

# ApenGroup®



AKY  
Condensing Gas Boilers

**ApenGroup®**

# AKY

CONDENSING GAS BOILERS



NEW

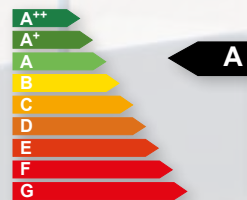
SMART CONTROLS  
OPTIONAL



ELECTRONIC  
FAN HEATERS



CLASS  
A



### AKY SYSTEM, OUTDOOR BOILER WITH INDOOR WATER FAN HEATER

The AKY 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 AKY 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 109% 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 AKY 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

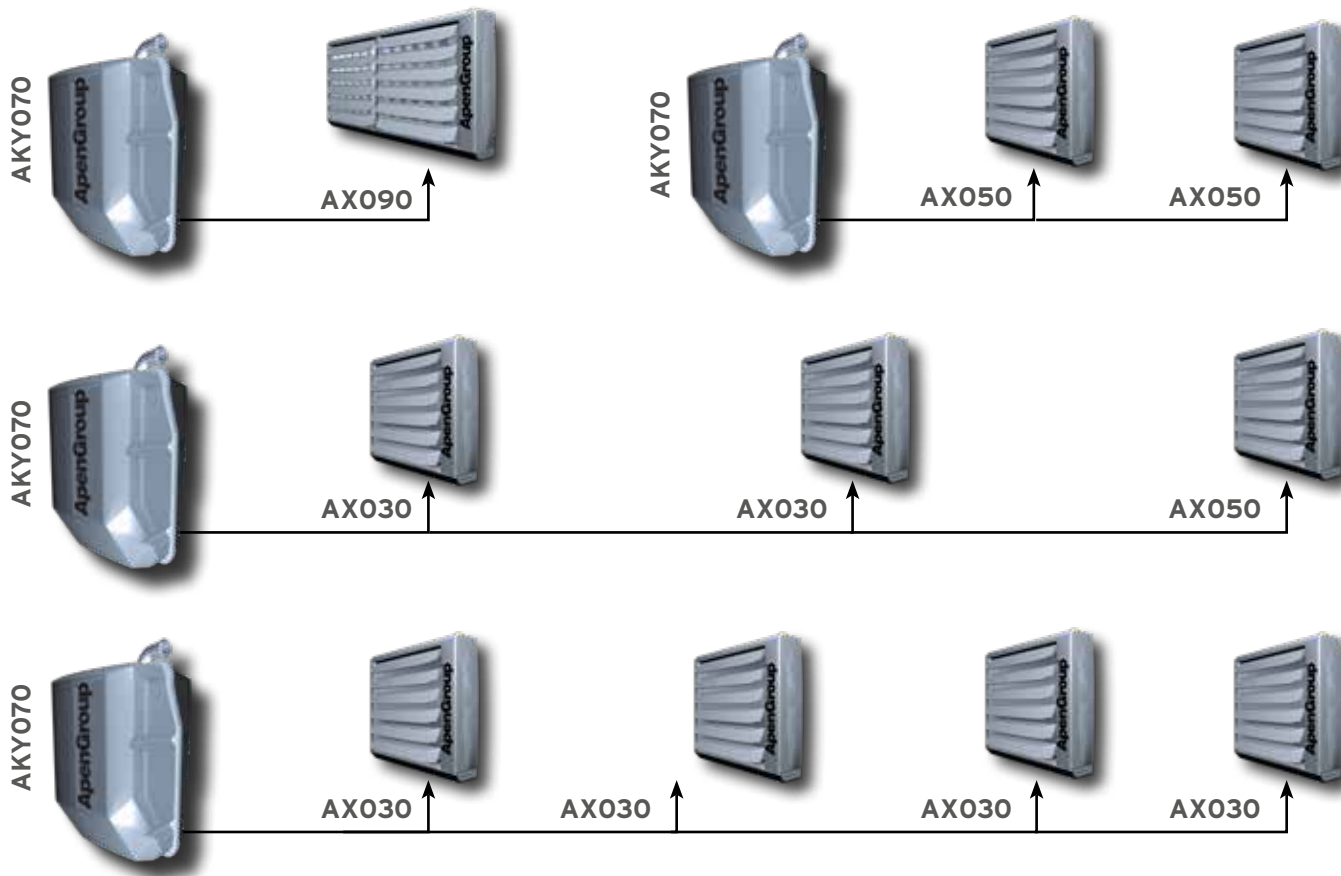
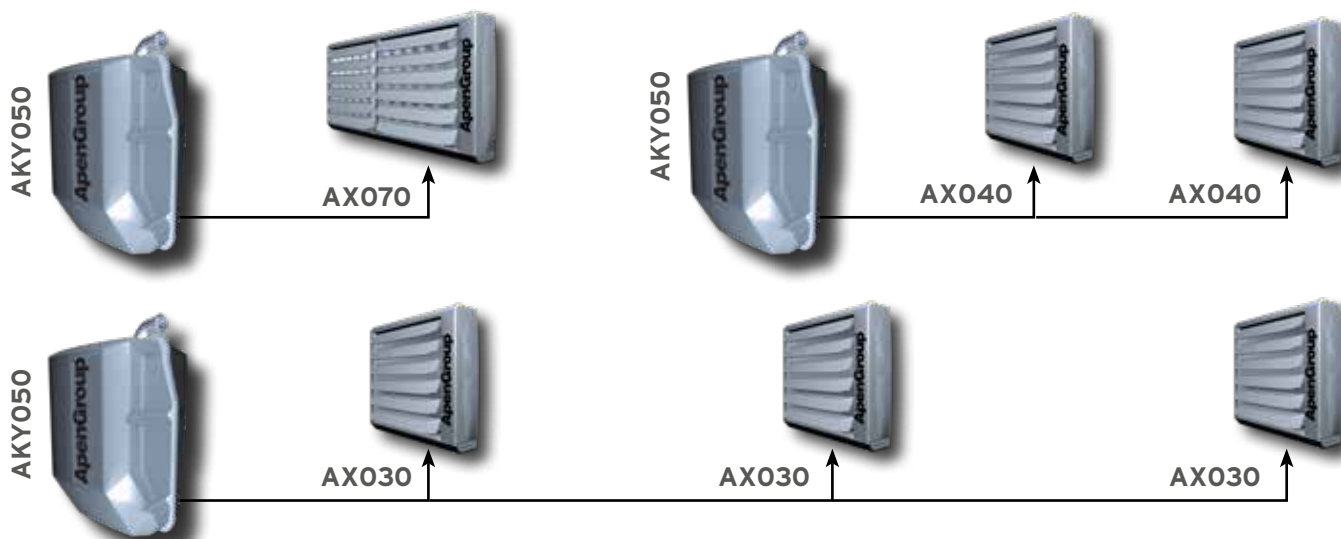
The AKY system does not require special technical rooms for positioning.

