A part of The IKM Group

IKM Instrutek AS is a leading sales and service supplier of test and measurement instruments.

We have special expertise in: electrical, electronics, automation, condition monitoring, maritime navigation, communication and calibration.

As a close cooperative technical partner, we offer our products and services to both marine, offshore and onshore industry.

The company has it’s head office in Larvik and departments in Stavanger and Bergen. We count about 60 employees and a turnover of approximately NOK 200 mill.

We are a part of the IKM Group counting more than 2 500 employees and a turnover of approximately NOK 4.5 billion.

The Condition Monitoring and Maritime department handles shipping, industry and offshore markets. Our staff is highly skilled, with extensive knowledge within the fields of navigation, communication and condition monitoring. We focus on service and aim to solve our customers problems and needs.

Our goal is to be the most complete partner for our clients.

By establishing departments in Stavanger and Bergen we ensure a continues development of our existing markets and strengthen ourselves further towards the offshore and maritime industry.

Our Key Account Managers and service personell Holds the highest professional level.

The company makes sure each employee is updated in their field, giving our customers the best service possible.

In addition, we carry out a wide range of training and seminars, both for our clients and their customers.
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Course/ training 49.
Norwegian Sea Rescue 51.
HSEQ 53.
All major brands 55.
IKM Instrutek AS offers a comprehensive range of innovative navigation, communication and other relevant maritime electronic equipment for all type of vessels.

Our headoffice for service is located in Larvik, Norway, with branch offices in Stavanger and Bergen, Norway. IKM Instrutek AS offers a worldwide service network with partners and associates around the world.

IKM Instrutek AS has a wide-ranging staff of highly educated, trained and certified service engineers. We perform service and certifications around the world.

We are certified for GMDSS annual radio survey by DNV, ABS and Lloyds Register. We are also approved for VDR annual performance test (APT) by Furuno, Danelec and Totem. Other may be obtained for dedicated customers.

Our service engineers are trained for servicing navigation and communication equipment from a wide range of brands.

With our custom made Serviceweb for administration of equipment, certifications and services, we offer you complete control over your equipment and due dates.

Choose us as your long term reliable vendor for new buildings and retrofits around the world.

Products:

- Radars
- Ecdis
- VDR
- Gyros
- GPS
- AIS
- BNWAS
- MDL FanBeam
- Hatteland Screens
- Complete Bridge systems
Radar
FURUNO’s integrated leading-edge technology has a user-friendly interface, providing reliable performance and simplified installation. FURUNO ARPA Radar FAR series fully meet the latest performance standards of IMO and IEC for all ships. It is designed to meet the demands of today’s maritime industry.

GPS / DGPS
An outstanding solution for SOLAS carriage requirements as a standalone positioning device and as a sensor for AIS, Radar, VDR, etc. The GP-150 is a highly reliable standalone EPFS that feeds positioning information to AIS, Radar, VDR, ECDIS, Autopilot, Echo Sounder and Sonar.

ECDIS
The ECDIS employs intelligently arranged Graphic User Interface elements that deliver task-based operation scheme to give the operator direct access to necessary operational procedure. Also, the new ECDIS utilises cutting edge chart-drawing engine that delivers instantaneous chart redraw with the seamless zooming and panning, hence making the ECDIS operation stress-free.

The ECDIS will also bring about streamlined chart management scheme providing easy chart management independent of the chart providers. Multifunction display capability, featuring ECDIS, Conning Information Display, Radar/Chart Radar* and Alert Management System**

* A radar sensor needs to be integrated in the network.
** Radar and Alert Management System display capabilities are to be implemented as software update after product release. (Option).

Doppler speed log
- Speed and distance run indicated on a large illuminated LCD display
- Compact display unit and transducer
- High accuracy by utilizing the Doppler principle, paired beam eliminating effect of pitching, and velocity correction for change of water temperature
- Easy speed correction at mile post run
- Speed output to ARPA, radar, ECDIS, AIS, VDR, GMDSS equipment, etc.
- Complies with IMO standards MSC.96(76), A.824(19), A.694(17), IEC 61023 and other related standards
- Fully meets SOLAS carriage requirement for ships over 300GT
- Fits to the hull either directly or with a gate valve
**BNWAS**
The term BNWAS is an acronym for Bridge Navigational Watch Alarm System - a safety system made mandatory in amendments to SOLAS chapter V regulation 19, and adopted on June 5th, 2009 by resolution MSC.282(86). Bridge Navigation Watch Alarm System (BNWAS) systems by AMI are designed with ease of use and style in mind. All systems integrate with existing bridge alarms and are fully type approved to the latest IMO standards.

**Gyro**
We offer a complete range of gyro compasses that ensures the highest accuracy and maximum reliability under all environmental conditions. Combining proven technology and long maintenance periods with most advanced features, we also offer you a long time secure investment with lowest operation costs. Together with our supplier we give you sophisticated and cutting edge gyro compass technology based on over 100 years of experience.

**VDR**
The VR-3000 is a Voyage Data Recorder to assist investigators in identifying the causes of maritime casualty as well as to use the data for future reference to further incident prevention. VDR records data and events occurred during navigation, which include: date and time, ship's position, speed, heading, bridge audio, communication audio, radar/ECDIS images and others.

