RMF SYSTEMS

PURE POWER

RMF SYSTEMS

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OQS
OIL QUALITY SENSOR

Oil Quality Sensor

THE OIL QUALITY SENSOR (OQS) FROM RMF SYSTEMS PUTS YOU IN CONTROL WITH REAL-TIME MONITORING OF CONTAMINATION AND WATER INGRESS. EXPENSIVE OIL CHANGES ARE NOW BASED ON OIL CONDITION, NOT ON HISTORICAL SCHEDULE.

BENEFITS

- Reduced maintenance cost
- Extended oil change intervals
- Scheduled downtime intervals for increased productivity
- Reduced waste oil cost
- Improved equipment reliability
- Low cost investment tool
- Reduced carbon foot print
- Reduces total cost of ownership

The requirement to implement an effective monitoring and maintenance program for lubricants in critical plant machinery has never been greater. With the escalating price of crude oil and the vast improvements that are being seen in the quality of lubricants available today, it is more important than ever for organisations to ensure that they are maximising the service life of the oil used. Monitoring oil condition is clearly fundamental to understanding the optimal time to change. Change to early and the cost is significant, change too late and the costs can be even greater!

The sensor is a live , highly flexible and cost effective condition based monitoring solution, designed to be permanently mounted within any lubrication system on any type of machine. Over 60 times more sensitive to oil contamination than any other dielectric constant measuring sensor, it provides real-time monitoring of water ingress and oxidation levels.

"This truly is a **revolution** in oil condition monitoring. Until today, sensors could only give a very rough indication of oil condition. With our **state of the art** technology you know the exact condition of your oil at all times, so you know when to conduct a service"

Gerben Gerken
Manager Oil Management Hydraulics
RMF Systems

ENVIRONMENTAL

Strict schedule based maintenance programmes have several downsides. Environmental experts argue that the greatest of these is the preventable waste. The Oil Quality Sensor (OQS) real-time monitoring sensor makes extending the oil service life effortless.

MARKET LEADING

The Oil Quality Sensor (OQS) is 60 times more sensitive to oil contamination than any other dielectric constant measuring sensor.

INTELLIGENT

The OQS measures the energy loss component of oil permittivity. All contaminants such as metallic particles, soot, water, oxidation, glycol and particularly burnt fuel dilution increase this measured value.

UNIVERSAL

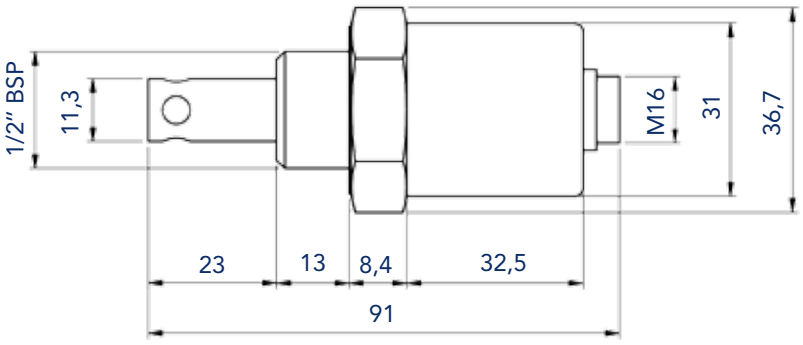
Reliably measures contamination in all industrial equipment, including;

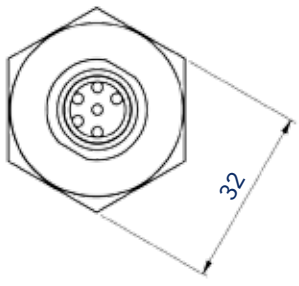
- Diesel and petrol engines
- Compressors
- Industrial gear reducers
- Wind turbines
- Generator sets
- Hydraulic systems

OQS FACTS

- Robust design
- Resistant to high fluid temperatures, -20° C to 120° C
- Resistant to fluid pressures up to 20 bar

