



AH

Heating and Ventilation Units

ApenGroup®

RESEARCH, ECOLOGY AND ENERGY SAVING

OVERVIEW

APEN GROUP S.p.A. is a leading manufacturer of heating systems, and offers a wide range of products: condensing boilers, condensing heat exchangers, suspended warm air heaters, and floor standing condensing warm air heaters.

Apem Group has always been an innovation leader thanks to constant product and process development, and continuous research of advanced solutions in technology.

OUR VISION

We consider 'caring for the environment' (environment, persons, relationships, cooperation) our way towards the excellence.

OUR MISSION

Designing, manufacturing and marketing of HVAC products that stand out for their quality and for their compliance with environmental standards. Our R&D staff is deeply committed to the setup of products that assure low polluting emissions, high efficiency and minimum consumption, thereby assuring optimum heating and conditioning, from small residential spaces to large industrial buildings.

A LEADING COMPANY

Our modern facility is built on an area of 30,000 sqm, 11,000 of which encompass headquarters, manufacturing and research facilities. Easy and timely intercompany communication is provided through an IBM AS400 server with a fully integrated Server Windows NT PC network.

The website www.apengroup.com and e-mail apen@apengroup.com, allow to communicate easily with all entities outside the company (eg. Customers, suppliers, associations).

CUSTOMER SERVICE

To be truly customer-oriented, a service must satisfy custom's requests from the clients.

APEN GROUP can meet any project need by developing custom products. Its flexibility in the manufacturing process and the availability of state-of-the-art machinery for metal sheet processing guarantee cost effective products.

Cost effectiveness is another basic characteristic of APEN GROUP products, besides a high potential for technology, commercial and industrial development.

TECHNOLOGY EXCELLENCE

A qualified team of engineers and researchers, these committees for the development of standards UNICIG, researches and develops products using CAD computer systems, translating into production the best that you obtained from the research, studying cutting-edge technical and manufacturing solutions.

ENVIRONMENT

Environment protection is essential for present and next generations' quality of life.

Apem Group's challenge is investing in research and development activities which grant the design and the production of environment friendly products.

Such a concern is well resumed in the current slogan "Apem Group caring for environment" and it involves all the company organization: from research of suppliers and partners who share this same goal, to staff personnel, natural source optimization and definition of any prevention control and correction so to respect the fixed quality goals and environment deference.

MANUFACTURING EXCELLENCE

Each product is tested, checked, and commissioned to guarantee that combustion parameters, efficiency levels, and component reliability fully comply with quality standards required for user comfort and satisfaction.

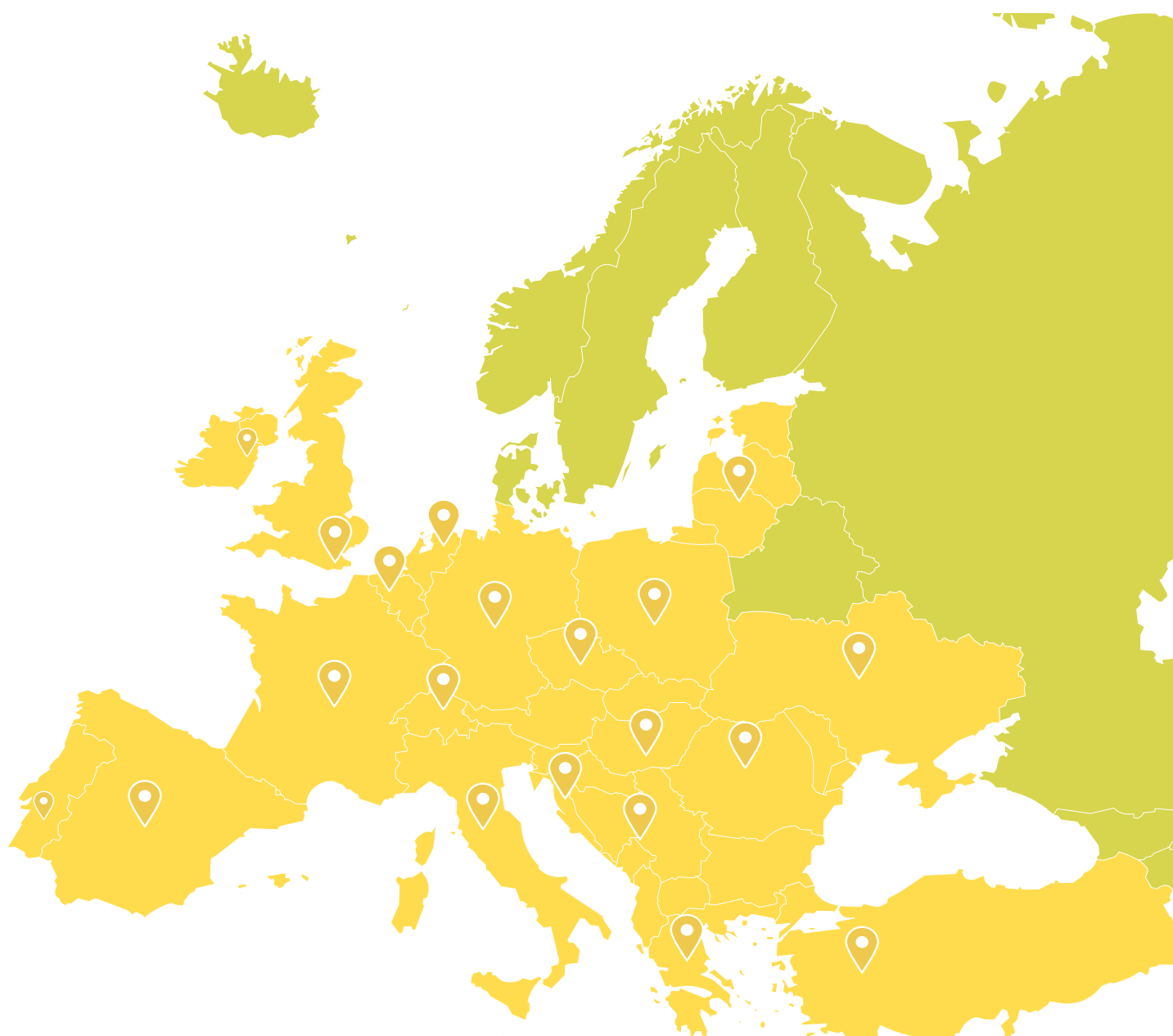
The manufacturing of our products takes advantage of ultimate, state-of-the-art planning and organization methods, which include: Digital control equipment. Welding robots. Forming robots. Computer assisted test lines. Advanced automation assures top-quality products as well as manufacturing flexibility and timely deliveries. Innovation, reliability, and originality are built-in features of each of our products.


SALES EFFICIENCY

Apem Group operates nationally and internationally: it is present in Italy thanks to an efficient and well distributed organization: professional agents, consultants, engineers and designers are ready to match the demands of customers always and everywhere.

Abroad, distributors, dealers, joint ventures with foreign partners, share with the company the principles of distribution of highly qualified equipment in relation to the needs of different countries.

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 ApenGroup has an international presence. Contact us at **export@apengroup.it** to get our distributor's name in your country, or to become our partner.

HISTORY

1967

THE ORIGINS: THERMOVÜR

The company - founded under the name Thermovür - began its great adventure with the production and sale of oil and gas burners. The founding partners are two brothers-in-law having the same name - Angelo Rigamonti - with the assistance and great professionalism of their father/father-in-law Emilio Rigamonti.

1973

AERMAX

Thermovür is supported by the company AERMAX for the marketing of floor-standing warm air heaters and burners, particularly for the foreign market.

1980'S

EXPERIENCE AND KNOW-HOW

The heating sector is evolving rapidly, the building boom and the need to keep everyone warm leads to the need for new and different products: floor-standing boilers, wall-hung boilers, gas burners, gas-fired wall-mounted warm air heaters, gas radiators.

1991

APENGROUP IS BORN

The two companies create a single company, which will benefit from the wealth of knowledge of the two brands and the know-how now internalised by the company: APEN GROUP SPA is born, a group of companies for new energies. Apen Group today.

2000'S

NEW PROJECTS, NEW PRODUCTS

In 2008, confirmation of the company's technical capabilities in the field of air conditioning was confirmed by the introduction on the market of the Kondensa product (condensing warm air heater), air handling units and RoofTop monobloc machines with built-in condensing heat exchanger.

