

# Expertise in Process Analytics

Process Instruments



# Continuous Measurement Gives You Maximum Control

Anton Paar's process sensors ensure high product quality, optimize your raw material consumption, and maximize production capacity.

We have developed one of the broadest portfolios of accurate sensor technologies for concentration determination and mass flow measurement on the market, giving you a range of solutions for any application in the industry.

Whether it's for density, sound velocity, refractive index, or Coriolis sensors, we are the only company that can provide you with multiple methods for the concentration measurement of liquids.

→ **Tailored to your needs**

We develop solutions specifically for you, letting you measure your process liquids reliably, precisely, and continuously – no matter your application

→ **Several sensors under one roof**

Our broad sensor portfolio offers you the most effective solution for your application, with three different physical methods

→ **Ready for digitalization and modern process control**

Our powerful transmitters and evaluation units support processing and handling of live process data

→ **Excellent service – three-year warranty**

With subsidiaries around the globe, our local service is there for you and we grant three years of product warranty on all our products

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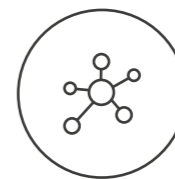
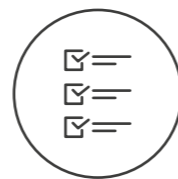
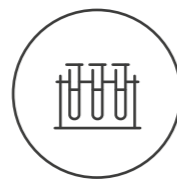
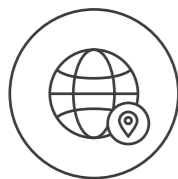
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# Five Steps

For successful process measurements

To ensure you get the best solution to measure your liquid, we support you in selecting the right technology and developing a fitting concentration formula. Ranging from process and petroleum engineers to chemists and brewers, our specialized team of experts develop tailored solutions for any application. In just five steps, we provide you with professional support to develop applications and integrate our solution into your plant.



**Contact our global sales  
and service team**

**Develop an application together,**  
leveraging our extensive application  
database or individual measurements  
with Anton Paar laboratory meters

**Select the right technology  
for the right results**

**Integrate our sensors  
into your processes –**  
enjoy easy mechanical installation  
support via an array of available  
adapters and accessories

**Access your results  
quickly and easily –**  
choose from various communication  
options for a seamless integration into  
your process control (PLC)

# Versatility Across Industries



## **Chemistry**

Inline density and concentration measurement sensors ensure high product quality, optimize raw material consumption, and maximize production capacity. It is an essential part of ensuring the safety of the plant, employees, and the environment. Thanks to the wide variety of sensor materials, virtually all liquids like acids, bases, solvents, salts, and many others can be measured.

## **Mining**

High-tech inline solutions help optimize production conditions during mining and ore processing. Monitor your sulfuric acid plant, conduct quality control for your base metal refinery (BMR) or precious metal refinery (PMR). First-class process sensors increase safety, raw material quality, production efficiency, and product yield.

## **Battery**

In the production of both lead-acid and lithium-ion batteries, inline concentration and density measurement are essential for ensuring correct performance. For lead batteries, precise sulfuric acid concentration is needed during various production steps. For lithium-ion batteries, the concentration of lithium salts in the electrolyte is crucial for ion transport. Additionally, inline concentration measurement is important in recycling processes, such as NMP recycling.

## **Metals**

In metalworking, the consumption of operating materials can be minimized in many steps, and the quality of the parts to be produced is guaranteed. Whether in forming, cutting, pickling, cleaning, or coating, concentration measurement is an important part of all these processes.

## **Semiconductor**

The density of the CMP slurry directly affects the material removal rate and surface finish quality during the chemical mechanical planarization process. By installing an inline density sensor, it can be continuously determined if the slurry is ready for use. The concentration measurement of other liquids, like hydrogen peroxide, is crucial for effective cleaning, precise etching, uniform oxidation, contamination control, process consistency, and safety.

## **Automotive + HVAC**

Reduce complex laboratory measurement and therefore costs and development time, whilst ensuring the correct oil concentration and flow rate in the refrigeration circuit. Anton Paar offers the best solutions for classic refrigerants like R134a and R1234yf, as well as eco-friendly alternatives like R290 (propane) and R744 (CO<sub>2</sub>), even in the supercritical state.

## **Ethanol**

In bioethanol production, precise concentration and flow monitoring ensures efficient use of raw materials, real-time fermentation control, and exact observation of the desired ethanol concentration. This optimizes product quality and compliance with regulations. Coriolis sensors and density sensors enable custody transfer and accurate measurement of hydrous and anhydrous ethanol.

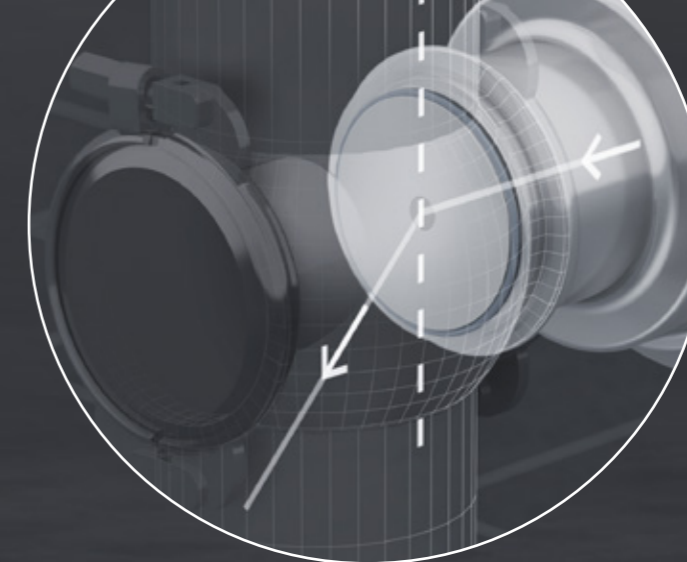
## **Petroleum**

Whether upstream, midstream, or downstream, process sensors optimize drilling fluid management, monitor crude oil quality, and ensure accurate product detection in multi-product pipelines. Coriolis meters allow precise custody transfer and support process control. Process sensors detect water interfaces during product movement, differentiate crude oil from salt water during desalting, and automate dewatering processes in tanks, preventing corrosion, fouling, and contamination.

