

# PARTS LIST

## ARO PNEUMATIC LOGIC CONTROL LOGIC FUNCTION ASSEMBLY

### LIQUID LEVEL SENSOR

Models: 59916-1  
59916-2

Revised: 12-18-09  
(REV. C)

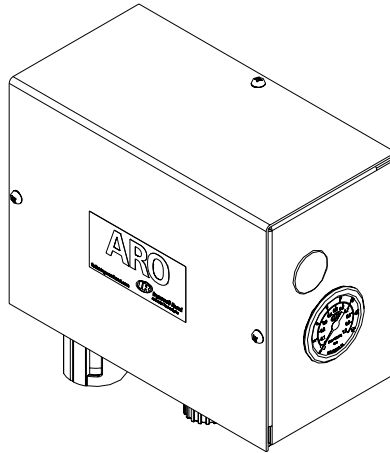


Figure 1



**READ THIS MANUAL CAREFULLY BEFORE INSTALLING,  
OPERATING OR SERVICING THIS EQUIPMENT.**

It is the responsibility of the employer to place this information in the hands of the operator. Keep for future reference.

#### DESCRIPTION

These liquid level sensors (LLS) are designed to produce a pneumatic output signal as the fluid level in an unpressurized vessel rises (model 59916-1) or falls (model 59916-2) past a predetermined level. They will accurately sense almost any fluid, given a non-turbulent surface and a properly designed sensing probe (see below).

#### OPERATING PRESSURE RANGE

Set and regulated at some point between 30 and 150 p.s.i.g. 50 to 100 p.s.i. is recommended.

#### TEMPERATURE RANGE

+32° to +160° F.

#### INSTALLATION AND ADJUSTMENT

1. The vessel must be open to atmospheric pressure.
2. Install the sensor probe with the open end pointing downward and located at or just below (0 to 2-1/2", depending on type of liquid and design of probe) the level where the operating signal should occur.
  - 2a. The sensing probe may be connected to the sensor box using 1/4" o.d. (59675-25) tubing. Connections longer than 25 feet will result in slower response and tighter adjustment limits.
  - 2b. Sensor probe design will vary with the nature of the fluid being sensed: 1) It must be chemically and temperature compatible. 2) The diameter of the opening should increase with the viscosity of the fluid. Just the open end of the connecting tube is adequate for watery fluids. A fluid such as syrup would require something like the opening at the end of a 3/4" pipe, while concrete or peanut butter might take an opening the size of a 4" pipe or greater.
  - 2c. A turbulent or wavy surface to the fluid will cause irregular indications from the sensor. Some measures should be taken, if necessary, to quiet the surface around the sensor probe using a surrounding shield, filtered chamber or a by-pass channel with damping.
3. Connect to a filtered air supply, regulated to a pressure set within the normal operating range (see above). It is recommended that the LLS be supplied thru a regulator that supplies only the LLS and nothing else and that it be set enough below the line air pressure such that line air pressure never dips below the set point of this regulator. This is necessary to insure a steady pressure at the sensing probe, for accurate sensing.
4. Adjust the low pressure regulator in the sensor box to about 8 - 10 p.s.i. on the gauge. The sensor should now be ready to operate.

NOTE: The amplifier (59161-2 or 59162-2) inside the sensor enclosure has been factory adjusted into its normal operating range. Changing this adjustment has little effect on the liquid level sensing point; it could, however, place the amplifier outside its normal operating range, rendering it inoperable.

