Optimize your ship operations

SKF Marine
condition monitoring solutions
Marine-specific condition monitoring

SKF Marine condition monitoring solutions include the SKF Marine Condition Monitoring Kit, the SKF Marine Condition Monitoring Route Kit and our latest addition to the Marine condition monitoring range, the SKF QuickCollect sensor.

The SKF Condition Monitoring Route Kit is a continuation of the SKF Marine Condition Monitoring Kit that aligns the condition monitoring programme with condition-based maintenance requirements. The big difference between the two kits is that the route-based solution provides regular data to allow tracking of how a fault is developing in order to optimize predictive maintenance.

Both the SKF Marine Condition Monitoring Kit and the SKF Marine Condition Monitoring Route Kit – as well as the new SKF QuickCollect sensor – have been developed specifically for the demanding marine industry and tough on-board conditions. They are well suited for use on a wide range of vessels, including tankers, bulk carriers, container vessels, cruise ships, and offshore supply vessels, as well as platforms and other offshore applications.

These well-proven, reliable solutions feature preconfigured, marine-specific software that makes it quick and easy to monitor the condition of critical auxiliary machinery.

Supports modern maintenance strategies

Taking the step toward condition-based maintenance does not always require a large investment. With SKF’s concepts you can start with a small investment and look forward to quick and easy implementation. We can also provide advice on how to integrate the solution into your ship maintenance management systems. In addition to supporting modern maintenance strategies, this innovative solution offers an easy way to check if machines have been repaired correctly.

Let’s team up!

At SKF, we have a global team of condition monitoring engineers who are certified to VA CAT II or higher.

As a class-approved service supplier we always strive for the highest quality of output through the early identification of faults to deliver you competitive ROI.
Reliable solutions at hand

SKF Marine Condition Monitoring Kit

With the SKF Marine Condition Monitoring Kit, even an untrained user can understand the results of vibration data measurements and locate the source of the fault in the machinery. The marine-specific software is preconfigured to convert the measured data into an easy-to-understand, colour-coded result. It gives an express analysis of the asset condition allowing you to make a repair decision or to send data to our condition monitoring engineers for further analysis.

Step-by-step work instructions help implementation, eliminate guesswork and enhance reliability in daily use. With its easy-to-use, marine-specific software, it’s possible for anyone on board to interpret the data correctly via the green – yellow – red colour code.

Automatic analysis of machine condition indicates possible faults, imbalances, bearing defects and misalignments, improving reliability and enabling cost-effective maintenance.

SKF Microlog GX 75 handheld data collector

The SKF Microlog GX 75 is lightweight and ergonomically designed for ease of use. With an extended battery life, it allows you to do a full day of work without recharging. Its easy operation function keys are designed for left- or right-handed use. This provides ease of use when one hand is needed for user safety.

Rugged and water-resistant, the SKF Microlog GX 75 is designed specifically to withstand demanding on-board conditions – leading to a long service life.

Additional support

- We can help you set up the vibration collection points on your auxiliary machinery
- We offer consulting service as part of a service agreement
- We can provide training for your crew

Asset specific data

Machine component condition:
Automatic vibration spectrum analysis, detection of imbalance, misalignment, mechanical looseness, impeller wear, bearing and gear condition, and cavitation issues.

Machine condition: Including failure mode, fault code and suggested maintenance task

Report: Includes the asset’s condition and actionable results.

Technical specifications for SKF Microlog GX 75 handheld measuring tool:

Environmental and regulatory specifications
- Temperature range: –30 to +50 °C (14 to +122 °F)
- Humidity: 95% non-condensing
- IP rating: IP 65
- CE approved

Input sources
- Accl sensor: AC/DC sensor
- Tachometer: TTL/analogue programmable to +/– 25V

Power
- Main power: Li-ion smart battery pack
- Battery lifetime: Eight hours continuous operation minimum

Physical
- Case: High impact ABS with IP 65 dust and splash rating
- Screen: 1/4 VGA color TFT screen, 320 × 240 pixels resolution
- Drop test: 2 m (6.6 ft.), to MIL STD 810F specifications
- Weight: 715 g (1.6 lb.)

Hazardous approval:
- Hazardous Zone 2 (see data sheet for details)

Measurement
- Range: up to 80 kHz
- Resolution: 100 to 25 600 lines
- Parameters: acceleration, velocity, displacement, envelope acceleration (gE), phase, voltage
- Signal: RMS, pk, pk-pk, True pk, True pk-pk
- Type: Overall, spectrum, time waveform, cross phase, orbit, shaft centerline

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Interchangeable tools for dependable solutions
As an option, the SKF Microlog GX 75 handheld data collector can be used for data collection.

