

# Density and Concentration Meters

DMA: Portable and Benchtop



# The DMA: Always Superior

Invented as the world's first digital density meter, the DMA has hundreds of thousands of satisfied customers – in the field, on the production floor performing high-throughput QC, and driving precision R&D. Modularity and multiparameter analysis empower individuality. It is built to operate flawlessly even in challenging conditions where other instruments fail. And its borosilicate glass measuring cell is handcrafted – by us.

We're the market leaders, but we don't stand still.

For you, we always lead the way.

The DMA: Always superior.

Density accuracy:  
0.000005 g/cm<sup>3</sup>

-10 °C to  
+200 °C and up  
to 1,400 bar

ISO 17025- and  
17034-certified

Compliant with  
ASTM, ISO, and  
Pharmacopoeia

30+ multi-  
parameter  
instrument  
modules

20+ density  
meters

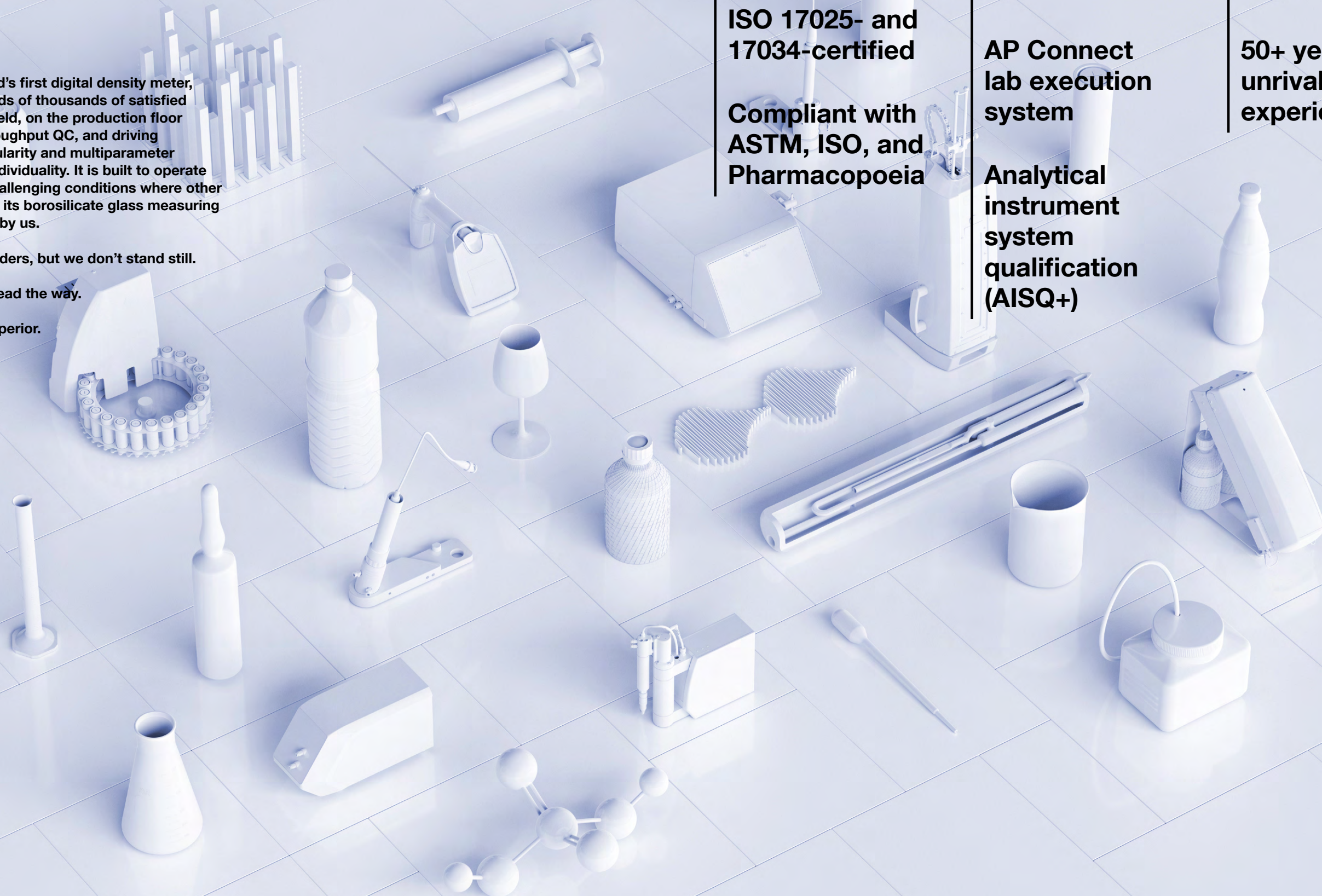
AP Connect  
lab execution  
system

Analytical  
instrument  
system  
qualification  
(AISQ+)

35+ subsidiaries  
offering local  
support

100,000+  
installations  
worldwide

50+ years of  
unrivalled  
experience



# Always-Superior Density Meters

True innovation isn't just about technology, leadership, and top features – it's about people.



## Application expertise: More than 55 years

Researchers around the world trust the DMA density meter. Quality control managers across every industry for big and small companies rely on them everywhere. They all know that more than five decades of partnership and application expertise guarantee reliable measurement.



## Perfect simplicity: 4U

One-touch measurement, automatic bubble detection, selectable industry profiles, and guided workflows – the simplicity of perfection.

1. U-Tube: Best-in-class sensors
2. U-View™: Automatic sample monitoring via camera
3. U-Dry: Simple drying of the density cell
4. U-Pulse: Patented Pulsed Excitation Method



## Accuracy: 0.000005 g/cm<sup>3</sup>

The superior accuracy of the DMA density meters ranges from three to six digits and provides best-in-class performance. Backed by the precision of Anton Paar's hydrostatic balance and unaffected by the surrounding environment, including altitude and temperature, or by the nature of the sample itself (e.g., viscosity), they deliver exceptional reproducibility time and time again.

## Compliance with 80+ industry standards

Whatever the industry, DMA density meters support users to meet regulatory requirements, facilitate audits, and strengthen legal protection. They deliver traceable results and full compliance with major petroleum and pharmacopeia standards. Additionally, ISO 17025-accredited calibration and ISO 17034-certified reference materials ensure peace of mind.



## 85+ service stations and a 3-year warranty

Our instruments are famously durable, but if support is required, a global service network expert responds within 24 hours – speaking the local language. Every time a new instrument generation is launched, spare parts for predecessor instruments are guaranteed for at least 10 years.



## ISO 17025 and ISO 17034 certification

Rely on a unique combination of minimal measuring uncertainty – built on reference to Anton Paar's hydrostatic balance – and continuous monitoring via ISO 17034 accreditation. This ensures measurements are always of the highest quality.



# Glass Oscillator Pioneers: Predicting Tomorrow

U-Pulse technology: The trusted Pulsed Excitation Method delivers unmatched performance and sets new standards in density measurement.

Accuracy:  
0.000005 g/cm<sup>3</sup>

U-Pulse  
technology:  
Patented Pulsed  
Excitation Method

Reference  
oscillator: Drift-  
free measurement

Gold-coated  
borosilicate glass

Minimal sample  
volume: 1 mL

Direct-contact  
platinum-resistant  
temperature  
measurement

Filled with  
noble gas for  
temperature  
equilibrium in just  
seconds

Robust,  
lightweight, and  
portable option

Two-step  
simplicity:  
Fill, result

Excellent chemical  
compatibility

# Powering Potential



Market  
Leader



## DMA 35 Standard, DMA 35 Ex, DMA 35 Ex Petrol, DMA 35 Ampere Portable density meter

- Accuracy: 0.001 g/cm<sup>3</sup>
- Results from a 2 mL sample in seconds
- One device to replace all glass hydrometers and pycnometers in the workplace
- Fast sample processing with an RFID interface and Bluetooth® capability
- Fermentation monitoring including visualization
- Intrinsically safe device
- Lightweight
- No active temperature control required



## DMA 502, DMA 1002 Advanced 3- and 4-digit density meters

- Accuracy:  
DMA 502: 0.001 g/cm<sup>3</sup>  
DMA 1002: 0.0001 g/cm<sup>3</sup>
- U-Pulse, U-View™, FillingCheck™
- One-touch measurement
- Filling support via Xsample 200 or a funnel
- Equipped with more than 140 concentration tables
- Rugged, splash-proof design for the toughest conditions



## DMA 1002 Petro, DMA 1102 Petro Compact benchtop density meter

- Accuracy: 0.0001 g/cm<sup>3</sup>
- Designed for the petrochemical industry
- High sample throughput via the Simple Fill funnel
- Compliant with ASTM standards
- Rapid change of measurement temperature
- Automated rinsing and drying
- Battery-powered operation



Top  
Seller  
DMA 5002



## DMA 4002, DMA 5002, DMA 6002 Modular benchtop density meter

- Accuracy:  
DMA 4002: 0.00005 g/cm<sup>3</sup>  
DMA 5002: 0.00001 g/cm<sup>3</sup>  
DMA 6002: 0.000005 g/cm<sup>3</sup>
- U-Pulse, U-Dry, U-View™
- One-touch measurement
- Status light and syringe illumination
- Modular extensions available
- Full automation via Xsample series
- Results with four-digit accuracy in 20 seconds



## DMA 6002 Sound Velocity Combined density and sound velocity meter

- Accuracy:  
Density: 0.000005 g/cm<sup>3</sup>
- Repeatability:  
Sound velocity: 0.1 m/s
- U-Pulse, U-Dry, U-View™
- One-touch measurement
- Syringe and status light
- Modular extendable
- Full automation via Xsample series



## DMA 4200 M, DMA HPM High-pressure and high-temperature density meters

- Accuracy: 0.0002 g/cm<sup>3</sup>
- Density measurement under extreme conditions
- Measurement temperature up to 200 °C
- Operating pressure up to 1,400 bar
- Hastelloy C-276 U-Tube

### Applications

Beverages  
Fermentation monitoring  
Lead battery acid determination  
On-site petrochemical analysis  
Chemicals

Beverages  
Pastes/creams  
Pharmaceuticals  
Petrochemicals  
Chemicals

Petrochemicals

### Applications

Beverages  
Pharmaceuticals  
Petrochemicals  
Chemicals  
Flavors and fragrances

Soft drinks  
Sulfuric acid and oleum range  
Formaldehyde/methanol/water  
Two- and three-component solutions  
Compressibility analysis  
R&D applications

Petrochemicals  
PVT analysis of crude oil  
Enhanced oil recovery (EOR) experiments  
Chemicals  
R&D applications

DMA 35 Standard, DMA 35 Ex, DMA 35 Ex Petrol, DMA 35 Ampere

# Measure Everything, Everywhere

**The DMA 35: Instant measurements, everywhere – from tank trucks and wine cellars, to submarines and hazardous areas. Just 2 mL of sample is directly filled at up to 100 °C using the built-in pump. Results are there in seconds.**



#### Speed + ease of use

- No temperature equilibrium requirement, due to automatic temperature compensation
- Consistency in every concentration measured
- Gesture control: One-handed measurements
- Filling in seconds with rugged built-in hand pump

#### Certified + built to last

- ATEX- and IECEx-certified: Safe measurements in hazardous areas
- Durable, compliant design for flammable samples, explosive atmospheres, and petroleum industry applications
- IP54 protection
- Robust hard-glass display
- Rubber-protected measuring cell: Long-lasting performance in harsh industrial and field conditions
- Replacement of all glass hydrometers in the workplace, with retention of expected accuracy

#### Connectivity + data management

- Up to 1,200 data points storable and exportable via Bluetooth® for secure, traceable handling
- AP Connect lab execution system, centralizing data from multiple devices
- State-of-the-art connectivity via Bluetooth® and RFID

DMA 35

Market Leader

Density accuracy  
**0.001 g/cm<sup>3</sup>**

Temperature range  
**0 °C to 40 °C**



DMA 502, DMA 1002

# Tough Samples, Simple Solutions

The DMA 502 and DMA 1002 are consistent achievers. Specifically designed for heavy-duty industrial workspaces, they are splash-proof and protected from sample spills. Samples are filled via syringe, Xsample 200, or the filling funnel.



DMA 502

Density accuracy  
**0.001 g/cm<sup>3</sup>**

Temperature range  
**15 °C to 40 °C**

DMA 1002

Density accuracy  
**0.0001 g/cm<sup>3</sup>**

Temperature range  
**15 °C to 60 °C**

## Intelligent support

- One-touch measurement: Measure at the push of a button
- Guided user workflows
- U-Pulse: 2x better viscosity correction
- Condition monitoring
- FillingCheck™ and U-View™: Monitoring of the quality of filling, alert delivery, and storage of a complete image for later verification

## Maximum convenience

- Air boost: Saves up to 20 % of drying time
- Syringe holder: Adaptable for vertical or forward-facing installation enables ergonomic filling
- Splash-proof design: Protected from sample spills
- Compatible with syringe, Xsample 200, or filling funnel

## Network and data

- Data export after every measurement via network file share or USB
- Compatible with AP Connect, Anton Paar's lab execution system



DMA 1002 Petro, DMA 1102 Petro

# The Fastest Petro Density Meter

The DMA 1002 Petro and DMA 1102 Petro offer ASTM-compliant density measurement with a portable device – in the lab or at a remote location. Both instruments deliver fast, precise density results, while the DMA 1102 Petro provides essential information on the viscosity of the same sample.

DMA 1002 Petro

Density accuracy  
**0.0001 g/cm<sup>3</sup>**

Temperature range  
**15 °C to 100 °C**

DMA 1102 Petro

Density accuracy  
**0.0001 g/cm<sup>3</sup>**

Temperature range  
**15 °C to 100 °C**

Viscosity  
**0.3 mm<sup>2</sup>/s to 1,000 mm<sup>2</sup>/s**



## Compliance

- Measurement of ASTM D4052- and ISO 12185-compliant density to safeguard product properties and ensure successful quality control and trade.

## Density and viscosity

- Simultaneous density and viscosity measurement saving time and maintenance
- Determination of essential parameters for petroleum samples (e.g., API gravity, °API for crude oil classification)

## Automated filling and rinsing

- Sample is poured directly into the funnel for analysis
- Automatic cleaning and drying with an integrated air pump

## Portability

- Portable device for unlimited flexibility in the workplace
- Battery-powered operation

## Network and data

- Compatible with AP Connect, Anton Paar's lab execution system



DMA 4002, DMA 5002, DMA 6002

# Best-in-Class Performance

The state-of-the-art DMA 4002, DMA 5002, and DMA 6002 density meters, equipped with automated functions, deliver unparalleled precision and reliability. Via 30+ modules, they can be expanded into measurement systems.

## The DMA: Always superior

- Four-digit accuracy in 20 seconds
- U-Pulse: Patented Pulsed Excitation Method ensures market-leading precision, repeatability, and reproducibility
- Storage for 10,000 measurements
- Ultra-fast measurement mode boosts productivity
- Instant pass/fail QC decisions via definition of limits for different samples
- Full compliance with industry standards
- Up to six-digit accuracy
- Instruments and documentation approved for regulated markets

## The power of multiparameter analysis

- Connection of the instrument to various Anton Paar measuring modules for a comprehensive measurement system
- All relevant QC parameters from one sample
- Measurement of up to seven parameters at once
- Increased efficiency, productivity, and safety with automated sample changers
- Measurement throughput boost and automation of cleaning routines with Xsample 370

## Simplified workflows

- One-touch measurement: Measure at the push of a button
- U-Dry: Effortless drying with a simple hand gesture
- FillingCheck™: Detection of microbubbles in seconds
- U-View™: Zoomable image of the measuring cell
- Automatic compensation of temperature effects due to ThermoBalance™
- Guided user workflows
- Compatible with the AP Connect, Anton Paar's lab execution system
- Status light and syringe illumination

Market Leader

### DMA 4002

Density accuracy  
**0.00005 g/cm<sup>3</sup>**

Temperature range  
**0 °C to 100 °C**

### DMA 5002

Density accuracy  
**0.00001 g/cm<sup>3</sup>**

Temperature range  
**0 °C to 100 °C**

### DMA 6002

Density accuracy  
**0.000005 g/cm<sup>3</sup>**

Temperature range  
**0 °C to 100 °C**



DMA 6002 Sound Velocity

DMA 4200 M

DMA HPM

# Superior Instruments, for the Toughest Applications

Each of these instruments is built for challenging conditions. Each is unique on the market. Whether it's solutions for density analysis up to 200 °C and 1,400 bar or combined density and sound velocity measurement, these superior devices perform.

DMA 6002 Sound Velocity

Density accuracy  
**0.000005 g/cm<sup>3</sup>**

Temperature range  
**0 °C to 100 °C**

Sound velocity repeatability  
**0.1 m/s**

- Density and sound velocity measurement combined in just one instrument: Best-in-class measurement performance
- Determines the concentration of two- and three-component solutions
- Two industry-specific profiles: “Beverages” and “Chemicals”
- One-touch measurement: Measure at the push of a button
- Power features: U-Pulse, U-Dry, U-View™, FillingCheck™, status light, and syringe illumination
- Automation: A broad variety of sample handling systems and sample changers covering automatic filling only, all the way to fully automated filling, measurement, and rinsing

DMA 4200 M

Density accuracy  
**0.0002 g/cm<sup>3</sup>**

Temperature range  
**-10 °C to +200 °C**

Pressure range  
**0 bar to 500 bar**

- Highly specialized: A must-have for petroleum refinery labs, specially designed for heavy samples
- Measure at up to 500 bar: Determine density-pressure relations for every single pressure step; easily connect external pressure sensors and obtain pressure readings automatically
- Up to 200 °C – automatically set: The Peltier-controlled density cell enables analysis of samples over the entire temperature range
- Adapted to your needs: Suitable for a wide range of samples – from gases to LPG and heavy petrochemical samples

DMA HPM

Density accuracy  
**0.0001 g/cm<sup>3</sup>**

Temperature range  
**-10 °C to +200 °C**

Pressure range  
**0 bar to 1,400 bar**

- External measuring cell is operable in glove boxes or in fully assembled racks
- Suitable for extreme pressure: Equally suited to research and petrochemical labs, with density analysis of samples at pressures up to 1,400 bar
- The smallest sample volumes: Requires just 2 mL of sample per analysis



# Exceptional Operating Software

The intelligent instrument guides users through the measurement, while U-View™ and FillingCheck™ detect air bubbles and document them automatically.



## Ready for regulated markets: An instrument that thinks

**The software offers more than 140 conversion tables.** Along with the operating systems, it also offers industry-specific profiles, and 30+ guided user workflows.

**Smart features maximize efficiency.** The new, automatic algorithm-driven FillingCheck™ enables fast sample throughput, industry profile customization, quick sample diagnostics, and reliable single measurements. The automated setup for the industry-specific user interface delivers an out-of-the-box measuring experience.

**The AP Connect lab execution system optimizes safety, compliance, and paperless efficiency.** It streamlines instrument data workflows in laboratories by providing seamless, efficient data management and integration for instruments. This ensures accuracy, data safety, compliance, and paperless efficiency in a centralized digital hub, which helps improve data quality and reduces overhead costs. The AP Connect Instrument Adapter enables connection to 70+ AP instruments as well as instruments from other vendors. A unified interface to a LIMS can be created and data can be accessed from across the company network.

**Compliance with ASTM standards ASTM D4052, D5002, D1250, ISO 12815 petroleum standards, and all relevant pharmacopeias is assured.** All major data integrity and traceability standards (e.g., 21 CFR Part 11) are included. Results are traceable to the International System of Units (SI) with ISO 17025 calibration from the accredited Anton Paar lab. Use of the Anton Paar ISO 17034-certified reference material for density ensures perfect calibration of the instrument.



# Measurement System

Lovis 2001

Viscosity

Included in  
DMA 6002 Sound Velocity

Sound velocity

Option color for Alcolyzer

Lovibond PFXi 195

Color

Xsample 630

Xsample 610

Xsample 530

Xsample 520

Xsample 370

Xsample 340

Xsample 330

Xsample 320

Sample changer

Abbemat 7201

Abbemat 7001

Abbemat 5201

Abbemat 5101

Abbemat 5001

Refractive index

MCP 150

MCP 100

Optical rotation

Available options

Choose from the following options and primary instruments

- DMA 4002
- DMA 5002
- DMA 6002
- DMA 6002 Sound Velocity

Add your documentation

- IQ/OQ/PQ
- AISQ+



pH

pH 1101

pH 1201

pH 3101

pH 3201

Turbidity

Haze 3001

Haze 3001 Heavy Duty

Alcohol content

Alcolyzer 1001 Beer

Alcolyzer 3001 Spirits

Alcolyzer 3001 Sake

Alcolyzer 3001 Wine

Alcolyzer 3001 Beer

Alcolyzer 3001

CO<sub>2</sub>, O<sub>2</sub>

CarboQC ME

CarboQC 1001

Option O<sub>2</sub> for CarboQC ME / 1001

Option O<sub>2</sub> Plus for CarboQC ME / 1001

Filling Device

SFD

PFD

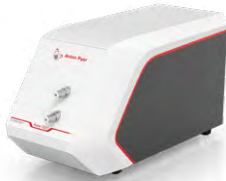
PFD Plus

Total Package Oxygen

TPO 5000

Available options

# Modular Extension

|                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                 |
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|                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                           |                                                                                                                                                                                                                                              |
| <b>Viscosity</b>                                                                                                                                                                                                                                                                                                                                                         | <b>Sound velocity</b>                                                                                                                                                                                                                                                            | <b>Color</b>                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Sample changer</b>                                                                                                                                                                                                                                                                                                                                                                     | <b>Refractive index</b>                                                                                                                                                                                                                                                                      | <b>Optical rotation</b>                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>– Viscosity measurement according to the Hoeppler principle</li> <li>– Wide temperature range (-30 °C to +100 °C)</li> <li>– Determination of the dynamic, kinematic, relative, and intrinsic viscosity of liquids</li> <li>– Capillaries available in different configurations, enabling a wide range of applications</li> </ul> | <ul style="list-style-type: none"> <li>– Sugar inversion monitoring</li> <li>– Determination of two- and three-component solutions</li> <li>– Simultaneous density and sound velocity analysis for use in the chemical and beverage industries, as well as in R&amp;D</li> </ul> | <ul style="list-style-type: none"> <li>– Full system integration of Lovibond PFXi 195</li> <li>– Simultaneous color measurement using Alcolyzer</li> <li>– Full integration of color measurement into a measurement system, enabling simultaneous color determination via a single user interface</li> <li>– Use of color measurement in the Alcolyzer system, or connection to third-party color instruments</li> </ul> | <ul style="list-style-type: none"> <li>– Full system automation for high sample throughput</li> <li>– Elimination of handling errors and automatic cleaning procedures</li> <li>– The widest range of sample changers on the market</li> <li>– From automatic sample processing to cleaning with up to three rinsing agents</li> </ul>                                                    | <ul style="list-style-type: none"> <li>– Extension of the system to include refractive index</li> <li>– Enhancement of quality control of liquids and the determination of alcohol and extract in liqueurs</li> <li>– Multiparameter analysis for a wide range of QC applications</li> </ul> | <ul style="list-style-type: none"> <li>– Integration of optical rotation to measurement system</li> <li>– Compliance with all relevant standards enables simultaneous determination of optical rotation in a measurement system</li> <li>– Product templates for beverages, pharmaceuticals, or R&amp;D applications</li> </ul> |
|                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                         |                                                                                                                                                                                                                                            |
| <b>pH</b>                                                                                                                                                                                                                                                                                                                                                                | <b>Turbidity</b>                                                                                                                                                                                                                                                                 | <b>Alcohol content</b>                                                                                                                                                                                                                                                                                                                                                                                                   | <b>CO<sub>2</sub>, O<sub>2</sub></b>                                                                                                                                                                                                                                                                                                                                                      | <b>Filling device</b>                                                                                                                                                                                                                                                                        | <b>Total Package Oxygen</b>                                                                                                                                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>– Fully guided adjustment and calibration procedures</li> <li>– pH measuring modules enabling simultaneous determination of pH and other quality parameters</li> <li>– Versatile configurations allowing pH measurements at pressures of up to 6 bar in a variety of liquids, from beverages to chemicals</li> </ul>              | <ul style="list-style-type: none"> <li>– Turbidity at angles of 0°, 25°, and 90°</li> <li>– Temperature control</li> <li>– Compliant, industry-proven ratio method for handling a wide array of products across industries such as pharmaceuticals and beverages</li> </ul>      | <ul style="list-style-type: none"> <li>– Direct alcohol determination via NIR spectroscopy</li> <li>– Selective alcohol measurement delivering accurate results for beverages like beer, wine, and spirits – no need for product-specific calibrations</li> </ul>                                                                                                                                                        | <ul style="list-style-type: none"> <li>– CO<sub>2</sub> in 55 seconds</li> <li>– CO<sub>2</sub> and O<sub>2</sub> in 90 seconds</li> <li>– Multiple-volume expansion method eliminating the influence of other dissolved gases like N<sub>2</sub> and O<sub>2</sub></li> <li>– Option O<sub>2</sub> Plus: Easily retrofitted into new or existing CarboQC ME measuring modules</li> </ul> | <ul style="list-style-type: none"> <li>– Filling from bottles and cans</li> <li>– No loss of CO<sub>2</sub> or O<sub>2</sub></li> <li>– Direct sample transfer from closed containers: Cans, glass bottles, PET bottles, or champagne bottles</li> </ul>                                     | <ul style="list-style-type: none"> <li>– TPO, headspace O<sub>2</sub>, and dissolved O<sub>2</sub></li> <li>– Automatic rinsing</li> <li>– Analysis in under four minutes</li> </ul>                                                                                                                                            |

# The Full Density Spectrum: Gas, Liquids, Solids

The density meters perform across labs and processes – from gas and liquid to semi-solid and solid, and from portable to top-notch benchtop devices. There are two techniques: the oscillating U-tube, or gas adsorption for solids and semi-solids.

| Liquids                                                                             | Semi-solids                                                                         | Solids                                                                                |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |
| DMA 35                                                                              |                                                                                     |                                                                                       |
| DMA 502, DMA 1002                                                                   |                                                                                     |                                                                                       |
| DMA 4002, DMA 5002, DMA 6002                                                        |                                                                                     |                                                                                       |
| DMA 4200 M                                                                          |                                                                                     |                                                                                       |
| L-Dens 7400                                                                         |                                                                                     | Ultrapyc 3000, Ultrapyc 5000                                                          |

# Reliable. Compliant. Qualified.



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 experienced people, not from bots.

### Global service network

Our large service network for customers spans 85+ locations with more than 600 certified service technicians. Wherever you're located, there's always an Anton Paar service technician nearby.



# Prepare for the Future

Inspired by 50+ years of experience, Anton Paar's analysis solutions anticipate future needs – so that businesses can grow.

Subsidiaries across the globe offering local support

100,000+ installations worldwide

The broadest density portfolio

Liquid, powder, or solid samples

Process instruments and software

Customized automation solutions from a single source



## AP Connect lab execution system

- Next-level lab data management in existing and new labs
- Effortless compliance with regulatory requirements
- Paperless: Elimination of transcription errors for improved accuracy
- Centralization of data from Anton Paar and third-party instruments in one digital space
- Access to, and management of, lab data anytime, anywhere



## Edge 7000 process controller

- Connection of process sensors, and display of values exactly where needed – even in the harshest environments
- A powerful process controller with state-of-the-art interfaces and CPUs, offering seamless monitoring across devices
- Cutting-edge performance with a 10.1" projective, multitouch display
- Long-term security and flexibility with a Linux-based operating system
- Platform-independent web-based management and user interface



## L-Dens series inline density sensor

- Highest accuracy of 0.0001 g/cm<sup>3</sup> for all industries
- Allrounder: Premium wetted parts, even for aggressive liquids
- Modular, compact instrument for easy integration
- Simple commissioning and operation
- No consumables, no maintenance



## ALAB 5000

- Fully automated, 24/7 operation – no downtime and maximum productivity
- Real-time, at-line measurement results of important QC parameters
- No manual sample preparation
- Designed to perform in rough production environments

|                                                | DMA 35 | DMA 502                                             | DMA 1002                                              | DMA 1002 Petro<br>DMA 1102 Petro             | DMA 4002                                              |                                                                                                                              | DMA 5002          | DMA 6002                                                            | DMA 6002<br>Sound Velocity                                                        | DMA 4200 M                                            | DMA HPM                                                          |                                                  |
|------------------------------------------------|--------|-----------------------------------------------------|-------------------------------------------------------|----------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------|
| Measuring range                                |        |                                                     |                                                       |                                              |                                                       |                                                                                                                              |                   |                                                                     |                                                                                   |                                                       |                                                                  |                                                  |
| Density                                        |        |                                                     |                                                       |                                              | 0 g/cm³ to 3 g/cm³                                    |                                                                                                                              |                   | 0 g/cm³ to 3 g/cm³                                                  |                                                                                   |                                                       |                                                                  |                                                  |
| Sound velocity                                 |        | ×                                                   | ×                                                     | ×                                            | ×                                                     |                                                                                                                              | ×                 | ×                                                                   | 1,000 m/s to 2,000 m/s                                                            | ×                                                     | ×                                                                |                                                  |
| Pressure                                       |        | Ambient                                             | Ambient to 10 bar (0 psi to 145 psi)                  |                                              | Ambient to 1 bar (0 psi to 14.5 psi)                  | Up to 50 °C (122 °F): ambient to 10 bar (ambient to 145 psi)<br>Above 50 °C (122 °F): ambient to 5 bar (ambient to 72.5 psi) |                   |                                                                     | Ambient to 8 bar (ambient to 116 psi)                                             | Ambient to 500 bar (7,250 psi)                        | Ambient to 1,400 bar (20,300 psi)                                |                                                  |
| Viscosity                                      |        | ×                                                   | ×                                                     | ×                                            | 0.3 mm²/s to 1,000 mm²/s (DMA 1102 Petro)             | ×                                                                                                                            |                   | ×                                                                   | ×                                                                                 | ×                                                     | ×                                                                |                                                  |
| Temperature                                    |        | 0 °C to 40 °C (32 °F to 104 °F)                     | 15 °C to 40 °C (59 °F to 104 °F)                      | 15 °C to 60 °C (59 °F to 140 °F)             | 15 °C to 100 °C (59 °F to 212 °F)                     | 0 °C to 100 °C (32 °F to 212 °F)                                                                                             |                   |                                                                     |                                                                                   | -10 °C to +200 °C (14 °F to 392 °F)                   |                                                                  |                                                  |
| Accuracy                                       |        |                                                     |                                                       |                                              |                                                       |                                                                                                                              |                   |                                                                     |                                                                                   |                                                       |                                                                  |                                                  |
| Density                                        |        |                                                     | 0.001 g/cm³                                           |                                              | 0.0001 g/cm³                                          |                                                                                                                              | 0.00005 g/cm³     |                                                                     | 0.00001 g/cm³ (0 g/cm³ to 1.05 g/cm³, 15 °C to 20 °C), 0.00005 g/cm³ (full range) | 0.000005 g/cm³                                        | 0.0002 g/cm³                                                     | Up to 0.0001 g/cm³                               |
| Temperature                                    |        | 0.2 °C (0.4 °F)                                     | 0.3 °C (0.5 °F)                                       | 0.03 °C (0.05 °F) <sup>1)</sup>              | 0.03 °C (0.05 °F)                                     |                                                                                                                              |                   | 0.01 °C (0.02 °F) (15 °C to 20 °C), 0.015 °C (0.03 °F) (full range) | 0.01 °C (0.02 °F)                                                                 | 0.03 °C (0.05 °F)                                     | Depends on thermostating device                                  |                                                  |
| Repeatability, s.d                             |        |                                                     |                                                       |                                              |                                                       |                                                                                                                              |                   |                                                                     |                                                                                   |                                                       |                                                                  |                                                  |
| Density                                        |        | 0.0005 g/cm³                                        | 0.0002 g/cm³                                          | 0.00005 g/cm³                                |                                                       | 0.00001 g/cm³                                                                                                                |                   | 0.000003 g/cm³                                                      | 0.000001 g/cm³                                                                    | 0.00005 g/cm³                                         | Up to 0.0001 g/cm³                                               |                                                  |
| Temperature                                    |        |                                                     | 0.1 °C (0.2 °F)                                       |                                              | 0.02 °C (0.04 °F)                                     | 0.005 °C (0.01 °F)                                                                                                           | 0.02 °C (0.04 °F) |                                                                     | 0.005 °C (0.01 °F)                                                                | 0.001 °C (0.002 °F)                                   | 0.01 °C (0.02 °F)                                                | Depends on thermostating device                  |
| Reproducibility, s.d                           |        |                                                     |                                                       |                                              |                                                       |                                                                                                                              |                   |                                                                     |                                                                                   |                                                       |                                                                  |                                                  |
| Density                                        |        | 0.0007 g/cm³                                        | 0.0004 g/cm³                                          | 0.00007 g/cm³                                | 0.0001 g/cm³                                          | 0.00005 g/cm³                                                                                                                |                   | 0.000005 g/cm³                                                      |                                                                                   | 0.0001 g/cm³                                          | ×                                                                |                                                  |
| Digital resolution                             |        |                                                     |                                                       |                                              |                                                       |                                                                                                                              |                   |                                                                     |                                                                                   |                                                       |                                                                  |                                                  |
| Density                                        |        |                                                     | 0.0001 g/cm³                                          |                                              | 0.00001 g/cm³                                         | 0.00001 g/cm³                                                                                                                | 0.00001 g/cm³     |                                                                     | 0.000005 g/cm³                                                                    | 0.000001 g/cm³                                        | 0.00001 g/cm³                                                    |                                                  |
| General                                        |        |                                                     |                                                       |                                              |                                                       |                                                                                                                              |                   |                                                                     |                                                                                   |                                                       |                                                                  |                                                  |
| Minimum sample volume                          |        | 2 mL                                                | 1 mL                                                  |                                              | 3.5 mL                                                | 1 mL                                                                                                                         |                   |                                                                     | 3.5 mL                                                                            | 2 mL                                                  |                                                                  |                                                  |
| U-Tube                                         |        |                                                     |                                                       | Borosilicate glass                           |                                                       | Metal: Inconel®                                                                                                              |                   | Borosilicate glass                                                  |                                                                                   |                                                       | Metal: Hastelloy C-276                                           |                                                  |
| U-View™                                        |        | ×                                                   | ✓                                                     | ✓                                            | ×                                                     | ✓                                                                                                                            |                   | ✓                                                                   | ✓                                                                                 | ✓                                                     | ×                                                                | ×                                                |
| FillingCheck™                                  |        | ×                                                   | ✓                                                     | ✓                                            | ×                                                     | ✓                                                                                                                            |                   | ✓                                                                   | ✓                                                                                 | ✓                                                     | ✓                                                                | ×                                                |
| ThermoBalance™                                 |        | ×                                                   | ×                                                     | ×                                            | ×                                                     | ✓                                                                                                                            |                   | ✓                                                                   | ✓                                                                                 | ✓                                                     | ×                                                                | ×                                                |
| Full range viscosity correction 0-30.000 mPa·s |        | Up to 1,000 mPa·s                                   | ✓                                                     | ✓                                            | ✓                                                     | ✓                                                                                                                            |                   | ✓                                                                   | ✓                                                                                 | ✓                                                     | ✓ (at ambient pressure)                                          | ×                                                |
| Dimensions L x W x H                           |        | 245 mm x 103 mm x 126 mm (9.5 in x 4.1 in x 5.0 in) | 375 mm x 280 mm x 180 mm (14.8 in x 11.0 in x 7.0 in) |                                              | 365 mm x 265 mm x 180 mm (14.4 in x 10.5 in x 7.1 in) | 526 mm x 347 mm x 230 mm (20.7 in x 13.7 in x 9 in)                                                                          |                   |                                                                     |                                                                                   | 510 mm x 330 mm x 230 mm (20.1 in x 13.0 in x 9.1 in) | 210 mm x 78 mm x 86 mm (8.3 in x 3.1 in x 3.4 in)                |                                                  |
| Data memory: Internal storage results          |        | 1,200 datasets                                      | 5,000 measurement results                             |                                              | 1,000 measurement results                             | 10,000 measurement results                                                                                                   |                   |                                                                     |                                                                                   | 1,000 measurement results                             | 30,000 measurement results                                       |                                                  |
| Weight                                         |        | 660 g (23.3 oz) to 810 g (28.6 oz)                  | 13.5 kg (29.8 lbs)                                    |                                              | 6.6 kg (14.55 lbs)                                    | 22.04 kg (48.6 lbs)                                                                                                          |                   | 22.04 kg (48.6 lbs)                                                 | 22.6 kg (49.8 lbs)                                                                | 27.7 kg (61.1 lbs)                                    | 8.3 kg (18.3 lbs)                                                |                                                  |
| AP Connect <sup>2)</sup>                       |        | ✓                                                   | ✓                                                     | ✓                                            | ✓                                                     | ✓                                                                                                                            |                   | ✓                                                                   | ✓                                                                                 | ✓                                                     | ×                                                                | ×                                                |
| Communication interfaces                       |        | Bluetooth®, RFID                                    | 1 x Ethernet, 3 x USB, 1 x RS232                      |                                              | 4 x USB (3 x A, 1 x B)                                | 5 x USB, Ethernet, CAN, RS232                                                                                                |                   | 5 x USB, Ethernet, CAN, RS232                                       |                                                                                   |                                                       | 4 x USB (2.0 full speed) 1 x Ethernet (100 Mbit) CAN, RS232, VGA | Refer to documentation of mPDS 5 Evaluation Unit |
| Standards                                      |        |                                                     |                                                       |                                              |                                                       |                                                                                                                              |                   |                                                                     |                                                                                   |                                                       |                                                                  |                                                  |
| ASTM standards                                 |        | D7777                                               | ×                                                     | D4052, D5002                                 | D4052                                                 | D4052, D5002                                                                                                                 |                   | D4052, D5002                                                        | D4052, D5002                                                                      | D4052, D5002 Only applies to density                  | D4052, D5002, D8188                                              | ×                                                |
| ISO standards                                  |        | ISO 15212-1                                         | ×                                                     | ISO 12185                                    | ISO 12185, ISO 23581, EN 16896                        | ISO 12185                                                                                                                    |                   | ISO 12185                                                           | ISO 12185                                                                         | ISO 12185 Only applies to density                     | ISO 12185                                                        | ×                                                |
| Pharmacopoeia EUP, US, JP, CH                  |        | ×                                                   | CH 0601                                               | Ph. Eur. 2.2.5, USP 841, JP 17 2.56, CH 0601 | ×                                                     | Ph. Eur. 2.2.5, USP 841, JP 17 2.56, CH 0601                                                                                 |                   | Ph. Eur. 2.2.5, USP 841, JP 17 2.56, CH 0601                        | Ph. Eur. 2.2.5, USP 841, JP 17 2.56, CH 0601                                      | ×                                                     | ×                                                                | ×                                                |

Trademarks: PEM (017985525), U-View (006834791), FillingCheck (006834725), Thermobalance (006835094)

1) At ±2 °C ambient conditions, compared to ambient conditions during adjustment  
2) Microsoft Windows Home Editions are not supported

