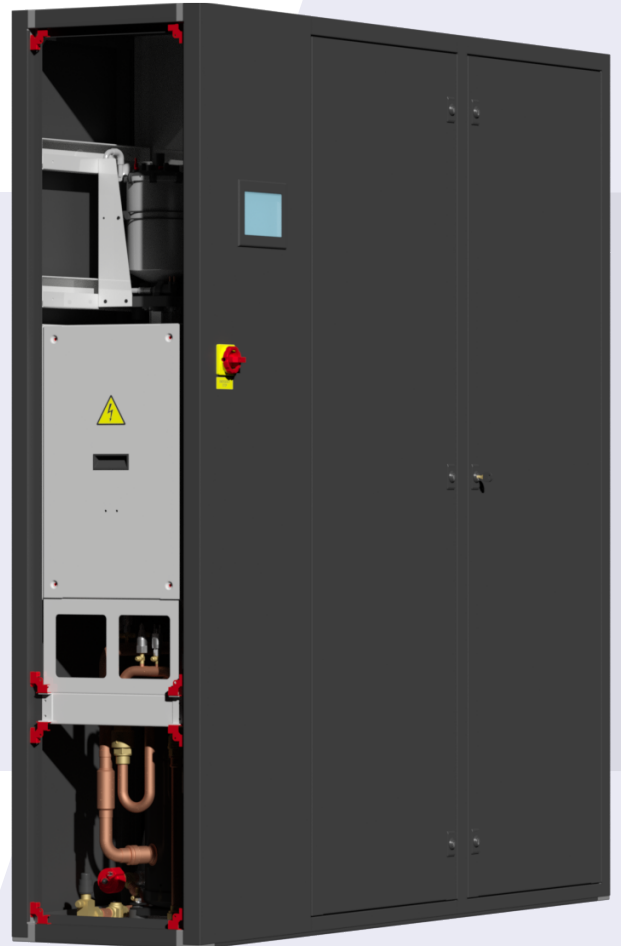


# Compact DX

DIRECT EXPANSION PRECISION AIR CONDITIONERS

# 15-45kW



- ▶ PRECISE THERMAL CONTROL
- ▶ LATEST SCROLL COMPRESSOR TECHNOLOGY
- ▶ SPACE-SAVING DESIGN WITH UNIT DEPTH OF ONLY 490MM
- ▶ LOW WEIGHT



SCROLL



R410a



EC-FANS



MICROCHANNEL



UPFLOW



DOWNFLOW

# Hi-end evaporators

## Microchannel coils featuring high heat transfer rates

Compact DX air conditioning units based on newly developed microchannel evaporators with an advanced design that combines high-performance flat tubes, state-of-the-art airside fins and ultra low-pressure manifolds with integrated refrigerant distributors.

The unique geometry of the manifolds and refrigerant distributors make it possible to feed the microchannel tubes equally for evaporation and ensures consistent and predictable heat transfer. Vertically-oriented microchannel tubes allow free condensate water shedding.

Microchannel evaporators permit numerous benefits to be achieved, including low airside pressure drops, higher cooling capacity, significantly reduced weight and minimum refrigerant charge.

# Scroll compressors

## Reliable, time-proven technology

The scroll compressors employed in the Compact DX design is the result of large-scale research and development efforts underway since 1979. These efforts have led to the production of the most advanced scroll compressor design currently available for air-conditioning applications.

Compressors feature onboard protection, communications, and real-time diagnostics streamed directly to the unit controller.

