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NEW

## Boreas

Ultra Low Temperature Freezers

*Environment friendly*

*Small footprint*

*Great cooling performance*

*Enhanced reliability*

*Low power consumption*

*Temperature uniformity*



### Main features

- High quality materials:
  - VIP insulation: provides better temperature uniformity and reduces external dimensions. More samples, less footprint.
  - Inner chamber entirely made in Stainless Steel.
  - Five foamed Stainless Steel inner doors.
- Ecological gases: use of 100% pure natural refrigerants, allows easy service and contributes to preserving the environment.
- Low sound level and low power consumption, thanks to new Boreas design and improved cooling system.
- Enhanced reliability: new ergonomic handle and frame structure, new door sealing, new system for filter replacement,...
- Standard features include heated pressure equalization valve, two sample throughputs (plus 2 more pre-cut), 4 shelves with 5 individual internal doors, RS485 and remote alarm, wheels.
- Robust packaging with pallet with ramp for easy unloading

# Technical data

CONSTRUCTION	Units	Boreas Upright			Boreas Chest		
Cabinet Material	Internal External	Full A-304 Stainless Steel interior Polyester coated exterior					
Insulation Material		VIP panels and Polyurethane foam					
Sample throughputs		2 standard ports (+ 2 pre-cut)					
Shelves, inner doors		Standard 5 foamed Stainless Steel inner Doors, 4 Shelves			Rigid PU inner covers		
Refrigerants		1 <sup>st</sup> Stage: R290 2 <sup>nd</sup> Stage: R170					
TECHNICAL SPECIFICATION	Units	U445	U570	U830	C370	C620	C820
External dimensions (WxDxH) <sup>(*)</sup>	mm	650x821x2012	790x821x2012	1080x821x2012	1267x872x1073	1742x872x1073	2142x872x1073
Internal Volume	L	445	570	830	370	620	820
Footprint	m <sup>2</sup>	0,53	0,65	0,89	1,1	1,5	1,9
Vials Capacity (2ml)	unit	30.000	40.000	60.000	28.000	44.800	61.600
Weight (uncrated/crated)	Kg	270/302	293/328	352/392	180/200	220/250	285/325
Distance Between shelves		Adjustable every 10mm. By default 290mm			-		
Cooling performance	°C	-55°C to -86°C (factory set point is -80°C)					
Mains/Power supply	V/Hz	230V 50 Hz					
Power consumption <sup>(1)</sup>	kWh/day	14	14,4	14,8	18,2	19	19,8
Pull down time <sup>(2)</sup>	min	200	240	280	200	240	280
Warm up time -80°C to -50°C <sup>(3)</sup>	min	240	240	240	90	90	90
Warm up time -50°C to 0°C <sup>(3)</sup>	min	900	900	900	800	800	800
Door open recovery time <sup>(4)</sup>	min	10	10	10	-	-	-
Temperature uniformity <sup>(5)</sup>	°C	3	3	3	2	2	2

## NOTE:

Values above based in average data from 5 units batch.

(\*) Dimensions without considering handle and hinge. Total width dimensions add 77 mm in upright model

Test Conditions: ( Tamb: 22°C; RH:50±5%)

(1) ECO mode SP -80°C. Unit empty. Normal cycling without door openings.

(2) OPT mode SP -80°C. Unit empty.

(3) Measurement in Sensor Block.

(4) OPT mode SP -80°C. Unit empty. 3rd inner door opened during 60s.

(5) OPT mode SP -80°C. According to Telstar test protocol.



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