

**DEĞİRMEN**

SANAYİ ve TİCARET A.Ş.

# FD-720

## Electronic Moisture Balance

**ISO 9001**



QMS  
JIS Q 9001:2000  
登録番号 JSAQ 352



JAB  
QS Accreditation  
認定番号 R001



SCIENCE OF SENSING  
測定器のケットです。

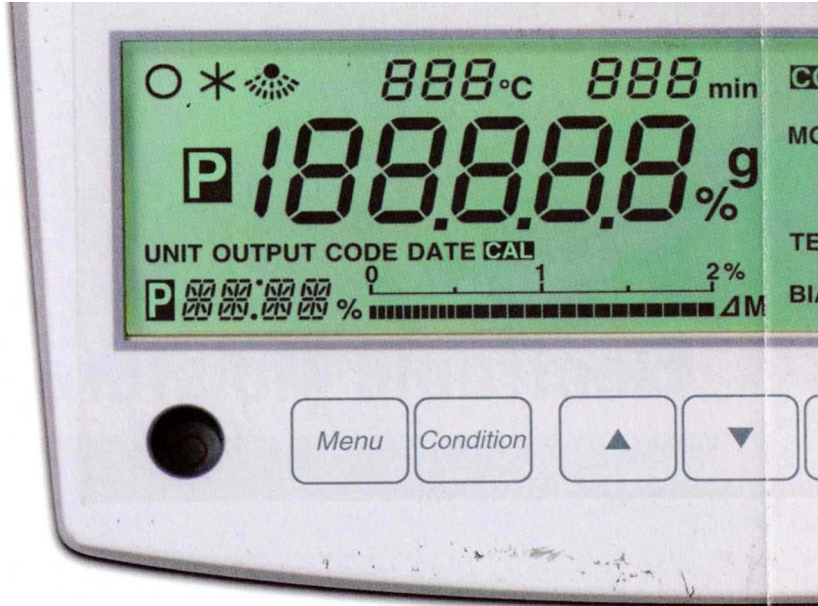
Our products are manufactured in accordance with the ISO 9001:2000 Quality Management System.



# FD-720

## Electronic Moisture Balance

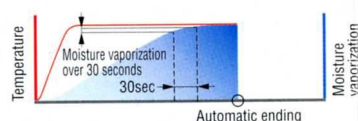
FD-720 can change the moisture display from normal 0.1% to high accuracy 0.01% resolution. To realize its high accuracy, the 1mg resolution balance unit is installed. The heater source is newly developed, a large 400watts Mid-wave infrared quartz heater controlled by the software for the drying process. 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.



### Choice of measuring modes meets your application.

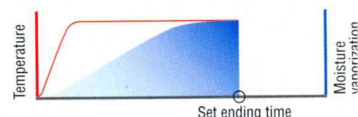
#### Automatic operation mode

Automatically ends measurement when moisture loss over the previous 30 seconds becomes smaller than specified percentage.



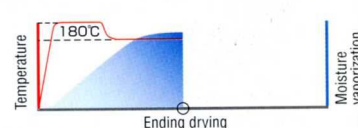
#### Timed operation mode

Automatically ends measurement when the specified amount of time has elapsed.



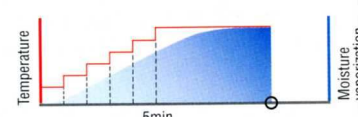
#### High-speed drying mode

First dries with the highest temperature for the specified period, then shifts to the specified temperature shortening measurement time.



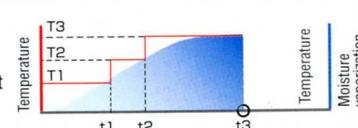
#### Low-speed drying mode

Gently heats samples that might solidify at the surface or samples that reduce under high temperature.



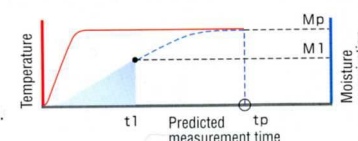
#### Stepped drying mode

Allows step by step change of drying conditions. This feature is useful when measuring samples that contain a large amount of water.



