



AH SPORT
Heating unit for sport buildings
and fabric structures

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.

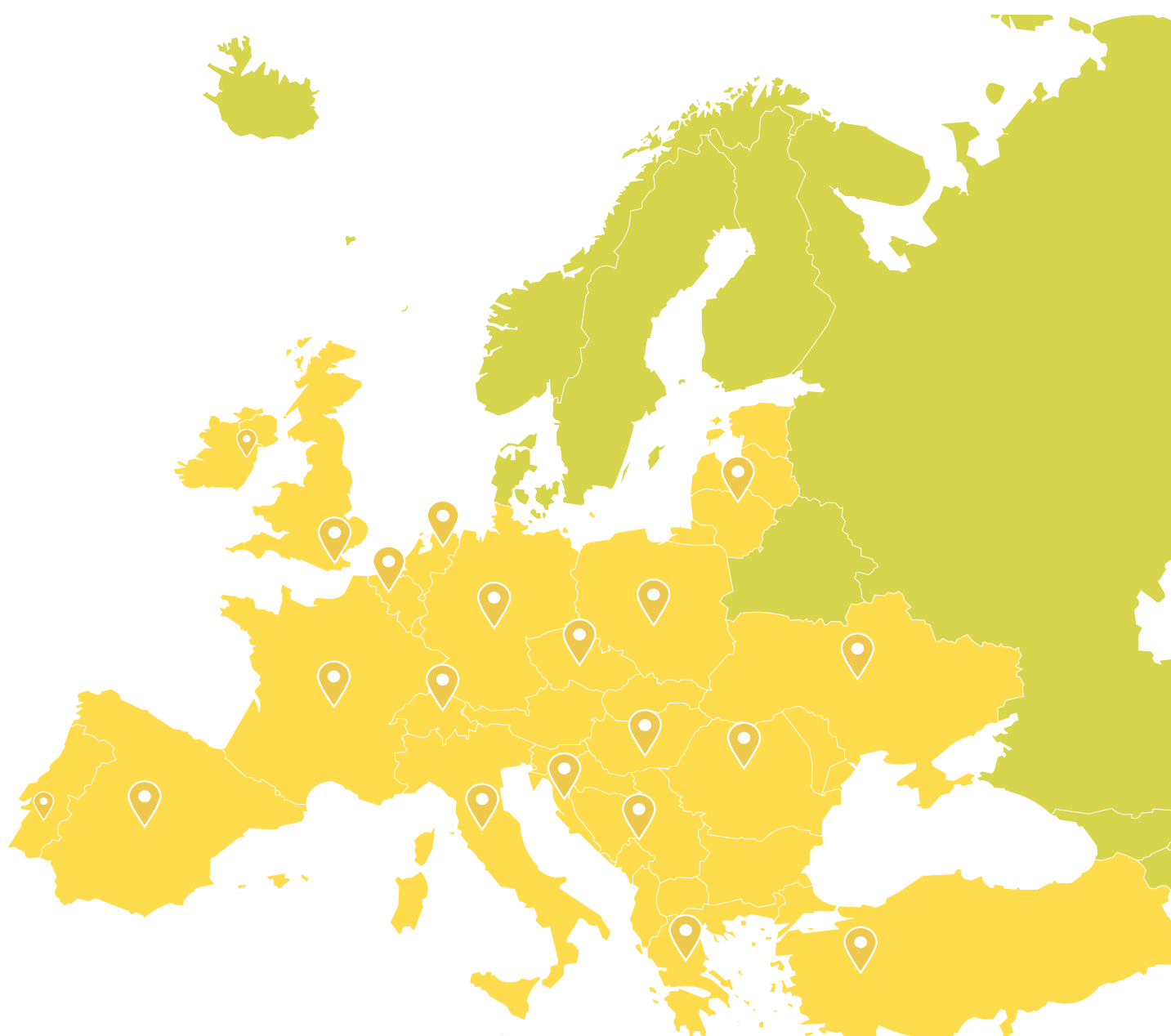
The manufacturing of our products takes advantage of ultimate, state-of-the-art planning and organization methods, which include: Digital control equipment. Welding robots. Forming robots. Computer assisted test lines. Advanced automation assures top-quality products as well as manufacturing flexibility 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.

2	COMPANY PRESENTATION
3	INDEX
4	COMPANY HISTORY
6	AH-SPORT
16	SMART X



 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.