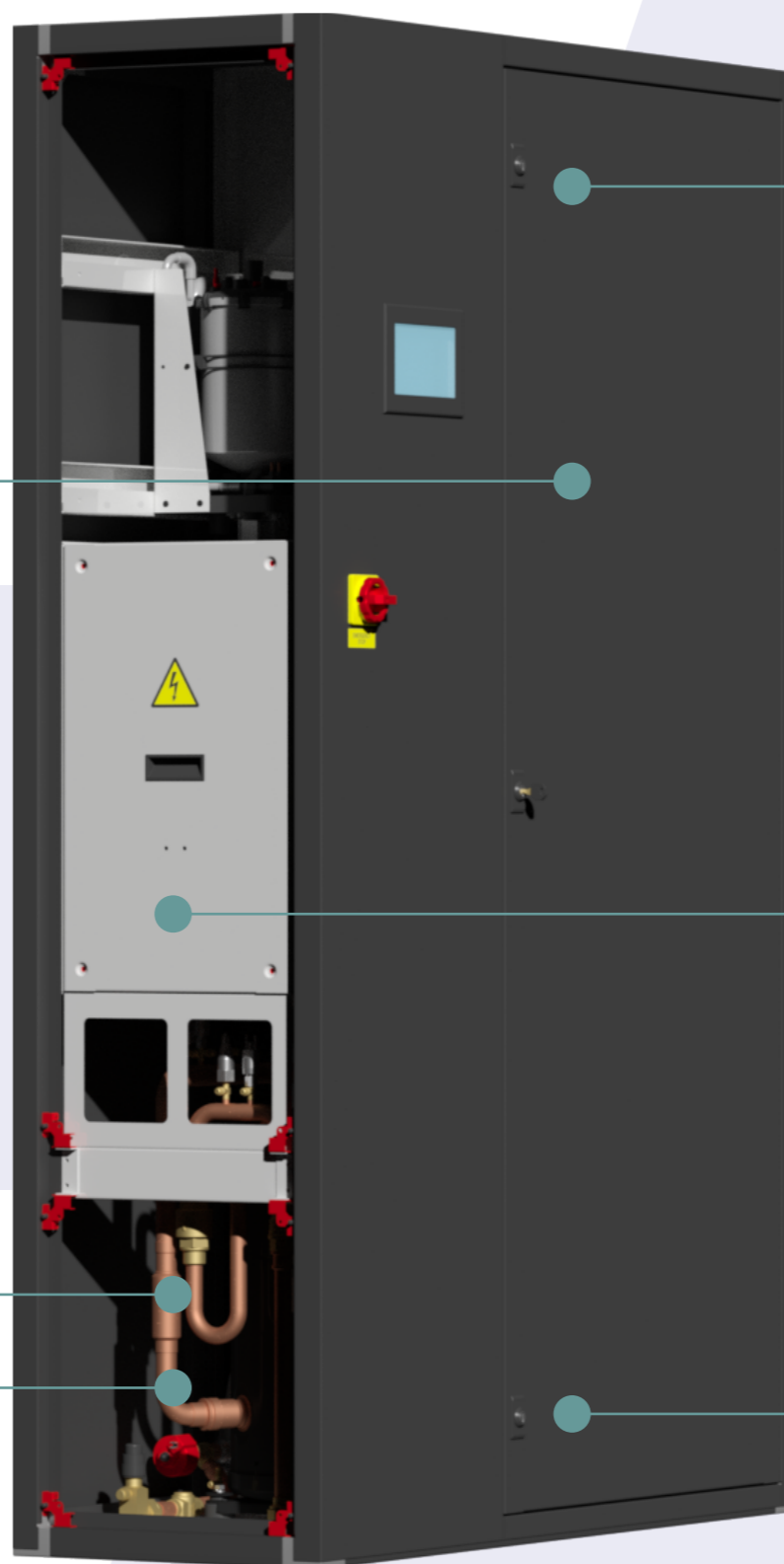
Compact DX units are perfectly suitable for both constant heat load and variable heat load applications. The customers of Compact DX systems with R410a optimized scroll compressors can benefit from the quiet operation, unmatched reliability and low operating cost.

# Refrigeration circuit

## Precise evaporation control

Refrigeration circuit of the Compact DX unit equipped with electronic expansion valve (EEV) which regulates and optimizes the refrigerant quantity to the evaporator based on current requirements.

Through the use of microchannel evaporator, the refrigerant charge of the Compact DX air conditioners significantly reduced in comparison to old-style fin/tube designs. Compact DX features refrigerant leak detection system, fast becoming a high priority for many customers, especially considering the potential for loss if a major leak renders a cooling system inoperable.



# Modulating fans

## Highly efficient, maintenance-free fans

Radial fans with unique blade geometry offer increased airflow. In combination with EC-motors and integrated control functionality, communication interface, and overtemperature protection, these fans provide unbeatable energy efficiency, maximum flexibility, and the lowest possible sound emission.

EC motor technology provides significant savings at both full load and part load operation. Compact's EC-motors are maintenance-free and have a longer lifespan in comparison to brushed motors.



# Power and controls

## Easy and flexible local and remote control

The control hub of Compact DX air conditioners is a sophisticated processor with control logic specially developed for direct expansion precision cooling units. Users can deploy various control strategies based on either continuous temperature control, or on-demand airflow control, or constant pressure control by maintaining a pressure differential between the cold and hot aisles. The standard package includes local and remote management, unit health monitoring, and advanced energy analysis functionality.

