Industrial Heating and Conditioning

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.
Apen 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.
Apen 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 "Apen 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

Apen 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.

ApenGroup®

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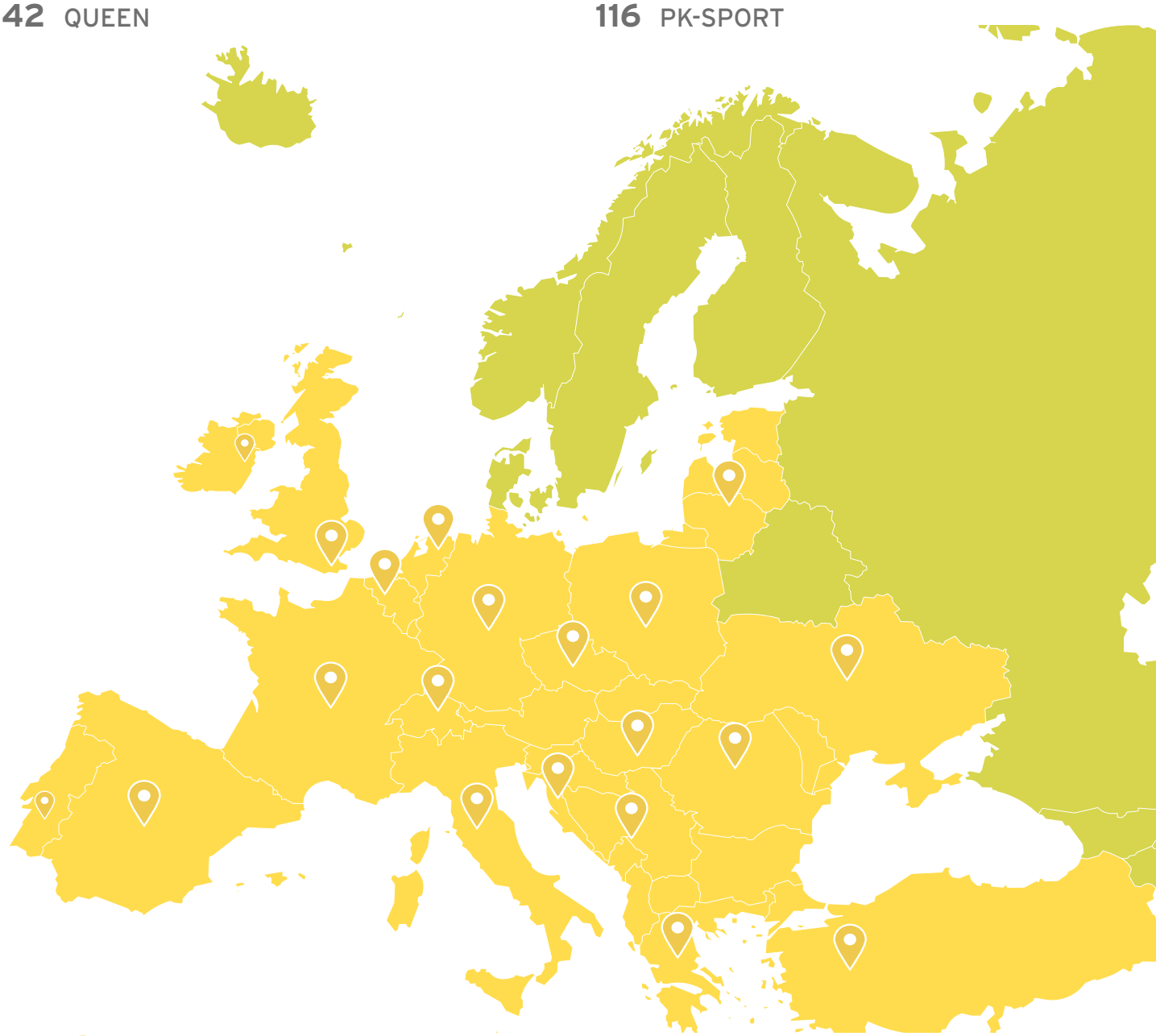


ApenGroup has an international presence. Contact us at **export@apengroup.it** to get our distributor's name in your country, or to become our partner.

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

APEN GROUP 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.

1967 2017 50 CARING for the environment

2025

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

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

A SOLUTION FOR EVERY NEED

INDUSTRY

- INDUSTRIAL BUILDINGS
- SHEDS
- FACILITIES
- LABS
- DEPOTS
- WAREHOUSES

AKN + AX
Gas condensing boilers
with water fan heaters

QUEEN
Air destratifiers

HYN
Hybrid heat pumps
with gas boilers

KONDENSA - RAPID PRO
Wall-mounted
warm air heaters

AC
Evaporative
cooling system

AH
Heating and
ventilation units

TERTIARY SECTOR

- SHOPPING MALLS
- SHOPS
- SUPERMARKETS
- RESTAURANTS

HYN
Hybrid heat pumps
with gas boilers

AKN + AX
Gas condensing boilers
with water fan heaters

AH
Heating and
ventilation units

AX
Water fan heaters

PLACES OF WORSHIP

AH
Heating and
ventilation units

AKN + AX
Gas condensing boilers
with water fan heaters

PK
Floor-standing
warm air heaters

SPORT AND LEISURE

- TENNIS COURTS
- PADEL
- GYMS
- SWIMMING POOLS
- SPORT COVERS:
  - PRESSOSTATIC
  - TENSOSTATIC

AH-SPORT
Monobloc units for
sports facilities

PK-SPORT
Floor-standing
warm air heaters

AKN + AX
Gas condensing boilers
with water fan heaters

KONDENSA - RAPID PRO
Wall-mounted
warm air heaters

QUEEN
Air destratifiers

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.
- LKH hybrid warm air heater.
- 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.

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).

MULTITASKING CONTROL

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

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.

CONTROL VERSATILITY

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

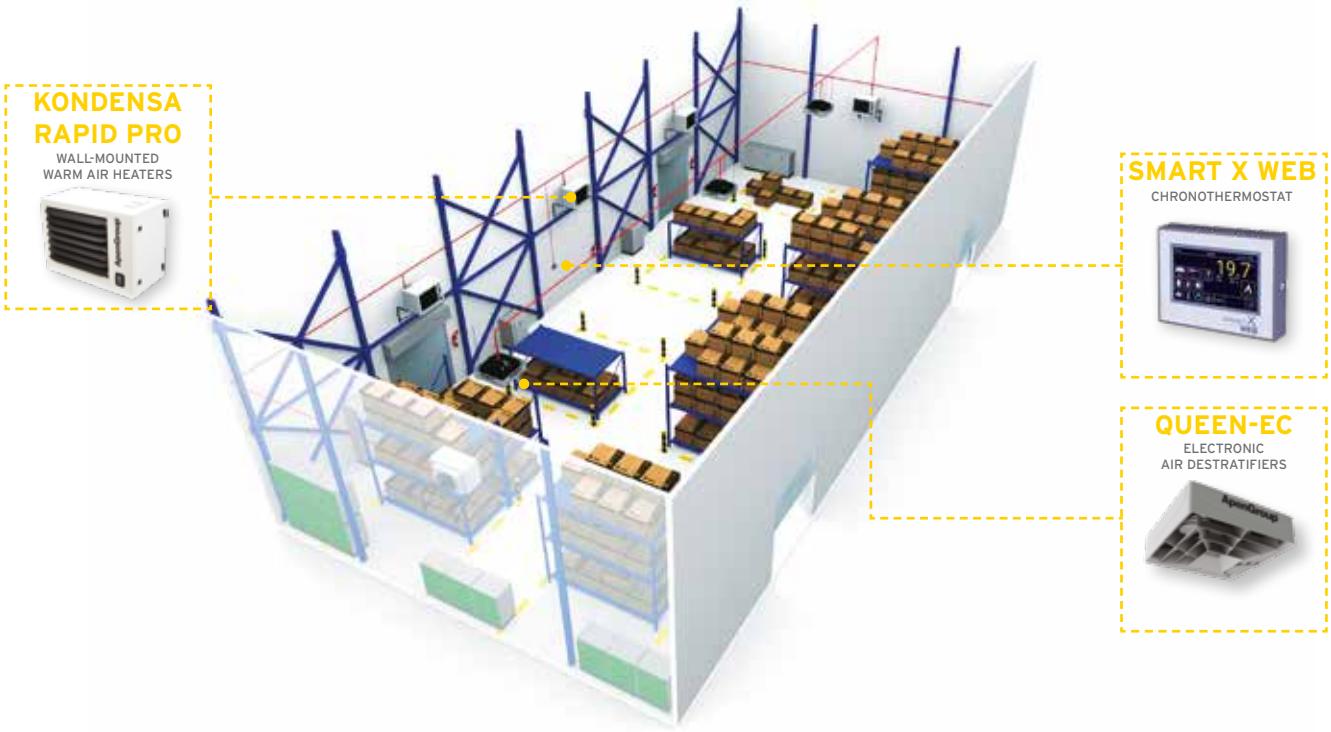
FAN MODE

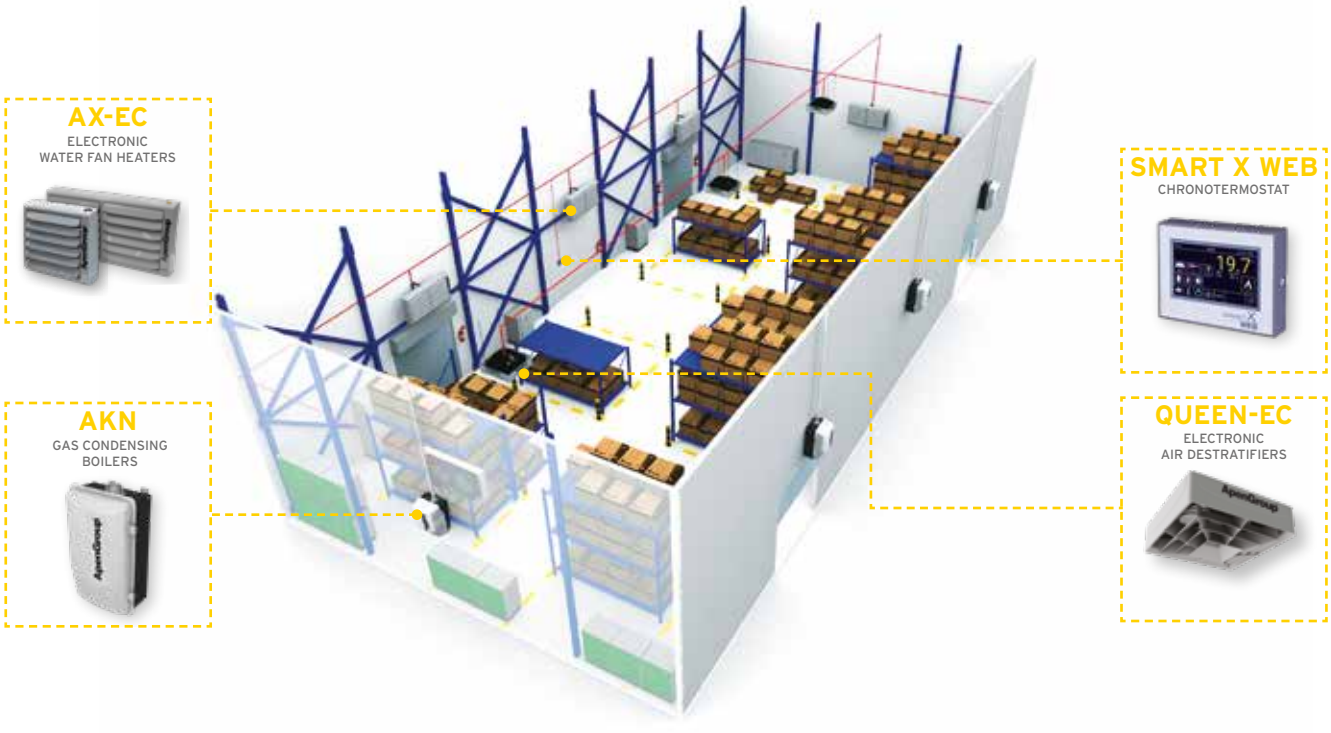
Ventilation mode management for combination of AX-EC water fan heaters with AKN boilers.

SMART X SYSTEM

THERMOSTAT CONFIGURATION FOR CONTROL OF:

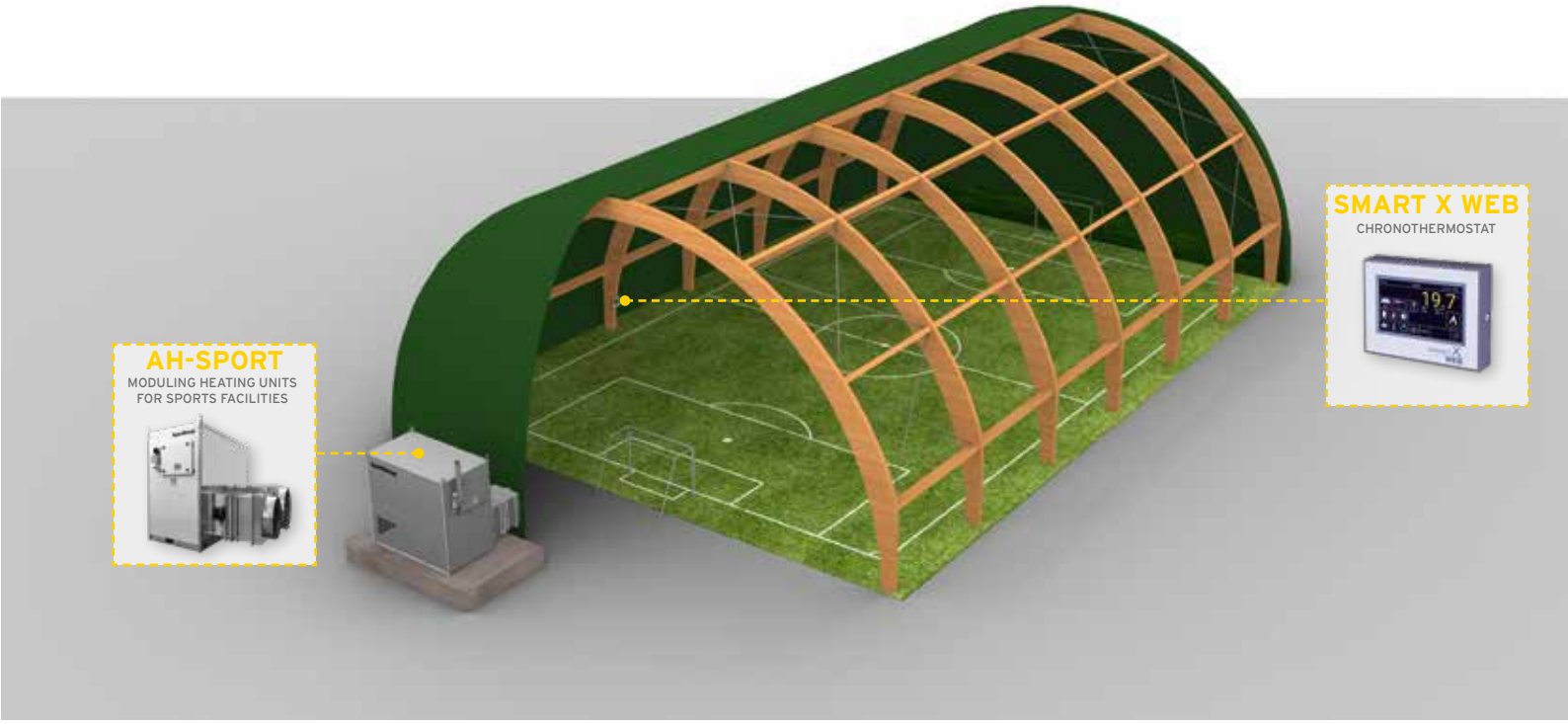
- AKN Gas condensing boilers.
- AX-EC Electronic water fan heaters.
- QUEEN-EC Electronic air destratifiers.
- KONDENSA LKH hybrid warm air heater.
- KONDENSA LK-LKN Wall-mounted condensing warm air heaters.
- RAPID PRO LRP-LRN Wall-mounted warm air heaters.

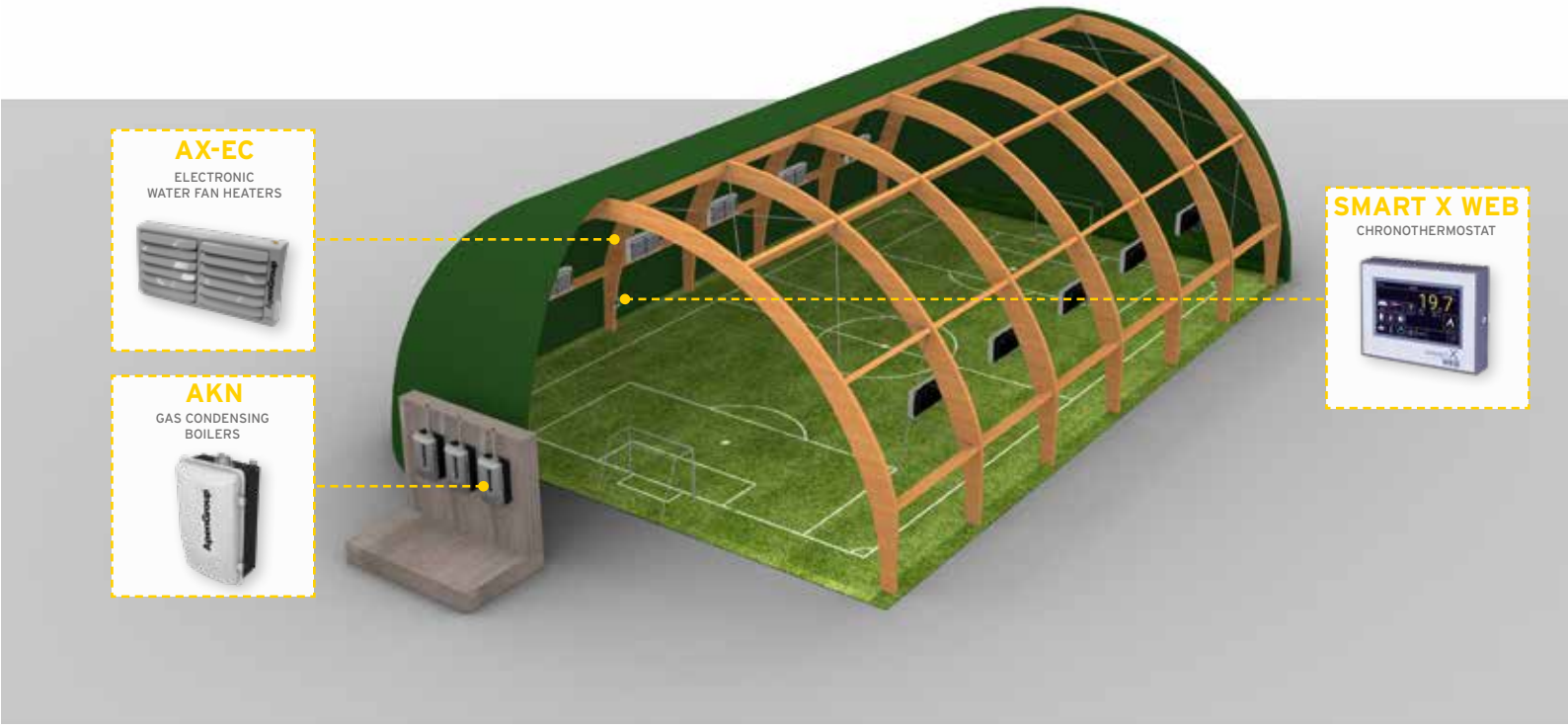




THERMOSTAT CONFIGURATION FOR CONTROL OF:

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





KONDENSA HYBRID LKH

HYBRID WARM AIR HEATER

NEW

HEAT PUMP

OPTIONAL SMART X CONTROLS

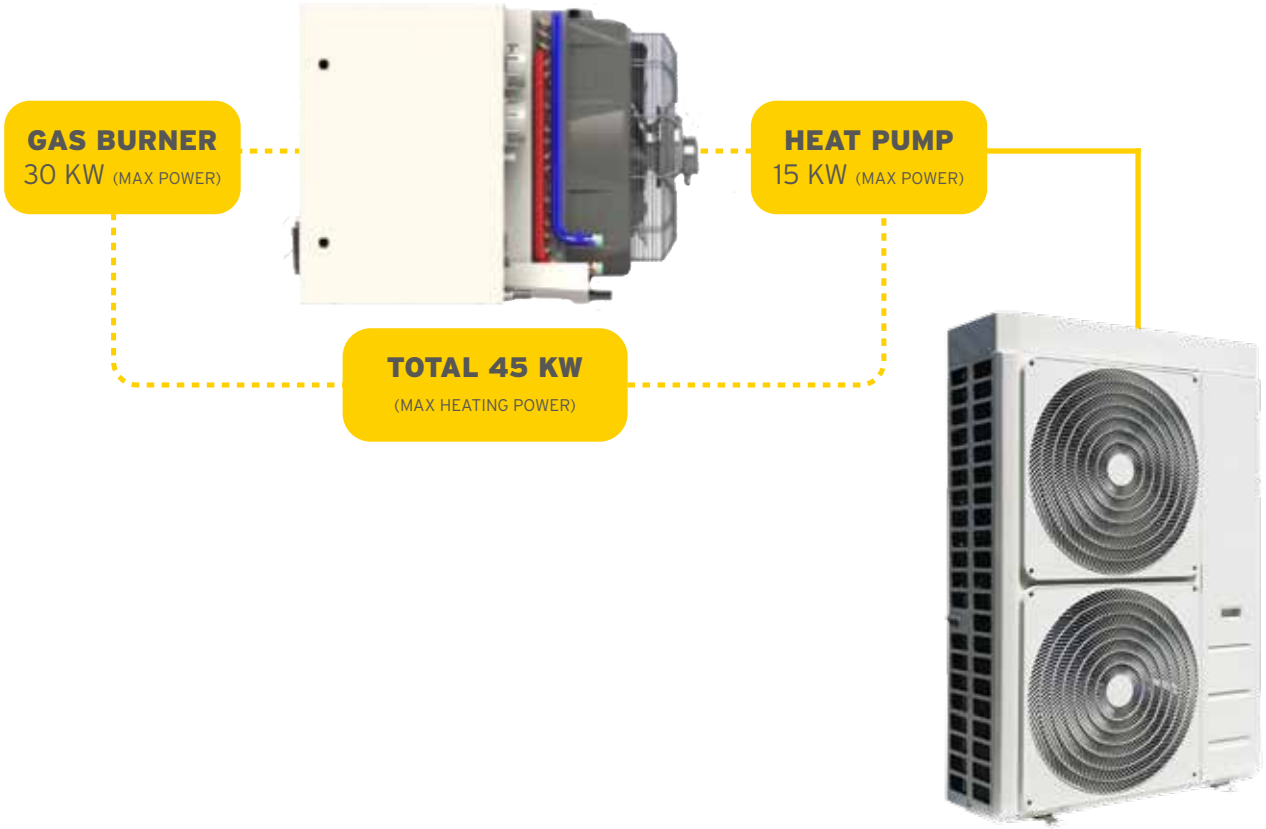
ErP 2021

ErP
2021
Compliant
EU/2016/2281

ApenGroup

KONDENSA HYBRID LKH

Hybrid warm air heaters



HEAT PUMP + CONDENSING WARM AIR HEATER

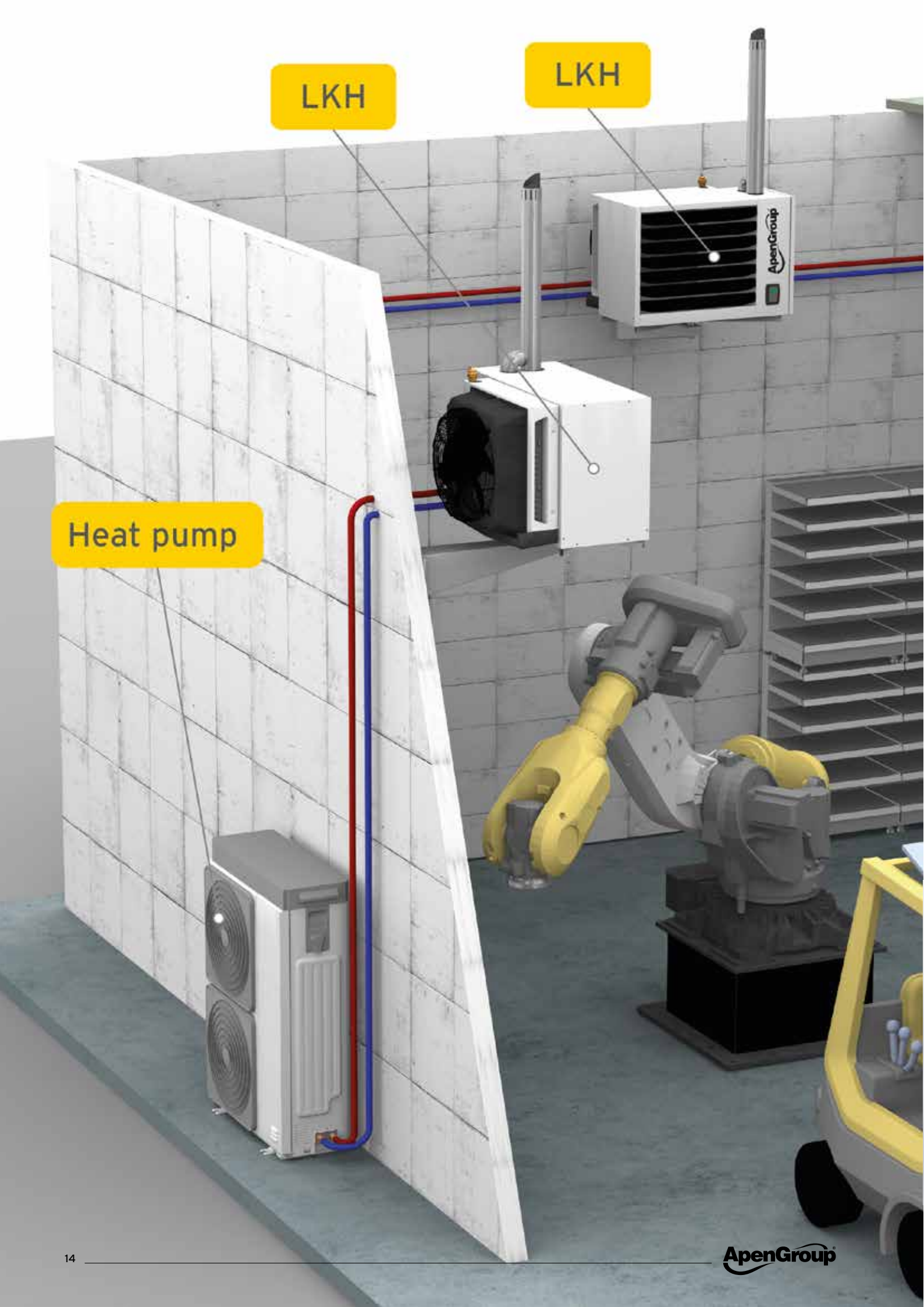
	Output Power (kW)	Water ΔT (°C)	Air ΔT (°C)	Water Flow (m^3/h)	Water ΔP (kPa)	Air Flow (m^3/h)
Heating	15+30 (45)	45/40	15	2,3	20	4500 @10V
Cooling	12	07/12	11	2,3	20	1500 @4V

CONDENSING WARM AIR HEATER

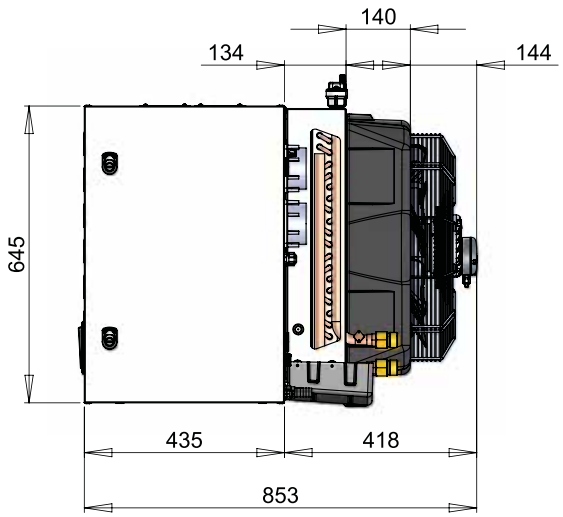
	Output Power (kW)	ɲ	ɲ Seasonal h [Reg.UE/2281/2016]	NOx (% O_2) [hi]	NOx (% O_2) [hs]
Nominal heat input (MAX)	29	96%	93,10%	47 mg/kWh	42 mg/kWh
Nominal heat input (MIN)	7,5	108%		26ppm	24ppm

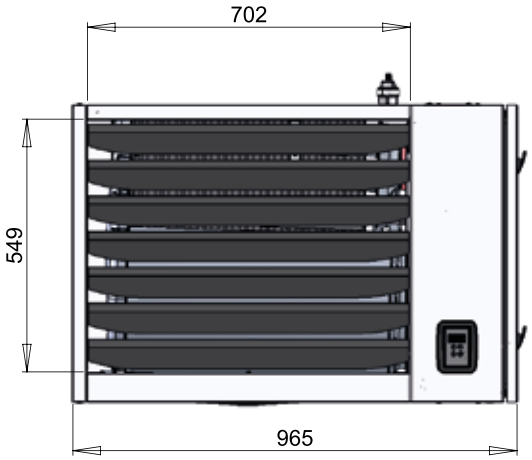
HEAT PUMP

	Output Power (kW)	Water ΔT (°C)	Air ΔT (°C	Water Flow (m^3/h)	Water ΔP (kPa)
Heating	15	45/40	15	2,3	25
Cooling	12	07/12	11	2,3	25


LKH
LKH
Heat pump
ApenGroup

KONDENSA HYBRID LKH / DIMENSIONS





Model	Overall dimensions			Louvre		Rotating shelf			Fixed shelf
	H	L	DA	HB	LB	IS	ID	E	E
LKH044	645	965	143	550	700	445	445	530	410

KONDENSA LKN
RAPID PRO LRN

WALL-MOUNTED WARM AIR HEATERS

NEW

OPTIONAL
SMART X CONTROLS

OPTIONAL
ON/OFF CONTROL

ErP
2021

ApenGroup

KONDENSA LKN & RAPID PRO LRN

Wal-mounted warm air heaters

ECOLOGY AND ENERGY SAVING

Kondensa LKN and **Rapid Pro LRN** warm air heaters are characterised:

- by the high quality of the materials used, such as AISI 441 stainless steel, pre-painted panels and state-of-the-art electronics.
- by premixing combustion systems, with very low polluting emissions.
- by innovative and efficient production systems.
- by reliability and safety guaranteed by 100% factory testing.

FIELDS OF APPLICATION

- Logistics
- Depots and Warehouses
- Facilities
- Sheds
- Shopping Malls

MAIN INNOVATION

Kondensa LKN (condensing warm air heater) and **Rapid Pro LRN** (modulating warm air heater) will feature the following main innovation:

- Direct ignition of the burner;
- Single electrode with ignition and flame detection functions;
- New venturi tube designed by Apen Group.

They will be certified for operation with Natural gas / Hydrogen up to 20% according to the UNIT TS 11854 technical specification.

HIGH QUALITY MATERIALS

Combustion chamber and heat exchanger are manufactured entirely from AISI 441 high quality stainless steel (with low carbon content) which assures maximum reliability and long life cycle.

CLEAN COMBUSTION

The burner fully premixes gas and combustion air, providing each heater with the following benefits:

- No carbon monoxide emissions – CO=0.
- Very low nitrogen oxides emissions, approximately 30 ppm.
- Low emission of CO2, due to high combustion efficiency and to reduction of fuel consumption arising from heat output modulation.

SAFETY AND CONTROL DEVICES

Safety and control devices include:

- Safety thermostat with manual reset.
- Electronic ignition device for the burner and ionisation flame control device.
- Ignition and flame detection electrodes.

SYSTEM MODULARITY

The subdivision of the total heat output over several installed fan heaters makes it possible to achieve greater rationalisation of the system: "zone" management of the heat output delivery. The integration of heat output is limited to the installation of new appliances.

SUMMER VENTILATION

It is possible to set the machine to operate in ventilation mode, improving the comfort of the room in which the heater is installed.

INNOVATION AND TECHNOLOGY

The microprocessor-based electronic card, of **LKN** and **LRN** heaters, regulates continuous modulation of heat output and controls both the burner fan and the gas valve.

GUARANTEED SAFETY

An advanced technique of pre-mix burners guarantees total safety.
The gas valve delivers gas according to the air/gas ratio set at factory.
If combustion air fails, the gas valve closes. If combustion air decreases, the valve automatically reduces gas flow while maintaining optimal combustion parameters.

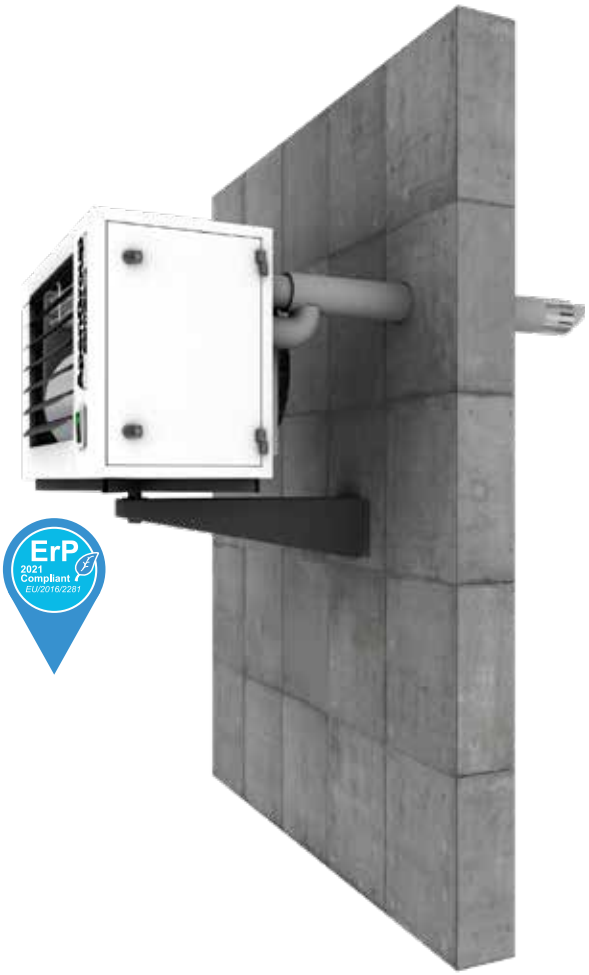
DIRECT THERMAL EXCHANGE: NO WATER SUPPLY

The thermal energy produced by the burner is transferred to the air by means of a heat exchanger that contains the products of combustion. This ensures maximum transference of heat into the supply air stream without any contact with the products of combustion.
This method provides instant heating benefits for the space being served. The absence of intermediate fluid prevents the realization of the hydraulic system and the inherent problems in the freezing water. Because there is no requirement for water the inherent problems associated with such systems are avoided.

KONDENSA LK/LKN CONDENSING WARM AIR HEATERS

TECHNICAL FEATURES

- Output range: models from 5 kW to 97 kW.
- Sealed combustion circuit.
- Combustion chamber in AISI 441 stainless steel, heat exchanger tubes and flue gas collection box in AISI 441 stainless steel with low carbon content.
- Efficiency up to 108% in relation to the lower heating value (Hi).
- Modulating premixed gas burner with low NOx emission in class 5 in accordance with EN 1020 2009.
- Safety thermostat and condensate detection electrode.
- Electronic board with continuous power modulation controlled by microprocessor, which allows energy savings up to 50%.
- Very high reduction of air stratification.
- Use of a sophisticated air/gas mixing technique that makes the heater absolutely safe.
- 230V single-phase 50Hz power supply.
- Multifunctional LCD display for diagnostics control.
- CE approval in compliance with all applicable regulations.



RAPID PRO LRP/LRN MODULATING WARM AIR HEATERS

TECHNICAL FEATURES

- Output range: models from 9 kW to 92 kW.
- Sealed combustion circuit.
- INOX AISI 441 stainless steel combustion chamber, INOX AISI 441 stainless steel heat exchanger tubes and flue collection box made of low carbon content.
- Efficiency up to 97% (Hi).
- Premixed gas modulating burner, low NOx emissions (class 5) in compliance with EN 1020 2009 standards.
- Safety thermostat.
- Electronic control board with continuous modulation of heat output, controlled by a microprocessor, which allows energy savings of up to 40%.
- Very high reduction of air stratification.
- An advanced technique of air/gas mixing guarantees total heater safety.
- 230V/1ph/50Hz supply voltage.
- In compliance with all applicable EC regulations (0476CQ0451).

KONDENSA LKN AND RAPID PRO LRN MAIN INNOVATION

Kondensa LKN (condensing warm air heater) and **Rapid Pro LRN** (modulating warm air heater) will feature the following main innovation:
- Direct ignition of the burner;
- Single electrode with ignition and flame detection functions;
- New venturi tube designed by Apen Group.

They will be certified for operation with Natural gas / Hydrogen up to 20% according to the UNIT TS 11854 technical specification.

BURNER

1. Direct ignition burner (without using the pilot burner) with a **single electrode** for ignition and flame detection.
2. New venturi tube in aluminium made by Apen Group.

GAS VALVE

New position of the gas valve.

