LABOM INSIDE

RELIABLE MEASUREMENT & MONITORING

Pressure  Temperature  Level  Accessories
CONTENT

Company profile 4
Application/industries 6

Pressure, differential pressure and level transmitter
PASCAL Ci4 8–11

Pressure and differential pressure transmitter
PASCAL CV3 and PASCAL CV4 12–13

Pressure transmitter and pressure switch
PASCAL CS, UNIVERSAL CA, COMPACT 14–16

Pressure and level measuring devices for special applications
UNIVERSAL, CK5 17

Diaphragm seal designs
Hygienic and special applications 18–19

Diaphragm seal technology
Membrane shapes, materials and coating 20–21

Temperature transmitter V-Line
MiniTherm GV4, Clamp-on GV4 22

Resistance thermometers
for hygienic and general applications 23
in clamp-on technology 24
for in-process applications 25

Hygienic process adaptation
Thermowells standard or tailor-made 26
HIT thermowell system for temperature
ASEPTconnect inline case 27

Pressure gauges
with and without switch function 28

Dial thermometers
with and without switch function 29

From special solution to standard
LABOM Kombibar systems – single measurement, double benefit 30
Special solutions for mechanical pressure measuring technology 31
Further made to measure solutions 32–35
More than 50 years of success in industrial measuring technology: The success of the family business LABOM Mess- und Regeltechnik GmbH from Hude is based on customer-oriented individual solutions and healthy growth.

LABOM was founded by Walter Labohm in 1968. Over the course of its history, the company evolved from a craft-oriented company to a renowned specialist provider of digital pressure and temperature measuring technology. LABOM’s special area of expertise are individual made to measure solutions. The devices are used for measuring and monitoring pressure, levels and temperature in various industries, including the fields of food, pharmaceutics, biotechnology and chemistry.
In addition to a wide range of standard products, our strength lies in creating tailor-made solutions for our customers.

LABOM Members of Management Matthias Dühr, Dr. Thomas Köster, Frank Labohm, Marc Burmeister

**Philosophy**

Today, LABOM has around 180 staff members and maintains branches and representatives in more than 40 countries. Digitisation, the evolving working world and market globalisation are among the challenges that LABOM is facing nowadays. However, the philosophy of the healthily growing family business remains unchanged: LABOM attaches importance to preserving the well-proven and combining this with the latest approaches.

**Quality that pays off**

Manufacturing excellent products requires great expertise in development and machining. Products used around the world are developed and prepared at our headquarters in Hude – in close cooperation with our customers and their applications.

Special machining centers for material processing, modern assembly facilities and highly accurate systems for filling and calibrating measuring instruments are available in our manufacturing department. LABOM gauges are certified to the highest German and European standards.
PROCESS MANUFACTURING

Chemical/Petrochemical Industries
LABOM measuring equipment is suitable even for the most hostile environments, such as high temperatures or aggressive measurement substances. Most of our devices are also intrinsically safe pursuant to ATEX standards.

Pharmaceutical Industries/Biotechnology
LABOM specialises in the production of instruments with hygienic designs: Hygienic surfaces, easy to clean cases, elimination of dead space or aseptic process connections.

MACHINERY AND PLANT ENGINEERING

Machinery/Automotive Industry
Among the metrological challenges in plant engineering, and in the automotive industry in particular, is the use of water-soluble paints, for which LABOM has developed a silicone-free diaphragm seal system filling.

Shipbuilding and Marine Equipment
The extremely aggressive environment (saltwater, vibration, soiling) presents great challenges for measuring equipment. As a result, such equipment must feature a particularly sturdy and safe design.

ENERGY AND ENVIRONMENTAL TECHNOLOGY

Renewable Energies
LABOM is familiar with the energy storage sector and when it comes to designing equipment for wind turbines, LABOM is working in close cooperation with leading manufacturers of wind power plants.

