



# DXC800 RANGE

Intelligent Precision Air Conditioning



DXC800-05 Unit  
complete with  
Free Cooling Plenum  
and Front Discharge

## DESCRIPTION

The DAQS DXC800 compact range of computer room air conditioners offers precise control of room temperature, humidity and air cleanliness, combined with maximum energy efficiency. The key elements of the design ensure reliability, high SHR cooling per m<sup>2</sup> with minimum running costs, resulting in reduced space utilisation and lower total costs of ownership.

DAQS optional integrated External Air "Free Cooling" Plenums and state-of-the-art EC fan technology offers unprecedented energy savings. Operating cost reduction in excess of 70% can be achieved.

In addition to the outstanding performance, the DXC800 compact range also offers excellent serviceability features. All service and maintenance operations can be carried out through the front of the unit, making the DXC800 compact range a truly modular product with complete front service access, further reducing the effective floor space utilised.

The DXC800 compact range offers a comprehensive range of accessories and optional features enabling the product to be specified to meet the demands of precision air conditioning applications worldwide.

## APPLICATIONS

- Data Centers
- Switch Rooms
- Telecommunications
- Industrial Process Rooms
- Hi-Tech Offices
- Medical / Pharmaceutical

The DXC800 is a compact range of modular direct expansion air conditioners - Chilled water versions are also available.

Cooling capacities range from 9 to 90 kW.

All models are available in Downflow, Upflow front, Upflow base and Upflow rear return configurations.

**EC Fans** - absorbs 35% less than traditional fan/drive systems.

## CONTACT OUR SALES TEAMS:

DAQS Tel: +353 1 8335043

DAQS Europe Tel: +353 57 8664343



### STANDARD FEATURES

#### Scroll compressor

- High efficiency, reliable, scroll compressors.
- Complete with overloads, high and low pressure protection, crankcase heaters and service ports.

#### Refrigerant circuits

- Evaporator coil manufactured from copper tubes with aluminium fins.
- Large surface area coil ensures a high sensible heat ratio.
- Circuits fitted with sight glass, filter drier and externally-equalised thermostatic expansion valve.
- All models are compatible with R407C, zero ODP refrigerant. Other refrigerants are available to special order.

#### Fan

- Backward-curved radial EC fans, providing exceptional air distribution and pressure response.
- Exceptional low motor power consumption and lower sound levels than traditional centrifugal fan arrangements.
- Available external static pressure of up to 350Pa.

#### Fan Speed Control

- Fully integrated EC drive technology with zero to 100% air volume and static pressure adjustment.

#### Microprocessor controller

- Industry standard microprocessor control.
- Full PID control logic, humidity and temperature control.
- Panel mounted LCD display.
- Simple multi function programmable controls.
- Audible and visual status and alarm indication.

#### Filtration

- Deep-pleated EU4 [Eurovent (4/5) / (CEN) G4], panel filters in a rigid frame.
- Return air filters are mounted on the coil face for minimum face velocity and low air pressure drop.
- Monitored by a differential air-pressure switch.

#### Electric compartment

- All high voltage components are MCB protected.
- Panel complies with EN 60204-1.
- Supply voltage: 400V / 3ph / 50Hz + PE (+/- 10%).
- Mains disconnect switch.

#### Service access

- All major components accessible from the front of the unit.
- Separate compressor compartment, completely isolated from the air path, allows full access to the refrigerant and water/glycol circuits while the unit is in operation.
- Electrical panel accessible while the unit is in operation.

#### Construction

- Panels and frame coated with durable dry epoxy powder paint.
- Panels are insulated with high-density, Class 0 thermal and acoustic (DIN 1) foam insulation.



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### OPTIONAL FEATURES

#### Freecooling Plenum

- The standard DXC800 freecooling plenum includes modulating VCD dampers for both return air and free cooling air inlets. It also incorporates a return air grille and fresh air duct connection.
- Other configurations are available to suit various applications.

#### Humidifier

- Microprocessor controlled steam humidifier.
- Particle-free steam injected into supply air stream.
- Automatic flushing cycle to reduce mineral precipitation.
- Alarm outputs.

#### Dehumidification

- Discrete dehumidification mode with automatic by-pass damper control.

#### Electric reheat

- Staged controlled reheat, fin-tubular type, high-efficiency, electrical reheat elements.
- Over-temperature thermostat and MCB protection.

#### SCR electrical reheat

- Modulating heater control to match demand - saves energy and provides precision control.

#### High efficiency filtration

- Deep-pleated EU5, EU6 and EU7 panel filters in a rigid frame.
- Mounted in same location as standard filters.
- Consult factory for higher efficiency filters.

