QuantumLeap™ Data Center Solutions

Carrier Fan Wall Unit for Data Center

Carrier Manufacturing Facilities

Carrier International SDN BHD

Carrier International SDN BHD, is a state-of-the-art manufacturing facility set up in Selangor, Malaysia. This ISO 9001 certified facility manufactures high end HVAC products suited for diverse applications.

With decades of carefully honed insights, we are honored to have won the trust of our valued stakeholders world-over. This includes industry-accredited institutions who have awarded us multiple accolades which we always work to uphold.

Carrier Air Conditioning and Refrigeration System (Shanghai) Co., Ltd.

Referred to as "New Campus", this new groundbreaking air conditioning production base has multiple production lines bringing together Carrier's advanced technology, project execution capabilities, and excellent high-efficiency manufacturing capabilities.

Test center of New Campus was established since Jun. 2018, composing of psychrometric rooms, acoustic room and airside test facilities. The test center is accredited by China CNAS (China National Accreditation Service for Conformity Assessment) and can independently undertake testing activities.

LEED® Gold Certification Standard.
LEED® Silver Certification Standard.

Lifecycle Solutions for Complete Data Center Optimization

Data centers today face greater scrutiny regarding efficiency, availability and flexibility. QuantumLeap™ is a comprehensive suite of purpose-built solutions designed to seamlessly manage the entire thermal lifecycle of your data center.
From chip to chiller, QuantumLeap™ enables end-to-end thermal management by integrating intelligent cooling, digital controls, and predictive monitoring and service, ensuring real-time optimization, adaptability and efficiency across data center operations.

Carrier Fan Wall Unit

Exceptional Efficiency, Designed for the Data Center

High Efficiency and Energy Savings

Efficient EC motor fan, optimized filter selections for pressure drop optimization and energy-efficient design

Monitoring & Control

Integrated control with BMS connectivity and advanced monitoring accessories

Service Redundancy

Multiple EC fan with standby fans to lower equipment downtime, alongside optional provisions of Auto Transfer Switch and capacitor

Broad Adaptibility

Scalable design with airflow range up to 200,000 CMH and intelligent cooling capacity up to 800kW

Reliable Construction

Double-skin casing compliant with Eurovent standards L1 and TB2

Airflow Management

Motorized dampers and pressure gauge to enable effective airflow management for various operating modes

Plug & Play

Factory-configured power and control wiring to facilitate easy installation and seamless testing and commissioning

Technical Specifications

DC1 condition:

Unit airflow	CFM	14,829	25,426	38,140	48,246	59,329	71,194	82,212
	m3/h	25,194	43,199	64,800	81,970	1,00,800	1,20,959	1,39,678
Net sensible capacity	kW	100	180	260	340	420	500	580
Unit Power Consumption	kW	4.08	7.08	12.15	13.7	19.4	20.85	24.43
Energy Consumption	W/CMH	0.145	0.164	0.188	0.167	0.193	0.172	0.161
Water side Pressure drop	kPa	20.5	16.79	20.22	9.57	14.2	18.21	23.34
CHW flow rate	l/s	2.4	4.3	6.3	8.4	10.5	12	14
	gpm	38.4	68.6	99.2	133.14	166.87	190.45	221.65
CHW inlet/Outlet	mm	DN50	DN50	DN65	DN65	DN65	DN75	DN75
Unit Dimensions *								
Length	mm	1,600	1,600	1,600	1,600	1,600	1,600	1,600
Width	mm	2,500	2,500	2,500	3,100	3,100	4,600	4,600
Height	mm	1,500	2,900	4,000	4,000	4,000	4,000	4,000
Unit Tier	Nos.	1	1	2	2	2	2	2
Unit Weight	Kg							
FAN type		EC Plug Fan						
Fan Quantity		2	3	4	6	8	8	10
Power Supply	V/Ph/Hz	400/3/50&60						
Standard offering		G4 , EPIV , WLD , Pressure Differential sensors, Supply Air Damper , Inbuilt APFC						
Optional		UPS, ATS , Energy Meters , Smoke Dectectors						

* Unit dimensions is adjustable based on site design and configuration
* Unit select under DC1 condition below:
- RAT 40°C (DB)/ 25°C (WB), - SAT 27°C (DB)/ 21.5°C (WB), - Chill water In/out 20°C/30°C, - ESP 100 Pa