Power Plants/Public Utilities
Efficiency, security of supply, reliability and long-term stability without maintenance are important criteria when choosing the measurement components for public utilities and power plants.
Industrial Production

Depending on the target sector of machinery and equipment, special requirements are to be considered for measurement instrumentation: LABOM provides a broad range of proven devices suitable for many different application areas.

Food/Beverages

LABOM develops and manufactures measuring equipment for food and beverages applications according to internationally recognised standards for hygienic design. All devices are suitable for CIP or SIP cleaning.

Paint/Coatings/Plastic Industry

In the painting industry, the use of dead-zone free measuring devices with perfect cleaning characteristics is as important as in hygienic applications, where even the smallest amount of residue from a previous process can result in undesired colour mixtures.

Oil and Gas Production/Onshore/Offshore

Measurement devices in oil and gas production must be particularly robust and reliable to be able to withstand the harsh environments with temperature peaks and dirt.

Water and Waste Water

LABOM standard stainless steel equipment can take on many tasks in the water and waste water industry, thanks to its resistant and robust design with excellent moisture protection.
Pressure and differential pressure transmitters

**PASCAL Ci4 INTUITIVE**

Pressure transmitter for relative and absolute pressure

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**Pressure transmitter with high-resolution graphic display**

The ultimate in measuring accuracy, process robustness combined with intuitive and convenient operation - that's the PASCAL Ci4 range.

The structural design of the devices featuring a high-resolution graphic display, intuitive operation and various process connections is suitable for a wide range of applications in the processing industry, chemistry, machine and plant engineering, as well as in energy technology.

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**CI41 PRODUCT HIGHLIGHTS**

- High measuring rate up to 100 Hz
- Measurement range from 25 mbar ... 400 bar
- Accuracy of 0.1 %
- Process connections in accordance with the norm or manufacturer-specific
- Hygienic and robust design
- Maximum measurement accuracy even with a diaphragm seal systems thanks to ATC technology (p. 10)
- Turndown of 100:1
- NAMUR-tested to NE95
Differential pressure and filling level transmitter

**PASCAL Ci4 INTUITIVE**

For differential pressure, level and flow

- Measurement range from 20 mbar ... 40 bar
- Accuracy up to ≤ 0.07 %
- Reduced-volume design for diaphragm seal systems with small nominal sizes
- Max. working pressure up to 400 bar
- Simultaneous display of differential pressure and static pressure possible
- Operating software LAB4Level (p. 10)
- Long-term stability of 0.1 % within 5 years

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The uniform concept for pressure, differential pressure and filling levels facilitates the monitoring of systems, simplifies spare parts storage and minimises training requirements.

The CI43 is ideal for pressure and differential pressure measurements in aggressive substances or at high process temperatures through the use of high-quality materials for wetted components, such as tantalum, Hastelloy, PTFE and the like.

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**Differential pressure transmitters for filling level measurements, filter monitoring and flow measurements**

**CI43 DIFFERENTIAL PRESSURE**

- Measurement range from 20 mbar ... 40 bar
- Accuracy up to ≤ 0.07 %
- Reduced-volume design for diaphragm seal systems with small nominal sizes
- Max. working pressure up to 400 bar
- Simultaneous display of differential pressure and static pressure possible
- Operating software LAB4Level (p. 10)
- Long-term stability of 0.1 % within 5 years
TECHNOLOGIES AND OPTIONS

Hydrostatic level measurement, or by means of differential pressure

For the Ci4 series, LABOM offers the optional operating software LAB4Level. The software can simultaneously calculate and display fill height, volume and weight. The figures are displayed in the selected unit or as a percentage, as required. Various layouts enable the display to be adapted to the user’s need for information.

Measuring filling levels using differential pressure transmitters with diaphragm seals is ideal, for example, when aggressive media or hygienic requirements require a separation of process and instrument side.

TEMPERATURE ERROR COMPENSATION

Mathematical correction of the measurement error in diaphragm seal systems

LABOM has developed a further compensation process to eliminate the disadvantages of the influence of process temperature on diaphragm seal systems. The temperature of the pressure transmission fluid is recorded with an additional temperature sensor with the ATC technology (ATC = Active Temperature Compensation). The resulting measurement errors from the process heat can therefore be mathematically corrected.

