

PRECISION • EFFICIENCY • CREATIVITY

PRODUCT CATALOGUE

*“Because the best way to predict
the future is to invent it.”*

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Citec CNR units are developed specially for high heat density cooling application. They are designed to be located close to the heat source for effective heat removal. The units are available for both Direct Expansion and Chilled Water systems and can be an alternative or complement to CITEC room cooling units as complete cooling solution for high heat density data center.



BENEFITS

HOT SPOT MANAGEMENT

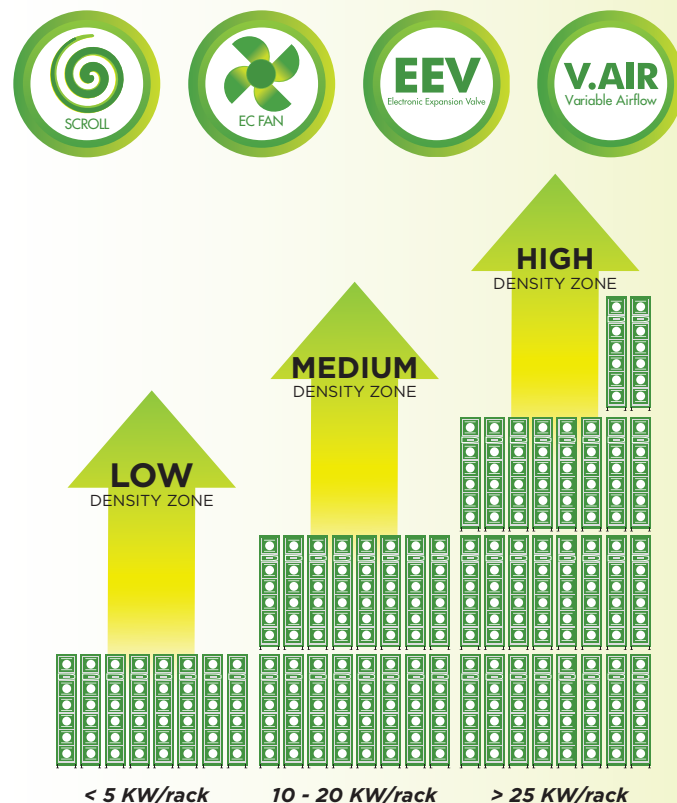
- Provides extra cooling where needed
- DC Inverter technology for Direct Expansion system
- Airflow modulation to adapt to actual thermal load
- Compatible with most racks

SCALABILITY

- CITEC In-Row is suitable for 42U and 48U racks
- Units can adapt to the thermal load of the server
- Modular design; easy to upgrade as data center capacity grows

FEATURES

- Highly efficient EC fans reduce noise levels and energy consumption:
 - Further noise level reduction of 4-5 dB
 - Further absorbed power reduction by 15%
- Chilled Water units with equal percentage characteristic modulating ball valve ensures excellent water flow control.
- Direct Expansion units with DC inverter compressor and electric expansion valve for wider modulating range of capacity control
- CITEC's in-house control algorithm prevents stratification of the air temperature inside the rack through the use of 4 sensors, contributing to ventilation efficiency



TECHNICAL SPECIFICATION

CITEC CNR

UNIT MODEL (CNR xx)		20 AE/WE	25 AE/WE	30 AE/WE	40 AE/WE	30 CE	50 CE
Gross Total Capacity	kW	23.76	26.95	32.17	40.97	30.42	52.15
Gross Sensible Capacity	kW	23.76	26.95	32.17	40.97	30.42	52.15
Sensible Heat Ratio		1.00	1.00	1.00	1.00	1.00	1.00

GENERAL DATA

Nominal Air Flow	m ³ /s	1.32	1.32	2.10	2.10	1.50	2.66
No. of Fan(s)		3	3	2	2	3	2
No. of Compressor(s)		1	1	1	1	N/A	N/A
No. of Refrigerant Circuit(s)		1	1	1	1	N/A	N/A
Sound Level	dB(A)	80	80	83	83	82	84

CONDENSER

Nominal Air Cooled Model	HEC	274	314	374	574	N/A	N/A
Nominal Water Cooled Model		WB60	WB60	WB80	WB80	N/A	N/A
Nominal Water Flow	l/s	1.37	1.59	1.84	2.41	1.45	2.49
Waterside Pressure Drop of Condenser	kPa	13.4	18.1	17.3	29.7	63.7	75.7

HEATER & HUMIDIFIER

Nominal Heater Capacity	kW	N/A	N/A	6	6	N/A	6
No. of Heater Step(s)		N/A	N/A	1	1	N/A	1
Nominal Humidifier Capacity	kg/hr	N/A	N/A	3	3	N/A	3

UNIT DIMENSION & WEIGHT

Width	mm	300	300	600	600	300	600
Depth	mm	1094	1094	1094	1094	1094	1094
Height	mm	1996	1996	1996	1996	1996	1996
Gross Weight - "A" Version	kg	223	225	316	320	N/A	N/A
- "W" Version	kg	242	245	345	349	N/A	N/A
- "C" Version	kg	N/A	N/A	N/A	N/A	205	310
Minimum Service Allowance	mm	600	600	725	725	600	725

Notes:

- 1) For Direct Expansion unit, cooling capacity is based on 35°C, 23.8%RH, R410A refrigerant, 45°C condensing temperature, 400V/3ph/50Hz power supply, 20Pa ESP. Variable speed compressor is operating at 100rps.
- 2) For Chilled Water unit, cooling capacity is based on 35°C, 23.8%RH, 10/15°C water temperature, 400V/3ph/50Hz power supply, 20Pa ESP.
- 3) Nominal air cooled condenser sizing is suggestion only based on 35°C ambient & nominal operating condition. Other sizes may be selected to suit requirement as necessary.
- 4) Nominal water cooled condenser sizing is suggestion only based on water in/out 30/35°C & nominal operating condition. Other sizes may be selected to suit requirement as necessary.
- 5) Height shown is inclusive of caster wheels.
- 6) Sound level is measured at 1.5m in freefield conditions.
- 7) Service allowance is for front & rear of unit.

Due to our policy of continuous development and improvement, the specifications and data herein are subjected to change without notice. We must therefore reserve the right to supply equipment that may differ from that described and illustrated herein. All information, including illustrations, contained in this brochure, is believed to be accurate and reliable. Users, however, should independently evaluate the suitability of each product for their own application. CITEC makes no warranties as to accuracy or completeness of the information, and disclaims any liability regarding its use.