Optionally, units can be equipped with power backup feature for system controller and dual power supply with a changeover switch for instant changing to an alternative power source in the event of failure.

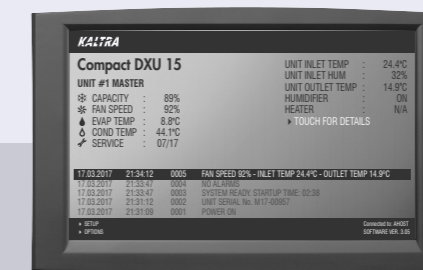
# Space-saving design

## Small footprint, reduced weight

With its high cooling density of up to 45 kW cooling per square meter, reduced footprint, small unit depth of just 490mm, low weight - Compact DX saves expensive space of data centers and telecom rooms and perfect for installing in limited areas.

## Easy installation and start-up

The unit terminal with a large touchscreen display provides advanced control and detailed run statistics and analysis for the operator. The software allows configuring multiple units simultaneously by replicating the configuration and parameters onto a group of networked units, thus reducing commissioning time.



# Technical Specifications

Model	Width mm	Total cooling capacity kW	Sensible cooling capacity kW	Compressor quantity	Fan quantity	EER kW/kW	Compressor(s) power input kW	Fan(s) power input kW	Airflow m³/h	Discharge air temperature °C	External static pressure Pa
Air inlet temperature: 24°C ; Relative humidity 45%; Ambient air temperature 35°C; Condensing temperature 45°C											
Compact DX U/D 09	900	16.6	15.2	1	1	3.79	3.97	0.41	4500	13.7	20
Compact DX U/D 12	1200	26.0	23.8	1	1	3.86	5.92	0.82	7000	13.6	20
Compact DX U/D 15	1500	36.1	33.0	1	2	4.02	8.07	0.91	9750	13.7	20
Compact DX U/D 18	1800	43.1	39.9	1	2	3.82	10.01	1.27	12000	13.8	20

Description			
General			
Steam humidification system	<input type="checkbox"/>	Condensate discharge pump	<input type="checkbox"/>
Dehumidification system	<input type="checkbox"/>	Refrigerant leakage detection	<input type="checkbox"/>
Multi-stage electric heater w/ thyristor control	<input type="checkbox"/>	Air intake plenum (DXD models)	<input type="checkbox"/>
Noise-reduction shells for compressors	<input type="checkbox"/>	Air discharge plenum (DXU models)	<input type="checkbox"/>
Refrigerant side			
Electronic expansion valve (EEV)	<input checked="" type="checkbox"/>	E-coated evaporator coil	<input type="checkbox"/>
Solenoid valve on liquid line	<input type="checkbox"/>	Check valves on compressors discharge	<input checked="" type="checkbox"/>
Liquid receivers (loose)	<input type="checkbox"/>	Temperature probes on compressors suction/discharge	<input checked="" type="checkbox"/>
Airside			
EC fans w/ Modbus connectivity	<input checked="" type="checkbox"/>	Humidity probes on air intake/discharge	<input type="checkbox"/>
Grade G4 air filtration w/ filter change switch	<input checked="" type="checkbox"/>	Temperature probes on air intake/discharge	<input checked="" type="checkbox"/>
Electric and controls			
Touch screen HMI	<input checked="" type="checkbox"/>	BMS connectivity	<input checked="" type="checkbox"/>
Constant temperature control	<input checked="" type="checkbox"/>	SNMP connectivity	<input checked="" type="checkbox"/>
Constant pressure control	<input checked="" type="checkbox"/>	GSM connectivity	<input checked="" type="checkbox"/>
Constant airflow control	<input checked="" type="checkbox"/>	Soft-starter	<input type="checkbox"/>
Controller backup power supply	<input type="checkbox"/>	Dual power supply w/ changeover switch	<input type="checkbox"/>

- Standard feature
- Optional feature

## Model identification

Compact

Type	DX	Direct expansion air conditioner
Air discharge arrangement	D	Bottom air discharge
	U	Underfloor air discharge
Enclosure size		Enclosure width in dm
Steam humidifier	H	Units with steam humidifier

## Frame sizes

Enclosure		09	12	15	18
Width	mm	985	1285	1585	1885
Depth	mm	490	490	490	490
Height (DXD models)	mm	2050	2050	2050	2050
Height (DXU models)	mm	1950	1950	1950	1950



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