SYSTEMA GENERAL CATALOGUE JANUARY 2012

RADIANT HEATING

HOT AIR HEATING

RENEWABLE ENERGIES

OTHER PRODUCTS

SYSTEMA

imita la natura

SYSTEMA S.P.A.: THE COMPANY

Passion, hard work, intuition, ability to develop according to the needs of the market: these are the main characteristics of Systema S.p.A.

Established in 1986, the Company is one of the leaders on the planning and production of industrial and civil heating systems.

Systema is ISO 9001 certified and is constantly looking at technology and evolution, this is the reason why it cooperates with Universities and other important Boards to improve the quality, the reliability and the safety of its products.

Its existing premises are 23.000 square metres, 7.000 covered area, dedicated to the manufacturing, warehouse, offices, laboratory, meeting/conference halls and show rooms.

It counts on a sales network of 38 agencies all over Italy and 32 distributors all over the world.

Another premise of Systema S.p.A. is a 1.500 square meter area totally devoted to homologation approvals, R&D, training centre for designer as well as for Italian and foreign assistance centres.

The Company structure includes also a manufacturing plant in Poland, with an independent and strategic R&D laboratory able to facilitate the sales also in the East European countries.

"Systema loves nature" is the catchword that better sums up the mission of our Company: observation and understanding of nature and its phenomena, such as sun and ice, heating and cooling. This enables us to develop nature-friendly technology, on the basis of the natural processes.

The product range of Systema is divided into 4 divisions:

- **Radiant division**: products for radiant heating
- **Air Division**: warm air heaters
- **Cooling Division**
- **Co-Solar division**, which is a new category devoted to the development of technologies able to guarantee high energy savings such as co-generation, three-generation, solar-cooling collectors and concentrators.

Thanks to its well-structured organization Systema S.p.A. is able to guarantee to its customers all the commercial and technical support they may need.

From the 'traditional' radiant technology, to the latest Energy Evolution solutions, all Systema's products are designed to assure high performances with a noticeable energy saving.

SYSTEMA S.p.A. is the ideal partner for its customers!

The President:

SANTI LUCIANO

PRODUCTIONS PLANTS IN PADUA

"LEONARDO DA VINCI"
ABSORPTION CHILLER CENTRE

PRODUCTION PLANTS IN POLAND

RADIANT HEATING

HEATING WITH HOT AIR

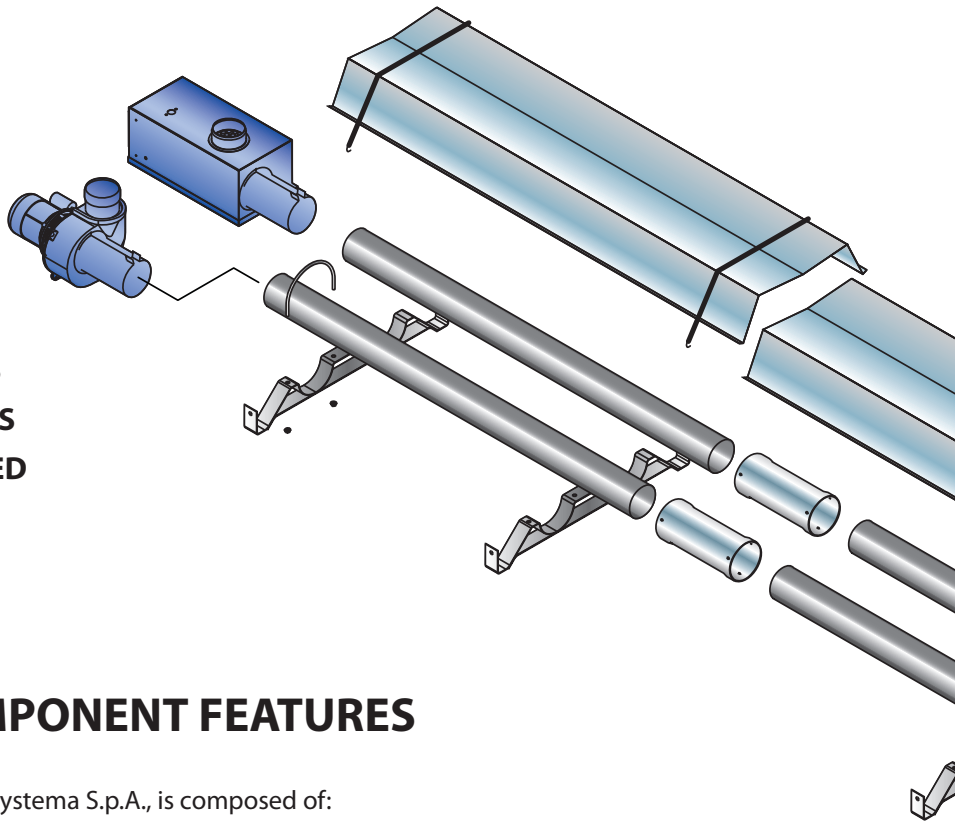
RENEWABLE ENERGY

OTHER SYSTEMA'S PRODUCTS

INFRA: Radiant Tubes

THE ADVANTAGES OF RADIANT HEATING

- ☑ HEAT CONCENTRATION ON THE FLOOR
- ☑ LIMITED AIR STRATIFICATION BETWEEN FLOOR AND CEILING
- ☑ ABSENCE OF AIR MOVEMENT
- ☑ ABSENCE OF DUST
- ☑ NOISELESS
- ☑ HEALTHY ENVIRONMENTS
- ☑ BETTER THERMAL CONFORT
- ☑ POSSIBILITY OF HEATING ZONES WITH DIFFERENT TEMPERATURES
- ☑ HEATING PLANT IS NOT REQUIRED



COMPONENT FEATURES

INFRA radiant tube, designed and realized by Systema S.p.A., is composed of:

☑ **Sucked air BAF burner** with air-gas partial premix, caused by the fan which is positioned in a downstream watertight chamber. Power capacity from 28 kW up to 45 kW. It is made up of a multi-gas torch with stainless steel ionization flame stabilizer, electronic ignition, no pilot flame, ionization flame control, gas solenoid valve sealed with double coil, slow ignition adjustable with pressure stabilizer and gas filter, safety air pressure switch, airlock adjustable according to the thermal capacity of the equipment.

☑ **Electric-fan** with class "H" ventilated motor, C3 self-lubricating special bearings, 230V~50 Hz, IP 44 electrical power, 100 W with overload cutout included.

☑ **"U" radiant tube:** the combustions products inside the radiant tube heat the external surface increasing the temperature of the tube in order to send out infrared thermal waves. The tube are made of aluminized and calorized steel and produced through a particular high temperature thermal process. A turbolator has been positioned inside the return pipe in order to increase the thermal yield.

☑ **Specular reflecting canopies** with high reflection capacity able to converge the radiant heating towards the floor.

☑ **Support brackets** for the radiant tube and the reflecting canopies.

☑ The equipment meets the "LOW TENSION 73/23 CEE" regulation

☑ The equipment meets the electro-magnetic compatibility ECM 89/336/CEE regulation

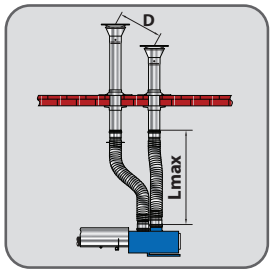
☑ The equipment has been checked according to the European regulation: EN 416-1

☑ CE certificate according to the 90/396 CEE regulation

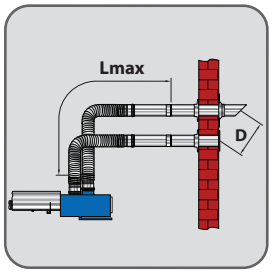
☑ Sanitary considerations of Infra radiant tubes, realized by the Professor Giuseppe RAUSA of FERRARA UNIVERSITY - ISTITUTO DI IGIENE E MEDICINA PREVENTIVA.

INSTALLATION WAYS OF AIR/FUMES TERMINALS

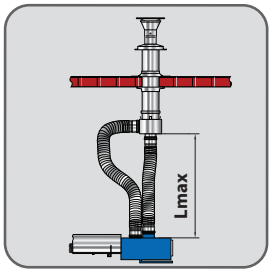
A - TYPE C32



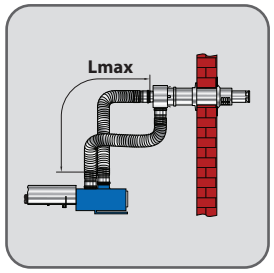
B - TYPE C12



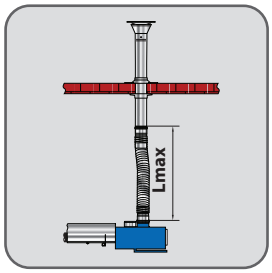
C - TYPE C32



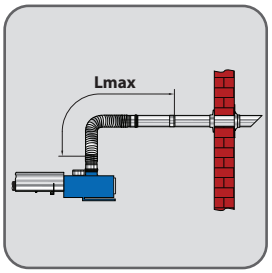
D - TYPE C12

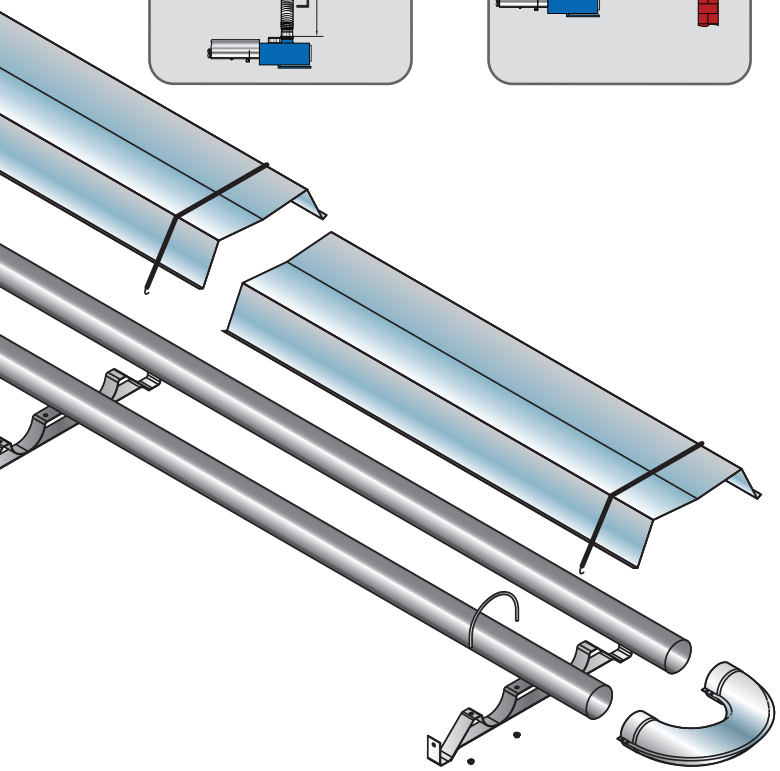


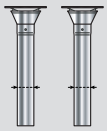
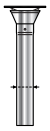
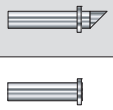
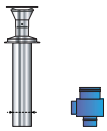
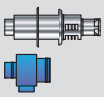
E - TYPE B22



