

**Polar Bear - Flow Synthesizer (-90 to +30C)****Standard System**

Part number, 230V

**22250**General

Framework profile	mm	40
Cylinder material		Copper, chrome plated
Cylinder diameter	mm	125
Cylinder height	mm	167
Nominal Temperature range	°C	Ambient to -85 °C
Temperature Sensor		PT100
Dimensions, without dome (W x D x H)	mm	600 x 600 x 690
Dimensions, with dome (W x D x H)	mm	600 x 600 x 770
Weight	kg	65
Containment Tray		316 Stainless Steel
Containment Tray Dimensions (W x D x H)	mm	515 x 515 x 9
Containment Tray Volume	L	2
Controller Display		VGA
Set point temperature setting resolution	°C	0.01
Temperature display resolution	°C	0.01
Safety circuit max. (software)	°C	30
Control method		Cascade
Control accuracy with PT100	°C	±1

Coil Reactor Option

Tubing Material		PFA
Tube diameter	inches	1/8"
Size, working volume with 2.4 mm bore tubing	mL	50
Tube diameter	inches	1/16"
Size, working volume with 0.8 mm bore tubing	mL	10
Tube diameter	inches	1/4"
Size, working volume with 4.0 mm bore tubing	mL	67

Approximate cooling times

Cooling time from 20°C to 0°C	min	15
Cooling time from 20°C to -20°C	min	30
Cooling time from 20°C to -40°C	min	55
Cooling time from 20°C to -60°C	min	90
Cooling time from 20°C to -80°C	min	150

Electrical

<i>Power Supply</i>		<i>Single Phase</i>
Voltage	VAC	220 - 240
Frequency	Hz	50
Maximum Power Consumption	W	3000
Power Usage	W	2000
Frequency	Hz	50
Step Up Transformer for use in the US (110 VAC)		2000-Watt Voltage Transformer

Electrical Fuses

Fuses (External)		15A
Fuses (Internal), Compressor 1 and Fan Assembly	F1	15A
Fuses (Internal), Compressor 2	F2	15A
Internal Element (230V, 1.35A)	F3	2A
Temperature Controller (Nanodac)	F4	2A
Internal Element	W	400

PC Specifications

i5-3340M Processor, 4GB memory, 500 GB hard drive, Microsoft Windows 7 Professional and Microsoft Office, Ethernet RJ45 port required, Internet connection required.

Connectivity

Ethernet interface		Yes
USB Data Storage		Yes
Real time historical log		Yes

Connectivity Options

Computer and Labview integration		
Additional External Thermocouples	TI-300	Type K
	TI-400	Type K

Environment

Certification		CE
Space all around the equipment to allow for air flow	mm	200 - 300
Permissible ambient temperature	°C	5 - 30
Permissible relative moisture		No data
Protection class according to DIN EN 60529		IP 20
Crate Dimensions (L x B x H)	cm	79 x74 x100
Crate and content weight	kg	135