



**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.

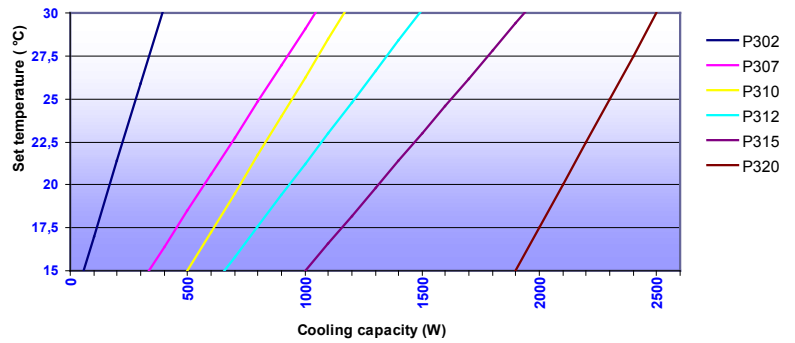
Cooling capacity: 200 W - 2.4 kW  
 Flow rate: 0.5 - 17 l/min  
 Height: 4 - 12 HU

Applications include the cooling of lasers, medical and laboratory equipment.

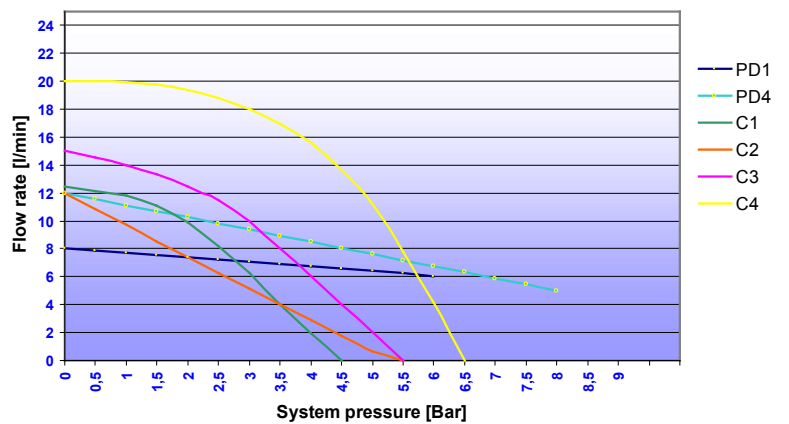
The refrigerant compressor cools a stainless steel coil located in the coolant water tank or a heat exchanger plate.

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**

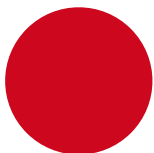


## Standard equipment

- 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
- Fan speed control
- RS232 interface 24VDC remote start signal
- Remote start
- 50Hz/60Hz design

## Optional Equipment

- Conductivity measurement and monitoring:
  - Conductivity control:
    - Conductivity monitoring of the coolant water
    - Regulation of the conductivity range (1 – 30µS, +/- 1µS/cm)
    - Replaceable cartridge in water by-pass (0.35l or 0.5l)
- DI-cartridge:
  - Ambient temperature sensor:
    - Ambient temperature measurement using a PT100 sensor
- Cooling power measurement:
  - Heating:
    - Additional temperature sensor on return flow
    - Start-up heating of the coolant water at low ambient temperatures (< 15°C) available in 500W or 1000W
- Pressure measurement and monitoring:
  - Water by-pass:
    - Pressure sensor on chiller outlet
- Second flow sensor:
  - Adjustment of flow mounted on the front panel or internally
  - Second flow sensor on the return flow or for an additional water circuit
- Air filter:
  - Special voltages:
    - Air screens in the side panels, 104µm
    - (P302 – P310) 100 / 115 / 208 / 230VAC selectable
    - (P312 – P320) 208 / 230 VAC selectable
- Power Cords:
  - Other motors & pumps:
    - US or European plug, 2m long
  - Customized design:
    - Contact Termotek



# P3000

# P300 Series Model Overview (Standard Units)

	P302	P307	P310	P312	P315	P320
<b>Cooling Power</b>						
at 20°Tw and 20°Ta (Watt)	300	720	900	1150	1620	2400
Tw = Temp. Water, Ta = Temp. Ambient at 20°Tw and 35°Ta (Watt)	170	570	720	930	1210	2100
<b>Temperature Stability</b> (K)	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1
Method of control	Hot gas bypass, PID					
<b>Enclosure</b>	19" slide-in rack, approx. 640mm deep with external filter on rear					
Size (W/D) mm	4	6	6	7	7	9
Height HU (1HU = 44.5mm)	< 65	< 70	< 70	< 70	< 70	< 70
Noise (dB (A))	32	40	42	50	55	65
Weight (Kg) approx.						
<b>Application Range - Temperature</b>	Coolant water outlet (°C) 15 - 30					
Ambient (°C)	15 - 40					
Transportation & Storage (°C)	0 - 70					
<b>Air / water</b>	Air Flow Volume (m3/h) 320 550 550 1200 1200 1200					
Air Flow Direction	In through the side panels, expelled out the rear panel					
<b>Water / water</b>	Primary Water (House)					
Flow required (l/min)	5 - 10					
Quality required	Filtered <50µM, < 200mg Chlorine/l					
<b>Water Circuit</b>	Water Filter (externally mounted) F20 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
Water Level Indication	Optical water level display on front panel					
<b>Alarm Interlocks</b>	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
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					
<b>Power Supply</b>	Voltage (VAC) 230VAC +/- 10%, others available					
Current (A) @ 50Hz	2.5	6.5	7	7.5	8	9
Line Frequency (Hz)	50/60					
Power Connections	IEC 950 with line filter					
<b>Motor/Pump Combinations</b>	Model/Type					
	PD1	X	X	X	X	X
	PD4		X	X	X	X
	C1		X	X	X	X
	C2		X	X	X	X
	C3		X	X	X	X
	C4		X	X	X	X

Thermal performance measured with motor / pump C1 with 4l/min at 3.5 bar.

- PD1 = Positive Displacement Pump, 7l/min @ 3.5 bar, magnetically coupled, Motor 230VAC, 90W, glycol compatible
- PD4 = Positive Displacement Pump, 9l/min @ 3.5 bar, Motor 230VAC, 250W, not glycol compatible
- C1 = Centrifugal Pump, 4l/min@3.5 bar, Motor 230VAC, 350W, not glycol compatible
- C2 = Centrifugal Pump, 2-stage 4l/min@3.5 bar, Motor 230VAC, 350W, not glycol compatible
- C3 = Centrifugal Pump, 10l/min@3 bar, Motor 230VAC, 750W, not glycol compatible
- C4 = Centrifugal Pump, 17l/min@3.5 bar, Motor 230VAC, 750W, not glycol compatible

