

Densito – the hand-held density pro

Whether you check the purity of water or the quality of salad oil: Densito always shows the result within seconds – directly in the measurement units you want to use. Using the oscillating tube method combined with precise temperature measurement and an elegant user interface, Densito gives you reliable measurement results, easily – just immerse the sampling tube, pull the trigger and read the final result!



Density:
Absolute and relative

The density of the sample can be displayed in g/cm³, lb/gal (US) and lb/gal (IP). The specific gravity is calculated using the density of water at the measurement temperature or at any other temperature (e.g. 20 °C or 4 °C).



Batteries:
Effortless acid test



Densito performs battery acid tests without need of a calculator or lookup table. It displays the sulphuric acid concentration directly in weight%.

Food:
The sugar expert



Brix%, °Baumé or °Plato: Densito determines whichever you want.

Petroleum products:
API compliant measurements



The built-in API tables (product groups A, B and D) make Densito the ideal choice for quality control of crude oil, gasoline, petroleum products and lubricants.

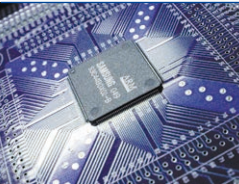
Custom applications:
Define your own calculations

If you need concentration determinations such as heavy Baumé grades, light Baumé grades, Twadell grades or milk grades, you can teach Densito the necessary calculation formula.

PortableLab™ – Lab power in your hands! Densito is delivered in a special case that contains everything you need for successful measurements: Pipettes for sample handling, cleaning towels, density standards, flasks for samples and cleaning solutions, operating instructions and a CD-ROM with data transmission software, a tutorial to get started and more.



Electroplating and photo:
Automatic temperature compensation



Temperature compensation is the key to fast and reliable control of electroplating or photographic solutions. With Densito, the procedure is very simple – just choose the sample type and perform the measurement. It is an easy matter to check different solutions one after another, quickly.

Alcohol:
Replaces 4 sets of hydrometers



Densito replaces 4 complete sets of hydrometers (w/w%, v/v%, US proof, UK proof) and gives you accurate results in record time!

PortableLab™

Functional design

Temperature compensation

In order to perform accurate density measurements, the result must be corrected for sample temperature. Densito not only measures the sample temperature very accurately, it also lets you choose a temperature correction coefficient before each measurement. This makes it easy to quickly measure many different types of samples.

Plain language display

The backlit dot matrix display shows the results in large digits and offers a plain language and easy-to-navigate user interface.

User guidance

Thanks to the pictogram-labeled keys, Densito is easy to learn and use.

Controlled sampling

With Densito, the sampling speed can be adjusted to the task at hand: Slow for viscous samples to avoid the formation of air bubbles or very fast for efficient rinsing of the cell. Ergonomic sampling for left-handed and right-handed users.

Clearly visible measurement cell

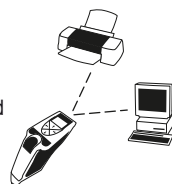
The most common reasons for bad results are air bubbles or impurities in the measurement cell. Densito's cell is clearly visible at all times. Potential problems are apparent at once.

External sampling

Sampling can be difficult with samples of very high viscosity or samples that degas easily. In cases like this, Densito lets you connect an external syringe.

Save and transfer your data whenever you want

Densito saves up to 1100 results including sample identification, measurement unit, temperature correction coefficient, instrument identification, date and time. You can transfer the data to a PC and printer any time using the infrared interface. The PC software to do this comes with the instrument.



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Specifications Densito 30PX

Measurement principle: Density measurement using the oscillating tube method • **Measurement range:** 0 to 2 g/cm³, Resolution: 0.0001 g/cm³ • **Accuracy:** ± 0.001 g/cm³ • **Measurement units:** Density, specific gravity, temperature compensated density, temperature compensated specific gravity, Brix%, alcohol (w/w%, v/v%, US proof and UK proof), °Baumé, °Plato, API (tables A, B and D), % sulphuric acid (w/w%), user defined units • **Temperature:** measurement range: 0 – 40 °C, resolution 0.1 °C, display: °C or °F • **Ambient temperature range:** 5 °C – 35 °C • **Temperature compensation:** Automatic (Brix%, alcohol, °Plato, API, % sulphuric acid) or by using a user-defined temperature correction coefficient. Up to 10 temperature compensation coefficients can be stored in the instrument. • **Calibration:** With dry air or pure water (supplied) or other density standards • **Data memory:** Capacity for up to 1100 results (measured value, sample identification, temperature compensation coefficient, date and time) • **Display:** Backlit LCD matrix • **Interface:** Infrared Interface for data transfer to printer and PC, IrDA or RS232C protocol • **Weight:** approx. 360 g • **Batteries:** 2 x LR3 1.5 V batteries. Type AAA, approx. 90 hours battery life • **Materials:** Measurement cell: Borosilicate glass. Housing: PBT and PET; Sampling pump: PP and PTFE; Materials with sample contact: PTFE, PPS, borosilicate glass and PP.

PortableLab™



Refracto 30GS
portable
high-end
refractometer

www.mt.com/refracto



Refracto 30PX
portable
refractometer

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Densito 30PX
portable
density meter

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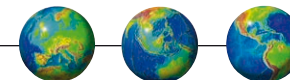


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Densito 30PX

Density meter



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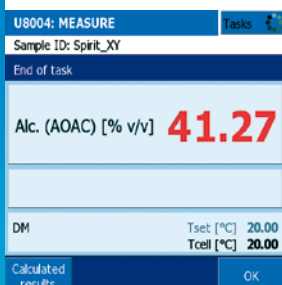
PortableLab™

One Click® Density Measurement with Built-in Quality Control



One Click® operation

Measure your products with One Click! The color touchscreen allows quick, simple and direct access to all routine tasks utilizing shortcut buttons to start routine tasks immediately. Every operator has a personalized home screen with shortcuts and his own operation language.



Immediate QC results

For each product lower and upper result limits can be defined. Measured products are automatically verified with the limits, and the color of the result(s) indicates if specifications are met: black = passed, red = failed. Results can be displayed in density, specific gravity, %Alcohol, Brix, API or user-defined concentrations.



Smart error detection

Most measuring errors due to air bubbles, remaining rinsing liquids and faulty adjustments are eliminated due to comprehensive test and error detection capabilities, such as the Bubble Check™, automatic multiple measurement with evaluation and automatic cell test.



Modular system

Multiple parameters with One Click: a stand-alone DM Density Meter can be easily customized and upgraded to measure several parameters simultaneously (density, refractive index, pH/conductivity and color). Sampling, cleaning and drying of the whole system is done completely automatically with the powerful SC automation units.



LiquiPhysics™ Excellence

The straight way to reliable results

- Product database: no methods to select and no results to judge – just One Click on the product shortcut
- Automatic error detection
- Powerful automation even for viscous and difficult samples (e.g. honey, paraffin)
- Tailored measuring procedures even for very particular needs thanks to flexible method structure, conditions, formula editor and user tables
- Full SOP user guidance
- Simultaneous determination of refractive index, density, pH/conductivity and color
- Advanced user management including biometric instrument protection
- LabX® PC Software: ERP/LIMS connectivity, result database, customized reports, secure traceability and 21 CFR 11 support

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Specifications

	DM40	DM45 DeltaRange™	DM50
Measuring range	0–3 g/cm³	0–3 g/cm³	0–3 g/cm³
Resolution	0.0001 g/cm³	0.00001 g/cm³	0.00001 g/cm³
Repeatability (S.D. n = 10)	0.00005 g/cm³ 0.03 °Brix 0.1% v/v Alcohol	0.000005 g/cm³ 0.015 °Brix 0.01% v/v Alcohol	0.000005 g/cm³ 0.003 °Brix 0.01% v/v Alcohol
Limit of error	0.0001 g/cm³ 0.03 °Brix 0.1% v/v Alcohol	0.00002 g/cm³ (0.7–1 g/cm³ Measuring Range) 0.00005 g/cm³ (0–3 g/cm³ Measuring Range) 0.02 °Brix 0.02% v/v Alcohol	0.00002 g/cm³ (0–1 g/cm³ Measuring Range) 0.00003 g/cm³ (1–2 g/cm³ Measuring Range) 0.006 °Brix 0.02% v/v Alcohol
Temperature range	0–91 °C	0–91 °C	0–91 °C
Limit of error temperature	0.05 °C (10–30 °C) 0.10 °C (0–91 °C)	0.02 °C (15–20 °C) 0.05 °C (0–91 °C)	0.02 °C (10–30 °C) 0.05 °C (0–91 °C)
Thermostat	2 built-in Peltier thermostats		
Viscosity correction	Yes		
Automatic error detection	Bubble Check™, verification of stored product limits, multiple measurement with definable max. S.D.		
Built-in result units / concentration tables	Specific gravity, light and heavy Baumé, Twaddell Sugar: Plato, Brix (Emmerich, NBS 113), HFCS 42/55, Invert Sugar, KMW, Oechsle, Babo Alcohol: OIML, AOAC, Proof Degree, HM C&E, Gay Lussac Petro: API degrees and gravity tables for crude oils, refined products and lubricants Up to 30 user-defined concentration tables (can be entered as tables or formulas)		
Minimal sample volume	Approx. 1.2 mL		
Materials	In contact with sample: borosilicate glass, PTFE, PP (syringe adaptor)		
Dimensions and weight	272 x 385 x 215 mm / 10.70 x 15.16 x 8.46 in (W x L x H). 13.53 kg / 29.83 lbs		
User Management			
Number of users	30 (to each user a role with different rights can be assigned)		
Languages	en, de, fr, it, es, pt, zh, ru (can be set individually for each user)		
Shortcuts	8 (individually for each user) for One Click® start of measurements, adjustments, tests etc.		
Password protection	Yes. Also biometric protection possible with LogStraight™ fingerprint reader		
Data Handling			
Printer	Compact strip printer USB P-25, lightfast paper (normal or adhesive)		
Results export	Automatic or manual export to USB stick (CSV), export to RS-232 (XML), LabX® LiquiPhysics: automatic storage in database and optional LIMS / ERP export		
Import / export	Share between instruments: Methods, Products, Tables, User Management etc.		
Automation / Pumps			
Drying pump	DryPal™ (to dry measuring cell if no SC1 or SC30 is used)		
Sampling pump	FillPal™ Food (aqueous products), FillPal™ Chem (acids, bases, solvents)		
Automation units	Fully automatic sampling, rinsing and drying of all cells and tubes Single sample: SC1, SC1H. Up to 30 samples: SC30, SC30H (H = heated version, up to 80 °C)		
Multi-parameter			
Refractive index	RX40, RX50 Refractive Index Cell Modules		
pH / conductivity	SevenCompact™ pH S220 / conductivity S230		
Color	Konica Minolta CM-5 / CR-5, Tintometer Lovibond PFXi 880/950/995		
Others	RS-232 controlled instruments: send and receive commands and results		
PC Software			
Single PC	LabX® LiquiPhysics Express (installation on a single PC, up to 3 instruments)		
Client / server	LabX® LiquiPhysics Server (installation on a client server system, up to 30 instruments)		
Other Options			
Barcode reader	Hand-held or built-in for SC30. SmartCodes™: sample data entry and automatic selection of method		
Sensors	ErgoSens: infrared optical sensor to start measurement without touching anything LevelSens: level sensor to avoid waste container spillage AtmoSens: barometric pressure sensor for accurate 5-place adjustments of DM50		
Certified standards	Water (0.99... g/cm³), dodecane (0.75...), dichlorotoluene (1.25...), bromonaphthalene (1.48...)		
Services	IPac (Initial Qualification Package): fast and easy qualification solution EQPac (Equipment Qualification Package): supports most stringent needs for regulatory compliance EduPac (Education Package): get completely familiar with the instrument		



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