























Brannan AB REXOTHERM Y





SERVOMEX •











GE Sensing



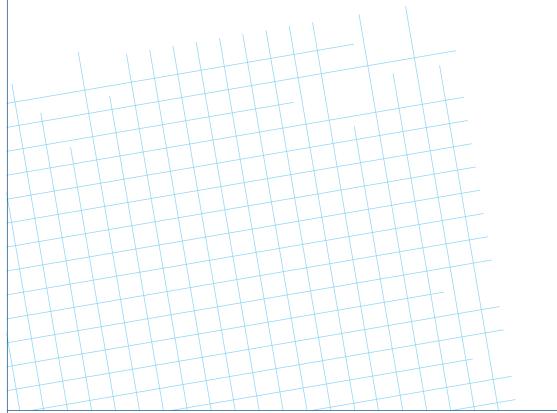








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Version 1.0



Dry block temperature calibrator

TP 17165 - -30°C up to 165°C

TP 18200E - ambient temperature up to 200°C
TP 17450 - ambient temperature up to 450°C
TP 18850E - ambient temperature up to 650°C
TP 18850E - ambient temperature up to 850°C
Block bore 17165, 17450 and 17650 28 mm
18200E, 18850E 18mm
Block depth 17165, 17450 and 17650 150mm

18200E, 18850E



Micro Calibration Bath

The professional solution for the service and industrial sector. Economic and safety! Exact temperature measuring and monitoring are "musts" in applications crucial to operational safety of machinery, ships and industrial installations.

100mm

Regular inspection of the temperature sensors used in these applications is absolutely essential for economic and technical-safety reasons and is already prescribed as obligatory in many sectors.

TPM 165 S - -30°C up to +165°C

TPM 225 S - ambient temperature up to +225°C

Tank bore 60mm

Tank depth 170mm

Supplied with screw cap. Speed controlled magnetic stirrer. Sensor basket & suction pump.



Temperature Calibrator

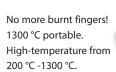
Precision Series TP 28000

Wide temperature range (-30°C up to +850°C). High-performance software package. Switchable temperature sensor input.



High-temperature

Calibrator series TP281300





Marine Calibration Kit

Type MCK

This kit enables the user to perform temperature and pressure tests, measurments and calibrations for all types of instruments. It contains a complete pressure test set as well as a temperature test ste including all necessary accesoires and certificates according to IMO regulations.

Туре	Pressure	Temperature
MCK 60/200	-1/60 bar	200°C
MCK 60/650	-1/60 bar	650°C
MCK 300/650	300 bar	650°C
MCK 700/650	700 bar	650°C
MCK 1000/650	1000 bar	650°C





Advanced Marine Calibration Kit

Type AMCK

This kit enables the user to perform temperature and pressure tests, measurements and calibrations for all types of instruments. With an additional multi function calibrator for reading, sourcing and simulating thermocouples, thermo-elements and electrical signals like mV, mA, Volt and reading and simulating frequency. It contains a complete pressure test and temperature test sets, an infrared themometer, a multi function signal calibrator including all necessary accessoires and certificates according to IMO regulations.

 Type
 Pressure
 Temperature

 AMCK 60/200
 -1/60 bar
 200°C

 AMCK 60/650
 -1/60 bar
 650°C



Low Pressure Test Pump

LTP1



TP1-60 Pressure Test System

The TP1- 60 Pressure Test
System has been introduced to
complement an already extensive range of pressure calibration products and can be used
for calibration checks on pressure transmitters, pressure
switches,
indicators recorders and con-





-1 to 3bar/45psi Pneumatic Pressure and Vacuum.

HTP1 Pressure Test System

1000 bar, 15 000 psi Hydraulic Pressure (compatible with most fluid media) HTP1-700 and HTP1-1000 are lightweight, easy to use and can generate pressures up to 700 bar/1000 bar, 10 000 psi/15 000 psi.



Pressure Calibrator

PC6

Pressure measurement range -1 to 1000 bar + psi • Voltage and current measurement

- Simultaneous display of pressure and selected function
- Timed/ Event data storage
- RS232 data communication link Pressure switch test Leak rate measurement 1 second to 999 days



Digital gauge Model DG-10

Pressure ranges: from 0 ... 2 bar up to 0 ... 600 bar. Display accuracy: 0,5 % \pm 1 Digit. Pressure connection: G1/4 DIN 3852-E, 1/4NPT and others. Case: Stainless steel, Nominal size 80 mm. Power supply: 2x 1,5 V Mignon cell AA.



Pressure Calibrator PCS

Consists of 3 precision pressure gauges (class 0.6) a hydraulic handpump fitted with hose, valve and couplings, all delivered in a handy plastic box. The testset fulfils the requirements of most classifications societies.

Range pump Maximum working

pressure 350 bar. Pressure

gauges 160 mm. Ø. ranges 0-6, 0-16 and 0-40 bar. Accuracy Class 0.6 Optional Pressure gauges with other ranges.



Multimeters

EX series

Multimeters combine features and accuracy in a small device. Manual ranging meter for residential and commercial electrical use, and general purpose troubleshooting. Autoranging with logic test for electronic and field service applications. Autoranging with tem-perature and capacitance for industrial, HVAC and electronic applications and many more.



Multimeters

EX520

11 Function Heavy Duty True RMS Industrial MultiMeter

True RMS DMM with 6,000 count large LCD display, temperature function and waterproof housingprotection/ Input



Clamp Meter

EX830

This meter measures AC/DC Voltage, AC/DC Current, Resistance, Capacitance, Frequency, Duty Cycle, Diode Test, Continuity, Type k thermocouple thermometer plus Non-Contact IR Temperature.



Multimeters

EX570

The EX570 is the best in it's class. With the 40,000 count display and a built-in Infrared Thermometer the user can quickly identify overheating motors or locate hot spots on eletrical panels and HVAC vents without contact.

The E570 has true TMS CATIII-1000V, CAT IV-600V rated with 0.06% basic DCV accuracy.



Multifunction Process Calibrator

SIKA MC50

The MC 50 is a multifunction calibrator. It is specially designed for calibration and maintenance and can $\,$

measure and simulate physical and electrical quantities, either

on site or in the laboratory. It measures/simulates and generates DC voltage, current, resistance (only measures) and frequency, temperatures using thermocouples and resistive probes.



Measurement and transmission can take place simultaneously

Digital Oscilloscopes

MS420

The user can view multiple waveforms easily. The auto-set function optimizes the position, range, timbase, ad triggering to assure a stable display of virtually any waveform. Five automatic measurements: Frequency, Duty Cycle, Average, Peak to Peak, RMS. Waveform Math: Add, Subtract, Multiply and divide.



MTX 3281 Multimeter

Large multidirectional LCD screen. Four 100,000-count digital displays, bargraph, graphic measurement log. Voltage: 50kHz specified bandwidth/0.1% basic accuracy. Current: 20kHz specified bandwidth/0.08% basic accuracy. 3 measurement terminals with automatic selection, "full current autoranging". 8-key electronic measurement switch with direct single-handed access. Functions: SPEC, HOLD, AUTOHOLD, REL, SURV, MEM. Frequency measurements up to 2 MHz: duration, duty cycle, event metering "Favourite measurement" key for physical quantity (conversion or unit). Memorization of 6,500 measurements. Optical RS232, USB and Bluetooth communication. Supply: LR6 batteries, AA NiMH rechargeable batteries. Safety: IEC 61010, Cat. IV 600 V, Cat. III 1000 V. EMC: NF EN 61326-1. Dimensions: 44 x 85 x 180 mm; Weight: 400 g. IP51 casing.





Hand-Held Pressure Indicator CPH 6200

Including Software The Data logger evaluation software (GSoft) enables the display of recorded data, as tables or charts, on a PC and the calibration software (EasyCal light) is available for calibration tasks.

Special Features: Digital instrument with external transmitter (plug and play)

Pressure ranges: from 0 ... 100 mbar up to 0 ... 1,000 bar

Pressure type: gauge (+/-) and absolute pressure

Certified accuracy: 0.2 % (incl. calibration certificate) optional: 0.1 %

Data Logger evaluation software GSoft, Calibration software EasyCal light and fully cased service sets (incl. pumps) available Complete test and service sets. For maintenance and service applications various service cases are available. These include pressure service sets with or without pressure pump, with charger, adapter, etc. or service sets with an additional Hand-Held Thermometer CTH6200.

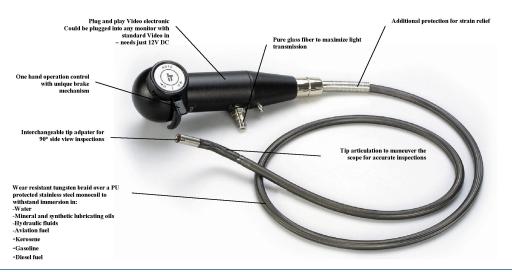


Flexible Videoscopes - Z-Series



Our full line of industrial flexible videoscopes is for professionals who require high quality visual inspection equipment. Combined with a complete range of accessories, like light sources, CCD cameras, Video-devices and custom made adjustments, Opticon Benelux is your partner who provides solutions. Our engineers design and manufacture all of the essential components, including lenses and CCD Camera electronics, for our instruments. This provides as a substantial cost advantage which allows us to meet your visual inspection needs at the most affordable prices.

- 6.0mm and 8.0mm
- Working lengths up to 15m
- Tungsten braid insertion tubes
- 90° side view prism tips
- High resolution CCD
- Easy plug and play to any monitors
- Single hand operation with ergonomic levers





Peak Pressure Indicator

With high gauging accuracy to measuring the firing pressure of internal-combustion engines, specially of medium and high speed diesel engines. Type LS140, 180, 220 or 250 bar.



DELTA - PREMET

LEMAG

Designed to measure cylinder pressure drop to highlight wrong valves and piston rings at a very early stage. This is achieved by measuring the individual pressure drop of each cylinder. It is a simple, convenient check and can prevent major damage to the engine.



Electronic Diesel Engine Indicator

PREMET C

The new LEMAG PREMET® C is a state of the technology electronic cylinder pressure indicator. All measured data can be evaluated immediately on the high resolution colour display, including all the curves and diagrams previously only known from computer based evaluation software.

The large integrated memory allows all measurements and engine data to be stored in the instrument itself. As a matter of course the data can also be evaluated on a computer and sent by e-mail for evaluation or storage. The LEMAG PREMET® C electronic cylinder pressure indicator is available in different versions, each one optimized for the user's needs. For more detailed engine analysis the LEMAG PREMET® C can also be equipped with a TDC sensor, which enables the instrument to measure mean indicated pressure (MIP) and indicated power. On large slow speed engines the LEMAG Multiscan-Sensor can be used to measure the crank angle with a physical resolution of 360 degrees to ensure that the measured data is of an optimum accuracy.



PREMET XX

Easy Handling.
Color display.
Displayed pressure
curve. For slow,
medium and high
speed engines.
Includes ISO-certificate.



LEMAG Type 30-M2 Indicator

The LEMAG® Indicator Type 30-M2 is well known worldwide. It is designed for use of medium speed Diesel-Engines (up to 400/(600) rpm).



LEMAG Type 50-M3 Indicator

The LEMAG® Indicator Type 50-M3 is designed for use on slow speed Diesel-Engines (<250 Rpm).



LEMAG Type 25-M High Speed Indicator

The LEMAG® High Speed Indicator Type 25-M is used in cases where the speed of the engine is too high or the pressure rise is too steep for engine indicators of type30-M2 or type 50-M3.





Fiberoptic Inspection Tool

Inspects Impossible to Reach Places



Inspection Flashlight

Inspection mirror with a small battery operated lamp for use in narrow interiors and places that are not exposed to light, complete in case with fixed and flexible extensions and mirrors.

ISSA 652707 - 482



Salinometer

into tight locations.

with side view adapter

SL3005



Salinometer

SL6000



SL3005 Salinometer for continuous check on the water passing from condenser to freshwater tank.

SL6000 is the latest salinometer for measuring and supervising the salinity of fresh water produced by distillation of seawater.

