

ULT-Freezer Performance Data Sheet



Capacity

Storage volume	440 L (15.5 ft ³)
Number of compartments	5
Adjustable shelves	Yes
Racks per shelf	4 (Max. load per shelf: 50.5 kg/111.3 lbs)
Racks per freezer	20
Box capacity	50 mm (2 in) box 320
per freezer	75 mm (3 in) box 160
	100 mm (4 in) box 160
Sample capacity	50 mm (2 in) box 32,000

Compartment Dimensions

Compartment number	Dimensions (H x W x D)
1 (Top)	245 x 616 x 575 mm
2	242 x 616 x 575 mm
3	242 x 616 x 575 mm
4	242 x 616 x 575 mm
5 (Bottom)	245 x 616 x 575 mm

Technical Specifications: CryoCube® F440h – Air-Cooled

Intended use	<ul style="list-style-type: none"> > Cold storage of standard laboratory materials > Indoor use only, between 15 and 32 °C > Altitude up to 2,000 m > Non-corrosive, non-flammable, non-explosive environment
Environmental conditions	<ul style="list-style-type: none"> > Good air ventilation required > Maximum ambient temperature 32 °C > Maximum ambient humidity 80 % relative humidity, non-condensing > No mains/power supply voltage fluctuations
Temperature rating	-50 °C to -86 °C
Electrical rating (1 phase)	230 V/50 Hz
Current rating	7.0 A
Conformity	<ul style="list-style-type: none"> > WEEE > All components tested to CE specifications > ENERGY STAR® > RoHS > REACH

User Interface

Alarms	Adjustable high/low temperature, power fail, battery low, filter clean, fault
Password protection	Yes (freezer settings)
Remote alarm port	Standard (BMS)
RS-485 interface	Optional
Ethernet interface	No
VisioNize®	via VisioNize® box
Lock	Standard (integrated and padlock option)
Temperature control	Microprocessor
Cabinet control probe	PT 100

Refrigeration System Specifications

Refrigeration system	2 stage cascade cooling system
Compressors	Commercially available, heavy duty compressors
Defrost method	Manual
Refrigerant charge	High stage: R290 Low stage: R170
Condensing method	Air-cooled
Expansion device	Capillary tubes
Evaporator type	Cold wall

Construction

Interior	Stainless steel grade 304 2B
Exterior	Powder-coated steel
Insulation	Polyurethane foam and vacuum insulation panel
Power switch	Secured by lockable plate
Battery switch	Secured by lockable plate
Inner doors	Insulated, 5 inner doors
Castors/level legs	Heavy duty
Main door sealing	Flat, flexible

