

AIR HANDLING UNIT

Energy



INTRODUCTION

We are committed to creating ideal working conditions with minimal costs and development of products that meet rigorous requirements of today's quality and energy efficiency practices. While being dedicated to principles of sustainable development, we are striving for the future development of our company.

Our core production is dedicated to manufacturing and installation of central air preparation systems - Termovent Air Handling Units (AHUs).



OVERVIEW

Production facility: Kladovo, Serbia

Founded **1993**

PART OF

MBTClimate

HQ **Belgrade Serbia** Widespread experience in manufacturing and designing HVAC equipment resulted in range of products created to successfully address various air conditioning, ventilation and air distribution problems. Termovent AHUs can cover various air flow rates ranging from 600 to 100,000 m3/h. The AHUs can be produced in more than 30 standardized sizes, with high levels of customization to satisfy customer requirements and project specifics.

Our AHUs are manufactured in compliance with a group of harmonized ISO standards, as well as European Union (EU) and Eurasian Customs Union (EAC) machinery directives and conform all rules regarding CE and EAC markings.

Quick delivery, easy installation and simple

maintenance make Termovent Air Handling Units an excellent choice in designing and implementation of air preparation and processing systems to be applied in hospitals, pharmaceutical, nanotechnology, processing, food and automotive industry, as well as in commercial facilities and swimming pools.



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BEHIND THE INNOVATION

ENERGY PRIME

OPTIMIZING EFFICIENCY, ONE BREATH AT A TIME.

This catalogue presents ENERGY PRIME, the highefficiency air handling unit system developed by Termovent. Designed with performance, energy savings, and practical simplicity in mind, this catalogue offers a full overview of our solution from core design advantages to technical specifications, component details, and implementation flexibility.

Built around a new generation frame, modular design and supported by predefined configurations, this system ensures optimal performance with significantly reduced design and installation time. ENERGY PRIME offers smart airflow control, superior insulation, and efficient components, all within a ready-to-implement concept tailored for modern HVAC demands.

Whether you're selecting an AHU for a commercial facility, or industrial environment, this catalogue helps you make informed decisions. You'll explore available configuration packages, performance highlights, optional upgrades, and intelligent control options all compliant with top-tier industry standards.

At Termovent, we believe that innovation lies in delivering flexibility without complexity. ENERGY PRIME reflects that belief streamlined, standardized, and always ready to perform.

INTRODUCTION OF TERMOVENT **ENERGY PRIME**

GENERAL CHARACTERISTICS

ENERGY PRIME features a new generation frame, modular design that enhances both cost savings and energy efficiency. Its standardized configuration options simplify the selection process, reducing the risk of component mismatches and installation errors. The optimized internal layout maximizes usable space, allowing for flexible customization without compromising performance.

This advanced system delivers powerful, reliable airflow management suitable for a wide range of applications. By combining innovative design with energy-saving technologies, ENERGY PRIME offers an efficient, cost-effective climate control solution tailored to meet the highest industry standards.

APPLICATION

ENERGY PRIME is designed for a wide range of applications that demand consistent, efficient, and adaptable air handling. The system supports operation with 100% fresh air or partial recirculation, depending on the required ventilation mode making it suitable for both high-purity and energy-

optimized environments.

Its modular design, predefined configurations, and high-efficiency components make it especially valuable in projects where fast installation, reliable performance, and space optimization are essential:

- · Industrial facilities
- Logistics centers and warehouses
- · Data centers and server rooms
- Manufacturing plants
- Food and beverage processing
- · Pharmaceutical production areas
- Shopping malls and retail spaces
- Commercial kitchens and restaurants
- · Fitness centers and sports halls
- · Airports and transport terminals
- · Agricultural facilities and greenhouses
- Parking garages and ventilation zones

Whether applied in critical environments or standard comfort zones, ENERGY PRIME ensures efficient climate control with full adaptability to varying ventilation needs.

Energy



MAIN ADVANTAGES OF

ENERGY PRIME

POLYPROPYLENE PLATE HEAT EXCHANGER WITH ADIABATIC COOLING

High Thermal Efficiency - up to 90% Corrosion-Resistant Material No Cross-Contamination

• INTEGRATED ELECTRICAL CABINET

Plug-and-play electrical cabinet is factoryinstalled inside the unit, including all peripheral devices and wiring

• HIGH-EFFICIENCY PLUG FANS

Features EC motor-driven fans with advanced aerodynamics for reduced power consumption and optimal airflow control.

• PREDEFINED CONFIGURATIONS

Standardized, factory-defined modules simplify selection, accelerate delivery, and reduce configuration errors.

• FLEXIBLE AIRFLOW OPERATION

Supports both 100% fresh air mode and mixedair operation, adapting to varying ventilation and energy-saving requirements.

ADVANCED CONTROLS

Compatible with intelligent control systems, remote monitoring, and building management system (BMS) integration.

• ECO-FRIENDLY TECHNOLOGY

Uses environmentally responsible components and adheres to Eco Design (ERP) directives for sustainable operation.

• FAST INSTALLATION AND COMMISSIONING

Pre-assembled system with tested functionality ensures quicker on-site setup and minimal commissioning time.

• INTEGRATED REVERSIBLE HEAT PUMP (ENERGY PRIME subtype)

The Genius version includes a fully integrated reversible heat pump for both heating and cooling, enabling year-round thermal management with minimal energy consumption and without external HVAC units.

