MX-53A

Moisture Analyser

Essae®
...for Excellence



Precision in every Percent

A&D Company, Ltd.

Built for accurate, repeatable drying

400 W halogen heater

Heats the sample-pan area to 200 °C in under two minutes for short measurement times. The lamp has a long service life, keeping maintenance low.

Secondary Radiation Assist (SRA)

Heat-conductive glass spreads the heat evenly across the sample pan from a single straight lamp, and keeps the lamp clean for easier maintenance.

Soft-close heater cover

The cover lowers gently and safely even if released, protecting the user and the sample.

Super Hybrid Sensor (SHS)

The high-precision weighing sensor used in A&D analytical balances gives accurate, reproducible results from small sample quantities.

Real-time display

Moisture content and drying rate (%/min) are shown continuously during measurement on a high-visibility reverse backlit LCD (17.8 mm main characters).

Preheating

Warms the sample-pan area before the first measurement to stabilise thermal conditions and reduce variation (selectable up to 30 min).

Versatile measurement capabilities

Three measurement modes

Standard mode	Choose heating pattern, temperature and accuracy level (High / Standard / Low); sample weight range, termination value* and minimum display are set automatically.
Timer mode	Heats the sample for a fixed time from 1 to 480 minutes and ends automatically.
Custom mode	Full control of the measurement conditions, including the termination value*; ends automatically when it is reached.

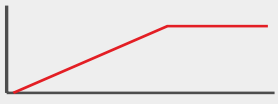
Four heating patterns

Standard



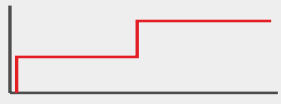
Constant drying temperature

Ramp



Temperature rises gradually

Step



Two drying temperatures

Quick



Brief high start to save time

Five calculation units

Moisture content, wet basis	Moisture content, dry basis (Atro)	Solid content	Ratio	Gram

Technical Specifications

Model	MX-53A
WEIGHING & PERFORMANCE	
Measurable sample weight	0.1 g to 51 g
Readability – moisture content	0.01 % / 0.1 %
Readability – weight	0.001 g
Repeatability (SD) – moisture*1	0.02 % (sample ≥ 5 g) / 0.1 % (sample ≥ 1 g)
Repeatability (SD) – weight	0.001 g
HEATING & MEASUREMENT	
Heating technology	400 W halogen lamp with Secondary Radiation Assist (SRA)
Drying temperature (near pan)	30 °C to 200 °C, 1 °C increments
Heating patterns	Standard, Ramp, Step, Quick
Measurement modes	Standard, Timer (1 – 480 min), Custom
Calculation units	Moisture (wet basis), moisture (dry basis, Atro), solid content, ratio, gram
Program memory	200 programs (plus 100+ preset example programs)
Result memory	200 results with date and time
DISPLAY & INTERFACE	
Display	Reverse backlit LCD, main characters 11-segment, 17.8 mm high
Communication interface	RS-232C (D-Sub 9P), USB Type-C (Quick USB HID / Virtual COM CDC)
GENERAL	
Sample pan size	Ø 90 mm
Operating environment	5 °C to 40 °C, 85 % RH or less (no condensation), indoor use
Power supply	AC 100 – 120 V / 3 A or AC 200 – 240 V / 1.5 A, 50/60 Hz
Power consumption	Max. 500 W
External dimensions	215 (W) × 380 (D) × 176 (H) mm
Net weight	Approx. 6 kg (excluding accessories)

*1 After preheating, approx. 5 g of the supplied sodium tartrate dihydrate measured at 160 °C, standard heating, Standard mode (MEDIUM); heater cover left open to cool for 15 minutes between measurements.

Standard accessories

Disposable aluminium pan	× 100	Sample pan	× 20	Glass fibre sheet (Ø 86 mm)	× 100
Test sample (30 g)	× 1	USB cable, 2 m (Type-A to Type-C)	× 1	Sample pan handle	× 2
Tweezers, spoon	× 1 each	Display protection cover	× 1	Main unit cover	× 1
Cleaning brushes (large, small)	× 1 each				

Connectivity

RS-232C **USB Type-C** **WinCT-Moisture**

RS-232C (D-Sub 9P) for printers and PCs.

USB Type-C for PC connection, switchable between **Quick USB (HID)**, where results go straight into a spreadsheet with no software, and **Virtual COM (CDC)** for two-way communication. 2 m USB cable supplied.

WinCT-Moisture free PC software: RsFig (real-time / saved drying curves), RsTemp (temperature search with graphs) and RsSetup (manage settings and programs across units).



Rear panel: power inlet, RS-232C, USB Type-C

Maintaining accuracy

Test sample measurement

Verify measurement accuracy with the supplied sodium tartrate dihydrate test sample (theoretical moisture 15.66 %) using preset conditions and pass/fail limits.

Self-check

Checks the electrical circuits and temperature control in about one minute when results or operation look abnormal.

Weight & heater adjustment

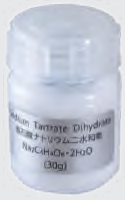
Adjust weight-sensor sensitivity with a 20 g or 50 g reference weight (20 g OIML F1 AD1603-20F1 recommended) and the heater with the temperature adjustment kit AX-MXA-43. Results can be output in GxP-compliant format.

Convenience

Buzzer at end of measurement, auto power-off after 10 minutes of inactivity, and automatic logout when password lock is used.



Temperature adjustment kit AX-MXA-43 (option)



Test sample AX-MX-33 (supplied)



Highlights

Super Hybrid Sensor (SHS) and Secondary Radiation Assist, four heating patterns, 200 programs plus 100+ presets, soft-close heater cover, RS-232C and USB Type-C, GLP / GMP / GCP / ISO compliant output.

Applications

Pharmaceuticals, food and beverages, dairy, grain and seeds, plastics, chemicals, textiles and paper.

Manufacturer: A&D Company, Ltd. (Japan)

Sources: A&D MX-50/MF-50 instruction manual and A&D MX-50 product page; A&D brochure MXA-ADCC-00-PR1-259

Form No. 29028-CAT-MX-53A-115 R00

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Note: Specifications are subject to change without notice. Other names and logos used are property of respective brands.