NTC

New position of the NTC probe on the back of the heater

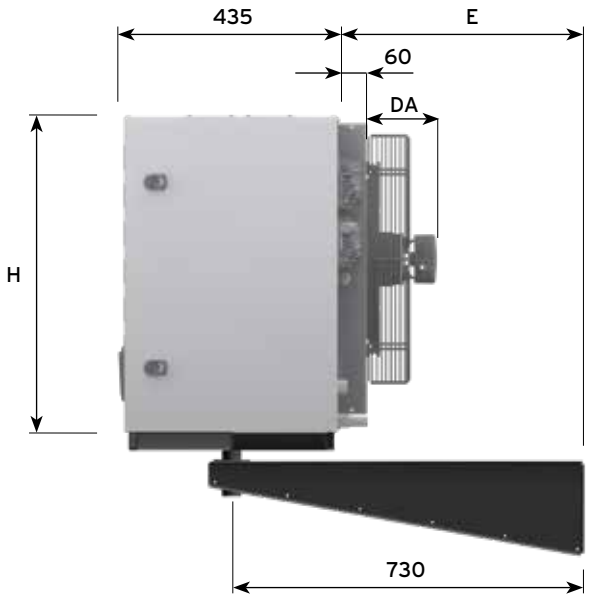
SIZE COMPARISON OF THE NEW HEATER LKN020 AND PREVIOUS LK020

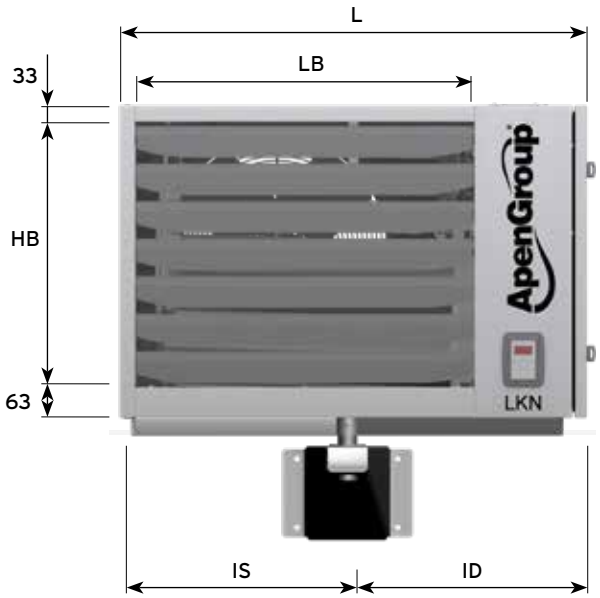
LKN WITH AXIAL FAN / TECHNICAL DATA

Model*		LKN020 (indoor installation)		LKN035 (indoor installation) LKN035-00X0 (outdoor installation)	
Type of equipment		B23P - C13 - C33 - C53 - C63			
NOx class	Val	5			
		Heater Performance			
		min	max	min	max
Furnace heat input (Hi)	kW	5,4	17,7	7,5	34,9
Useful heat output [P_{min}, P_{rated}]*	kW	5,8	16,9	8,1	33,7
Hi Efficiency (N.C.V.) [η_{pl}, η_{nom}]*	%	107,0	95,7	108,0	96,5
Hs Efficiency (G.C.V.) [η_{pl}, η_{nom}]*	%	96,4	86,1	97,2	86,9
Flue losses with burner ON (Hi)	%	1,1	4,3	0,5	3,5
Flue losses with burner OFF (Hi)	%	<0,1		<0,1	
Max. condensation(1)	l/h	0,7		0,9	
		Flue Gas Emissions			
Carbon monoxide - CO - (0% di O_2)(2)	ppm	< 5		< 5	
Emissions of nitrogen oxides NOx* (0% di O_2) (Hi)(3)		44 mg/kWh - 25 ppm		47 mg/kWh - 26 ppm	
Emissions of nitrogen oxides NOx* (0% di O_2) (Hs)(4)		40 mg/kWh - 22 ppm		42 mg/kWh - 24 ppm	
Pressure available at the flue	Pa	80		100	
		Electrical Characteristics			
Supply voltage	V	230 Vac - 50 Hz single phase			
Rated power	kW	0,15	0,16	0,26 (5)	0,31 (5)
Protection rating	IP	IP 20 (IPX5D only for -00X0 and -00Z0 models)			
Operating temperatures	°C	from -15°C to +40°C for lower temperatures, a burner housing heating kit is required (5)			
		Connections			
Ø Gas connection(6)	GAS	UNI/ISO 228/1 - G 3/4"		UNI/ISO 228/1 - G 3/4"	
Intake/exhaust pipes Ø	mm	80/80		80/80	
		Air flow rate			
Air flow rate (15 °C) (7)	m^3/h	2700		4600	
Air temperature increase	°C	6,1	18,0	5,0	21,0
Number and diameter of fans		1 x Ø350 (4P)		1 x Ø 450 (4P)	
Fan speed	rpm	1400		1400	
Sound pressure (Lp) (8)	dB(A)	43		49	
		Weight			
Net weight	kg	45		58	

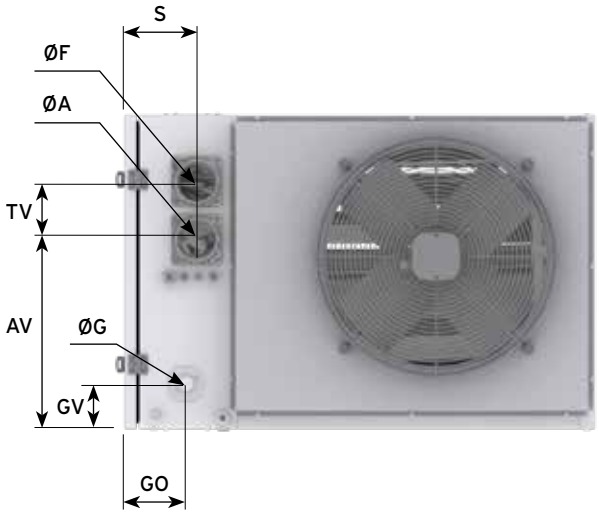
NOTES:
* Symbol in compliance with Reg.EU/2281/2016.
(1) Max. condensation produced acquired from testing at Qmin.
(2) Value referred to cat. H (G20)
(3) Weighted value to EN17082 ref. to cat. H (G20), referred to net calorific value (Hi, N.C.V).
(4) Weighted value to EN17082 ref. to cat. H (G20), referred to gross calorific value (Hs, G.C.V).
(5) If the burner housing heater kit is installed, add 105 W (230V) to the rated power value on the nameplate.
(6) The gas line must be dimensioned according to the length of the routing and not to the heater input diameter.
For countries requiring an ISO connection different from the one shown, an adaptor will be supplied.
(7) Calculated according to ISO 5801- 2007
(8) Measured at a distance of 6 m from the machine.

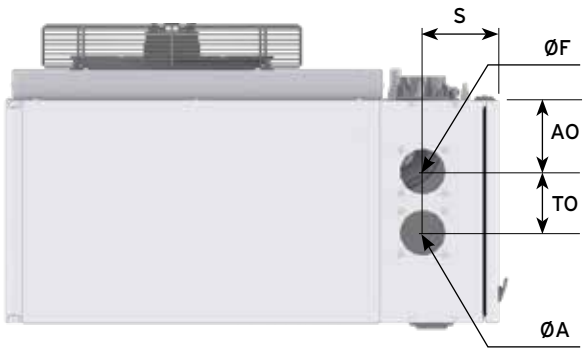
LKN WITH AXIAL FAN / DIMENSIONS





Model	Overall dimensions			Louvre		Rotating shelf			Fixed shelf
	H	L	DA	HB	LB	IS	ID	E	E
LKN020 (indoor installation)	645	725	95	550	460	325	325	530	410
LKN035 (indoor installation)	645	965	143	550	700	445	445	530	410
LKN035-00X0 (outdoor installation)	645	965	143	550	700	-	-	-	-





Model	Horizontal exhausts (STD)					Supply gas		
	A	F	AV	TV	S	ØG	GO	GV
LKN020	80	80	390	120	145	3/4"	125	93
LKN035	80	80	390	120	145	3/4"	125	93

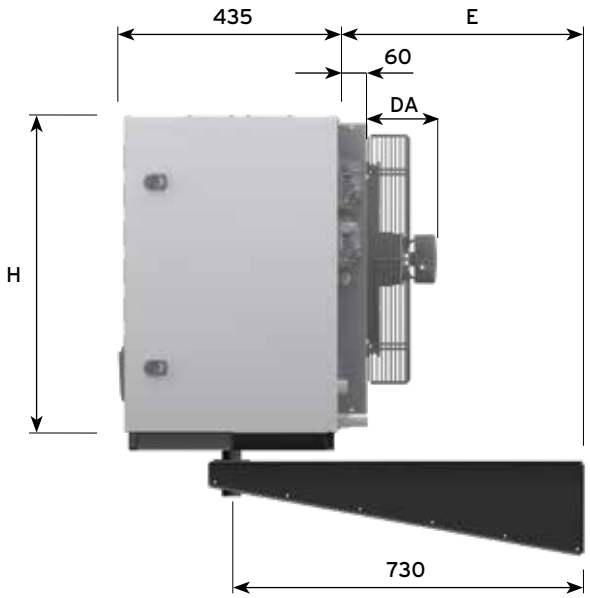
Model	Vertical exhausts (OPT.)				
	A	F	AO	TO	S
LKN020	80	80	140	120	145
LKN035	80	80	140	120	145

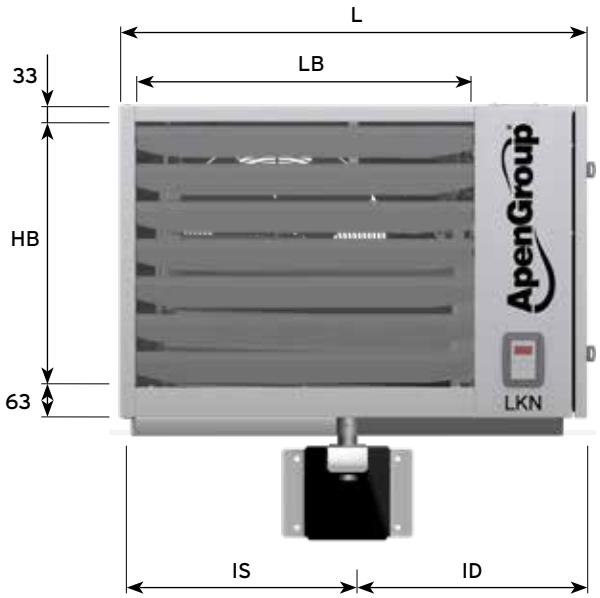
LRN WITH AXIAL FAN / TECHNICAL DATA

Model*		LRN018		LRN028		LRN035		LRN045	
Type of equipment		B23P - C13 - C33 - C53 - C63							
NOx class	Val	5							
		Heater Performance							
		min	max	min	max	min	max	min	max
Furnace heat input (Hi)	kW	10.0	17.4	15.6	27.0	19.6	34.8	26.2	44.8
Useful heat output [P_{min}, P_{rated}]*	kW	9.6	15.9	15.0	24.6	18.9	31.7	25.2	40.9
Hi Efficiency (N.C.V.) [η_{pl}, η_{nom}]*	%	96.1	91.2	96.0	91.2	96.2	91.2	96.2	91.3
Hs efficiency (G.C.V.) [η_{pl}, η_{nom}]*	%	86.6	82.1	86.4	82.1	86.4	82.1	86.4	82.2
Flue losses with burner on (Hi)	%	3.9	8.8	4.0	8.8	3.8	8.8	3.8	8.7
Flue losses with burner off (Hi)	%	<0,1		<0,1		<0,1		<0,1	
		Flue gas emissions							
Carbon monoxide - CO - (0% of O_2) [1]	ppm	<5		<5		<5		<5	
Emissions of nitrogen oxides - NOx* (0% of O_2) (Hi) [2]		71 mg/kWh - 40 ppm		57 mg/kWh - 32 ppm		54 mg/kWh - 31 ppm		64 mg/kWh - 36 ppm	
Emissions of nitrogen oxides - NOx* (0% of O_2) (Hs) [3]		64 mg/kWh - 36 ppm		51 mg/kWh - 29 ppm		49 mg/kWh - 28 ppm		58 mg/kWh - 33 ppm	
Pressure available at the flue	Pa	60		80		100		120	
		Electrical Characteristics							
Supply voltage	V	230 Vac - 50 Hz single-phase							
Rated power	kW	0.10	0.12	0.16	0.20	0.12	0.17	0.26	0.31
Protection Rating	IP	IP 20							
Operating Temperatures	°C	from -15°C to +40°C - for lower temperatures, a burner housing heating kit is required [4]							
		Connections							
Ø gas connection [5]	GAS	UNI/ISO 228/1 - G 3/4"		UNI/ISO 228/1 - G 3/4"		UNI/ISO 228/1 - G 3/4"		UNI/ISO 228/1 - G 3/4"	
Intake/exhaust pipes Ø	mm	80/80		80/80		80/80		80/80	
		Air flow rate							
Air flow rate (15°C)[6]	m^3/h	2000		2700		3200		4600	
Air temperature increase	°C	13.8	22.7	15.9	26.1	16.9	28.4	15.7	25.5
Number and diameter of fans (no. of poles)		1 X Ø350 (6P)		1 X Ø350 (4P)		1 X Ø450 (6P)		1 X Ø450 (4P)	
Fans speed	rpm	900		1400		900		1400	
Sound pressure (Lp) [7]	dB(A)	32		43		39		49	
		Weight							
Net Weight	kg	43		45		56		58	

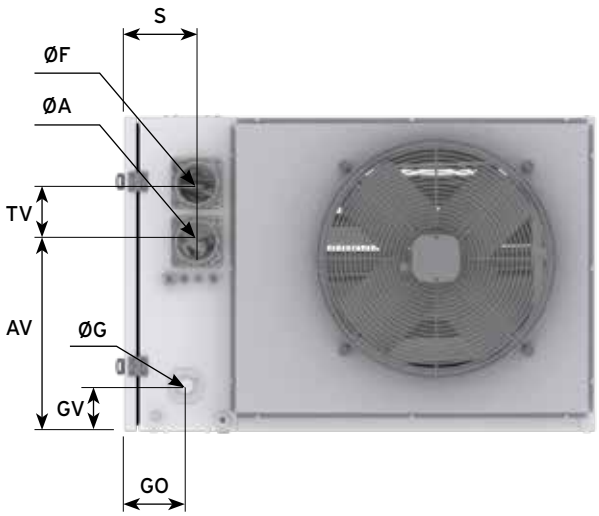
NOTES:
* Symbol in compliance with Reg.EU/2281/2016.
(1) Value referred to cat. H (G20)
(2) Weighted value to EN17082 ref. to cat. H (G20), referred to net calorific value (Hi, N.C.V).
(3) Weighted value to EN17082 ref. to cat. H (G20), referred to gross calorific value (Hs, G.C.V).
(4) If the burner housing heater kit is installed, add 105 W (230V) to the rated power value on the nameplate.
(5) The gas line must be dimensioned according to the length of the routing and not to the heater input diameter.
For countries requiring an ISO connection different from the one shown, an adaptor will be supplied.
(6) Calculated according to ISO 5801- 2007
(7) Measured at a distance of 6 m from the machine.

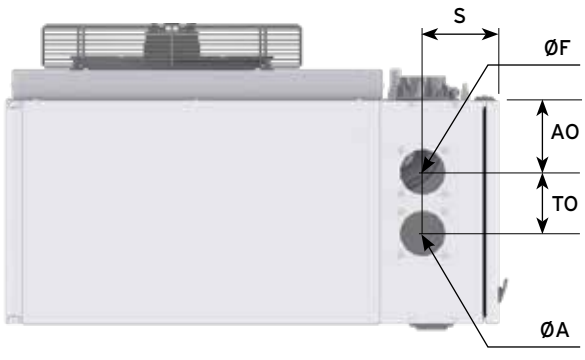
LRN WITH AXIAL FAN / DIMENSIONS





Model	Overall Dimensions			Louvre		Rotating shelf			Fixed shelf
	H	L	DA	HB	LB	IS	ID	E	E
LRN018	645	725	95	550	460	325	325	530	410
LRN028	645	725	95	550	460	325	325	530	410
LRN035	645	965	143	550	700	445	445	530	410
LRN045	645	965	143	550	700	445	445	530	410





Model	Horizontal exhausts (STD)					Supply gas		
	A	F	AV	TV	S	ØG	GO	GV
LRN018	80	80	390	120	145	3/4"	125	93
LRN028	80	80	390	120	145	3/4"	125	93
LRN035	80	80	390	120	145	3/4"	125	93
LRN045	80	80	390	120	145	3/4"	125	93

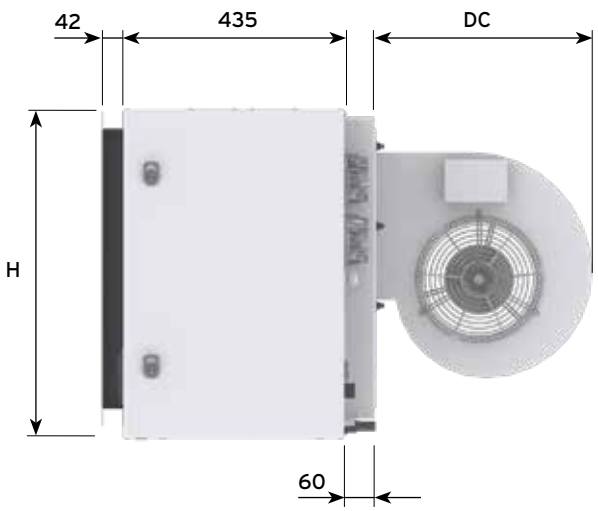
Model	Vertical exhausts (OPT.)				
	A	F	AO	TO	S
LRN018	80	80	140	120	145
LRN028	80	80	140	120	145
LRN035	80	80	140	120	145
LRN045	80	80	140	120	145

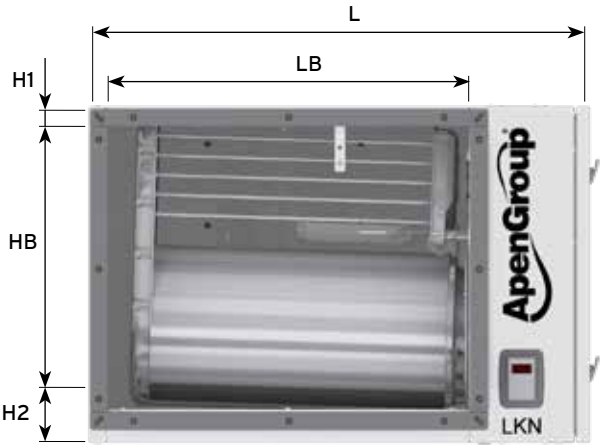
LKN WITH CENTRIFUGAL FAN / TECHNICAL DATA

Model*		**LKN035-00C0 (indoor installation) LKN035-00Z0 (outdoor installation)**	
Type of equipment		B23P - C13 - C33 - C53 - C63	
NOx class	Val	5	
		Heater Performance	
		min	max
Furnace heat input (Hi)	kW	7,5	34,9
Useful heat output [P_{min}, P_{rated}]*	kW	8,1	33,7
Hi Efficiency (N.C.V.) [η_{pl}, η_{nom}]*	%	108,0	96,5
Hs Efficiency (G.C.V.) [η_{pl}, η_{nom}]*	%	97,2	86,9
Flue losses with burner ON (Hi)	%	0,5	3,5
Flue losses with burner OFF (Hi)	%	<0,1	
		Flue Gas Emissions	
Carbon monoxide - CO - (0% di O_2)(1)	ppm	< 5	
Emissions of nitrogen oxides NOx* (0% di O_2) (Hi)(2)		47 mg/kWh - 26 ppm	
Emissions of nitrogen oxides NOx* (0% di O_2) (Hs)(3)		42 mg/kWh - 24 ppm	
Pressure available at the flue	Pa	100	
		Electrical Characteristics	
Supply voltage	V	230 Vac - 50 Hz single phase	
Rated power	kW	0,26 (4)	0,31 (4)
Protection rating	IP	IP 20 (IPX5D only for LKN-00Z0 models)	
Operating temperatures	°C	from -15°C to +40°C for lower temperatures, a burner housing heating kit is required (4)	
		Connections	
Ø Gas connection(5)	GAS	UNI/ISO 228/1 - G 3/4"	
Intake/exhaust pipes Ø	mm	80/80	
		Air flow rate	
Air flow rate (15 °C) (6)	m^3/h	3600	
Available pressure	Pa	90	
Rated power	kW	0,9	

NOTES:
* Symbol in compliance with Reg.EU/2281/2016.
(1) Value referred to cat. H (G20)
(2) Weighted value to EN17082 ref. to cat. H (G20), referred to net calorific value (Hi, N.C.V).
(3) Weighted value to EN17082 ref. to cat. H (G20), referred to gross calorific value (Hs, G.C.V).
(4) If the burner housing heater kit is installed, add 105 W (230V) to the rated power value on the nameplate.
(5) The gas line must be dimensioned according to the length of the routing and not to the heater input diameter. For countries requiring an ISO connection different from the one shown, an adaptor will be supplied.
(6) Calculated according to ISO 5801- 2007

LKN WITH CENTRIFUGAL FAN / DIMENSIONS





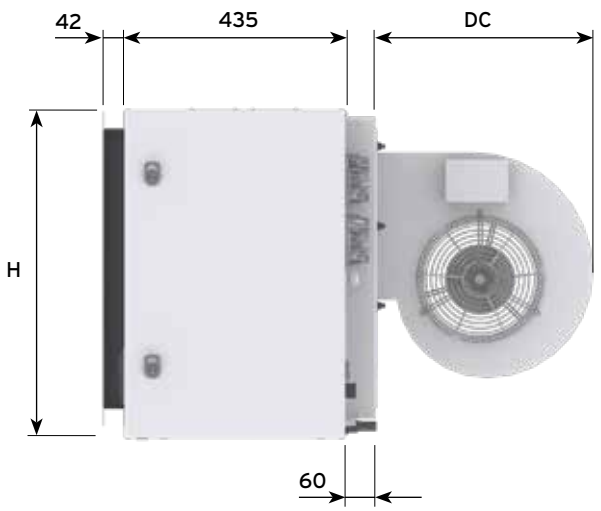
Model	Overall dimensions			Louvre			
	H	L	DC	HB	LB	H1	H2
LKN035-00C0 (indoor installation)	645	965	430	550	700	37	58
LKN035-00Z0 (outdoor installation)	645	965	430	550	700	37	58

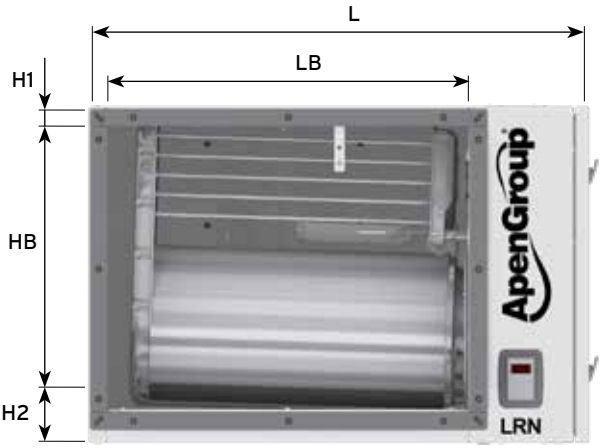
LRN WITH CENTRIFUGAL FAN / TECHNICAL DATA

Model*		**LRN035-00C0 (indoor installation)**	
Type of equipment		B23P - C13 - C33 - C53 - C63	
NOx class	Val	5	
		Heater Performance	
		min	max
Furnace heat input (Hi)	kW	19.6	34.8
Useful heat output [P_{min}, P_{rated}]*	kW	18.9	31.7
Hi Efficiency (N.C.V.) [η_{pl}, η_{nom}]*	%	96.2	91.7
Hs efficiency (G.C.V.) [η_{pl}, η_{nom}]*	%	86.2	82.3
Flue losses with burner on (Hi)	%	3.8	8.3
Flue losses with burner off (Hi)	%	<0,1	
		Flue gas emissions	
Carbon monoxide - CO - (0% of O_2) (1)	ppm	<5	
Emissions of nitrogen oxides - NOx* (0% of O_2) (Hi) (2)		54 mg/kWh - 31 ppm	
Emissions of nitrogen oxides - NOx* (0% of O_2) (Hs) (3)		49 mg/kWh - 28 ppm	
Pressure available at the flue	Pa	100	
		Electrical Characteristics	
Supply voltage	V	230 Vac - 50 Hz single-phase	
Rated power	kW	0.12	0.17
Protection Rating	IP	IP 20	
Operating Temperatures	°C	from -15°C to +40°C - for lower temperatures, a burner housing heating kit is required (4)	
		Connections	
Ø gas connection (5)	GAS	UNI/ISO 228/1-G 3/4"	
Intake/exhaust pipes Ø	mm	80/80	
		Air flow rate	
Air flow rate (15°C)(6)	m^3/h	4400	
Available pressure	Pa	140	
Rated power	kW	0,9	

NOTES:
* Symbol in compliance with Reg.EU/2281/2016.
(1) Value referred to cat. H (G20)
(2) Weighted value to EN17082 ref. to cat. H (G20), referred to net calorific value (Hi, N.C.V).
(3) Weighted value to EN17082 ref. to cat. H (G20), referred to gross calorific value (Hs, G.C.V).
(4) If the burner housing heater kit is installed, add 105 W (230V) to the rated power value on the nameplate.
(5) The gas line must be dimensioned according to the length of the routing and not to the heater input diameter.
For countries requiring an ISO connection different from the one shown, an adaptor will be supplied.
(6) Calculated according to ISO 5801- 2007

LRN WITH CENTRIFUGAL FAN / DIMENSIONS





Model	Overall Dimensions			Louvre			
	H	L	DC	HB	LB	H1	H2
LRN035-00C0 (indoor installation)	645	965	430	550	700	37	58

KONDENSA LK
RAPID PRO LRP

WALL-MOUNTED WARM AIR HEATERS

OPTIONAL
SMART X CONTROLS

OPTIONAL
ON/OFF CONTROL

ErP
2021

ApenGroup

KONDENSA LK AND RAPID PRO LRP
Wall-mounted warm air heaters

ECOLOGY AND ENERGY SAVING

Kondensa LK and Rapid Pro LRP warm air heaters are characterised:

- by the high quality of the materials used, such as AISI 441 stainless steel, pre-painted panels and state-of-the-art electronics.
- by premixing combustion systems, with very low polluting emissions.
- by innovative and efficient production systems.
- by reliability and safety guaranteed by 100% factory testing.

FIELDS OF APPLICATION

- Logistics.
- Depots and Warehouses.
- Facilities.
- Sheds.
- Shopping malls.

HIGH QUALITY MATERIALS

Combustion chamber and heat exchanger are manufactured entirely from AISI 441 high quality stainless steel (with low carbon content) which assures maximum reliability and long life cycle.

GUARANTEED SAFETY

An advanced technique of pre-mix burners guarantees total safety.
The gas valve delivers gas according to the air/gas ratio set at factory.
If combustion air fails, the gas valve closes. If combustion air decreases, the valve automatically reduces gas flow while maintaining optimal combustion parameters.

SYSTEM MODULARITY

The subdivision of the total heat output over several installed fan heaters makes it possible to achieve greater rationalisation of the system: "zone" management of the heat output delivery. The integration of heat output is limited to the installation of new appliances.

MODULATING BURNER

The flexibility and turndown of modulating burners allows each heater (whether a single unit or multiple unit system) ensure that the correct amount of heat is being delivered by the appliance(s) demanded by the control system.

VERSATILITY OF INSTALLATION

The heaters of the serie KONDENSA and RAPID-PRO can also be installed hanged to the ceiling through eyebolts or with downwards air blow.

SUMMER VENTILATION

It is possible to set the machine to operate in ventilation mode, improving the comfort of the room in which the heater is installed.

INNOVATION AND TECHNOLOGY

The microprocessor-based electronic card, of KONDENSA and RAPID-PRO heaters, regulates continuous modulation of heat output and controls both the burner fan and the gas valve.

CLEAN COMBUSTION

The burner fully premixes gas and combustion air, providing each heater with the following benefits:

- No carbon monoxide emissions – CO=0.
- Very low nitrogen oxides emissions, approximately 30 ppm.
- Low emission of CO_2, due to high combustion efficiency and to reduction of fuel consumption arising from heat output modulation.

SAFETY AND CONTROL DEVICES

Safety and control devices include:

1. Safety thermostat with manual reset.
2. Electronic ignition device for the burner and ionisation flame control device.
3. Ignition and flame detection electrodes.

DIRECT THERMAL EXCHANGE: NO WATER SUPPLY

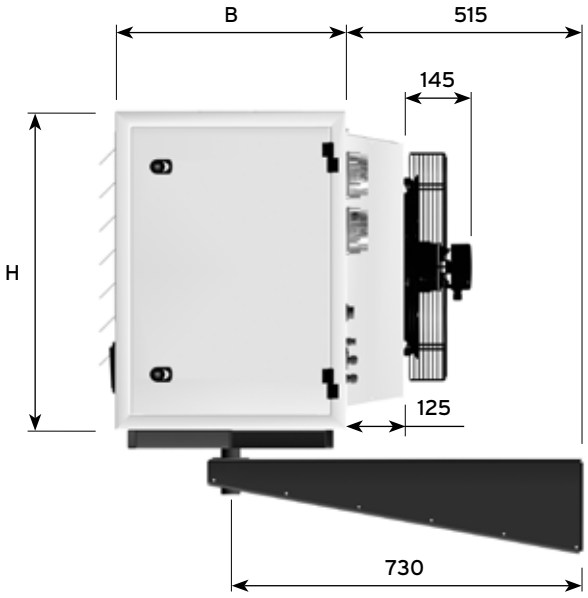
The thermal energy produced by the burner is transferred to the air by means of a heat exchanger that contains the products of combustion. This ensures maximum transference of heat into the supply air stream without any contact with the products of combustion.
This method provides instant heating benefits for the space being served.
The absence of intermediate fluid prevents the realization of the hydraulic system and the inherent problems in the freezing water. Because there is no requirement for water the inherent problems associated with such systems are avoided.

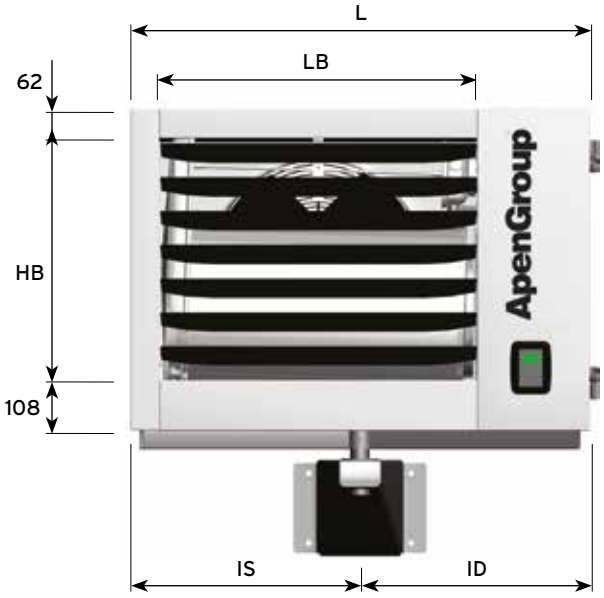
LK WITH AXIAL FAN / TECHNICAL DATA

Model		LK045-0X00		LK065-0X00		LK080-0X00		LK105-0X00	
Type of equipment		B23 - B23P - C13 - C33 - C43 - C53 - C63							
NOx Class	Val	5							
		Heater Performance							
		min	max	min	max	min	max	min	max
Nominal heat input (Hi)	kW	8,50	42,00	12,40	65,00	16,40	82,00	21,00	100,00
Useful heat output [P_{min}, P_{rated}]*	kW	8,97	40,45	13,40	62,93	17,77	80,03	22,77	97,15
Hi Efficiency (N.C.V.) [η_{pl}, η_{nom}]*	%	105,50	96,30	108,06	96,82	108,35	97,60	108,40	97,15
Hs efficiency (G.C.V.) [η_{pl}, η_{nom}]*	%	95,07	86,76	97,36	87,22	97,62	87,93	97,68	87,52
Flue losses with burner on (Hi)	%	0,5	3,7	0,2	3,2	0,3	2,4	0,2	2,8
Flue losses with burner off (Hi)	%	<0,1		<0,1		<0,1		<0,1	
Max. quantity of condensation[1]	l/h	1,1		2,1		3,3		2,7	
		Flue Gas Emissions							
Carbon monoxide - CO - (0% of O_2)[2]	ppm	< 5		< 5		< 5		< 5	
Emissions of nitrogen oxides NOx* (0% of O_2) (HI)[3]		36 mg/kWh - 20 ppm		45 mg/kWh - 25 ppm		31 mg/kWh - 18 ppm		40 mg/kWh - 23 ppm	
Emissions of nitrogen oxides NOx* (0% of O_2) (Hs) [8]		32 mg/kWh - 18 ppm		41 mg/kWh - 23 ppm		28 mg/kWh - 16 ppm		36 mg/kWh - 20 ppm	
Pressure available at the flue	Pa	100		120		120		120	
		Electrical Characteristics							
Supply voltage	V	230 Vac - 50 Hz single-phase							
Absorbed electrical power	kW	0.280	0.310	0.420	0.510	0.500	0.613	0.650	0.750
Protection Rating	IP	IP20							
Operating Temperatures	°C	-15°C to +40°C - lower temperatures require a burner compartment heating kit [9]							
		Connections							
Gas connection Ø [4]	GAS	UNI/ISO 228/1 - G 3/4		UNI/ISO 228/1 - G 3/4		UNI/ISO 228/1 - G 3/4[5]		UNI/ISO 228/1 - G 3/4[5]	
Intake/exhaust pipes Ø	mm	80/80		80/80		100/100[6]		100/100[6]	
		Air Flow Rate							
Air flow rate (15°C)	m^3/h	4500		7800		9000		11100	
Air temperature increase	°C	5.73	25.74	4.92	23.13	5.66	25.49	5.89	25.09
Number and diameter of fans		1 x Ø450		2 x Ø400		2 x Ø450		3 x Ø400	
Fans speed	rpm	1370		1370		1370		1370	
Sound pressure (Lp) [7]	dB(A)	49		51		52		54	
		Weight							
Net Weight	kg	79		98		129		145	

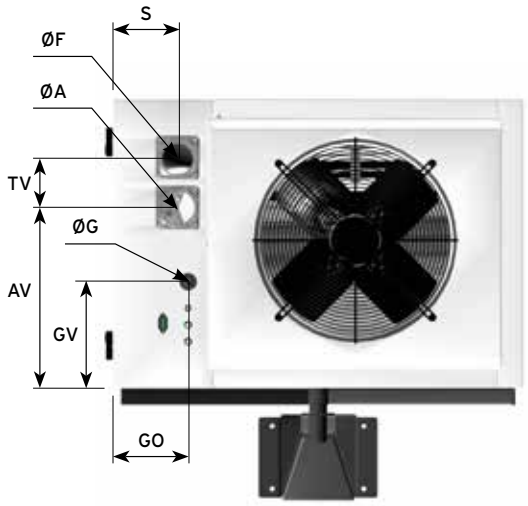
NOTES:
* Symbol in accordance with Reg. EU/2281/2016.
(1) Max. condensation produced acquired from testing at 30%Qn.
(2) Value referred to cat. H (G20)
(3) Weighted value to EN17082 ref. to cat. H (G20), referred to Hi (N.C.V.).
(4) The gas line must be measured according to the length of the routing and not to the appliance diameter.
For countries requiring an ISO connection different from the one shown, an adaptor will be supplied.
(5) For the LK080 and LK105 models, the minimum gas supply duct diameter must be UNI/ISO 228/1- G 1".
(6) Ø100/100 obtained by using adaptors supplied as standard.
(7) Measured at a distance of 6 m from the machine.
(8) Weighted value to EN17082 ref. to cat. H (G20), referred to gross calorific value (Hs, G.C.V).
(9) If the burner housing heater kit is installed, add 105 W (230V) to the rated power value on the nameplate.