Energy

NEW GENERATION

CLIMATE CONSTRUCTION

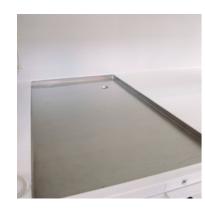


PANEL

Panels are made from high-quality plastic coated galvanized steel sheets, offering excellent corrosion resistance without the need for additional coating. Thermal bridges are avoided through the use of plastic profiles. Standard colour grey white (RAL 9002).



CASING



SURFACES

Both sides of the panel (inner and outer) are made of the same high-quality galvanized steel, ensuring uniform resistance, ease of cleaning, and a professional, attractive finish. The smooth surfaces are ideal for areas where hygiene, aesthetics, and performance must go hand-inhand. The surface is smooth, easy to clean, and resistant to typical environmental conditions in ventilation and air-conditioning applications.



BASE FRAME

Durable base support made from high-quality galvanized steel, it offers excellent structural stability and reliable performance in both indoor and outdoor environments. The support allows for flexible installation with options for leveling feet, anchor points, and compatibility with anti-vibration mounts-making it ideal for a wide range of industrial HVAC applications.



NEW CASING

The new casing is made of self-supporting 50 mm thick panels, forming a durable and thermally efficient enclosure for the air handling unit. Our new casing provides several benefits, including high flexibility, effective prevention of thermal bridges throughout, and easy cleaning due to its smooth interior surfaces.

INSULATION TAILORED TO YOUR NEEDS

- Extruded Polystyrene (XPS): Excellent thermal insulation and high mechanical stability.
- Rock Wool: An optional solution offering added fire resistance and superior acoustic insulation.

ENGINEERED FOR AIRTIGHT INTEGRITY

Panels are connected using specially designed joining elements that ensure a strong, stable, and airtight construction, verified through mechanical strength and leak-tightness tests.

EASY MAINTENANCE

The panels are easily removable, providing quick and convenient access to internal components - perfect for efficient servicing and system inspections.

SMART ACCESS WITH HYGIENIC ASSURANCE

Access panels are equipped with combination hinge-handle elements, without impact mechanisms, enabling safe, reliable, and easy operation. The entire system is designed in compliance with VDI 6022 hygiene standards, making it suitable for use in hygiene-sensitive environments such as hospitals, laboratories, and the food industry.



ELECTRICAL **CABINET**

KEY FEATURES:

- High-Performance PLC Controller up to 30% energy savings compared to non-automated systems
- Full Modbus Communication Support up to 25% reduced operational costs
- Precise Monitoring and Control with Sensors
- Plug-and-Play Design reducing installation and commissioning time by up to 50%

- Simplified and Efficient Maintenance Modular design and real-time monitoring enable timely interventions, reducing downtime by 30–40%.
- Optimized System Performance resulting in 10–15% overall HVAC system efficiency improvement

FANS WITH INTEGRATED INVERTERS

- Up to 20% Lower Energy Consumption -Thanks to IE5-class EC motors
- High Airflow Capacity Up to 40,000 m³/h with static pressure >1,000 Pa
- Integrated Inverter = No External VFD Needed-Low Noise Operation - 55–70 dB(A)





DAMPERS WITH **INTEGRATED ACTUATORS**

KEY FEATURES:

- Airtightness Class 4 (EN 1751)
- Seamless BMS Integration
- Energy Efficiency Improvements savings up to 20% due tight sealing and precise control
- Reduced Installation and Commissioning Time Factory-installed actuators and ready-to-use control interfaces simplify installation, cutting setup time by up to 30%.

HEAT RECOVERY WITH **INDIRECT ADIABATIC COOLING**

- Thermal Recovery Efficiency up to 90% (cooling up to 13 K)
- 100% VDI 6022 Hygiene-Compliant
- Robust Design differential pressures up to 10,000 Pa without deformation.
- Eco-Friendly & Sustainable Material Corrosion-proof, 100%
- Combined SEER 10 to 12 combined with reversible heat pump





AIR **FILTERS**

KEY FEATURES:

- Energy-Efficient Operation
 Low pressure drop and energy class ratings
 (A or B) contribute to reduced fan energy consumption and overall HVAC system operating costs.
- Filtration efficiency: ISO ePM10 ≥ 60% (M5) / ISO ePM1 ≥ 50% (F7), up to 80% (F9)
- Bag filters: 370 mm (M5) / 640 mm (F7/F9)
- Annual energy consumption: approx. 900– 1100 kWh (M5) / 650–850 kWh (F7), 750–950 kWh (F9) per filter

TOUCH PANEL **DISPLAY**

- 15.6" Full HD Display for Clear System Visualization
- Advanced Connectivity Options Ethernet port, USB, COM ports, CAN Bus
- Secure Remote Access & Monitoring Built-in support for Weintek's EasyAccess 2.0
- Data Logging & Real-Time Visualization local data storage and real-time visualization of key performance indicators, alarms, trends, and system status







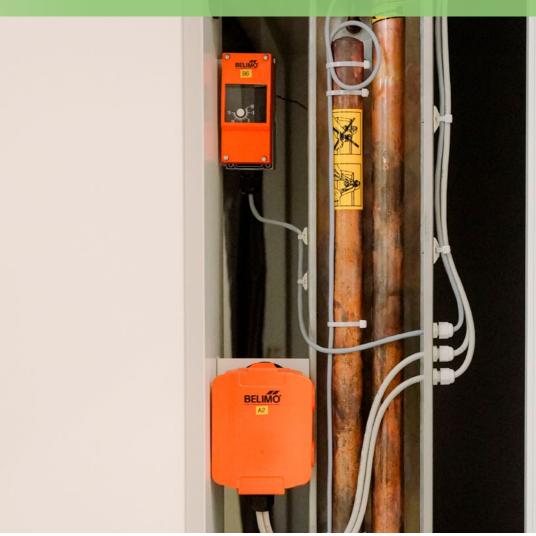
WATER **HEATING COIL**

KEY FEATURES:

- Efficient Heat Transfer Copper tubes combined with high-performance aluminum fins provide excellent thermal conductivity, ensuring fast and efficient heat exchange.
- Integrated Frost Thermostat Built-in frost protection prevents coil freezing, safeguarding system reliability and reducing maintenance costs.
- Precise Temperature Control The included valve with actuator enables accurate modulation of water flow for optimal temperature regulation and energy efficiency.
- Energy Efficiency & Reliability Efficient heat transfer combined with freeze protection helps maintain stable indoor temperatures with reduced energy consumption and fewer system interruptions.

