



6009 Kaywood Road  
Knoxville, TN 37920  
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## **Compressor- New Direction in Compressed Air**

The Compressor answers the need for oil-free compressed air and trouble-free service. This design features full lubrication for the power transfer mechanism, ensuring long service life, combined with proven oil-less compression.

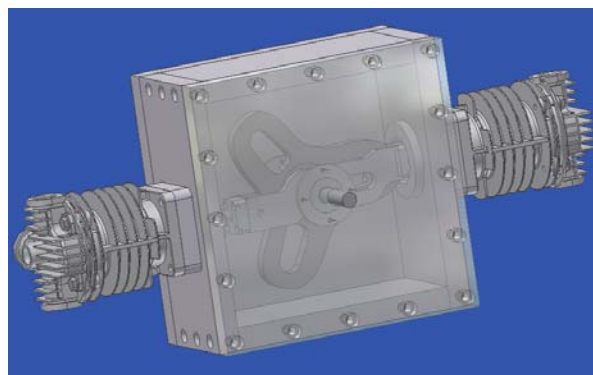
The Compressor design is the solution for many applications:

- Transportation
- Industrial
- Shop

## **Overview of Compressor Design**

The Compressor is a radical new design in air compressors. The Compressor combines oil-less compression with full lubrication of the power transfer mechanism. This is made possible by the purely linear motion of the carrier and connecting rods that drive the pistons. Since the rocking oscillatory motion of the connecting rods in a crankshaft design has been eliminated, it is possible to seal the compression chambers from the lubricated power transfer mechanism. The ability to provide this seal also makes double action possible- compressing air both above and under the piston, allowing two compressions processes for each stroke of the piston.

Problems caused by oil in compressed air vary from a nuisance requiring expensive aftertreatment to environmental non-compliance issues. The Compressor design offers the solution of oil-free compression with durability and long service life.



**Proof-of-Principle CAD Model**



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## Design Features

- Cam driven
  - Variable piston travel
  - Controlled piston speed and acceleration
- Oil-free compression
  - Eliminate aftertreatment of compressed air
  - Leverage development of oil-less compressor pistons and rings
- Fully lubricated power transfer system
  - Power transfer cavity sealed from compression chambers
  - Increased service life
  - Cooler operation
- Reduced friction
  - Rolling element bearings
  - Offset follower design reduces side thrust
  - Increased efficiency
- Piston side load eliminated
  - Reduced friction
  - Improved sealing
  - Increased life of piston and cylinder
- Pumping capacity in compact design
  - Cylinder pairs are stackable
  - Pumping on both sides of piston
  - Two-stage operation