UWT

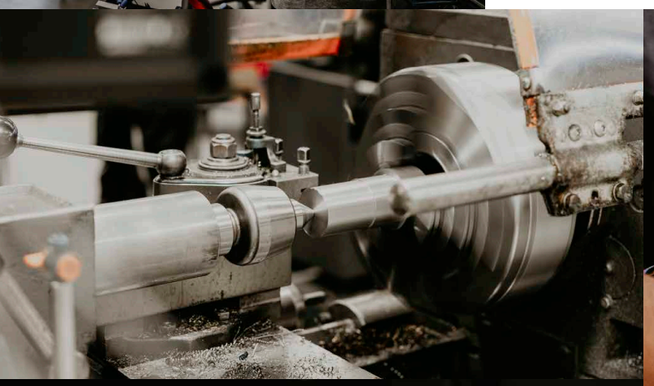
LEVEL. UP TO THE MAX.

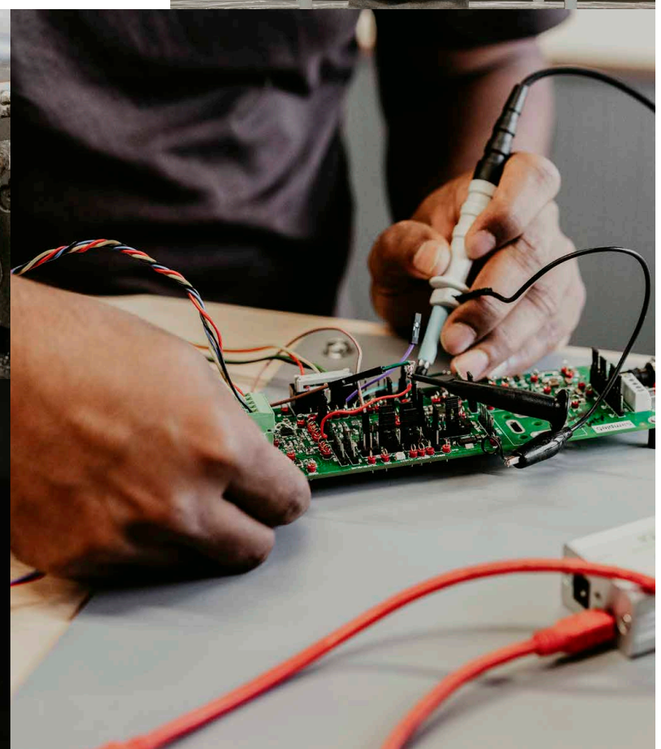
SOLUTIONS FOR THE FOOD INDUSTRY

SUCCESSFUL

=

TOGETHER





LEVEL. UP TO THE MAX.

As an owner-managed, medium-sized company, with an international sales network in over 90 countries and personal contacts available locally, UWT stands for a sustainable partnership at eye level - globally and regionally.

The core competence of UWT lies in level, point, and interface measurement. We measure bulk solids, from the finest powder to coarse, abrasive materials, as well as all types of liquids, including high-viscosity pastes and foams.

In the field of point level measurement for bulk materials, UWT has achieved a special position and set new standards with the rotary paddle switch.

INNOVATIVE SOLUTIONS AND DIGITALISATION

Modern, high-quality technologies ensure a continuous process flow. UWT sensors are designed with maximum process compatibility, allowing seamless integration into systems and providing optimal support. Additionally, comprehensive digitalisation is offered: cutting-edge eTools enable easy product selection, configuration, and commissioning. Intuitive operation and innovative device communication ensure smooth operation.

CUSTOM PRODUCT CONCEPTS AND MAINTENANCE-FREE SOLUTIONS

According to the high standards of various industries, UWT's team provides extensive support for individual requirements. Customer-oriented planning enables the development of tailored solutions that are efficiently and successfully implemented.

Thanks to in-house production and a modern machine park, customised solutions and specific device adaptations can be realised.

UWT sensors are completely maintenance-free and operate on the "install and forget" principle. They are highly configurable and add value to applications.

TOP QUALITY MEANS LONG LIFESPAN

UWT offers guaranteed "Made in Germany" quality. The high reliability of the products ensures high system availability without downtime. Continuous improvement processes and extensive testing guarantee a high level of safety. Long-lasting, maintenance-free products with a 6-year guarantee also save time and resources.

QUALITY CERTIFICATES

GLOBAL APPROVALS

FOOD & BEVERAGE INDUSTRY

The food and beverage industry is defined by high standards, strict regulatory requirements, and ongoing pressure to innovate. Modern production facilities rely on future-proof technologies to ensure consistent quality, safety, traceability, and sustainability.

From the delivery and storage of raw materials to processing, maturation, quality control, and finally filling and packaging – precise sensor solutions and automated monitoring systems are essential at every stage of the process.

Level and point level measurement play a key role: they ensure stable production processes, maintain hygienic operating conditions, and boost efficiency and process reliability.

CHALLENGES

The wide variety of products, recipes, and process types places high demands on production facilities and measurement systems. Additionally, legal regulations, industry-specific hygiene standards, growing requirements for traceability, and an increasing focus on sustainability, resource conservation, and energy efficiency must be met. The digital transformation of production environments also calls for flexible, integrable, and future-proof measurement technology.

PROCESSED MATERIALS AND RAW INGREDIENTS

Industrial food and beverage production involves a wide range of media – from grains, sugar, oils, and dairy products to liquids, powders, and complex mixtures containing emulsifiers, flavourings, or vitamins.

These materials differ significantly in their physical properties – such as density, consistency, or tendency to stick – and require sensor technology that reliably combines process safety with hygienic design.

LEVEL MEASUREMENT IN THE FOOD & BEVERAGE SECTOR

Whether in raw material storage, mixing and production systems, during maturation processes, or filling – reliable level measurement is essential for maintaining consistently high product quality and enabling proactive production planning.

Sensors must not only operate precisely and with minimal maintenance, but also be hygienically designed, CIP / SIP-compatible, and certified to relevant standards such as EHEDG or FDA.

Selecting and integrating the right sensors and monitoring technology enables companies to meet industry-specific requirements for hygiene, efficiency, safety, and compliance – reliably and cost-effectively.

CONTINUOUS AND POINT LEVEL MEASUREMENT FOR RAW MATERIAL STORAGE

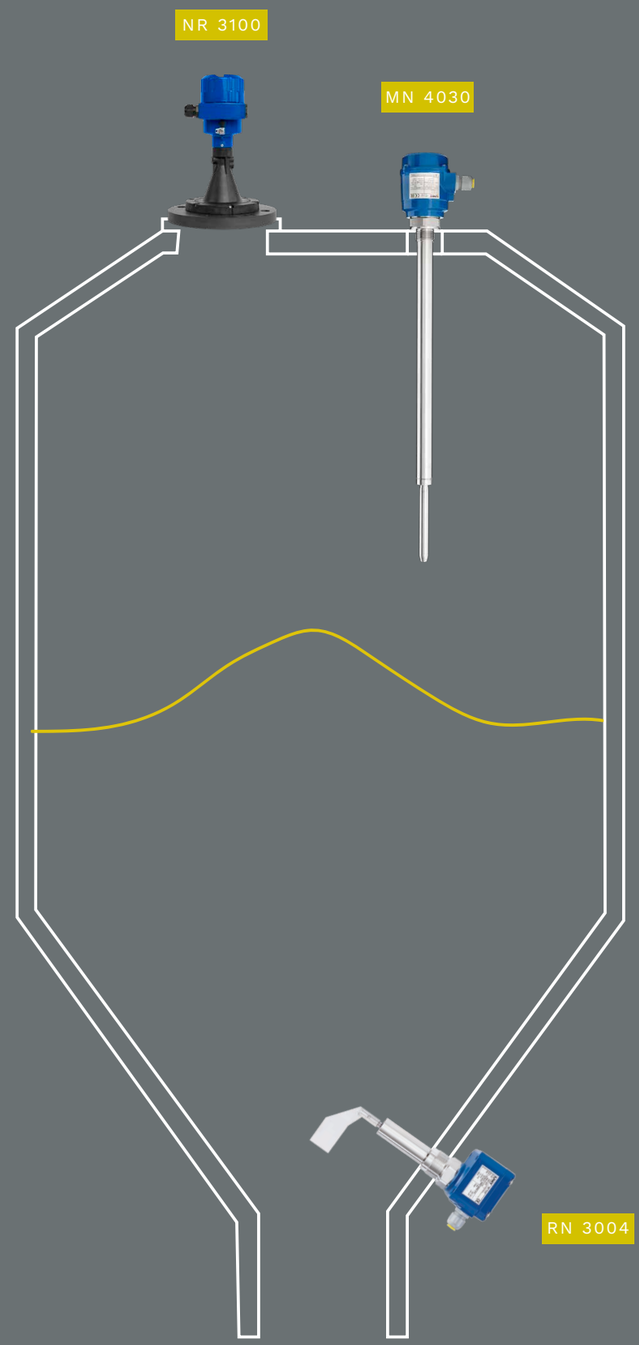
In the malting plant, barley is stored in silos up to 20 metres (66 feet) high. Filling generates heavy dust, while the shape of the material cone continuously changes due to loading and unloading. Stable level measurement is essential for uninterrupted operation. Point level sensors provide additional protection against overfilling or running empty.

