



PK SPORT
Heaters for air-supported 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.

Apén 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.

Apén 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 "Apén 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.

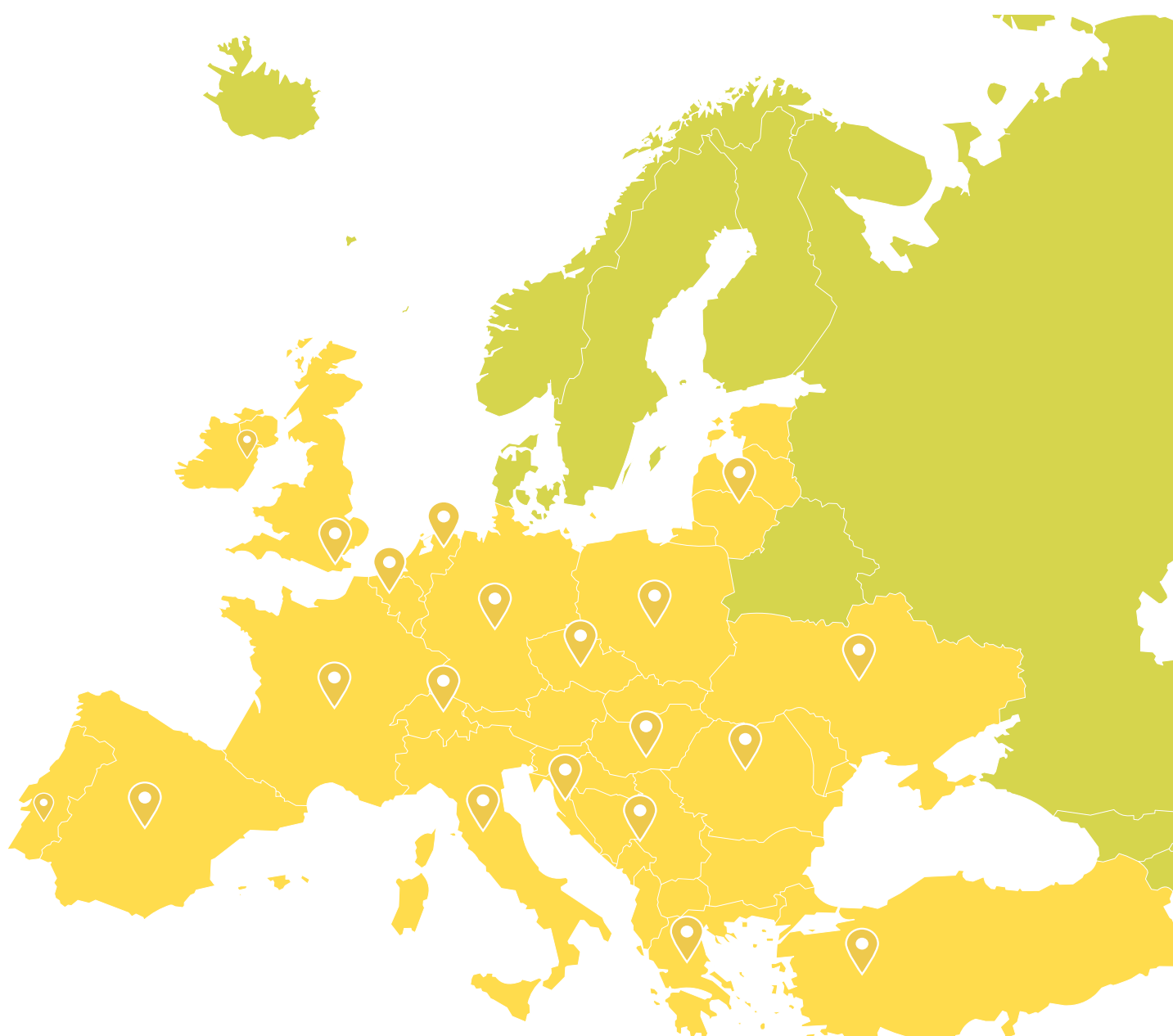
The manufacturing of our products takes advantage of ultimate, state-of-the-art planning and organization methods, which include: Digital control equipment. Welding robots. Forming robots. Computer assisted test lines. Advanced automation assures top-quality products as well as manufacturing flexibility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


SALES EFFICIENCY

Apén 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.



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.

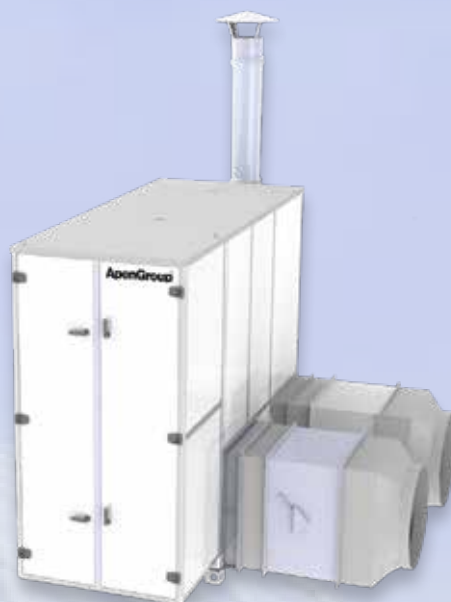
INTERNATIONAL CERTIFICATES

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.



PK-SPORT

HEATERS FOR AIR-SUPPORTED STRUCTURES
(TENSOSTATIC ROOF COVERINGS AND
PRESSOSTATIC STRUCTURES)



PK-SPORT K

ErP 2021

HIGH EFFICIENCY



**VERIFY THE CORRECT
HEATER-BURNER
COUPLING IN ORDER
TO SATISFY ERP
REQUIREMENTS**

PK-SPORT

Heaters for air-supported structures
(tensostatic roof coverings and pressostatic structures)

PK-SPORT FLOOR-STANDING WARM AIR HEATERS

PK-Sport floor-standing warm air heaters have been designed for heating air-supported structures, pressostatic and tensostatic structures, tennis courts, gyms, swimming pools and storage warehouses.

