

**Nextreme™ Value Chiller**

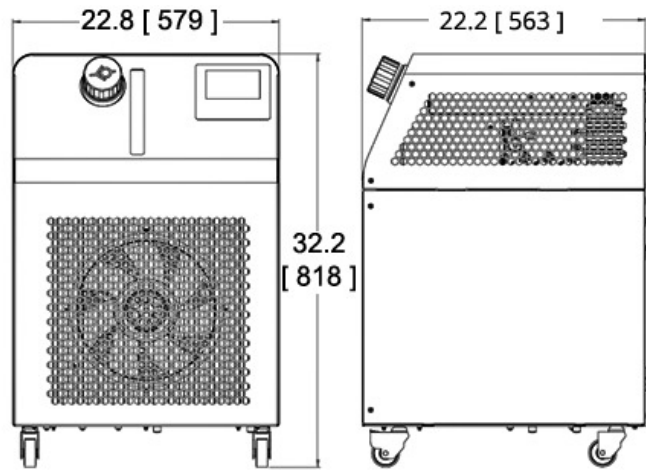
The Nextreme™ Value Chiller offers OEMs a cost-effective and reliable thermal management solution that keeps sensitive electronics in industrial and analytical equipment at the optimum temperature. Based on the Nextreme Performance Chiller Series design, the Value line offers the same ease of use, low maintenance features and high coefficient of performance (COP) as the performance chiller but at a lower cost to provide a more competitive pricing of an OEM bundled solution. Most importantly, the Value Chiller can be configured to meet unique application requirements. By using environmentally friendly R513A refrigerant, Nextreme Chillers achieve similar performance with half the Global Warming Potential (GWP) compared to traditional hydrofluorocarbon (HFC) refrigerants. Units run on universal input 230V, 50/60Hz, which means that they can operate anywhere in the world.

**Features**

- Economical Cooling Solution
- Reliable Performance
- Environmentally Friendly
- User-Friendly
- Application Specific Configurations

**Applications**

- Mass Spectrometry
- Electron Microscopes
- Medical Imaging
- Biotech
- Liquid Chromatography
- Medical Lasers
- Industrial Lasers
- Semiconductor Metrology
- Semiconductor Fabrication



INCHES  
[ MM ]

**COOLING POWER OPERATING POINTS**

**100% Water / 60Hz / 20°C Ambient Air**

Cooling Power (Qc) = 4,850 Watts  
 Fluid Setpoint = 20 °C  
 Fluid ΔT @ 15.0 L/min = 4.7 °C

**100% Water / 60Hz / 30°C Ambient Air**

Cooling Power (Qc) = 4,300 Watts  
 Fluid Setpoint = 20 °C  
 Fluid ΔT @ 15.0 L/min = 4.1 °C

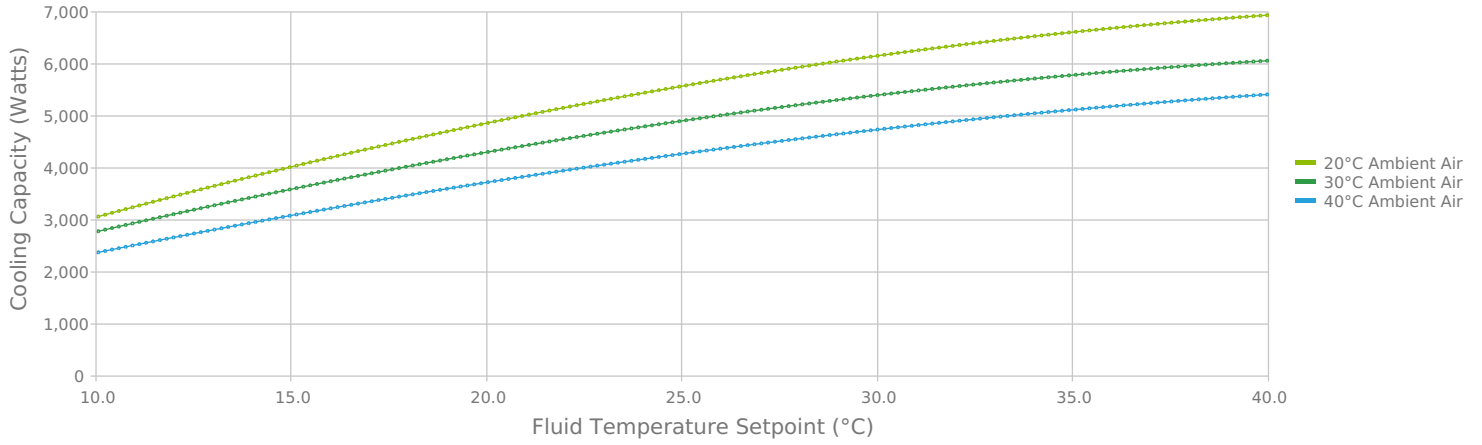
**100% Water / 50Hz / 20°C Ambient Air**