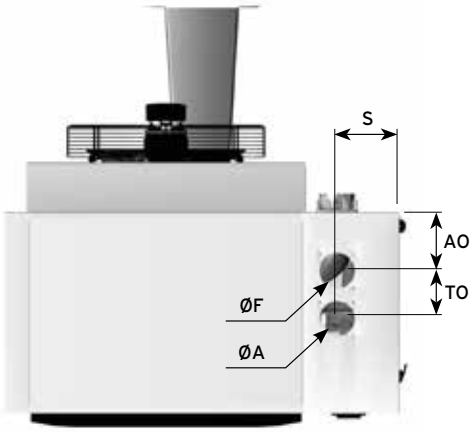
LK WITH AXIAL FAN / DIMENSIONS





Model	Overall dimensions			Louvre		Shelf		GAS supply		
	B	H	L	HB	LB	IS	ID	ØG	GO	GV
LK045-0X00	500	765	985	595	680	490	495	3/4''	180	255
LK065-0X00	500	765	1310	595	1010	605	710	3/4''	180	255
LK080-0X00	500	845	1515	675	1180	720	795	3/4''	210	275
LK105-0X00	500	845	1740	675	1410	805	935	3/4''	210	275





Model	Horizontal exhausts (STD)				
	A	F	AV	TV	S
LK045-0X00	80	80	505	120	155
LK065-0X00	80	80	505	120	155
LK080-0X00	100*	100*	560	140	185
LK105-0X00	100*	100*	560	140	185

*Obtained by using the adaptors supplied as standard

Model	Vertical exhausts (OPT.)				
	A	F	AV	TV	S
LK045-0X00	80	80	145	120	155
LK065-0X00	80	80	145	120	155
LK080-0X00	100*	100*	145	140	185
LK105-0X00	100*	100*	145	140	185

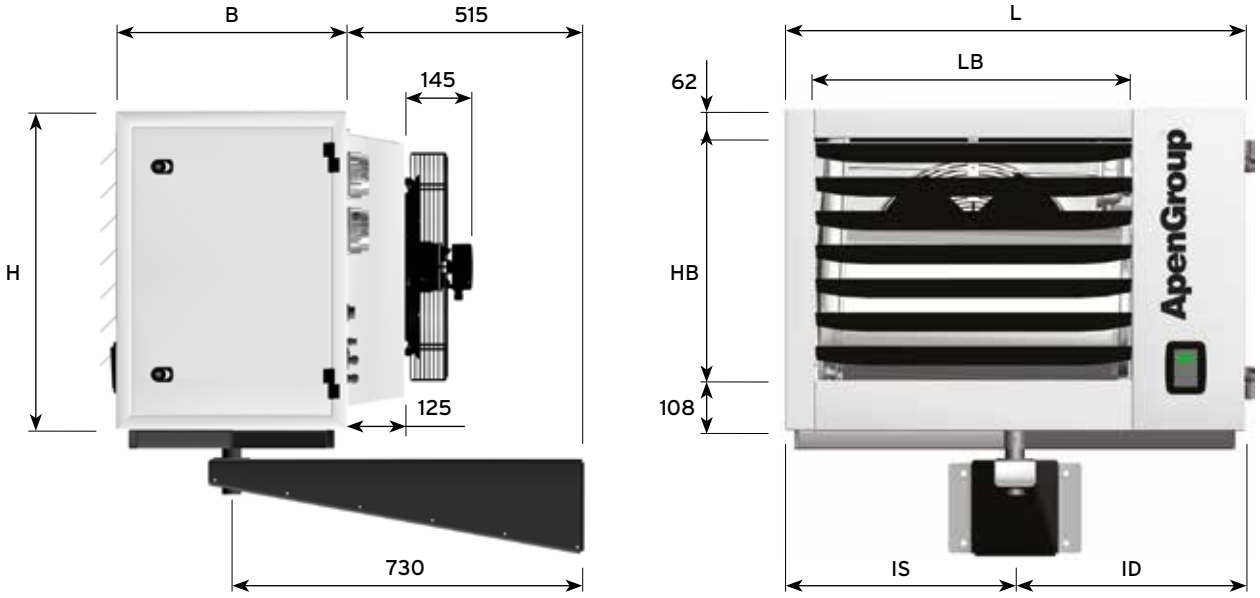
*Obtained by using the adaptors supplied as standard

LRP WITH AXIAL FAN / TECHNICAL DATA

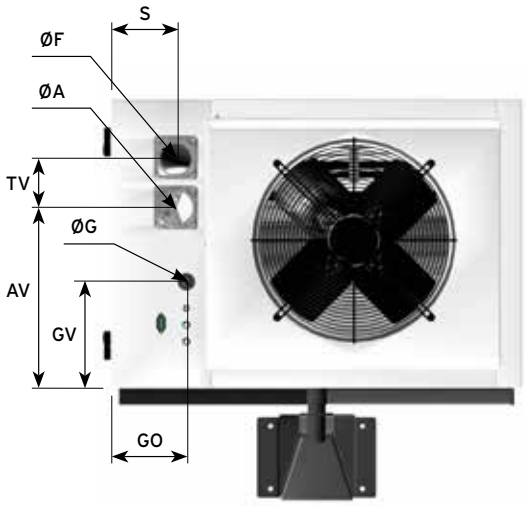
Model*		LRP055-0X00		LRP075-0X00		LRP102-0X00	
Type of equipment		B23 - B23P - C13 - C33 - C43 - C53 - C63					
NOx Class	Val	5					
		Heater Performance					
		min	max	min	max	min	max
Nominal heat input (Hi)	kW	29,8	52,2	44,4	73,5	51,8	100,0
Useful heat output [P_{min}, P_{rated}]*	kW	28,8	48,1	42,5	67,5	49,9	91,1
Hi Efficiency (N.C.V.) [η_{pl}, η_{nom}]*	%	96,8	92,1	95,8	91,8	96,4	91,1
Hs efficiency (G.C.V.) [η_{pl}, η_{nom}]*	%	87,1	82,9	86,2	82,6	86,8	82,0
Flue losses with burner on (Hi)	%	3,2	7,9	4,2	8,2	3,6	8,9
Flue losses with burner off (Hi)	%	<0,1		<0,1		<0,1	
		Flue Gas Emissions					
Carbon monoxide - CO - (0% of O_2) (1)	ppm	<5		<5		<5	
Emissions of nitrogen oxides - NOx* (0% of O_2) (Hi) (2)		46 mg/kWh - 26 ppm		60 mg/kWh - 34 ppm		67 mg/kWh - 38 ppm	
Emissions of nitrogen oxides - NOx* (0% of O_2) (Hs) (7)		42 mg/kWh - 23 ppm		54 mg/kWh - 31 ppm		60 mg/kWh - 34 ppm	
Pressure available at the flue	Pa	130		140		140	
		Electrical Characteristics					
Supply voltage	V	230 Vac - 50 Hz single-phase					
Absorbed electrical power	kW	0,268	0,33	0,454	0,493	0,49	0,582
Protection Rating	IP	IP 20					
Operating Temperatures	°C	-15°C to +40°C - lower temperatures require a burner compartment heating kit (8)					
		Connections					
Gas connection Ø (3)	GAS	UNI/ISO 228/1 - G 3/4"		UNI/ISO 228/1 - G 3/4"		UNI/ISO 228/1 - G 3/4" (4)	
Intake/exhaust pipes Ø	mm	80/80		80/80		100/100 (5)	
		Air Flow Rate					
Air flow rate (15°C)	m^3/h	4500		7800		9000	
Air temperature increase	°C	18,4	30,6	15,6	24,8	18,1	33,5
Number and diameter of fans		1 X Ø450 (4P)		2 X Ø400 (4P)		2 X Ø450 (4P)	
Fans speed	rpm	1370		1370		1370	
Sound pressure (Lp) (6)	dB(A)	49		51		52	
		Weight					
Net weight	kg	78		102		123	

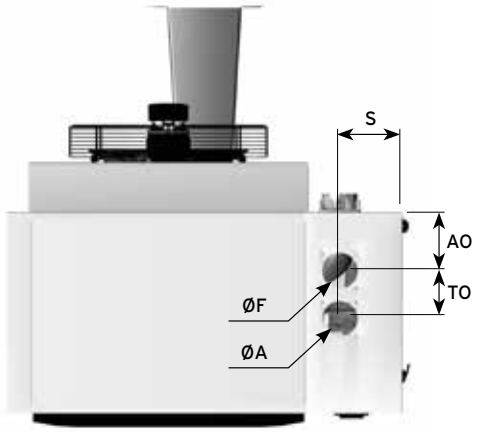
NOTES:
* Symbol in accordance with Reg. EU/2281/2016.
(1) Value referred to cat. H (G20)
(2) Weighted value to EN17082 ref. to cat. H (G20), referred to Hi (N.C.V.).
(3) The gas line must be measured according to the length of the routing and not to the appliance diameter. For countries requiring an ISO connection different from the one shown, an adaptor will be supplied.
(4) For LRP102 models, the minimum gas supply duct diameter must be UNI/ISO 228/1- G 1".
(5) Ø100/100 obtained by using adaptors supplied as standard.
(6) Measured at a distance of 6 m from the machine.
(7) Weighted value to EN17082 ref. to cat. H (G20), referred to gross calorific value (Hs, G.C.V).
(8) If the burner housing heater kit is installed, add 105 W (230V) to the rated power value on the nameplate.

LRP WITH AXIAL FAN / DIMENSIONS



Model	Overall dimensions			Louver		Shelf		Supply GAS		
	B	H	L	HB	LB	IS	ID	ØG	GO	GV
LRP055-0X00	500	765	985	595	680	490	495	3/4''	180	255
LRP075-0X00	500	765	1310	595	1010	605	710	3/4''	180	255
LRP102-0X00	500	845	1515	675	1180	720	795	3/4''	210	275





Model	Horizontal exhausts (STD)				
	A	F	AV	TV	S
LRP055-0X00	80	80	505	120	155
LRP075-0X00	80	80	505	120	155
LRP102-0X00	100*	100*	560	140	185

*Obtained by using the adaptors supplied as standard

Model	Vertical exhausts (OPT.)				
	A	F	AV	TV	S
LRP055-0X00	80	80	145	120	155
LRP075-0X00	80	80	145	120	155
LRP102-0X00	100*	100*	145	140	185

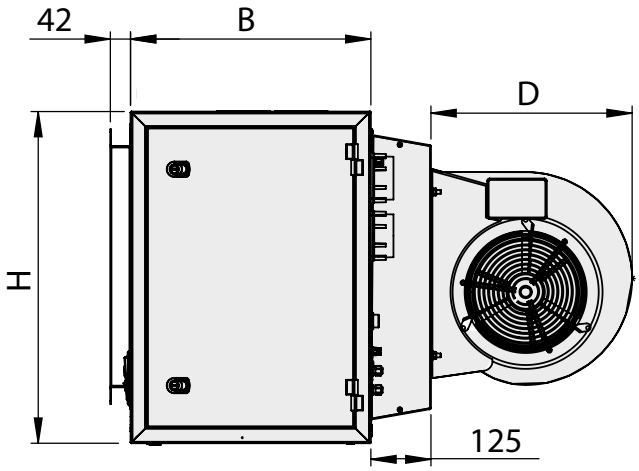
*Obtained by using the adaptors supplied as standard

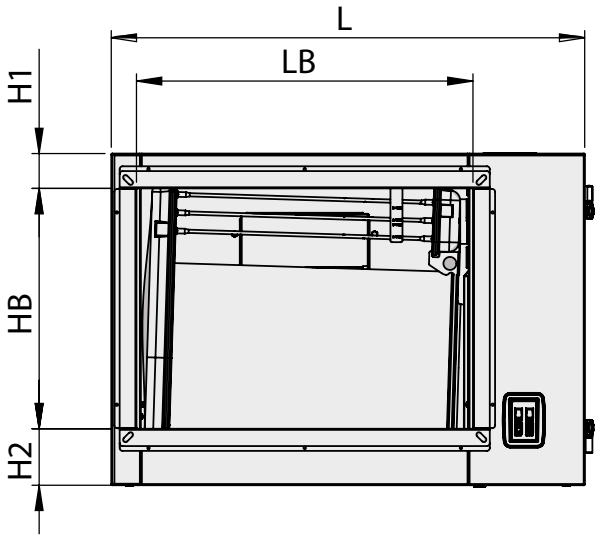
LKC-0X00 WITH CENTRIFUGAL FAN / TECHNICAL DATA

Model		LKC045-0X00		LKC065-0X00	
Type of equipment		B23 - B23P - C13 - C33 - C43 - C53 - C63			
NOx Class	Val	5			
		Heater Performance			
		min	max	min	max
Nominal heat input (Hi)	kW	8,50	42,00	12,40	65,00
Useful heat output [P_{min}, P_{rated}]*	kW	8,97	40,45	13,40	62,93
Hi Efficiency (N.C.V.) [η_{pl}, η_{nom}]*	%	105,50	96,30	108,06	96,82
Hs efficiency (G.C.V.) [η_{pl}, η_{nom}]*	%	95,07	86,76	97,36	87,22
Flue losses with burner on (Hi)	%	0,5	3,7	0,2	3,2
Flue losses with burner off (Hi)	%	<0,1		<0,1	
Max. quantity of condensation(1)		1,1		2,1	
		Flue Gas Emissions			
Carbon monoxide - CO - (0% of O_2)(2)	ppm	< 5		< 5	
Emissions of nitrogen oxides NOx*- (0% of O_2) (HI)(3)		36 mg/kWh - 20 ppm		45 mg/kWh - 25 ppm	
Emissions of nitrogen oxides - NOx*(0% of O_2) (Hs) (5)		32 mg/kWh - 18 ppm		41 mg/kWh - 23 ppm	
Pressure available at the flue	Pa	100		120	
		Electrical Characteristics			
Supply voltage	V	230 Vac - 50 Hz single-phase			
Absorbed electrical power	kW	0.280	0.310	0.420	0.510
Protection Rating	IP	IP20			
Operating Temperatures	°C	-15°C to +40°C - lower temperatures require a burner compartment heating kit (6)			
		Connections			
Gas connection Ø (4)	GAS	UNI/ISO 228/1 - G 3/4		UNI/ISO 228/1 - G 3/4	
Intake/exhaust pipes Ø	mm	80/80		80/80	
		Air Flow Rate			
Air flow rate (15°C)	m^3/h	4650		5650	
Available pressure	Pa	140		140	
Rated power	kW	1260		2080	

NOTES:
* Symbol in compliance with Reg.EU/2281/2016.
(1) Max. condensation produced acquired from testing at 30%Qn.
(2) Value referred to cat. H (G20)
(3) Weighted value to EN17082 ref. to cat. H (G20), referred to net calorific value (Hi, N.C.V).
(4) The gas line must be dimensioned according to the length of the routing and not to the heater input diameter. For countries requiring an ISO connection different from the one shown, an adaptor will be supplied.
(5) Weighted value to EN17082 ref. to cat. H (G20), referred to gross calorific value (Hs, G.C.V).
(6) If the burner housing heater kit is installed, add 105 W (230V) to the rated power value on the nameplate.

LKC WITH CENTRIFUGAL FAN / DIMENSIONS





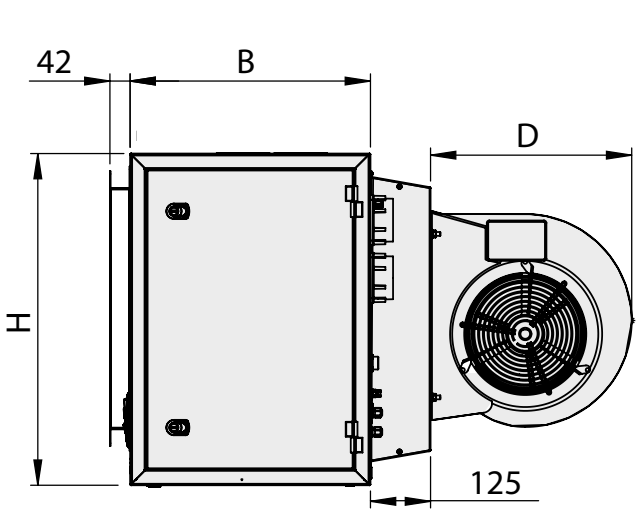
Model	Overall Dimensions				Louvers				Gas Supply		
	B	H	L	D	HB	LB	H1	H2	ØG	GO	GV
LKC045-0X00	500	765	985	490	600	700	61	105	3/4''	180	255
LKC065-0X00	500	765	1.310	420	600	1.000	61	105	3/4''	180	255

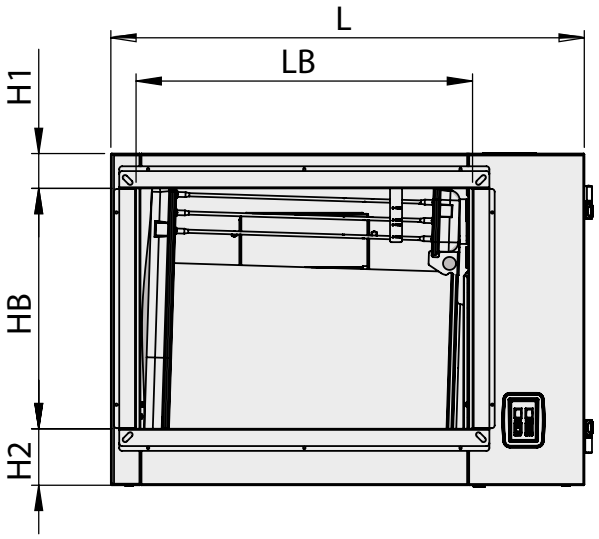
LRP-0XC0 WITH CENTRIFUGAL FAN / TECHNICAL DATA

Model		LRP055-0XC0		LRP075-0XC0	
Type of equipment		B23 - B23P - C13 - C33 - C43 - C53 - C63			
NOx Class	Val	5			
		Heater Performance			
		min	max	min	max
Nominal heat input (Hi)	kW	29,8	52,2	44,4	73,5
Useful heat output [P_{min}, P_{rated}]*	kW	28,8	48,1	42,5	67,5
Hi Efficiency (N.C.V.) [η_{pl}, η_{nom}]*	%	96,8	92,1	95,8	91,8
Hs efficiency (G.C.V.) [η_{pl}, η_{nom}]*	%	87,1	82,9	86,2	82,6
Flue losses with burner on (Hi)	%	3,2	7,9	4,2	8,2
Flue losses with burner off (Hi)	%	<0,1		<0,1	
		Flue Gas Emissions			
Carbon monoxide - CO - (0% of O_2) (1)	ppm	<5		<5	
Emissions of nitrogen oxides NOx* - (0% of O_2) (Hi) (2)		46 mg/kWh - 26 ppm		60 mg/kWh - 34 ppm	
Emissions of nitrogen oxides - NOx*(0% of O_2) (Hs)(4)		42 mg/kWh - 23 ppm		54 mg/kWh - 31 ppm	
Pressure available at the flue	Pa	130		140	
		Electrical Characteristics			
Supply voltage	V	230 Vac - 50 Hz single-phase			
Absorbed electrical power	kW	0,268	0,33	0,454	0,493
Protection Rating	IP	IP 20			
Operating Temperatures	°C	-15°C to +40°C - lower temperatures require a burner compartment heating kit (5)			
		Connections			
Gas connection Ø (3)	GAS			UNI/ISO 228/1-G 3/4"	
Intake/exhaust pipes Ø	mm			80/80	
		Air Flow Rate			
Air flow rate (15°C)	m^3/h	4650		7850	
Available pressure	Pa	140		140	
Rated power	kW	1260		2080	

NOTES:
* Symbol in compliance with Reg.EU/2281/2016.
(1) Value referred to cat. H (G20)
(2) Weighted value to EN17082 ref. to cat. H (G20), referred to net calorific value (Hi, N.C.V).
(3) The gas line must be dimensioned according to the length of the routing and not to the heater input diameter. For countries requiring an ISO connection different from the one shown, an adaptor will be supplied.
(4) Weighted value to EN17082 ref. to cat. H (G20), referred to gross calorific value (Hs, G.C.V).
(5) If the burner housing heater kit is installed, add 105 W (230V) to the rated power value on the nameplate.

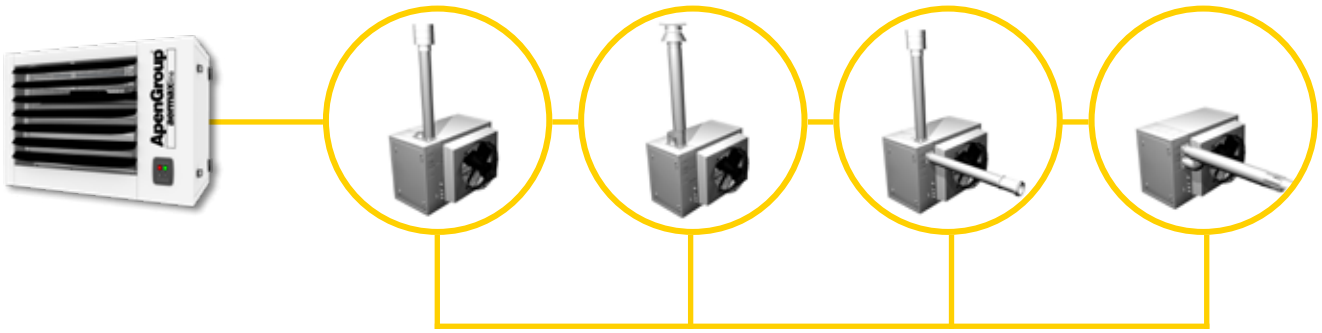
LRP-0XC0 WITH CENTRIFUGAL FAN / DIMENSIONS



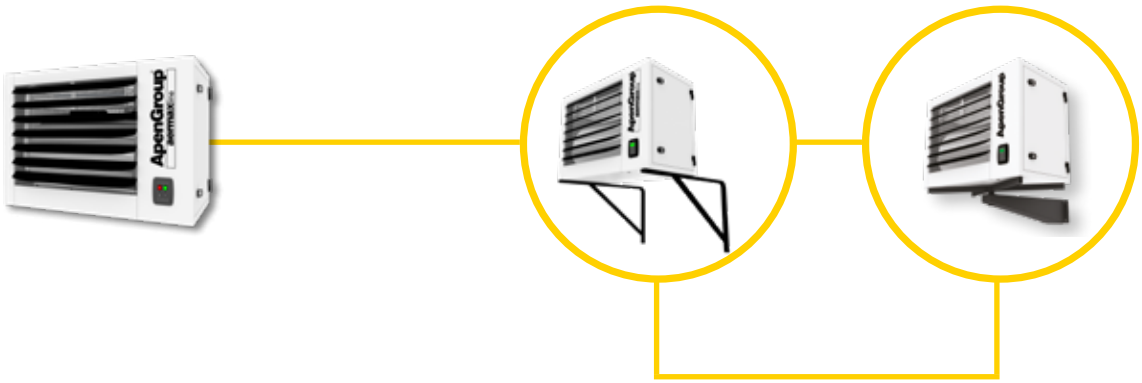


Model	Overall Dimensions				Louvers				GAS Supply		
	B	H	L	D	HB	LB	H1	H2	ØG	GO	GV
LRP055-0XC0	500	765	985	490	600	700	61	105	3/4''	180	255
LRP075-0XC0	500	765	1310	420	600	1000	61	105	3/4''	180	255

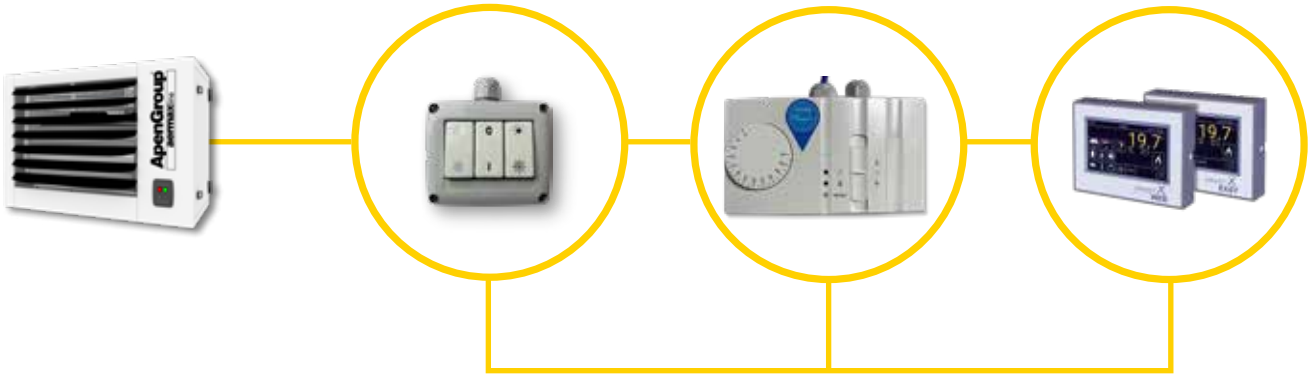
ACCESSORIES



EXHAUST FUMES TERMINALS



SUPPORTING BRACKETS

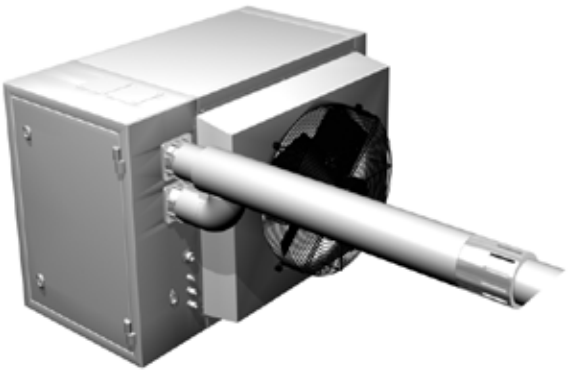


CONTROL ACCESSORIES

EXHAUST FUMES TERMINALS

TIPO B23 - VERTICAL

Open combustion circuit, combustion air intake from indoor, external flue exhaust on the roof.



TIPO C13 - HORIZONTAL COAXIAL

Combustion circuit is sealed from the room. Piping is connected to outdoor using one concentric terminal through the wall.

TIPO C53

Sealed combustion circuit. Both pipes are connected to outdoor through different walls.

TIPO C33 - COAXIAL CONNECTION TO ROOF

Sealed combustion circuit. Piping is connected to outdoor using one concentric terminal on the roof.

HEATER'S CONTROLS

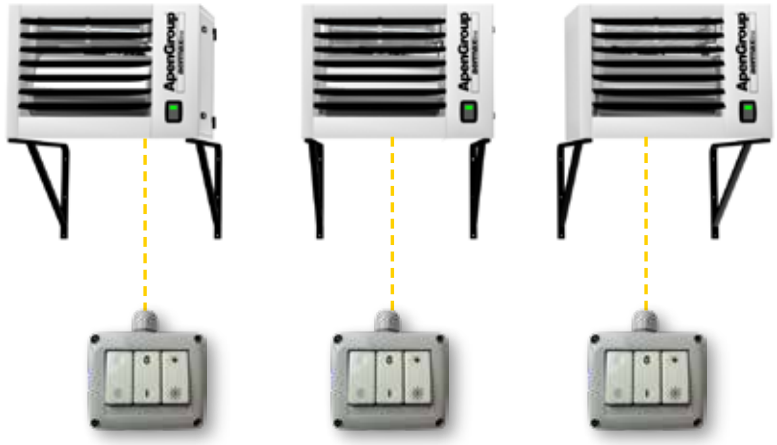
SMART X WEB AND SMART X EASY CONTROLS

Apen Group's new remote control SMART X WEB and SMART X EASY series perform the functions of standalone timeclock and thermostat and can be used in a system that controls up to 15 heaters installed in a single zone.

BASIC REMOTE CONTROL

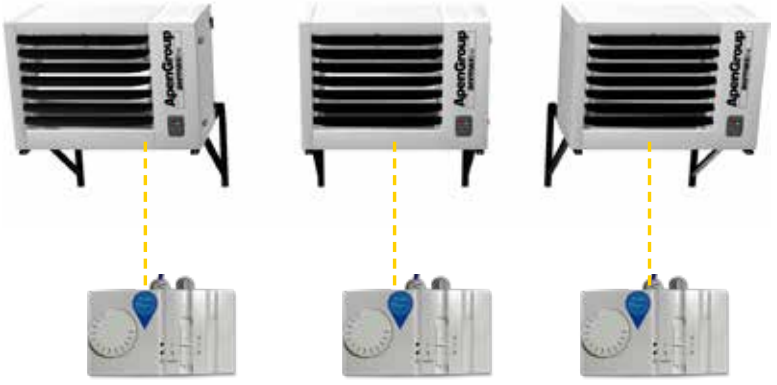
It allows the following settings:
- On/Off button.
- Summer/Winter switch and Reset button.

It can be used with a thermostat to regulate room temperature, switch to summer or winter working mode, turn off the heater without powering the unit off, display burner lock and reset the burner after a lock.



REMOTE CONTROL WITH THERMOSTAT

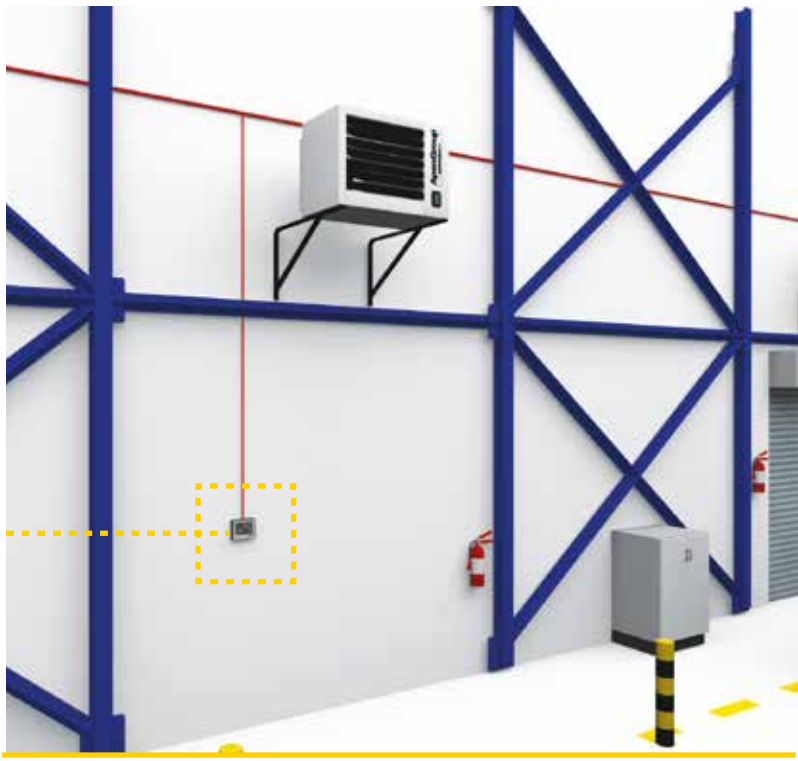
Control of turning ON/OFF with the room temperature regulation, with Summer/Winter switch and Reset button.

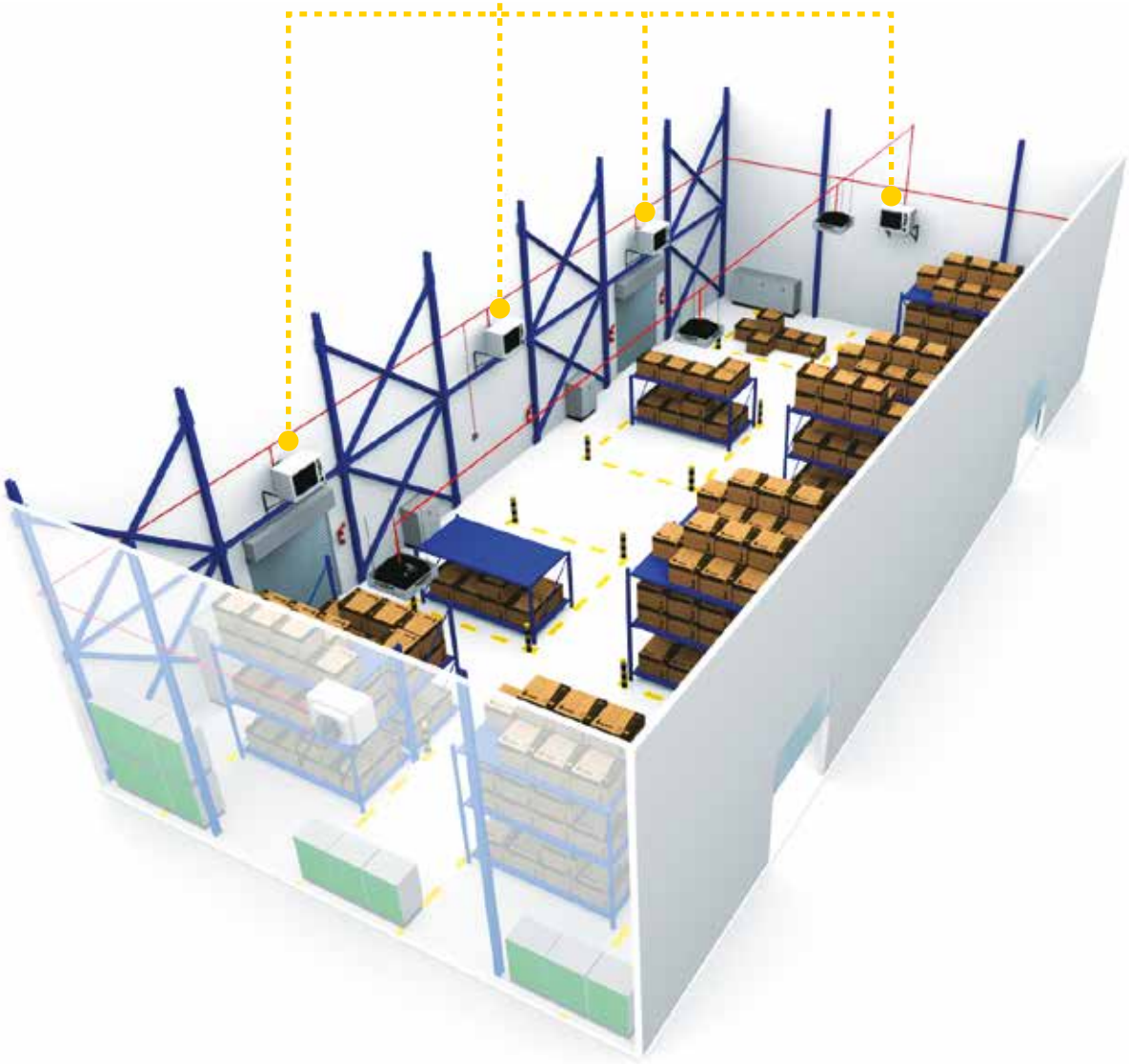


SMART X WEB AND SMART X EASY CONTROLS

FEATURES

- Simple connection to the heater using four polarized wires (2 wires for modbus control and 2 for electrical supply, 12 V).
- It manages all the functions, regulations and resetting.
- Possibility to install 3 additional temperature probes.
- Has a 4.3" touch screen with resolution 480x272 pixel.
- Supports the following languages: italian, english, spanish, french, german, dutch, czech, polish and rumenian.
- Additionally, SMART X WEB version allows connection to the internet via ethernet to remotely control the installation.
- It can be installed from the beginning or added later as an optional accessory.





QUEEN

AIR DESTRATIFIERS

NEW

OPTIONAL CONTROLLER	OPTIONAL CONTROLLER	ELECTRONIC DESTRATIFIER	OPTIONAL SMART X CONTROLS
			

THE QUEEN DESTRATIFIERS

The QUEEN destratifiers have been purposely designed to reduce air stratification and make the temperature of the environments in which they are installed homogeneous, exploiting the powerful air blow of the axial fans with which they are equipped.
The concept of destratification at the base of this product is simple: the hot air that tends to remain in the upper zones of the heated environments is sucked by the axial fan mounted on the destratifier and pushed downwards in the zones where people is present.

DIRECT EFFECT INDUCTION EFFECT

The Queen destratifiers move a large quantity of air, both for a direct effect and for the effect of induction which (as verified by the laboratory tests) drags the air immediately adjacent to the directly treated air. This allows for very high efficiency and great speed in achieving environmental comfort. This action is added to those of the heating appliances by mixing the hot air they produce with the ambient air.

SECTORS OF USE

- Logistics
- Depots and Warehouses
- Facilities
- Sheds
- Workshops with all types of processing
- Body shops
- Carpenter's workshops
- Shopping malls
- Public environments
- Gyms

INNOVATIVE DESIGN

The QUEEN destratifier has an innovative shape and design: it is built with very light materials (ABS plastic) and has a particularly compact shape.

POSITIONING VERSATILITY

The QUEEN destratifier's compact shape allows it to be installed very close to the ceiling of the target building (64 cm), solving problems often related to the passage of overhead cranes
or other self-propelled structures inside some sheds.

SIMPLE INSTALLATION

Its particularly small size and weight make it easy to move and position.
Installation is limited to fixing by means of practical coupling and support systems.

HIGH-PERFORMANCE STRUCTURE

Compact and lightweight, the QUEEN has a solid construction and has no fan balancing issues as it uses a robust type of fan that requires little maintenance.

BENEFITS IN SUMMER

- Reduction of relative humidity by more than 20%.
- Reduction of the concentration of flue gas and odours by more than 50%.
- Clear improvement of the microclimate.

BENEFITS IN WINTER

- Reduction of heat demand by more than 30%.
- Reduction of relative humidity by more than 20%.
- Elimination of condensation.
- Reduced maintenance for plants and facilities.

QUEEN DESTRATIFIERS

TECHNICAL FEATURES

- ABS supporting structure and diffuser.
- Fin geometry with high diffusion efficiency.
- Treated air from 7,500 m^3/h to 10,050 m^3/h
- Range of operation 70-380 $m^{2.}$
- Absorbed power 130 W / 230 W.
- 230 V single-phase supply voltage.
- IP54 Protection degree.
- Axial fan.
- Possibility of adjusting the ventilation speed.

ACCESSORIES UPON REQUEST

- Variable speed drive
- Temperature regulator

VARIABLE SPEED DRIVE

In case there is the need to adjust the rotation speed of the fans, and consequently reduce the air speed on the ground, two 5-position speed drives are available as accessories on request:

A drive that can control up to 2 Q450s or up to 4 Q350s simultaneously.

A drive that can control up to 5 Q450s or up to 10 Q350s simultaneously.

Both drives have a summer/0/winter adjustment button (winter in the case of regulating operation with the accessory thermostat).

AUTOMATIC/ENERGY SAVING

It is important to emphasise that the new QUEEN destratifiers provide the possibility of the combination of an accessory thermostat that allows to set the automatic operation of the destratifier(s) installed in a room.

This accessory kit allows to automate the operation of the destratifier and to regulate its operation only when the environment needs it, thus allowing the reduction of consumption.

The destratifiers start automatically once the operation of the heating system results in a ΔT between the temperature measured at the height of the destratifier installation and the ambient temperature (therefore only when there is a real need to destratify).

SIMPLICITY AND EFFICIENCY

Among the most important data we want to highlight:

- The single-phase power supply, with consequent ease in setting up the electrical system.
- The reduced power consumption.
- The installation height allowing the passage of overhead cranes or other self-propelled structures.

This type of operation, together with the rapidity in reaching comfort described above, allows to significantly reduce the electrical consumption of the destratification system. This is because the actual hours of operation of the electric fans will be automatically controlled and will be much lower than the hours of use of the heating system.

QUEEN-EC ELECTRONIC DESTRATIFIERS

TECHNICAL FEATURES

- ABS supporting structure and diffuser.
- Fin geometry with high diffusion efficiency.
- Treated air from 8,650 m^3/h to 11,550 m^3/h.
- Range of operation 70-380 m^2.
- Absorbed power 130 W / 230 W.
- 230 V single-phase supply voltage.
- IP54 Protection degree.
- Electronic axial fans with integrated inverter.
- Possibility of adjusting the ventilation speed.
- Switch-on, switch-off and air flow rate regulation with 0-10 Vdc signal.

ACCESSORIES UPON REQUEST

KIT G24550:

- CPU electronic board.
- Ambient probe.

POSSIBLE CONFIGURATIONS

QUEEN-EC DESTRATIFIER

→ STAND ALONE →

CONTROLLABLE WITH 0-10 VOLT SIGNAL

KIT G03780 POTENTIOMETER MANUAL REMOTE CONTROL

QUEEN-EC DESTRATIFIER

+

ELECTRIC BOARD KIT G24550

- CPU electronic card
- Ambient probe

+

SMART X WEB

QUEEN-EC DESTRATIFIER

+

AKN SYSTEM: BOILER + WATER FAN HEATER

+

+

SMART X WEB OR SMART X EASY

QUEEN-EC DESTRATIFIER

+

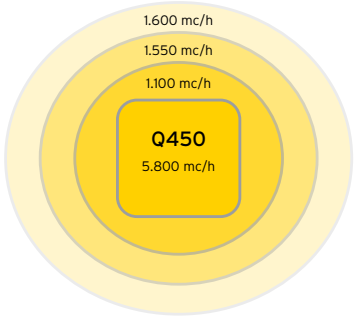
KONDENSA RAPID PRO

+

SMART X WEB OR SMART X EASY

DESTRATIFICATION

TREATED AIR

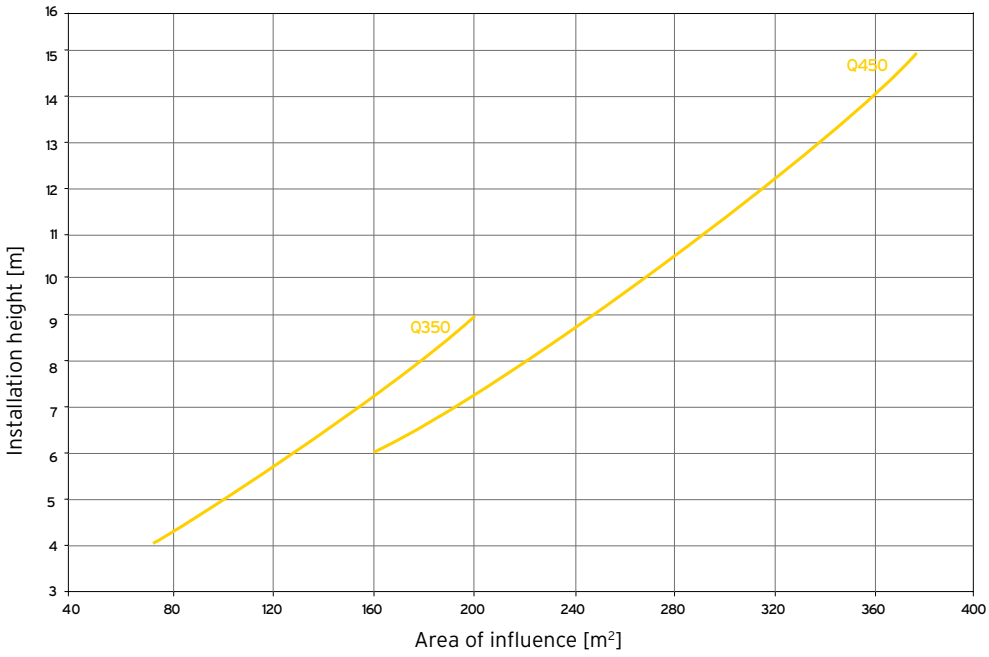


Fan flow rate	3,800 cu.m/h
Induced flow rate	3,700 cu.m/h
Total flow rate	7,500 cu.m/h

Fan flow rate	5,800 cu.m/h
Induced flow rate	4,250 cu.m/h
Total flow rate	10,050 cu.m/h

HIGH INDUCTION DIFFUSER

The downward diffusion of the hot air is "guided" by the inclined blades of the distributor mounted on the QUEEN destratifier; the complex geometry of these inclined blades has been studied and verified in order to have the best air blow in terms of area of influence as well as speed of the air perceived on the ground.
The following graph shows the indications of the area of influence depending on the installation height of the two models of the QUEEN destratifier.



