FLOWAIR
intelligent air flow

ROOFTOP UNIT Cube

Ductless unit
with swirl diffuser

DUCTLESS SOLUTIONS

"The latest trends in the HVAC industry in industrial construction focus on providing solutions that simplify installations and save time during the investment process. FLOWAIR Cube RTU's are an example of such a solution: ventilation with heat recovery, cooling and heating. Their compact design with a supply module means that to supply fresh air and ensure thermal comfort, it is enough to supply power and make one hole in the ceiling, without the need for complicated installation of ventilation ducts. Bacause of these features Cube is used in a variety of facilities, ranging from industry to public buildings. "

Newsweek Polska 35/2019

Rooftop Units

summer season – cooling and ventilation with heat recovery

APPLICATION

The wide range of Cube RTU's in combination with various mounting options guarantee many application possibilities. Cube units are perfect for rooms such as:

- Shopping malls
- Logistics centers
- Industrial facilities
- Public facilities
- Petrol stations
- Shopping outlets
- Cinemas

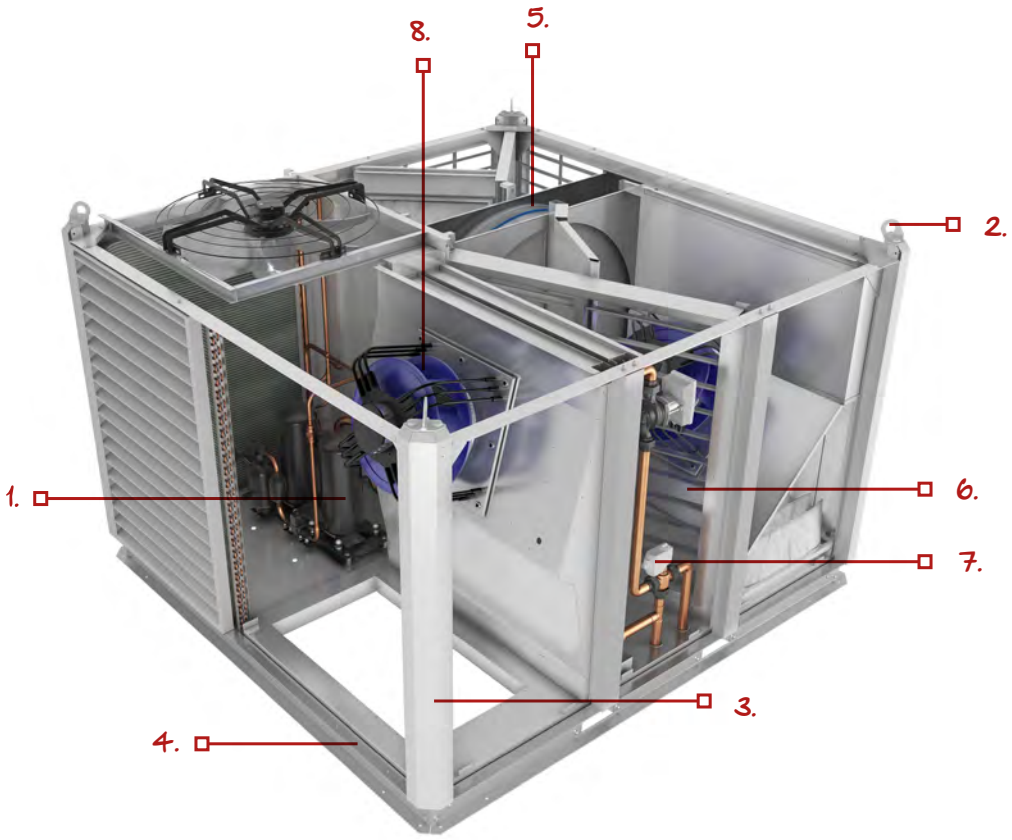
Cube NW

winter season – heating and ventilation with heat recovery

CONSTRUCTION

Cube RTU's

Cube RTU's are characterized by a compact design that contains all necessary components for effective cooling, heating and ventilation with heat recovery. It means that with one device it is possible to meet the building's sanitary requirements without the need for any complicated installations, external modules or additional devices.



1. **Cooling system**
inverter compressor or tandem compressor set

2. **Lifting lugs**
fast assembly without the need for a traverse

3. **Housing**
construction with ddditional 50 mm mineral wool insulation that eliminates thermal bridges

4. **The self-supporting base**
for direct mounting of the device on the substructure

5. **Rotary heat exchanger**
inside the device, no need to add any external heat recovery modules

