



JUWENT

OPTIMAX TOP

DUCTLESS AIR HANDLING UNITS

CATALOGUE SHEET



TÜV
Verified product
No: 0000095996
certyfikat.tuv-nord.pl



CERT
POLSKA AKADEMIA JAKOŚCI
PN-EN ISO 9001:2015
Certyfikat nr:
2163/12/2022/J/R



AC 137
QMS

Manufactured in accordance with EN 1886 and EN 13053 standards

OPTIMAX-TOP is a series of energy-efficient compact air handling units that incorporate the latest thermal and ventilation technology. This series includes four unit types:

OPTIMAX-TOP-O: Supply and exhaust unit with heat recovery.

OPTIMAX-TOP-NW: Supply and exhaust unit with recirculation.

OPTIMAX-TOP-N: Supply unit with recirculation.

OPTIMAX-TOP-R: Recirculation unit.

The **high-efficiency rotary heat exchanger** enables the recovery of thermal energy from exhaust air with up to 90% efficiency. Additionally, the **high-efficiency fans with EC motors** are used to minimize electricity consumption. The double-skin panels are 50 mm thick and insulated with mineral wool to reduce heat loss to the environment. They also provide excellent acoustic insulation for the working fans.

The **OPTIMAX-TOP** air handling units come fully pre-wired with a built-in, pre-configured control panel. They are equipped with air distributors featuring swirl diffusers that provide direct air distribution to the serviced space, removing the need for additional ventilation ductwork. They are designed for use in facilities such as sports halls, warehouses, production halls, stores, and other large industrial and public-use spaces.

FUNCTIONS OF AIR HANDLING UNIT



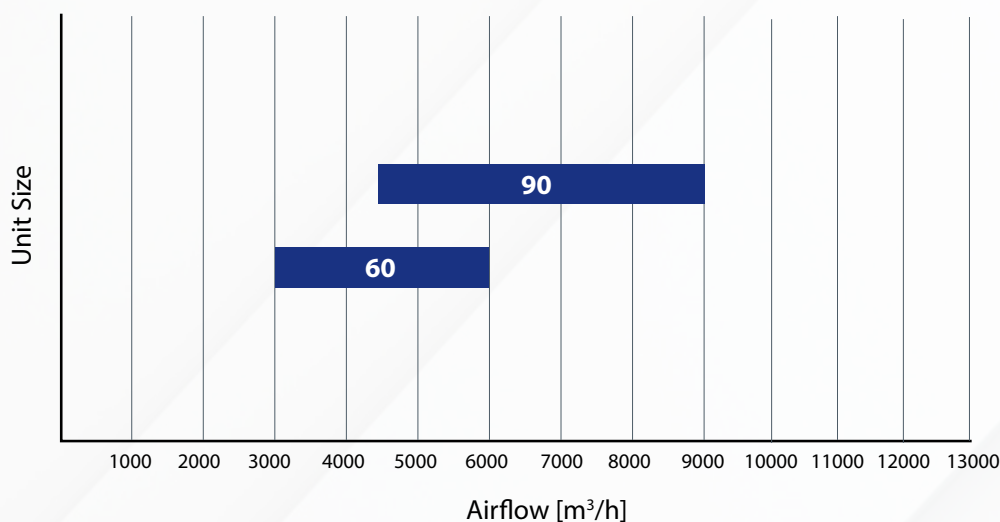
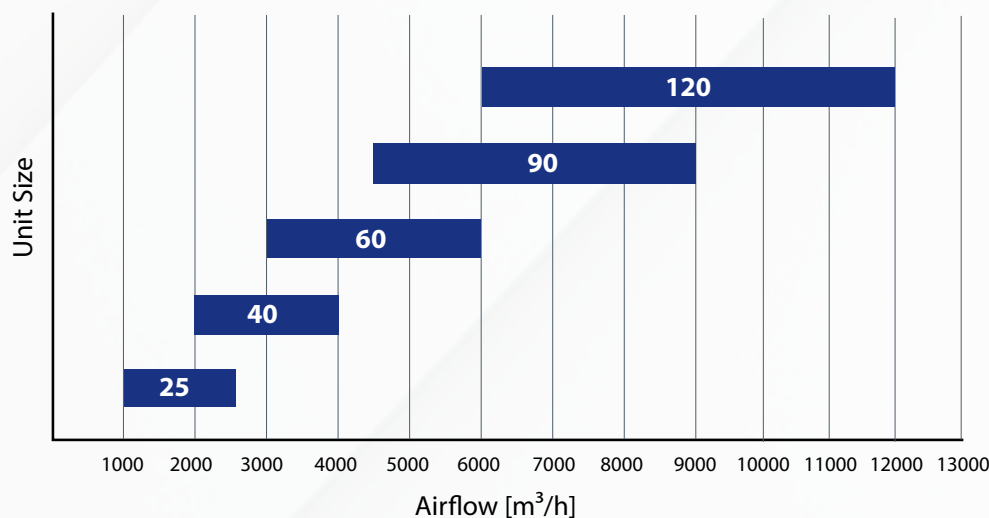
AIR FLOW RANGE

OPTIMAX-TOP-O	60	90
V min (m³/h)	3000	4500
V max (m³/h)	6000	9000

OPTIMAX-TOP-N	60	90
V min (m³/h)	3000	4500
V max (m³/h)	6000	9000

OPTIMAX-TOP-NW	60	90
V min (m³/h)	3000	4500
V max (m³/h)	6000	9000

OPTIMAX-TOP-R	25	40	60	90	120
V min (m³/h)	1000	2000	3000	4500	6000
V max (m³/h)	2500	4000	6000	9000	12000

Airflow Range of **OPTIMAX-TOP-O, NW, N**Airflow Range of **OPTIMAX-TOP-R**

DESIGN AND CONSTRUCTION OF OPTIMAX-TOP-O, -NW, -N

The O-, NW-, and N-type units consist of a basic section designed for rooftop installation and an air distributor installed below the ceiling inside the building. The installation requires a roof curb made of either a steel structure or concrete/masonry, along with appropriate mounting openings in the roof deck.

BASIC SECTION

Casing design of the basic section is based on a framework of aluminium profiles. The casing is composed by 50 mm thick double-skin panels filled with mineral wool. Inspection panels are hinged and secured with lever handles or pull handles. The base frame for each size AHU is constructed using steel profiles. The basic section is available in several versions, depending on the configuration of the air treatment components. It comes fully pre-wired with a built-in electrical control panel. Additionally, air shut-off dampers are fitted inside the basic section to the intake and discharge.

