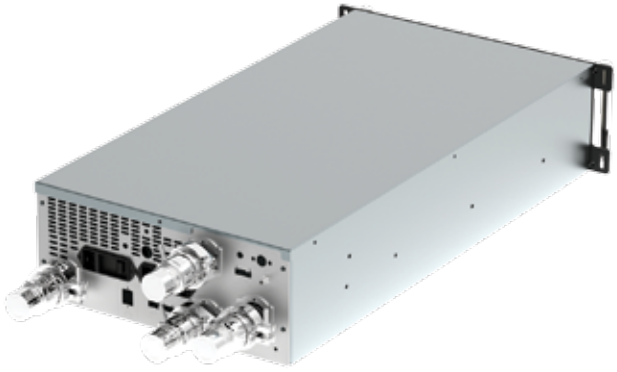
RACKCHILLER CDU40 COOLANT DISTRIBUTION UNIT



INDUSTRY STANDARDS

UR/cUR Recognized

CE

APPLICATION

The nVent HOFFMAN RackChiller CDU40 is a rack-based Coolant Distribution Unit (CDU), built for the needs of today's most demanding HPC requirements. Capable of managing 40kW+ of heat load in a remarkably small 4U of space. The RackChiller CDU40 is an extremely efficient heat exchanger that uses ASHRAE W4 warm water to manage processor and component heat.

FEATURES

- Manages 40kW+ of processor load per network
- Compatible with ASHRAE W4 warm water cooling
- N+1 redundant centralized pumps
- Dry-break quick disconnects (optional)
- 5-inch LCD screen with touch functionality
- Integrated control and monitoring system (Webserver, Modbus, SNMP)
- Internal and external leak detection system
- 4U rack-mount chassis
- Warm water cooling reduces the need for chillers
- Quick and easy installation and service
- Can be located anywhere in a rack
- Servers remain hot-swappable for service
- High temperature return water can be used for heat re-use

SPECIFICATIONS

General Data

- Pump redundancy: 3 pumps for n+1 redundancy
- Power requirement: 100V – 240V 50/60 Hz
- Current consumption 2.47 – 4.44A
- Power supply 2, N+1, 1000W each
- Cooling capacity: 40 kW at 10 C Approach (64 LPM Primary)
- Minimum approach temperature: 5K
- Secondary coolant supply range ASHRAE W17 to W45 (previous W1 to W4)
- Power consumption: 670W (default mode), 970W (max performance mode)
- Liquid Temp Range: 10 - 70 C (50 - 158 F)

