



OPTIMAX RGS

COMPACT AIR HANDLING UNITS

CATALOGUE SHEET



Manufactured in accordance with EN 1886 and EN 13053 standards

OPTIMAX-RGS is a range of energy-efficient compact air handling units that incorporate the latest thermal and ventilation technologies. A high-efficiency counterflow heat exchanger enables **the recovery of thermal energy from the exhaust air with an efficiency of up to 90%**. Additionally, **high-efficiency fans with EC motors** are used to minimise electricity consumption. The double-skin panels are **50 mm thick and insulated with mineral wool** to reduce heat loss to the environment and provide excellent acoustic insulation for the operating fans.

The OPTIMAX-RGS air handling units are supplied fully pre-wired with a built-in, pre-configured control panel. This AHU series includes **8 sizes, providing airflows from 250 to 10,000 m³/h**. They are designed for use in ventilation and air conditioning systems in public, residential, and industrial buildings.

The units are fitted with vertical air outlets, enabling installation in confined spaces or recesses.

FUNCTIONS OF AIR HANDLING UNIT

 <p>AIR FILTRATION</p> <ul style="list-style-type: none"> • panel filters 	 <p>HEATING</p> <ul style="list-style-type: none"> • water heating coil • electric heater • DX heating coil (condenser)
 <p>HEAT RECOVERY</p> <ul style="list-style-type: none"> • counterflow heat exchanger up to 90% efficiency 	 <p>AIR TRANSFER</p> <ul style="list-style-type: none"> • direct-driven fans with EC motors
 <p>COOLING</p> <ul style="list-style-type: none"> • DX cooling coil • water cooling coil • reversible DX coil (evaporator) 	 <p>PLUG & PLAY</p> <ul style="list-style-type: none"> • built-in electrical control panel and full pre-wiring

AIR FLOW RANGE

SIZE	05	07	10	25	40	60	80	90
V min (m ³ /h)	250	400	600	1100	2300	3900	5000	5500
V max (m ³ /h)	700	1000	1400	2700	4300	6300	8000	10000

DESIGN AND CONSTRUCTION

Casing design of OPTIMAX-RGS air handling units 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, fitted with pull handles, and secured using wing thumb screws. The base frame for each size is constructed using steel profiles.

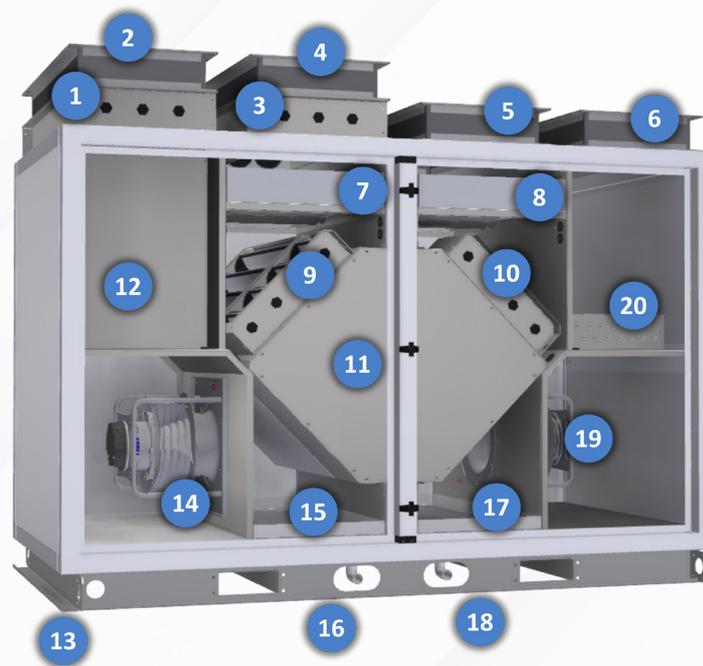
The OPTIMAX-RGS air handling units are supplied fully pre-wired with a built-in, pre-configured control panel installed in a basic section.