Bluetooth-enabled, the SKF QuickCollect sensor connects to the SKF ProCollect app on the user’s tablet or smartphone. Through the app, users have instant access to collected data. Both collection and interpretation of data is thereby simplified. The data can be viewed from any location, or wirelessly transmitted to the SKF One Global Cloud for further analysis or storage. The SKF platform is continuously updated to match new and changing industry requirements – providing a future-proof solution for the marine industry.

The SKF QuickCollect sensor is a cost-effective investment, allowing reduced spending on maintenance of monitored assets by overseeing machine condition, providing recommended maintenance actions and focusing on the assets that need attention.

A reliable effective solution, the SKF QuickCollect sensor offers access to a class-approved service network and systematized marine knowledge.

Additional features:
- Velocity, acceleration enveloping and temperature measurements
- Remote sensor to collect data from machines with hard to reach places
- Rechargeable lithium battery (8 hours normal usage)
- Connect, store and share data by using the SKF Enlight Centre
- Connect to SKF Remote Diagnostic Services for condition monitoring expert analysis and reporting

SKF Marine Condition Monitoring Route Kit
The SKF Marine Condition Monitoring Route Kit allows tracking of how a fault is developing in order to optimize predictive maintenance. This makes it possible to extend the time between repairs, eliminate machine problems on time, allow spare part optimization, track ship and fleet condition and reduce maintenance costs.

The system also facilitates ease of use and communication, ship to shore, crew involvement, and team work.

The SKF Marine Condition Monitoring Route Kit offers predefined templates for marine machines, and specific database settings aligned to class alarm levels.

You can transfer the collected machine data to the SKF One Global Cloud, where it can be accessed and analyzed by condition monitoring experts to support the ship’s engineer or the fleet technical manager. The recommended maintenance actions are presented in a clear and actionable manner to support the ship’s engineers in performing maintenance activities.

The route kit is now complemented by the new SKF QuickCollect sensor and the SKF Enlight centre software. Both are designed for a cost-effective step towards condition-based maintenance to optimize your ship’s performance.

SKF QuickCollect sensor
The SKF QuickCollect sensor is our latest contribution to the marine condition monitoring range.

It’s easy to set up, use and understand. Commissioning can be carried out either by your own team under SKF supervision, or – if preferred – by us.

QuickCollect technical specifications
Environmental and regulatory specifications
- Temperature range:
  - –20 to +60 °C
  - Charging: 0 to +40 °C
- Humidity:
  - 95% non-condensing
- IP rating:
  - IP 65, dust and water ingress protection testing standard.
- Hazardous approval:
  - Hazardous Zone 1 (see data sheet for details)
- Radio approvals:
  - Europe (CE), USA (FCC), Canada (IC)
- CE Mark:
  - CE approved
- Input sources
  - Built-in accl sensor
  - Extension cable (60 cm) and accl (temperature disabled)
- Power
  - Main power:
    - Rechargeable lithium battery, 3.7 V DC, 0.34 A
  - Battery lifetime:
    - Eight hours with normal usage and 4 hrs with external sensor connected
- Hazardous approval:
  - Hazardous Zone 1 (see data sheet for details)
- Radio approvals:
  - Europe (CE), USA (FCC), Canada (IC)
- CE Mark:
  - CE approved
- Measurement
  - Range: up to 10 kHz
  - Resolution: 100 to 3200 lines
- Parameters: acceleration, velocity, envelope acceleration (gE), temperature (up to 100 °C)
- Signal: RMS/pk/True pk-pk
- Type: Overall, spectrum, time waveform
SKF Enlight Centre

The SKF Enlight Centre provides a new standard of condition monitoring. The software not only improves ease of use considerably, it also facilitates communication, crew involvement and teamwork. Furthermore you have the option of connecting directly to SKF remote diagnostic services. In this way our intelligent condition-based maintenance system achieves unrivalled performance and significant cost reductions.

Main benefits

A condition-based maintenance strategy can be successfully implemented, including planned maintenance work. This increases operational safety and reduces downtime – contributing to sustainable cost savings.

The intuitive and user-friendly handling minimizes the need for training. A clearly arranged interface presents all the information actually needed, including tasks and analyses on the dashboard. Live data analysis is also possible.

The platform offers different user roles, e.g. chief engineer, superintendent, fleet manager. If needed, class surveyors and SKF remote diagnostic experts have access to the relevant data at any time.