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.

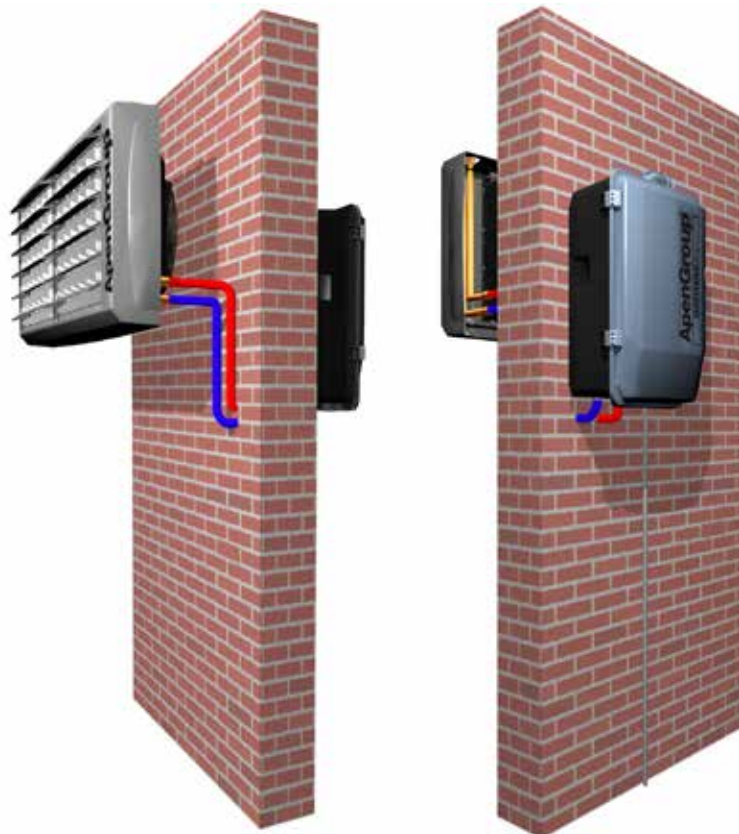
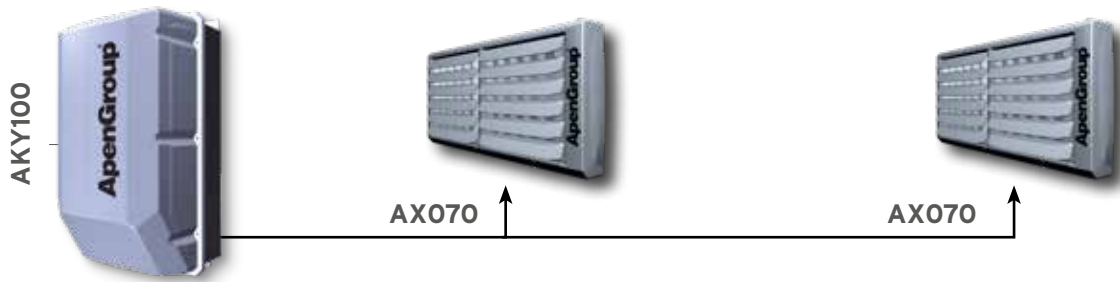
### SYSTEM MODULARITY