A CHILLED WATER COOLING COIL (STANDARD MODEL)

- High-performance copper/ aluminum coil
- Provides stable cooling performance across variable flow rates
- Easy maintenance access and coil cleaning
- Precise outlet temperature control with TH sensors







REVERSIBLE **REFRIGERANT HEAT PUMP**

- Capacity Modulation 20 to 100 %
- Eco-Friendly Refrigerants R410A (GWP ~2088) or R454B (GWP Lowers environmental impact by up to 80% compared to older refrigerants, while maintaining high thermal performance.
- Reversible Heat Pump COP > 4.5/EER > 4.0(SEER up to 7.0 SCOP up to 5.5)
- Direct Expansion Heat Exchangers: Aluminum fins + copper tubes + Stainless steel frame
- Advanced Sensor Package: Real-time monitoring of pressure, temperature, and flow, enabling automated system optimization and up to 25% energy savings.

CHOOSE YOUR Energy **MODEL**

The ENERGY PRIME air handling unit system is organized into two product groups, based on a scalable solution tailored to various application needs.

Engineered for high-efficiency cooling using a polypropylene plate heat exchanger combined with indirect adiabatic precooling, without adding moisture to the supply air. Ideal for energy-optimized buildings with high fresh air demands.

STANDARD

- Indirect adiabatic module with water distribution system
- Polypropylene plate heat exchanger
- EC plug fan
- Integrated electrical cabine
- Integrated cooling coil (chilled water)
- Post Heating coil (hot water)
- Optimized for energy-saving ventilation with cooling

GENIUS

- All Standard options (chilled water coil excluded)
- Integrated reversible heat pump for autonomous heating, cooling
- Intelligent coordination with adiabatic system
- Smart thermal control algorithm
- High-efficiency all-in-one HVAC solution

The ENERGY PRIME series are available in 11 (Genius model in 10 standardized sizes, covering a wide airflow range from 800 to 40,000 m³/h. This modular sizing ensures optimal performance, precise component matching, and system scalability across all application types.

Both ENERGY PRIME variant — Standard, or Genius — are available in:

Indoor installation design

Compact footprint, easy integration into mechanical rooms, plant spaces, or technical floors.

Outdoor installation design

Weatherproof housing, thermal insulation, and protective coatings to ensure long-term durability and performance in external environments.

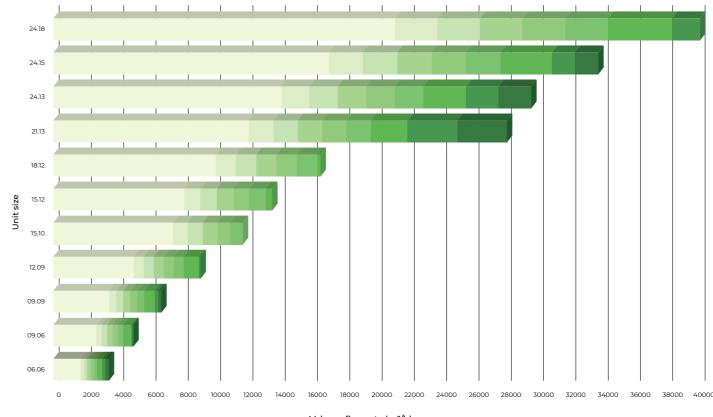
STANDARD

RECOMMENDED APPLICATIONS:

ENERGY PRIME Standard is comfort air conditioning unit designed for objects with high thermal loads requirements. Standard unit uses indirect adiabatic evaporative cooling an achieves to cool up to 40% with water. Additional cooling capacity is further enhanced with an chilled water coil.

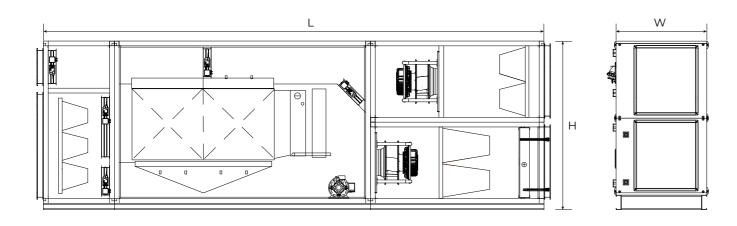


ENERGY PRIME Standard Airflow rates and sizes



Volume flow rate (m³/h)

■ VI ≤ 1.6 m/s ■ 1.6 < V2 ≤ 1.8 m/s ■ 1.8 < V3 ≤ 2.0 m/s ■ 2.0 < V4 ≤ 2.2 m/s ■ 2.2 < V5 ≤ 2.5 m/s ■ 2.5 < V6 <= 2.8 m/s ■ 2.8 < V7 ≤ 3.2 m/s



