Nextreme™ Performance Chiller NRC400-T0-00-PC2
MFG Part Number: 385901-002

Nextreme™ NRC400 Performance Chiller

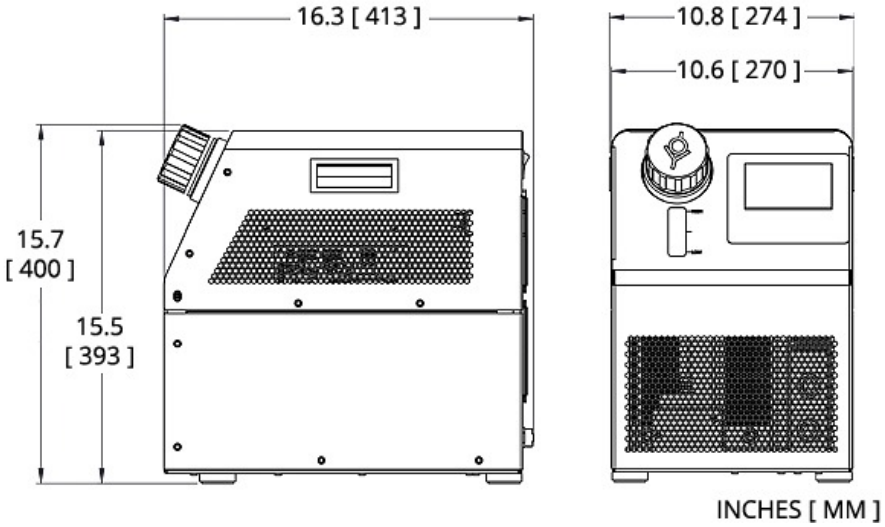
The Nextreme NRC400 is a next generation benchtop recirculating chiller using solid-state thermoelectric technology for precise temperature control of analytical and industrial equipment. It offers high heat pumping capacity for its size, improved temperature stability and lower noise operation than 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. This model comes with an option to increase chiller performance using Boost Mode. With the Boost Mode ON, the fans run at a higher speed which increases the unit's performance to the maximum cooling capacity. Users can easily control temperature setpoints and alarm settings via the high-res LCD touchscreen display. Custom configurations are available, however, MOQ applies.

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 POINTS[1]

100% Water (20°C Ambient Air)

Cooling Power (Qc) = 348 Watts
Boost Mode (Qc) = 400 Watts
Fluid Setpoint = 20 °C
Fluid ΔT @ 1.0 L/min = 5.0 °C
Boost Mode Fluid ΔT @ 1.0 L/min = 6.0 °C

100% Water (30°C Ambient Air)

Cooling Power (Qc) = 205 Watts
Boost Mode (Qc) = 266 Watts
Fluid Setpoint = 20 °C
Fluid ΔT @ 1.0 L/min = 3.0 °C
Boost Mode Fluid ΔT @ 1.0 L/min = 3.8 °C

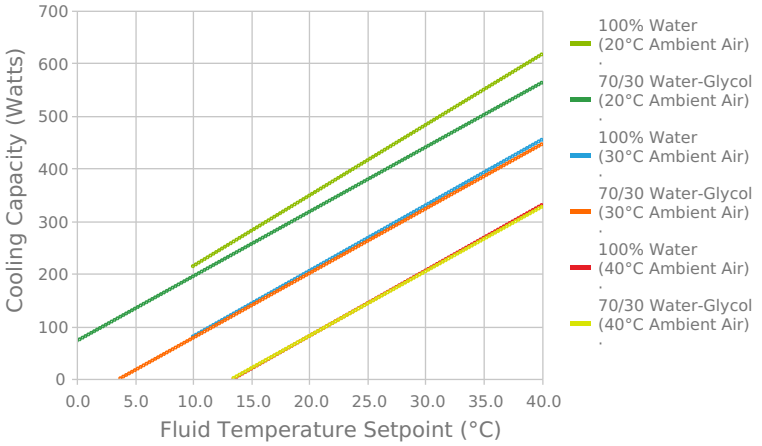
70/30 Water-Glycol (20°C Ambient Air)

Cooling Power (Qc) = 317 Watts
Boost Mode (Qc) = 388 Watts
Fluid Setpoint = 20 °C
Fluid ΔT @ 1.0 L/min = 4.8 °C
Boost Mode Fluid ΔT @ 1.0 L/min = 5.9 °C