Portable Electronic Gauging Tapes



Oil Water Interface Detector

Model DC-3A



The Portable Closed Flexi-Dip measuring tape is a batteryoperated electronic unit that is totally gas-tight. The tape is marked in metric or english units and is antistatic coated (as is the sensor).



PH meter pHep 3

The waterproof Hanna pHep 3 provides complete protection against accidental immersion as well as allowing its use in rough environments.

Range: -2.0 to 16.0 Resolution: 0.1 pH Accuracy: +/- 0.1 pH Calibration: Auto 2-point



Hygro-Thermometer + IR

RH101 Humidity & Air Temperature



The Extech RH101 measures humidity and air temperature. InfraRed thermometer has built-in laser pointer, 8:1 distance to target ratio, and fixed 0.95 emissivity.



HI-9124 Waterproof pH/C Meter

PH meter kit

The HI 9124 is a waterproof pH meter. A large dual-level LCD displays both the pH and temperature along with an operational guide. Graphic symbols are displayed to help the users during the calibration process.



Electronic Leak Detector

The LS790a Leak-Seeker

The LS790a Leak-Seeker® combines a perfect match of advanced microcomput circuitry and user friendly features to

obtain superior leak detection capabilities.

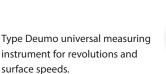
Skywatch

Balanced instant speed Maximum windspeed Temperature measuring Range: -40°C to 80°C (-40°F to 176°F) Calculation of the wind chill factor Electronic compass in degrees.



Hand Tachometer

Type Deumo





Digital Tachometer

Model Rotara

Model Rotaro combined Photo and Contact tachometer with a wide range of use by using adaptors or merely apply a reflective marker to the rotating shaft to enable speed measurement at any point of the shaft.



Hexagonal Wet Film Comb

Precision formed in stainless steel to be long-lasting and reusable.



Bearing Checker

Bearing Checker is unique, being the first portable, pocketsize instrument (weight 185 g, size 158 x 62 x 30 mm) for evaluated shock pulse measurement. Besides shock pulses, Bearing Checker measures machine surface temperature with infrared light, and can also be used as an electronic stethoscope for listening to machine sounds.



Ultrasonic Thickness Gauge

Model: SA40 652735 - 648

thickness gauge is an easy to operate ultrasocorrosion thickness gauge with LCD display, using advanced microprocessor technology to

The SA 40 ultrasonic





OuaNix®

KEYLESS - No buttons - No Cables - No Connectors



The only fully automatic coating thickness gauge with radio control probe.

Coating Thickness Gauge

Elcometer 345

1% Accuracy (1-3% over full range, 1% when calibrated close to reading to be measured) 2 point calibration gives increased precision.

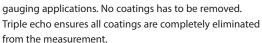
Range: A range of probes allow the 345 to have a range of 0 - 13mm (0 - 500 mils).



Tritex NDT Multigauge 5600

Ultrasonic thickness Gauge





Antifreeze Tester/Glycol Tester

For the cooling system

Conventional antifreezes for cooling systems are liquids based on ethylene glycol (for cooling systems in cars) or propylene glycol (for cooling systems in technical plant e.g. heating systems, solar systems) and offer protection to temperatures as low as approx. -50 °C depending on the concentration.



Modified Water Paste

Kolor Kut



This paste is designed for use in fuel systems 415 ISSA 650890.

Gasoline Finding Paste

Kolor Kut



The Paste will successfully gauge for gasoline, crude oils, kerosene, Jet Fuels, Naptha and various other gas oils and chemicals.

PH test paper

Universal Indicator paper for testing PH values by comparing colours from the sample scale and the results of the test.
Supplied in dispenser.

pH ranges: 1 – 11 and 1 – 14



Digital Sound Level Meter

Sound level meter has a wide dynamic range from 30 to 130 decibel. Frequency range is 31,5H to 8 KHz.





Lion Alcoholmeter SD400

Lion Alcoholmeter SD2

The Lion SD400 is a fully automated unit; this simple to use breath alcohol measuring instrument is also recommended for use by traffic police, heavy industry, medical departments and in many other industry sectors.



The Lion Alcolmeter SD2 is accurate and reliable, enabling a complete breath test procedure to be carried out on board, in little over 60 seconds, so as to determine the blood or breath alcohol concentration of the subject. 331221



Drivesafe breath analyzer

The DRIVESAFE breath alcohol tester is an advanced, portable device that can tell you if you are below the legal limit. It takes a sample of your breath and analyzes it for alcohol content using advanced electrochemical sensor technology, providing accurate and reliable results.



AlcoMate AL7000

The AlcoMate® AL7000 Premium breathalyzer combines professional reliability with extremely easy-to-use one-button operation. You can count on the Premium breathalyzer to serve all your personal and/or professional alcohol breath testing needs, as it is DOT Approved for law-enforcement grade accuracy.



Ballast Monitor

OCD10M

Meet the strict requirements of the latest amendments to IMO resolution A586(14) which restricts the amount of oil discharged via the ballast system to 30 litres per nautical mile. Only 2 bulkhead penetrations are required instead of the usual 3 enabling a cheaper installation

to be carried out.

Available options:

Up to 4 sample points, Flowmeters, Stainless Steel wetted parts for Chemical tanker service.



Multi-gas Emissions Analyser

Kane 900 Plus

The Kane 900 Plus handheld analyser is easy to use for domestic and industrial boiler flue gas measurement and

analysis. It operates on all boiler types and measures O2, flue and nett temperature and calculates boiler efficiency, excess air and losses. It also measures CO (and calculates CO/CO2 ration) and NO (and calculates NOx). Optionally, it can also measure either NO2 or SO2. Supplied with flue gas probe, protection rubber sleeve, battery charger and case.



Viscosity Check

(falling ball)

Benefits: Read-out is viscosity in cSt. No consumable parts. Easy to use for non trained personnel. Handy and time proven. Measuring range:

10 - 4000 cSt Measuring time: about 3 min Accuracy:

+/- 3% Size: 50 mm by 140 mm Weight: 210 grams



Viscosity/Density Check

Benefits: No sample change for each test. Same test temperature (50°C). Re-calculating density to 15°C.

Measuring range:

Viscosity: 25 - 999 cSt at 50°C

Density: 820-1050 kg / m3

Required sample: approx 200ml

Measuring time: about 15 min

Accuracy: +/- 3% Size: 160x260x240 mm Weight: 15 kg





Alcaliny Twin Test

Electronic Water in Oil/BN Test

Electronic lube oil test devices.

Benefits: Two identical test procedures
just one reagent for each test.

No dangerous goods.

Measuring range: water in oil 0-1,
2vol%H2O, alcalinity (BN) 0-60BN.

Measuring time about 15 min.

Accuracy: +/- 3% Size: 73 mm by 113 mm

Weight: 500 grams



Water in Oil measuring device

Just one reagent. Reagent is no dangerous good. Easy to use for non trained personnel. Bayonet catch for highest accuracy. Applicable for all hydrocarbon fluids.

Measuring range:

0 - 0,4 or 0 - 1,2 % H2O

Measuring time: about 15 min

Accuracy: +/- 3%

Size: 75 mm by 120 mm

Weight: 550 grams Direct read-out in

vol.-% H2O



Fuel & Lube Check

Portable Analysis set

Allows testing of major oil parameters viscosity (incl. CCAI calculation) density, water in oil, alcalinity (BN), salt water

contamination, compatibility insolubles, pour point.

Size: 300 x 470 x 310 mm

Weight: 22 kg

Easy to use - even for non trained personnel, handy in size, for operation and transport no dangerous goods test desk included.



Insoluble Check Test Kit

Uses the means of a vacuum filtration device to extricate insolubles and impurities out of the oil onto a molecular filter. With the help of a micro

magnifying lens it is possible to determine quantity, dimensions and even the origin of impurities! Abrasions on pistons, pumps, etc. maybe detected in time to react results become catastrophic.



Viscosity Check

(go / no-go)

RViscosity of lubricating and hydraulic oils should be checked frequently. Applicable for all lubricating oils and viscous hydraulic oils, no replacement reagents, easy to use for untrained personnel, handy and simple. Features measuring range: go/no go measuring time: about 1 min.



Salt check

(go/no go)

It is important to know the nature of water (fresh or saltwater) found in lubricating or fuel oil - it might give some help in identifying the source of the leakage. Easy to handle, Colour

change will provide a definite answer within just five minutes. Experiance with this test device will also allow you to roughly determine the vol % of salt contamination.



Smart Bildge Monitor "SMART-CELL"

Bilge Alarm to MPEC 107 (49)

Resolution 107 (49) comes into effect on 1st January 2005 and applies to all new installations of oil content monitor within engine room spaces. This applies to existing ships and ships whose keel is laid on of after 1st January 2005. The "Smart-Cell" Bilge Alarm meets the requirements of 107 (49) by utilising "Smart-Cell" Detector Array Technology, a technology developed within Rivertrace. With this technology, the Bilge Alarm is able to analyze all three oil types stipulated within the regulation simultaneously without the need for re-calibration.





Sludge Dewatering Unit Marinfloc SDwU Reduces your water in sludge by up to 85 %. The SDwU can either be used in fully automatic or in a semiautomatic mode. The only moving parts in the unit are the feed pump and dosage pump.

Neptumatic MOC

BLIGE WATER TANK

Marinfloc

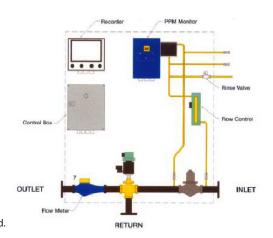


SLUDGE TANK

The compact, high-capacity, three (3)-stage Sewage (Black) and Waste (Grey) water treatment system.

The White Box System

Is designed as a fail safe system for the discharge of water overboard. Incorporating the oily water separator's oil content meter and the return of water funtions in a locked cabinet. This assurence the operators thet water whit an oil content of >15 PPM cannot accidentally be pumped overboard.





The Ovality Kit

Is an accessory to the DI-5C. Deflection Indicator and is designed primarily to measure cylinder liner wear and ovality, diameters 180 – 600 mm. However, the device can be modified to take measurements from various applications to your own requirements.



Crankshaft Gauge



Ready-to-operate engines or compressors. Assembled engines or compressors, with connecting rod in place. Assembled engines or compressors, with connecting rod removed. Dismantled crankshafts, between centres.

Set Range

[distance between webs]
KP-300 60to300 mm 0.01mm
KP-500 60to500 mm 0.01mm



Inside Micrometer

Available in all sizes.



Dial Gauge + Magnetic Base

Standard dial gauge 60 mm. Ø, range 0-10 mm. graduation 0.01 mm., with adjustable indicators for settings and zero adjustments, with magnetic base Options:

Waterproof types and other ranges Dial Gauge 10 mm per 0.01 mm ISSA 651403 - 398 Dial Gauge 10 mm per 0.01 mm ISSA 651404 - 397 Magnetic Base ISSA 651426 - 396



Prisma DI-5C

Crankshaft Deflection Indicator with microprocessor and PC interface

The DI-5C is a complete unit with a battery driven digital instrument and a transducer with extension bars. The product is kept in a strong wooden case. Thanks to its simplicity, the DI-5C is used whenever a need for measuring arises and it detects the errors that might otherwise have lead to costly repairs.

Functions

- Safe and simple to use
- Easy to fit
- Large measuring distance
- Large measuring range
- Invar alloy extension bars minimize expansion
- Easy to zero balance.
- Backlight function
- Auto switch-off after 45 minutes at rest
- Battery symbol indicates the need for battery charge
- \bullet Internal storage of measurements and transfer to PC.



Large measuring distance. Large measuring range. Invar alloy extension bars minimize expansion. 10, 20, 40, 80 and 2 x 160 mm. Measuring distance 89 - 565 mm (extension bars and smaller transducer are optional equipment). Measuring range + 2.048 mm till – 2.048 mm. Transducer operating range 0 - 80° C.







