

SENSORS AND CONTROLS. FOR FOOD & PHARMA.



HYGIENIC BY DESIGN



ENGLISH 

FOOD

PHARMA

CONTROLS

HYGIENIC BY DESIGN

[ANDERSON-NEGELE.COM](http://ANDERSON-NEGELE.COM)

ANDERSON-NEGELE.

WELCOME TO **ANDERSON-NEGELE**

The world is moving closer together. Our customers – companies in the food and beverage industry and pharmaceutical companies – are being confronted with new markets and foreign cultures. This gives rise to excellent new opportunities. It is also, however, linked to new regulatory requirements. In addition, products need to come on the market at an accelerated rate and the production processes themselves are subject to increasing requirements for continuity and hygiene.

Food safety and consumer protection are central topics for our customers and, as a manufacturer of hygienic sensors and measurement equipment, for Anderson-Negele as well.

Our company philosophy, "HYGIENIC BY DESIGN", is directed at fulfilling your requirements for sensors and measuring equipment that operate in a hygienic, clean production environment. The products and solutions from Anderson-Negele meet the requirements of international standards and regulatory agencies. In our design, development and production efforts, we combine our technical knowledge in these areas with quality, thoroughness and diligence.

HYGIENIC BY DESIGN



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WELCOME TO ANDERSON-NEGELE

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ANDERSON-NEGELE TECHNOLOGY LEADER FROM BAVARIA

ANDERSON-NEGELE WORLDWIDE

FOOD. SENSORS FOR THE FOOD AND BEVERAGE INDUSTRY.



### NO CHANCE FOR GERMS

Cost pressures, new statutory regulations, international competition and consumer desire for more transparency are formidable challenges for the food and beverage industry.

Particularly demanding are the requirements pertaining to the adherence to regulations in dairies and breweries and anywhere where undesirable germs can endanger the production process or even the product quality. Anderson-Negele has therefore made "HYGIENIC BY DESIGN" its guiding principle.

For Anderson-Negele, supporting a continuous process in your line means that our measurement equipment adapts to your production conditions:

- » Through the adherence to the applicable international standards,
- » Through designs that are devoid of dead legs and are front-flush mounted for optimal cleanability, even during production, and
- » Through the availability of reliable products that withstand rough ambient conditions over long periods.

All components that come into contact with the medium are made of stainless steel 1.4404 or 1.4435 and have a roughness value (Ra) of  $\leq 0.8 \mu\text{m}$ . The surfaces can be electropolished on request.

Naturally, Anderson-Negele sensors meet FDA (Food and Drug Administration) requirements and fulfill the applicable EC directives.

The guidelines of the EHEDG (European Hygienic Engineering & Design Group) and the North American 3-A (3-A Sanitary Standards Inc.) are the measure according to which we develop all of our products.

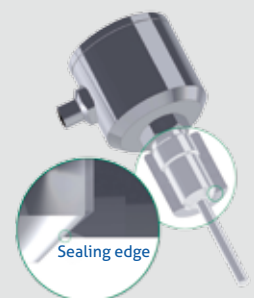


## A SPECIAL DESIGN

What "HYGIENIC BY DESIGN" specifically means can be found in the two systems that Anderson-Negele developed for the process adaptation of its sensors in your line: CLEANadapt and FLEXadapt.

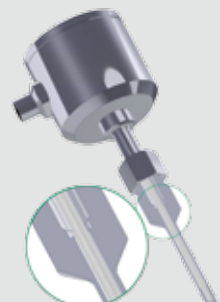
### CLEANadapt

Sealing edges at the weld-in sleeves and conical sealing surfaces enable integration of our sensors in processes in a manner that is devoid of dead legs and free of elastomers. With CLEANadapt, the sensors can be hygienically installed in existing lines. Additional O-rings or sealants are not required with CLEANadapt.



### FLEXadapt

Quite often the devil is in the detail. In unfavorable cases, the exchange of a sensor can result in the standstill of an entire line. A building block for minimizing downtime is FLEXadapt technology from Anderson-Negele. FLEXadapt permits the installation and removal of temperature sensors – at any time and without opening the process – for verification and recalibration. By its very design, FLEXadapt ensures that sensors from Anderson-Negele are installed in a hygienic manner. In addition to pre-fabricated build-in systems, various adapters are available for welding in and retrofitting, along with the compatible temperature sensors.



