

SYSTEMA

HEATING COOLING GREEN ENERGY

OHA URHE

Industrial heating of medium and large environments from 100 to 300 kW

Ultra Radiant High Efficiency



FAST AND EASY
INSTALLATION



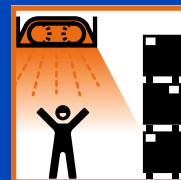
HIGH EFFICIENCY
AND EMISSIVITY



SILENT AND
HEALTHY



LOW
MAINTENANCE



FAST AND HIGH
THERMAL COMFORT



LOW RUNNING
COSTS

NEW COMBUSTION UNIT
 WITH THE PROVEN INVERTER TECHNOLOGY THAT ALLOWS
 TOTAL MODULATION, EFFICIENCY, ENERGY SAVING



NEW!!



INVERTER

NEW!!

NEW CONDENSING HEAT RECOVERY UNIT

Increases system efficiency by up to 8% compared to other radiant systems (depending on application mode)



IT CAN OBTAIN TAX INCENTIVES, PLEASE, CHECK THE LOCAL REGULATIONS IN FORCE IN THE INSTALLATION COUNTRY



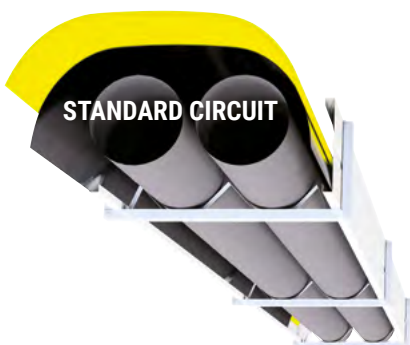
5 PATENTS EUROPEAN/INTERNATIONAL



OHA URHE IS THE FIRST INTERNATIONAL GAS RADIANT TAPE TO BE CERTIFIED ACCORDING TO THE NEW EN 17175:2019 (EU type examination certificate n° 51CN4236)

NEW RADIANT CIRCUIT

LARGER AND MORE EFFICIENT WITH GREATER EXCHANGE SURFACE AREA



STANDARD CIRCUIT



NEW!!

Emission up to **2,9 kW/m**

HOW IT WORKS

The **OHA** radiant strip is a product made by Systema S.p.A. that uses the most natural heating technology possible, heat radiation like the sun. **OHA** is ideal for heating large areas quickly, economically, quietly and environmentally friendly.

Radiation does not generate any convective motion of the air, typical of traditional heating systems, because there is no ventilation in the room to be heated.

Heating occurs through the transfer of energy by means of electromagnetic waves, known as radiation (infrared radiation, i.e. heat), which enables the transport of thermal energy in a straight line at the speed of light. Radiation directly heats surfaces, being partly absorbed by objects and partly reflected back to affect other objects.

The **OHA** radiation system allows precise localisation of the surfaces to be heated without any stratifying effect, avoiding costly energy losses and concentrating the heating in the areas that require it, allowing the possibility of zone heating. The lack of air movement also makes the rooms healthier by avoiding the movement of annoying dust inside them, not least the rapidity in switching on and setting up the system allowing interesting savings in consumption.



