termotek

Compact Cooling

P300 series chiller

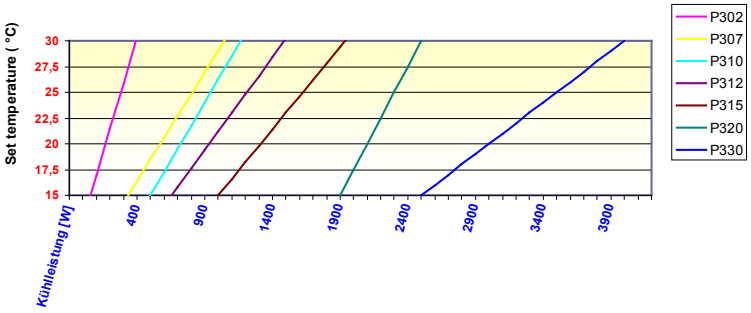
P300 series | Air - Water / Water - Water chiller

Compact 19“ rack enclosure or table-top design.
High temperature stability. Reliable operation.
Low noise and vibration levels. Low maintenance.

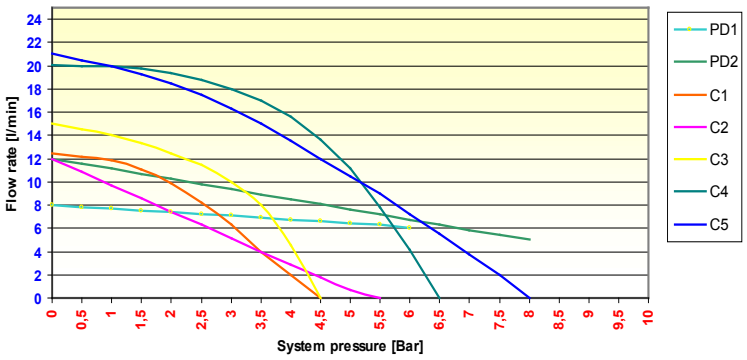
Cooling capacity: 200 W - 3 kW
Flow rate: 0.5 - 22 l/min
Height: 4 - 12 HU

Applications include the cooling of lasers, medical and laboratory equipment.
The refrigerant compressor cools a stainless steel coil located in the coolant water tank or a heat exchanger plate.
The Central Chiller Controller monitors the coolant water temperature and controls the refrigerant circuit. The coolant water circuit is designed for use with de-ionised water. A pump circulates the coolant water reliably to the load (e. g. laser). A particle filter on the chiller output and the flow sensor in the return, ensure trouble-free operation throughout the cooling water circuit. The heat is expelled via a fan or transferred to an existing primary water supply via a heat exchanger.

Cooling capacities P300 range @35°C ambient temperature



Flow rate P300 range



Standard equipment

Designed for de-ionized water
High temperature stability +/- 0.1K
Customized alarm dry contacts via 9-pole Sub-D on rear panel
Water filter externally or internally mounted, various filter grades available
Flow rate measuring and monitoring
Water level display
Water by-pass
Fan speed control
RS232 interface 24VDC remote start signal
Remote start
50Hz/60Hz design
Refrigerant R134A

