

Automatic Titrator

Karl Fischer Moisture Titrator

► **Density/Specific Gravity Meter**

Refractometer

Thermal Measurement Instrument

Process & Environment

Density/Specific Gravity Meter

DA-650/-645/-640

Quickest measurement in 20 seconds

Minimum sample of 1 mL

Viscosity correction for high-viscosity samples

Touchscreen operation

Comes with KEM Density Standard Liquid

Equipped with sampling & dry pump

Completely ready for use

Customizable display & sound

Easy operation & maintenance-free

ASTM D 1250
 D 4052
 D 5002

ISO 12185
ISO 15212
Pharmacopoeia



KYOTO ELECTRONICS
MANUFACTURING CO., LTD.

Density/Specific Gravity Meter

DA-650/-645/-640

Uniqueness

1 Accuracy of One of the Highest in the World

Density: $\pm 2 \times 10^{-5} \text{g/cm}^3$
Repeatability: SD $5 \times 10^{-6} \text{g/cm}^3$
Temp.: $\pm 0.02^\circ\text{C}$ (10~30°C)
(DA-650 Specs)

2 Quick Measurement

Quickest measurement in 20 sec.
(When temp. is stable.)

※By standard conditions of KEM.

3 Small Sample Size

Minimum sample of 1 mL is enough.
(Manual sampling.)

4 Viscosity Correction for High-viscosity Samples

Capable of up to 30,000mPa·s.
(Manual sampling: 30,000mPa·s,
Sampling with pump: 1,000mPa·s)

5 Comes with Density Standard Liquid

KEM is the only manufacturer of density/specific gravity meters that also produces the standard liquids. Can be used to evaluate reliability.





Features

Equipped with sampling and dry pump

Hassle-free measurement. You are free from contact with samples.

Easy to check measurement cell

High brightness white LED brings much more improved visibility in the cell window.
Easy to check the measuring cell.

No air bubbles, no contamination

Introducing completely new flat-type joint for almost no air bubbles and no contamination.
Less cleaning leads to cost reduction.

One-point calibration mode

Calibration at one temperature is enough.
This mode enables measurement at temperatures with no calibration.

Convenient preprogrammed methods

Several standard methods (measurement conditions) are preprogrammed for popular samples.
No worry about hectic parameter settings.
Useful at petrochemical and food industries.

Equipped with USB & LAN ports

Easy connection to your PC through LAN.
Easy transfer of measurement data to your PC with USB flash drive (in CSV format).
Keyboard can also be connected.

| Model Name | | DA-650 | DA-645 | DA-640 |
|-------------------------------------|---------|---|---|---|
| Measurement Method | | Resonant frequency oscillation | | |
| Measurement Range | | 0 ~ 3 g/cm ³ | | |
| Measurement Temp Range | | 0 ~ 90 °C (32 ~ 194 °F) | | |
| Accuracy | Density | ±2x10 ⁻⁵ g/cm ³ | ±5x10 ⁻⁵ g/cm ³ | ±1x10 ⁻⁴ g/cm ³ |
| | | (Calibration with air and water required.) | | |
| | Temp | ±0.02 °C (±0.04 °F) | ±0.03 °C (±0.05 °F) | ±0.05 °C (±0.09 °F) |
| Repeatability | Density | SD 5x10 ⁻⁶ g/cm ³ | SD 1x10 ⁻⁵ g/cm ³ | SD 5x10 ⁻⁵ g/cm ³ |
| Minimum Sample Required | | 1) Approx. 1 mL (Syringe) | 2) Approx. 2 mL (Pump) | |
| Measurement Time | | 1) 1 to 4 mins (Manual) | 2) 2 to 10 mins (Auto) | |
| Display | | 1) 5.7-inch colour TFT LCD; 640 x 480 2) Shows density, specific gravity, oscillation frequency, temperature, concentration and other messages. | | |
| Viscosity Correction | | Yes | | |
| Sampling | | 1) Manual by syringe 2) Auto by peristaltic pump | | |
| Method | | Saves up to 100 different methods in built-in memory. | | |
| Stability | | Four modes of stability according to measurement accuracy and time. | | |
| Density Auto Correction | | 1) Saves conversion table or formula at your desired temperatures according to your samples. 2) Temperature conversion table preprogrammed according to ASTM standard for petroleum, petroleum products and lubricating oils. | | |
| Auto Conversion | | 1) Between concentration and density. 2) Between temperature and density. | | |
| Statistics | | 1) Auto or manual calculation of mean value, SD and coefficient. 2) Recalculation, data deletion. | | |
| Interfaces | | 1) LAN : x 1; Personal computer (PC) 2) USB 1.1 : x 2; USB flash drive, keyboard, barcode reader, Epson inkjet printer, Thermal Printer 3) RS-232C : x 2; Dot Matrix Printer, Auto Clean and Sampling Unit, Multiple Sample Changer | | |
| Options | | 1) Printer : DP-600, IDP-100 2) Sampling Unit, Changer : DCU-551N/H, CHD-502N/H/C 3) Software : SOFT-CAP (Data Acquisition Software) | | |
| Data I/O | | 1) USB flash drive as data storage medium. 2) Application Notes provided in USB flash drive. | | |
| Wetted Materials | | PTFE, borosilicate glass, SUS304 | | |
| Ambient Conditions | | 1) Temperature : 5 ~ 35 °C (41 ~ 95 °F) 2) Humidity : 85%RH or below (No condensation allowed.) | | |
| Power Supply | | AC 100 ~ 240V; 50/60Hz (Comes with AC adapter.) | | |
| Power Consumption | | 40W (max. 120W, min. 20W) | | |
| Dimensions | | 320 (W) x 362 (D) x 272 (H) mm (12.6 (W) x 14.3 (D) x 10.7 (H) inches) | | |
| Weight | | 18 kg (39.7 lbs) | | |
| Export Packing in Double Carton Box | | G/W 21 kg; 540 (W) x 480 (D) x 460 (H) mm (G/W 46.3 lbs; 21.3 (W) x 18.9 (D) x 18.1 (H) inches) (May vary in some cases.) | | |



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