2017

50 YEARS OF LOVE FOR THE CLIMATE!

We are proud to have celebrated our first 50 years in business. In the book "La storia siamo Noi" (We are history), we have recounted the main events that have marked the most important milestones which have made us grow in terms of competence and technological know-how in the heating sector. A continuous evolution, because progress is a never ending process.



2024

RESEARCH, INNOVATION AND ECOLOGY

We are always evolving.

The market, the experiences, the difficulties have made us stronger and more committed to facing new challenges, new technologies, new countries.

We want to defend the values we believe in to be able to improve environmental comfort, attention to people and the use of energy. We also want our company to contribute to a better future!

CERTIFIED QUALITY

APEN GROUP S.p.A. ranges among the first Italian companies to be certified by an industry- wide acknowledging system at European level. We have been audited and certified to be in compliance with the quality standards defined in UNI EN ISO 9001:2015 protocol.

Certification has been obtained for the design, manufacturing, marketing and service of hybrid systems, of warm air heaters, condensation heaters and exchangers, condensing boilers, water fan units, air destratifiers, air handling central units, and burners. The commitment to quality took by the company dates back to the beginning of our history, and it is confirmed by the following milestones:

In 1988 APEN GROUP was certified by DVGW Deutscher Verein Des Gas Und Wasserfaches E.V. and it was approved as a trading partner for suspended heaters in Germany. Then approvals for the sale of these heaters in other markets followed, such as France, Switzerland, the Netherlands, and Belgium.

In 1995 all the gas-fired appliances we manufacture were certified according to EC Directives.

In 1991 we were the first Italian company in the HVAC industry to be registered in accordance with UNI EN ISO 9003 requirements. In 1993 the auditing was extended to include compliance with UNI EN ISO 9002 standards.

In 2003, we were acknowledged to be compliant with UNI EN ISO 9001:2000, and the registration was confirmed in 2006.

In 2013 the Board of Directors has adopted the organizational model 231.

In 2017 we obtained the certification in compliance with the UNI EN ISO 9001:2015.

INTERNATIONAL CERTIFICATES

Apén Group's products have been tested and certified by Gastec-Kiwa CERMET, the famous Dutch Notified Body, with test labs accredited by the EC.



AH

HEATING AND VENTILATION UNITS



STANDARD
SMART X WEB



STANDARD
DDMP FAN WITH
INVERTER



ErP
2021



AH SERIES

Heating and ventilation units

AH SERIES, HEATING AND VENTILATION UNITS

AH is a condensing direct exchange heating unit with modulating premixed burner.

The project, which is the result of Apen Group's technology and experience in the treatment of hot air, was carried out with the aim of obtaining a product of the highest quality in terms of efficiency, energy savings and respect for the environment.

INNOVATION AND TECHNOLOGY

The heart of the AH modular units is represented by the stainless steel heat exchanger with the integrated modulating premixed gas burner with very low polluting emissions, which allows to reach efficiencies of 109%.

FIELDS OF APPLICATION

- Places of worship
- Industries
- Facilities
- Depots
- Warehouses
- Logistics
- Labs
- Garages
- Body shops
- Shopping malls
- Offices
- Farms
- Greenhouses

RANGE AVAILABILITY

Depending on size and space, a wide range of models from 105 kW to 420 kW is available. The units can be installed both inside and outside the rooms to be heated.

GUARANTEED SAVINGS

Efficiency and savings on consumption are obtained thanks to DDMP fans with integrated high-efficiency inverter that manage air movement by reducing noise.

SIMPLE INSTALLATION

The small size and modularity of the product allow for easy installation, simplifying the replacement of old systems, even in particularly small and difficult to access spaces, without the need for demolition or masonry work.

VERSATILITY

Many accessories complete the product's system: filters, silencers, regulation shutters, fire shutters on both supply and return lines, rain shutters, mixing boxes, vibration joints and temperature probes.

CERTIFIED QUALITY

The AH heating unit is manufactured in accordance with UNI, UNICIG and CEI technical standards and certified by the Kiwa-Gastec approval body in accordance with the Gas Appliances Regulation 2016/426/EU.

HIGH QUALITY MATERIALS

The combustion chamber and the air-flue gas heat exchanger are entirely made of AISI 441 stainless steel with low carbon content to guarantee high reliability and long life.

ECODESIGN ErP 2021 CONFORMITY

AH modular units comply with the ECODESIGN ErP 2021 regulation.

AH SERIES

TECHNICAL FEATURES

- Efficiency up to 108%.
- Available in 7 ranges of powers: 34 kW, 65 kW and 105 kW in the monobloc version, and 160 kW, 210 kW, 320 kW and 420 kW in the multiple modular version.
- Combustion chamber in AISI 441 stainless steel, heat exchanger tubes and flue gas collection box in AISI 441 stainless steel with low carbon content.
- Modulating premixed gas burner with low NOx emission in class 5 in accordance with EN 17082 2019.
- Electronic board with continuous power modulation controlled by microprocessor, which allows energy savings up to 50%. Management and signalling of faults, ignition, switching off and modulation of the burner(s).
- It operates in conjunction with the SMART X WEB chronothermostat via Modbus connection.
- The SMART X WEB chronothermostat can be installed either on board the machine or remotely in the room, with the possibility of installing up to 3 remote probes in addition to the one on board the machine to manage a single zone. Ethernet connection with possibility of remote control via browser and http address.
- The unit switch-on and switch-off depend on the heat demand.
- Variable air flow rate.
- Modulating temperature regulation with PID control on both the ambient temperature and the flow temperature.
- DDMP fans with integrated high efficiency inverter.
- Safety thermostat and condensate detection electrode.
- 230/1P/ 50Hz (34kW) power supply, 400V/3P/50Hz for all other models.
- Suitable for both indoor and outdoor installation.

STANDARD ACCESSORIES

- SMART X WEB remote control with the function of a stand-alone chronothermostat.
- LPG conversion kit.
- Condensate collection siphon kit.

ACCESSORIES UPON REQUEST

- Outdoor installation with optional roof.



OUR RANGE

8 models from 34 to 420 kW.

- 34 kW
- 65 kW
- 105 kW
- 160 kW
- 210 kW
- 250 kW
- 320 kW
- 420 kW

EASY INSTALLATION

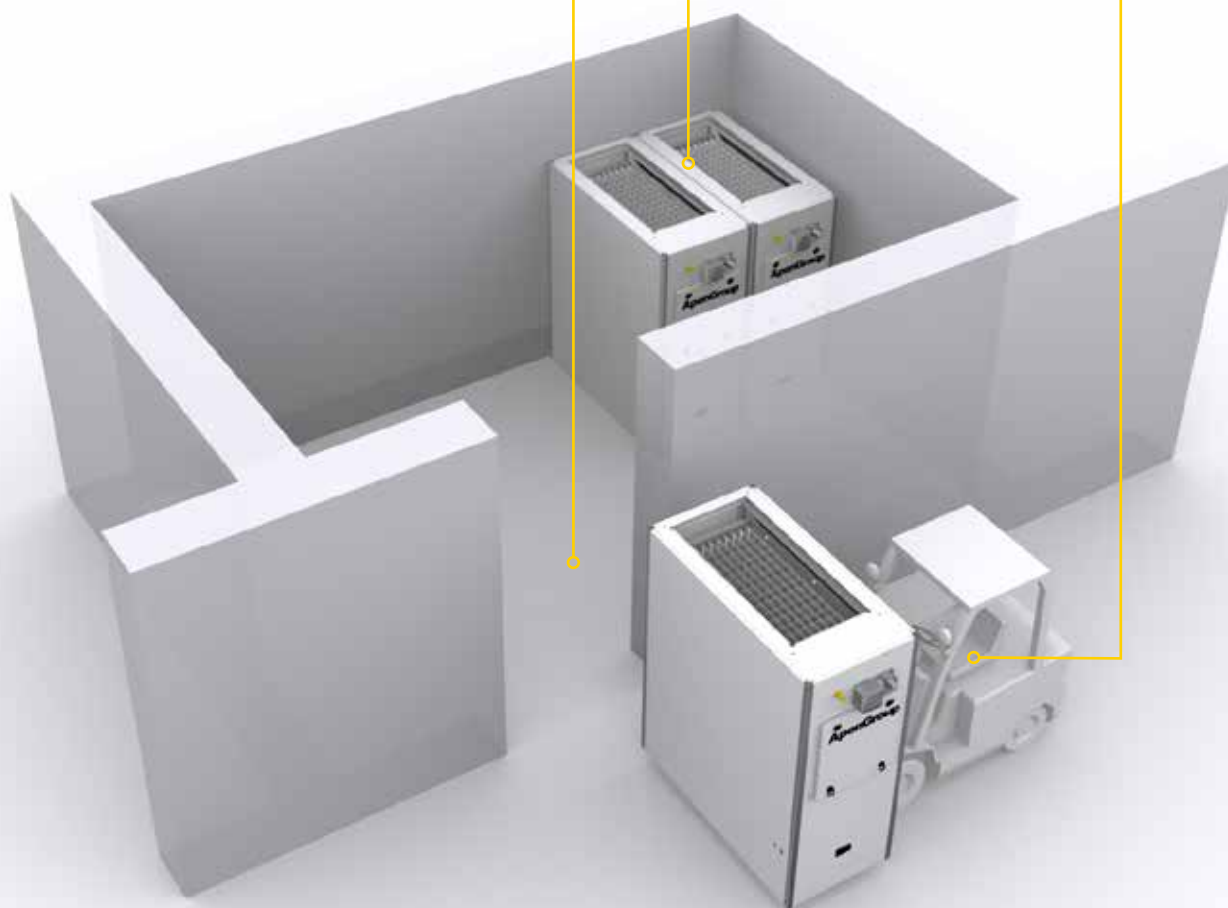
The small dimensions and modularity of the product allow it to be used even in particularly small spaces without the need for demolition or masonry work.