OUR PRODUCT RECOMMENDATION:

MN
Mononivo®

NR
NivoRadar®

RN
Rotonivo®



CHALLENGE:

- Dusty atmosphere
- Increased explosion risk
- Abrasion
- Dynamic bulk cone formation

SOLUTION:

- Robust sensors with dust-tight design
- Wear-resistant materials
- Explosion-proof certified devices
- Measurement principle unaffected by bulk material geometry

Measurement Task
CONTINUOUS & POINT LEVEL MEASUREMENT

Medium
GRAIN

Measuring Range
< 20 M | 66 FT

Process Temperature
< 80 °C | 176 °F

Process Pressure
< 0.8 BAR | 11.6 PSI

SILO STORAGE

CONTINUOUS AND POINT LEVEL MEASUREMENT FOR RAW MATERIAL STORAGE

To produce brewery products, dry raw materials such as malt, hops, or sugar are stored in large silos. Continuous and point level measurement ensure a reliable supply – even in dusty conditions with buildup. Radar, electromechanical lot system, and point level sensors detect contents accurately and reliably.

OUR PRODUCT RECOMMENDATION:

RN

Rotonivo®

NR

NivoRadar®

NB

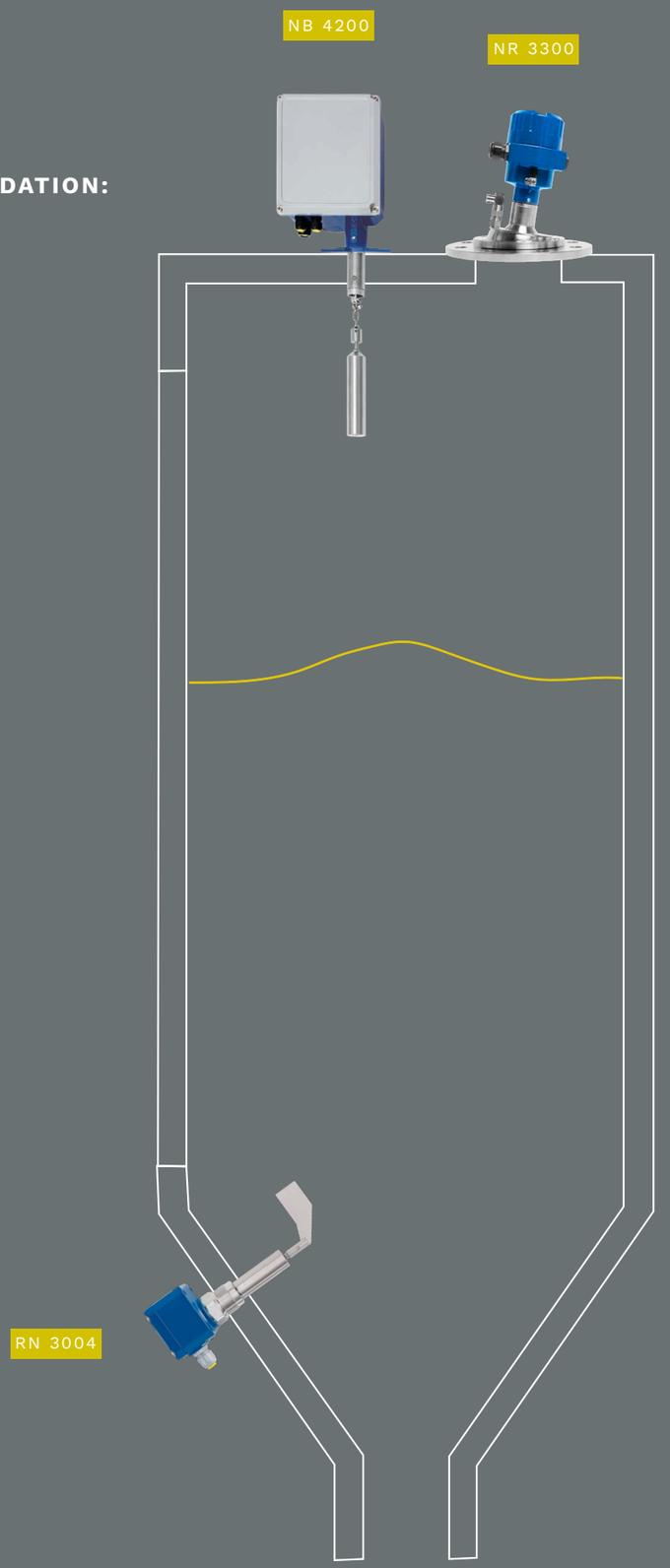
NivoBob®

CHALLENGE:

- Dust generation
- Sticking material, material bridging
- Hygiene requirements

SOLUTION:

- Robust sensors with dust-tight design
- Measurement technology unaffected by buildup
- Food-grade materials



Measurement Task
CONTINUOUS & POINT LEVEL MEASUREMENT

Medium
MALT, HOPS AND RAW FRUIT SUGAR

Measuring Range
< 10 M | 33 FT

Process Temperature
< 80 °C | 176 °F

Process Pressure
< 0.8 BAR | 11.6 PSI

LSILO RAW MATERIAL

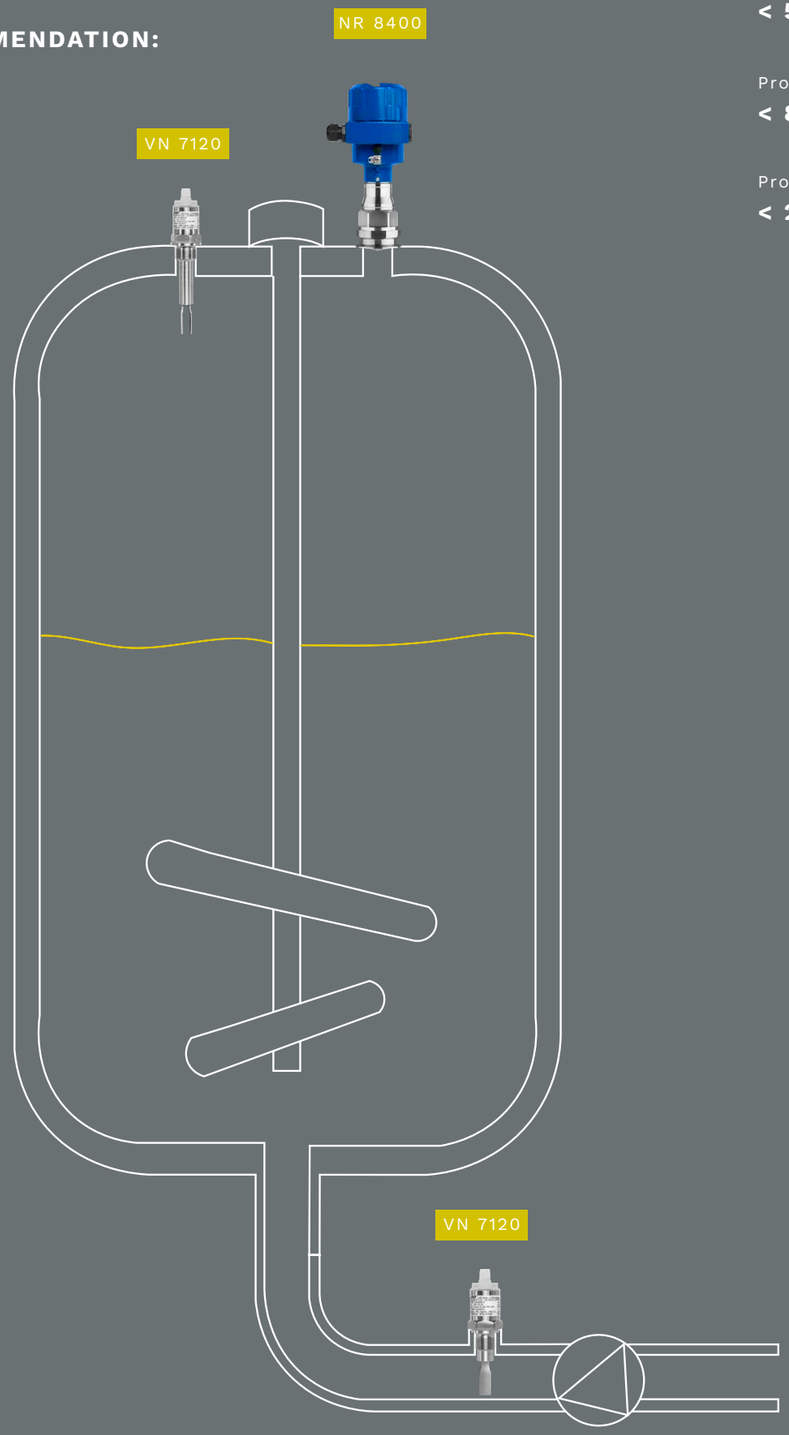
CONTINUOUS AND POINT LEVEL MEASUREMENT IN RAW MILK TANKS – HYGIENIC AND RELIABLE

In ice cream production, raw milk is temporarily stored at low temperatures under continuous stirring before further processing. Precise level measurement ensures process stability, while reliable point level detection prevents the tank from overfilling. Chemically demanding CIP and SIP procedures are used for regular cleaning of the system.