**AIS**
The Automatic Identification System (AIS) transponder FA-150 is designed to improve navigation safety by observing other AIS equipped ships. It can provide you with a solution for open sea cruise and inland navigation. The FA-150 can be interfaced with radar, ECDIS and ECS (Electronic Chart System, and by overlaying the AIS targets on the display, it enables vessel operators to distinguish the ships from other targets, such as islets.

**Marine approved screens**
IKM Instrutek AS provides leading technology and specialized display and computer products. We deliver high quality, unique and customized solutions.
MDL’s Fanbeam® system is a laser based positioning sensor designed for repetitive high accuracy range and bearing measurements from offshore support vessels and other marine structures.

Control system
MDL have embarked upon a re-write of the control software for the Fanbeam® system in order to implement various enhancements to the functionality of the system.

The new software allows multiple operator stations to be set up, which caters for situations where control needs to be transferred between bridge personnel. A training package for the software includes a fully featured simulator allowing for realistic simulation.

IKM Instrutek AS offers upgrade packages for old units.

Reflective target
The new prisme cluster improves signal strengths and accuracy.

Benefits:
• Automatic target filtering by signal strength using historic data
• Gyro interface
• Intelligent target clutter rejection
• Visual presentation of Fanbeam behaviour
• Reduces potential for spurious targets to compromise reliable positioning
• Less need for operator to manipulate configuration when tracking
• Faster method for changing vertical tilt when tracking
• Simple presentation of tracking confidence
• More flexible interfacing options
• Multiple operator station configuration option
We provide telephone and data services to users worldwide, via portable or mobile terminals which communicate to ground stations through geostationary telecommunications satellites.

Whether your vessels sail worldwide or use regional routes we have full coverage through our globally overlapping Ku band or C-band satellites.

**C-Band**
C-band is the best option if your vessels are sailing long stretches of ocean where there is no Ku-band coverage; or if you want your vessels to have an uninterrupted broadband connection across the oceans.

**GMDSS**
We provide service, retrofit and survey of Global Maritime Distress and Safety Services (GMDSS) to our client’s vessels worldwide. Approval through major class societies like DNV, ABS and Lloyd’s ensures quality service. Our experienced engineers know what GMDSS is about.

**Products:**
- Handheld communication systems
- GMDSS MF / HF / VHF
- V-sat
- Safety, Epirb, SART, handheld
- Satellite communication
- TV entertainment
- SSAS
- PA / Phone systems
- Tetra
- Head sets
- CCTV
- LRIT
- PNA
GMDSS MF / HF / VHF
SAILOR RT6222 VHF DSC Thrane & Thrane introduces the new SAILOR RT6222 VHF DSC, fulfilling and even exceeding GMDSS requirements. The SAILOR RT6222 includes a very powerful transmitter, a very sensitive and accurate receiver and a built-in loudspeaker. SAILOR RT6222 stores and replay incoming calls. This facility increases the safety at sea as a missed message just can be heard again. Together with the rest of the new 6000-series from Thrane & Thrane we cover all your GMDSS requirements.

Satellite communication
We offer a wide range of VSAT equipment from the world’s leading suppliers of radio and satellite communication, broadband solutions and navigation electronics. Combining VSAT with Fleet Broadband ensures seamless communication coverage of most of the planet.

SSAS
The Ship Security Alert System (SSAS) is one safety measure for strengthening ship security and subduing acts of piracy and/or terrorism against shipping. Widely acknowledged as a part of the International Ship and Port Facility Security Code (ISPS code), the Ship Security Alert System (SSAS) complements the International Maritime Organization (IMO)’s attempts to increase maritime vessel security.

CCTV
CCTV or Closed Circuit Television refers to a visible or covert video system intended for only a limited number of viewers. In Closed Circuit TV (CCTV), the picture is viewed or recorded, but not broadcast. Through our cooperation with Pelco and Seahawk we cover all your needs for onboard surveillance.

LRIT
The Long Range Identification and Tracking (LRIT) system was established by IMO through resolution MSC.202(81) in 2006. The idea was to enable coastal states to control the seaborne traffic in their national waters. We supply and service Thrane & Thrane LRIT solutions, free standing or integrated in existing Inmarsat C hardware.
Motorola Tetra
We offer a wide range of TETRA portable terminal solutions to meet unique requirements of markets from transportation to industrial, municipal to public safety.

3M Peltor™
Is the market leader in communications headsets for use in hazardous and noisy environments. More than 50 years of experience has developed the Peltor headset so you can work safely and comfortably. Twin cup headset, for extreme noisy areas. ATEX approved II 2 G Ex IIC T4
Peltor can offer a wide range of headset for all industries. Atex, non Atex, listen only, push to talk buttons, DECT com and more.

Aeroflex Tetra
Aeroflex provides the complete solution for TETRA design, manufacture, installation and service applications to test the demanding radio standard set by the European Telecommunications Standards Institute (ETSI).

PNA - Portable Network Analysis and Troubleshooting
The product segment PNA from Fluke Networks allows you to fast and easy test IP routings/traffic and application communication thru your entire network in a fast and graphical way. Use it on Category LAN, Fiber and WLAN.

