RACKCHILLER CDU800 COOLANT DISTRIBUTION UNIT

FEATURES

- Redundant high-performance, leak-free pump system
- Integrated variable speed drives
- Coolant connections through top or bottom panel
- Integrated 10-inch touch panel display
- Remote control features through Ethernet, SNMP v3, Modbus
- On-board integrated leak detection
- Unrivaled power density – fits into standard data center footprint
- Serviceable during operation – no need for shut down during system maintenance
- Redundant system layout minimizes risk for single points of failure
- Integrates with nVent Guardian Management Gateway and sensors portfolio

SPECIFICATIONS

General Data

- 800+kW of cooling capacity @ 6K (850 LPM Primary)
- Pipe Connection: 3-inch ID hygienic tri-clamp
- Liquid Temp Range: 20 - 70 C (68 - 158 F)

Primary Rating

- Coolant: treated water with up to 20% PG
- Maximum Allowable Flow Rate: 1200 LPM (317 GPM)
- Maximum Head Loss (at 850 LPM, Water): 1.3 Bar (19 psi)
- Maximum System Pressure: 10.3 Bar (150 psi)
- System Volume: 50 L (13 Gal)
- Primary Filter Size: 250 micron

Secondary Performance

- Coolant: treated water with up to 30% PG
- Maximum Flow (single pump): up to 1100 LPM (290 GPM) at 2.6 bar (38 psi)
- Maximum Flow (dual pumps): up to 1100 LPM (290 GPM) at 3.4 bar (49 psi)
- Maximum Allowable Static Pressure: 3.5 Bar (50psi)
- Maximum System Pressure: 8.6 Bar (125 psi)
- Pressure Relief Valve Activation Pressure: 9.0 Bar (130 psi)
- System Volume: 100 L (26 Gal)
- Secondary Filter Size: 50 micron

