

Instruction Sheet

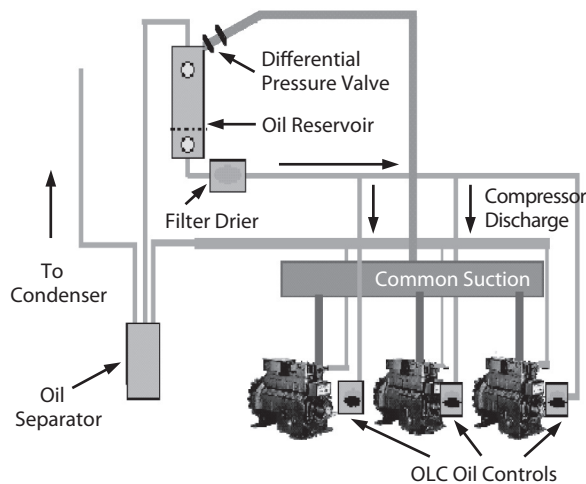
PA-00298

March 2020

W-OLC Mechanical Oil Level Regulators

Theory of Operation

The W-OLC line of controls is to be used in conjunction with an oil separator, oil reservoir with a differential check valve (90 psid maximum) and oil filter. Alternately, a combination oil separator and reservoir can be used with a pressure limiting valve. Below is a diagram showing the component arrangement.



The compressor discharge gas is directed into the oil separator. There the oil is separated from the refrigerant gas which continues to the condenser. The oil is collected and drains to the bottom of the separator. From there it is directed to an oil reservoir. (**Note:** Combination oil separators and reservoirs direct oil directly to the oil filter.) A differential check valve (not available from Emerson) should be located on the top of the reservoir. This is connected to the suction side of the compressor and the valve's purpose is to limit the pressure in the reservoir to 10-90 psid. The oil outlet at the bottom of the reservoir is directed to an oil filter and then to the oil level regulator(s).

Application

The primary application of the Oil Level Regulator is on multiple compressor racks although it may be adapted to single compressor units. (Consult Emerson Climate Technologies Flow Controls Division Applications Engineering Department.)

Two W-OLC models are available. These are listed below:

Model	Application
W-OLC-2	All Copeland and other manufacturers which require 1/2 sight glass level in the compressor crankcase.
W-OLC-2-4	Adjustable model for use for either 1/4 or 1/2 crankcase oil level. Note: This model is equipped with a 3/8" male flare equalizer connection. This connection is intended to be piped to the same

equalizing connection of the other compressor oil regulators to prevent oil logging of the compressors due to oil entering the compressor from the suction side during extended off-cycles.

Installation

Removal of Sight Glass

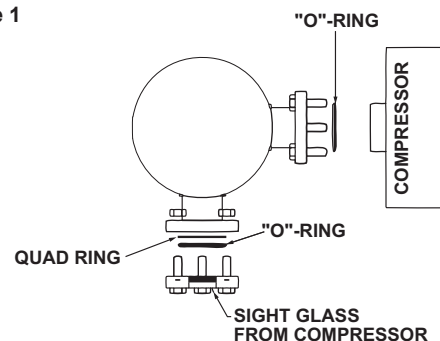
1. It is assumed that safe refrigeration service procedures will be followed to gain access to and in closing the system. Only trained and qualified service technicians should install this device.
2. **CAUTION:** The system must be depressurized before attempting any work.
FAILURE TO DO SO MAY RESULT IN BODILY INJURY.
3. Lower the oil level in crankcase by pumping or siphoning excess oil so that oil level is no longer visible through the sight glass.
4. Protect hands and face from contacting the oil which may contain harmful acids.
5. Remove sight glass from compressor. Remove the gasket or "O"-ring and all other parts. **NOTE:** Some sight glass housings are pipe thread and have no gasket.

Assembly of Oil Level Regulator

W-OLC-2, W-OLC-2-4

1. Insert the Quad Ring in the groove of the Oil Regulator flange which is to be attached to the compressor. Assemble Oil Level Regulator to compressor using bolts, which originally held sight glass flange to the compressor. Tighten to approximately five foot pounds.
2. Insert the other "O"-ring in the groove on the sight glass. Assemble sight glass flange to the oil level regulator with the nuts and bolts provided. Tighten to approximately five foot pounds. See Final Connections on the next page.

Figure 1

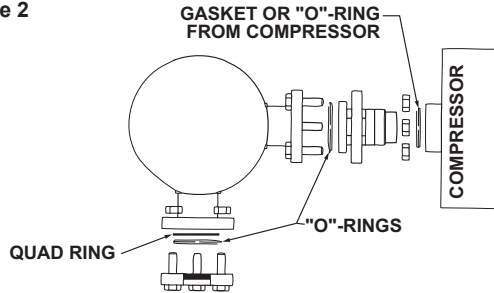


Assembly of Oil Level Regulator With Threaded & Flanged Adapter Kits

Assembly of Threaded Adapter Kit to Compressor: Figure 2

1. After removing the plug or sight glass on the compressor, screw adapter into compressor using original gasket or "O"-ring. Thread sealant may be used on threaded joints.

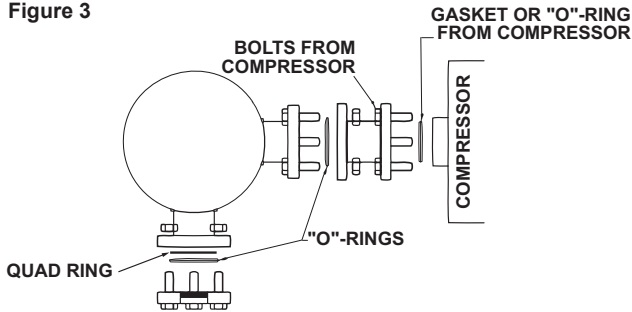
Figure 2



Assembly of Flanged Adapter Kit to Compressor: Figure 3

1. Assemble adapter to compressor using gasket or "O"-ring, bolts and washers which originally held the sight glass to the compressor. Tighten to approximately five to ten foot pounds. A light coat of oil on the "O"-rings will aid in sealing.

Figure 3



Assembly of Oil Level Regulator to Adapter Kits: Figures 2 & 3

1. Insert the "O"-ring in the groove of the Oil Level Regulator flange which is to be attached to the adapter. Assemble Oil Level Regulator to adapter flange. Rotate flange ring on adapter so that when installed, the Oil Level Regulator is level and in the vertical position only. Use bolts and nuts provided. Tighten to approximately five foot pounds.
2. Insert the "O"-ring in the groove of the open flange on the Oil Level Regulator. Use bolts and nuts provided. Tighten to approximately five foot pounds.

Final Connections

1. The oil supply line from the Oil Reservoir is connected to the top of the Oil Level Regulator. **IMPORTANT:** Refill the crankcase to proper level. **NOTE:** Model W-OLC-2-4 has an equalizer connector which may be connected to the crankcases of parallel compressors. If not used in this application, it must be capped.
2. Failure to leak test after installation of Oil Level Regulator could result in loss of refrigerant.
3. **NOTE:** Model W-OLC-2-4 is adjustable. To adjust, remove adjustment cap on top. Adjust clockwise to decrease level and counterclockwise to increase level. Each turn changes level approximately 0.050 inch.

Reference