Dimensions

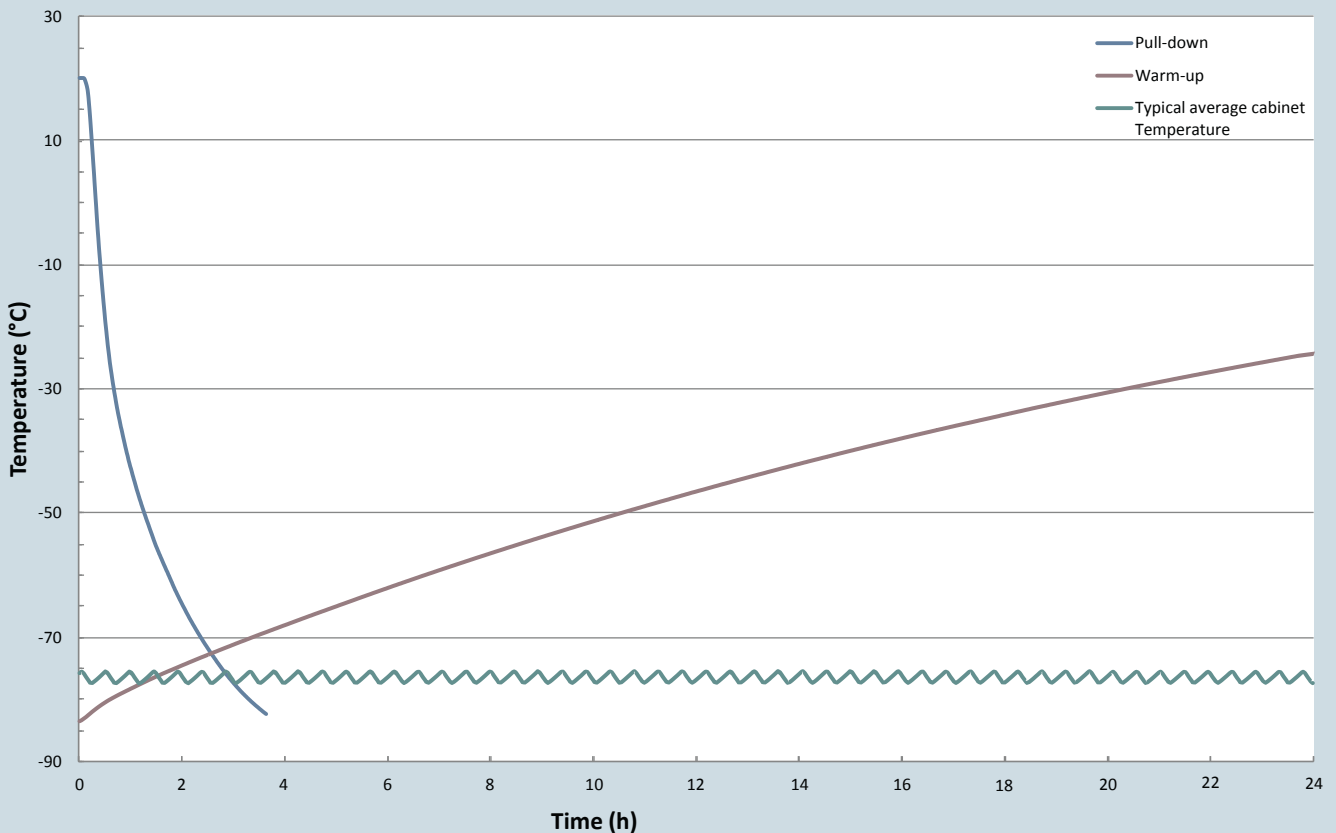
Internal dimensions (H x W x D)	1,265 x 616 x 575 mm (49.8 x 24.3 x 22.6 in)
External dimensions (H x W x D)	1,950 x 955 x 898 mm (76.8 x 37.6 x 35.4 in)
External packaging dimensions (H x W x D):	2,200 x 1,220 x 1,050 mm (86.6 x 48.0 x 41.3 in)
Net weight	286 kg (631 lbs)
Shipping weight	327 kg (721 lbs)
Air cargo	No

Typical Performance Characteristics

Testing conditions	> External test house > 24 h run > 3 units tested in parallel > Ambient temperature: 20 °C (+/- 1 °C)			
Pull down time (freezer empty, from ambient to -80 °C)	3 h 20 min			
Power consumption (freezer set to)	-70 °C	-80 °C	-85 °C	
	4.8 KWh/day 0.31 KWh/ft ³	6.8 KWh/day 0.44 KWh/ft ³	8.4 KWh/day 0.54 KWh/ft ³	
Cabinet uniformity ¹ (freezer set to -80 °C)	+8.1 °C/-0.0 °C			
Heat output (freezer set to)	-70 °C	-80 °C	-85 °C	
	200 W (680 BTU/h)	283 W (964 BTU/h)	350 W (1,190 BTU/h)	
Warm up time (freezer 2/3 full)	From -85 °C to -50 °C		From -85 °C to 0 °C	
	10 h		50 h	
Noise level (at -80 °C)	51.5 dB			
Door open recovery (freezer set to -80 °C)	15 s	30 s	60 s	120 s
	13 min	17 min	27 min	41 min
Duty cycle (on/off)	11/17 min			