TECHNICAL SPECIFICATION		
Material	Stainless Steel AISI 304	
Dimensions	90 mm x 37 mm	
Weight	160 g	
Mechanical connection	1/2" BSP Thread / M32 Hex thread	
Seals	FPM	
Output connection	6 pin Lumberg Male (IEC 61076-2-106)	
Power supply	9 - 30 VDC	
Power Consumption	Average 0,4 W continuous 30 mA	
Analogue output	2 x 4 - 20 mA (Current syncing, passive input)	
Digital output	1xRS485: 9600 baud half duplex, Modbus protocol supported on RS485 CANbus: CANopen protocol supported on RS485	
Fluid compatibility	Synthetic or mineral oil - including fuel oils such as diesel and bio-diesel	
Fluid temperature	-20° C to 120° C	
Max fluid pressure	Up to 20 bar	
Oil Quality Detection Parameters	Frequency	15 per second
	Accuracy	±1%
Standards & Certification	**Water & Dust** IP67 when connected	
	Shock & Vibration IEC 60068-2-30:2005 (Test Db - Cyclic Humidity) IEC 60068-2-6:20007 (Test Fc - Sine Vibration) IEC 60068-2-27:2008 (Test Ea - Mechanical Shock)	
	EMC EN 61000-6-4:2007 (Generic Emissions Standard for Industrial Environments) EN 61000-6-2:2005 (Generic Immunity Standard for Industrial Environments)	

