# Nextreme Series NRC2400-A1-20-ST1
# MFG Part Number: 385911-015

## Nextreme Series Liquid Cooling System

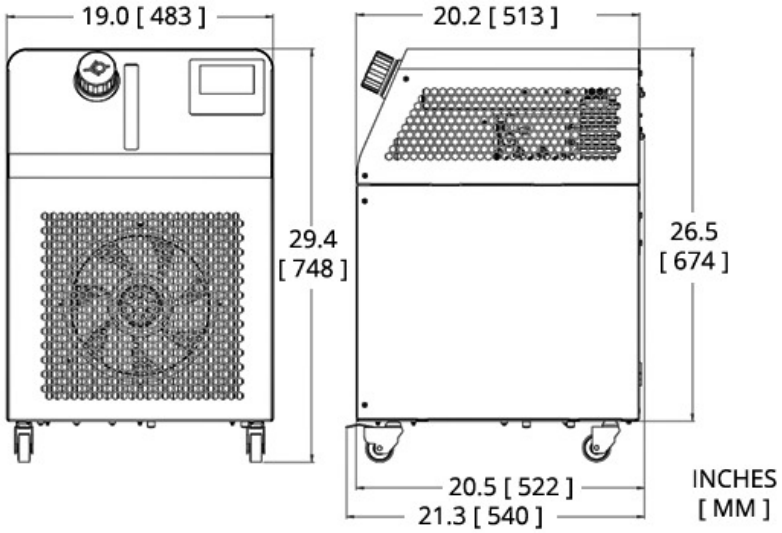
The Nextreme NRC2400 Recirculating Chiller features premium components and environmentally friendly refrigerants in a user-friendly design. It is designed to cool well below ambient and dissipate heat away from thermally sensitive equipment. Featuring variable speed motors for the compressor and condensing fan, the Nextreme NRC2400 offers a high coefficient of performance and low-noise operation. The Nextreme NRC2400 comes with several standard features and additional options allow for application-specific configurations.

## Features

- Reliable Performance
- Environmentally Friendly
- User-Friendly
- Application Specific Configurations

## Applications

- Recirculating Chillers for Industrial Lasers
- Precise Temperature Control for Microscopes




## COOLING POWER OPERATING POINTS

### 100% Water (20°C Ambient Air)

Cooling Power (Qc) = 2800 Watts
Min Fluid Setpoint = 20.1 °C
Fluid ΔT @ 15.0 L/min = 2.7 °C

### 100% Water (30°C Ambient Air)

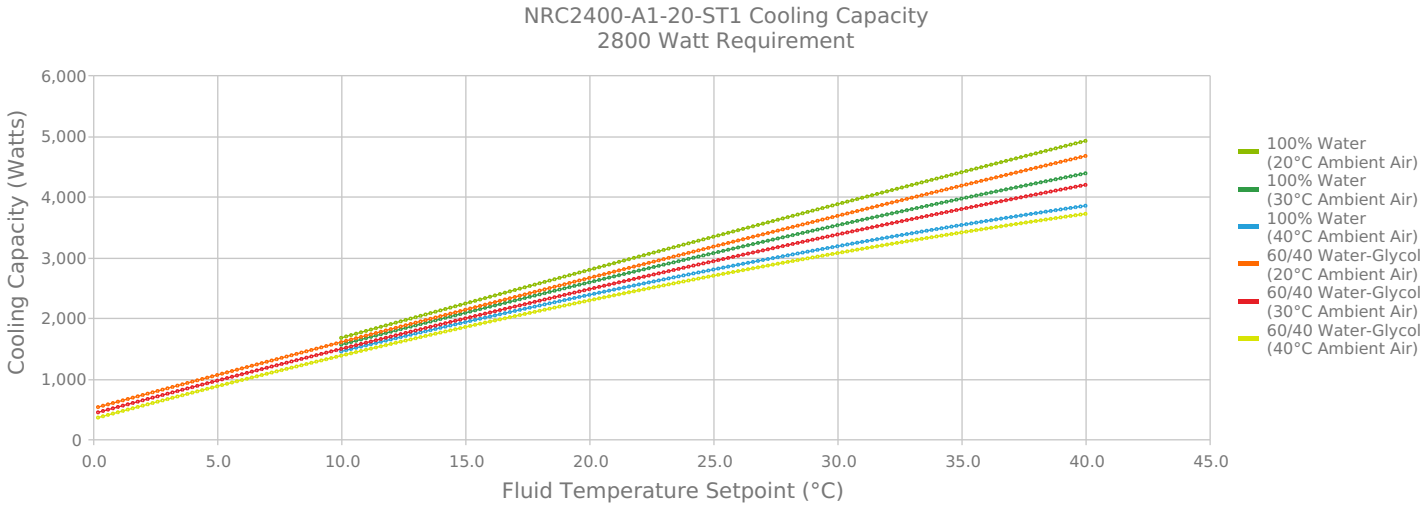
Cooling Power (Qc) = 2800 Watts
Min Fluid Setpoint = 22.2 °C
Fluid ΔT @ 15.0 L/min = 2.7 °C