MODULARITY

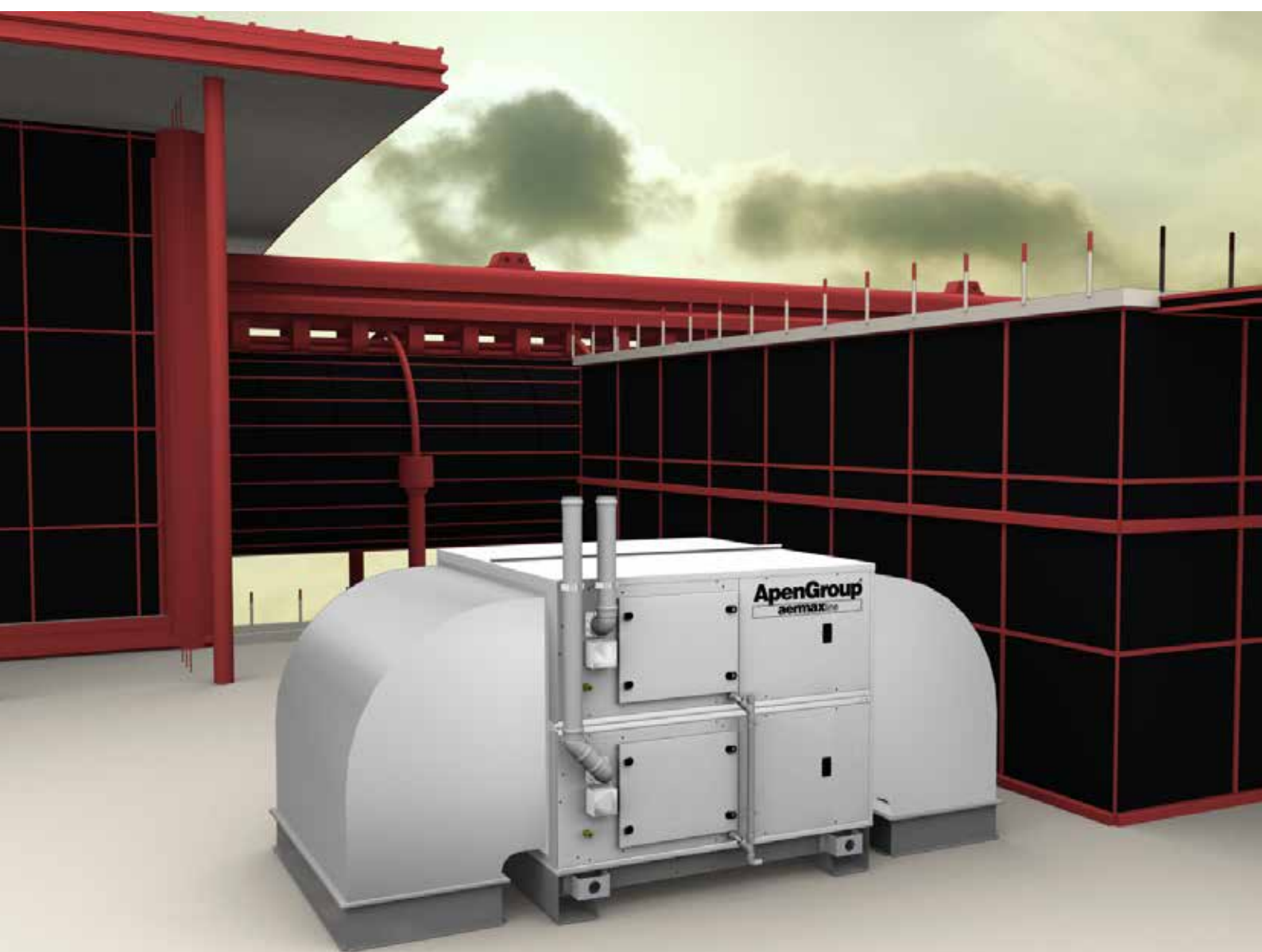
- Efficiency up to 108%.
- Possibility to couple single modules and increase the potential.

EASY HANDLING

Possibility of modular installation of the product with reduction of handling, transport and positioning costs.







AH SERIES

SMART X WEB CONTROL

The Apen Group remote control of the new SMART X WEB series acts as a stand-alone chronothermostat and can be used to control multiple types of systems. Connection via 4 polarised cables is very simple. Installation can be built-in or flush with the wall.

It is possible to install up to three remote probes in addition to the one on board the control. The controls are easy to use thanks to a 4.3" colour display and a very intuitive management menu. The user program is multilingual (9 languages).

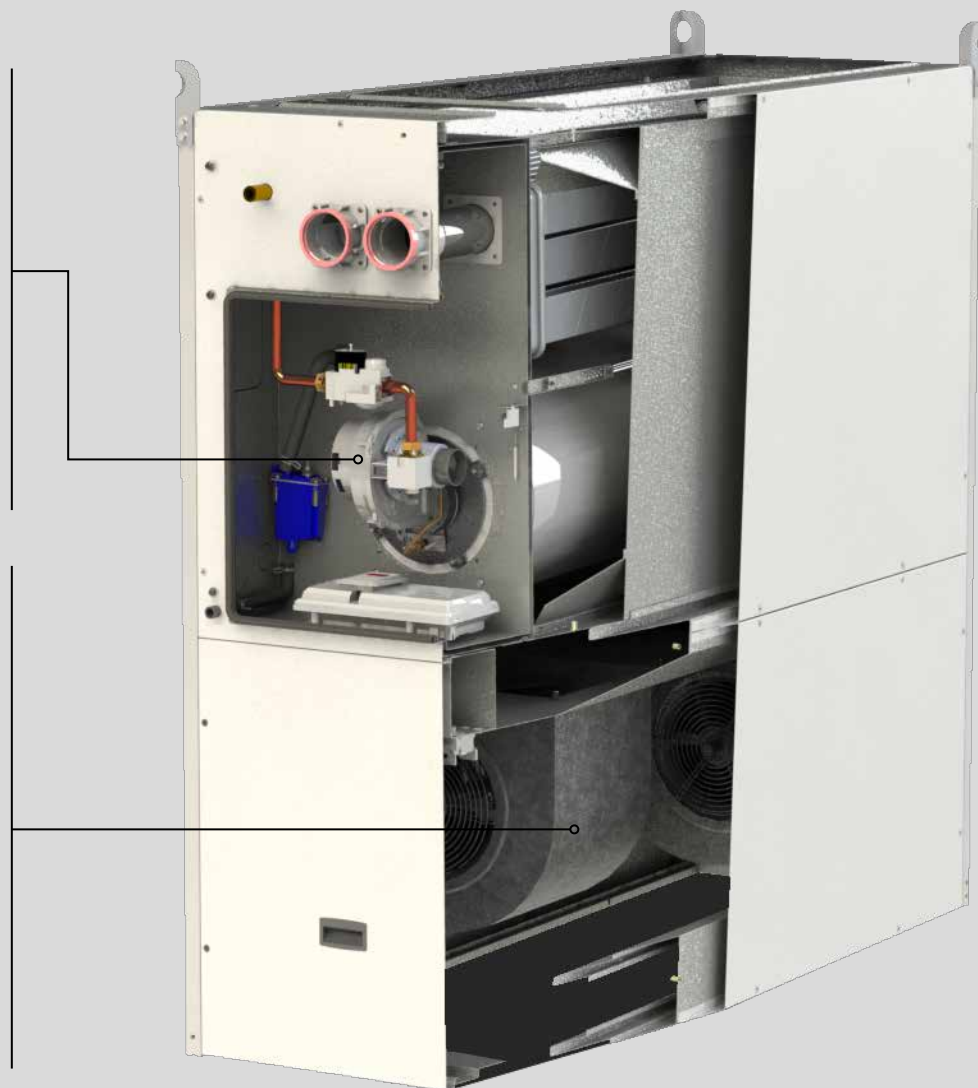
The simplicity of connection, the clear and intuitive management menu and the possibility of reading up to 4 temperature points within the controlled zone make these chronothermostats versatile and suitable for different needs and types of system.