ADVANTAGES

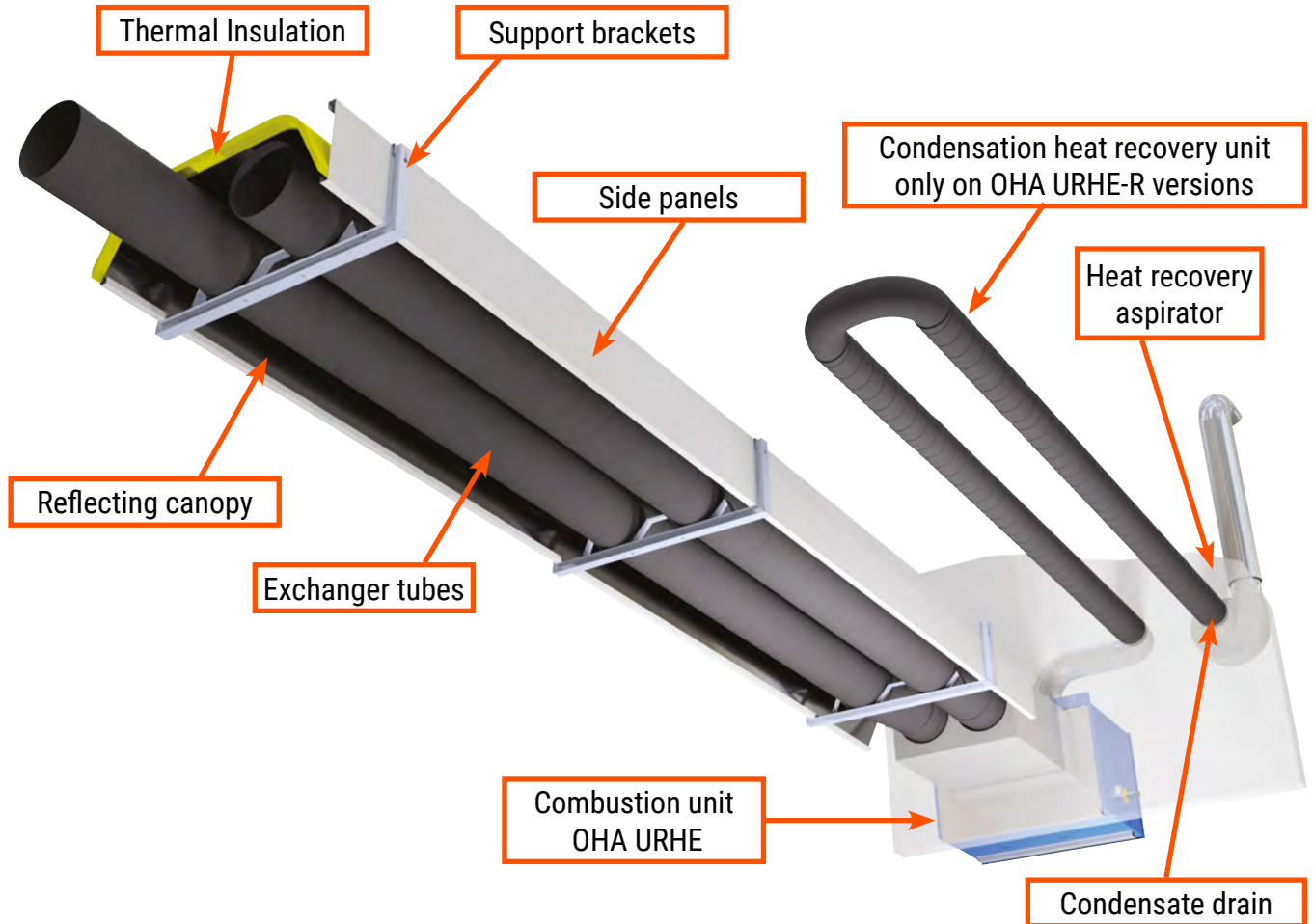
- Gas line and burners installed outside the building to be heated
- Ideal for high height, medium and large surface areas, and even in the presence of large heat losses
- Ecological and environmentally friendly, low consumption and low smoke emission levels
- High efficiency and condensation models
- Flexibility and versatility in the realisation of the internal heating circuit
- Possibility of creating zone systems with partial or differentiated heating
- Easy and quick installation and maintenance
- Quiet and healthy operation
- Rapid commissioning of the rooms to be heated
- MODBUS and LAN interface for PC-based supervision and control systems

FIELDS OF APPLICATION

- Industry and mechanical workshops
- Aerospace industry
- Production of steels, aluminium and alloys
- Ceramic Industry
- Factories, Logistics, Distribution Centres, Warehouses and Depots
- Animal husbandry, Breeding
- Agriculture
- Food and Canning Industry
- Airport hangars
- Railway maintenance centres
- Commercial and Service Environments
- Indoor Sports Environments, Gyms, Sports Centres, Marquees
- Multipurpose centres