F - TYPE B22





ARTICLE		TYPE	CODE	Lmax (m)		
				INFRA 6B	INFRA 9B	INFRA 12B
A		C32	00CNTE0442	9	7	7
E		B22	00CNTE0442	15	13	13
B		C12	00CNTE0444 00CNTE2598	9	7	7
F		B22	00CNTE0444	15	13	13
C		C32	00CNKI2515	5	3	3
D		C12	00CNKI2514	6	4	4

TECHNICAL FEATURES OF INFRA RADIANT TUBES POWERED BY GAS					
MODELS			**INFRA 6B**	**INFRA 9B**	**INFRA 12B**
Nominal thermal capacity		kW(Hi)	28	45	45
Nominal thermal power		kW(Hi)	24,1	38,9	39
Combustion efficiency		%	90,1	90,3	90,6
Nominal consumption at 15°C and 1013,25 mbar	Natural gas G20	Nm^3/h	2,96	4,76	4,76
	Butane G30	kg/h	2,21	3,55	3,55
	Propane G31	kg/h	2,18	3,50	3,50
Electrical power supply		V/Hz	230/50	230/50	230/50
Maximum absorbed electrical power		W	160	160	160
Gas connection (F)			3/4" (Inches)	3/4" (Inches)	3/4" (Inches)
Air connection diameter (M)		mm	100	100	100
Fume connection diameter (F)		mm	100	100	100
Weight (standard version)		kg	86,5	139	176
Weight (with RBT canopies)		kg	105,5	167,5	214
Weight (with MAXY canopies)		kg	137,5	213	273

INFRA PLUS R: Radiant Tubes

NEW!

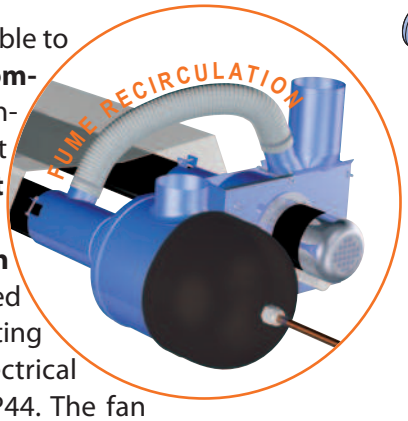
THE ADVANTAGES OF RADIANT HEATING

- ☑ HEAT CONCENTRATION ON THE FLOOR
- ☑ LIMITED AIR STRATIFICATION BETWEEN FLOOR AND CEILING
- ☑ ABSENCE OF AIR MOVEMENT
- ☑ ABSENCE OF DUST
- ☑ NOISELESS
- ☑ HEALTHY ENVIRONMENTS
- ☑ BETTER THERMAL CONFORT
- ☑ POSSIBILITY OF HEATING ZONES WITH DIFFERENT TEMPERATURES
- ☑ HEATING PLANT IS NOT REQUIRED

INFRA PLUS R: Technical features

INFRA PLUS radiant tube, designed and realized by Systema S.p.A., is composed of:

☑ **Sucked air BAF PLUS burner** with air-gas partial premix, caused by the fan which is positioned in a downstream watertight chamber. **Power capacity: 60 kW**. It is made up of a multi-gas torch with stainless steel ionization flame stabilizer, electronic ignition, no pilot flame, ionization flame control, solenoid gas valve with slow ignition adjustable with pressure stabilizer and gas filter, air pressure switch, airlock adjustable according to the thermal capacity of the equipment. The body has been painted with epoxy resins.



☑ **Fume recirculation** able to guarantee a **high combustion efficiency** inside the fume circuit assuring **high radiant performances.**

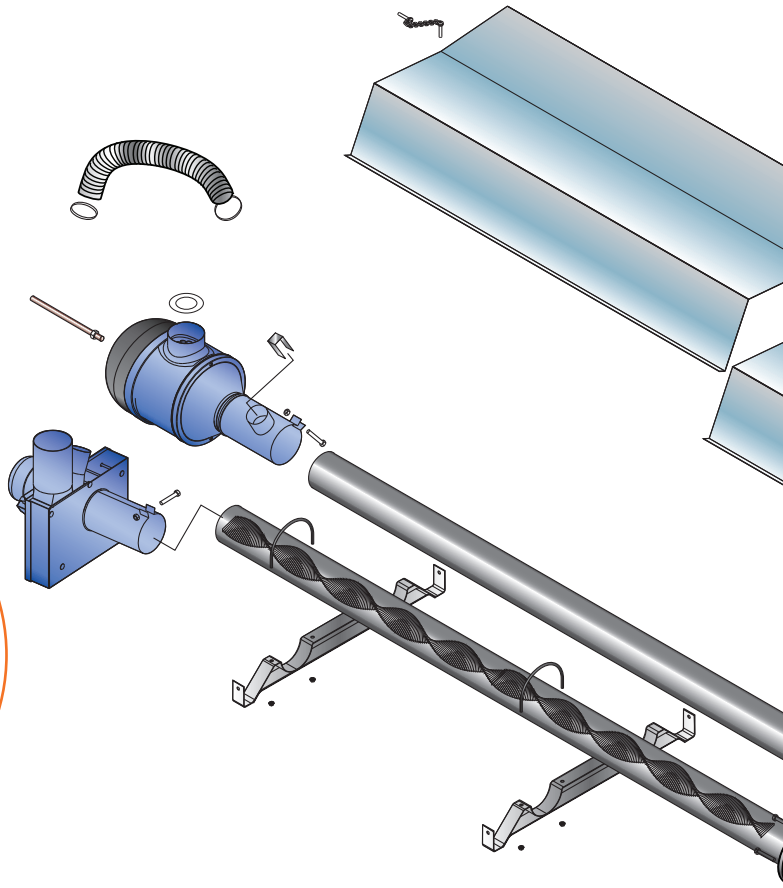
☑ **180 W Baf Plus fan** with class "H" ventilated motor, C3 self-lubricating special bearings , electrical protection degree: IP44. The fan has been treated against the initial condensate.

☑ **"U" radiant tube:** the combustions products inside the radiant tube heat the external surface increasing the temperature of the tube in order to send out infrared thermal waves. The tubes are made of special steel and produced through a particular paint process for high temperatures.

☑ **A turbolator** has been positioned inside the return pipe in order to increase the thermal yield and guarantee an homogeneous heat distribution.

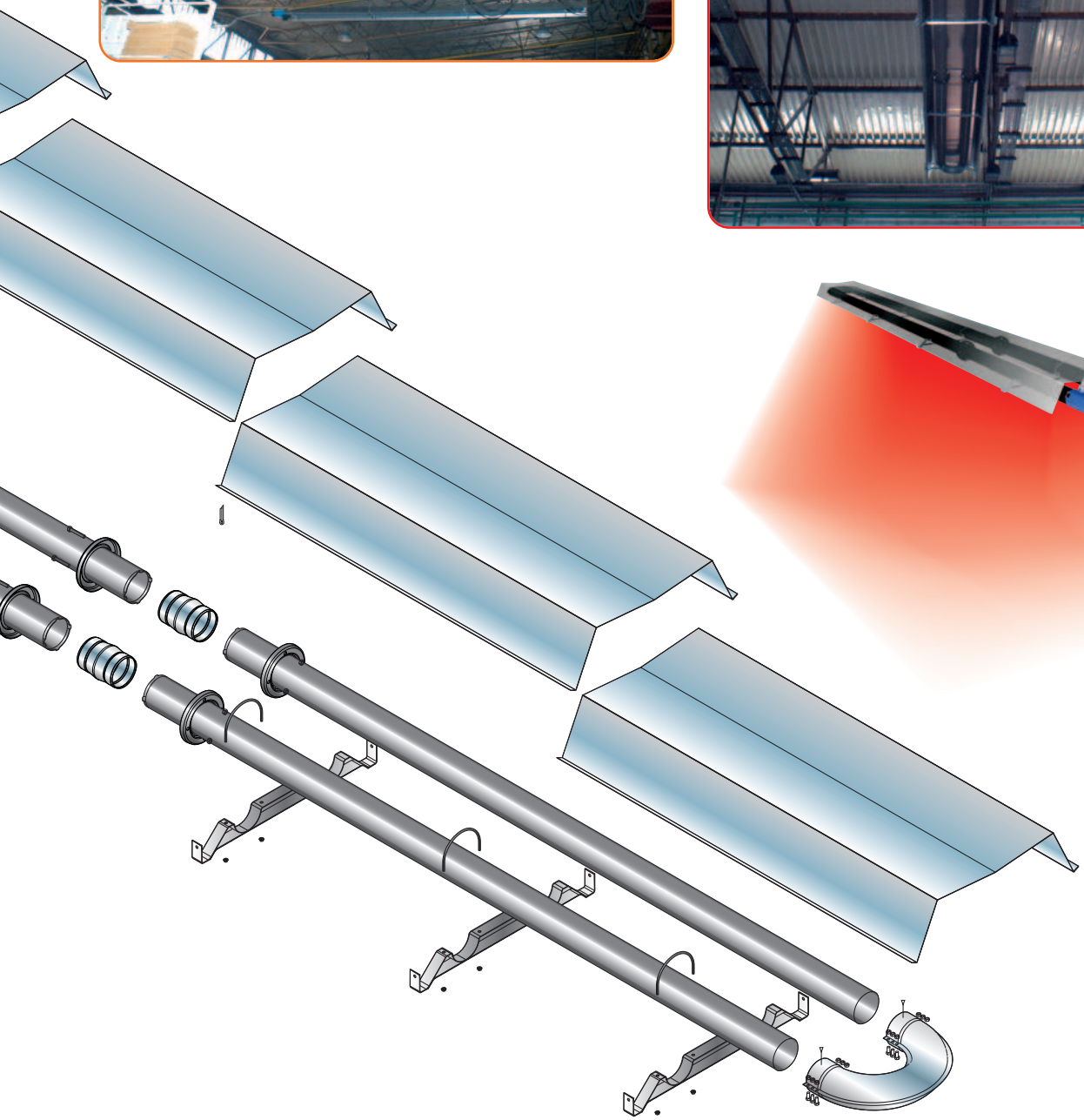
☑ **Specular reflecting canopies** with high reflection capacity able to converge the radiant heating towards the environment to be heated.

☑ **Support brackets** for the radiant tube and the reflecting canopies.



TECHNICAL FEATURES OF INFRA 12 PLUS R			
Nominal thermal capacity		kW (Hi)	60
Nominal thermal power		kW (Hi)	54,3
Combustion efficiency		%	90,5
Nominal consumption at 15°C and 1013,25 mbar	Natural gas G20	Nm^3/h	6,34
	Butane G30	kg/h	4,73
	Propane G31	kg/h	4,66
Electrical power supply		V/Hz	230/50
Maximum absorbed electrical power		W	200
Gas connection (F)		Inches	3/4"
Air connection diameter (M)		mm	100
Fume connection diameter (M)		mm	100
Weight		kg	230

REFERENCES



OHA RHE with inverter (Patented) NEW!