¹Average multiple probe temperature deviation

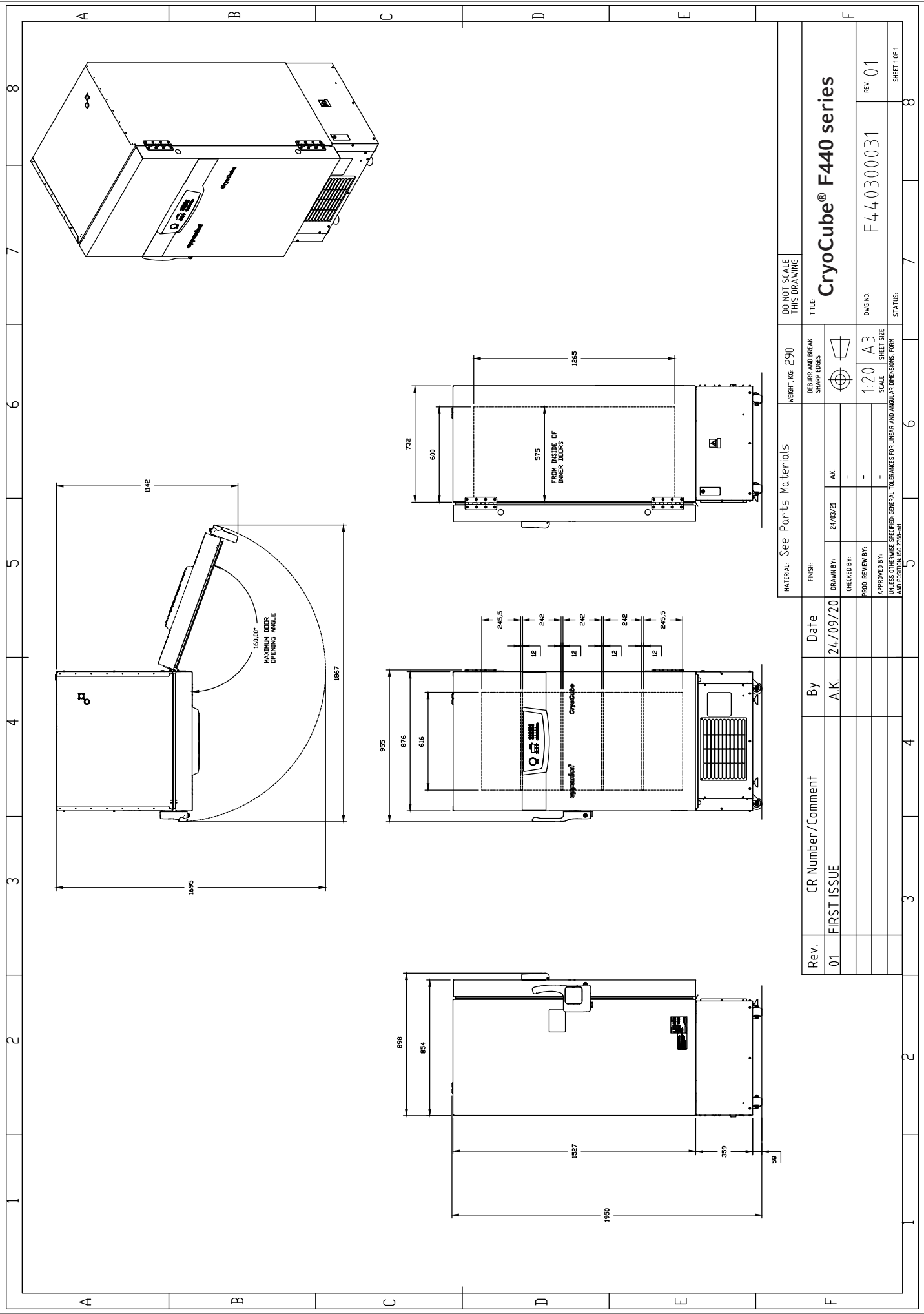
CryoCube F440h 230 V/50 Hz performance graph



Technical specifications subject to change

Your local distributor: www.eppendorf.com/contact
Eppendorf AG · Barkhausenweg 1 · 22339 Hamburg · Germany
eppendorf@eppendorf.com · www.eppendorf.com

www.eppendorf.com



Rev.	CR Number/Comment	By	Date	FINISH:	MATERIAL:	WEIGHT:	DO NOT SCALE THIS DRAWING
01	FIRST ISSUE	A.K.	24/09/20	DEBUR AND BREAK SHARP EDGES	See Parts Materials	Kg 290	TITLE:
				DRAWN BY: 24/03/21			CryoCube® F440 series
				CHECKED BY: AK			DWG NO. F440300031
				PROD. REVIEW BY: -			REV. 01
				APPROVED BY: -			STATUS: SHEET 1 OF 1
				UNLESS OTHERWISE SPECIFIED, GENERAL TOLERANCES FOR LINEAR AND ANGULAR DIMENSIONS, FORM AND POSITION: ISO 2768-mH			