Primary Rating

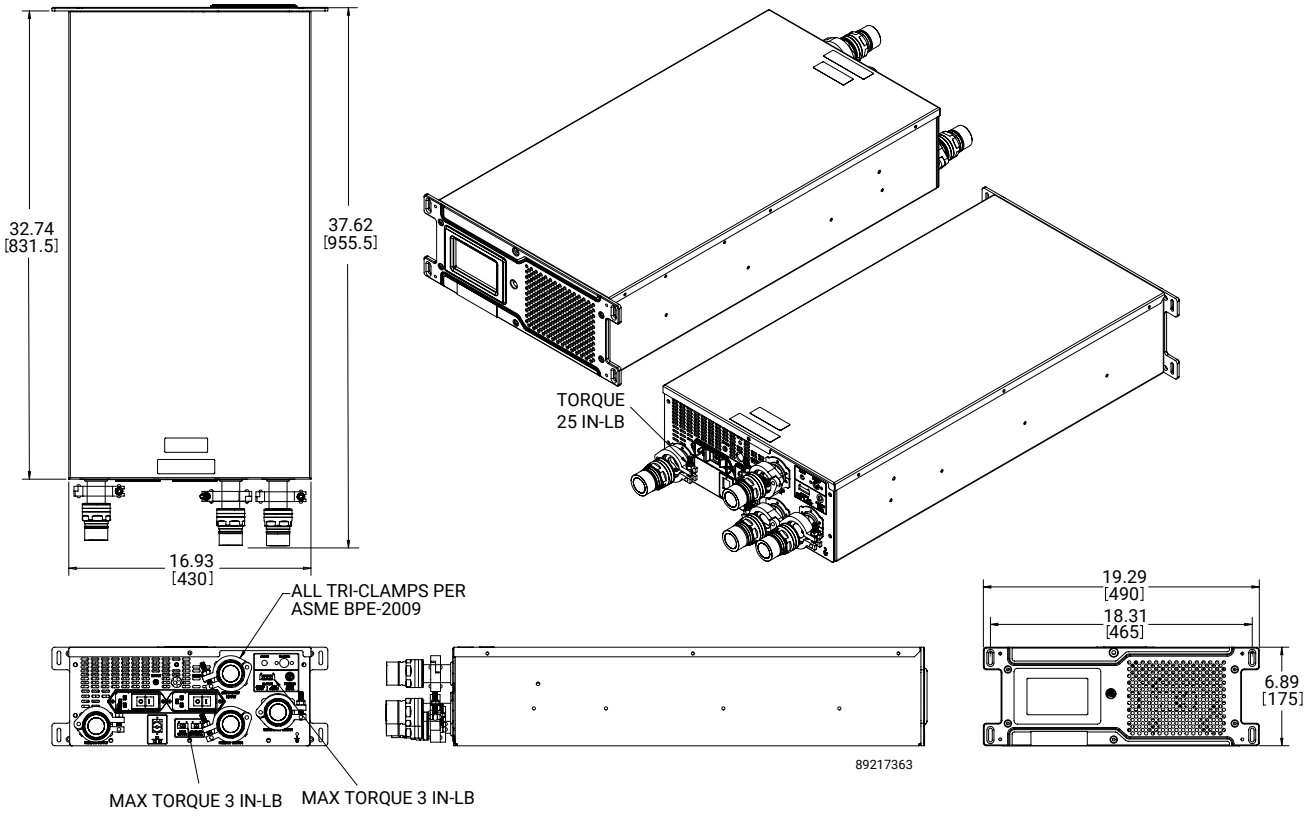
- Coolant: treated water with up to 25% PG
- Maximum Allowable Flow Rate: 80 LPM (21 GPM)
- Maximum Head Loss (at 64 LPM, Water): 0.1 Bar (2 psi)
- Maximum System Pressure: 3.8 Bar (55 psi)