The risk of introducing traces of old products, foreign bodies and germs via the sensor is effectively eliminated when FLEXadapt is used.



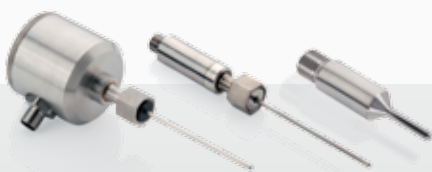
### TEMPERATURE MEASUREMENT WITHOUT OPENING THE PROCESS



#### TFP FLEXadapt

TEMPERATURE SENSOR WITH HYGIENIC FLEXadapt BUILD-IN SYSTEM

- Flexible thermowell system – removal of the sensor without opening the process
- For pipes from DN 25 and vessels
- Easy, fast installation and calibration



### TEMPERATURE MEASUREMENT IN PIPES AND VESSELS



#### TFP CLEANadapt

TEMPERATURE SENSOR WITH HYGIENIC CLEANadapt BUILD-IN SYSTEM

- M12 and G1/2" for pipes from DN 15 and vessels
- Modular adaptation concept for all standard process connections
- Elastomer-free, dead-leg-free and hygienic installation



### TEMPERATURE MEASUREMENT IN PIPES AND VESSELS



#### TFP Standard

TEMPERATURE SENSOR WITH STANDARD THREAD

- Universal G1/2" standard thread
- No product contact of sensor with use of thermowells





### TEMPERATURE MEASUREMENT IN PIPES AND VESSELS



#### TFP without thread

#### TEMPERATURE SENSOR WITHOUT THREAD

- » Variable submersion depth of sensor with hygienic threaded clamp
- » No product contact of sensor with use of thermowells



### DIGITAL IN-SITU TEMPERATURE DISPLAY



#### TFP-100-BAT, DTG

#### TEMPERATURE SENSOR WITH DIGITAL DISPLAY

- » Large, digital display (battery-operated)
- » Optionally available with switch output and external power supply
- » Model for temperature monitoring in autoclaves ("retort" DTG)



### TEMPERATURE MONITORING IN THE PASTEURIZER



#### DART

#### DIGITAL REFERENCE THERMOMETER FOR PASTEURIZATION AND AUTOCLAVES ("RETORT")

- » Highly precise, redundant temperature measurement with external display
- » Meets PMO requirements (Pasteurized Milk Organization)
- » FDA approval as per 21 CFR Part 113



# FOOD



## LEVEL

### CONTINUOUS LEVEL MEASUREMENT



#### NSK

##### CONTINUOUS LEVEL SENSOR

- For vessels up to 3 m
- No calibration necessary when changing the medium
- Insensitive to foam and adherence
- Rapid response time, therefore ideal for control tasks (e.g. filler)



### HYDROSTATIC LEVEL MEASUREMENT



#### LAR-361

##### CLIMATE-INDEPENDENT LEVEL SENSOR WITH HYGIENIC CLEANadapt BUILD-IN SYSTEM

- Hermetically sealed measurement system – no drift problems due to condensation
- Very high accuracy and long-term stability
- Measurement to 130 °C medium temperature
- 3-year warranty



### HYDROSTATIC LEVEL MEASUREMENT



#### LAR-761

##### CLIMATE-INDEPENDENT LEVEL SENSOR WITH DIRECT ADAPTATION

- Hermetically sealed measurement system – no drift problems due to condensation
- Ideal for retrofitting in existing measurement locations
- Numerous commercially-available adaptations
- Models with 3-A certification







### POINT LEVEL DETECTION AND CONTROL



#### NVS

#### CONDUCTIVE POINT LEVEL SENSORS FOR PIPES AND VESSELS

- » Conductive measurement principle for conductive media
- » Multi-rod sensors with external electronics for point level detection and control
- » Electrodes can be shortened as needed