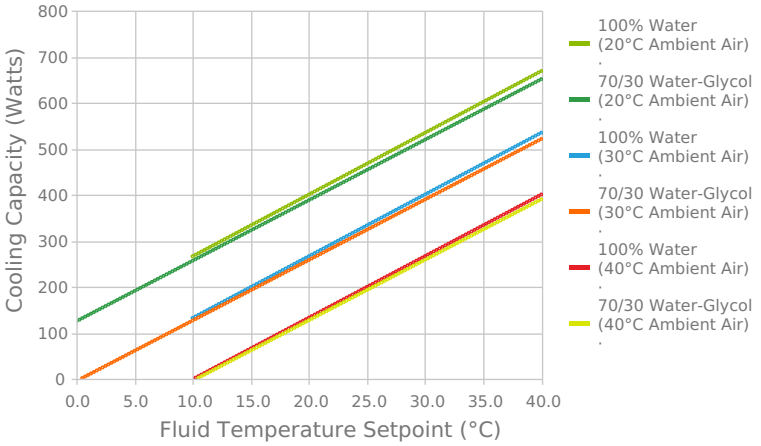
70/30 Water-Glycol (30°C Ambient Air)

Cooling Power (Qc) = 200 Watts
Boost Mode (Qc) = 258 Watts
Fluid Setpoint = 20 °C
Fluid ΔT @ 1.0 L/min = 3.0 °C
Boost Mode ΔT = 3.9 °C

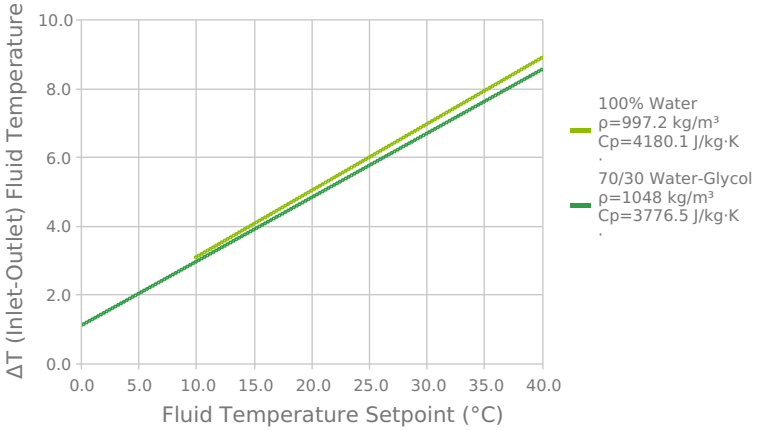
NRC400-T0-00-PC2 Cooling Capacity
1 L/min Fluid Flow (Boost Mode OFF)



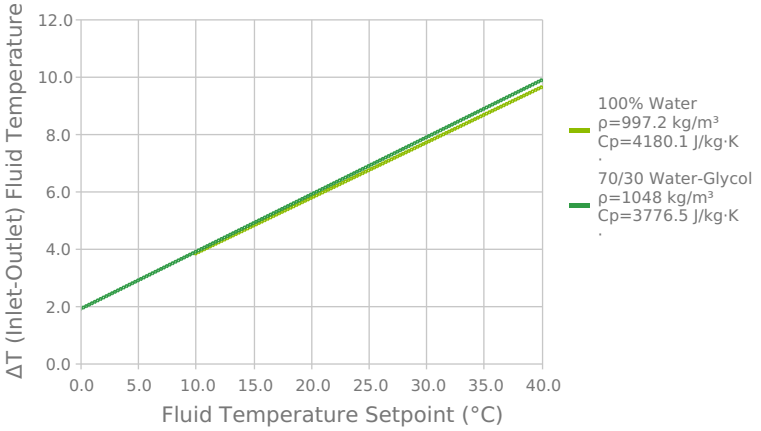
NRC400-T0-00-PC2 Cooling Capacity
1 L/min Fluid Flow (Boost Mode ON)