GENERAL CHARACTERISTICS OF THE OHA URHE PLANT

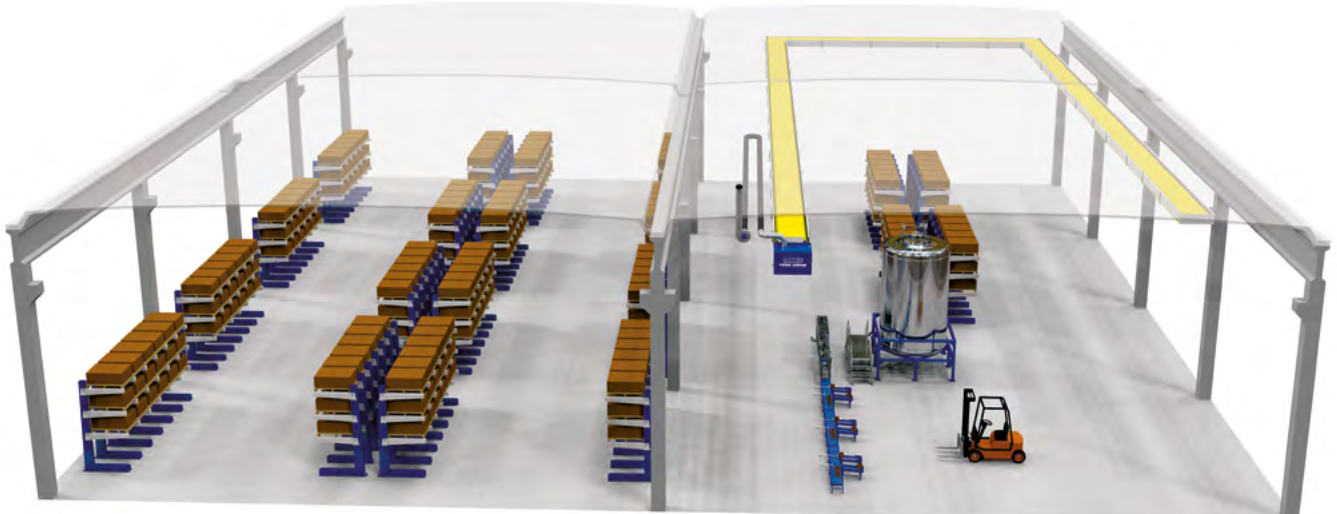
OHA URHE is a condensing radiant heating system, flexible in installation and formed as shown in the diagram below. The coupling of the various elements has been designed to guarantee maximum thermal efficiency on the ground, minimising heat loss upwards, and maximum safety: the system has a vacuum operation with respect to the heated environment, it is controlled and managed by an innovative electronic control, the whole system is made with the use of top quality material and is equipped with a forced exhaust of combustion products. In the **OHA URHE-R** version the system is equipped with a condensation heat recovery unit that significantly increases the already very high efficiency values.



MANAGEABLE HEAT + FLEXIBILITY OF USE

OHA radiant strips allow the **zone heating**, concentrating the heat towards the floor and only where it is necessary, in order to differentiate the temperatures among the several areas of the same environment. As a consequence there will be a **lower energy consumption** and a high thermal comfort.

Environmental hygiene is favoured by the absence of air movement and therefore of suspended dust, which is physiologically present in places used for industrial production.



OHA URHE ADVANTAGES

- High combustion efficiency,
- Energy saving, both gas and electric
- Low NOx emissions (absolute values obtained are also lower than the maximum limits required by European Regulation (UE) 2015/1188)
- Heat exchange is continuously modulated in the pipes of the emitting circuit
- More silent operation

OHA URHE-R ADVANTAGES

By adding the new **CONDENSATION DIRECT EXCHANGE HEAT RECOVERY**, OHA URHE becomes **OHA URHE-R** which offers further advantages such as:

- Combustion efficiency up to 100,1%.
- Further energy saving, both gas and electricity
- Greater heat exchange offered by the condensation heat recovery unit itself

MORE ECOLOGICAL HEATING

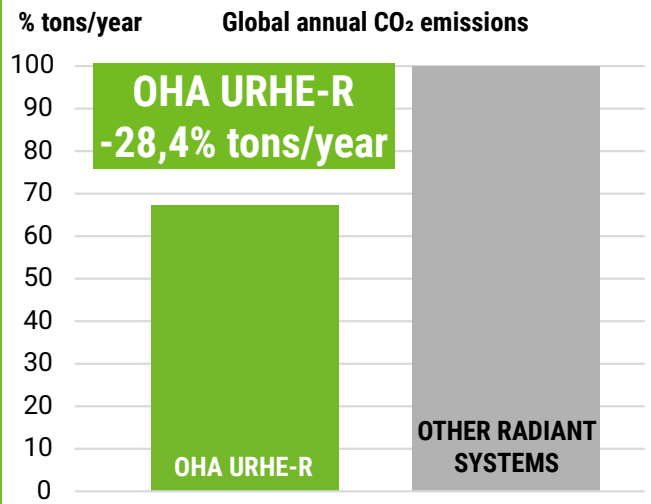
Combustion efficiency up to

η_c 100,1%

Seasonal energy efficiency of space heating up to

η_s 92,8%

ENVIRONMENTAL IMPACT ANALYSIS



ADVANTAGES OF THE NEW RADIANT STRIP

Thanks to the new wider and more efficient radiant circuit we will have:

- Better RF (Radiant Factor - IMQ report) ground radiation efficiency
- Better seasonal energy efficiency with values higher than the minimum limits required by European Regulation (EU) 2015/1188
- Better environmental comfort thanks to the automatic modulation of the system that always maintains the ideal set temperature

The new combination of URHE radiant system evolutions L= 1100mm allows for greater diffusion of the heat emanating from the circuit tubes, and the larger reflective surface area further increases the overall efficiency in diffusing the radiated heat of the system.



Emission power up to

2,9 kW/m

+27% of radiant circuit width

+27% of reflective surface area

+28% of pipes spacing

RANGE

Model	Power	η_s	Virtual length of the U-shaped radiant circuit under ideal conditions *	
			min	max
OHA URHE 115	100-115 kW	84 %	from 40 to 55 m	
OHA URHE-R 115	100-115 kW	87,5 %	from 40 to 55 m	
OHA URHE 160	130-160 kW	84,6 %	from 55 to 75 m	
OHA URHE-R 160	130-160 kW	88 %	from 55 to 75 m	
OHA URHE 210	190-210 kW	85,7 %	from 75 to 95 m	
OHA URHE-R 210	190-210 kW	89,4 %	from 75 to 95 m	
OHA URHE 250	200-250 kW	87,5 %	from 90 to 115 m	
OHA URHE-R 250	200-250 kW	91,1 %	from 90 to 115 m	
OHA URHE 300	200-300 kW	89,2 %	from 110 to 140 m	
OHA URHE-R 300	200-300 kW	92,8 %	from 110 to 140 m	

η_s = Seasonal energy efficiency of area heating ($\geq 74\%$) with installation outside the heated area

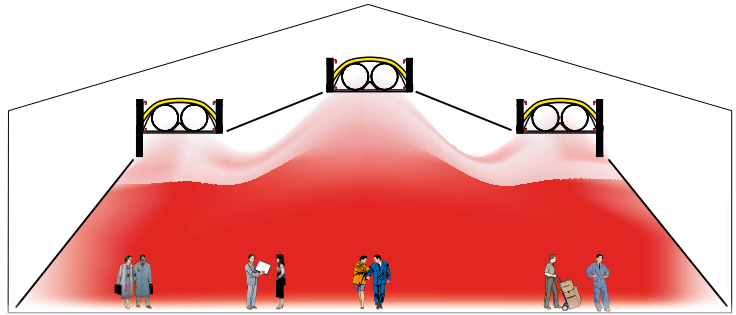
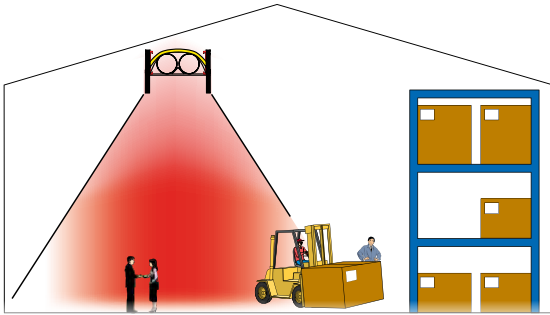


The values given are to be considered indicative, correct system sizing must be carried out by the Systema technical office.

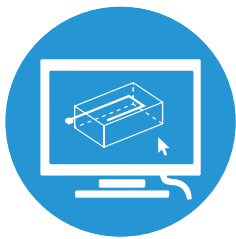
* Virtual length = Real length of the radiant circuit, increased by the lengths equivalent to the changes in direction: in the "U" double pipe model, 90° bend +3 metres; 180° bend +3 metres; "T" branch + 6 metres; 45° bend + 1,5 metres.

ADAPTABLE TO ANY ARCHITECTURAL GEOMETRY

OHA radiant strips are suitable to heat buildings with particular shape, thanks to the ducts that can be joined and fitted to any architectural geometry.