CASING PARAMETERS

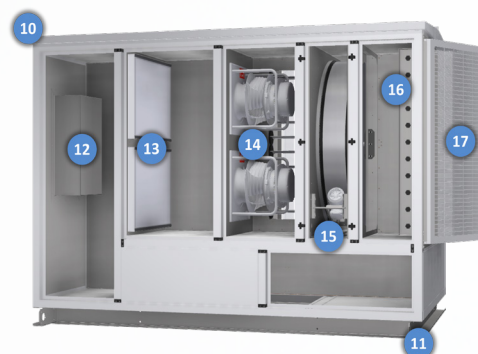
The parameters below are provided in accordance with EN 1886:

PARAMETER	mechanical strength	casing air leakage	filter bypass leakage	thermal transmittance	thermal bridging factor
CLASS	D1	L1	F9	T3	TB1

OPTIMAX-TOP-O
SUPPLY



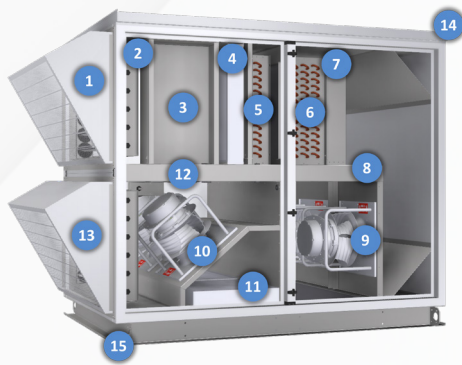
OPTIMAX-TOP-O
EXHAUST



AHU components

- | | |
|--------------------------|---------------------------------|
| 1. Air intake cowl | 10. Roof |
| 2. Outdoor air damper | 11. Base-frame |
| 3. Outdoor air filter | 12. Electrical control panel |
| 4. Rotary heat exchanger | 13. Exhaust air filter |
| 5. Mixing chamber | 14. Exhaust fans |
| 6. Water/electric heater | 15. Rotary heat exchanger drive |
| 7. Water/DX cooling coil | 16. Extract air damper |
| 8. Droplet eliminator | 17. Air extract cowl |
| 9. Supply fans | |

**OPTIMAX-TOP-NW
SERVICE SIDE**



**OPTIMAX-TOP-NW
NON-SERVICE SIDE**

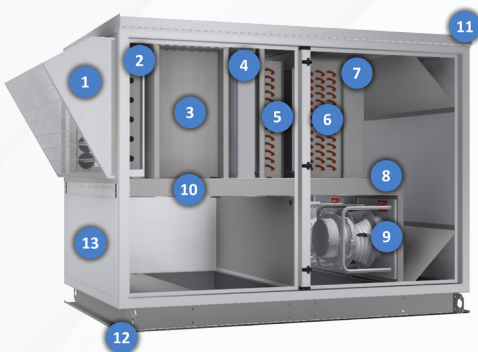


AHU Components

1. Air intake cowl
2. Outdoor air damper
3. Electrical control panel
4. Supply air filter
5. Water/electric heater
6. Water/DX cooling coil
7. Droplet eliminator
8. Condensate drip tray
9. Supply fans
10. Exhaust fans

11. Exhaust air filter
12. Air recirculation damper
13. Air extract cowl
14. Roof
15. Base-frame
16. Water heating coil connections
17. Water/DX cooling coil connections
18. Condensate drain connection
19. Casing

**OPTIMAX-TOP-N
SERVICE SIDE**



**OPTIMAX-TOP-N
NON-SERVICE SIDE**



AHU Components

1. Air intake cowl
2. Outdoor air damper
3. Electrical control panel
4. Supply air filter
5. Water/electric heater
6. Water/DX cooling coil
7. Droplet eliminator
8. Condensate drip tray

9. Supply fans
10. Air recirculation damper
11. Roof
12. Base-frame
13. Casing
14. Water heating coil connections
15. Water/DX cooling coil connections
16. Condensate drain connection

AIR DISTRIBUTOR

The casing design of the air distributor is also based on a framework of aluminium profiles. The casing is composed by 30 mm thick double-skin panels filled with mineral wool. Inspection panels are removable, equipped with pull handles, and secured with wing thumb screws. A load-bearing steel frame is located at the top of the distributor, designed for mounting on a roof curb and connecting to the basic section. The air distributor is available in two versions: with or without swirl diffusers. The version with swirl diffusers can be equipped with 1, 2, or 4 diffusers. The version without diffusers includes 2 or 4 side air outlets for connecting to ductwork. The version with 2 or 4 swirl diffusers requires short spiral duct segments ending in plenum boxes to be connected to the air distributor. **The plenum boxes and swirl diffusers are supplied with the air distributor, but the ductwork is not included in the scope of delivery.**

SINGLE VERTICAL AIR OUTLET WITH SWIRL DIFFUSER



TWO HORIZONTAL AIR OUTLETS



FOUR HORIZONTAL AIR OUTLETS



AHU Components

1. Supply air inlet
2. Supply air outlet
3. Exhaust air inlet
4. Exhaust air outlet

5. Access panel
6. Load-bearing frame
7. Casing

DESIGN AND CONSTRUCTION OF OPTIMAX-TOP-R

The R-type unit consists of a basic section and a trapezoidal air distributor attached to it. The entire assembly is designed for ceiling-mounted installation in the serviced room using M8 threaded rods.

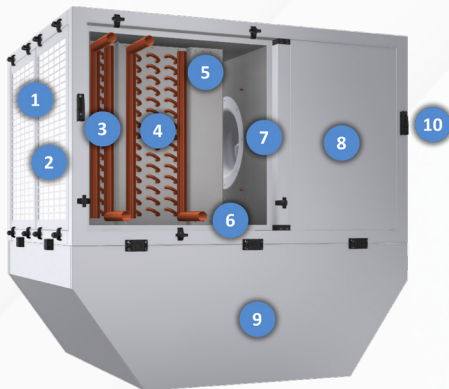
BASIC SECTION

The casing design of the basic section is based on a framework of aluminium profiles. The casing is composed by 50 mm thick double-skin panels filled with mineral wool. Inspection panels are removable, equipped with pull handles, and secured with wing thumb screws. The unit is designed to be suspended from the ceiling using M8 threaded rods held by suspension brackets mounted on the sides of the basic section. Connectors for attaching the air distributor are installed at the bottom of the basic section. The basic section is available in several versions, depending on the configuration of the air treatment components. It comes fully pre-wired, with the electrical control panel pre-installed on the casing.

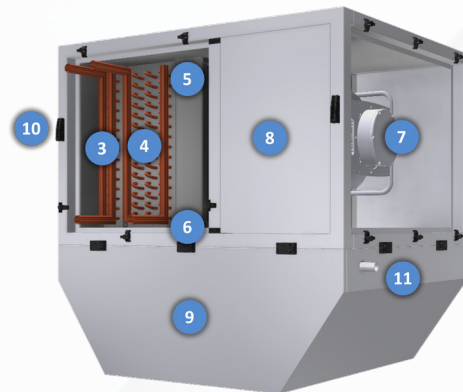
AIR DISTRIBUTOR

The air distributor is made with self-supporting construction. Its casing consists of 20 mm thick double-skin panels filled with mineral wool for thermal insulation. Connectors for attaching the air distributor to the basic section are located at the top. The air distributor is available in two versions: with or without swirl diffusers. The version with swirl diffusers can be equipped with 1, 2, or 3 diffusers. The version without diffusers includes two side air outlets for connecting to ductwork. The version with 2 or 3 swirl diffusers requires short spiral duct segments ending in plenum boxes to be connected to the air distributor. **The plenum boxes and swirl diffusers are supplied with the air distributor, but the ductwork is not included in the scope of delivery.**