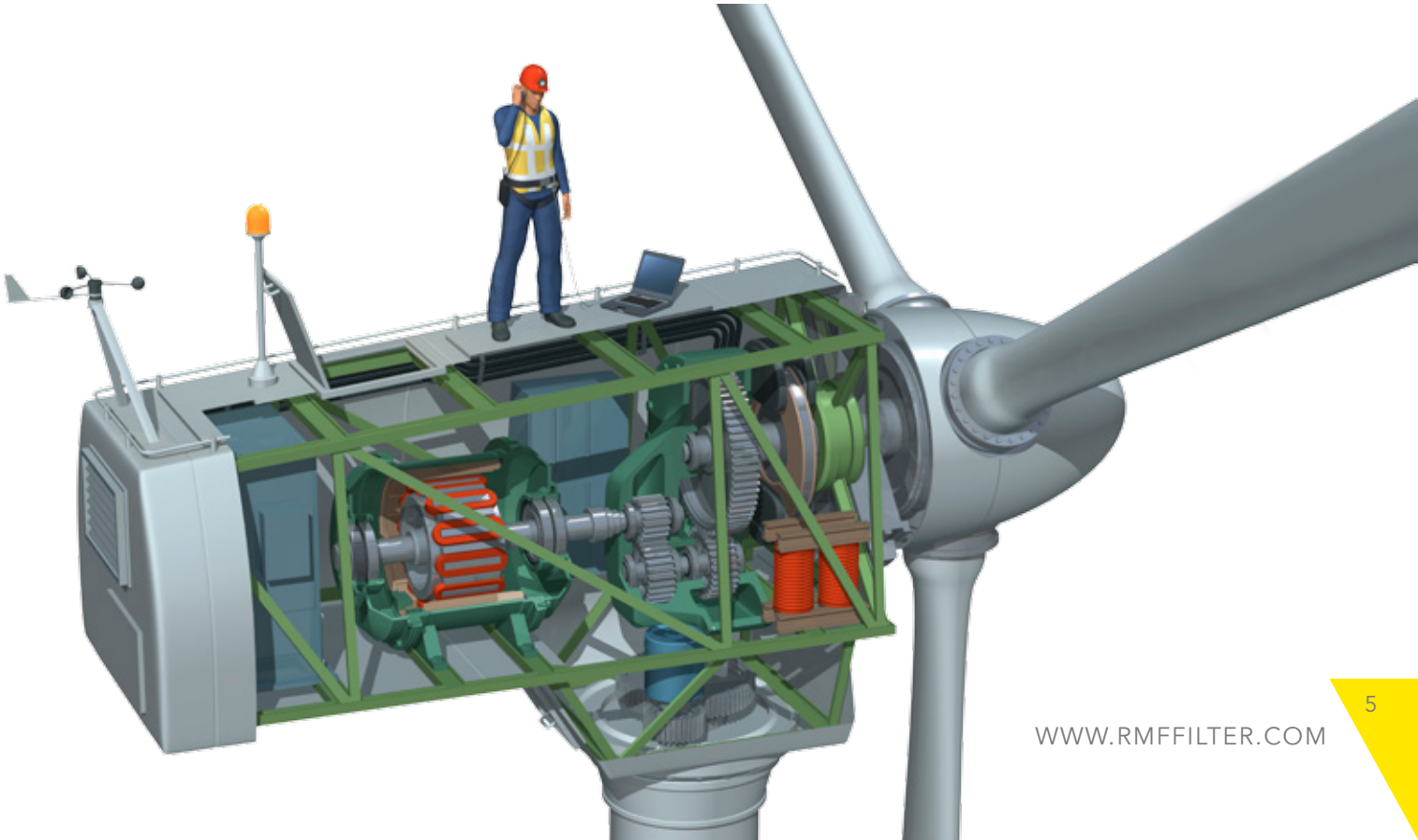




Oil Quality Display smart (OQDs)

The Oil Quality Display is a simple but powerful device which allows you to read the oil quality and temperature of the oil from a sensor without a PC.

This enables you to set up the display box on site and then be able to see the oil quality and temperature readings as required. Use an Android app to connect your Smartphone with the OQD smart via Bluetooth. With it being IP67 rated (when connected) you do not need to worry about the need to keep it in a dry place. Also with it being made from polycarbonate it is a strong durable product which cannot be damaged easily. The new 'Rate of Change' feature allows you to easily monitor the degradation of oil over a programmable period of time.



Product Features

ESSENTIAL INFORMATION
Displays oil quality, temperature and rate of change in real time.

BLUETOOTH CONNECTIVITY
Stored data can be easily downloaded and sent wherever needed.

CONFIGURABLE QUALITY ALERTS
Configurable traffic light alert system provides simple visual oil quality reference.

DATA LOGGER
Continuously logs the last 3 month quality data which can be downloaded for analysis.

ROBUST AND RUGGED
The rugged IP67 rated enclosure and high quality industrial connectors make this unit very reliable.

BENEFITS

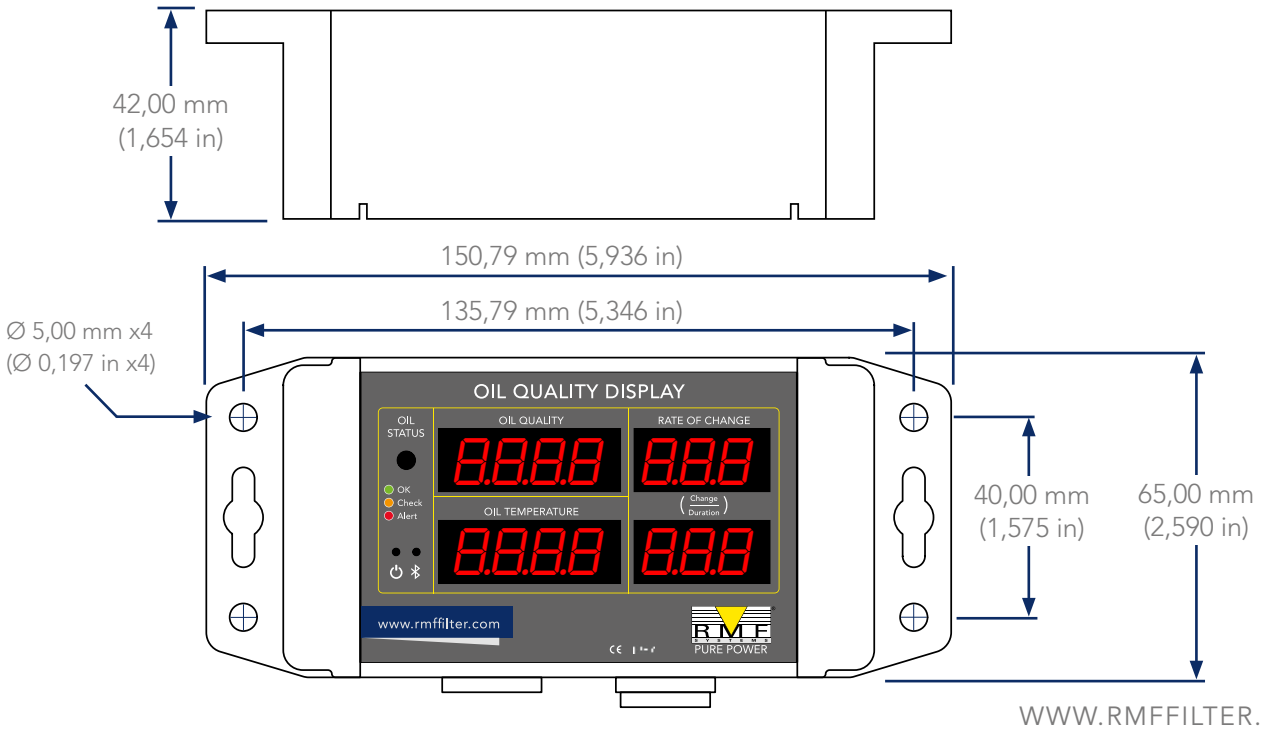
INCREASED RELIABILITY
Detects and reports the early signs of hidden issues enabling remedial action to prevent accelerated wear and unexpected breakdowns.

