

Descriptions for specifications  
w-NEXT S



**Serie:** w-NEXT S  
**Sizes:** All  
**Capacity:** 7-234 kW



## w-NEXT S

Chilled water precision air conditioners for perimeter installation in data centre and any room with electronic devices.

Available configurations:

Top air delivery (OVER)

Bottom air delivery (UNDER)

Technical solutions and the internal lay-out allow high application flexibility and frontal access to the main components for inspection and routine maintenance.

The installation requires electrical and hydraulic connections.

### Main components:

#### FRAMEWORK

Base and frame in aluminium painted with epoxy powders. Colour RAL 9005; inner frame is provided with seals for the panels. Panels insulated with polyurethane foam and seals to ensure air tight made of galvanized steel sheet with protective surfaces treatment in compliance with UNI ISO 9227/ASTMB117 and ISO 7253, and painted with epoxy powders. Colour RAL 7016 hammered.

Hinged front panels with quick release removal system.

Removable side and back panels.

Total front access for routine maintenance.

Compartment for electrical panel on unit front for direct access to control and regulation devices;

#### FILTER SECTION

Washable air filters with COARSE 60% efficiency (according to ISO EN 16890), with cells in synthetic fibre and metallic frame.

#### FAN SECTION

Built-in fan section consisting of:

- Centrifugal fans with backward curved blades with wing profile, single suction and without scroll housings (Plug-fans), directly coupled to external rotor electric motor.
- Impeller in composite material exempt from rust formation.
- Brushless type synchronous EC electric motor with integrated electronic commutated system and continuous variation of the rotation speed basing on the signal coming from the microprocessor control.
- Fans operation control through ModBus. In case of failure, the control stops only the failed fan indicating the type of fault. The machine with more than one fan is not stopped.
- Fan guard with rubber support (UNDER version)

#### COOLING SECTION

Heat exchanger coil with internally corrugated copper tubes and high efficiency aluminium fins, specifically developed to provide high heat transfer and lower pressure drops.

Finned pack with hydrophilic treatment that assure the condensate water drop, high thermal conductivity and does not favour the growth of micro-organisms.



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2-way motorized valve for water flow regulation with 0÷10 VDC control actuator and emergency manual control.  
Frame in galvanized steel.  
Condensate tray in peraluman with PVC flexible discharge pipe.  
Temperature sensor on air intake with function of temperature display.  
Temperature sensor on air delivery with function of control and regulation.  
Temperature probe on chilled water inlet.

### ELECTRICAL PANEL

In accordance with EN60204-1 norms, suitable for indoor installation, complete with:

- Main switch with door lock safety on frontal panel.
- Magnetothermal switches for supply fans
- Contactors for each load. (not requested for EC fans).
- Phases sequence control relay for the machine.
- Transformer for auxiliary circuit and microprocessor supply.
- Terminal box OUTLETS:
  - Voltage free deviating contact for General Alarm 1-2.
  - Voltage free contact for supply fans status.
  - Voltage free contact for smoke / fire sensor
- Terminal box INLETS:
  - External enabling.

### CONTROL SYSTEM

Microprocessor control system with graphic display for control and monitor of operating and alarms status. The system includes:

- Built-in clock for alarms date and time displaying and storing;
- Built-in memory for the storing of the intervened events (up to 200 events recorded);
- Predisposition for connectivity board housing (MBUS RS485/JBUS, MBUS RS232/JBUS for GSM modem, LON, BACnet for Ethernet (SNMP- TCP/IP), BACnet for MS/TP).
- Main components hour-meter;
- Non-volatile "Flash" memory for data storage in case of power supply faulty;
- Menu with protection password;
- Demand Limit function (for machines with double refrigerant circuit only);
- LAN connection (max 10 units).

### AVAILABLE ACCESSORIES

- Double power supply with automatic change-over.
- Network analyzer: multifunction utility for calculating and displaying the machine electrical measurements.
- Smoke sensor.
- Fire sensor.
- Condensate drain system.
- Modulating immersed electrodes steam humidifier with combined Temperature / Humidity sensor.
- Dehumidification system with combined Temperature / Humidity sensor.
- Electric heating system consisting of aluminium armoured elements with integral fins.
- Hot water heating system.
- Unit floor stand with height adjusting rubber holders.
- Sandwich panels Euroclass A1.
- Washable air filter with ePM10 50% efficiency (according to ISO EN 16890).
- Non-return air damper driven by electric servomotor installed on the machine air delivery.
- Empty plenum.
- Plenum with noise absorption partitions on air delivery.
- Plenum with noise absorption partitions on air return.
- Plenum with ePM2.5 50%, ePM1 50%, ePM1 85% efficiency filters on air delivery.
- Air distribution plenum with double row adjustable grille
- Air distribution plenum with double row adjustable grille on front side and noise absorption partitions.
- Plenum for direct free-cooling on air intake.
- Combined Temperature / Humidity sensor on return air.
- Temperature sensor for outdoor installation.
- Combined Temperature / Humidity sensor for remote installation.
- Electrical power supply for remote condenser from the indoor machine electrical board
- Microprocessor control accessories:
  - Remote terminal.
  - Serial card MBUS RS485/JBUS.



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- Serial card MBUS RS232/JBUS for GSM modem.
- Serial card LON.
- Serial card BACnet for Ethernet – SNMP – TCP/IP.
- Serial card BACnet for MS/TP.
- Temporary microprocessor power supply. The system guarantees the microprocessor power supply for a few minutes, in case of supply voltage failure.
- Analogue set point compensation according to an external analogue signal at Customer care.

### Design data

#### Return air:

- *Temperature:* °C
- *Relative Humidity* %

#### Chilled water:

- *Inlet Temperature:* °C
- *Outlet Temperature:* °C
- *Antifreeze* %

Air flow: m<sup>3</sup>/h  
External static pressure: Pa  
Total NET cooling capacity: kW  
Sensible NET cooling capacity: kW  
SPL 1 m free field unit front: dB(A)  
Dimensions LxWxH: mm