QUEEN / TECHNICAL DATA

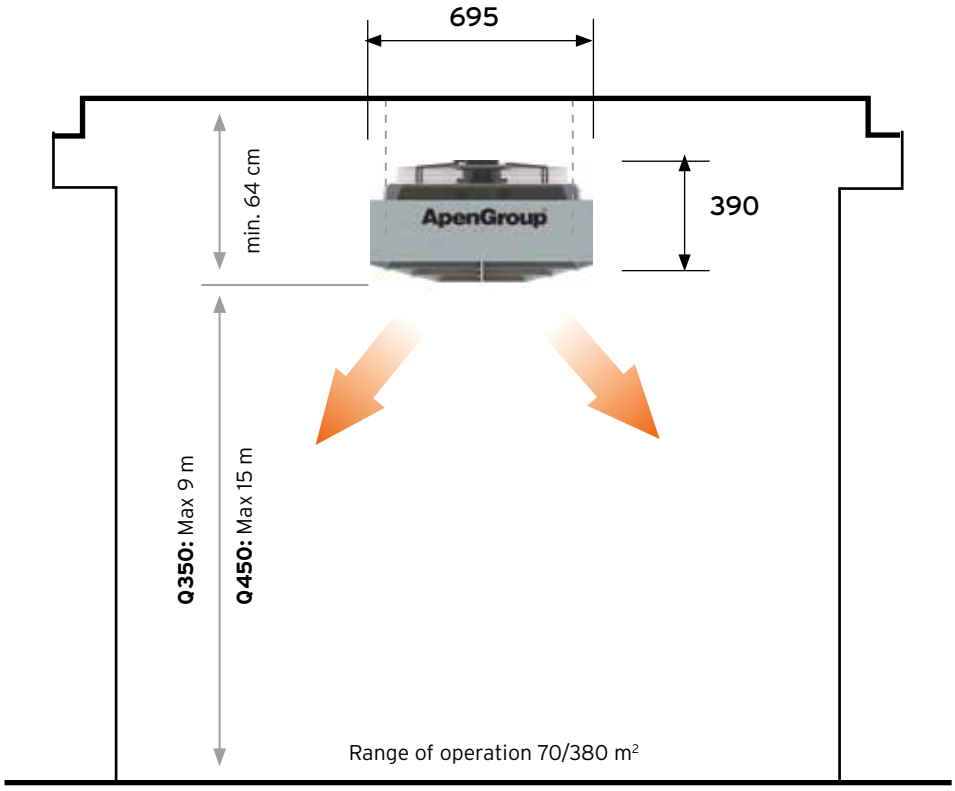
Model		Q350	Q450	Q350EC	Q450EC
Fan type		Axial		Electronic axial	
Casing and diffuser		ABS	ABS	ABS	ABS
Treated air flow rate	m^3/h	7,500	10,050	8,650	11,550
Fan air flow rate	m^3/h]	3,800	5,800	2,645	6,028
Sound power	dB(A)	65	71	65	71
Sound pressure	dB(A)	43 (at 5 metres)	45 (at 8 metres)	43 (at 5 metres)	45 (at 8 metres)
Range of operation	m^2	70-200	150-380	70-200	150-380
Installation height	m (min-max)	4-9	6-15	4-9	6-15
No. of fans and blade diameter		1x350	1x450	1x350	1x450
Working temperature	min-max	-15°C,+50°C	-15°C,+50°C	-15°C,+50°C	-15°C, +50°C
Maximum room height	m	18	18	18	18
Rated power	W	135	230	110	300
Frequency	Hz	50	50	50	50
Inrush current/max speed absorbed current	A	0.65/1.5	1.6/2.4	0.95	2.05
Motor revolutions	rpm	1340	1320	1350	1320
Supply voltage	V	230	230	230	230
Protection Rating		IP54	IP54	IP54	IP54
Weight	kg	14	15	17	17

DIMENSIONS AND INSTALLATION HEIGHT

INSTALLATION HEIGHT

The Q350 model is suitable for maximum installation heights of 9 metres with a capacity of 7,500 m^3/h.

The Q450IT model, on the other hand, is suitable for heights up to 15 metres, with a maximum treated air flow rate of 10,050 m^3/h.



AH

HEATING AND VENTILATION UNITS

STANDARD
SMART X WEB

STANDARD
DDMP FAN WITH
INVERTER

ErP
2021

ErP
2021
Compliant
EU/2016/2281

ApenGroup

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.

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.

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.

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.

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.

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

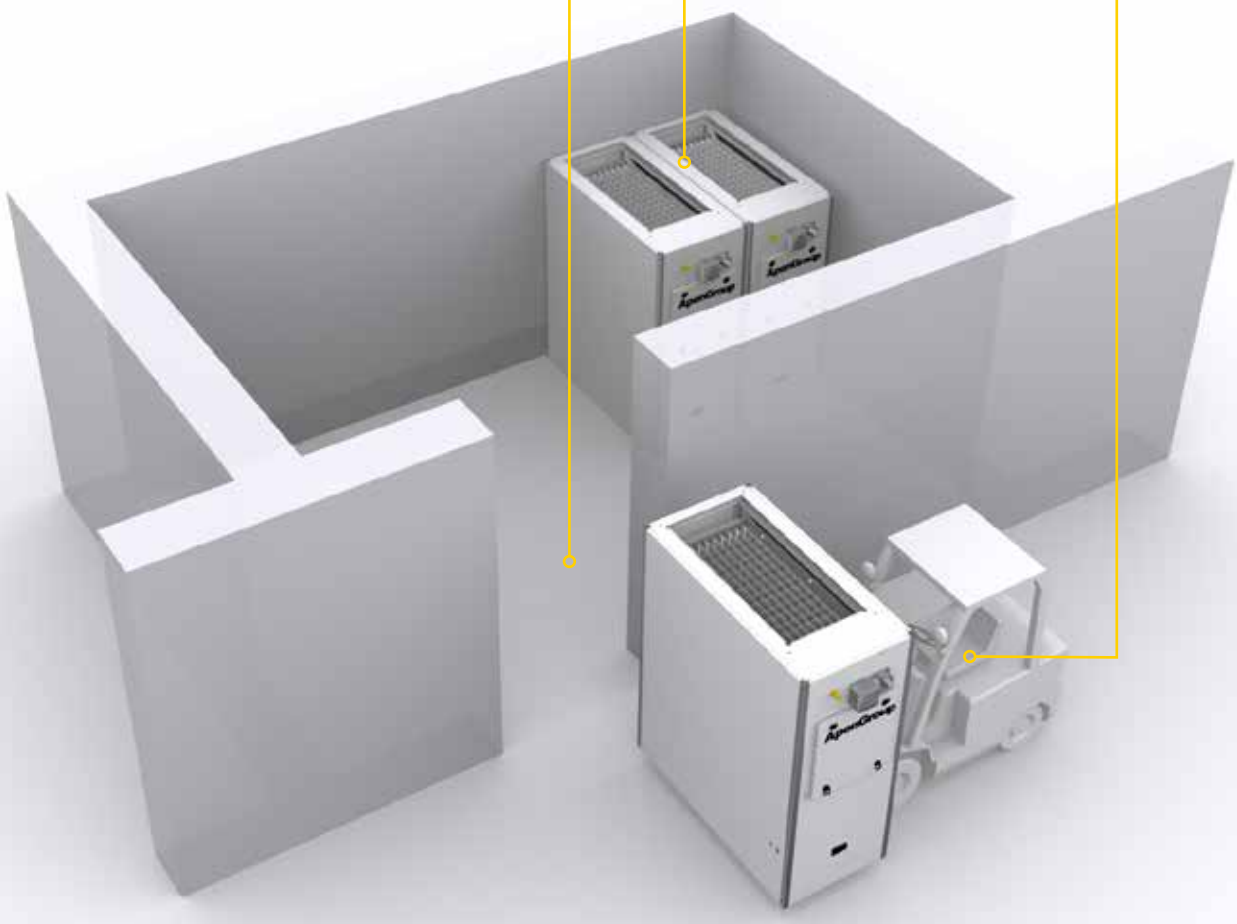
The small dimensions and modularity of the product allow it to be used even in particularly small spaces without the need for demolition or masonry work.

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.

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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.

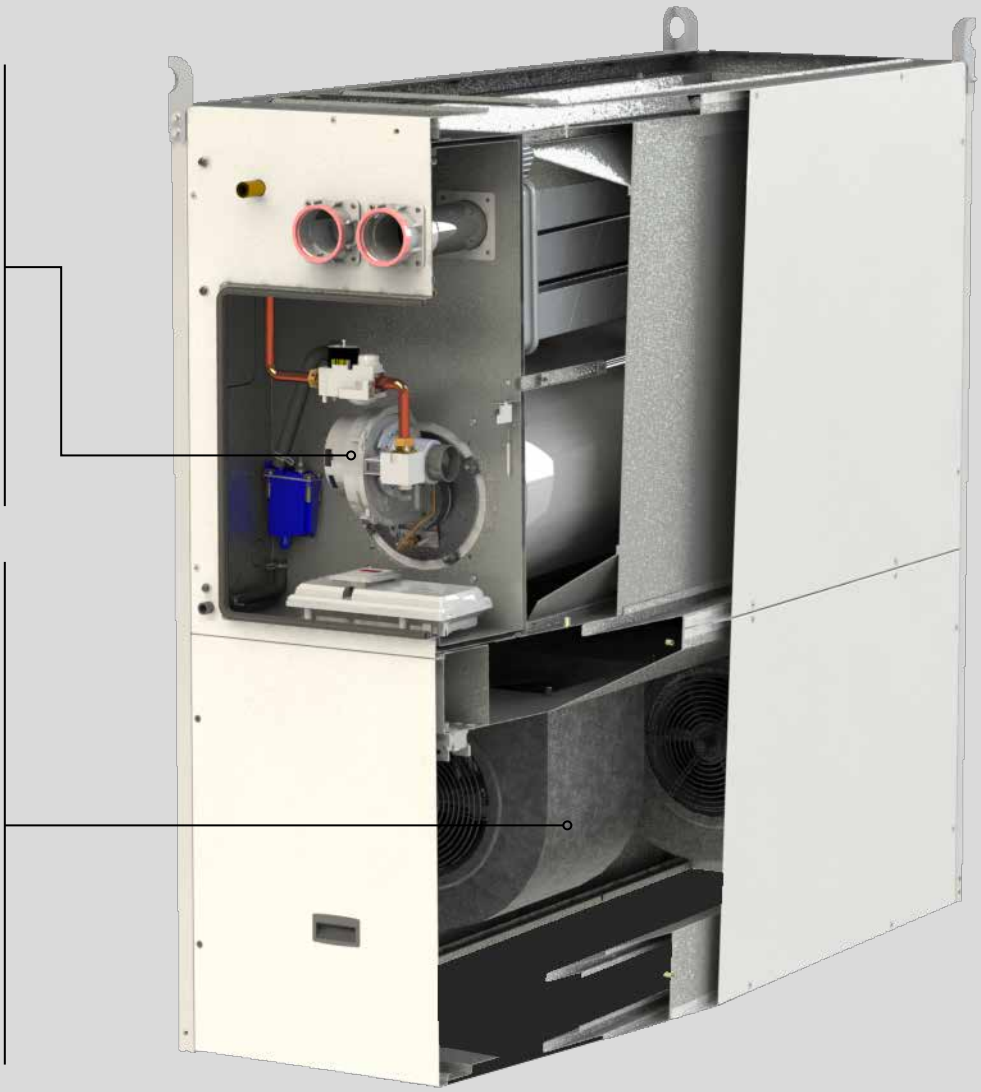
IT is possible to install up to three remote probes in addition to the one on board the control.
The controls are easy to use thanks to a 4.3" colour display and a very intuitive management menu.
The user program is multilingual (9 languages).

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.

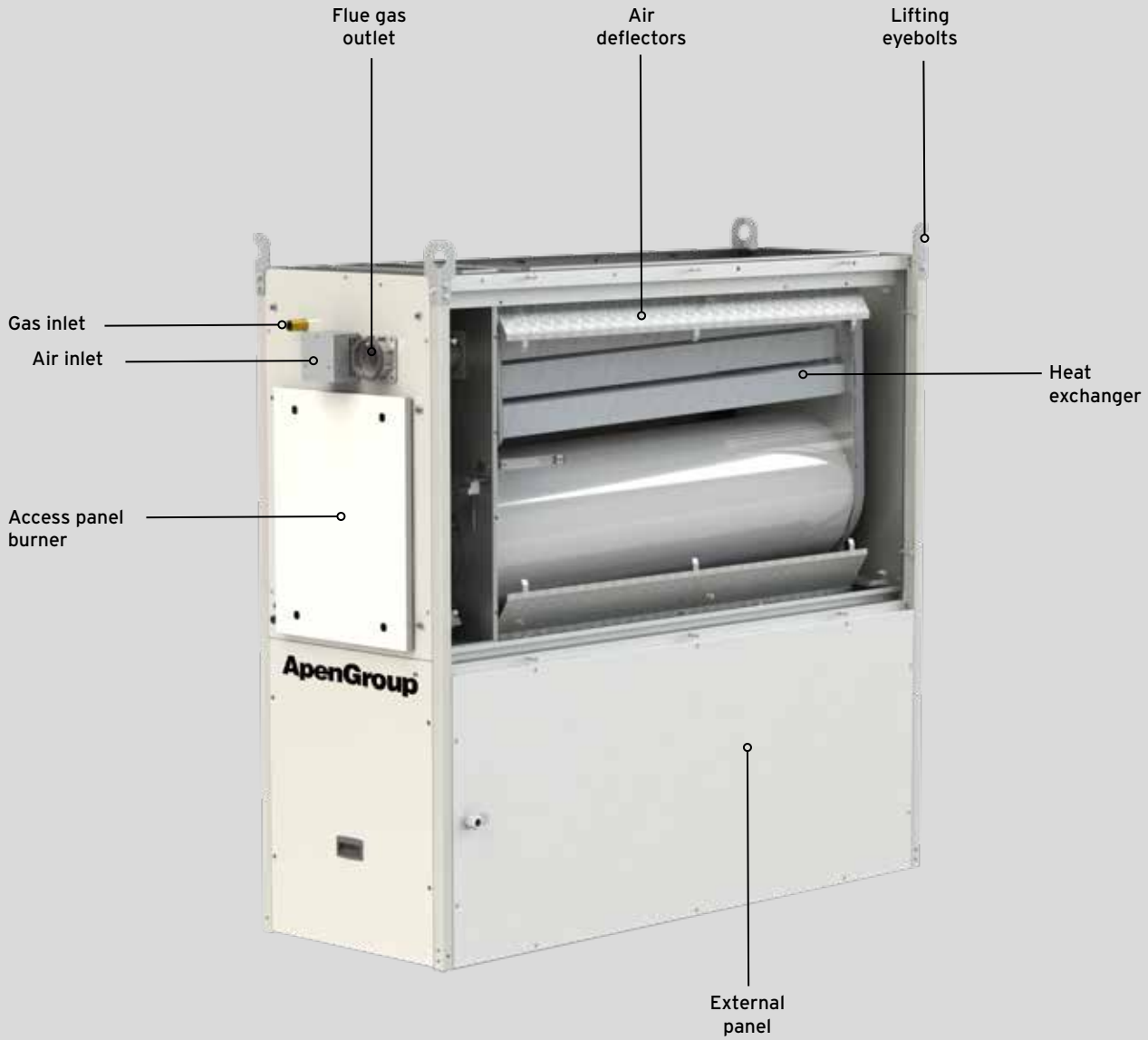


EASY INSTALLATION

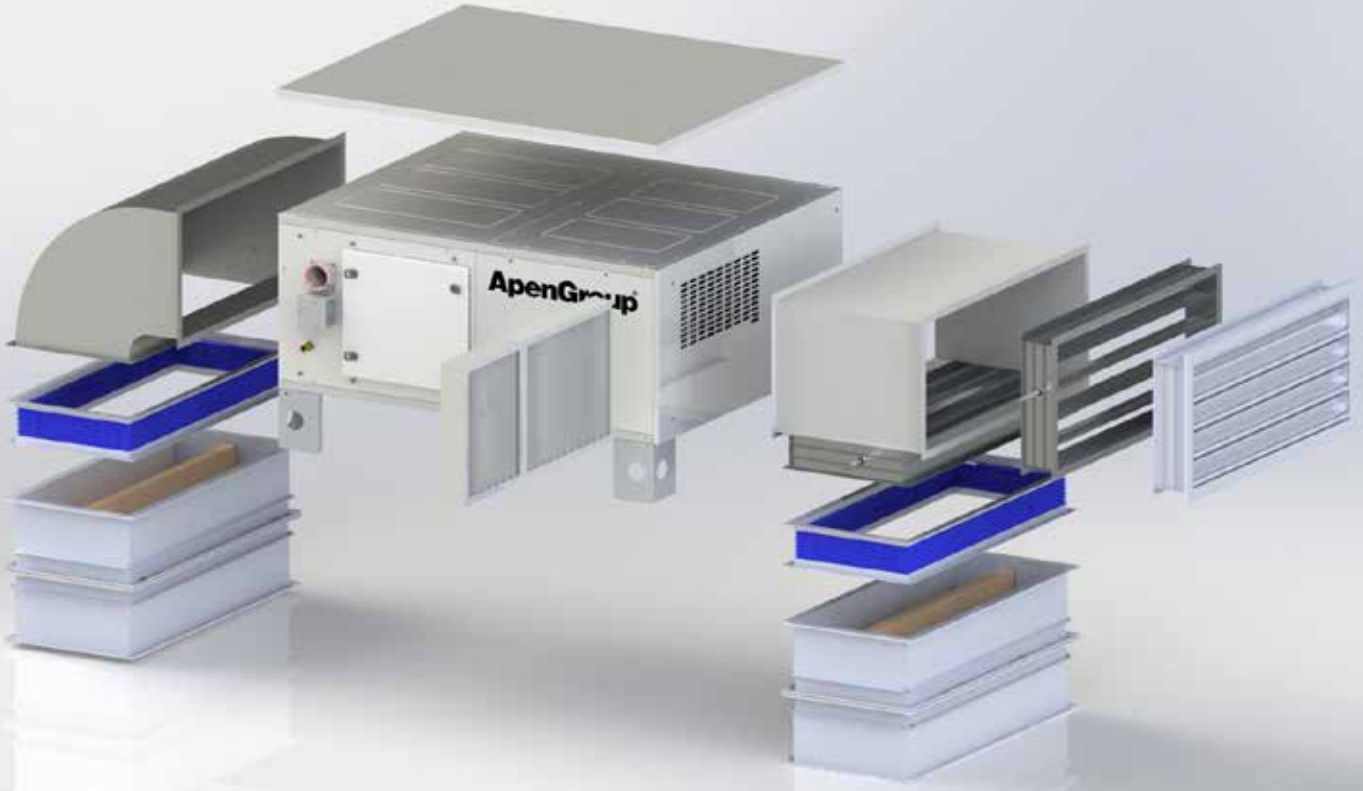
Easier installation for the technician.
It is sufficient to connect the gas line and the power supply.

HIGH-EFFICIENCY HEAT EXCHANGER

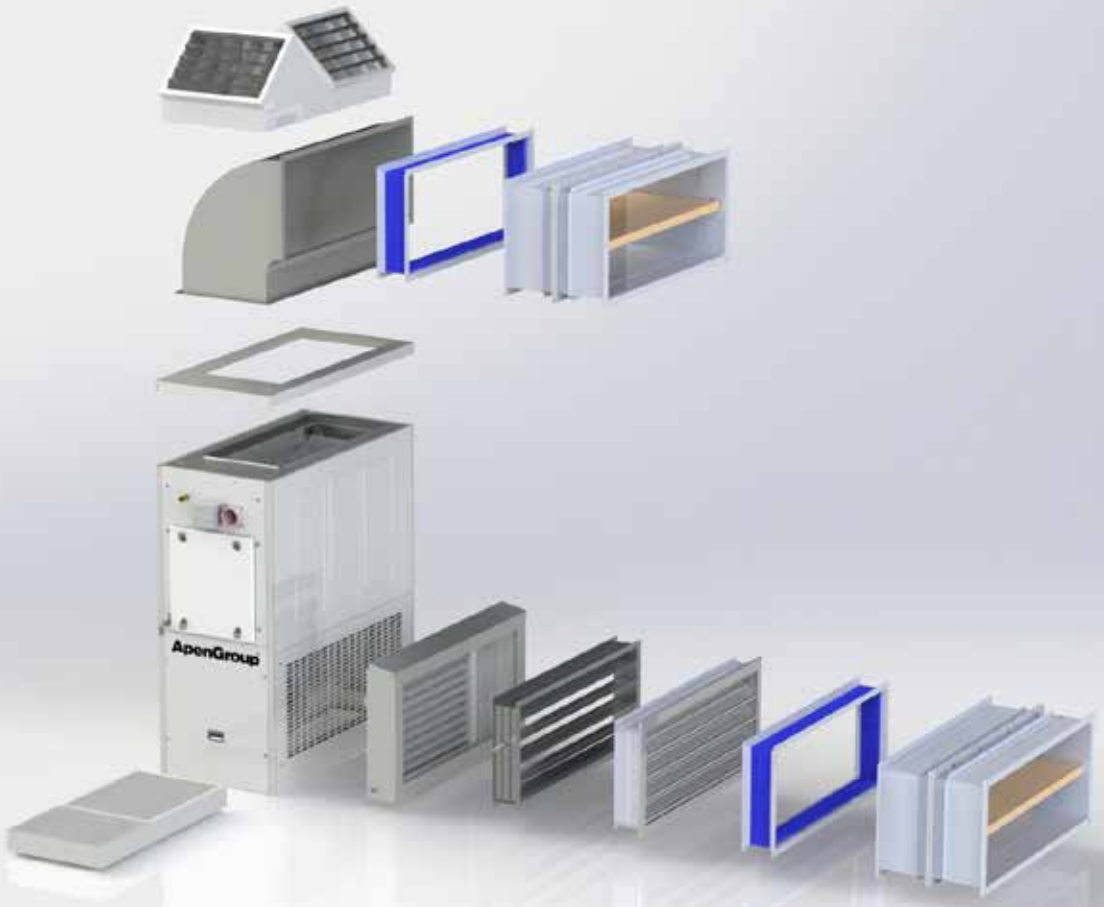
AH modular units integrate an advanced heat exchanger technology (built by robotic welding process) in high quality AISI 441 stainless steel with corrosion resistance, with longer lifetime that reduces life cycle costs.



ACCESSORIES - HORIZONTAL SINGLE AH UNIT

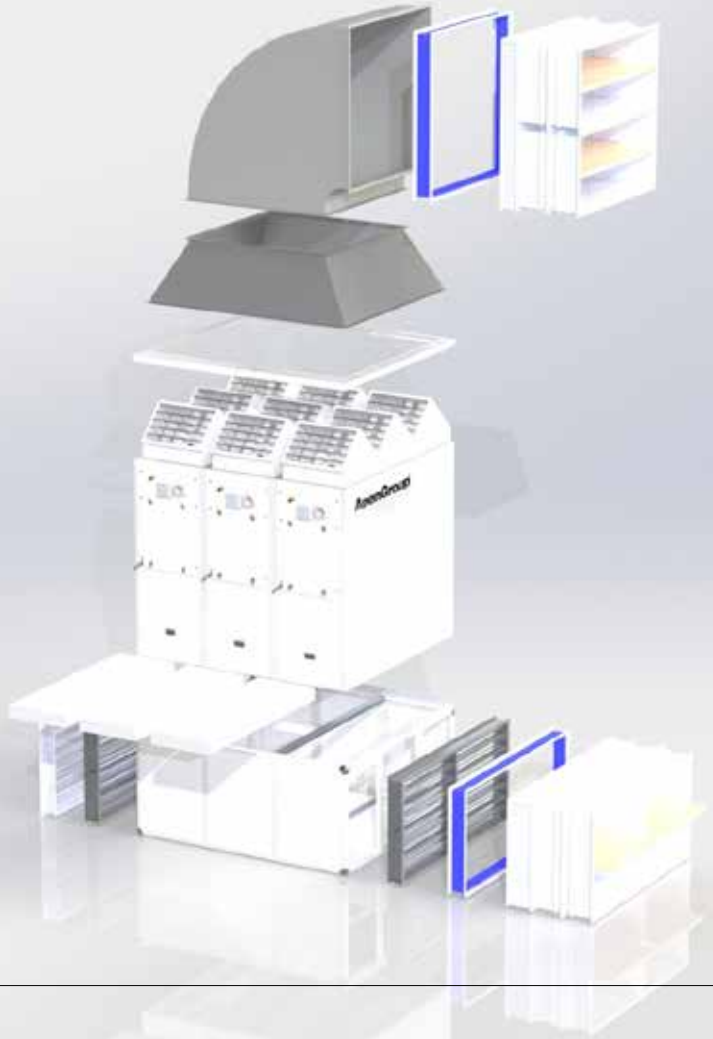


ACCESSORIES - VERTICAL SINGLE AH UNIT



ACCESSORIES - HORIZONTAL MULTIPLE AH UNIT

ACCESSORIES - VERTICAL MULTIPLE AH UNIT

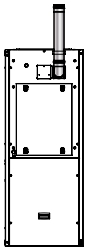


VERTICAL VERSION AH SERIES / TECHNICAL DATA

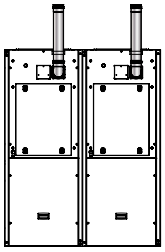
Code	Air flow rate	Available Pressure	Useful Heat Output		Efficiency		Motor
	m^3/h	Pa	min (kW)	max (kW)	min (%)	max (%)	kW
AH034IT-01V0	3210	190	8.13	33.56	106.97	96.3	1x 0.8 kW
AH034IT-02V0	3210	560	8.13	33.56	106.97	96.3	1x 2.0 kW
AH065IT-01V0	6010	380	13.4	62.93	108.06	96.82	2x 0.8 kW
AH065IT-02V0	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

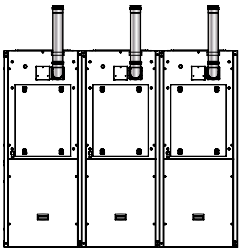
Model
AH034 / 065 / 105



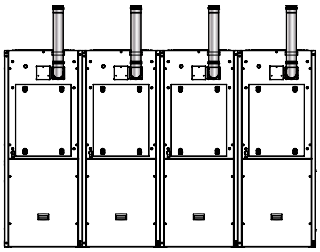
Model
AH 160 / 210



Model
AH 320



Model
AH 420

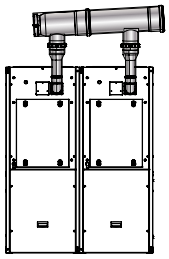


Kit code	Description	Diameter
G18165-105	Independent flue gas outlet kit, for single module	Ø 80 mm

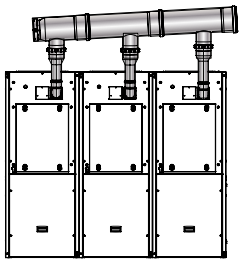
AH unit model		Kit number to order
For models	034 / 065 / 105	1 x G18165-105
For models	160 / 210	2 x G18165-105
For model	320	3 x G18165-105
For model	420	4 x G18165-105

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

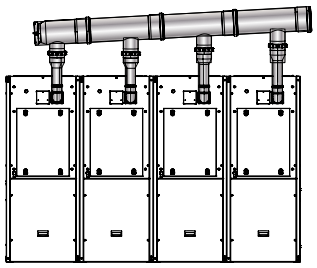
Model
AH 160 / 210



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

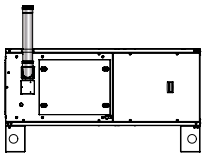
* The kit includes: concentric adapter (Ø 200/250 mm); extension L 1000 mm (Ø 250 mm), swing check valve for each module, closing cap with siphon.

HORIZONTAL VERSION AH SERIES / TECHNICAL DATA

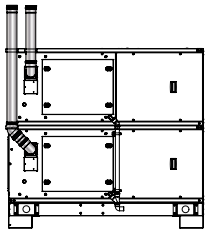
Code	Air flow rate	Available Pressure	Useful Heat Output		Efficiency		Motor
	m^3/h	Pa	min (kW)	max (kW)	min (%)	max (%)	kW
AH034IT-01H0	3210	190	8.13	33.56	106.97	96.3	1x 0.8 kW
AH034IT-02H0	3210	560	8.13	33.56	106.97	96.3	1x 2.0 kW
AH065IT-01H0	6010	380	13.4	62.93	108.06	96.82	2x 0.8 kW
AH065IT-02H0	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

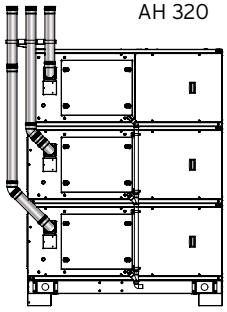
Model
AH 034 / 065 / 105



Model
AH 160 / 210



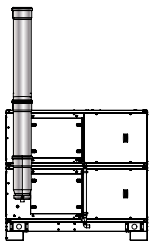
Model
AH 320



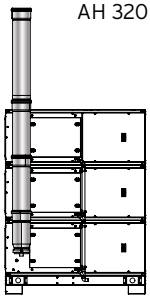
Kit code	AH unit model	Description
G18165-105	For model 034 / 065 / 105	Independent flue gas outlet kit - Ø 80 mm
G18165-210-P0	For model 160 / 210	Independent flue gas outlet kit - Ø 80 mm
G18165-320-P0	For model 320	Common flue gas outlet kit - Ø 80 mm
	For model 420	NOT INCLUDED

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

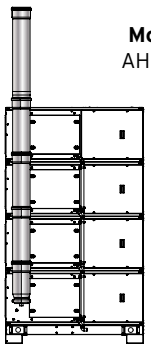
Model
AH 160 / 210



Model
AH 320



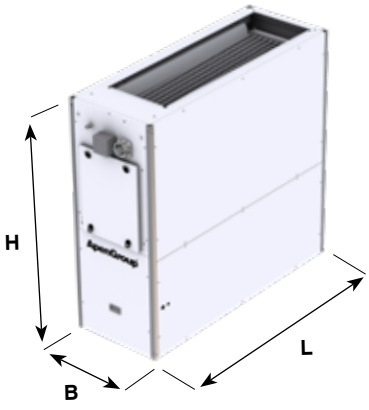
Model
AH 420



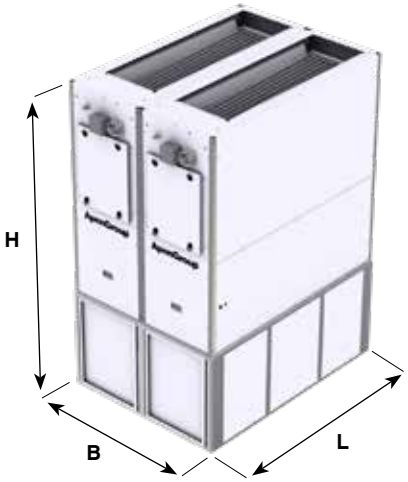
Kit code	AH unit model	Description
G22155-210-P0	For model 160 / 210	Common flue gas outlet kit - Ø 200 mm
G22155-320-P0	For modello320	Common flue gas outlet kit - Ø 200 mm
G22155-420-P0*	For modello420	Common flue gas outlet kit - Ø 250 mm

* 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.

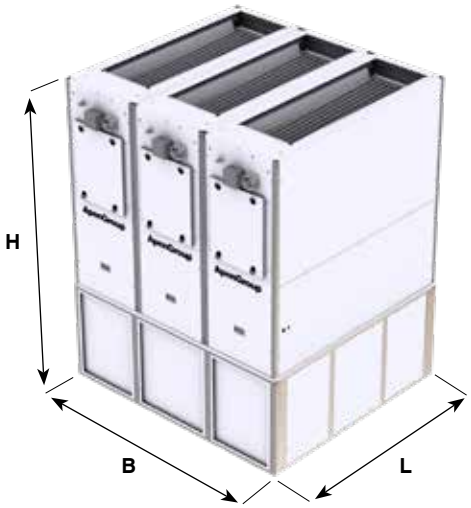
VERTICAL AH UNITS / DIMENSIONS



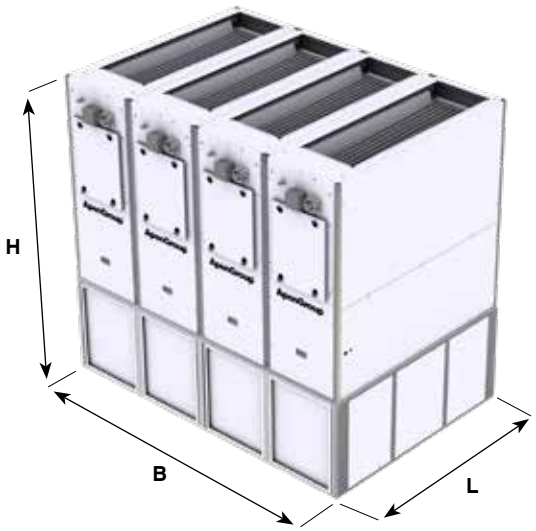
Model	L cm	B cm	H cm	Weight kg
AH034IT-0xV0	977	625	1495	190
AH065IT-0xV0	1277	625	1495	220
AH105IT-0xV0	1698	625	1580	280



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

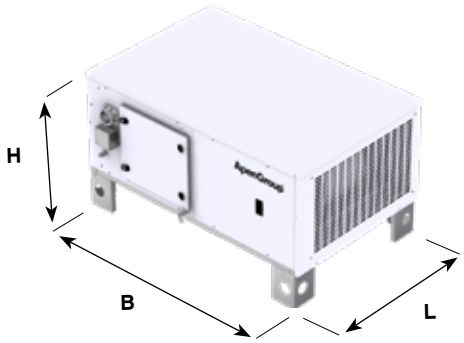


Model	L cm	B cm	H cm	Weight kg
AH320IT-0xV0	1698	1875	2460	840

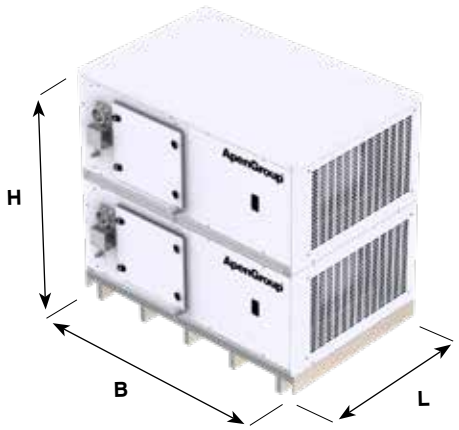


Model	L cm	B cm	H cm	Weight kg
AH420IT-0xV0	1698	2500	2460	1120

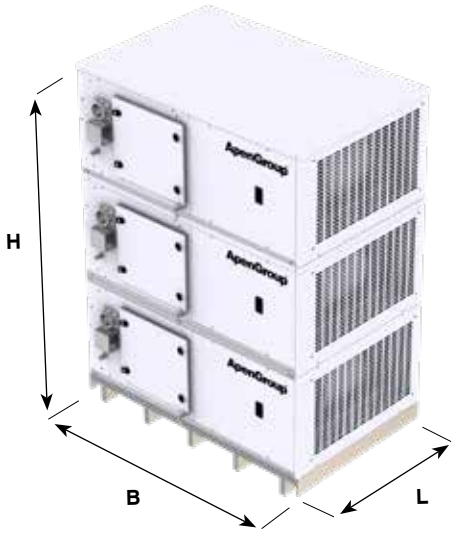
HORIZONTAL AH UNITS / DIMENSIONS



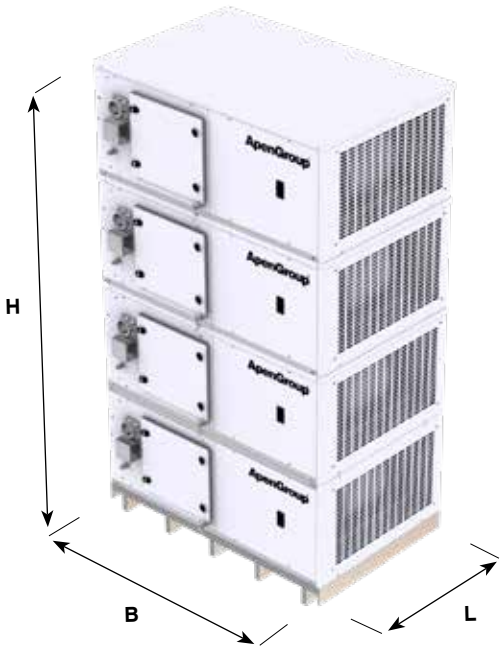
Model	L cm	B cm	H cm	Weight kg
AH034IT-0xH0	977	1520	840	190
AH065IT-0xH0	1277	1520	840	220
AH105IT-0xH0	1698	1605	840	280



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



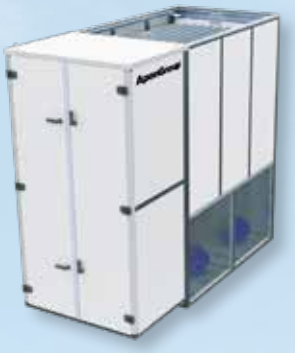
Model	L cm	B cm	H cm	Weight kg
AH420IT-0xH0*	1698	1605	2710	1120

*** Supplied with steel base.**

PK SERIES

HIGH-EFFICIENCY FLOOR-STANDING WARM AIR HEATERS

VERTICAL UNITS
FOR INDOOR



VERTICAL UNITS
FOR OUTDOOR

HORIZONTAL UNITS
FOR INDOOR

HORIZONTAL UNITS
FOR OUTDOOR

PK-K

HIGH
EFFICIENCY

ERP 2021

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

AVAILABLE
ON REQUEST

PK-N MODELS (NON CONDENSING) ONLY FOR INDUSTRIAL PROCESSES AND EXTRA EUROPEAN COUNTRY (NON ERP 2021)

PK SERIES
High-efficiency floor-standing warm air heater

PK FLOOR-STANDING WARM AIR HEATERS

PK floor-standing warm air heaters, with high efficiency, are designed for indoor or protected place and outdoor installations.