Unit size		Dime	nsions	
	Width (mm)	Height (mm)	Length (mm)	Weight (kg)
06.06	705	1770	5000	1050
09.06	1000	1770	5000	1200
09.09	1000	2270	5500	1450
12.09	1305	2270	5700	1850
15.10	1600	2475	5700	2650
15.12	1600	2675	6000	3005
18.12	1905	2675	6300	3730
21.13	2200	2970	6700	4130
24.13	2405	2970	7200	4700
24.15	2405	3265	7600	5400
24.18	2405	3875	8500	7000

Unit size	Minimum air flow	Nominal air flow	Maximum air flow
	m3/h	m3/h	m3/h
06.06	800	1600	2800
09.06	2000	2600	4200
09.09	2500	3700	5600
12.09	3400	5100	7800
15.10	5000	8000	10000
15.12	6000	9500	11500
18.12	8000	11000	14000
21.13	11000	15000	22000
24.13	14000	19000	24000
24.15	18000	23000	28000
24.18	25000	32000	40000

		ENERGY PRIME Standard										
		06.06	09.06	09.09	12.09	15.10	15.12	18.12	21.13	24.13	24.15	24.18
Nominal air flow	m³/h	1600	2600	3700	5100	8000	9500	11000	15000	19000	23000	32000
Volume flow Erp 2018 ⁶	m³/h	1850	2750	4000	5400	8200	10400	12800	15800	19100	23000	29500
·												
Filtration according to EN 77	79:2012	ISO 16890			\	(50) L D. (36			u a acat)			
Fresh / Supply air			M5 / F7 (F9) ePM10 60% / ePM1 60% (ePM1 85%)									
Return air						M5	5 ePM10 6	0%				
Double plate heat exchange	r											
Material						Po	olypropyle	ne				
Energy efficiency according to DIN EN 13053 ¹	%	74.5	72.7	72.5	71.7	71.4	72.4	74.7	73.6	72.1	73.3	74.3
Heat recovery rate winter/ summer according to EN 308 ¹	%	75,5/86,0	74,0/84,5	74,5/85,0	74,1/84,6	74,4/84,9	75,0/85,5	77,4/87,9	76,7/87,2	75,4/85,9	76,7/87,2	77,8/88,
Evaporative cooling												
Cooling capacity	kW	7.60	12.20	17.40	23.90	37.60	45.00	53.50	72.40	90.40	111.10	151.60
Nominal pump power	kW	0.50	0.50	0.50	0.75	0.75	0.75	1.10	1.10	1.50	1.50	1.50
Water flow rate	l/h	11.4	18.3	26.1	35.9	56.5	67.3	79.4	107.7	135.2	163.5	222.3
Cold water coil ^{2,4}												
Cooling capacity	kW	4.87	7.92	11.49	15.90	25.24	29.56	33.60	44.49	58.89	68.66	88.00
Water flow rate	m³/h	0.84	1.36	1.97	2.73	4.33	5.08	5.77	7.64	10.11	11.79	15.11
Connections	DN	32	32	40	40	50	50	65	65	80	80	100
Hot water coil ^{3,4}												
Heating capacity	kW	4,73	8,04	12,44	15,77	24,21	27,79	29,59	41,35	54,29	61,86	91,30
Water flow rate	m³/h	0.82	1,40	2,16	2,74	4,21	4,83	5,14	7,19	9,44	10,76	14,14
Connections	DN	25	32	32	40	50	50	50	65	65	65	80
Device data¹												
Total electrical power rating	kW	1.89	2.33	3.02	4.10	6.06	6.71	8.02	10.86	14.22	18.08	25.2
Total power consumption	А	3.79	4.43	5.77	7.19	10.65	11.93	13.52	18.92	24.62	30.42	43.14
Acoustic pressure at a distance of 1 m from the device 5	dB(A)	62	60	61	62	66	67	63	66	70	66	70
Largest transport module												
Width	mm	705	1000	1000	1305	1600	1600	1905	2200	2405	2405	2405
Height	mm	1770	1770	2270	2270	2475	2675	2675	2970	2970	3265	3875
Length	mm	2650	2650	3000	3000	3000	3300	3600	3800	3800	4200	5100
Operating voltage						3~40	00V 50 Hz					

 $^{^{\}rm 1}\,\mbox{The}$ data is valid for the following parameters @ Nominal air flow:

 Indoor conditions winter mode
 20°C/40%

 Indoor conditions summer mode
 26°C/50%

 Outdoor temperature and relative humidity winter mode
 -12°C/90%

Outdoor temperature and relative humidity winter mode -12°C/90% 5 For extern

Outdoor temperature and relative humidity summer mode 35°C/35% 6 Air flow lim

 ${\it Please seek approval of technical data and specifications prior to start of the planning process.}$

 $^{^2\,}$ At supply temperature 16°C for nominal air flow, FL = 7 °C , RL=12 °C

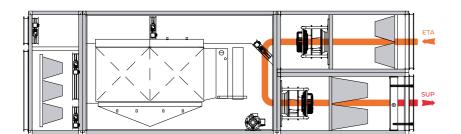
 $^{^3\,}$ At supply temperature 23°C for nominal air flow, FL = 45 °C , RL=40 °C

Inlet conditions after double plate heat exchanger
 For external pressure drop 300 Pa with average filter contamination

⁶ Air flow limit for compliance with EU Regulation 1253/2014

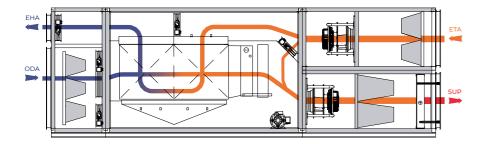
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PERFORMANCE CHARACTERISTICS



STARTING MODE FOR FAST HEATING **DURING WINTER OPERATION**

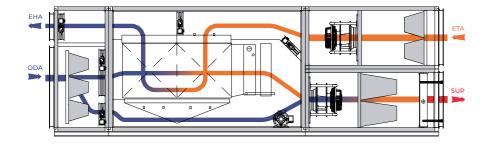
This operating mode utilizes 100% recirculated air, which is heated via the hot water coil. During this process, both the outdoor air and exhaust air dampers remain fully closed. This mode is typically used for intermittently occupied spaces that require rapid temperature increase.