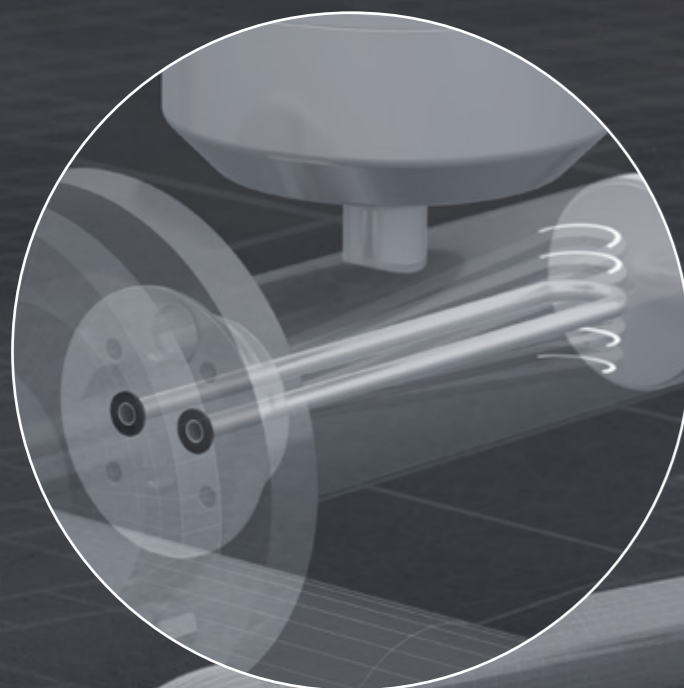
# Always the Right Measurement Strategy

To achieve the best results, you need the right technology.

Whether it's for density, sound velocity, refractive index, or Coriolis, we're the only supplier that always offers the best solution for the concentration measurement of liquids. What's more, you can easily integrate all of our maintenance-free process sensors into your processes.



↑  
Maintenance-free determination  
of refractive index (principle of  
total refraction)

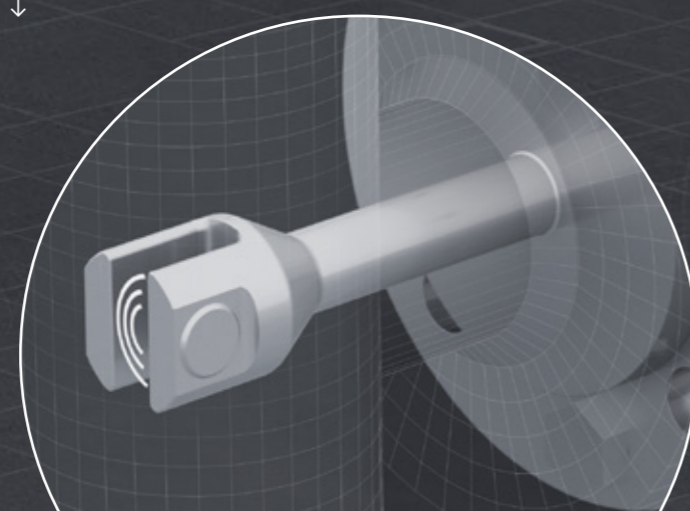


←  
U-tube measuring principle  
– highly accurate density  
measurement



→  
Coriolis flow meter –  
mass flow and density  
measurement in one

Sound velocity measurement  
– robust, durable, and  
maintenance-free



# L-Dens 7000 Series/ L-Com 5500

Cover all your needs

The L-Dens 7000 series combines high accuracy and a compact design, making it the number-one choice for precise density and concentration measurements. Thanks to the wide range of integration options, these instruments can be easily integrated into your plant.

L-Com 5500 is a smart density and sound velocity sensor that lets you conduct concentration measurements of three-component mixtures with just one instrument.

**L-Dens 7000: The highest-accuracy choice**

- The entry-level model L-Dens 7300 with three-digit accuracy has been designed for the petroleum industry
- L-Dens 7400, with four-digit accuracy, is the all-rounder for all industries; it is also suitable for highly aggressive liquids
- If you need five-digit accuracy, then L-Dens 7500 is the way to go
- Whichever model you choose, all sensors are maintenance-free and can be easily integrated into any process environment

**L-Com 5500: One sensor that measures three components**

- Combines process density and sound velocity sensors, giving you the best of both worlds
- Conduct sophisticated concentration measurements of three-component mixtures with a single instrument
- With their compact and modular design, easily integrate these maintenance-free process sensors into your existing processes

	L-Dens 7300 Petro	L-Dens 7400	L-Dens 7500	L-Com 5500
	↓	↓	↓	↓
Measuring range	Max. 1,500 kg/m³	Max. 3,000 kg/m³	Max. 2,000 kg/m³	Max. 2,000 kg/m³ 800 m/s to 2,000 m/s
Accuracy in adjusted range	0.5 kg/m³	0.1 kg/m³ Tantalum 0.5 kg/m³	0.05 kg/m³	0.05 kg/m³ Repeatability sound velocity: 0.01 m/s
Process temperature	-40 °C to +125 °C			-25 °C to +125 °C
CIP/SIP temperature and duration non-Ex version	145 °C for max. 30 min			
Ambient temperature	-40 °C to +70 °C			-25 °C to +65 °C
Process pressure absolute	Max. 50 bar	Max. 50 bar (HP version max. 180 bar)	Max. 50 bar	Max. 50 bar
Material of the wetted parts	1.4404	1.4404, Alloy C-276, Incoloy 825, Tantalum	Alloy C-276	Alloy C-276
Communication	Can be combined with Pico 3000, Pico 3000 RC, mPDS 5, and Edge			
Process connections	Adapter for inline, bypass, and tank installation Flange: DIN/EN, ANSI, JIS, Tri-Clamp, VARIVENT® N, G 3/8", Tube OD 12 mm, or 1/4"			
U-tube inner diameter	6.3 mm			
Recommended flow rate	100 L/h to 500 L/h			
Degree of protection	IP 66 / 67 / NEMA 4X			
Certificates	CE, ATEX, IECEx, cQPSus, INMETRO, CCC, JPEX (PESO for L-Dens 7000)			
Dimensions	Ex: 245 mm x 160 mm x 205 mm	245 mm x 145 mm x 185 mm (Ex: 245 mm x 160 mm x 205 mm)	190 mm x 145 mm x 185 mm (Ex: 190 mm x 160 mm x 205 mm)	258 mm x 142 mm x 192 mm (Ex: 258 mm x 156 mm x 214 mm)
Standard adjustment range	600 kg/m³ to 1,200 kg/m³			700 kg/m³ to 1,200 kg/m³ 800 m/s to 2,000 m/s
Weight	4.5 kg	4.8 kg	4.5 kg	5.3 kg



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# L-Sonic

Concentration measurement, phase detection, quality control

With a 35-year development history, the compact sound velocity sensor L-Sonic 5100/6100 delivers a repeatability of up to 0.005 m/s. The sensors are designed for concentration measurement, phase detection, product identification, and quality control in the chemistry, petroleum, mining, and steel industries, as well as for HVAC and brewery businesses – and much more.