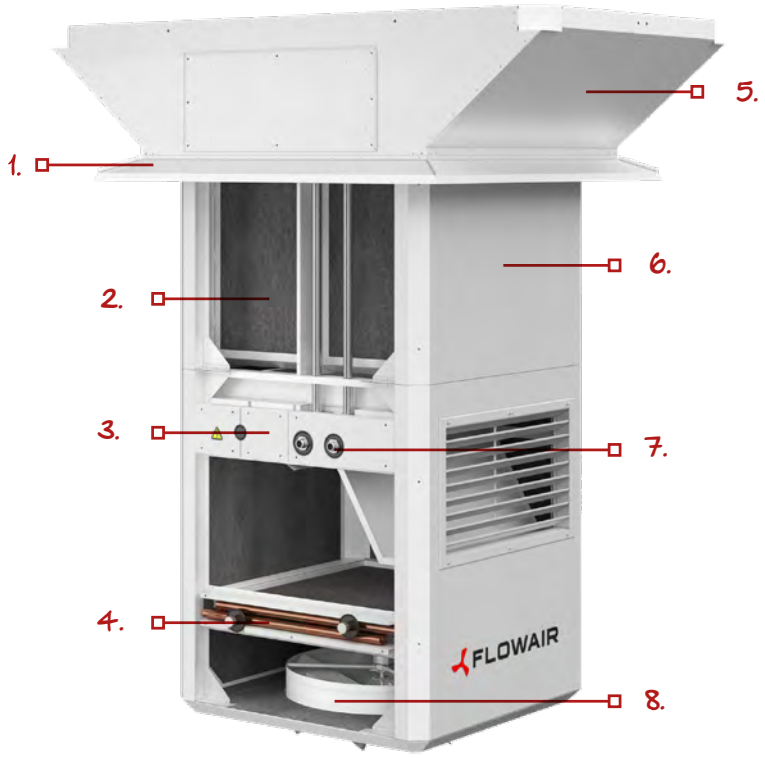
6. **Recirculation damper**
smooth regulation of fresh and recirculating air

7. **3-way valve+ circulation pump**
version with water exchanger equipped with built-in circulation pump with 3-way valve

8. **EC fans**
smooth regulation of air flow

Air supply module NW

The use of the NW air-supply module adapts Cube RTU's for ductless operation. The lack of a traditional duct installation simplifies the project and allows for faster investment implementation. Furthermore, in the case of decentralized solutions, the user gains the possibility of independent regulation and greater security.



1. **Planking/ empennage**
   additional protection against atmospheric precipitation

2. **Silencers**
   lowering the noise level for both supply and exhaust sections

3. **Connections in the ceiling area**
   for fast hydraulic and electric installation

4. **NW W heater**
   water powered heat exchanger in the supply part

5. **Roof base**
   Easy device placement

6. **Isolation**
   thermal and acoustic insulation of the housing guarantees reduction of the noise level and reduction of thermal losses

7. **Cube heater W**
   Water heater connections with secondary/auxilliary mixing circuit located on the Cube

8. **Configurable supply element - swirl diffuser**
   with actuator (NW D version) or duct connections (NW V version)

SUPPORT AT EVERY STAGE OF COOPERATION

Good product is not the the end of the road for us. We make every effort to ensure that the process of product selection is quick and efficient. We tailor the solution to the user's needs. Below are the types of support we offer our clients.

Project support

Sales support

Technical support

Logistics support

Aftersales support

Warranty Claims support

Training support

PROJECT SUPPORT

A group of qualified engineers that provide full support for a project. The team analyses the project demands and helps with the appropriate selection and placement of devices. Finally, the customer receives a ready selection offer along with a set of drawings and technical documentation.

POLISH PRODUCTION

Cube RTU's, from the initial concept, the design all the way to the final implementation, are designed and meticulously made in Poland. Cube units are characterized by highest quality and compliance with all European standards. We ensure quick delivery and full sales and after-sales support.

SALES SUPPORT

The team of technical and commercial advisors looks after the client comprehensively. They monitor the status of the order, supervise the selection of devices, prepare the price calculation and set the schedule of delivery to the customer. The team is also able to answer technical questions related to products.

AFTER-SALES SUPPORT

FLOWAIR support does not end at the stage of selling the equipment or at the delivery to the customer.
We continue to supports our clients at other investment stages as well. Experienced staff not only supervise the first start-ups and provide on site trainings for our solutions. What is more they support the end customer and complete all necessary warranty formalities.

CONFIGURATION OF UNITS WITH AIR-SUPPLY MODULE

Cube units with a air-supply module can be freely configured as required

CHOOSING THE UNIT
Cube R8 – compact heating and ventilation rooftop Cube
Cube 20/40 – compact cooling, heating -ventilating rooftop

CHOOSING THE HEATER IN THE UNIT
N – version without a heater in the device
W – water heater with secondary circulation and circulation pump
E – electric heater
G – gas heater with a modulated burner or two-stage
HP – heat pump (reversible compressor unit)

ROOF BASE – enabling direct placement

ACOUSTIC SILENCERS – reducing noise level EX S / L

EXTENSION MODULE EX S/L (option)

CHOOSING THE HEATER IN THE AIR SUPPLY MODULE NW
N – version without a heat exchanger in the supply air module
W2 – version with a 2-row heat exchanger
W3 – version with 3-row heat exchanger