The evolution of the radiant heating

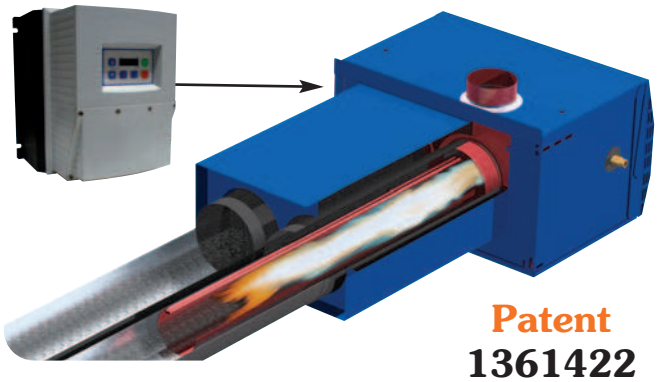
OHA RHE "**R**adiant **H**igh **E**fficiency", **WITH MODULATION AND INVERTER**, represents the technological evolution of **OHA** combustion group.
The thermal power is delivered through a continuous modulation and is controlled by a software and a microprocessor. In this way the fume fan capacity is adjusted through an inverter, according to several parameters, such as fume temperature, external and room temperature. This function is available in the equipment with standard calibration or **range rated**.

OHA RHE uses a burner equipped with a combustion head which has got a pure gas jet during turbulent flow conditions, without premix injectors. The after-combustion occurs through additional injectors.

OHA RHE combined with the radiant strips, works exclusively in depression through a fan with a partial recirculation of the fumes. This fan controlled by an inverter has got an integrated protection in case of motor overload.

HOW DOES IT WORK?

A microprocessor calculates the power capacity of the motor needed by OHA RHE burner, in order to deliver the correct power able to satisfy the real thermal requirements of the building to be heated.



Patent
1361422

The inverter, included in the OHA RHE burner, modulates the electrical consumption of the fan, keeping the temperatures of the fumes constant and eliminating the overshooting.
Thanks to the climatic regulation of OHA RHE, the temperature of the fumes flows more smoothly.
In this way the power excesses, which cause continuous ignitions and shutdowns of the burner (overshooting effect), are avoided and the consumptions are strongly reduced.

ADVANTAGES OHA RHE

- ☑ **RELEVANT REDUCTION OF ELECTRICAL AND GAS CONSUMPTIONS**
- ☑ **HIGH COMBUSTION PERFORMANCES, INDEPENDENTLY FROM THE LENGTH AND THE CONFIGURATION OF THE RADIANT CIRCUIT**

EFFICIENCY AND ENERGY SAVINGS

- ☑ **Constant combustion performance (96%)** also at low and medium temperatures.
- ☑ **Modulation of the carrier fluid keeping constant the stoichiometric ratio**
- ☑ **Constant radiation** in the interested areas
- ☑ **Electronic control**:
  - **Electronic and progressive start up, managed by the inverter**
  - **High efficiency igniter** with EMC filter
  - **Constant control** of the start and set up timing
- ☑ Prearrangement of the external temperature probe in order to optimize the performances according to the real needs
- ☑ **High efficiency centrifugal fan**
- ☑ **Possibility of remote tele-management**

SAFETY

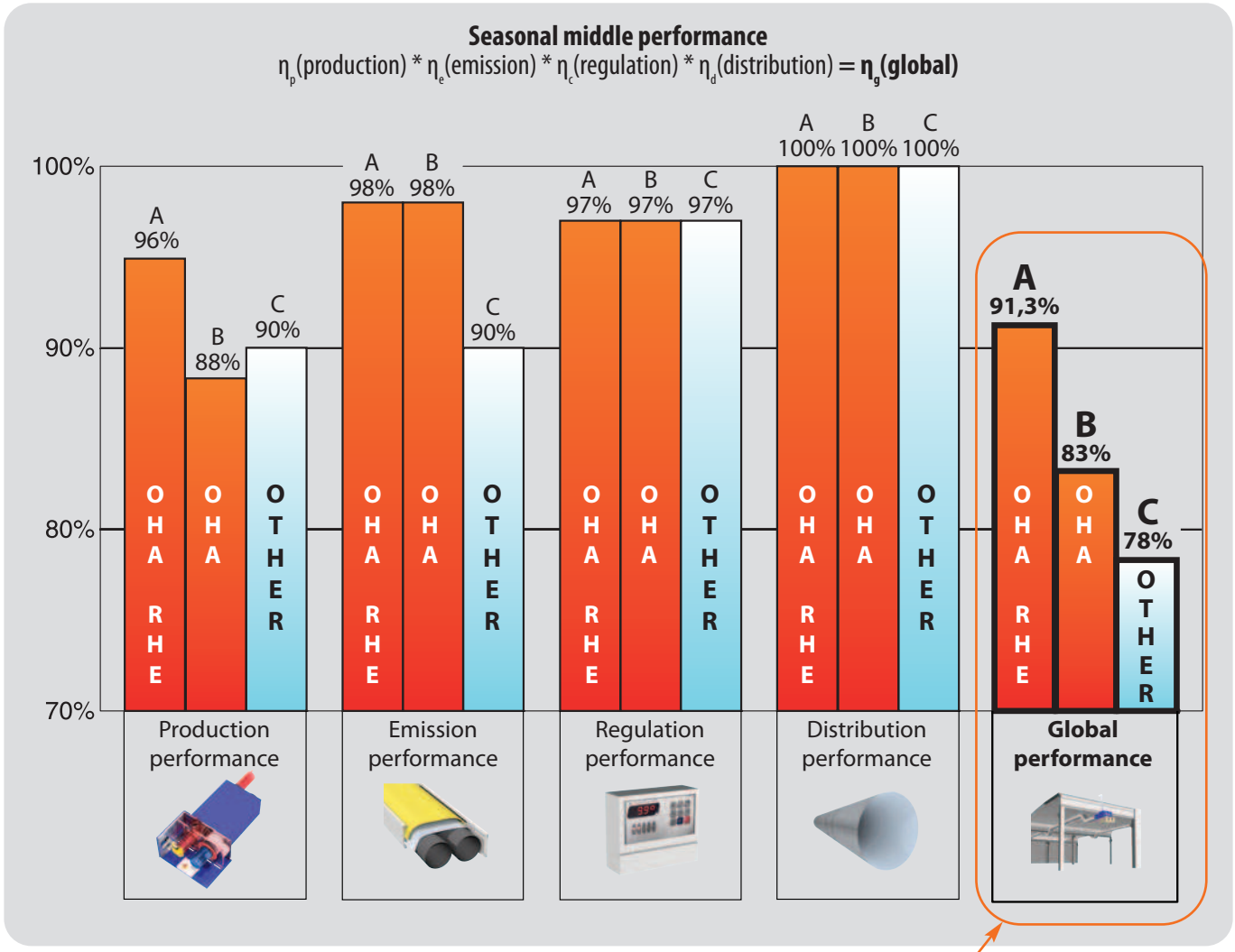
- ☑ Positive safety of the working thermostat:
  - Capillary probe installed inside the combustion group for the detection of the fume temperature and the working temperature
  - Stop of the burner in case that the temperature of the carrier fluid exceeds the allowed rated values of working
  - Safety switch when the door is opened.

CERTIFICATIONS

- ☑ **CE** certification, **RANGE RATED**: it allows **all power calibration** according to the characteristics of the radiant circuit.
- ☑ **The equipments has been certified for external installation** with a global electrical protection degree **IP 44**
- ☑ **Comply with the Community Directive EMC 89/336/CEE**
- ☑ **Comply with the Community Directive LOW VOLTAGE 73/23/CEE**
- ☑ **Low noise level according to the DIN-VDE-0530 regulations**

HIGH GLOBAL PERFORMANCE

In comparison with other heating technologies, our OHA radiant strips reduce a lot the gas consumptions **(we are talking about a 40% reduction)** and allow a return of the investment in a very short time. Thanks to the inverter modulation of the exhaust fan and its relevant exhaust capacity, this heating system reaches high production and emission performances.



OHA RHE is the result of considerable investments in R&D, which allowed Systema S.p.A. to achieve **successful performance** for each single component of this heating system.

ηg (global) > 75+3logPn

A radiant strip with Pn=250kW,

must have ηg (global) > 82,19%

Only "A" is higher, thanks to the high production performance (96%) and high emission capacity (98%).

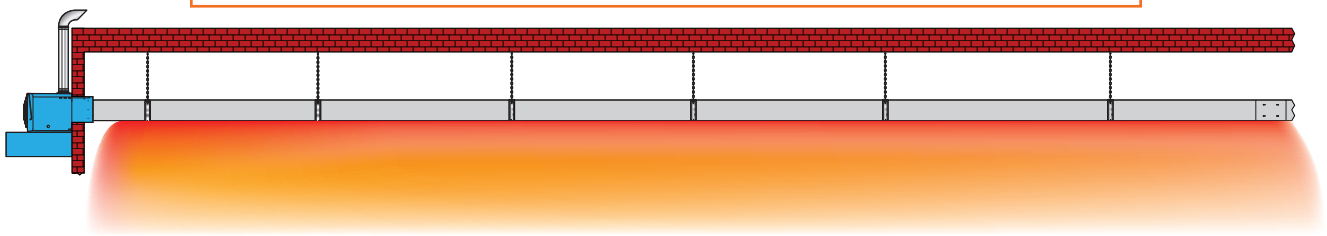
A= Radiant strips combined with **OHA RHE** combustion group with **high modulating capacity** (Systema S.p.A.)

B= Radiant strips combined with **OHA** combustion group with high capacity fan (Systema S.p.A.)