**L-Sonic 5100: The precise allrounder**

- Fork-type sensor for immersion installation
- Easy integration into existing infrastructure, durable design, and various concentration formulas make it the cost-effective solution for every production process
- Use it for inline concentration measurements, interface detection, product identification, or precise production and quality control

**L-Sonic 6100: The plug-and-measure system**

- Specially designed sound velocity sensor for oil in refrigerant (OCR) concentration measurements
- Optimize refrigeration circuits in the automobile, heating, ventilation, and air conditioning (HVAC) industries
- It comes as a ‘plug-and-measure’ system, equipped with every need for a precise and ready-to-go measurement
- Many decades of experience, excellent know-how, and a comprehensive databank of oil-to-refrigerant concentration formulas make it an ideal sensor for every refrigeration circuit optimization

	L-Sonic 5100	L-Sonic 6100
	↓	↓
Measuring range	800 m/s to 2,500 m/s	200 m/s to 1,560 m/s
Repeatability	0.005 m/s	0.01 m/s
Process temperature	-25 °C to +125 °C	
CIP/SIP temperature and duration	145 °C for max. 30 min	
Ambient temperature	-25 °C to +65 °C without HMI -20 °C to +55 °C with HMI	
Process pressure absolute	According to flange specification	Up to 70 bar @ 125 °C or 100 bar @ 50 °C
Material of the wetted parts	Stainless steel 1.4404 (316L), Hastelloy®, Monel 400 24 k gold-coated, rhodium-coated	Stainless steel 1.4404 (316L)
Communication	Can be combined with Pico 3000, Pico 3000 RC, mPDS 5, and Edge	
Process connections	VARIVENT® N, VARIVENT® G DIN 11851 EN 1092-1, ANSI B16.5 JIS B2220	Tube end: OD 12 mm Compression type fitting (12mm, 1/2") Compression type fitting w. external thread (NPT 3/4", G 3/4")
Fork length	56 mm, 125 mm (standard) or customer-specific	-
Recommended flow rate	0.1 m/s to 6 m/s	50 L/h to 700 L/h
Degree of protection	IP 66 / 67 / NEMA 4X	
Certificates	CE, ATEX, IECEx, cQPSus, INMETRO, CCC, JPEX	
Dimensions	Depending on model	Non Ex: 150 mm x 145 mm x 175 mm Ex version: 160 mm x 160 mm x 190 mm



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# L-Rix

## Real-time results around the clock

With our durable L-Rix 4100/5100/5200 inline refractometers, conduct real-time concentration measurements and get production control of raw, intermediate, and final products. The sensors continuously measure concentration at the process temperature, giving you 24-hour production control. The built-in evaluation unit has a modern touchscreen. With the Pico 3000 software or the Edge process controller, you don't need any special training to set up and use the instrument – just follow the directions on the interface.

### L-Rix series: Inline and highly accurate

- Operate with stored adjustment values for their entire lifetime, no maintenance needed
- Get real-time, accurate concentration results comparable to those of laboratory refractometers
- Durable, stainless steel housing for reliable results under tough conditions, and ingress protection of the enclosure guards against water jets and immersion
- EHEDG-certified
- User-friendly diagnostics in line with NAMUR NE 107

	L-Rix 4100	L-Rix 5100	L-Rix 5200
	↓	↓	↓
Measuring range	1.3100 to 1.4910 (equivalent to 0 % to 80 % mass)	1.3100 to 1.5400 (equivalent to 0 % to 100 % mass)	1.3100 to 1.4600 (equivalent to 0 % to 65 % mass)
Accuracy	nD ±0.0002 (equivalent to ±0.1 % mass)	nD ±0.0002 (equivalent to ±0.1 % mass)	nD ±0.0001 (equivalent to ±0.05 % mass)
Process temperature	0 °C to 100 °C	-20 °C to +120 °C	0 °C to 105 °C
CIP/SIP temperature and duration	Up to 145 °C for 30 minutes		
Ambient temperature	0 °C to 50 °C	-20 °C to +60 °C	
Process pressure absolute	100 mbar to 10 bar	100 mbar to 16 bar (10 bar @ >120 °C)	
Material of the wetted parts	Stainless steel 1.4404 (AISI 316L), PEEK, Sapphire (Al <sub>2</sub> O <sub>3</sub> – 99.997 %), O-ring: VARIVENT® connection – EPDM 70.10-02 (FDA approved)		
Communication	Pico 3000 - Analog	Pico 3000, Pico 3000 RC, mPDS 5, Edge	
Process connections	Tuchenhagen VARIVENT® Type N	Tuchenhagen VARIVENT® Type N, Tri-Clamp® 3“	
Degree of protection	IP65; IP67 / NEMA 6P		
Certificates	CE, EHEDG (Type EL - Class I)		
Light source	LED 589 nm		
Dimensions	142 mm x 142 mm x 172 mm		



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# L-Cor

## Mass flow and inline concentration measurements

Gain access to vital process data in real-time, including mass flow rate, density, and even concentration measurements for a variety of fluids. Enjoy the benefits of a process-proven design and the global Anton Paar sales and service network.

The L-Cor Coriolis meters deliver precise inline measurement results across an impressive range, from 0.4 grams per minute up to 1,400 metric tons per hour. The portfolio enables a choice between hygienic designs for beverage and beer applications, compact sensors for micro-dosing where every drop counts, and meters for large-volume custody transfer applications where accuracy is critical for seamless transactions.

### L-Cor 8000

- Best accuracy – L-Cor 8000 Coriolis mass flow meters provide you highly accurate measurements for mass flow (±0.1 %), density (±0.5 kg/m³) and volumetric flow.

### L-Cor 6000

- Fast draining and hygienic – built with titanium single straight tubes, this is the solution for highly accurate measurements of shear-sensitive or viscous liquids, slurries, or aggressive media.

### L-Cor 4000

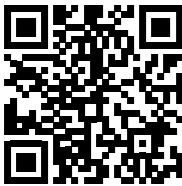
- Top price-performance ratio – reliable mass flow and concentration measurements for accurately measuring liquids in a range of standard applications in various industries.