Temperature errors can therefore be reduced by 80 - 90% thanks to this process. High-precision pressure measurements can thus be carried out together with the high accuracy of the pressure measuring device.
**INTUITIVE OPERATION**

**Optimised menu navigation**

The quick set-up summarises all the key setting parameters in a single menu. Various configurable displays enable users to select which and how many subordinate variables are displayed. All parametrisation data can be copied from the device to the configuration memory in the display module. It is stored permanently there. This enables parameters to be transferred simply and quickly to other devices.

**Practical display modes**

The display structure can be adapted to the requirements of the measuring point. There are five different display modes with configurable content.

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**REMovable CONTROL UNIT**

**For concealed or hard-to-reach measuring points**

- The display and control unit can optionally be fitted up to 10 metres away from the measuring pint.
- Fully-operational control module: with the same functionality as when operating directly on the unit
Pressure transmitter

**PASCAL CV4 HYGIENIC**

Professional pressure transmitters with high-resolution graphic display

- Pressure transmitter, case stainless steel, degree of protection IP 65/67
- Accuracy ≤ 0.15%
- High-resolution graphic display with intuitive user interface and backlight
- Comprehensive parametrisation, simulation and diagnostic functions
- Quick set-up function
- Nominal range 0.25 bar...400 bar (PASCAL CV4110: 0.25...40 bar)
- Turn-down to 20:1
- Output signal 4...20 mA with HART® protocol
- Output functions: linear, inverse, table function with up to 32 control points
- Process media temperature -20...100°C (PASCAL CV4110: -20...160°C)
- Wetted parts stainless steel
- Many process connections for hygienic and demanding applications
Pressure and differential pressure transmitter

**PASCAL CV3 MODULAR**

Professional pressure transmitter with smart modular technology

![Image of PASCAL CV3 MODULAR](image)

**CV3 product highlights**

- Smart modular technology system
- Functional modules can be exchanged on site “plug and measure”
- High accuracy ≤0.15 %
- Hygienic design in accordance with EHEDG
- Switching function
- Degree of protection IP 66, IP 69 K
- Profibus, HART®

For diaphragm seal operation, hygienic
CV3110

For diaphragm seal operation, sturdy
CV3120

For filter monitoring or level measurement
CV3300
**PASCAL CS MULTIFUNCTIONAL**

**Measuring, switching and indicating**

- Functional, rotatable, case in seamless design
- 4-Digit LED display, reflectable by 180°
- Measurement ranges 0...100 mbar to 0...400 bar rel., 0...1 bar to 0...6 bar abs.; accuracy ≤ 0.2%
- 2 isolated switch outputs
- Galvanic isolation between pressure transmitter and switch outputs
- Hygienic design pursuant to EHEDG

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**UNIVERSAL CA UNIVERSAL**

**Measuring relative and absolute pressure**

- Stainless steel case, degree of protection IP 65
- Directly ventilated sensor element
- Output signal 4...20 mA, 2-wire system
- Accuracy ≤ 0.2%
- Easy zero-point setting using a magnet
- Measurement ranges 0...100 mbar to 0...400 bar rel., 0...1 bar to 0...6 bar abs.
- Hygienic design according to EHEDG recommendations
COMPACT IO-LINK

Pressure transmitter for the hygenic applications

- Output signal IO-Link V1.1
- Data transmission rate COM 3 (230.4 kBaud)
- Accuracy ≤ 0.3%
- Case and wetted parts made of stainless steel, degree of protection IP 65
- Maximum of 2 switch outputs
- Approvals/certificates as an option
- Hygienic design possible
- Electropolishing of wetted parts upon request

EXAMPLE OF SYSTEM ARCHITECTURE WITH LABOM IO-LINK DEVICES
**COMPACT STURDY**

Internal or flush mounted diaphragm

- Case and wetted parts made of stainless steel
- Suitable for process temperatures of up to 200°C
- Measurement ranges of 0...250 mbar to 0...400 bar
- Linearity error incl. hysteresis ≤ 0.2%
- Signal output 4...20 mA, 0...20 mA available
- High degree of moisture protection thanks to resin-filled electronic unit
- Various electrical connections available

