



UltraSonic™ EX-5 Gas Leak Detector

Application Note: **COMPRESSOR STATIONS**



Application Profile

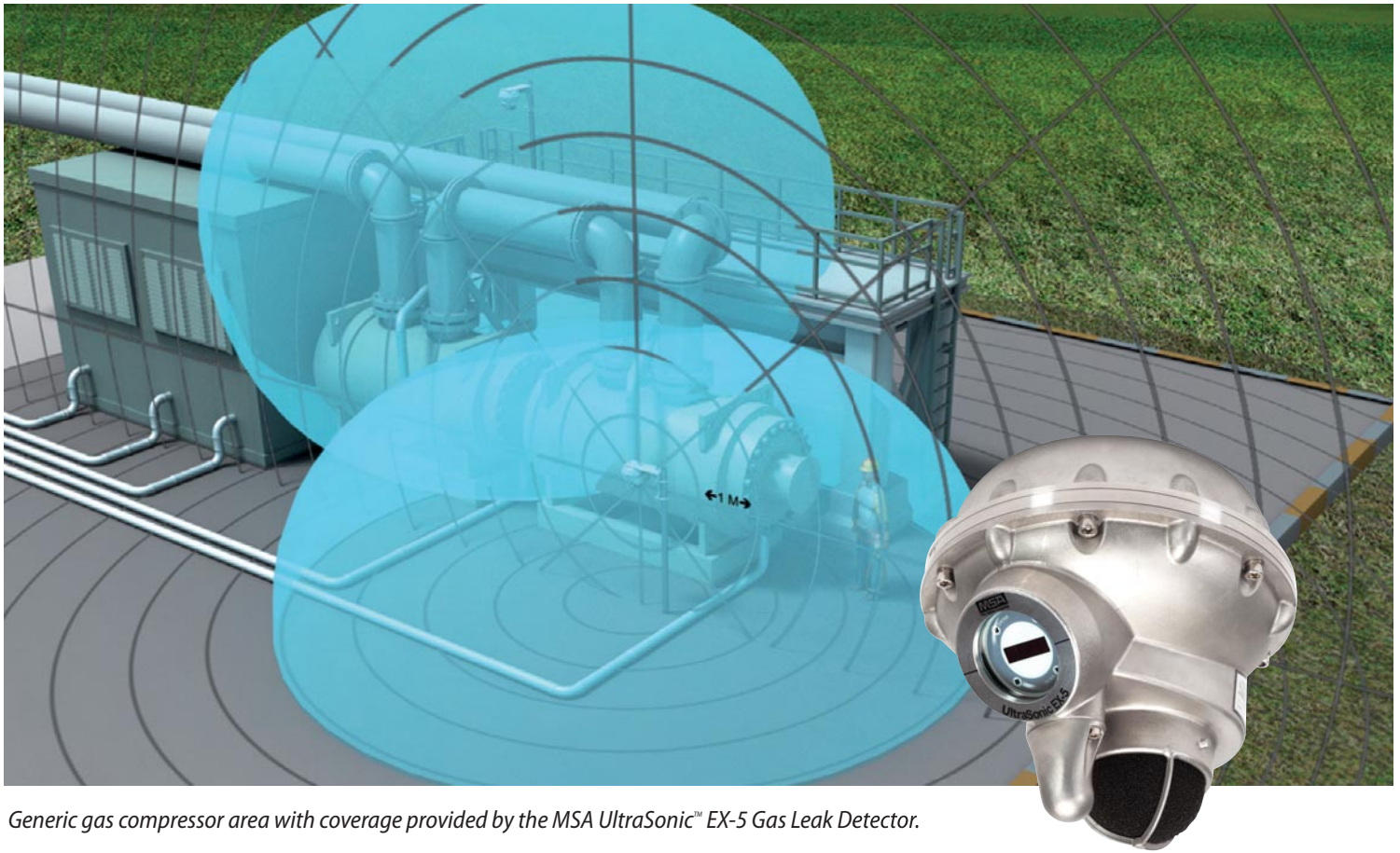
At a compressor or booster station, two main processes typically take place: gas compression, which is performed in order to ensure that the natural gas flowing through a pipeline remains pressurized, and gas chilling and cooling, which reduces the gas temperature. Both processes subject gas compressor equipment to high stresses. For example, vibration and heat from nearby machinery can produce cracks on seals and flanges. Hydrogen sulfide, liquids, and undesirable particles in the natural gas stream can corrode pipelines and degrade components. Over time, prolonged exposure to these elements invariably leads to component failure and possibly to leaks of combustible material.

In order to mitigate the risk of fire or explosion, early warning of gas leaks is essential. One detection technology that is particularly well suited for fast, reliable detection of escaping gas is ultrasonic gas leak detection. Ultrasonic gas leak detectors respond instantly to the source of the leak, and, because they are unaffected by gas dilution, leak direction, and wind speed, can respond to leaks in areas where other methods of gas detection are not wholly effective.

Applications

In gas compressor stations/buildings, ultrasonic gas leak detectors are typically installed in the following spaces:

- Chilling and cooling area
- Gas compressor area
- Pig launcher/receiver area
- HP inlet/outlet areas and discharge vessels



Generic gas compressor area with coverage provided by the MSA UltraSonic™ EX-5 Gas Leak Detector.

Ultrasonic Gas Leak Detection

Unlike conventional gas detectors that measure %LEL, ultrasonic gas leak detectors respond to the ultrasonic noise created by a pressurized gas leak. This ultrasonic noise provides a measurement of the leak rate and establishes warning and alarm thresholds. Ultrasonic gas leak detectors provide wide area coverage and do not require transport of the gas to the sensor. They are thus suited for outdoor installations and indoor spaces with high ventilation rates.

Features of the MSA UltraSonic EX-5 Gas Leak Detector

- Instant detection of pressurized gas leaks from 10 bar/145 psi
- Immunity to gas dilution, leak direction and wind speed
- Immunity to audible noise
- Wide detection coverage (up to 20 m/60 ft radius)
- Senssonic™ self test technology, which ensures failsafe operation
- HART and ModBus digital communications
- Hazardous area certification: ATEX, CSA, C-UL, FM, IECEx, and SIL 3 suitable
- No consumable components and high reliability (MTBF > 11 years naval sheltered)

Note: This bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



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