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.
The aluminium profiles, placed on the panels, harmonise the rigidity of the geometric figures. These machines therefore become an integral part of the building/system, whether in an industrial or tertiary sector.

SECTORS OF USE

- Industries
- Facilities
- Sheds
- Depots
- Warehouses
- Shopping malls
- Places of worship

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 heaters a top product for all heating requirements.

AVAILABLE STATIC PRESSURES

The available static pressures, supplied as standard, are:

- 10A Version.
  With average values of available static pressure, for installations with standard ducting, where there is no need for particular head.
- 20A Version.
  With high available static pressure, for installations with articulated distribution ducts or with high air speeds.

RANGE AVAILABILITY

Depending on size and space, a wide range of models from 100 kW to 550 kW is available.
PK floor-standing heaters can be combined with both two-stage and modulating burners, which must be correctly matched to meet ErP 2021 requirements.

CONFIGURATION VERSATILITY

The heaters can be supplied in two versions:

- PKA floor-standing heaters for indoor installation.
- PKE floor-standing heaters approved for outdoor installation.

For both versions we have a great flexibility and adaptability of installation, both in vertical and horizontal configurations.

SIMPLE INSTALLATION

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

SPECIAL VERSIONS

Apen Group designs the floor-standing heaters for any special case and condition, for example in case of heating combined with high air flow rates, reduced heat drops and much more.

TECHNICAL FEATURES

COMBUSTION CIRCUIT

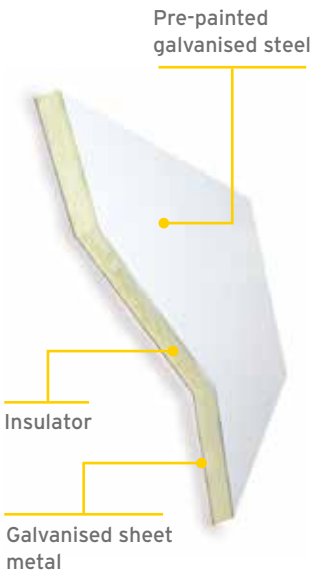
- Combustion chamber, made of AISI 441 stainless steel, characterised by a high exchange surface area (high volume compared to the unit heat load). Thanks to its particular shape it ensures low heat loads and uniform heat distribution.
- Flame reversing furnace, with combustion circuit with three flue 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, 25 mm 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 25 mm thickness, complete with gaskets, composed of external panel in pre-painted galvanized steel, 1 mm thick, 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.

- Air intake protected by a galvanised steel grid, 1.5 mm thick.
- Supplied as standard on the right side of the heater, the grid can easily be repositioned on the left side by replacing the closed panel.
- All heaters are equipped with lifting hooks.



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.
- For motors of 5.5 kW and above, the soft-starter is supplied as standard (optional for motors of lower power).

SAFETY DEVICES

- Fan thermostat and burner safety shut-off thermostat up to PK 320 model (manual reset).
- Control panel conforming to current standards, in epoxy powder coated steel, with IP 40 protection rating for PKA and IP44 for PKE.

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: THE HEAT THAT LASTS OVER TIME

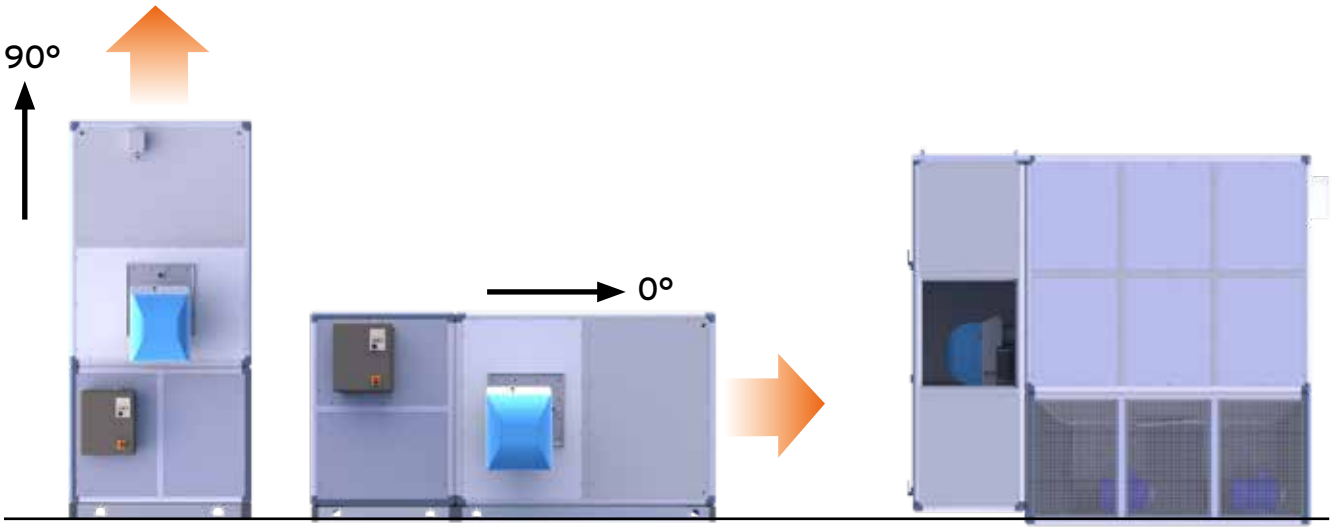
Apen Group has redesigned the new PK series of floor-standing heaters both to increase technical performance and therefore safety, efficiency and quality, and to satisfy the increasingly frequent requests for customised solutions and adaptability to the environment.
The aesthetics has been improved and the aluminium profiles on the panels harmonise the rigidity of the geometric figures.

MODELS

The heaters can be supplied in two versions:

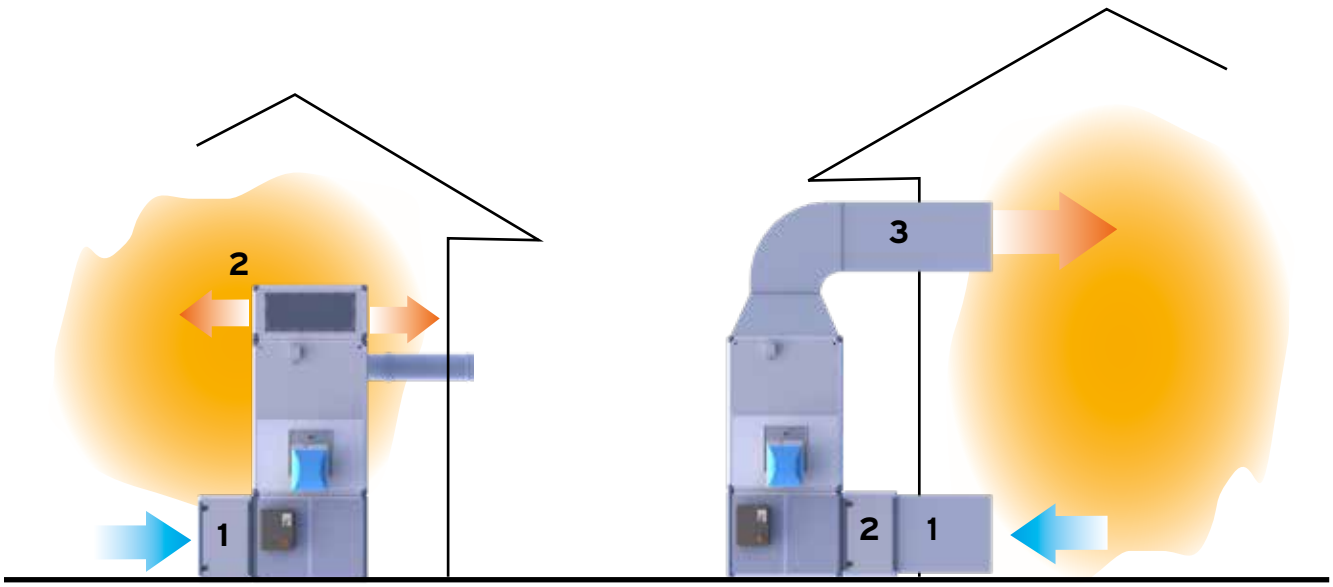
- PKA floor-standing heaters for indoor installation.
- PKE floor-standing heaters approved for outdoor installation.

From a constructional point of view, PKE heaters are obtained from PKA heaters, applying a protection compartment to the front of the heater, inside which the burner and the relative electrical safety components will be positioned, guaranteeing total protection from atmospheric agents.
The casing of the entire heater, including the burner compartment, in fact, guarantees IP 44 protection from atmospheric agents.
In addition, the heaters are available in the horizontal version.



Vertical and horizontal installation

PKE heater with burner compartment



Installation of the heater in the room with filter and plenum
(1) Air suction filter
(2) Air supply plenum

Outdoor heater installation with ducting

(1) Air suction duct, where recirculation is allowed by legislation
(2) Air suction filter
(3) Air supply duct

ACCESSORIES UPON REQUEST

DISTRIBUTION PLENUM

On request, it can be supplied with plenum for the air distribution and air filter for the ambient purification. The plenum is supplied with bifilar louvers suitable for the use in industrial and commercial buildings.

The accurate design and manufacturing allow to obtain a plenum with louvers assuring high air delivery with strong air throw and reduced pressure losses.

The standard plenum is manufactured with the air throw in three directions: two short sides and one long side. On specific request, it can be supplied with the air throw on two long sides and one short side.

In case of specific needs, Apen Group can design and manufacturate custom plenum.

AIR FILTER

Air filter has been designed and manufactured in modacrylic fibre and can be used for continuous operation up to 80°C. ISO class 50%

Coarse according to ISO 16890 (former G3 EN 779:2012).

Standard air filters can draw air from one side only.

In case of different needs from the standard, for example in the case of horizontal heater installations or in the case of

air intake from underneath , please contact Apen Group for correct dimensioning.

MIXING BOX

Two-way mixing chamber with filters. The mixing box has an anodized aluminum frame and pre-painted metal paneling with glass wool inner insulation.

This accesory allows to mix outside air to be mixed with return air, by passing through filter banks with G3 efficiency. It includes a lid for filter inspection.

It is complete with inspection door for access to filters and can be combined with heaters in vertical or horizontal installation. The regulation dampers must be ordered separately.

SOFT STARTER

A soft starter is supplied as standard on large heaters, while it is available as an accessory on low power three-phase heaters. This system protects fans from excessive stress when motors are started.

SMART X EASY /SMART X WEB

The SMART X remote control (WEB or EASY) carries out the function of a 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 appliances.

It also offers the possibility of remotely controlling up to 3 external temperature probes and managing the appliances in automatic or manual mode, checking burner operation, programming a weekly and annual calendar and managing daily time slots.

INVERTER KIT

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 prevalence of the heater itself. Regulation can be done in different ways:

- Manually by regulating the inverter installed on the unit.
- Manually with a three-speed remote selector switch (accesory kit).
- Manually with a remote modulating potentiometer (accesory kit).
- Automatically with a high/low flame regulator (accesory kit) in presence of a two-stage burner.

Automatically by controlling the pressure of the air with a pressure probe (accessory kit). The pressure set-point can be set directly in the inverter or it can be adjusted by means of a high-precision multi-turn potentiometer with remote control (accessory kit).

ACCESSORIES UPON REQUEST

FIRE DAMPER DELIVERY/ INTAKE DUCT

REI120 fire shutter kit, for the delivery and/or for the intake, complete with duct and wired micro-switch to turn off the burner and automatically block the spread of flames in case of fire.

REGULATION DAMPER ON INTAKE

Regulation damper kit with manual control, to adjust the amount of air taken from the indoor environment.

EXTERNAL AIR REGULATION DAMPER

Regulation damper kit, complete with manual control and protection net, to set a partialisation with external air.

BURNER

Ordered units can include the burner on request.

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.

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.

TWO-STAGE REGULATOR

High/low flame regulation kit for the burner. It is connected to a room probe or a duct probe.

ROOM THERMOSTAT

Possibility of choosing room thermostats with probe in the air intake compartment.

DISCHARGE SHUTTER

Flue gas discharge shutter kit, complete with fuse, with manual reset.

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. The filters can be regenerated by cleaning with compressed air.

Please note that in ducted installations, you don't need to disassemble ducts to remove and clean the filter.

GUARANTEED SAVINGS

PK heaters guarantee real savings in terms of:

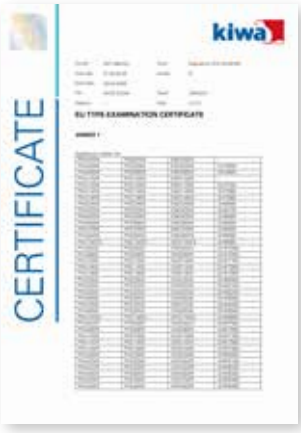
- Installation: if positioned directly in the room to be heated with air distribution through a plenum, the system costs are quite low.
- Operation: high efficiency and quick room heating guarantee efficiency and reduced consumption.
- Management: maintenance operations are quick and easy and certainly not recurrent.

CERTIFIED QUALITY

PK 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.



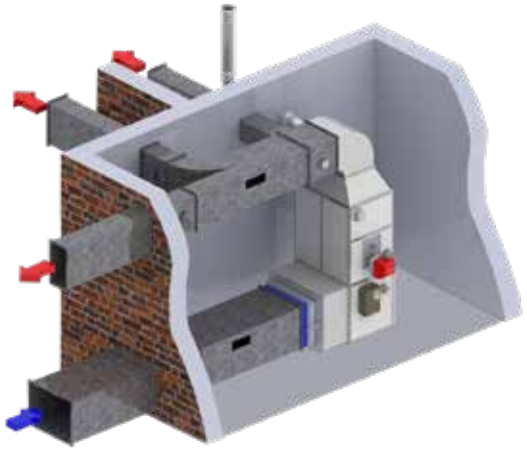
VERTICAL VERSION PKA FOR INDOOR USE

TECHNICAL FEATURES

- Maximum energy efficiency with flame modulation and condensing operation, maximum efficiency 102% and equipped with condensate drain.
- Supporting structure in aluminium.
- Double sandwich panels with glass wool insulation to limit heat loss to the room.
- Combustion chamber, made of AISI 441 stainless steel, characterised by a high exchange surface.
- Flame reversing furnace, with combustion circuit with three flue passes, fully welded.
- High-efficiency, low-carbon stainless steel heat exchanger.
- Fan section, depending on the different capacities of the heater, consisting of one or two centrifugal fans, with low speed rotation and statically and dynamically balanced double intake.
- Suction side complete with grid.
- Motor and fan support base in aluminium.
- The protection degree of the fan motor is IP 54.
- Control panel located outside the heater in compliance with current standards, IP40 degree of protection.
- Fan and safety thermostat (manual reset).
- Limit thermostat for models up to PK 320.
- CE approval in compliance with all applicable regulations.

PK HEATER INSTALLED IN A TECHNICAL COMPARTMENT OR CENTRAL HEATING PLANT, DUCTED

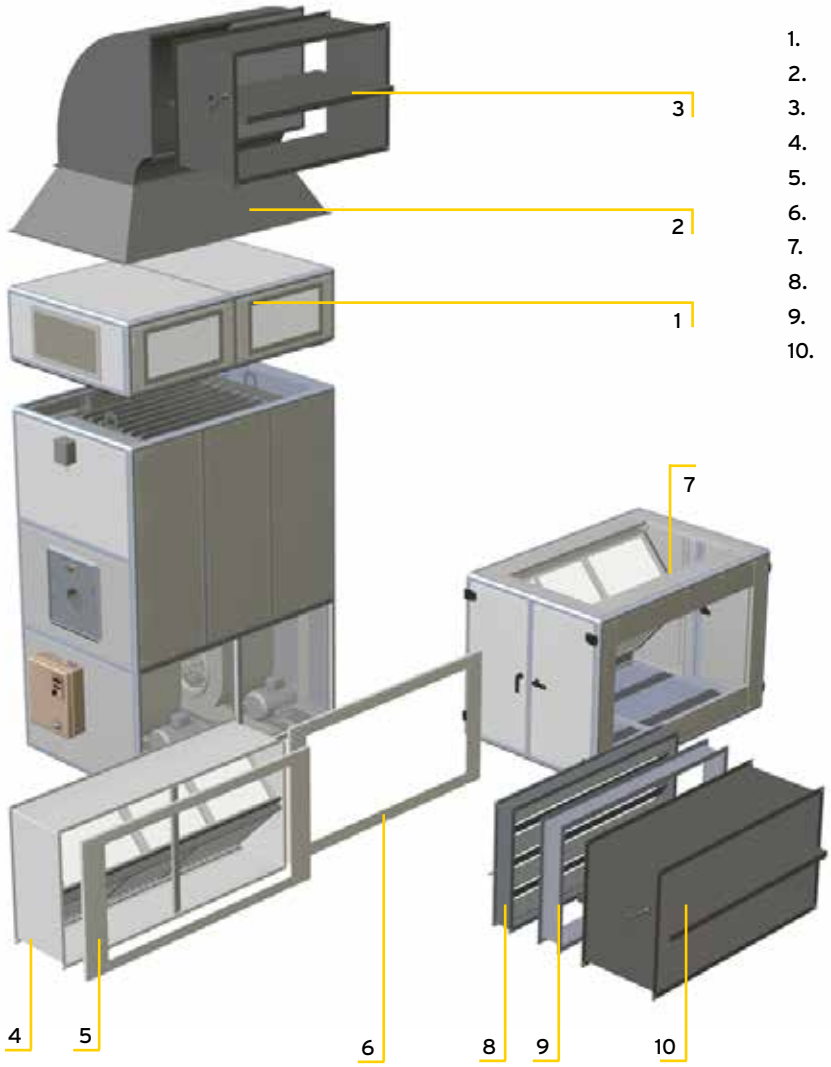
The heater is equipped with several air delivery ducts (heating also different rooms) and air intake duct.



VERTICAL PK HEATER INSTALLATION FOR INDOOR

The heater is equipped with standard diffusion plenum, the air intake is towards the wall and without filters.

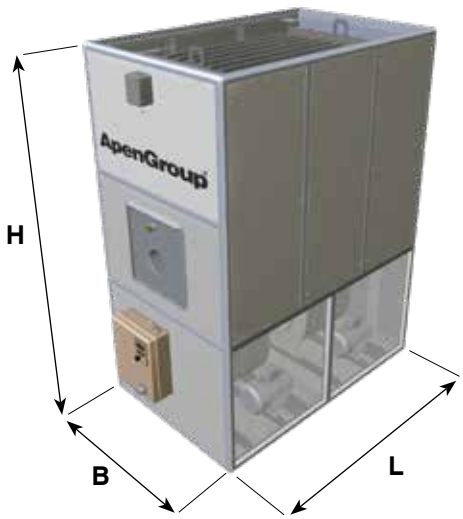
ACCESSORIES



1. Air diffusion plenum
2. Kit of bend and connection for dampers
3. Fireproof damper on delivery
4. Filters
5. Filter to damper connection
6. Heater to damper connection
7. Mixing box
8. Regulating damper
9. Anti-vibration joint
10. Fireproof damper on intake

DIMENSIONS

Model	Dimensions			Chimney diameter	Weight
	L	B	H	Ø	kg
PKA100	1100	800	2020	180	246
PKA140	1330	920	2080	180	320
PKA190	1460	1060	2230	250	382
PKA250	1750	1140	2330	250	506
PKA320	1960	1140	2330	250	574
PKA420	2170	1340	2800	300	902
PKA550	2600	1340	3170	300	1148



Right side standard air intake
(specify in the order if different).

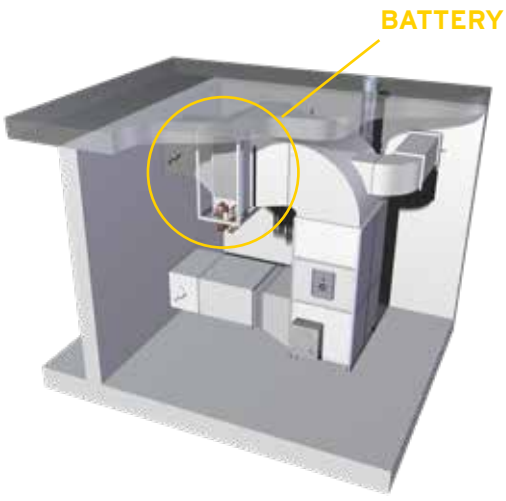
VERTICAL VERSION PKE FOR OUTDOOR USE

TECHNICAL FEATURES

- Maximum energy efficiency with flame modulation, maximum efficiency 102% and equipped with condensate drain.
- Supporting structure in aluminium.
- Double sandwich panels with glass wool insulation to limit heat loss to the room.
- Combustion chamber, made of AISI 441 stainless steel, characterised by a high exchange surface.
- Flame reversing furnace, with combustion circuit with three flue passes, fully welded.
- High-efficiency, low-carbon stainless steel heat exchanger.
- Fan section, depending on the different capacities of the heater, consisting of one or two centrifugal fans, with low speed rotation and statically and dynamically balanced double intake.
- Suction side complete with grid.
- Motor and fan support base in aluminium.
- The protection degree of the fan motor is IP 54.
- Control panel located outside the heater in compliance with current standards, IP44 degree of protection.
- Fan and safety thermostat (manual reset).
- Limit thermostat for models up to PK 320.
- CE approval in compliance with all applicable regulations.

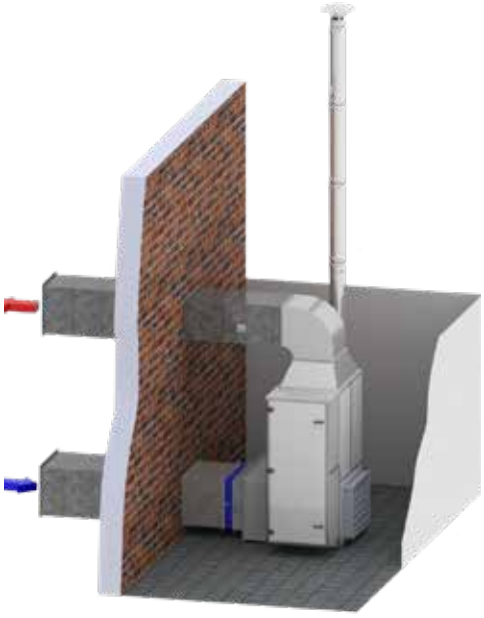
PK HEATER INSTALLED IN A TECHNICAL COMPARTMENT COMBINED WITH A BATTERY FOR AIR CONDITIONING

The heater is equipped with several air delivery ducts (also heating different rooms) and an air intake duct; it is also equipped with a battery for summer air conditioning.

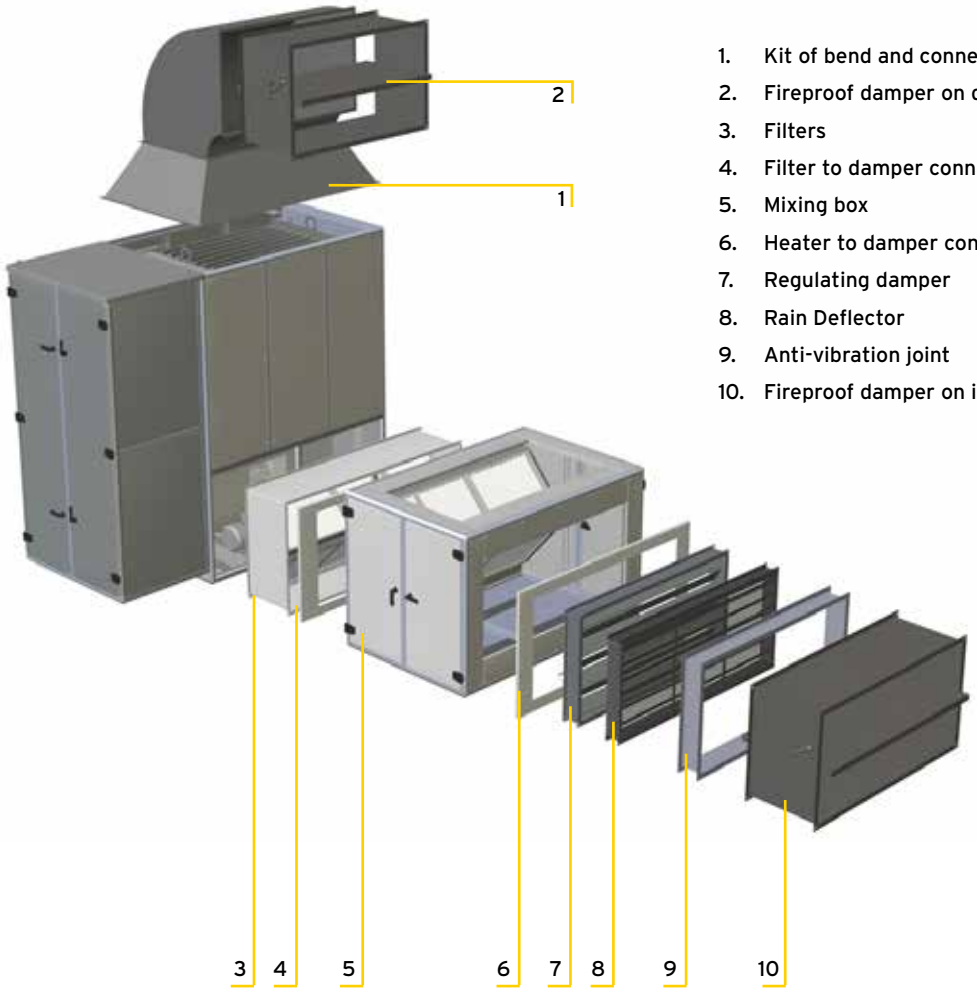


PK HEATER INSTALLED OUTSIDE THE ROOM TO BE HEATED

The heater is installed outside the room to be heated, equipped with a filter and ducts for air supply and intake.

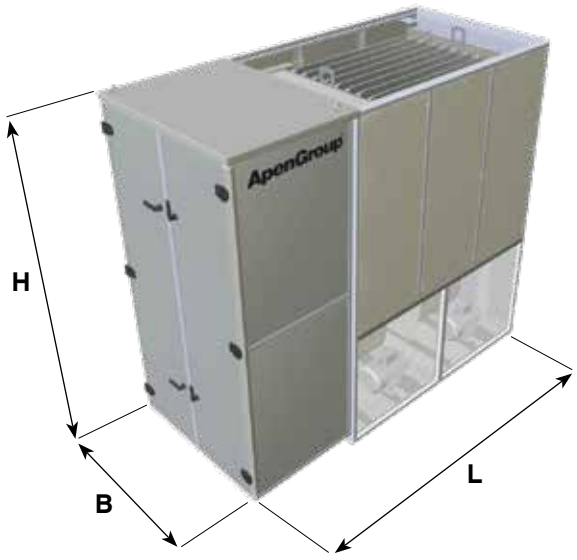


ACCESSORIES



1. Kit of bend and connection for dampers
2. Fireproof damper on delivery
3. Filters
4. Filter to damper connection
5. Mixing box
6. Heater to damper connection
7. Regulating damper
8. Rain Deflector
9. Anti-vibration joint
10. Fireproof damper on intake

DIMENSIONS



Right side standard air intake
(specify in the order if different).

Model	Dimensions			Weight
	L	B	H	kg
PKE100	1600	800	2020	297
PKE140	1930	920	2080	384
PKE190	2190	1060	2230	468
PKE250	2550	1140	2330	603
PKE320	2760	1140	2330	673
PKE420	3020	1340	2800	1027
PKE550	3600	1340	3170	1307

HORIZONTAL VERSION PKA FOR INDOOR USE

TECHNICAL FEATURES

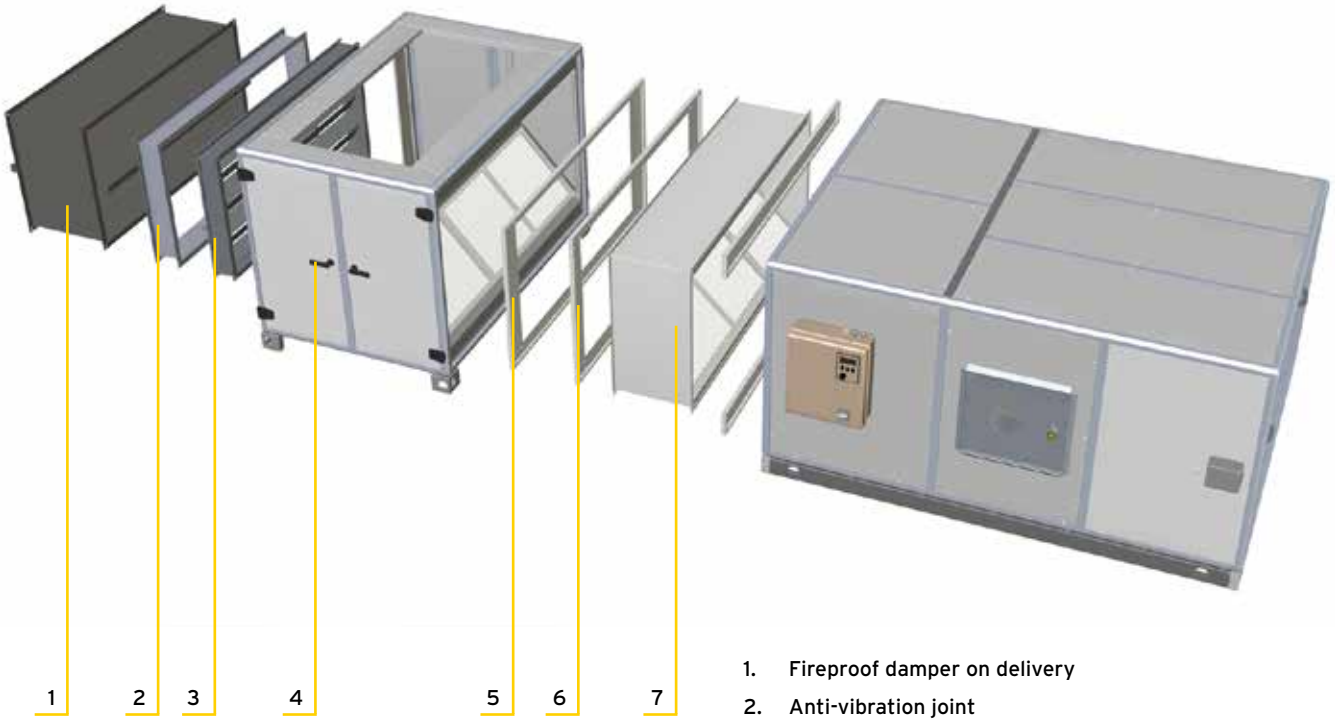
- Maximum energy efficiency with flame modulation, maximum efficiency 102% and equipped with condensate drain.
- Supporting structure in aluminium.
- Double sandwich panels with glass wool insulation to limit heat loss to the room.
- Combustion chamber, made of AISI 441 stainless steel, characterised by a high exchange surface.
- Flame reversing furnace, with combustion circuit with three flue passes, fully welded.
- High-efficiency, low-carbon stainless steel heat exchanger.
- Fan section, depending on the different capacities of the heater, consisting of one or two centrifugal fans, with low speed rotation and statically and dynamically balanced double intake.
- Suction side complete with grid.
- Motor and fan support base in aluminium.
- The protection degree of the fan motor is IP 54.
- Control panel located outside the heater in compliance with current standards, IP40 degree of protection.
- Fan and safety thermostat (manual reset).
- Limit thermostat for models up to PK 320.
- CE approval in compliance with all applicable regulations.

HORIZONTAL VERSION PKE FOR OUTDOOR USE

TECHNICAL FEATURES

- Maximum energy efficiency with flame modulation, maximum efficiency 102% and equipped with condensate drain.
- Supporting structure in aluminium.
- Double sandwich panels with glass wool insulation to limit heat loss to the room.
- Combustion chamber, made of AISI 441 stainless steel, characterised by a high exchange surface.
- Flame reversing furnace, with combustion circuit with three flue passes, fully welded.
- High-efficiency, low-carbon stainless steel heat exchanger.
- Fan section, depending on the different capacities of the heater, consisting of one or two centrifugal fans, with low speed rotation and statically and dynamically balanced double intake.
- Suction side complete with grid.
- Motor and fan support base in aluminium.
- The protection degree of the fan motor is IP 54.
- Control panel located outside the heater in compliance with current standards, IP44 degree of protection.
- Fan and safety thermostat (manual reset).
- Limit thermostat for models up to PK 320.
- CE approval in compliance with all applicable regulations.

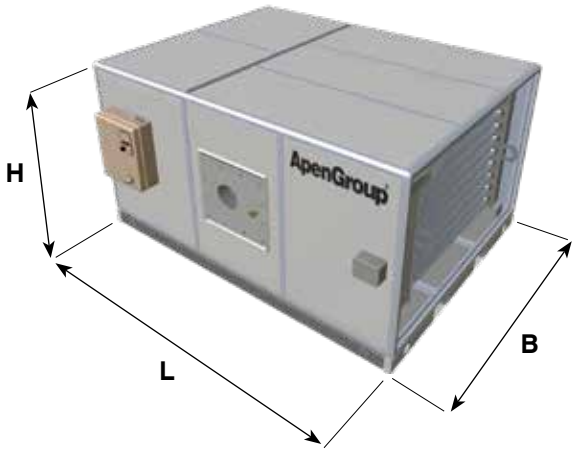
ACCESSORIES FOR HORIZONTAL VERSION PKA FOR INDOOR USE



1. Fireproof damper on delivery
2. Anti-vibration joint
3. Regulating damper
4. Mixing box
5. Heater to damper connection
6. Filter to damper connection
7. Filters and joint

DIMENSIONS

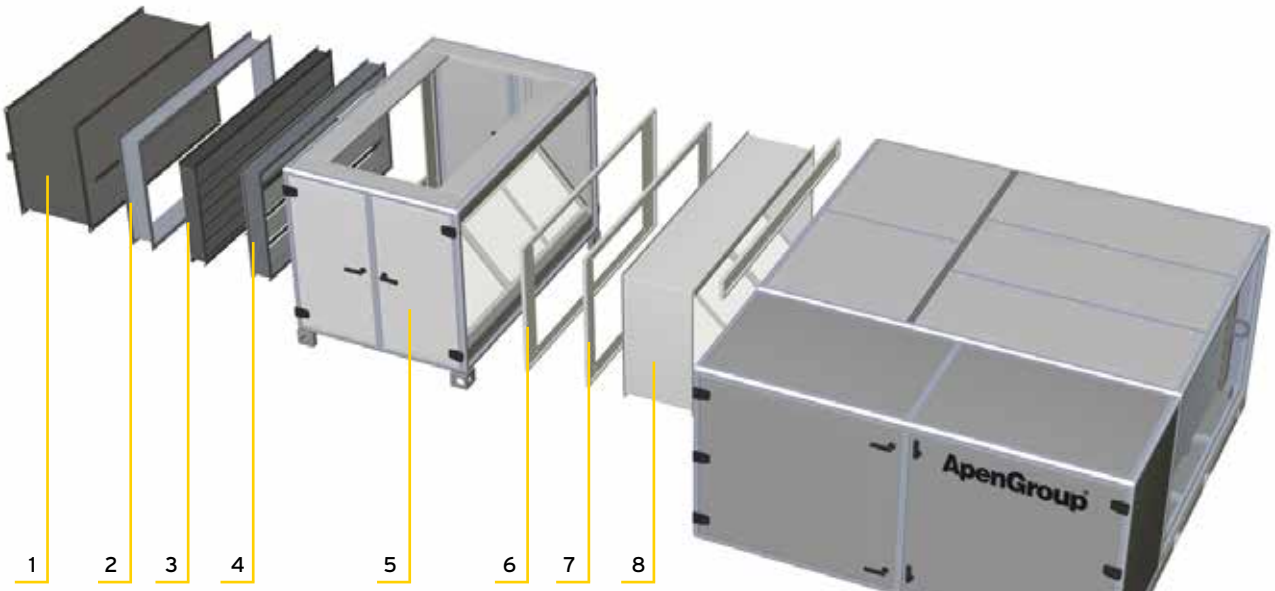
Model	Dimensions			Chimney diameter	Weight
	L	B	H	Ø	kg
PKA100	2020	1100	800	180	246
PKA140	2080	1330	920	180	320
PKA190	2230	1460	1060	250	382
PKA250	2330	1750	1140	250	506
PKA320	2330	1960	1140	250	574
PKA420	2800	2170	1340	300	902
PKA550	3170	2600	1340	300	1148



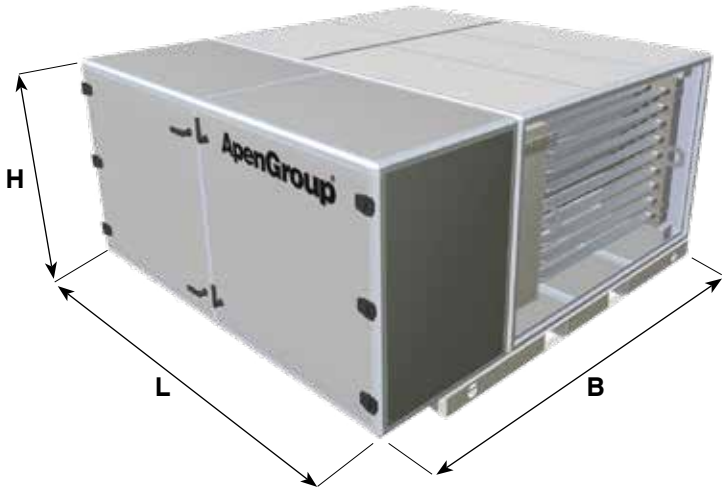
Left side standard air intake
(specify in the order if different).