OPTIMAX-TOP-R
SERVICE SIDE



OPTIMAX-TOP-R
NON-SERVICE SIDE



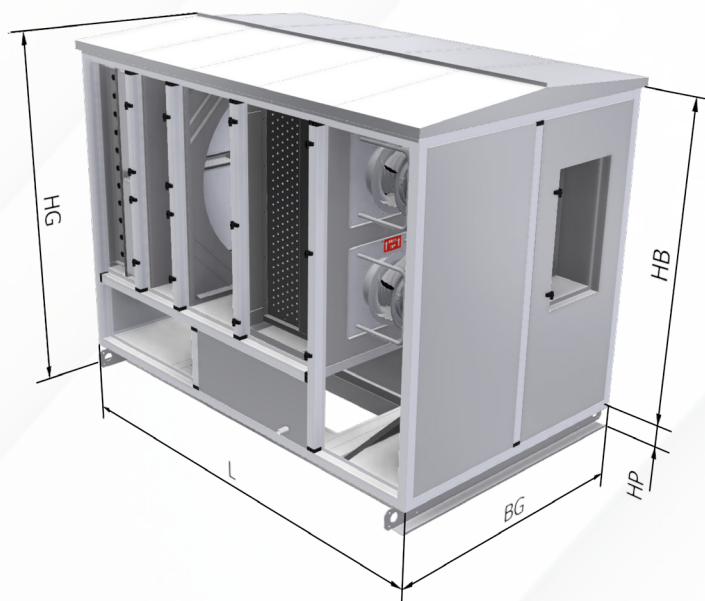
AHU Components

1. Exhaust air inlet
2. Air filter
3. Water/electric heater
4. Water/DX cooling coil
5. Droplet eliminator
6. Condensate drip tray

7. Fan
8. Casing
9. Air distributor
10. Suspension bracket
11. Condensate drain connection

EXTERNAL DIMENSIONS OF THE UNIT

OPTIMAX-TOP-O BASIC SECTION



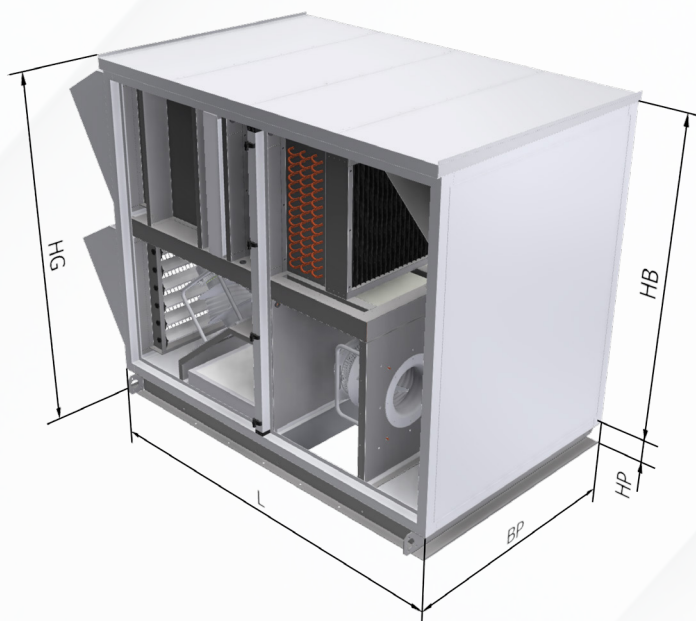
DIMENSION SIZE	HG	HB	HP	BG	L	LMC*	LMNC*
60	1940	1700	120	1550	2150	2450	2650
90	2140	1900	120	1750	2250	2450	2750

L — length of the section with a heating coil and/or cooling coil

LMC* — length of the section with a mixing chamber and cooling coil

LMNC* — length of the section with a mixing chamber, heating coil, and cooling coil

OPTIMAX-TOP-NW BASIC SECTION



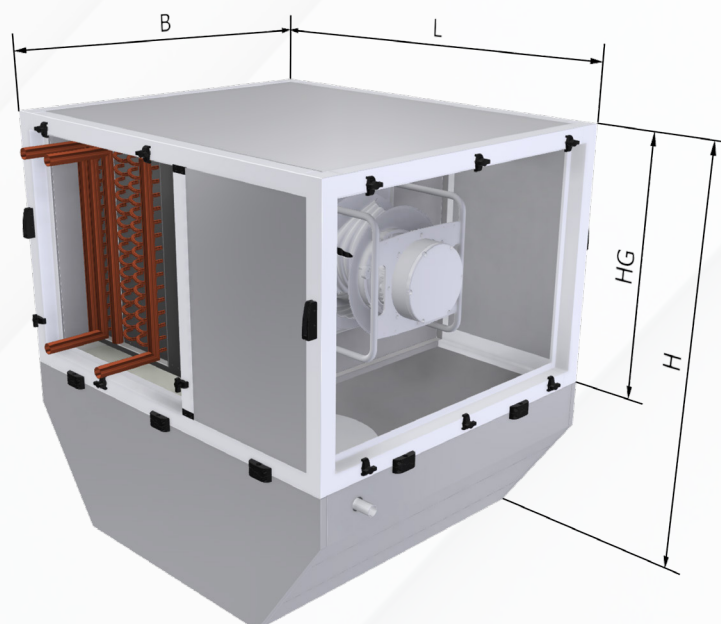
DIMENSION SIZE	HG	HB	HP	L	BP
60	1800	1600	120	2050	1300
90	2050	1850	120	2250	1500

OPTIMAX-TOP-N BASIC SECTION



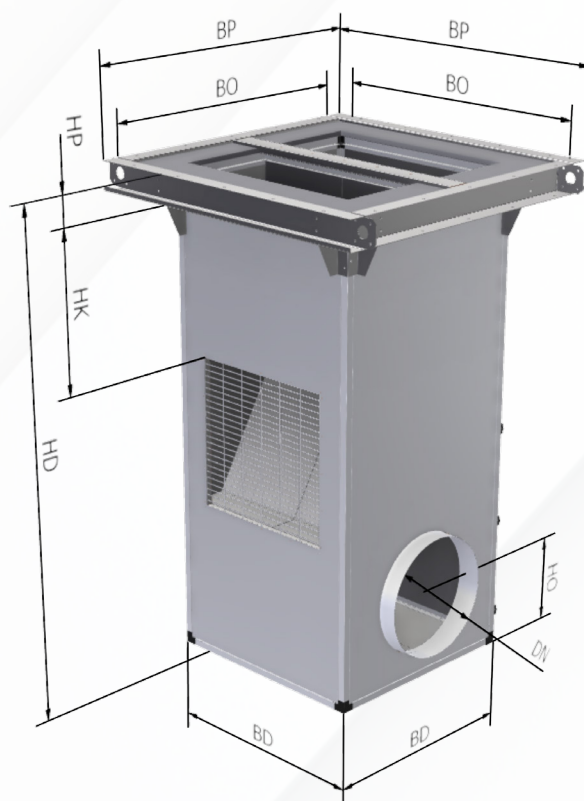
DIMENSION	HG	HB	HP	L	LP
SIZE					
60	1570	1400	120	2050	1300
90	1780	1600	120	2250	1500

OPTIMAX-TOP-R BASIC SECTION WITH AIR DISTRIBUTOR



DIMENSION	HG	H	B	L
SIZE				
25	600	1100	800	1200
40	800	1300	800	1200
60	800	1300	1100	1300
90	1100	1700	1100	1300
120	1100	1700	1400	1300