**COMPACT ECO ADVANTAGEOUS**

For standard applications

- Relative pressure measuring of gases, vapours and liquids
- Measurement ranges 0...1 to 0...600 bar, -1...0 to -1...15 bar
- Accuracy ≤ 0.5%
- Output signal 4...20 mA, 2-wire system
- Stainless steel case, degree of protection IP 65
- Process temperature -20...120°C
- Easy zero-point correction via magnet

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**COMPACT ECO HYDROGEN**

- Relative pressure measuring of hydrogen and measurement substances containing hydrogen
- Thin film sensor
- Explosion protection for gases
- Accuracy ≤ 0.5%
UNIVERSAL ANALOGOUS

Measuring relative and absolute pressure

- Case and wetted parts made of stainless steel
- Measurement ranges 0…160 mbar to 0…400 bar rel., 0…0.4 to 0…25 bar abs.
- Linearity error incl. hysteresis ≤0.3 %

For filter monitoring CP1310

Highly overload resistant CD102./202.

Heavy duty design CB203. HDD

- Signal output 4…20 mA, 0…20 mA available, 0…10 V DC and 0.5 V DC
- Zero-point and measurement range adjustable from the outside
- Explosion protection, IECEx, Queensland mining licence, ANZEx

CK5 WITH BOURDON TUBE

Integrated electronic measuring transmitter

- Pressure transmitter with on-site display for relative pressure measuring
- Safety pressure gauge S3 according to EN 837-1 in NG 100 and NG 160, alternatively in S1 variety
- Output signal: 4…20 mA (20…4 mA) in 2-wire system

- Display range 0…0.6 to 1000 bar
- Integrated angle-of-rotation sensor, not subject to wear, with switch function
- Correction of electrical zero-point by applying a ferromagnetic material
- Additional contact device
DIAPHRAGM SEALS DESIGNS

Diaphragm seals, hygienic design

- Varient in-line access unit
  DL8080
- HYGIENIC tubus
  DL8140
- Screw-in thread ASEPTIK
  flush-mounted o-ring
  DE2160
- NEUMO BioControl
  DL8110

Membrane diaphragm seals, robust design

- Flange diaphragm seal
  DA1420
- Cell design
  DC4680
- Screw-in thread
  DE1180

Membrane diaphragm seal for special applications

- Welded design with screw-in
  thread
  DD8050
- Variable connection system
  DD1100
- Saddle flange version
  DD4200
Inline diaphragm seals, hygienic design

- Aseptic design
  DF6100

- DN 10 with clamp connection
  DF5100

- Standard version
  DF....

The advantage of LABtec lies in its full surface diaphragm contact with special materials, without mixed melting effects or additional soldered joints. This results in high temperature-resistance and high durability of material properties (resistant against corrosion, acids, etc.) of the special materials.

The LABTEC process:
- Fully welded membrane
- No mixed melt
- Highly temperature and vacuum tight
- High-quality materials usable

Inline diaphragm seals, robust design

- Flange connection cell
  DP2100

- Flange connection, self draining
  DP4100

- Inline diaphragm seal DN 15
  DS1260

- All Bodies and flush-mounted membranes made of stainless steel
- Special materials such as tantalum, titanium, Hastelloy, highly vacuum-tight PTFE condenser etc.
- Very low temperature influence

Patented processes: For realising special solutions, LABOM also develops new production processes. Such as the patented fibre laser technology LABtec.

- Patented LTC membrane technology possible
- Surface structure suitable for hygienic applications
- Suitable for various measuring equipment connections
- More than 60 designs available
Whether the media is problematic, stringent conditions of hygienic applications are given, or the gauges need to be especially robust to vibration, shock or extreme process temperatures — when the measurement task is unusually difficult, diaphragm seals are the perfect tools for the job.