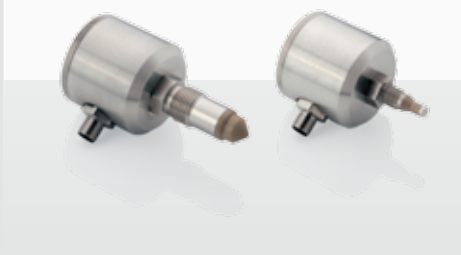
### POINT LEVEL DETECTION IN PIPES AND VESSELS



#### NCS

#### CAPACITIVE POINT LEVEL SENSORS FOR PIPES AND VESSELS

- » Capacitive measurement principle – independent of the conductivity of the medium
- » Insensitive to foam and adherence
- » Small build-in length and very good cleanability



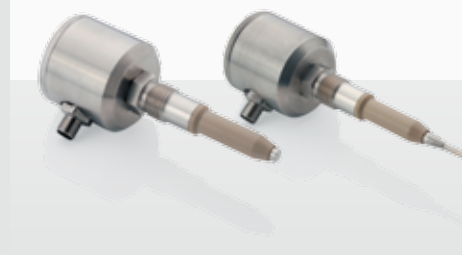
### POINT LEVEL DETECTION IN VESSELS/OVERFILL PROTECTION



#### NCS-L

#### CAPACITIVE POINT LEVEL SENSORS FOR VESSELS

- » Reliable alarm in pasty media
- » Rapid response time
- » Heated electronics to avoid condensation
- » Installation in vessels from above or below



# FOOD



## PRESSURE

### PROCESS PRESSURE MEASUREMENT IN PIPES AND VESSELS



#### DAN-HH

##### COMPACT PRESSURE SENSOR

- Robust and durable – even at process temperatures up to 150 °C
- Rapid response time
- Available as relative or absolute measuring sensor



### PROCESS PRESSURE MEASUREMENT IN PIPES AND VESSELS



#### TF "Smart"

##### PRESSURE SENSOR FOR HIGH PROCESS TEMPERATURES

- Usable in process temperatures up to 200 °C
- Optional display
- HART protocol



### DIGITAL IN-SITU PRESSURE DISPLAY



#### MAN-90-BAT

##### DIGITAL PRESSURE GAUGE

- Large, digital display (battery-operated)
- Automatic registration of min and max values
- Optionally available with switch output and external power supply



**PRESSURE MONITORING  
IN VESSELS**



**MAN-90**

**PRESSURE GAUGE WITH DIRECT  
ADAPTATION**

- » Nominal size 90 mm
- » High quality stainless steel model
- » Numerous hygienic process connections
- » 3-A certification



**PRESSURE MONITORING  
IN SEPARATOR**



**MAN-63**

**COMPACT PRESSURE GAUGE  
WITH HYGIENIC CLEANadapt  
BUILD-IN SYSTEM**

- » Nominal size 63 mm
- » High quality stainless steel model
- » Surface roughness  
Ra < = 0.2 µm standard
- » 3-A certification



**PRESSURE MONITORING  
IN HOMOGENIZERS**



**ELH**

**PRESSURE GAUGE WITH INTE-  
GRATED TRANSMITTER FOR  
HOMOGENIZERS**

- » Designed for extreme process conditions and pressures up to 1000 bar
- » Very high reliability and durability
- » Optional analog output





### FLOW MONITORING/ DRY-RUN PROTECTION



#### FWS, FKS

##### FLOW MONITORING IN PIPES

- » Ultrasonic doppler and calorimetric measurement principle offer diverse application possibilities
- » Rapid response time; not influenced by temperature fluctuations (ultrasound)
- » Model with switchable or analog output



### FLOW MEASUREMENT IN FLASH PASTEURIZERS



#### FMI

##### MAGNETIC-INDUCTIVE FLOW-METER

- » Very high measurement accuracy and reproducibility
- » Vacuum-tight PFA coating for maximum resistance against aggressive media
- » Easy and user-friendly configuration



### FLOW MEASUREMENT OF DEMINERALIZED WATER



#### HM

##### TURBINE FLOWMETER

- » Cost-efficient and reliable alternative to magnetic-inductive flowmeters
- » Hygienic design for the food and beverage industry
- » 3-A certification
- » Also usable in non-conductive media