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 OF AKY BOILERS WITH AX SERIES WATER FAN HEATERS



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# AKY SERIES BOILERS

## TECHNICAL FEATURES

- Casing made of ABS methacrylate.
- Very high useful efficiency up to 109% (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 AKY034

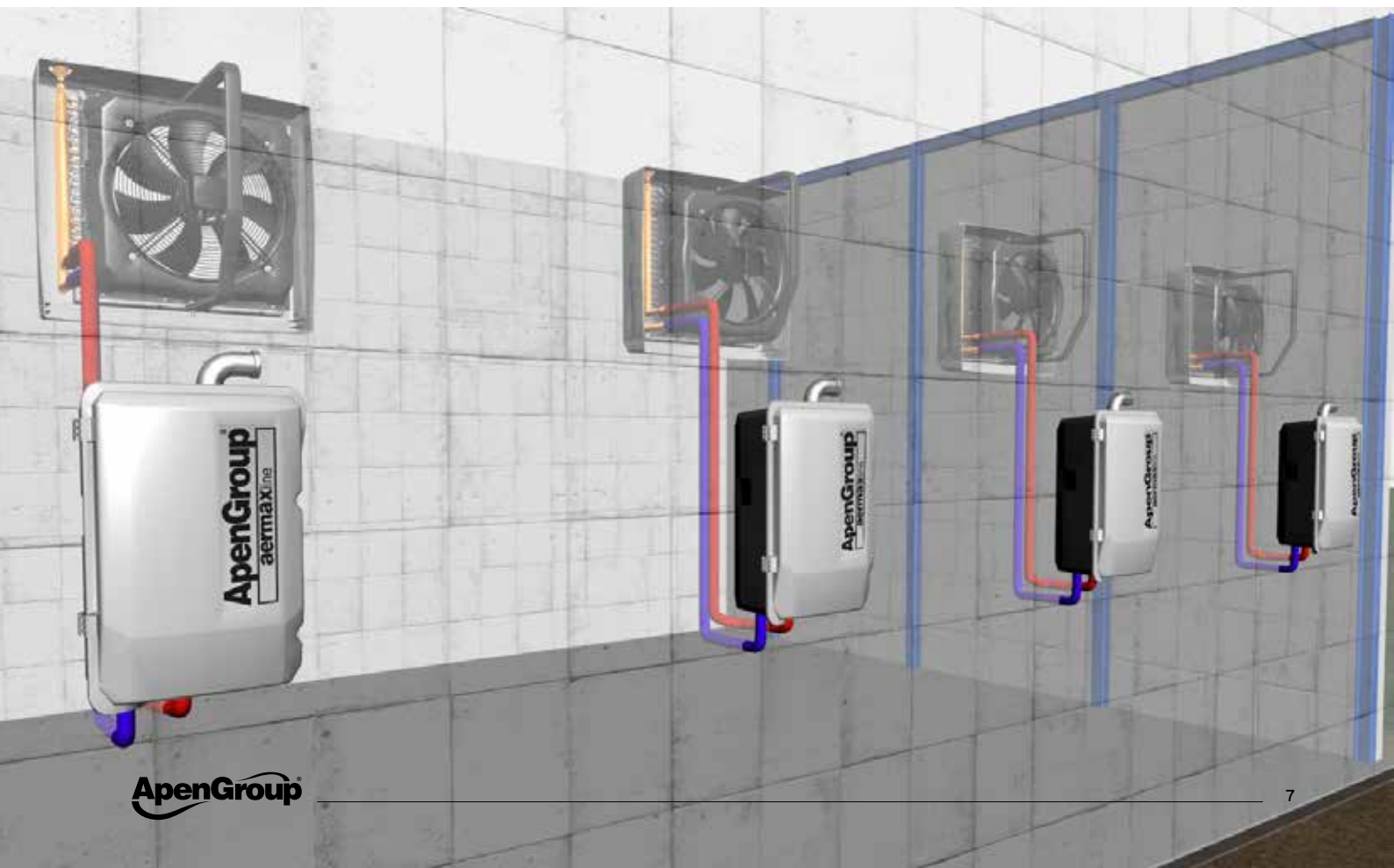
- Pressure gauge for hydraulic circuit
- NTC probe for boiler water temperature regulation.
- Safety thermostat
- Flow meter to control water circulation in the system
- Heat exchanger temperature control thermal fuse
- Flue gas temperature control thermal fuse
- IPX5D Protection degree
- Microprocessor 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 SmartEasy and SmartWeb remote controls
- Possibility of cascade management.