ApenGroup

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.

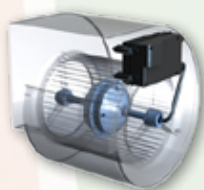


AH-SPORT

UNIT FOR AIR DOMES
(PRESSOSTATIC AND TENSOSTATIC STRUCTURES)



STANDARD
DDMP FAN
WITH INVERTER



STANDARD
SMART X WEB



ErP
2021



AH-SPORT, UNIT FOR AIR-DOMES (PRESSOSTATIC AND TENSOSTATIC STRICTURES)

AH-SPORT 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, specially designed for sports environments.

INNOVATION AND TECHNOLOGY

The heart of the AH-SPORT 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

- Sports environments
- Air-supported structures: pressostatic and tensostatic structures
- Tennis Courts
- Padel Courts
- Gyms
- Swimming pools
- Trade fairs
- Public entertainment venues.

CERTIFIED QUALITY

The AH-SPORT 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.

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

The AH-SPORT units comply with the ECODESIGN ErP 2021 regulation.

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.

RANGE AVAILABILITY

Depending on size and space, a wide range of models from 105 kW to 320 kW is available.

AH-SPORT: TECHNICAL FEATURES

- Efficiency up to 108%.
- Available in 5 power ranges: 105 kW in the monobloc version, and 160 kW, 210 kW, 240 kW and 320 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 regulation.
- 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.
- Power supply 400V/3P/50Hz.
- Outdoor installation with standard roof.

STANDARD ACCESSORIES UNITS FOR TENSOSTATIC STRUCTURES

- SMART X WEB remote control with stand-alone chronothermostat function.
- Square/round nosepiece kit both in outlet and in intake.
- Fireproof damper kit both in outlet and in intake.
- Outdoor air regulation damper kit with manual control.
- Expulsion damper kit.

OPTIONAL ACCESSORIES

- Anemometer kit with dynamic variation of pressure value inside the dome.
- Wind-proof flue terminal kit.
- Snow control kit allowing burner's start-up in case of snow (whenever switched off).

STANDARD ACCESSORIES UNITS FOR PRESSOSTATIC STRUCTURES

- SMART X WEB remote control with stand-alone chronothermostat function.
- Square/round nosepiece kit both in outlet and in intake.
- Fireproof damper kit both in outlet and in intake.
- Expulsion damper kit.
- Motorized air recycling damper kit with modulating control.
- Over-pressure dampers kit.
- Pressure regulator integrated in the remote control complete with probe.



AH-SPORT: TECHNICAL FEATURES

OUR RANGE

5 models from 105 to 320 kW.

- 105 kW
- 160 kW
- 210 kW
- 240 kW
- 320 kW

EASY INSTALLATION

Easier installation for the technician.

IT IS sufficient to connect the gas line, the power supply. and the condensate drain.

HIGH EFFICIENCY HEAT EXCHANGER

AH-SPORT 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.

MODULO SCAMBIATORE PCH A CONDENSAZIONE

The AH-Sport monobloc units are equipped with the PCH heat exchanger with condensing and modulating gas burner, with low NOx emissions, and built-in electronic control. The PCH module allows condensation to be achieved with efficiencies up to 108% calculated on the basis of the lower calorific value (Hi). The heating module is equipped with a burner with total air-gas premixing and a device for modulating the thermal power.

These two elements optimize PCH module output and guarantee:

- Zero emission of carbon monoxide ($CO = 0$).
- Very low emission of nitrogen oxides below 30 ppm ($NOx < 30$ ppm).
- Reduced carbon dioxide emissions resulting from the high combustion efficiency (108%) and the reduction in fuel consumption

DDMP FANS

The AH-Sport monobloc units use the latest generation DDMP fans, in direct current with rotation speed control integrated in the electric motor. The high aerodynamic efficiency impeller is combined and controlled by a very high energy efficiency motor with integrated EC technology. DDMP fans move high airflows, with high efficiency and low noise, thanks to an optimized blade geometry in order to generate a reduced aerodynamic noise.

Significant energy savings are achieved thanks to the continuous control of the air flow and the adjustment of the number of fan revolutions (by acting on the SMART X control supplied), consequently reducing the electricity consumption of the generator.