OUR PRODUCT RECOMMENDATION:

VN
Vibranivo®

NR
NivoRadar®



Measurement Task
CONTINUOUS & POINT LEVEL MEASUREMENT

Medium
MILK

Measuring Range
< 5 M | 16 FT

Process Temperature
< 80 °C | 176 °F

Process Pressure
< 2 BAR | 29 PSI

CHALLENGE:

- High hygiene requirements
- Cleaning process
- Agitator

SOLUTION:

- Hygienic design, hygienic adapter
- CIP / SIP compatible
- Agitator compensation

TANK / PIPE

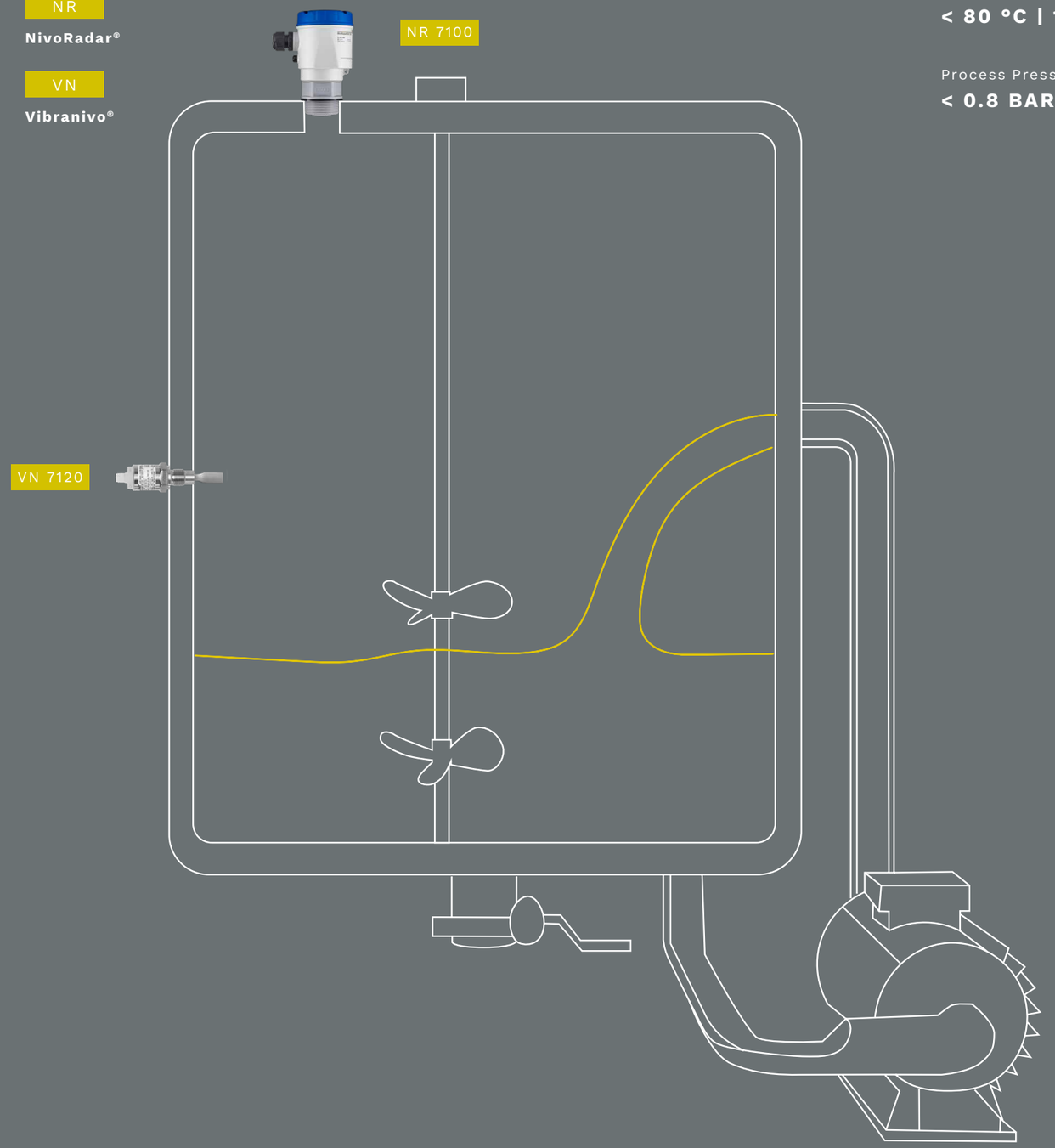
RELIABLE CONTINUOUS AND POINT LEVEL MONITORING IN THE MIXER

In food production, various raw materials are precisely combined. In a mixer, the components are blended into a homogeneous mixture and prepared for further processing. Reliable continuous and point level measurement control material input and protect pumps or outlet pipes from running dry – even with a moving surface and agitator. This ensures a stable and efficient process.

OUR PRODUCT RECOMMENDATION:

NR
NivoRadar®

VN
Vibranivo®



Measurement Task
CONTINUOUS & POINT LEVEL MEASUREMENT

Medium
SODIUM CHLORIDE, CALCIUM SALT

Measuring Range
< 2 M | 7 FT

Process Temperature
< 80 °C | 176 °F

Process Pressure
< 0.8 BAR | 11.6 PSI

CHALLENGE:

- Agitator
- Turbulent surface
- Changing media

SOLUTION:

- Agitator compensation
- Compact design
- Unaffected by buildup, flow, turbulence, and air bubbles
- No recalibration needed for changing media

MIXER

RELIABLE CONTINUOUS AND POINT LEVEL MEASUREMENT IN AGITATED TANKS

In the mash tun, milled malt is mixed with water and heated – enzymes convert starch into malt sugar. Continuous level measurement is vital to maintain process stability during cooking. Level and point level sensors deliver precise readings – even under heat, steam, and changing process conditions.

OUR PRODUCT RECOMMENDATION:

NR

NivoRadar®

RF

RFnivo®

Measurement Task
CONTINUOUS & POINT LEVEL MEASUREMENT

Medium
BREWING WATER & MALT

Measuring Range
< 5 M | 16 FT

Process Temperature
< 100 °C | 212 °F

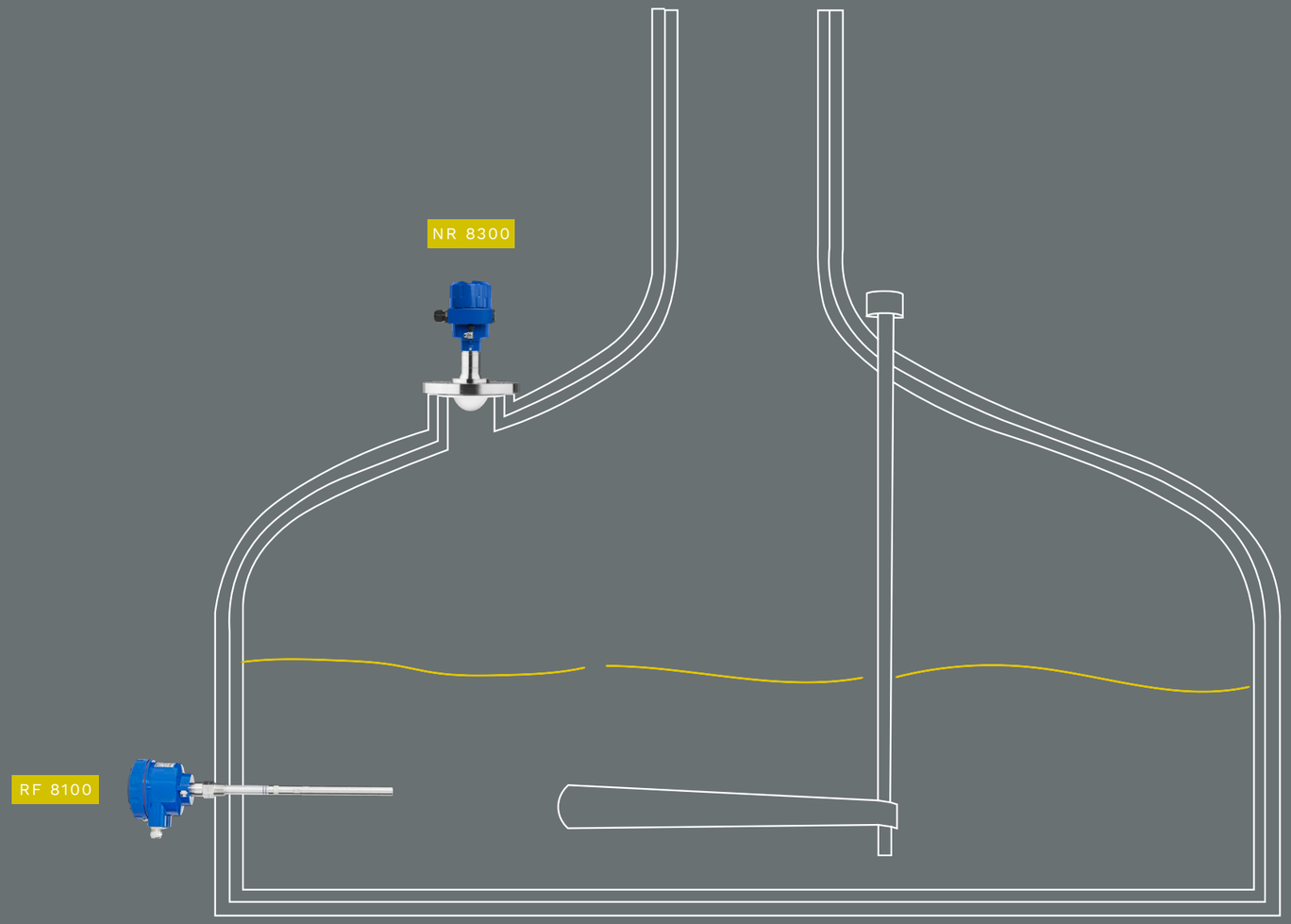
Process Pressure
< 2 BAR | 29 PSI

CHALLENGE:

- Foam formation, condensate, and material buildup
- Elevated temperature
- Agitator

SOLUTION:

- Measurement principle unaffected by foam, condensate, and material buildup
- Temperature resistant up to 200 °C (392 °F)
- Agitator compensation



MASH TUN

CONTINUOUS AND POINT LEVEL MEASUREMENT FOR CONDENSATE RECOVERY

In a brewery’s condenser, evaporated mains water is cooled and recondensed into purified condensate. Reliable continuous and point level measurement monitor both the supply of cooling liquid and the condensate level. This prevents steam from entering the downstream storage tank, ensuring process stability and energy efficiency.

