

# Rack Chiller CHx - CDU



**SCHROFF**

## ENABLES TODAY'S MOST DEMANDING HPC REQUIREMENTS

### LEADING EDGE SOLUTION IN A DENSE PACKAGE



RackChiller CHx – Cooling Distribution Unit (CDU) can manage 200kW+ of heat load in a remarkably compact 4U form factor. CHx was designed to be installed and operate in demanding data center environments while offering a feature set customers require.

- Redundant centralized pumps
- Redundant power supplies
- Dry-break quick disconnects
- 4.3" LCD screen with touch functionality
- Integrated control and monitoring system (Webserver, Modbus, SNMP)
- Internal and external leak detection system
- 4U rack mount chassis

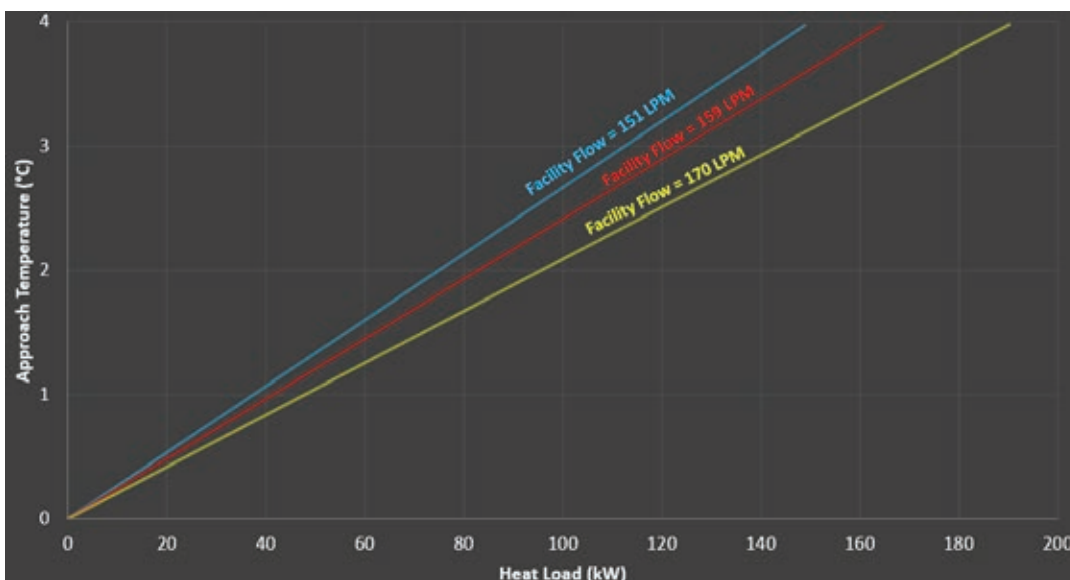
### OPTIMIZE DATA CENTER EFFICIENCY AND INCREASE PERFORMANCE

Utilizing ASHRAE W4 warm water to manage processor and component heat, CHx - CDU is an extremely efficient heat exchanger. As a result, customers can expect a significant reduction in data center OPEX and increase in CPU thermal efficiency.

- Warm water cooling reduces the need for chillers
- Manages 200+ servers per rack or cluster
- Quick and easy installation and service
- Can be located anywhere in a rack
- High temperature return water can be used for heat re-use

### PERFORMANCE

Approach Temperature, 25% PG with Maximum Secondary Flow (2 pumps on, 150 LPM)



\*Approach Temperature is the difference between the liquid temperature entering the heat exchanger from facility (primary side) and the liquid temperature leaving the heat exchanger supplying the server (secondary side).

**PRODUCT SPECIFICATIONS**

**HX Performance Requirements**

Heat Removal Capacity	200kW
Approach Temp @ 200kW	4°C

**Primary Fluid Requirements**

Flow Rate	<170 LPM
Working Fluid	ASHRAE
Connection / Interface	1.5" sanitary flange
Flow Rate Sensor	single
Pressure Sensors (inlet and outlet)	single inlet and single outlet
Temp sensors (inlet and outlet)	single inlet and single outlet
Flow Regulation Valve	yes

**Secondary Fluid Control**

Flow Rate	150 LPM for 200kW
Working Fluid	25% PG
Connection / Interface	1.5" sanitary flange
Flow Rate Sensor	Single
Pressure Sensors (inlet and outlet)	Single inlet and single outlet
Temp sensors (inlet and outlet)	Single inlet and single outlet
Coolant level sensors	High & low
Filtration	100 microns
Pumping	n+1
Fluid Expansion Tank in Reservoir	Yes
Fill/Drain Port	Yes
Dew Point Control	Yes