Tritex NDT Multigauge 3000

Ultrasonic thickness Gauge

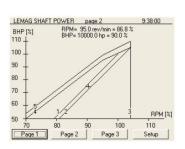
The Multigauge 3000 Underwater Gauge is a simple, robust ultrasonic thickness gauge designed for most common underwater thickness gauging applications. The gauge is pressure tested to 500m and has the option to transfer measurements to a surface display unit with the simple addition of a replacement end cap. It has been designed and built to survive extremely harsh conditions that exist in the offshore and underwater industries worldwide. The gauge uses multiple echo which means measurements can be easily taken without the need to remove coatings and the large bright LED display ensures the display can be seen by the driver, even in poor visibility.



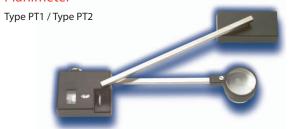
Shaftpower

Permanent Power Measuring System

Low cost high accuracy! The latest solution of LEHMANN & MICHELS for measuring the effective power of a Diesel engine is our new measuring system LEMAG Shaftpower*.



Planimeter

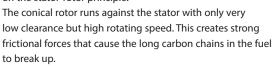


For accurate measurement of indicator P/V diagrams Planimeters types PT1 and PT2 are perfect tools for accurately measuring indicator diagrams. Simply trace the lens along the diagram.

Slashpol

Homogenizer & Emulsifier

The core of each system is the LEMAG SLASHPOL H homogenizer, which is based on the stator-rotor principle.



Slashpol H

The Fuel Oil Homogeniser



The homogenizer LEMAG Slashpol H reduces the size of asphaltenes, creating a consistently fine fuel-oil structure that enables a more stable combustion and can therefore extends equipment life.

Slashpol E

The Emulsifier for NOx Reduction!

The water-in-fuel emulsifier LEMAG Slashpol E can lower NOx and particle emissions adding water to the fuel oil. The LEMAG Slashpol E emulsifier creates a homogeneous fuel-oil-water emulsion with a droplet size of max. 5µm, which enables NOx and particle emission reductions across the marine and power station engine's entire operating range.







QMI Triplex monitor

The QMI TRIPLEX system is simple to install on new or existing vessels with the following advantages:

- Fast response
- No false alarms
- Easy to read No scanning
- All detectors are calibrated and interchangeable
- User friendly working instructions on the face plate
- Detectors can be located more than 100 meters from the monitor
- Minimal maintenance Avoids major clean up operations

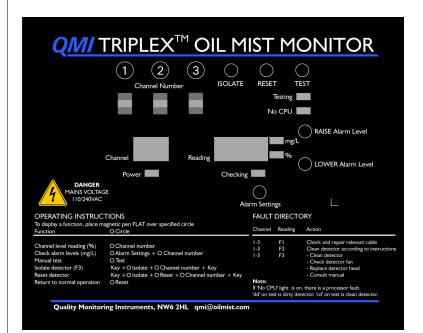
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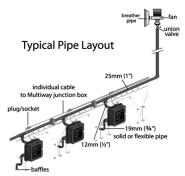


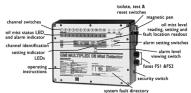












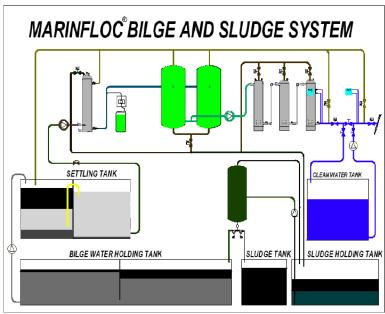


Emulsion Breaking Bilge Water Cleaning System

MARINFLOC EBBWCS

IMO Resolution MEPC 107 (49).
Offers a process which treats bilge water far below the current IMO requirements (<15ppm). The Marinfloc EBBWCS consistenly treats bilge water 0 - 3 PPM of Oil in the discharge water outlet.
Approved.





Microscope Probe Tube

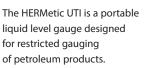
652707-482

Inspection mirror with a small battery operated lamp for use in narrow interiors and places that are not exposed to light, complete in case with fixed and flexible extensions and mirrors.



Portable restricted Electronic Gauge

HERMetic UTI







Metal-bellows pressure controller Trafag

Metal-bellows pressure controller with fixed switching differential. Robust aluminium housing. Repeatability $\pm 1.0\%$ FS. Protection IP 65. Any mounting position possible. Scale accuracy $\pm 2\%$ FS Measuring range: -0.9...1.5 to 10...100bar Repeatability: $\pm 1\%$ FS Hysteresis: < 10% FS Measurement unit: bar/MPa.



Pressure Switch Condor

For automatic start and stop of air compressors. Pressure ranges: 2 to 20

bar 3-pole Contact system MDR2

pressure switches MDR5 & MDR6 pressure switches MDR3 pressure switches



Two way Temperature Sensing Valve

AMOT 2230

Typical Medium Sensed: Liquids. Adjustable
Temperature, through various ranges: Trip Level:
19°-129°C. Maximum Allowable Temperature
(Proof): 129°C (265°F). Valve Body: Brass. Valve
Well: Stainless Steel. Installation Threads: 1/2 in
NPT, BSPT. Port Threads: 1/4in NPT, BSPT,
Maximum Pressure at IN Port: 8.62 Bar. Sensor
Type: Wax. Override: None.



Two way Temperature Regulating Valve

AMOT 2470

With remote sensing to modulate or shut off flow

Housing: Cast Iron Seats and Sliding Valve: Bronze Temperature element & extension: Brass Adaptor Assembly: 316 Stainless Steel Dynamic Seal: Ethylene Propylene Rubber. Maximum Pressure

on Temperature Element: 54 Bar Maximum Shutoff Pressure: 8.62 Bar (125 Psi) Maximum Pressure on Well (if used): 340 Bar.



Standard WIKA Transmitters

Pressure ranges from 0 ... 0.1 bar to 0 ... 1000 bar. Various industrial standard signal outputs. Wiring with connector or flying leads. Can be supplied with different materials and connections. Stock program for short delivery times.



Low cost WIKA Transmitters

Pressure ranges from 0 ... 1 bar to 0 ... 1000 bar. Current or Voltage outputs. Case and wetted Parts of stainless steel. Wiring with connector or flying leads. Stock program for short delivery times.



Pressure switches

Danfoss RT

Consist of a variety of ordinary controls including differential and neutral zone Pressure ranges: -1 to 30 bar.
Replaceable contact system Also available with gold plated contact systems, Fail-safe, Adjustable differential, Enclosure IP66, Available with min. and max. reset function (IP54). Also available as differential switch. Available with all relevant marine approvals



Temperature switches

Danfoss RT

Consist of a variety of ordinary room and remote sensor temperature switches including neutral zone temperature switches.

Temperature ranges: - 60°C to 300°C.

Replaceable contact system, Fail-safe.

Adjustable differential Enclosure IP66.

Available with min. and max. reset function (IP54) Available with dead zone Available with all relevant marine approvals.





Temperature switches

Danfoss KP Series

A robust, compact construction and resistance to shock and vibration. Temperature ranges: -20° C to 200°C Gold plated contact systems. Adjustable or fixed differential. Robust and compact construction KPS with fixed sensor and pocket



Temperature switches

Danfoss KPS

Temperature ranges: -20° C to 200°C through various ranges:

- −10- 30°C
- 20- 60°C
- 50-100°C
- 70-120°C
- 60-150°C
- 100-200°C

KPS with remote sensor and armoured capillary tube



Temperature switches

Danfoss KP Series

Fitted with a single-pole switch (SPDT), and can control single-phase ac motors of up to 2 kW directly. Temperature ranges: 0° C to 150° C High contact load - Ultra short bouncetime Enclosure IP44 when mounted with top cover and back plate Small dimensions - space saving - easy to install Shock and impact resistant.



Thermostat 471/472 Navistat

Trafag for marine applications

Compact design. Rugged housing. High repeatability Protection IP65. Any mounting position.



Three Way Temperature Regulating Valve

AMOT B

Flow rate: 10 - 450 m3/Hr Aplication Diverting or Mixing Body Materials Aluminium, Bronze, Cast Iron, Ductile Iron, Steel & Stainless Steel Valve Sizes (nominal bore): 40, 50, 65, 80, 100, 125, 150 & 200mm (11/2" to 8") Port Connections Screwed 40 & $50mm~(11/2"\,\&\,2")$ BSP.PL or NPT. Flanged 50-200mm~(2"-8") to most DIN, ANSI, JIS and other standards.



AMOT 4140

Pressure switches An advanced, reliable, rugged range of pressure switches. Single and dual operation allowing alarm and shutdown capabilities in one unit, or... Combined Pressure and temperature switch with independent fully adjustable set points, vibration resistant up to 14G at 100Hz. Pressure 0.28 to 40 bar (4 to 580psi).



Safety Shutdown Device

AMOT 2800

Which senses oil pressure. The device is typically connected to a fuel pump and should a loss or drop in oil pressure occur below the setpoint, the 2800 will trip immediately. The 2800 mechanically linked to a diesel engine fuel pump will then activate shutdown.





Hazardous Area Temperature and **Pressure Switches**

AMOT 4250

Explosion Proof BASEEFA Certified Single or Dual Pressure, Single or Dual Temperature, Snap Acting - Positive Shut-off Provides snap switch action at set points on: Engine Coolant Systems **Process Control Points Alarm Systems** Compressor Coolant Systems Lubrication Systems Hazardous Area Applications.



Danfoss KPS Pressure Switches

Suitable for use in alarm and regulation systems in factories, diesel plant, compressors, powerstation and on board ships. Pressure ranges: 0 to 60 bar. Adjustable or fixed differential. Robust and compact construction. Resistance to shock and vibrations. Enclosure IP67. Sturdy and sea water resistant. Available with all relevant land and marine approvals.



Danfoss CS Pressure Switches

Have a three-pole switch and adjustable differential

For automatic start and stop of air compressors and water boosters Pressure ranges: 2 to 20 bar Contact system: 3-pole (standard) 1-pole (accessory) Adjustable differential Manual switch to lock the contact system Enclosure IP43 or IP55.



Danfoss KP Pressure Switches

For regulating, monitoring and alarm systems in industrial applications. Fitted with a singlepole switch changeover, and can control single-phase ac motors of up to 2 kW directly. Pressure ranges: -0.2 to 14 bar High contact load - Ultra short bounce-time. Media: Gaseous media and air Enclosure IP44 when mounted with top cover and back plate Small dimensions - space saving easy to install Shock and impact resistant.



Danfoss MBC Pressure switches

Used in marine applications where space and reliability are important features. Pressure ranges: -1 to 100 bar Low differential (fixed) micro switch Resistant to shock and vibrations Diaphragm version for applications with pulsations/ pressure peaks, Compact design Low installations costs Fast and easy to operate Easy to mount on block Available as differential pressure switch Available with all relevant marine approvals.



AMOT XTS-W

Bearing Condition Monitoring System for large 2-stroke diesel engines

The AMOT XTS-W Bearing Wear Monitoring System (BWMS) is a unique system to predict bearing failure and eliminate consequential engine damage. The XTS-W has been developed by AMOT as a bearing condition monitoring system. It can indicate wear in the following areas: main bearings crank-pin bearings cross head bearings and may be used in applications using plain bearings, such as large 2-stroke marine engines large reciprocating compressors.



Three way temperature regulating valve

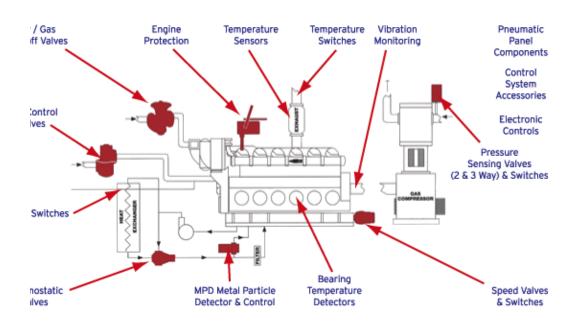
AMOT G

Flow to: 2000m3/hr Sizes: 50mm (2") to 400mm (16") The complete temperature control valve system. Systems can be configured to suit applications from pneumatics to PLC control with communications. AMOT 8071 Compact rugged PID controller for use with the Amot electrically actuated model GE control valve.