Cooling Power (Qc) = 4,200 Watts  
 Fluid Setpoint = 20 °C  
 Fluid ΔT @ 15.0 L/min = 4.0 °C

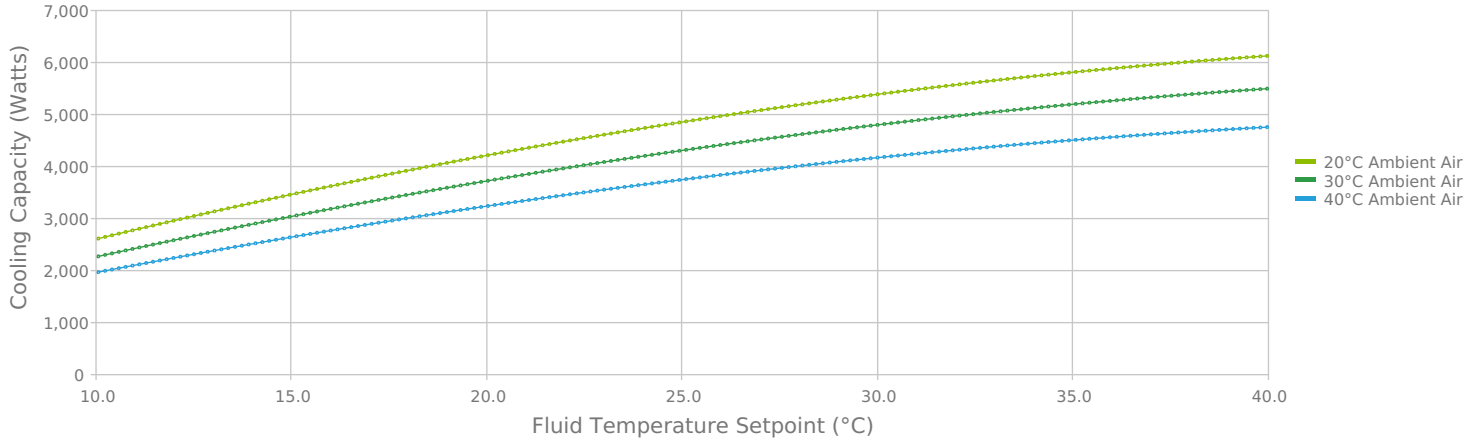
**100% Water / 50Hz / 30°C Ambient Air**

Cooling Power (Qc) = 3,700 Watts  
 Fluid Setpoint = 20 °C  
 Fluid ΔT @ 15.0 L/min = 3.6 °C

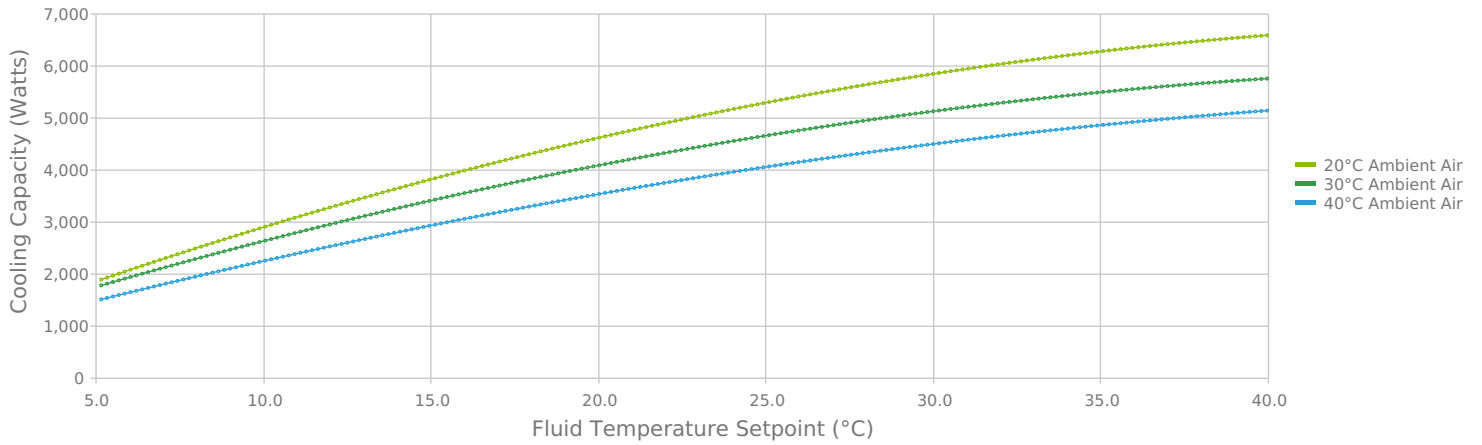
VRC4500-A1-20-BT1 Cooling Capacity - 60Hz  
 100% Water Flow = 15 L/min



