

Case Studies

Field Reports from Windrock

Scenario

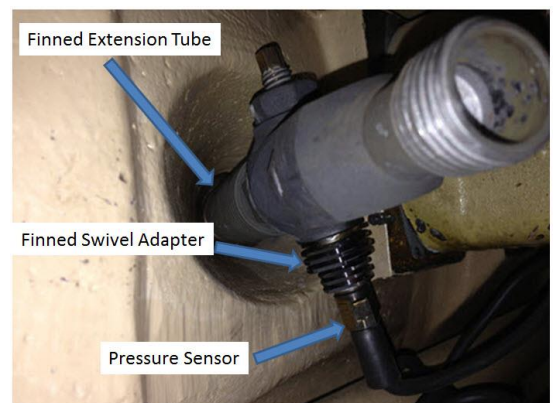
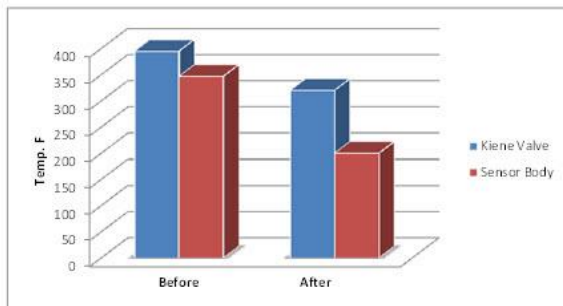
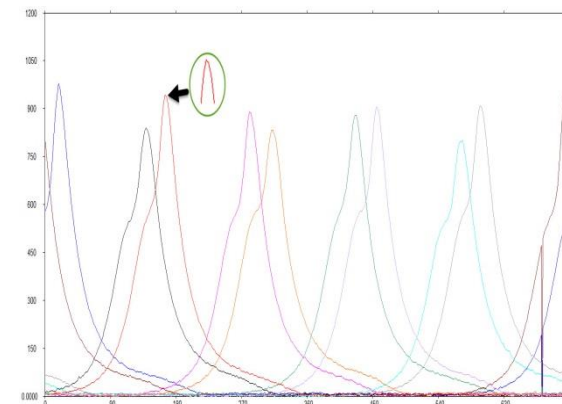
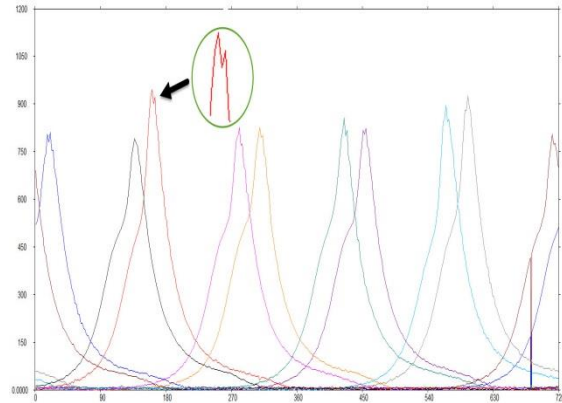
Windrock installed an AutoBalance™ system on an Ingersol-Rand KVR-4-10 integral compressor at a Natural Gas storage facility. The Windrock AutoBalance™ system monitors the Peak Firing Pressure (PFP) in each power cylinder automatically adjusts the fuel flow to each cylinder to maintain engine balance. After the system was installed, it was observed that the indicator valves were excessively hot and the combustion curves exhibited spiking at the peak pressure locations. The high temperatures resulted in less than optimum life of the pressure sensors and the pressure spikes resulted in inaccurate PFP measurements.

Solution

Windrock worked with the Indicator Valve manufacturer (Kiene Diesel) to build an extension tube with cooling fins. Further, we increased the bore diameter of the extension tube from 3/16" to 5/16" to reduce tube detonations. We also installed a finned swivel adapter between the indicator valve and the pressure sensor.

Results

The increased bore on the extension tube reduced the tube detonations. The figures on the right show the pressure curves before and after the installation of the larger bore extension tube. The new designed finned extension tube and finned swivel adapter reduced the temperatures to which the pressure sensor is exposed. The customer now has a well-functioning AutoBalance™ system installed on their KVR integral compressor.



For more details and information about reciprocating machinery analysis equipment and monitoring systems, contact your Windrock representative or visit www.windrock.com.