ACCESSORIES FOR HORIZONTAL VERSION PKE FOR OUTDOOR USE

1. Fireproof damper on delivery
2. Anti-vibration joint
3. Rain Deflector
4. Regulating damper
5. Mixing box
6. Heater to damper connection
7. Filter to damper connection
8. Filters and joint



DIMENSIONS



Model	Dimensions			Weight
	L	B	H	kg
PKE100	2020	1600	800	292
PKE140	2080	1930	920	378
PKE190	2230	2190	1060	460
PKE250	2330	2550	1140	592
PKE320	2330	2760	1140	660
PKE420	2800	3020	1340	1006
PKE550	3170	3600	1340	1284

Left side standard air intake
(specify in the order if different).

THE TECHNICAL DATA OF THE PKA-K AND PKE-K MODELS ARE IDENTICAL

Model			PKA100K		PKA140K		PKA190K		PKA250K	
Type of appliance			B23				B23		B23	
NOx Class			Class 3 with LOW NOx GAS BURNERS (<80 mg/kWh) according to EN676							
			MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
Furnace Heat Input	P_{min}:$P_{ated,h}$	kW	26.5	114	38.0	152.0	48.0	200.0	61.0	270.0
Useful Heat Output		kW	27.1	105.4	38.5	140.8	48.3	182.2	61.6	248.9
Combustion Efficiency (Hi)	η_{pl}: η_{nom}	%	102.4	92.5	101.2	92.6	100.5	92.6	101.0	92.2
Chimney loss - Burner ON (Hi)		%	/	7.5	/	7.4	/	7.4	/	7.8
Chimney loss - Burner OFF		%	< 0.1		< 0.1		<0,1		<0,1	
Casing losses *		%	1.81		1.26		1.16		1.17	
Combustion Chamber pressure		Pa	14	100	15	140	15	130	19	175
Combustion Chamber volume		m^3	0.24		0.37		0.52		0.76	

* Heat loss of the casing must be considered only when heater is installed outdoor or in a thermal station. If the heater is installed into a building, heat is irradiated inside, so losses are zero

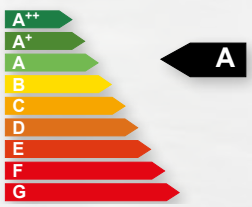
Model			PKA320K		PKA420K		PKA550K	
Type of appliance			B23		B23		B23	
NOx Class			CLASS 5 *					
			MIN	MAX	MIN	MAX	MIN	MAX
Furnace Heat Input	P_{min}:$P_{ated,h}$	kW	74.0	347.0	83.0	455.0	95.0	595.0
Useful Heat Output		kW	74.8	319.8	83.8	419.4	96.1	549.1
Combustion Efficiency	η_{pl}: η_{nom}	%	101.0	92.2	101.0	92.2	101.2	92.3
Chimney loss - Burner ON (Hi)		%	/	8.7	/	7.8	/	7.7
Chimney loss - Burner OFF		%	< 0.1		< 0.1		< 0.1	
Casing losses *		%	1.02		1.03		0.97	
Combustion Chamber pressure		Pa	15	225	30	275	40	365
Combustion Chamber volume		m^3	1.06		1.55		1.79	

* Heat loss of the casing must be considered only when heater is installed outdoor or in a thermal station. If the heater is installed into a building, heat is irradiated inside, so losses are zero

AX SERIES

WATER FAN HEATERS

NEW

OPTIONAL CONTROLLER	OPTIONAL SMART X CONTROLS	ELECTRONIC FAN HEATERS	CLASS A
			

ApenGroup

WATER FAN HEATERS, AVAILABLE IN STANDARD AND ELECTRONIC VERSIONS

The AX SERIES water fan heaters are a line of modern and reliable products designed for heating many different facilities: from industrial plants to the tertiary sector, from sports facilities to commercial sectors.

AX SERIES AND AX-EC SERIES

Fan heaters are available in two configurations:

- AX: fan heater with 1-speed fan and 5-speed selector (to be ordered as optional).
- AX-EC: fan heater with electronic fan.

SECTORS OF USE

- Facilities
- Sheds
- Body shops
- Workshops with all types of processing
- Carpenter's workshops
- Shopping malls
- Public environments
- Data Processing Centres
- Theatres and Conference Centres
- Exhibition and Dancing Rooms
- Tanneries
- Pools and Gyms
- Churches and Oratories

SIMPLE INSTALLATION

Its particularly small size and weight make it easy to move and position. Installation is limited to fixing by means of practical coupling and support systems.

SYSTEM MODULARITY

The subdivision of the total heat output over several installed water fan heaters makes it possible to achieve greater rationalisation of the system: "zone" management of the heat output.

ADAPTABILITY

The water fan heaters can be combined with:

- AKN system
- AquaPump Hybrid
- Thermal station
- Water heat pumps
- Cascade boiler modules
- Floor-standing boilers

WATER FAN HEATERS IN COOLING MODE

It is possible to set the water fan heaters to operate in cooling mode by activating ventilation, thus improving the comfort of the room in which they are installed. The water fan heaters are designed to house a condensate collection tray, which can be fitted at any time, even after wall installation.

POSITIONING VERSATILITY

The water fan heaters can be either wall-mounted or fastened to the ceiling (for heating only) with the air directed downwards.

MODERN AND ESSENTIAL DESIGN

The water fan heaters have been designed with particular attention to line and design.

AX SERIES WATER FAN HEATERS

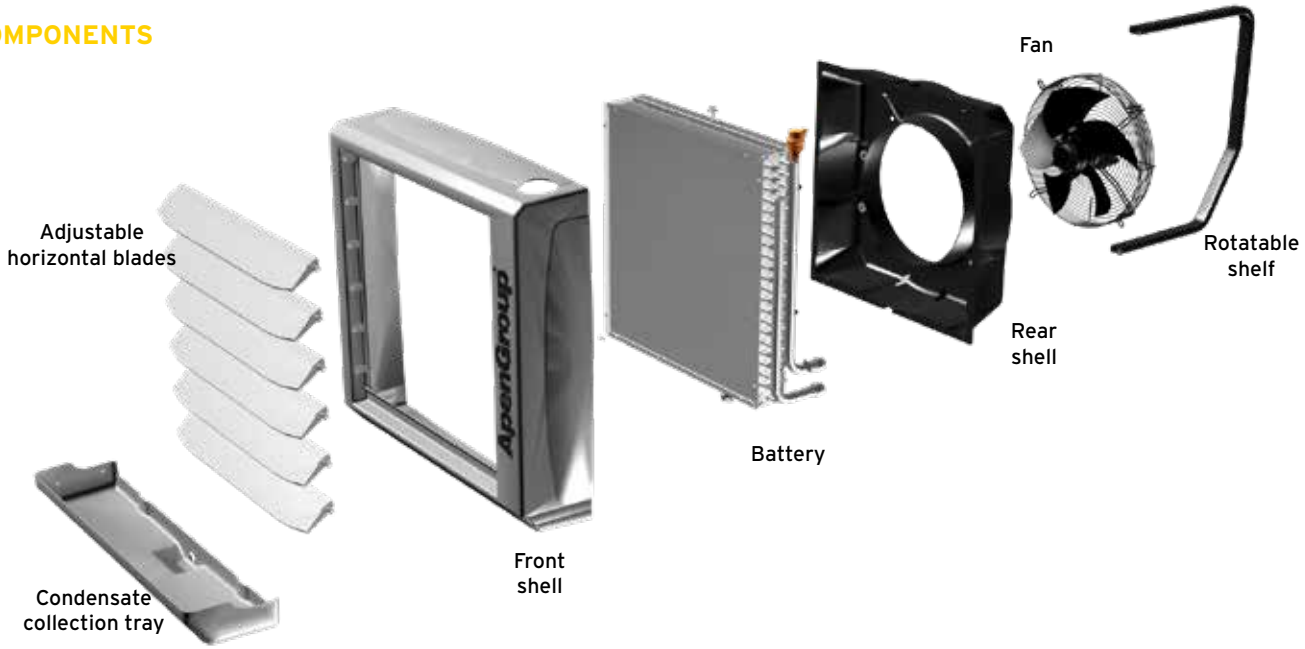
TECHNICAL FEATURES

- Available in 7 models with power from 18 kW to 90 kW.
- High-efficiency one, two or three-row finned exchange battery.
- Automatic air vent valve
- Louvres with adjustable horizontal blades.
- 230V/1/50Hz power supply.
- IP25B Protection degree.
- Rotatable shelf as standard.
- Configuration for a condensate collection tray (optional) for use in cooling mode.
- Casing made of ABS material.

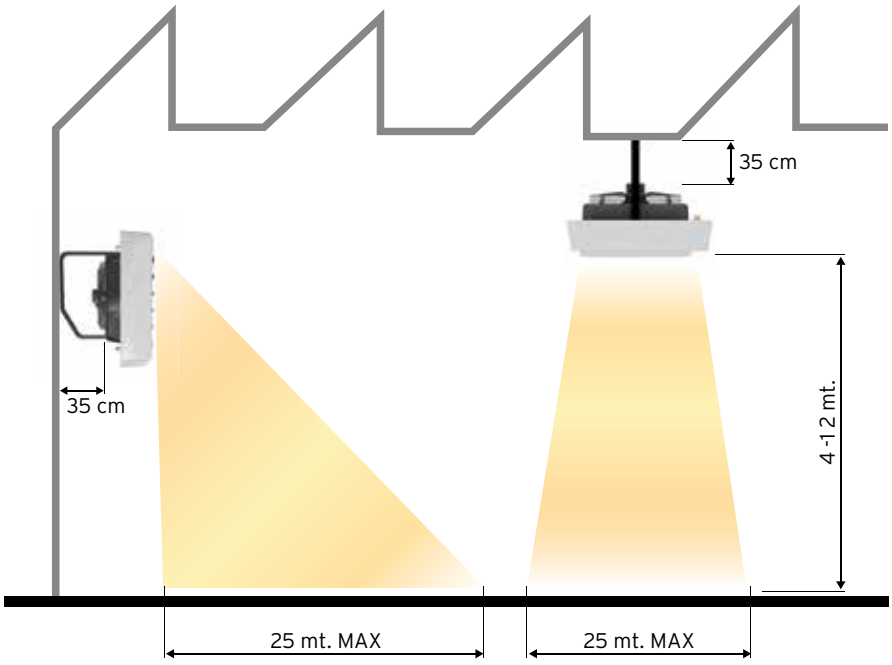
ACCESSORIES UPON REQUEST

Remote control in IP54 complete with SUMMER/0/WINTER button and switch to select the 5 speeds.

COMPONENTS



INSTALLATION HEIGHT



AX-EC SERIES ELECTRONIC WATER FAN HEATERS

TECHNICAL FEATURES

- Available in 7 models with power from 18 kW to 90 kW.
- High-efficiency one, two or three-row finned exchange battery.
- Electronic fans with integrated inverter.
- Automatic air vent valve
- Louvres with adjustable horizontal blades.
- 230V/1/50Hz power supply.
- IP25B Protection degree.
- Switch-on, switch-off and air flow rate regulation with 0-10 Vdc signal.
- Rotatable shelf as standard
- Configuration for a condensate collection tray (optional) for use in cooling mode.
- Casing made of ABS material.

ACCESSORIES UPON REQUEST

KIT G24600:

- SMART X Web.
- CPU electronic board.
- Immersion probe to be connected to CPU.
- Room probe.
- Control panel.

POSSIBLE CONFIGURATIONS

AX-EC
WATER FAN HEATER

STAND ALONE

CONTROLLABLE WITH 0-10 VOLT SIGNAL

KIT G03780
POTENTIOMETER
MANUAL REMOTE CONTROL

AX-EC
WATER FAN HEATER

+

G24600 KIT COMPOSED BY:

- SMART X WEB
- CPU electronic board
- Immersion probe to be connected to CPU
- Ambient probe
- Electric board

G24600

AX_EC
WATER FAN HEATER

+

* AKN BOILER

FLEXIBLE METAL HOSES KIT
C07211 OR C07212 CODES

+

SMART X WEB
OR SMART X EASY

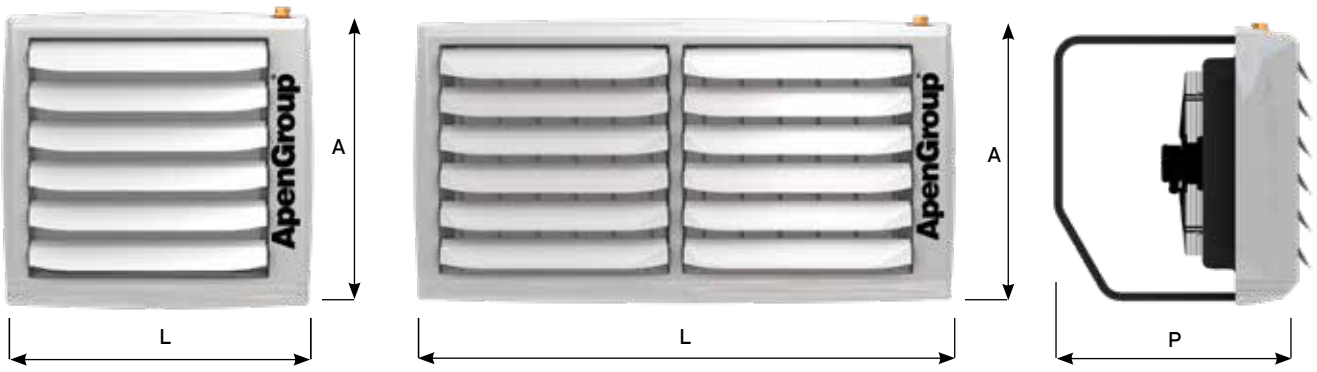
* FOR COMBINATION WITH AKN, TAKE FLEXIBLE METAL HOSES FOR BOILER CONNECTION + FAN HEATER

AX / TECHNICAL DATA

Model	Max air flow rate	Air throw distance	Sound pressure (5m)*	Heating heat output **	Cooling heat output ***	Power supply	Max water temperature	Max running pressure	Weight
	(m^3/h)	m	dB(A)	kW	kW	V/Hz	°C	bar	kg
AX020	2,590	25	51.2	10.2	4.4	230V/1/50Hz	105	16	20
AX025	6,150	25	52.2	16.3	5.8	230V/1/50Hz	105	16	22
AX030	2,390	25	50.9	17.6	9.0	230V/1/50Hz	105	16	21
AX040	5,100	25	55.7	27.9	10.7	230V/1/50Hz	105	16	24
AX050	4,710	25	55.5	36.7	13.4	230V/1/50Hz	105	16	26
AX070	8,600	25	63.3	51.6	21.9	230V/1/50Hz	105	16	38
AX090	8,000	25	63.2	66.9	27.9	230V/1/50Hz	105	16	40

* Sound level in typical installation at 5 m
** Data measured under the following conditions: Δt of water 70/50°C ambient air temperature +15°C 50% R.U.
*** Data measured under the following conditions: Δt of water 7/12°C ambient air temperature 30°C 50% R.U. - Air flow rate (speed 2)

AX SERIES AND AX-EC SERIES / DIMENSIONS



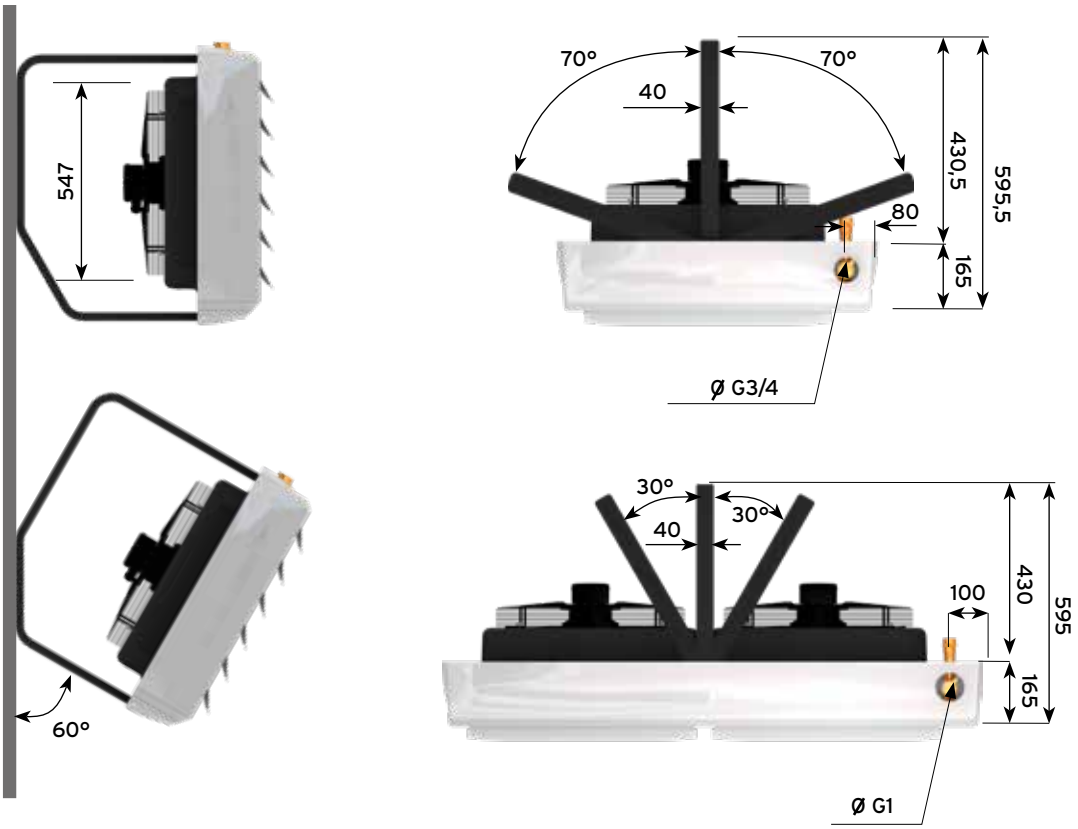
Model	Width mm	Height mm	Depth mm
AX020 - AX020EC	765	730	595
AX025 - AX025EC	765	730	595
AX030 - AX030EC	765	730	595
AX040 - AX040EC	765	730	595
AX050 - AX050EC	765	730	595
AX070 - AX070EC	1390	730	595
AX090 - AX090EC	1390	730	595

AX-EC / TECHNICAL DATA

Model	Rated heating performance				Rated cooling performance			Weight
	Max air flow rate	Heat output max*	Water heat drop	Water flow rate	Max air flow rate	Max** heat output	Water heat drop	
	m^3/h	kW	°C	l/h	m^3/h	kW	°C	Kg
AX020EC	2850	17.0	80-60	750	2530	4.2	7-12	22
AX025EC	4500	22.5	80-60	990	2360	4	7-12	24
AX030EC	2550	23.9	80-60	1050	2550	9.4	7-12	23
AX040EC	4350	34.1	80-60	1500	2330	8.9	7-12	26
AX050EC	3900	42.4	80-60	1870	2440	12.2	7-12	28
AX070EC	8560	68.9	80-60	3040	5550	20.7	7-12	40
AX090EC	7950	86.8	80-60	3830	4985	25.2	7-12	42

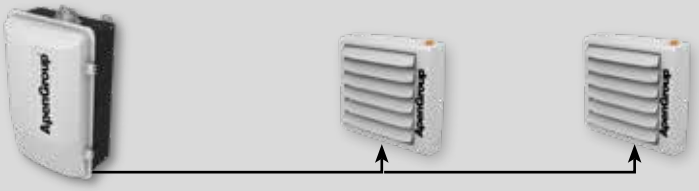
* Air temperature 15°C and relative humidity 50%
** Air temperature 27°C and relative humidity 50%

AX SERIES AND AX-EC SERIES / DIMENSIONS



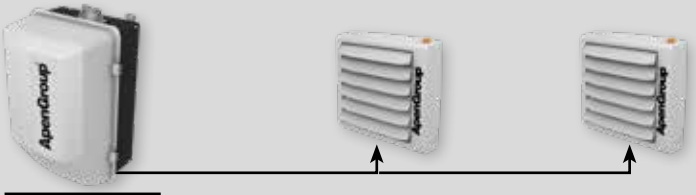
COMBINATIONS OF AKN BOILERS WITH AX-EC SERIES WATER FAN HEATERS

AKN034	AX050EC



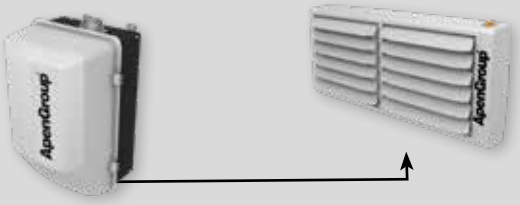
AKN034	AX030EC	AX030EC

AKN050	AX070EC

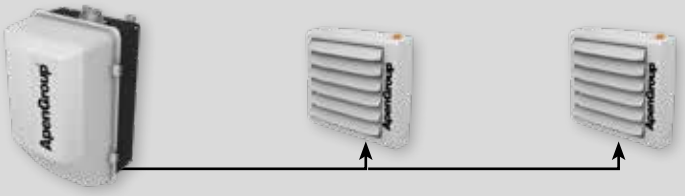


AKN050	AX040EC	AX040EC

AKN050	AX030EC	AX030EC	AX030EC

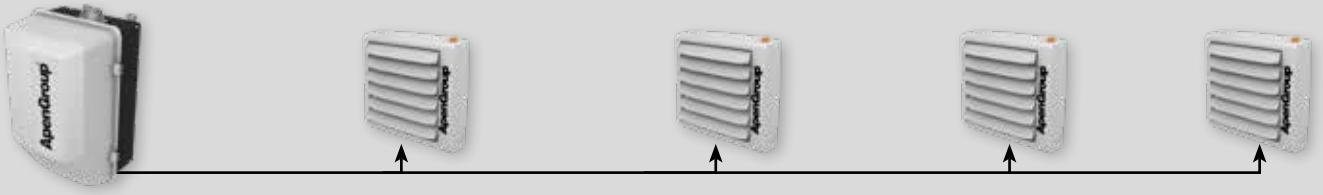


AKN070	AX090EC



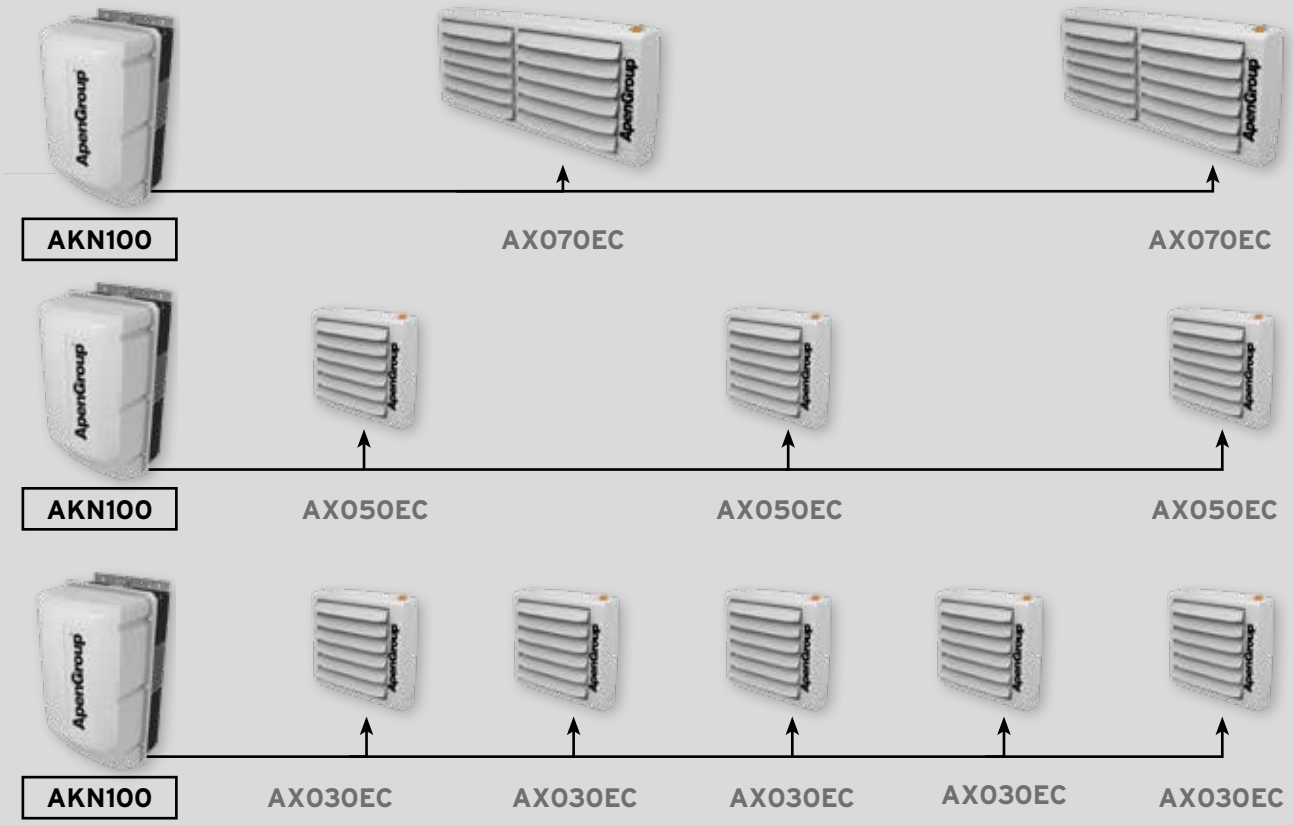
AKN070	AX050EC	AX050EC

AKN070	AX030EC	AX030EC	AX030EC



AKN070	AX030EC	AX030EC	AX030EC	AX030EC

COMBINATIONS OF AKN BOILERS WITH AX-EC SERIES WATER FAN HEATERS



AKN

CONDENSING GAS BOILERS

kiwa tested
20% HYDROGEN READY

NEW

OPTIONAL SMART X CONTROLS

ELECTRONIC FAN HEATERS

CLASS A

ApenGroup

AKN SYSTEM, OUTDOOR BOILER WITH INDOOR WATER FAN HEATER

The AKN system consists of an outdoor condensing boiler with low NOx burner that can be combined with indoor water fan heaters.
The project was conceived and realised with the aim of obtaining a product of the highest quality in terms of technology, design and ecology.

STANDARD-PROOF HEAT

The AKN system is the ideal solution for heating all environments that fall under the activities regulated by the Ministerial Decree of 16 February 1982, (activities at risk of fire) such as garages, body shops, carpentries, printing houses, textile and paper industries, public and commercial premises.
It does not require fire prevention practice even in systems in which the sum of the power of the appliances installed exceeds 116 kW (activity No. 91 M.D. 16/02/1982).

SECTORS OF USE

- Body shops
- Workshops with all types of processing
- Carpenter's workshops
- Shopping malls
- Facilities
- Sheds
- Public environments
- Barracks
- Meeting and Conference Rooms
- Data Processing Centres
- Theatres and Conference Centres
- Exhibition and Dancing Rooms
- Tanneries
- Pools and Gyms
- Churches and Oratories
- Any other environment with fire-risk activities

A CLASS

High combustion efficiencies of up to 108% ensure significant fuel savings compared to traditional non-condensing systems.
Class A Energy efficiency (according to Reg. 811/2013/EC). Premixed burner in NOx 6 class according to EN15502-1.

CERTIFIED QUALITY

The AquaKond AKN heating system is built to the highest standards in accordance with the UNI, UNICIG, CEI technical standards and is certified by the Kiwa-Gastec approval body in accordance with the Gas Appliances Regulation (EU) 2016/426.

NO NEED FOR THERMAL STATION

The AKN system does not require special technical rooms for positioning.
In fact, in addition to being installed in the room or in a technical compartment, the boilers (IPX5D protection) can be installed outside, avoiding the use of "operating" space inside the room itself.

SYSTEM MODULARITY

The subdivision of the total thermal heat output on several installed appliances, allows to obtain a greater rationalisation of the system: "zone" management of the thermal power supply and the integration of thermal heat output is limited to the installation of new appliances.

COMBINATIONS BETWEEN AKN BOILERS AND AX WATER FAN HEATERS

AKN034 AX050

AKN034 AX030 AX030

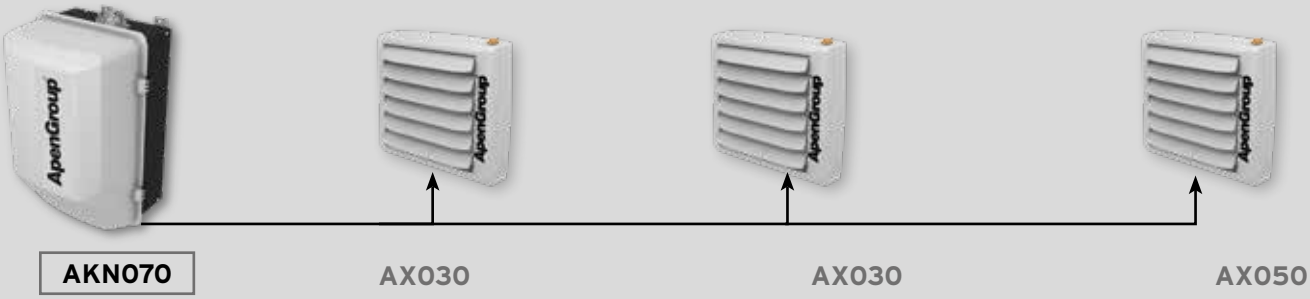
AKN050 AX070

AKN050 AX040 AX040

AKN050 AX030 AX030 AX030

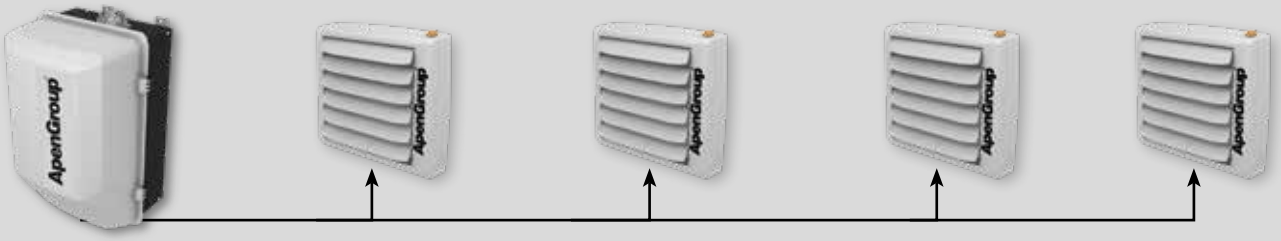
AKN070 AX090

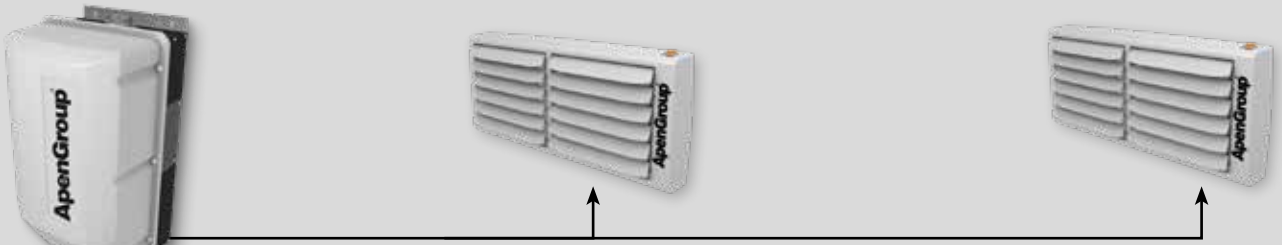
AKN070 AX050 AX050

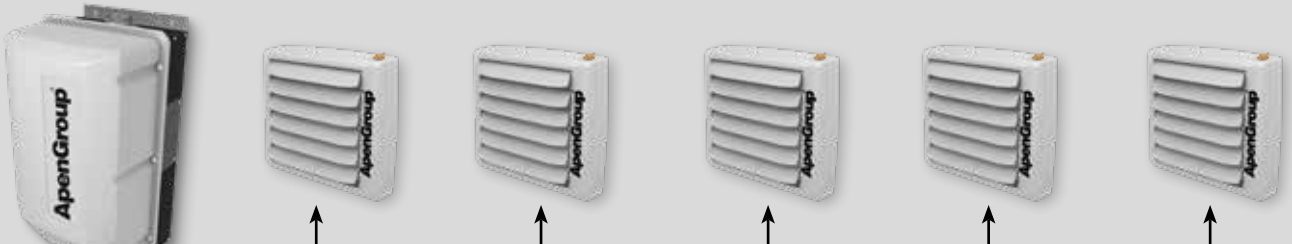


AKN070 AX030 AX030 AX050

COMBINATIONS BETWEEN AKN BOILERS AND AX WATER FAN HEATERS







AKN SERIES BOILERS

TECHNICAL FEATURES

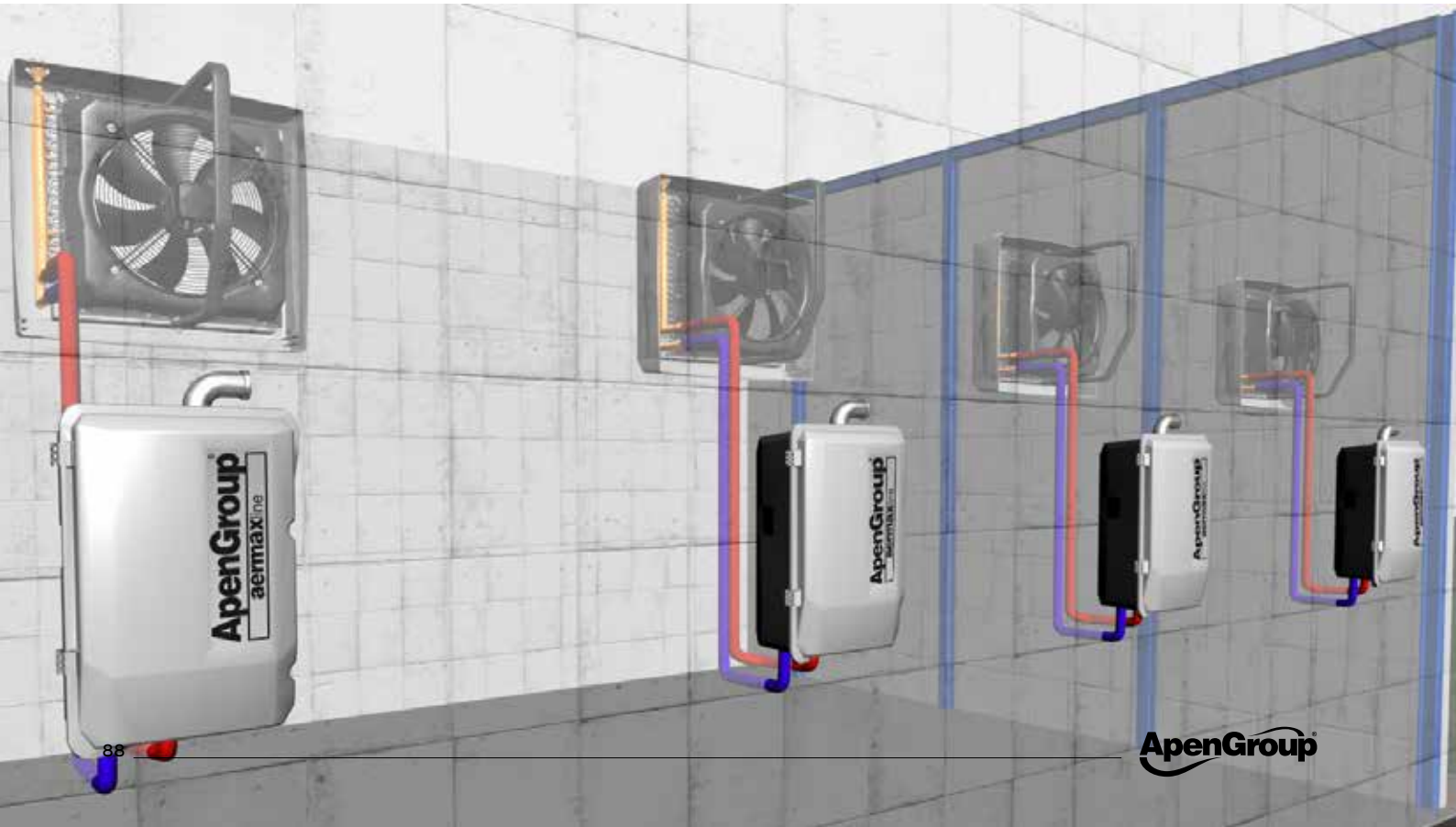
- Casing made of ABS methacrylate.
- Very high useful efficiency up to 108% (Class A Energy efficiency according to Regulation 811/2013/EC).
- Low NOx modulating pre-mixed burner, class 6 in accordance with Regulation EN15502-1.
- Modulating air/gas valve.
- Stainless steel heat exchanger with low carbon content.
- 10-litre expansion tank.
- Integrated condensate drain.
- Forced flue gas outlet.
- Control and safety equipment.
- Electronic ignition.
- ELECTRONIC high-pressure variable flow rate circulator with automatic air separator (degasser), minimum system pressure sensor, safety valve set at 3bar incorporated - only for AKN034.
- Pressure gauge for hydraulic circuit.
- NTC probe for boiler water temperature regulation.
- Safety thermostat.
- Flow meter to control water circulation in the system.
- Heat exchanger temperature control thermal fuse.
- Flue gas temperature control thermal fuse.
- IPX5D Protection degree.
- Microprocessor electronic equipment with self-testing to manage all burner command and control operations.
- Multifunctional LCD display for boiler control and diagnostics.
- Possibility to set the antifreeze safety on SMART X (Easy and Web) remote controls.
- Possibility of cascade management.

STANDARD ACCESSORIES

- Hydraulic circuit needs to be filled with a mix of water and 30% glycol. It can resist temperatures as low as -15°C (-62°F). If the glycol percentage increases to 40%, it can reach -22°C (-78°F).
  AKN is not supplied with a glycol refill, but it's possible to order our glycol can with anti-freeze.
- Gas valve and connections kit.
- Stainless steel flexible pipes for blower-to-boiler connection.
- System filling valve.
- Drilling template.
- Kit for conversion to LPG.

