

# 3 MOISTURE METERS

## 1. Moisture Testing Kit for Official Measuring

For official tests of moisture content of paddy in Japan, the Ministry of Agriculture, Forestry and Fisheries employ a method using 105°C for 5 hours. In some other countries 130°C for 1 hour is employed as an official test. However, some scientists claim that 135°C for 3 hours gives the most reliable results. Whilst the official standard method in each country, temperature as well as heating time, may be varied according to their own conditions and characteristics, the basic principles of the test method remain the same.

1. Grind the grain sample with the grinder and accurately place 5g of the material into the aluminium container.
2. Turn on the heating element of the rotary dry oven and raise the temperature inside the oven until it is slightly above the target level.
3. Place the container into the rotary oven. About 18 containers can be put in the oven at a time.
4. The temperature inside the oven will fall when the door is opened, but it soon regains the temperature level after reclosing the door.
5. After reaching the predetermined target temperature level, switch on the thermostat and begin timing. The oven will maintain an even temperature and all samples will be subjected to uniformly high heating.
6. Open the door after the predetermined time has elapsed. Remove the sample containers and place them into the airtight glass desiccators for cooling before weighing.
7. Weigh the sample after cooling and calculate the weight loss for determining the moisture content of the material.



TQ-100



TS-400

### Grinder

Model	TQ-100
Roll (mesh of crushed sample)	#20~#30
Outside dimensions	L70×W80×H180mm
Net weight	1.2kg

### Rotary Dry Oven

Model		TS-400
Electric source		4A
Maximum temperature		150℃±1℃
Dimensions	Outside	L410×W380×H530mm
	Inside room	L320×W310×H210mm
	Rotating shelf	Dia.290 for 18 containers
Net weight		20kg
Accessories	Thermometer & case	1pc.
	Aluminum container	20pcs

### Desiccator

Model		TS-50
Dimensions	Diameter of inside shelf	150mm
	Outer diameter XHeight	250X250mm



TS-50

## 2. Handy Moisture Meter

1. Newly designed automatic temperature calibration device eliminates troublesome correction works for both ambient and grain temperature. Microcomputer shows the average value of measurement in digital display.

Model		SS-6
Measuring range	Paddy, Brown Rice, Polished Rice	10~40%
	Barley, Wheat, Naked Barley	10~35%
Accuracy		±0.5% (at 10~20%)
Temperature range of material		0°C~40°C
Power source		4pcs×1.5V batteries
Dimensions		L100×W189×H72mm
Net weight		650g



SS-6

2. Moisture content is digitally displayed after filling the cup with sample grains (20-180g depending on products).

Model		PM400
Measuring method		Dielectric constant
Applications		Agricultural products
Measuring range		2~40%
Accuracy		0.5%
Power source		4pcs×“AA” size
Dimensions		L130×W190×H210mm
Net weight		1kg



PM400

## 3. Standard Moisture Meter

This resistive moisture meter has been designed to apply the well proven principle that resistance varies in proportion to the moisture content of rice and wheat.

Model		PB-1D <sub>2</sub>
Measuring range	Paddy	11~35%
	Rice·Rye	11~20%
	Barley·Wheat	10~40%
Accuracy		±0.5%(against 105°C method)
Power source		to be specified within the range of AC100~220V or 4 pcs×1.5V batteries
Overall dimensions		L240×W250×H125mm
Net weight		3.5kg

PB-1D<sub>2</sub>



4. Infrared Moisture Meter

It comprises a balance and an infrared lamp. The Moisture Content can be read directly from the scale. The sample to be measured is placed on the pan of the balance and dried rapidly by the infrared lamp. The balance remains in the level position, while the indicator moves, due to the moisture evaporation. The position of the rider acts as a moisture indicator and enables the moisture content to be read.

Model	FD-610
Sample weight	5~70g(Optional weight)
Scale	0~20%
Measuring range	0~100%(Moisture content), Wet base
Sample weight	5g or greater $\pm 0.1\%$
Infrared lamp	185W $\times$ 1
Sample dish	95mm dia., 10mm depth(SUS)
Outside dimensions	L210 $\times$ W320 $\times$ H318mm
Net weight	3.0kg
Power source	AC100V~240V(50/60Hz)
Accessories	1 extra lamp, alminum sheets, etc.



FD-610

5. Infrared Moisture Determination Balance

This instrument uses a ceramic sheathing heater for reducing the measuring error, due to uneven temperature or scorching of the sample. The mechanism is operated automatically every 30 seconds. An alarm is rung by the buzzer on reaching the pre-set time. A handy printer is also available as an option.

Model	MX50
Measuring method	400W straight halogen lamp heating system with SRA filter and SHS weighing technology
Readability	0.001g
Sample weight	51g
Accuracy	$\pm 0.1\%$ (1~5g), $\pm 0.02\%$ (5~51g)
Power source	AC100V to 120V(3A) or AC200V to 240V(1.5V), 50/60Hz, Approx.400W
Overall dimensions	L320 $\times$ W215 $\times$ H173mm
Net weight	6kg



MX50