AIR DISTRIBUTOR FOR OPTIMAX-TOP-O, -NW, -N



DIMENSION	HD	HK	HP	BP	BO	BD	DN	HO
SIZE								
60	2000	610	120	1300	1150	900	400, 500, 630	370
90	2000	570	120	1500	1350	1100	315, 400, 500	420

OPERATING CONDITIONS

The units must not be used under the following conditions

- » The air being transferred may contain solid, pasty, fibre and aggressive substances causing corrosion or decomposition of zinc, copper, steel and aluminium.
- » Temperature and humidity values for external air in summer or winter fall outside the limits specified for Europe.
- » Operation is expected in maritime or tropical climates.
- » The air is excessively dusty, requiring frequent replacement of air filters within the unit.
- » Prolonged power supply interruptions occur, which may disrupt hot water production and compromise regulation and control systems. Consequently, even high-performance automatic safety mechanisms may fail to prevent heating coils from freezing, potentially leading to coil damage, property damage, and other associated losses.
- » The limit values of certain operational parameters are exceeded:
 - Minimum supply temperature of the heat transfer medium in the water heating coil: 20°C
 - Maximum supply temperature of the heat transfer medium in the water heating coil: 130°C
 - Maximum operating pressure of the water heating coil: 1.5 MPa
 - Minimum temperature of the handled air: -35°C
 - Maximum temperature of the handled air: +35°C
 - Minimum ambient temperature: -35°C
 - Maximum ambient temperature: +50°C

PRODUCT DESIGNATION

OPTIMAX-TOP - O - 60 - EC12 - P - ZV - K - M - NLW / CLW - D4 - S5

UNIT TYPE:

O – supply and exhaust air handling unit with heat recovery
 NW – supply and exhaust air handling unit with air recirculation
 N – supply air handling unit with air recirculation
 R – recirculation air handling unit

UNIT SIZE

60, 90 – applicable to types O, N, NW
 20, 40, 60, 90, 120 – applicable to type R

TYPE AND NUMBER OF FANS

EC – fan with electronically commutated motor
 1 – number of fans in the same airstream
 3 – fan size

ACCESS SIDE

P – right-hand
 L – left-hand

VERSION

ZV – outdoor
 W – indoor

ROTARY HEAT EXCHANGER TYPE

P – condensation
 K – epoxy-coated
 E – hygroscopic
 N – sorption

M – MIXING CHAMBER**HEATING COIL**

NLW – water coil
 NE – electric

COOLING COIL

CLW – water coil
 CF – evaporator coil

AIR DISTRIBUTOR TYPE

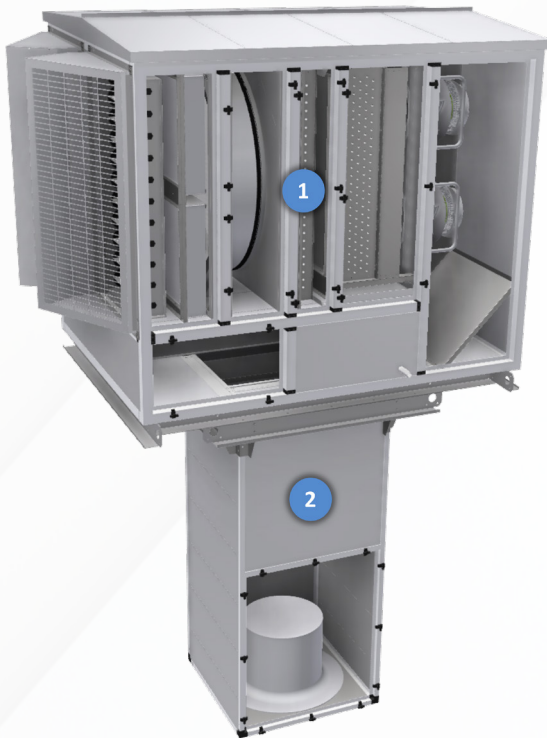
D1, D2, D3, D4 – digit represents the number of outlets

SWIRL DIFFUSER TYPE

S – maximum vertical air throw: 15 m
 O – maximum vertical air throw: 30 m
 2, 3, 4, 5, 6 – swirl diffuser size