Fluke Networks OneTouch™ AT Network Assistant
One-touch troubleshooting of network performance from client to cloud. All-in-one Gigabit Ethernet troubleshooter for copper, fiber optic, and Wi-Fi networks. Troubleshoot network performance from the client connection through the cable, the wired and Wi-Fi infrastructure and to key network services hosted locally and within private and public clouds.

Fluke Networks OptiView® XG Network Analysis Tablet
Dedicated tablet for automated network and application analysis, the network engineer’s fastest way to see root cause. Tablet form factor providing automated analysis for 10/100 Mbps, 1/10 Gbps and 802.11a/b/g/n wireless LANs.
IKM Instrutek AS provide repair & retrofit to deep sea vessels worldwide. We seek a strong partnership with our customers and are committed to provide the best service round the clock.

Our service engineers are highly qualified and are kept updated through continues training and on-the-job practice. In addition to installation and ad-hoc service, they will provide you with support when you need it.

Should it be more convenient to utilize a service provider closer to the vessel, our worldwide network will be at your hands. Let us coordinate your service needs 24/7/365.

We offer service - 24/7/365

Service Emergency (24 hours):
(+47) 47 46 84 84

If the person on call-duty do not answer, you are automatically connected to another service engineer. We will answer your call!

Inquiries and orders shall preferably be sent to:
marineservice.IKMinstrutek@IKM.no

Products:
- Serviceweb
- Nav/ com service
- GMDSS VDR
- Petrobras annex V upgrade
- Calibration
On-Going Services

June 2012

IKM Tersansen
IKM Serviceweb
Our newly in-house developed ServiceWeb is aimed at our key customers who want to benefit from our knowledge and historic data of their vessels. By logging all activity, making all relevant manuals available and keeping track of due dates, we give the owner a powerful tool to ensure trouble-free operation of his fleet. No more searching for the last service report or survey, it is readily available to you as a ServiceWeb customer.

Our unique serviceweb offer an easy, assessable and transparent solution to our clients. Here you will be able to monitor the status of ongoing services and plan surveys and maintenance at a single point-of-contact. This will save you the time and the cost you normally spend while dealing with several companied instead of leaving the job to us. The website will show vessels in a calendar view giving superintendents, purchasers and other key personnel the best possible overview of ongoing services and periodical maintenance for each vessel. Furthermore we will make equipment lists for each vessel available, including manuals. This ensures that service is done using the correct parts and multiple visits due to wrong information is eliminated. In addition, we input all other activity, like service reports and surveys, into the ServiceWeb. The vessel will have full access to this information. Purchasers handling the vessel will benefit from this when placing orders for service, annual surveys or maintenance.

Unique serviceweb
IKM Serviceweb
Is a service monitoring system that ensures extremely good monitoring of customers and their ships. Our goal is to be the expert and the “single point of contact” partner that can perform most services in our field and ensure that companies save huge costs to deal with one partner.

IKM Instrutek AS will take care of maintenance and that the stored data is as accurate as possible.

IKM Instrutek AS provide repair & retrofit to deep sea vessels worldwide.
After several years of upgrading numerous of PSV and AHTS vessels we have obtained a solid understanding of Petrobras Annex V requirements. We carry out project management, pre-survey, installation and commissioning in close cooperation with our Brazilian partner.

A good knowledge of Brazil and a local partner is absolutely vital to succeed in this market.

Pre-survey
Requirements are given in Annex V to make a thorough pre-survey report in Portuguese language which shall be approved by Petrobras before installation commences. Owners entering into contracts with Petrobras should pay close attention to this.

Project manager
Annex V requires quite a lot of project hours before, during and after the installation, including documentation of the equipment used, Anatel approvals and CAD drawings of the systems installed. Close cooperation between ship owner, IKM Instrutek and our partner in Brazil is crucial to the success of the project. We take on the task of coordination these projects from presurvey to final approval by Petrobras and national marine authorities in Brazil.

Installation and commissioning
Installation is carried out by our skilled staff with long experience from nav/com service and new buildings. As time is often a limiting factor, we size our team to ensure on-time delivery. When the vessel arrives in Brazil, our local partner will go onboard to guide and in the final commissioning and approval process. Local knowledge is absolutely crucial to ensure success and a quick approval.

Import to Brazil
Our responsibility in these projects is to ensure that the vessel meets Annex V specification’s, and that the system is up and running in time. The ship owner is responsible for importing the ship. However we will assist with necessary documentation and applications relating to our work and we will be onboard when Petrobras inspect the ship in order to answer any technical questions in relation to the Annex V equipment installed.
Doppler current meter

We have obtained a extensive experience with Petrobras Annex V requirements and one of the solutions we can offer is a current sensor that measures current values from the surface down to a depth of 20 m, and reads continues current velocities up to 4.0 knots.

The system has an exclusive winch for launching/retrival, and it can display water speed with a precision of 0.05 m/s.

It can also indicate the depth of work and the direction of current with 5 degrees accuracy.

The system allows for viewing and recording into a text file (date, time, depth, intensity and direction), enables reading in real-time through the panel installed on the vessel’s bridge with a repeater in the supervision room of Petrobras, all in accordance with Annex III/V requirements.
IKM Instrutek AS is leading provider of rotation management systems and calibration instruments to the shipping industry.

We manage the system for our customers, ensuring traceable, calibrated and certified instruments. This will be carried out by our own calibration laboratory or in specific cases by one of our partners. Basic test case MTS-500 Covering E0 requirements in SOLAS.