L-Cor 8000				
↓				
Measuring range	0.024 kg/h to 9 kg/h	0.72 kg/h to 72 kg/h	3.6 kg/h to 120,000 kg/h	3,420 kg/h to 700,000 kg/h
Flow accuracy liquid	±0.2 %	± 0.1 %		
Flow accuracy gas	±0.5 % ± ZS			
Density range	300 kg/m³ to 2,000 kg/m³			
Density accuracy	±3 kg/m³	±0.5 kg/m³		
Nominal diameter	1/4"	3/8"	3/8" to 3"	4" to 6"
Ambient temperature	-40 °C to +55 °C			
Process temperature	-200 °C to +200 °C			
Process pressure absolute	150 bar (at 20 °C)	According to flange specification		
Process connection	Thread R 1/4	ASME B16.5 Class 150, 300, 600 EN 1092-1 PN16, 40 Tri-clamp ISO 2852 Aseptic Flange DIN 11864-2 Thread R/Rc		ASME B16.5 Class 150, 300, 600 EN 1092-1 PN16, 40
Wetted parts	1.4404 (316L)	1.4404 (316L) Alloy C-22		1.4404 (316L)
Approvals for potentially explosive atmospheres	ATEX, IECEx, CSA (C-US), NEPSI (CCC)			
Communication	Analog, Pulse, Bell 202, Modbus RTU (RS-485), Profibus PA, Fieldbus			
Certifications	OIML R117-1:2019 (according to WELMEC 8.8 & 7.2)			

L-Cor 6000		L-Cor 4000
↓		↓
Measuring range	36 kg/h to 61,200 kg/h	24 kg/h to 48,000 kg/h
Flow accuracy liquid	±0.15 % ± ZS*	±0.2%*
Density range	500 kg/m³ to 1,000 kg/m³ or 700 kg/m³ to 1,300 kg/m³ or 1,000 kg/m³ to 1,500 kg/m³	300 kg/m³ to 2,000 kg/m³
Density accuracy	±2 kg/m³	±3 kg/m³
Nominal diameter	½" to 3"	½" to 2"
Ambient temperature	-40 °C to +55 °C	
Process temperature	-40 °C to +130 °C	
Process pressure absolute	According to flange specification	
Process connection	ASME B16.5 Class 150 EN 1092-1 PN16 Tri-clamp ISO 2852	ASME B16.5 Class 150, 300, 600 EN 1092-1 PN40 Tri-clamp ISO 2852 Aseptic Flange DIN 11864-2
Wetted parts	Titanium alloy	1.4404 (SUS316L)
Approvals for potentially explosive atmospheres	ATEX, IECEx, CSA (C-US), NEPSI (CCC)	
Communication	Analog, Pulse, Bell 202, Modbus RTU (RS-485), Profibus PA, Fieldbus	
Certifications	EHEDG	-

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# L-Dens 2300/3300

## The cost-efficient solution

Get three-digit accuracy at an excellent price-performance ratio. While L-Dens 3300 is the entry-level model for density and concentration measurement in a wide range of applications, L-Dens 2300 is an OEM-module and was specially developed for integration into a measuring device. With stainless steel or glass U-tubes, they are designed for measuring non-corrosive liquids such as cleaning liquids or CMP slurries, and aggressive liquids such as sulphuric acid.

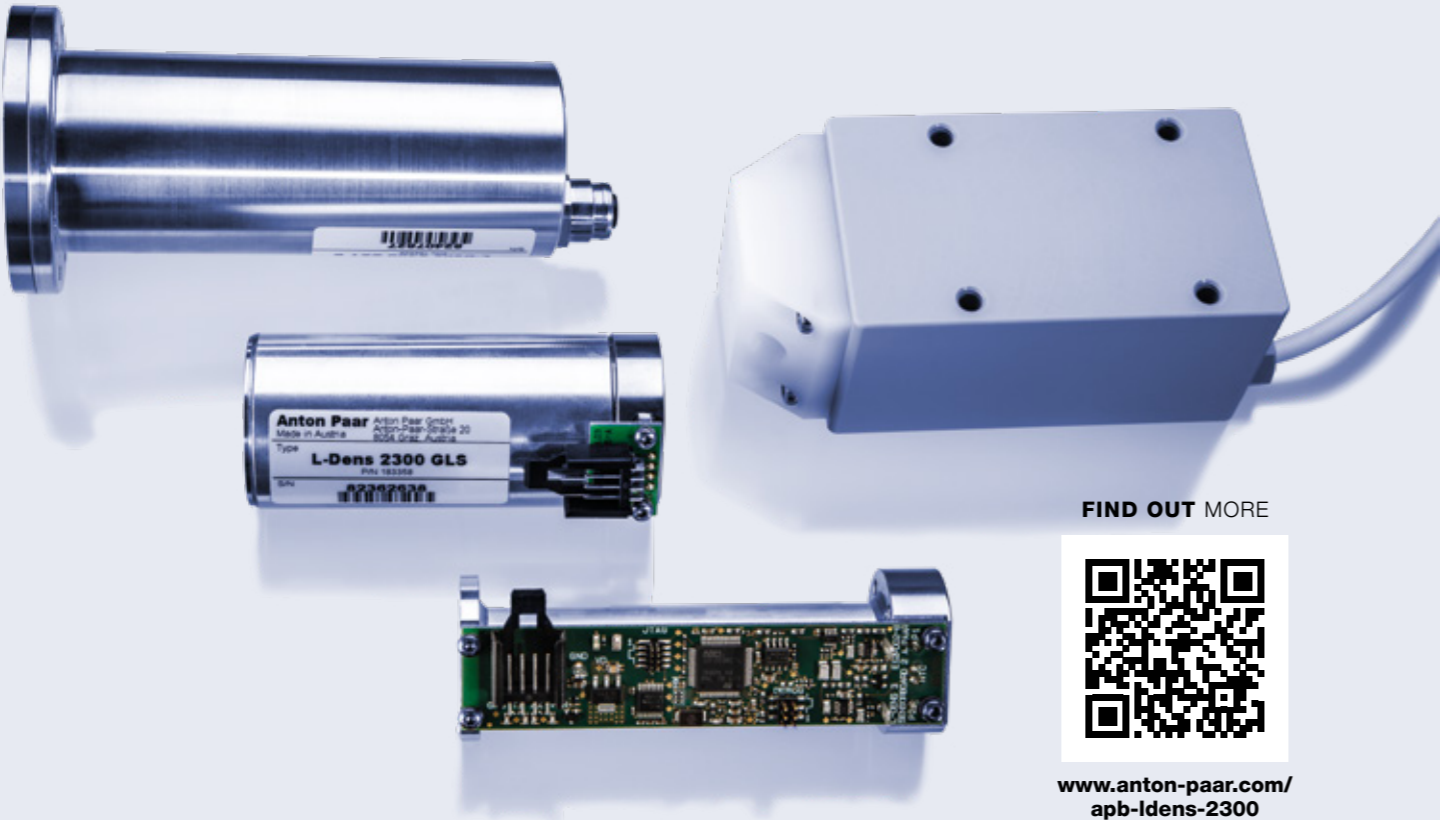
The L-Dens 3300 sensors are budget-friendly entry-level models.

