

Nextreme™ Value Chiller

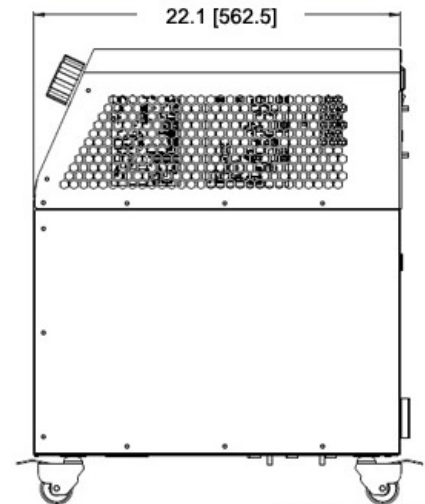
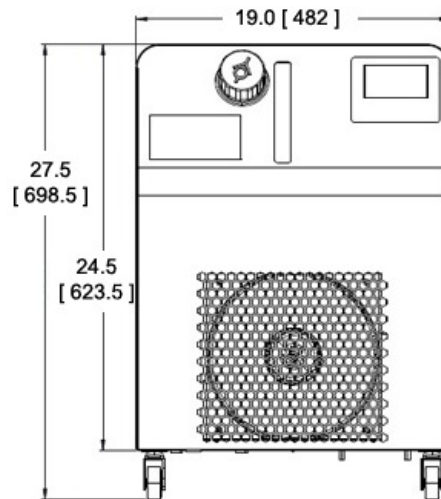
The Nextreme™ Value Chiller offers OEMs a cost-effective and reliable thermal management solution that keeps sensitive electronics in industrial and analytical equipment at the optimum temperature. Based on the Nextreme Performance Chiller Series design, the Value line offers the same ease of use, low 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) = 1,250 Watts
Fluid Setpoint = 20 °C
Fluid ΔT @ 10.5 L/min = 1.7 °C

100% Water / 60Hz / 30°C Ambient Air

Cooling Power (Qc) = 1,000 Watts
Fluid Setpoint = 20 °C
Fluid ΔT @ 10.5 L/min = 1.4 °C

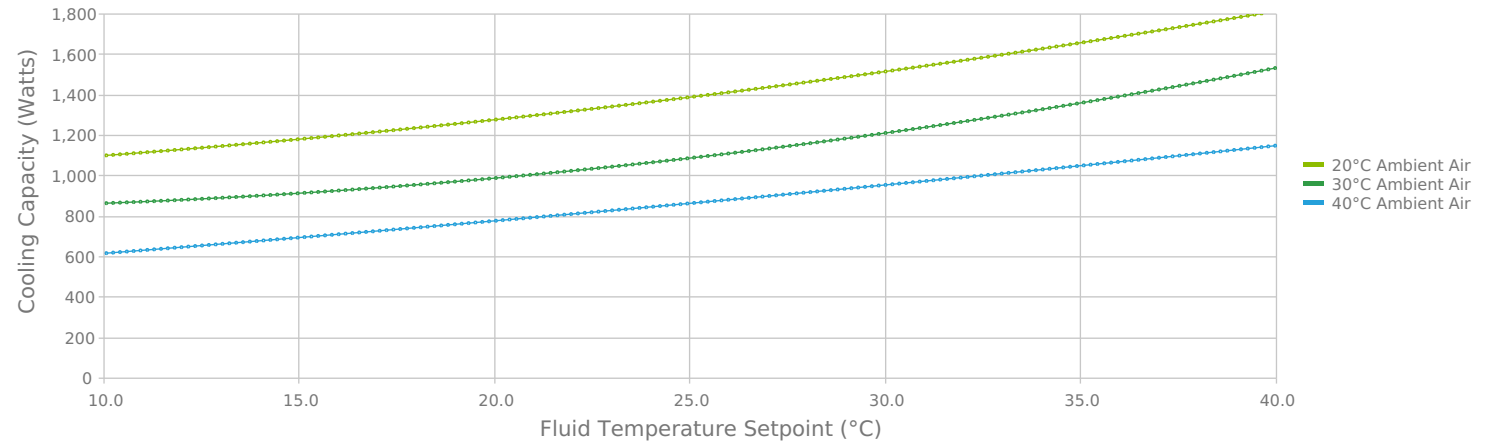
100% Water / 50Hz / 20°C Ambient Air

Cooling Power (Qc) = 1,200 Watts
Fluid Setpoint = 20 °C
Fluid ΔT @ 9.0 L/min = 1.9 °C

