Product Specifications

Thermo Scientific precision temperature control of high-end laboratory & pilot applications that combines rapid temperature changes with incredible stability

HAAKE DynaMax™ 1200 and 1700 Dynamic Temperature Control Systems

Designed to respond rapidly to dynamic temperature changes

Typical applications:

- **Jacketed reactor vessels**
- **Large rotary evaporators**
- **Reaction calorimetry**
- **Fermentation**
- **Analytical instrumentation cooling**

Extremely Fast Cooling and Heating with Precise Temperature Stability

Thermo Scientific HAAKE DynaMax temperature control systems dissipate heat from exothermic, chemical reactions faster than other products in its class. The units incorporate new Dynamic Heat Load Suppression (DHLS) technology that offers faster reactions to temperature changes while maintaining precise temperature stability. DynaMax units adapt precisely to your application needs, allowing you to perform more experiments in less time.

Easy to Operate

Thermo Scientific HAAKE DynaMax units are easy to use and feature intuitive menu programming. Programmable in seven languages, the controller can store 10 ramping programs with 30 segments, saving you valuable programming time. The systems are self-degassing and completely self-draining for greater ease of operation.

Adaptable to Meet Application Needs

DynaMax units cover a wide temperature range and thus are suitable for a variety of applications. The systems feature a modular design for even greater flexibility. You can configure the system for a specific application and purchase only the options that you need.

Specifications

Enhanced Safety Features

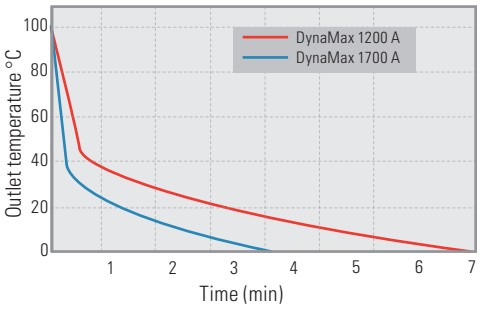
The units' "closed system" architecture prevents hot fluids from contact with the atmosphere to prevent fumes, and it also eliminates icing at low temperatures. The new DHLS technology protects the DynaMax system and your application from potential damage. In the event your application limits are exceeded during exothermic reactions, the system rapidly inject fluids from the cold storage tank to bring the system back within safety limits. You can define upper and lower system temperature and pressure limits for improved application control and greater safety.

Easy to Service

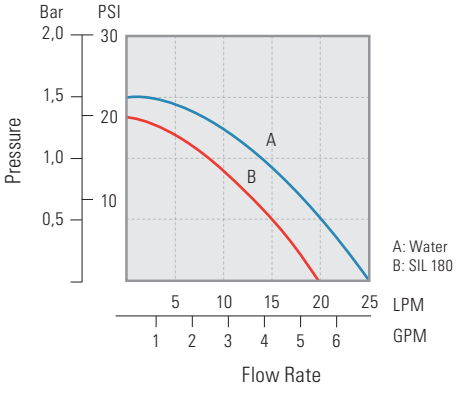
The system's modular design promotes ease of service, with the ability to change out primary components in a short amount of time. In addition, the HAAKE DynaMax has a self-test feature that automatically runs through the system's parameters to ensure that the application performs as you expected. This also helps in diagnosis of system or application issues to keep you up and running.

Specifications acc. DIN 12876	HAAKE DynaMax 1200	HAAKE DynaMax 1700
System Performance		
Temperature Range	-40 to 150 °C	-45 to 150 °C
Cooling Capacity at 20 °C (50 Hz / 60 Hz)	1.2 kW	1.7 kW
Cooling Capacity at 0 °C (50 Hz / 60 Hz)	900 W	1.25 kW
Cooling Capacity at -20 °C (50 Hz / 60 Hz)	250 W	550 W
Cooling Capacity at -40 °C (50 Hz / 60 Hz)	–	150 W
Heating Capacity (230 V - 50 Hz / 208 V - 60 Hz)	2 kW / 1.6 kW	2 kW / 1.6 kW
Temperature stability	+/- 0.01 K	+/- 0.01 K
Pump Performance (with silicon oil)		
Maximum Pump Pressure (bar)	1,2	1,2
Maximum Flow Rate	20 l/min	20 l/min
Pump Performance (with water)		
Maximum Pump Pressure (bar)	1,5	1,5
Maximum Flow Rate	25 l/min	25 l/min
Electrical Performance		
Power Requirements	230 V / 50 Hz - 1 phase,	230 V / 50 Hz - 1 phase
	208 V / 60 Hz - 1 phase	208 V / 60 Hz - 1 phase
Maximum Current	16 A	16 A
Communication	RS232, RS485	RS232, RS485
Display	128 x 64 pixel	128 x 64 pixel