AH UNIT COMPOSITION

AH units are supplied complete with Apen Group integrated modulating premixed burner. The premixed burner guarantees very low NOx and CO2 emissions and zero CO emissions, thanks to the high combustion efficiency (108%) and the reduction in fuel consumption resulting from the modulation of the heat output.

DDMP direct drive centrifugal fans are equipped with high efficiency EC motors and are more compact. The EC motor, with integrated inverter, has no slip losses and uses less energy than a conventional AC motor under all operating conditions (including partial load operation), making it significantly more efficient and economical.

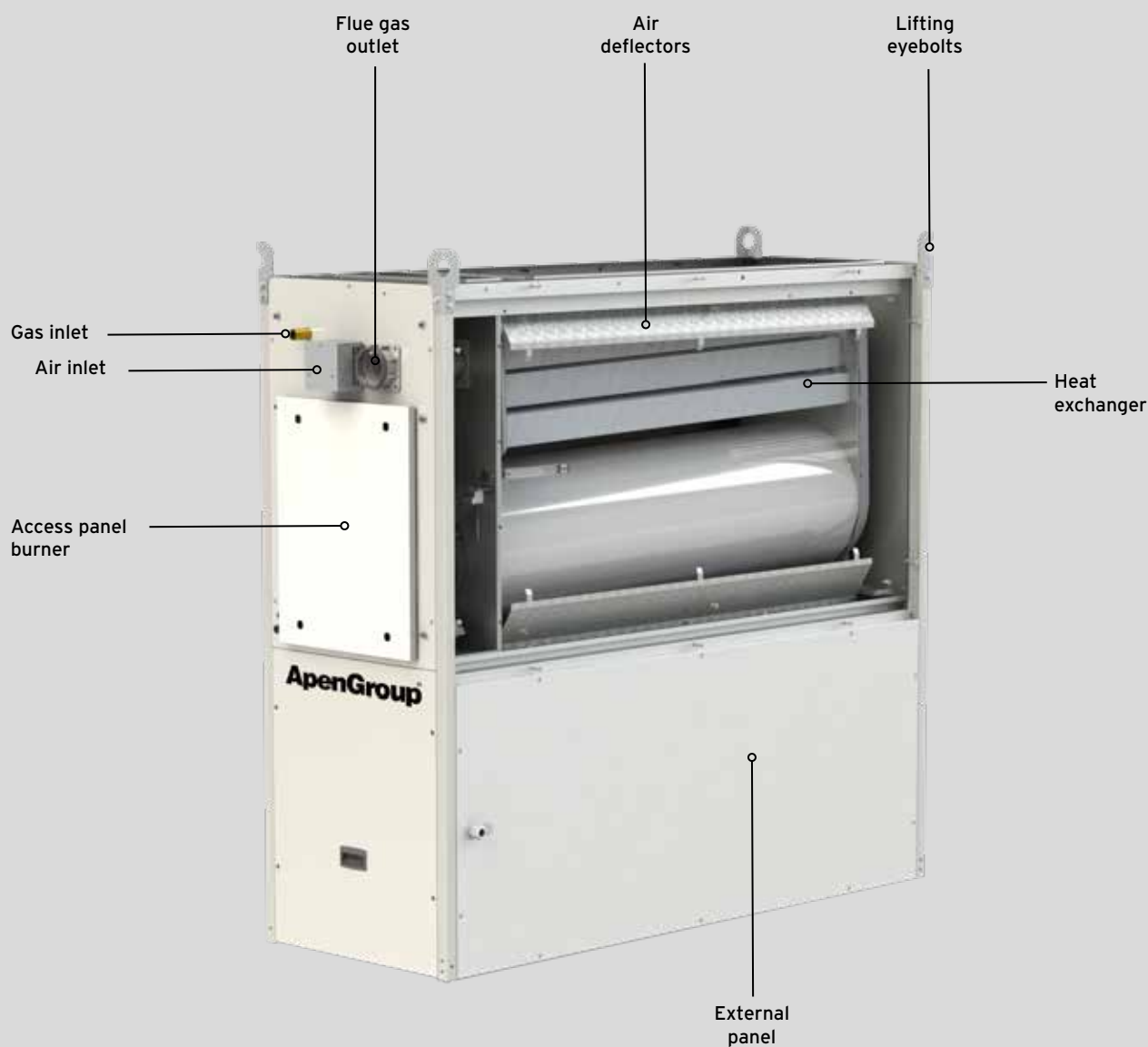


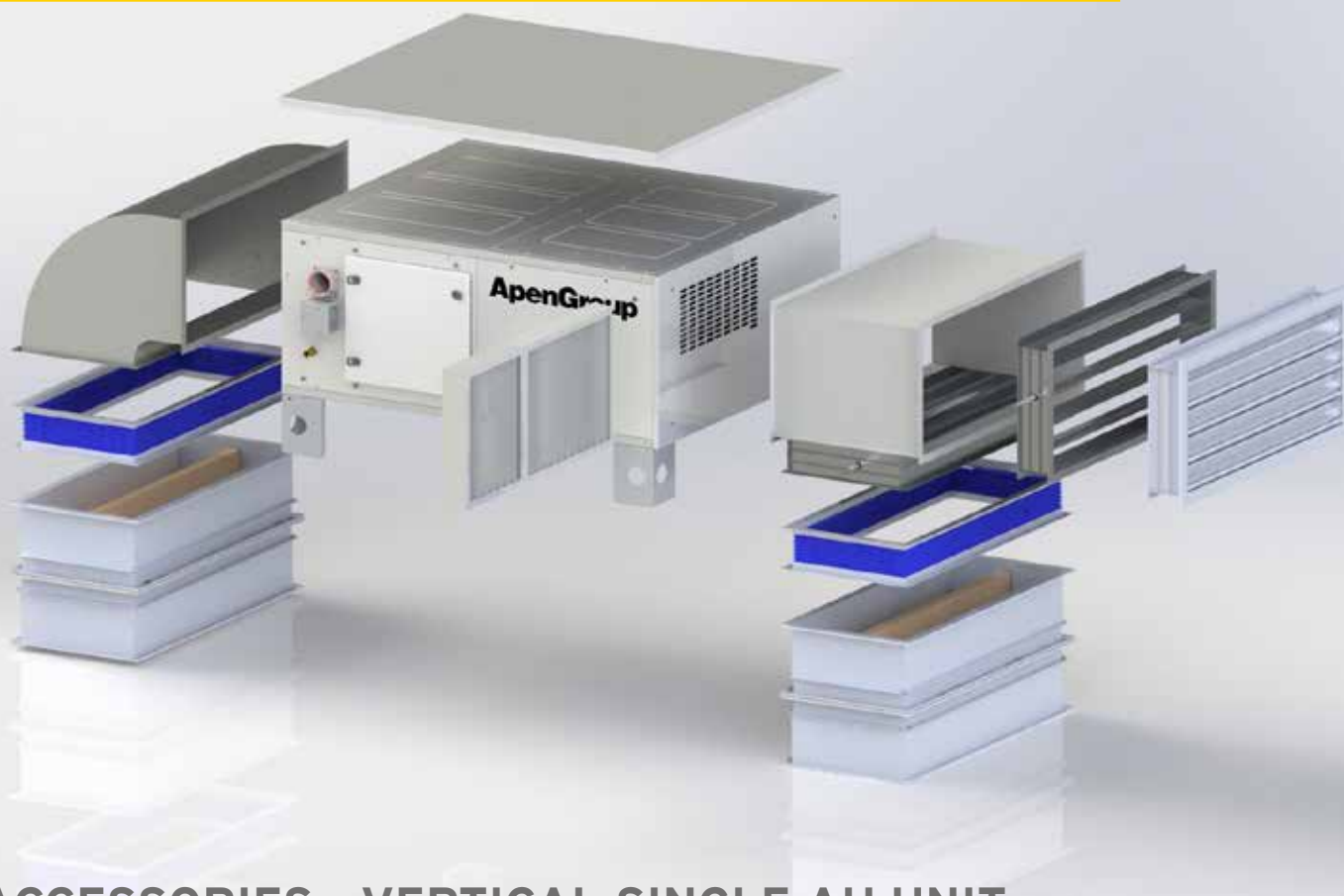
EASY INSTALLATION

Easier installation for the technician.
It is sufficient to connect the gas line and the power supply.

HIGH-EFFICIENCY HEAT EXCHANGER

AH modular units integrate an advanced heat exchanger technology (built by robotic welding process) in high quality AISI 441 stainless steel with corrosion resistance, with longer lifetime that reduces life cycle costs.

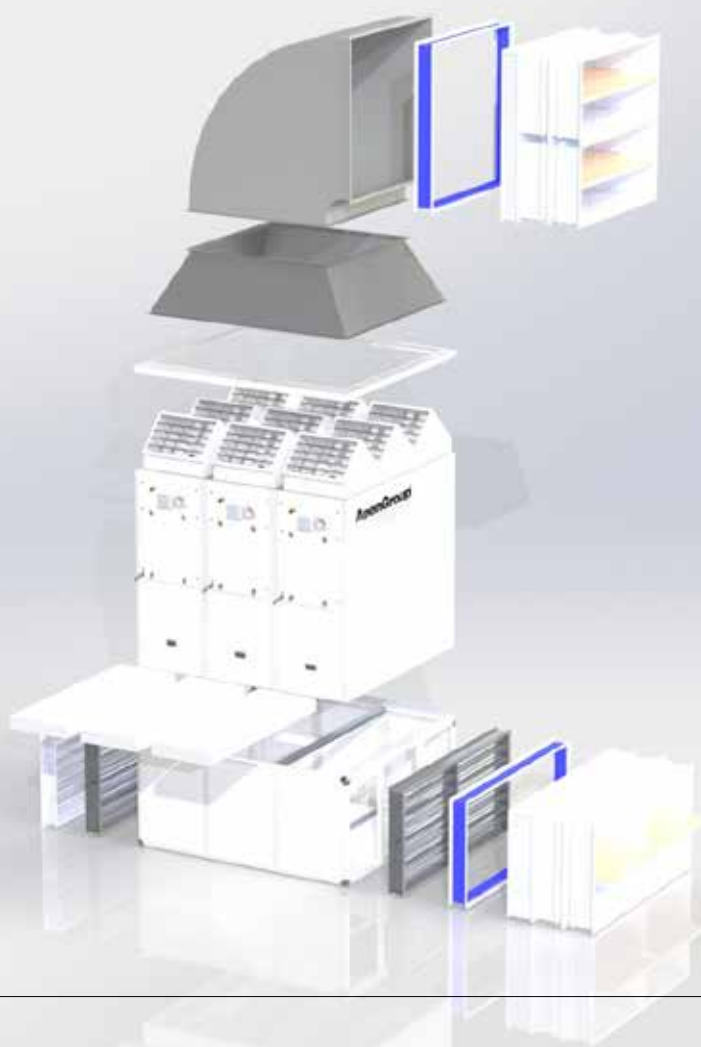




ACCESSORIES - HORIZONTAL MULTIPLE AH UNIT



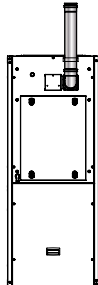
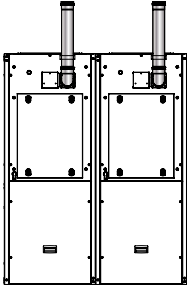
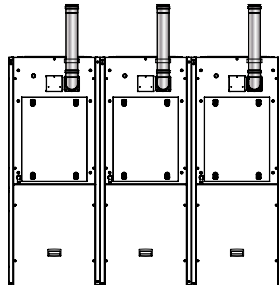
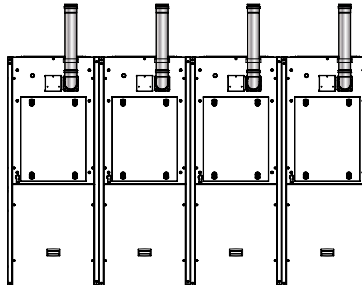
ACCESSORIES - VERTICAL MULTIPLE AH UNIT



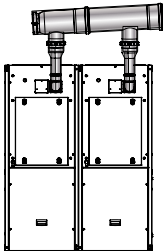
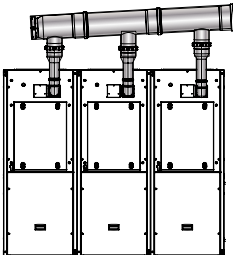
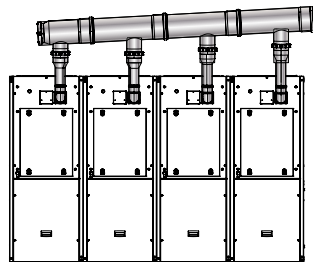
VERTICAL VERSION AH SERIES / TECHNICAL DATA

Code	Air flow rate m³/h	Available Pressure Pa	Useful Heat Output		Efficiency		Motor kW
			min (kW)	max (kW)	min (%)	max (%)	
AH034IT-01V0	3210	190	8.13	33.56	106.97	96.3	1x 0.8 kW
