

# Air Compressors

Generally speaking, air compressors can be divided into two major classes: volumetric (positive displacement) and dynamic.

Volumetric (or positive displacement) compressors are compressors that operate by trapping a volume of gas in an enclosed space. They increase the pressure by reducing the volume of the space. Positive displacement compressors can be divided into two categories: reciprocating (trunk, piston, diaphragm, or labyrinth) and rotary (vane, screw, liquid ring, and lobe). Most reciprocating compressors require an ISO viscosity grade 68, 100, or 150 oil. Rotary compressors typically require a ISO viscosity grade 32, 46, or 68 oil.

Dynamic compressors function by accelerating a gas to increase its kinetic energy. This kinetic energy is then converted to pressure. Dynamic compressors include: centrifugal and axial (turbine) types. Typically dynamic compressors require an ISO 32 or ISO 68 R&O oil or turbine oil.

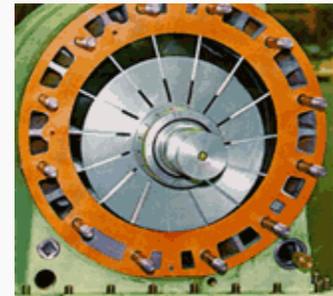
There are many different types of oils available for all types of compressors. Mineral based oils (~ 2000 hrs), semi-synthetics (~4000 hrs), and synthetics (~8000-12000 hrs depending on the type of synthetic). There are also H1 food grade synthetic compressor oils that can be used where there is a possibility of incidental food contact.

When recommending a compressor oil, you should always refer to the manufacturers recommendations to determine the appropriate ISO viscosity grade and type (mineral, semi-synthetic, synthetic) of oil needed. Other factors that must be considered are: **S**PEED, **T**EMPERATURE, **L**OAD, and **E**NVIRONMENT.

Remember the acronym: STLE



Reciprocating Compressor



Rotary Compressor



Axial Compressor

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