DHLS effect (Outlet to Inlet, Sil 180 oil)



Pumping Capacity

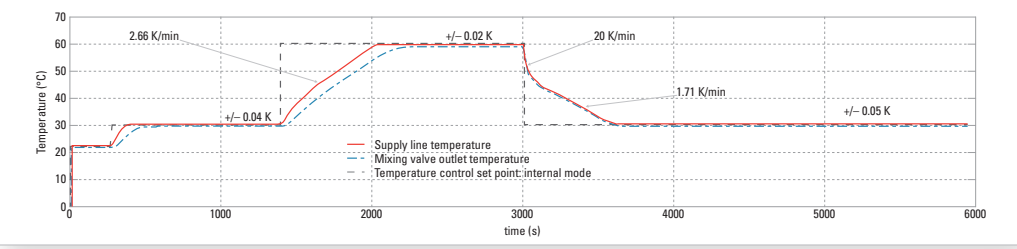


Specifications obtained at sea level using nominal operating voltage, 25°C operating temperature, at 20°C ambient, using a fluid with a specific heat of 0.6. Other fluids, fluid temperatures, ambient temperatures, altitudes or operating voltages will impact the system's performance. Thermo Electron reserves the right to change specifications without notice. Pump performance results were obtained with no restriction on the return to the system.

Specifications

Specifications	HAAKE DynaMax 1200	HAAKE DynaMax 1700
General Information		
Footprint (H x W x D cm)	70 x 49 x 70	70 x 49 x 70
Ambient Temperature Range	5 to 40 °C	5 to 40 °C
Fluid Connections	M30x1.5	M30x1.5
Refrigerant	R404A	R404A
Compliance	CE, NRTL certified	CE, NRTL certified
	(CE, UL & CSA)	(CE, UL & CSA)
System Weight	95 kg	100 kg
Warranty	2 years / 10 K hours	2 years / 10 K hours

Dynamic Heat Load Suppression (20 L reactor, Sil 180)



Dynamic Heat Load Suppression (DHLS) – New DHLS technology features a cold storage tank and a patented mixing valve that will rapidly dissipate heat during exothermic reactions. In the event that your application limits are exceeded, the system rapidly injects fluid from the cold storage tank – bringing the system back within your application limits, saving time and protecting your system from damage.

HAAKE DynaMax Communication Options:

- RS 232 Standard
- RS 485
- Ethernet

HAAKE DynaMax
Temperature Control System

Application range		Sil 100	Sil 180
Flash point	°C	> 100	> 225
Viscosity	at 20 °C [mPas]	3	11
Density	at 20 °C [kg / dm^3]	0.89	0.93
Spec. heat capacity	[kJ / kg x K]	1.67	1.51
Temperature ranges Heating range operating temperature range working temperature range	300 °C 250 °C 200 °C 150 °C 100 °C 50 °C 0 °C -50 °C -100 °C	75	200
Color		transparent colorless	transparent colorless
Reacts with:		Silicone	Silicone
Order No. for 10 l Container		999-0202	999-0204
Order No. for 5 l Container		999-0201	999-0203

EC-Safety Data Sheets will be delivered together with each container of liquid.

Order numbers	HAAKE DynaMax 1200	HAAKE DynaMax 1700
230 V / 50 Hz	460-0111	461-0111
208 V / 60 Hz	460-0119	461-0119

Order number	Accessories HAAKE DynaMax
333-0808	Sensor MT Pt100 300mm long Diam. 3mm
333-0797	Insulated metal tubing M30*1.5 1m long
333-0798	Insulated metal tubing M30*1.5 1.5m long
333-0799	Insulated metal tubing M30*1.5 2m long
333-0800	Adapter M30*1.5 female to M16*1.5 male
333-0801	Adapter M30*1.5 male to tubing fitting 3/4"
333-0802	Adapter M30*1.5 male to M30*1.5 male
333-0803	Adapter M30*1.5 male to R1/2" male
333-0804	Adapter M30*1.5 male to R3/4" male
333-0805	Adapter M30*1.5 male to R1" male
333-0806	Elbow connection M30*1.5 male - M30*1.5 female
333-0807	Airfilter kit for DynaMax 1200/1700
333-0795	Expansion tank 5 liter
333-0796	Expansion tank 10 liter

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