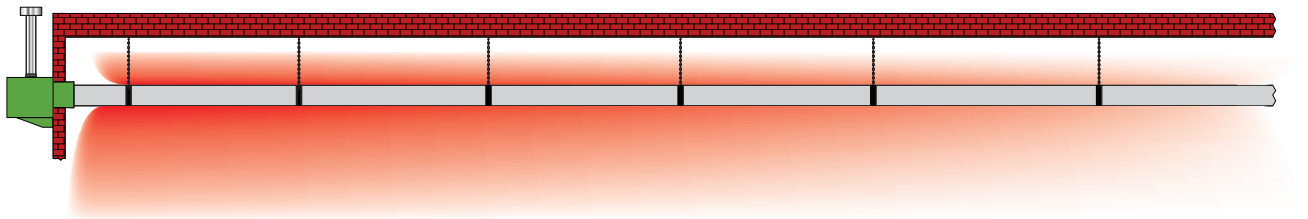
C= Radiant strips with reduced capacity fan

THE IMPORTANCE OF THE CIRCULATION CAPACITY FOR THE EMISSION EFFICIENCY

A and B - (OHA - OHA RHE) high capacity - η emission = 98%



C - (others) low capacity - η emission < 90%



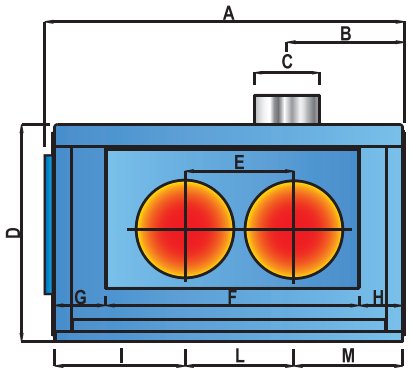
TECHNICAL CHARACTERISTICS

MODELLO RHE STANDARD - RANGE RATED				OHA RHE 100-115	OHA RHE 100-150	OHA RHE 100-200 RANGE RATED **	OHA RHE 200-250	OHA RHE 200-300	OHA RHE 200-400 RANGE RATED **
Thermal capacity		Max	kW (Hi)	115	150	200	250	300	370
		Min	kW (Lo)	100	100	100	200	200	200
Thermal power	Natural gas G20	Max	kW (Hi)	111,43	143,4	188,8	241,2	288,6	357
		Min	kW (Lo)	96,7	96,7	96,7	193,8	193,8	193,8
	LPG Propane G31	Max	kW (Hi)	108,79	141,3	187,2	239,75	287,1	354,8
		Min	kW (Lo)	94,6	94,6	94,6	192,2	192,2	192,2
Thermal efficiency	Natural gas G20	Max	%	96,9	95,6	94,4	96,5	96,2	96,5
		Min	%	96,7	96,7	96,7	96,9	96,9	96,9
	LPG Propane G31	Max	%	94,6	94,2	93,6	95,9	95,7	95,9
		Min	%	94,6	94,6	94,6	96,1	96,1	96,1
Nominal consumption at 15°C and 1013,25 mbar	Natural gas G20	Max	Nm^3/h	11,67	15,58	21,13	25,13	30,44	37,42
		Min	Nm^3/h	10,64	10,64	10,64	20,76	20,76	20,76
	LPG Propane G31	Max	kg/h	7,77	10,57	14,78	17,11	19,96	25,32
		Min	kg/h	7	7	7	14,12	14,12	14,12
Electric power				3/N/PE ~ 50Hz 400V					
Electric power max absorbed			W	1300	1600	3000	3200	3500	4300
Working average electrical power			W	800	1100	2500	2700	3000	3800
Gas connection (male)			Inches	1"			1½"		
Weight			kg	230			240		
Fume pipe diameter			mm	200			200		
Max length of fume exhaust pipe			m	6			6		
Type				B22	B22	B22	B22	B22	B22
MAXIMUM LENGTH OF THE CIRCUIT ACCORDING TO THE COMBUSTION UNIT									
Radiant Strips mod. M 1 pipe Ø 300 mm		min	m	60	60	60	160	160	--
		max	m	130	140	190	220	250	--
Radiant Strips mod. U 2 pipes Ø 300 mm		min	m	35	35	35	90	90	90
		max	m	75	90	115	130	150	160
R. Strips mod. U 2 pipes Ø 400 mm (only with turbulators as per our project)		min	m	--	--	--	--	--	90
		max	m	--	--	--	--	--	160

(*) **Virtual length**= effective length of the radiant strip, increased by the lengths equal to the direction changing (6 metres for each change of direction). It is necessary to increase the effective lengh of 6 metres for each 90° bend used, 9 metres for each 180 ° final bend, 3 meters for each 45° bend used and T branch.

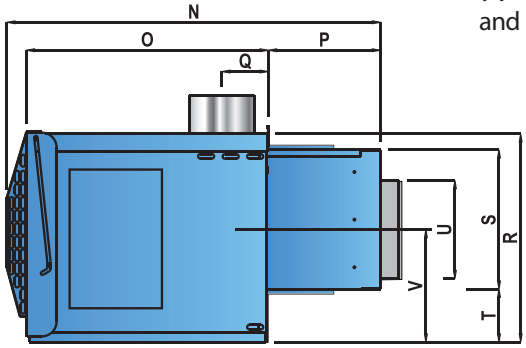
(**) The **RANGE RATED** model allows the power calibration of the burner according to the real thermal load requested by the radiant circuit.

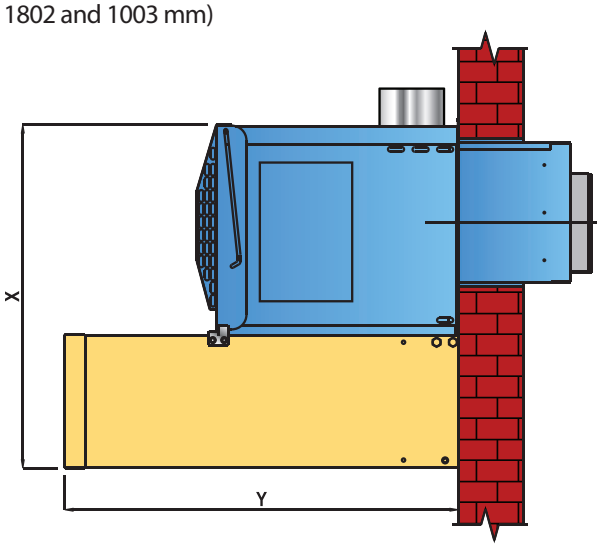
COMBUSTION UNIT AND RADIANT STRIP DIMENSIONS



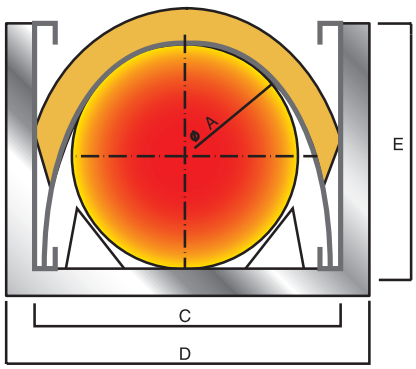
Dim.	Dimension [mm]		Quota	Dimension [mm]	
	Pipe Ø 300 mm	Pipe Ø 400 mm		Pipe Ø 300 mm	Pipe Ø 400 mm
A	1095		**N (*)**	1142	
B	359		**O**	740	
C	200		**P (*)**	343	
D	664		**Q**	142	
E	333	430	**R**	637	
F	774	923	**S**	426	475
G	157	67	**T**	162	113
H	134	70	**U**	300	400
I	398	319	**V**	344	352
L	333	430	**X**	1049	
M	333	302	**Y**	1202	

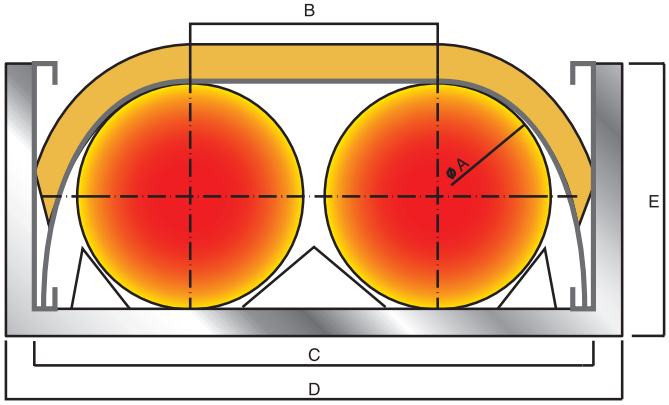
(*) in case of long plenum (supplied only when requested) the dimensions N and P are respectively 1802 and 1003 mm)





Radiant strip dimensions [mm]			
Dimension	**1 pipe**	**2 pipes**	**2 pipes**
A	**Ø300**	**Ø 300**	**Ø 400**
B	-	335	460
C	512	850	1020
D	580	918	1088
E	374	374	478
Weight [kg/m]	19	28	35





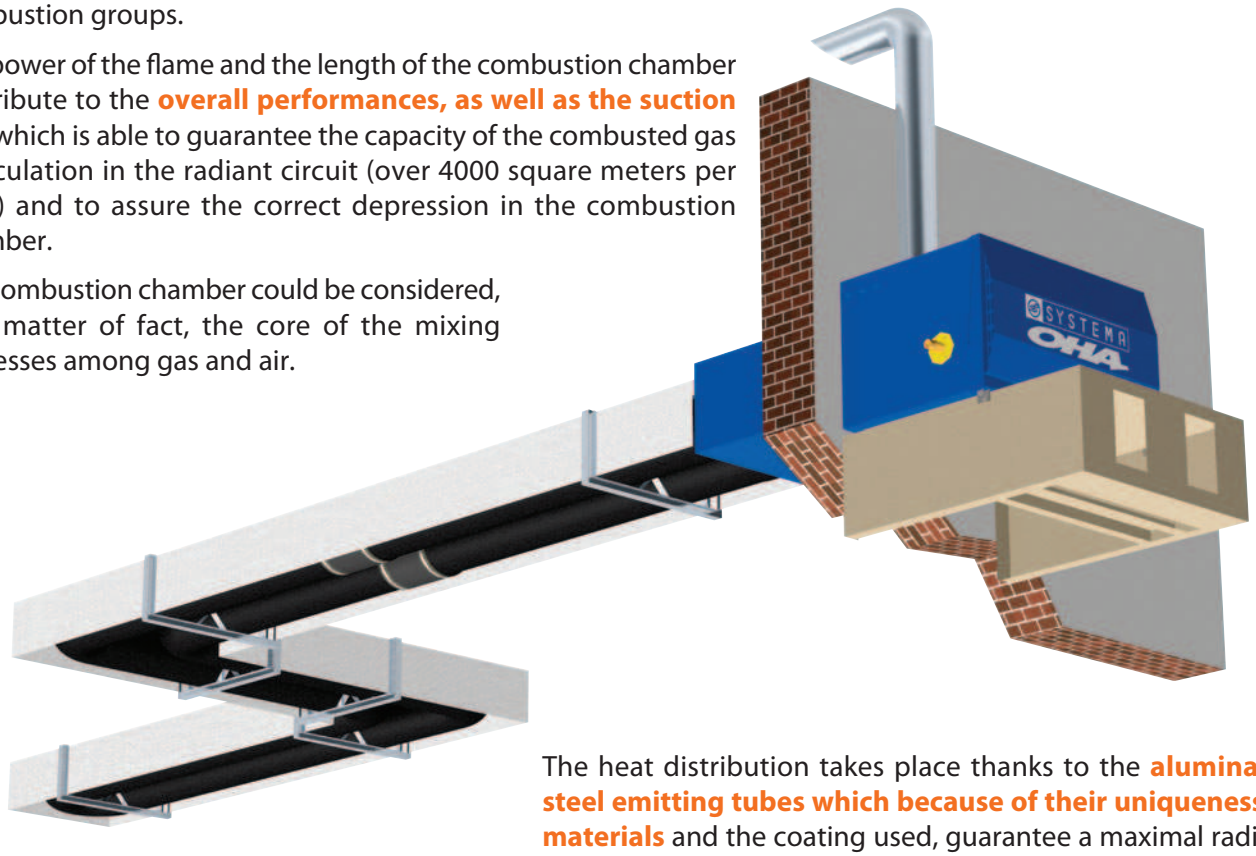
OHA: The traditional heating through radiant strips

OHA radiant strips are apt to heat medium and/or large industrial, commercial and sport buildings, using either gas or diesel oil.