Amot Engine



Three way temperature regulating valve AMOT B

Flow rate: 10 - 450 m³/Hr Aplication Diverting or Mixing Body Materials Aluminium, Bronze, Cast Iron, Ductile Iron, Steel & Stainless Steel Valve Sizes (nominal bore): 40, 50, 65, 80, 100, 125, 150 & 200mm (11/2" to 8") Port Connections Screwed 40 & 50mm (11/2" & 2") BSP.PL or NPT. Flanged 50 – 200mm (2" – 8") to most DIN, ANSI, JIS and other standards.



Valves

AMOT G

Flow to: 2000m3/hr Sizes: 50mm (2") to 400mm (16") The complete temperature control valve system. Systems can be configured to suit applications from pneumatics to PLC control with communications.

AMOT 8071

Compact rugged PID controller for use with the Amot electrically actuated model GE control valve.





Pressure Gauge Cocks

Pressure gauge cocks are intended to isolate the pressure gauge from the pressure medium in order to enable inspection or replacement of the gauge and also to extend the service live of the pressure gauge where the pressure is continually pulsating.



Pressure **Gauge Cocks**



Available in brass, steel and stainless steel.

Pressure Gauge Valves

To isolate the pressure



Pressure Gauge Valves



gauge from the pressuremediumor to throttle and to damp pressurepulses. Valves with test connection enable simultaneous connection of a test gauge to check the pressure in the pipe.

Adaptor with Test Connection

To enable simultaneous connection of a test gauge or test equipment to test performance of the pressure gauge in service. Consists of a steel valve with test connector and fastener.



Surface Mounting Bracket

Available in

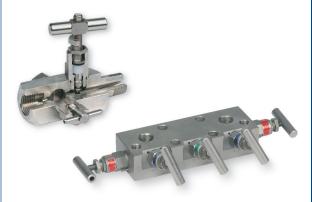
Are intended to provide a means of surface mounting where the thermometer or the pressure gauge Pressure gauge snubber To suppress the effect of pressure pulses and pressure peaks. Overpressure Protectors, adjustable.



Pressure Gauge Syphons



Manifolds Combinations

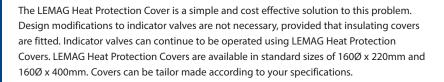


To protect the pressure gauge from the effect of hot pressure media such as steam and also to reduce the effect of rapid pressure surges.



Heat Protection Covers

A simple and cost-effective solution A revised version of SOLAS Chapter II-2 (Construction – Fire Protection, Fire Detection and Fire Extinction") entered into force on 1st July 2002. This regulation states that no components installed in machinery spaces may exceed a maximum surface temperature of 220°C. Indicator valves in particular can reach temperatures of above 220°C.





Spring loaded indicator valve

Spindle cone privents any unwanted opening of the valve, even by unfavorable vibrations frequencies. Therfore a counter nut on the spindle is not necessary.



Angle Valves



For turbocharger cleaning equipment. Used to clean the turbine blades of turbo-chargers.

Cock kit



A service set to reconditioning and repair of worn indicator valves including: Cone milling cutter Stop valve Valve cone nut Screw nut W27*1/10".









Gasdetection



Air Products Analytical Gas Mixtures

The range of precision gas mixtures are supplied in a variety of lightweight, non-refillable cylinders. Ideal for field applications where portability is paramount, available in 20, 34, 58 and 110 litre cylinders. Extensive range of gases and mixtures avialable. The mixtures are used in a diverse range of applications throughout the world.





Oxygen Analyser

Xendos 1800 Marine



Inert gas monitoring solutions for tankers

- Stand-alone unit complete with wet gas sampling system
- Designed for safe area oxygen analysis
- Low maintenance and re-calibration requirements
- Range of alarm outputs to aid integration with other systems
- Easy to set up and to operate
- Fast response
- Weatherproof enclosure

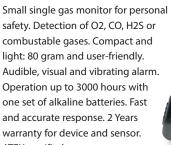
5100 Marine





Used for operations such as gas freeing and enclosed space entry, the analyser replaces the OA262 and holds the latest marine industry approvals: MED, Lloyd's Register and DNV Type Approval and ABS Product Design Assessment certification.

Serie-01





Personal multi-gas Monitor GX-2009





ATEX certified.



Application:

Personal protection

Feature:

Simultaneous detection of 4 gases LEL, O2, H2S & CO. Smallest 4 gas monitor in the market. Vibration alarm. Alarm trend data. Rechargeable Ni-Cad battery. Continuously operates for up to 20 hours. Intrinsically safe design. Wheelmark(MED)-approved.



Portable Oxygen Monitor

OX-07

Using an advanced microprocessor controlled detection system, the OX-07 Oxygen Monitor detects the Oxygen (O2) content to prevent the accident caused by oxygen deficiency.



AIR OISP

Portable Gasmonitor

RI/RX-415





Gas monitor to detect combustable gases only (RI-415) or combustable gases and oxygen (RX-415) in air or in inert gases. Infrared type sensor. Auto-ranging (0-100% LEL

to 100 vol%). Monitor got built-in pump, visual- and audible alarm, automatic backlight and is Wheelmark approved. Up to 40 hours continuous operation. Supplied with sampling probe and carrying case.



Multigas Monitor

Tetra

For the detection of flammable gases, oxygen and toxic gases. Robustness and real value for money. Intrinsically safe, with embedded software Up to four gases measured Loud 90dBA audible alarm, visual alarm and vibrating alarm as standard Rugged and robust, IP65 ingress protection Simultaneous 4 gas display with automatic backlight.





Personal Monitor

Tetra3

A personal monitor you can trust: one-button-operation; suitable for today's arduous industrial environments. Intuitive menu and comprehensive full function data and event logging. Large, top-mounted 4-gas display; easily viewed from above while wearing instrument. Top end performance in a small and lightweight package.









The Safety Company

Gasdetector II H and tubes



The Gastester II-H is a bellows-type pump with incorperated stroke counter is a manually- and intermittenly-operated detector tube pump, together with detector tubes, is used to monitor the ambient air or the air in confined spaces for hazardous gases. Measurements using the Gastester II-H and

appropiate detector tubes are required in areas where combustible, toxic or corrosive components as well as substances dangerous to human health can occur.



Altair 5X Multi-Gas Detector MSA



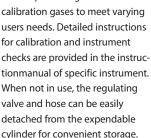
MSA Calibration gas fo use with MSA portable Instruments



The new MSA ALTAIR® 5X Multigas Detector raises the bar once again with 6-gas capability, more than 18 preprogrammed languages, high-resolution, crisp color display option, and MSA's exclusive MotionAlert™ and InstantAlert™ features. Many great features plus the outstanding durability and performance you expect from MSA.



Quick and easy to use to verify the accuracy and response time of MSA portable gasdetection instruments. Wide selection of





ALTAIR 4X Multi-Gas Detector MSA





ALTAIR Pro



The new MSA ALTAIR PRO is a reliable high-performance singlegas detector with a choice of oxygen or toxic sensors. Simple and straightforward operation is one of the key features of ALTAIR PRO. The superior triple alarm system consists of a distinctive audible alarm of 95 dB at 30 cm, superbright LEDs visible from a 320° angle and a strong vibration alarm.



Tankscope

accessories is availabe.





AirMaXX Selfcontained Breathing Apparatus (SCBA)



For high-frequency and extended SCBA wear, maximum user comfort translates directly into increased performance and

good healt. The AirMaXX SCBA preset combines premium ergonomic features with advanced technology to provide the best experience in SCBA wearability available today. The ergonomically designed and optimally balanced AirMaXX backplate is adjustable to fit all body sizes.







Multi Gas Detector

GasAlert Max XT II

GasAlertMax XT II reliably monitors up to four hazards and combines straightforward one-button operation with our robust, motorized pump for intelligent, remote sampling, ideal for confined spaces. The GasAlertMax XT II is fully compatible with MicroDock II automated test and calibration system.



Single Gas Detector

GasAlert Extreme

Designed with durability and comfort in mind, the GasAlert Extreme reliably monitors for any single gas hazard within its wide range of available toxic gas models. With easy on/off operation, this single gas detector offers extended longevity with a two year fi eld-replaceable battery and sensor.



24 / 36 month disposable Gas Detector

GasAlert Clip Extreme

Available in two year or three year versions, this single gas detector requires no calibration, sensor replacement, battery replacement, or battery charging. The simplicity of the GasAlertClip Extreme combined with minimal training requirements and negligible maintenance costs, make the GasAlertClip Extreme one of the most cost-effective PPE solutions for facility workers and on-site contractors. detector tubes.



Multi Gas Detector

GasAlert Micro Clip

The slim and compact GasAlertMicroClip provides affordable protection from atmospheric hazards. With simple onebutton operation, this multi-gas detector offers ultimate ease of use and significantly reduces time spent training the user. The GasAlertMicroClip is fully compatible with BW's MicroDock II automatic test and calibration system.



Multi Gas Detector

GasAlert Micro 5 PID

Simultaneously monitor and display up to fi ve atmospheric hazards with the GasAlertMicro 5. Adaptable to a variety of applications, the GasAlertMicro 5 has an extensive selection of user-settable fi eld options and is available as either a standard toxic gas model, a PID model for the detection VOCs, or an IR model for CO2 detection.



Gas Detectors

GasAlert Quattro's

With the GasAlertQuattro's easy to identify bump test and calibration icons, power options to outlast your shift, one-button simplicity and IntelliFlash to provide continuous visual confirmation of detector operation and compliance, seeing is believing.



Gas

Calibration / Test Gas

BW offers a variety of gasses that can be used for calibrations and tests. Some of these gasses are: Hydrogen, Methane, Pentane, Hydrogen Chloride, Phosphine, Propane, Sulfur Dioxide, Carbon monoxide and Hydrogen Sulfide.





Impulse XT

Impulse XT was inspired by customer needs and technically crafted to be quite simply the easiest and most cost effective to use personal single gas unit on the market. Utilising patented SurecellTM and ReflexTM technology, the Impulse XT provides 24/7 user confidence. That means solid, reliable and continuous protection... always.

- advance, full feature functionally
- cost-effective serviceable Roth:
- comprehensive sensor options
- effective gas alarm indication
- · Ultra clear backlit display
- ATEX approved



Safelink

Enforcer

The Enforcer is a simple portable

multi-gas monitors. The Enforcer

allows you to easily comply with

regulations when using an Impact without the need for costly test

test and calibration of Impact

facilities of third parties.

Safelink allows 2 Impact Pro to be connected together such that the gas readings and instrument status from one are repeated on the other.

This allows a co-worker in a confined space to be monitored remotely as well as providing a simple means to pass messages back and forth. In 10m, 50m or 100m cablelenght.

The Impact range of Portable **Multigas Monitors**

The Impact range of portable multigas monitors is able to monitor and display up to four gases simultaneously. Available in two configurations, the Impact and Impact Pro accepts either disposable and/or serviceable

cartridges respectively, all of which are pre-calibrated and can be replaced in under one minute, so simplifying maintenance and minimising cost wherever possible.

Komyo Kitagawa Test Tubes

The AP-20 aspirating pump AP-20 is certified conformity

with the European standard EN1231. It's a light weight and compact system and easy to carry. The system is simple

- all personnel can operate it with ease. An accurate reading can be obtained within few minutes and many sam-



Dräger Test Tubes



Kitagawa detector tubes are available more than 200 different kind of gases and vapours. For many gases and vapours, there are several concentration ranges available giving you the flexibility to measure both low and high concentration without sacrificing precision.

Gastec Test Tubes

In 1970 Gastec is established in Tokyo and develops the first calibrated directly reading glass detectortubes in Japan. Today Gastec produces a total of 320 available detectortube types.







SIKA VTR Series Turbine Flow Sensor

Extra robust, impressively precise!

