

# Readout Kit

\*WARNING: LABEL PART NO. V56871 INSTALLED IN THIS LOCATION. IF MISSING, IT MUST BE REPLACED.

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

## DESCRIPTION

B&G Readout Kits are designed for use with B&G Circuit Setter Balance Valves. Circuit Sensor Flow Meters and Triple Duty Valves. They may also be used to check differential pressures across other system components including B&G pumps, Suction Diffusers, strainers, coils, etc. The Bell & Gossett Readout Kits consist of a differential pressure gauge, hoses with 90 micron inline filters to connect upstream and downstream of the flow measuring device, a set of readout probes, Circuit Setter calculator and a carrying case. The RO-2, RO-3 and RO-4 Readout Kits have valves to vent the differential pressure gauge. The RO-5 Readout Kit differential pressure gauge contains a floating piston with a continuous bleed across the piston and does not require separate vent valves.



### SAFETY INSTRUCTION

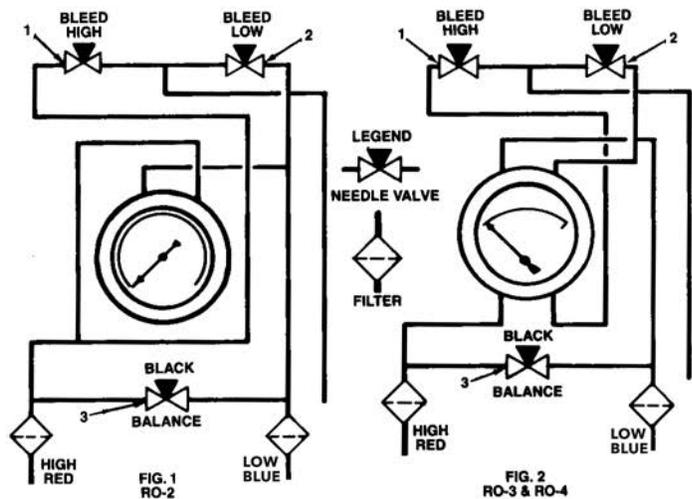
This safety alert symbol will be used in this manual to draw attention to safety related instructions. When used, the safety alert symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! FAILURE TO FOLLOW THE INSTRUCTIONS MAY RESULT IN A SAFETY HAZARD.

### Temperature and Pressure Limits

The maximum operating temperature of fluids compatible with Nylon, Neoprene, Viton, Buna N, Brass, Polysulfone, Aluminum and 316 Stainless Steel is 235°F.

Maximum Operating Pressure: 250 PSIG

Model	Maximum Differential Pressure (Ft.)
RO-2	100
RO-3	16
RO-4	35
RO-5	25



## INSTALLATION INSTRUCTIONS

- For RO-2, RO-3 and RO-4 Readout Kits, close bleed valves (1) and (2). Refer to Figure 1 and Figure 2 for location and numbering of valves. Open balance valve (3).
- Attach the readout probes to the high (red) and the low (blue) pressure hose connections.

Make sure the hoses are attached to the high and low pressure connections on the Readout Kit differential pressure gauge, and that they are securely tightened.

- Loosen the protective cap on the readout fitting of the flow measuring device (Circuit Setter, Circuit Sensor, etc.) approximately one turn. Check for leakage.

## INSTALLATION INSTRUCTIONS (Continued)

**WARNING:** System fluid under pressure and/or at high temperatures can be very hazardous. If leakage is present, the flow measuring device must be isolated from the system. The temperature must be reduced to 100°F or less and the pressure reduced to zero. Replace the readout fitting. Failure to follow these instructions could result in serious personal injury or death and property damage.

4. If leakage is not present, remove the protective cap and insert the full length of the readout probe, first into the upstream readout fitting, and then into the downstream readout fitting. Tighten the ferrule nut on both fittings hand tight. It is not uncommon for a small amount of the system fluid to escape during the insertion.