CONCENTRATION MEASUREMENT



ILM-2

INDUCTIVE CONDUCTIVITY METER

- » Wear-free, inductive measurement principle
- » Accurate measurement through compensation of temperature influence
- » Analog output for conductivity and temperature



CONTROL OF CIP PROCESSES



- » Model with extended sensor stub for large nominal widths and tanks
- » High reproducibility and rapid response time
- » Installation in pipe diameters of DN 40 and larger



PRODUCT MONITORING & QUALITY ASSURANCE



ILM-3

INDUCTIVE CONDUCTIVITY METER FOR HIGH DEMANDS

- » Extended measurement range – smallest range from 500  $\mu$ S
- » Up to 14 measurement ranges selectable, max. four are externally switchable
- » Separate temperature coefficient for each measurement range



# FOOD



## TURBIDITY

### CIP RETURN FLOW MONITORING



### PHASE SEPARATION OF PRODUCT/ WATER – PRODUCT/PRODUCT



### YEAST HARVEST IN BREWERIES



#### ITM-3

#### TURBIDITY METER (BACKSCATTER LIGHT)

- Front-flush mounted, hygienic sensor
- For medium to high turbidities (e.g., milk, yeast)
- Wear-free LED technology, color-independent measurement (wave length 860 nm)
- Ideal for the requirements of the food industry
- Not influenced by reflections at small pipe diameters
- Usable with DN 25 and larger
- High reproducibility and rapid response time
- Analog and switch output (freely adjustable switch point and hysteresis)
- Four measurement ranges, two are externally switchable





#### FILTRATION MONITORING IN BEVERAGE PRODUCTION



#### WATER RECLAMATION AND PROCESSING (COW)



#### SEPARATOR MONITORING



### ITM-4

#### TURBIDITY METER (4-BEAM ALTERNATING LIGHT)

- » Precise measurement at low to medium turbidities (e.g., fruit juice, beer)
- » 90° scattered light/4-beam alternating light method as per EN 7027
- » Units switchable between NTU and EBC
- » Color-independent measurement (wave length 860 nm)
- » Compact device, no separate evaluation unit needed
- » Smallest pipe diameter: DN 25
- » 3-A certification with Tri-Clamp process connection and hygienic thread connection
- » Contamination of the optics is compensated
- » Four freely selectable measurement ranges, externally switchable
- » Smallest measurement range: 0...5 NTU or 0...1 EBC
- » Largest measurement range: 0...5000 NTU or 0...1250 EBC



## PHARMA. SENSORS FOR THE PHARMA INDUSTRY AND BIOTECHNOLOGY.



### PHARMA PRODUCTION. ASEPTIC BY DESIGN

For many years, our customers in the pharmaceutical industry and in biotechnology have trusted in sensors and measurement systems from Anderson-Negele. The processes employed in production eliminate the risk of introducing foreign substances from the outset. Maintenance and repair measures must have little or no impact on the process. This is particularly true of sensors and measurement equipment integrated in the line – and relates to features such as the sensor material, surface quality, dead-leg-free design and pharmaceutical process adaptation of the products.

The quality requirements specific to the pharmaceutical industry are grouped under the term "aseptic design", which is a concept that extends beyond international sanitary regulations.

- » Installation in all common pipe standards (DIN, ISO, ASME)
- » All process-contacting parts are made of stainless steel 1.4435 or 316L
- » Inspection certificate 3.1 as per EN 10204
- » Electropolished surface with  $Ra \leq 0.8 \mu\text{m}$  or  $0.4 \mu\text{m}$
- » Surface inspection certificate
- » Delta-ferrite measurement report
- » Sulfur content measurement
- » Pressure certificate as per AD 2000
- » Elastomers and plastics with USP Class VI certification





## PHARMA PRODUCTION. ASEPTIC BY DESIGN

Your production must operate with a high degree of efficiency – regardless of whether as an entire line or as an individual component. Anderson-Negele has developed three technologies that will let your lines run continuously during daily operations:

### PHARMadapt EPA

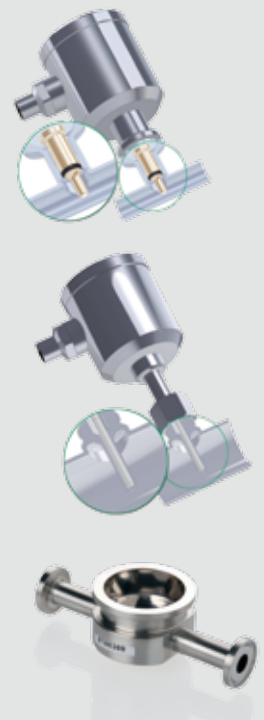
The PHARMadapt EPA process adaptation system even adapts temperature and point level sensors to pipes with very small nominal widths. The seal with exchangeable O-rings meets the technical requirements stipulated for lines in the pharmaceutical industry.

### PHARMadapt ESP

If the temperature sensors are not permitted to come into direct contact with the medium and the process should not be opened, the PHARMadapt ESP system developed by Anderson-Negele is the optimal solution for your line. Because no two lines are alike, adapters and compatible temperature sensors are available in addition to the complete build-in systems.

### CPM

CPM technology from Anderson-Negele was developed specifically for the pharmaceutical process adaptation of pressure sensors and gauges for the purpose of taking measurements in pipes with small diameters. CPM technology enables a front-flush mounted, absolutely dead-leg-free measurement location.





### TEMPERATURE MEASUREMENT IN PIPES AND VESSELS



#### TFP CLEANadapt

TEMPERATURE SENSOR WITH  
HYGIENIC CLEANadapt BUILD-IN  
SYSTEM

- ⊗ Elastomer-free sealing concept
- ⊗ Gap-free and dead-leg-free  
M12 connection for pipe  
diameters from DN 15
- ⊗ Rapid response time
- ⊗ Electropolished temperature  
sensor,  $Ra < = 0.8 \mu m$   
 $Ra < = 0.4 \mu m$  optional



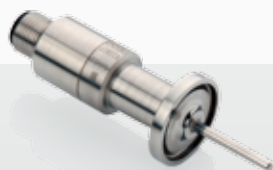
### TEMPERATURE MEASUREMENT IN PIPES AND VESSELS



#### TFP Tri-Clamp

TEMPERATURE SENSOR WITH  
TRI-CLAMP CONNECTION

- ⊗ Universal  $\frac{3}{4}$ " Tri-Clamp
- ⊗ Rapid response time
- ⊗ Electropolished temperature  
sensor,  $Ra < = 0.8 \mu m$   
 $Ra < = 0.4 \mu m$  optional



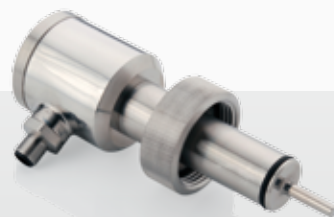
### TEMPERATURE MEASUREMENT IN BIOREACTOR



#### TFP Fermenter

TEMPERATURE SENSOR WITH  
FERMENTER CONNECTOR

- ⊗ Standard process connection for  
building into vessels
- ⊗ Easy-to-sterilize measurement  
location
- ⊗ Connector length: 46 mm or  
52 mm





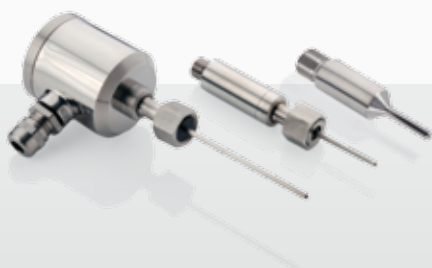
### TEMPERATURE MEASUREMENT IN ASEPTIC LINES



#### TFP PHARMadapt ESP

TEMPERATURE SENSOR WITH  
ASEPTIC PHARMadapt ESP  
BUILD-IN SYSTEM

- » Aseptic thermowell system – removal of the sensor without opening the process
- » Short response time, very compact measurement location
- » Insensitive to vibrations
- » Electropolished temperature sensor,  $R_a \leq 0.8 \mu\text{m}$   
 $R_a \leq 0.4 \mu\text{m}$  optional