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

BASIC SECTION WITH HEATER



AHU Components

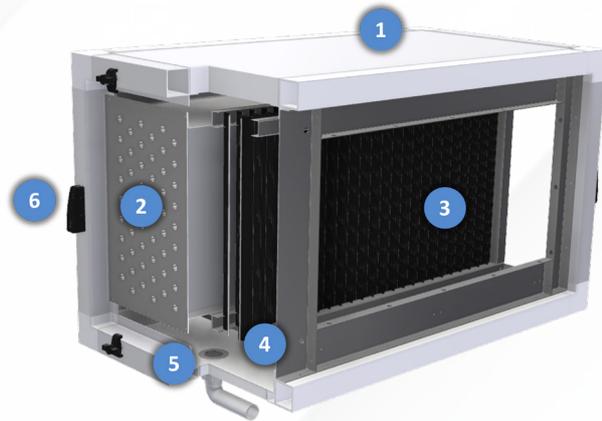
- | | |
|-----------------------------------|--------------------------------------------|
| 1. Extract Air Damper | 11. Counterflow Heat Exchanger with Bypass |
| 2. Extract Air Flexible Connector | 12. Electrical Control Panel |
| 3. Outdoor Air Damper | 13. Base Frame |
| 4. Outdoor Air Flexible Connector | 14. Exhaust Air Fan |
| 5. Exhaust Air Flexible Connector | 15. Condensate Drip Tray (Exhaust Side) |
| 6. Supply Air Flexible Connector | 16. Condensate Drain Connection |
| 7. Outdoor Air Filter | 17. Condensate Drip Tray (Supply Side) |
| 8. Exhaust Air Filter | 18. Condensate Drain Connection |
| 9. Bypass Damper | 19. Supply Fan |
| 10. Air Recirculation Damper | 20. Heating Coil |

ADDITIONAL AHU SECTIONS

COOLING COIL SECTION

Components

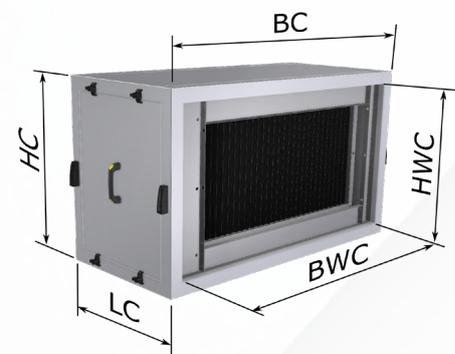
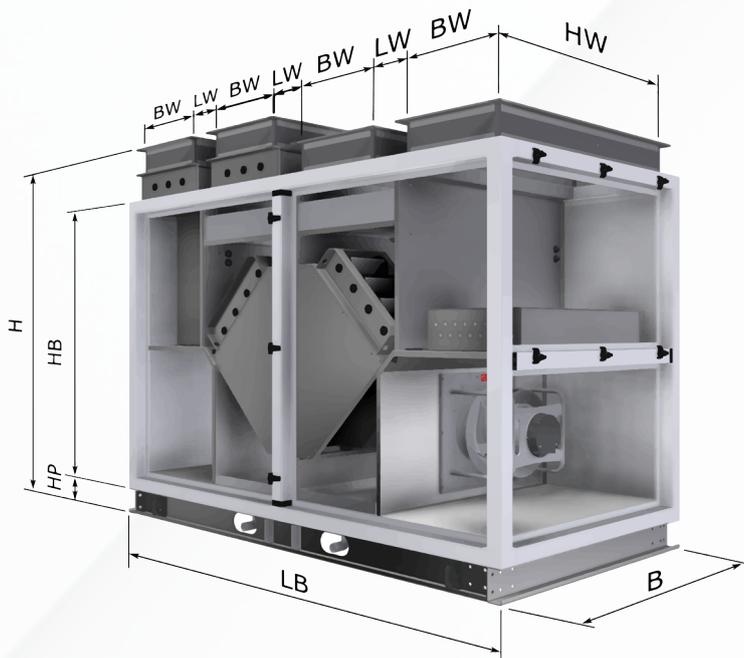
1. Casing
2. Cooling Coil
3. Droplet Eliminator
4. Condensate Drip Tray
5. Condensate Drain Connection
6. Suspension Bracket