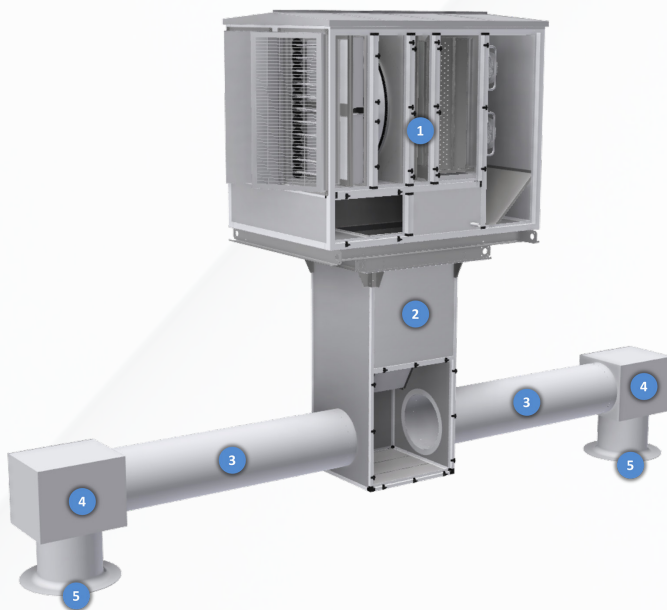
EXAMPLE CONFIGURATIONS OF OPTIMAX-TOP-O

VERSION WITH 1 SWIRL DIFFUSER

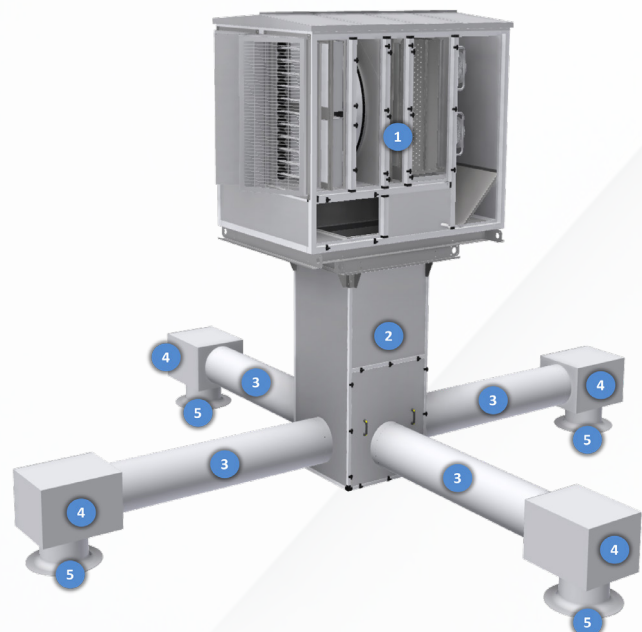
**AHU Components:**

1. Basic section
2. Air distributor
3. Ductwork
4. Plenum box
5. Swirl diffuser

VERSION WITH 2 SWIRL DIFFUSERS



VERSION WITH 4 SWIRL DIFFUSERS

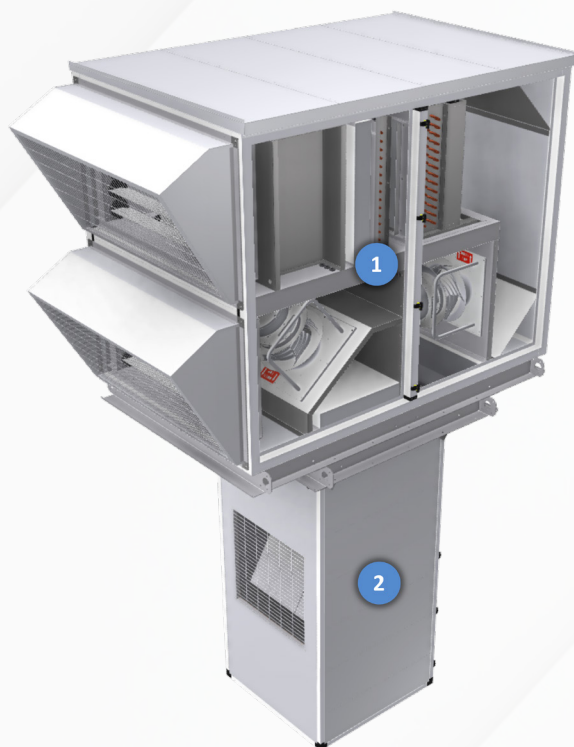


In the version with 2 or 4 air outlets, the unit can be supplied without plenum boxes and swirl diffusers, allowing for direct connection to ductwork equipped with air supply grilles or equivalent components.

The ductwork is not included in the scope of delivery.

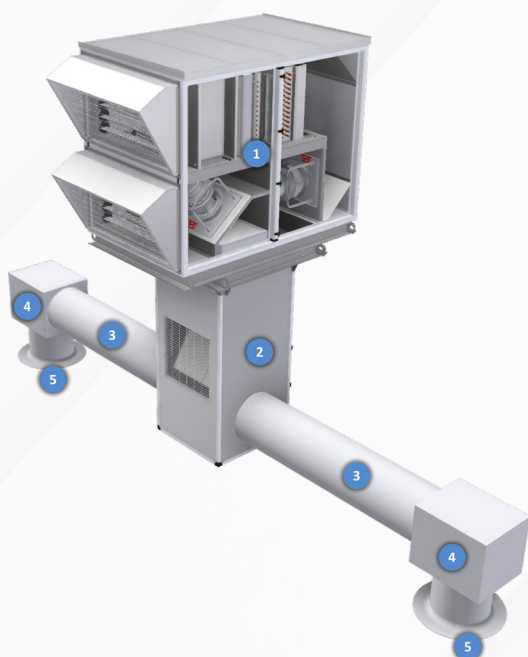
EXAMPLE CONFIGURATIONS OF OPTIMAX-TOP-NW

VERSION WITH 1 SWIRL DIFFUSER

**AHU Components:**

1. Basic section
2. Air distributor
3. Ductwork
4. Plenum box
5. Swirl diffuser

VERSION WITH 2 SWIRL DIFFUSERS



VERSION WITH 4 SWIRL DIFFUSERS



In the version with 2 or 4 air outlets, the unit can be supplied without plenum boxes and swirl diffusers, allowing for direct connection to ductwork equipped with air supply grilles or equivalent components.

The ductwork is not included in the scope of delivery.

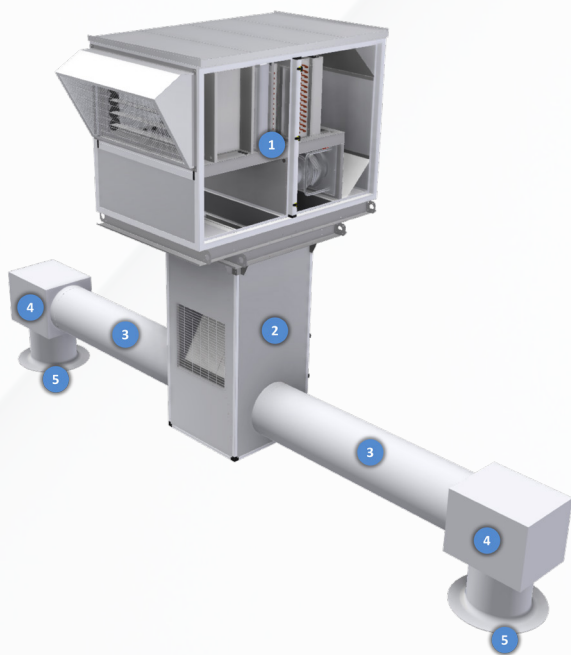
EXAMPLE CONFIGURATIONS OF OPTIMAX-TOP-N

VERSION WITH 1 SWIRL DIFFUSER

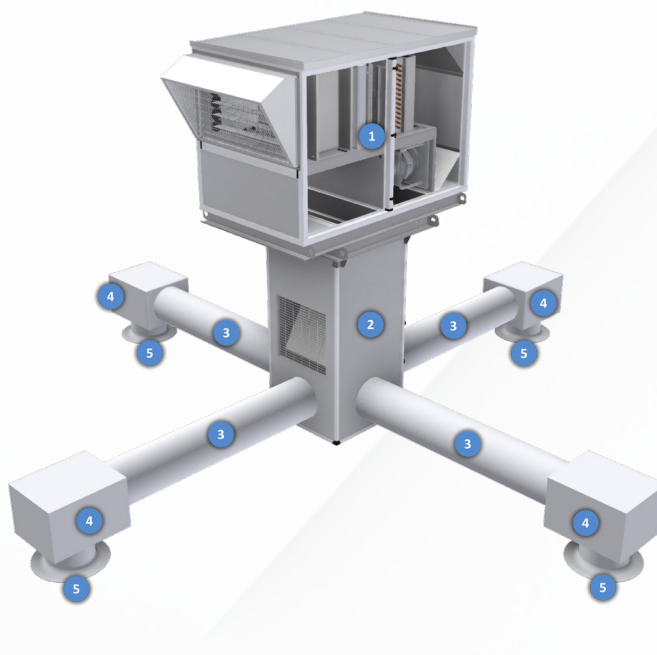
**AHU Components:**

1. Basic section
2. Air distributor
3. Ductwork
4. Plenum box
5. Swirl diffuser

VERSION WITH 2 SWIRL DIFFUSERS



VERSION WITH 4 SWIRL DIFFUSERS

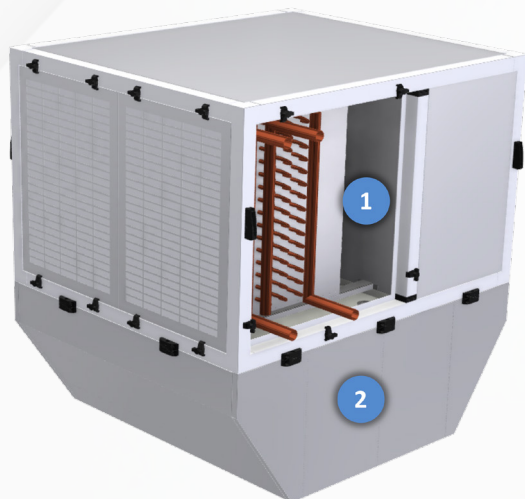


In the version with 2 or 4 air outlets, the unit can be supplied without plenum boxes and swirl diffusers, allowing for direct connection to ductwork equipped with air supply grilles or equivalent components.