DC2 condition:

Unit airflow	CFM	14,829	25,426	38,140	50,428	61,448	73,736	85,177
	m3/h	25,194	43,199	64,800	85,677	1,04,400	1,25,277	1,44,716
Net sensible capacity	kW	100	180	260	340	420	500	580
Unit Power Consumption	kW	4.61	7.64	13.18	16.47	23.79	23.5	28.6
Energy Consumption	W/CMH	0.18	0.18	0.20	0.19	0.23	0.19	0.20
Water side Pressure drop	kPa	15.88	21.92	21	16.18	15.83	23.34	26.85
CHW flow rate	l/s	2.2	4.0	5.7	7.5	9.4	10.9	12.7
	gpm	34.9	62.8	89.9	118.4	149.5	172.6	200.7
CHW inlet/Outlet	mm	DN50	DN50	DN65	DN65	DN65	DN75	DN75
Unit Dimensions *								
Length	mm	1,600	1,600	1,600	1,600	1,600	1,600	1,600
Width	mm	2,500	2,500	2,500	3,100	3,100	4,600	4,600
Height	mm	1,500	2,900	4,000	4,000	4,000	4,000	4,000
Unit Tier	Nos.	1	1	2	2	2	2	2
Unit Weight	Kg							
FAN type		EC Plug Fan						
Fan Quantity		2	3	4	6	8	8	10
Power Supply	V/Ph/Hz	400/3/50&60						
Standard offering		G4 , EPIV , WLD , Pressure Differential sensors, Supply Air Damper , Inbuilt APFC						
Optional		UPS, ATS , Energy Meters , Smoke Dectectors						

* Unit dimensions is adjustable based on site design and configuration
* Unit select under DC2 condition below:
- RAT 36°C (DB)/ 25°C(WB), - SAT 24°C (DB)/ 21.8°C (WB) , - Chill water In/out 18°C/29°C, - ESP 100 Pa

Engineering Efficiency to Empower Data Centre Performance

AquaForce® 30XF Variable Speed Air-Cooled Screw Chiller

Experience unmatched reliability with the versatile, easy-to-install Carrier AquaForce® 30XF Screw Chiller. Enjoy exceptional uptime and dependability with industry-leading COP, ultra-fast cooling capacity recovery within 120 seconds, inbuilt hydronic pumps, Automatic Transfer Switch and Active Harmonic Filter. The 30XF Chiller is also available with low-GWP R1234ze, R515B, R513A and R134a refrigerants and a Free Cooling Option for maximized performance, savings and environmental benefits.

AquaForce 30XF

AquaEdge® Water-Cooled Chillers

AquaEdge 19DV

AquaEdge 19MV

Carrier's Water-Cooled Chillers offer innovative features and a versatile, full-system approach for efficient data centre cooling. The 19DV and 19MV Chillers, equipped with the unique EquiDrive™ two-stage back-to-back economized compressor, excel under high loads to meet data centre requirements with superior performance. Equip with ultra-low-GWP R1233zd(E) and R1234ze refrigerants, they also swiftly restart in just 150 seconds following a power loss and reach 80% design capacity.

Air Handling and Fan-Wall Units

Carrier offers custom Air Handling and Fan-Wall Units to meet precise requirements. A reliable double-wall construction and thermal bridge deliver structural integrity and unmatched performance in an easy-to-install package. Further optimize your system with high end HEPA filters, EC Fan with low THDI and factory-installed controls for efficient airflow and ventilation. The Air Handling Units are also available in single-flow and aligned or adjacent dual-flow configurations to suit diverse data centre needs.

39CQ & 39CQM
Air Handling Unit

Fan Wall Unit

CDU

Cooling Distribution Unit (CDU)

Carrier CDUs are purpose-built for seamless integration into high-density direct-to-chip liquid cooling systems. Fully integrated features and controls enable fast installation and easy service, while low approach temperatures allow for greater chiller efficiency —delivering more power to your IT load.

VRF Systems

Carrier and Toshiba VRF systems come with a wide variety of indoor units designed for plug-and-play operation, making them suitable for server rooms, UPS rooms and providing comfort cooling in office areas. With a wide ambient temperature range from -5°C to 55°C in cooling mode, these units also ensure reliable operations in extreme conditions.

Carrier and Toshiba VRFs