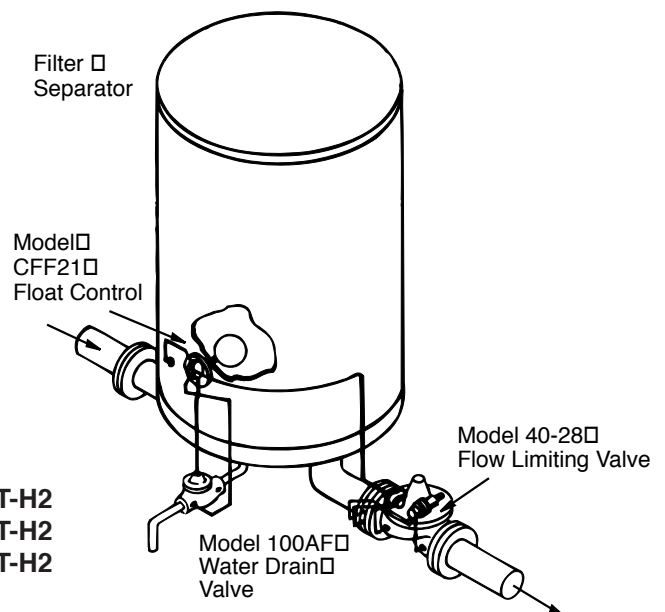
CFF 18T-H2
CFF 19T-H2
CFF 21T-H2

FLOAT CHAMBER CONTROLS

CFC2-H2

COMBINATION WATER DRAIN AND FLOAT CONTROL

1626 AF



Specifications

Sizes

2", 2 1/2", 3", 4", 6", 8", 10", 12" Globe Pattern

End Details

Flanged:
Stainless Steel, 150 ANSI B16.5
Cast Aluminum, 150 ANSI B16.1
Cast Steel, 150 and 300 ANSI B16.5
Ductile Iron, 150 and 300 ANSI B16.42

Pressure Ratings

150 Class-275 PSI Max.
300 Class-400 PSI Max.

Temperature Range

-40° to + 180°F

Military

MIL-F-8901

Fluids

Aviation Fuels:
Military: MIL-T-5624L, MIL-T-83133A,
MIL-G-5572
Commercial: JET A, JET A,-1
Other Light Petroleum Products

Materials

Main valve body & cover:
Cast Aluminum 356-T6
Cast Bronze ASTM B62
Ductile Iron ASTM A-536
Cast Stainless Steel 303
Cast Steel ASTM A216-WCB
Main valve trim:
Stainless Steel 303
Bronze ASTM B61

Pilot controls:

Aluminum 356-T6
Bronze ASTM B62
Stainless Steel 303
Rubber Parts:
Buna N Synthetic Rubber
Viton

Orifice Plate:

Stainless Steel 303
Copper

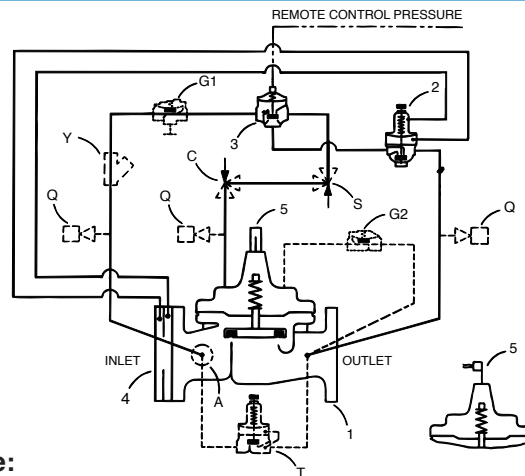
Other Materials Available
on special order

Schematic Diagram

Item	Description
1	100-34 Hytrol Main Valve
2	CDHS2B Differential Control
3	102B-1 Three-Way Control
4	X52B Orifice Plate Assembly
5	X101 Valve Position Indicator

Optional Features

Item	Description
A	X46A Flow Clean Strainer
B	CK2 Isolation Valve
C	CV Flow Control (Closing)
G	Check Feature (81-01)
Q	Quick Connect Assembly
S	CV Flow Control (Opening)
T	55F Thermal Relief Control
Y	X43 "Y" Strainer



Note:

Orifice plate sensing connections should be located on the side of the Orifice Plate Assembly. A butterfly valve must not be mounted directly to the Orifice Plate Assembly.

Specify When Ordering

- 1 Size
- 2 Pressure Class
- 3 Main Valve Material
- 4 Pilot Control Material
- 5 Tubing and Fitting Material
- 6 Filter/Separator Rated Flow
- 7 Specific Gravity of Fuel

Purchase Specifications

The valve shall automatically limit the rate of flow to a pre-determined maximum regardless of fluctuations in upstream pressure and it shall close tight when actuating pressure is applied. The valve shall be a hydraulically-operated, pilot controlled, diaphragm-type globe pattern valve. The main valve shall have a single renewable seat and a resilient disc with a rectangular cross section being contained on three and one-half sides by a disc retainer and disc guide. The valve stem shall be guided at both ends by a bearing in the valve cover and an integral bearing in the valve seat. No external packing glands are permitted. The diaphragm assembly shall be the only moving part and shall form a sealed chamber in the upper portion of the valve, separating operating pressure from line pressure. The diaphragm shall consist of nylon fabric bonded with synthetic rubber and shall not be used as a seating surface. Packing glands

and/or stuffing boxes are not permitted and there shall be no pistons operating the valve or pilot controls. All necessary repairs shall be possible without removing the valve from the line. The valve shall be equipped with a position indicator. The pilot control shall be a direct-acting diaphragm valve designed to close when the actuating pressure differential increases beyond the spring setting. The actuating differential pressure shall be produced by a thin-edge orifice plate installed in an orifice flange located at valve inlet. Pilot control system shall also contain a diaphragm actuated three-way auxiliary valve which, when closed, automatically closes the main valve.

This valve shall be a Model 40-28 Combination Rate of Flow Control and Fuel Shutoff Valve as manufactured by Cla-Val Newport Beach, California.



E-40-28 (R-8/05)

CLA-VAL

PO Box 1325 Newport Beach CA 92659-0325
Phone: 949-722-4800 • Fax: 949-548-5441

CLA-VAL CANADA

4687 Christie Drive
Beamsville, Ontario
Canada LOR 1B4
Phone: 905-563-4963
Fax: 905-563-4040

CLA-VAL EUROPE

Chemin des Mesanges 1
CH-1032 Romanel/
Lausanne, Switzerland
Phone: 41-21-643-15-55
Fax: 41-21-643-15-50

©COPYRIGHT CLA-VAL 2005 Printed in USA
Specifications subject to change without notice.

www.cla-val.com

Represented By: