

Density: quick, accurate, reliable



Accuracy up to 1×10^{-5} g/cm³

Built-in thermostat

Memory cards

Concentration measurements

Fully automatic viscosity correction

Liquid Density Standards included

www.density.com



Upgrade with Sample Changer
and Refractometer

METTLER TOLEDO

METTLER TOLEDO Density Meters: DE40, DE50 and DE51

Digital density measurement

The density of various materials is obtained by measuring the resonant frequency of a glass measurement cell filled with the sample. Fast, accurate and reproducible results may be obtained, eliminating the need for tedious, time consuming and error prone measurements, often associated with older techniques (pycnometers).

Memory cards for more flexibility

Measurement methods can be developed in a central lab and transferred to other locations by sending a duplicate of the memory card, ensuring that everyone works the same way. Measurement data can also be stored on the memory card.

«Expert» and «Routine» modes

In the «Expert» mode the lab manager defines the method parameters, how often the instrument needs to be calibrated, or how often it requires a

simple check with our traceable liquid density standards.

Once the instrument has been set up, a password will prevent any alteration by unauthorized personnel.

The «Routine» mode turns your instrument into a very simple and safe measuring device. Only the few keys required for routine measurement will be active, preventing unauthorized alterations. If calibration or check with liquid standards is required, the instrument will simply prompt you and tell you which steps you need to perform.

Control all the sampling process

The major source of error with density measurements can occur when the operator forgets to clean the measuring tube thoroughly or doesn't dry it completely: remaining sample or rinsing solution may contaminate the next sample to be measured. Our instruments feature a complete sampling

sequence, which can be programmed by the lab manager as part of the measurement method. In the routine mode, starting a measurement will automatically run the sampling pump for the correct sampling time, drain the sample after the measurement and prompt the user to set the rinsing solution and the dry air procedure. At the end of the sampling process an automatic check will ensure that the measuring cell is fully empty and completely dry. A «Check OK» statement will tell the next user that the cell is clean to run the next measurement.

Concentration measurements

Input of a concentration table permits conversion of density to the required concentration. Thus, direct concentration measurements of dissolved organic and inorganic compounds are possible. No additional computer or calculation program is required.

Specifications	DE40	DE50	DE51
Measurement range	0-3 g/cm ³	0-3 g/cm ³	0-3 g/cm ³
Accuracy	10 ⁻⁴ g/cm ³	10 ⁻⁵ g/cm ³	10 ⁻⁵ g/cm ³
Temperature control	yes (Peltier)	yes (Peltier)	yes (Peltier)
Temperature compensation	yes	yes	yes
Temperature range	4-90 °C	4-70 °C	4-70 °C
Fully automatic viscosity correction	option, by Software	no	yes
Sample volume	1.2 mL	1.2 mL	1.2 mL
Typical measuring time	50 s	60 s	60 s
Sampling pump	option	option	option
Sample changer	option	option	option
Special applications	BRIX (sugar); Alcohol conc. API (petroleum); Concentration ⁽¹⁾	BRIX (sugar); Alcohol conc. API (petroleum); Concentration ⁽¹⁾	BRIX (sugar); Alcohol conc. API (petroleum); Concentration ⁽¹⁾
Liquid density standards	5 Water	5 Water	5 Water
User methods	10 ⁽²⁾	10 ⁽²⁾	10 ⁽²⁾
Memory card	yes	yes	yes
Printer output	yes	yes	yes
PC connection	yes	yes	yes
Refractometer connection	yes, to RE40 or RE50	yes, to RE40 or RE50	yes, to RE40 or RE50

(1) Typical concentrations: Nitric acid, Sodium hydroxide; (2) Expandable to more than 100 with the memory cards.



Quality certificate ISO 9001
Quality certificate ISO 14001
Internet: <http://www.mt.com>
Worldwide service

Subject to technical changes
© 08/98 Mettler-Toledo GmbH Printed in
Switzerland 51724 983