OUTSIDE DIMENSIONS OF THE UNIT

BASIC SECTION

DUCT-MOUNTED COOLING COIL SECTION



DIMENSION	B	HB	LB	BW	HW	LW	HP	H	BC	HC	LC	BWC	HWC
RGS-05	600	900	1350	200	500	150	100	1210	600	400	550	500	300
RGS-07	700	900	1350	200	600	150	100	1210	700	400	550	600	300
RGS-10	800	1100	1750	300	700	150	100	1410	800	500	550	700	400
RGS-25	1000	1200	1950	350	900	150	100	1510	1000	600	550	900	500
RGS-40	1200	1400	2150	400	1100	150	100	1710	1200	700	550	1100	600
RGS-60	1400	1500	2350	450	1300	150	120	1830	1400	800	550	1300	700
RGS-80	1700	1900	2350	450	1600	150	120	1830	1700	800	550	1600	700
RGS-90	1700	1900	2950	500	1600	200	120	2230	1700	950	550	1600	850

DESIGNATION

OPTIMAX-RGS - 10 - EC2 - P - ZK - K - M - NLW / CLW
UNIT SIZE 05, 07, 10, 25, 40, 60, 80, 90
TYPE AND NUMBER OF FANS EC1 – one supply EC fan and one exhaust EC fan EC2 – two supply EC fans and two exhaust EC fans
ACCESS SIDE P – right-hand L – left-hand
VERSION W – indoor ZK – outdoor, 4 flexible connectors
HEAT EXCHANGER TYPE K – heat recovery efficiency in the range from 80 to 90% KE – heat recovery efficiency in the range from 80 to 90%, epoxy-coated version C – heat recovery efficiency in the range from 73 to 80% CE – heat recovery efficiency in the range from 73 to 80%, epoxy-coated version
MIXING CHAMBER M – mixing chamber
HEATING COIL NLW – water heating coil NLW1 – water heating coil with top connection NE – electric heater
COOLING COIL CLW – water cooling coil CF – DX cooling coil SCF – reversible DX coil

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 temperature medium in the water heating coil: 20°C
 - Maximum supply temperature of the heat temperature 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

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	acid-proof stainless steel	acid-proof stainless 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/C4

