Oil Debris Sensor

Ferrous Wear Detection

Detecting machinery failures faster

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DETECTING MACHINERY FAILURES FASTER

The Gill Oil Debris Sensor is proven in use by some of the world's leading manufacturers, to provide the earliest warning of the initial stages of machine failure.

DAILY OIL HEALTH CHECK

Provides a "daily" check into the condition of your machine at a reasonable cost.

NO EXPENSIVE TRAINING PROGRAMS

No expensive training programs or expert knowledge to interpret the results, unlike most other technologies in the condition monitoring field.

SMART MAGNETIC DRAIN PLUG

Replace the existing drain plug with the Gill Oil Debris Sensor and wire into your PLC or SCADA system. Alternatively use our "inflow" adaptor to install the sensor in the oil flow line, before any filters.

PREDICT AND SCHEDULE MAINTENANCE ACTIONS

Use the data from the Gill Oil Debris Sensor to predict and schedule maintenance actions. From determining the need to increase the frequency of lab oil samples to full machine shutdowns, the Gill Oil Debris Sensor is always on guard.

Product Description

The Gill Oil Debris Sensor comprises of two key elements. The sensor probe, that comes with multiple thread adaptor options, is coupled with the gearbox in place of the standard magnetic drain plug. The probe is then connected by wire to the separate electronics module, which turns the sensor signals into useful data. This data is then relayed via Analogue or Digital communications protocols for display or post processing. The electronics enclosure is available in a premium option which includes a local, high intensity, LED scale to display the captured debris levels.

THINK FOR A MINUTE

How long would a critical asset need to be shutdown before you lost $1,000?

How long before you have lost $10,000?

How long before reliability is under the management microscope?

In most large industrial factories $1,000 can be lost in less than half an hour. If you invested $1,000 in a device with the capability to monitor your assets 24 hours a day 7 days a week how many minutes of downtime would it have to save to pay for itself? Not many.

Product Success

Four out of the top five largest global manufacturing companies have tested the Gill Oil Debris sensor and are running active installation programs on key manufacturing assets.

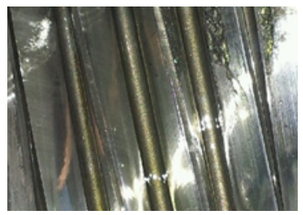
One particular customer turned to Gill to solve a problem that they could not trace in time with vibration sensing.

Top 5 largest manufacturing companies by revenue.

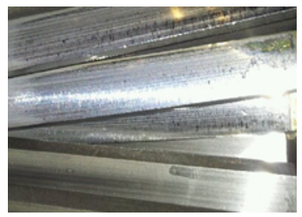
No.	Company Name	Revenue (by US$ m)
1	Volkswagen Group	288,888
2	Toyota Group	265,172
3	Apple	229,234
4	Samsung	211,940
5	Daimler	185,235

Ref CNN Money – Fortune 500 global

The Gill Oil Debris Sensor outperformed the companies vibration sensors in their speed reducer gearbox application. The images below show damage that has occured on the asset, which was not picked up by the companies vibration sensors. If it wasn't for the Gill Oil Debris sensor the damage could have been catastrophic.

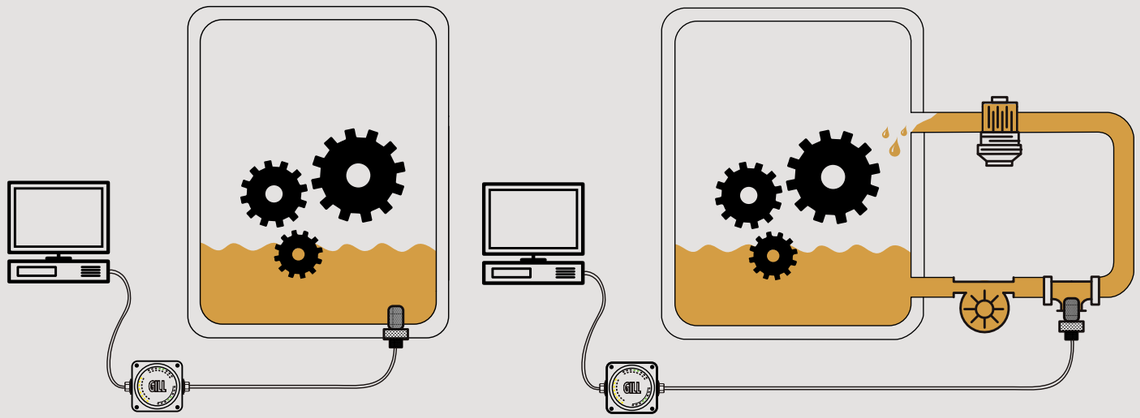


Gear flaking



Heavy polishing

Installation Location



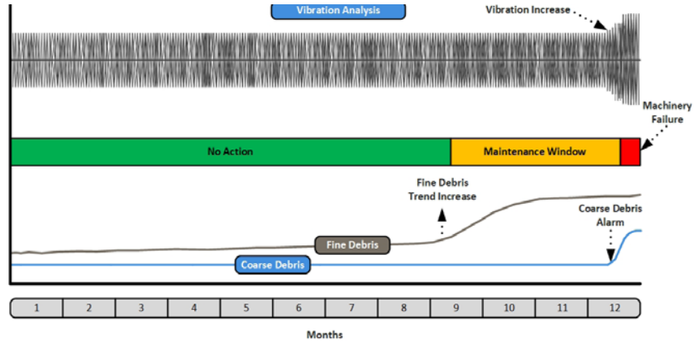
Sump Installation

Filter Bypass Line "inflow"

Product Trials

The Gill Oil Debris Sensor was put on trial by one of the top 5 fortune 500 companies.

