● Optional Printer VZ-330

●Specifications	FD-720
Measurement format	Evaporation weight loss method (Heat drying and weight loss method)
Measurement object	Powder particle, liquid, paste, etc.
Sample weight	0.5~120g using selective weight sampling method
Minimum displayable units	Switch between moisture 0.01 % / 0.1 %, mass 0.001 g
Measurement range	0 %~100 % (wet base, solids), 0 %~500 % (dry base)
Reproducibility (Standard deviation)*1	Sample mass 5 g and above 0.05 % (including water content) Sample mass 10 g and above 0.02 % (including water content)
Measurement modes	Automatic halting mode Timed halting mode (with measurement times of 1~240 minutes or continuous measurement mode, with a maximum measurement time of 12 hours) High-speed drying mode (used with either automatic or timed halting mode) Low-speed drying mode (used with either automatic or timed halting mode) Stepped drying mode (5 steps) Predictive (comparative) measuring mode
Temperature range	30 ˚C~180 ˚C in 1-degree increments when using a thermistor
Display	Backlight LCD display (137 mm x 43 mm)
External output	RS-232C interface
Temperature/humidity operating range	5 ˚C~40 ˚C, maximum of 85 % RH
Heat source	Mid-infrared quartz heater (200 W x 2)
Temperature sensor	Thermistor
Power supply	AC100~120 V/220~240 V (50/60 Hz)
Power consumption	Maximum 900 W
Weight and external dimensions	Net:5.4 kg / Gross:9.5kg, 220 mm x 415 mm x 220 mm (W x D x H)
Sample dish	SUS sample dish (Diameter: 130 mm; Depth 13 mm)
Items included	2 sample dishes, 2 sample dish handlers, sample dish tray, wind shield, power cord, spoon & spatula set, 2 spare fuses (8 A), 2 packages of aluminum foil sheets (10 per package), glass fiber sheets (10 sheets), operating manual
Optional equipment	Printer (printer VZ-330, interface cable VZC-14, printer paper (10 rolls), aluminum foil sheets (500 sheets) RS-232C cable(VZC-52), GF-100 Temperature sensor testing kit Data logger software KDL-01 , Sample crusher TQ-100 Deodorizing/windproof case FW-100

*1.As per Kett's in-house stipulated measurement conditions and standard samples.

Unibloc is a trade name of Shimadzu Corporation. MS Excel is a trademark of Microsoft Corporation.

Measurable material

- Material that will not cause dangerous chemical reactions when heated.
- Material that will dry due to evaporation of water or other substance that is to be measured.

⚠ Safety precautions

- For safe operation, ensure you read the Operating Manual before use.
- Do not attempt to measure material that will cause dangerous chemical reactions on heating. Further, the tester becomes very hot, so please take precautions against burns and /or fire.

KETT ELECTRIC LABORATORY
1-8-1 Minami-Magome Ota-Ku,Tokyo 143-8507 Japan
Tel.+81-3-3776-1121 Fax.+81-3-3772-3001
URL http://www.kett.co.jp/ E-mail overseas@kett.co.jp

Requests

- For enquiries regarding this product, please contact us at the address above, or by e-mail.
- To improve the product, specifications and the external appearance may be changed without notice. In addition, please note that due to printing, the product's color may appear different from the actual article.

1303•Kett•0301•pdf

Kett
SCIENCE OF SENSING

FD-720

Infrared Moisture Determination Balance

KETT ELECTRIC LABORATORY

FD-720

Infrared Moisture Determination Balance

FD-720 can change the moisture display from normal 0.1% to high accuracy 0.01% resolution. To realize its high accuracy, the 1mg resolution balance unit is installed. The heater source is newly developed, a large 400watts Mid-wave infrared quartz heater controlled by the software for the drying process. It has "High-speed drying mode" that can reduce much of the measurement time for suitable sample materials. 10 measurement conditions can be saved in the instrument memory so that you don't have to enter the condition manually every time for each sample. The optional data logger software enables the data transfer linked with PC. The optional printer VZ-330 prints out the measurement result in a graph or numerical format.

FD-720 is designed for all quality control and testing divisions where the most accurate moisture measurement is required.