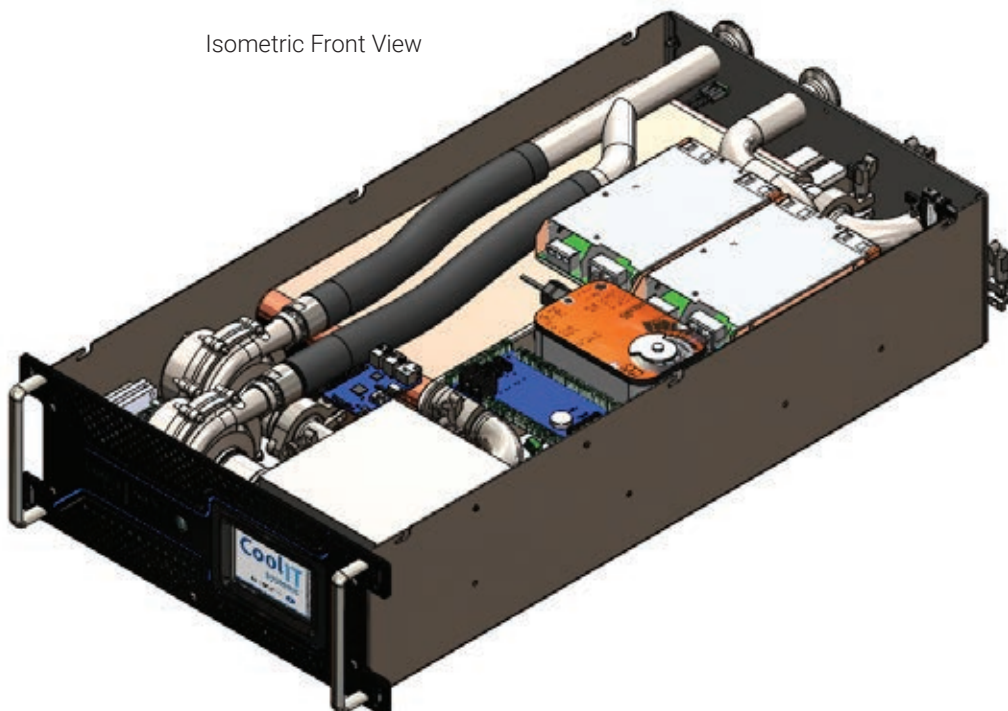
**Reliability Requirements**

Target MTBF	40,000+ hrs
Pump Cycling	2 pumps alternate every 24 hours

**Other Requirements**

Internal Leak Detection	Yes
External Leak Detection	Yes
Drip tray	Yes

Isometric Front View



## PRODUCT DATASHEET

### Operational and Storage Requirements

Operating Temperature (coolant temperature)	0 °C to 70 °C
Storage Temperature (ambient temperature)	-20 °C to 60 °C

### Physical Specifications

Heat Exchange Dimensions Width	430 mm (16.93")
Height	177 mm (6.97")
Length (handles included)	950 mm (37.4")
Dry Weight	35 kg (77 lbs)
Wet Weight (Filled)	41 kg (90 lbs)

### Connection Type to Rack Manifold

Sanitary Flange	1.5" Tri-clamp
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### Coolant

Circuit Volume	10 Liters (2.64 US gal.)
Systems Coolant	OAT PG-25 Coolant
Wetted Materials	(see Wetted Material List below)

### Electrical Connections

Universal AC Voltage Input	100 – 240 VAC, Single Phase, 50 – 60 Hz
Maximum Input Current	15 A @ 80 VAC
Maximum Power Consumption	2400 W
Power Supply Redundancy	A+B Dual input, single power supply

### Flow and Cooling Capacity

Rated Cooling Capacity	See Cooling Capacity & Approach Temperature Curves below
Maximum Operating Pressure (Secondary)	40 psi (diverter valve opens at 40 psi) (over pressure valve opens at 50 psi)

### Primary Circuit

Maximum Operating Pressure	232 psi
Filtration Requirements	100 microns
Cooling Liquids and Plumbing Guidelines	ASHRAE D-90564: Liquid Cooling Guidelines for Datacom Equipment Centers