## STANDARD ACCESSORIES

- Hydraulic circuit pre-filled with a mix of water and 30% glycol, to withstand temperatures as low as -15° C (-62°F). If the glycol percentage increases to 40%, it can reach -22° C (-78°F) - only for AKY034.
- Flue gas discharge kit
- Tap kit and gas fittings
- Taps on system supply and return lines - only for AKY034
- System filling tap
- Paper template for drilling
- LPG conversion kit

## SAFETY, PROTECTION AND CONTROL DEVICES (STANDARD) FOR AKY050, AKY070, AND AKY100

- 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.



# BOILER CONTROL DEVICES

## AKY 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.



## SMARTEASY AND SMARTWEB CONTROL

The Apen Group remote control of the new SmartEasy/ SmartWeb 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 32 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

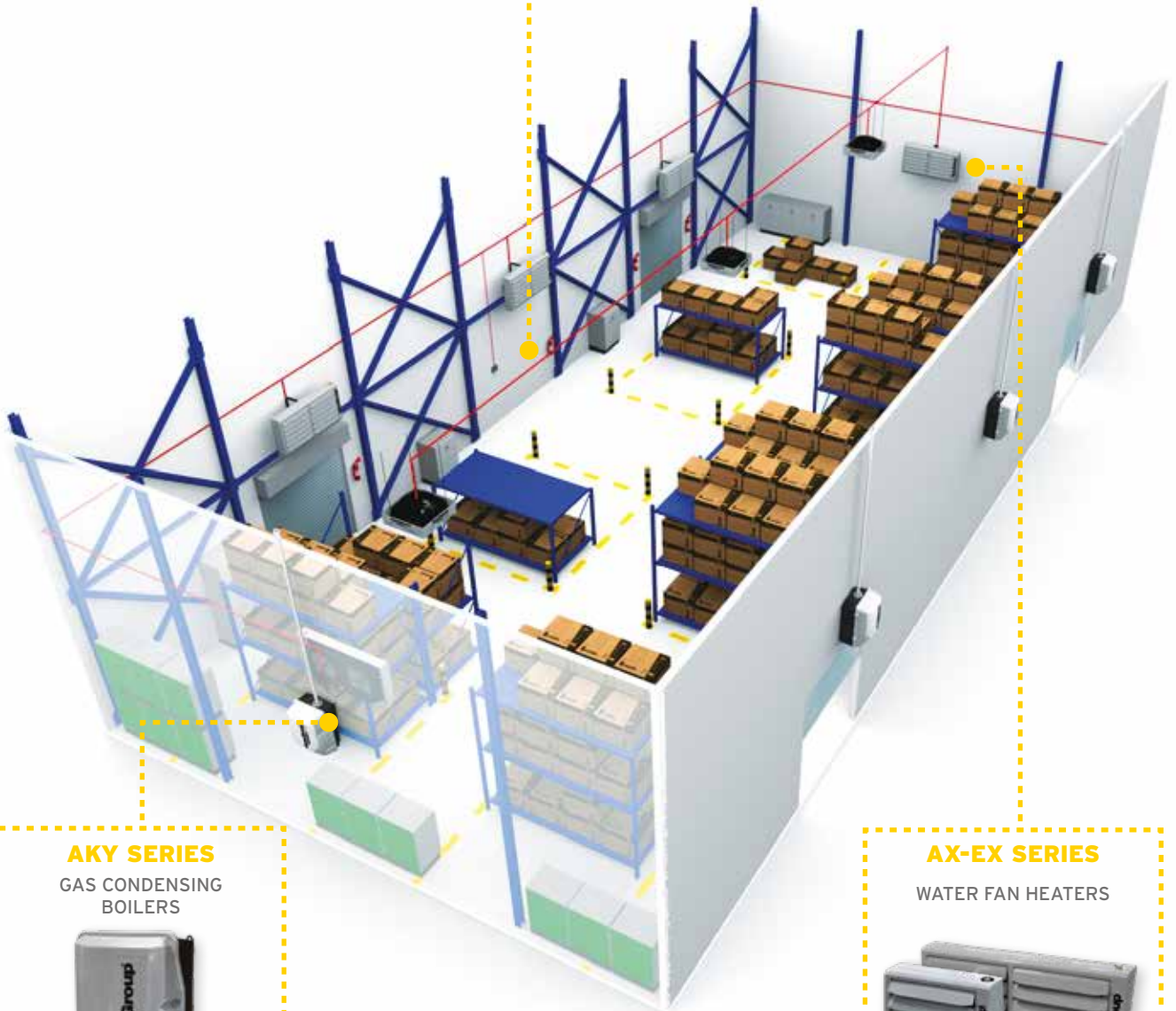
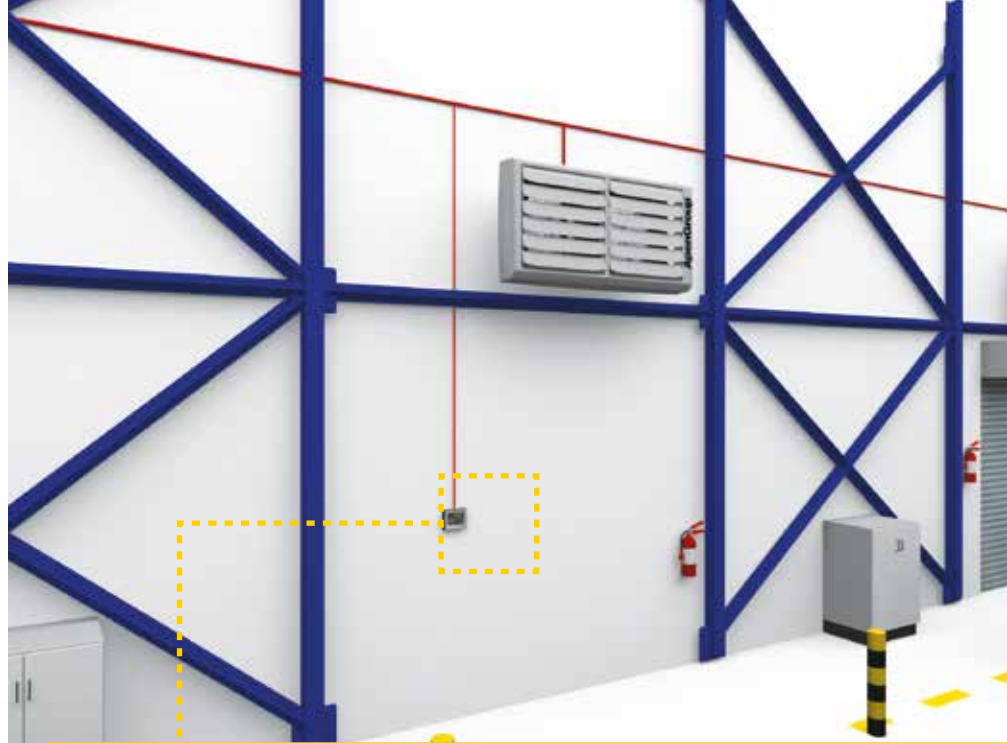
The Apen Group fan heaters have been suitably sized with a large exchange surface area in order to be able to work with a maximum boiler water temperature of 70°C, allowing the efficiency of 101% to be exceeded even at maximum output.



