

Nextreme™ NRC400 Performance Chiller

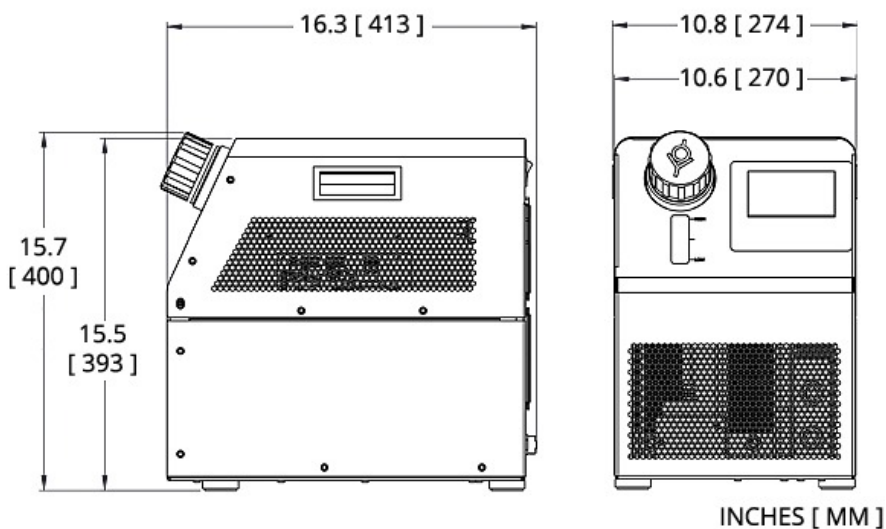
The Nextreme NRC400 is a next generation benchtop recirculating chiller using solid-state thermoelectric technology for precise temperature control of analytical and industrial equipment. It offers high heat pumping capacity for its size, improved temperature stability and lower noise operation than previous models. Utilizing custom thermoelectric coolers with premium thermoelectric materials, it delivers a higher coefficient of performance (COP). The NRC400 is a semi-closed system with a large reservoir tank requiring less refilling. It is equipped with a high-quality pump offering high MTBF with low pulsation to accommodate highly sensitive imaging and test instruments. Users can easily control temperature setpoints and alarm settings via the LCD touchscreen display. Custom configurations are available, however, MOQ applies. Power cord is **not** supplied with the unit and **must be ordered separately**.

Features

- Precise Temperature Control
- Compact Form Factor
- Reliable Solid-State Operation
- Intuitive GUI
- Low Noise Operation

Applications

- Analytical Imaging
- Industrial Laser Systems
- Semiconductor Test & Measurement
- Laboratory Testing
- Bath Cooling



COOLING POWER OPERATING POINTS¹

100% Water (20°C Ambient Air)

Cooling Power (Qc) = 400 Watts
 Fluid Setpoint = 20 °C
 Fluid ΔT @ 1.0 L/min = 5.8 °C

100% Water (30°C Ambient Air)

Cooling Power (Qc) = 266 Watts
 Fluid Setpoint = 20 °C
 Fluid ΔT @ 1.0 L/min = 3.8 °C

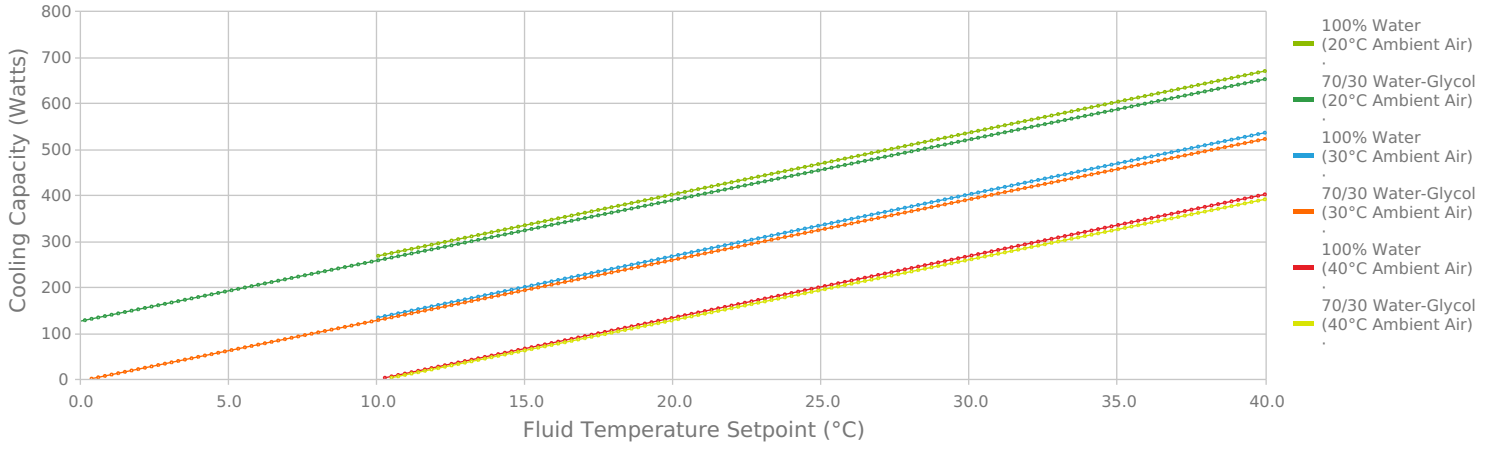
70/30 Water-Glycol (20°C Ambient Air)