AH034IT-02V0	3210	560	8.13	33.56	106.97	96.3	1x 2.0 kW
AH065IT-01V0	6010	380	13.4	62.93	108.06	96.82	2x 0.8 kW
AH065IT-02V0	6010	740	13.4	62.93	108.06	96.82	2x 2.0 kW
AH105IT-01V0	7500	100	22.77	97.15	108.4	97.15	2x 0.8 kW
AH105IT-02V0	9280	190	22.77	97.15	108.4	97.15	2x 2.0 kW
AH160IT-01V0	14000	100	2x 17.77	2x 80.03	108.35	97.6	4x 0.8 kW
AH160IT-02V0	15300	355	2x 17.77	2x 80.03	108.35	97.6	4x 2.0 kW
AH210IT-01V0	15000	100	2x 22.77	2x 97.15	108.4	97.15	4x 0.8 kW
AH210IT-02V0	18560	190	2x 22.77	2x 97.15	108.4	97.15	4x 2.0 kW
AH320IT-01V0	22500	100	3x 22.77	3x 97.15	108.4	97.15	6x 0.8 kW
AH320IT-02V0	27840	190	3x 22.77	3x 97.15	108.4	97.15	6x 2.0 kW
AH420IT-01V0	30000	100	4x 22.77	4x 97.15	108.4	97.15	8x 0.8 kW
AH420IT-02V0	37120	190	4x 22.77	4x 97.15	108.4	97.15	8x 2.0 kW

INDEPENDENT FLUE GAS OUTLET KIT FOR VERTICAL ALUMINIUM VERSIONS

Model AH034 / 065 / 105	Model AH 160 / 210	Model AH 320	Model AH 420	
				
Kit code	Description	Diameter	AH unit model	Kit number to order
G18165-105	Independent flue gas outlet kit, for single module	Ø 80 mm	For models 034 / 065 / 105	1 x G18165-105
			For models 160 / 210	2 x G18165-105
			For model 320	3 x G18165-105
			For model 420	4 x G18165-105

COMMON FLUE GAS OUTLET KIT FOR VERTICAL VERSIONS IN AISI 316L STEEL

Model AH 160 / 210	Model AH 320	Model AH 420	
			
Kit code	AH unit model	Description	Diameter
G22175-210	For model 160 / 210	Common flue gas outlet kit	Ø 200 mm
G22175-320	For model 320	Common flue gas outlet kit	Ø 200 mm
G22175-420*	For model 420	Common flue gas outlet kit	Ø 250 mm

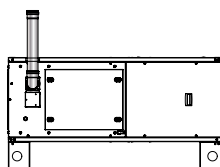
* The kit includes: concentric adapter (Ø 200/250 mm); extension L 1000 mm (Ø 250 mm), swing check valve for each module, closing cap with siphon.

