

PPM v CBM In Hazardous Locations

In avoiding costly breakdowns, Condition Based Maintenance (CBM) has been proven far superior to Planned Periodic Maintenance (PPM). Not only is PPM needlessly costly, due to the time wasted stripping down perfectly functioning machinery, it can sometimes make matters worse by introducing faults during the process of stripping down and rebuilding the machine. Even more of a problem is deciding the correct PPM time intervals. Too short an interval between services means more wasted time and cost (and more potential for introducing faults) but waiting too long means more unexpected breakdowns.

CBM makes use of tools such as vibration and temperature analysis to run an efficient and effective maintenance program able to predict faults BEFORE they occur. This is where the major cost benefit of CBM lies. Repairing faults AFTER a breakdown can be VERY costly, particularly where there has been collateral damage and/or injury to personnel. This is even more the case in hazardous locations where a complete shutdown of operations may also be required to effect repairs.

However, for use in hazardous locations, CBM instruments are required by law to be intrinsically safe and unable to ignite explosive atmospheres (ATEX). This means that vibration and temperature analysers must be CERTIFIED for use in the hazardous location. But the certification rules are different in different parts of the world AND in different "Zones" where explosive atmospheres are likely to exist. For example, a tanker vessel could visit many different oil and gas terminals in different countries, or a maintenance team might find themselves working unexpectedly at a wastewater treatment plant with the potential for methane build-up. So, how do you know you have the correct certification for your tools in all the different locations?

The simplest solution is to cover all eventualities by using instruments certified for Zone 0 (hazard exists continuously). Normally, that would make them much more expensive but fortunately Test Products International (TPI) has achieved a significant cost breakthrough with the very affordable TPI 9085Ex vibration analyser. With built-in on-meter diagnostics and the all-important ability to TREND readings over time, the "go anywhere" TPI 9085Ex has WORLDWIDE Zone 0 certification, meaning it can be used in ANY hazardous atmosphere and in ANY location.

Based on international standards (ISO) the 9085Ex detects unbalance, misalignment and looseness in rotating equipment. It also measures "bearing noise" and displays it in bearing damage units (BDU) roughly equivalent to "percentage bearing wear". 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 taken. With a high BDU reading and high temperature, you know that what you are seeing really is a worn bearing.

The compact handheld TPI 9085Ex is extremely affordable and simple to use and an invaluable part of every maintenance tool kit. It can be used standalone for fault diagnosis or by using the FREE TPI Bridge App, "routes" and readings can be transferred to and from the 9085Ex anywhere in the world over the internet. "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 by the 9085Ex and saved back into the route for automatic transfer to the included FREE TO USE computer-based trending software.

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

