

MAXIMIZING COMPRESSOR LIFE

Life of critical compressor components such as piston rings, valves and packing will vary considerably with each application, installation, and operating procedures. Proper selection of materials of construction, options and accessories will have a tremendous affect on the compressor's service life. Premature failure of wear parts can often be attributed to one the following causes:

1. Excessive Temperatures

Primary causes are:

- Operating at pressures other than those originally specified.
- Handling a different gas than originally specified.
- Clogged strainer or filter elements.
- Line sizes too small, or other flow restrictions.
- Excessive ambient temperature or suction gas temperature.
- Cooling water temperature too high, or coolant flow too low.
- Valve problems (see Foreign Material below).
- Badly worn piston rings (see Foreign Material below).

Lower operating temperatures will significantly increase valve and piston ring life.

2. Foreign Material

Solid particles in the gas stream will:

- Rapidly wear the piston rings and score the cylinder wall.
- Destroy the rod packing causing excessive leakage and score the piston rods.
- Lodge in the valves causing loss of capacity and broken valve plates & springs.

Liquid in the gas stream will:

- Cause broken valve plates and springs.
- Destroy the compressor if present in sufficient quantity.

3. Material Compatibility

All materials used in the compressor and accessories should be compatible with the gas stream being handled. If this is not always possible, then contact with the gas stream should be minimized by purging the compressor with an inert gas after each operation may be an acceptable solution.