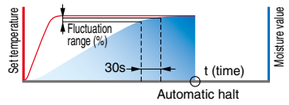
Accurate moisture measurement with new weight sensor

- Large sample dish allows even a large amount of sample to be placed evenly in a thin layer. The result is accurate and fast measurements.
- Mid-wave infrared quartz heater provides effective drying without interference for a wide range of samples. Besides the excellent drying performance, it offers a long operational life of 20,000 to 30,000 hours.
- The internal precision weighing balance is engineered with a Uni-Bloc cell. The mechanism provides excellent stability and a long operational life against repeated temperature changes.
- Digital control allows a selection of measurement modes. 10 measurement conditions can be stored for quick recall. Select one of the 9 combinations of drying and halting modes to optimize the measurement of your sample.
- Weight loss rate in the previous thirty seconds is monitored and visually presented in the bar graph display. This feature is especially useful to show that the measurement is close to completion.
- Optional Kett's unique data logger software "KDL-01" can transfer measurement data to an application such as Excel.
- A larger sample dish contributes to accurate measurements, but the larger heat capacity normally produces larger zero drift due to temperature fluctuation. The FD-720 is equipped with a unique auto-taring mechanism, which adjusts the zero drift automatically and ensures high accuracy, even with a larger sample pan.
- Bias function allows adjustment to the data obtained by other measuring methods or other testers.
- Large backlit LCD is easily read even under poor lighting conditions.

Choice of measuring modes meets your application.

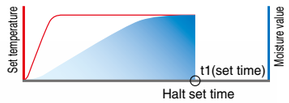
Automatic halting mode

The sensor will automatically halt if the 30s interval moisture change (fluctuation range%) goes below the set value.



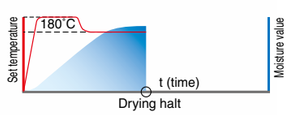
Timed halting mode

Sensor will halt at the pre-set time (t1)



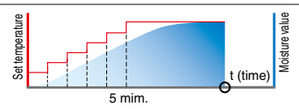
High-speed drying mode

Shortens the measuring time by the high-speed drying during the initial drying stage, after which when the moisture is reduced, the set temperature is returned to normal.



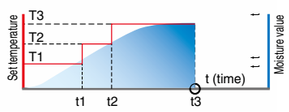
Low-speed drying mode

Slowly dries samples in which surface membrane forms or samples that may break down at high temperatures.



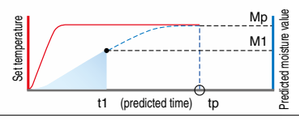
Stepped drying mode

Measures drying conditions in steps, and measures samples that contain a large amount of water, such as surface water or crystallized water.



Predictive (comparative) measuring mode

Predicts future changes from the drying process and determines a measurement value (Mp). Measuring time is shortened.



Bar graph display monitors moisture

Bar graph display

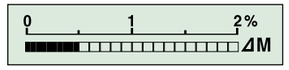


Figure1

Vaporized moisture and vaporization rate

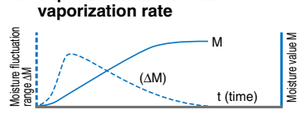
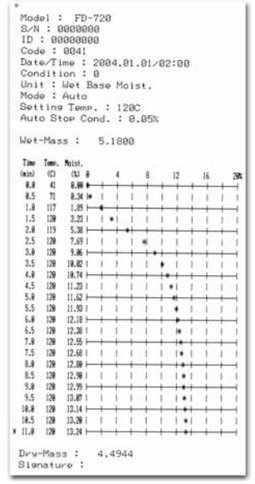


Figure2

Moisture vaporization rate display

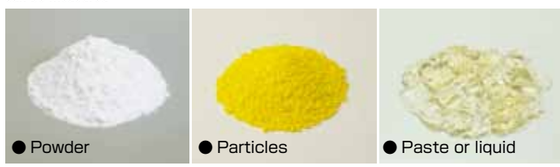
In drying by infrared heater, a large amount of moisture vaporizes in early stage and vaporization slowstowards the end of measurement. The M curve in Figure 2 shows a typical vaporization of moisture. M indicates the rate of vaporization. Monitoring M makes it possible to gauge how close the measurement is to completion. The bar graph display makes it visible. (Figure 1)

Data out put with the optional printer



Different forms of samples can be measured.

Most samples which vaporize only moisture and cause no hazardous reaction under heating can be measured



Various materials can be measured.

Meets demands of various industries and fields

● Pharmaceuticals, agriculture, food processing, textiles, chemicals, fertilizer, paper, construction.