



DB-3/4"

Differential By-Pass Valve

3/4" x 3/4" NPT Male Connections

Operational Limits

| | |
|------------------|------------------|
| Max. Temperature | 230°F (110°C) |
| Max. Pressure | 150psig (10 Bar) |

INSTALLER: PLEASE LEAVE THIS MANUAL FOR THE OWNER'S USE.

NOTE: This product is not intended for use in potable water applications.



SAFETY INSTRUCTIONS

This safety alert symbol will be used in this manual to draw attention to safety related instructions. When used, the safety alert symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN A SAFETY HAZARD.

DESCRIPTION

The Bell & Gossett DB differential by-pass valve is used in systems where various heating loads may be simultaneously excluded from the circuit because of the closing of control or zone valves.

It ensures a recirculation proportional to the number of valves which close, avoiding noises and maintaining the head of the pump at a constant value.

TECHNICAL SPECIFICATIONS

| | |
|------------------------------|--------------------------------------|
| Connections: | 3/4" x 3/4" NPT Male |
| Materials: – Body | Brass |
| – Seals | EPDM |
| – Spring | Stainless Steel |
| – Knob | ABS |
| Medium: | Water and glycol solutions up to 50% |
| Maximum Working Pressure: | 150 PSI (10 Bar) |
| Maximum Working Temperature: | 230°F (110°C) |
| Maximum Flow Rate: | 9 GPM |
| Adjustment Range: | 2 to 10 PSI (0.15 to 0.7 Bar) |

INSTALLATION INSTRUCTIONS



CAUTION: All work must be performed by qualified personnel trained in the proper application, installation, and maintenance of systems in accordance with all applicable codes and ordinances.



WARNING: System fluids are under pressure or temperature can be hazardous. Be sure the pressure has been reduced to zero and the system temperature is below 100°F (38°C). Failure to follow these instructions could result in property damage and/or personal injury.



WARNING: State of California Residents
This product contains a chemical known by the State of California to cause cancer. This products contains a chemical known by the State of California to cause birth defects or other reproductive harm.

INSTALLATION INSTRUCTIONS (cont'd)

CAUTION: Overtightening and breakage can occur with the use of PTFE pipe joint compounds. PTFE provides lubricity so that care must be exercised not to over tighten joints. Failure to follow these instructions could result in property damage and/or moderate personal injury.

The by-pass valve should be installed after the pump between the supply and return piping. It can be installed either in the horizontal or vertical position provided it is in accordance with the direction of flow as indicated by the arrow on the valve body (see Figure 1). With all valves open, set the bypass valve to maximum pressure (clockwise). Gradually open the bypass valve (counterclockwise) until flow begins in the bypass valve. Increase the pressure setting by 1/2 to 1 psi or turn knob clockwise 1/2 revolution so the water stops flowing through the bypass valve.

OPERATING INSTRUCTIONS

CAUTION: If the by-pass valve is not installed, commissioned and maintained properly, according to the instructions contained in this manual, it may not operate correctly and may endanger the user.

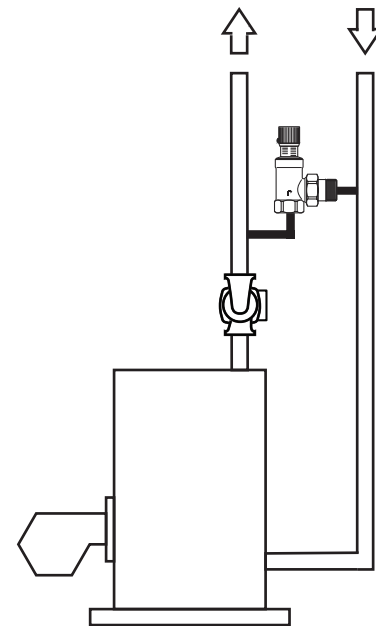
CAUTION: Make sure that all the connecting pipework is water tight.

Turn the knob to the desired value of the graduated scale; the values correspond to the discharge pressure of the pump. Lock the setscrew located on the knob.

SERVICE INSTRUCTIONS

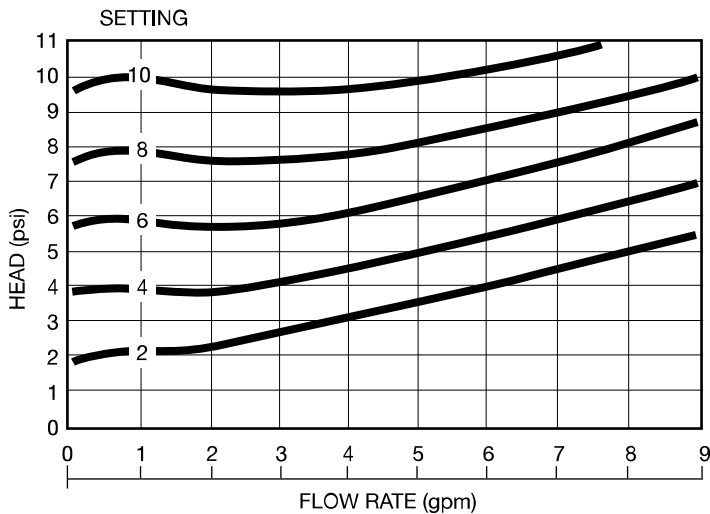
There is no service required for the differential by-pass valve.

CAUTION: Corrosion or leakage of the differential by-pass valve can cause damage or injury. Periodically inspect the differential by-pass valve for signs of leakage or corrosion. If noted, the differential by-pass valve must be replaced. Failure to follow these instructions could result in property damage and/or moderate personal injury.



TYPICAL INSTALLATION
FIGURE 1

FLOW CURVES



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