**Custom made cases**
Meeting specific demands from our customers, as well as covering the E0 requirements. E.g.:

- Extended pressure areas
- Portable gas instruments
- Handheld instruments

Everything you need in one case
The test case comes with all the instruments you need, together with all certificates required.

**Full management system**
Together with our worldwide partners, our rotation system makes sure you have traceable, calibrated and certified instruments at all times.

Our worldwide network provides distribution of Calibrated instruments where your vessel is.
IKM Instrutek AS is one of the leading vendors for test- and measuring instruments in Norway.

We have our own calibration lab where we do service and calibration. Our major brands for handheld test and measuring instruments are Hioki and Fluke, and we can offer a complete range of products and tailor-made test solutions based on our customer's applications.

Power Supply Quality (PSQ) has become an important concern for ship electric systems. Thus, deviations of voltage from nominal values and wave-shapes could cause severe malfunctions, interruption or even damage of onboard equipment and systems.

PSQ issues have become a key-factor to ensure normal operation, survivability and safety onboard vessels worldwide. Trust us to deliver state-of-the-art monitoring systems that show you the reality, allowing for corrective measures to be taken in time to prevent damage.

Products:

- Sea DarQ oil spill
- FLIR night vision
- Marine Calibration test case
- Fluke instruments
- Fluke Thermography
- Flir
- Hioki
- Maritime automation
- MSA portable
- MSA stationary
- Ex products
- Others
Sea DarQ
oil spill

When an oil spill happen, response readiness begins by being well informed at an early stage. The skill of the response is directly related to the quality of the tools at hand. Nortek’s oil spill detection radar solution is the tool that immediately informs an operator of oil presence and the details of how it is distributed. The solution distinguishes itself by using high quality components and state of the art processing.

What it is
The Nortek Seadarq oil spill detection system is a solution comprised of a marine x-band radar and state of the art image processing software. Operators are provided with real time images of outlined spills on the water - 24/7.

How it works
Clutter from the sea is typically unwanted noise for a radar operator. However, when used for oil spill detection, marine radar exploits this signal to detect the presence of oil on the water surface. Regions that have reduced clutter are candidates for spills. These candidates go through a series of state of the art algorithms to determine the likelihood of the spill. Nortek refers to this as Smart Image Processing. We do not just look for disparity of clutter-no clutter, but determine the likelihood of a spill by employing a model that compares candidates with characteristics of know spills. These characteristics come from an extensive database of oil spill radar recordings.

What makes this system unique
The Seadarq solution ensures the best possible performance by combining the highest standard of electronics and Smart Image Processing. The exceptional sensitivity is achieved with: (a) 14 bit processing, (b) vertically polarized antenna with high directivity, (c) radar with greater dynamic range (sensitivity). These features are industry exceptions and are improvements upon the standard solution. For decision makers like yourself, you may translate this into more tangible quantities such as improved range or greater image detail.

Tradition of sound principles
The Seadarq system is a direct product of research efforts at the Dutch Organization for Applied Scientific Research (TNO) over 15 years ago. It is founded on sound engineering and understanding of the processes necessary for skilled detection. Through the years the system has been vetted by specialist in the field during numerous tests and at the fingertips of operators involved in oil spill response. The system is now in daily use around the world. This includes the European Maritime Safety Agency (EMSA), who has employed Nortek’s Seadarq system on multiple vessels since 2002. This includes an active role in some of the most infamous spills such as the “Prestige” spill. The detection system is recognized to be suitable by NOFO (Norwegian Clean Seas Association).
FLIR
night vision

IKM Instrutek AS are a trusted supplier of the world's largest commercial infrared company, FLIR Systems has fielded more high quality maritime thermal night vision systems than anyone in the world. The rugged, stabilized imagers can be found onboard thousands of offshore platforms and vessels in the US and around the world.

The new FLIR MU/ MV series
IKM Instrutek AS is proud to offer the sharpest and most user-friendly thermal night vision system in the market. With MU-series you get a cooled midwave, high resolution 640X512 pixel camera. It has 14X optical zoom between a 28 deg and 2 deg Field of view. Along with other optional features like low light and extreme low light camera, customers get the ultimate system for operations such as, SAR, berthing, commercial operations and more. With MV-series customers get all the benefits as for the MU series, only difference is that the core is un-cooled, still with impressive small size vessel detection of 12,7km, the MV series have it all.

FLIR MU-series is the most technologically advanced thermal night vision system available to the maritime industry today. It is a powerful, gyro-stabilized multi-sensor, long range, thermal night vision system.

The Voyager system is still available as a more reasonable system, but not less user friendly. As the success story with Norwegian RSSR company provides the best reference to.

The new FLIR MD-Series will now also provide a low cost fixed camera solution for less critical operations where tracking is not needed. This can for instance be monitoring of gang way, deck operations and other.

For light operation task FLIR also delivers hand held cameras in the HM-Series. IKM is proud to have delivered such systems for security improvement to several customers. This series comes both with sight for one eye and for both eyes.

FLIR delivers the best thermal image in the industry and it should not be a surprise that the Voyager II/III has been the proven anti-piracy camera around the world. We now also suspect that the new MU -/ MV Series will prove to be the next generation for same purposes, not excluding oil detection and ice detection task either.

