



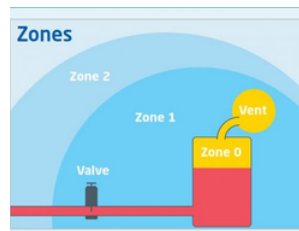
CONDITION  
BASED  
MAINTENANCE

# DO YOU KNOW YOUR ZONES?



## Worldwide, Dangerous Substances and Explosive Atmospheres Regulations

require employers to control the risks to safety from fire and explosions. This entails compliance with international standards, which in turn requires that any electrical equipment used in a hazardous area must be certified intrinsically safe. The likely existence of an explosive atmosphere is dealt with in the various standards by the definition of “Zones”. Importantly, it is the responsibility of the plant operator to decide which parts of their plant are in which Zones.



**For the IECEx (Worldwide) & ATEX (European) standards the following Zones are defined:**

**Zone 0** - an area in which an explosive atmosphere is present constantly or for long periods or frequently.

**Zone 1** - an area in which an explosive atmosphere is likely to occur in normal operation occasionally.

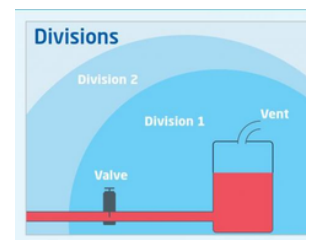
**Zone 2** - an area in which an explosive atmosphere is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

**However, in North America, a system of “Classes” and “Divisions” is used:**

**Class 1:** Relates to gases and vapours.

**Division 1:** The hazard can exist under normal conditions, or could be caused by maintenance work, leakage, or breakdown.

**Division 2:** Gases or vapours are confined and only escape due to accidental rupture or breakdown.



**This can lead to confusion when an instrument is likely to be used in different world regions.** The simplest solution is to go for a Zone 0/Class 1, Div 1 dual certified instrument, which then covers all eventualities worldwide. Typically, Zone 0 intrinsically safe instruments are expensive. However, Test Products International (TPI) believes it has achieved a significant cost breakthrough with its very affordable TPI 9085Ex vibration analyser. Combining on-meter diagnostics with the all-

important ability to TREND readings over time to simplify condition-based maintenance (CBM), the “go anywhere” TPI 9085Ex is certified for IECEx/ATEX Zone 0 with North American Class 1, Div 1 approval. This means the 9085Ex is certified intrinsically safe for ANY atmosphere WORLDWIDE.