The ductwork is not included in the scope of delivery.

EXAMPLE CONFIGURATIONS OF OPTIMAX-TOP-R

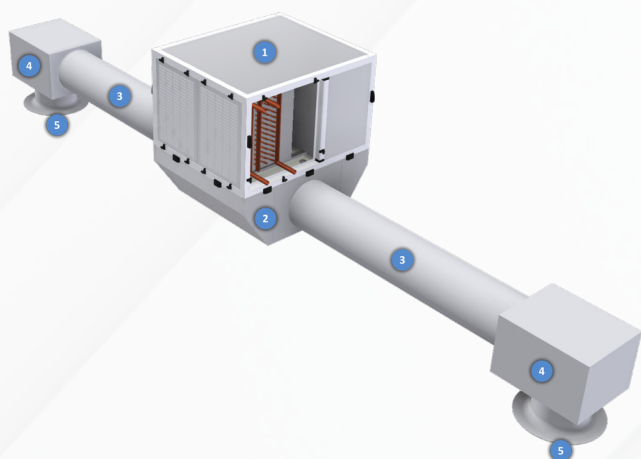
VERSION WITH 1 SWIRL DIFFUSER



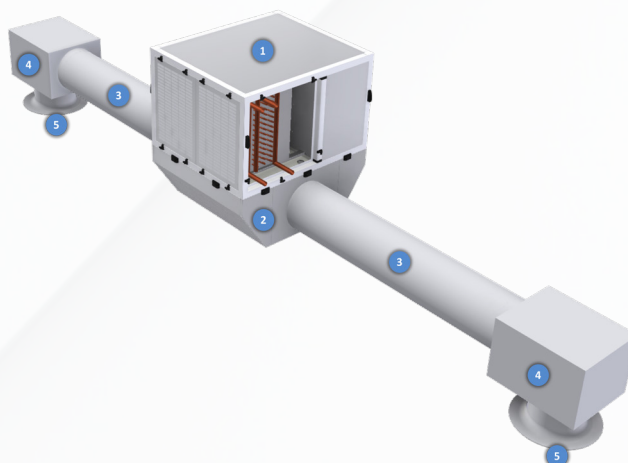
AHU Components:

1. Basic section
2. Air distributor
3. Ductwork
4. Plenum box
5. Swirl diffuser

VERSION WITH 2 SWIRL DIFFUSERS



VERSION WITH 3 SWIRL DIFFUSERS

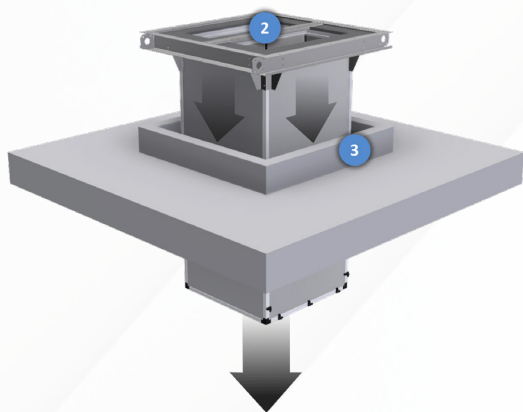


In the version with 2 or 3 air outlets, the unit can be supplied without plenum boxes and swirl diffusers, allowing for direct connection to ductwork equipped with air supply grilles or equivalent components.

The ductwork is not included in the scope of delivery.

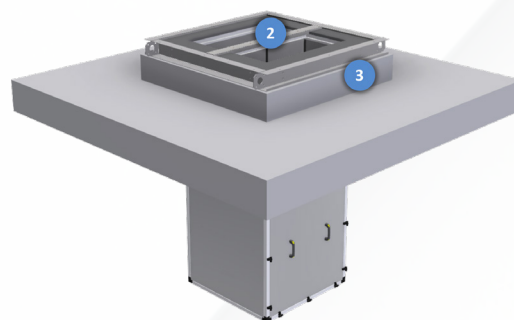
INSTALLATION GUIDELINES FOR OPTIMAX-TOP-O, NW, N

STEP 1



Place the air distributor (2) into the opening of the roof curb (3) from above.

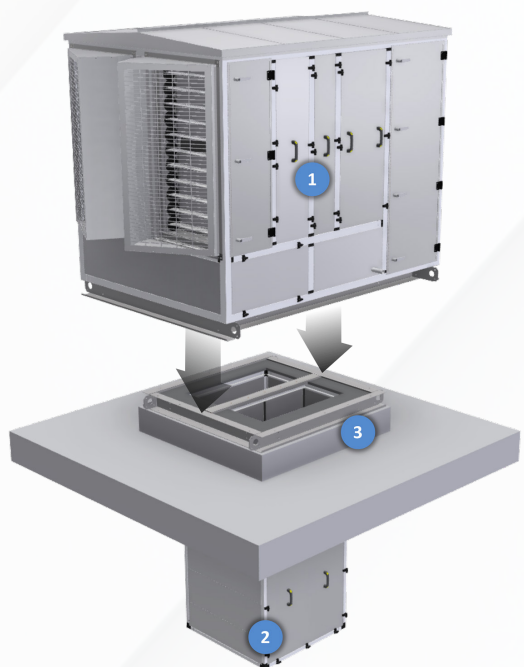
STEP 2



Align the air distributor (2) so that the inner surfaces of its load-bearing steel frame are parallel to the walls of the roof curb (3).

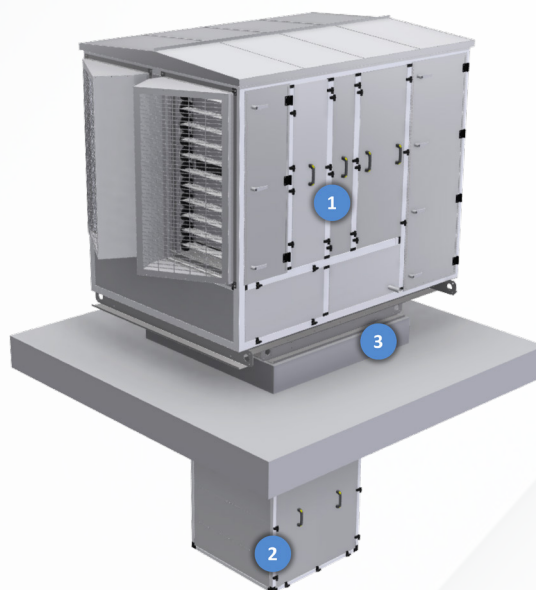
Screw the load-bearing frame of the air distributor (2) securely to the roof curb (3).

STEP 3



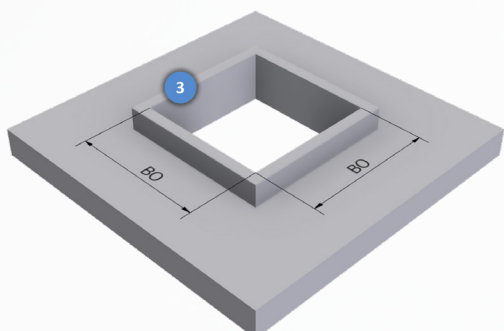
Place the basic section (1) on the load-bearing frame of the air distributor (2) so that their frame surfaces are parallel.