### L-Dens 2300: The flexible solution for OEM customers

- Small and flexible OEM modules let you easily integrate these density sensors into your measuring devices
- Measure the density and temperature of both non-corrosive and aggressive liquids with three-digit accuracy with a stainless steel or glass U-tube
- These sensors must be integrated

### L-Dens 3300: The economical sensor

- Flexible, stand-alone sensors for density and concentration measurement with three-digit accuracy
- A wide range of pre-installed applications makes them extremely versatile, even for small lab production setups and across various industries
- The wetted material – available in stainless steel or borosilicate glass – lets you measure both non-corrosive and aggressive media



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	L-Dens 2300 GLS (FCM) (PP)	L-Dens 2300 SST (E)	L-Dens 3300
	↓	↓	↓
Measuring range	500 kg/m³ to 2,000 kg/m³	500 kg/m³ to 2,000 kg/m³	500 kg/m³ to 2,000 kg/m³
Accuracy in adjusted range	1 kg/m³	1 kg/m³	1 kg/m³
Process temperature	-10 °C to +60 °C	SST: 10 °C to 80 °C SST E: -10 °C to +60 °C	SST: 10 °C to 80 °C GLS: -10 °C to +60 °C
CIP/SIP temperature and duration		SST: 95 °C for 30 min	SST: 95 °C for 30 min
Ambient temperature	-10 °C to +50 °C	SST: -10 °C to +50 °C SST E: -10 °C to +60 °C	-10 °C to +40 °C
Process pressure absolute	Max. 6 bar	Max. 16 bar	SST: max. 16 bar GLS: max. 6 bar
Material of the wetted parts	GLS: glass, PVDF, Kalrez GLS FCM: glass, PAS-PVDF, EPDM GLS PP: glass, PVDF, Kalrez	SST: 1.4571, 1.4404 SST E: 1.4571, 1.4404, FKM	SST: 1.4571, 1.4404, PVDF, Viton GLS: glass, PVDF, Kalrez
Communication	RS-232	RS-232	Analog, RS-232, RS-485, Relay
Process connections	GLS: Flange plate & adapters GLS FCM: Flange plate & adapters GLS PP: G 1/8"	Flange plate & adapters	G 1/8"
U-tube inner diameter	2.0 mm	2.1 mm	SST: 2.1 mm GLS: 2.1 mm
Recommended flow rate	10 L/h to 70 L/h	10 L/h to 80 L/h	SST: 10 L/h to 80 L/h GLS: 10 L/h to 70 L/h
Degree of protection	-	-	IP 65
Certificates	-	-	CE
Dimensions	GLS: 88 mm x 38 mm x 48 mm GLS FCM: 88 mm x 38 mm x 48 mm GLS PP: 126 mm x 56 mm x 46 mm	SST: 99 mm x 34 mm x 38 mm SST E: 134 mm x 64 mm x 64 mm	166 mm x 155 mm x 91 mm
Standard adjustment range	500 kg/m³ to 2,000 kg/m³	500 kg/m³ to 2,000 kg/m³	500 kg/m³ to 2,000 kg/m³
Weight	GLS, gLS FCM: 105 g GLS PP: 275 g	SST: 105 g SST E: 400 g	1,800 g



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# Simple Mechanical Installation

Our sensors provide you with process data with minimal installation effort from your end. An outstanding range of adapters, pumps, and cleaning solutions facilitate installation in your process, and ensure reliable operation.

## Plug and measure

- Broad portfolio for standard installations, plus extensive range of accessories to meet your specific requirements (e.g. adapters or bypass installation)
- Simple integration into pipes or tanks
- Cleaning devices help you get the best measurement results, even with challenging liquids

## Simple-to-integrate density sensors

- Our density sensors are straightforward to install because of their modular design and numerous accessories
- If you have sufficient flow, you can integrate the density sensors with inline adapters
- If you have insufficient flow, extreme fluctuating flow rates, or tank installations, our integrated pumps ensure optimal media exchange for highly accurate measurement
- Dedicated pumps for Ex areas



# Installation Accessories

Simplifying process analysis

We support most industry standards, such as: ASME B16.5, EN 1092-1, JIS B2220, ISO 228-1, NPT, Tri-Clamp, VARIVENT®, Compression type fitting



## Adapters for inline installation

Minimizing installation effort. For L-Dens 7000 and L-Com 5500.



## Adapters for bypass installation

Complete operational flexibility. For L-Dens 7000 and L-Com 5500.



## Integrated pumps for tank or pipe installation, suitable for hazardous areas

Ensure accurate flow volumes for precise and reliable measurements. For L-Dens 7000 and L-Com 5500.



## Cut-off adapters

Simple inline installation offering bypass flexibility. For L-Dens 7000 and L-Com 5500.

### ⊕ Flush adapter

Combines simple inline installation with the flushing option and automatic adjustment of an L-Dens 7000.



## Deflection system

Utilize flow for cleaning to ensure measurement reliability. For L-Rix.



## Installation tailored for small pipes

Meeting your needs. For L-Rix.

### ⊕ Prism wash system

Active cleaning designed for harsh conditions. For L-Rix.



## Out-of-the-box integration solutions

For fast sensor installation in stainless steel or PFA coated pipes. For L-Sonic 5100.



## Cleaning nozzles

Ensure top measurement accuracy and reliable operation even under harsh conditions. For L-Sonic 5100.

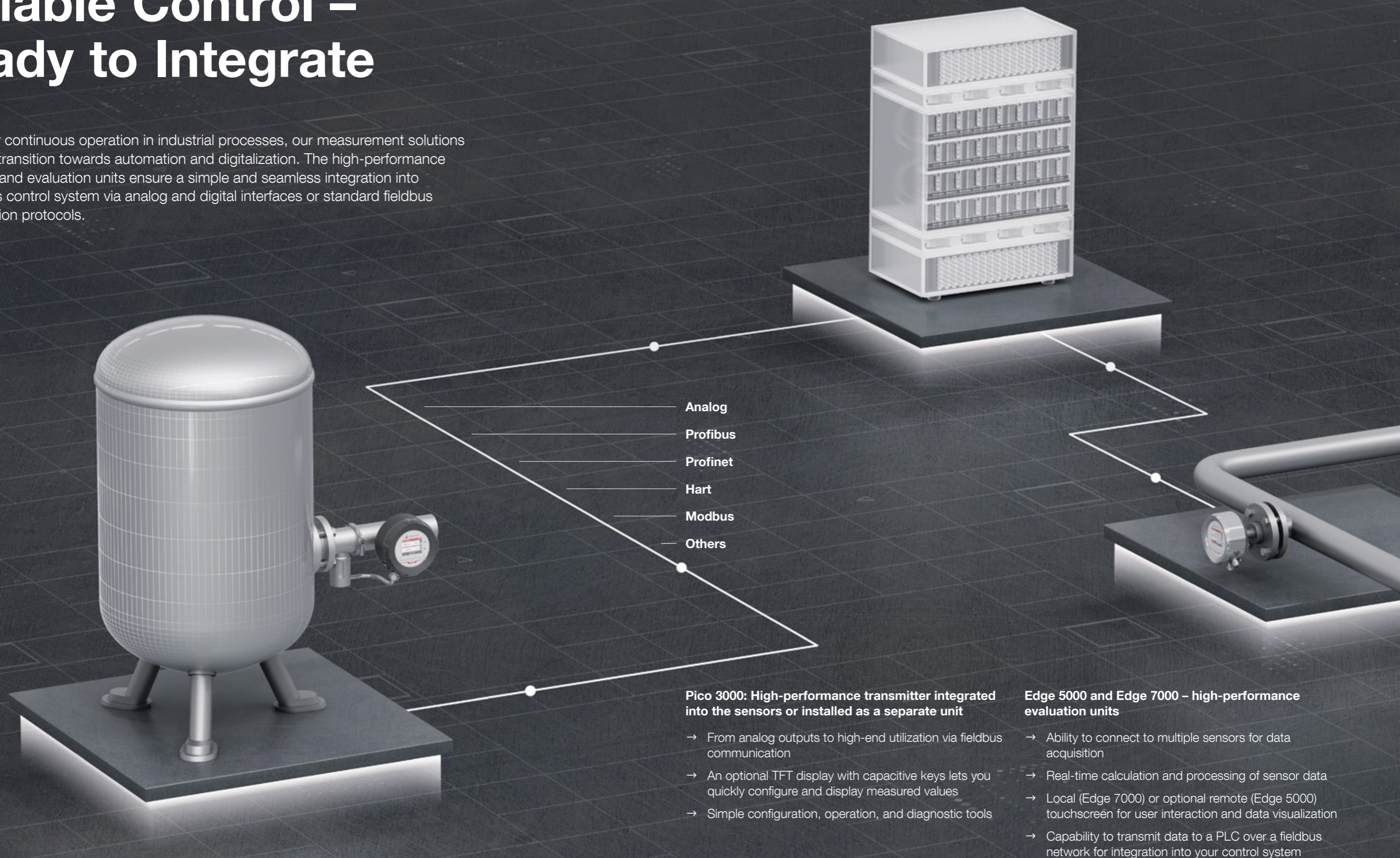


## DN 50/2" to DN 80/3" adapters and customized fork lengths

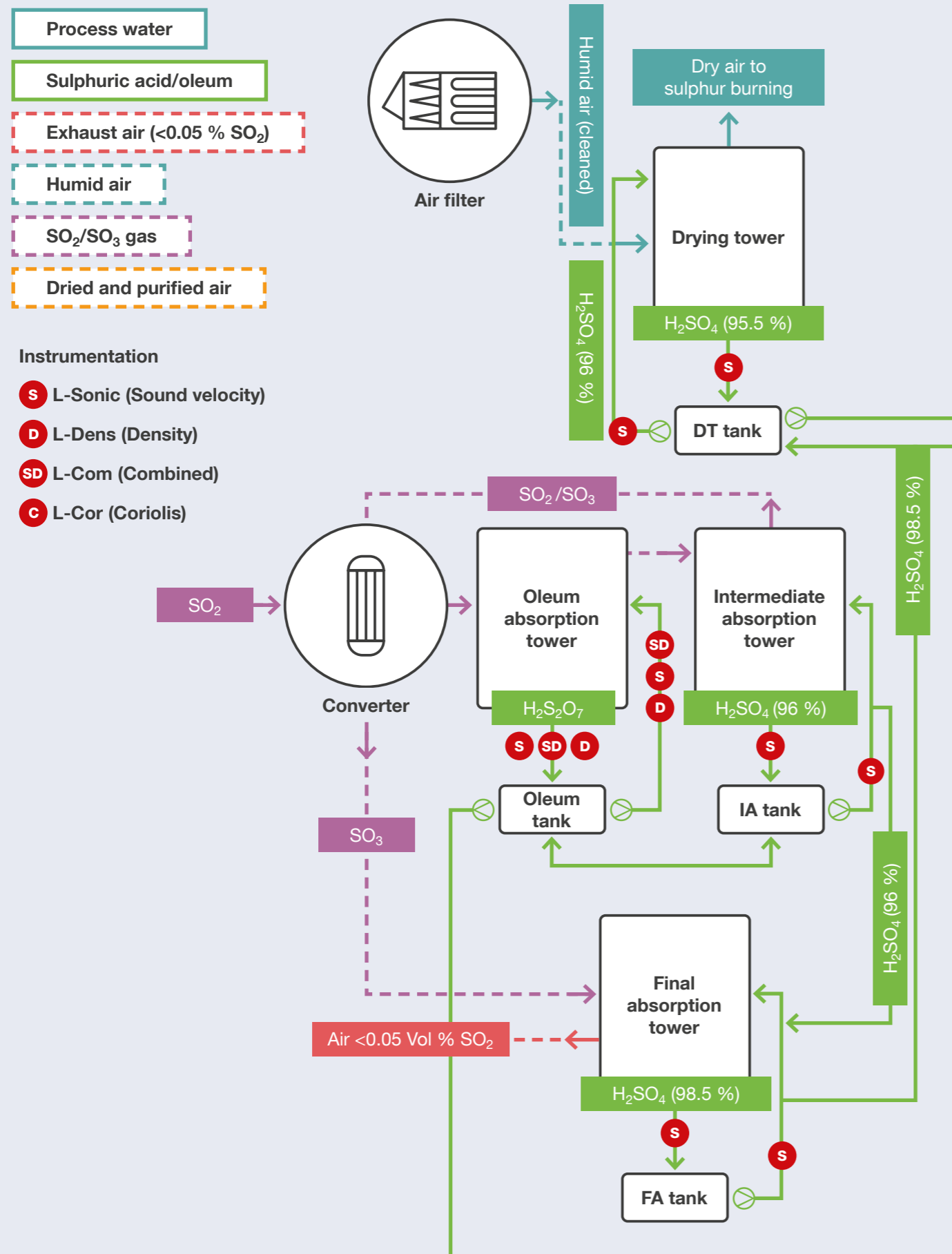
Tailor-made solutions fitting right into your plant. For L-Sonic 5100.

# Communication for Reliable Control – Ready to Integrate

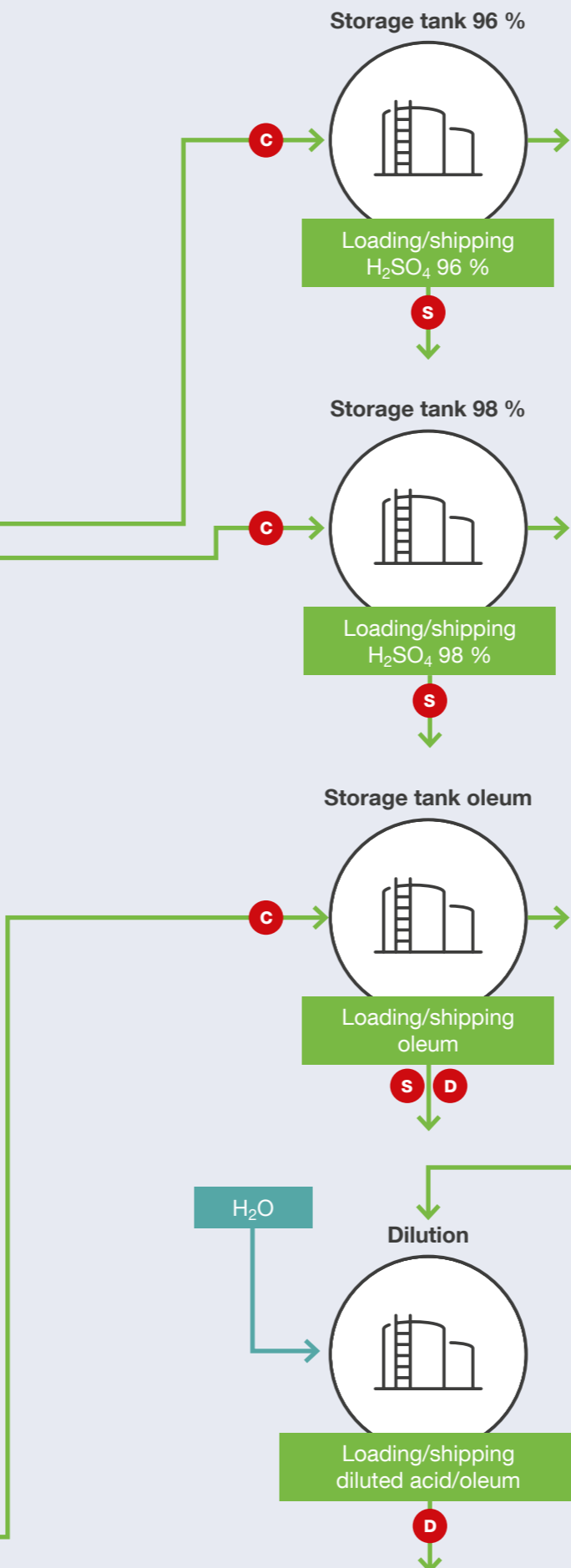
Designed for continuous operation in industrial processes, our measurement solutions support the transition towards automation and digitalization. The high-performance transmitters and evaluation units ensure a simple and seamless integration into your process control system via analog and digital interfaces or standard fieldbus communication protocols.



## Acid section



## Storage/Dilution



# Sulphuric Acid Process

Thanks to our comprehensive portfolio of sensors and accessories, we have the right technology which can be easily installed in the right measuring position. Sulfuric acid, which stands as the most extensively produced basic chemical globally, exemplifies the critical impact of liquid properties within the selection process for an optimal measurement method. Whilst sound velocity is the dedicated technology in concentrations above 90 %, density measurement allows users to reliably assess lower concentration ranges.

### Concentration measurement

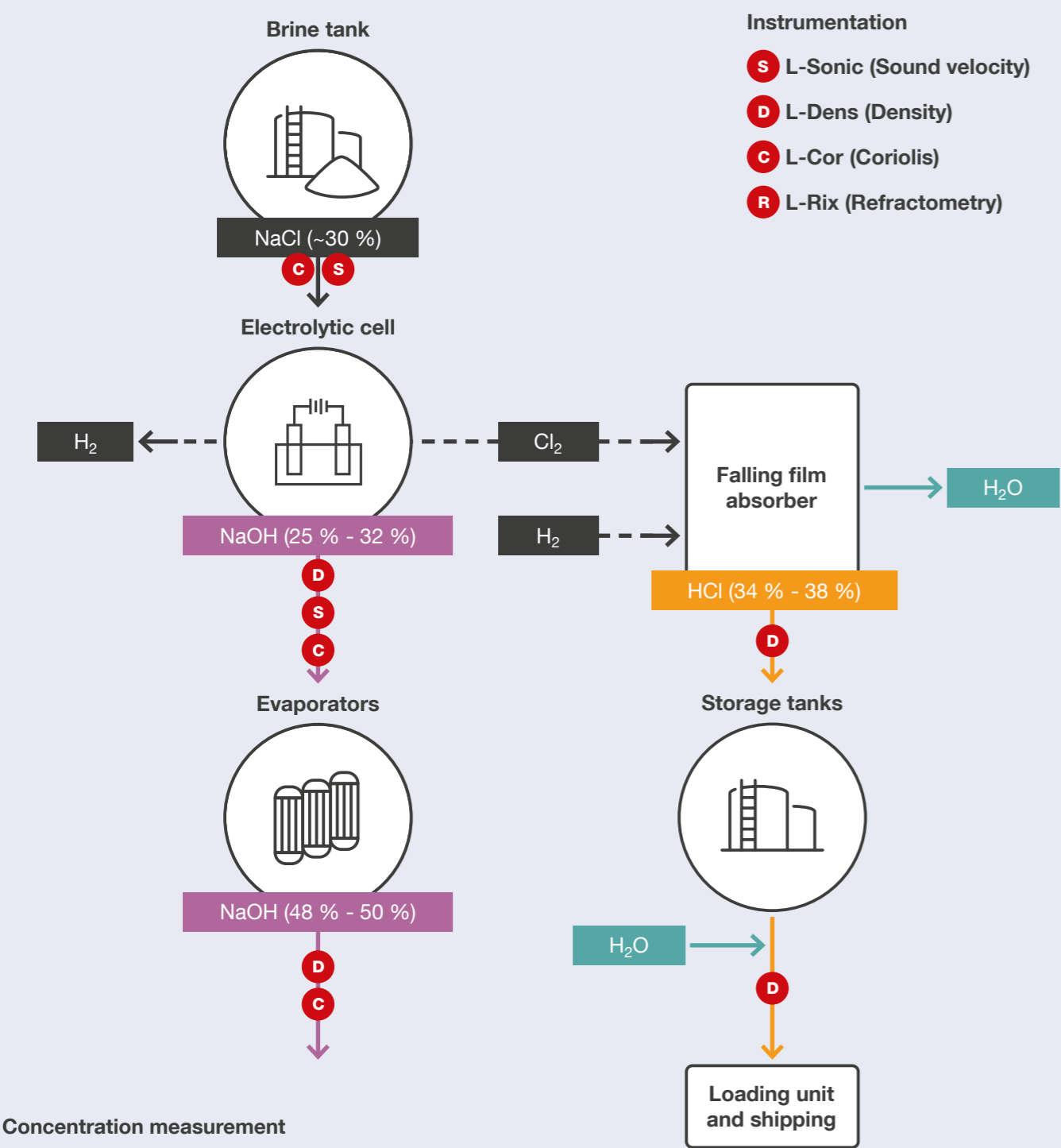
- Sulfuric acid 0 % to 90 %: L-Dens 7400 TAN
- Sulfuric acid 80 % to 100 %: L-Sonic 5100 HAS
- Oleum: L-Sonic 5100 SST/GOC, L-Dens 7400 SST, L-Com 5500

