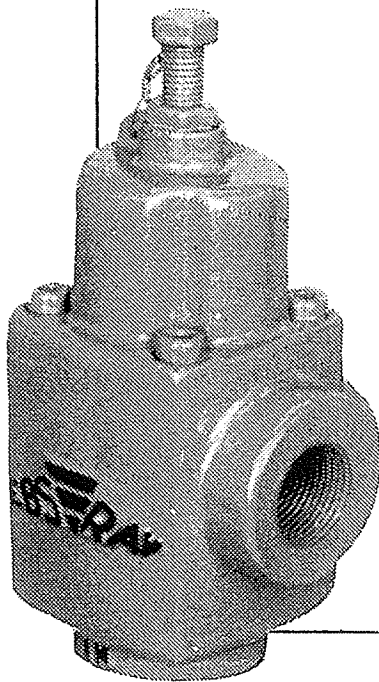


EBSRAY PUMPS

Installation, Operation and Maintenance Instructions



Bypass Valves

Models - RV16 & RV17



SECTION I - GENERAL

I-A CAUTION

INSTALLATION AND SERVICING OF THESE VALVES SHOULD BE CARRIED OUT BY QUALIFIED, COMPETENT PERSONNEL IN ACCORDANCE WITH RELEVANT STATUTORY REGULATIONS OR CODES, IN CONJUNCTION WITH THESE INSTRUCTIONS.

I-B WARNING

The valve must be operated within the original selected design parameters of pressure, temperature, flow and viscosity. Should any change be contemplated please confer with EBSRAY in order to verify the suitability of such a change.

SECTION II - INSTALLATION

Remove pipe scale and other foreign material from the connecting pipelines. Apply a suitable pipe thread sealant to the male threads before fitting.

The bypass valve can be installed in any position as long as the flow is in the direction into the port marked "IN".

SECTION III - OPERATION

The EBSRAY RV16 and RV17 BYPASS VALVES are spring loaded, self-operated and adjustable within a pressure range determined by the spring used. EBSRAY can supply a variety of springs to suit varying differential pressures. They are designed for liquid service and to provide pump protection from total discharge closure.

The valves are installed in the pump discharge and return either to the pump suction or to the supply tank of the pump.

Upon commissioning, the bypass valves should be set in accordance with the predetermined pump differential pressure required.

SECTION IV - MAINTENANCE

PRIOR TO ANY DISASSEMBLY OR SERVICE, VERIFY THAT ALL REQUIREMENTS OF STATUTORY REGULATIONS OR CODES ARE MET AND THAT SPECIFIC SITE REQUIREMENTS ETC. ARE satisfied.

Apart from housing replacement, other maintenance tasks and inspections can be carried out with the valve 'in line', so long as complete isolation, depressurising and purging have been completed.

IV-A SPARE PARTS

1. When ordering spare parts, to ensure correct replacement to original specification, always quote valve Serial Number, which is located on the

nameplate of the valve.

2. Advise the name, item number and quantity required. Refer to Drg No AV16-3.
3. Advise complete delivery instructions, transportation, etc.

IV-B PREPARATION FOR DISASSEMBLY

1. Obtain the appropriate Work Permit if required.
2. Isolate valve from liquids in suction and discharge lines, depressurise and purge out any toxic, flammable, corrosive or air hardening liquids.

3. Ensure the associated pump motor power supply has been isolated, before proceeding with the valve disassembly.

IV-C DISASSEMBLY

1. Unlock adjusting screw locknut.
2. Release spring pressure by rotating adjusting screw anti-clockwise.
3. Unscrew four set screws, holding down valve cover onto housing.
4. Remove the valve cover and 'O' ring, together with the spring cap and it's 'O' ring.
5. Remove spring cap and 'O' ring from valve cover.
6. Remove valve spring and valve from housing.

IV-D INSPECTION

1. Inspect housing and valve seat for damage or wear. Replace If required.
2. Check valve for damage or deposits. Clean thoroughly or replace valve as required. Lap cleaned/replaced valve into valve seat.
3. Inspect valve spring. Replace if broken or damaged.
4. It is advised that 'O' rings be replaced at every overhaul.
5. Check valve cover, spring cap, adjusting screw and locknut for damage. Replace as required.

IV-E REASSEMBLY (Refer Drg No. AV16-3)

NOTE: Lightly smear all 'O' rings with a compatible good quality lubricant before assembly.

1. Fit valve (3) into housing (1),ensuring freedom of movement.

2. Fit spring (5) on to top of valve (3).
3. Fit 'O' ring (7) to valve cover (2).
4. Fit 'O' ring (6) to spring cap (4) and insert into valve cover with spring location boss facing out.
5. Fasten valve cover (2) to housing (1) by means of four set screws (9).