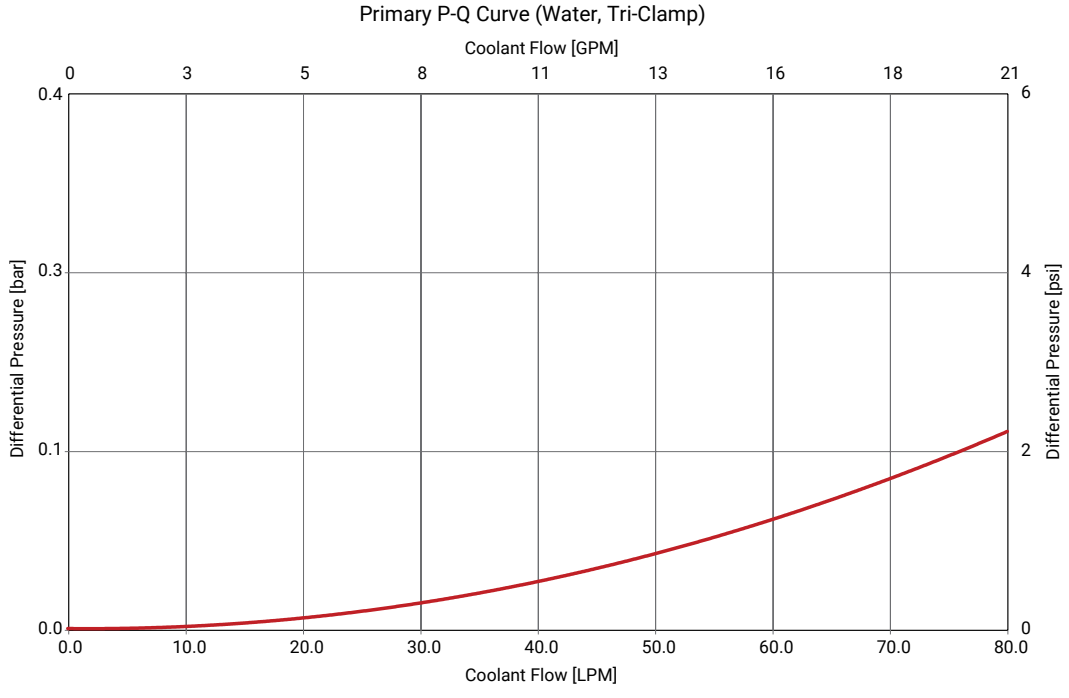
Secondary Performance

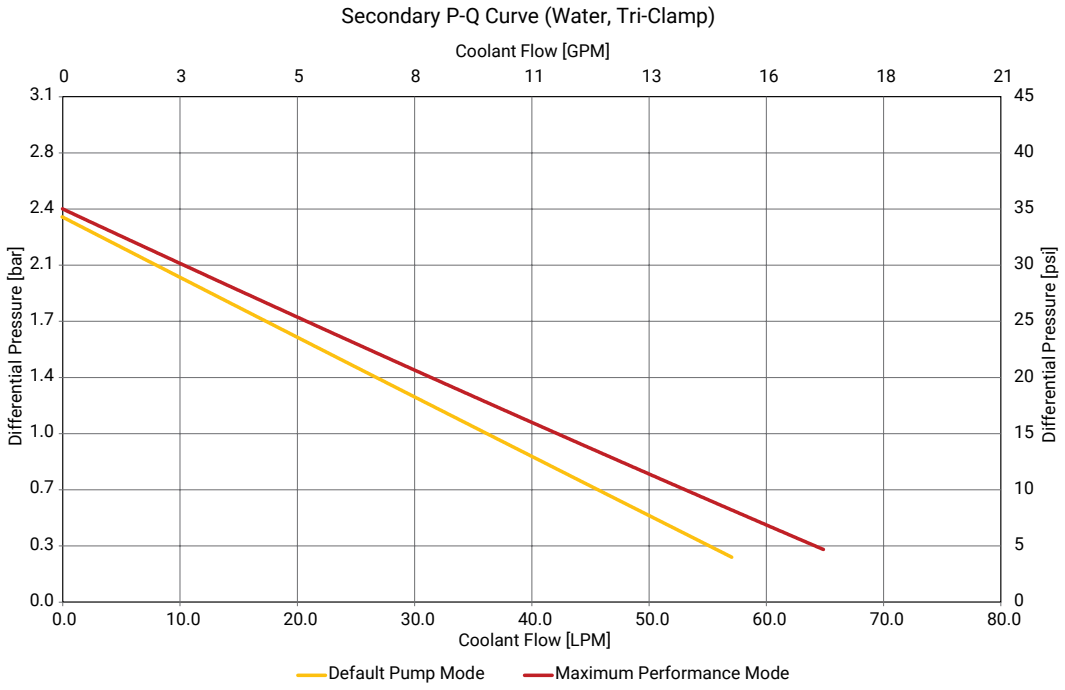
- Coolant: treated water with up to 25% PG
- Maximum Flow (dual pumps): 60 LPM (16 GPM) at 0.5 bar (7 psi)
- Maximum Flow (triple pumps): 75 LPM (20 GPM) at 0.4 bar (6 psi)
- Maximum System Pressure: 1.4 Bar (20 psi) - Secondary bypass opens at 20 psi, over pressure valve opens at 30 psi
- System Volume: 9.5 L (2.5 Gal)