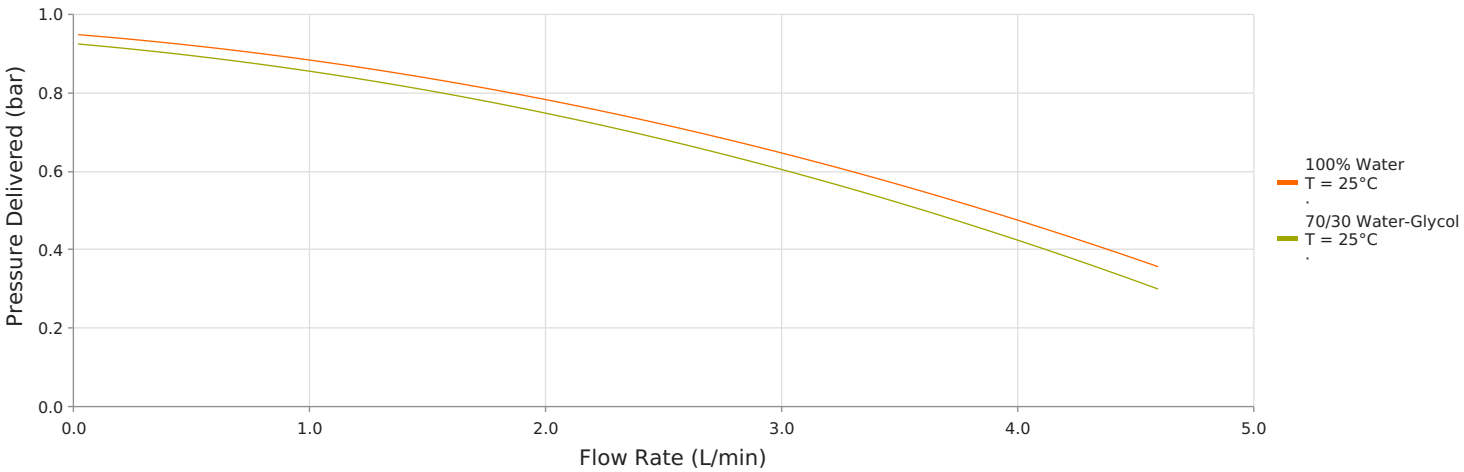
NRC400-T0-00-PC2 ΔT (Inlet-Outlet) Fluid Temperature
Max System Cooling at 20°C Ambient Air
1 L/min Fluid Flow (Boost Mode OFF)



NRC400-T0-00-PC2 ΔT (Inlet-Outlet) Fluid Temperature
Max System Cooling at 20°C Ambient Air
1 L/min Fluid Flow (Boost Mode ON)



NRC400-T0-00-PC2 - Chiller Pump Curves



TECHNICAL SPECIFICATIONS

Performance

Maximum Cooling Capacity[2]	348 W Boost Mode OFF, 400 W Boost Mode ON
Setpoint Range	-10°C to 40°C
Temperature Stability	±0.05°C
Nominal Operating Flowrate (60 Hz)[1]	1.0 L/min @ 0.9 Bar
Nominal Operating Flowrate (50 Hz)[1]	1.0 L/min @ 0.9 Bar

Operation

Coolant	Water or Water/Glycol
Operating Temperature	15°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	0.91 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	CPC-PLCD26006 Quick-Connect (3/8 in ID Tubing)

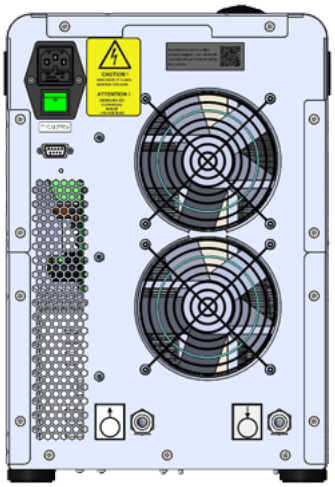
CORD OPTIONS

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
387009619	Australia	AS 3112	straight	2.0 m	3 x 1.5 mm²	Black	C13
387009620	Europlug	CEE 7 / VII	straight	2.0 m	3 x 1.5 mm²	Black	C13
387009621	China	GB 2099	straight	2.0 m	3 x 1.5 mm²	Black	C13
387009622	Japan	JIS 8303	straight	2.0 m	3 x 2 mm²	Black	C13
387009623	United Kingdom	BS 1363	straight	2.0 m	3 x 1.5 mm²	Black	C13
387009624	United States	NEMA 5-15P	straight	2.0 m	3 x 2 mm²	Black	C13

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 w/ Boost Mode On
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

Revision: 01 Date: 06-08-2023

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