HELP THE ENVIRONMENT
Ensures your equipment is in optimal condition making a safer working environment.

FEWER SERVICE INTERVALS
Less maintenance and servicing means increased equipment availability and reduced costs.

PEACE OF MIND
Knowing that your critical equipment is being monitored 24 hours a day 365 days a year.

TECHNICAL SPECIFICATION	
Material	Polycarbonate
Dimensions (LxWxH)	120 mm x 66 mm x 42 mm
Weight	225 g
Mounting	Integrated flanges
Power	9 - 30 VDC
Average power consumption	0.4 W
Power consumption	200 mA continuous
Analog output	4-20 mA
Digital output	RMF Systems protocol
Bluetooth	4.1 Low Energy
Display	Oil Quality Oil Temperature Rate of Change Status indicator
Temperature (Operating)	-30° C to +65° C
Temperature (Storage)	-30° C to +70° C
Connections	M16 - 6 pins (IEC 61076-2-106) male, female
Compliant with the following standard	**CE marked:** Dust and Water ingress: IEC 60529:1989/AMD 2:2013 IEC 60068-2-30:2005 (Test Db - Cyclic Humidity) IEC 60068-2-6:20007 (Test Fc - Sine Vibration) IEC 60068-2-27:2008 (Test Ea - Mechanical Shock) **EMC**: EN 61000-6-4:2007 (Generic Emissions Standard for Industrial Environments) EN 61000-6-2:2007 (Generic Immunity Standard for Industrial Environments) EN 300 328 v1.8.1. (Transferable Electromagnetic Compatibility for Wideband Data Transmission Equipment operating in the 2.4GHz ISM Band and using Wideband Modulation Techniques.)



OQS Starters kit

The RMF Systems OQS Starters kit is the perfect solution to get you started with Oil Quality Sensor.

IN THE BOX YOU WILL FIND:

- ▶ Oil Quality Sensor (OQS)
- ▶ OQS power data cable (OQC-02-2)
- ▶ OQS / OQD Configuration cable
- ▶ A USB-stick with OQS Software
- ▶ A quick start guide

OQD Starters kit

The RMF Systems OQD Starters kit contains everything you need for proper installation and usage of the Oil Quality Display.

