



AIRCOOLING
Evaporative cooling system

ApenGroup®

RESEARCH, ECOLOGY AND ENERGY SAVING

OVERVIEW

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

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

OUR VISION

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

OUR MISSION

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

A LEADING COMPANY

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

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

CUSTOMER SERVICE

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

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

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

TECHNOLOGY EXCELLENCE

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

ENVIRONMENT

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

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

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

MANUFACTURING EXCELLENCE

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

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

SALES EFFICIENCY

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

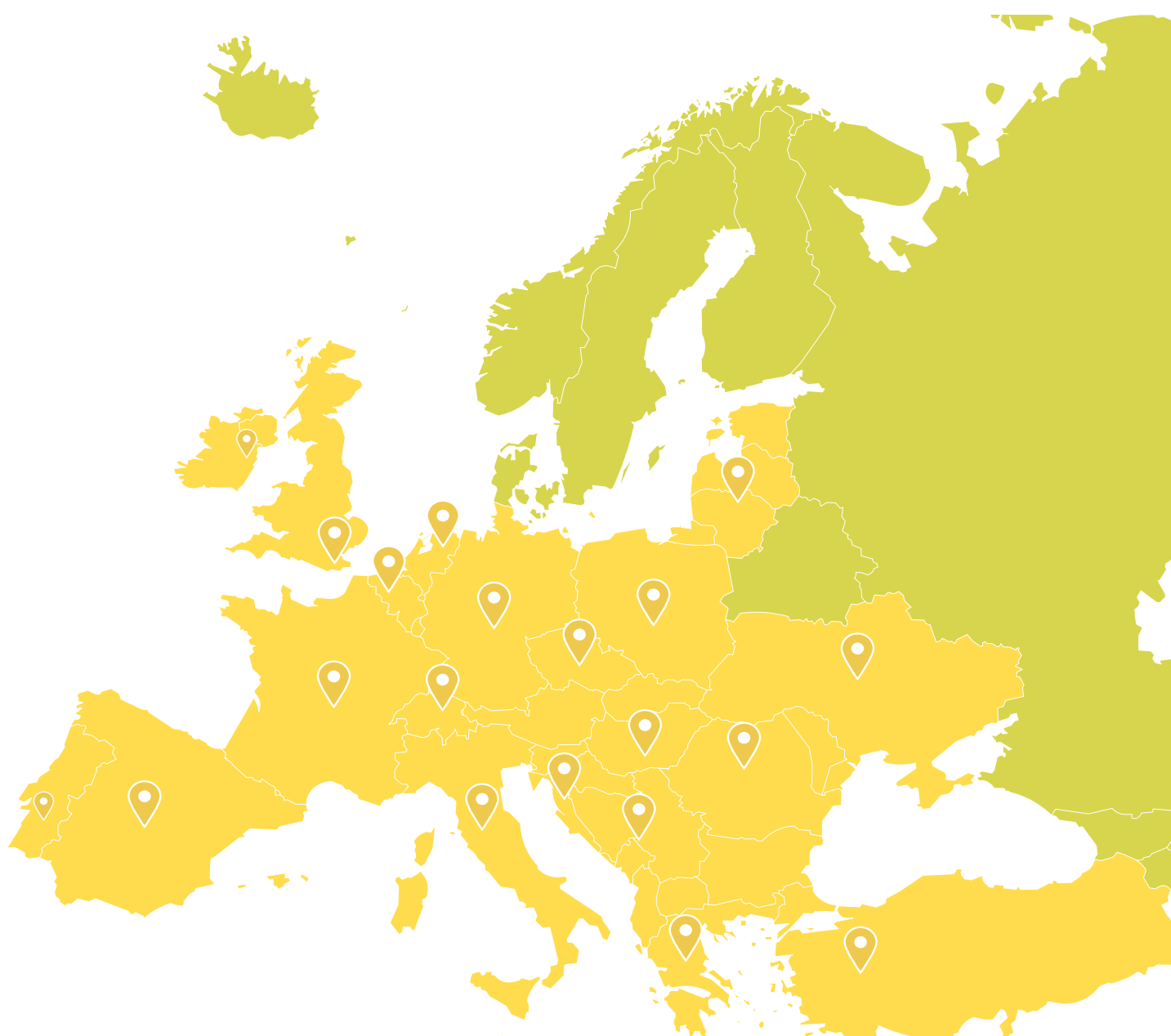
Abroad, distributors, dealers, joint ventures with foreign partners, share with the company the principles of distribution of highly qualified equipment in relation to the needs of different countries.