HORIZONTAL VERSION AH SERIES / TECHNICAL DATA

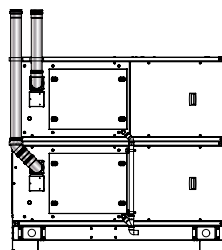
Code	Air flow rate m³/h	Available Pressure Pa	Useful Heat Output		Efficiency		Motor kW
			min (kW)	max (kW)	min (%)	max (%)	
AH034IT-01H0	3210	190	8.13	33.56	106.97	96.3	1x 0.8 kW
AH034IT-02H0	3210	560	8.13	33.56	106.97	96.3	1x 2.0 kW
AH065IT-01H0	6010	380	13.4	62.93	108.06	96.82	2x 0.8 kW
AH065IT-02H0	6010	740	13.4	62.93	108.06	96.82	2x 2.0 kW
AH105IT-01H0	7500	100	22.77	97.15	108.4	97.15	2x 0.8 kW
AH105IT-02H0	9280	190	22.77	97.15	108.4	97.15	2x 2.0 kW
AH160IT-01H0	14000	100	2x 17.77	2x 80.03	108.35	97.6	4x 0.8 kW
AH160IT-02H0	15300	355	2x 17.77	2x 80.03	108.35	97.6	4x 2.0 kW
AH210IT-01H0	15000	100	2x 22.77	2x 97.15	108.4	97.15	4x 0.8 kW
AH210IT-02H0	18560	190	2x 22.77	2x 97.15	108.4	97.15	4x 2.0 kW
AH320IT-01H0	22500	100	3x 22.77	3x 97.15	108.4	97.15	6x 0.8 kW
AH320IT-02H0	27840	190	3x 22.77	3x 97.15	108.4	97.15	6x 2.0 kW
AH420IT-01H0	30000	100	4x 22.77	4x 97.15	108.4	97.15	8x 0.8 kW
AH420IT-02H0	37120	190	4x 22.77	4x 97.15	108.4	97.15	8x 2.0 kW

INDEPENDENT FLUE GAS OUTLET KIT FOR HORIZONTAL ALUMINIUM VERSIONS

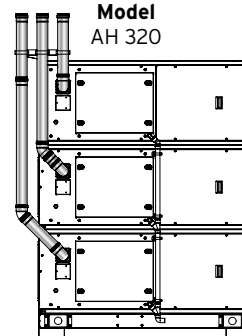
Model
AH 034 / 065 / 105



Model
AH 160 / 210



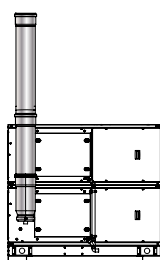
Model
AH 320



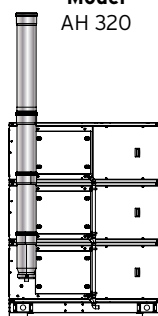
Kit code	AH unit model	Description
G18165-105	For model 034 / 065 / 105	Independent flue gas outlet kit - Ø 80 mm
G18165-210-P0	For model 160 / 210	Independent flue gas outlet kit - Ø 80 mm
G18165-320-P0	For model 320	Common flue gas outlet kit - Ø 80 mm
	For model 420	NOT INCLUDED

COMMON FLUE GAS OUTLET KIT FOR HORIZONTAL VERSIONS IN AISI 316L STEEL

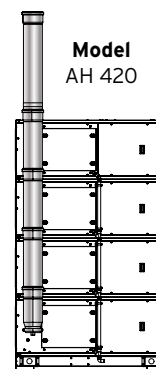
Model
AH 160 / 210



Model
AH 320



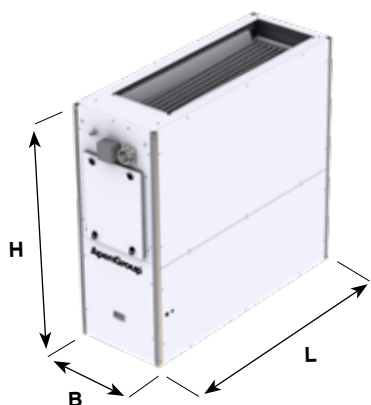
Model
AH 420



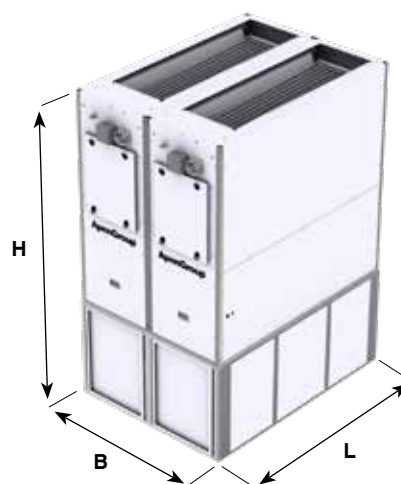
Kit code	AH unit model	Description
G22155-210-P0	For model 160 / 210	Common flue gas outlet kit - Ø 200 mm
G22155-320-P0	For modello320	Common flue gas outlet kit - Ø 200 mm
G22155-420-P0*	For modello420	Common flue gas outlet kit - Ø 250 mm

* The kit includes: concentric adapter (Ø 200/250 mm); curve 90° (Ø 250 mm); extension L 1000 mm (Ø 250 mm), swing check valve for each module, closing cap with siphon.

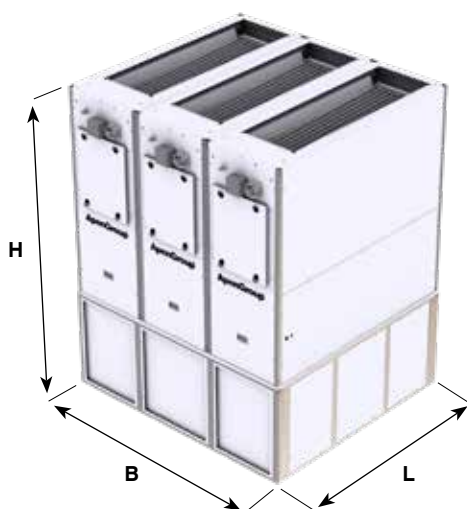
VERTICAL AH UNITS / DIMENSIONS



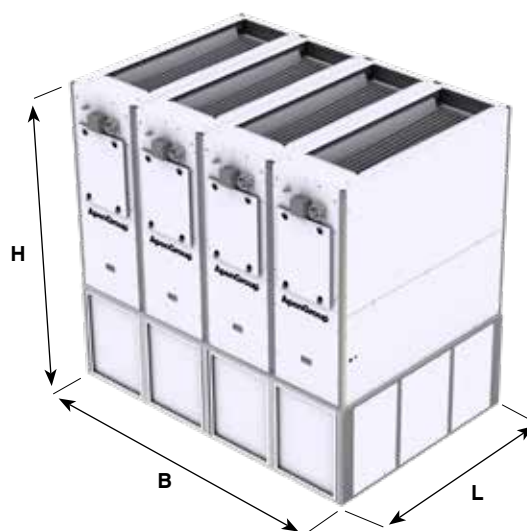
Model	L cm	B cm	H cm	Weight kg
AH034IT-0xV0	977	625	1495	190
AH065IT-0xV0	1277	625	1495	220
AH105IT-0xV0	1698	625	1580	280