Diaphragm seals are used in very different temperature ranges. A key factor for exact measurement results is, therefore, the compensation of the temperature error. To achieve optimal temperature compensation for every application, LABOM offers three different diaphragm types depending on the process requirements: In addition to the sinus-shaped diaphragm, the compensation diaphragm and the LTC diaphragm are also available, both of which are based on a LABOM patent.

**Applications**

Whether the media is problematic, stringent conditions of hygienic applications are given, or the gauges need to be especially robust to vibration, shock or extreme process temperatures — when the measurement task is unusually difficult, diaphragm seals are the perfect tools for the job.

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**SHAPES AT A GLANCE**

- **SINUS**
  Universal contour and material for all standard applications

- **SELF-COMPENSATING**
  For special requirements for stability and accuracy in conjunction with special materials

- **LTC**
  Lowest temperature sensitivity for use of stainless steel diaphragms

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**Different designs**

**Diaphragm seal filling**

**Inline diaphragm seal**
Materials

STAINLESS STEEL 316L
Stainless steel (1.4404/1.4435) is characterised by its generally good resistance and media compatibility. It can even resist weak acids and alkalis, making it the standard material of the pharmaceutical industry.

DUPLEX STEEL
Duplex steel (1.4462) has a high resistance to corrosion cracking in media containing chloride such as pitting. It is well-suited for use in the chemical and petrochemical industry and particularly resistant to seawater.

TANTALUM
Tantalum is the metallic element with the highest general corrosion resistance. With only a few exceptions, tantalum is completely resistant to all pure acids.

TITANIUM
The good corrosion resistance of titanium is based on the formation of a dense and stable protective coating of titanium dioxide. Titanium is particularly well-suited for strongly oxidising and chloride-rich solutions and suspensions. Unlike almost all other common metallic materials, titanium is also resistant to chloride-saturated solutions.

HASTELLOY
The nickel-based alloy Hastelloy is very resistant to crevice and pitting corrosion and corrosion cracking and is resistant to chlorides, mid-concentrated sulphuric acids, acetic acids and phosphoric acids.

MONEL
Monel is a nickel-copper alloy with a good resistance to strong alkalis, most salt solutions, seawater as well as diluted and mid-concentrated inorganic acids.

NICKEL
Nickel is well-suited for application in strong alkalis such as sodium hydroxide or potassium hydroxide.

Coatings

GOLD
As a precious metal, gold has a very low reactivity. It is particularly suited for hydrogen applications, as a gold coating acts as a diffusion barrier.

PFA
This plastic is used in adhesive media because of its excellent anti-adhesive properties. It is also resistant to practically all chemicals and suited to a temperature range from -40 to +260°C.

PTFE
In addition to excellent anti-adhesive properties, this plastic is characterised by its very good resistance to strong alkalis and acids. Special designs for vacuum applications up to 200°C are available, in the overload pressure range PTFE can be used from -20 to +260°C.

RUBBER COATING
A rubber coating protects the diaphragm from sharp objects and is consequently used in the cement industry, for instance.

ECTFE (HALAR)
Halar® is a thermoplastic material that is highly resistant to most known (and aggressive) chemicals as well as solvents. It also forms non-porous layers. The coating thickness is typically between 200µm and 300µm.
TEMPERATURE TRANSMITTER GV4
HYGIENIC

Professional temperature transmitter with high-resolution graphic display

- High-resolution graphic display with intuitive user interface and background lighting
- Accuracy of 0.1% of the set measuring range
- Quick set-up function
- Measuring resistance Pt100
- Process connection bottom or back
- According to 3A requirements

MiniTethm GV4730
- Compact stainless steel case
- Temperature measuring transmitter for installation in a separate thermowell in hygienic design
- Temperature range -50 ... 200 °C
- Measuring insert, spring loaded
- Compact, small design

Clamp-on GV4610
- Temperature measuring transmitter for hygienic surface temperature measurement using clamp-on technology, for pipes with a diameter of 4 ... 300 mm and for tanks.
- Various clamping elements for process connection
- Temperature range -40 ... 150 °C
Temperature measurement technology

