

# VACUUM TRAY DRYER

**MECHATECH SYSTEMS**

TECHNICAL VACUUM EXCELLENCE SINCE 2008

**NINE TEMPERATURE CONTROLLED SHELVES TO 250°C  
DATA LOGGING AND ANALYSIS, TOUCH SCREEN**

enquiries@mechatechsystems.co.uk  
+44 (0) 1454 414723

Vacuum Dryers range from small units for research and development to pilot and production scale vacuum drying systems for drying sensitive materials such as pharmaceutical materials, food and beverage, waste materials, etc. Options include control automation, shelf temperatures and chamber sizes to suit your product and capacity requirements. The [Vacuum Tray Dryer](#) pictured below can be customised to your application and specification.

The Vacuum Tray Dryer contains up to nine product shelves, which can be controlled between ambient temperature and +250°C, with an accuracy of better than  $\pm 0.5^\circ\text{C}$ .

Based around a large drying chamber mounted alongside a refrigerated chamber, the integral heated shelves have a temperature variation of less than  $2^\circ\text{C}$ .

Fully Automated, Touch Screen Control

Up to Nine Product Shelves with Total Drying Area of up to 1.7 m<sup>2</sup>

Controllable Shelf Temperatures between Ambient and + 250°C.

High Capacity (45kg)

Data Logging / Analysis

Reproducible Process Profiles

UK Designed, Manufactured & Supported



Product heating, drying, end point determination and backfill sequences are all controlled by a central processor unit, allowing complex pressure/temperature profiles to function accurately and reproducibly without operator intervention. In excess of fifty profiles can be stored and retrieved as required.

A full system mimic on the touch screen display provides a user friendly interface giving a clear indication of system status.

Suitable for vial and bulk samples, the dryer is easily adaptable for either laboratory or small-scale production.

MechaTech Systems Ltd,  
Unit 9 Brunel Way,  
Thornbury Industrial Estate,  
Thornbury, Bristol, UK. BS35 3UR  
Registered in England and Wales No. 06469333  
[www.mechatechsystems.co.uk](http://www.mechatechsystems.co.uk)



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## TECHNICAL SPECIFICATION

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MODEL	Bespoke - exact configuration to be confirmed		
No. of shelves (excluding radiant shelf)			9
Shelf dimensions (w x d)			375 x 500mm
Shelf area (total)			1.7 m <sup>2</sup>
Shelf capacity (total)			45 Kg
Shelf material			316L Stainless Steel
Shelf temperature			Ambient to +250°C
Working height (max shelve gap)			98mm
Typical shelf heat up times (with no load, from 25°C):			
	to+100°C		30 minutes
	to +200°C		55 minutes
Condenser temperature			-85°C
Condenser capacity			30 Litres
Defrost			Hot Gas and/or water
Defrost time (water inlet temp @ 40°C )			Approx 10 minutes
Refrigeration			Cascade
Vacuum pump:			
	1. Type		Edwards E2M18
	2. Nominal Pumping speed		18 m3/hr
	3. Ultimate vacuum (total pressure)		1.0 x 10 <sup>-3</sup> mbar
	4. Pump down time (to 0.5 mbar)		Approx 15 minutes
Inter-chamber valve			Electrical QSB
Electrical supply UK			415V, 50Hz, 3 ph, 15 KW
Dimensions (w x h x d)			1900 x 1940 x 1250 mm
Gross weight			825 Kg
Temperature control			+ 0.5°C
Data logging			Yes
End point determination			Pressure rise
Gas backfill			Yes / Automatic
Pressure control			Option

MechaTech Systems provide installation, commissioning and end user training. All vacuum dryers are fully assembled and tested prior to shipment. A comprehensive Factory Acceptance Testing programme is submitted to the client for approval. Full design, installation and operational qualification support can be undertaken in the presence of the client.

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