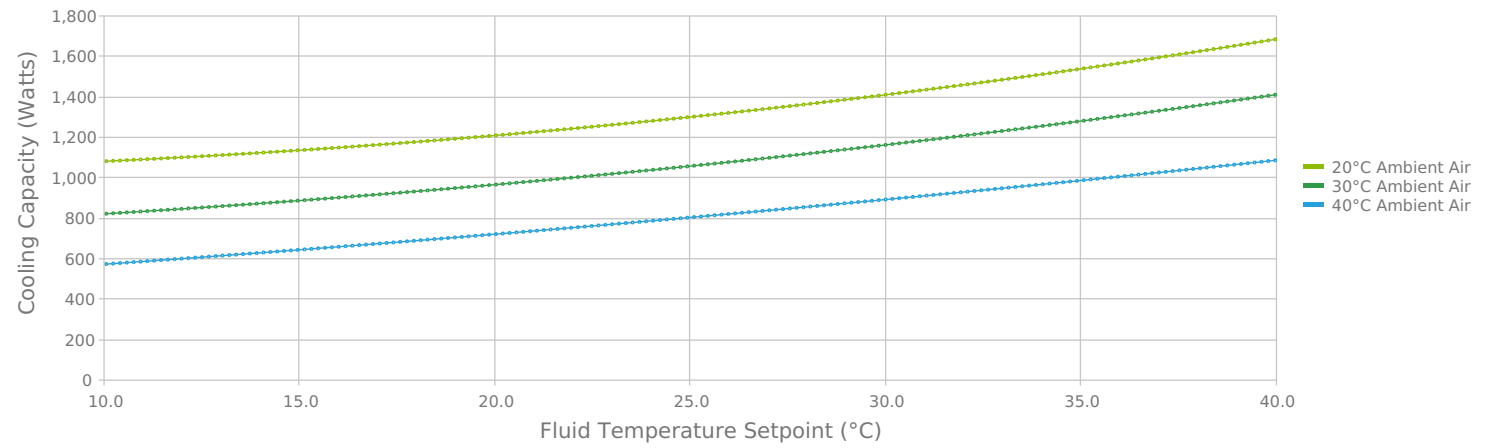
100% Water / 50Hz / 30°C Ambient Air

Cooling Power (Qc) = 950 Watts
Fluid Setpoint = 20 °C
Fluid ΔT @ 9.0 L/min = 1.5 °C