STEP 4



Screw the frame of the basic section (1) to the load-bearing frame of the air distributor (2). Seal the entire connection using sealants and roof flashing suitable for the specific type of roof.

DIMENSIONS OF THE ROOF CURB OPENING



SIZE	DIMENSION	
		BO
60		1150
90		1350

AVAILABLE VERSIONS

Standard version: Suitable for most ventilation system applications where there are no specific requirements for increased resistance to chemicals and their vapours in the ambient or transported air.

Hygienic version HS: Designed for environments requiring higher resistance to chemicals and their vapours in the ambient or transported air. This version is ideal for use in the food and pharmaceutical industries or healthcare facilities, except for class S1 rooms such as operating theatres.

Swimming Pool Version: Specifically tailored for environments such as swimming pool facilities and indoor pool areas, where chemical vapours from water treatment processes are present in the surrounding or transported air.

AHU COMPONENTS		AHU VERSIONS		
		STANDARD	HYGIENIC HS	SWIMMING POOL
CASING	framework	aluminium	aluminium	epoxy coated aluminium
	inner skin – walls	galvanised steel	aluzinc/magnelis	epoxy coated galvanised steel
	inner skin – ceiling	galvanised steel	aluzinc/magnelis	epoxy coated galvanised steel
	inner skin – floor	galvanised steel	acid-proof stainless steel	epoxy coated galvanised steel
	outer skin	aluzinc/magnelis	aluzinc/magnelis	aluzinc/magnelis
	internal structural elements	galvanised steel	acid-proof stainless steel	epoxy coated galvanised steel / acid-proof stainless steel
	insulation	mineral wool	mineral wool	mineral wool
	base-frame	galvanised steel	galvanised steel	galvanised steel
AIR DAMPERS	frame	galvanised steel	acid-proof stainless steel	epoxy coated galvanised steel
	blades	aluminium	aluminium	epoxy coated aluminium
COILS	frame	galvanised steel	acid-proof stainless steel	epoxy coated galvanised steel
	fins	aluminium / epoxy coated aluminium	aluminium / epoxy coated aluminium	epoxy coated aluminium
	tubes	copper	copper	copper
CONDENSATE DRIP TRAY	condensate drip tray	prepainted galvanised steel	prepainted galvanised steel	epoxy coated galvanised steel / acid-proof stainless steel
	drain connection	plastic	plastic	plastic
BAFFLES OF SOUND ATTENUATORS	frame	galvanised steel	acid-proof stainless steel	epoxy coated galvanised steel
	infill	mineral wool covered with fabric	mineral wool covered with fabric	mineral wool covered with fabric
FANS	impeller	plastic	plastic	plastic
	motor	prepainted steel	prepainted steel	prepainted steel
	frame	galvanised steel	epoxy coated galvanised steel	epoxy coated galvanised steel
DROPLET ELIMINATOR	frame	galvanised steel	acid-proof stainless steel	epoxy coated galvanised steel
	blades	plastic	plastic	plastic
FLEXIBLE CONNECTORS	frame	galvanised steel	galvanised steel	epoxy coated galvanised steel
	flexible strip	galvanised steel	galvanised steel	acid-proof stainless steel
CORROSION CLASS	inner skin / outer skin	C3/C4	C3/C4	C3/C3

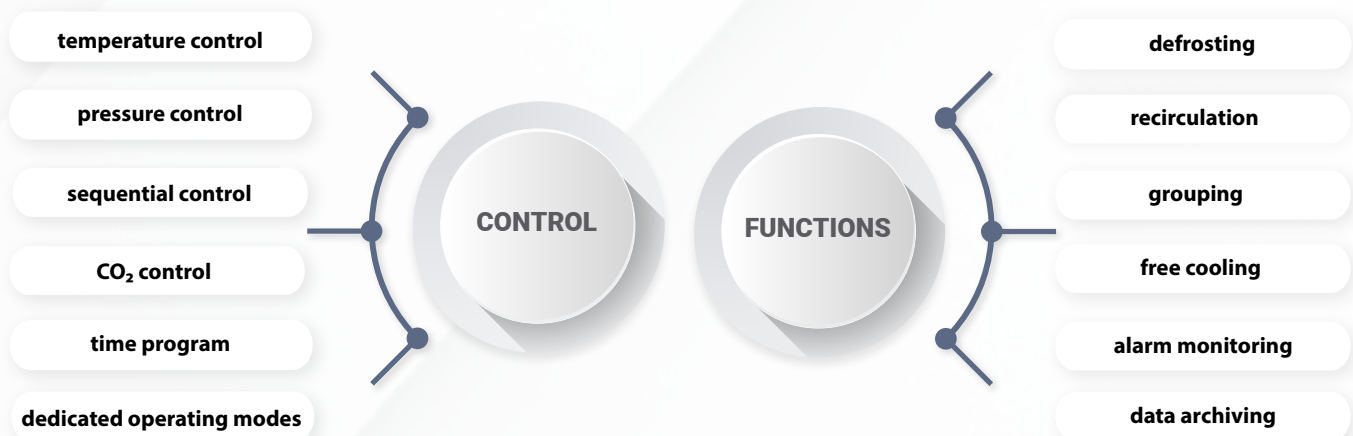
CONTROL SYSTEMS

Our air handling units feature advanced control systems, meticulously designed to accelerate and simplify the startup process. The factory-configured control system including built-in electrical control panel and pre-wiring ensures optimal comfort at minimal operating costs while providing safety and monitoring to protect control devices from damage.

The electrical control panel, pre-installed in the basic section of the unit, features an integrated controller and a remote touchscreen display, offering a plug-and-play electrical connection. It includes all necessary automation components and terminals for connecting the supply air temperature sensor, heating/cooling valve actuators, pumps, and other system elements. Up to four units can be grouped for shared control, ensuring synchronized operation within a single operating zone to maintain consistent climate conditions. For more extensive multi-unit management, we also offer solutions that enable the coordination of multiple grouped systems.



A key benefit of the integrated control system is the elimination of additional wiring between automation components and the electrical control panel.

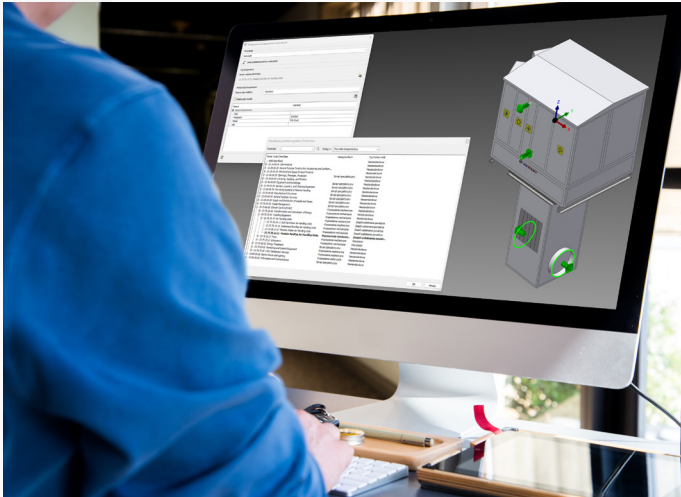


The built-in web server and multiple communication protocols enable remote control and monitoring via a web interface, offering a more comprehensive and user-friendly overview of operating parameters compared to a standard controller display. This solution also facilitates seamless integration with other HVAC units and building automation systems, ensuring unified management and optimized performance across all connected devices.