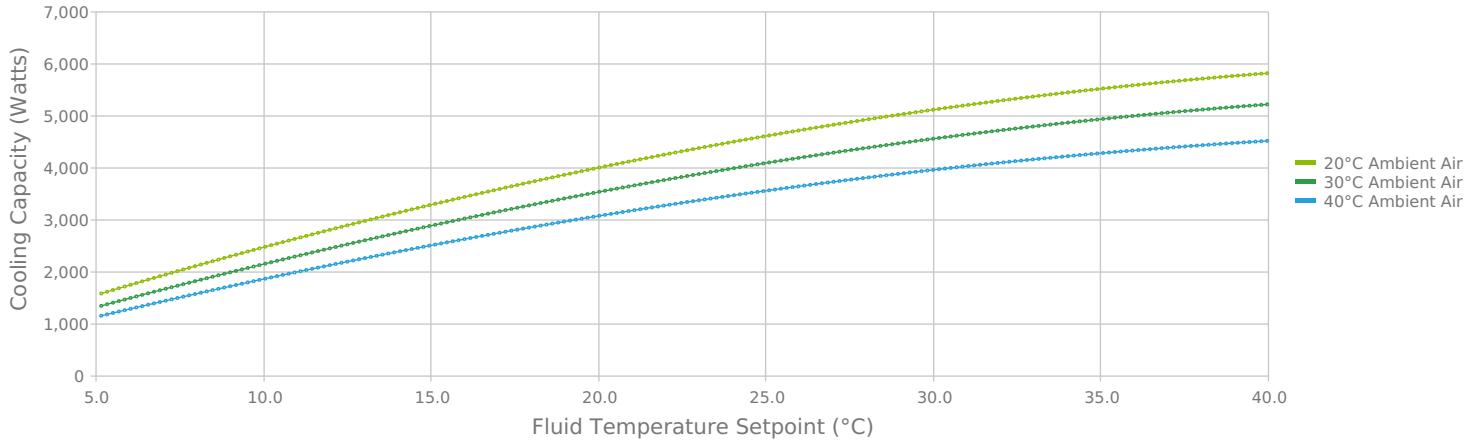
VRC4500-A1-20-BT1 Cooling Capacity - 50Hz  
 100% Water Flow = 15 L/min



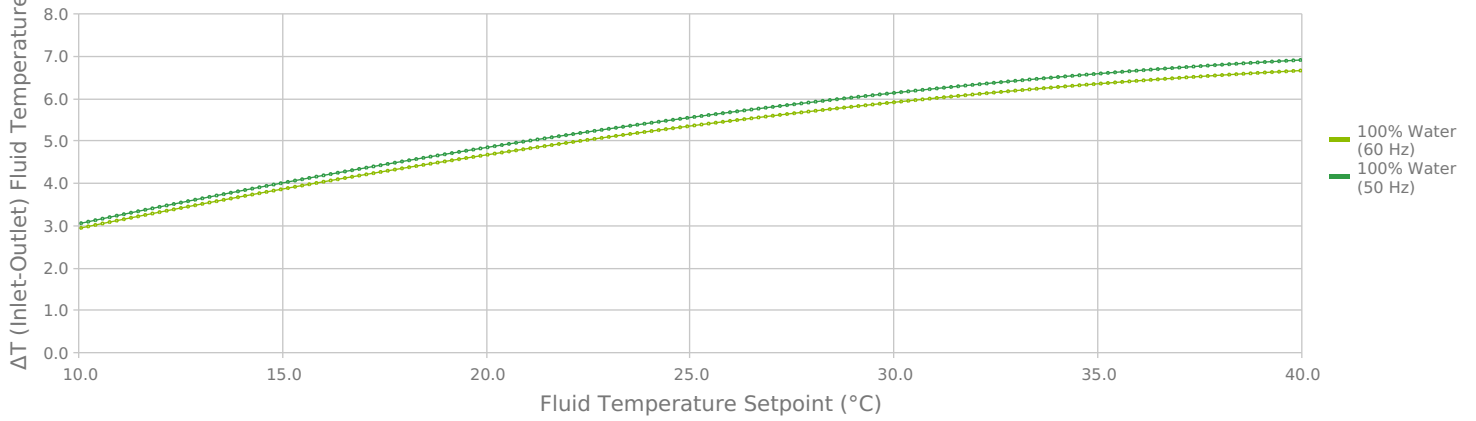
VRC4500-A1-20-BT1 Cooling Capacity - 60Hz  
 60/40 Water-Glycol Flow = 15 L/min