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6 AIRCOOLING AC



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

HISTORY

1967

THE ORIGINS: THERMOVÜR

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

1973

AERMAX

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

1980'S

EXPERIENCE AND KNOW-HOW

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

1991

APENGROUP IS BORN

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

2000'S

NEW PROJECTS, NEW PRODUCTS

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

2017

50 YEARS OF LOVE FOR THE CLIMATE!

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



2024

RESEARCH, INNOVATION AND ECOLOGY

We are always evolving. The market, the experiences, the difficulties have made us stronger and more committed to facing new challenges, new technologies, new countries. We want to defend the values we believe in to be able to improve environmental comfort, attention to people and the use of energy. We also want our company to contribute to a better future!

CERTIFIED QUALITY

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

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

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

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

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

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

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

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

INTERNATIONAL CERTIFICATES

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



AIRCOOLING

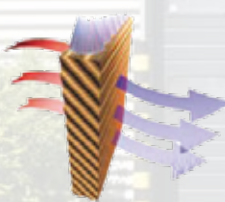
EVAPORATIVE COOLING SYSTEM



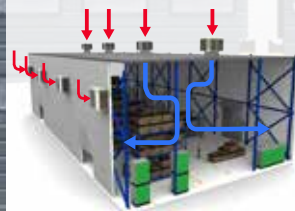
**ELECTRONIC
CONTROL**



**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.

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.

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.

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

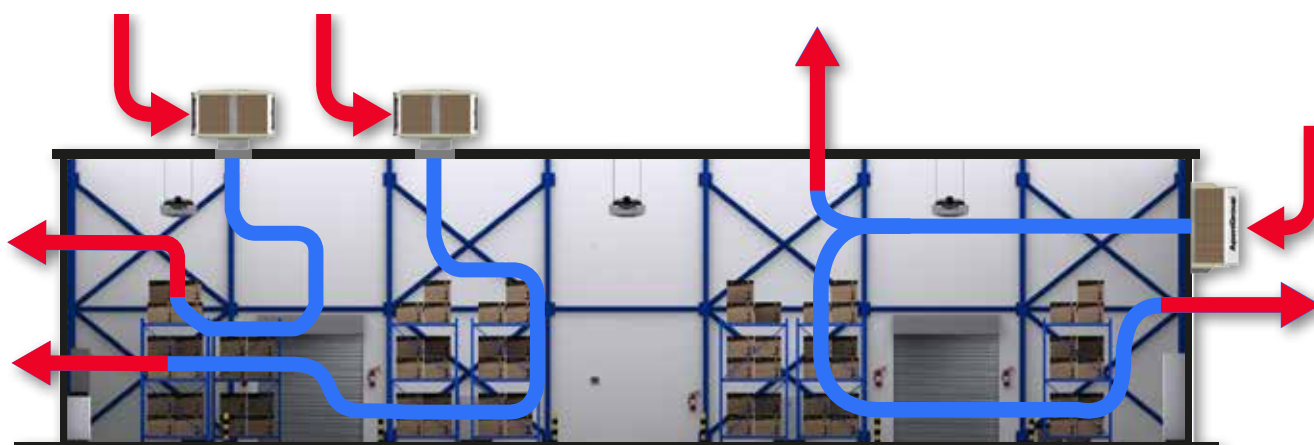
The operating principle is simple: the hot air passes through special filters soaked in water, gives up some of its heat during the water

evaporation process and lowers its temperature.