SIKA's VTR tubine flow sensor allows you to determine precisely, dependably and easily the flow rates of different liquids, such as water and oil, under the most severe conditions. The VTR sensor is particularly robust and, due to the wide range of normal diameters and three different pick-ups, can cope with even the most severe conditions.

SIKA VTR for use in Colling circuits Petrochemicals Chemical industry Water conditioning Plastics Hydraulics Technical data Linearity D 0,5% of measured value Response time < 50 ms up to DIN 40 > 50 ms up to DIN 300 Repeatability D 0,05% of measured value Process connection Flange: DIN, ANSI others on request Thread (up to DN 50): BSP ISO 228 or NPT male thread.



Level Switch VH..., VK...

Brass, Stainless, Plastic

with

3/4" BSP male, ball float PVDF 3/4" BSP male, stainless steel float 3/4" BSP male, elbow float bar, ball float PVDF (only brass and stainless steel version) with Plug connection, standard DIN 43650, 1,5 m connecting cable, Instrument versions.



Flow Switch VHS...M, Inline Type

Size

- DN 8, DN 10, DN 15, DN 20, DN 25, DN 32, DN 40, DN 50

Setpoint ranges (H2O, 20 °C)

- 1,8 l/min...50,0 l/min

Max. flow rate

- 45 l/min...400 l/min



SIKA Flow Sensors

series VR

- For pipelines
- Measuring range from 0.3 l/ min. to 1000 l/min. Can be used for temperatures of up to 120 °C and pressures of up to 100 bar
- Viscosity-stable for liquids up to 10 cSt. Materials:
- POM (Hostaform)
- Stainless steel
- PVDF
- Brass



Digital Flow Rate Indicator

SIKA TD12500

The TD 12 500 can be used as an extremely compact "local flow display" in connection with a SIKA flow sensor in the TURBOTRON series. The electrical connections are limited to the power supply.



Watermeter flow meter

type flow max flow conn. coupling Qn 1.5 m³ 3m³ 1/2" BSP Qn 2.5 m³ 5m³ 3/4" BSP Qn 3.5 m³ 7m³ 1/1" BSP Qn 6 m³ 10m³ 1 1/4" BSP

Working pressure:

PN 16 bar.

Max temperature:

50° C

Option:

For hot water 90° C

Mounting:

Horizontal

Option:

Vertical mounting





Airline filter

711 Airline filter 1/4"BSP AF2000 ISSA 590801

741 Airline filter 3/8"BSP AF3000 ISSA 590802

742 Airline filter 1/2"BSP AF4000 ISSA 590803

773 Airline filter 3/4"BSP AF5000 ISSA 590804



Lubricator

731 Lubricator 1/4"BSP AL2000 ISSA 590811

761 Lubricator 3/8"BSP AL3000 ISSA 590812

762 Lubricator 1/2"BSP AL4000 ISSA 590813

793 Lubricator 3/4"BSP AL5000 ISSA 590817



Regulator

721 Regulator 1/4"BSP AR2000 ISSA 590821

751 3/8"BSP AR3000

ISSA 590822

752 Regulator 1/2"BSP AR4000

ISSA 590823

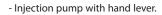
783 Regulator 3/4"BSP AR5000

ISSA 590824



Injection nozzle tester

Type EFEP 60 H, 0-400 bar & psi. Type EFEP 67 D, 0-600 bar & psi.



- Acrylic transparent fuel container with filter.
- Shut off valve
- Pressure gauge light and heavy Duty.
- High pressure pipes for connection injectors.
- Accessories: High pressure pipes



U-tube sg. 1.0

range mbar scale mba	r length mm.	
0-10	10-0- 10	172
0-15	15-0- 15	223
0-20	20-0- 20	274
0-25	25-0- 25	325
0-30	30-0- 30	376
0-40	40-0-40	478
0-50	50-0- 50	580
0-60	60-0- 60	682
0-70	70-0- 70	784
0-80	80-0-80	886
0-90	90-0- 90	988
0-100	100-0-100	1090
0-110	110-0-110	1192

J-tube sg. 13.6

range bar	length mm.
0-0,3	297
0-0,4	375
0-0,5	447
0-0,6	525
0-0,7	597
0-0,8	675
0-0,9	747
0-1,0	825
0-1,1	897
0-1,2	975
0-1,3	1047
0-1,4	1125
0-1,5	1197
0-1,6	1275









Model 111.10

Black finish steel Case

Nominal size 40.50.63.80.100 [mm]. Accuracy class 1.6/2.5. Bottom Connection only 40 mm G 1/8 BSP 50, 63 mm G 1/4 BSP 80,100,160 mm G 1/2 BSP Model 111.12 Back Connection.

Model 233.50

(liquid filling)

Stainless Steel Case and Bourdon tube. All Stainless steel. Nominal size 63,100, 160 [mm]. Accuracy class 1.0 1.6 (63 mm). Bottom or back Connection 63 mm G 1/4 BSP 100, 160 mm G 1/2 BSP.



Model 212.50



Stainless Steel Case. Nominal size 100, 160 [mm].

Model 312.50



Test Gauge Class 0.6 (± 0.5 %). Stainless Steel Case. Nominal size 160 [mm]. Accuracy class 0.6. Brass Bourdon tube. Bottom or back Connection G 1/2 BSP.

Model 213.53



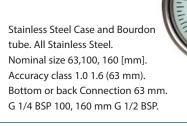
Model 612.20

(industrial Series)

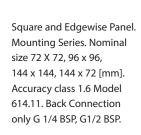
Stainless Steel Case. Nominal size 100, 160 [mm]. Scale ranges per: 0 ... 10 to 0 ... 600 mbar (100 mm) 0 ... 6 to 0 ... 600 mbar (160 mm). Bottom or back Connection 63 mm G 1/4 BSP 100, 160 mm G 1/2 BSP.



Model 232.50

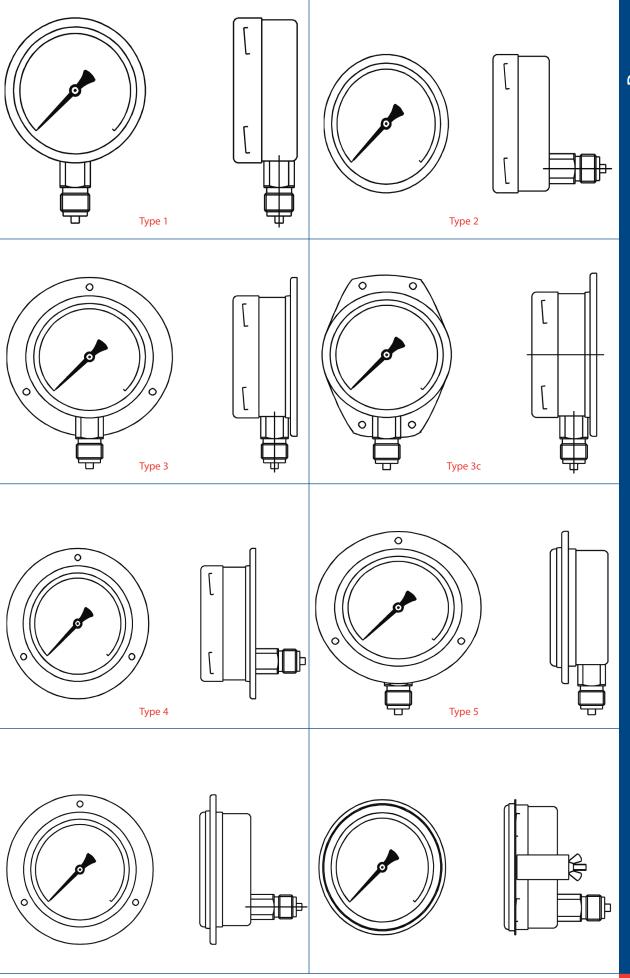


Model 614.11



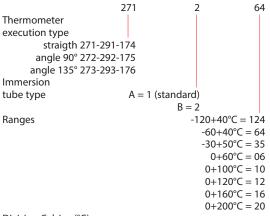






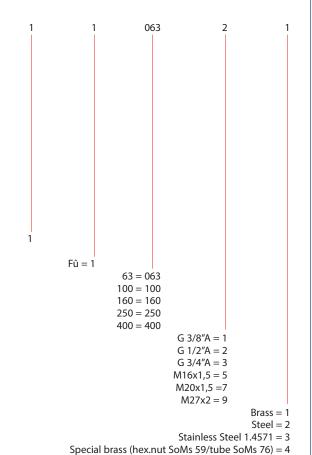


Order Example



Division Celsius (°C) Celsius + Fahrenheit (°C + °F) Columns (Filling) Blue is standard Immersion tube lengths I1 in mm (immersion tube "B" incl. thread connection; for type "A" measured from lower edge of adapter) Tread connections

Immersion tube materials



Glass Inserts (Capillaries)

Capillary tube of solid glass, prismatic (optic enlargement of the column), oval opening, and white background for blue fluid column. Calibration is deeply burnt, in black, thus being absolutely resistant. The main raduations, which correspond with the printing on the casing, are especially clearly outlined.

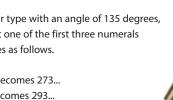


2

SIKA type angular 135 degrees

Angular type with an angle of 135 degrees, the last one of the first three numerals changes as follows.

271... becomes 273... 91... becomes 293... 174... becomes 176...



SIKA type angular 90 degrees

Angular type with an angle of 90 degrees, the last one of the first three numerals changes as follows.

271... becomes 272... 291... becomes 292...

174... becomes 175...

Tread connections

G 3/8" A M16x1,5 G 1/2" A M20x1,5 G 3/4" A M27x2







Microtemp TT 7170

Is supplied with the semiconductor sensor. The TT 7170 is advantageous priced. Robust aluminium anodised case Temperature range -50 bis 1500C
Resolution 0,1 C Hold facility semiconductor sensor permanently attached.

Digital thermometer K-type

A large LCD display (18.5 mm), reading hold function, °Celsius or Fahrenheit display and maximum record are some of the features. Measurement Range -50 ... +1300 °C and -58 ... +1999 °F.



Non-contact IR thermometers

An infrared thermometer is a non-contact temperature measurement device. Infrared Thermometers detect the infrared energy emitted by all materials -- at temperatures above absolute zero, (0°Kelvin)-- and converts the energy factor into a temperature reading.

The most basic design consists of a lens to focus the infrared (IR) energy on to a detector, which converts the energy to an electrical signal that can be displayed in units of temperature after being compensated for ambient temperature variation. This configuration facilitates temperature measurement from a distance without contact with the object to be measured. As such, the infrared thermometer is useful for measuring temperature under circumstances where thermocouples or other probe type sensors cannot be used or do not produce accurate data for a variety of reasons. Some typical circumstances are where the object to be measured is moving; where the object is surrounded by an EM field, as in induction heating; where the object is contained in a vacuum or other controlled atmosphere; or in applications where a fast response is required.

GMS offers a variety of IR thermometers:







Diesel exhaust gas thermometer

RX3100 vertical stem
RX3101 horizontal stem

Pyrometer, silicone oil filled, Ø. 100 mm. specially adapted to measuring of diesel engine exhaust gas temperature. Stabilized against vibrations with silicone oil filled case. Fully dust-proof and watertight Range. +50/+650 °Celsius or dual scale all stem lengths and connections available.



RX3080 vertical stem RX3081 horizontal stem

Pyrometer, silicone oil filled, Ø. 100 mm. specially adapted to measuring of diesel engine exhaust gas temperature.

Stabilized against vibrations with silicone oil filled case. Fully dust-proof and watertight Range. +50/+650 °Celsius or dual scale all stem lengths and connections available.



Diesel exhaust gas thermometer

RX3085



Thermometers

Bimetal marine

Dial type immersion thermometers for temperature measuring in oil, water and air systems for safe operation and optimal efficiency.

Case: Zinc-coated metal, Nickel-coated bezel,

Immersion parts of brass.
Dial: 66 mm. and 80 mm. Ø.
Range 0-120 °Celsius.
Stem: Horizontal or vertical,
length from 40 mm.
up to 160 mm.
Connection: 1/2" BSP.