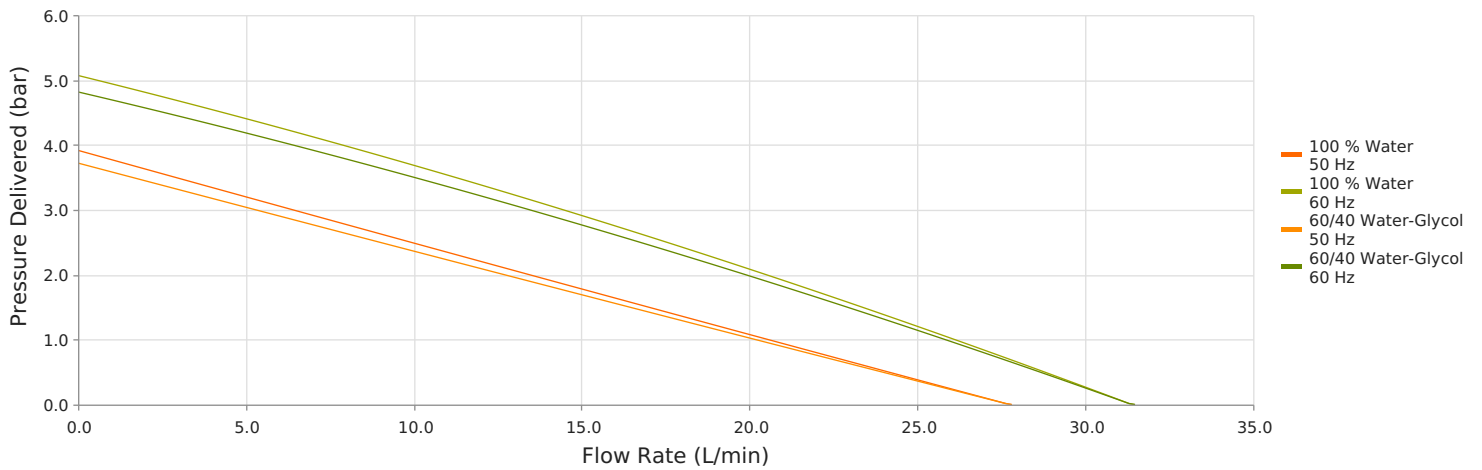
VRC4500-A1-20-BT1 Cooling Capacity - 50Hz  
 60/40 Water-Glycol Flow = 15 L/min



VRC4500-A1-20-BT1  $\Delta T$  (Inlet-Outlet) Fluid Temperature  
 Max System Cooling at 20°C Ambient Air  
 15 L/min Fluid Flow



VRC4500-A1-20-BT1 - Pump Curve



## TECHNICAL SPECIFICATIONS

### Performance

<b>Nominal Cooling Capacity<sup>1</sup></b>	4,850 W
<b>Setpoint Range</b>	5°C to 40°C
<b>Temperature Stability</b>	±0.5°C
<b>Nominal Operating Flowrate (60 Hz)</b>	15.0 L/min @ 2.9 Bar
<b>Nominal Operating Flowrate (50 Hz)</b>	15.0 L/min @ 1.8 Bar
<b>Refrigerant</b>	R 513A
<b>Refrigerant Charge</b>	650 g

### Operation

<b>Coolant</b>	Water or Water/Glycol
<b>Operating Temperature<sup>2</sup></b>	15°C to 40°C
<b>Storage temperature range (w/o coolant)</b>	-25°C to 70°C
<b>Humidity range</b>	30% to 80%
<b>Storage Humidity range</b>	5% to 95%, non-condensing
<b>Altitude</b>	< 2,000 meters
<b>Input Voltage</b>	230 VAC
<b>Frequency</b>	50/60 Hz
<b>Current</b>	< 13.2 Amps
<b>Maximum Forward Pressure</b>	5 Bar
<b>Compliance</b>	ANSI / UL / CSA / IEC EN 61010-1 Edition 3

### Physical

<b>Height</b>	818 mm
<b>Length</b>	563 mm
<b>Width</b>	579 mm
<b>Weight</b>	67 kg
<b>Coolant Capacity</b>	5 Liters
<b>Couplings</b>	1/2 in NPT

**STANDARD FEATURES**

<b>Color Touch Screen Display</b>	Variable speed compressor and condensing without the need for alarm codes or symbols.
<b>Semi-Closed Fluid System</b>	Sealed fluid system with breathable reservoir cap (similar to an automobile). This prevents evaporative losses, introduction of bacteria, and the need for components to prevent fluid from draining back into the system when installed below the application.
<b>Optical Fluid Level Switch</b>	Fluid level sensing with no moving parts.
<b>RS-232 Communications</b>	Complete control integration of chiller into higher level assembly control system.



**NOTES**

1. Nominal capacity rating is given at a 20°C setpoint, 20°C ambient temperature, sea level, and 60Hz operation
2. For ambient conditions outside this range, please contact Laird Thermal Systems.

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