Automatic Control Valve
Written Specification (Purchase Specs)

FLOMATIC®
Flomatic Corporation

Model C1001/CA1001
CS1001 (Global EU Model)
Hydraulic Check Valve
FULL PORTED

Sizes:
Globe: 1 1/2" - 30" (DN 40 - DN750)
Angle: 1 1/2" - 12" (DN40 - DN300)

Function:

The Hydraulic Check Valve shall open to permit flow when the upstream (inlet) pressure is greater than the downstream (outlet) pressure. The valve shall close to prevent reverse flow when the downstream (outlet) pressure is greater than the upstream (inlet) pressure.

Main Valve Body:

The main valve shall be self contained hydraulically operated, single diaphragm-actuated globe or angled body valve with no pistons operating the valve or pilot controls. The valve shall have three major components: the body with seat installed, the cover with bushing installed, and the diaphragm assembly. The diaphragm assembly shall be the only moving part. It shall form a sealed chamber above the diaphragm to separate operating pressure from line pressure. Packing glands and stuffing boxes are not permitted. The valve is designed for use with various types of pressure and/or electric controls to provide the desired control of pressure or flow for a variety of water system applications.

Description:

No separate chambers shall be allowed between the valve cover and body. The valve body and cover shall be of cast material (Ductile Iron) with no fabrication or welding used in the manufacturing process.

The valve shall contain a resilient, synthetic rubber seat seal, with a rectangular cross-section contained on three and one half sides by the spool and seat plate, and form a tight seal against a single removable seat ring. No O-ring type seal (circular, square or quad type) shall be permitted as the seating surface. The seat plate shall be contoured to permit the smooth transition of flow and hold the seat seal firmly in place.

The spool shall be of a sturdy one piece design (sizes 1 1/2" thru 4") capable of withstanding opening and closing shocks. It must have straight sides and radius top to prevent excessive wear to the diaphragm were it flexes across this surface. The spool shall be of a sturdy one piece design (sizes 6" thru 24") capable of withstanding opening and closing shocks and having straight sides.

The diaphragm assembly contains a non-magnetic 304 stainless steel stem of sufficient diameter to withstand the high hydraulic pressure. It shall be fully guided at both ends and for the entire range of travel, in the cover by a removable bushing and in the valve by an integral bearing in the valve seat ring. No center guides shall be permitted. The stem shall be drilled and tapped in the

cover end to receive and affix such accessories as may be necessary. The diaphragm assembly shall be the only moving part and shall form a sealed power chamber in the upper portion of the valve, separating operating pressure from line pressure. The non-wicking, flexible, FDA approved diaphragm shall consist of nylon fabric bonded with synthetic rubber compatible with the operating fluid. The diaphragm must withstand a Mullins Burst Test of a minimum 600 psi per layer of nylon fabric. It shall be tested 100,000 times to insure longevity. The diaphragm shall be fully supported in the valve body and cover by machined surfaces with radius edges to prevent excessive wear as the diaphragm flexes. The support must be no less than one-half of the total surface area of the diaphragm in either the fully open or fully closed position.

The seat ring with integral bearing shall be a one-piece solid design and shall have a minimum of a 4° taper on the seating surface for a positive drip-tight shut off. The seat ring in 4" and smaller size valves shall be threaded into the body. The valve seat ring in 6" and larger sizes shall be retained by hex head bolts for ease of maintenance. The lower bearing of the valve stem shall be contained concentrically within the seat ring and be exposed to the flow on all sides to avoid deposits. Locating the valve body and cover shall be by a machined locating lip to insure proper alignment of the valve stem. Pinning of the cover to the valve body shall not be permitted.

All necessary repairs and/or modifications other than replacement of the main valve body shall be made possible without removing the valve from the pipeline. The valve manufacturer shall warrant the valve to be free of defects in material and workmanship for a one year period from date of shipment, provided the valve is installed and used in accordance with all applicable instructions.

The valve manufacturer shall be able to supply a complete line of equipment from 1-1/2" through 30" sizes and a complete selection of complementary equipment. The valve manufacturer shall also provide a cavitation chart which shows flow rate, differential pressure, percentage of valve opening, Cv factor, system velocity and if there will be cavitation damage.

Material Specification

Valve size:
Main Valve Body and Cover:
Main Valve Trim:
Connection:
Pressure Rating:
Temperature Range:
Rubber Material:
Coating:
Desired Options:

Flomatic Corporation
Glens Falls, NY 12801
Phone (518) 761-9797
Fax (518) 761-9798

Pilot Control System:

The pilot control system shall permit independent adjustment of the opening and closing speeds of the main valve.

Material Specification for Pilot Control:
Pressure Rating:
Trim:
Rubber Material:
Tubing and Fittings:
Adjustment Range:
Operating Fluids:
Desired Options:

This valve shall be a Flomatic Model C1001/CA1001/CS1001 Control Valve, as manufactured by Flomatic Corporation, Glens Falls, NY 12801.