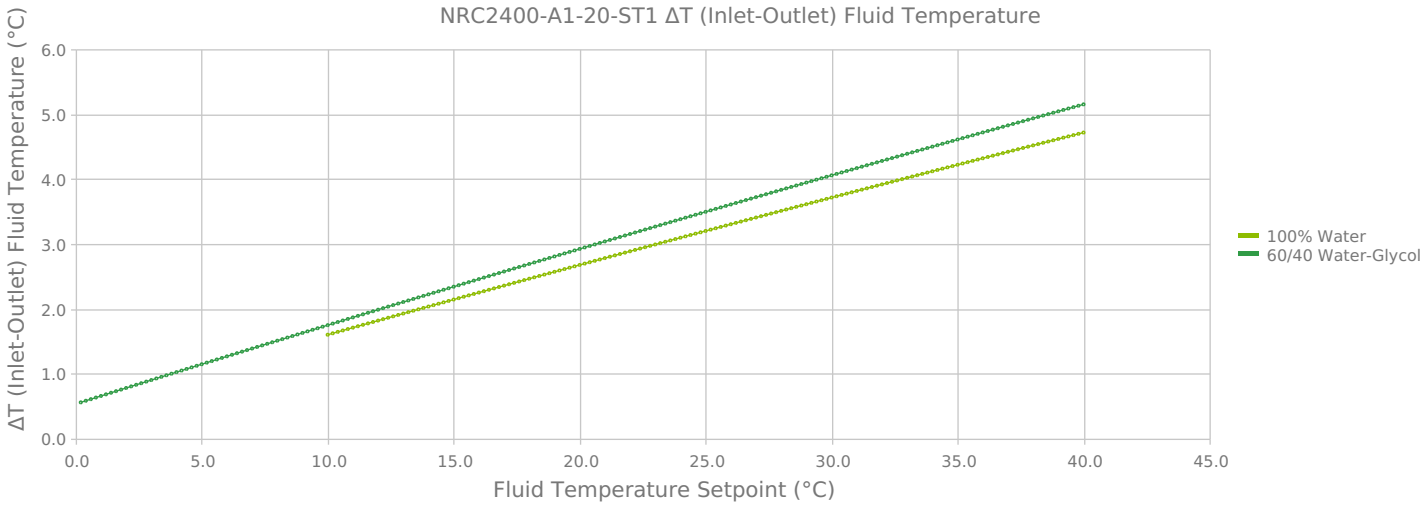
### 60/40 Water-Glycol (20°C Ambient Air)

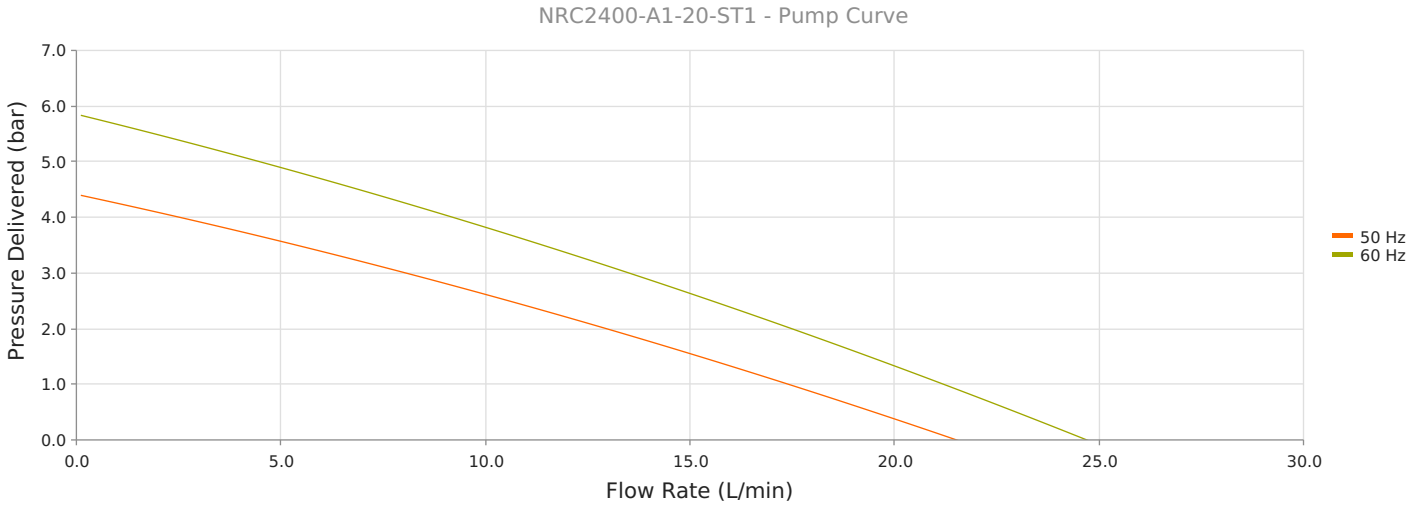
Cooling Power (Qc) = 2800 Watts
Min Fluid Setpoint = 21.4 °C
Fluid ΔT @ 15.0 L/min = 2.9 °C