OUR PRODUCT RECOMMENDATION:

VN
Vibranivo®

CN
Capanivo®

NG
NivoGuide®

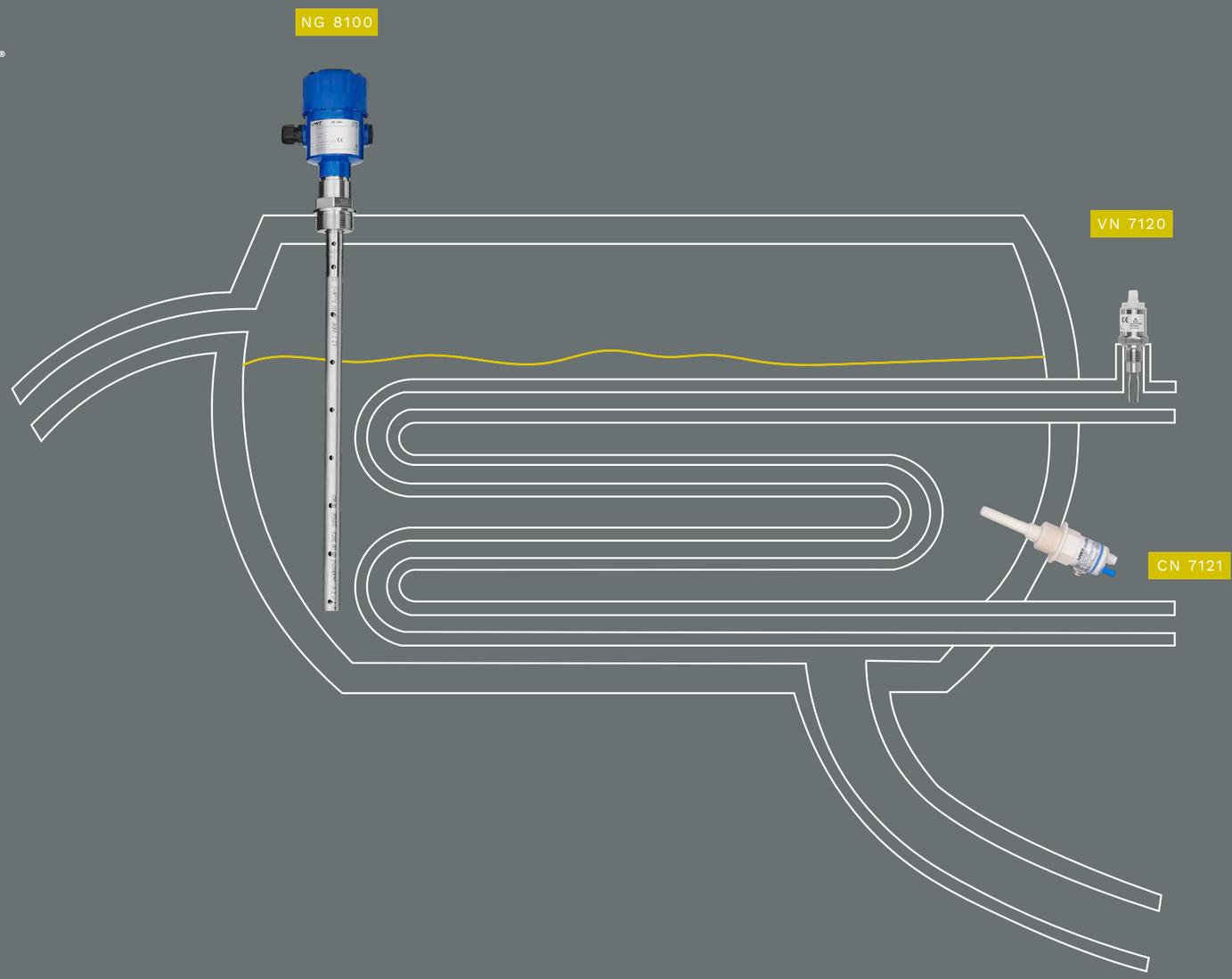
Measurement Task
CONTINUOUS & POINT LEVEL MEASUREMENT

Medium
CONDENSATE

Measuring Range
< 3 M | 10 FT

Process Temperature
< 100 °C | 212 °F

Process Pressure
< 5 BAR | 72.5 PSI



CHALLENGE:

- Temperature influences
- Steam and condensate formation
- Tank internals

SOLUTION:

- Temperature resistant up to 150 °C (302 °F)
- Measurement principle unaffected by condensate and steam
- Measurement principle unaffected by tank internals

CONDENSER

RELIABLE CONTINUOUS AND POINT LEVEL MONITORING IN THE STEAM SEPARATOR

In food production, steam separators generate high-purity water through condensation. Mains water is evaporated using saturated steam in a heat exchanger – leaving behind residues such as salts or microorganisms. A membrane separates entrained droplets, and the dry steam flows into the condenser. Reliable continuous and point level measurement ensures that the heat exchanger remains consistently covered with water.

OUR PRODUCT RECOMMENDATION:

VN
Vibranivo®

CN
Capanivo®

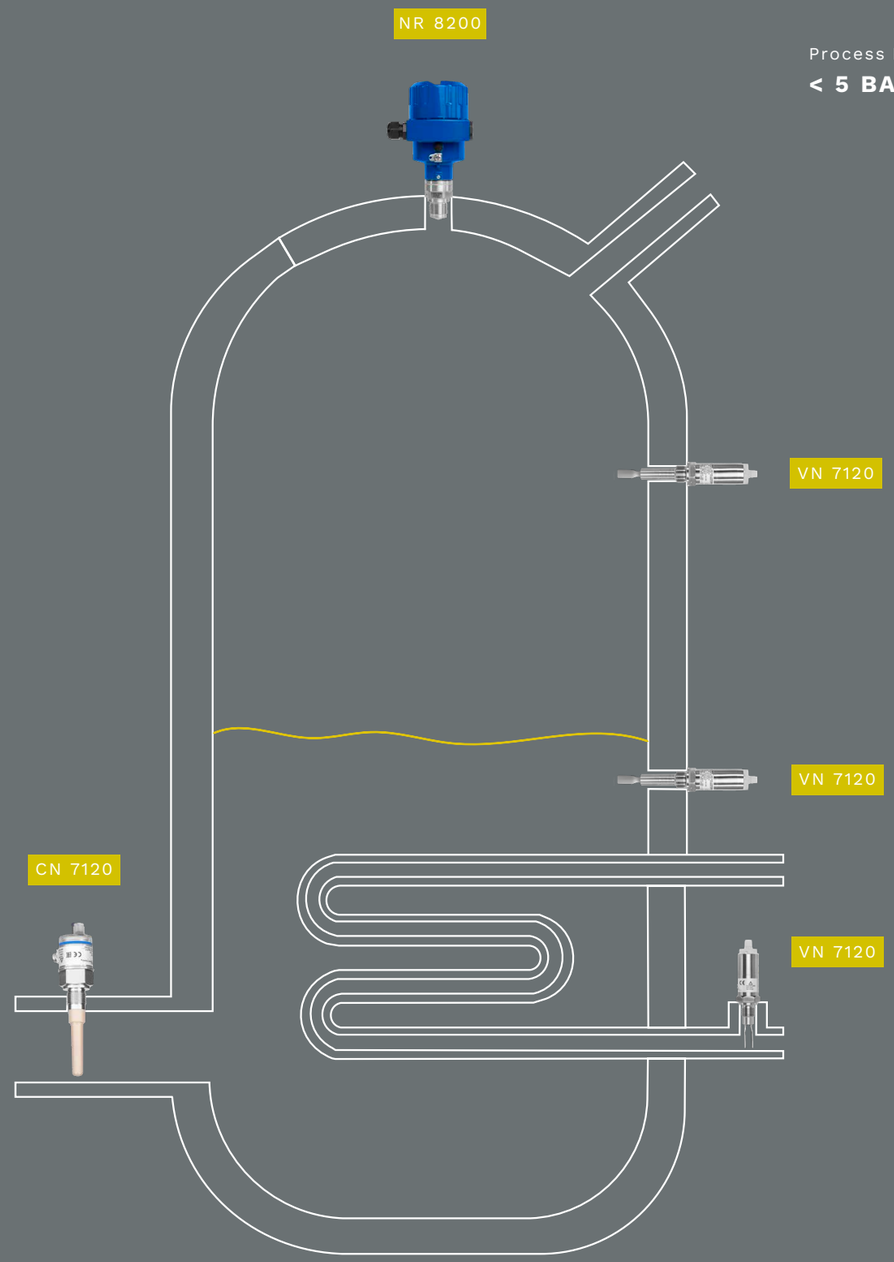
NR
NivoRadar®

CHALLENGE:

- Elevated process temperature
- Elevated process pressure
- Steam

SOLUTION:

- Temperature resistant up to 150 °C (302 °F)
- Pressure resistant up to 40 bar (580 psi)
- Hermetically sealed and unaffected by steam