**RESISTANCE THERMOMETER HYGIENIC**

For temperature measuring in tanks and pipework

- MiniTherm fast response
  - GA2700
- MiniTherm for installation in a separate thermowell
  - GA2730
- Inline temperature transmitter
  - GA2200

Exemplary accessories:

- PA2100
- PA2530

Visit labom.com for further accessories

**RESISTANCE THERMOMETER GENERAL APPLICATIONS**

- With thermowell
  - GA2510
- With thermowell
  - GA2511
- With weld-in thermowell
  - GA2520
- MiniTherm with screw-in thread
  - GA2700

- Measuring resistance 1 x Pt100 in 3 or 4 wire system
- Interchangeable measuring insert
- Measuring inserts for in-process calibration
- Process connections for the food/pharmaceutical/biotechnology sectors
- Pressure transmitter can be integrated
- Fast response
- Explosion protected devices,
- Classification per SIL2
Temperature measurement technology

**RESISTANCE THERMOMETER** **CLAMP-ON**

Patented non-invasive resistance thermometers / temperature switch

- Non-invasive: Hygienic temperature measuring without media contact
- High degree of measuring accuracy, fast response
- Quick and low-cost installation

- Measuring resistance 1 x Pt100 in 3-wire system, class A
- Process media temperature - 40... 150°C
- Pressure transmitter 4 ... 20 mA available

**With field Case**
GA2610/GA2611

**For large pipe diameters**
GA2620

**With clamping bracket**
GA2610

**Temperature switch**
GP2610

**RESISTANCE THERMOMETER** **SURFACES**

Flush-mounted temperature sensor

- Flush-mounted temperature sensor made of silver, thermally isolated
- Replaceable 6 mm measuring insert, spring-loaded
- Temperature range - 20 ... 150°C
- Mounting with weld-on or weld-in socket
- Explosion protected devices, classification per SIL2

Flush-mounted temperature sensor made of silver, thermally isolated

- Temperature range - 20 ... 150°C
- Mounting with weld-on or weld-in socket
- Explosion protected devices, classification per SIL2
IN-PROCESS CALIBRATION

Resistance thermometer

- Measuring resistance 1 x Pt100 in 3 or 4 wire system
- Measuring insert for in-process calibration
- Process connections for the food/pharmaceutical/biotechnology sectors
- Fast responding, available with reduced tip
- Pressure transmitter can be integrated

Reference sensor

- Measuring resistor per EN 60751
- Measuring sensor Ø 1.6 mm
- Temperature range 0…400 °C
- Accuracy according to EN 60751 class A (1/3 B)
- Connection with 4-wire system
- Electrical connection with plug upon request
- Calibration certificate per EN 10204-3.1
- DKD calibration certificate

Measuring inserts

- Measuring insert per DIN 43762 with additional tube
- Measuring insert Ø 6 or 4 mm
- Temperature range -50…400 °C
- Measuring resistor per EN 60751
- Accuracy according to EN 60751 class A
- Electrical connection in 4-wire technology
- Calibration of installed resistance thermometer without disassembling the measuring insert

WORKING PRINCIPLE “IN-PROCESS”

Comparison between installed device and reference sensor performed in process.
THERMOWELLS  STANDARD OR TAILOR-MADE

For separating the temperature measuring device from the media

LABOM thermowells are made of thermally conductive materials and are ment to separate the temperature sensor from the product. Thermowells are recommended for use in pressurised processes. Thermowells provide protection against corrosive products and they allow the thermometer to be replaced easily. Their design has been optimised for use with the corresponding dial thermometer or temperature transducer. On request, we will gladly provide a thermowell calculation and analysis for dynamic operating conditions.

THERMOWELL CALCULATION

LABOM thermowells are manufactured in accordance with national standards (DIN 43772) or customer specifications. The corresponding LABOM dial thermometers and temperature sensors have been specially designed for optimal compatibility.

