Pressure Transmitter Usage in Lube Pump, Oil and Filter Pressure Applications in Gas Turbines for Machinery and Factory Automation Industries

_Lube Pump, Oil and Filter Pressure Applications for Pressure Transmitters_

**Lube Pump, Oil and Filter Pressure**

Rotating machinery requires the use of several monitored fluids to ensure safe, efficient operation; first among working fluids being monitored are lubricants and oil. Gas turbines like helicopter rotors use lubricants on all working surfaces to minimize wear, fretting and general material degradation in order to maximize the useful life of the machine. Oil is used both for engine lubrication and for engine cooling. Pressure transmitters are used to monitor fluid pressures and to indicate to a control system how to optimize performance.

Pressure transmitters are commonly used in helicopters where remote, dry locations like deserts require careful lubricant pressure monitoring. Lubricants and grease pumps ensure that moving parts are lubricated and can be made to prevent sand and dust from causing internal damage to flight critical systems. Oil pumps circulate cooling fluids to the helicopter blades and other parts of the aircraft using pressure transmitters to safely control lubrication. These lube systems can also be used to control quick oil change while the helicopter is grounded to provide instant system cooling.

As undesirable particulate matter enters the fluid systems on board, filters are used to cleanse the fluids. Differential and other pressure transmitters are useful for determining the filter blockage rate which can help with aircraft preventative maintenance.

**Pressure Transmitter Application in Lube Pump, Oil and Filter Pressure in Gas Turbines Applications**

Pressure Transmitters are used for Lube Pump, Oil and Filter Pressure measurement in Machinery and Factory Automation in the following Gas Turbines Applications

- Oil pump pressure measurement and control
- Oil filter differential pressure measurement
- Lube pump pressure measurement and control
Lube pump, oil and filter pressure measurement processes in machinery and factory automation applications calls for pressure transmitter compatibility with arid, dust laden environments as well as material compatibility with application specific lubricants and oils. Pressure transmitters are responsible for measuring oil and lubricant pressure and interfacing with a control system to increase or decrease pressure as necessary. Pressure transmitters are also responsible for preventative maintenance operations like filter differential pressure measurement. The presence of potentially combustible dust and oils typically necessitate the use of explosion proof or intrinsically safe components approved for use in Class I, Division 1 & 2 and Class II, Division 1 & 2 hazardous locations. The WIKA E-10/11 electronic pressure transmitter has been designed for (INSERT PRODUCT VALUE PROPOSITION HERE) in machinery and factory automation gas turbine applications like lube pump, oil and filter pressure measurement.

**Pressure Transmitter Selection Considerations**

1. Absolute or Gage Pressure Measurement
2. Cable or Flying Lead Pressure Transmitter Wiring
3. Class I Division I or Class I Division II Hazardous Area Requirements
4. Intrinsically Safe, Explosion Proof, and Non-Incendive Pressure Transmitters
5. Media Compatibility for Pressure Transmitters
6. Moisture Resistance in Pressure Transmitters
7. Pressure Transmitter Accuracy and Errors
8. Radio Frequency (RFI) and Electromagnetic Interference (EMI) in Pressure Transmitters
9. Standard or Flush Diaphragm Pressure Transmitters
10. Vibration Resistance in Pressure Transmitters
11. Overpressure and Burst Pressure Rating
12. Media and Ambient Temperature Compatibility