The **high efficiency** of OHA radiant strip is due to the **uniqueness of the combustion head (*)**, studied and optimized for SYSTEMA combustion groups.

The power of the flame and the length of the combustion chamber contribute to the **overall performances, as well as the suction fan**, which is able to guarantee the capacity of the combusted gas recirculation in the radiant circuit (over 4000 square meters per hour) and to assure the correct depression in the combustion chamber.

The combustion chamber could be considered, as a matter of fact, the core of the mixing processes among gas and air.



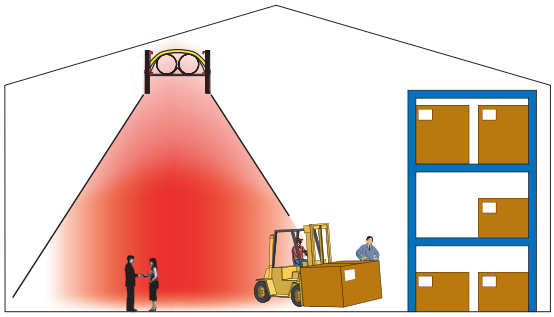
The heat distribution takes place thanks to the **aluminates steel emitting tubes which because of their uniqueness of materials** and the coating used, guarantee a maximal radiant capacity.

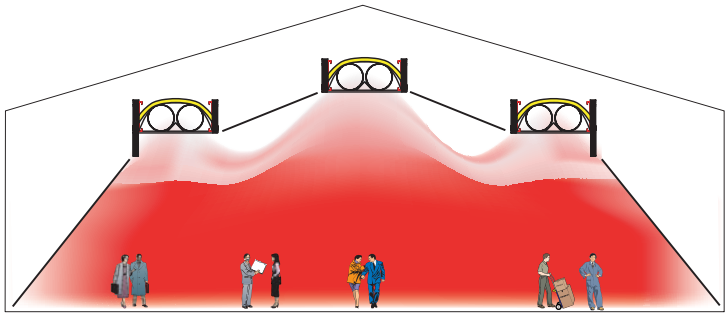
(*) It belongs to the blown air, mono-flame and mono-nozzle burner class

MANGEABLE HEAT

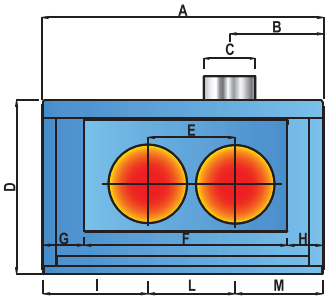
OHA radiant strips allow the **zone heating**, concentrating the heat towards the floor and only where it is necessary, in order to differentiate the temperatures among the several areas of the same environment. As a consequence there will be a **low energy consumption** and a high thermal comfort.

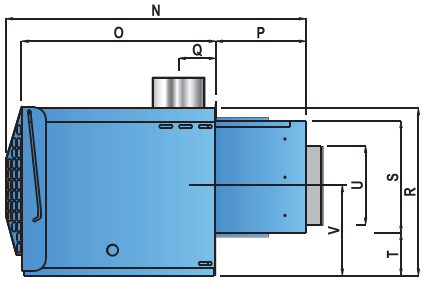
This kind of heating system does not cause air and dust movements, which is physiologically present in all the industrial plants.

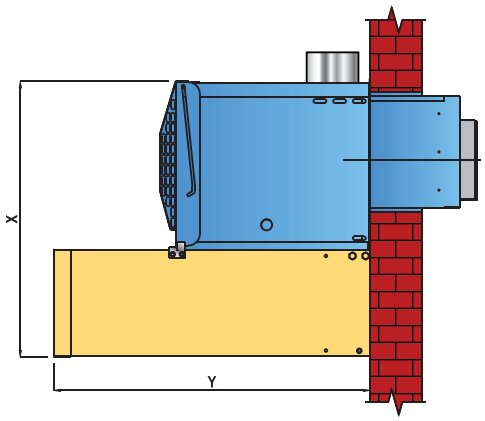




COMBUSTION UNIT AND RADIANT STRIP DIMENSIONS



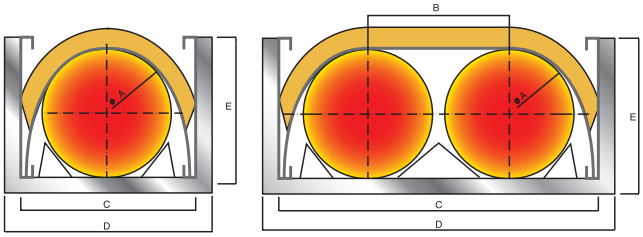




Dim.	Dimension [mm]		Dim.	Dimension [mm]	
	Pipe Ø 300 mm	Pipe Ø 400 mm		Pipe Ø 300 mm	Pipe Ø 400 mm
A	1075		N (*)	1142	
B	359		O	740	
C	200		P (*)	343	
D	664		Q	142	
E	333	430	R	637	
F	774	923	S	426	475
G	157	67	T	162	113
H	134	70	U	300	400
I	398	319	V	344	352
L	333	430	X	1049	
M	333	302	Y	1202	

(*) in case of long plenum (supplied only when requested) the dimensions N and P are respectively 1802 and 1003 mm)

Dimension [mm]			
Dim.	1 Pipe	2 Pipes	2 Pipes
A	Ø300	Ø 300	Ø 400
B	-	335	460
C	512	850	1020
D	580	918	1088
E	374	374	478
Weight [kg/m]	19	28	35



TECHNICAL CHARACTERISTICS											
MODEL			OHA100		OHA200			OHA400			
VERSION			OHA 100-50	OHA 100-100	OHA 200-115	OHA 200-150	OHA 200-180	OHA 400-200	OHA 400-250	OHA 400-300	OHA 400-400
Thermal capacity		kW(HI)	50	100	115	150	180	200	250	300	400
Thermal power		kW(HI)	45,5	93,0	105,2	138,0	165,6	183,0	230,0	276,0	366,0
Thermal efficiency		%	91,0	93,0	91,5	92,0	92,0	91,5	92,0	92,0	91,5
Nominal consumption at 15°C and 1013,25 mbar	Natural gas G20	Nm^3/h	5,29	10,58	12,17	15,87	19,05	21,16	26,46	31,75	42,33
	LPG Propane G31	kg/h	3,88	7,77	8,93	11,65	13,98	15,54	19,42	23,31	31,07
Electric power			3/N/PE ~ 50Hz 400V		3/N/PE ~ 50Hz 400V			3/N/PE ~ 50Hz 400V			
Electric power max absorbed		W	1350		3450		4450	4450		5700	
Gas connection (male)		Inches	1"		1"			1"		1"	
Weight		kg	90		230		240	240		260	
Fume pipe diameter		mm	200		200			200			
Max length of fume exhaust pipe		m	6		6			6		9	
Type			B22		B22			B22			
MAXIMUM LENGTH OF THE CIRCUIT ACCORDING TO THE COMBUSTION UNIT											
Radiant Strips mod. M 1 pipe Ø 300 mm	min (*)	m	50	100	115	150	180	200	250	300	400
	max (*)	m	40	60	80	115	140	160	190	220	--
Radiant Strips mod. U 2 pipes Ø 300 mm	min (*)	m	60	120	130	140	180	190	220	250	--
	max (*)	m	25	35	50	60	80	90	110	130	--
R. Strips mod. U 2 pipes Ø 400 mm	min (*)	m	35	50	70	80	110	115	130	160	--
	max (*)	m	--	--	--	--	--	--	--	90	120

(*) Virtual length= effective length of the radiant strip, increased by the lengths equal to the direction changing (6 metres for each change of direction). It is necessary to increase the effective lengh of 6 metres for each 90° bend used, 9 metres for each 180° final bend, 3 meters for each 45° bend used and T branch.

REFERENCES

SCR: Premix ceramic heaters with modulation

This range of modulating ceramic heaters represents an innovative project.

There are two versions: **automatic premix with modulation** and **manual premix**. Both of them have the possibility to be completed with external air intake and filters.

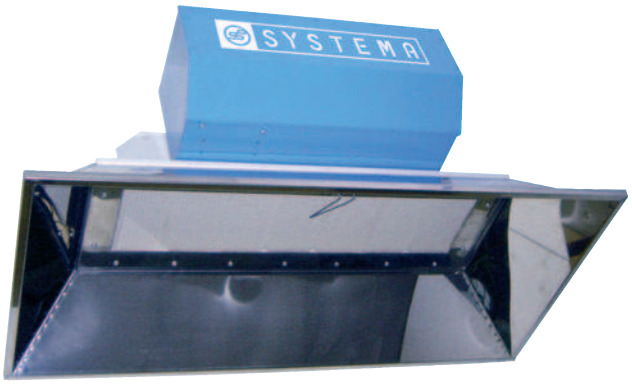
SCR-A - Automatic

SCR-A - AUTOMATIC PREMIX VERSION WITH MODULATION:
In this model the power is **continuously modulated keeping constantly the comfort temperature** of the environment and satisfying the final customer's requirements.