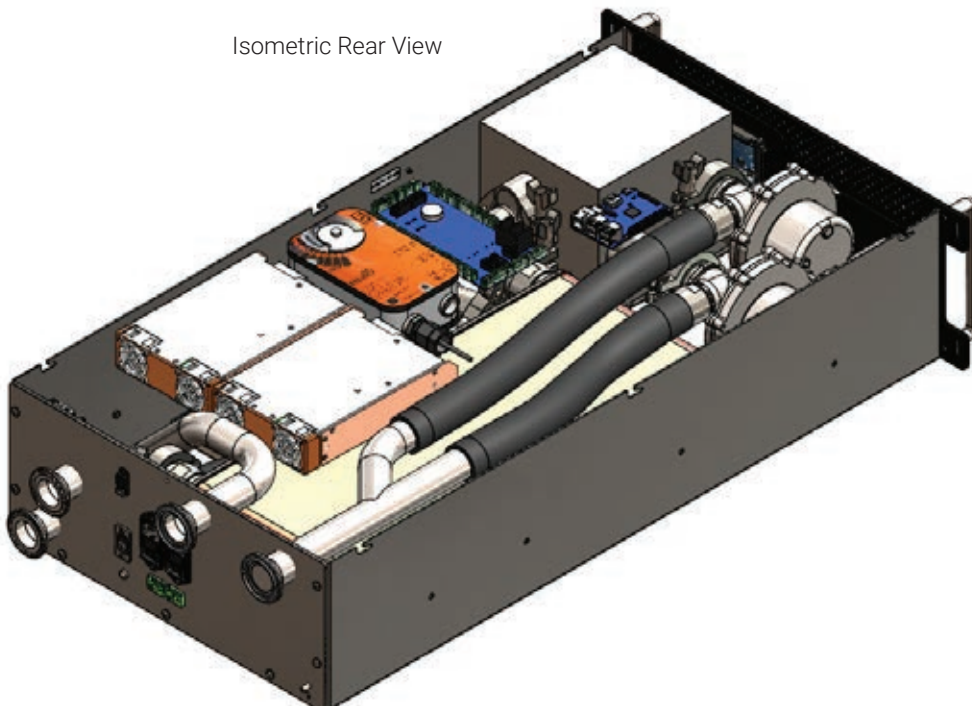
### Noise

Sound Power Level @ 1m (3.2 ft)	< 47 dBA
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### Regulatory Certifications

Certifications	RoHS, ETL, CE, FCC pending
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Isometric Rear View

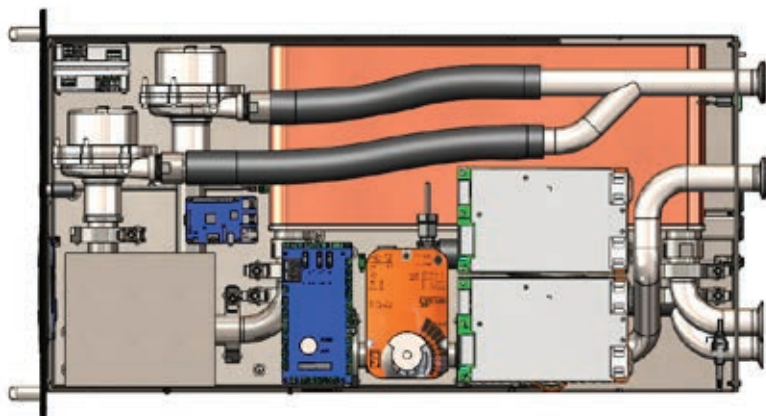


## WETTED MATERIALS LIST

Wetted Material	Primary Liquid Loop	Secondary Liquid Loop
Stainless Steel (304)	✓	✓
Copper (CDA110)	✓	✓
Stainless Steel (316L)		✓
Stainless Steel (416)		✓
Electroless Nickel		✓
XP109		✓
PPS (flowmeter)	✓	✓
EDPM Seals and O-rings		✓
Nitrile Tubing		✓
Thread locker		✓
PTFE Seals (3-way valve)		✓
PPS Fortron 40% glass fill (Temperature sensor)	✓	
PEEK	✓	✓
Ceramic, Alumina 96%	✓	✓
Ceramic, Zirconia 848	✓	✓
Neoprene	✓	✓
Fluorocarbon (Low/High level sensors)	✓	✓
Polysulfone (Low/High level sensors)		✓
CIIR		* ✓
Sil-phos brazing material		* ✓

\*Exist on Secondary only when some varieties of CoolIT coldplate loops are included

## TOP-DOWN VIEW



### EUROPE

#### Straubenhardt, Germany

Tel: +49.7082.794.0

#### Betschdorf, France

Tel: +33.3.88.90.64.90

#### Warsaw, Poland

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