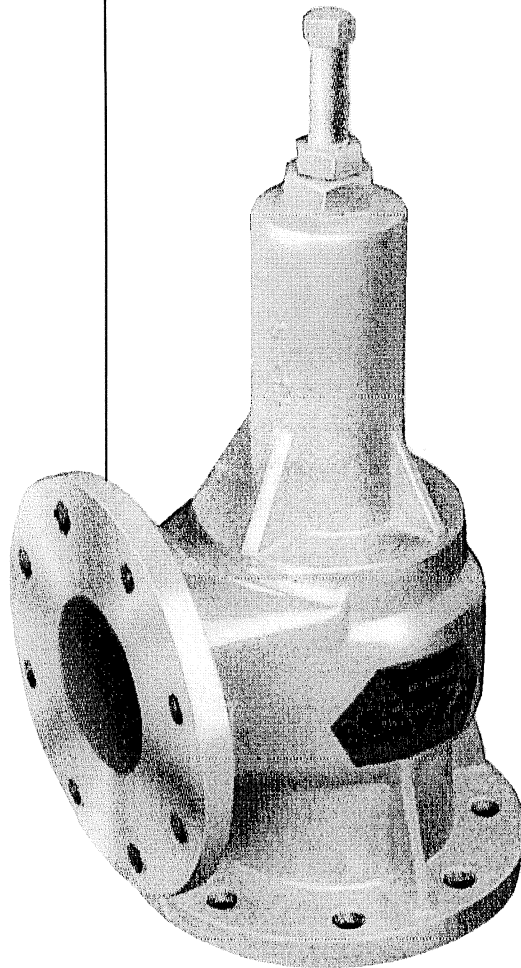


# EBSRAY PUMPS

## INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS



## ***BYPASS VALVES RV SERIES MODELS RV13 & RV14***

Quality System  
Quality Endorsed Company  
ISO 9001  
Lic 3332  
Standards Australia  
HEAD OFFICE & WORKS

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## **SECTION 1 - GENERAL**

### **1.1 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.

### **WARNING**

The valves 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 2 - INSTALLATION**

Remove scale and other foreign material from the connecting flanges. Use suitable gaskets and a sealing compound if required. The bypass valve can be installed in any position as long as the flow is in the direction into the port marked "IN".

**DO NOT PULL PIPING INTO POSITION BY USE OF FORCE FROM THE FLANGE BOLTS.**

## **SECTION 3 - OPERATION**

The EBSRAY RV13 and RV14 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.

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

## **SECTION 4 - 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 body 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.

### **4.1 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 CMP 006
3. Advise complete delivery instructions, transportation, etc.

#### 4.2 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.

#### 4.3 DISASSEMBLY

1. Unscrew adjusting screw locknut and remove adjusting screw to relieve spring tension.
2. Unscrew valve cap and withdraw internal components.
3. Remove bypass valve housing from installation if required.

#### 4.4 INSPECTION

1. Inspect all components for damage or excessive wear. Repair or replace components as required.

#### 4.5 REASSEMBLY - PRELIMINARY

1. Lap valve into valve seat (this operation can be carried out using a suitable tool screwed into the threaded hole in the valve ( 1/2" BSW ) Ensure no lapping compound remains as this may damage pump. Ensure bleed holes in valve are clear.
2. EBSRAY recommend replacement of gaskets and "O" ring during every overhaul.

#### 4.6 REASSEMBLY

1. Fit valve in housing, ensuring freedom of movement.
2. Screw locknut onto adjusting screw, fit "O" ring to adjusting screw and screw latter partially into cap.
3. Fit spring on top of valve.
4. Fit washer on top of spring.
5. Fit gasket to cap and screw cap into housing, taking care not to dislodge spring or washer. Tighten firmly.

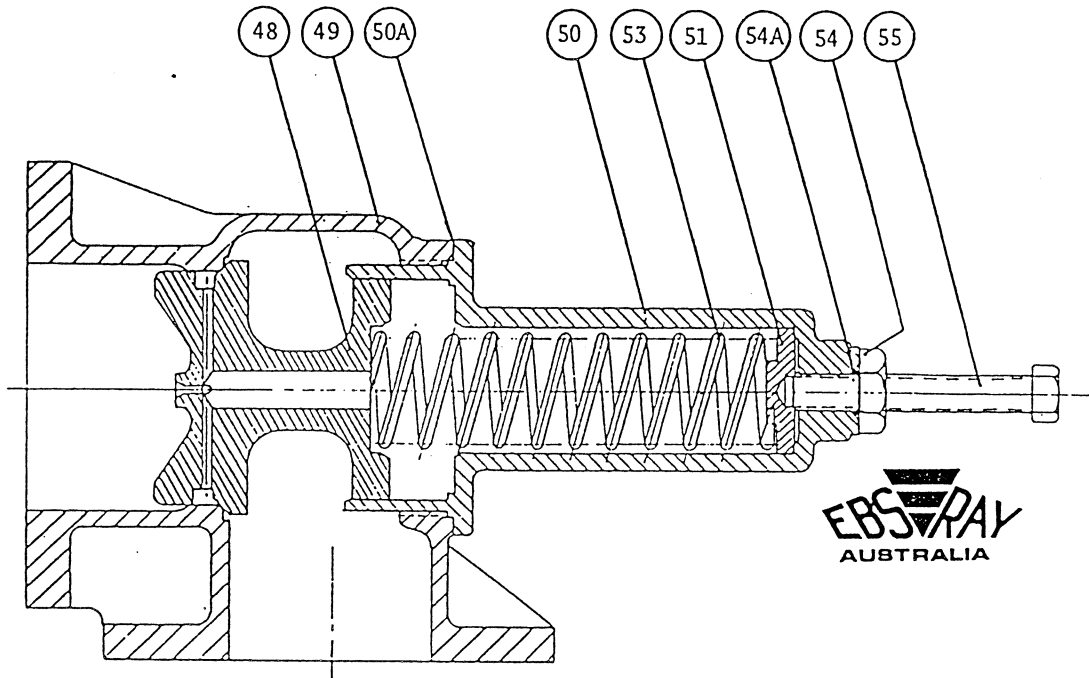
#### 4.7 BYPASS VALVE ADJUSTMENT

1. For increased bypass pressure, rotate adjusting screw clockwise (i.e.screw in).
2. For decreased bypass pressure, rotate adjusting screw anticlockwise (i.e. screw out).
3. Firmly lock adjusting screw locknut against cap immediately after any adjustment is made.

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.



Parts Designation  
 RV13 & RV14 Bypass Valves  
 Drawing N° CMP006

**SECTION 5 - PARTS DESIGNATION**

**EBSRAY Models: RV13 and RV14 Bypass Valves**

**Refer Drg No.: CMP 006**

ITEM No.	DESCRIPTION	QUANTITY
48	Valve	1
49	Housing	1
50	Housing cap	1
50A	Gasket - Housing	1
51	Spring retaining washer	1
53	Spring	1
54	Lock Nut	1
54A	'O' Ring - Locknut	1
55	Adjusting Screw	1