THE HEAT THAT LASTS OVER TIME

The high-efficiency floor-standing heaters have been designed both to increase technical performance and therefore safety and quality, and to meet the increasingly frequent requests for customised solutions and adaptability to the environment. These machines therefore become an integral part of the building/system, whether in an industrial or tertiary sector.

FIELDS OF APPLICATION

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

VERIFY
THE CORRECT
COUPLING
OF THE BURNER
TO SATISFY
ERP 2021
REQUIREMENTS

QUALITY AND RELIABILITY

Quality and reliability are just some of the features that make Apen Group's floor-standing heaters "the excellence of the heating system".

Technology, ecology, safety and state-of-the-art construction methods determine the best possible efficiency of the machines and make PK-SPORT heaters a top product for all heating requirements.

SIMPLE INSTALLATION

The great flexibility, adaptability and possibility of customised installations make PK-SPORT floor-standing heaters a top level product for all heating requirements.

EASE OF MAINTENANCE

Simple and quick maintenance operations guarantee the maintenance of generator efficiency.

RANGE AVAILABILITY

Depending on size and space, a wide range of models from 100 kW to 550 kW is available.

PK-SPORT floor-standing heaters can be combined with both two-stage and modulating burners, which must be correctly matched to meet ErP 2021 requirements

DOUBLE VERSION

PK-Sport floor standing heaters can be supplied in two versions: Version T - for tensostatic structures. Version P - for pressostatic structures.

PK-SPORT: TECHNICAL FEATURES

COMBUSTION CIRCUIT

- Combustion chamber, made of AISI 441 stainless steel, characterised by a high exchange surface area (high volume compared to the unit heat load). Thanks to its particular shape it ensures low heat loads and uniform heat distribution.
- Flame reversing furnace, with combustion circuit with three flue passes, fully welded, to ensure a long life.
- High-efficiency heat exchanger made of AISI 441 stainless steel. Consisting of a tube bundle with an aerodynamic profile, it guarantees very little resistance to the passage of air, constant speed of the passage of flue gas and therefore high heat exchange.
- Patented tube bundle.
- T.I.G. welded heat exchanger tubes and plates.
- Inspection panels (one front panel and four rear panels on the heat exchanger) insulated with ceramic fibre.
- Peep-hole with combustion chamber pressure intake.
- Insulation panel for burner plate in mineral fibre.

STRUCTURE AND PANELLING

- Supporting structure (heater frame) in aluminium.
- Double sandwich panelling with glass wool insulation to reduce noise propagation and limit heat loss to the environment for the benefit of performance, consisting of:
 1. panels on the heat exchanger section, insulated, 25mm thick, complete with gaskets, consisting of an external panel in pre-painted galvanised steel, 1 mm thick, protected by plastic film, glass wool insulation material and an internal panel in galvanised steel, 0.6 mm thick, fixed with rivets to the external panel
 2. panels on the ventilating part, insulated with 25mm thickness, complete with gaskets, composed of external panel in pre-painted galvanised steel, protected by plastic film, insulating material in glass wool closed externally with glass fabric, fixed to the external panel by means of riveted galvanised steel crossbeams.
- All heaters are equipped with lifting hooks to be mounted.



FAN SECTION

- Fan section, depending on the different capacities of the heater, consisting of one or more centrifugal fans, with low speed rotation, to ensure lower noise levels.
- Statically and dynamically balanced and with double suction, the fans are driven by electric motors on belt tensioning slides and belt pulley transmissions.
- The protection degree of the fan motor is IP 54.
- Motor and fan support base in aluminium.

SAFETY DEVICES

- Fan thermostat and burner safety shut-off thermostat up to model PK-SPORT 320 (manual reset).
- Control panel conforming to current standards, in epoxy powder coated steel, with IP 40 protection rating for PKA-SPORT and IP44 for PKE-SPORT.
- It is equipped with:
 1. Main switch with door lock closure
 2. Summer/Off/Winter switch
 3. Electrical protections, contactor and thermal relay for each motor/fan
 4. Power indicator light
 5. Thermal relay trip indicator light.

PK-SPORT: TECHNICAL FEATURES

DESCRIPTION

Floor standing heaters designed to heat air-supported structures, covering tennis courts, sports halls, swimming pools and warehouses.

VERSION T

TECHNICAL FEATURES FOR PK-SPORT - TENSOSTATIC ROOF COVERINGS

- Aluminium supporting framework.
- Double layer paneling with glass fiber insulation. It increases efficiency by reducing heat dispersion.
- Burner casing.
- AISI 441 stainless steel combustion chamber with wide exchange surface.
- Flame inversion with combustion chamber with three-pass, fully welded.
- High-efficiency heat exchanger made of stainless steel with low carbon content.
- Patented tube bundle (patent # MI94U00260).
- Double air intake, centrifugal fan.
- IP 54 protection degree for fan motor.
- Aluminium base for motor and fan.
- Fan base is funnel shaped to allow dynamic pressure recovery.
- Control box complying with EN60335-1 standard and protection degree IP 44.
- Fan and safety thermostat (manual reset).
- SMART X WEB remote control with stand-alone chronothermostat function.
- Ethernet connection with possible remote control via browser.
- Compliant with all EC applicable regulations.

