

Frequently **A**sksed **Q**uestions (**FAQs**)

Q: What is the range of net oil pressures that I might expect to see on compressors manufactured by different manufacturers?

A: Net oil pressures do vary from manufacturer to manufacturer, and from compressor to compressor. Net oil pressures usually range from 20 psi to 40 psi.

Q: What is the minimum oil pressure that one might expect to see for a compressor?

A: Most oil pressure safety controllers will shut the compressor down if the net oil pressure falls below 10 psi.

Q: What is the importance of maintaining a net oil pressure that is within the compressor manufacturer's specifications?

A: Flow of oil within the compressor lubricates and cools the internal parts of the compressor. The oil pump delivers the oil into drilled holes in the crankshaft. The oil is then delivered to the compressor's bearings and connecting rods through these drilled holes or oil galleys. Continued compressor operation depends on constant, consistent flow of oil.

Q: What conditions could possibly affect the net oil pressure of a compressor?

A: A number of different conditions could affect a compressor's net oil pressure. These conditions include:

- Compressor size
 - Viscosity of the oil
 - Temperature of the oil
 - Clearance in the bearings of the compressor
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Q: Why does the oil from the compressor “foam out” when the screw-on fitting from the hose of the gauge is attached to the oil pump?

A: Inside of the compressor the oil and refrigerant vapor are well mixed and under a pressure that is significantly higher than atmospheric pressure. When the hose fitting is screwed on to the fitting on the oil pump, it depresses the pin in the Schrader valve, allowing the oil/refrigerant vapor mixture to escape to the lower pressure of the atmosphere. This escape is in the form of a very foamy, gold-colored mixture.

Q: How do the oil pumps on compressors work?

A: A compressor oil pump is actually keyed into the compressor’s crankshaft. Thus, the crankshaft supplies the power to turn the oil pump. Oil pumps may be of the gear or the eccentric type. In this type of pump a star gear works to squeeze the oil to a higher pressure. This added pressure helps to move the oil through the compressor, and may be referred to as the net oil pressure.

Q: What types of compressor problems could cause an oil failure control to trip?

A: Several compressor problems could cause an oil failure control to trip a compressor. These include:

- A worn or defective oil pump usually produces no net oil pressure.
- Smaller horsepower compressors can trip on oil failure if the compressor does not start when electrical power is applied to the terminals.
- Oil contamination can cause a problem at the pick-up tube in the compressor crankcase.
- In older compressors, oil failures can occur because of the pressurization of the crankcase due to blow-by from the pistons or piston rings.
- Short cycling occurs when the compressor pumps more oil than normal, and can cause the oil control to trip.