TECHNICAL FEATURES

- PCH condensing heating module housed inside.
- CPU-SMART control board for management and signaling of faults, ignition, shutdown and modulation of the burner.
- Outdoor installation.
- Efficiency up to 108%.
- Fixed point temperature regulation with "ambient compensation" by means of a probe positioned on the delivery line (NTC1).
- Switching on and off of the gas module subject to the request for external heat.
- Air handling managed by high efficiency DDMP ventilators powered by direct current with integrated frequency control.
- Variable air flow and settable via SMART command.



AH-SPORT SERIES

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.

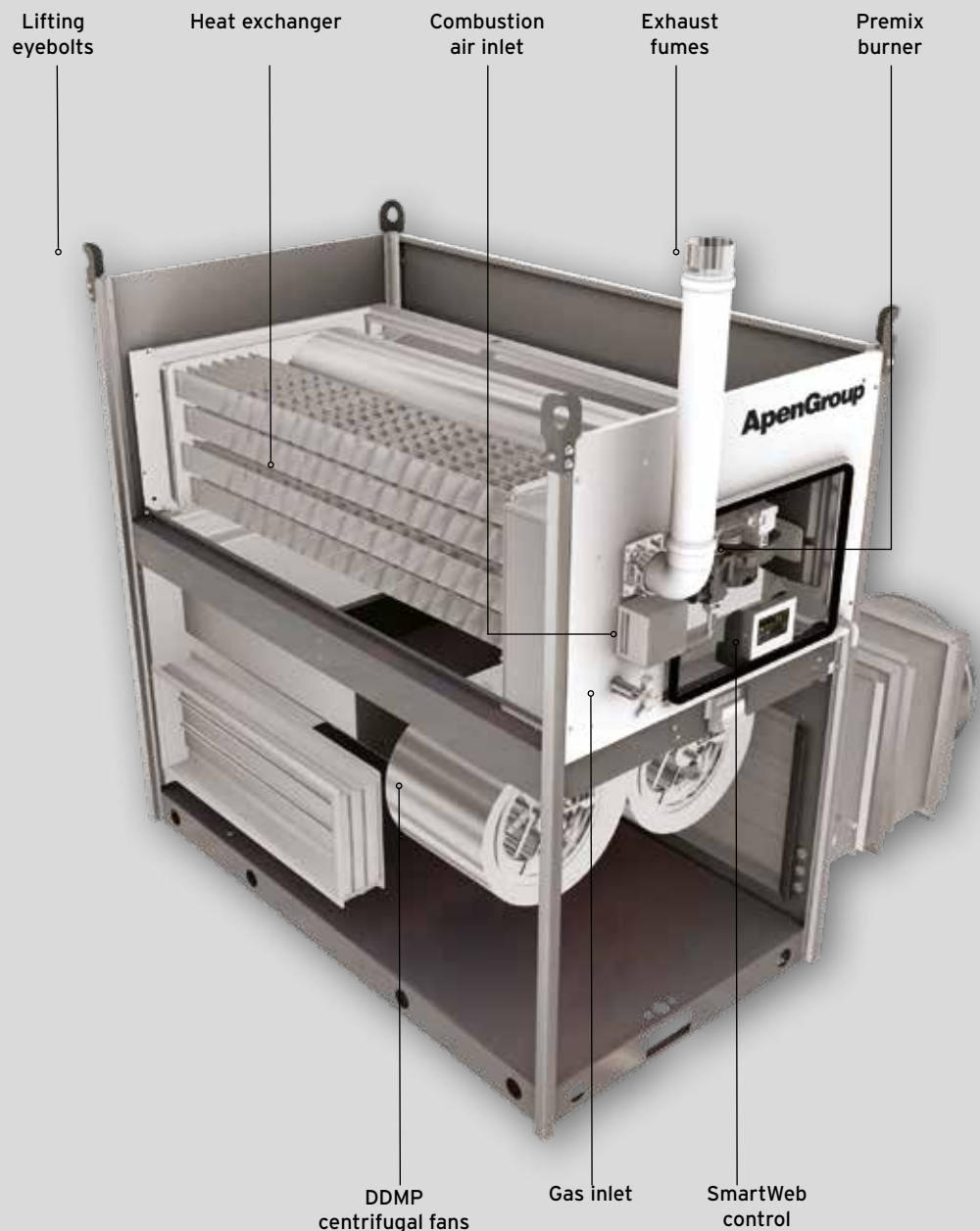


AH-SPORT UNIT COMPOSITION

AH-SPORT units are supplied complete with Apen Group integrated modulating premixed burner.