VERSION P

TECHNICAL FEATURES FOR PK-SPORT - PRESSOSTATIC STRUCTURES

- Aluminium supporting framework.
- Double layer paneling with glass fiber insulation. It increases efficiency by reducing heat dispersion.
- Burner casing.
- AISI 441 stainless steel combustion chamber with wide exchange surface.
- Flame inversion with combustion chamber with three-pass, fully welded.
- High-efficiency heat exchanger made of stainless steel with low carbon content.
- Patented tube bundle (patent # MI94U00260).
- Double air intake, centrifugal fan.
- IP 54 protection degree for fan motor.
- Aluminium base for motor and fan.
- Fan base is funnel shaped to allow dynamic pressure recovery.
- Control box complying with EN60335-1 standard and protection degree IP 44.
- Fan and safety thermostat (manual reset).
- SMART X WEB remote control with stand-alone chronothermostat function.
- Ethernet connection with possible remote control via browser.
- Integrated inverter.
- Set up for pressure regulation, wind and snow control integrated with the remote control.
- Compliant with all EC applicable regulations.

SMART X EASY / SMART X WEB

The remote control SMART X (WEB or EASY) acts as a stand-alone chronothermostat and can be used as a control for a single zone system at the same temperature.

The chronothermostat is equipped with a monitor from which it is possible to read and set all the parameters of the connected devices; it also offers the possibility of remote control of up to 3

external temperature probes, of managing the appliances in automatic or manual mode, of checking the operation of the burner, of programming a weekly or annual calendar and managing the daily time bands.



PK-SPORT: THE CERTIFIED HEAT

Apen Group has designed PK-Sport floor standing heaters specifically for sports environments:

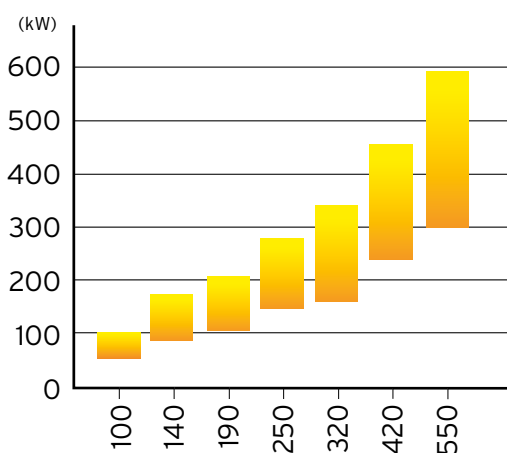
- Pressostatic structures.
- Tensostatic structures.
- Swimming pools.
- Trade fairs.
- Public entertainment venues.

Technical performance, safety, efficiency, quality, and the ability to meet the increasingly frequent requests for customised solutions and adaptability to the environment are just some of the features of our PK-SPORT heaters.

The aesthetics have been improved and the aluminum profiles on the panels harmonize the rigidity of the geometric figures.

HIGH EFFICIENCY PK-SPORT

- Efficiency up to 102%.
- Condensate drain included.

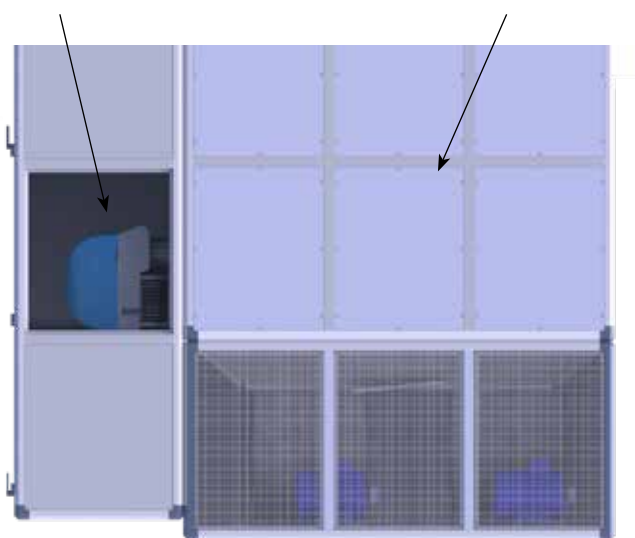


CHOOSE YOUR MODEL

The range of models is very wide and covers 7 capacities from 100 kW to 550 kW.