### TEMPERATURE MEASUREMENT IN VERY SMALL PIPE DIAMETERS



#### TFP PHARMadapt EPA

TEMPERATURE SENSOR WITH  
ASEPTIC PHARMadapt EPA  
BUILD-IN SYSTEM

- » Dead-leg-free, pharmaceutical measurement location with O-ring
- » For pipe diameters from DN 10
- » Short response time, very compact measurement location



### DIGITAL IN-SITU TEMPERATURE DISPLAY



#### FJ

TEMPERATURE SENSOR WITH  
DIGITAL DISPLAY

- » Large, digital display (battery-operated)
- » Process connections for pharmaceutical applications
- » Materials in contact with the medium are FDA-compliant
- » Optionally available with switch output and external power supply





## LEVEL

### HYDROSTATIC LEVEL MEASUREMENT



#### SX

#### CLIMATE-INDEPENDENT LEVEL SENSOR

- » Hermetically sealed measurement system
- » Very high accuracy and long-term stability
- » Measurement to 130 °C medium temperature



### HYDROSTATIC LEVEL MEASUREMENT



#### LA "Top Mount"

#### LEVEL SENSOR FOR MOUNTING FROM ABOVE

- » Hermetically sealed measurement system
- » Very high accuracy and long-term stability
- » Mounting from above for simple installation



### POINT LEVEL DETECTION IN PIPES AND VESSELS



#### NCS CLEANadapt

#### CAPACITIVE POINT LEVEL SENSOR WITH HYGIENIC CLEANadapt BUILD-IN SYSTEM

- » Capacitive measurement principle – independent of the conductivity of the medium
- » Insensitive to foam and adherence
- » Elastomer-free sealing concept





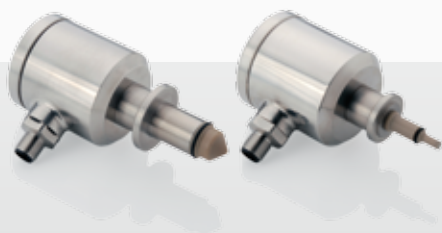
### POINT LEVEL DETECTION IN VERY SMALL PIPE DIAMETERS



#### NCS EPA

CAPACITIVE POINT LEVEL SENSOR WITH HYGIENIC CLEANadapt BUILD-IN SYSTEM

- » Dead-leg-free, pharmaceutical measurement location with O-ring
- » EPA process connection for pipes from DN 10
- » Capacitive measurement principle – independent of the conductivity of the medium
- » Insensitive to foam and adherence



### POINT LEVEL DETECTION IN PIPES AND VESSELS



#### NCS-31P direct connection

CAPACITIVE POINT LEVEL SENSOR WITH DIRECT CONNECTION

- » Tri-Clamp and Varivent direct connections
- » Capacitive measurement principle – independent of the conductivity of the medium
- » Insensitive to foam and adherence



### POINT LEVEL DETECTION IN VESSELS



#### NCS-31P Fermenter

CAPACITIVE POINT LEVEL SENSOR WITH FERMENTER CONNECTOR

- » Standard process connection for building into vessels
- » Capacitive measurement principle – independent of the conductivity of the medium
- » Insensitive to foam and adherence





### DEAD-LEG-FREE PRESSURE MEASUREMENT IN SMALL PIPE DIAMETERS



#### HA Mini CPM

##### COMPACT PRESSURE SENSOR WITH ASEPTIC CPM BUILD-IN SYSTEM

- » Dead-leg-free, front-flush mounted pressure measurement with CPM process connection
- » Nominal pipe diameters: ¼" to 4" (ASME)
- » High process temperature up to 150 °C
- » Electropolished surface, Ra <= 0.2 µm
- » Intrinsically safe (UL Class 1)



### PRESSURE MEASUREMENT IN PIPES AND VESSELS



#### HA Mini Tri-Clamp

##### COMPACT PRESSURE SENSOR WITH TRI-CLAMP

- » Tri-Clamp ¾", 1", 1.5"
- » High process temperature up to 150 °C
- » Electropolished surface, Ra <= 0.2 µm
- » Intrinsically safe (UL Class 1)