IN THE BOX YOU WILL FIND:

- ▶ Oil Quality Display (OQD)
- ▶ OQS to OQD cable (OQC-02-1)
- ▶ OQS power data cable (OQC-02-2)
- ▶ OQS / OQD Configuration cable
- ▶ A USB-stick with OQS Software
- ▶ A quick start guide

Configuration kit

The Configuration kit is meant for those who would like to connect the OQS or OQD to their computer.

IN THE BOX YOU WILL FIND:

- ▶ Configuration Cable
- ▶ A power adapter with international connectors
- ▶ A USB-stick with OQS Software

OQS Full kit

The complete kit is perfect for people who would like to be in control of Oil quality.

IN THE BOX YOU WILL FIND:

- ▶ Oil Quality Sensor (OQS)
- ▶ Oil Quality Display (OQD)
- ▶ OQS to OQD cable (OQC-02-1)
- ▶ OQS power data cable (OQC-02-2)
- ▶ OQS / OQD Configuration cable
- ▶ A USB-stick with OQS Software
- ▶ A quick start guide

OQS Sample Case

THE WORLD'S MOST ADVANCED PORTABLE TEST KIT

OQS SAMPLE CASE IS THE WORLD'S MOST ADVANCED PORTABLE OIL TESTING KIT THAT ENABLES ACCURATE CONDITION SAMPLE TESTS OF ANY OIL ANYWHERE IN SECONDS. FROM A SMALL SAMPLE, ADVANCED TECHNOLOGY PROVIDES AN INSTANT READOUT OF THE OIL'S PRECISE CONDITION. OQS SAMPLE CASE IS AN INVALUABLE FIELD OR GARAGE SERVICE AND MAINTENANCE TOOL THAT HELPS TO ENSURE YOUR EQUIPMENT OPERATES RELIABLY AND EFFICIENTLY. OQS SAMPLE CASE WILL QUICKLY PAY FOR ITSELF THROUGH EXTENDED SERVICE INTERVALS AND REDUCED BREAK DOWNS.

HOW IT WORKS

1. TAKE SAMPLE

Take a small sample oil using one of the bottles provides.

2. CONNECT SENSOR

Connect sensor to a PC running the monitoring program & select oil type.

3. ATTACH SAMPLE

Screw sensor to the bottle & turn upside down so oil covers the sensor node.

4. TAKE READING

Oil condition statement provided in a clear easy to understand format.

OQS SAMPLE CASE CONTAINS:

- RMF Systems Oil Quality sensor
- 6x Sample bottles
- Adaptor
- USB Normalisation Cable
- Sampling software
- Oil database (included in software)
- Cleaning solvent*
- Instructions

** Not included if shipped via Air freight*

Advanced Core Technology

The foundation of the Sample Case is the RMF Systems OQS Oil Quality Sensor. Our patented technology provides an immediate and accurate view of the oil's current condition. Immediately upon contact with the target oil the sensor measures multiple independent elements of the oil, which are then compared and processed to provide an exceptionally accurate statement of oil condition. This accuracy and integrity is the hallmark of RMF Systems technology and products.

Common Application

The OQS Sample Case has been created to provide accurate oil testing in the field and can be used in any application where the use of oil is important to equipment reliability and efficiency.

SERVICE CENTRES

Make sure your equipment is operating with oil that is up to the job and reduce unnecessary wear and breakdowns.

ENGINE ROOMS

Take the guess work out of monitoring the state of oil in large engines such as ships.