IV-F SETTING

NOTE: Final setting is carried out after the valve is installed or reassembled 'in line'.

1. For increased bypass pressure, rotate adjusting screw (8) in clockwise direction (i.e.screw in). DO NOT exceed system design pressure.
2. For decreased bypass pressure, rotate adjusting screw (8) anti-clockwise (i.e. screw out).
3. Lock adjusting screw lock nut (10) against valve cover immediately after any adjustment is made.
4. After setting is completed wire and seal adjusting screw, utilising holes provided for passing wire through head of adjusting screw and lug on valve cover.

NOTE: Bypass valves characteristically exhibit two distinct pressures during their operation :

a) The setting or cracking pressure which occurs when product initially begins to be bypassed against the preset spring load.

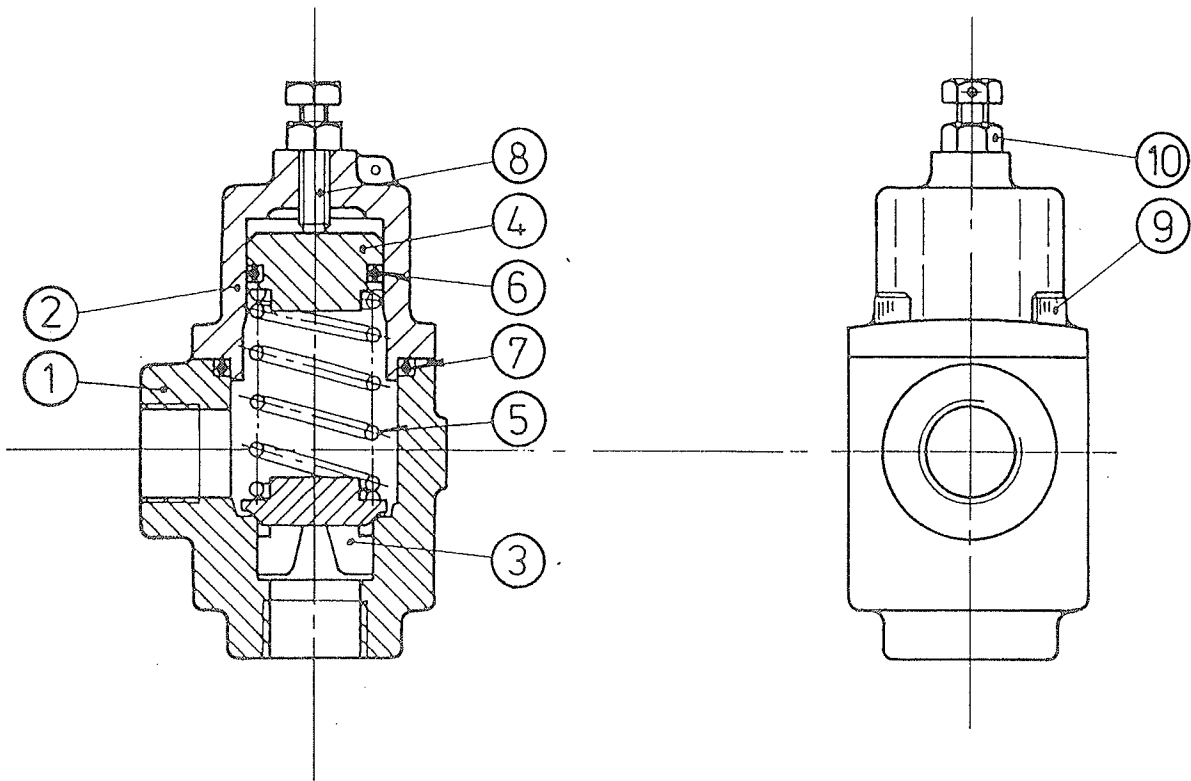
b) Maximum pressure, which occurs when the full flow of the bypassed product passes through the bypass valve.

It is important to ensure both these above characteristics are understood fully in order to apply correctly the Bypass Valve in a given system.

SECTION V - PARTS DESIGNATION

EBSRAY Models: RV16 and RV17 Bypass Valves Refer Drg No.: AV16-3

CAT#.	DESCRIPTION	QUANTITY	CAT#.	DESCRIPTION	QUANTITY
1	Housing	1	6	Spring Cap 'O' Ring	1
2	Valve Cover	1	7	Valve Cover 'O' Ring	1
3	Valve	1	8	Adjusting Screw	1
4	Spring Cap	1	9	Set Screw	4
5	Spring	1	10	Lock Nut	1



Drawing No AV16-3



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