CASE STUDY

Upgrade Extends Run Times for PET Bottling Operation

SCENARIO

Compressor availability was a significant problem for a plastic packaging manufacturer located in the southern United States. The plant uses high-pressure air compressors in a non-lube, food-grade application to produce plastic beverage bottles from PET (polyethylene terephthalate). Two of their compressors routinely required major maintenance overhauls at six-month intervals due to service limitations of some OEM components.

SOLUTION

Experts from Cook Compression® worked with customer maintenance personnel to understand the existing operation, as well as future service requirements for their air compressors. To meet customer expectations, Cook developed a plan to retrofit the compressors with upgraded components, including new high-performance rider bands.

RESULTS

Field data have demonstrated outstanding results, especially for rider bands, which previously had been the limiting factor in extending compressor run times.

Based on performance to date, Cook upgraded rider bands are expected to more than triple service life in stages that had previously seen the greatest wear.

COMPRESSOR DATA

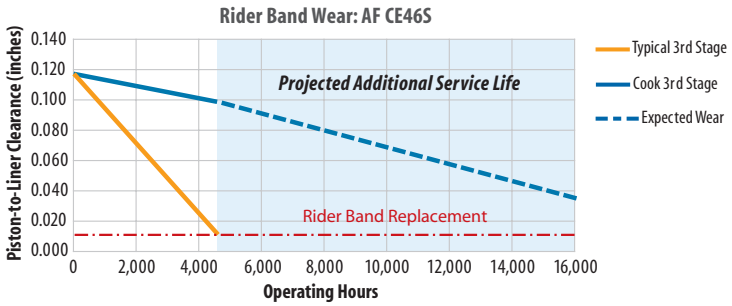
	1ST STAGE	2ND STAGE	3RD STAGE
Cylinder Bore	14.800”	9.886”	5.538”
Stroke	9.45”		
Speed	405 RPM		
Suction Pressure	Atmospheric	70-77 psig	185-200 psig
Discharge Pressure	70-78 psig	185-200 psig	550-600 psig
Suction Temperature	Atmospheric	100-110°F	100-110°F
Discharge Temperature	330-390°F	350-380°F	330-350°F
Design Rated Flow	500 scfm		
Available HP	200 HP		

Figure 1. Compressor #1: Ateliers François CE46S

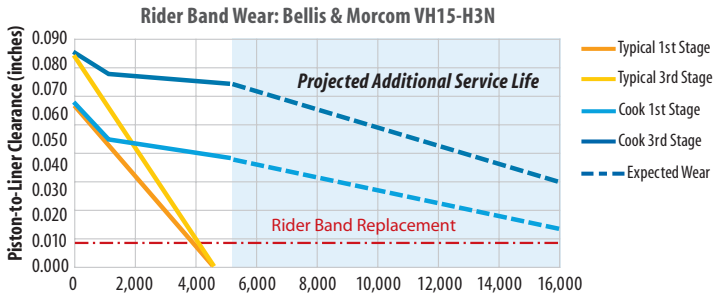
	1ST STAGE	2ND STAGE	3RD STAGE
Cylinder Bore	12.441”	9.8843”	4.528”
Stroke	6.50”		
Speed	726 RPM		
Suction Pressure	Atmospheric	45-56 psig	215-245 psig
Discharge Pressure	45-56 psig	215-245 psig	550-600 psig
Suction Temperature	Atmospheric	100-110°F	100-110°F
Discharge Temperature	290-320°F	330-360°F	290-320°F
Design Rated Flow	500 scfm		
Available HP	200 HP		

Figure 2. Compressor #2: Belliss & Morcom VH15-H3N

Compressor #1: Ateliers François CE46S



Compressor #2: Belliss & Morcom VH15-H3N



COOK COMPRESSION

www.cookcompression.com | info-cook@doverprecision.com

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