#### Predictive measuring mode

With preparatory measurements of the sample, the final result is predicted from the drying process, saving time in repeated measurements.



CONDITIONS 8  
 MODE 8.8%  
 8.88min  
 8.88%  
 TEMP 888°C  
 BIAS -8.88%

# 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 UniBloc 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.

## Bar graph display monitors moisture

### Bar graph display

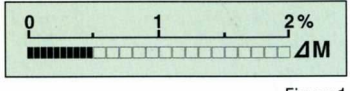


Figure1

### Vaporized moisture and vaporization rate

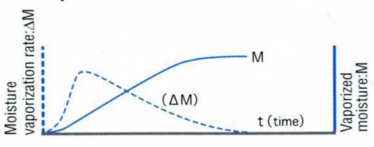


Figure2

### Moisture vaporization rate display

In drying by infrared heater, a large amount of moisture vaporizes in early stage and vaporization slows towards 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



```

Model : FD-720
S/N : 0000000
ID : 00000000
Code : 0041
Date/Time : 2004.01.01/02:00
Condition : 0
Unit : g/g Base Moist.
Mode : Auto
Setting Temp. : 120C
Auto Stop Cond. : 0.05%

Wet-Mass : 5.1800

Time Temp. Moist.
(min) (C) (g/g)
0.0 41 0.00
0.5 71 0.24
1.0 117 1.09
1.5 120 3.22
2.0 119 5.20
2.5 120 7.09
3.0 120 9.06
3.5 120 10.82
4.0 120 10.74
4.5 120 11.22
5.0 120 11.62
5.5 120 11.50
6.0 120 12.10
6.5 120 12.38
7.0 120 12.55
7.5 120 12.60
8.0 120 12.80
8.5 120 12.90
9.0 120 12.91
9.5 120 13.01
10.0 120 13.14
10.5 120 13.20
11.0 120 13.24

Dry-Mass : 4.4944
Signature :
  
```

### 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.





## ● Specifications

Measurement Method	Heat drying and weight loss
Sample mass	0.5-120g
Measurement subject	Moisture / Solid content / Weight
Reproducibility (Standard deviation)	Sample with a weight of 5g or higher : 0.05% Sample with a weight of 10g or higher : 0.02%
Measurement range	0-100%(wet base , solids) 0-500%(dry base)
Resolution	0.01% , 1mg
Temperature range	30-180°C
Measurement modes	Automatic operation mode Timed operation mode (1-240min or continuous) High-speed drying mode Low-speed drying mode Stepped drying mode (max of 5 steps) Predictive measuring mode
External output	RS-232C interface
Environmental conditions	Temperature 5-40°C , Humidity : max of 85%RH Pollution degree 2 , Altitude up to 2000m
Sample dish	SUS sample dish(130mm dia, 13mm depth)
Heat source	Mid-wave infrared quartz heater (200Wx2)
Power supply , Power consumption	AC100-120V / 220-240V (50/60Hz) , max 900W
Size and Weight	220(W)x415(D)x190(H) , 4.5Kg , Shipment 10Kg
Accessories	Sample dish 2 pcs , Sample dish handler 2 pcs , Wind shield , Sample dish tray , Spoon and spatula set , Spare fuses(T8A 250V) 2 pcs , Power cord , Aluminum sheets(20 pcs)x2 , Operating manual
Options	Printer set( Printer VZ-330,Printer connection cable VZC-14, Printer paper,AC adapter),Printer paper (10rolls), Aluminum sheets(500pcs),RS-232C cable(VZC-52), Temperature sensor testing kit(GF-100), Data logger software(KDL-01) , Sample crusher(TQ-100)

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\*The contents of this catalog are subject to change without notice.



● Electronic printer VZ-330

## Appropriate samples

Samples from which moisture or other components vaporize and cause no hazardous reaction under heating

### ⚠ Safety Notes

- Read the manual thoroughly prior to use.
- Do not measure samples that may cause hazardous chemical reactions when heated. Take care when handling the hot instrument.

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