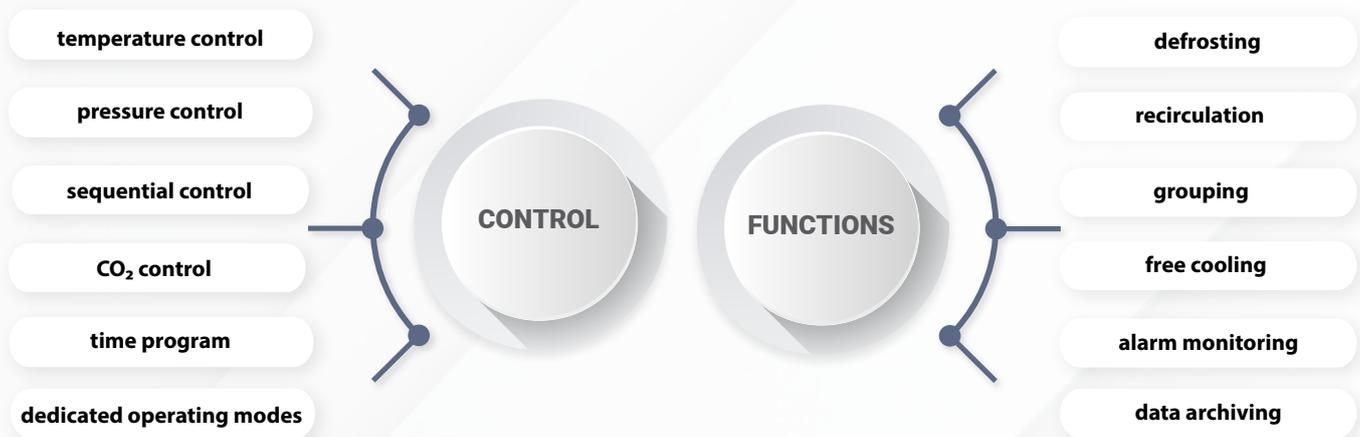
CONTROL SYSTEMS

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.

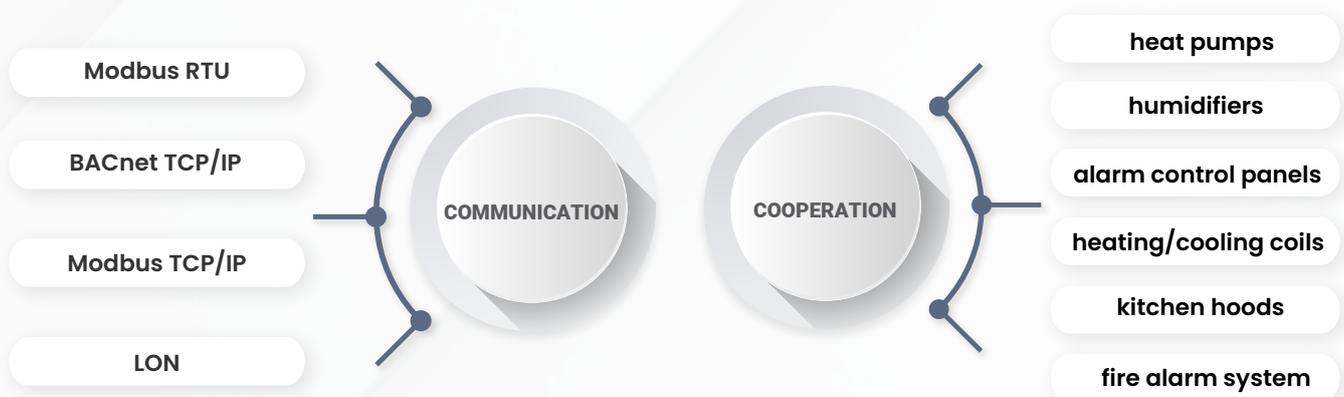
The electrical control panel, pre-installed in the basic section of the unit, features an integrated controller and a remote touchscreen display, offering a plug-and-play electrical connection. It comes equipped with all necessary automation components, as well as terminals for connecting the supply air temperature sensor, heating/cooling valve actuators, pumps, and other components.



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

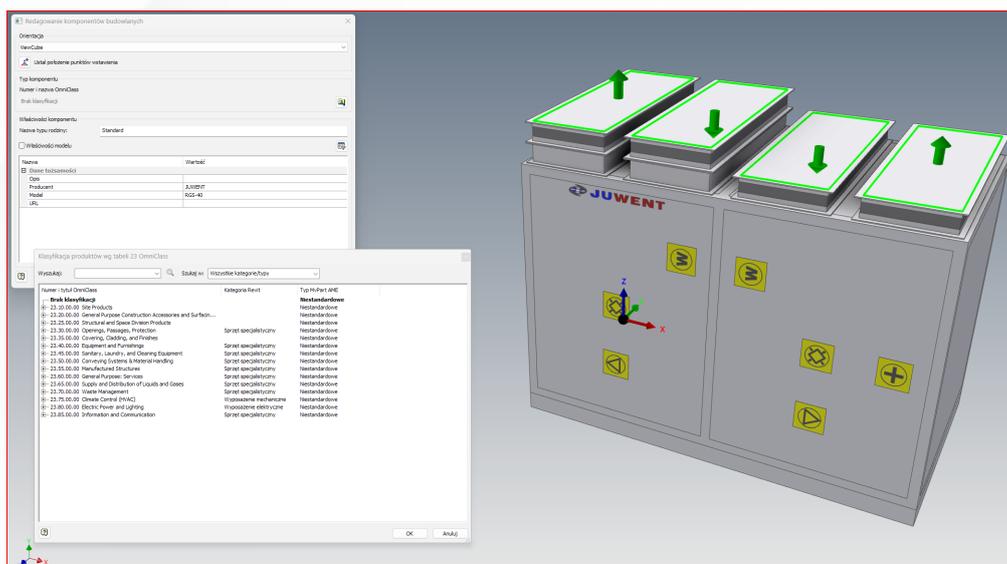
Effective design relies on state-of-the-art tools, which is why we are proud to introduce our innovative design aids and 3D **BIM** models, transforming the way professionals approach HVAC system design. All our air handling units are now available as 3D **BIM** models, specifically developed to meet 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.