WINTER MODE

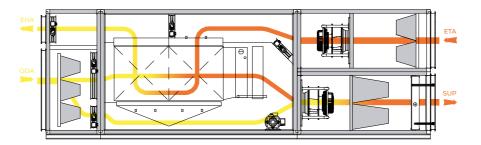
In winter, the system uses a two-stage plate heat-recovery exchanger. The heating coil compensates for both ventilation and building transmission losses.

When outdoor temperatures fall below design limits, a controlled mix of recirculated and fresh air is used to reduce heat loss and lower heating demand. Upon request, the system can also operate with partial air recirculation instead of 100 % fresh air.



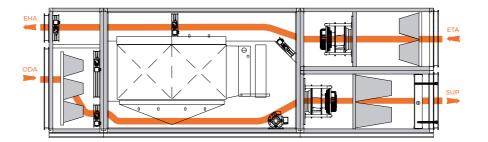
DEFROSTING MODE

When outdoor air is very cold and frost begins to form on the plate heat exchanger, the fresh air bypass opens to reduce cold air flow through the exchanger. Warmer return air then helps melt the ice on the exchanger surfaces. The bypass damper is automatically modulated to enable defrosting while preserving ventilation.



TRANSITIONAL PERIOD

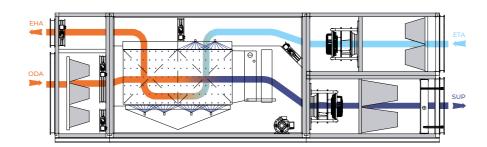
During transitional periods, fresh air is conditioned exclusively via the two stage plate heat exchanger. Depending on operating conditions, either all or part of the fresh air passes through the exchanger while the rest is routed through a bypass channel, then mixed before supply. Modulating the return air, supply air and bypass dampers maintains the required supply air parameters.



FREE COOLING MODE

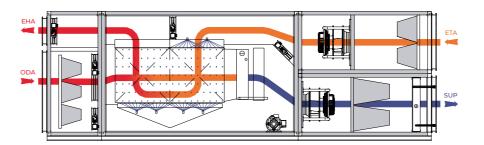
When outdoor temperatures are sufficiently low to allow for passive cooling, the system operates with 100% fresh air bypassing the plate

In this mode, the pressure drop across the system is minimized, resulting in reduced fan energy consumption and more efficient operation.



SUMMER MODE

Fresh air is cooled via indirect adiabatic evaporative cooling: warm outdoor air passes through a double plate heat exchanger and is cooled by return air that was adiabatic cooled — with no increase in humidity. A high recovery rate (> 80%) enables major supply air cooling without mechanical cooling.



SUMMER MODE WITH HIGHER **OUTDOOR TEMPERATURES**

If the two stage plate heat exchanger combined with indirect adiabatic cooling cannot fully offset the internal and external sensible and latent loads, the chilled water coil provides supplemental mechanical cooling. This ensures the supply air remains within the specified set point temperature and humidity range despite elevated ambient conditions.



CHOOSE YOUR Energy **MODEL**

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STANDARD

- Indirect adiabatic module with water distribution system
- Polypropylene plate heat exchanger
- EC plug fans
- Integrated electrical cabine
- Integrated cooling coil (chilled water)
- Post Heating coil (hot water)
- Optimized for energy-saving ventilation with coolin

GENIUS

- All Standard options (chilled water coil excluded)
- Integrated reversible heat pump for autonomous heating, cooling
- Intelligent coordination with adiabatic system
- Smart thermal control algorithm
- High-efficiency, all-in-one HVAC solution

The ENERGY PRIME series are available in 11 (Genius model in 10) standardized sizes, covering a wide airflow range from 800 to 40,000 m³/h. This modular sizing ensures optimal performance, precise component matching, and system scalability across all application types.

Both ENERGY PRIME variant — Standard, or Genius — are available in:

Indoor installation design

Compact footprint, easy integration into mechanical rooms plant spaces, or technical floors.

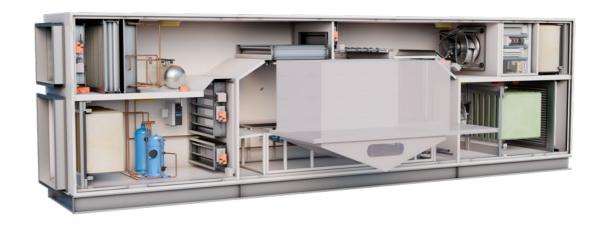
Outdoor installation design

Weatherproof housing, thermal insulation, and protective coatings to ensure long-term durability and performance in external environments.