SAFETY, PROTECTION AND CONTROL DEVICES (STANDARD) FOR AKN050, AKN070, AND AKN100

- Certified safety valve.
- Min. and max. water circuit safety pressure switch with manual reset.
- Flowmeter control for water circulation system.
- Thermometer.
- Manometer for hydraulic circuit.
- Well for control thermostat.
- Well for fuel cut-off valve.
- Three-way tap with flange for control manometer.



AKN SYSTEM AND NETWORK: MODULATION BOARD

APEN GROUP has designed this innovative modulation board with the main function of ROOM COMPENSATION.
The purpose of the compensation function is to achieve greater comfort with less consumption. When the room temperature approaches the desired temperature, the modulation board varies the rotation speed of the burner motor, decreasing the air flow and consequently the gas flow. This causes a decrease in the temperature of the water circulating in the water fan heater and consequently in the supply air temperature.
By decreasing the air stratification in the room, the heat loss of the building is significantly reduced.

SMART X EASY AND SMART X WEB CONTROLS

The Apen Group remote control of the new SMART X EASY or SMART X WEB series acts as a stand-alone chronothermostat and can be used in a system that controls a zone in which one up to a maximum of 15 machines can be installed at the same time.
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 3 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.

BASIC REMOTE CONTROL

The simple remote control contains the on/off control and the release button with relative signalling.

SIMPLE INSTALLATION

The particular conformation of the hydraulic circuit of the boiler and fan heaters allows multiple types of installation, both in terms of height and distance, between the indoor units and the outdoor unit.
The positioning of the pipe outlet for connection to the fan heater in the lower part of the boiler guarantees:

- Installation of the external boiler at an accessible height, both in terms of positioning and maintenance
- Positioning of the fan heater at the correct height for the room to be heated
- Reduced connection path, between the external boiler and the fan heater, with immediate advantages due to low pressure drops and high water flow rates on the battery

HIGH EFFICIENCY

The Apen Group fan heaters have been suitably sized with a large exchange surface area in order to be able to work with a maximum boiler water temperature of 70°C, allowing the efficiency of 101% to be exceeded even at maximum output.

AKN SERIES / TECHNICAL DATA

Boiler - External Module		AKN034		AKN050		AKN070		AKN100	
Energy efficiency class		A		A		A		A	
NOx class [EN 15502-1]		6		6		6		6	
		Max	Min	Max	Min	Max	Min	Max	Min
Useful heat output	kW	35,4	7,0	50,6	8,5	70,5	12,3	97,6	17,3
Nominal heat input	kW	34,8	6,8	49,9	8,4	69,6	11,8	96,6	16,6
Efficiency		101,8	103,5	101,5	101,7	101,3	104,0	101,0	104,0
Supply voltage	V	230V-50 Hz single phase		230V-50 Hz single phase		230V-50 Hz single phase		230V-50 Hz single phase	
Rated power	W	125	48	177	74	186	7	378	180
Operating Temperatures	°C	da -15°C a +50°C		da -15°C a +50°C		da -15°C a +50°C		da -15°C a +50°C	
Protection Rating	IP	IPX5D		IPX5D		IPX5D		IPX5D	
Operating weight	kg	39		45		51		90	

AKN SERIES / DIMENSIONS

AKN034

AKN050

AKN070

AKN100

AQUAPUMP HYBRID

OUTDOOR MONOBLOC UNIT
ELECTRIC HEAT PUMP + GAS BOILER

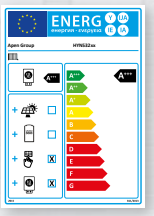
kiwa tested
20% HYDROGEN READY

NEW: GAS R32

SMART X EASY OR SMART X WEB

ELECTRONIC WATER FAN HEATERS

CLASS A++



ApenGroup

AQUAPUMP HYBRID
Outdoor monobloc unit electronic heat pump + gas boiler

AQUAPUMP HYBRID, INTEGRATED HEAT PUMP AND CONDENSING BOILER

AquaPump Hybrid is an outdoor monobloc unit designed to produce hot and cold water using renewable energy. It is a hybrid system in one product, the only one on the market in a one-package configuration.

Particular attention has been paid to:

- The environment, guaranteeing very low polluting emissions.
- Savings thanks to high efficiency and low energy consumption.
- Design, where originality and reliability become product standards.

It always ensures optimal heating and air conditioning standards in any type of environment.

RENEWABLE ENERGIES AND ENERGY SAVING

The key factor in the development of the AquaPump Hybrid project was the study of an integrated control system capable of independently managing the operation of the heat pump or the boiler, as stand-alone units, or both at the same time in order to generate energy savings and cost-effectiveness, maximising the use of renewable energy. The system adjustment flexibility allows using this technology both for high temperature and medium or low temperature systems.

FIELDS OF APPLICATION

- Labs
- Public buildings
- Offices
- Supermarkets
- Restaurants
- Bar
- Shopping malls
- Shops and Showrooms
- Gyms

A++ CLASS

The A++ energy class, as per 811/2013 ECOLABEL EU regulation, derives from the sum of the efficiencies of the latest generation condensing boiler, the heat pump with inverter and the SMART X WEB intelligent control. The final label highlights the overall performance of the system.

HYBRID SYSTEM AND ELECTRONIC FAN HEATER

In case of high temperature systems, an AB fan heater has been designed to be matched with a Hybrid system characterised by high exchange surfaces with high efficiency batteries, double fan with automatic speed control, direct current brushless motor and condensate collection tray for use in cooling operation.

SMART OPERATION WITH INTELLIGENT CONTROL

The system, condensing boiler and hydronic heat pump with inverter (already assembled electrically and hydraulically with refrigerant circuit R32, closed and tested), is managed by SMART X EASY or SMART X WEB control. The touch-screen controls act as a stand-alone chronothermostat.

SMALL DIMENSIONS FOR HIGH POWER

The entire monobloc system (boiler + heat pump) has the same dimensions as a heat pump, the inverter technology and the new generation of compressors and fans, the result of the latest research of the global manufacturers of these components, allows to reach new levels of noiselessness.

PLUG AND PLAY INSTALLATION

The AquaPump Hybrid is a plug and play product with integrated regulation. The installer is aided in his installation work by a system that is already assembled, adjusted and with the values already set.
All thatIS required is the hydraulic connection of the water supply and return to the system, the connection of the gas line and that of the power supply. And then you can plug it in.

AQUAPUMP HYBRID

TECHNICAL FEATURES

CONDENSING BOILER

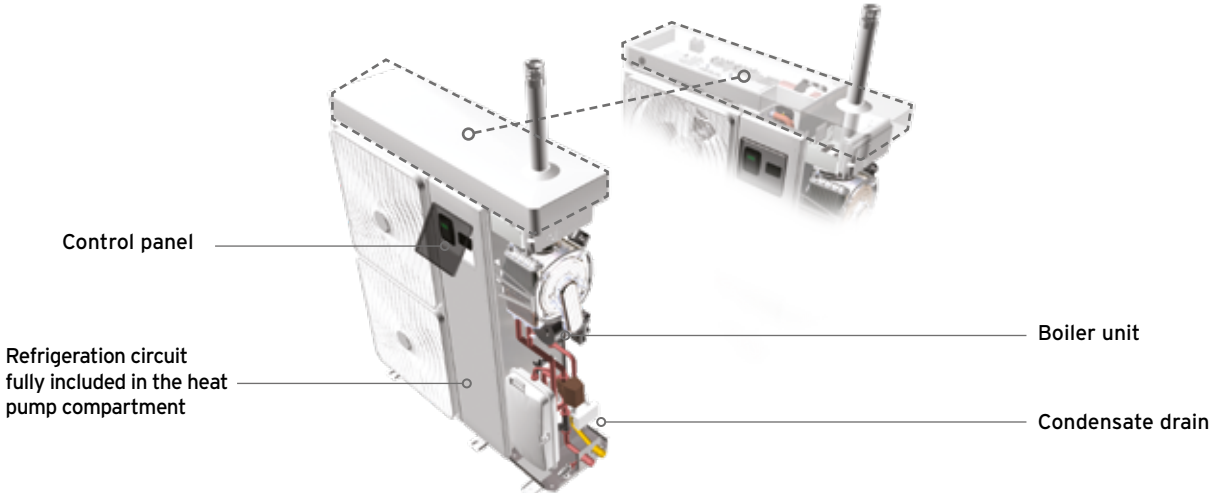
- Premixed burner with low NOx polluting emissions, class 6 according to EN15502-1.
- Low carbon stainless steel heat exchanger.
- Electronic equipment and microprocessor with self-testing that manages all burner control and verification operations.
- CE approval in accordance with product directives.

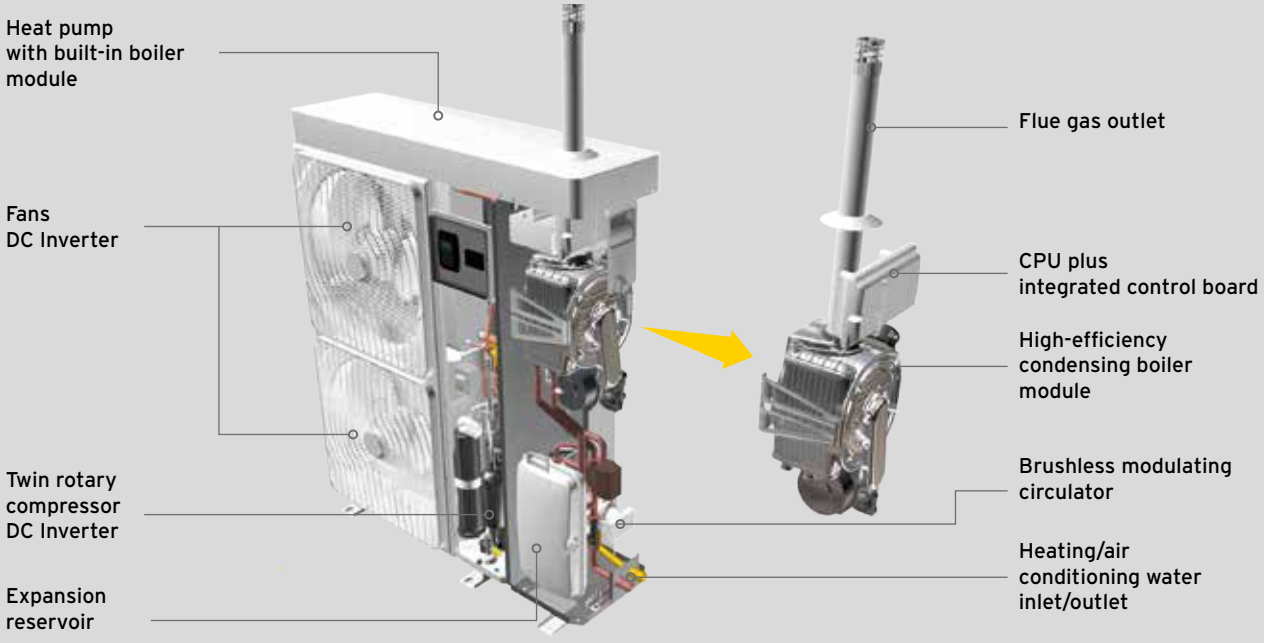
INVERTER HEAT PUMP:

- DC inverter fan motor.
- Twin Rotary DC inverter compressor with permanent magnets.
- R32 Refrigerant gas.
- Source heat exchanger with finned battery with copper tubes and aluminium fins with hydrophilic treatment.

HYDRAULIC CIRCUIT:

- Pressure gauge and probe to control the system pressure.
- NTC probes for water regulation.
- Hydraulic circuit temperature control thermometer.
- Flow meter for measuring the system water flow rate.
- Brushless circulator with DC motor with variable flow rate and built-in automatic air separator (degasser).
- 90°C Safety thermostat.
- 3 bar system safety valve.
- IPX5D Protection degree.
- 10-litre expansion reservoir.





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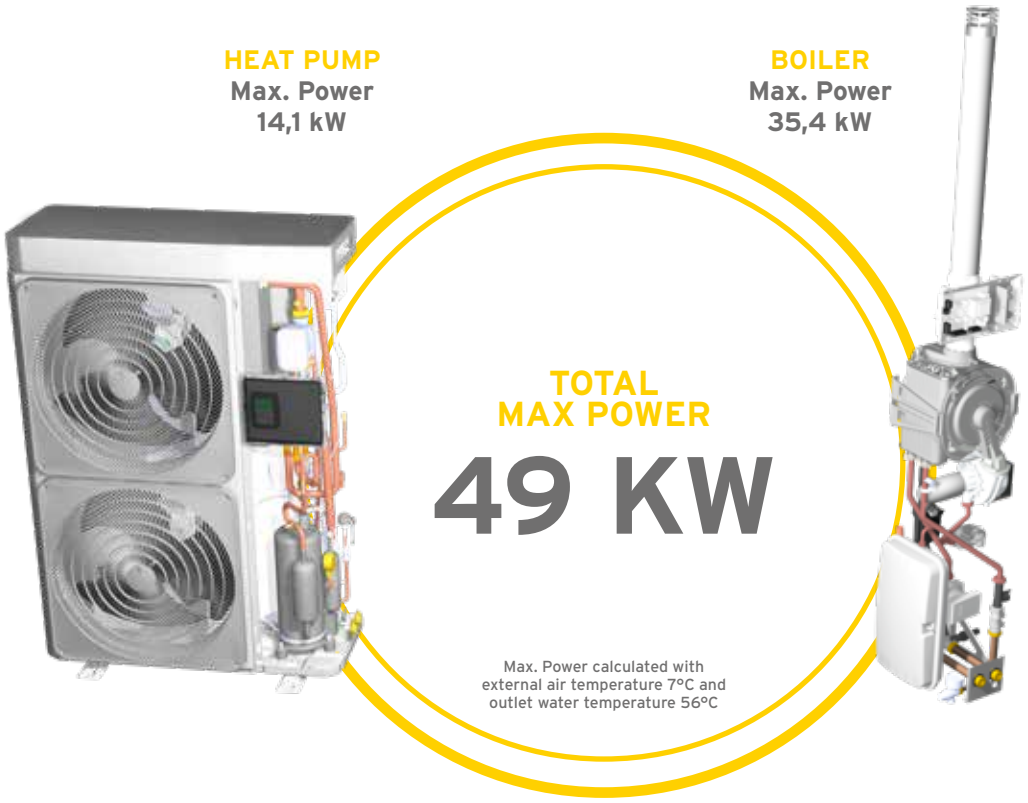
The simplicity of connection, the clear and intuitive management menu and the possibility of reading up to 4 temperature points within the controlled zone make these chronothermostats versatile and suitable for different needs and types of system.

HEAT PUMP OR BOILER?

The single system, condensing boiler and hydronic heat pump with inverter (already assembled electrically and hydraulically with R32 refrigerant circuit, closed and tested), is managed by SMART X EASY or SMART X WEB control.
These controls give priority to air-water heat pump operation. The condensing boiler starts operating automatically only when the temperature conditions around the system do not guarantee the possibility of making the best use of renewable energy, or when the power required from the system is greater than the power supplied by the heat pump.
The modulation of the operating power of both technologies is regulated in such a way as to always favour heat pump operation; each system operates with a dedicated regulation curve and with different delivery set-points that work according to the chosen mode of operation.
In order to optimise the heat pump performance, it is possible to choose to work with the optimum economy, by setting an external temperature limit (for example +3°C) below which heat pump operation is deactivated.

For systems with availability of electrical energy from renewable sources (photovoltaic), the heat pump can be set to operate with colder external temperatures, even below 0°C, already equipped as standard with an antifreeze kit.



ELECTRONIC FAN HEATERS

TECHNICAL FEATURES

- High-efficiency three-row finned exchange battery.
- Electronic fans with integrated inverter.
- Automatic air vent valve.
- Louvres with adjustable horizontal blades.
- IP25B Protection degree.

STANDARD ACCESSORIES

- Rotatable wall mounting shelf and paper template for drilling.
- Stainless steel hoses with Ø 1" for connecting the fan heater to the boiler, length 500mm.
- Condensate collection tray for use in cooling mode.

In winter operation, the ventilation speed is adjusted automatically according to the inlet water temperature.
In air-conditioning operation, the ventilation speed is fixed and programmable.

FAN HEATERS IN COOLING MODE

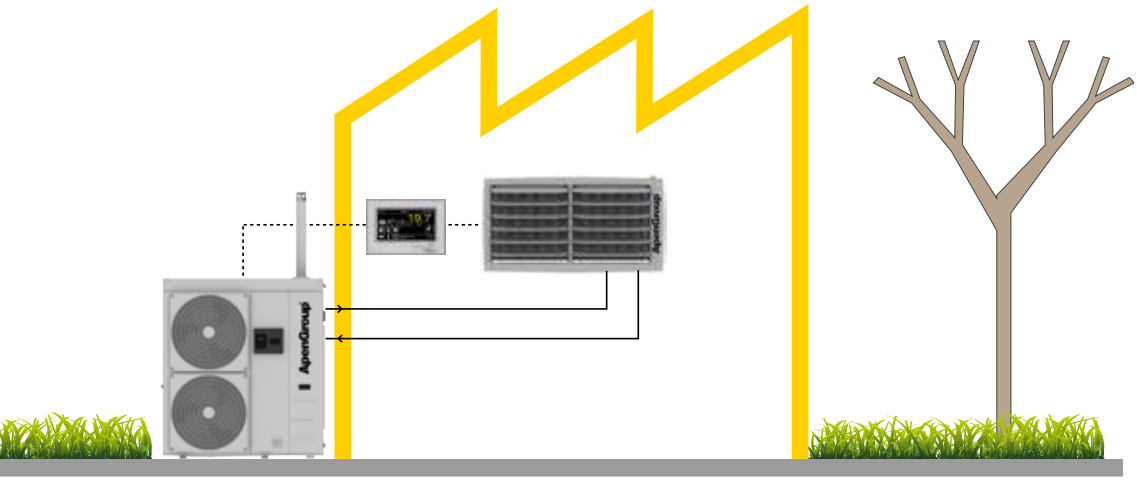
The fan heaters are designed to house a condensate collection tray, which can be fitted at any time, even after wall installation.

ROTATABLE SHELF AS STANDARD

The fan heaters are fitted as standard with a rotatable shelf. Thanks to its particular conformation, this shelf allows to satisfy the multiple requirements of installation.

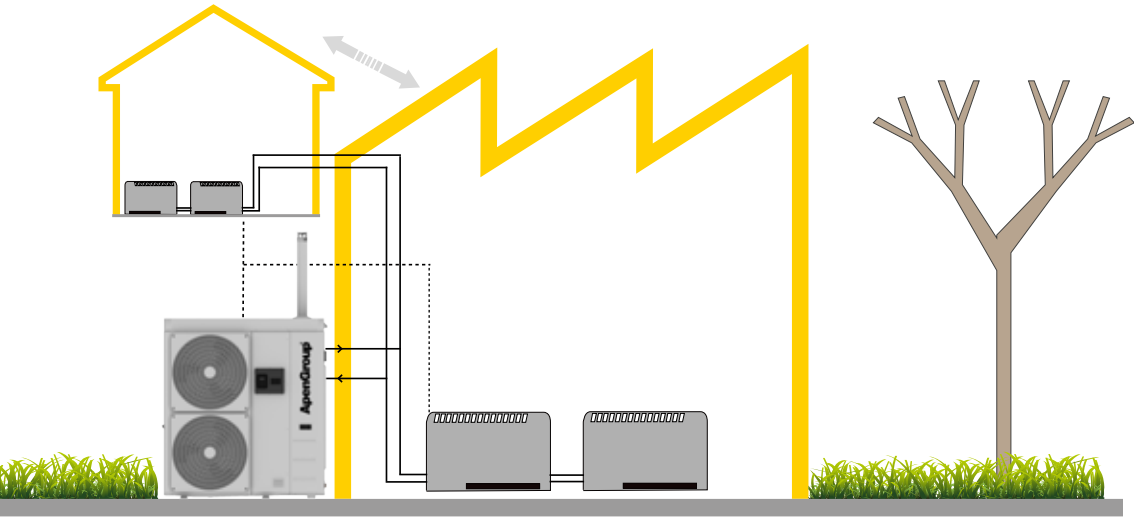
- Easy and quick fixing on: walls, pillars, beams or other suitable supporting structures.
- Possibility of orienting the indoor unit and the relative air flow, according to the characteristics of the environment to be heated and the user's needs.

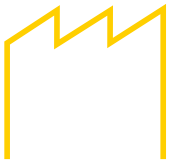
AQUAPUMP HYBRID



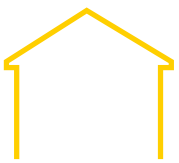
Heat pump
AcquaPump

SMART X WEB
SMART X EASY



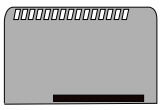


Tertiary
Industrial type
building



Commercial
type
building

Indoor water
fan heater



Fan coils

AQUAPUMP HYBRID / TECHNICAL DATA

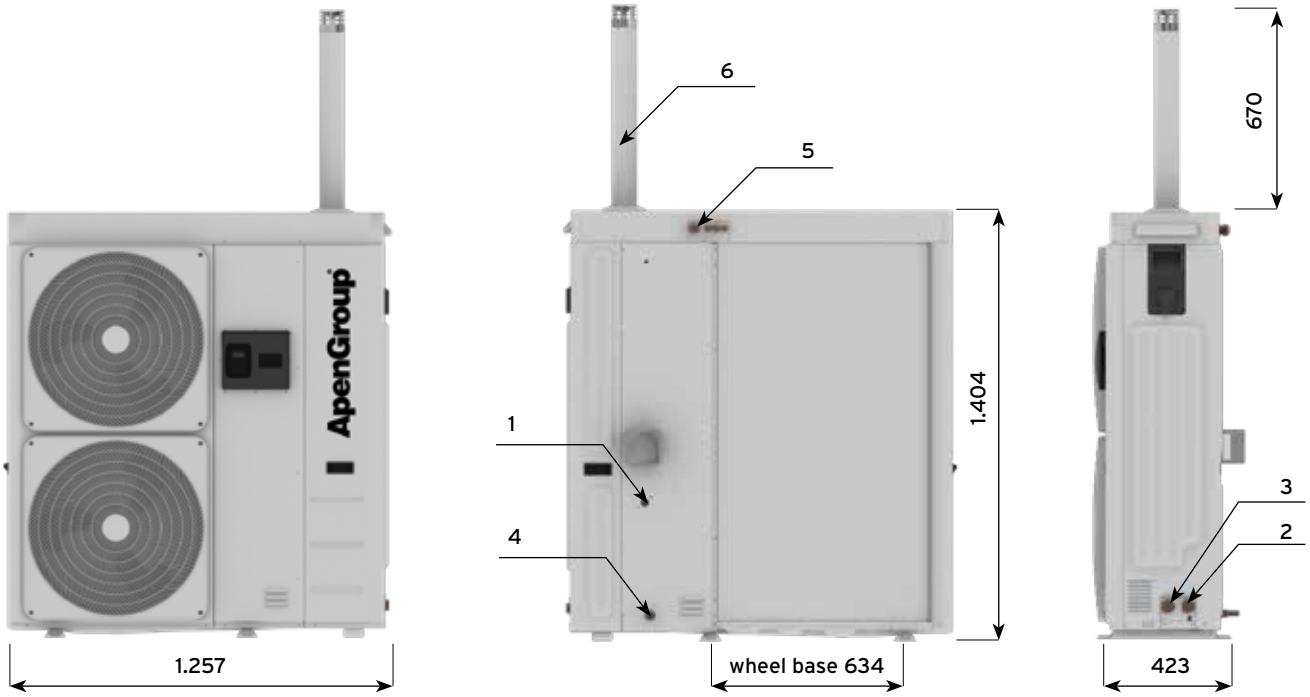
				HYN432IT	HYN532IT
Heat Pump	Heating	Output power (MIN-MAX)[1]	kW	15,2	
		COP[1]	W/W	4,85	
		Output power[2]	kW	14,6	
		COP[2]	W/W	3,82	
	Conditioning	Output power[3]	kW	14,7	
		EER[3]	W/W	5,4	
		Output power (MIN-MAX)[4]	kW	12,1	
		EER[4]	W/W	3,25	
Boiler		Furnace output power [MIN-MAX]	kW	6,8 - 34,8	
		Output power[5] [min-max]	kW	7,2 - 36,5	
		Efficiency[5]	%	105,8 - 104,8	
		Output power[6] [min-max]	kW	8,5 - 36,2	
		Efficiency[6]	%	106,3 - 103,9	
		Power rating [min-max]	W	90 - 130	
General Data		Power supply	V/F/Hz	230V/1F+N+T/50Hz	400V/3F+N+T/50Hz
		Power input	kW	6,7	
		Absorbed max current	A	29,2	9,7
		Gas supply fitting	Ø	G 3/4" M	
		Hydraulic system fitting	Ø	G 1" M	
		Sound pressure[7]	dbA	57,5	
		Weight	kg	170	

1. Outdoor air temp. 7°C D.B.T. /6°C W.B.T.; water temp. in/out 30/35°C ;
2. Outdoor air temp. 7°C D.B.T. /6°C W.B.T.; water temp. in/out 40/45°C;
3. Outdoor air temp. 35°C temp. water in/out 23/18°C;
4. Outdoor air temp. 35°C temp. water in/out 12/7°C;
5. Calculated on LHV with water at 50/30°C;
6. Calculated on LHV with water at 60/35°C;
7. Average sound pressure level in free field at 1 m from appliance according to ISO 3744.

ELECTRONIC FAN HEATERS / TECHNICAL DATA

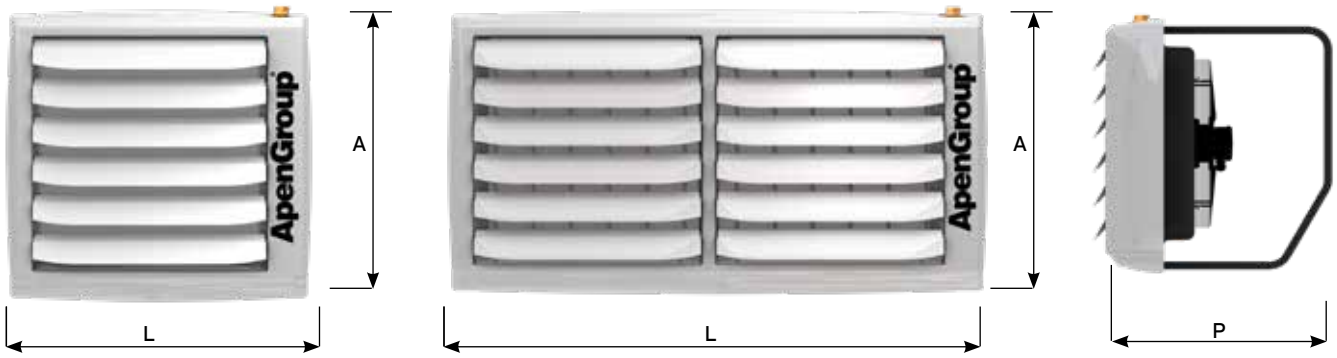
			AB018IT-HY	AB034IT-HY
HEATING RATED PERFORMANCE	Max heat output	kW	17,0	34,0
	Max air flow rate	(m³/h)	3.000	7.000
	Water heat drop	C°	60-35	60-35
	Water flow rate	l/h	600	650
COOLING RATED PERFORMANCE	Max heat output	kW	8,8	13,0
	Max air flow rate	(m³/h)	1.600	4.050
	Water heat drop	C°	7-12	7-12
GENERAL DATA	Sound pressure level (5 m) [max. flow rate]	dB(A)	55,7	63,2
	Sound pressure level (5 m) [min. flow rate]	dB(A)	42,3	47,2
	Supply voltage	V/Hz	230V/1/50 Hz	230V/1/50 Hz
	Weight	Kg	28	45

AQUAPUMP HYBRID / DIMENSIONS



Description		Dimensions
1	Gas supply	G3/4"
2	Water recircularion	G1"
3	Water delivery	G1"
4	Condensate drain	Ø19 mm
5	Electrical connections	PG09 x 2 + PG13 x 1
6	Flue exhaust chimney	Ø 80 mm

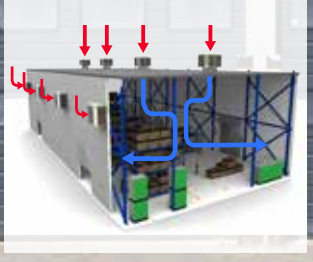
ELECTRONIC FAN HEATERS / DIMENSIONS



Model	Width	Height	Depth
	mm	mm	mm
AB018IT-HY	765	730	595
AB034IT-HY	1,390	730	595

AIRCOOLING

EVAPORATIVE COOLING SYSTEM

ELECTRONIC CONTROL	EVAPORATIVE PANEL	INSTALLATION TYPE	AIR DIFFUSERS
			

AIRCOOLING
Evaporative cooling system

AIRCOOLING: THE EVAPORATIVE COOLER IDEAL FOR THE MICRO-CLIMATE OF WORKING ENVIRONMENTS

In order to improve the summer micro-climate inside a production room, it is necessary to ventilate the environment with fresh and filtered air, possibly cooled.
The Aircooling evaporative system exploits the adiabatic air saturation process to cool the environment: the air, before being introduced into the environment, passes through special filters wet with water, gives up part of the heat during the water evaporation process and lowers its temperature.

SECTORS OF USE

- Facilities
- Sheds
- Workshops with all types of processing
- Commercial activities
- Sport activities
- Agricultural activities.

WHY CHOOSE AIRCOOLING

Remarkable are the advantages that can be achieved with Aircooling:

- Significant air renewal operations.
- Air cooling and filtration.
- Ventilation in less warm seasons.
- Partial or differentiated management for different areas of the room.
- Low installation, operating and maintenance costs.
- Reduced energy consumption.
- Improvement of environmental hygiene.

NO ENVIRONMENTAL IMPACT

For the operation of Aircooling no refrigerant or combustible gases are used, only adiabatic air saturation process.

POSITIONING VERSATILITY

The coolers are available in two versions:

- ACR for roof installation.
- ACW for wall or window installation.

RENEWED AND FILTERED AIR

Aircooling is an ecological and modern system that always introduces new air into the environment, guaranteeing continuous movement and renewal. Thanks to the Evaporative Pack, the air is filtered and purified, reducing the presence of bacteria, viruses and other pollutants.

SYSTEM MODULARITY

IT is possible to divide the cooling power over several installed appliances. This allows greater rationalisation of the system: "zone" management of the cooling output and possibly integration limited to the installation of new appliances.

100% FRESH AND HEALTHY AIR

AIRCOOLING

TECHNICAL FEATURES

Aircooling is a machine powered by electricity and mains water, which is installed on the roof or external wall or at a window of the room that must be ventilated and cooled. Ducts and diffusers are connected to it for the distribution of the cooled air in the room.

All models are equipped with an external ABS structure that guarantees protection from bad weather and a particular lightness, a very important aspect in relation to the limited capacity of roofs and walls of buildings.
The electronic control and operation panel has the possibility to manage the speed variation and all the automatisms of the product.
The models are equipped with:

- Stainless steel uprights.
- Low consumption electric fans.
- Water loading system with solenoid valve.
- Water distribution system with electric pump.
- Evaporating panels with high saturation efficiency.
- Automatic water drainage system.
- Periodic self-washing system of the whole hydraulic circuit and of the evaporating panels.
- Bracketing and positioning devices.

COMPULSORY ACCESSORY

Electronic control and operating panel, with the possibility of varying the speed and managing automations.

SUPPLIED ACCESSORIES

- Anchor brackets for the window/wall model.
- Support base for the rooftop model.

INDUSTRIAL ENVIRONMENTS

SPORT CENTERS

COMMERCIAL ENVIRONMENTS

FOUNDRIES

GREENHOUSES

FARMS

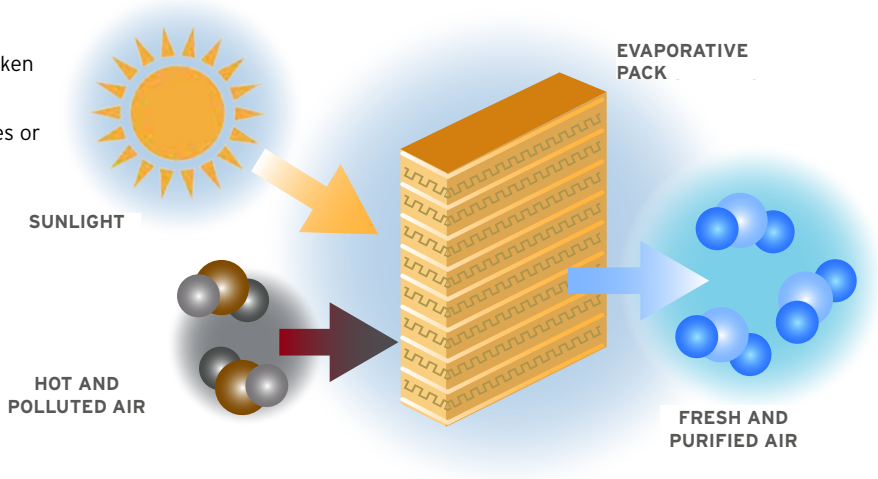
EXAMPLES OF INSTALLATION

PRINCIPLE OF OPERATION

The operating principle is simple: the hot air passes through special filters soaked in water, gives up some of its heat during the water evaporation process and lowers its temperature.
The air is cooled by reducing the temperature, eliminating the accumulated heat and constantly moving the air.
Aircooling brings new air into the room, ensuring continuous movement and renewal.

EVAPORATIVE PACK

Thanks to the special evaporative pack, the air taken in is purified, reducing the presence of bacteria, viruses or other pollutants.



ACR FOR ROOF INSTALLATION

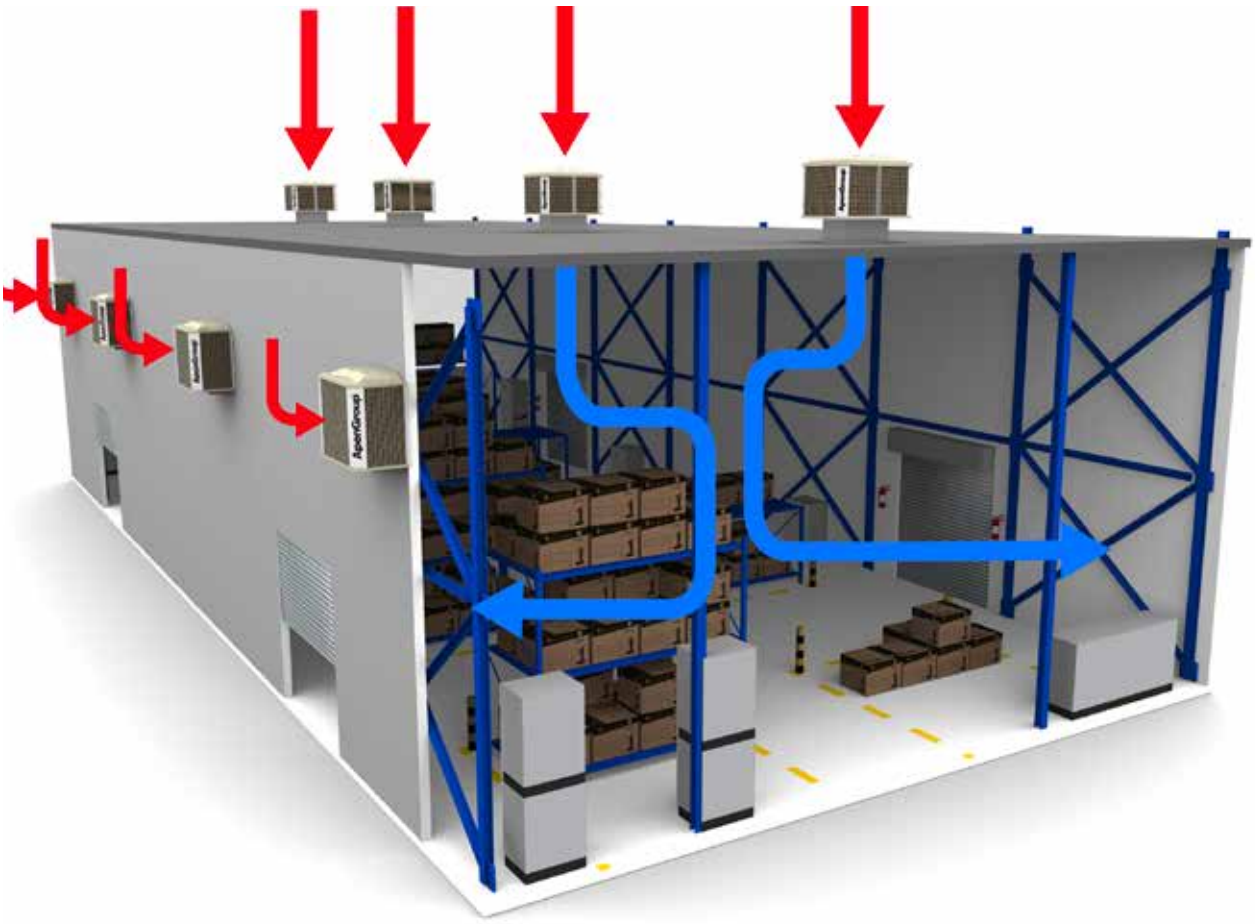
ACW FOR WALL INSTALLATION

AIRCOOLING / TECHNICAL DATA

AIR TEMPERATURE

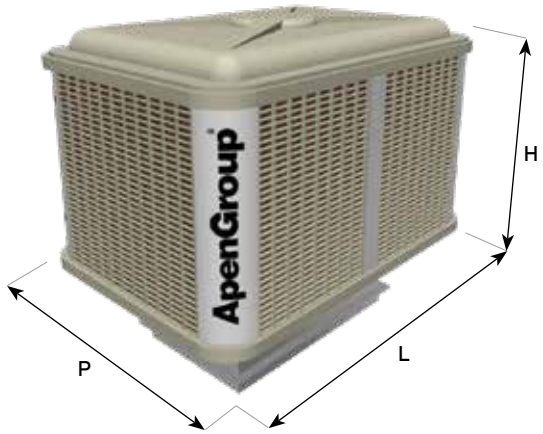
Outlet air temperature at different outdoor conditions.

r.u. Ext.	30%	40%	50%	60%	70%
°C Ext.	°C Int.	°C Int.	°C Int.	°C Int.	°C Int.
30°C	19.0°C	21.0°C	23.0°C	24.5°C	26.0°C
35°C	22.5°C	25.0°C	27.5°C	29.5°C	31.0°C
40°C	26.0°C	29.0°C	31.5°C	33.5°C	36.5°C



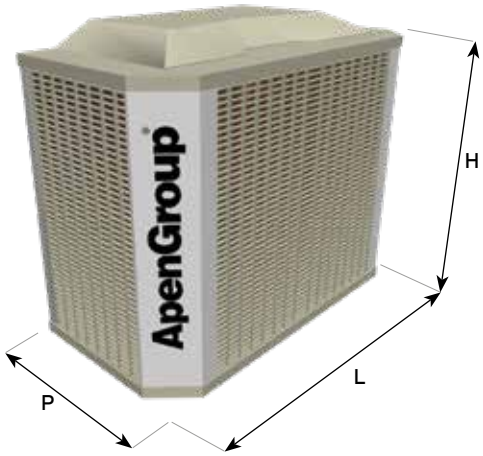
Model	Max Air flow	Electrical power	Current	Consumption Water	Weight (empty/full)	Supply voltage
	m^3/h	kW	A	l/h	kg	
ACW010IT	10,000	0.9	3.7	34	60/75	230V/1/50Hz
ACW013IT	13,000	1.2	4.8	39	63/78	230V/1/50Hz
ACR013IT	13,000	1.2	4.8	43	67/88	230V/1/50Hz
ACR020IT	20,000	1.8	7.0	64	120/146	230V/1/50Hz

ACR Roof installation



Description	Dimension		
	L	P	H
ACR013IT	1,150	1,150	1,050
ACR020IT	1,650	1,150	1,050

ACW Wall installation



Description	Dimension		
	L	P	H
ACW010IT	1,300	670	1,300
ACW013IT	1,300	670	1,300

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, 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.