The premixed burner guarantees very low NO_x 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.



AH-SPORT: STANDARD ACCESSORIES

SMART X WEB

- Simple connection to the heater using two polarized wires.
- Complete management of the operating parameters of the boards of the connected devices.
- Possibility to install 3 additional temperature probes.
- TFT monitor, 4,3" touch screen with 480x272 pixel resolution.
- Multilingual user program supported.



FIREPROOF DAMPER KIT

All the dampers have the following features:

- EI1205 Fire reaction.
- Tunnel made of galvanized sheet - 510 mm width.
- Thermal circuit breaker with fuse calibrated at 72°C.
- IP55 switch already assembled on the damper.
- The dampers are supplied with certificate.



SQUARE / ROUND NOSEPIECE KIT

It allows to adjust heater's square sections for outlet or inlet to a round section for the connection of textile ducts.

The kit is composed by:

- Shaped duct in galvanized sheet.
- Bands for tarpaulin fastening.
- Screws for duct fixing.



OUTSIDE AIR REGULATION DAMPER KIT

The air regulation damper is applied directly on the heaters. It is equipped with control for manual opening / closing adjustment and if required, it can be equipped with modulating or ON/OFF servomotor.



NOTE

The accompanying accessories differ between configuration for tensostatic roof coverings and pressostatic structures

OPTIONAL ACCESSORIES

SNOW CONTROL KIT

The snow control kit allows the burner to be started in case of snow whenever switched off.

ANEMOMETER KIT

The anemometer kit allows the dynamic variation of the pressure inside the balloon to counteract the action of the wind.

AH-SPORT: TECHNICAL DATA



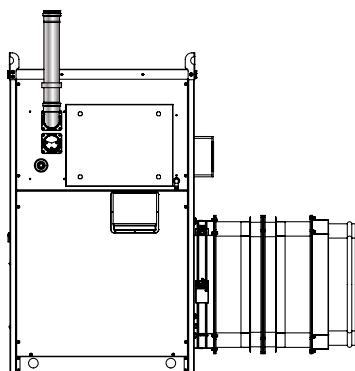
Code for Tensostatic Structure	Air Flow	Available Pressure	Useful Heat Output		Efficiency		Motor
	m³/h	Pa	min (kW)	max (kW)	min (%)	max (%)	kW
AH105IT-T	7.500	150	22,77	97,15	108,40	97,15	2x0,8
AH160IT-T	14.200	150	35,54	160,06	108,35	97,60	4x0,8
AH210IT-T	17.400	300	44,54	194,30	108,42	97,15	4x2,0
AH240IT-T	22.500	150	53,31	240,09	108,35	97,60	6x0,8
AH320IT-T	26.100	300	68,31	291,45	108,42	87,25	6x2,0



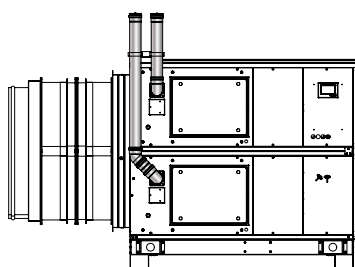
Code for Pressostatic Structure	Air Flow	Available Pressure	Useful Heat Output		Efficiency		Motor
	m³/h	Pa	min (kW)	max (kW)	min (%)	max (%)	kW
AH105IT-P	8.700	300	22,77	97,15	108,40	97,15	2x2,0
AH160IT-P	16.200	300	35,54	160,06	108,35	97,60	4x2,0
AH210IT-P	17.400	300	44,54	194,30	108,42	97,15	4x2,0
AH240IT-P	26.100	300	53,31	240,09	108,35	97,6	6x2,0
AH320IT-P	26.100	300	68,31	291,45	108,42	87,25	6x2,0