### PRESSURE MEASUREMENT IN PIPES AND VESSELS



#### HA autoclaveable

##### AUTOCLAVEABLE COMPACT PRESSURE SENSOR

- » Fully autoclaveable (124 °C, 1 h)
- » Up to 30 autoclave cycles without recalibration
- » High process temperature up to 150 °C
- » Electropolished surface, Ra <= 0.2 µm
- » Intrinsically safe (UL Class 1)





### DIGITAL IN-SITU PRESSURE DISPLAY



**EP**

#### DIGITAL PRESSURE GAUGE

- » Large, digital display (battery-operated)
- » Automatic registration of min and max values
- » Optionally available with switch output and external power supply
- » Electropolished surface,  $Ra \leq 0.2 \mu m$



### PRESSURE MONITORING IN SMALL PIPE DIAMETERS



**EK**

#### COMPACT PRESSURE GAUGE

- » Nominal size 63 mm
- » Autoclaveable
- » Tri-Clamp 3/4", 1" and CPM
- » Electropolished surface,  $Ra \leq 0.2 \mu m$



### PRESSURE MONITORING IN PIPES AND VESSELS



**EM**

#### PRESSURE GAUGE

- » Nominal size 90 mm
- » Autoclaveable
- » Adjustment of zero and span
- » Electropolished surface,  $Ra \leq 0.2 \mu m$



# PHARMA



## FLOW

### FLOW MEASUREMENT IN FLASH PASTEURIZER



#### FMI

#### MAGNETIC-INDUCTIVE FLOW-METER

- » High measurement accuracy, even at low flow rates
- » Vacuum-tight, rigid meter tube lining, even at high temperatures
- » Pharmaceutical version available with all necessary certificates (e.g., FDA, USP Class VI)



### FLOW MEASUREMENT OF DEMINERALIZED WATER



#### HMP

#### TURBINE FLOWMETER

- » Cost-efficient and reliable alternative to magnetic-inductive flowmeters
- » Hygienic design for the pharma industry
- » Also usable in non-conductive media



### FLOW MONITORING/ DRY-RUN PROTECTION



#### FKS

#### CALORIMETRIC FLOW MONITOR

- » Calorimetric measurement principle with pulsed heating
- » Short response time
- » Sensor protection: automatic switch-off at  $T > 100\text{ }^{\circ}\text{C}$





CIP PROCESS CONTROL



**ILM-2**

INDUCTIVE CONDUCTIVITY METER

- » Wear-free, inductive measurement procedure
- » High reproducibility and rapid response time
- » Analog output for conductivity and temperature



PHASE SEPARATION OF PRODUCTS



**ITM-3**

TURBIDITY METER  
(BACKSCCATER LIGHT)

- » Front-flush mounted, hygienic sensor for medium to high turbidities
- » High reproducibility and rapid response time
- » Wear-free LED technology, no color dependency (wave length 860 nm)



QUALITY CONTROL OF PRODUCTS



**ITM-4**

TURBIDITY METER  
(4-BEAM ALTERNATING LIGHT)

- » Precise measurement at low to medium turbidities
- » 90° scattered light/4-beam alternating light method as per EN 7027
- » Compact device, no separate evaluation unit needed



## CONTROLS. INSTRUMENTATION & CONTROL ELECTRONICS.



### INSTRUMENTATION AND CONTROLS.

Special applications require specialized process control technology, because precise measurement results always influence the current production process. Anderson-Negele applies its expertise in the field of sensors for the development of appropriate process control equipment. Consequently, Anderson-Negele is able to offer a broad assortment of controllers and displays.

For the evaluation of measurement values in a wide variety of line controllers and control centers, Anderson-Negele provides suitable measurement amplifiers, signal transmitters, digital indicators and alarm relays, as well as a modular I/O system for the integration of all Anderson-Negele sensors in a field bus. All simulators, calibrators and setpoint transmitters have been designed by Anderson-Negele for rapid and precise installation, simulation and calibration of sensors in your production line.



