









### Welcome to Nordan Marine A/S

### **Nordan Marine Calibration Service:**

LPG, LEG, LNG tankers & Chemical and Product tankers

- Calibration of level controls
- Calibration of pressure and temperature alarms
- Calibration of level alarms and level gauges
- Calibration of DP transmitters
- Fixed gas detector systems
- Providing the certificate approved by Japanese Customs

- The World's Best Alternative -

#### **Nordan Marine - Calibration Service**

Nordan Marine' staff of qualified Calibration Engineers have years of experience with calibration of measuring equipment on a variety of different vessels. We offer our clients a one-company solution to your needs for service of cargo pumps, booster pumps, safety relief valves and calibration of measuring equipment.

#### **Annual calibration of measuring equipment**

It is essential that your vessels measuring equipment is calibrated and functioning correctly. In particular, in relation to the cargo control system, it is essential that gauges and transmitters can be trusted. It is therefore required by class, and others, that this equipment be calibrated yearly and that this work is documented by certificates.

Our trained Instrumentation Engineers will issue a certificate on all equipment calibrated onboard your vessel. We bring our own certified calibration tools and devices ensuring you that you can rely on your gauges and transmitters after we have completed our work.



### **Calibration of Cargo Measuring Equipment**



#### **Nordan Marine offers:**

- Calibration of level gauges
- Calibration of pressure and temperature gauges
- Calibration of level alarms
- Calibration of pressure and temperature alarms
- Calibration of pressure and temperature transmitters
- Calibration of DP transmitters
- Calibration of pressure switches

- Calibration of SPRT, PT 100, PT 1000
- Calibration of TC sensors
- Calibration of thermocouples
- Calibration of display units for temperature, pressure and level gauges
- Service on fixed gas detection systems
- Oil content meter
- Intert gas system
- Ship reference equipment

#### 24 Hrs, worldwide service

We offer a 24 hours service 365 days a year. Our Electronic Engineers fly on short notice and on in- expensive seaman's tickets.

24-hr service Tel.: +45 9840 2440

Service Email: service@nordanmarine.com

#### **Nordan Marine - Calibration Service**

## Calibration, repair and service on level gauges

We are able to perform service, repair and calibration on all most all level gauges, both local and remote mechanical and electrical gauges and indicators.

Each maker has its own special guidelines and procedures to follow which all the Service Engineers at Nordan Marine's calibration department are trained to perform.

Nordan Marine also provides the vessel with a new certificate on every device after completion.



## Calibration, repair and service on pressure gauges

Calibration on pressure gauges, sensors, transmitters and switches between -1 to 350 bar. Pressure gauges can be either a mechanical or an electrical device. At Nordan Marine, we can supply quality pressure gauges, sensors, transmitters and switches, we are also offering the solution to simply calibrate and adjust the existing devices.

The calibration procedure can vary depending on the customer's choice; normally, we will use our own calibrated equipment to measure and produce a pressure in 5 points across the measuring range. When we deliver the certificate all values from the test such as deviation, serial number and calibration date will appear.





### **Calibration of Cargo Measuring Equipment**

## Calibration, repair and service on temperature gauges

Calibration on temperature gauges, sensors, transmitters and switches between -80 to 650 °C, just like pressure gauges, all temperature gauges can be either mechanical or electrical devices.

Calibration of both mechanical and electrical temperature devices is performed in two steps:



#### **Electrical:**

**Step 1**: First, we disconnect the sensor and measure different values to clarify the sensors condition, and then, we calibrate the sensor and reconnect it to its respective terminal.

**Step 2**: Now, we calibrate the loop from the sensor to the digital display.

All values from the two steps together with deviation, the serial number and a new calibration date will appear on the new certificate.

#### **Mechanical:**

**Step 1:** We pull out the sensor from the thermos wells and then we test in liquid at four different temperatures to see how the sensor and gauge reacts all over the measuring range. If the device has a too big deviation, we calibrate the device and test it again.

**Step 2:** When the device works as it should, we will mount the sensor back to place.

All values from the two steps together with the deviation, a serial number and a new calibration date will appear on the new certificate.

#### **Nordan Marine - Calibration Service**



#### **Certificates**

#### **Calibration Certificates**

After completion of the calibration works our engineers will hand over a certificate of all equipment calibrated and upon return to the office complete a detailed report for all work done.

## Approved by Japanese Customs Authorities

Nordan Marine can get calibration certificates approved directly from the Japanese Customs Authorities.

## Calibration, repair and service on alarm systems

We test, repair and calibrate alarms for pressure, temperature and level gauges. We service complete alarms systems from different makers, and with our close contact to them, we can deliver spare parts on short notice.

When our Calibration Engineers have completed a job, we will issue a certificate for the actual system calibrated and serviced.

#### **Spare parts**

Nordan Marine has stock of various equipment such as gauges, transmitters, PT 10 sensors and thermocouples most commonly used. Further, we have daily contacts with manufactures, which provides us with the ability to supply needed parts on a short basis.



Our Calibration Engineers are educated in the electronic field and can perform both electronic and mechanical calibration. They work regularly on many types of equipment such as:

- ENRAF
- Musasino
- Heinrichs
- Whessoe
- Krohne

### **Calibration of Cargo Measuring Equipment**

## Pre- docking Inspection / Assessment

As a service to our clients, Nordan Marine offers a free pre-docking inspection service. We will bear the Service Engineer cost. Only direct cost such as flight tickets-hotel and living expenses will be invoiced to the client.

The inspection / assessment will normally take place in a discharge port 3 to 4 month before the vessel will go to dry dock. A detailed report will be worked out, outlining the performance of the cargo pumps, booster pumps, safety valves, cooling compressors and instrumentations. This allows our clients better preparation of the next docking.





# Service and overhaul of cargo pumps, booster pumps and safety relief valves

Besides our calibration service, Nordan Marine offers overhaul and repair on the following equipment:

- Deep well cargo pumps
- Booster pumps
- Ballast pumps
- Safety relief valves
- FRAMO cargo pumps

See our other brochures for more information, or contact us directly.





### Contact us:

#### **Denmark**

Nordan Marine A/S Industrivej 11 9900 Frederikshavn Denmark

Phone: +45 9840 2440 (24 hrs) Fax: +45 9840 2441

E-mail: sales@nordanmarine.com

service@nordanmarine.com

www.nordanmarine.com