#### Air cooled condensers (air cooled only)

- Available for outdoor ambient temperatures up to 50°C.
- Complete with fan speed control and a disconnect switch.
- Low ambient controls.
- Low noise versions also available.

#### Hot gas bypass

- Hot gas bypass control valve for compressor capacity control.

#### Floorstands

- Range of standard heights starting at 300mm.
- Adjustable feet for site levelling (+/- 50mm).
- Seismic rated floorstands and air return vanes are available.

#### Hot water/steam reheat coil

- Coil manufactured from copper tubing with aluminium fins.
- Two-way, proportional action, hot water valve.
- Low pressure drop.

#### BMS Interface

- Industry-standard protocols supported.

#### Plenums

- Ducted and front discharge plenums are available.
- Steel, coated with dry epoxy powder paint.
- Insulated with Class 0 high-density foam.

#### Water alarm

- Volt-free contact output.

#### Firestat

- Volt-free contact output.



### EC Fans

All DAQS products are supplied with highly energy-efficient EC fan motors.

EC Fans (Electronically Commutated DC motors) have very high motor efficiencies, up to 45% higher than a comparable 3-phase AC motor, up to 65% higher than a 1-phase AC motor and up to 35% higher than an AC motor/VSD combination.

EC fans allow unique precision control of the air delivery from the DAQS unit in constant air volume constant static pressure applications.

# PERFORMANCE DATA

Model	DXC800-01		DXC800-02	DXC800-03	DXC800-04	DXC800-05	DXC800-06	DXC800-07	DXC800-08	DXC800-09	DXC800-10
Free Cooling Capacity <sup>(1)</sup>											
	kW	21.0	21.0	21.0	21.0	21.0	47.0	47.0	80.6	80.6	80.6
DX Cooling Capacity @ 26° C / 45% RH <sup>(2)</sup>											
Total Capacity	kW	10.10	12.50	18.00	22.60	26.50	40.00	53.50	64.50	76.50	92.50
Sensible Capacity	kW	9.40	12.10	17.00	21.00	24.20	37.90	48.00	60.50	71.80	82.80
SHR	kW	0.93	0.97	0.94	0.93	0.91	0.95	0.90	0.94	0.94	0.90
DX Cooling Capacity @ 24° C / 45% RH <sup>(2)</sup>											
Total Capacity	kW	9.50	11.80	16.90	21.50	25.20	37.90	51.00	61.10	72.80	88.20
Sensible Capacity	kW	9.10	11.60	16.50	20.00	23.60	36.20	47.80	59.10	69.80	80.20
SHR	kW	0.96	0.98	0.98	0.93	0.94	0.96	0.94	0.97	0.96	0.91
Matching Condenser Selection <sup>(3)</sup>											
Model	DXCS-01		DXCS-02	DXCS-03	DXCS-04	DXCS-05	DXCT-06	DXCT-07	DXCT-08	DXCT-09	DXCT-10
Air distribution											
DX Airflow	m³/h	2250	3250	4250	5250	6250	11,000	12,500	15,750	18,750	19,500
Max. Freecooling Air Flow	m³/h	6250	6250	6250	6250	6250	14,000	14,000	24,000	24,000	24,000
Available ESP (4)	Pa	125	125	125	125	125	125	125	125	125	125
Cooling coil											
Rows		3	3	4	4	4	3	4	4	4	5
Circuits		1	1	1	1	1	2	2	2	2	2
Electric reheat											
Capacity	kW	6	6	9	9	9	18	18	27	27	36
Steam humidifier											
Output (max)	kg/hr	3	3	3	3	3	8	8	15	15	15
Filtration											
Type	Pleated Media Panel Type										
Efficiency	%	EU4/G4	All models (Higher efficiency also available)								

(1) At Max. Free Cooling Air Flow @ 10°C Δ T  
 (2) 49° C Condensing Temperature  
 (3) At 32° C Outdoor Ambient  
 (4) Standard factory setting

## INSTALLATION DATA

Model		DXC800-01	DXC800-02	DXC800-03	DXC800-04	DXC800-05	DXC800-06	DXC800-07	DXC800-08	DXC800-09	DXC800-10
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### Dimensions

<b>Length</b>	mm	840	840	840	840	840	1640	1640	2440	2440	2440
<b>Depth</b>	mm	840	840	840	840	840	840	840	840	840	840
<b>Height</b>	mm	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
<b>Footprint</b>	m <sup>2</sup>	0.7	0.7	0.7	0.7	0.7	1.4	1.4	2.0	2.0	2.0

### Electrical data

<b>Absorbed Fan Power</b>	kW	0.5	0.8	1.0	1.3	1.5	2.6	3.0	3.9	4.5	4.7
<b>Supply Voltage</b>		400/3/50 All MODELS									
<b>Quantity Fans/Motors</b>		1	1	1	1	1	2	2	3	3	3

