

Nextreme™ Value Chiller

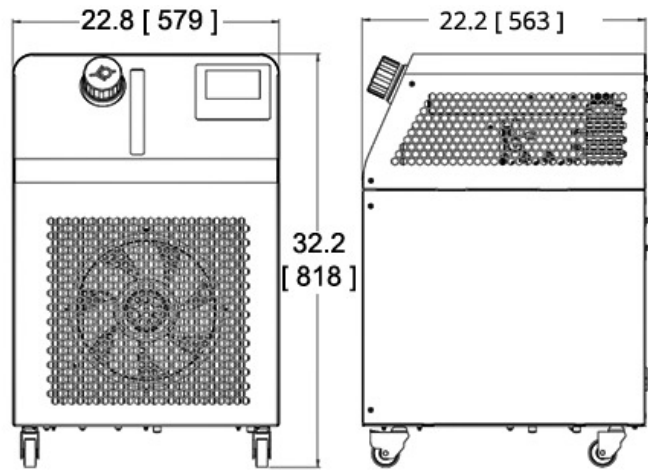
The Nextreme™ Value Chiller offers OEMs a cost-effective and reliable thermal management solution that keeps sensitive electronics in industrial and analytical equipment at the optimum temperature. Based on the Nextreme Performance Chiller Series design, the Value line offers the same ease of use, low 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