SYSTEMA RADIANT SOFTWARE



**SOFTWARE
SYSTEMA**

AUTOMATIC PLANT DIMENSIONING

The **design and calculation software** developed by Systema S.p.A. allows optimal plant dimensioning for heating all types of rooms. The software is equipped with a wide range of specific settings, which can be selected according to the needs of the room to be heated, allowing the right solution to be designed.

The software allows you to change the type, quantity, power and position of the products to be installed while maintaining the dimensions of the building, so that you can evaluate the most appropriate solution for the system to be heated.

By changing the dimensions of the 3D rooms to be heated, the software will automatically vary the number or power of the selected products to achieve the best thermal comfort.

To download the software,
subscribe and fill the form on:

<https://www.systema.it/en/login/>



CENTRALISED CONTROL: MASTER CONTROL PANEL SYS830/850



**SYS850 controls up to 30 burners and
SYS830 controls up to 16 burners**

In addition to the Basic versions also available:



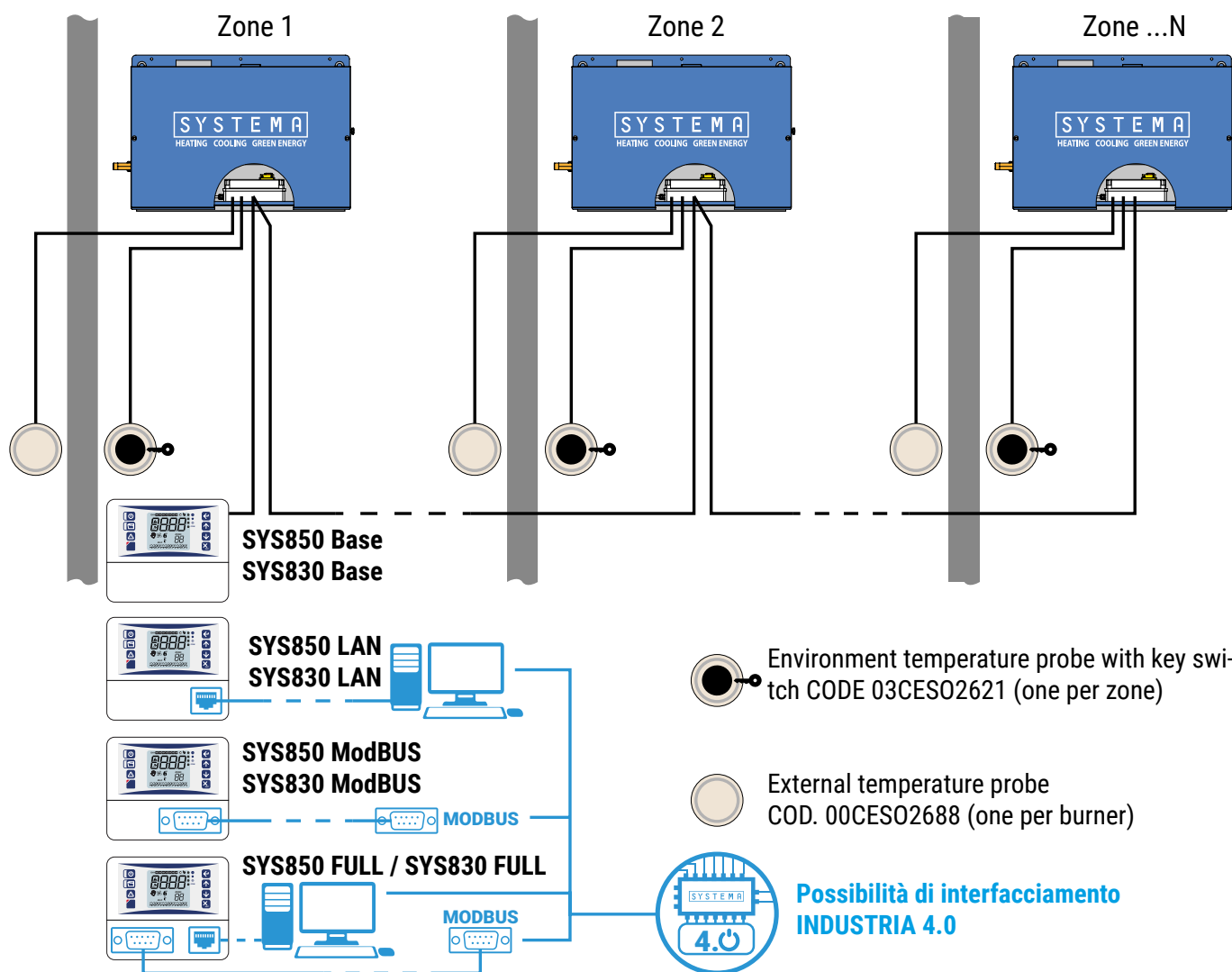
LAN Ethernet (TCP-IP) for PC monitoring both in the network and via the internet with **EYE-LAN** software



