

▲ Model 94-1

Primarily used on the discharge of pumps, the Model 94-1 can be used anywhere reverse flow must be prevented and where it is important to control surges when pumps are started.

SERIES FEATURES

- ▶ Valve closes quickly on pressure reversal
- ▶ Adjustable opening speed
- ▶ Valve position indicator standard
- ▶ Can be maintained without removal from the line
- ▶ Factory tested

OPERATION

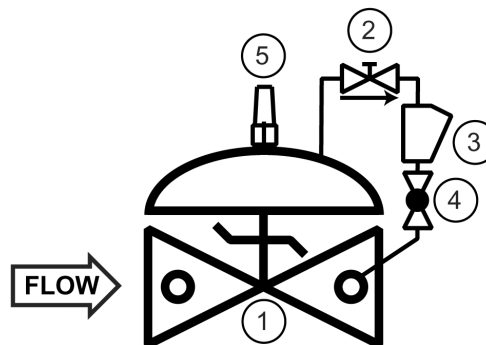
The Model 94-1 is an on/off valve that opens to allow flow when inlet pressure is greater than outlet pressure and closes when outlet is greater than inlet. The opening speed is adjustable via a flow control valve, slowly transitioning flow into the line to reduce pump start surges. Closing speed remains quick to minimize reverse flow. The valve is equipped with a position indicator that allows you to observe the rate of opening during adjustment. Opening and closing is accomplished by routing fluid into and out of the diaphragm chamber.

COMPONENTS

The Model 94-1 consists of the following components, arranged as shown on the schematic diagram:

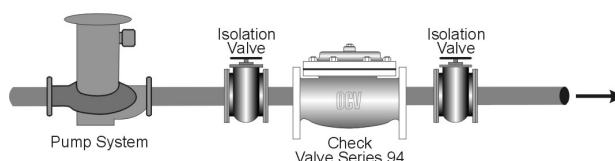
- 1.) Model 65 Basic Control Valve
- 2.) Model 141-3 Flow Control Valve
- Opening speed control
- 3.) Model 159 Y-strainer
- 4.) Model 141-4 Isolation Ball Valve
- 5.) Model 155 Visual Indicator

SCHEMATIC

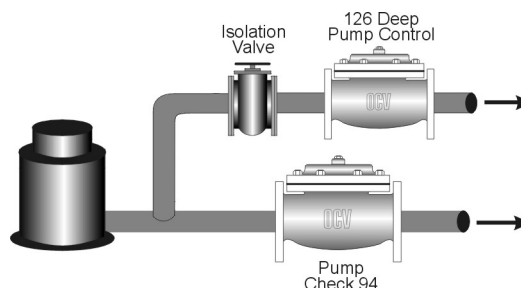


RECOMMENDED INSTALLATION

Equipped with controlled opening speed pump discharge pressure is gradually introduced to the system. Pump is protected from reverse flow.



Used in conjunction with the Model 126, the Series 94 provides start up and shutdown surge protection for deep well pumps.



MAX. PRESSURE

The pressures listed below are maximum pressures at 100°F.

END CONNECTIONS	DUCTILE IRON	STEEL/STN STL	LOW-LEAD BRONZE
Threaded	640 psi	640 psi	500 psi
Grooved	300 psi	300 psi	300 psi
150# Flanged	250 psi	285 psi	225 psi
300# Flanged	640 psi	740 psi	500 psi

SIZING

Check valves are normally line size. However for best surge protection the flow velocity should not exceed 15 ft/sec. Definitive sizing information can be found in the OCV Catalog, Series 94 section and Engineering section Performance Charts. Consult the factory for assistance and a copy of the OCV ValveMaster Sizing program.

SIZE	1 1/4"-1 1/2"	2"	2 1/2"	3"	4"	6"	8"	10"	12"	14"	16"	24"
FLOW @ 15FT/SEC GPM	70 - 95	150	225	345	600	1350	2350	3675	5250	6300	8250	18750

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REVISED 05/03/17

Model 94-1 Check Valve with Opening Speed Control

Model 94-1



SIZES

GLOBE/ANGLE

Screwed Ends - 1 1/4" - 3"

Grooved Ends - 1 1/2" - 6" (globe)
1-1/2" - 4" (angle)

Flanged Ends - 1 1/4" - 24" (globe);
1 1/4" - 16" (angle)

FLUID OPERATING TEMPERATURE RANGE

(Valve Elastomers)

EPDM 32°F to 230°F*

MATERIALS

Consult factory for others.

Body/Bonnet: Ductile Iron (epoxy coated), Carbon Steel (epoxy coated), Stainless Steel, low-lead Bronze, Others available (consult factory)

Seat Ring: low-lead Bronze, Stainless Steel

Stem: Stainless Steel, Monel

Spring: Stainless Steel

Diaphragm: EPDM*

Seat Disc: EPDM*

Speed Control: Brass, Stainless Steel

Pilot: low-lead Bronze, Stainless Steel

Other pilot system components:

Bronze/Brass, All Stainless Steel

Tubing & Fittings: Copper/Brass, Stainless Steel

*Others available upon request.