Typically thermowells are used in applications where they are to remain in the measured media and only the temperature sensor will be exchanged or retrofitted, or where the temperature sensor must be kept out of direct contact with the product. Thermowells also provide protection against mechanical loads.

As part of our services, we are pleased to offer calculation and analysis of the thermowells to mathematically determine the strength in respect to the static and dynamic load in the individual application.
THERMOWELL SYSTEM

ORBITAL

Hygienic invasive temperature measuring (HIT) by an orbitally welded thermowell system

- Wetted parts made of stainless steel material no. 1.4435
- Surface roughness <0.6 μm, electropolished
- Delta ferrite content <3%
- Sterile process connection without gasket
- Shape: straight or angled pipe system
- Installation and de-installation of the temperature sensor without process interruption

INLINE CASE HYGIENIC

Inline Case ASEPTconnect with aseptic clamp connection allows for residue-free cleaning and sterilisation

- Inline unit with aseptic clamp connection per DIN 11864-3, model A, dead-zone free
- Process connection: Pipe ends or clamp connection
- Integrated gap-free O-ring seal
- Different pipe sizes available
- Hygiene-based design
- Suitable for CIP and SIP
- Pipe endings suitable for orbital welding
- Delta ferrite content <0.5%
PRESSURE GAUGES  THE STANDARD

Proven stainless steel instruments for industrial use

- High-quality bayonet ring case in NS 63, NS 100 and NS 160
- Optionally available as S3 safety case according to EN 837-1
- Measurement ranges from 2.5 mbar to 1600 bar and 60 mbar to 2500 mbar abs.

- Case and measuring element of stainless steel
- Highly overload protection
- Accuracy classes 0.6 to 1.6
- Explosion protection for mechanical devices
- Connection to zone 0 possible

PRESSURE GAUGES  WITH SWITCH FUNCTION

Sturdy design, various applications

- High-quality bayonet ring case in NS 100 and NS 160
- Measurement ranges from 60 mbar… 1600 bar
- Case and measuring element of stainless steel

- Safety version S3 according to EN 837-1
- Contact devices according to DIN EN 16085
- Features: Slow acting contact, magnetic snap contact, inductive contact devices
DIAL THERMOMETERS

STURDY

For outdoor use and aggressive environments

- High-quality bayonet ring case in NS 100 and NS 160
- Degree of protection IP 66
- Explosion protection for mechanical devices

DIAL THERMOMETER WITH SWITCH FUNCTION

Simple, robust and reliable

- High-quality bayonet ring case in NS 100 and NS 160
- Case and wetted parts made of stainless steel
- Switch function per DIN EN 16196:
  - Slow acting contact
  - Magnetic snap contact
  - Inductive contact devices
KOMBIBAR SINGLE MEASUREMENT – DOUBLE BENEFIT

Special applications

- Sturdy design for extreme ambient conditions
- High level of moisture protection
- Explosion protection for gases and dusts and SIL2 classification
- Material certificate in accordance with EN 10204-3.1

Application: Oil and gas production
Kombibar devices with switch contact, electronic pressure transmitter and universal diaphragm seal for high pressures

- Only one process connection for simultaneous mechanical and electronic measurement

Mechanical pressure measuring device with switch contact
+ PASCAL CV pressure transmitter
+ Universal diaphragm seal for high pressures

Application: Dairy plant
Hygienic pressure measuring in dairy processing

- Diaphragm seal suitable for hygienic use in dairies
- Surface quality complies with hygienic designs
- Simple to clean in CIP and SIP applications
HYGIENIC PRESSURE GAUGE AUTOCLAVABLE

Unique case design

- High-quality stainless steel case NS 63/100 with hygienic design in line with EHEDG recommendations
- Degree of protection IP 65
- Accuracy class 1.6/1.0 pursuant to EN 837-1
- Flush mounted diaphragm
- Small temperature error thanks to reduced volume stainless steel measuring element

Optional:

- Neck tube and diaphragm seal in a one-piece design
- Complete case including neck tube and diaphragm seal in an hygienic version Ra < 0.76 μm as per ASME BPE SF3/EHEDG Doc. 8 available