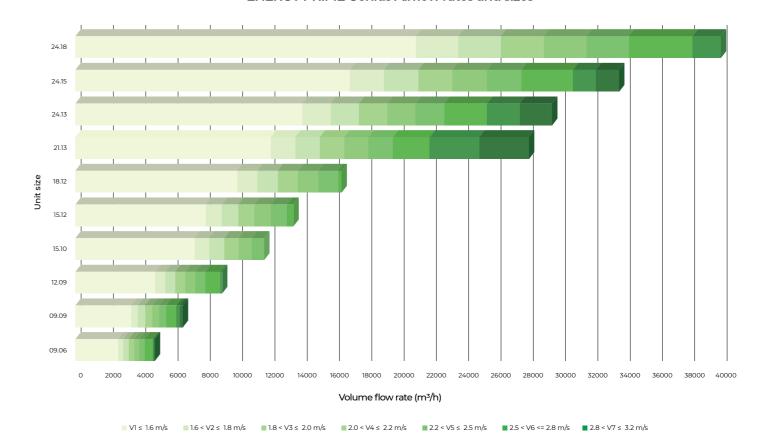


RECOMMENDED APPLICATIONS:

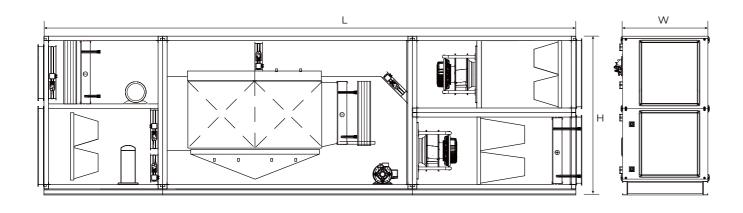
ENERGY PRIME Genius is comfort air conditioning unit designed for objects with higher thermal loads requirements. Genius unit uses indirect adiabatic evaporative cooling an achieves to cool up to 40% with water. Additional heating / cooling capacity is enhanced with an refrigerant reversible heat pump.



ENERGY PRIME Genius Airflow rates and sizes



Energy



Unit size		Dime	nsions	
	Width (mm)	Height (mm)	Length (mm)	Weight (kg)
09.06	1000	1770	5900	1450
09.09	1000	2270	6400	1750
12.09	1305	2270	6600	2250
15.10	1600	2475	6600	3200
15.12	1600	2675	6900	3650
18.12	1905	2675	7200	4500
21.13	2200	2970	7800	5000
24.13	2405	2970	8200	5700
24.15	2405	3265	8800	6600
24.18	2405	3875	9700	8450

Unit size	Minimum air flow	Nominal air flow	Maximum air flow
	m3/h	m3/h	m3/h
09.06	2000	2600	4200
09.09	2500	3700	5600
12.09	3400	5100	7800
15.10	5000	8000	10000
15.12	6000	9500	11500
18.12	8000	11000	14000
21.13	11000	15000	22000
24.13	14000	19000	24000
24.15	18000	23000	28000
24.18	25000	32000	40000

						ENERGY PF	RIME Geniu	_	_		
		09.06	09.09	12.09	15.10	15.12	18.12	21.13	24.13	24.15	24.18
Nominal air flow	m³/h	2600	3700	5100	8000	9500	11000	15000	19000	23000	32000
Filtration according to EN 779:2012 IS	O 16890)									
Fresh / Supply air				M5	/ F7 (F9)	ePM10 60%	/ ePM1 609	% (ePM1 85	5%)		
Return air		M5 ePM10 60%									
Double plate heat exchanger											
Material						Polypro	pylene				
Energy efficiency according to DIN EN 13053 $^{\rm 1}$	%	74.5	72.7	72.5	71.7	71.4	72.4	74.7	73.6	72.1	73.3
Heat recovery rate winter/summer according to EN 308 $^{\rm 1}$	%	75,5/86,0	74,0/84,5	74,5/85,0	74,1/84,6	74,4/84,9	75,0/85,5	77,4/87,9	76,7/87,2	75,4/85,9	76,7/87
Evaporative cooling											
Cooling capacity	kW	7.6	12.2	17.4	23.9	37.6	45	53.5	72.4	90.4	111.1
Nominal pump power	kW	0.5	0.5	0.5	0.75	0.75	0.75	1.1	1.1	1.5	1.5
Water flow rate	l/h	11.4	18.3	26.1	35.9	56.5	67.3	79.4	107.7	135.2	163.5
Integrated heat pump + Evaporative	cooling										
Total cooling capacity ^{2,7}	kW	8,57	12,23	16,86	26,45	30,60	33,70	47,25	61,37	72,45	95,31
Heating capacity ⁶	COP	5.23	5,33	5,44	5,33	5,38	5,57	5,72	5,74	3,94	3,87
Energy efficiency ratio ⁶	EER	6.52	7.49	8.12	7.50	8.99	9.79	9.14	9.61	9.88	9.62
Hot water coil 3,4											
Heating capacity	kW	3,50	4,99	6,87	10,78	12,80	14,82	20,20	25,59	38,72	53,87
Water flow rate	m³/h	0.61	0,87	1,19	1,87	2,23	2,58	3,51	4,45	6,73	9,37
Connections	DN	32	32	40	50	50	50	65	65	65	80
Device data¹											
Total electrical power rating	kW	3.87	5.09	6.74	10.06	12.9	14.0	17.94	23.68	29.2	38.04
Total power consumption	Α	7.23	9.48	12.65	17.18	21.93	25.78	30.39	40.68	52.66	67.68
Acoustic pressure at a distance of 1 m from the device ⁵	dB(A)	61	62	63	67	68	65	68	72	68	72
Largest transport module											
Width	mm	1000	1000	1305	1600	1600	1905	2200	2405	2405	2405
Height	mm	1770	2270	2270	2475	2675	2675	2970	2970	3265	3875
Length	mm	2650	3000	3000	3000	3300	3600	3800	3800	4200	5100
Operating voltage						3~400V 50	Hz				