AH-SPORT: FUME EXHAUST

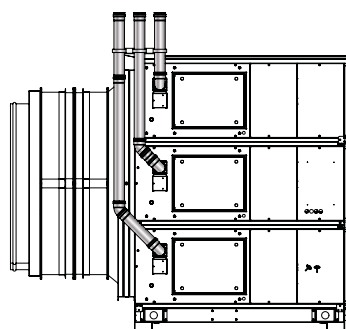
SEPARATE FUME EXHAUST IN ALUMINIUM



SINGLE SEPARATE FUME EXHAUST
MODEL AH105

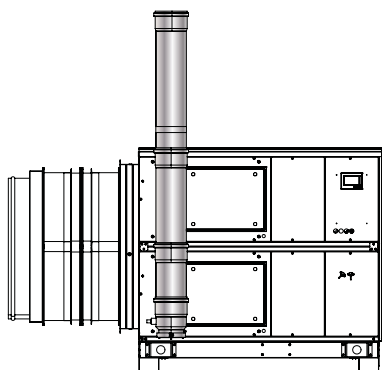


DOUBLE SEPARATE FUME EXHAUST
MODELS AH160/210

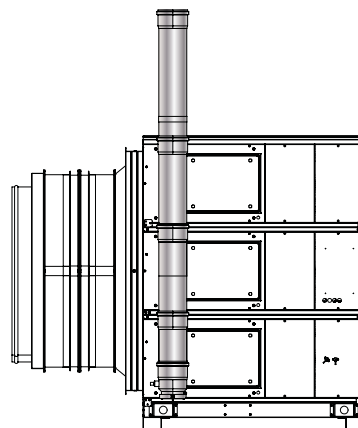


TRIPLE SEPARATE FUME EXHAUST
MODELS AH240/320

SEPARATE FUME EXHAUST IN STAINLESS STEEL AISI 316L

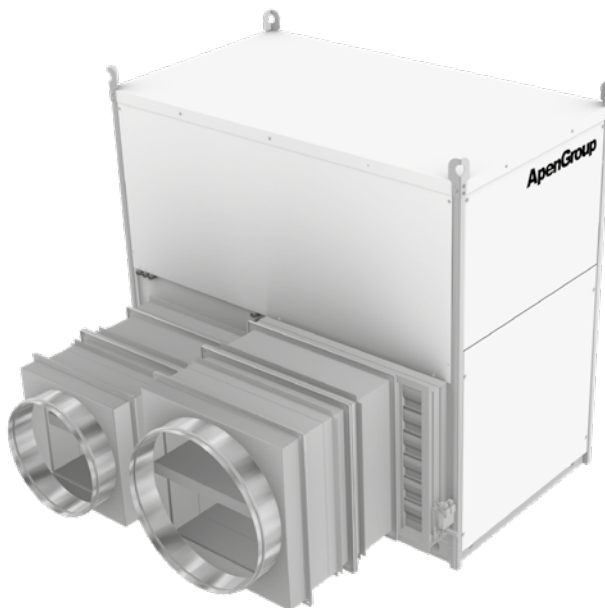
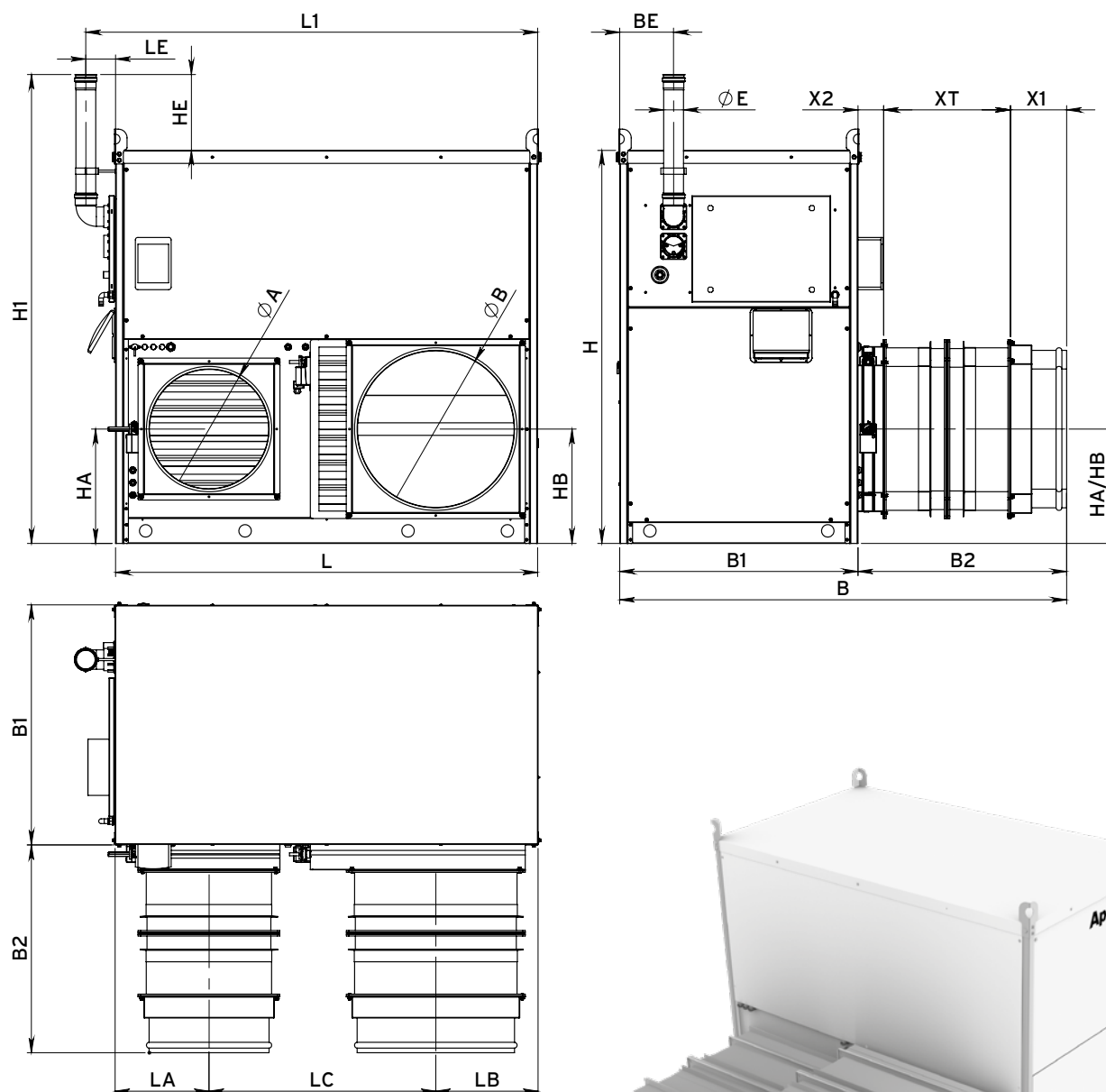