The sensor was trialed side-by-side against an oil acidity sensors and vibration sensors in accelerated destructive tests.



The graphic above shows that the sensor outperformed other technologies detecting failures significantly earlier.

Did you know?

Real-time analysis of oil condition has been identified by independent assessors as the fastest growing sensor technology in the condition-based monitoring industry.

Ref Bureau Veritas – SMRP Conf. 2019

Product Review

What our customers say:

"Our [Gill] sensor shows that fine particles had increased before abnormal vibration. We used a device capable of real-time vibration frequency analysis, and the oil [Gill] sensor reacted before the [vibration manufacturer] sensor did."

- Reliability engineer | top 5 fortune 500 list of largest manufacturing companies.

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Easy to install

How to set up

The Gill Oil Debris Sensor can be installed "out-of-the-box". If you want to adjust the sensor parameters then Gill provide a free to download and use Windows application with a handy set up Wizard. See the support pages of www.gillsc.com for details. You will also find a training video on our Youtube channel.

Typical Applications

- Gearboxes
- Transmissions
- Speed Reducers
- Engines
- Differential Gears
- Planetary gears
- Hydraulics
- Final Drives
- Track Drives

Application Story

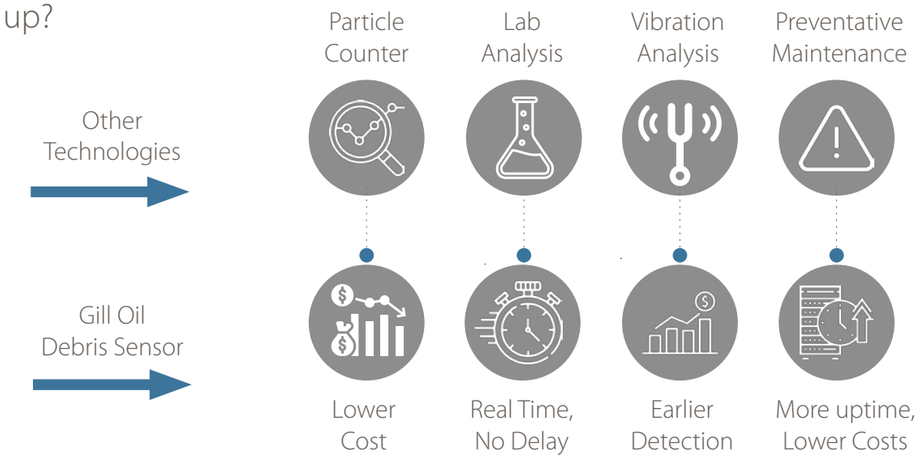
One of the UK's largest manufacturers of own label chilled pizza, with a 43% market share, relies on high production availability to meet the freshness and just-in-time delivery requirements of its customers. The costs, reputational damage of unplanned downtime, and consequent supply disruption are so significant that the company invests in the Gill Oil Debris Sensor in order to protect both its reputation and profits.

Installed on the companies operationally critical gearboxes, a suite of Oil Debris Sensors are protecting the assets of one of the UK's most loved food production lines. [Read full story]

Predictive Maintenance Strategy

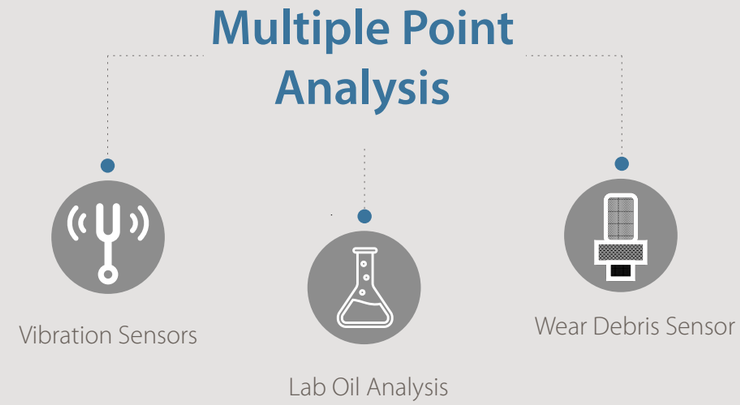
How does it measure up against competitive technologies?

There are so many condition monitoring technologies in market, maybe you already have some of these installed. So, how does the Oil Debris Sensor measure up?



Ultimate Solution

Did you know that an optimum Condition Based Monitoring assessment should be made by comparing multiple data points? That means that Lab Oil Analysis, Vibration and the Oil Debris Sensor can work hand in glove for the Ultimate analysis suite.



Product Range

Industrial Sensor

Inline Sensor

Industrial Models
Oil Debris Sensor with Display 4-20mA
Oil Debris Sensor with Display 0-10v
Oil Debris Sensor with Display CAN

Inline Models
Oil Debris Sensor 4-20mA
Oil Debris Sensor 0-10v
Oil Debris Sensor CAN

Sensor Head Fittings
Sensor Head Fitting M22x1.5 6g to BS3643
Sensor Head Fitting M24x2.0 6g to BS3643
Sensor Head Fitting 3/4"x 16UNF class 2a to ASME/ANSI B1.1
Sensor Head Fitting 1/2"BSPP to BS EN ISO 228-1
Sensor Head Fitting M20x1.5 6g to BS3643

Options
Inflow Adaptor for M20 x 1.5 sized sensor
Inflow Adaptor kit with Valves for 1" diameter pipe
Inflow Adaptor kit with Valves for 1.5" diameter pipe
Conduit kit for display models (Sensor to electronics)
Demonstration Kit

Adaptor kit (sensor not included)

Adaptor (sensor not included)

Where to buy

Gill sells its products through a worldwide network of trained distributors, so you can count on the very best advice for your application.

For further information on the condtion sensor range, including manuals and datasheets, please visit gillsc.com/condition

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