¹ The data is valid for the following parameters @ Nominal air flow:

Outdoor temperature and relative humidity summer mode $\,$ 35°C/35%

Indoor conditions winter mode
Indoor conditions summer mode

Outdoor temperature and relative humidity winter mode

20°C/40% 26°C/50% -12°C/90%

4 |

² At supply temperature 16°C for nominal air flow

 $^3\,$ At supply temperature 27°C for nominal air flow, FL = 45 °C , SA=40 °C

4 Inlet conditions after double plate heat exchanger + heat pump

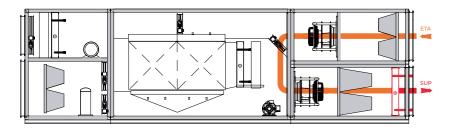
⁵ For external pressure drop 300 Pa with average filter contamination

⁶ Depends on operation mode

 $^{7}\,$ Including evaporative cooling capacity taking into account power consumption for adiabatic pump

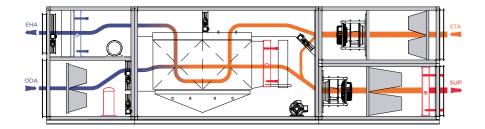
Please seek approval of technical data and specifications prior to start of the planning process.

PERFORMANCE CHARACTERISTICS



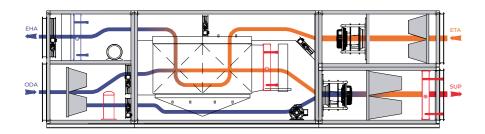
STARTING MODE FOR FAST HEATING **DURING WINTER OPERATION**

This operating mode utilizes 100% recirculated air, which is heated via the hot water coil. During this process, both the outdoor air and exhaust air dampers remain fully closed. This mode is typically used for intermittently occupied spaces that require rapid temperature increase.



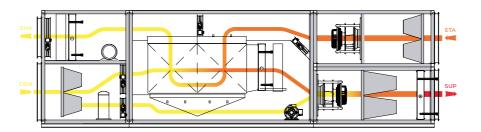
WINTER MODE

In winter, the system uses a two-stage plate heat-recovery exchanger. The refrigerant heat pump compensates for both ventilation and building transmission losses. When outdoor temperatures fall below design limits, a controlled mix of recirculated and fresh air is used to reduce heat loss and lower heating demand. Upon request, the system can also operate with partial air recirculation instead of 100 % fresh air. The water heating coil is used if necessary.



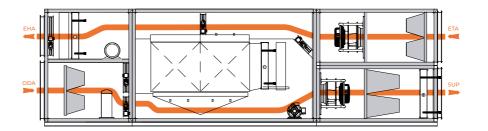
DEFROSTING MODE

When outdoor air is very cold and frost begins to form on the plate heat exchanger, the fresh air bypass opens to reduce cold air flow through the exchanger. Warmer return air then helps melt the ice on the exchanger surfaces. The bypass damper is automatically modulated to enable defrosting while preserving ventilation.



TRANSITIONAL PERIOD

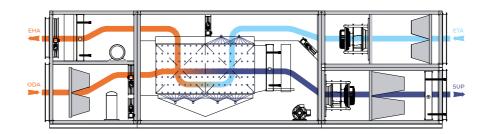
During transitional periods, fresh air is conditioned exclusively via the two stage plate heat exchanger. Depending on operating conditions, either all or part of the fresh air passes through the exchanger while the rest is routed through a bypass channel, then mixed before supply. Modulating the return air, supply air and bypass dampers maintains the required supply air parameters.



FREE COOLING MODE

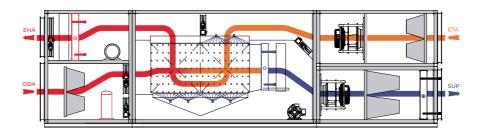
When outdoor temperatures are sufficiently low to allow for passive cooling, the system operates with 100% fresh air bypassing the plate heat exchanger.

In this mode, the pressure drop across the system is minimized, resulting in reduced fan energy consumption and more efficient operation.



SUMMER MODE

Fresh air is cooled via indirect adiabatic evaporative cooling: warm outdoor air passes through a double plate heat exchanger and is cooled by return air that was adiabatic cooled -- with no increase in humidity. A high recovery rate (> 80%) enables major supply air cooling without mechanical refrigeration.



SUMMER MODE WITH HIGHER **OUTDOOR TEMPERATURES**

If the two stage plate heat exchanger combined with indirect adiabatic cooling cannot fully offset the internal and external sensible and latent loads, the refrigerant heat pump provides supplemental cooling. This ensures the supply air remains within the specified set point temperature and humidity range despite elevated ambient conditions.



HOW ENERGY PRIME **FUNCTIONS**

CUSTOMIZE EQUIPMENT:

Select between the Standard and Premium packages in our user-friendly software. Each package is designed to meet various needs while maintaining a high level of efficiency.

STANDARDIZED SELECTION:

The system is designed to be as standardized as possible, minimizing the risk of selection errors and ensuring a seamless integration into your application.

CUSTOMIZE EQUIPMENT:

Within your chosen package, select from two types of units to match your specific requirements.

CONCLUSION:



SELECT YOUR ENERGY PRIME AHU WITH CLIMATE:SELECT

Climate Prime Select is an intuitive and user-friendly software tool designed to help you select the most suitable air handling unit for your specific project needs. Whether you're preparing a quick offer or working on a detailed technical design, Climate Prime Select ensures rapid product selection tailored to specific project conditions and provides you with all the technical information you need.

