



**Why it Pays to Rebuild Your  
Air Compressor.**

## **Why It Pays To Rebuild Your Air Compressor**

A catastrophic compressor failure in your plant might have you jumping through hoops to keep your plant online. Will staff be chasing around for a rental compressor? Will the failure cause plant shutdown?

It pays to rebuild your air compressor to avoid unexpected downtime, unhappy customers, and the cost of emergency compressor rental.

### **Rotary screw compressors have formidable operating conditions**

It is the rotary screw air compressor, with low vibration and pulsation free air delivery, that is most frequently selected to provide a company's compressed air supply. With potential run-times exceeding 8,700 hours per year, and the electric motor running in the 1,000-6,000 RPM range, and with the screw rotors experiencing up to 9,000 RPM, a rotary screw compressor has formidable operating conditions. Add in the punishing side-loading of the multiple rotor bearings, or the intake air being dirty, humid and/or at high temperature. All this will reduce compressor efficiency and increase the susceptibility for compressor failure.

### **What is required to ensure that an unexpected compressor failure does not shut your plant down?**

Proper maintenance of the compressor with a focus on these areas:

- Motor and bearing lubrication and condition
- Correct compressor belt / drive alignment
- Filters cleaned and replaced at correct intervals
- Compressor outer surfaces clean to help prevent heat buildup
- Airend rebuild before failure

These essential maintenance procedures should be undertaken at the manufacturer's recommended service intervals, and can be outsourced if the company lacks the skilled staff or the time to do so.

### **Rebuilding the airend**

The cost of rebuilding the compressor airend is a fraction of the cost of a new compressor. With proper maintenance of your compressor, airend rebuilding will provide long, problem-free generation of compressed air. Few companies have the in-house skills Harriss possesses to rebuild a compressor airend.

### **When should the screw airend be rebuilt?**

How is it determined if a screw compressor airend needs rebuilding?

- Regular analysis of the lubricating oils identifies issues

- Manufacturer's recommended intervals

## **Achieving energy savings through airend rebuilding**

*"...output efficiency obviously declines as wear takes place in any compressor, the actual output of the screw compressor can, in some instances, drop by 30-45% of the manufacturer's figures" <sup>(1)</sup>*

The efficiency of every rotary screw compressor will deteriorate over time. An airend rebuild will improve the efficiency of the compressor, and help reduce energy costs.

How much output has your screw compressor lost through normal wear of the airend? Perhaps it's time to find out. If analysis determines it necessary, it may be time to rebuild your airend before your compressor fails.

*(1) Compressors and Their Systems: 2nd International Conference  
IMechE (Institution of Mechanical Engineers)  
John Wiley & Sons, Nov 14, 2003 - Technology & Engineering  
Page 210*