Adherence to industry standards is a matter of course for Anderson-Negele – within the field bus system, when building control equipment in DIN-compatible housing into your line or when providing protection against rough ambient conditions.

When you rely on Anderson-Negele instrumentation and control, you are well on your way to process automation.



# CONTROLS



## BUS COUPLERS, CONTROLLERS, SWITCH CONVERTERS

### DECENTRALIZED FIELD BUS CONNECTION



#### NRL

##### MODULAR I/O SYSTEM WITH FIELD BUS COUPLER

- » Configuration is optimally adaptable to the specific application due to the modular system
- » System can be readily expanded via plug-in modules
- » Modules can be exchanged while the line is in operation ("hot swap")



### PROCESS PARAMETER CONTROL



#### NKS

##### COMPACT PROCESS CONTROLLER FOR ALL TASKS

- » Intelligent BluePort® interface
- » Various certifications (DIN 3440, cUL, GL)
- » Maintenance manager and error list



### SIGNAL CONVERSION AND PROCESSING



#### NCI, VTV, VMU

##### PROGRAMMABLE UNIVERSAL SIGNAL TRANSMITTER

- » Conversion of standardized signals
- » Universally configurable via operating panel or BluePort® interface (NCI)
- » High sampling rates





### POINT LEVEL DETECTION AND CONTROL



#### VNV, ZNV

#### EVALUATION ELECTRONICS FOR CONDUCTIVE POINT LEVEL SENSORS

- » Selectable digital or relay output
- » Only one device for up to four sensors
- » Devices for different control tasks



### IN-SITU DISPLAY OF PROCESS PARAMETERS



#### DPM, PEM

#### PROGRAMMABLE UNIVERSAL DIGITAL DISPLAYS

- » Universally programmable
- » Universal power supply unit 24 V...230 V AC/DC
- » 4-digit LED display



### VERIFICATION AND CALIBRATION



#### HSM-P, HSG-3

#### SIMULATORS FOR PT100 AND STANDARDIZED SIGNALS

- » Simulation of standardized signals
- » Line-independent supply through NiMH battery
- » Handy, lightweight instrument



## OUR STRENGTHS.

### ANDERSON-NEGELE TECHNOLOGY LEADER FROM BAVARIA

What began as a one-man operation in 1978 is today a leading manufacturer of sensors and measurement equipment for the food and beverage industry, the pharmaceutical industry and industries with special applications. Our customers and their specific needs have always been the focus of activities at Anderson-Negele.

Customers rely on us as a dependable, trustworthy partner – for a simple reason: Every production line has its special characteristics and together with you – our customers – we develop precisely the solution that you need for your production process. Many of the ideas for our product spectrum are the result of a direct dialog with our customers. Each individual product reflects a synergy arising from the expertise at Anderson-Negele and impulses from our customers.

Regardless what value needs to be measured in your process: At Anderson-Negele you will find a suitable sensor for measuring temperature, level, point level, pressure, flow, conductivity and turbidity as well as components for process control that can be employed to optimize your production process on the basis of the measured values.

ANDERSON-NEGELE – WE GROW WITH OUR CUSTOMERS.



**ANDERSON-NEGELE** WORLDWIDE

Some things never change: Egg an der Günz, a town in the Allgäu, is still the seat of the Anderson-Negele headquarters today. Due to its integration in the Danaher Group, an international technology concern headquartered in the USA, Anderson-Negele is now a globally active company.

A strong segment of our company are our colleagues and friends in Fultonville, New York/USA – the town that is home to the Anderson Instrument Company. Due to the fusion of the Anderson Instrument Company with Negele Messtechnik GmbH to form Anderson-Negele, you can now profit from the expertise of our American colleagues in sensors and measurement equipment specifically in the dairy and biopharmaceutical industries.

Each of our 200 employees in Europe, North America and Asia is uniquely dedicated to your requirements and wishes. In addition to our process of continuous improvement, this is an important element of corporate culture at Anderson-Negele. Together with our 115 sales partners around the world, more than 400 employees on five continents are actively working in your interest every day.

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SENSORS AND CONTROLS. FOR FOOD & PHARMA.

ANDERSON **negele**

HYGIENIC BY DESIGN



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