### 60/40 Water-Glycol (30°C Ambient Air)

Cooling Power (Qc) = 2800 Watts
Min Fluid Setpoint = 23.6 °C
Fluid ΔT @ 15.0 L/min = 2.9 °C


NRC2400-A1-20-ST1 Cooling Capacity
2800 Watt Requirement
Cooling Capacity (Watts)
6,000
5,000
4,000
3,000
2,000
1,000
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
Fluid Temperature Setpoint (°C)
100% Water (20°C Ambient Air)
100% Water (30°C Ambient Air)
100% Water (40°C Ambient Air)
60/40 Water-Glycol (20°C Ambient Air)
60/40 Water-Glycol (30°C Ambient Air)
60/40 Water-Glycol (40°C Ambient Air)


NRC2400-A1-20-ST1 ΔT (Inlet-Outlet) Fluid Temperature
ΔT (Inlet-Outlet) Fluid Temperature (°C)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
Fluid Temperature Setpoint (°C)
100% Water
60/40 Water-Glycol


NRC2400-A1-20-ST1 - Pump Curve
Pressure Delivered (bar)
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Flow Rate (L/min)
50 Hz
60 Hz

## TECHNICAL SPECIFICATIONS

### Performance

| | |
|---|---|
| **Cooling Capacity** | 2,800 Watts |
| **Setpoint Range** | 0°C to 40°C |
| **Temperature Stability** | ±0.1°C |
| **Nominal Operating Flowrate (60 Hz)** | 15.0 L/min @ 2.6 Bar |
| **Nominal Operating Flowrate (50 Hz)** | 15.0 L/min @ 1.5 Bar |
| **Refrigerant** | R 513A |

### Operation

| | |
|---|---|
| **Coolant** | Water or Water/Glycol |
| **Operating Temperature** | 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** | 220 - 230 VAC |
| **Frequency** | 50/60 Hz |
| **Maximum Forward Pressure** | 4.1 Bar |

### Physical

| | |
|---|---|
| **Height** | 750 mm |
| **Length** | 520 mm |
| **Width** | 480 mm |
| **Weight** | 54 kg |
| **Coolant Capacity** | 5 Liters |
| **Couplings** | 1/2 in NPT |

## STANDARD FEATURES

| | |
|---|---|
| **Variable Speed Motors** | Variable speed compressor and condensing fans for quiet operation and improved energy efficiency. |
| **Semi-Closed Fluid System** | Sealed fluid system with breathable reservoir cap (similar to an automobile). This prevents evaporative loses, 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 / RS-485 Communications** | Complete control integration of chiller into higher level assembly control system. |
| **Supply Pressure Sensing** | Pressure sensing for applications sensitive to high operating conditions. |

## OPTIONAL FEATURES

| Feature | Option Code | Description |
|---|---|---|
| **DI Water Package** | **D** | Ion filtration and wetted materials suitable for operation at fluid resistivity levels of 1 to 3 MOhm·cm. |
| **Flow Control Valve and Flow Sensing Kit** | **F** | Externally installed valve for reducing the overall flow to the application. Full flow continues through the chiller to maintain high heat transfer rates and temperature stability. Flow meter for measuring coolant flow rate. Installed external to the chiller with both a local display and connectivity to chiller LCD display. |
| **High Purity Plumbing** | **H** | Wetted materials compatible with deionized water. Stainless steel and plastics used for components within the recirculating fluid loop. |
| **Water Filter Kit** | **W** | Hot swappable, 5-micron water filter for filtering particulates from the coolant circuit. |

## NOTES

1. System option codes are added to the end of the model number in alphabetical order.
2. Must include option H with Deionization Filter.



Date: 04/24/2020