Voyager II / Voyager III

- Long range
- Gyro-stabilized Pan/Tilt platform
- Two thermal cameras
- Daylight/lowlight color camera
- Network ready
- NMEA interfaces
- Radar slew-to-cue
- Automatic tracking system (Voyager III only)
- Temperature indication (Voyager III only)
Infrared cameras are a useful tool onboard vessels and can be used as a powerful tool for a lot of applications such as: Preventive maintenance, electro inspections, mechanical inspections, man over board, fire and rescue operations, iceberg detection and oil spill detection.

Thermal imagers today are easy to use. The prices are very reasonable. Our experience is that the investment will reduce maintenance cost and make it easier for the crew to do preventive maintenance and prevent break downs.

There are two leading manufacturers of thermal imagers worldwide today, FLIR and FLUKE. IKM Instrutek AS is a trusted distributor of both.

**FLIR**

As a supplier of FLIR Systems we markets a full range of thermal imaging cameras for the most demanding marine applications. Our thermal imaging cameras are rapidly finding their way to pleasure craft and yachts, commercial vessels, work boats, fishing boats, cruise ships and many other types of vessels.

**Fluke Thermography**

Infrared thermal cameras are a useful tool onboard vessels and can be used as a powerful tool for a lot of applications. Preventive maintenance, electro inspections, mechanical inspections, man over board, fire and rescue operations, iceberg detection and oil spill detection are typical examples.
Data loggers

Hioki
Troubleshooting on modern ship systems is often a challenge and failures often occur when you least expect it and definitely not when you’re measuring and do troubleshooting. To solve this challenge data loggers are a powerful tool and makes it easier to detect the failure and also detect what it’s caused by.

Fluke
We offer a complete range of instruments from the world’s leading manufacturer within distribution and service of electronic test tools and software. We deliver both fixed and handheld IR cameras for better security at night and on dark days. This is an important tool for the Coast Guard, SAR and especially on commercial vessels, both in terms of piracy and man-over-board.
The Marine industry relies on instruments to control and monitor key functions in heavy-duty environments such as ship engine rooms, where equipment must withstand strong vibrations and extreme temperatures.

In an industry where equipment failure or unscheduled repairs often lead to off hire, financial loss or even damaged goods, leading marine companies know that Danfoss is synonymous with reliability.

IKM Instrutek AS got the sensors, transmitters, and switches that carry marine approval and fit into the many marine applications.

Thru Danfoss we offer a complete range of frequency converters, soft starters and accessories designed to save energy, maximise efficiency and reduce costs.

The new generation of frequency converters are available in the power range from 0.18 kW to 1.4 MW and have an efficiency rating of 98%; dramatically reducing energy consumption.
Solenoid valves
Danfoss solenoid valve bodies and electrical coils are normally supplied separately. They are assembled quickly and simply without tools, providing optimum product flexibility and availability. If a coil does need to be replaced, it can be done without stopping or draining any system.

Pressure transmitters
Danfoss pressure transmitters helps you keep demanding industrial processes under control. Accurate, robust and built for long life, they perform reliably day after day, even in the harshest environments.

Pressure switches
The range of pressure switches includes components for maritime use as well as specialized switches for demanding applications.

Temperature sensors
The range of temperature sensors is based on decades of global experience within the marine industry and in refrigeration plants.

Temperature switches
The range of temperature switches includes components for general industrial use as well as specialized switches for demanding applications.

Coils for valves
The solenoid valves and coils are usually ordered separately to allow maximum flexibility, enabling you to select a valve and coil combination to best suit your needs.
**VLT® Frequency converters**

**Optimise control and energy efficiency at sea**

Using drives for controlling motors aboard a vessel gives many benefits.

A frequency converter reduces the startup current peak. The need for auxiliary generators for startup is thus eliminated, especially where you have large motors for thrusters and propulsion.

Different types of pumps, i.e. seawater, mud and cargo pumps, are typical systems where a drive is installed.

Engine room ventilation systems, air conditioning systems for crew and passenger accommodation areas and air conditioning systems are also applications where installing Danfoss VLT® drives can provide multiple benefits. Danfoss drives fully comply with the rules of the marine approval societies.

Danfoss drives fully comply with the rules of the marine approval societies.

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**Maximum uptime and efficiency with VLT® drives**

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**Rugged and robust enclosure**

Drives designed for installation in the engine room with no need for any additional enclosure.
1. Separator
VLT® drives increase the performance of the separator. The drive makes the separator tolerant against load surges. It can catch the separator on the fly and bring it to standstill without the need for resistors.

2. Pump
Pump dedicated features like built-in PID controllers, dry pump detection, flying start, sleep mode, cascade controller, end of curve and flow compensation save energy, protect the pump.

3. Thruster
VLT® control of thrusters eliminates the need for pitch control. This saves energy, reduces noise and minimizes maintenance. The preheat function eliminates anti-condensation heaters.

4. Steering gear
Accurate positioning of the rudder enables precise steering of the ship. The hydraulic pumps only run when the vessel is changing course, which saves energy.

5. Fan
Load dependent capacity control and Automatic Energy Optimisation save energy. Skip resonance monitoring reduces noise and protects the system. Motor preheat prevents damage and eliminates the need for anti-condensation heating.