Measurement Task
CONTINUOUS & POINT LEVEL MEASUREMENT

Medium
RAW WATER

Measuring Range
< 3 M | 10 FT

Process Temperature
< 150 °C | 302 °F

Process Pressure
< 5 BAR | 72.5 PSI

STEAM SEPARATOR

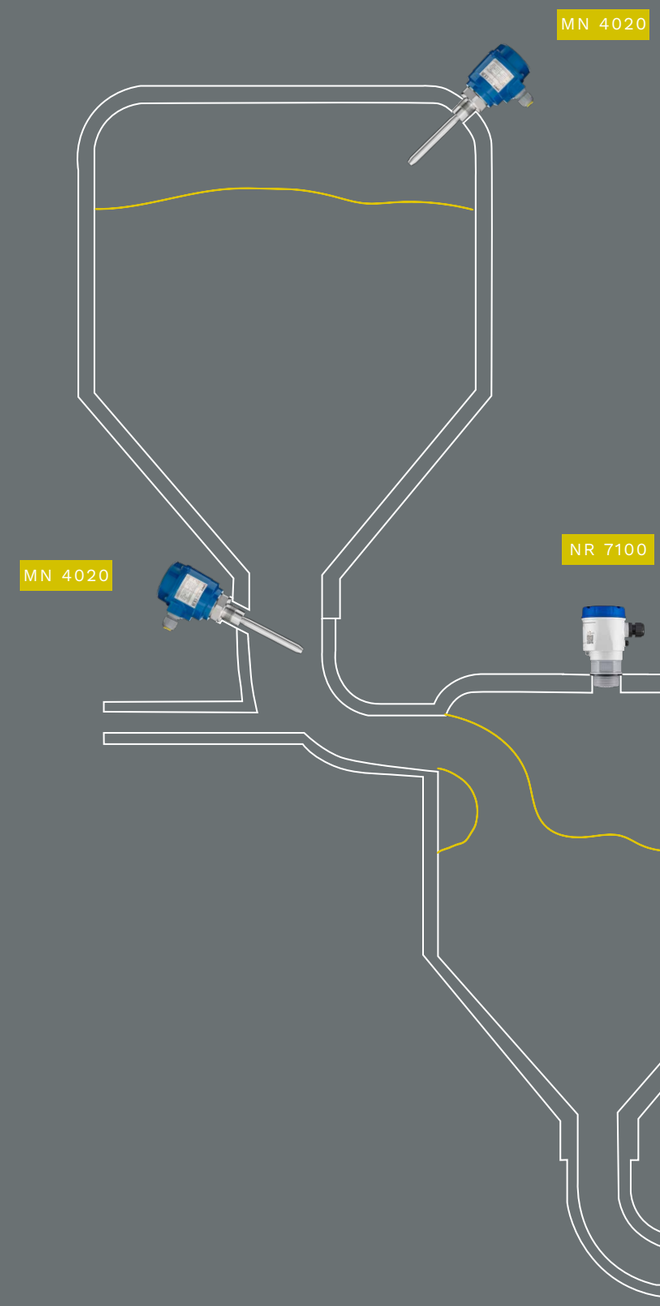
CONTINUOUS AND POINT LEVEL DETECTION FOR SMOOTH PRODUCTION PROCESSES

In various areas of food production, ingredients such as flour, salt, or dry yeast are temporarily stored in smaller silos. Reliable level measurement ensures material availability, with point level sensors providing timely refill alerts.

OUR PRODUCT RECOMMENDATION:

NR
NivoRadar®

MN
Mononivo®



Measurement Task
CONTINUOUS & POINT LEVEL MEASUREMENT

Medium
SALT, FLOUR, DRY YEAST

Measuring Range
< 3 M | 10 FT

Process Temperature
< 80 °C | 176 °F

Process Pressure
< 0.8 BAR | 11.6 PSI

CHALLENGE:

- Small containers
- Short measuring distance
- Limited installation space
- Dust generation

SOLUTION:

- Compact design
- Fast response time
- Robust sensors with dust-tight construction

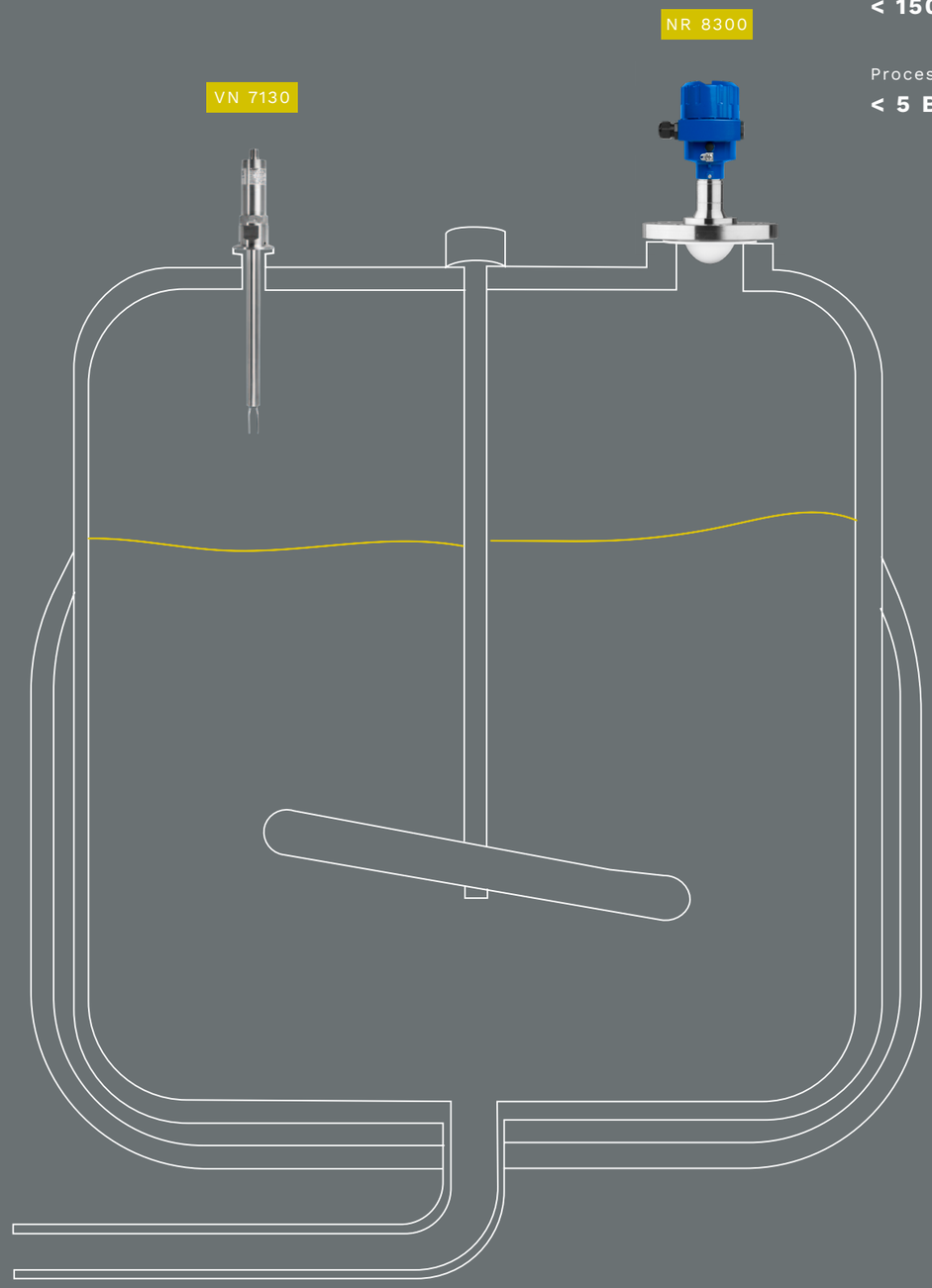
MEASUREMENT SOLUTIONS FOR MIXING AND STARTER TANKS IN YOGHURT PRODUCTION

In the heated mixing tank, milk sugar is fermented into lactic acid – the basis for natural yoghurt. After cooling, the product is further processed, for example by stirring in fruit or grains.
Sensors monitor both continuous and point levels to ensure precise filling and process control - even at high temperatures and during CIP cleaning.

OUR PRODUCT RECOMMENDATION:

VN
Vibranivo®

NR
NivoRadar®



Measurement Task
CONTINUOUS & POINT LEVEL MEASUREMENT

Medium
YOGHURT

Measuring Range
< 10 M | 33 FT

Process Temperature
< 150 °C | 302 °F

Process Pressure
< 5 BAR | 72.5 PSI

CHALLENGE:

- High hygiene requirements
- Elevated process temperature
- Batch-mode cleaning processes

SOLUTION:

- Temperature resistant up to 150 °C (302 °F)
- Hygienic design with hygienic adapter
- CIP / SIP compatible

MIXING AND STARTER TANK

CONTINUOUS AND POINT LEVEL MEASUREMENT IN LARGE AGITATED TANKS

After the conching process, liquid chocolate is temporarily stored in heated large tanks. An integrated agitator maintains a constant temperature and consistency of the mass. Reliable continuous and point level detection in both main and dosing tanks is vital for accurate control of downstream filling processes.

CHALLENGE:

- Heavy material buildup
- Continuous material flow
- Hygienic requirements

SOLUTION:

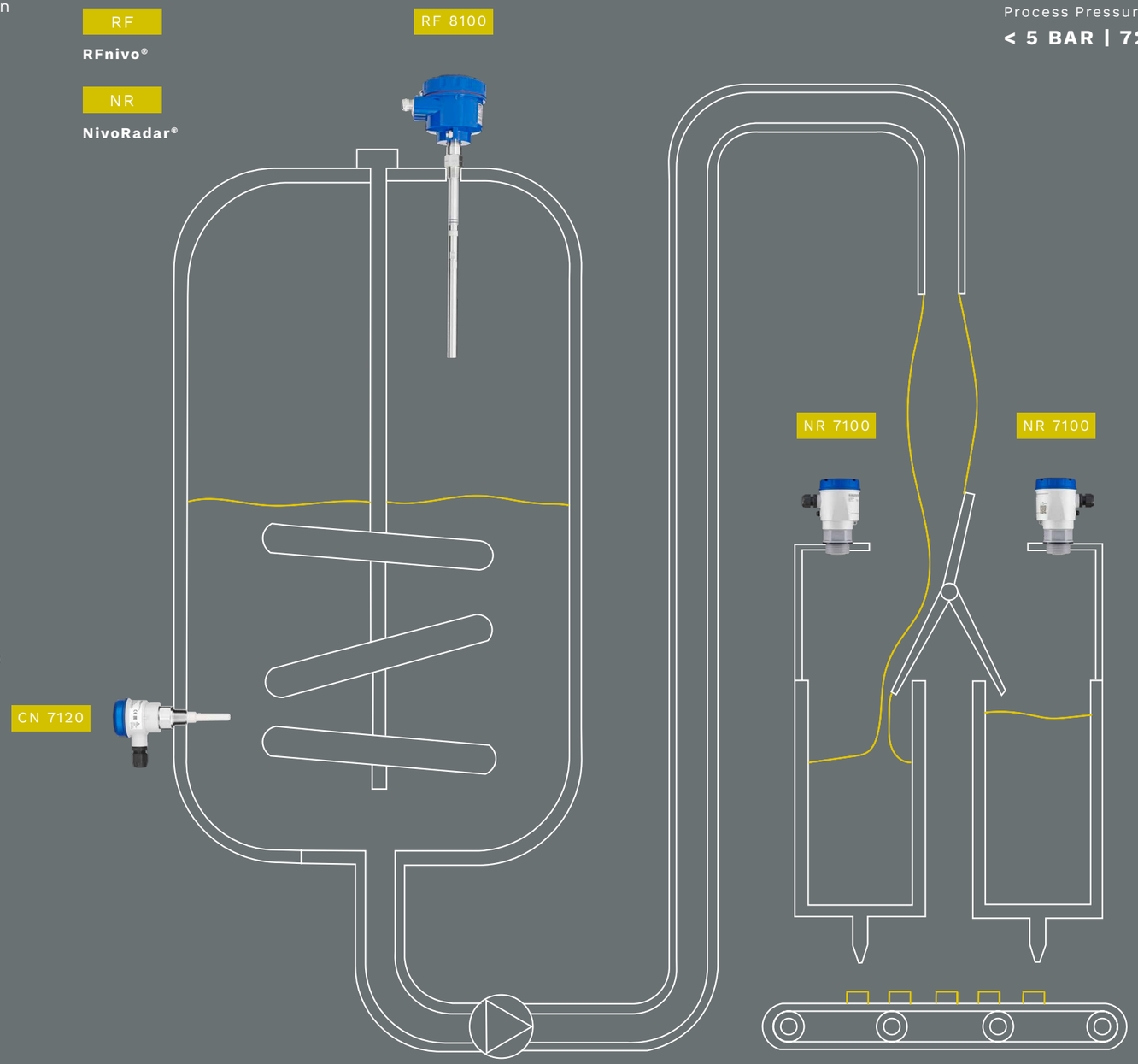
- Measurement technology unaffected by viscous, adhesive media (“Active Shield”)
- Fast response time
- Food-grade materials

OUR PRODUCT RECOMMENDATION:

CN
Capanivo®

RF
RFnivo®

NR
NivoRadar®



Measurement Task
CONTINUOUS & POINT LEVEL MEASUREMENT

Medium
LIQUID CHOCOLATE

Measuring Range
< 3 M | 10 FT

Process Temperature
< 80 °C | 176 °F

Process Pressure
< 5 BAR | 72.5 PSI

MIXING TANK

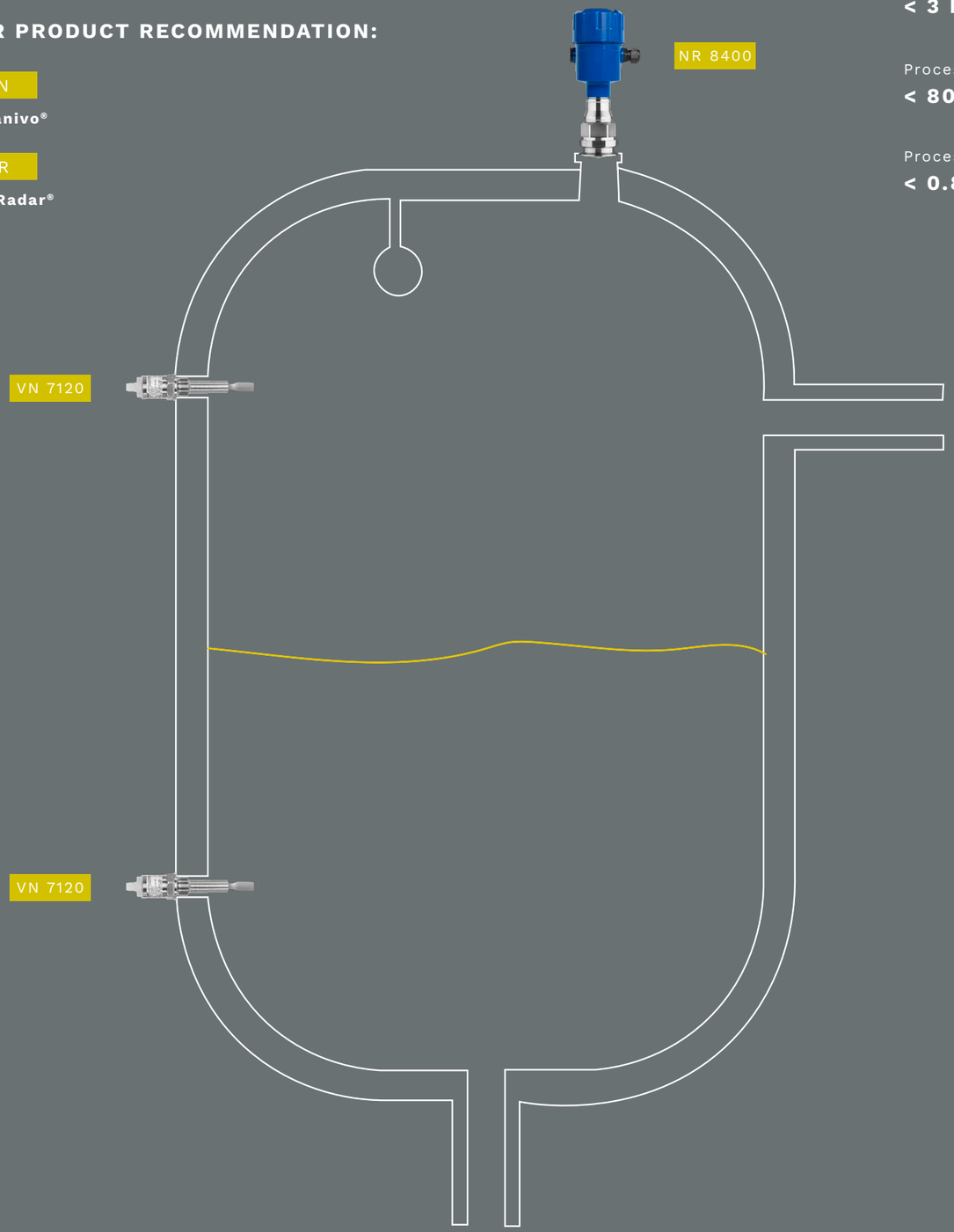
CONTINUOUS AND POINT LEVEL MEASUREMENT FOR CIP CLEANING PROCESSES

For hygienic production conditions, cleaning agents such as lye or acid are stored centrally in CIP systems and dosed as needed. Precise level measurement ensures availability in the storage tank, while point level detection reliably protects against overfilling and dry run.

OUR PRODUCT RECOMMENDATION:

VN
Vibranivo®

NR
NivoRadar®



CHALLENGE:

- High chemical exposure
- Reliable prevention of overfilling and running empty
- Foam formation
- Changing media

SOLUTION:

- Chemically resistant materials
- WHG certified
- Unaffected by foam formation and changing media