Modbus equipped with specific communication port for control via **Modbus**



FULL equipped with both **LAN Ethernet (TCP-IP)** and **Modbus** port



Code	Description	Interface	Devices - zones
00CEQU2674	Master Control Panel SYS 830 BASE type i ² NET	-	16 - 16
00CEQU2675	Master Control Panel SYS 830 LAN type i ² NET	LAN	16 - 16
00CEQU2676	Master Control Panel SYS 830 ModBUS type i ² NET	MODBUS	16 - 16
00CEQU2677	Master Control Panel SYS 830 FULL type i ² NET	LAN + MODBUS	16 - 16
05CEQU2715	Master Control Panel SYS 850 BASE type i ² NET	-	30 - 30
05CEQU2718	Master Control Panel SYS 850 LAN type i ² NET	LAN	30 - 30
05CEQU2721	Master Control Panel SYS 850 ModBUS type i ² NET	MODBUS	30 - 30
05CEQU2727	Master Control Panel SYS 850 FULL type i ² NET	LAN + MODBUS	30 - 30



ALL SYS 830 AND SYS 850 SWITCHBOARDS ARE WITHOUT ENVIRONMENTAL PROBES, WHICH MUST BE REQUESTED SEPARATELY.
The LAN and FULL versions include the EYE-LAN software for PC monitoring via network or internet.

 **Productive plant in Padua**



“We learn from nature how to design simple and effective solutions”

Since 1986, Systema S.p.A. is one of the leader companies in Italy and Europe in designing, developing and producing devices for the heating and conditioning in industrial and commercial buildings.

There has been always in Systema's Research and Development department where high investments have been made, since the beginning, for the creation of an internal laboratory who could design and offer highly innovative products that can satisfy and anticipate all the requests coming from the market. In this field Systema works together with important Italian, European and extra-European laboratories and university departments. A cooperation which leads to the concept of innovative and visionary products and solutions and to the obtaining of several international patents.

Systema S.p.A. differs from competitors because can offer a complete range of products that goes from commercial and industrial heating with radiant and hot air solutions, to conditioning with absorption chillers, electric heat pumps and evaporative adiabatic coolers and with a specific focus on the agricultural and breeding farms products for heating (both heaters and radiant systems) and conditioning with adiabatic coolers. This range has been conceived looking for environmental-friendly products with the lowest energy consumption.

Managing such a large range of products is not easy but, also in this field, Systema S.p.A. has been always different with an internal and external organization that guarantees high quality services through an extensive commercial network made of highly qualified technical salesmen, an internal organization of customer service with experience in designing and consultancies well aware of all the required standards and rules and a massive after sales structure both internal and external that Systema keeps regularly update in order to have technicians who are always very well prepared.

The work of these structures is greatly facilitated by Systema S.p.A.'s production facilities, which are made up of the highest quality standards and production processes that are technologically advanced and constantly modernised. The united work of those responsible for production, procurement and quality allows Systema S.p.A. to make available to its commercial structure products and systems that are of high quality, reliable and made in full compliance with the most advanced standards.

Systema S.p.A. is able to supply its sales organisation with products and systems of high quality and reliability and manufactured in full compliance with the most advanced standards.

Systema S.p.A. has thus managed, over the years, to gain a strong international presence which sees it active in markets all over the world, carrying forward the flag of top quality Made in Italy and achieving leadership positions in many countries. A strategic decision was taken by Systema S.p.A. to create Systema Polska, which is able to provide a highly qualified, high quality production force and a commercial structure, in synergy with that of Systema S.p.A., which is able to present and improve the commercial penetration of Systema products in markets such as Poland and neighbouring countries.

The synergies put in place have greatly facilitated the growth of the services offered to the market, services made up of a very high level of attention to the customer, who in Systema finds not only a business partner but also a highly qualified technical consultancy service that goes hand in hand with reliable after-sales services that are always ready to quickly resolve any problems reported by the customers themselves.

 **The productive plant in Poland**



Systema: focus on the future by interpreting the present...