



Figure 1: Parallel Compressor System

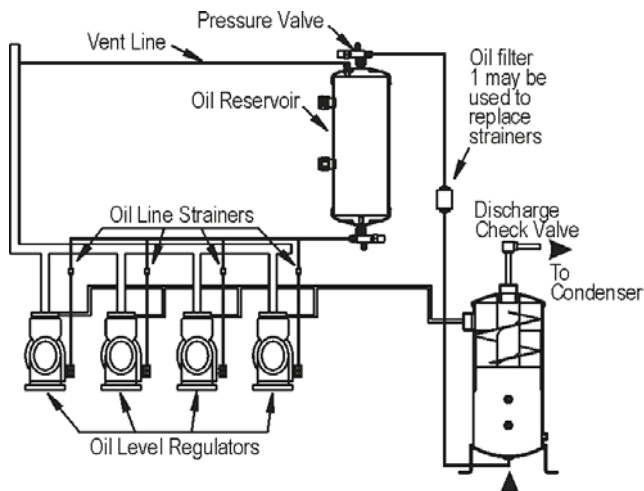
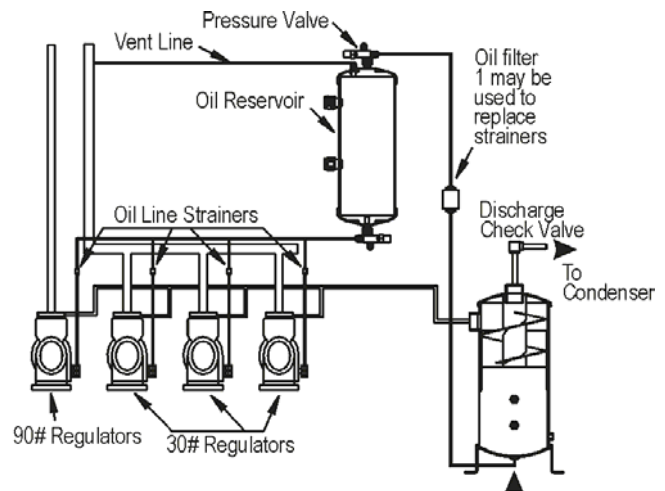


Figure 2: Parallel Compressor System  
with Satellite Compressor



## Oil Level Regulator:

The oil level regulator controls the oil level in the compressor crankcase with a float operated valve. Oil level regulators are designed to attach directly to the sight glass housing on the compressor crankcases. All Oil Level Regulators feature a standard 3 bolt 1-7/8" B.C. flange, common to many Compressor Sight Glasses. Included with each regulator are the "O" rings required to attach the regulator to the 3 Bolt Compressor Sight Glass. Adapter kits are available for compressors that have a different sight glass configuration. The sight glass from the compressor or supplied with an adapter kit, bolts to the second regulator flange for visual observation of the oil level. The oil supply line from the reservoir is connected to the 3/8" flare fitting on top of the regulator. These regulators feature a 3/8" flare equalization connection on the side of the regulator that allows the crankcases to be interconnected. This maintains the same pressure in all of the crankcases including any compressor that is running. This prevents running compressor (s) from siphoning the oil out of the idle compressor (s). In order for 2 or more Oil Level Regulators to be equalized, the compressors must have a common suction line (same suction pressure) and be adjusted to the same oil level. The 3/8" flare equalization connection is at the half sight glass level. It helps prevent over filling of the regulators caused by oil returning down the suction line to an idle compressor. If a regulator fills up to a half sight glass, the oil will be picked up by the equalization connection and sent to the running compressor crankcase. The equalization connection may be sealed off, if equalization is not desired. It will not affect the function of the regulator.

Operating Pressure Differential: The difference of pressure between the oil being fed to the oil regulator and the compressor crankcase, where the regulator is controlling oil level.

## Low Pressure Oil Control System:

The need for greater system flexibility, lower operating cost, and energy conservation has brought about the growing application of parallel compressor systems. This type of system uses multiple compressors with one common discharge line and common suction line (See Figures 1 and 2). Parallel systems have some potential problems, one of them being the maintenance of the correct oil level in the compressor crankcase at all operating conditions. Crankcase oil level must be controlled. Our Oil Control System provides this control as well as a method of regulating the oil level in each individual crankcase. Our Oil Level Control System eliminates the need for complex piping and valving. It does not require that the compressors be level, or be the same make or model. The Oil Control System consists of three basic components:

- Oil Separator
- Oil Reservoir
- Oil Level Regulators

Each compressor has an Oil Level Regulator attached to control the oil level in each individual compressor. The regulators are supplied oil by the common Oil Reservoir, which in turn is supplied oil by the Oil Separator. This Oil Control System is recommended by the largest manufacturer of semi-hermetic compressors in the world for field assembled parallel systems.



One oil level regulator for all applications  
 The S-9030\* Oil Level Regulator is designed to bolt directly to the three bolt sight glass housing found on many compressor crankcases. Adapter kits are available for compressors that have a different sight glass configuration. The sight glass from the compressor or supplied with an adaptor kit, bolts to the second regulator flange for visual observation of the oil level.  
 \*U.S. Patent #5,542,499 & other U.S. and Foreign Patents pending

### S-9030 Adjustable Regulator:

The Electro-Mechanical Oil Level Regulator S-9030 provide a simplistic means for controlling oil level for hermetic, semi-hermetic, reciprocating and scroll compressors. through the use of a float switch and solenoid valve. A magnetic reed float switch closes upon the reduction of oil level in the oil regulator body. This action energizes the solenoid valve thereby feeding oil into the regulator body.

The oil level is adjustable by loosening the compression nut and manually adjusting the position of the float switch. A low level alarm is also provided, for oil safety on hermetic and scroll compressors. If the oil level drops 1/8" below the set point, a second magnetic reed switch closes activating a customer supplied alarm. This alarm circuit may also be used to disconnect power from the compressor. While the regulator is in alarm the solenoid valve remains open trying to re-establish the oil level.

### Features:

- Complete oil level control without variations in pressure drop.
- 3/8" Flare normally closed solenoid valve.
- Adjustable between 1/4" and 1/2" glass.
- Low level alarm circuit.
- 24 VA .25 amp. No UL considerations.
- Equalization connection 3/8" Flare.
- Operating differential 5 to 300 psig, 450 psig MAWP.
- Reliable float switch operation, 20 VA pilot duty.
- All major components replaceable.