The centralization of the data provides access from anywhere. A web login is all that is required. Since the system is web-based and all software is hosted in the SKF One Global Cloud, IT costs on board your vessel are reduced.

A complete software

The SKF Enlight Centre includes everything required to keep the vessel’s individual machines under surveillance. It facilitates the big step from reactive, unplanned maintenance to a predictable, condition-based and proactive maintenance system:

- **Analyze view:** Real-time analytics and data visualization help your team take the right steps.
- **Route:** Shows the next machines due for data collection, based on the corresponding schedule in the maintenance strategy.
- **Manual route:** The route can also be manually adjusted by adding or removing machines from the list.
- **Report:** Presents the condition of all assets, fault type and the recommended actions required. The maintenance history for each of the assets is also available and provides the user with all the relevant information.
- **Insights:** Provides a risk assessment summary of the overall risk of the assets being monitored. Insights also identifies rogue variants and displays the distribution between the most common faults including MTBR – a powerful tool for a fleet manager when used to view an entire fleet or a single vessel. Furthermore, you can follow up on data collection compliance in accordance to the defined strategy for the assets being monitored.

Installation and operation

The on-board implementation of the sensors can be carried out by your crew, under SKF supervision, and performed in accordance with SKF Marine condition-based maintenance standards.

Following the agreed maintenance strategy, the SKF Enlight Centre shows exactly which machine data must be collected in the coming days and weeks.

Installation and operation

The SKF Microlog or QuickCollect sensor can be used to collect data and transfer existing condition-monitoring solutions, such as the SKF Marine Condition Monitoring Route Kit, to the SKF One Global Cloud.

Our remote diagnostic experts can then access and analyze the data and propose actionable maintenance recommendations.

The results of the analysis are presented to you on the SKF Enlight Centre report dashboard, where the information is immediately transferred into tasks for your crew. Furthermore, you are also provided with suggestions for upcoming maintenance work.

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Global standards for maintenance services

SKF Marine has implemented a global SKF standard for condition-based maintenance, as well as condition monitoring services. The quality control of our services is exceptionally high. Each SKF location needs to pass a certification training course and an internal audit before being approved. We are one of the first companies in the world to hold a global class-approved service supplier certificate.

Service performed by experts

SKF remote diagnostic experts help you set up an individual condition-based maintenance strategy, customized to the special needs of your fleet. An efficient condition monitoring programme is therefore implemented. It can also be integrated seamlessly into the ship’s current maintenance management system.

Worldwide support for the marine industry

You can benefit from our know-how by using a complete range of SKF products and services, delivered with world-class logistics through the industry’s best and most reliable distribution system.

We have decades of experience in working with:
- Classification societies
- OEMs
- Ship designers
- Shipyards
- Ship owners, operators and technical managers
Whatever your location or wherever your operations take you, SKF Marine assures timely accessibility to the services, products and solutions needed to optimize ship performance, safety and reliability. With a presence in more than 130 countries, 110 production sites in 28 countries and distributors, sales agents and service stations in more than 15,000 locations, SKF can deliver the right solutions anytime, anywhere around the globe.

The SKF marine library

SKF’s marine library software is based on more than 30 years of marine machinery trends, which include models covering approximately 85% of on-board auxiliary machinery. It allows users to go beyond measuring the overall vibration levels recommended by class, to also assess the condition of specific components and identify possible problems.
Contact

For any requests, feedback, suggestions or complaints, please send an email to: marine.support@skf.com

To find locations approved by SKF Marine take a look at skf-marine.com or scan the QR code below.

The SKF Marine Condition Monitoring Kits are available in two variants:

The SKF Marine Condition Monitoring Kit (entry level)
CMXA 75 MXP-K-SL – including SKF Microlog Analyser, conformance check module, full suite of SKF marine library templates, standard accessories, one accelerometer with integral cable and quality work instructions.

The SKF Marine Condition Monitoring Route Kit (advanced level)
CMXA 75 MXP-K-SL – including SKF Microlog Analyser, route functionality, full suite of SKF marine library templates, standard accessories, one accelerometer with integral cable and quality work instructions.

OR

CMDT 391-K-SL – including SKF Quick Collect sensor and SKF Pro Collect APP, route functionality, watch keeping, standard accessories and quality work instructions.

CMDT 391-PRO-K-SL – in addition to CMDT 391-K-SL, extension cable

CMDT 391-EX-PRO-K-SL – in addition to CMDT 391-K-SL Ex approved sensor and extension cable

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