Meat roasting thermometer



Pulp thermometer

With spike-end stainless steel stem 120 mm., for the internal temperature during roasting or cooking meat, Material: Stainless Steel. The display shows chicken, pork, lamb and beef rare, medium and well done. Range +60/+90° Celsius.



Bimetal dial type meat thermometer with spikeend stainless steel stem 120 mm or 400 mm., for the internal temperature of (frozen) food, meat and fish range -40°/+40° Celsius or 0-120° Celsius, divided 1.0° Celsius.



Pulp thermometer



Oven thermometer

Dia

Material: Stainless Steel.
This traditional dial thermometer has an easily readable scale.
With integral hook and stand.





Reference therometers

Reference thermometers for calibration pusposes, available in various measuring ranges and in various accuracies. Potential ranges are for example -10/+100 degr. C, -50/+50 degr. C, 0-200 degr. C, 0-600 degr. C, or else. The reference thermometers are supplied including manufacturer's calibration certificate.





Tank thermometer

In brass case with suspension ring, range -30/+100 or -30/+50° Celsius & °Fahrenheit. Brass case ISSA 651742 Stainless steel casing.

Options: Test certificate.



Tank thermometer

In Stainless steel case with suspension ring, range -30/+100 or -30/+50° Celsius & °Fahrenheit.

Options: Test ertificate.



Tank thermometer chain



Thermometer Bridge



Brass chromium plated case. Range -30/+50 °Celsius & °Fahrenheit length 300 mm.



Chain, steel or

Stainless Steel.

Temperature Sensor for exhaust gas

Temperature Sensor for exhaust gas

Cable: with flexible steel tube Material: AISI304 Protection grade: IP56 Element: 1 x NiCrNi (k)



Cable: armoured Material: AISI316 Protection grade: IP56 Element: 1 x NiCrNi (L)



USDA probe

USDA probe used for insertion in cold or frozen provisions to monitor and control the temperature during transportation from producer to consumer.

Cable: up to 15 meters PUR cable Conductors: 4 pcs. Element: 1 x Pt-100 Classifications: Lloyds Register of Shipping, Germanischer Lloyd.



Pt 100 element



3 wire with Aluminium connection head. Stemlength up to 400mm, connection 3/4"BSP

Boiler Thermostat

Single microswitch thermostat with adjust knob, incl. pocket.

Range: Switch 0 - 110C voltage: 10 - 250 C 15A 220Vac 10A 380Vac Stemlength: 8A 440 Vac 300 mm incl. ½"BSP



Cabin thermometer

mounting, 100 mm. dial metal case, range -10/+50° Celsius.

Bridge thermometer



Cabin thermometer

Dail thermometer for wall

Thermometer for wall mounting, range -30/+50° Celsius & °Fahrenheit on wooden, plastic or enamelled base.

ISSA 651701-134

Enamelled based thermometer for in- or outdoor use Range -25/+50 °Celsius.

Minimum/Maximum Thermometer

U-shaped thermometer, range -30/+50° Celsius to register the highest and lowest temperature. ISSA 651706 - 136

Refrigerator thermometer

Plastic thermometer for use in refrigerators or freezing rooms, range -30/+30 °Celsius.



Sauna thermohygrometer

Metal cased dial thermometer for wall mounting and measuring sauna temperature and humidity. Range +30/+120° C and 0-60% relative humidity.



Sling psychrometer

Whirling psychrometer with wet and dry bulb precision thermometers in plastic casing for measuring air temperature and humidity with tabel.

Range -10/50° Celsius div. 0,5° C. with side rule. (optional °Fahrenheit) ISSA 370261 - 470



Dial thermometer - hygrometer

Hair hygrometer with thermometer, for wall mounting. Range: 10-40° Celsius and 30-100% relative humidity. Colour: White Diameter:

100mm Robust case 204 ISSA 370256



Cargo-Hold Thermometer

Thermometer in brass case with suspension ring, for measuring, hold and air temperature range -30/+100 or -30/+50° Celsius & °Fahrenheit.

Copper cased Thermometer

Thermometer in copper case with sampler for measuring tank, hold and seawater temperature, range -10/+110 or -30/+50° Celsius & °Fahrenheit. range -40/+60 C/F ISSA 651710 - 124



Test-pencil Thermometer

Thermometer in brass case 300x12 mm. with suspension ring, for general use, all ranges from -50/+50° C up to 0-600° Celsius or °Fahrenheit.

range 50/+50 C: ISSA 651715 - 974 range -20/110C: ISSA 651725 - 962 range -20/110Cred: ISSA 651727 - 144 range 0-240 F: ISSA 651728 - 150 range 0-500 C: ISSA 651730 - 148



Freezing room thermometer



Digital and dial pocket thermometer

Digital pocket thermometer for general use range -20°+150° Celsius, with hold function. Resolution 0,1° C Dial pocket thermometer 24 mm Ø, with stainless steel stem 80 mm., for general use. Digital -20/150 C ISSA 651722 - 184 Dial -40/+40C ISSA 651735 - 181 Dial 0-120 C ISSA 651736 - 190

Thermometer in wooden case for measuring, refrigerator and freezing room temperature, range -30/+50° Celsius & °Fahrenheit.



Gas-in-Metal thermometer

Process industry series

Sensor Element: Inert gas-in-metal expansion system non-toxic

Nominal Size: 100, 160 mm.

Design: Stem, with threaded connection

Accuracy Class (DIN 16 203): 1 Scale Ranges (DIN 16 203): from -200... +50 °C to 0... 700 °C

Case: Stainless steel Pressure

Rating on stem: max. 25 bar (static pressure)

Wetted Parts: Stainless steel

Connection: Lower or back connection G 1/2 A Design per DIN for thermowell Order Options: Connection and thermowells to customer specifications Other connections: Liquid filling (case) Alarm contacts Combi-Thermometer:

lower connection with Pt 100, 3- lead (DIN IEC 751).



Gas-in-Metal thermometer

Distant reading process industry series, with capillary

Sensor Element: Inert gas expansion system, non-toxic

Nominal Size: 100, 160 mm.

Mounting Provisions: 3-hole surface mounting flange (code H), stainless steel

Surface mounting bracket (code M), die cast aluminum3-hole panel mounting flange (code V),

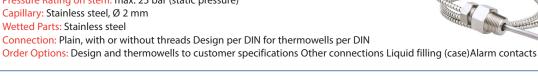
stainless steel Triangular bezel with clamp (D), stainless steel

Accuracy Class (DIN 16 203): 1

Scale Ranges (DIN 16 203): from -200... +50 °C to 0... 700 °C

Case: Stainless steel

Pressure Rating on stem: max. 25 bar (static pressure)



Gas-in-Metal thermometer

Process Industy series, with adjustable stem and dial

Sensor Element: Inert gas-in-metal expansion system, non-toxic

Nominal Size: 100, 160 mm.

Design: Case rotatable on stem 360°, stem adjustable all angle

Accuracy Class (DIN 16 203): 1

Scale Ranges (DIN 16 203): from -200... +50 °C to 0... 700 °C

Case: Stainless steel

Pressure Rating on stem: max. 25 bar (static pressure)

Wetted Parts: Stainless steel

Connection: Plain, with or without threads Design per DIN for thermowells per DIN Order Options: Connection and thermowell to customer specifications Other connections,

Liquid filling (case) Alarm contacts



Ranges

-200+50 °C	-40+40 °C	-20+40 °C	-10+110 °C	0+250 °C
-120+40 °C	-40+60 °C	-20+60 °C	-10+150 °C	0+300 °C
-110+50 ℃	-40+80 °C	-20+80 °C	0+25 ℃	0+400 °C
-100+100 °C	-40+110 °C	-20+100 °C	0+40 °C	0+500 °C
-100+50 °C	-40+120 °C	-20+120 °C	0+60 °C	0+600 °C
-80+40 °C	-40+160 °C	-20+180 °C	0+80 °C	0+700 °C
-60+40 °C	-30+30 °C	-15+45 °C	0+100 °C	0+800 °C
-60+60 °C	-30+50 °C	-10+15 °C	0+120 °C	
-50+50 °C	-30+70 °C	-10+30 °C	0+160 °C	
-40+20 °C	-30+170 °C	-10+50 °C	0+200 °C	

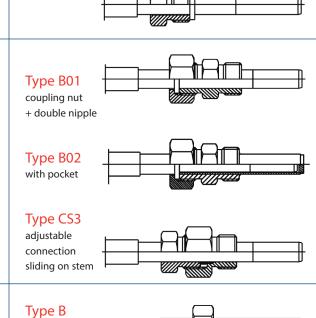
Different panel mounting options. Surface-mounted contact bulb. Liquid filling (case). Alarm contacts.

Connection s and thermowell to customer specifications. With Pt 100, 3- lead (DIN IEC 751) °C & °F or °Fahrenheit Scale.





Straight Type TSR - A with black painted steel case Straight Type TXR - A stainless steel case Angle Type TSR - E with black painted steel case Angle Type TXR - E with stainless steel case +K=180 or +K=360 Bendable 360_ or 180_



Type B

Type C

Fixed connection

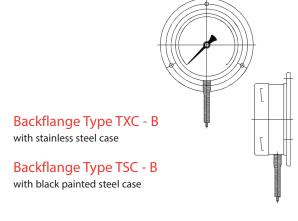
Type A04

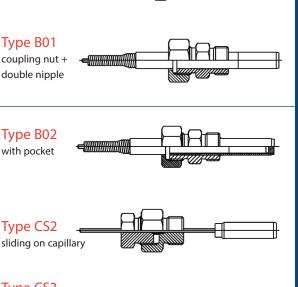
turning nipple

coupling nut

Type A04 turning nipple

coupling nut





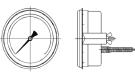


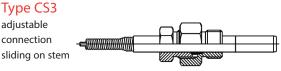
Frontflange Type TXC - G, with stainless steel case

TypeTXC - H,
with stainless steel case

Type TSC - H

with black painted steel case







FLIR Navigator II

Extremely affordable thermal imaging cameras for maritime applications

The Navigator is an economic, fixed mounted thermal imager. It provides crisp, clear thermal imagery in total darkness and light fog or smoke.

It features the same thermal imaging technology found in many of FLIR's most sophisticated maritime systems, but is packaged for users who have navigation as their primary application.



FLIR M series

Thermal imaging camera and ultra-low light camera.

The M-Series combines a thermal imaging camera with a low light camera. It provides crisp, clear thermal imagery in total darkness and light fog or smoke. The FLIR M Series is a perfect tool for night time

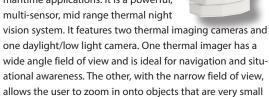
navigation, shipboard security, man overboard situations, anti-piracy and many other applications. The FLIR M-Series is the standard for maritime thermal imaging systems against which all others are compared.

FLIR Voyager II / III

or far away.

A reliable instrument for night vision applications aboard ships

Voyager was especially developed for maritime applications. It is a powerful,



FLIR HM series

Thermal imaging for night-time navigation and to increase shipboard security.

The HM-Series are handheld shock-resistant thermal imaging cameras. They produce a crisp image in the darkest of nights. The HM-Series will dramatically increase your situational awareness. The HM-Series can be used on board of all types of vessels.







FLIR BHM cameras

BHM-Series are shock-resistant thermal imaging cameras.

The BHM-Series will dramatically increase your situational awareness. The BHM-Series can be used on board of all types of vessels. Yachts, commercial ships, tug and tow boats, work boats, police and law enforcement boats will all benefit from

the power of thermal imaging.
The BHM-Series are bi-oculars.
This means that it is less tiring to use for the eyes than a monocular.
By using a bi-ocular the ability to detect faint objects is enhanced.

FLIR MS First Mate

FLIR's First Mate marine thermal night vision cameras in the

They give every boater the power to see clearly in total darkness.

The NEW First Mate MS uses the same thermal imaging technology as FLIR's best-inclass Navigator II, Voyager II, and

M-Series thermal night vision systems, but it's even smaller, lighter, and more affordable than ever before.