AIR SUPPLY MODULE
D – swirl diffuser with actuator for regulation of air supply
V – duct connection module

TYPES OF UNITS

Cube RTU with an NW supply module

Cube R8 NW (Heating and ventilation unit)

	W	90 kW
+	G	63 kW
	E	on request
⟳		8000 m³/h

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Cube 20 NW (cooling, heating -ventilating unit)

−		20 kW
	W	70 kW
+	G	34 kW
	E	on request
⟳		5500 m³/h

p. 12

Cube 40 NW (cooling, heating -ventilating unit)

−		40 kW
	W	90 kW
+	G	41 kW
	E	on request
⟳		8000 m³/h

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− cooling + heating ⟳ ventilation

W - water heater (heater power for the heating medium temperature 70 / 50°C, air temperature before the exchanger 8°C)
G - gas heater
E - electric heater

INSTALLATION OF DUCTLESS UNITS

Cube units with NW supply bases are delivered in two parts. Installation, on a previously prepared substructure, boils down to lifting and foundation of the NW base and Cube device. Connections in the ceiling part allow quick connection of power supply and heating medium and simplification of installation.

Installation

- **STEP 1**
  Prepare an opening in the roof structure and the substructure.

- **STEP 2**
  The placement of the base with diffuser and the unit.

Product Advantages

Simple installation

Self-supporting base

Transport handles

Module with a swirl diffuser

AUTOMATION

Cube devices are equipped with a complete power supply and control automation system. The built-in Climatix controller enables wide possibilities of communication with the device. Flowair's proprietary work algorithms are adapted to the design of the devices and guarantee energy-saving operation, regardless of the conditions. The integration of the Cube devices into the SYSTEM FLOWAIR allows for connection and cooperation of up to 31 different types of devices that are connected to the Tbox intelligent touch scrreen controller.

The function of automatic regulation of the swirl diffuser depending on the operating mode of the device translates into an even distribution of air indoors, regardless of the season.

Possibility to work in constant supply air* temperature mode, relative to the temperature of the exhaust air or relative to the room air temperature.

The device is under the supervision of an authorized service person. In case of potential problems, there is quick help.

ECO

Automatic regulation of the rotational speed of the rotary exchanger means the highest possible heat recovery efficiency at any given time.

EC

Stepless regulation of EC fans guarantees performance according to the building design assumptions and minimal electricity consumption.

ZONE

Zone temperature control for facilities where at least two different zones/ways of utilizing the building can be distinguished (applies to T-box Zone).

CO_2

Coompatibility with gas detection sensors and fire protection alarms **

It is possible to connect devices to external control systems. In the event of a failure or an alarm, the operating characteristics of the device are changed.

The option of automatic recirculation damper control Transates into economical maintenance of required room conditions.

Automatic fan speed control guarantees constant air flow regardless of contaminated filters or the degree of damper opening.

* requires the use of a water supplied heat exchanger in the Cube or a modulating gas heater
** depending on the configuration, an expansion module may be required

PRODUCTION HALL - KĘDZIERZYN KOŹLE

Cube R8/NW x 6 pcs.

The automotive production plant on which Cube R8 devices operate is characterized by huge heat gains generated by metal remelting furnaces. Installation on the roof with a supply base and a swirl diffuser made it possible to opt out of duct installation and direct blowing of fresh air and high-temperature air extraction. The built-in heater allows you to heat the room during transitional periods, when the ovens are not working or when heat gains are not sufficient to heat the room.

SPECIAL FEATURES:

- Removal of heat gains
- Heating during transitional periods
- Ductless ventilation


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PRODUCTION HALL - OLEŚNICA

Cube R8/NW x 24 pcs.

Large factories in the automotive industry often require an individual approach in the implementation of the heating, cooling and ventilation system. In the production hall located in Oleśnica, we used 4-row high-power water heat exchangers for heating and cooling in a 2-pipe system. An additional requirement of the investor was the use of lugs for moving panels during inspections.

SPECIAL FEATURES:

- High power water heat exchanger
- Heating and cooling with a water exchanger
- Dedicated service lugs for inspection panels
- Compatibillity with BMS system


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HIGH STORAGE WAREHOUSE - WROCŁAW

Cube R8/NW x 5 pcs.

High storage warehouses, especially for the pharmaceutical industry, place special requirements on our equipment. In the case of the warehouse in Błonia near Wrocław, the bottom edge of the device is 17 meters above the floor. With this installation height, the non-isothermal supply air range is important. To meet the design requirements, we used special water heat exchangers with a supply air temperature control system and long-range swirl diffusers.

SPECIAL FEATURES:

- Heating and ventilation function with heat recovery
- Supply base with silencers and swirl diffuser
- Non-isothermal range of 17 meters


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FLOWAIR
intelligent air flow

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Project support

Ask us about:

- technical data
- CAD library
- device series
- custom solutions

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