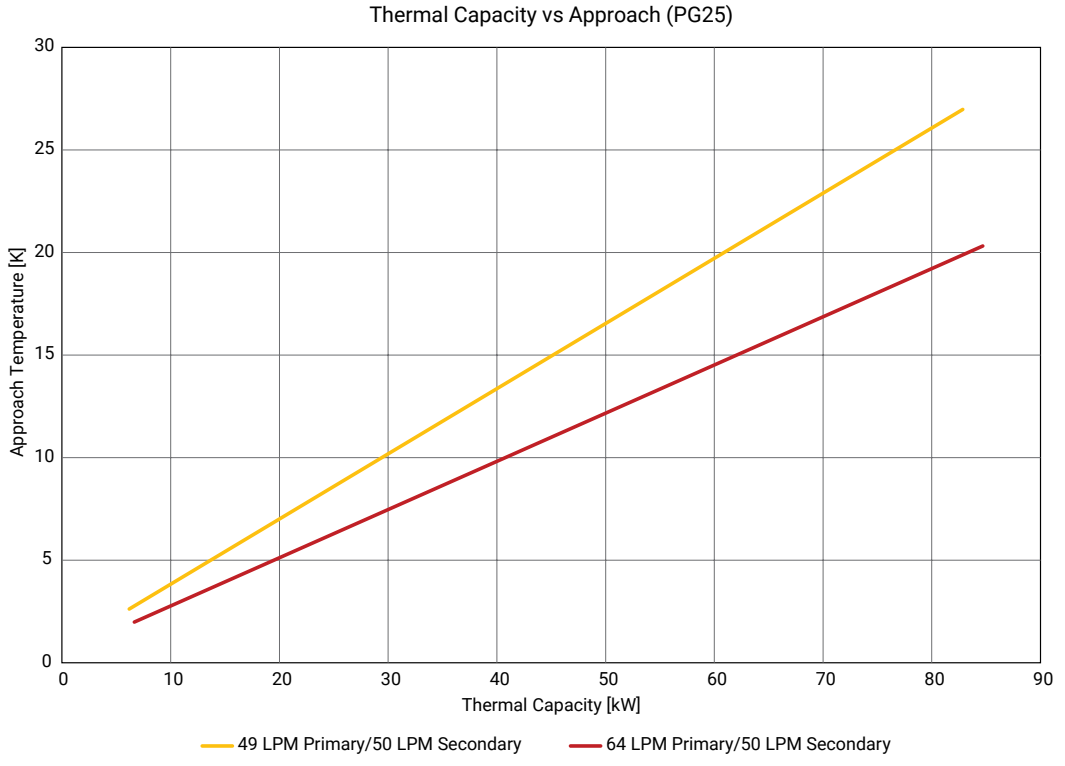
Standard Product

Catalog Number	Description	Height in./mm	Width in./mm	Depth in./mm	Volume (g/l)	Voltage Rating (V)	Rated Frequency (Hz)	Rated Current (A)	Cooling Capacity (kW)	Weight (lb./kg)
CDU0402R001	Dry - No Coolant with tri-clamp	6.97 177	16.93 430	39.13 994	2.51/9.5	100-240	50/60	2.47-4.44	40	141.00 64
CDU0402R001Q	Filled - With Coolant with CGB20	6.97 177	16.93 430	39.13 994	2.51/9.5	100-240	50/60	2.47-4.44	40	164.00 74


32.74
[831.5]
37.62
[955.5]
16.93
[430]
TORQUE
25 IN-LB
ALL TRI-CLAMPS PER
ASME BPE-2009
MAX TORQUE 3 IN-LB
MAX TORQUE 3 IN-LB
19.29
[490]
18.31
[465]
6.89
[175]
89217363


Primary P-Q Curve (Water, Tri-Clamp)
Coolant Flow [GPM]
0
3
5
8
11
13
16
18
21
0.4
0.3
0.1
0.0
6
4
2
0
Differential Pressure [bar]
Differential Pressure [psi]
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Coolant Flow [LPM]


Secondary P-Q Curve (Water, Tri-Clamp)
Coolant Flow [GPM]
0
3
5
8
11
13
16
18
21
3.1
2.8
2.4
2.1
1.7
1.4
1.0
0.7
0.3
0.0
45
40
35
30
25
20
15
10
5
0
Differential Pressure [bar]
Differential Pressure [psi]
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Coolant Flow [LPM]
Default Pump Mode
Maximum Performance Mode


Thermal Capacity vs Approach (PG25)
30
25
20
15
10
5
0
Approach Temperature [K]
0
10
20
30
40
50
60
70
80
90
Thermal Capacity [kW]
49 LPM Primary/50 LPM Secondary
64 LPM Primary/50 LPM Secondary

Notes