FLIR E series

A Revolution in Point-and-Shoot Performance

With an image quality of up to 320 x 240 pixels, the FLIR E-Series is ideal for predictive maintenance and planned inspection of electrical and mechanical systems to ensure they operate at maximum efficiency and safety with minimal energy consumption.



FLIR i series

A small infrared revolution

FLIR i3 / i5 / i7 is the smallest, lightest and most affordable thermal imaging camera on the market. It is incredibly easy to use and requires no former experience. It really is a matter of "point-shoot-detect" to obtain high-quality thermal images that will immediately give you the thermal information you need.



FLIR P series

human eye.

A FLIR P-Series camera is the perfect instrument for users who know the advantages that infrared has to offer, and who rely on an infrared camera at work. Whether you are an infrared consultant or a PDM professional in the utilities - or manufacturing industry, the FLIR P-Series infrared cameras will help you trace anomalies invisible to the



FLIR B series

Infrared for Building Inspection

The FLIR B-Series of portable thermal imaging cameras takes ergonomics, weight and ease-of-use to a new level. Usability is key: our engineers have translated user feedback on comfort and clarity into a series of comprehensive and

innovative features. Furthermore, the FLIR B-Series has been specifically developed for building environments. It contains features like dewpoint and insulation alarms that will make the life

of any building thermographer a lot easier.



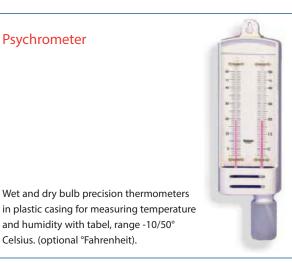
FLIR T series

Flexible, Innovative Professional-Grade Cameras

All FLIR T-Series cameras come with our ergonomic rotating optical block that makes it easy to capture images from any angle comfortably. And now FLIR T-Series is available with the highest resolution thermal imaging in its class along with a rich, new list of leading-edge features.



Psychrometer



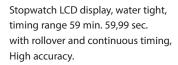
Stevenson Screen Box

Wooden housing for measuring outside temperature and humidity without influence by radiation and precipitation, supplied with wet and dry bulb precision thermometers with tabel, range -10/50° Celsius. (optional °Fahrenheit).



Digital Stopwatch

Celsius. (optional °Fahrenheit).



Wet and dry bulb precision thermometers

and humidity with tabel, range -10/50°



Hand Counter



Stopwatch Crown Stopper, easy to use, start-stop-reset, metal case, reading 1/5 seconds, timing range 30 min.



Counter with 4 digits and zero reset for manual counting.



Tube Cclinometer

Double glass tube for heel and trim angle on plastic base, range 6-0-6° and 60-0-60° Dimensions: 6"w X 3 3/4"h X 3/8"d. Degree Range: upper ±6°, lower ±60°.

upper 1°, lower 5° Case Materials: White acrylic, raised hot stamped markings **Tube Construction:** Glass with black ball

on white background

Degree Markings:



Battery Acid Tester

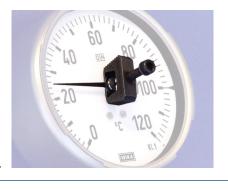
Battery Hydrometer

The battery contents to be tested consist of a sulphuric acid-water mixture. The charged condition of the battery can be tested using the battery acid tester. Battery hydrometer complete with suction hose and rubber handpump. Display in... Charged condition Red range .10 - 1.16 g/ml empty Yellow range 1.16 - 1.24 g/ml half Green range 1.28 g/ml full The liquid level in the battery should lie just above the battery plates. Check your batteries regularly. Battery hydrometer. ISSA 792662 - 355



Gauge Pointer Puller

Essential tool to remove pointers from pressure gauges and thermometers.



Sampling Bottle

Designed for sampling products in tanks. Heavy weight added for sampling at any level as well from the bottom of the tank. Brass 651371-446, Stainless Steel







Metal load line Hydrometer

Specific gravity hydrometers to determine the density of sea/fresh water with tabel and instructions. Range 0.995-1.040 kg/l. scale apparent density Kg/l. in air temperature of standardization 15° Celsius. ISSA 651384 - 451



Metal Salinometer

4/32

Salinometer for boilerwater Range 0 - 4/32 Salinometer, metal 0-4/32 ISSA 651382 - 452

Glass Hydrometer

Specific gravity hydrometers for determination the density of liquid.

Available ranges:

from 0-25 °Beaume and 0-50 ° Beaume from 0.600-0.700g/cm³, 0.700-0.800g/cm³, 0.800-, 1.900-2.000g/cm³ from 0.600-0.650g/cm³, 0.650-0.700g/cm³, 0.700-, ...,..., 0.950-1.000g/cm³



Including thermometer from 0.600-0.700g/cm3, 0.700-0.800g/cm³, 0.800-, 1.500-1.600g/cm³ from 0.600-0.650g/cm³, 0.650-0.700g/cm³, 0.700-,, 1.050-1.100g/cm³ from 1 - 11 API, 9-21 API, 19- ...,, ..., 79-91 API

Draft Survey Glass Hydrometer

Specific gravity hydrometers to determine the density of sea/fresh water with conformity certificate and instrution leaflet. Range: 0.990 1.040 kg/l

Scale: apparent density Kg/l in air Temperature of standarization: 15° Celsius. Hydrometer, glass, incl. cert.

ISSA 651344 - 352



Glass hydrometer API

Specific gravity hydrometers for determination the density of liquid.

306 API 1-11 ISSA 651351 307 API 9-21 ISSA 651352 308 API 19-31 ISSA 651353 309 API 29-41 ISSA 651354 310 API 39-51 ISSA 651355 311 API 49-61 ISSA 651356 312 API 59-71 ISSA 651357 361 API 69-81 ISSA 651358 362 API 79-91 ISSA 651359 363 API 89-101 ISSA 651360



Marine Clock



Dial Clinometer

Dial clinometer for heel and trim angle, brass plated 130 mm. Ø dial, range 45-0-45° with oil damping.





Barometer

Marine Aneroid



Marine clock

Radioroom



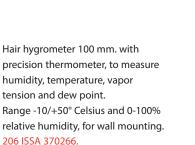
Brass plated 130 mm. Ø dial, with dual scale mbar and mmHG.

Hygrometer



Polymeter

Dial





Hair hygrometer 100 mm Ø, for wall mounting range 0-100% relative humidity.

Thermometer hygrometer

Hair hygrometer with thermometer, for wall mounting range 10-40° Celsius and 30-100% relative humidity. 100mm Robust case 204 ISSA 370256



Solenoid coil tester



Colour: White Diameter:



Simple pencil type instrument to confirm the working of the electro-magnetic field in a solenoid coil.



Volumes from 10 up

to 1000 ml.



Salinometer pot



Copper can with wooden grip for saltwater gravity tests with hydrometers or salinometers.

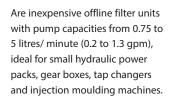
ISSA 651386 - 445



HDU 15/25 series



HDU 27/- series 90-1500 L/h





90-1500 L/h Application: medium to large fluid systems within land based and offshore industries: hydraulic systems, lubrication systems, marine diesel engines



HDU 427/- series

120 - 360 L/h



HDU X*27/- Tank series

600-6000 L/h



Application: large hydraulic systems, large industrial gears, power turbines, control systems and diesel engine lube oil.



HDU 27/* -T series

120 - 360 L/h Application:

marine diesel engine lube

oil filtration and in quench

oil systems.

Offline units mounted on a drain tank base and with pump capacities from 1.5 to 50 litres/minute. Ideal for medium to large hydraulic systems, gear boxes, diesel engine lube oil in marine applications. The HDU 27/* units are available in sizes 27/27, 27/54, 27/81 and 27/108, using 1, 2, 3 or 4 stacked CJC™ Filter Elements of types A, B or BLA according to system fluid type and volume.



CJC™ Filter elements

Exhibit very deep oil filtration characteristics and an extensive dirt and water absorption capacity (up to 4 liters of dirt per element). All CJC™ Filter Elements have an oil filtration degree

of 3 μ m (micron) absolute, i.e. 98.7% of all solid particles > 3 μ m and approximately 50% of all particles > 0.8 μ m will be retained in one pass.



A 15/25, A 27/27, A 38/40 and A 38/60

Application: The type A filter insert is ideal for fine filtration of mineral and synthetic based Engine lube oils, Turbine lube oils, Hydraulic oils, Gear oils, Honing oils Quenching oils The dirt holding capacity of an A 38/20 insert is 2.5 litres of evenly distributed solids. The water absorption potential is up to 50% of the total contaminant holding capacity.



B 15/25, B 27/27, BN 27/27, BM 27/27, BT 27/27, BG 15/25, BLA 15/25, BLA 27/27 and BLAT 27/27

Application: The B Filter Insert is especially manufactured for CJC™ Filter Units used for filtration of mineral oil based:

Motor Lubricating Oils, Hydraulic Oils, Turbine Lubricating Oils, Gear Oils, Honing Oils, Rolling Oils *Production of the PFUseries has been discontinued. However the PFU applicable filter elements are still produced.





Low pressure In-line duplex filters Type D/Model BDK



Low pressure In-line Filters

Type L/Model BGAH





High pressure In-line Filter

Type H/Model 1000

High Pressure Filters

Type H/Models 100, 200, 300 and SH100



Tank mounted return line

Type T/Model BGT-S





Tank mounted return line filter

Type T/Model Tanktopper Series



Hydraulic filtration

Replacement elements



Medium Pressure In-Line Filter

Type M/Model MPN



Suction Filter

Type B/Model ATZ



Medium Pressure In-Line Filter

Type M/Model AGS





Basket element

Filter is suitable for coarse filtration or for minor contamination.

Multi-mantle element

The mantle filter insert consists of several cylindrical filter mantles.



Single Filter

Type 1.65.1/1.65.2

Water, oil, fuel, chemicals. Nominal width: DN 65 to DN 300. Filter inserts: basket element, ring filter element, filter candle insert, multi-mantle element.

Filter finenesses: 10 μm uo to >2000 μm Flow rate: up to max. 1000 m3/h Operating pressure: PN 10 up to PN 40 Optional equipment: -

Differential pressure indicator optical or electric

- Internal lining
- Heating

Double filter

Type 2.68.2

Water, oil, fuel, chemicals, alkaline cleaning agents. Nominal width: DN 80 to DN 150. Filter inserts: Basket element, Ring filter element, Filter candle insert, Multi-mantle element

Filter finenesses: 10 μm up to 2000 μm. Flow rate: up to max. 250 m³/h.

Operating pressure: PN 10 up to PN 40



- Differential pressure indicator optical or electric
- Heating



Filter candle insert for backflushing filters

BOLLFILTER

As in the ordinary filter candle insert, several filter candles are screwed into a single candle holder.

Filter candle insert contains several mesh candle elements of the same size and mesh connected in parallel.

Star-pleated element has a large filter surface yet a small diameter due to the pleating of the filter element.

Filter cartridge consists of a pleated plastic, glass fibre, non-woven or paper element. Filter candle insert for backflushing filters.

Automatic backflushing filter

Type 6.23/6.24

Fuel

Nominal width: DN 32 to DN 50. Filter inserts: Filter discs. Filter finenesses: 34 µm abs. up to 48 µm abs. Flow rate: up to max. 11,5 m³/h. Operating pressure: max. PN 16. Operating temperature: max. 150°C. Housing material: Nodular cast iron.

Optional equipment:

- By-pass switch-over filter
- Heating



Automatic backflushing filter

Type 6.62

Fuel

Nominal width: DN 25 to DN 80. Filter inserts: star-pleated element, Basket element. Filter finenesses: 10 µm abs. up to

48 µm abs. Flow rate: up to max. 60 m³/h. Operating pressure: max. PN 16.

Operating temperature: max. 150°C

Optional equipment:

- By-Pass changeover filter

Automatic backflushing filter Type 6.60/6.61

Cooling lubricant, alkaline neutral cleaning agent, fuel, lubricating oil. Technical data fot lubricating oil. Nominal width: DN 50 to DN 350. Filter inserts: Filter candles. Filter finenesses: 25 µm abs. up to 48 µm abs. Flow rate: up to max. 750 m³/h Operating pressure: max. PN 10.