6. Winch
Fast reaction to torque variations enables reliable operation of mooring and anchoring winches, as well as heavy duty work winches. Built-in, advanced mechanical brake control eases mechanical stress on both gear and brake.

7. Compressor
A VLT® drive increases the efficiency of both air compressors and refrigeration compressors. Speed control ensures that the capacity at any time meets the actual demand.

8. Crane and hoist
High torque and advanced mechanical brake control ensures smooth operation in rough load conditions and perfect control of the load at all times. The hoist digiPot function allows easy control with typical hand held crane controllers.

All over the vessel...
Troubleshooting on ship automation systems can be difficult without the use of proper tools for measurement and simulation of process signals.

Fluke have a complete range of products that makes the job easier. It is often a challenge to identify what the problem is: sensor breakdown, automation control system or signal transmitters.

With the proper instruments in hand the crew can often identify the cause of the problem and exchange faulty parts without the need for external help.

Fluke process calibration tools include a full range of solutions for the field and bench. The wide range of process calibrators include: Multifunction, mA Loop, Pressure and Temperature. Technicians who use Fluke tools can have full confidence in the accuracy, ruggedness and reliability of their calibrators and can expect product support for as long as they own their Fluke Process Calibration Tool.

To ensure reliable instruments, calibration of the instruments should be done once a year.
Portable and stationary
MSA is the world’s leading quality supplier of portable gas detectors. IKM Instrutek AS is a distributor of MSA safety products for the Norwegian market. This includes portable gas detectors, fixed gas monitoring systems and other safety equipment from MSA.

Safety on board is extremely important! It is therefore a requirement of the classification society that the portable gas instruments are calibrated and certified according to applicable requirements.

To achieve top level of security for vessel crew, we deliver the automatic calibration station GALAXY. An electronic report can be extracted from Glaxy and thereby reducing possibility for short cuts. By sending suitcase onshore periodically calibration we achieve top level of service and maintenance as well.

We proudly present our system featuring:
One standardized IKM /MSA suitcase for vessels with inert gas systems (Based on minimum requirements):

- 2 ea Altair 5x configured model.,
- 2 ea Altair 4x multi gas, H2S, LEL%, O2, CO.
- 1 Galaxy Stand alone smart calibrator Altair 5, pumped.,
- 1 Galaxy Stand alone smart calibrator Altair 4, pumped.
- Manual pump with hose and floating probe for tank measuring before entering.
- 1 pcs CASE ES Alucase 240L. The case is divided in three separate rooms where one is adapted for one gas bottle.
- 1 pcs DVD Training and user’s manual with 10 licences.
- 1 pcs CALIBRATION Before sending case to vessel.
MSA is the world’s leading manufacturer of high-quality safety products protecting people throughout the world for over a century. With manufacturing operations in five continents and with more than 40 locations worldwide, MSA serves customers in more than 140 countries. The MSA products meet local and international standards.

**Fuego**

Fuego is the perfect head protection solution for fire & rescue and emergency services.

- **S-Cap-Air**, The S-Cap-Air is a compressed air, constant flow, escape breathing apparatus designed to aid escape from hazardous areas.
- **3S full face mask**, The 3S offers everything a mask wearer needs.
- **Steel cylinders**, For compressed air breathing apparatus, cylinder valve in accordance with EN 144.
- **AirGo compact**, The AirGo compact SCBA preset is specifically designed for emergency response and escape. On ships or industrial facilities where such units are mandatory the AirGo compact is an obvious choice.
- **S-Cap escape hood**, S-CAP is especially designed to protect persons endangered by smoke and gases generated by fires.
Atex approved instruments
The regulations apply to all equipment intended for use in explosive atmospheres whether electrical or mechanical, including protective systems.

There are two categories of equipment:

I for mining and II for industries and marine. Manufacturers who apply its provisions and affix the CE marking and the Ex marking are able to sell their equipment anywhere within the European union.

IKM Instrutek AS has a wide range of Atex approved handheld test instruments that allows you to use test instruments in explosive atmospheres without hot permit.

Multimeters, process calibration instruments, Insulation testers, Pressure Calibrators, Magnet and Volt check instruments, multi gas instruments, cameras, dataloggers, ultrasound thickness meters.
Condition monitoring

The Condition Monitoring Department has expertise and skilled professionals to implement maintenance programs, perform troubleshooting, root cause analysis, vibration data analysis, corrective work and training.

We deliver complete solutions for vibration condition monitoring and correction. Everything from turnkey systems for turbines, thrusters and other large rotating equipment, to smaller systems for motors, pumps, fans, etc.

We have a comprehensive product range covering most requirements.

Our main markets are hydro power, ship and offshore related businesses.