Cooling Power (Qc) = 388 Watts
 Fluid Setpoint = 20 °C
 Fluid ΔT @ 1.0 L/min = 5.9 °C

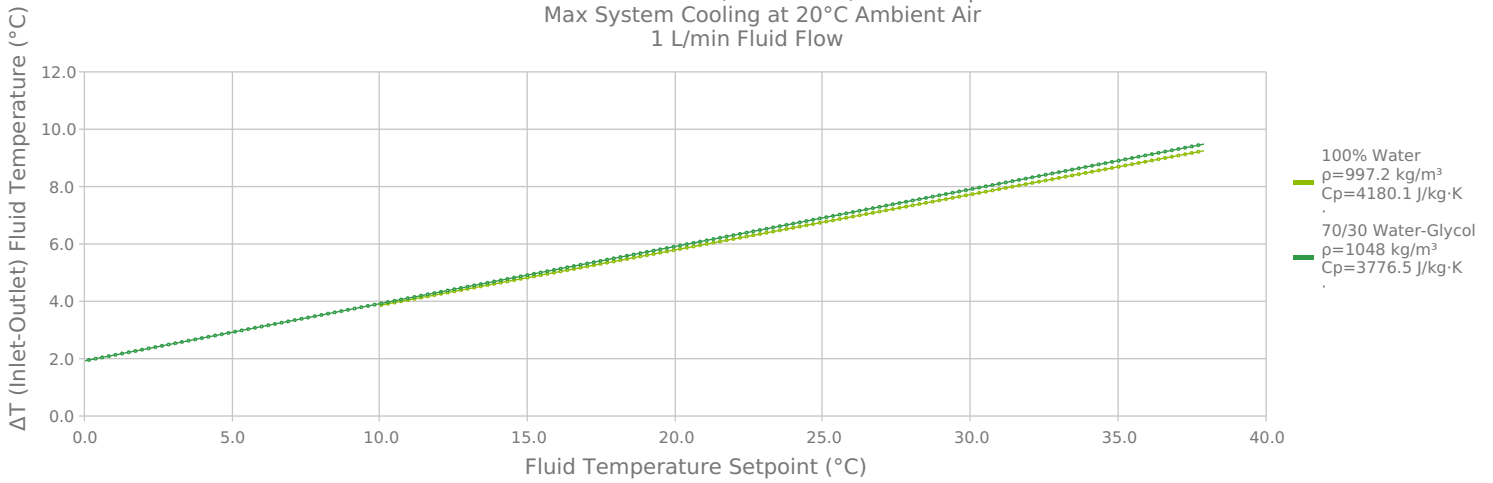
70/30 Water-Glycol (30°C Ambient Air)

Cooling Power (Qc) = 258 Watts
 Fluid Setpoint = 20 °C
 Fluid ΔT @ 1.0 L/min = 3.9 °C

