

# DATA SHEET

TRUST | 690 L | -86°C



## Reference

BMTRU69086

## General specifications

Raw volume	690 liters / 24.3 cu.ft. - 4 compartments
Storage capacity	48 000 cryotubes 2mL
Dimensions : externals (H x W x D) internals (H x W x D)	1990 x 875 x 970 mm / 78.4 x 38.2 x 34.5 in. 1436 x 630 x 752 mm / 56.6 x 29.6 x 24.8 in.
Construction : external internal	Electrogalvanised steel with epoxy paint Stainless steel inner tank with rounded corners
Insulation	6 faces Vacuum Insulation Panel (VIP) and high density polyurethane foam Thermal conductivity < 0.005 W/m/K
Net weight	330 kg / 728 lb.
Standard equipment	3 shelves (maximum weight per shelf: 75 kg / 165 lb) 4 swivel casters 2 levelling feet Key lock (2 keys supplied) Cable port on the back of the device 1 power cord, 3m long with IEC19 detachable connectors
Ambient temperature	From +18°C (65°F) to +32°C (89°F)
Indoor / outdoor use	For indoor use only
Environnement	Not designed for use in explosive atmospheres (ATEX)
Noise level	56 dB
Warranty	<ul style="list-style-type: none"> <li>• 2 years</li> <li>• 5 years : fan, compressors, condenser</li> <li>• 10 years : VIP insulation</li> </ul>

## Refrigeration system

Cooling engine	2 stage compressors cascade system with intermediate plate heat exchanger Cold production by 5 internal walls
Expansion device	Capillary tube
Refrigerant load	1st stage : R417A / 2nd stage : R508B (non-flammable, without CFC and HCFC)*
Defrosting method	Manual with heated door-seal and heated valve pit

## Electric and electronic data

Controller type	Fuji regulator and Schneider industrial automaton
Temperature probe	1 x Pt100 3 wires probe
List of alarms	<ul style="list-style-type: none"> <li>• Configurable high and low temperature alarm</li> <li>• Open door alarm, triggered after 2 minutes opening</li> <li>• Alimentation 230 VAC, overpressure CP1, battery charge failure, engine failure, CO<sub>2</sub> / LN<sub>2</sub> injection in progress</li> </ul>
Types of alarms	Visual (OK et pictograms) and acoustic with automatic reactivation after predefined delay
Remote alarm contact	NO - NC dry contact (optional)
Power	1500 W
Types of power supply	<ul style="list-style-type: none"> <li>• Voltage 230V ~ +/-10%, 50 Hz, fuse protection «aM 12A»</li> <li>• Voltage 110V ~ +/-10%, 50/60Hz, fuse protection «aM 20A»</li> <li>• Voltage 208V ~ +/-10%, 60Hz, fuse protection «aM 12A»</li> </ul>

## Performances (ambient temperature : 22°C / 72°F)

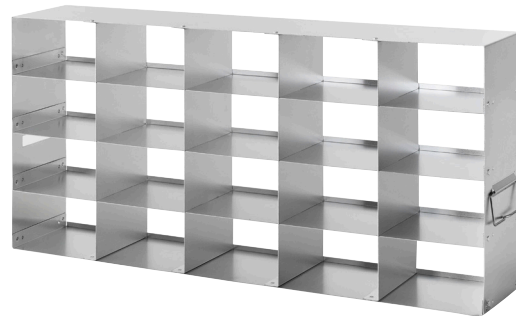
Temperature range	From -60°C to -86°C, 1/10th degree display
Pull down from ambient to -86°C	~ 4 hours
Uniformity at -80°C	+/-5°C



Options and conformities	
Options	<ul style="list-style-type: none"> <li>• Cryo-accumulators (from 6h to 8h additional autonomy)</li> <li>• CO<sub>2</sub> / LN<sub>2</sub> backup system (150 bar max electrical valve)</li> <li>• Additional Pt 100 ohms 3 wires</li> <li>• Thermocouple K probe</li> <li>• Circular chart recorder</li> <li>• 4-20mA output</li> <li>• COFRAC 9 points temperature mapping</li> <li>• IQ / OQ documentation</li> <li>• BoSS system</li> <li>• NO - NC dry contact</li> <li>• Padlock closure</li> </ul>
Supplied with	<ul style="list-style-type: none"> <li>• User manual</li> <li>• Detachable washable filter</li> <li>• Scraper</li> </ul>
Certification / Conformities	<ul style="list-style-type: none"> <li>• EN61010-1 – Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements</li> <li>• 2014/35/UE – Low voltage directive</li> <li>• 2014/30/UE – EMC directive, Class A device</li> <li>• 97/23/CE – Under pressure devices</li> </ul>

Shipping	
Shipping dimensions (H x W x D)	2150 x 940 x 1170 mm / 84.7 x 37 x 46.1 in.
Shipping weight	350 kg / 772 lb.
Type of package	Delivered on pallet with unloading ramp

Storage elements	
Full range of storage elements available	



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