Measurement Task
CONTINUOUS & POINT LEVEL MEASUREMENT

Medium
ETHYL ACETATE, CAUSTIC SODA, NITRIC ACID

Measuring Range
< 3 M | 10 FT

Process Temperature
< 80 °C | 176 °F

Process Pressure
< 0.8 BAR | 11.6 PSI

TANK STORAGE

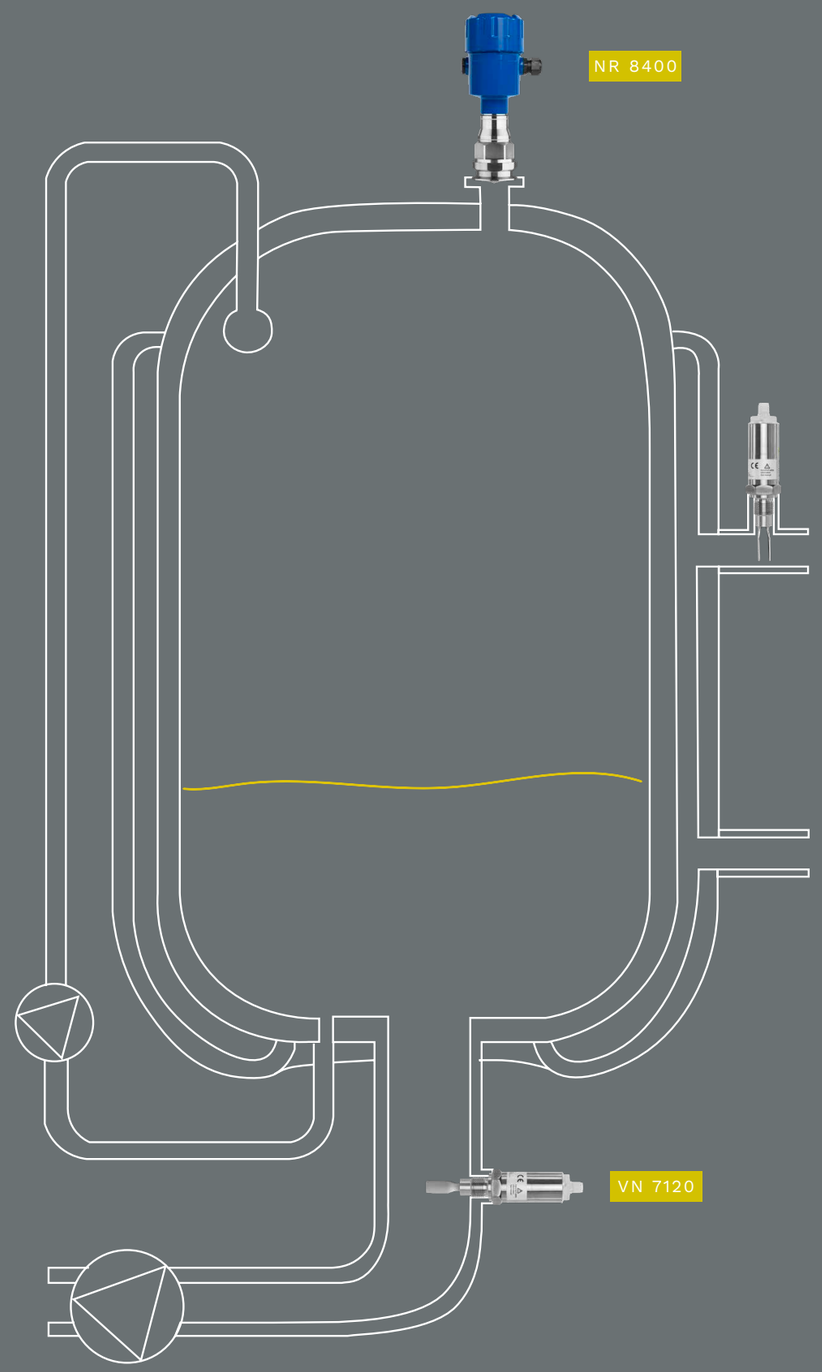
HYGIENIC CONTINUOUS AND POINT LEVEL MONITORING FOR PURIFIED WATER STORAGE

During CIP cleaning, purified water is used, which is pre-treated through filtration and distillation - and temporarily stored in storage tanks. Level and point level measurement must meet strict hygiene and cleanability standards, with all sensors able to withstand aseptic processes.

OUR PRODUCT RECOMMENDATION:

VN
Vibranivo®

NR
NivoRadar®



CHALLENGE:

- Sterile process conditions
- Elevated process temperature
- Elevated process pressure

SOLUTION:

- Temperature resistant up to 150 °C (302 °F)
- Pressure resistant up to 40 bar (580 psi)
- Food-grade materials

Measurement Task
CONTINUOUS & POINT LEVEL MEASUREMENT

Medium
PURIFIED WATER

Measuring Range
< 5 M | 16 FT

Process Temperature
< 150 °C | 302 °F

Process Pressure
< 5 BAR | 72.5 PSI

TANK STORAGE

CONTINUOUS AND POINT LEVEL MEASUREMENT IN THE HEATED SUPPLY TANK

In the heated supply tank, the cleaning solution is brought to temperature and precisely fed into the system. Accurate level measurement controls both filling and outflow, while reliable point level detection protects the process from critical conditions such as overflow or dry run – ensuring maximum operational safety and system protection.

OUR PRODUCT RECOMMENDATION:

VN
Vibranivo®

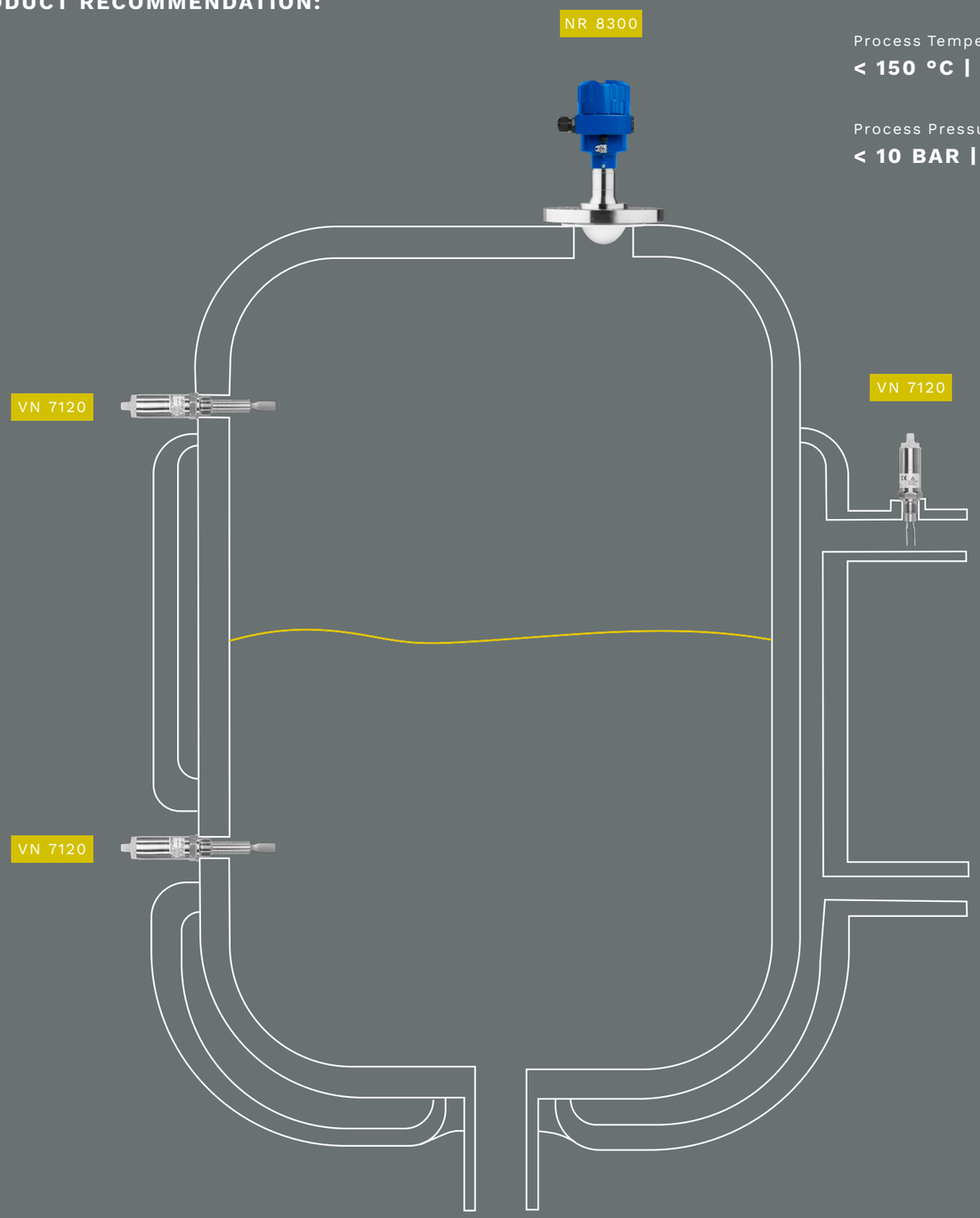
NR
NivoRadar®

CHALLENGE:

- High chemical exposure
- Elevated process temperature
- Elevated process pressure

SOLUTION:

- Chemically resistant materials
- Temperature resistant up to 150 °C (302 °F)
- Pressure resistant up to 40 bar (580 psi)



Measurement Task
CONTINUOUS & POINT LEVEL MEASUREMENT

Medium
SOLVENT

Measuring Range
< 1.5 M | 5 FT

Process Temperature
< 150 °C | 302 °F

Process Pressure
< 10 BAR | 145 PSI

TANK SUPPLY

LEVEL MEASUREMENT AND DEMAND DETECTION IN BUFFER TANKS

During the filling of juice or sauce into portion-sized containers, a buffer tank ensures accurate dosing. A point level sensor detects demand, triggering refilling when a threshold is undershot. A second point level sensor prevents overfilling. Continuous monitoring of the tank content is provided by a level sensor that delivers precise measurement values.

OUR PRODUCT RECOMMENDATION:

NR

NivoRadar®

VN

Vibranivo®

CHALLENGE:

- Short measuring distances
- Material bridging
- Steam, condensate, buildup
- Food-grade compliant

SOLUTION:

- Level and point level sensors for short measuring distances
- Unaffected by material buildup
- Hygienic design with hygienic adapter
- CIP / SIP compatible