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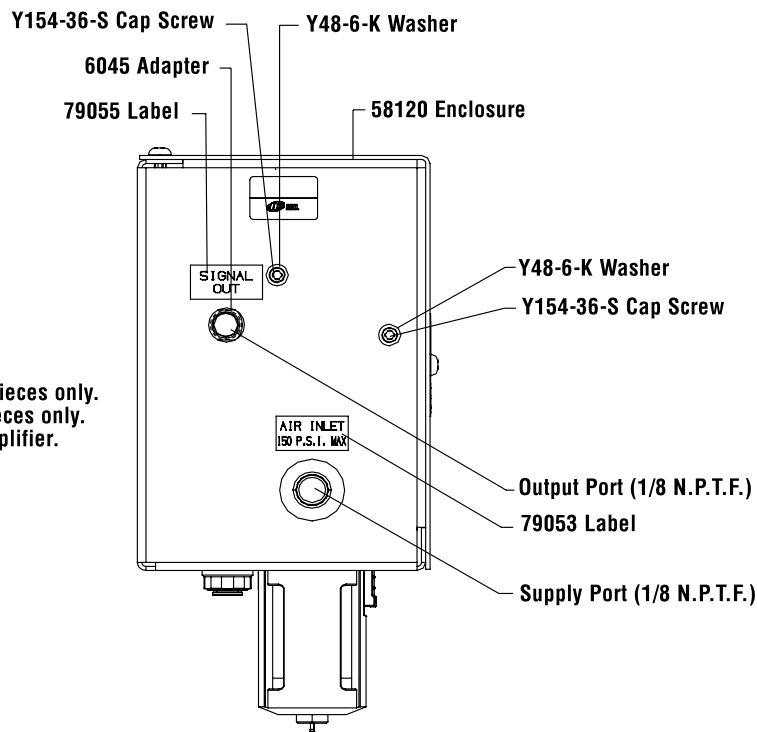
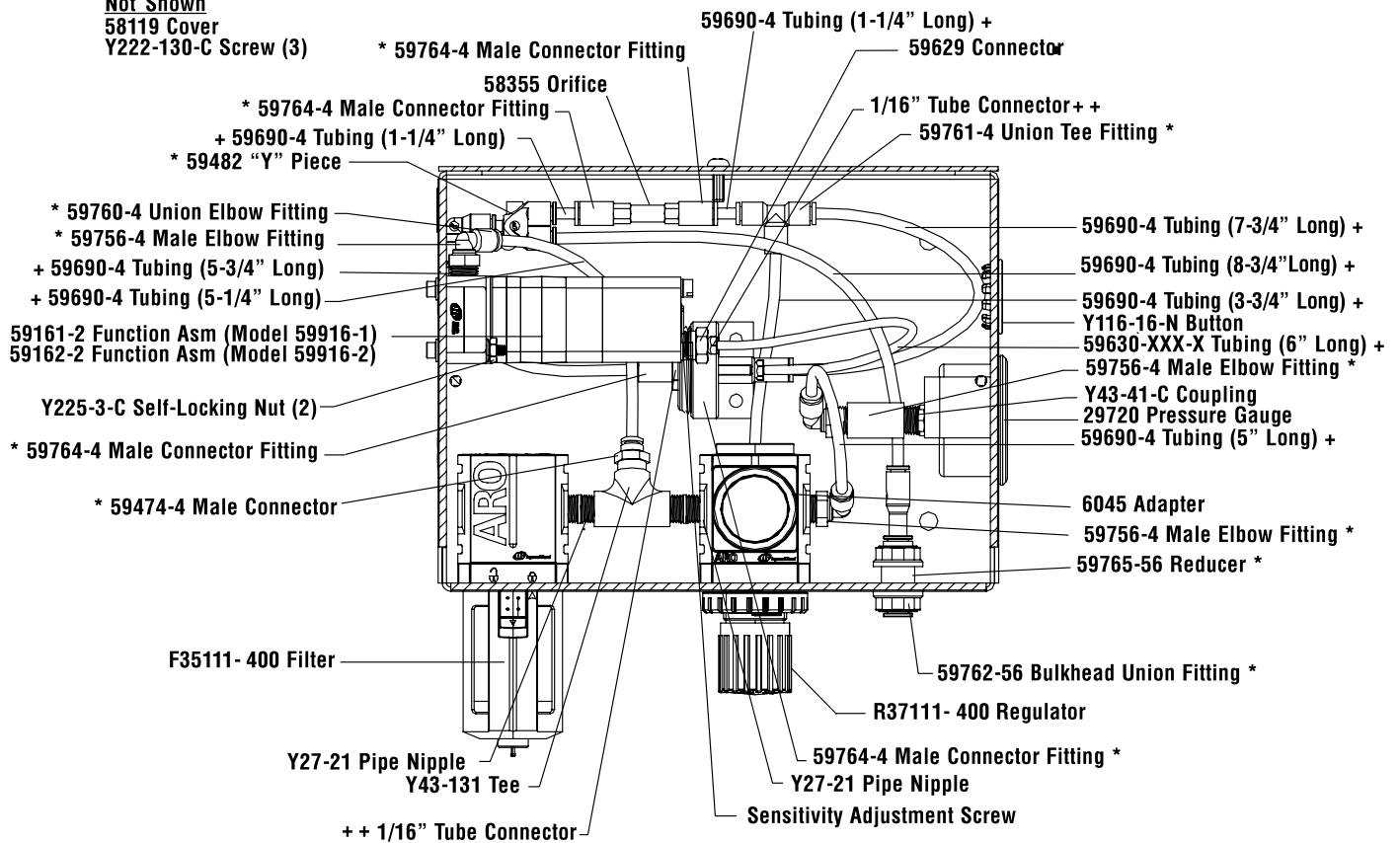
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# ARO

**IR** Ingersoll Rand  
Industrial Technologies

Not Shown  
58119 Cover  
Y222-130-C Screw (3)



- + Supplied in 100 ft coils only.
- \* Available in package of 10 pieces only.
- Available in package of 5 pieces only.
- + + Included with 59807 Pre-Amplifier.

Figure 2