MOBILE SERVICE CREWS

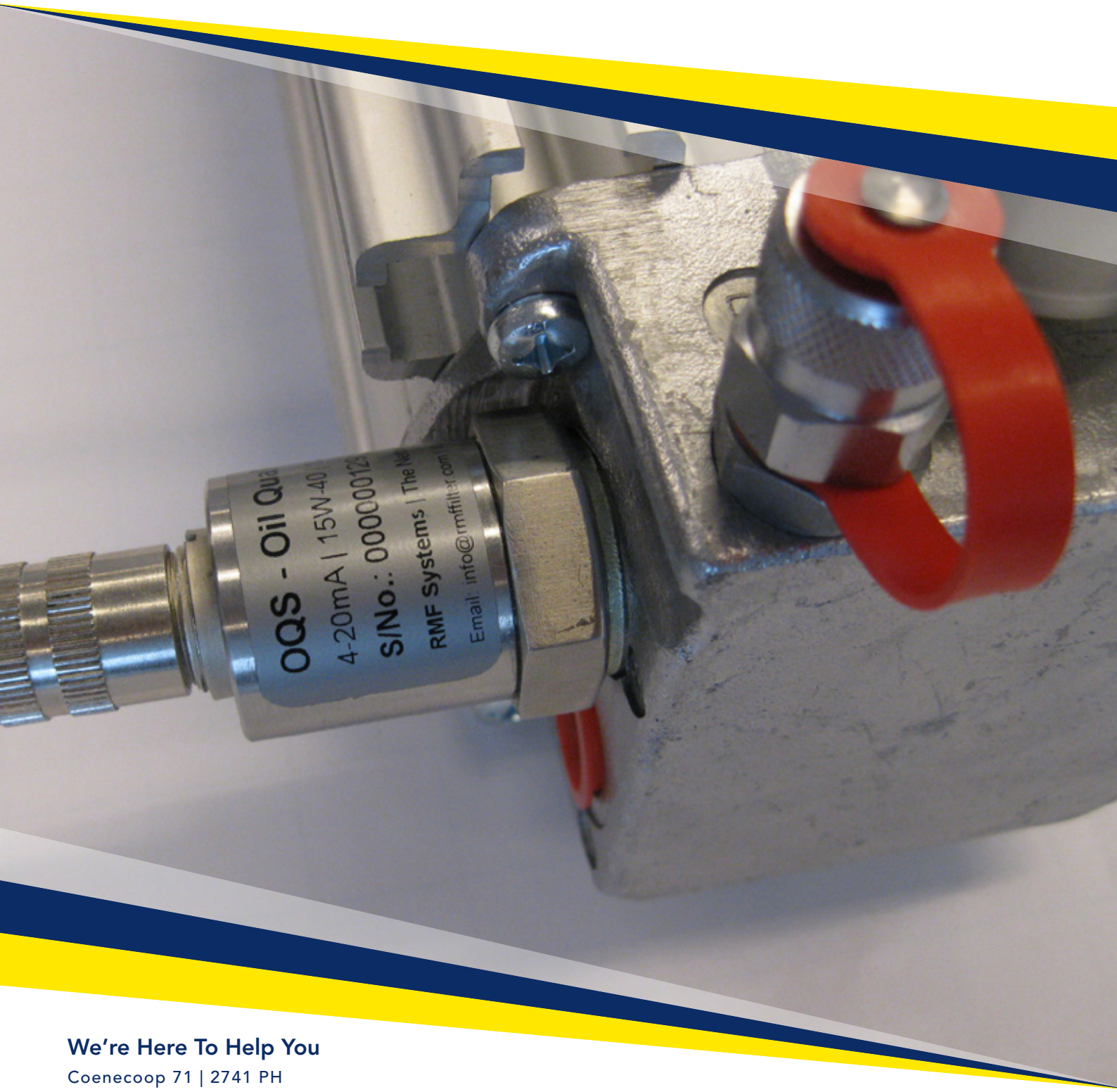
Ensure your equipment, from mobile generators, wind turbines to transformers, has the oil it needs to operate efficiently.

EQUIPMENT OWNER BENEFITS

- Reduce costly break downs
- Reduce service costs by extending intervals
- Maximise service team efficiency
- Identify potential problems before they arise
- Cost effective

SERVICE TEAM BENEFITS

- Quick and easy
- Large oil database
- Designed for use in the field
- Instant diagnosis of potential problems
- Minimise time consuming external lab tests
- Add-on option oil database



We're Here To Help You

Coenecoop 71 | 2741 PH
Waddinxveen | The Netherlands
T (31) 182 30 28 88
F (31) 182 30 28 89
E info@rmffilter.com

RMF SYSTEMS®
WWW.RMFFILTER.COM

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