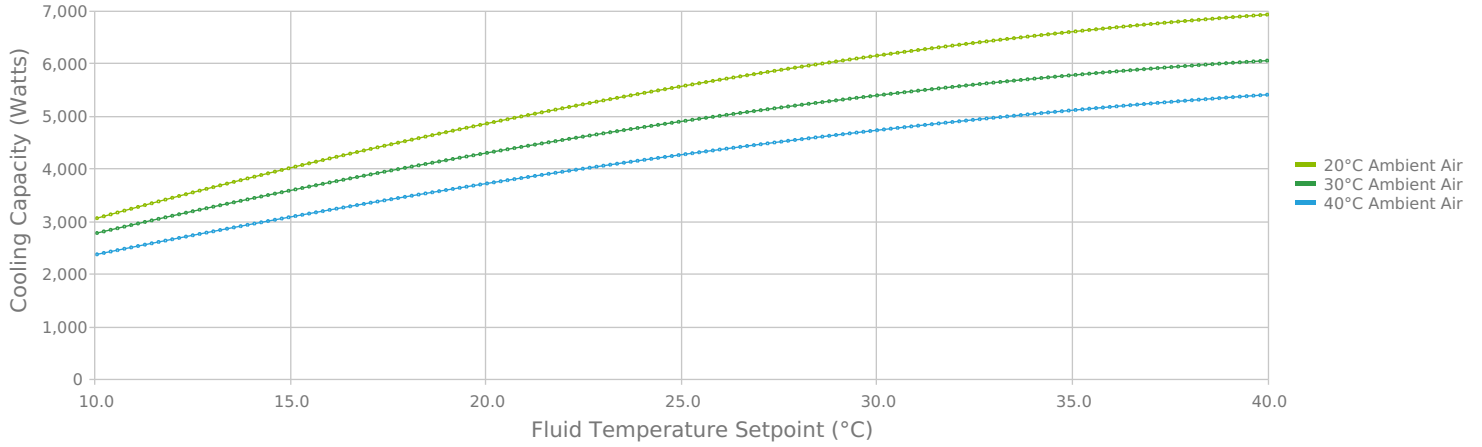
100% Water / 50Hz / 20°C Ambient Air

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

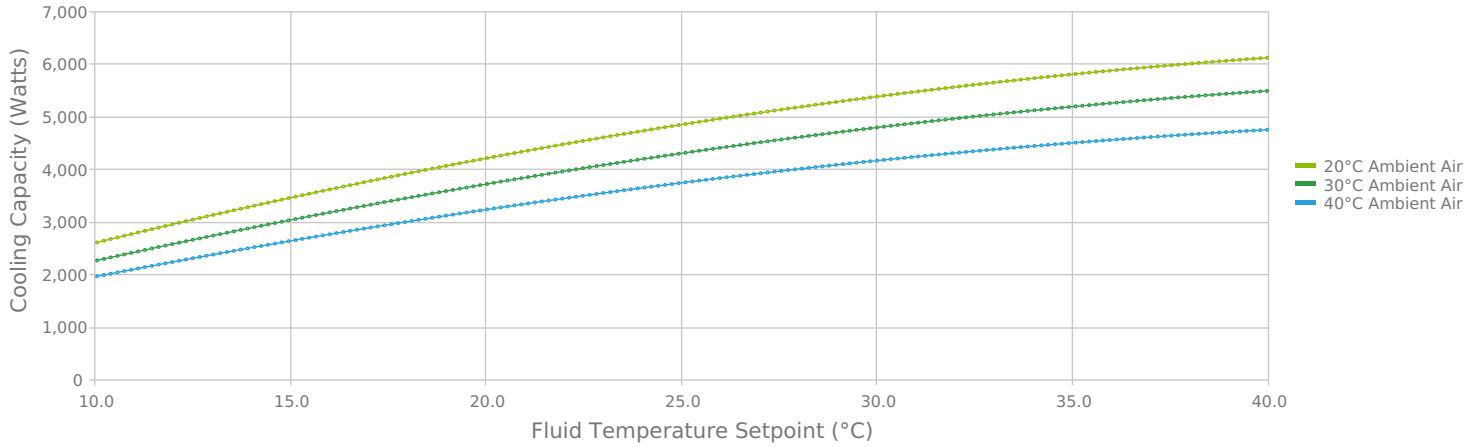
100% Water / 50Hz / 30°C Ambient Air

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

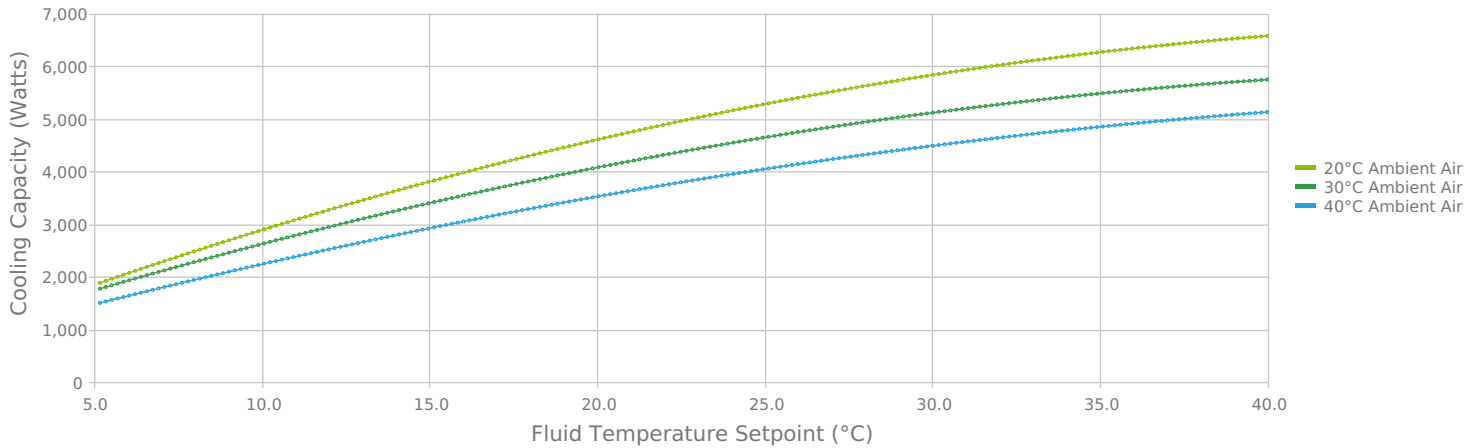
VRC4500-A1-20-BT1 Cooling Capacity - 60Hz
 100% Water Flow = 15 L/min