All our service engineers are certified ISO Vibration Analyst Cat II or Cat III and we are a DNV Approved Service Partner for Condition Monitoring

**Services:**
- Vibration measurements and analysis
- Trouble shooting
- Shaft alignment
- Geometric laser measurements
- Balancing (on site)
- Thermo imaging
- THD / electric current and power analysis
- Supervisor and consultants work

**Products:**
- Vibration sensors
- Proximity probes
- Vibration instruments (data collectors)
- Balancing instruments
- Online condition monitoring and protection systems
- Shaft alignment systems
- Machine shims
- Machine feet (vibracon)
- Stroboscopes and tachometers
- Cables and connectors
- Pre-fabricated cables for most data collectors
- Vibration test-points (magnets/other mounting hardware)
- Thermal imaging cameras
- Torque systems
- Dynamic pressure systems
- EX approved equipment
- Oil maintenance
**Vibration offline**
- Falcon - Smart portable solution!
- Implement of offline vibration CM program
- Handheld collection, analysis and balancing tool with outstanding performance, accessible to all users. vibration data collectors
- Measure vibration regularly
- Handheld
- Software

**Vibration online**
- Online vibration monitoring
- Measures vibration continuous
- Installation and commissioning
- Expertise and experience
- Diagnostic analysis center

**Acoustic**
- HSE environment
- Trouble shooting and diagnostics
- Comfort
- Sound level meter
- Monitoring station
- Weather proof

**Laser alignment of rotating machinery**
- Marine machinery
- Machine trains
- Measurements of torque related influence, movements and thermal growth
- Acceptance test
- Mechanical work

**Laser alignment of geometric measurements**
- Machine Foundations
- Pipes and Flanges
- Shaft bearings
- All tasks involving:
  - Flatness
  - Straightness
  - Parallelism
  - Ovality
Sensors and equipment
We offer early Stage Fault Detection & Reliability Through Condition Monitoring of Plant and Equipment. We specialise in On-Line and On-Site solutions for condition monitoring of production critical plant and machinery. Our sensors and equipment facilitate rapid, informed decision making, helping you keep your machinery running. We pride ourselves on providing our customers with the right blend of technology, expertise and information, enabling you to manage risk, reduce downtime, optimise efficiencies and maximise profit.

- Accelerometers
- Cables
- Connectors
- Boxes
- Distance probes
- Air Gap sensors

Eagle
Smart wireless solution. With Eagle from Acoem we offer an easy-to-deploy continues system for condition-based maintenance.

Machinery mounting
We deliver elements that is permanent, strong and re-usable for machinery mounting chocks for all types of rotating or critically aligned machinery. Using Vibracon® elements is the most economical way to establish a perfect mounting plane. As Vibracon® mounts are mechanically stiff elements, accurate mounting is made simple and quick. Advantages are absence of curing time, eliminates the trial and error alignment process and adjustability during the life cycle of the machinery

Electronic Engine Indicator
The Digital Pressure Indicator DPI-2 measures dynamic pressures. It is especially designed to analyze large two and four stroke Diesel and gas engines.

Steelshim shims
We offer solid, stainless steel Steelshim shims which are invaluable when aligning machinery. Cutting your own shims is time consuming and carries a risk of injury. Steelshims come in a range of sizes and thicknesses, starting at 0.05 mm thick and, for your convenience, are packed in a handy suitcase.
Crankshaft deflection indicator
We are a proud supplier of Prismateknik which is a leading manufacturer of Digital Dial Gauge for crankshaft deflection indication to the marine industry and now also to power plants. We make it easy to get accurate and reliable results using an instrument outside the engine. Our deflection indicator improves upgrades the job to a modern engineering task. We also use the same transducer to fit in a “jig” to measure cylinder liners, this is called a ovality kit. The DI-5C stores up to 45 different measurements of each 24 cylinders, connect to your computer and download the results.

Oil Maintenance
Purifier technology and construction.
Purifier reduces your operating and capital expenditures by continuously maintaining oils at better than new quality.

Why Choose Purifier?
- It will help saving the environment
- It will help you save great amounts of money
- It is a small but needed investment
- It is very economical. Consumption is 3-4 filter elements per year with continuous operation
- Extend the oil life by 10-15 times
- It will reduce break-down frequency
- Purifier oil quality = NAS3-5 (New oil quality = NAS 6-8)
- Reduced oil consumption
- Reduced inspection / maintenance.
- Enhanced operating efficiency & life of equipment
- Improved operational performance

Torque measuring system
We are a proud supplier of The Leutert Torque Measuring System, TMS, which provides precise information on the engine performance by giving instantaneous readout of torque, speed and power. This permanently installed system gives you the opportunity to compare the indicated power to the output power. The results are being displayed directly on the PC in the engine control room, thus, helping the crew to optimize speed and trim of the vessel and thereby optimizing the engine output in combination with our indicators.
IKM Instrutek AS has solid expertise in different techniques to predict when your machinery needs maintenance instead of following standard predefined maintenance cycles.

All of our personnel are qualified ISO CAT II and III vibration analysts. To perform maintenance only when it is necessary the method of condition based maintenance is a cost-effective solution and will improve your maintenance radically. For vessels and mobile offshore units this new scheme will reduce the scope for the intermediate survey and thus not require internal examination of gear boxes, electric motors, pumps, turbines, drilling machinery and the underwater part of the thruster housing.

This type of condition based maintenance is based on analysis of regular vibration and oil analysis. The results shall be analysed and documented and relevant actions shall be taken when required.

This means in practical terms that DNV will not require the docking of a vessel for intermediate thruster survey as long as the results from the condition monitoring are within acceptable limits. By evaluating the condition of the machinery it makes it possible to track significant changes that indicates failure development.

We can work with machinery in non-ex and Ex Zone 0 environment.