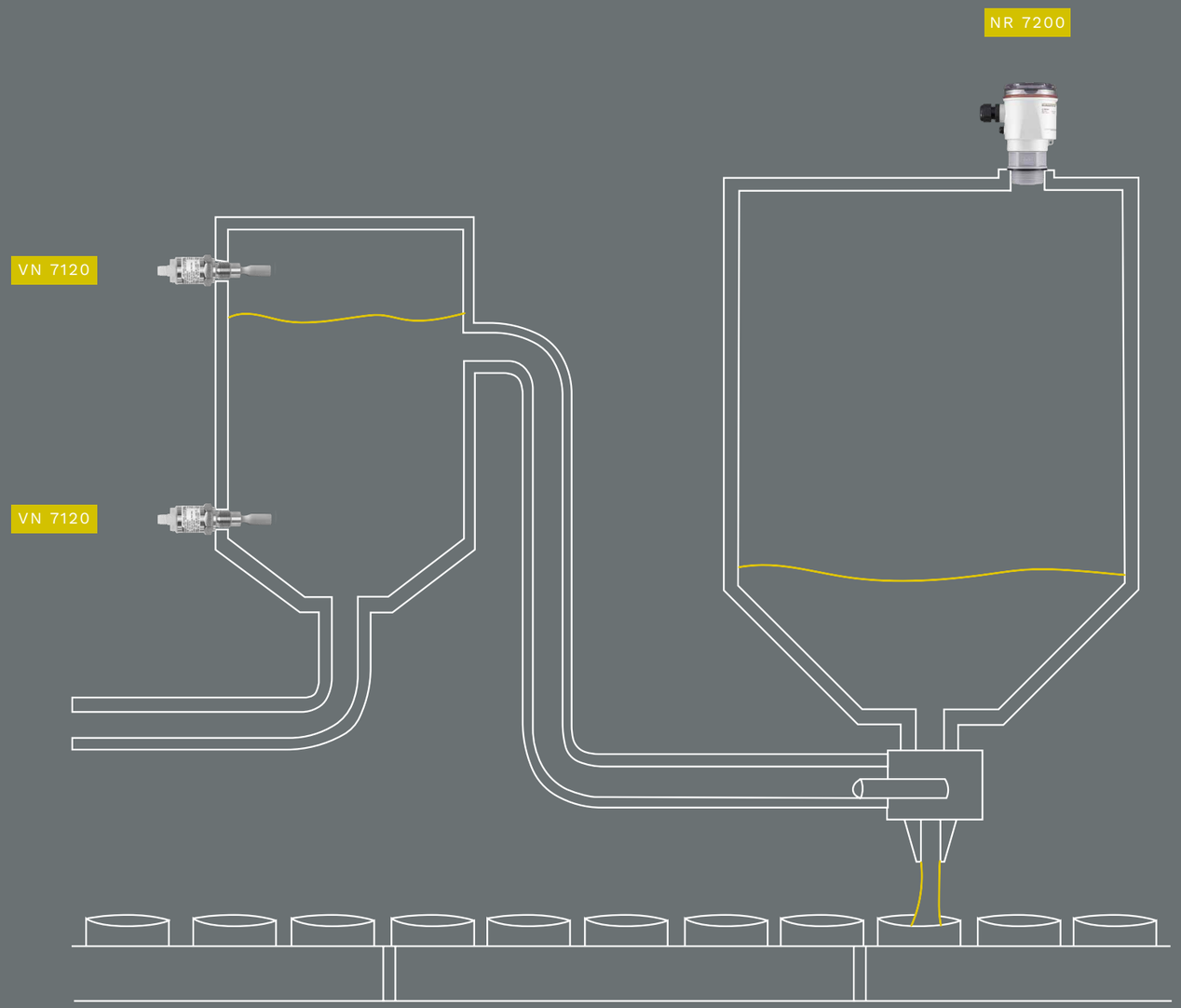
Measurement Task
CONTINUOUS & POINT LEVEL MEASUREMENT

Medium
TOMATO SAUCE

Measuring Range
0.5 M | 2 FT

Process Temperature
< 80 °C | 176 °F

Process Pressure
< 0.8 BAR | 11.6 PSI



DOSING SYSTEM

POINT LEVEL MONITORING WITH LED SIGNAL FOR STABLE MATERIAL FLOW

For precise dosing of milk powder, the hopper level is monitored to ensure a consistent supply to the packaging unit. An integrated NivoLED® indicator light signals the current status reliably.

OUR PRODUCT RECOMMENDATION:

VN

Vibranivo®

NL

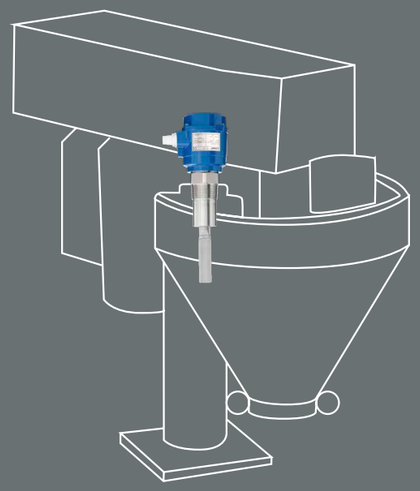
NivoLED®

CHALLENGE:

- High hygiene requirements
- Dusty atmosphere
- Increased explosion risk
- Limited installation space
- Constant hopper level

SOLUTION:

- High surface finish quality
- Hygienic design with hygienic adapter
- Food-grade materials
- Explosion-proof certified devices
- Visual status indication for hazardous areas



VN 1020

NL 9000

Measurement Task
POINT LEVEL MEASUREMENT

Medium
MILK POWDER

Measuring Range
< 1 M | 3 FT

Process Temperature
< 80 °C | 176 °F

Process Pressure
< 0.8 BAR | 11.6 PSI

DOSING SYSTEM

ROBUST AND HYGIENIC – POINT LEVEL MEASUREMENT FOR SMOOTH PROCESSES

A leading U.S.-based peanut butter manufacturer was looking for particularly robust and durable sensor solutions for point level detection – specifically for applications involving highly adhesive materials such as sugar and salt.
A key challenge was the crystalline buildup on the probe shaft and the risk of fine material entering the sensor housing through bearings and seals. Conventional sensors failed in this environment.

RN

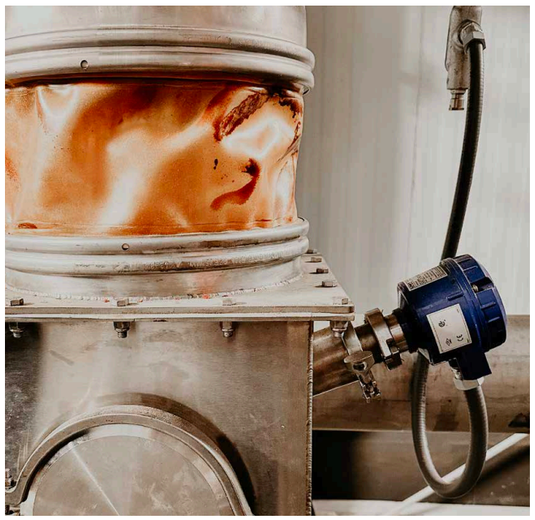
Rotonivo®

OUR SOLUTION

The Rotonivo® RN 6004 was specifically configured for this application – tailored to the unique challenges of the production environment: heavy buildup, high hygiene requirements, and limited installation space.

Equipped with a reinforced shaft, dual stainless steel bearings, and a Tri-Clamp connection for CIP / SIP cleaning processes, the sensor reliably meets all industry-specific requirements.

Since installation, the RN 6004 has maintained consistent, maintenance-free operation with no failures.



KEY COMPONENTS OF THIS APPLICATION

Food production, especially when handling viscous and adhesive materials like peanut butter, places specific demands on measurement and device technology:

Precision and Reliability

The combination of a reinforced stainless steel shaft and dual bearings prevents sugar and salt from entering the sensor – a common cause of failure in previously installed devices. These features now ensure uninterrupted, continuous operation.

Hygienic Design

The stainless steel Tri-Clamp connection meets the highest hygiene standards according to DIN, ISO, 3-A, and ASME BPE. The tool-free connection allows for quick and easy cleaning in accordance with CIP / SIP requirements.

Durability

The stainless steel extension with paddle resists even heavy buildup, ensuring long-lasting, trouble-free performance during operation.

Compact Integration

The sensor's paddle design and Tri-Clamp adapter allow for compact installation and easy removal through a 1" socket without needing to open the vessel.

BENEFITS AND RESULTS

This UWT project implementation offers the food manufacturer a wide range of advantages:

Increased Efficiency

Since the installation of the RN 6004, there have been no unplanned downtimes. The Rotonivo® keeps the process running and reduces maintenance to an absolute minimum.

Long Service Life

The robust design and dual stainless steel bearings prevent salt and sugar from wearing down the sensor seals and entering the electronics. This ensures a long lifespan – even with intensive use.

Cost Savings

Spare parts, maintenance, and production downtimes have been reduced to almost zero – the sensor soon pays for itself!

Enhanced Operational Safety

Reliable overfill and empty detection increases process safety and provides long-term protection for production equipment.

Application Reports

Application Database

LEVEL MONITORING AND VISUALISATION

NivoTec®

Various technologies are available for level display. Simple LED digital displays for evaluating a 4–20 mA signal can be integrated into control cabinets or wall-mounted, ranging up to touch panels and web server modules with visualisation software. These can be configured on a per project basis and customised to meet customer requirements.

UWT offers standard products from the NivoTec® NT 4000 series, which meet many requirements for level display and monitoring at a competitive price. The NivoTec® NT 3000 series can be customised for individual, specific, customer projects, with web server solutions that meet modern level monitoring demands.

NivoTec®
Level monitoring and visualisation

NivoTec® NT 4600
7 inch touch panel visualisation

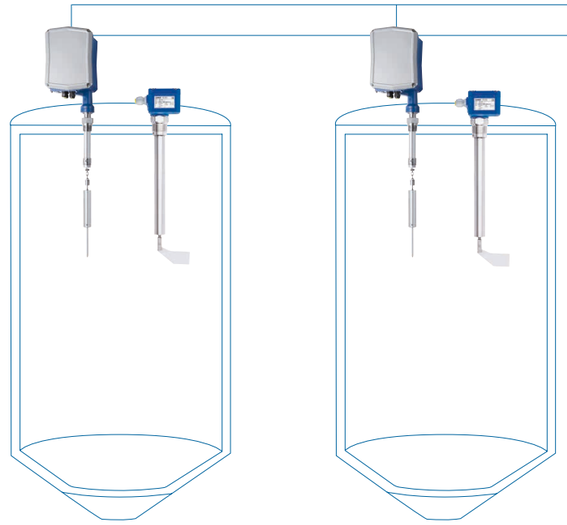
NivoTec® NT 4700
Digital display in terminal box for one measuring point

NivoTec® NT 3500
Custom project visualisation

NivoTec® NT 4900
Digital display as built-in module

NivoTec® NT 4500
Standardised visualisation

NivoTec® NT 9000
Local fill level display



Controller

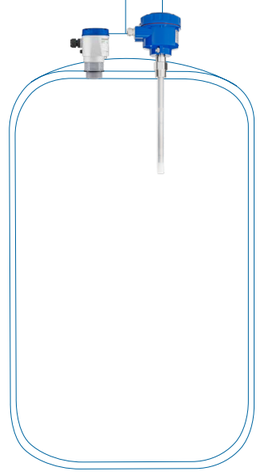
NT 3500

115/230 VAC

Level visualisation

Ethernet

Gateway
RTU/TCP



Internet Routed IP address
Worldwide access

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