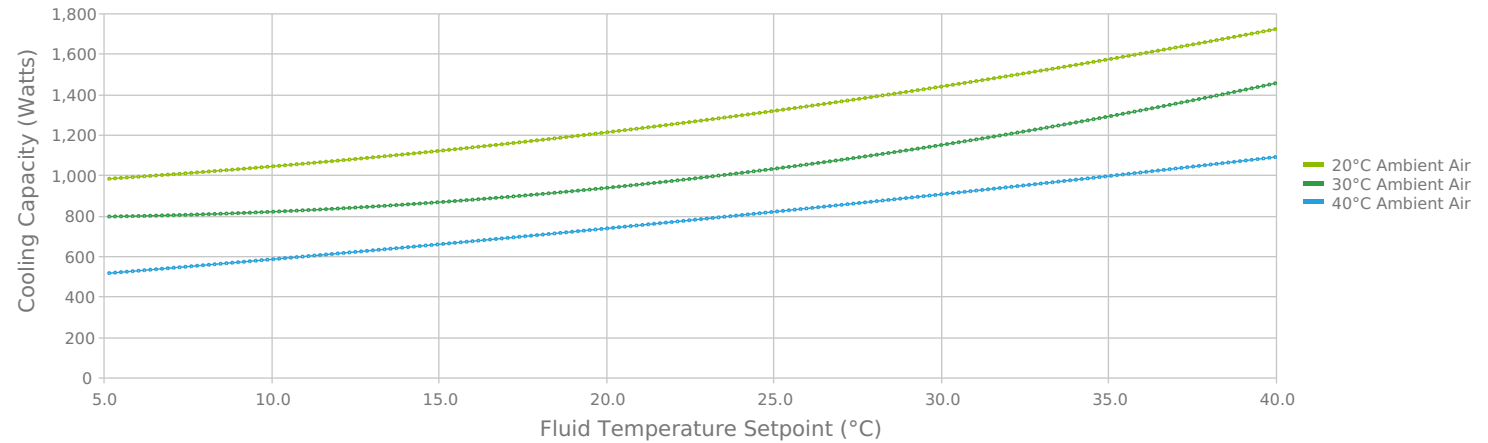
VRC1200-A1-20-BV1 Cooling Capacity - 60Hz
100% Water Flow = 10.5 L/min



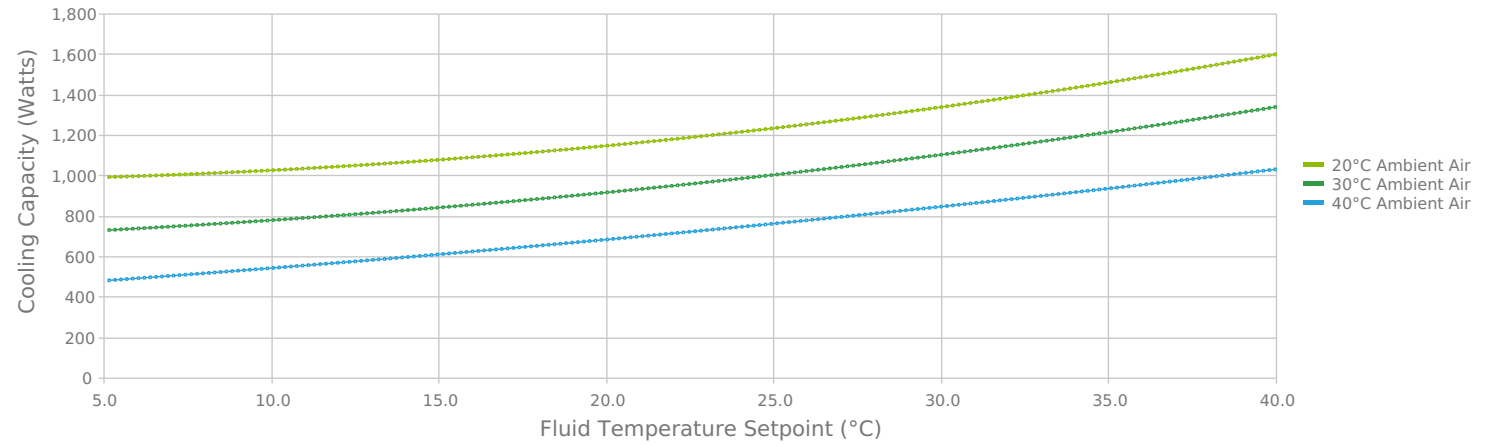
VRC1200-A1-20-BV1 Cooling Capacity - 50Hz
100% Water Flow = 10.5 L/min