Burner compartment

PK-SPORT Heater

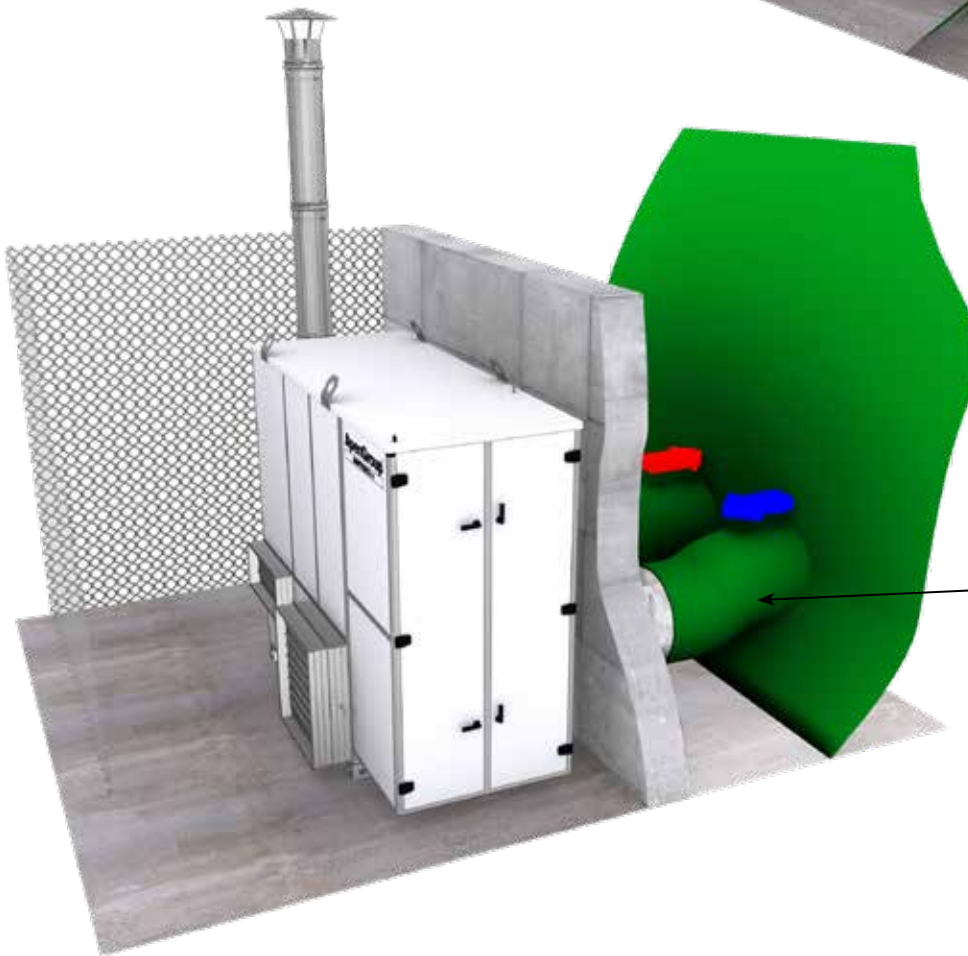
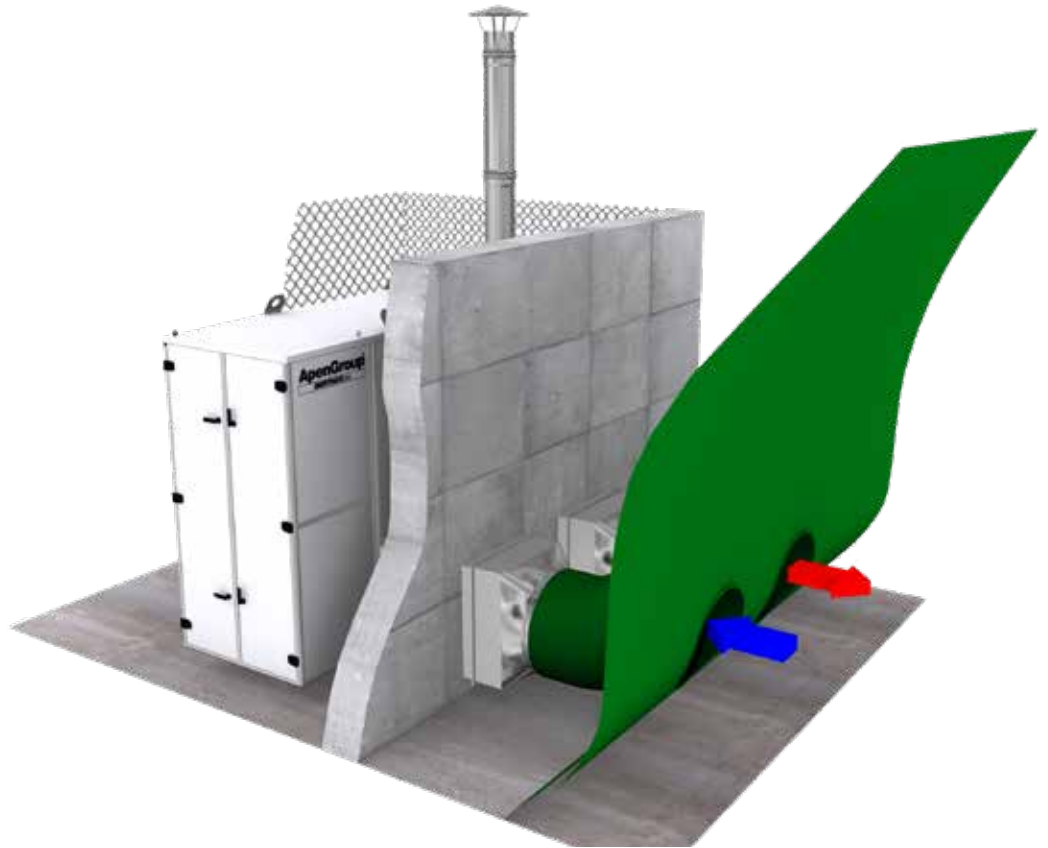


EXTERNAL BURNER

The generator is already supplied with the burner compartment suitable for being positioned outside. In fact, its casing guarantees IP54 protection against atmospheric agents.

PK-SPORT: TYPES OF INSTALLATION

The heater must be installed on a flat surface capable of supporting its weight in a stable and safe way, it must be positioned in such a way as to respect the minimum distances necessary for correct air flow both inside and outside the machine and to ensure normal checks and maintenance interventions. It is also mandatory to insert a network or other device that avoids the narrowing of the channel during the operation of the machine.



It is mandatory to insert a net or other device that avoids the narrowing of the channel during the operation of the machine

PK-SPORT: ACCESSORIES ON DEMAND

All the electrical panels of PK-Sport warm air heaters use a modulation card and a wiring card that allow a safe and simple connection of the components commonly used in air heating systems.



INVERTER KIT ONLY FOR VERSION T

Inverter kit is supplied mounted on the heater. Matching an inverter to heaters with three-phase power supply allows to adjust the air flow and the air pressure of the heater itself.

The regulation can be done automatically by controlling the air pressure with a pressure probe.

Pressure regulation is managed through the CPU board.

PRESSURE CONTROL KIT ONLY FOR VERSION P

In pressostatic structures is mandatory for the correct functioning of the automatic pressure control, the installation of:

- A - Modulating servomotor.
- B - Return regulation damper.
- C - Over-pressure damper.

The pressure regulator acts:

- when burner is OFF, on fans speed by means of inverter.
- when burner is ON, on recycling damper regulation.