The air is cooled by reducing the temperature, eliminating the accumulated heat and

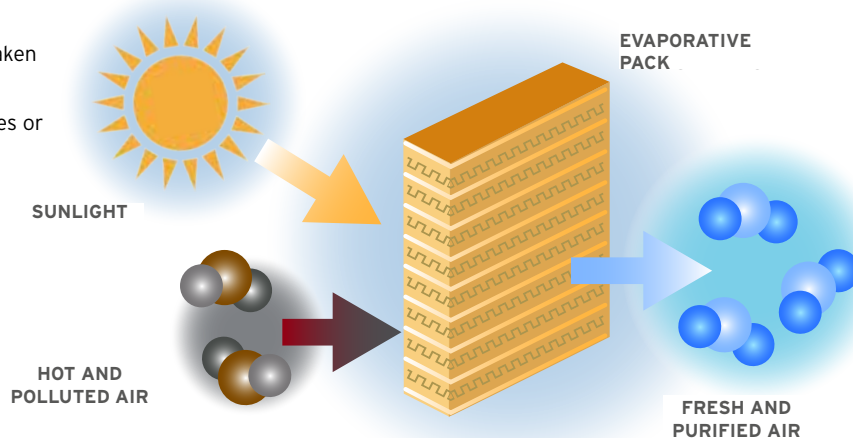
constantly moving the air.