PRECISE MECHANICAL MEASURING AND READING

Pressure gauge in high-precision measurement design BA62/BA63

- High-quality bayonet ring case NS 100/160 with rear blow out device to EN 837-1 S1
- Accuracy class according to EN 837-1:
  - for NS 100/160 accuracy class 0.6
  - for NS 160 accuracy classes 0.25 and 0.6
- Nominal range -0.6...0 bar to -1...24 bar, 0...0.6 to 0...600 bar

- Case and measuring element made of stainless steel
- Mirror scale with red marking or fixed reference pointer
- Knife edge pointer, black, with micro adjustment device for zero-point correction
- Optional: Mechanical explosion protection and fitting to Zone 0
APPLICATION:
WATER/WASTE WATER
Level measuring in wells, tank system and open waters

- Digital design of the electronic unit
- Measurement ranges 0...160 to 0...2500 mbar
- Output signal 4...20 mA
- Immersion case: stainless steel, coated
- Pluggable cable connection
- Parametrisable via PC

APPLICATION:
CHEMICALS PRODUCTION
Colour-coded devices for easier allocation to product lines within the production plant

- Pressure transmitter PASCAL Ci4 with Case painted in RAL3000
- For fitting with a diaphragm seal
- Explosion protection for gases and dust
- Nominal range: 4 bar abs.
- Accuracy: ≤0.10% of the nominal range

APPLICATION:
FOOD INDUSTRY
Level detection and dry-run protection for measurements in pasty or adhesive substances

- Filling level limit switch for liquids
- Particularly suited for replacing vibrating fork sensor systems
- 7 basic settings for different media
- Suitable for media with a Dk value of >2
- Hygienic installation as per EHEDG
- Various process connections via adapters
APPLICATION: STERILISATION MONITORING IN BIOTECHNOLOGY

Resistance thermometer GA2610 clamp-on technology

- Device with quick-release and joint for temporary measurements
- Measuring range -20…160°C
- Clamp-on device for measurements without media contact for variable temperature measuring
- Easy installation, saves time and money

APPLICATION: COOLING CONTAINER

Resistance thermometer outdoor / indoor

- Outdoor and indoor temperature sensor for measuring ambient temperature
- Sturdy design
- Measuring resistance 1 x Pt100 in 3-wire system, class A
- Application temperature range -40…80°C
- Fast response
- Pressure transmitter can be integrated

APPLICATION: WIND ENERGY

Measuring system for pressure, temperature and flow rate

- Customised components for installation as a complete system
- Compact and precise measuring equipment made of stainless steel, for all three measured variables
- High accuracy combined with cost efficiency
- Quality tested by LABOM: Static calculation of welds and screw joints
MADE TO MEASURE SOLUTIONS

THE NORTH GERMAN EXPERTS

As well as manufacturing standard equipment for the process industry, LABOM is also an experienced specialist in measuring instruments that meet customers' individual specifications. LABOM specialises in solving unusual measuring tasks and is more than happy to advise customers. Development, production and sales are located on the same site at its headquarters in Hude in northern Germany. The company's short lines of communication, large inventory and outstanding vertical manufacturing enables it to produce even small quantities of individual measuring instruments.

Selection

The LABOM portfolio ranges from smart standard instruments, modular designed measuring systems and high-end measuring transmitters to custom configured measuring tasks.

Innovations

LABOM solves individual tasks with innovative ideas, like in-process calibration of temperature measuring devices or so-called kombibar equipment with simultaneous electronic and mechanical pressure measurement.

Standards

LABOM is ISO 9001 certified. Our measuring equipment features certifications and approval according to recommendations by the relevant industry associations (EHEDG, Namur, etc.) Provisions based on guidelines for functional safety (SIL2) are considered in device development from the start.

Quality

LABOM's quality management system is DIN EN ISO 9001: 2015-certified and complies with the Pressure Equipment Directive 2014/68/EU and ATEX 2014/34/EU.