MODULATING SERVOMOTOR KIT

The kit is used to mechanically modulate the position of the shutters.

RETURN OR RECIRCULATION ADJUSTMENT DAMPER

Damper kit with manual control, to adjust the amount of air taken from the internal environment.



MANUAL OR OVERPRESSURE, EXTERNAL AIR REGULATION DAMPER

Regulation damper kit, complete with manual control and protection net, to set a partialization with external air. Overpressure damper kit with protection net for pressure switch structures.

FLUE GAS DISCHARGE SHUTTER KIT

Flue gas discharge shutter kit, with ON/OFF servomotor with manual reset.

FIRE DAMPER DELIVERY/INTAKE DUCT

REI 120 fire shutter kit for the delivery and/or for the intake complete with duct and wired micro-switch at 72° C, to turn off the burner and automatically block the spread of flames in case of fire.



FLUE SYSTEMS

The heater is a B23 type appliance, i.e. without a draught switch and equipped with a fan (the burner fan) upstream of the heat exchanger.

The heater can be connected to both flues and chimneys.

SINGLE-WALL FLUE OUTLET KIT

Single-wall flue outlet kit made of stainless steel complete with 2 meters of straight pipe, tee joint, weather protection cover, condensate collection cap, and bracket for chimney support.

DOUBLE-WALL FLUE OUTLET KIT

Stainless steel double-wall flue outlet kit complete with 2 meters of straight pipe, tee joint, weather protection cover, condensate collection cap, and bracket for chimney support.

DRY SISTEM KIT

The dry system kit is an accessory that allows you to control the degree of humidity inside the environment by adjusting the recirculation air and the outside air.

SNOW CONTROL KIT

The snow control kit allows the burner to be started if there is snow when it is switched off.

ANEMOMETER KIT

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

STANDARD ACCESSORY: ROOM THERMOSTAT

The PK-Sport heater is supplied with SMART X WEB remote control as standard with the function of stand alone chronothermostat.

BURNER

Ordered units can include the burner on request.

SIMPLE MAINTENANCE

All maintenance operations are particularly simple and fast and guarantee the maintenance of the heater efficiency.

To access the heat exchanger, simply remove the flue system cover. The fan can be cleaned with a compressor and a vacuum cleaner.

GUARANTEED SAVINGS

PK-SPORT heaters guarantee real savings in terms of:

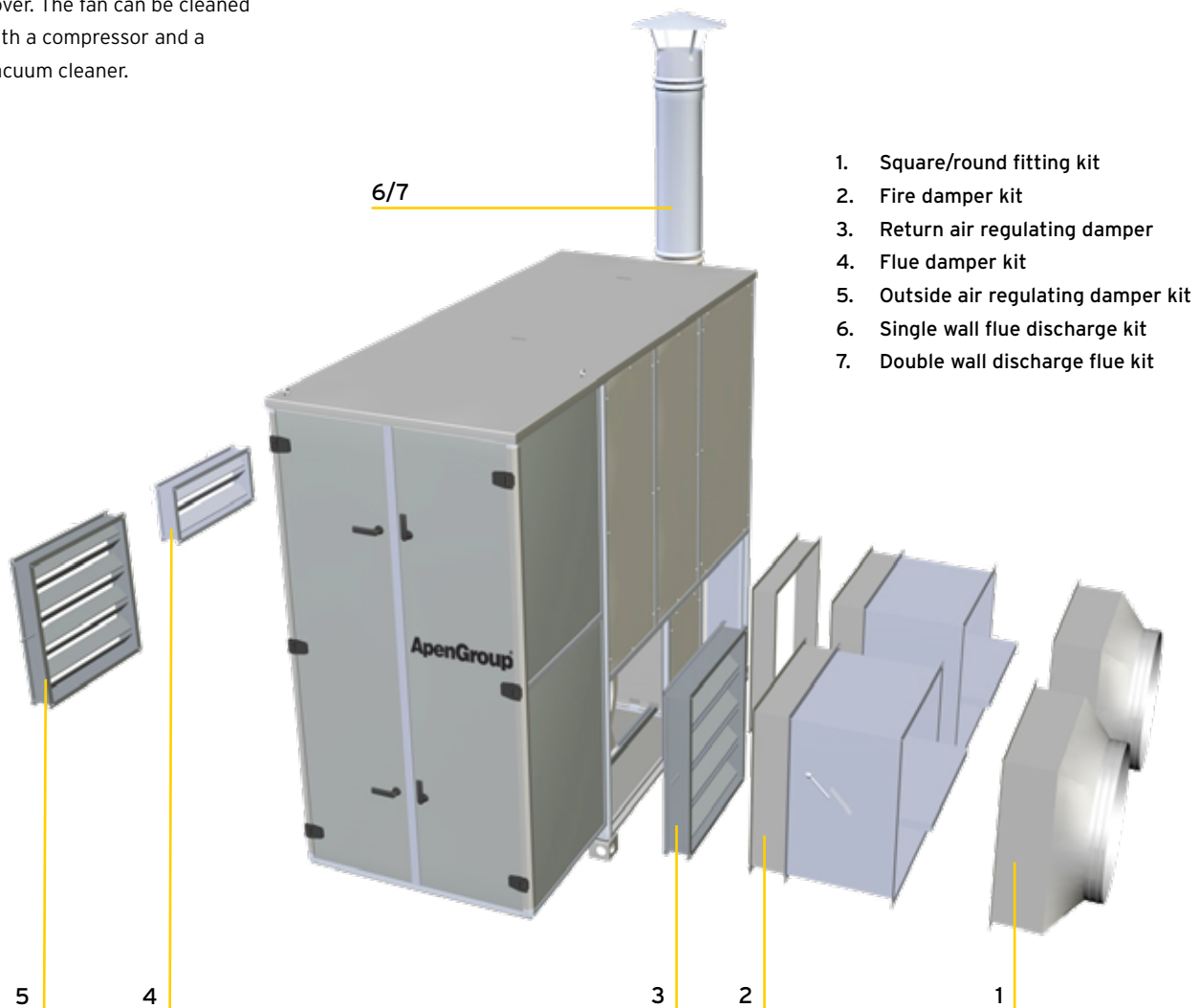
- Operation: high efficiency and quick room heating guarantee efficiency and reduced consumption.
- Management: maintenance operations are quick and easy and certainly not recurrent.