INDUSTRY STANDARDS

UL/cUL Listed; File No. SA7402

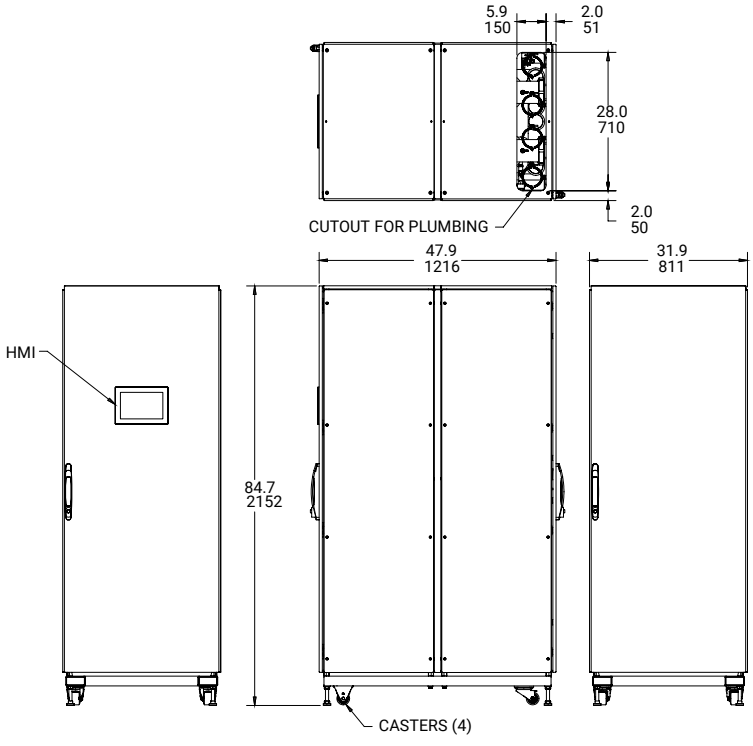
CE

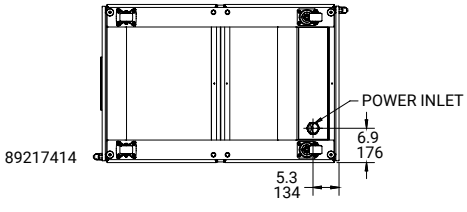
APPLICATION

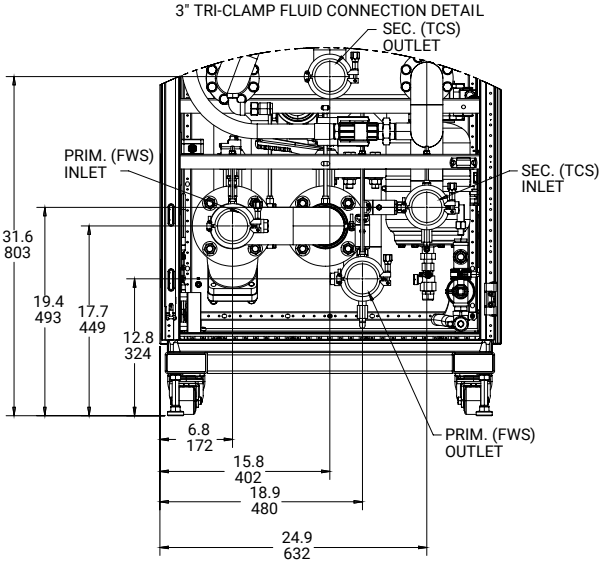
The nVent HOFFMAN RackChiller CDU800 is designed for efficient and safe supply of IT equipment. The entire system is focused on providing the highest reliability, availability, and serviceability for supporting direct-to-chip liquid cooling. The CDU800 is fed from a primary facility water system (FWS), where the integrated pumps drive the secondary technology cooling system (TCS) cooling loop flow. The heat exchanger transfers the excess heat from the secondary coolant to the primary. The complete system is integrated into an aesthetical enclosure with removable side panels and doors. The CDU can be installed onto a slab or raised floor, in-row with equipment racks or into a separate facility room.