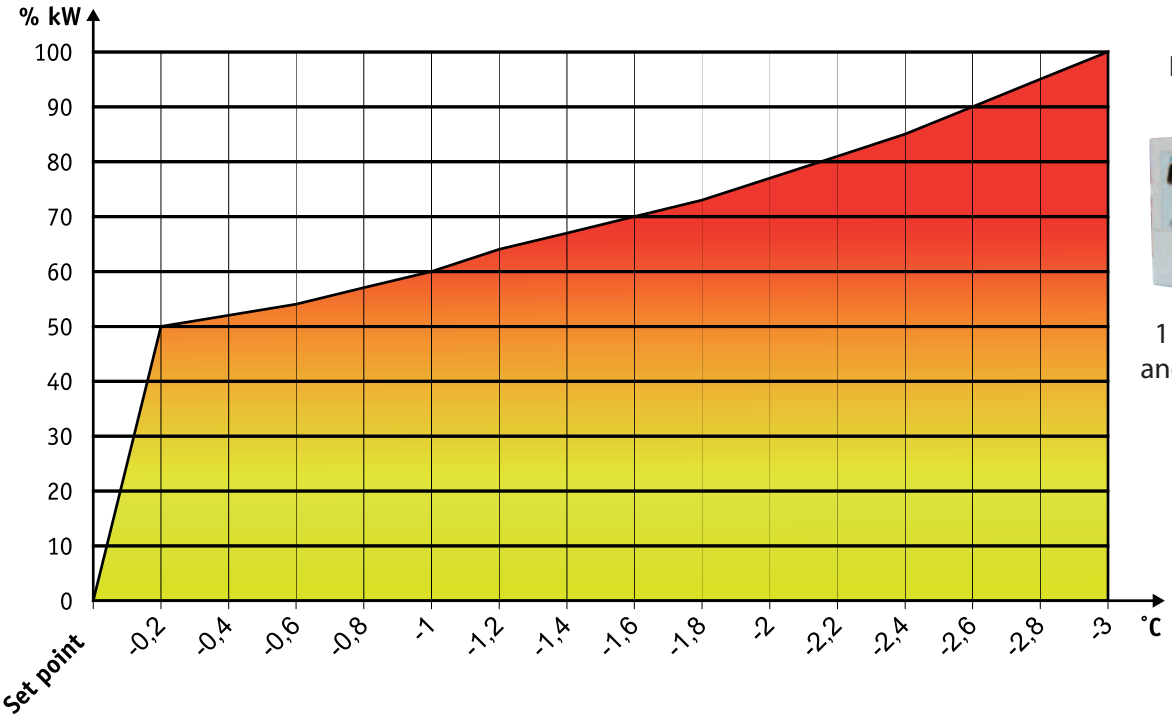
ADVANTAGES

As previously mentioned, **the temperature of the environment is constant, without thermal peaks** caused by the continuous on/off of the equipment. Furthermore with this product the "**insolation effect**" due to the continuous functioning at the maximum power (typical of the old technologies) **is avoided**.
In this way the gas consumptions are strongly reduced.
Moreover there is the possibility to install an external probe (optional) which enable the heater to **anticipate the ignition of the ceramic heater according to the external temperature**, the environment temperature and the thermal power.
Thanks to the premix burner with multiple gas train, realized and produced by Systema S.p.A., the combustion process **is perfect with excellent CO-NOx values and high performances**.
This model operates with bus net and **INET control panel for the management up to 16 ceramic heaters**.

As optional accessory, Systema offers also the infrared ray remote control.



Functions of INET control panel:
- ☑ once the range has been set, the panel guarantees the automatic modulation of the ceramic heater
- ☑ it controls independently up to 16 ceramic heaters
- ☑ three temperature levels: comfort, economic, antifreeze
- ☑ weekly timer
- ☑ optimization function for the anticipated ignition according to the external temperature (optional)
- ☑ acoustic or remote alarm system.



INET control panel

1 thermal zone and control up to 16 ceramic heaters

SCR-M - Manual

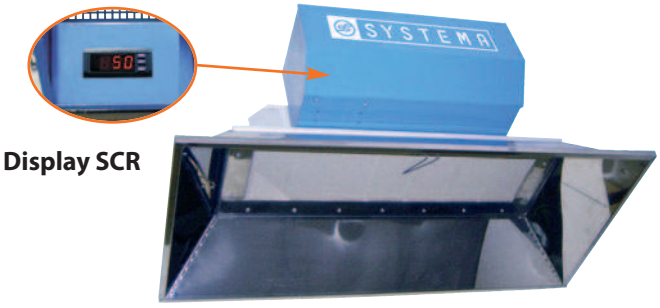
SCR-M - MANUAL PREMIX MODEL:

This model has the same dimensions of the previous one and includes all the base technology of the new SCR project.

In comparison to the other version, this is an on/off heater.

There is also another model, called **RP** (optional) which is an on/off machine with the manual regulation of the thermal power through a potentiometer-remote modulator.

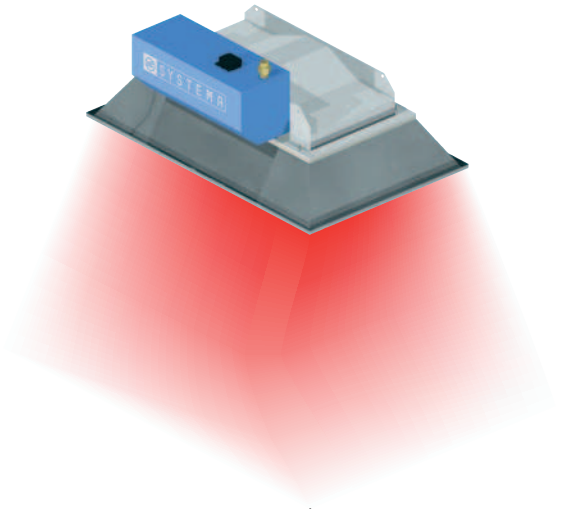
For the ignition and the shutdown, the base version can be interfaced with the room thermostat, whereas the RP version uses the RP control panel (optional).



Display SCR

ADVANTAGES

- ☑ Modulating premix burner
- ☑ Well-functioning with all the types of gas, keeping high performances and efficiencies
- ☑ High thermal emission
- ☑ The reflecting canopies have a wide surface
- ☑ Single watertight skirt
- ☑ Possibility of installing air filters for the air suction
- ☑ Possibility of air intake from the external environment
- ☑ Maximum efficiency in all the environmental conditions
- ☑ Possible to install in all the positions



TECHNICAL FEATURES

GENERAL FEATURES				
MODELS			**SCR 25M / SCR 25A**	**SCR 45M / SCR 45A**
Maximum THERMAL CAPACITY		**kW**	24	48
Minimum THERMAL CAPACITY		**kW**	12	24
NOMINAL CONSUMPTION (15°C 1013,25 mbar)	**Natural Gas G20 max**	**Nm³/h**	2,54	5,08
	Natural Gas G20 min	**Nm³/h**	1,27	2,54
	Butane G30 max	**kg/h**	1,89	3,79
	Butane G30 min	**kg/h**	0,95	1,89
	Propane G31 max	**kg/h**	1,86	3,73
	Propane G31 min	**kg/h**	0,93	1,86
ELECTRICAL POWER SUPPLY			1/N/PE ~ 50Hz 230 V	
MAXIMUM ABSORBED ELECTRICAL POWER		**W**	60	60
GAS CONNECTION (male)		**Inches**	3/4	3/4
WEIGHT		**kg**	27	36

SCR ceramic heaters are delivered already assembled and commissioned. No calibration during the start up is requested. Each single heater is packed individually.

SCR-ECO: on/off functioning

SCR-ECO FEATURES

SCR-ECO ceramic heater is a radiant heating system that can be powered by natural gas or L.P.G.

It has been designed and realized to solve any kind of heating problem in various type of environments.

Its main advantage is the relevant installation flexibility.

The range of **SCR-ECO** includes models **from 7,5 up to 50,5 kW**.

TECHNICAL FEATURES

- ☑ **Specular stainless steel burner**
- ☑ **Treated steel venturi**
- ☑ **Radiant surface composed of micro-drilled ceramic plates**
- ☑ **Stainless steel plate reflector**
- ☑ **Ignition and safety electronic board with flame ionization**
- ☑ **Gas solenoid valve combined with double coil and gas stabilizer**

The radiant surface can reach temperatures of 1200°C, heating the environments through infrared rays.

SCR-ECO ADVANTAGES

- ☑ **HIGH COMFORT WITH LOW AIR TEMPERATURE**
- ☑ **LOW DISPERSION**
- ☑ **ABSENCE OF AIR MOVEMENT AND DUST**
- ☑ **LOW THERMAL INERTIA**
- ☑ **POSSIBILITY OF HEATING ZONES WITH DIFFERENT TEMPERATURES**
- ☑ **NOISELESS**
- ☑ **GAS SAVINGS**
- ☑ **ENVIRONMENTALLY FRIENDLY**
- Low dispersions because of a lower air temperature and absence of thermal stratification
- Possibility of heating zones with different temperatures, starting the machine only where necessary
- Reduced working time thanks to the lower thermal inertia
- Quick ignition
- Cheap maintenance

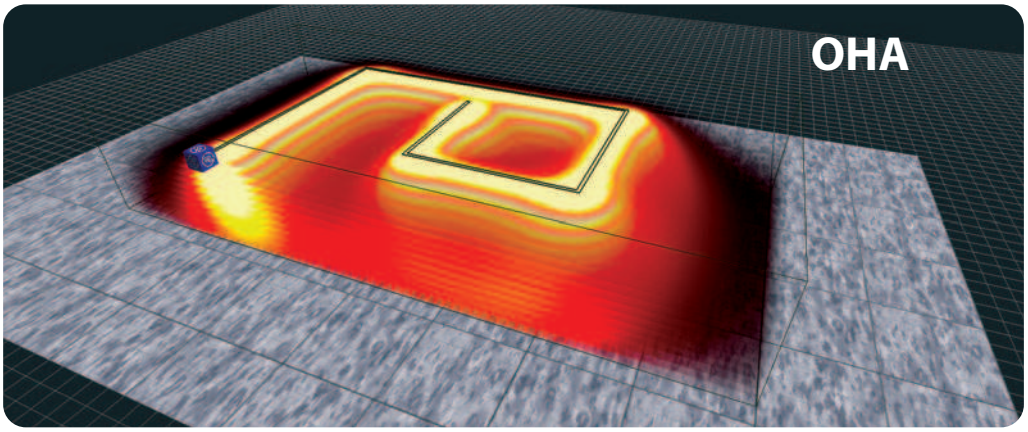
SCR ECO Models			**7/4**	**10/6**	**18/10**	**22/12**	**29/16**	**44 12+12**	**58 16+16**
Quantity of plates		n^{er}	4	6	10	12	16	24	32
Hs thermal capacity (EN437)		kW	8,1	10,8	19	22,7	30,1	45,4	60,2
Thermal capacity		kW	7,5	10	17,5	21	27,5	41	55
Ø Nozzle	G20	mm	2,1	2,4	3,1	3,5	3,8	2 x 3,5	2 x 3,8
	G30/G31	mm	1,4	1,6	2,1	2,3	2,6	2 x 2,3	2 x 2,6
Net pressure	G20	mbar	20	20	20	20	20	20	20
	G30/G31	mbar	29/37	29/37	29/37	29/37	29/37	29/37	29/37
Nozzle pressure	G20	mbar	17	17	17	17	17	17	17
	G30	mbar	27,7	27,7	27,7	27,7	27,7	27,7	27,7
	G31	mbar	35,7	35,7	35,7	35,7	35,7	35,7	35,7
Consumption	G20	m^3/h	0,77	1,03	1,81	2,17	2,87	4,33	5,74
	G30	kg/h	0,59	0,78	1,37	1,65	2,18	3,28	4,36
	G31	kg/h	0,58	0,77	1,35	1,62	2,14	3,23	4,28
Radiant surface		cm^2	445	660	1125	1350	1780	2700	3560
Length (L)		mm	580	755	1130	1320	1680	1320	1680
Height (H)		mm	265	265	265	265	265	265	265
Depth (P)		mm	378	378	378	378	378	615	615
Weight		kg	7	8,5	11,5	13	16	24	30
Electrical power supply		230 Vac – 50/60 Hz							
Minimum installation height at 0°		m	3,7	4,1	4,9	5,2	5,6	6,4	7
Minimum installation height at 45°		m	3,4	3,7	4,4	4,6	5	5,7	6,2

REFERENCES

SOFTWARE for the dimensioning of industrial heating systems!

