

FD480

Continuous High-Capacity Freeze Dryer



250 kg/cycle · 24 trays · 4 compressors · 3 operating modes · from 48,600 € net

Operating Modes

FD440 Mode

Ice is collected directly inside the main chamber — fast and highly effective, up to 130 kg of ice per cycle.

Infinity Mode

Moisture is collected in an external bottom cold trap with automatic defrost. The main chamber stays dry and the process has virtually no capacity limit.

Boost Mode

Cold trap and chamber cooling combined — up to 250 kg of ice in a single cycle, ideal for high-moisture products such as coffee, milk and other liquids.

Technical Data

Max Ice Extraction	250 Kg per cycle (Boost) / unlimited (Infinity Mode)
Chamber Ice Capacity (FD440 Mode)	130 Kg
External Cold Trap	bottom-mounted, automatic defrost
Drawer Loading Volume	576 Liters
Tray Size	400 x 600 mm (24 trays)
Total Tray Area (24 trays)	5.76 m²

Energy Consumption	approx. 5.5 kW/h average (preliminary)
Chamber Type	Extruded Aluminium Tube, 7 mm wall
Chamber Finish	Hard Anodized 25µ inside and outside
Number of Drawers	24 (standard)
Shelf Material	Anodized Aluminium or Stainless Steel
Shelf Temperature Range	-40°C to +80°C
Temperature Sensors	PT100 Class A, ± 1°C precision
Vacuum Pump	Two-Stage Rotary Vane or Scroll Pump
Pump Down Time	20 minutes to 0.1 mbar
Final Vacuum	< 0.07 mbar (50 mTorr max)
Leak Rate	10⁻⁴ mTorr/sec
Vacuum Sensor	Pirani
Heating Power	Up to 400 Watt per tray
Heating System	Electrical Heating Mat
Defrost	automatic (cold trap), 20 - 60 minutes electrical (chamber)
Refrigeration Compressors	4 x Embraco Piston Type
Refrigeration Power	8 kW
Refrigerant	R449A (alt.: R448A / R452A)
Min Cooling Temperature	-40°C
Door Material	40 mm Acrylic
Door Gasket	Silicone Rubber
Door Lock	Manual, Mechanical Closing
Control System	Siemens Simatic PLC
Monitor	Kinco HD Color Touchscreen
Connectivity	Ethernet / IoT WAVE Network
Dimensions (L x W x H)	On request (preliminary)
Total Weight	On request (preliminary)
Noise Level	< 65 dB at 1 m
Max Ambient Temperature	< 23°C
Electricity EU Version	400V / 3 / N, 32 A
Electricity US Version	240V / 1 / N (120V / 2 / N)
Max Electrical Load	22 kW (32 A / 400 V / 3-phase)