CERTIFIED QUALITY

PK-SPORT heaters are manufactured in compliance with all applicable standards.

They are certified by Kiwa Gastec according to the 2016/426/EU gas appliances regulation.

Moreover, each heater has been approved to operate with a working range between a minimum and a maximum value.



PK-SPORT: TECHNICAL DATA

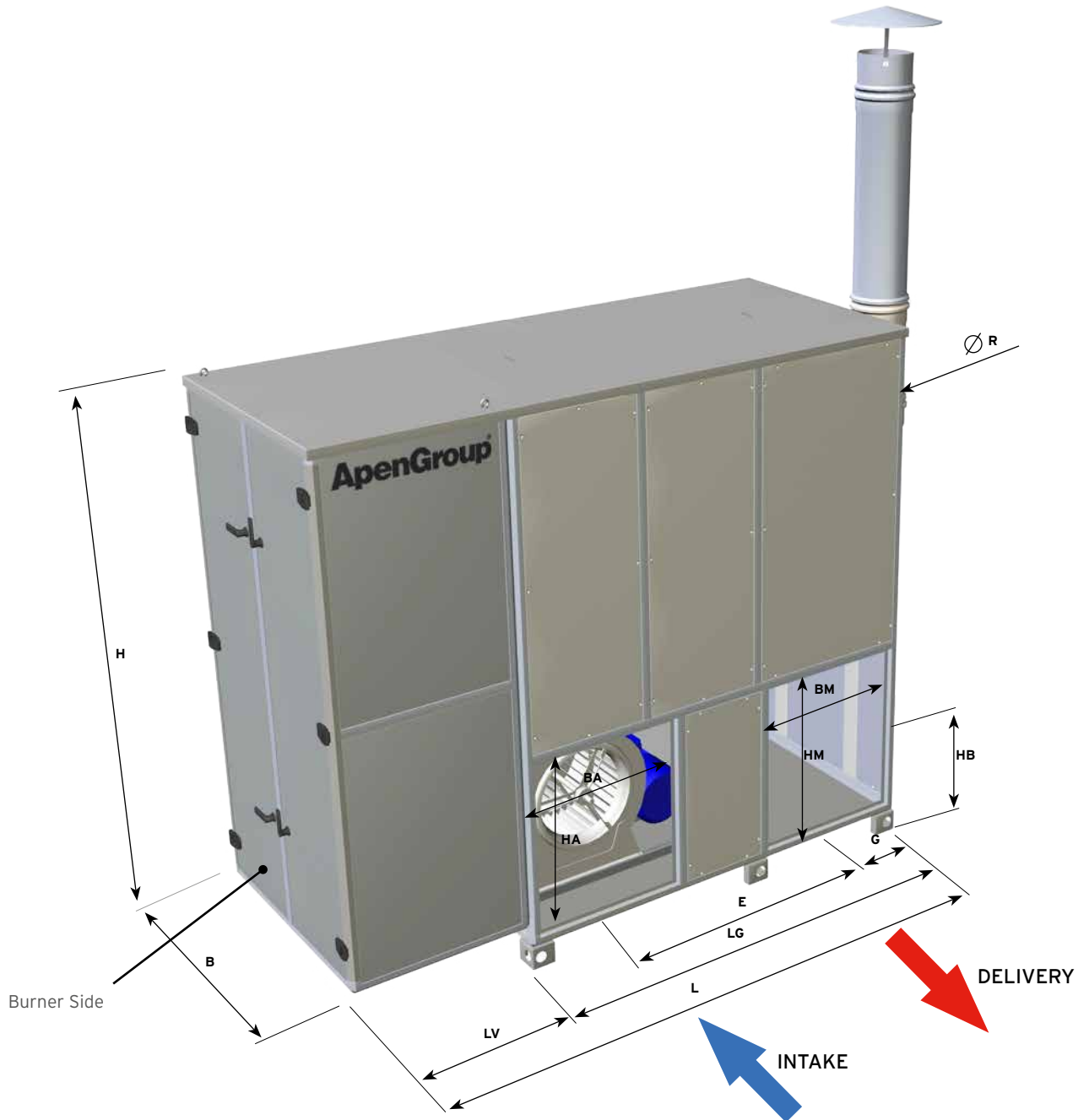


Code for Tensostatic Roof Covering	Useful Heat Output		Nominal Heat Input	Efficiency %	Weight	Air Flow	Available Pressure
	max (kW)	min (kW)					
PKE100K-T	105	27	114	102,4	445	7.000	300
PKE140K-T	141	39	152	101,2	525	9.800	300
PKE190K-T	185	48	200	100,5	650	13.400	300
PKE250K-T	249	62	270	101,1	845	18.200	300
PKE320K-T	320	75	347	101,0	990	21.800	300
PKE420K-T	419	84	455	101,0	1200	30.000	300
PKE550K-T	549	96	595	101,2	1450	35.000	300