Model	L cm	B cm	H cm	Weight kg
AH160IT-0xV0	1698	1250	2330	560
AH210IT-0xV0	1698	1250	2330	560

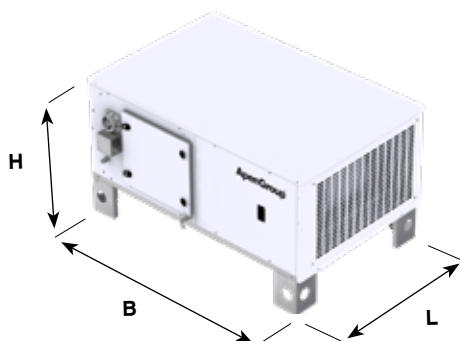


Model	L cm	B cm	H cm	Weight kg
AH320IT-0xV0	1698	1875	2460	840

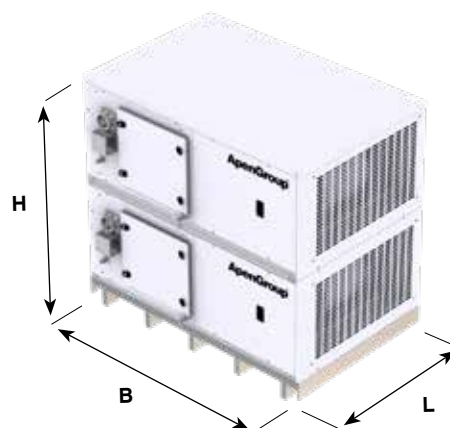


Model	L cm	B cm	H cm	Weight kg
AH420IT-0xV0	1698	2500	2460	1120

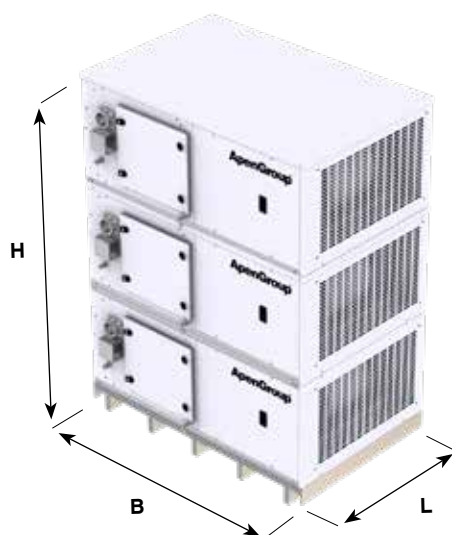
HORIZONTAL AH UNITS / DIMENSIONS



Model	L cm	B cm	H cm	Weight kg
AH034IT-0xH0	977	1520	840	190
AH065IT-0xH0	1277	1520	840	220
AH105IT-0xH0	1698	1605	840	280

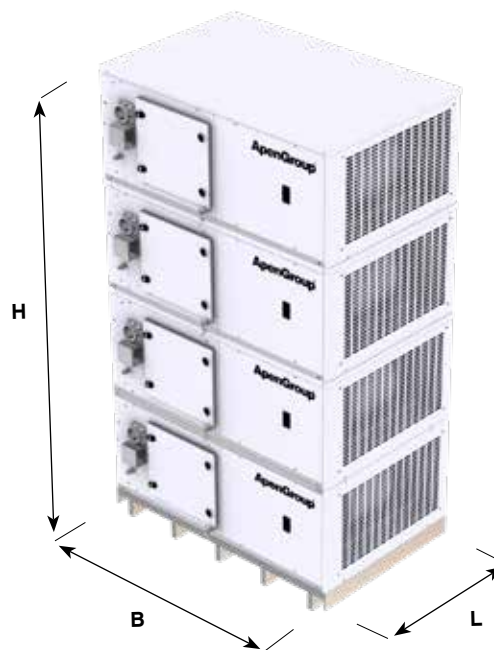


Model	L cm	B cm	H cm	Weight kg
AH160IT-0xH0*	1698	1605	1460	560
AH210IT-0xH0*	1698	1605	1460	560



Model	L cm	B cm	H cm	Weight kg
AH320IT-0xH0*	1698	1605	2085	840

* Supplied with steel base.



Model	L cm	B cm	H cm	Weight kg
AH420IT-0xH0*	1698	1605	2710	1120

SMART X SYSTEM

REMOTE CHRONOTHERMOSTATS



ADVANCED
ELECTRONICS



WATER FAN
HEATERS



AIR
DESTRATIFIERS



GUARANTEED
EFFICIENCY



GAS CONDENSING
BOILERS



WALL-MOUNTED
HEATERS



SMART X SYSTEM

Remote chronothermostats

SMART X EASY AND SMART X WEB CONTROLS

Being touch-screen chronothermostats, the Apen Group SMART X EASY and SMART X WEB control all Apen Group products, guaranteeing operation with maximum efficiency and minimum energy consumption.

These user-friendly controls allow a wide choice of adjustments and a clear reading of the operating parameters as well as the resolution of any technical interventions.

PRODUCT CONTROL

- AKN gas condensing boilers.
- AQUAPUMP HYBRID system, hybrid heat pump with gas boiler.
- AX-EC electronic water fan heaters.
- QUEEN-EC Air destratifiers.
- LK and LKN wall-mounted condensing warm air heaters.
- LRP and LRN wall-mounted warm air heaters.
- AH and AH-SPORT modular heating units.
- PK and PK-SPORT floor standing warm air heaters.

SIMPLE INSTALLATION

Connection via 2 power cables and 2 modbus cables is very simple. Installation can be built-in or flush with the wall.

MULTITASKING CONTROL

It acts as a stand-alone chronothermostat and can be used by one to a maximum of 15 machines simultaneously.

CONTROL VERSATILITY

It is possible to install up to 3 remote probes in addition to the one on board the control.

TOUCH SCREEN TECHNOLOGY

The controls are easy to use thanks to a 4.3" colour TFT display and a very intuitive management menu. The user program is multilingual (9 languages).

SMART X WEB

With the SMART X WEB version (through the connection to an intranet network) it is possible to carry out the complete management of the plant remotely via browser on a computer or via http address.