KEY FEATURES:

· User-Friendly Interface

The configuration process is simple and streamlined. After entering your technical requirements and project data, you can instantly download a detailed technical sheet (PDF) including performance curves, selected components, and more.

- Advanced Cost-Optimized Calculations Our powerful calculation engine selects components in the most efficient and economical way - helping clients reduce equipment costs right from the start. The software also supports Life Cycle Cost (LCC) analysis, assisting in long-term investment planning.
- Comprehensive Technical Output Climate:Prime provides complete documentation and data, including:
- Product dimensions
- · Performance and efficiency data

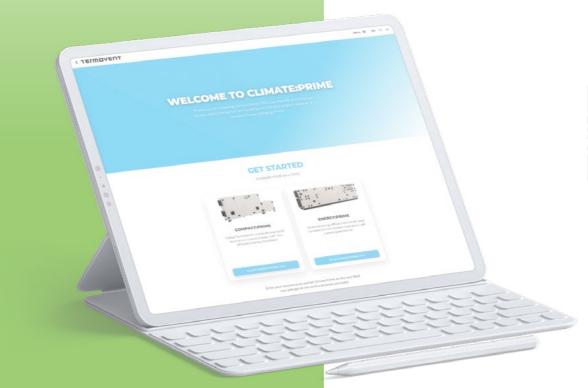
- Life Cycle Cost analysis
- Noise levels
- Product documentation
- Full compatibility with Revit
- Certificates
- The technical drawing, precisely scaled, can be exported to BIM programs as DXF or DWG files for seamless integration into project planning

Direct Sales Contact

Once your selection is complete, you can contact our sales team directly through the platform to finalize pricing, customization, delivery terms, and any additional services.

Ready for Your Projects

From the initial selection to final delivery, Climate Prime Select saves time, enhances accuracy, and improves collaboration between engineers, sales professionals, and manufacturers.



Go to Climate Prime Selection



INSTALLATION, **COMMISSIONING &** CONNECTION

INSTALLATION

- Our ENERGY PRIME AHU units are designed for quick and efficient installation thanks to the following features:
- Fast and easy setup
- True plug and play systems minimal effort and time required on site
- Simple connection of ventilation ducts - flexible connectors ensure quick attachment
- Seamless integration into existing ductwork

POWER SUPPLY CONNECTION

- · Depending on the unit's capacity, power is supplied using either single-phase or three-phase electricity via a standard industrial connector.
- This straightforward approach ensures a safe and reliable electrical connection without complex wiring.

COMMISSIONING

- Once the unit is physically connected and powered, the system is activated by simply turning the main switch to the ON position. The entire control system is fully integrated into the unit itself — no separate electrical cabinet is required.
- An intuitive user interface with a display guides the operator through the startup process. With the press of the Start button, the unit begins operation.



QUALITY MANAGEMENT SYSTEM

CERTIFICATES AS THE GUARANTEE OF QUALITY

Termovent is fully committed to meeting the customer's requirements in terms of quality, environmental protection and safety. The set high quality standards are the cornerstone of our operations. In order to achieve the goals we set at all times, our employees are involved in the processes of continuous improvement and optimization of our products and services. The success of this approach is confirmed by numerous certificates held by Termovent, which guarantee the highest standards to our customer.



EUROVENT CERTITA CERTIFICATION

Eurovent Certifa Certification has certified that Termovent Air Handling Units, Range Climate, and Software for calculation of performances PRIME PRO SELECT, Trade name TERMOVENT, have been assessed according to requirements of the following standard: OM-5-2017



CE MARKING FOR TERMOVENT AHUS

Termovent Air handling Units hold CE Marking of Conformity to Machinery Directive 2006|42|EC Annex II, Point A.

In addition, Termovent AHUs are designed and produced according to set of harmonized standards:

EN ISO 12100:2010

Safety of machinery - General principles for design - Risk assessment and risk reduction.

EN 60204-1:2018

Safety of machinery - Electrical equipment of machines - Part 1: General requirements

EN ISO 13849:1:2023

Safety of machinery – Safety – related parts of control systems Part 1: General principles for design

EN ISO 13850:2015

Safety of machinery - Emergency stop function-Principles for design

EN ISO 13854:2019

Safety of machinery – Minimum gaps to avoid crushing of parts of the human body

EN ISO 13857:2019

Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs

EN ISO 14118:2018

Safety of machinery – Prevention of unexpected start-up

EN ISO 14120:2015

Safety of machinery - Guards



ISO 13485:2016

ISO 13485:2016 Certification body SIQ confirmed that Termovent introduced Quality Management System in accordance with ISO 13485:2016 in the field of manufacturing, design and installation of Termovent panels for the construction of clean rooms.



ISO 9001: 2015

ISO 9001: 2015 Certification body TUV SUD Management Service GmbH confirmed that Termovent introduced Quality Management System in accordance with ISO 9001:2015 standard in the field of manufacturing, installation and sales of equipment for air conditioning, heating and cooling.



ISO 14001:2015

ISO 9001: 2015 Certification body TUV SUD Management Service GmbH confirmed that Termovent introduced Quality Management System in accordance with ISO 9001:2015 standard in the field of manufacturing, installation and sales of equipment for air conditioning, heating and cooling.



ISO 45001:2018

OHSAS 18001:2007 Certification body TUV SUD Management Service GmbH confirmed that Termovent introduced Health and Safety Management System in accordance with OHSAS 18001:2007 in the field of manufacturing, installation and automation of air conditioning, heating and cooling equipment and systems.



SCC*:2011

Termovent is SCC*2011 certified by Quality Austria – meeting the highest standards of safety, health, and environmental protection.





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