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

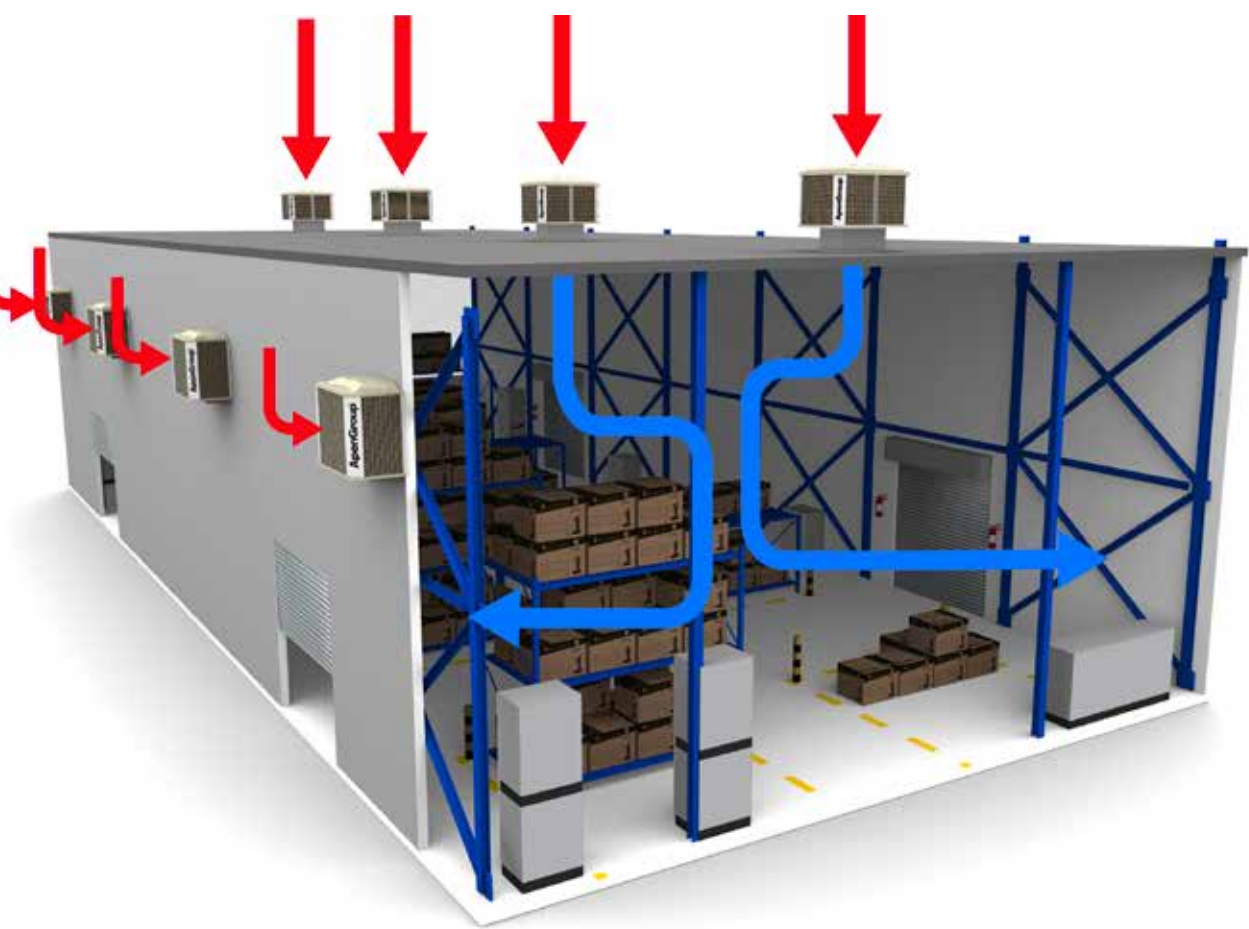


AIRCOOLING / TECHNICAL DATA

AIR TEMPERATURE

Outlet air temperature at different outdoor conditions.

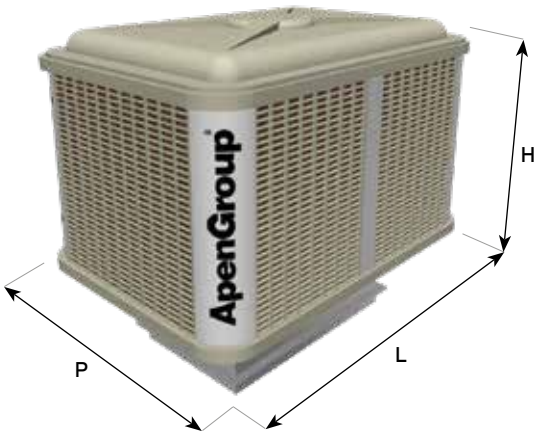
r.u. Ext.	30%	40%	50%	60%	70%
°C Ext.	°C Int.	°C Int.	°C Int.	°C Int.	°C Int.
30°C	19.0°C	21.0°C	23.0°C	24.5°C	26.0°C
35°C	22.5°C	25.0°C	27.5°C	29.5°C	31.0°C
40°C	26.0°C	29.0°C	31.5°C	33.5°C	36.5°C



Model	Max Air flow m³/h	Electrical power kW	Current A	Consumption Water l/h	Weight (empty/full) kg	Supply voltage
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

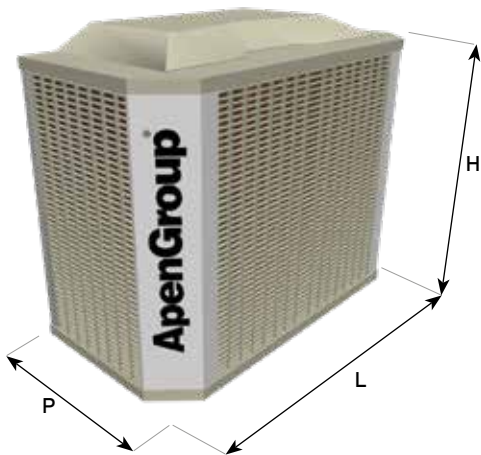
AIRCOOLING / DIMENSIONS

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





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