### Mass flow measurement

- Sulfuric acid 90 % to 100 % and oleum: L-Cor 8000

# Chlor-Alkali Process

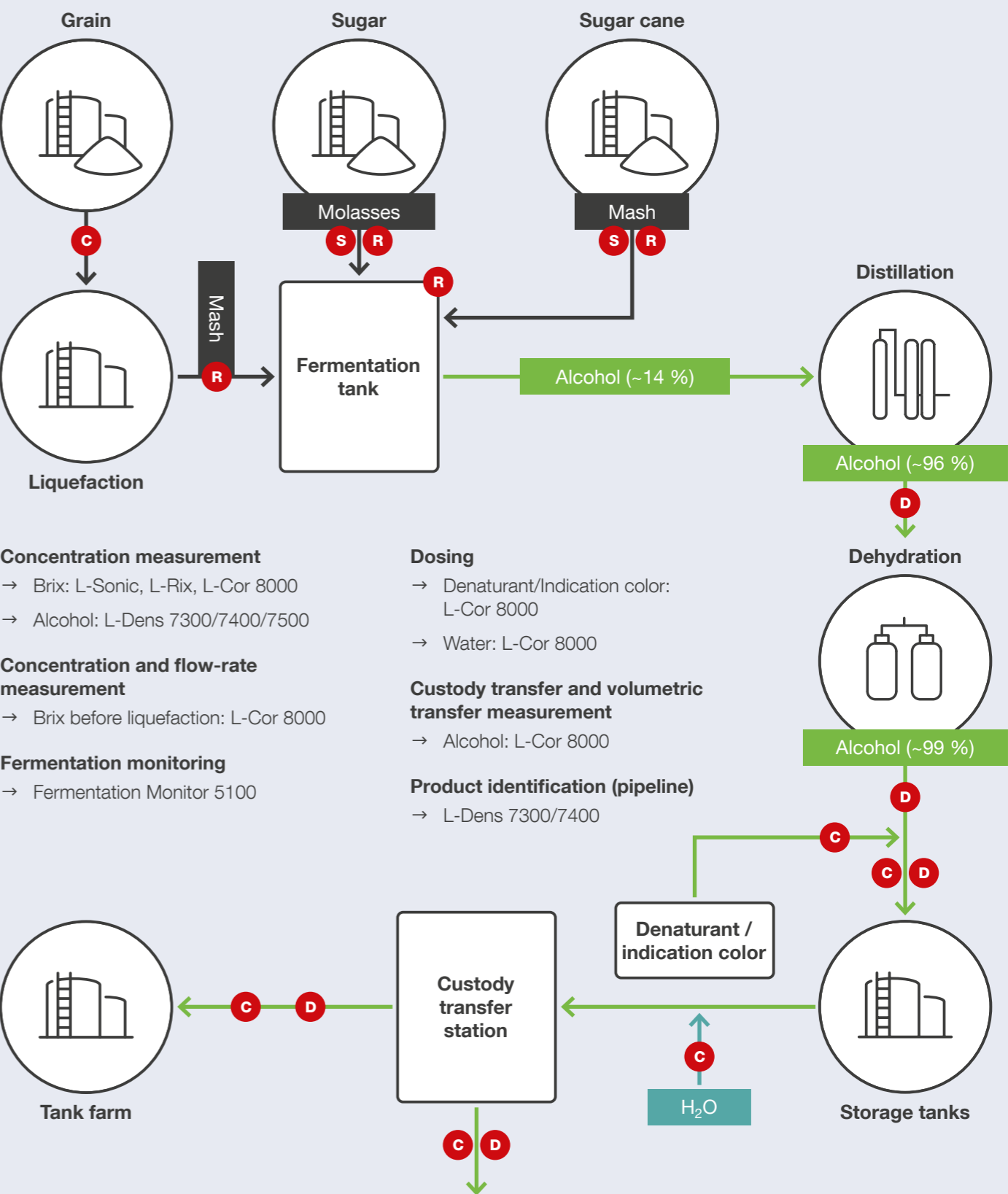
Accurate control of the required hydrochloric acid and caustic soda concentrations through the whole chlor-alkali process is important and can easily be accomplished with Anton Paar's density sensor L-Dens 7400 and sound velocity sensor L-Sonic 5100.



- Concentration measurement**
- NaCl: L-Sonic 5100 MON, L-Cor 8000
  - HCl: L-Dens 7400 TAN
  - NaOH: L-Dens 7400 INC, L-Sonic 5100 MON, L-Cor 8000

# Bio-Ethanol Process

Enhancing efficiency, quality, and compliance in production by precise monitoring during liquification, fermentation, distillation, and purification.



# Process Monitors

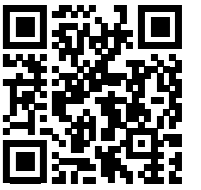
Process sensors from Anton Paar are integrated into countless applications for inline concentration measurement, product identification, phase detection, and quality checks:

- Acetic acid
- Ammonium nitrate
- Citric acid
- DMF and DMAc
- Ethanol
- Hydrocarbons
- Hydrochloric acid
- Hydrogen peroxide
- Methanol
- Nitric acid
- NMP
- Oleum
- Phosphoric acid
- Potassium hydroxide
- Sodium chloride
- Sodium hydroxide
- Sulfamic acid
- Sulphuric acid
- Urea
- ... and many more.



# Reliable. Compliant. Qualified.

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Our well-trained and certified technicians are ready to keep your instrument running smoothly.



#### Maximum uptime

Regardless of how intensively you use your instrument, we help you keep your device in perfect shape and safeguard your investment. For at least 10 years after the discontinuation of a device, we'll provide you with any service and spare part that you might need.



#### Warranty program

We're confident in the high quality of our instruments. That's why we provide a full 3-year warranty. Just make sure to follow the relevant maintenance schedule. You can also extend your instrument's warranty beyond its expiration date.



#### Short response times

We know that sometimes it's urgent. That's why we provide a response to your inquiry within 24 hours. We give you straightforward help from great people, not from bots.



#### A global service network

Our large service network for customers spans 86 locations with more than 600 certified service technicians. Wherever you're located, there's always an Anton Paar service technician nearby.