Optional Equipment

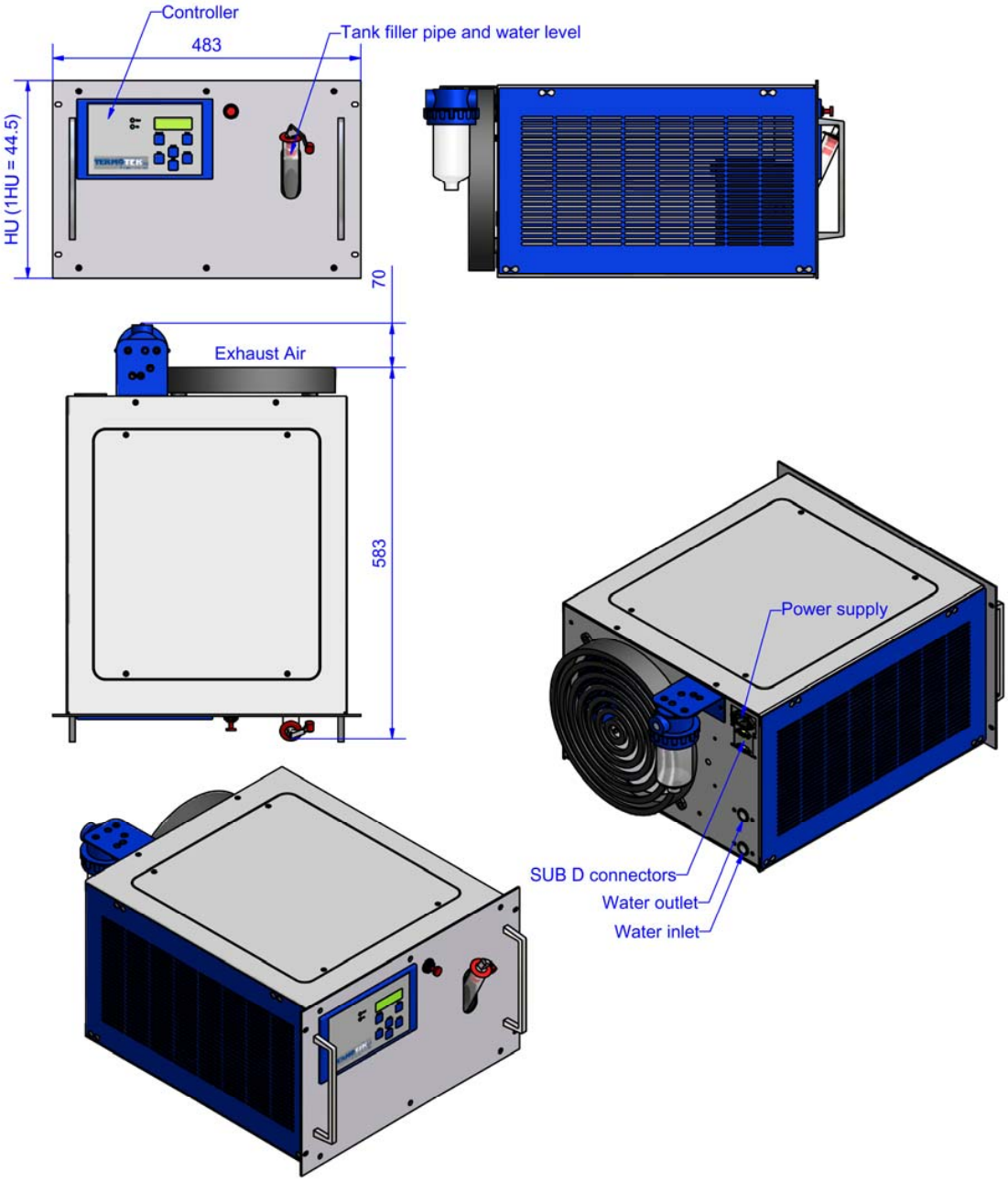
Conductivity measurement and monitoring:	Conductivity monitoring of the coolant water
Conductivity control:	Regulation of the conductivity range (1 – 30µS, +/- 1µS/cm)
DI-cartridge:	Replaceable cartridge in water by-pass (0.35l or 0.5l)
Ambient temperature sensor:	Ambient temperature measurement using a PT100 sensor
Cooling power measurement:	Additional temperature sensor on return flow
Heating:	Start-up heating of the coolant water at low ambient temperatures (< 15°C) available in 500W or 1000W
Pressure measurement and monitoring:	Pressure sensor on chiller outlet
Second flow sensor:	Second flow sensor on the return flow or for an additional water circuit
Air filter:	Air screens in the side panels, 104µm
Special voltages:	(P302 – P312) 100 / 115 / 208 / 230VAC selectable
Power Cords:	US or European plug, 2m long
Other motors & pumps:	Contact Termotek
Customized design:	Contact Termotek

P300

P300 Series Model Overview (Standard Units)

		P302	P307	P310	P312	P315	P320	P330
Cooling Power								
	@ 20°Tw / 20°Ta (Watt)	300	720	900	1150	1620	2400	3500
Tw=Temp Water, Ta=Temp Ambient	@ 20°Tw / 35°Ta (Watt)	170	570	720	930	1210	2100	3000
Temperature Stability	(K)	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1
	Method of control	Hot gas bypass, PID						
Enclosure	Size (W/D) mm	19“ slide-in rack, approx. 640mm deep with external filter on rear						
	Height HU (1HU = 44.5mm)	4	6	6	7	7	9	12
	Noise (Db (A))	< 65	< 70	< 70	< 70	< 70	< 70	< 70
	Weight (Kg) approx.	32	40	42	50	55	65	90
Application Range - Temperature	Coolant water outlet (°C)	10 - 35						
	Ambient (°C)	15 - 40						
	Transportation & Storage (°C)	0 - 70						
Air / water	Fan Ø (mm)	130	200	200	250	250	250	2 x 200
	Air Flow Direction	In through the side panels, expelled out the rear panel						
Water / water	Primary Water (°C)	5 - 25						
	Flow required (l/min)	5 - 10						
	Quality required	Filtered <50µM, < 200mg Chlorine/l						
Water Circuit	Water Filter (externally mounted)	F20	F20 or 5“	F20 or 5“	F20 or 5“	F20 or 5“	F20 or 5“	F20 or 5“
	Filter Grade	Various grades available						
	Air / Water-Water Connections	2x 3/8“ stainless steel, internal „G“ thread						
	Water / Water-Water Connections	4x 1/2“ stainless steel, internal „G“ thread						
	Tank Volume (l)	1.8	2	2	2.5	2.5	2.5	2.5
	Water Level Indication	Optical water level display on front panel						
Alarm Interlocks		Alarm contacts (open in alarm state) connected to a 9-pin Sub-D (interlock) on rear panel						
		Alarms available individually or in a collective fault configuration.						
		Both configurations can be brought out to a PC via the RS232 port						
Water Circuit	Flow Sensor	Flow turbine, set point adjustable						
	Default point (l/min)	2	2.5	2.5	2.5	2.5	2.5	2.5
	Water Level Monitoring	Two vertical float switches (warning, alarm)						
	Default High-Low temperature Alarm	15°C Low, 32°C High temperature alarm, (absolute) via Sub-D						
Refrigerant Circuit	High Pressure	18 bar, hysteresis +/- 1bar						
Power Supply	Voltage (VAC)	230VAC +/- 10%, others available						
	Current (A)	2.5	6.5	7	7.5	8	9	9
	Line Frequency (Hz)	both 50and 60						50 or 60
	Power Connections	IEC 950 with line filter						

Thermal performance measured with pump C1 with 4l/min at 3,5 bar.



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