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.

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.

RANGE AVAILABILITY

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

ECODESIGN ErP 2021 CONFORMITY

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

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.

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.

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).

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.

PCH CONDENSING HEAT EXCHANGER MODULE

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 aeraulic 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.

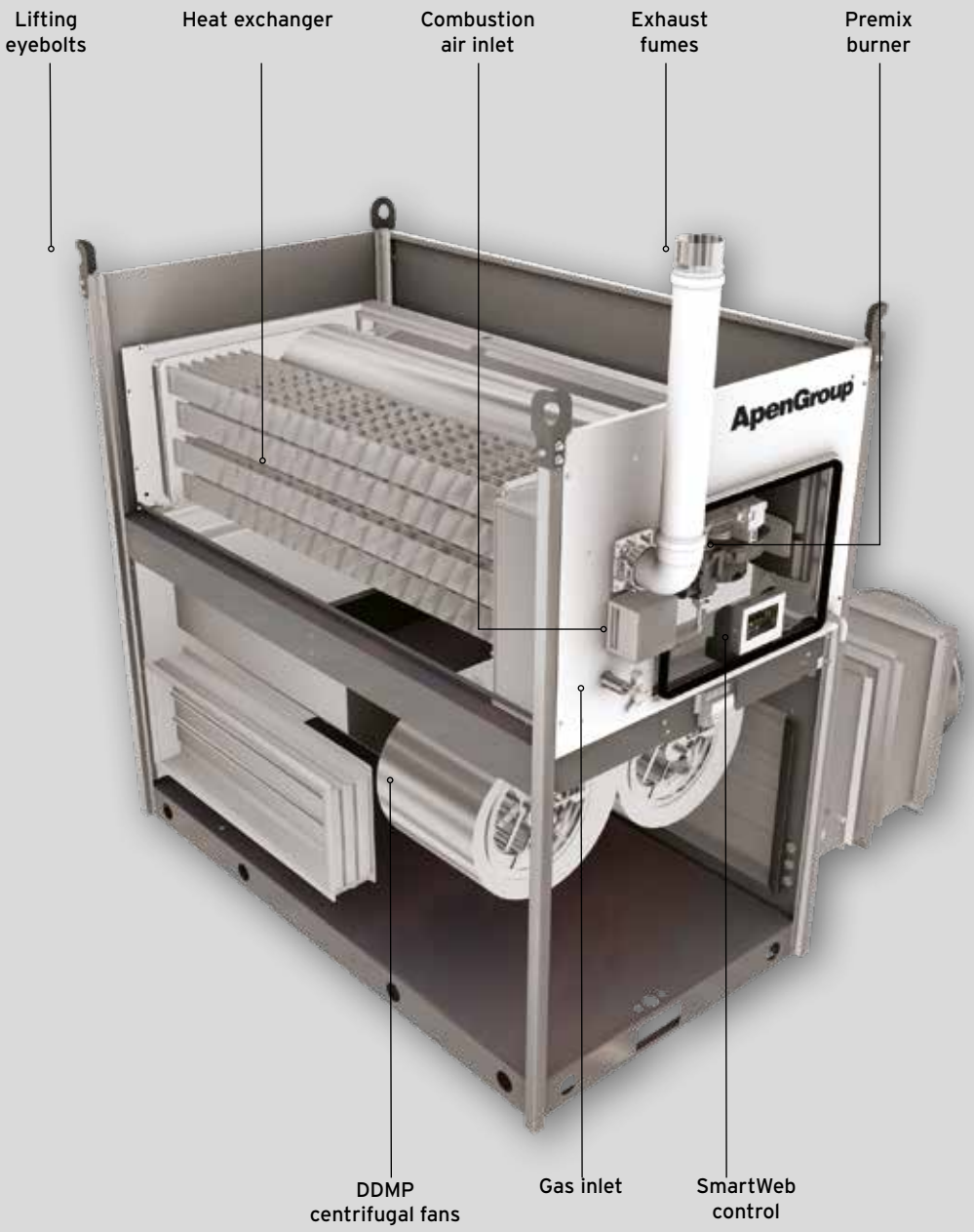
IT is possible to install up to three remote probes in addition to the one on board the control.
The controls are easy to use thanks to a 4.3" colour display and a very intuitive management menu.
The user program is multilingual (9 languages).

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 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.



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.

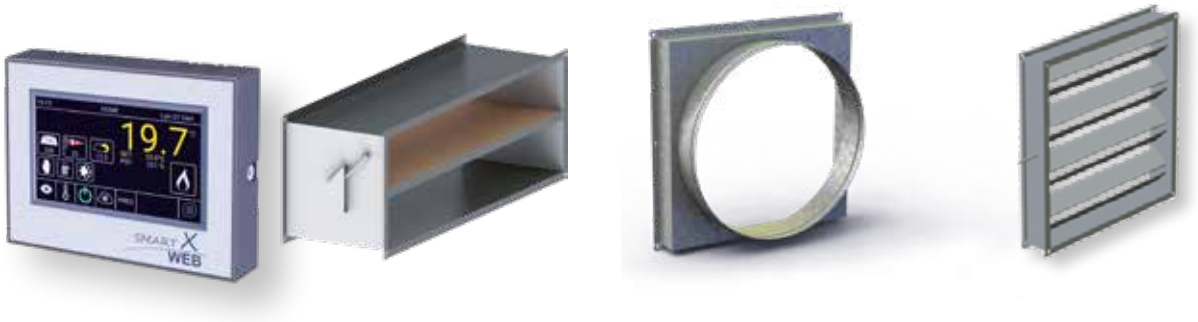
SQUARE / ROUND NOSEPIECE KIT

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

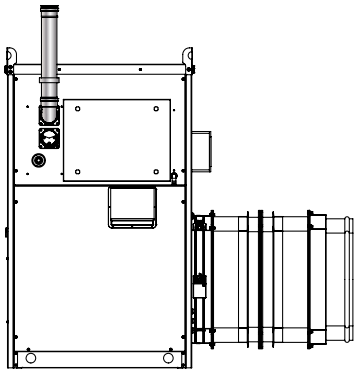
The anemometer kit allows the dynamic variation of the pressure inside the balloon to counteract the action of the wind.

AH-SPORT: TECHNICAL DATA

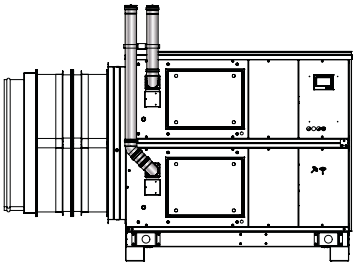
Code for Tensostatic Structure	Air Flow	Available Pressure	Useful Heat Output		Efficiency		Motor
	m^3/h	Pa	min (kW)	max (kW)	min (%)	max (%)	kW
AH105IT-T	7.500	150	22,77	97,15	108,40	97,15	2x0,8
AH160IT-T	14.200	150	35,54	160,06	108,35	97,60	4x0,8
AH210IT-T	17.400	300	44,54	194,30	108,42	97,15	4x2,0
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
	m^3/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

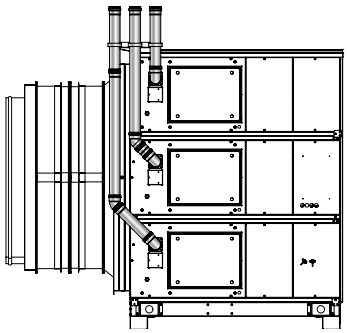
SEPARATE FUME EXHAUST IN ALUMINIUM



SINGLE SEPARATE FUME EXHAUST
MODEL AH105

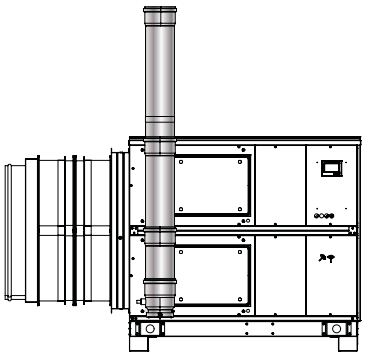


DOUBLE SEPARATE FUME EXHAUST
MODELS AH160/210

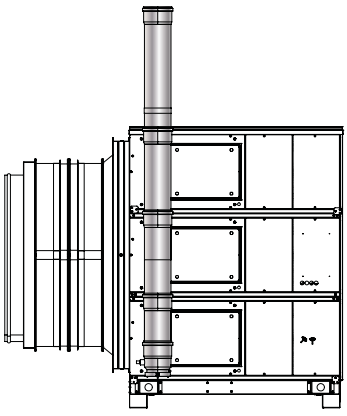


TRIPLE SEPARATE FUME EXHAUST
MODELS AH240/320

SEPARATE FUME EXHAUST IN STAINLESS STEEL AISI 316L

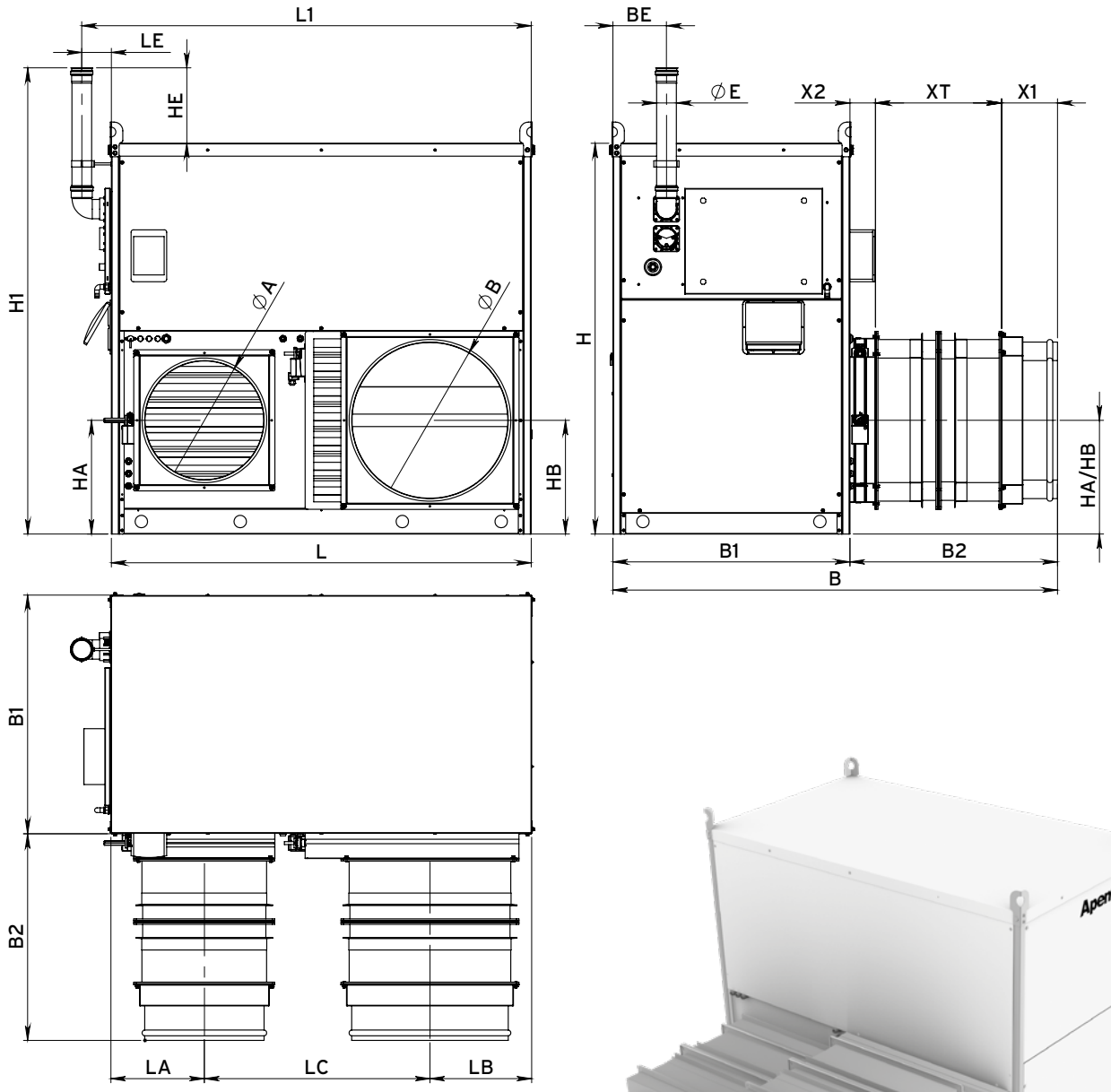


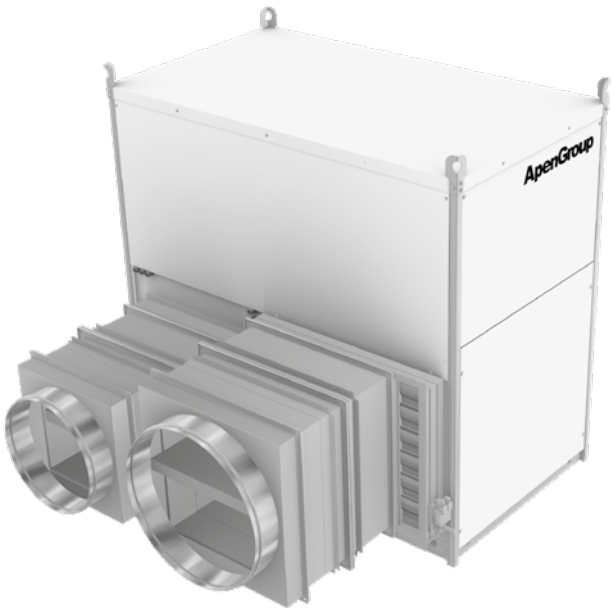
DOUBLE COLLECTIVE FUME EXHAUST
MODELS AH160/210



TRIPLE COLLECTIVE FUME EXHAUST
MODELS AH240/320

AH-SPORT: DIMENSIONS

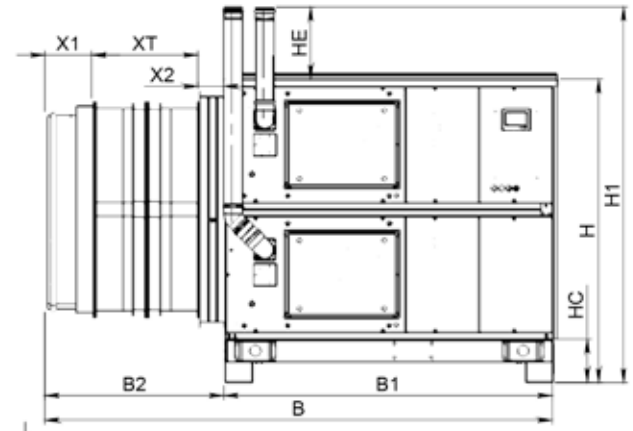


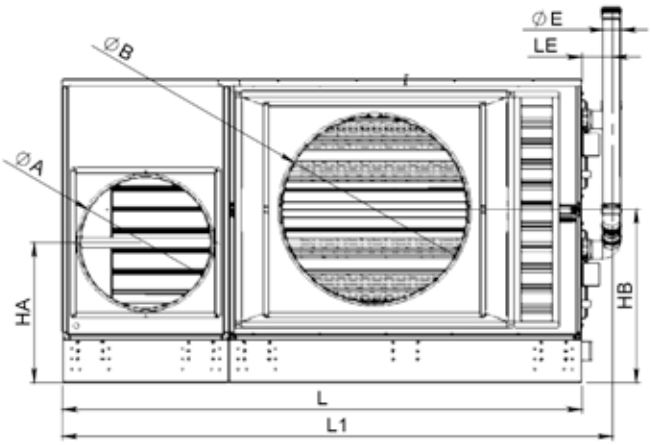


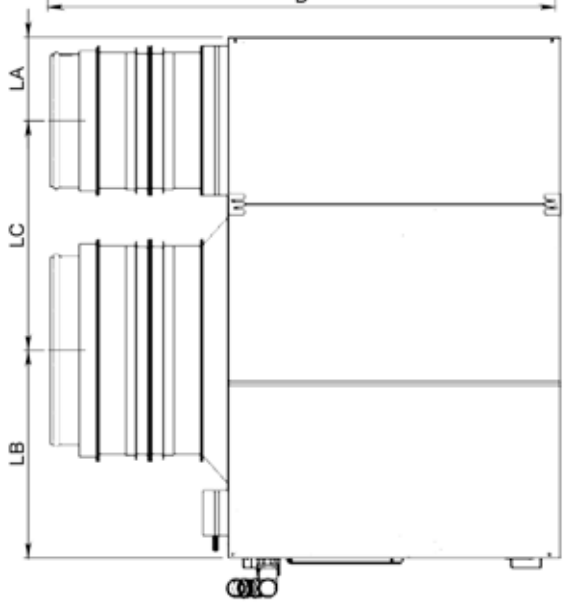
Model	X1	X2	XT
AH105	225	105	510
AH160/210	225	125	510
AH240/320	225	200	510

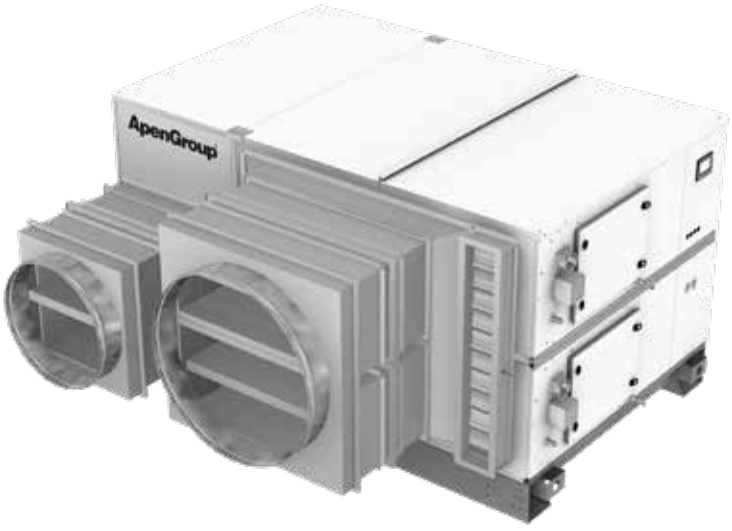
Model	Overall Dimensions			Dimensions			Louver								Chimney				Gas
									Intake			Delivery							
	B	L	H	B1	L1	H1	B2	L2	LA	HA	ØA	LB	HB	ØB	BE	LE	HE	ØE	
AH105	1.800	1.700	1.580	960	1.820	1.885	840	912	378	460	483	410	460	633	217	120	305	1x80	1xG 3/4"

AH-SPORT: DIMENSIONS









Model	Overall Dimensions			Dimensions				Louvres								Chimney			Gas
										Intake			Delivery						
	B	L	H	B1	L1	H1	HC	B2	LC	LA	HA	ØA	LB	HB	ØB	LE	HE	ØE	
AH160	2.460	2.500	1.485	1.600	2.650	1.810	210	860	1.105	400	675	633	995	835	900	145	350	2x80*	2xG 3/4"
AH210	2.460	2.500	1.485	1.600	2.650	1.810	210	860	1.105	400	675	633	995	835	900	145	350	2x80*	2xG 3/4"
AH240	2.535	2.815	2.110	1.600	2.965	2.435	210	935	1.260	560	945	900	995	1.147	1.200	145	350	3x80*	3xG 3/4"
AH320	2.535	2.815	2.110	1.600	2.965	2.435	210	935	1.260	560	945	900	995	1.147	1.200	145	350	3x80*	3xG 3/4"

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

PK-SPORT

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

PK-SPORT K

HIGH EFFICIENCY

ErP 2021

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

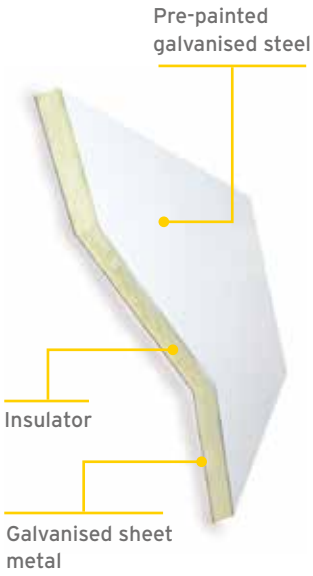
- Combustion chamber, made of AISI 441 stainless steel, characterised by a high exchange surface area (high volume compared to the unit heat load). Thanks to its particular shape it ensures low heat loads and uniform heat distribution.
- Flame reversing furnace, with combustion circuit with three flue 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 galvanized 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.

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:

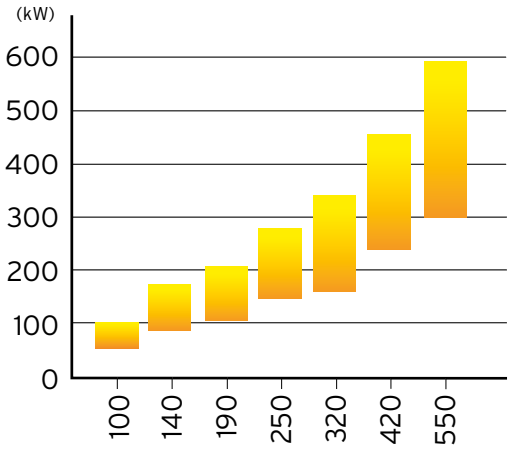
- Pressostatic structures.
- Tensostatic structures.
- Swimming pools.
- Trade fairs.
- Public entertainment venues.

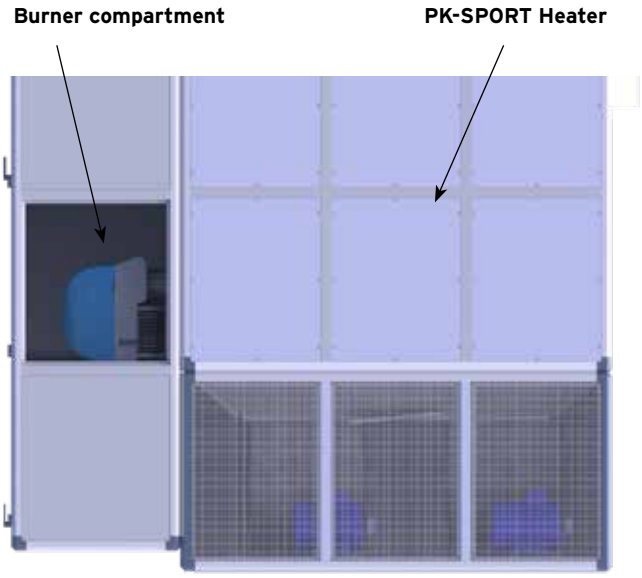
Technical performance, safety, efficiency, quality, and the ability to meet the increasingly frequent requests for customised solutions and adaptability to the environment are just some of the features of our PK-SPORT heaters.

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

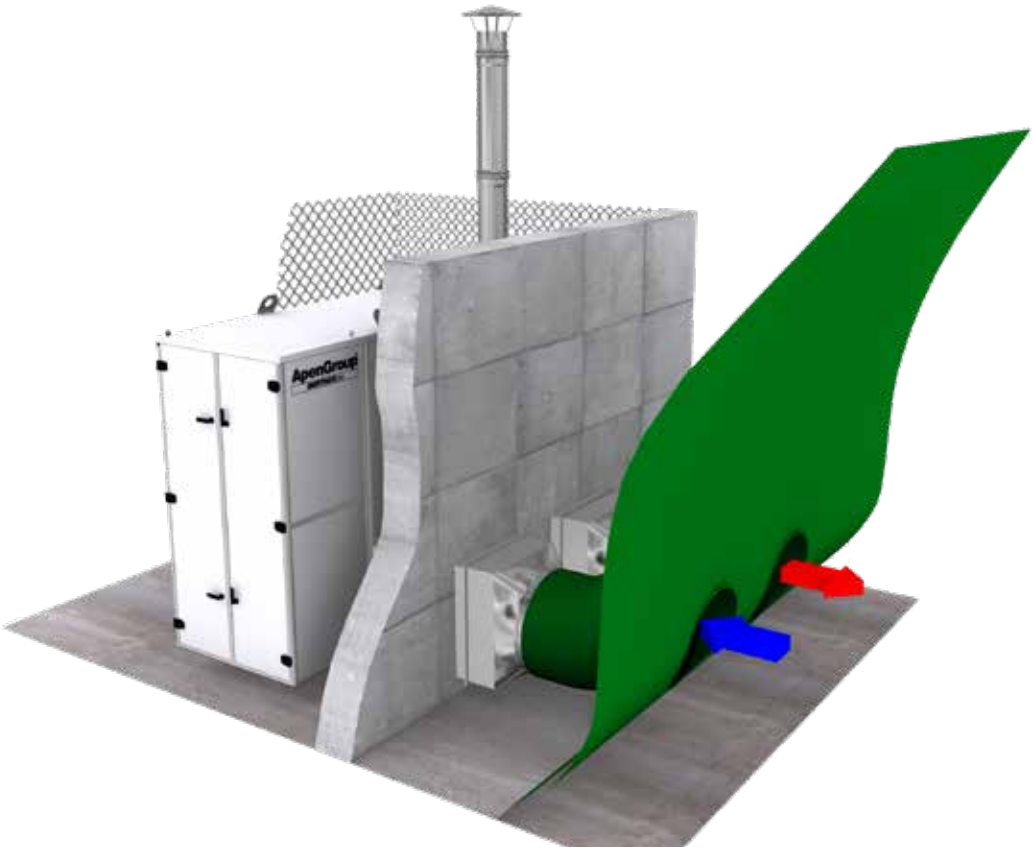
The range of models is very wide and covers 7 capacities from 100 kW to 550 kW.

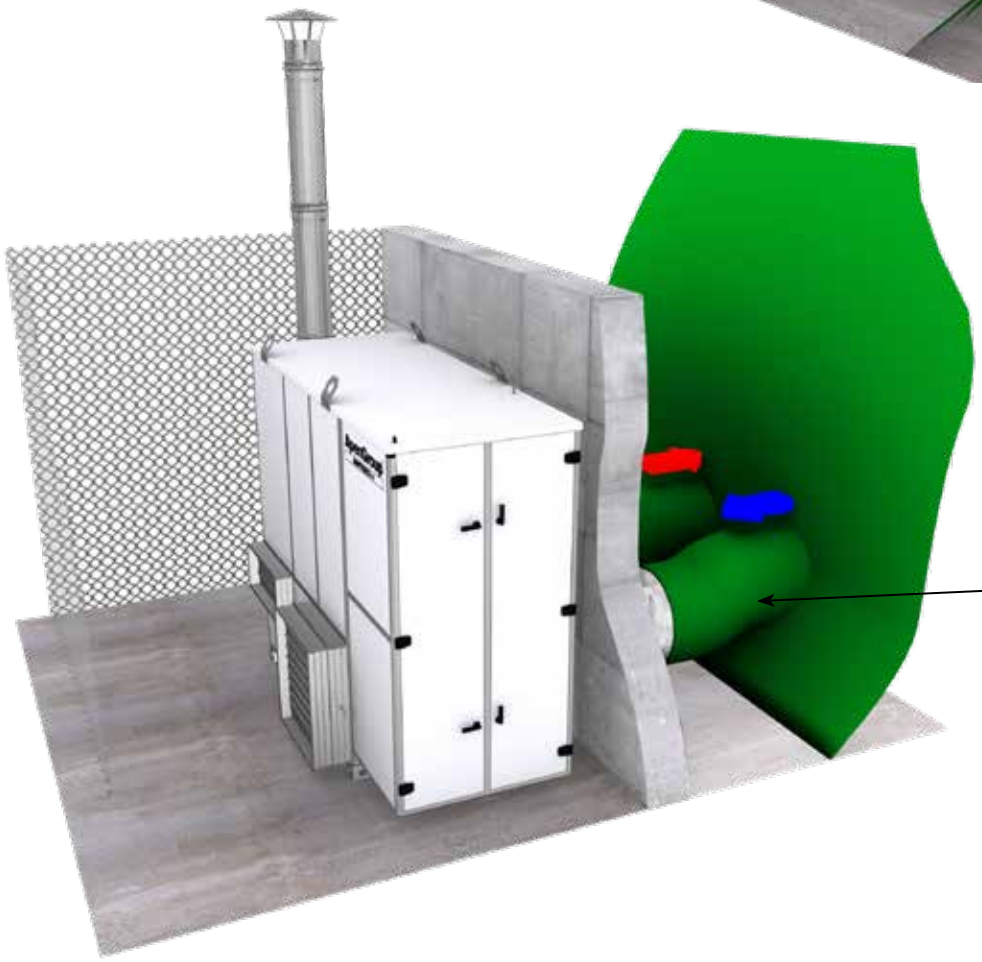
EXTERNAL BURNER

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 contolling 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.

MODULANTING 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:

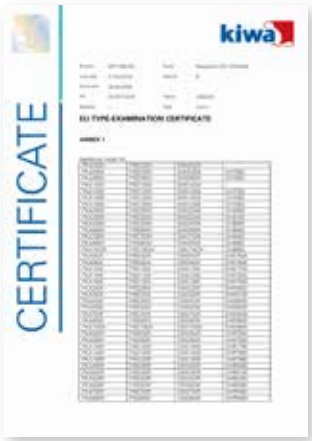
- Operation: high efficiency and quick room heating guarantee efficiency and reduced consumption.
- Management: maintenance operations are quick and easy and certainly not recurrent.

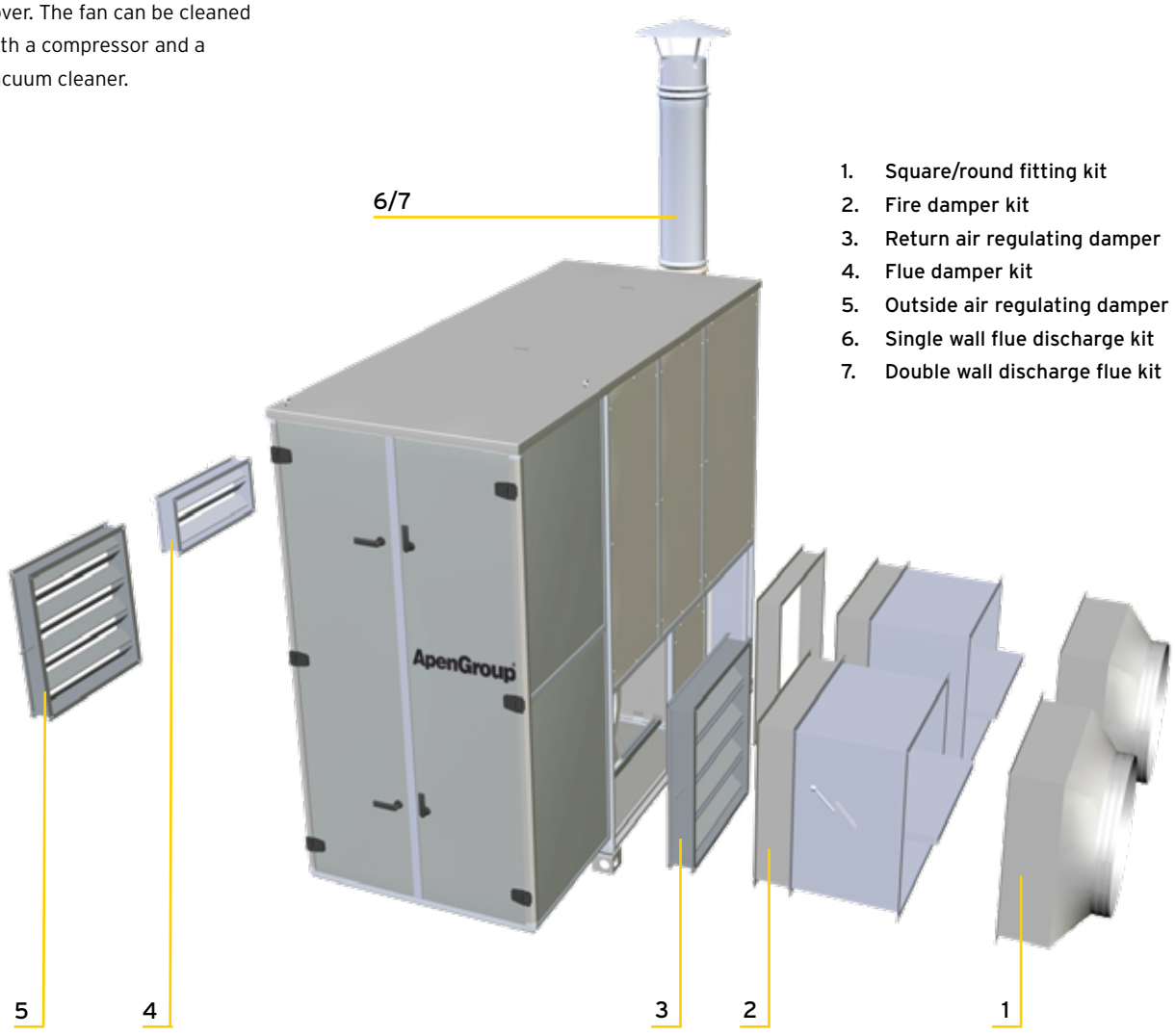
CERTIFIED QUALITY

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.





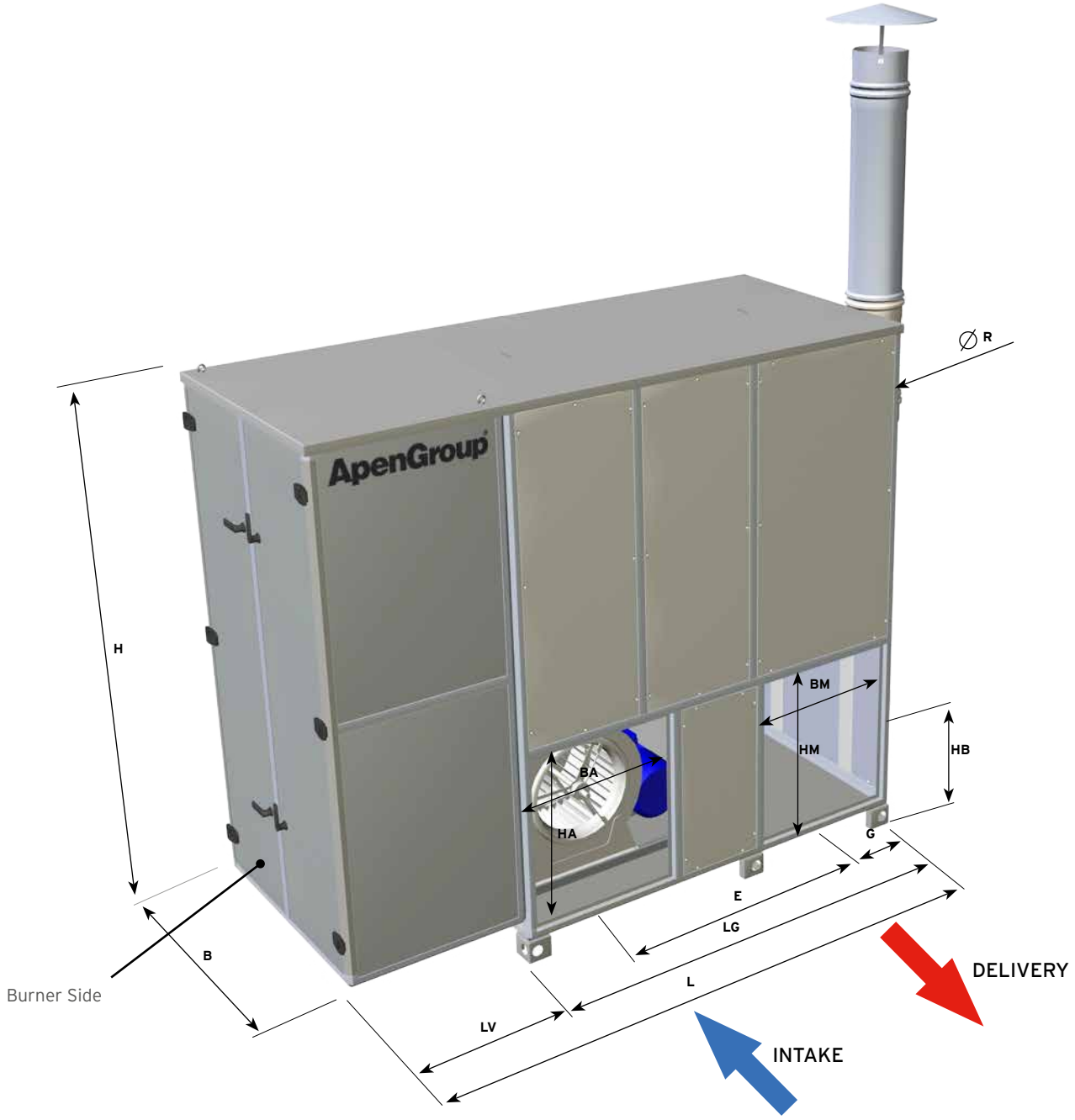
1. Square/round fitting kit
2. Fire damper kit
3. Return air regulating damper
4. Flue damper kit
5. Outside air regulating damper kit
6. Single wall flue discharge kit
7. Double wall discharge flue kit

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)	kW	max	kg	m³/h	Pa
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)	kW	max	kg	m³/h	Pa
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.

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