Code for Pressostatic Structures	Useful Heat Output		Nominal Heat Input	Efficiency %	Weight	Air Flow	Available Pressure
	max (kW)	min (kW)					
PKE100K-P	105	27	114	102,4	445	7.000	300
PKE140K-P	141	39	152	101,2	525	9.800	300
PKE190K-P	185	48	200	100,5	650	13.400	300
PKE250K-P	249	62	270	101,1	845	18.200	300
PKE320K-P	320	75	347	101,0	990	21.800	300
PKE420K-P	419	84	455	101,0	1200	30.000	300
PKE550K-P	549	96	595	101,2	1450	35.000	300

PK-SPORT: DIMENSIONS



Dimensions *

Models	Size					Intake and Delivery							
	B	H	L	LG	LV	BA	HA	BM	HM	E	G	HB	ØR
PKE100-T / PKE100-P	800	2.120	1.955	1.455	500	500	800	500	800	875	290	540	180
PKE140-T / PKE140-P	920	2.180	2.170	1.570	600	500	800	500	800	990	290	540	180
PKE190-T / PKE190-P	1.060	2.330	2.480	1.750	730	600	800	600	800	1.070	340	540	250
PKE250-T / PKE250-P	1.140	2.430	2.760	1.960	800	700	800	700	800	1.180	390	540	250
PKE320-T / PKE320-P	1.140	2.610	3.110	2.310	800	800	800	800	800	1.430	440	540	250
PKE420-T / PKE420-P	1.340	3.100	3.310	2.460	850	900	1.100	900	1.100	1.205	490	700	300
PKE550-T / PKE550-P	1.340	3.270	3.600	2.600	1.000	900	1.190	900	1.190	1.600	500	745	300

* Dimensions are the same for both the T version and the P version.

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.