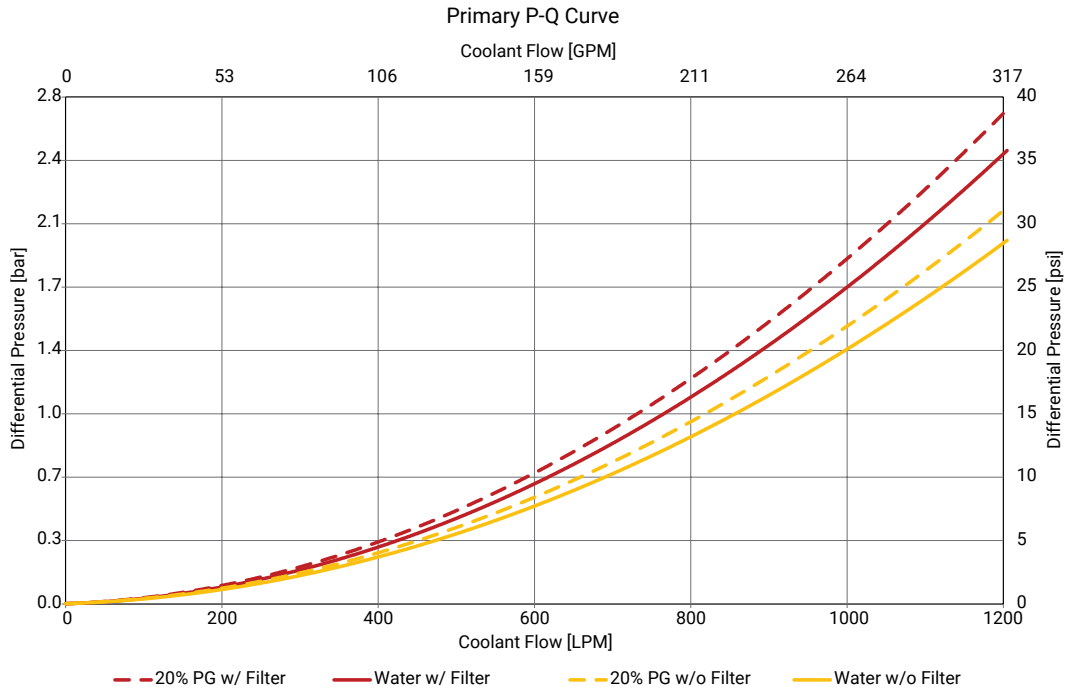
Standard Product

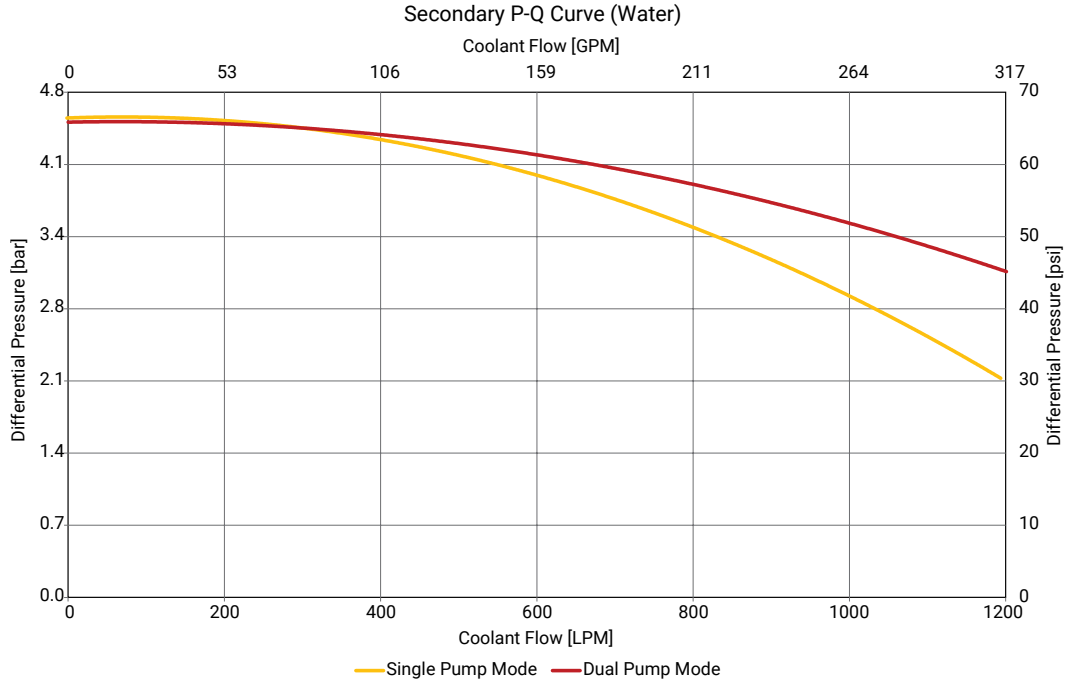
Catalog Number	Description	Height in./mm	Width in./mm	Depth in./mm	Voltage Rating (V)	Phase	Rated Frequency (Hz)	Rated Current (A)	Power Consumption (kW)	Noise (dB)	Weight Dry (lb./kg)	Weight Package (lb./kg)
CDU8004L002	380-480V 3-PH with Primary Filtration	87.00 2200	31.00 800	47.00 1200	480	3	50/60	47.5	22.2	68	2500 1134	2820 1279
CDU8004L102	380-480V 3-PH without Primary Filtration	87.00 2200	31.00 800	47.00 1200	480	3	50/60	47.5	22.2	68	2500 1134	2820 1279