Operating temperature: max. 80°C































Ultra Sonic cleaning equipment







MaraMeter

Marameter is the ideal indicating measuring instrument for high precision internal and external measurements of on either individual parts or on serial components. Our indicating measuring instruments obtain the best results due to their constant measuring force, their exact transmission

lever system as well as their high parallelism on the measuring faces. For special measuring tasks such as threads, teeth, grooves or precision mechanical parts Marameter offers the right solution.



MicroMar 40A

Micrometer

Chrome plated steel frame Spindle and anvil made of hardened steel, carbide tipped measuring faces Operating and scale parts with satin chrome finish.



MicroMar Product Group

Micromar Micrometers are available as digital and mechancial instruments and are ideal for measurement of external and internal dimensions. Mahr Micrometers

are characterised by their precision ground measuring spindle, carbide tipped measuring faces and robust frame construction. These quarantee extreme precision and ensure a long lifetime.



MarTest 800 Series

Test Indicators



A complete product range and a wide range of accessories that offers the best solution for every measuring task.

MarCator 810A

Dial Indicator



MarCator 810SW (IMPA 651404)

Water, Oil and Shock Proof Dial Indicator 651404

High precision gears and pinions Lifter protection cap on the top end of the measuring spindle Adjustable tolerance markers.



Protection class IP54; measuring spindle sealed with rubber sleeve, thus preventing contamination by liquids and impurities Hermetically sealed upper protective measuring spindle cap High precision gears and pinions.



MarCator 803SW

Water and Oil Proof Dial Indicator

High precision gears and pinions Protection class IP54; Measuring spindle sealed with rubber sleeve, thus preventing contamination by liquids and impurities Hermetically sealed upper protective measuring spindle cap as well as bezel and transparent dial cover; sealed with O-rings.



MarCator 810S

Shockproof Dial Indicator

Shockproof mechanism High precision gears and pinions Top of the measuring spindle is protected by a lifter protection cap.





MarCal 16EW

Waterproof Digital Caliper

Accurate measurements under extreme conditions! Protected against water, oil, dust according to Protection Class IP67 Inductive waterproof measuring system FPS (Fluid Protected

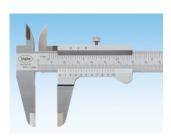
measuring System)
Reference-Lock-Function
secures the zero position
and prevents operation
errors Chemical resistant
material Ultradur for
housing and buttons.



MarCal Vernier Caliper 16FN

with scale reading and locking screw above

Vernier and main scale with satin-chrome finish for glare free reading Raised sliding surfaces for protection of the scale Slide and beam made of hardened stainless steel.



MarCal Digital Caliper 16EX with data output

Large, easy to read display (7.5 mm digits) MarConnect data output (USB, Opto RS232C or Digimatic) Available with a round or a flat depth rod.



MarCal Digital Caliper 16EX without data output

Reference Lock/Unlock Simple operation Versions with a round or a flat depth rod are available Lapped guide ways allow smooth and even movement.



MarConnect USB ready

Standard or Professional



Mahr has developed a highly impressive and very simple new interface concept: "USB-Ready", this simplifies the communication to measuring instruments. It enables the connection of hand measuring instruments via the USB interface to a PC. In order to store the data in text files or

MS-Excel, a low-priced USB Hub can now be used for multiple measuring stations in stead of expensive interface boxes. After the deployment of further USB Hubs the system can simply be expanded. Up to 100 measuring devices can be simultaneously connected. Data transmission can be activated alternatively on the measuring instrument, via a USB foot switch or via the PC keyboard. With a USB data cable and the new MarCom-Software practically all digital measuring instruments from Mahr can be operated. For further information please read the Datasheet below.

Helios / Preisser Catalogue

Besides vernier calipers, micrometers and dial-gauges these ranges have an extensive line of rules, squares, protractors, scribers, dividers, feeler gauges, surface gauges, thickness gauges, magnifying glasses and hand/digital counters.



Horex Catalogue

For all applictaions with a less need or lack of high standards as with Mahr and Helios-Preisser we extended our productrange With the HOREX line. This product range can therefor be considered as the 'economic-line' of Handtools Metrology products.





Vernier Depth Gauges

650536 - 650545

Depth Micrometers

650471 -6504878

Made of stainless steel, with locking screw and beam. Range: 150 - 1000mm.



To measure the depth of holes, sleeves and so on. Face of the base is hardened to maintain a level surface Reading in 0,01mm graduation. Range: 0 - 300mm.



Outside Micrometers

(Interchangeable Anvils) 650381 - 650390



Each micrometer is equipped with a series of interchangeable anvils. Each anvil is marked to show it's range and is fitted with a adjustable collar to prevent wear. Graduation in 0,01mm. Range: 0 - 1000mm

Note: Individual sizes and other ranges are also available on request. Also available in Digital execution, on request.

Outside Micrometers

IMPA 650301 - 650320



For easy and quick measuring of outer diameters. Graduated in 0,01mm increments with standard measurement sizes from 25mm to 500mm.

Range: 0 - 500mm

Note: also available in digital (waterproof) executions Note: also available in 'Jaw' type executions with a range of 5 - 100mm

Outside Micrometers

(With Counter) 650341 - 6500356



Inside Micrometers (set)

(Jointed/set complete) 650441 - 650446



Each set of the anvils for the inside micrometers is adjusted to suit the particular micrometer. Each is given a mark and must not be used on any other micrometer. Graduated in 0,01mm increments.

Range: 50 - 2000mm.

Note: other sizes available on request.

Package: in wooden box.

Range: 0 - 500mm (in steps of 25mm) Graduated in 0,01mm increments. Note: other sizes available on request.

Combination Square Sets and Straight Edges

(Protractors and Rules) 651001 - 651004

Are useful for all types of mechanical jobs. The set is comprised of a straight rule protractor, a square head and a center head. The protractor is graduated to read from zero to 180° in both directions. The rule is made of stainless steel and is graduated in both 0,5mm and 1 mm increments. The square head has a level and a scriber point. The protractor head, center head and square head are all made of cast iron. Seperate Rules (Straight Edges) Precision made of fine tool steel according to Industrial Standards. These items have beveled edges and a mm graduation.







Surface Gauges

651101 - 651118



These surface gauges with fine adjustment are handy, well proportioned and rigid. Composed of a heavy, cast iron base and a mild steel rod supporting a adjustable scriber.

Note: Available with round base and with square base.

Feeler/Thickness/Gap Gauges

650551 - 650586

For gauging narrow slots as well for adjusting the air gaps of valves on engines. he leaves have the thickness marked on the them.

Note: available in several leave lengths and graduations.



Screw Pitch/Thread Gauges

650601 - 650607



Screw Cutting Gauge



Designed to quickly determine the pitch of bolt, nut and screw threads. For Metric, Whitworth and Unify threads. Note: executions for other thread types available.

A usefull gauge to determine the correct thread angle of various tools after the cutting operation.

Avalaible in 30° square type.

Drill Gauge

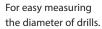
650651 - 650655

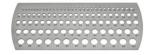


(non) magnetic base 651421 - 651427

The Stands with (permanent) magnetic base can be switched on/ off to move the stand. With fine adjustment, and for dial Gauges with

8mm shank diameter The Non-magnetic versions have a prismatic base and T-slot. With T-slot the beam is slidable on the base. The T-slotted base is accurately machined for all working surfaces and the vertical and horizontal arms ensure fully universal movements of the dial gauge. NOTE: also magnetic stands with flexible arms are available on request.





Crankshaft Distortion Dial Gauges

An inside gauge for checking the distortion of webs on crankshafts. With these gauges it is possible to check bearing alignments or deflections of the shaft without having to dismantle the engine. Usable on diesel engine shafts as well as center crankshafts of engines or compressors. Indicator is graduated in increments

of 0,01mm. 6 rods and one extension are included providing a range of sizes from 60-500mm standard range: 60 - 500mm Note: other sizes available on request



Cylinder (bore) Gauges

This range is designed mainly for the measurement of cylinder bores but the ovality, taper, waer and other bore conditions may be measured with equal ease. range: 18 - 510mm.

NOTE: Dial Gauge is standard

NOTE: Dial Gauge is standard not included. We advise IMPA 651404 Dial Gauge.





Cylindrical Dynamometers

This balance is the most accurate and

applications. Standard graduated in Kg's.

Range: 0,5 - 30 kgs Note: graduation in N

durable of its type. Useful for many

(Newton) available on request!

(Tubular Spring Balances)



(Vernier) Calipers & Digital Calipers

650501 - 650521

Length Range: 100 - 2000mm Note: digital executions also available with DATA-output for easy transfer of measuring data to your PC. Note: other lengths also alvailable up to 2000mm!! Note: also available with data output for datatransfer Note: also available as Dial Caliper execution on request Note: also available in Waterproof execution



(Box Type) 651021 - 651036



Surface Plates Internal Groove Micrometers

650451 - 650462



Machine finished economical surface plate made of cast iron. Used for steady and leveled base for measurements.



This caliper type with 'Pointed-Jaws' facilitates quick reading for internal grooves of all types. Including "O" rings, seals, oil grooves, washer grooves as well as bores and recesses. Graduated in 0,01mm increments. Range: 5 - 50mm Note: IMPA 650461 and 650462 have a digital counter Note: Executions with digital counters are also available in larger sizes, upto 175-200mm in steps of 25mm

Inside Micrometers

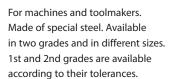
(Tubular Type, individually) 650402 - 650419



Precision Try Squares (Flat)

650936 - 650963

A single rod type micrometer made from strong but light tubing. The measuring anvils are ground to a radius to be used in either flat or curved surfaces. Graduated in 0,01mm increments. Range: 50 - 500mm, available in separate sizes. NOTE: also available in a set (Jointed Inside Micrometers).





Precision Try Squares (with Base)

650966 - 650993



Outside Calipers (with and without locking screw) 650101 - 650112

Recommended for use where a high accuracy is required. Base and blades are hardened, ground and lapped to ensure that the square has a straight, parallel setup. 1st and 2nd grades are available according to their tolerances. Non graduated types are most commonly used.

For the easy measurements of the outer diameter of pipes and other round objects. Made of hardened steel with tips of tempered steel. The same type of calipers are also available with locking screw / lock-joint. Range: 100 - 300mm. IMPA 650133 - 650136





Spring Outside Calipers

650121 - 650126



Inside Calipers

(with and without locking screw) 650151 - 650162

For measuring the inside diameter of pipes, fittings and so on.

Made of hardened steel with points of tempered steel to prevent wear.

Range: 100 - 1000mm.

Note: The same caliper type is also available with locking screw (lock-joint transfer Caliper): Range: 100 - 300mm. IMPA 650181 - 650186.



threads. The tips are specially shaped to fit suitably to the threads. Range: 100 - 300mm.

For the outisde measurement of

Spring Inside Calipers

650171 - 650176

For measuring the inside diameter of pipes, fittings and so on. Made of hardened steel with points of tempered steel to prevent wear. With special shaped points to work in threads. Range: 100 - 300mm.



Steel Compasses

(Dividers) 650211 - 650226



Made of hardened steel with points that are extra hard tempered for scribing circles on iron plates. Range: 75 - 1200mm.

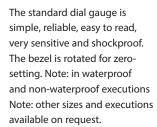
Spring Dividers

650231 - 650237



Dial Gauges

(General Type Description) 651401 - 651404





Made of hardened steel with points that are extra tempered for scribing on iron surfaces. Has a rigid spring and an adjustable, quick setting screw. Range: 75 - 300mm.



(blocks and parallels) 651051 - 651055 and 651056 - 651061







Machine finished and made of cast iron. Two types available, the A-type which is composed of four 90° v-shaped indentations. B-type has one 90° v-shaped indentation. A set of two pieces can be used in mechanical processing and inspection as a holding table for marking of round rods and right angle bodies or to hold round marks.



(Valid untill May 31, 2009)



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