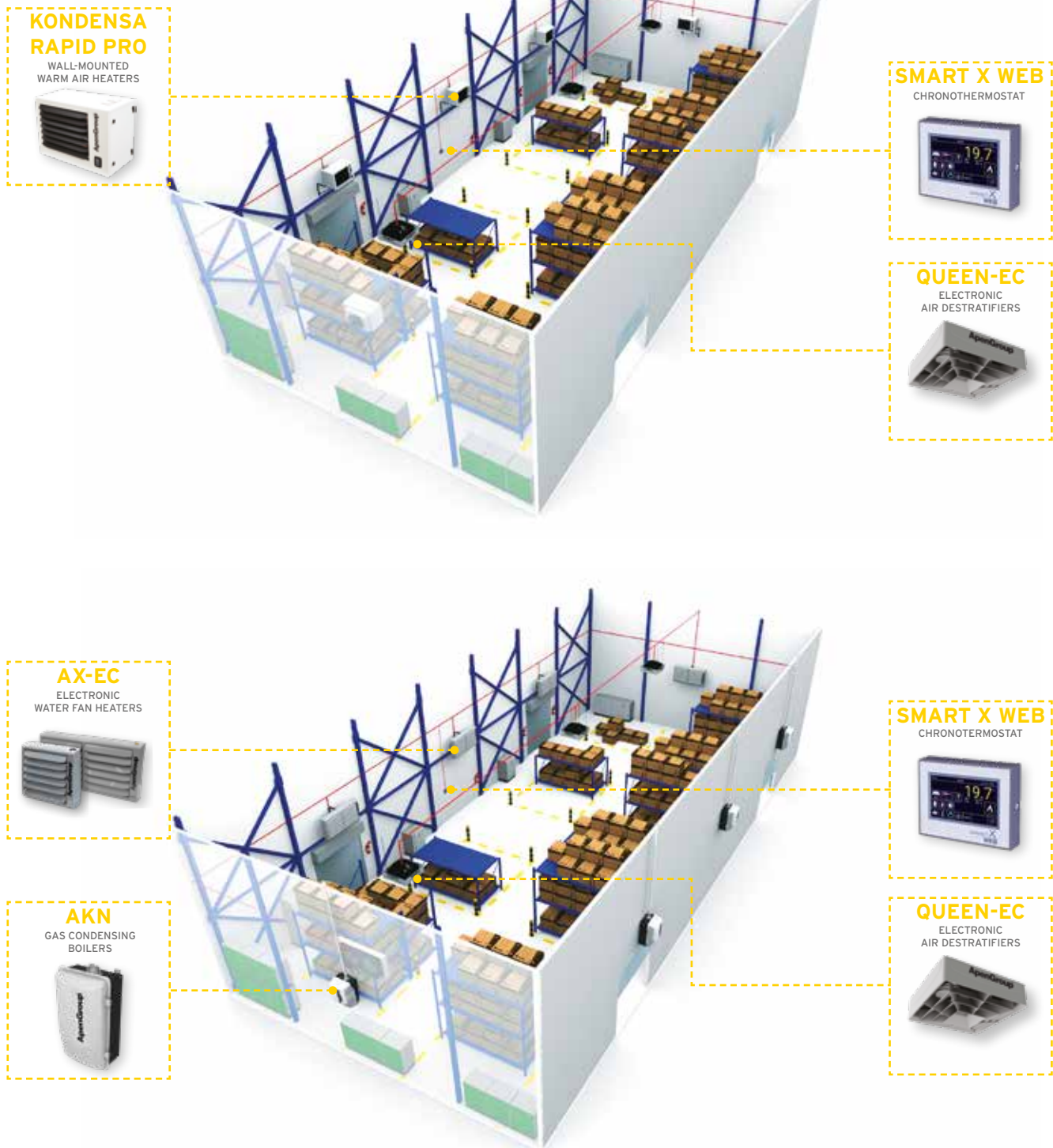
FAN MODE

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

SMART X SYSTEM

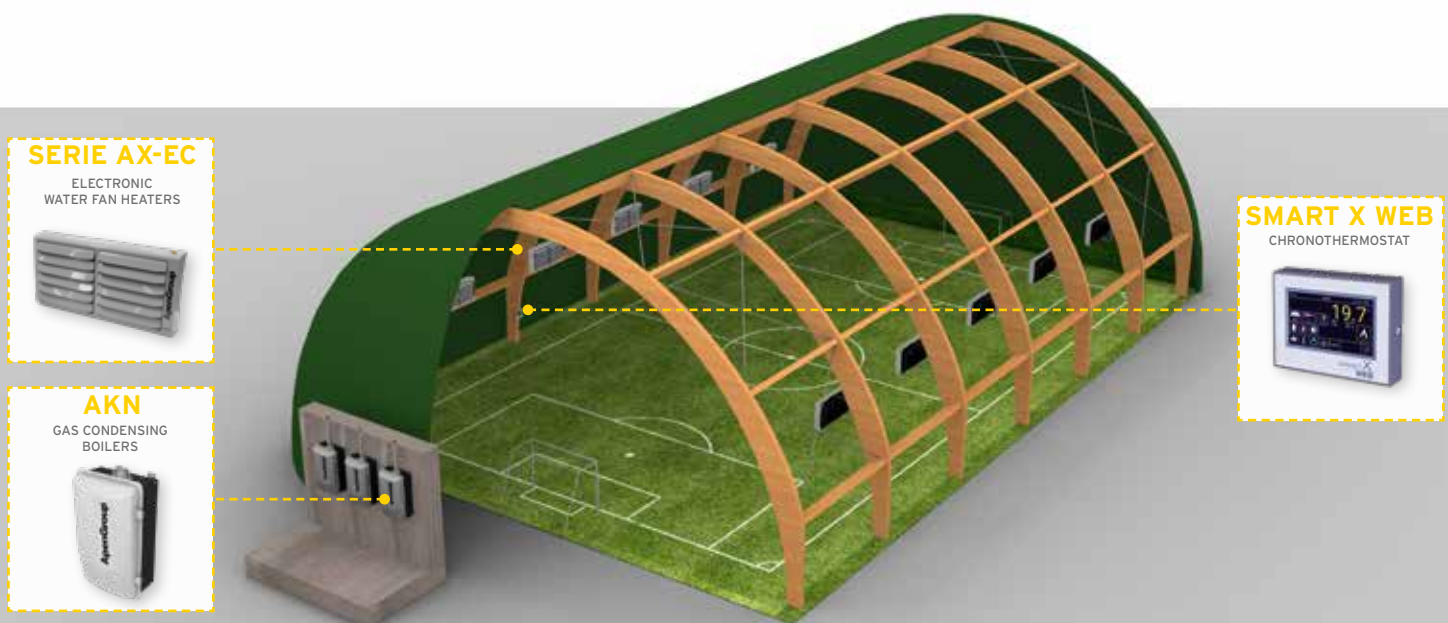
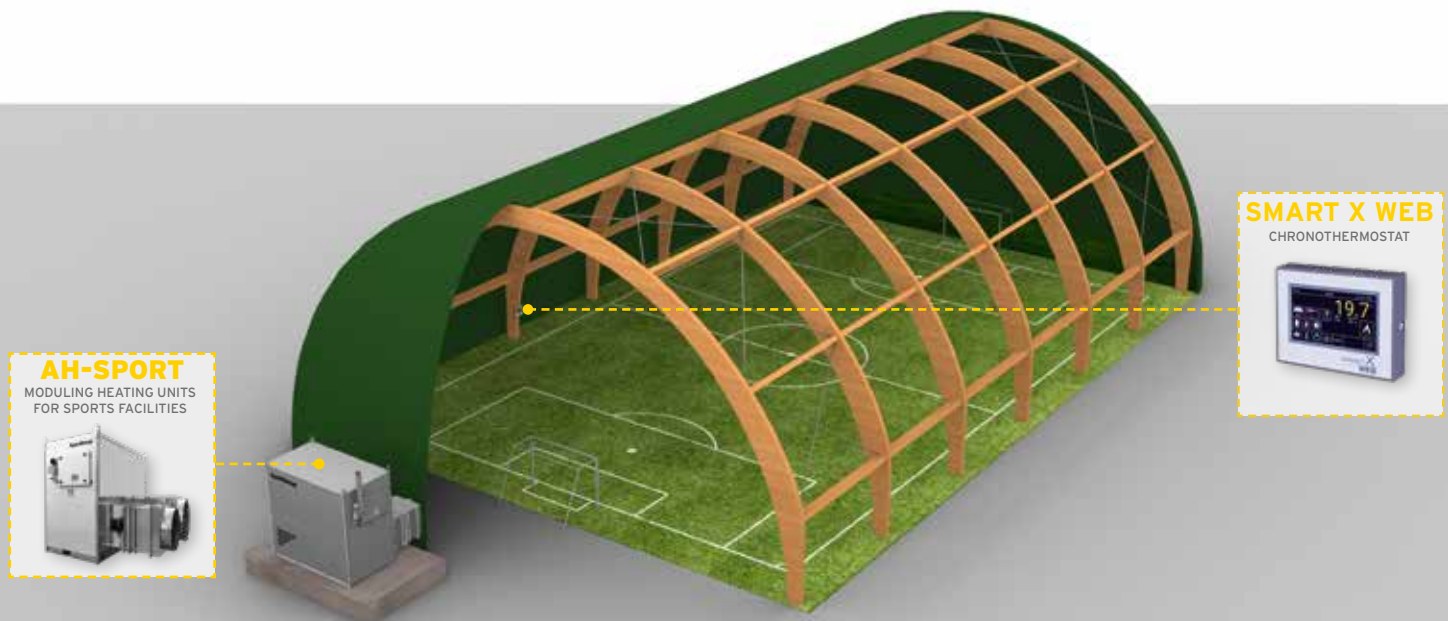
THERMOSTAT CONFIGURATION FOR CONTROL OF:

- 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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