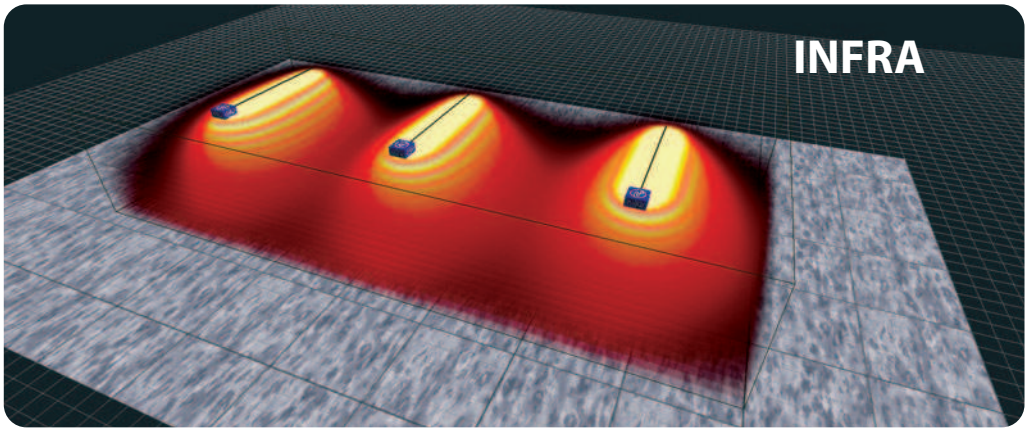
An exclusive tool for the planning of your heating solutions

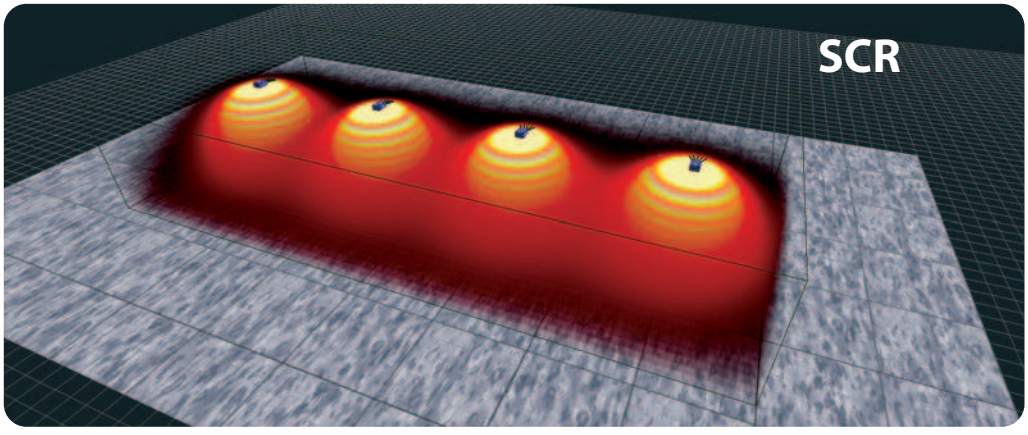
Thanks to this useful instrument Systema supports you in all the necessary steps for developing a heating system with INFRA, OHA, EOLO, SCR assuring high energy savings. Our software is provided with specific settings for all the types of product and is able to find out the best solution according to the real needs of the environment to be heated.



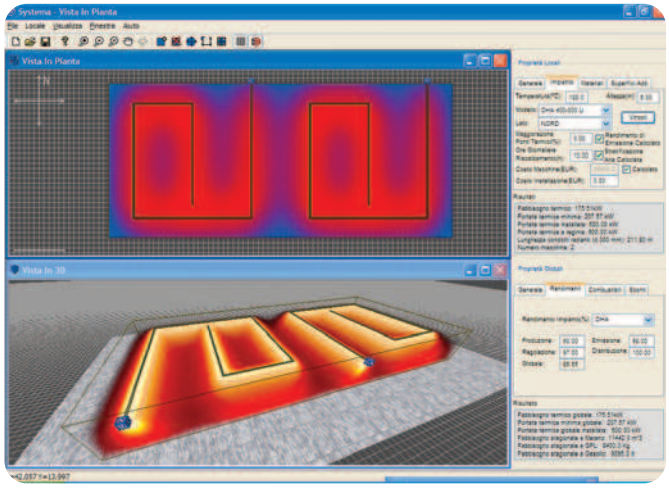
With our software you can change the type, the quantity, the power capacity and the positioning of the products to be installed keeping the dimensions of the building, and satisfy all the customer requirements.

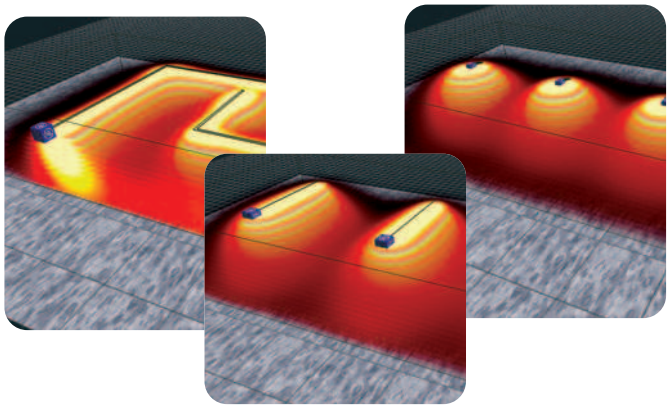
If you modify the dimensions of the rooms to be heated, the software will change automatically the number and the power capacity of the products you have chosen in order to obtain the best thermal comfort.

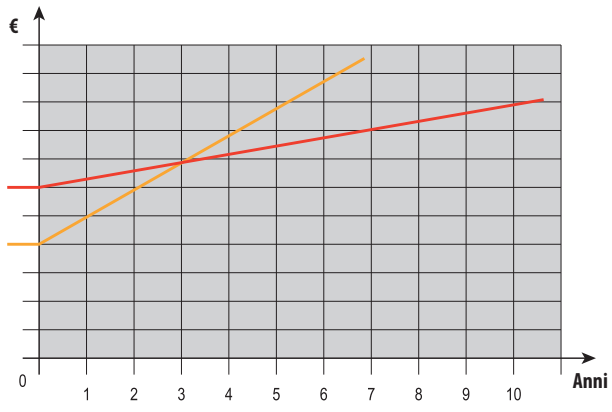




AUTOMATIC DIMENSIONING
Our SOFTWARE: how does it work and what does it offer?







It allows an easy 3D dimensioning of buildings with several heights and to use at the same time the layout and a three-dimensional view of the building complex (we talk about complex when there is more than one building with different parallelepiped shapes)

Thanks to an internal database you can choose walls, ceilings, windows, etc with their respective thermal transmissions. It is also possible to add other elements in order to personalize your heating solution.

You can set the climatic data (internal temperature, external air exchanges, daily temperature, etc), the performance of the equipments (production efficiency, emission, regulation, distribution) and the type of gas.

This application draws automatically the necessary heating system (OHA, INFRA, SCR or EOLO) and calculates the thermal dispersions. For each environment you can choose the heating system you prefer according to your needs.

It calculates the consumptions and the annual total costs of the gas (natural gas, LPG, oil).

You can personalize the discounts according to the product (OHA, INFRA, SCR, EOLO) and the installation costs or indicate a net amount which includes the equipments and the installation.

You can create a pay-back analysis and compare the global consumption and the respective investment costs. It gives you the possibility to **calculate the pay-back for each solution (OHA, INFRA, SCR, EOLO) in 15 years** in order to enable you to choose the most convenient solution according to the type of gas you would like to use.

You can print the project with all its details or only with the ones you prefer: layout with the positioning of the equipments, climatic and morphologic data, performances, power capacity, hour consumptions, investment costs and pay-back.

You can export the drawing (.DXF format) of the building in order to carry out all the modifications and the personalization you prefer.

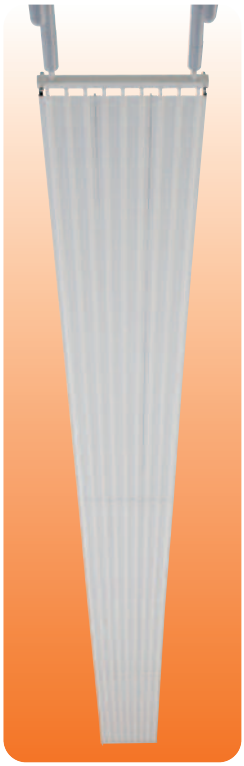
TSC - TS: Ceiling radiant panels

TSC and TS are heating systems composed of ceiling radiant panels that operates on hot water. TSC uses Ø 1/2" tube, whereas TS uses Ø 3/4" tube.
Besides the use of quality material and surface treatments, the high yield of TSC and TS panels is ensured by a production process which guarantees, over time, a high radiant performance.

ADVANTAGES:

- ☑ CONCENTRATION OF THE HEATING ON THE FLOOR
- ☑ VERY LOW HEAT LOSSES
- ☑ CLEAN AND HEALTHY ROOMS WITHOUT MOVEMENT OF AIR AND DUST
- ☑ ABSOLUTELY NOISELESS
- ☑ SAFETY
- ☑ COMFORTABLE TEMPERATURES WITHOUT EXCESSIVE THERMAL GRADIENT
- ☑ POSSIBILITY OF HEATING OR COOLING DIFFERENT ZONES
- ☑ REDUCTION IN ENERGY CONSUMPTION AND ENVIRONMENTALLY FRIENDLY

TSC: Ø 1/2" radiant panels

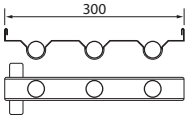
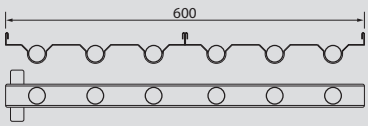
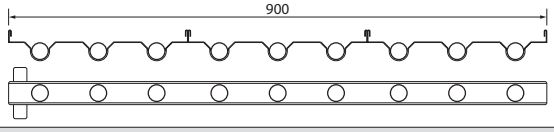
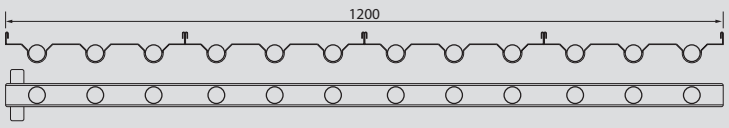


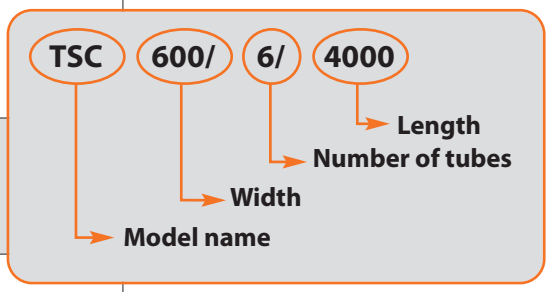
The new line of hot water radiant panels has a very low surface radiant temperature (maximum temperature: 120°C) and is ideal for small, medium and large areas.
These panels are particularly suitable for rooms with high fire risk, such as textile industries, automotive shops, carpentry shops, public entertainment and local environments with a number of people higher than 0.4 person per square meter, warehouses, leisure centres and shopping centres.