DOUBLE COLLECTIVE FUME EXHAUST
MODELS AH160/210



TRIPLE COLLECTIVE FUME EXHAUST
MODELS AH240/320

AH-SPORT: DIMENSIONS



Model	X1	X2	XT
AH105	225	105	510
AH160/210	225	125	510
AH240/320	225	200	510

Model	Overall Dimensions			Dimensions			Louver							Chimney				Gas	
							Intake			Delivery									
	B	L	H	B1	L1	H1	B2	L2	LA	HA	ØA	LB	HB	ØB	BE	LE	HE	ØE	
AH105	1.800	1.700	1.580	960	1.820	1.885	840	912	378	460	483	410	460	633	217	120	305	1x80	1xG 3/4"



***NOTE:** the flue outlet may be "independent exhaust" or "common exhaust".

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.

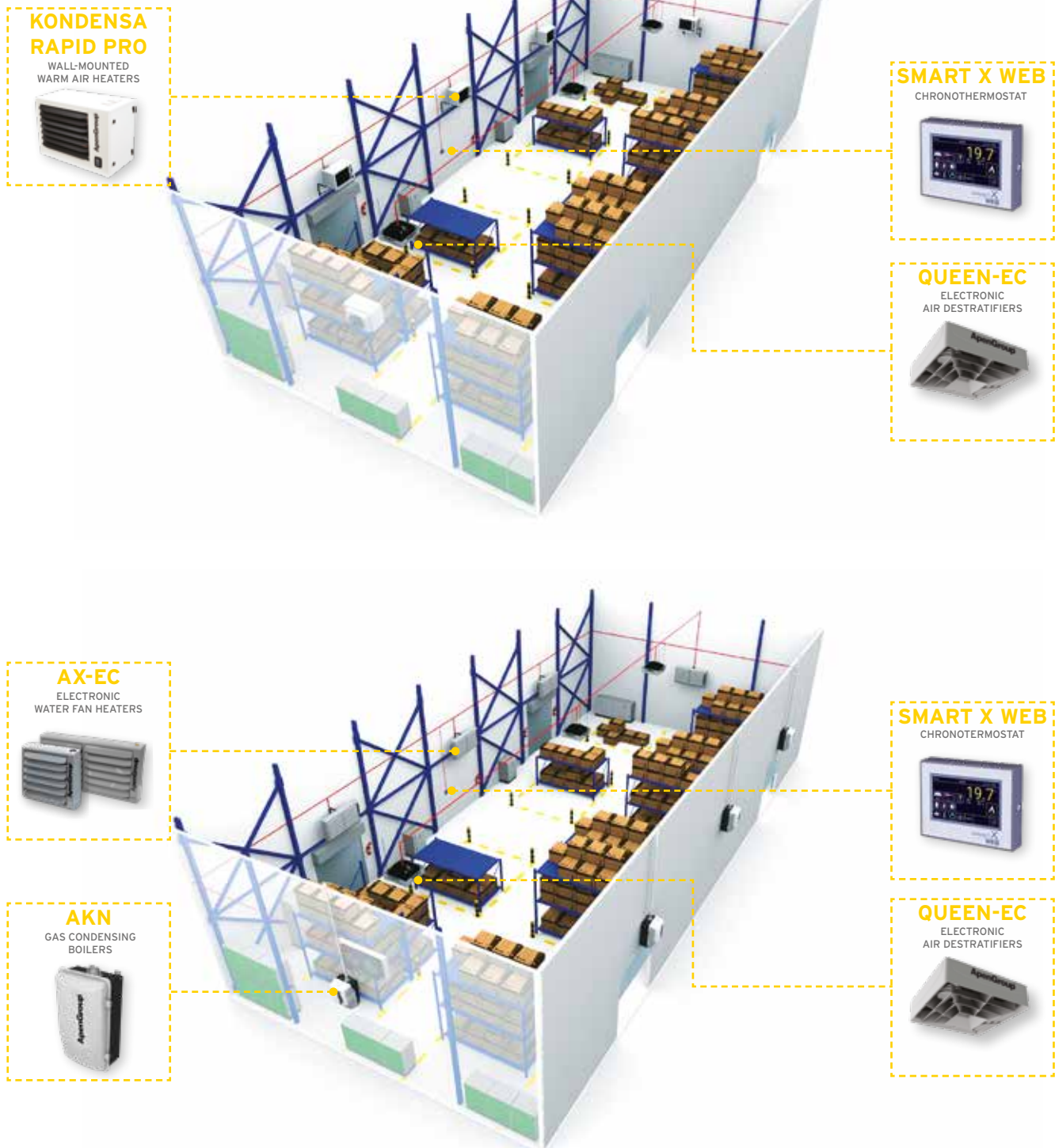
FAN MODE

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

SMART X SYSTEM

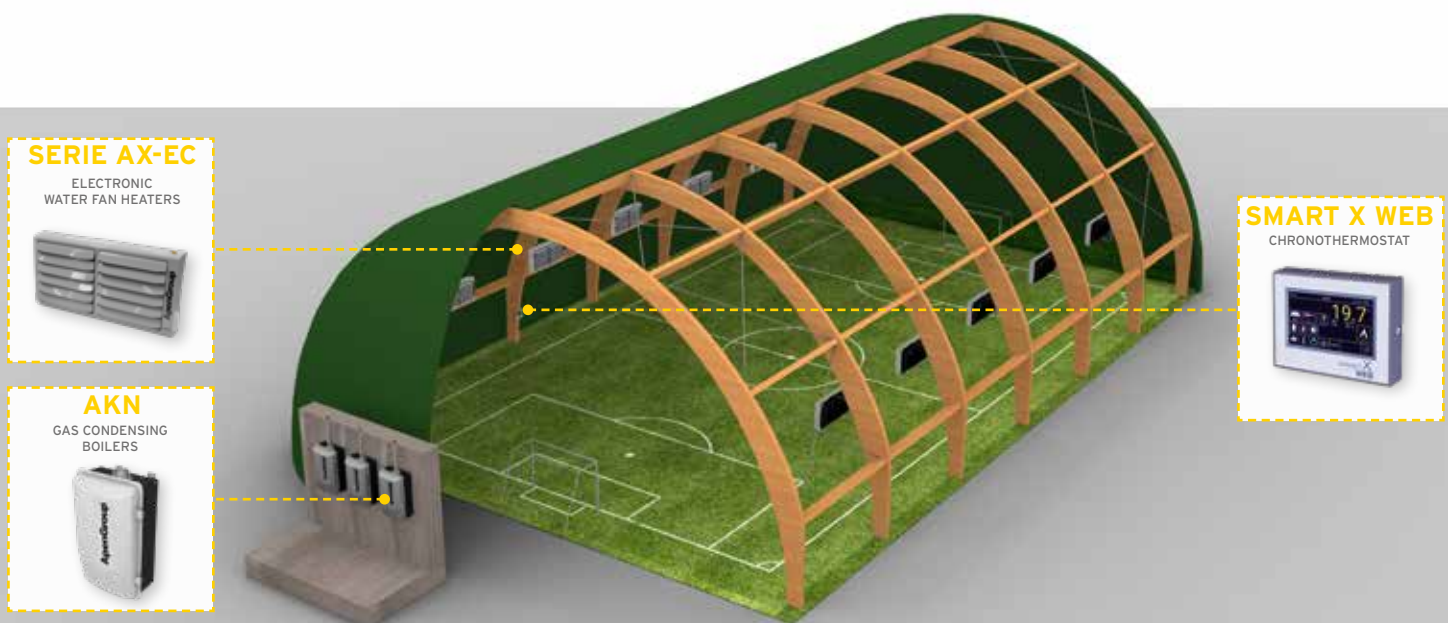
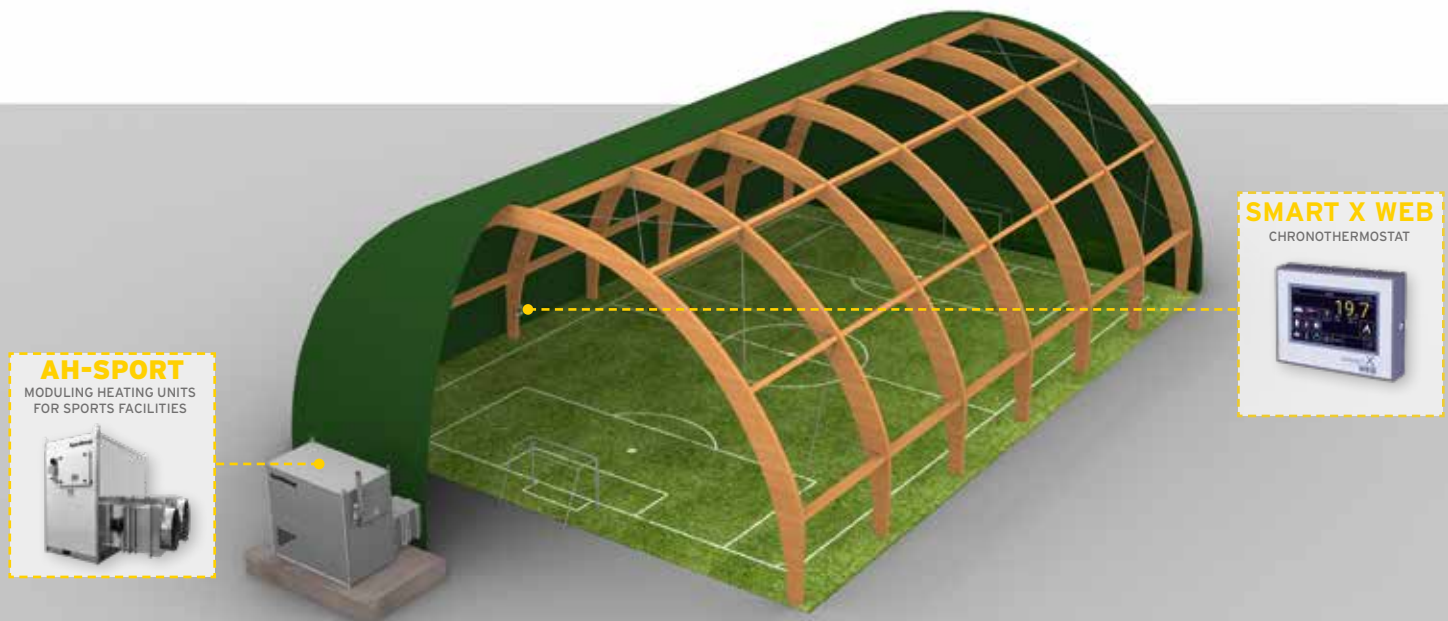
THERMOSTAT CONFIGURATION FOR CONTROL OF:

- 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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