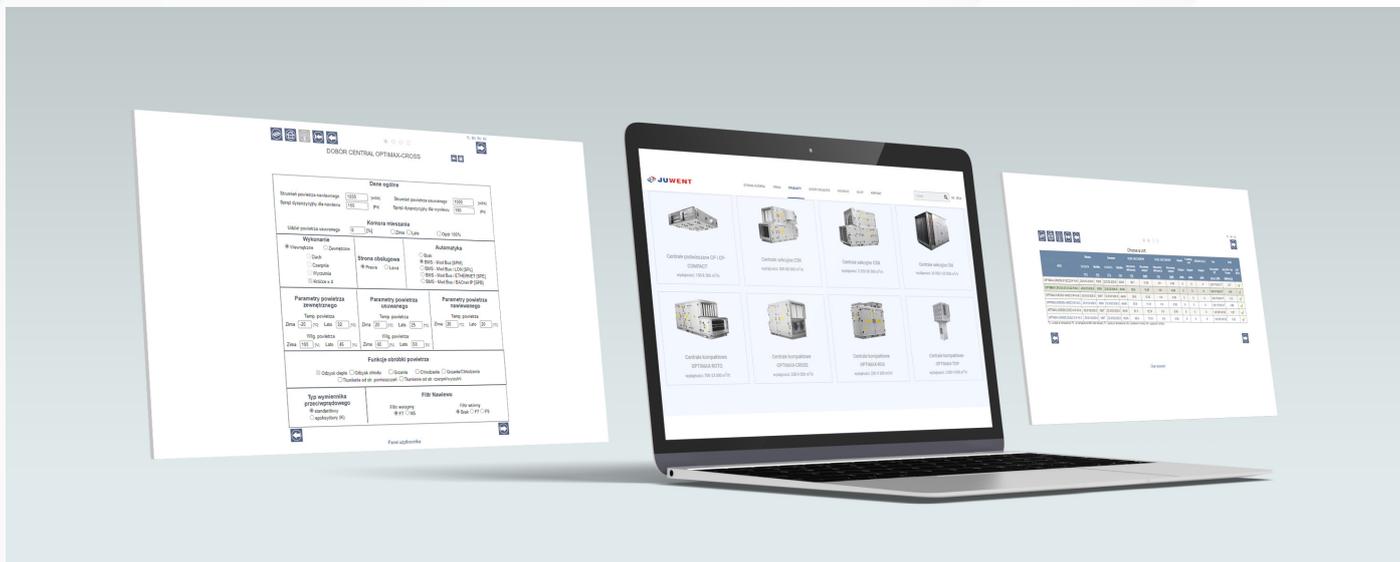


By integrating seamlessly with the **Revit**® platform, the generator not only accelerates the design process but also ensures data consistency and compatibility throughout the entire project. With these advanced **BIM** solutions, JUWENT empowers design professionals with greater precision, efficiency, 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.juwent.com.pl.