**WARNING:** Hot leaking fluids can cause burns or serious eye injury. When monitoring system flow, care must be exercised to avoid skin or eye contact with liquids that may escape. Failure to follow these instructions could result in serious personal injury or death and property damage.

5. The RO-5 Readout Kit does not have internal valves. To vent air when using the RO-5 Readout Kit, loosen the downstream hose connection at the readout probe and allow system fluid to vent slowly until it is free of air. To vent air from the RO-2, RO-3 and RO-4 Readout Kits, first pull the free end of the clear plastic vent tubing from the kit, then open valves (1) and (2) and alternately until all the air has been expelled from the differential pressure gauge and hoses.

**WARNING:** System fluid under pressure and/or at high temperatures can be very hazardous. Extreme care should be exercised to avoid contact with venting fluids and to control the amount of the fluid venting. This is accomplished by only slightly cracking bleed valves open alternately until all air is removed. Failure to follow these instructions could result in serious personal injury or death and property damage.

6. When all of the air has been vented from the Readout Kit, close the bleed valves (1) and (2) or on the RO-5 tighten the hose connection.
7. Leave balance valve (3) open. The gauge pointer should indicate zero. If it does not, some air is still trapped in the Readout Kit or the differential gauge is not zeroed. To vent the air, repeat steps 5 and 6. To zero the gauge, refer to the service instructions.

## OPERATING INSTRUCTIONS

1. To obtain differential pressure readings, when using the RO-2, RO-3 and RO-4 Readout Kits, close valve (3). For the RO-5 Readout Kit, differential pressure is read without the need to open or close valves.
2. When you are finished taking differential pressure readings, open balance valve (3) on the RO-2, RO-3 and RO-4 Readout Kits.
3. Loosen the ferrule nut on the readout probe at the readout fitting and remove the probe from the readout fitting.

**WARNING:** System fluid under pressure and/or at high temperature can be very hazardous. Make sure the readout probe is removed from the readout fitting before hose connections are loosened or removed. Failure to do so will allow system fluids to escape. Failure to follow these instructions could result in serious personal injury or death and property damage.

4. Open bleed valves (1) and (2) on RO-2, RO-3 and RO-4 Readout Kits and drain the readout instrument and hoses on all models.

## SERVICE INSTRUCTIONS

If the differential pressure gauge does not register a reading, or if the response is sluggish, the most likely cause is blockage. Proceed as follows:

1. Remove both the upstream and downstream probes from the readout fittings.

**WARNING:** System fluid under pressure and/or at high temperature can be very hazardous. Make sure the probe connection to the readout fitting is disconnected and not the hose connection to the probe. Failure to follow this warning will allow system fluids to escape. Failure to follow these instructions could result in serious personal injury or death and property damage.

2. Inspect the probes and remove any material which may be causing a blockage.
3. Disassemble the filters located in each hose. Check the filter element for blockage. Either clean the filter element by back-flushing or by soaking in a detergent and water solution, or replace it with a new element.
4. If the RO-2, RO-3 or RO-4 differential pressure gauge does not register zero with probes removed from the readout valves, place the Readout Kit so that the dial face is level. Open bleed valves (1) and (2). The pointer should read zero. If it does not, loosen bezel screws, remove bezel, hold pointer hex nut, and slip pointer to zero.
5. If the differential pressure gauge still does not register properly, return the unit to your Bell & Gossett Representative for service.

**WARNING:** Corrosion or leakage are indications that the Readout Meter may be about to cause serious damage from rupture or leakage. It should be periodically inspected and if noted, the Readout Meter must be replaced or serviced. Failure to follow these instructions could result in serious personal injury or death and property damage.

**WARNING:** Hose damage or deterioration can allow hot or cold system fluid to escape. On a regular basis, or before each use, inspect the hoses for signs of ferrule damage, hose cover damage, stiffness and gasket wear or damage. If any signs of the above are noticed, the hoses must be replaced. Hoses must be replaced after 5 years of normal use or more frequently if they are heavily used or left permanently attached to the system. Failure to follow these instructions could result in serious personal injury or death and property damage.

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