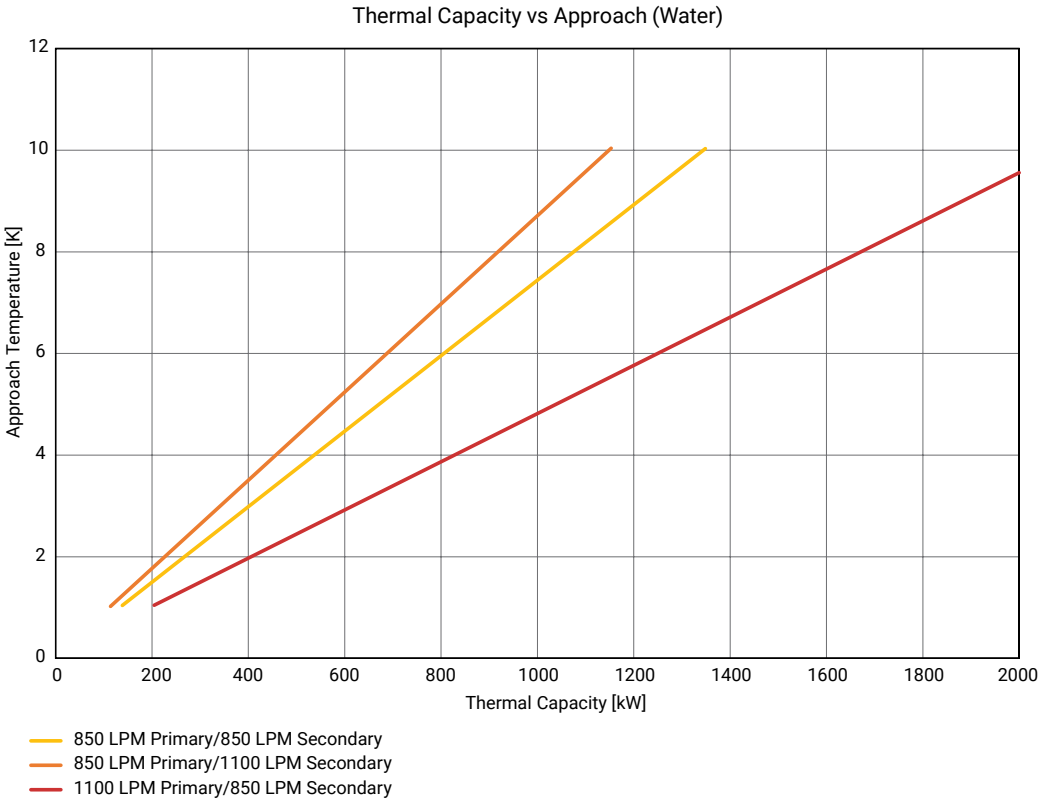

5.9
150
2.0
51
28.0
710
2.0
50
CUTOUT FOR PLUMBING
47.9
1216
31.9
811
HMI
84.7
2152
CASTERS (4)


POWER INLET
6.9
176
89217414
5.3
134


3" TRI-CLAMP FLUID CONNECTION DETAIL
SEC. (TCS)
OUTLET
PRIM. (FWS)
INLET
SEC. (TCS)
INLET
31.6
803
19.4
493
17.7
449
12.8
324
6.8
172
15.8
402
18.9
480
24.9
632
PRIM. (FWS)
OUTLET


Primary P-Q Curve
Coolant Flow [GPM]
0
53
106
159
211
264
317
Differential Pressure [bar]
2.8
2.4
2.1
1.7
1.4
1.0
0.7
0.3
0.0
Differential Pressure [psi]
40
35
30
25
20
15
10
5
0
0
200
400
600
800
1000
1200
Coolant Flow [LPM]
20% PG w/ Filter
Water w/ Filter
20% PG w/o Filter
Water w/o Filter


Secondary P-Q Curve (Water)
Coolant Flow [GPM]
0
53
106
159
211
264
317
Differential Pressure [bar]
4.8
4.1
3.4
2.8
2.1
1.4
0.7
0.0
Differential Pressure [psi]
70
60
50
40
30
20
10
0
0
200
400
600
800
1000
1200
Coolant Flow [LPM]
Single Pump Mode
Dual Pump Mode


Thermal Capacity vs Approach (Water)
Approach Temperature [K]
0
2
4
6
8
10
12
0
200
400
600
800
1000
1200
1400
1600
1800
2000
Thermal Capacity [kW]
850 LPM Primary/850 LPM Secondary
850 LPM Primary/1100 LPM Secondary
1100 LPM Primary/850 LPM Secondary