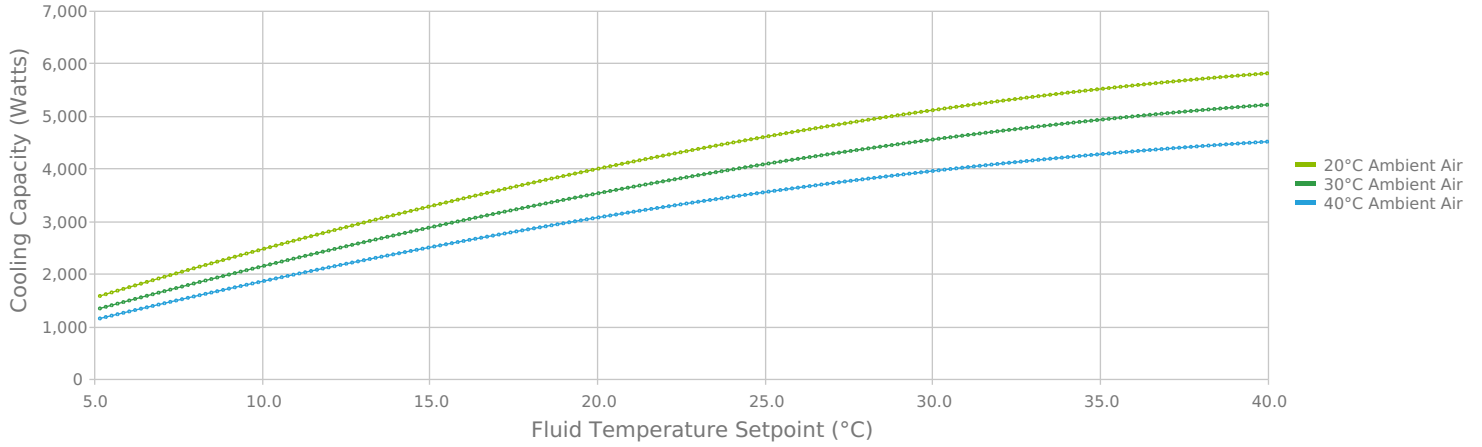
VRC4500-A1-20-BT1 Cooling Capacity - 50Hz
 100% Water Flow = 15 L/min



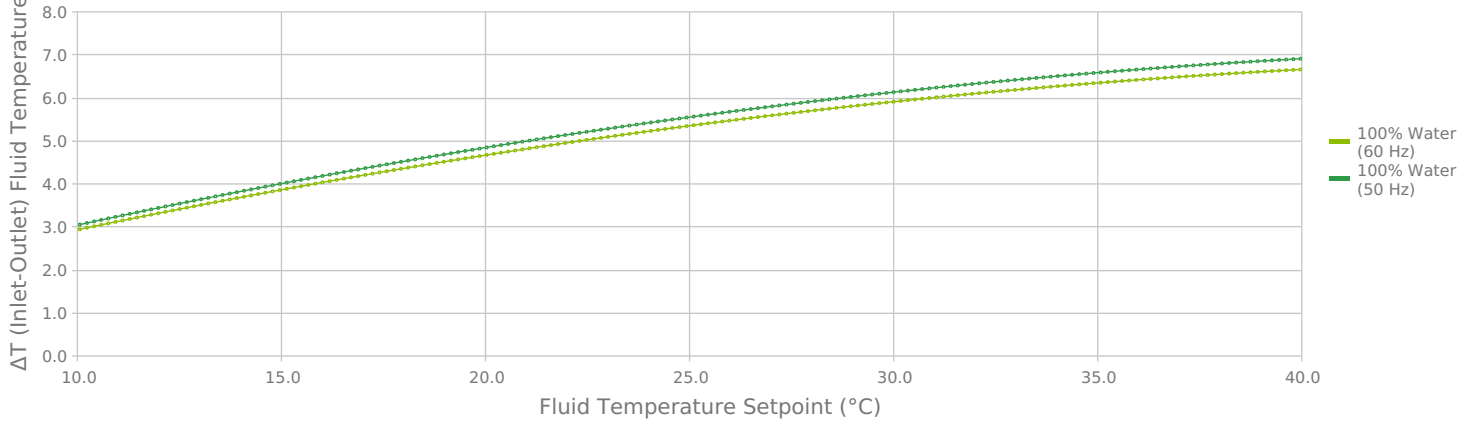
VRC4500-A1-20-BT1 Cooling Capacity - 60Hz
 60/40 Water-Glycol Flow = 15 L/min