**Valves 1-1/4" through 24" are certified to NSF/ANSI 372. Valves 4" through 24" are also certified to NSF/ANSI 61-G.

SPECIFICATIONS (Typical Water Application)

The check valve will be installed on the discharge of the booster pump. It will open when upstream pressure exceeds downstream pressure, and close tightly when downstream pressure exceeds upstream pressure to prevent back flow. The opening speed of the valve shall be adjustable. The valve shall include a visual indicator assembly.

DESIGN

The check valve shall be a single-seated, line pressure operated, diaphragm actuated, pilot controlled globe valve. The valve shall seal by means of a corrosion-resistant seat and a resilient, rectangular seat disc. These, and other parts, shall be replaceable without removing the valve from the line. The stem of the main valve shall be guided top and bottom by integral bushings. Alignment of the body, bonnet and diaphragm assembly shall be by precision dowel pins. The diaphragm shall not be used as a seating surface, nor shall the pistons be used as an operating means. The pilot system shall be furnished complete and installed on the main valve. It shall include an opening speed control, a Y-strainer and isolation ball valves. The check valve shall be operationally and hydrostatically tested prior to shipment.

MATERIALS OF CONSTRUCTION

The main valve body and bonnet shall be ductile iron per ASTM A536, Grade 65-45-12. All ferrous surfaces shall be coated with 4 mils of epoxy. The main valve seat ring shall be low-lead bronze. Elastomers (diaphragms, resilient seats and O-rings) shall be EPDM. The opening speed control and isolation ball valves shall be brass, and control line tubing shall be copper.

OPERATING CONDITIONS

The check valve shall be suitable for a maximum inlet pressure of <X> psi and a maximum forward flow rate of <X> gpm.

ACCEPTABLE PRODUCTS

The check valve shall be a <size> Model 94-1, <globe pattern, angle pattern>, with <150# flanged, 300# flanged, threaded, grooved> end connections, as manufactured by OCV Control Valves, Tulsa, Oklahoma, USA.

U.S. DIMENSIONS - INCHES

DIM	END CONN.	1 1/4-1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	24
A	SCREWED	8 3/4	9 7/8	10 1/2	13	--	--	--	--	--	--	--	--
	GROOVED	8 3/4	9 7/8	10 1/2	13	15 1/4	20	--	--	--	--	--	--
	150# FLGD	8 1/2	9 3/8	10 1/2	12	15	17 3/4	25 3/8	29 3/4	34	39	40 3/8	62
	300# FLGD	8 3/4	9 7/8	11 1/8	12 3/4	15 5/8	18 5/8	26 3/8	31 1/8	35 1/2	40 1/2	42	63 3/4
C ANGLE	SCREWED	4 3/8	4 3/4	6	6 1/2	--	--	--	--	--	--	--	--
	GROOVED	4 3/8*	4 3/4	6	6 1/2	7 5/8	--	--	--	--	--	--	--
	150# FLGD	4 1/4	4 3/4	6	6	7 1/2	10	12 11/16	14 7/8	17	--	20 13/16	--
	300# FLGD	4 3/8	5	6 3/8	6 3/8	7 13/16	10 1/2	13 3/16	15 9/16	17 3/4	--	21 5/8	--
D ANGLE	SCREWED	3 1/8	3 7/8	4	4 1/2	--	--	--	--	--	--	--	--
	GROOVED	3 1/8*	3 7/8	4	4 1/2	5 5/8	--	--	--	--	--	--	--
	150# FLGD	3	3 7/8	4	4	5 1/2	6	8	11 3/8	11	--	15 11/16	--
	300# FLGD	3 1/8	4 1/8	4 3/8	4 3/8	5 13/16	6 1/2	8 1/2	12 1/16	11 3/4	--	16 1/2	--
E	ALL	6	6	7	6 1/2	8	10	11 7/8	15 3/8	17	18	19	27
F	ALL	3 7/8	3 7/8	3 7/8	3 7/8	3 7/8	3 7/8	6 3/8	6 3/8	6 3/8	6 3/8	6 3/8	8
H	ALL	10	11	11	11	12	13	14	17	18	20	20	28 1/2

*GROOVED END NOT AVAILABLE IN 1 1/4"

For maximum efficiency, the OCV control valve should be mounted in a piping system so that the valve bonnet (cover) is in the top position. Other positions are acceptable but may not allow the valve to function to its fullest and safest potential. In particular, please consult the factory before installing 8" and larger valves, or any valves with a limit switch, in positions other than described. Space should be taken into consideration when mounting valves and their pilot systems.

A routine inspection & maintenance program should be established and conducted yearly by a qualified technician. Consult our factory @ 1-888-628-8258 for parts and service.

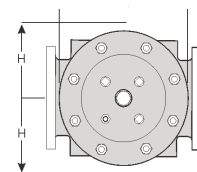
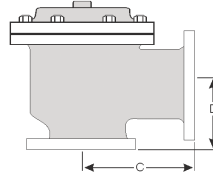
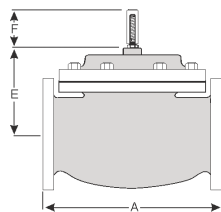
How to order your Model 94-1 valve

When Ordering please provide:

Fluid to be controlled - Model Number - Size,

Globe or Angle - End Connection - Body Material

Trim Material - Special Requirements / Installation Requirements



Represented by:

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