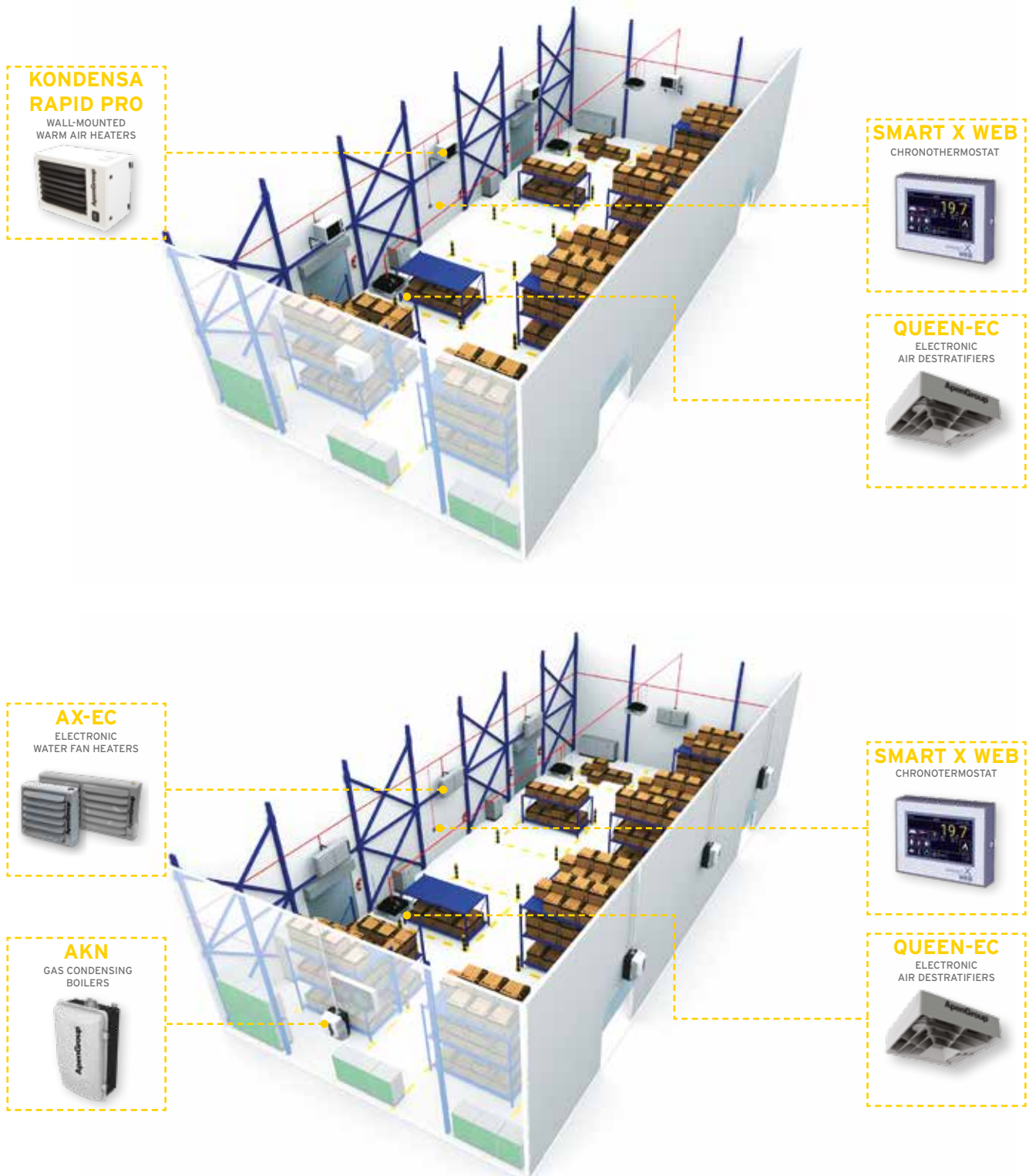
FAN MODE

Ventilation mode management for combination of AX-EC water fan heaters with AKN boilers.

SMART X SYSTEM

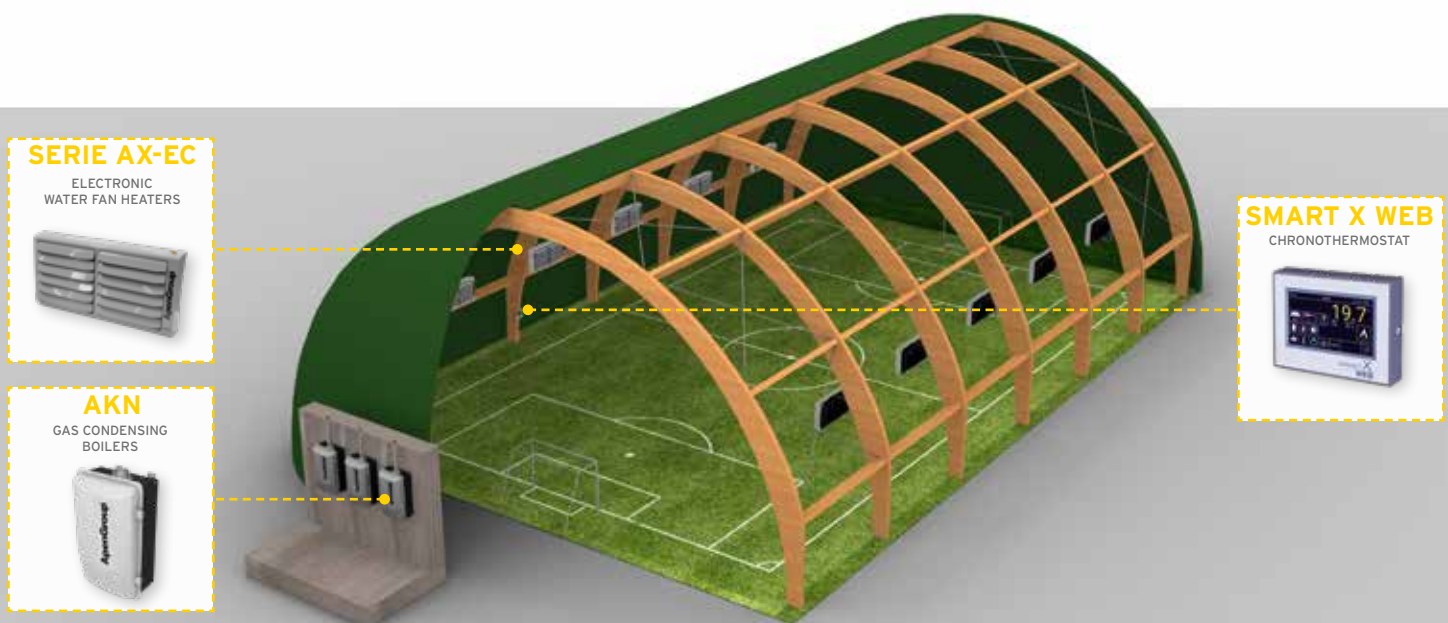
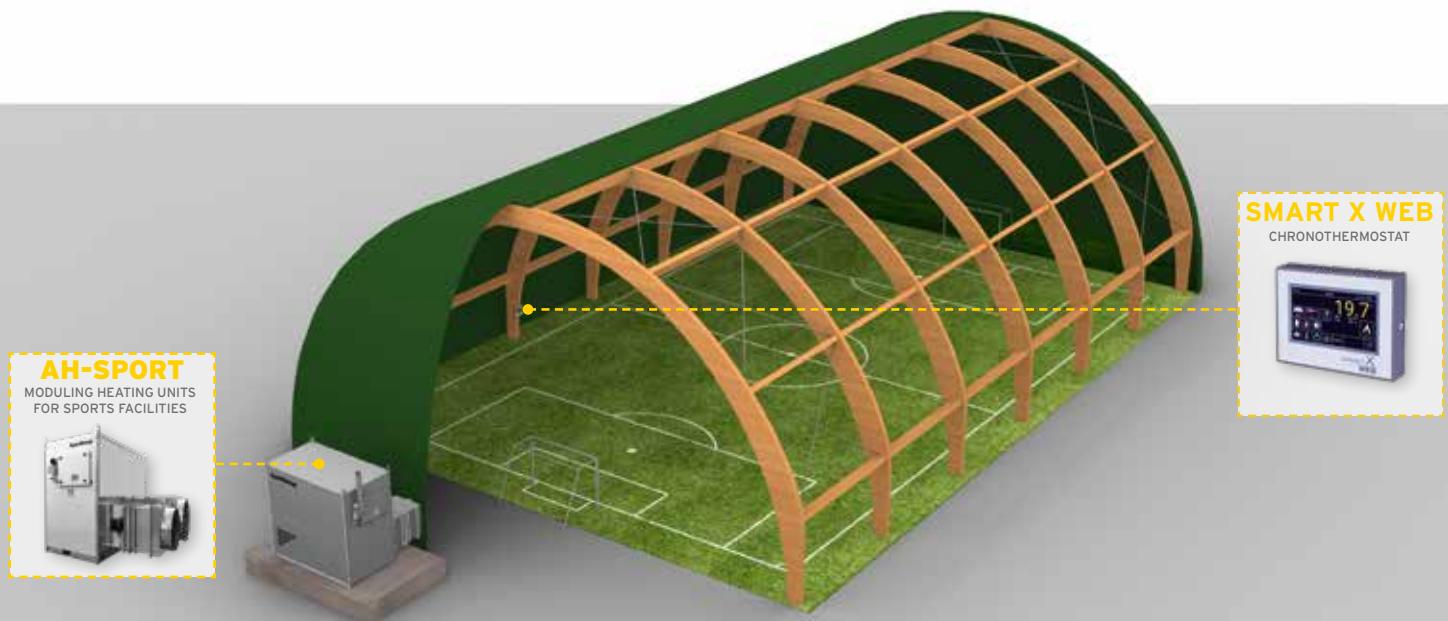
THERMOSTAT CONFIGURATION FOR CONTROL OF:

- AKN Gas condensing boilers.
- AX-EC Electronic water fan heaters.
- QUEEN-EC Electronic air destratifiers.
- KONDESA LK-LKN Wall-mounted condensing warm air heaters.
- RAPID PRO LRP-LRN Wall-mounted warm air heaters.



THERMOSTAT CONFIGURATION FOR CONTROL OF:

- AH-SPORT Moduling heating units.
- AKN Gas condensing boilers.
- AX-EC Electronic water fan heaters.





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