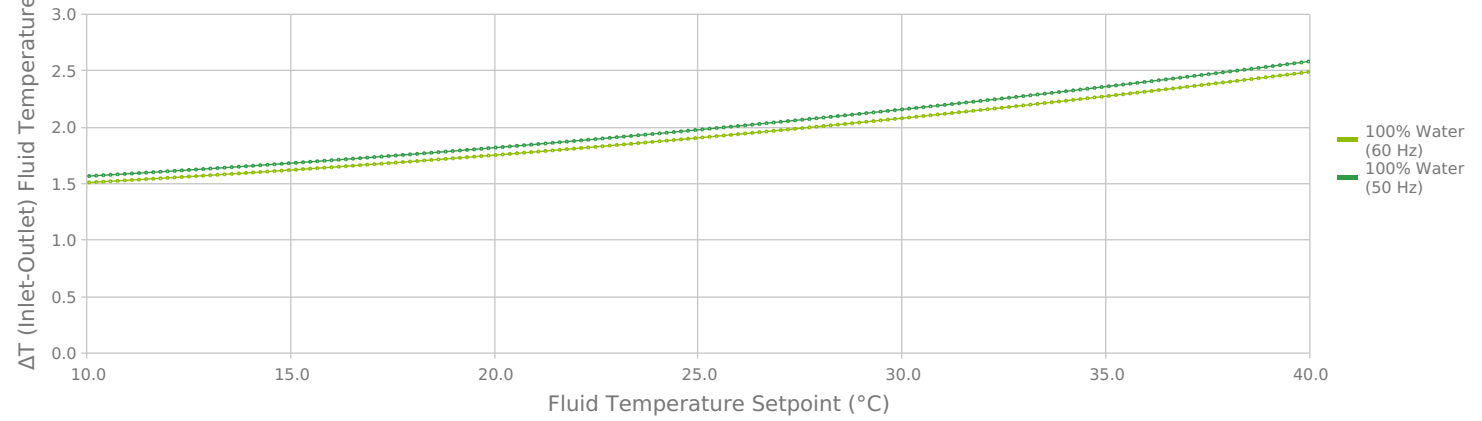
VRC1200-A1-20-BV1 Cooling Capacity - 60Hz
60/40 Water-Glycol Flow = 10.5 L/min



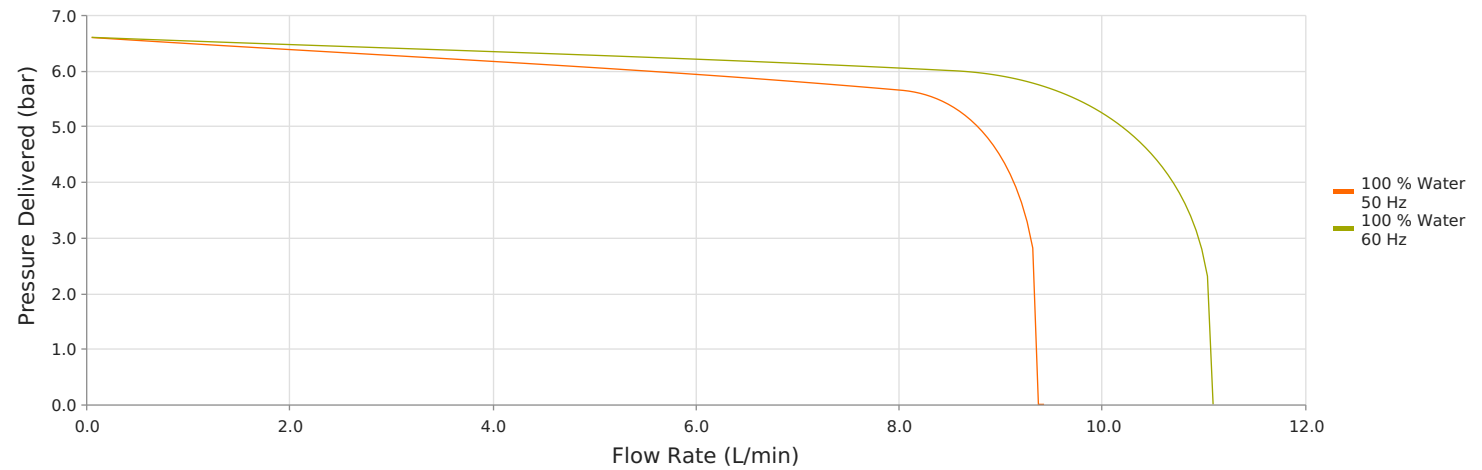
VRC1200-A1-20-BV1 Cooling Capacity - 50Hz
60/40 Water-Glycol Flow = 10.5 L/min