Speak to us about reliability engineering!
Condition monitoring systems

DNV Approved Service Supplier for Condition Monitoring

- Vibration monitoring and analysis
- Oil monitoring
- Online and Offline monitoring systems
- Maintenance strategy

IKM Diagnostics Center

- Vibration analysis
- Alarms and diagnostics
- Reports and recommendations
- Worldwide diagnostics
- IKM servicepersonell 24/7/365
IKM Instrutek AS started back in 1985 with sales of high-end instruments. For more than 15 years we have been providing the worldwide shipping industry with instruments, navigation and communication equipment and services in addition to condition monitoring.

By being a specialized and complete supplier of a wide range of important equipment and services most of our customers see the benefit of procuring a lot of other equipment and consumables from us.

We have built a in-house customer support center with experienced high educated maritime engineers with background from electro & automation, navigation and mechanical.

All of which has experience from different areas within the maritime industry.

Typical supply house equipment can be safety equipment, various sensors, batteries, UPS’s, special instruments, cables and special cables, various electrical spare parts, mobile transformer container, oil purification units to mention a few.

Contact our customer support center for any requirements.

We aim to provide the best possible service by giving our customers rapid response. We have very good agency agreement with a lot of Manufacturers ensuring competitive prices. By having the airport 20 minutes from the office and good agreements with freight forwarders this ensures time and cost savings.

Making everyday life easier for our customers and suppliers by organising products and delivery according to required qualifications and needs of the industry!

Products:

- Sensors
- UPS’s
- Switches
- Converters
- Cables
- Various displays
School and education has always been one of the main areas of IKM Instrutek AS.

We have extensive experience and considerable expertise available, and we will help you find the right solution and the right products for your needs. We have developed our own learning models, and offer models from vendors such as Lab-Volt, Terco and Langlois.

Within each field we represent solid expertise. This shows in our training department where we benefit from this unique knowledge. We conduct basic product training and certification courses either in our own school premises or at our customers premises. Please visit our webpage for an updated curriculum.

The rest of our product range is also well suited for the needs technical schools and universities may have.

Courses:

- Thermography
- Hot work
- Ex/Atex
- Norsok
- Verification of el. installations
- Vibration analysis
- Laser alignment
- Power analysis
- Measuring and regulation
- Ecdis/Tecdis training
- CM classification
Norwegian Sea Rescue

The Norwegian Sea Rescue are a humanitarian, voluntary, membership-based organisation. Their object is four-fold: to save life, protect material assets, safeguard the coastal environment and pursue information work. In ensuring that rescue boats are ready and able to continue saving life and material assets, the Norwegian Sea Rescue depend on membership fees, private gifts, contributions, support and donations.

The Norwegian Sea Rescue rescue boats save lives, they are indispensible for maritime safety along the shores of Norway. During the last ten years they have saved 350 people from drowning at sea.

These crafts are based at 57 stations around the whole Norwegian coast, and the need for emergency response and boat locations change over the year. The Norwegian Sea Rescue collaborate with the country’s two joint rescue coordination centres to ensure that these vessels are stationed in the right place at all times.

Proud supplier

IKM Instrutek AS are a proud supplier of our range of products to the Norwegian Sea Rescue. We also provide service and equipment for condition monitoring, vibration, alignment, calibration and machine protection systems, in addition to courses and training for the Norwegian Sea Rescue.

We represent FLIR systems and their maritime portfolio of products, and can offer both handheld cameras and fixed system that can be used for man overboard, antipiracy, iceberg detection and oil spill.
HSQE

Zero injuries - an overall objective!

IKM Instrutek AS are certified by Teknologisk Institutt according to ISO 9001, ISO 14001 and OHSAS 18001.

IKM Instrutek AS are certified for survey and testing of Radio Communication Equipment by Det Norske Veritas, American Bureau of Shipping and Lloyds Register. Also certified in Achilles and Sellihca.

Together with our clients and suppliers we shall follow statutory regulations and continually improve our procedures and routines in environmental management.

We believe that social commitment will result in savings for our clients and new business possibilities for IKM Instrutek AS.

Policy:

- Zero injuries - an overall objective.
- We shall maintain trust and confidence among our customers and employees.
- We shall follow acts and regulations, including ethic code of conduct and anti bribery.
- HSE is the most important internal work area.
- No operation has priority over safety.
- HSE is a line responsibility in the entire organisation.
- Everyone is responsible for their own safety and the safety of others.
- We shall prevent pollution and reduce negative environmental impact.
- We shall reduce the amount of waste and optimise the use of resources.
We represent and are approved service partner for all major brands of navigation and communication manufacturers.

Project management, equipment and services are provided 24/7/365 by our skilled staff and service attendances are being coordinated by use of our own service personnel or by our worldwide network.

Other brands not mentioned below can be supplied on request.

Brands:

- AMI
- Acoem
- Danfoss
- Danelec
- Fixturlaser
- Flir
- Fluke
- Furuno
- Hioki
- MDL
- MSA
- Peltor
- Prisma Teknikk
- VMI
- JRC
- Jotron
- Vibro-Meter
- Sailor
- Kitiwake
- Leutert
- Motorola
- Isic
- GE
- CTC
- Hatteland Display
- ScanSense
- Icom
- Nortek B.V
- Raytheon Anschütz
- Simrad
- Wägene