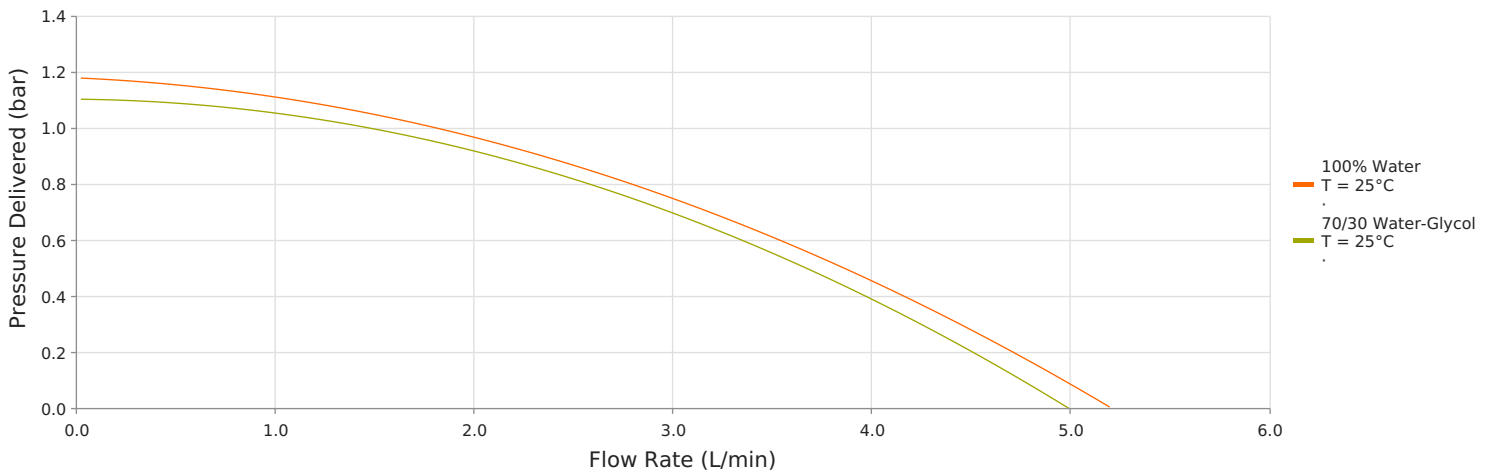
NRC400-T0-00-PC1 Cooling Capacity
 1 L/min Fluid Flow



NRC400-T0-00-PC1 ΔT (Inlet-Outlet) Fluid Temperature
 Max System Cooling at 20°C Ambient Air
 1 L/min Fluid Flow



NRC400-T0-00-PC1 - Chiller Pump Curves



TECHNICAL SPECIFICATIONS

Performance

| | |
|---|--------------|
| Maximum Cooling Capacity² | 400 W |
| Setpoint Range | -5°C to 40°C |
| Temperature Stability | ±0.05°C |

Operation

| | |
|--|--|
| Coolant | Water or Water/Glycol |
| Operating Temperature | 10°C to 40°C |
| Storage temperature range (w/o coolant) | 0°C to 50°C |
| Humidity range | 35% to 85% |
| Storage Humidity range | 5% to 95%, non-condensing |
| Input Voltage | 115 - 230 VAC |
| Frequency | 50/60 Hz |
| Current | < 4.35 Amps |
| Maximum Forward Pressure | 1.18 Bar |
| Compliance | ANSI / UL / CSA / IEC EN 61010-1 Edition 3 |

Physical

| | |
|-------------------------|----------------------------------|
| Height | 400 mm |
| Length | 413 mm |
| Width | 274 mm |
| Weight | 24 kg |
| Coolant Capacity | 1 Liters |
| Couplings | Quick-Connect (3/8 in ID Tubing) |

CORD OPTIONS

These power cords all terminate in an IEC320-C20 plug. All compliance testing and validation has been done with these specific cord models.

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 |
|-----------------|----------------|-------------|----------|--------------|-------------------------|-------|-----------|
| 387006827 | Australia | AS 3112 | straight | 2.0 m | 3 x 1.5 mm ² | Black | C19 |
| 387006822 | Europlug | CEE 7 / VII | straight | 2.0 m | 3 x 1.5 mm ² | Black | C19 |
| 387006823 | China | GB 2099 | straight | 2.0 m | 3 x 1.5 mm ² | Black | C19 |
| 387006932 | Japan | JIS 8303 | straight | 2.0 m | 3 x 2 mm ² | Black | C19 |
| 387006821 | United Kingdom | BS 1363 | straight | 2.0 m | 3 x 1.5 mm ² | Black | C19 |
| 387007040 | United States | NEMA 5-15P | straight | 2.0 m | 3 x 2 mm ² | Black | C19 |

LIQUID INTERFACE



NOTES

1. Performance curve deviation is within +/-5%
2. Maximum Cooling Capacity rated at 20°C Ambient Air and 20°C Fluid Temperature
3. Use water as coolant for control temperatures above 10°C
4. To prevent freezing, use coolant with up to 30% glycol below 10°C
5. For alternate coolants please contact Laird Thermal Systems

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