

Condition Based Maintenance In Hazardous Locations - What You Need To Know

Condition based maintenance of rotating equipment (pumps and motors) in potentially hazardous locations can be fraught with difficulty. Firstly, there is the problem of deciding what instrumentation can be used. This can be tricky, particularly if the exact hazard is difficult to assess. For example, instruments used in hazardous locations such as flour mills, coal mines, petrochemical plants and fuel transfer facilities, need to be "intrinsically safe" and incapable of igniting an explosive atmosphere. However, some not so obvious hazardous locations include water treatment plants, tunnels and underground passageways or any location where a build-up of naturally occurring flammable material (such as methane or dust) could occur.

Secondly, a shut down in a hazardous location can be costly, particularly if a whole process must be stopped. Consequently, before stripping down a pump, you need to be sure you really do have a worn bearing and you are not picking up some other source of pump noise, such as cavitation.

This is where smart trend meters like the TPI 9085Ex come to our aid. The "go anywhere" 9085Ex is certified for Zone 0 IECEx/ATEX with North American approval. This means you simply don't have to think what potentially explosive atmospheres you might encounter, as the 9085Ex is certified to be intrinsically safe for ANY atmosphere, anywhere in the world.

The 9085Ex measures "bearing noise" and displays it in bearing damage units (BDU), which is roughly equivalent to "percentage wear". In other words, 100 BDU is indicative of a worn bearing. In addition, the 9085Ex uniquely incorporates a directly contacting temperature sensor within its vibration probe. This gives a highly accurate, virtually instantaneous, surface temperature reading for the bearing simultaneously as the vibration reading is being taken. With a high BDU reading and high temperature you can be reassured that what you are seeing really is a worn bearing!

Another difficulty is that a lot of machinery is remotely located (e.g. pumping stations), often in the "middle of nowhere", requiring highly mobile teams of operatives to access them. The compact handheld TPI 9085Ex is extremely affordable and simple to use. It can, and indeed should, be included in every operative's basic tool kit. Additionally, by

using the FREE TPI Bridge App, "routes" and readings can be transferred to and from the 9085Ex anywhere in the world.

"Routes" are simply lists of machines showing exactly what readings need to be taken and where to take them. The readings are then automatically time and date stamped and saved in the route for transfer back to the included computer-based trending software.

Trending is the key to condition based maintenance (CBM). By looking at trends of bearing noise and temperature readings, you can determine well in advance when a bearing will likely need replacing. The TPI 9085Ex comes with powerful, yet simple to use, subscription free trending software, which includes automatic email notification of alarms and report generation, giving you everything you need for a full CBM strategy.

For more information please contact TPI Europe's head office on +44 1293 530196 or take a look on the website at www.tpieurope.com or email sales@tpieurope.com