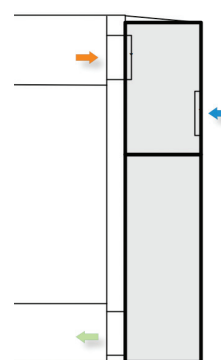
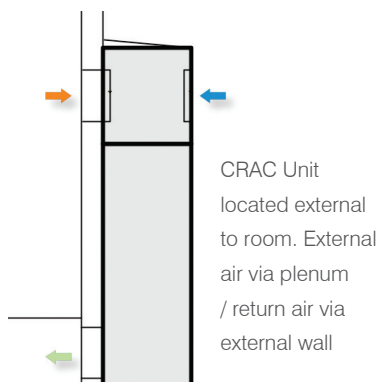
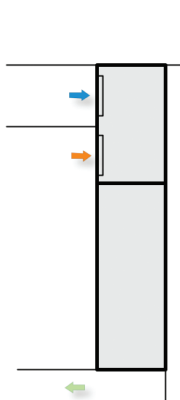
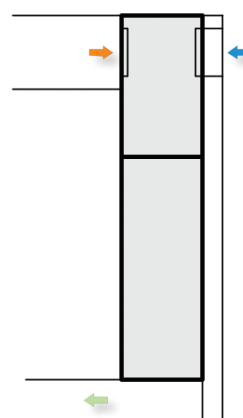
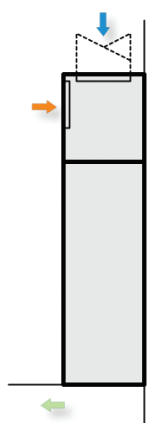
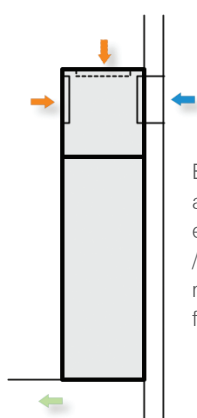
### Weight

<b>Net</b>	kg	220	220	240	240	240	420	440	600	600	630
<b>Gross</b>	kg	230	230	255	255	255	440	460	630	630	660

### Piping Data

<b>Discharge (Hot Gas) Pipe Size</b>	mm	16	16	16	22	22	16x2	16x2	22x2	16x2	22x2
<b>Liquid Line Pipe Size</b>	mm	12	12	12	12	12	12x2	12x2	12x2	16x2	16x2

## CONFIGURATIONS



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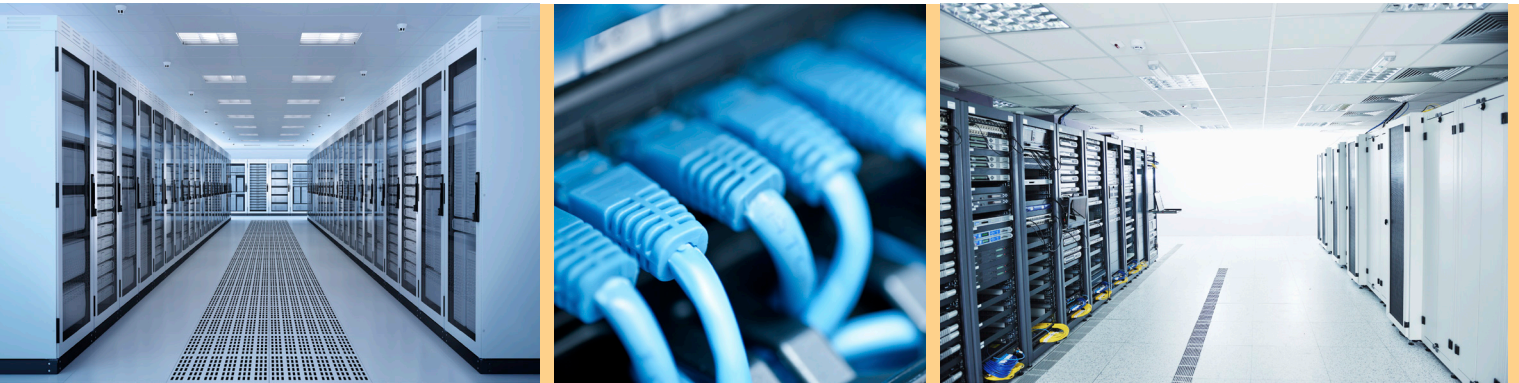
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# DAQS

DIONX AIR QUALITY SYSTEMS



PACKAGED | COMPACT | QUIET | PLUG+PLAY | ENERGY EFFICIENT

## DAQS

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