# SMART SYSTEM

## THERMOSTAT CONFIGURATION FOR CONTROL OF:

- AKY Series Boilers
- AX-EC Series Water fan heaters
- QUEEN Air destratifiers



**AKY SERIES**  
GAS CONDENSING  
BOILERS

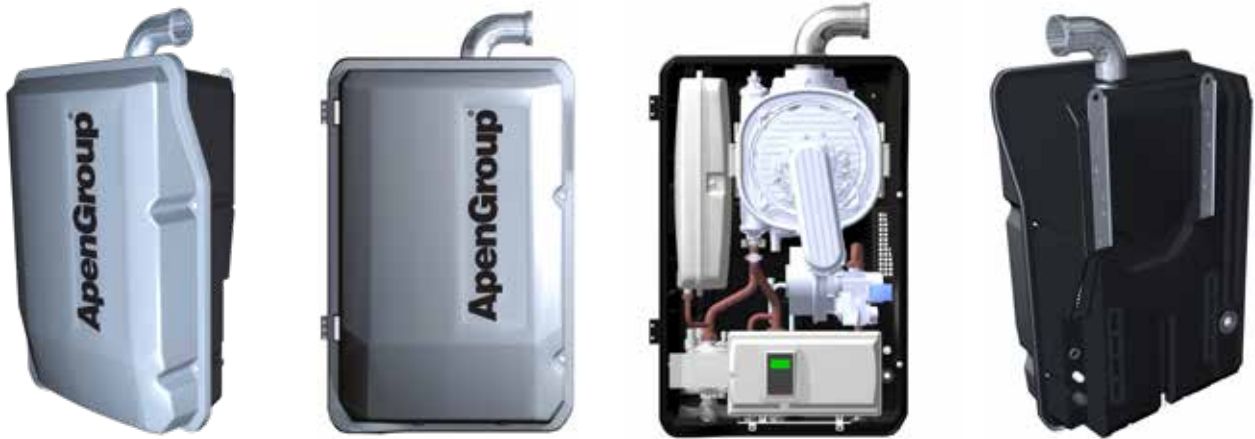


**AX-EX SERIES**  
WATER FAN HEATERS



# AKY SERIES / TECHNICAL DATA

Boiler - External Module		AKY034		AKY050		AKY070		AKY100	
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	35.2	8.3	48.9	8.3	65.3	11.4	96.2	22.2
Nominal heat input	kW	34.8	8	49	8.1	65	11	96.06	21.06
Efficiency		101.1	103.3	99.7	101.9	100.5	103.8	100.2	103.3
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	101	68	152	54	180	64	235	95
Operating Temperatures	°C	-15°C to +50°C		-15°C to +50°C		-15°C to +50°C		-15°C to +50°C	
Protection Rating	IP	IPX5D		IPX5D		IPX5D		IPX5D	
Operating weight	kg	35		45		47		90	



# AKY SERIES / DIMENSIONS

**AKY034**



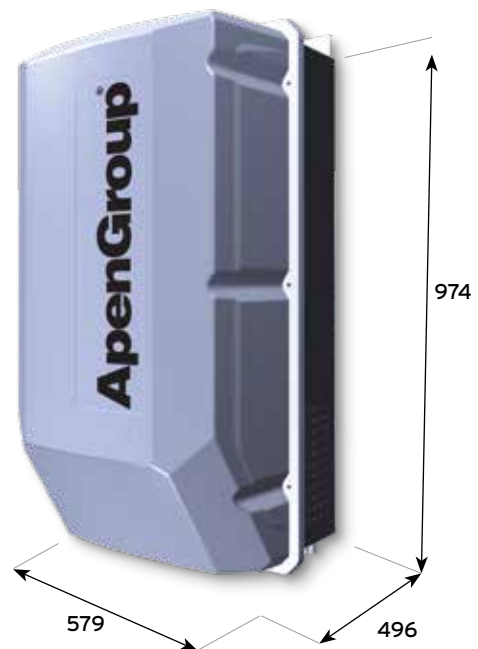
**AKY050**



**AKY070**



**AKY100**





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