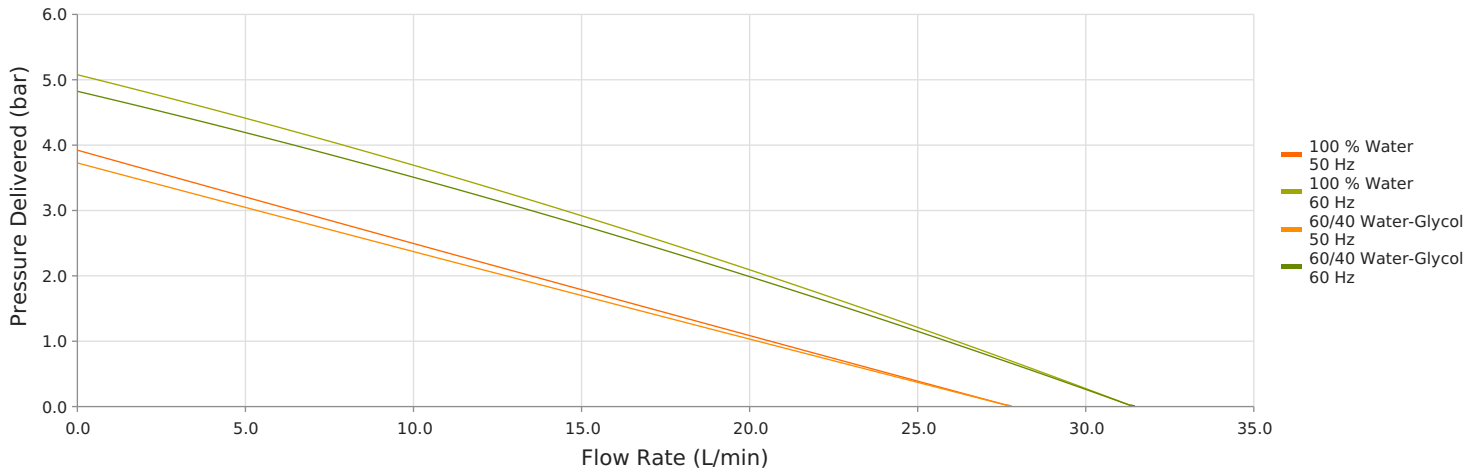
VRC4500-A1-20-BT1 Cooling Capacity - 50Hz
 60/40 Water-Glycol Flow = 15 L/min



VRC4500-A1-20-BT1 ΔT (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

Nominal Cooling Capacity¹	4,850 W
Setpoint Range	5°C to 40°C
Temperature Stability	±0.5°C
Nominal Operating Flowrate (60 Hz)	15.0 L/min @ 2.9 Bar
Nominal Operating Flowrate (50 Hz)	15.0 L/min @ 1.8 Bar
Refrigerant	R 513A
Refrigerant Charge	650 g

Operation

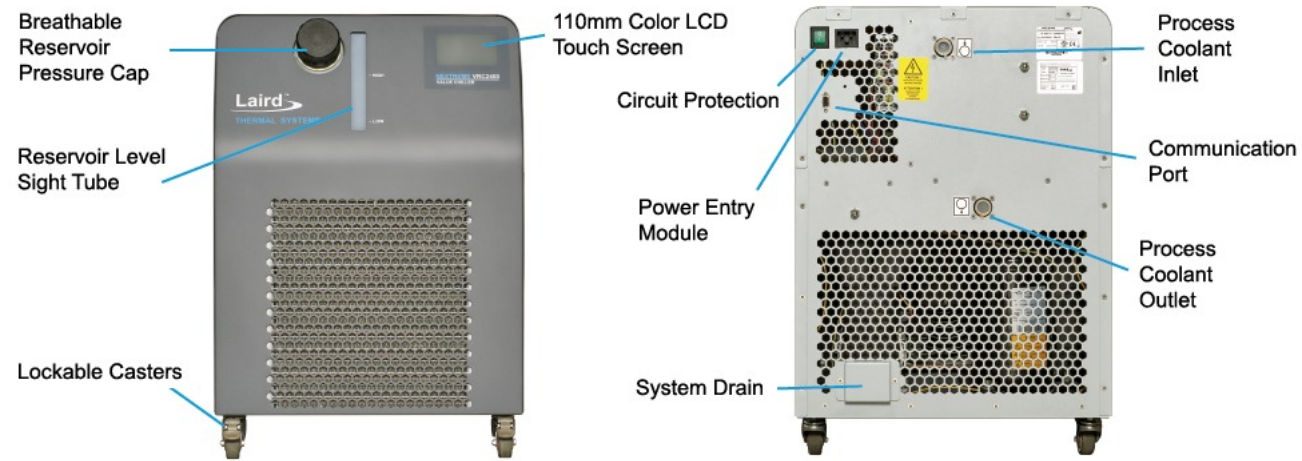
Coolant	Water or Water/Glycol
Operating Temperature²	15°C to 40°C
Storage temperature range (w/o coolant)	-25°C to 70°C
Humidity range	30% to 80%
Storage Humidity range	5% to 95%, non-condensing
Altitude	< 2,000 meters
Input Voltage	230 VAC
Frequency	50/60 Hz
Current	< 13.2 Amps
Maximum Forward Pressure	5 Bar
Compliance	ANSI / UL / CSA / IEC EN 61010-1 Edition 3

Physical

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

STANDARD FEATURES

Color Touch Screen Display	Simple user interface and detailed communication of system status without the need for alarm codes or symbols.
Semi-Closed Fluid System	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.
Optical Fluid Level Switch	Fluid level sensing with no moving parts.
RS-232 Communications	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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