JUWENT DESIGN AIDS AND 3D BIM MODELS

Effective design depends on cutting-edge tools, which is why we are proud to introduce our innovative design aids and 3D **BIM** models, transforming the way professionals approach HVAC system design. All our air handling units are now available as 3D **BIM** models, specifically developed to meet the diverse needs of architects, engineers, MEP designers, and HVAC specialists. These tools simplify and streamline the design process, ensuring seamless integration into modern building projects. We are committed to providing our clients with comprehensive solutions that align with the latest industry standards, supporting efficient and precise project execution.

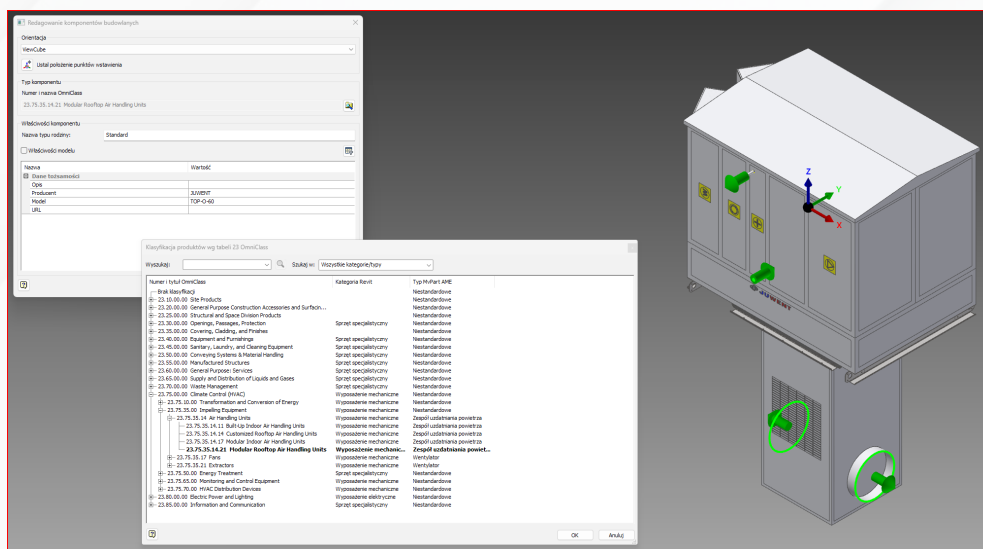


What is **BIM**? Building Information Modeling (BIM) is a digital process for creating, managing, and sharing building and infrastructure data using intelligent 3D models. These models incorporate geometry, materials, technical specifications, schedules, cost estimates, and operational details, making them invaluable throughout a building's entire lifecycle — from design and construction to operation and maintenance. **BIM** enhances project management by minimizing errors, optimizing costs, and improving collaboration between all stakeholders, ensuring better communication and decision-making.

RFA files are a key component of Autodesk Revit®, one of the most widely used **BIM** platforms. These files define objects, such as air handling units, with detailed geometry, parameters, graphical properties, and essential technical information for seamless integration within a **BIM** model.

The Autodesk Revit® provides design offices with an efficient way to model and coordinate building installations in a unified environment, facilitating accuracy and consistency across all project stages.

One of the latest BIM innovations is a newly available BIM model generator, providing a unique solution for design processes. This advanced tool provides unmatched flexibility in generating 3D models of JUWENT air handling units while allowing for customized configurations and defining parameters in accordance with specific project requirements.

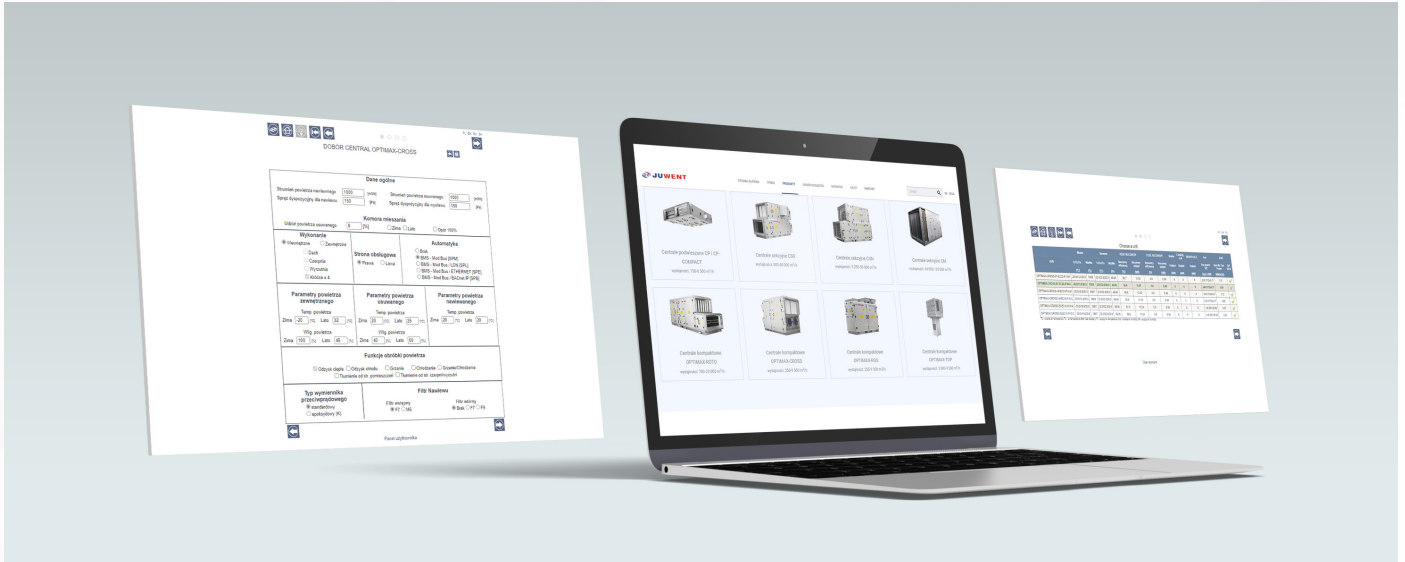


By integrating seamlessly with the **Revit**® platform, the generator not only accelerates the design process but also ensures data consistency and compatibility throughout the entire project. With these advanced **BIM** solutions, JUWENT empowers design professionals with greater precision, efficiency, and flexibility, ensuring seamless integration of air handling units into modern building projects.

PRODUCT SELECTION TOOL

Recognizing the growing importance of mobile devices with internet access in our daily lives, we have designed and implemented a versatile product selection tool.

This web-based solution works seamlessly on any device with an internet connection and a web browser, allowing users to select our products anytime, anywhere, regardless of location or device.



The online program ensures correct product selection, presenting all essential parameters and generating a detailed summary report for easy review and printing. With no installation required, it provides a professional, efficient, and time-saving selection process—accessible directly from our website at **www.juvent.com.pl**.