VRC1200-A1-20-BV1 ΔT (Inlet-Outlet) Fluid Temperature
Max System Cooling at 20°C Ambient Air
10.5 L/min Fluid Flow



VRC1200-A1-20-BV1 - Pump Curve



Technical Specifications

Performance

| | |
|---------------------------------------|----------------------|
| Nominal Cooling Capacity ¹ | 1,250 W |
| Setpoint Range | 5°C to 40°C |
| Temperature Stability | ±0.5°C |
| Nominal Operating Flowrate (60 Hz) | 10.5 L/min @ 5.0 Bar |
| Nominal Operating Flowrate (50 Hz) | 9.0 L/min @ 5.0 Bar |
| Refrigerant | R 513A |
| Refrigerant Charge | 335 g |

Operation

| | |
|---|--|
| Coolant | Water or Water/Glycol |
| Operating Temperature ² | 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 | < 5.1 Amps |
| Input Power Connection | C13 Receptacle |
| Maximum Forward Pressure | 6.5 Bar |
| Compliance | ANSI / UL / CSA / IEC EN 61010-1 Edition 3 |



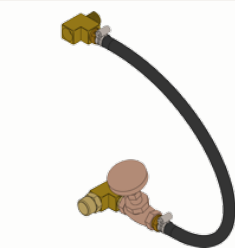
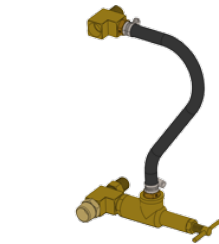
Physical

| | |
|------------------|------------|
| Height | 699 mm |
| Length | 563 mm |
| Width | 482 mm |
| Weight | 58 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. |

Accessory Kits

| | Feature | Kit Part Number | Description |
|--|---|-----------------|--|
|  | Flow Control Valve and Flow Sensing Kit | 387004277 | This externally installed valve is for reducing the overall flow to the application. Full flow continues through the chiller to maintain high heat transfer rates and temperature stability. The flow meter is for measuring coolant flow rate and is installed externally to the chiller with both a local display (GPM) and connectivity to the chiller LCD display. |
|  | Water Filter Kit | 387004279 | Hot swappable, 5-micron water filter for filtering particulates from the coolant circuit. |
|  | Flow Bypass Kit | 387010608 | This externally installed valve is for reducing the overall flow to the application. Full flow continues through the chiller to maintain high heat transfer rates and temperature stability. This kit does not contain a flow meter. |
|  | Pressure Bypass Kit | 387010420 | This pressure bypass kit prevents high pressure operation and can either operate partially open or open when there is a change in operation (e.g., flow to application stopped). It can be used for flow control but operates with less precision. This pressure bypass maintains full flow through the chiller heat exchanger. |

Cord Options

These power cords have been tested and validated on Nextreme devices.

Power cord is not supplied with the unit and must be ordered separately.

| MFG Part Number | Plug Type | Standard | Style | Cable Length | Conductor Cross-Section | Color | Connector |
|-----------------|----------------|-------------|----------|--------------|-------------------------|-------|-----------|
| 387009619 | Australia | AS 3112 | straight | 2.0 m | 3 x 1.5 mm ² | Black | C13 |
| 387009620 | Europlug | CEE 7 / VII | straight | 2.0 m | 3 x 1.5 mm ² | Black | C13 |
| 387009621 | China | GB 2099 | straight | 2.0 m | 3 x 1.5 mm ² | Black | C13 |
| 387009622 | Japan | JIS 8303 | straight | 2.0 m | 3 x 2 mm ² | Black | C13 |
| 387009623 | United Kingdom | BS 1363 | straight | 2.0 m | 3 x 1.5 mm ² | Black | C13 |
| 387009624 | United States | NEMA 5-15P | straight | 2.0 m | 3 x 2 mm ² | Black | C13 |

* IEC ** UL



Notes

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

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