



Oil Advantage - Machine Tool



Oil contamination and oil wear are two of the greatest threats to your equipment. Wouldn't it be great to know exactly when you need to change your oil to avoid the expense and waste of replacing it too soon and the costly damage resulting from changing it too late? Voelker Sensors' Oil Advantage continuously monitors oil wear, moisture, temperature, and metal contamination, and makes this information available via the cloud to any internet enabled device.

Oil Advantage affordably optimizes oil performance and protects your valuable equipment

Benefits

- Reduces equipment down time
- Reduces maintenance costs
- Saves time – analyze oil at a glance
- Saves money – change oil only when needed
- Minimize waste oil

Features

- Accurately measures oil degradation
- Detects water and metal contamination
- No calibration required
- Compatible with all oil types
- Easy to install; complete retrofit kit

Monitored Parameters

TAN: +/- 0.2mg/g KOH from 0 – 10 mg/g KOH. Total Acid Number is a key indicator of oil breakdown.

Moisture: +/- 2% from 0 – 100% Saturation. Output in ppm is also available.

Metals: Pass/Fail. Contamination is indicated by the conductivity of the oil. Set point is adjustable.

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System Specifications

Control Unit

Input Power: 9 – 28 VDC, 100mA

Dimensions: 5" x 3" x 2"

Operating Temperature: -40°C - +70°C

Humidity: 0% - 95% RH, noncondensing

Sensing Unit

Operating Temperature: -40°C - +150°C

Pressure: 200 psi maximum

Mechanical Interface: ½" NPT, 4" long (2.5" depth in oil)

Output

Local LED for Power and System Error

Remote monitoring via:

- Analog voltage
- 4-20 current loop
- RS232
- RS485
- Ethernet (optional)
- 802.11g/n (optional)
- Cellular/AWS (optional)

Principles of Operation

As oil breaks down, it becomes increasingly acidic and polar. These changes are proportional to each other. VSI leveraged this relationship in developing its unique, patented technology which precisely measures oil polarity to determine its acidity (TAN), an industry standard measure of oil wear. Moisture in oil affects oil's ability to lubricate, prematurely ages oil, and can contribute to corrosion of equipment. Oil Advantage uses capacitive changes in a polymeric substrate to measure even minute amounts of water highly accurately. Metal wear causes microscopic conductive particles to enter oil and increase its electrical conductivity. Oil Advantage monitors oil conductivity using extremely sensitive proprietary circuitry to detect the presence of metals in the oil. Oil Advantage incorporates seven of Voelker Sensor's US patents.

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