TSC TECHNICAL FEATURES:

- ☑ Galvanized and painted steel radiant plate with a thickness of 0.6 mm, obtained by a cold profile process. These plates are 300, 600, 900 and 1200 mm large and 2000, 4000 and 6000 mm long. The special semi-circular shape allows the TSC radiant plate to use a bigger exchange area between the tubes and the plate, favouring also the transfer of heat.
- ☑ Steel pipes with a thickness of 1.5 mm and external diameter of 21.3 mm, housed directly in semi-circular radiant plates. Obtained by a cold profile process and a controlled electro-fusion process they can be used for pressures up to 6 bar and maximum operating temperatures of 120° C. The tubes are burred to allow an easy installation of press-fitting connections and avoid O-rings damages.
- ☑ Headers have been realized with steel square tubes 50x50 mm, 1" pipe fitting (or 1" 1 / 4 when requested) for the connection to the heating circuit. Headers are equipped with a series of press-fittings for the connection to the radiant panels and fittings for the air vent or emptying of the ceiling water strips.
- ☑ The insulating material has a thickness of 30, 40 and 50 mm, and widths of 300, 600 and 900 mm, it is provided with an aluminium foil placed on the upper surface. The thermal features of this insulating material are in accordance with DIN 52612 Directive.

MODELS AND DIMENSIONS TSC

MODEL	DIMENSIONS
TSC 300/3/2000	
TSC 300/3/4000	
TSC 300/3/6000	
TSC 600/6/2000	
TSC 600/6/4000	
TSC 600/6/6000	
TSC 900/9/2000	
TSC 900/9/4000	
TSC 900/9/6000	
TSC 1200/12/2000	
TSC 1200/12/4000	
TSC 1200/12/6000	



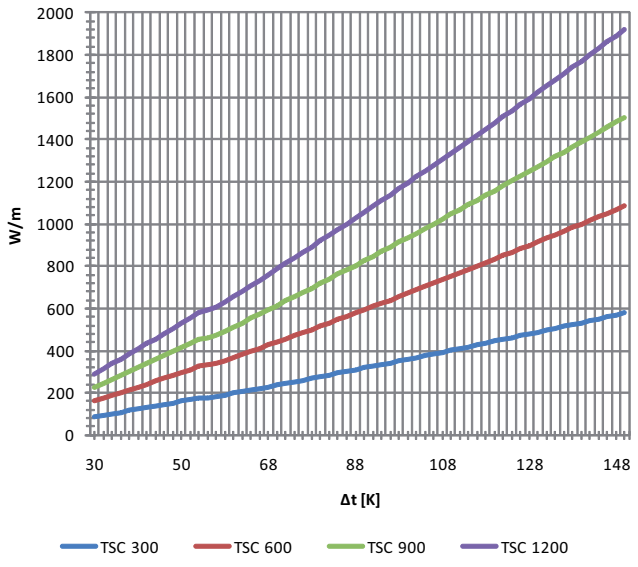
TSC GENERAL FEATURES

MODEL	Length	Width	Number of tubes	Loadless weight	Water contents
				Tube thickness 1,5 mm	
	mm	mm	n°	kg/m	l/m
TSC 300/3/2000	2000	300	3	5,7	0,8
TSC 300/3/4000	4000	300	3	5,7	0,8
TSC 300/3/6000	6000	300	3	5,7	0,8
TSC 600/6/2000	2000	600	6	10,2	1,6
TSC 600/6/4000	4000	600	6	10,2	1,6
TSC 600/6/6000	6000	600	6	10,2	1,6
TSC 900/9/2000	2000	900	9	14,7	2,4
TSC 900/9/4000	4000	900	9	14,7	2,4
TSC 900/9/6000	6000	900	9	14,7	2,4
TSC 1200/12/2000	2000	1200	12	18	3,2
TSC 1200/12/4000	4000	1200	12	18	3,2
TSC 1200/12/6000	6000	1200	12	18	3,2

Maximum operative temperature: 6 bar
Water maximum temperature: 120° C

TSC THERMAL PERFORMANCE

The chart and the table show the values of TSC thermal emissions.
These technical data refer to:
Ceiling installation, horizontal position, the upper part has been insulated, installation height: 5 meters, building structure: normal, without forced or natural ventilation, without ceiling openings.



Δt [K]	TSC 300	TSC 600	TSC 900	TSC 1200
°C	W/m	W/m	W/m	W/m
30	88	162	227	291
40	123	228	318	408
50	160	297	413	530
60	198	368	512	656
70	237	441	614	786
80	277	516	718	919
90	318	593	825	1055
100	359	672	934	1194
110	402	752	1045	1335
120	445	833	1157	1478
130	488	916	1271	1624
140	532	1000	1387	1771
150	577	1085	1505	1920

HOW TO DEFINE THE LENGTH OF THE TSC RADIANT PANELS

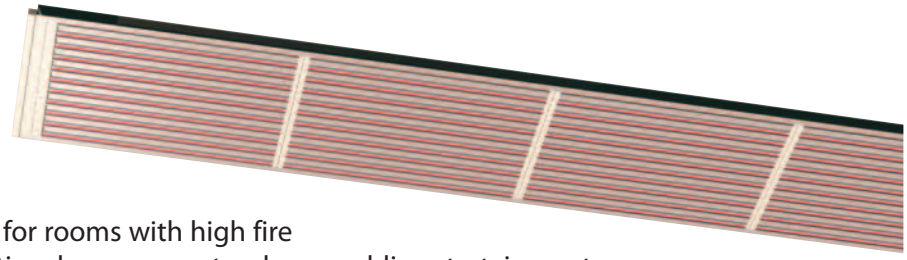
The length of the radiating panel has to be fixed considering that a TSC module measures minimum 2 meters and it is better not to exceed 40 meters in order to eliminate excessive pressure loss and not homogeneous temperatures.

TS: Radiant panels Ø 3/4”

The new range of radiant panels powered by hot water has a low radiant temperature (70-80°C) and consists in 4 models:

- ☑ **TS 300** with 3 tubes Ø 3/4, distance between the tubes: 10 cm, 300 mm wide
- ☑ **TS 600** with 6 tubes Ø 3/4, distance between the tubes: 10 cm, 600 mm wide
- ☑ **TS 900** with 9 tubes Ø 3/4, distance between the tubes: 10 cm, 900 mm wide
- ☑ **TS 1200** with 12 tubes Ø 3/4, distance between the tubes: 10 cm, 1200 mm wide

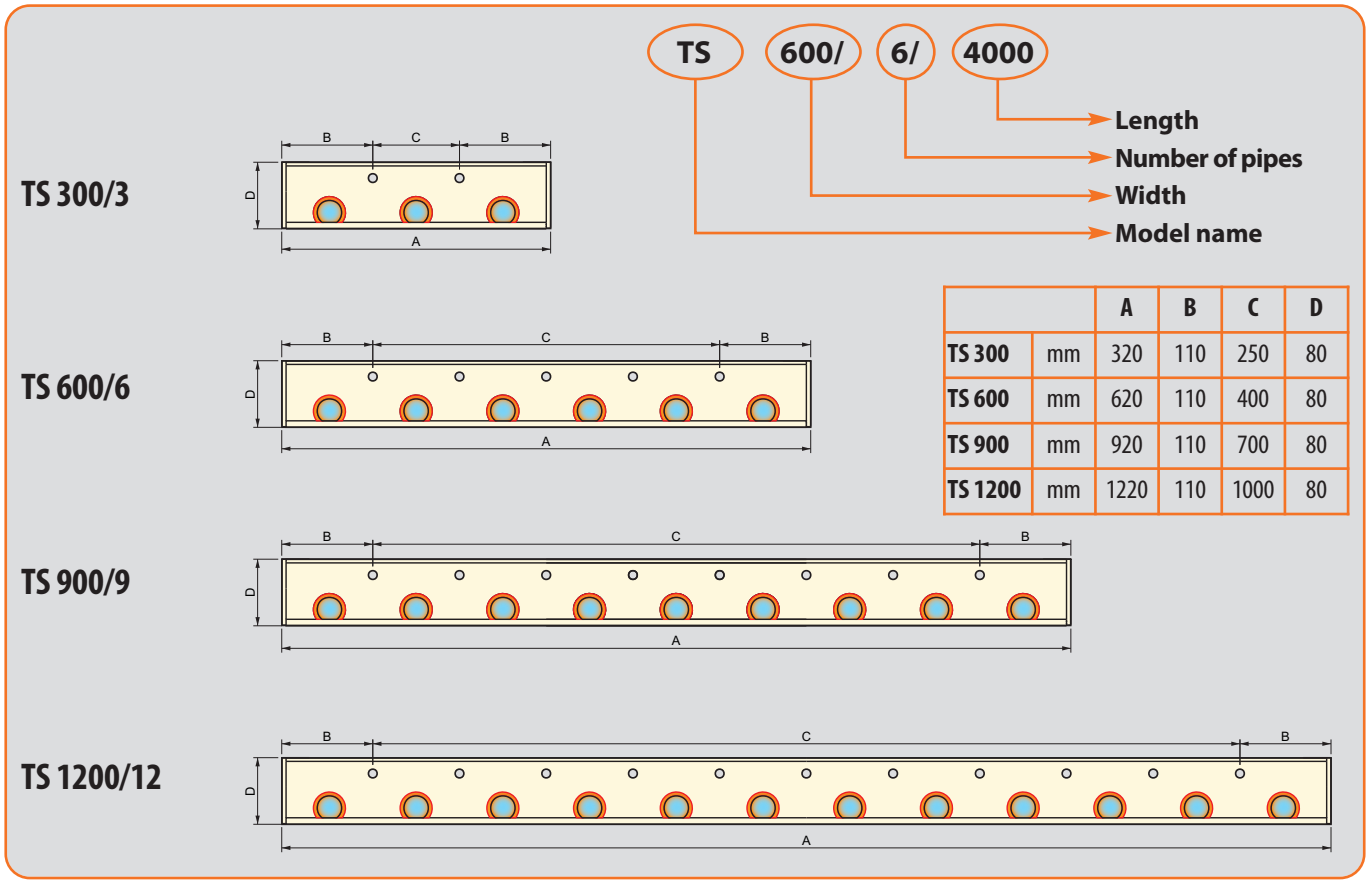
TS radiant panels represent an innovative product as the tubes where the carrier fluid flows are placed on the underside of the panel allowing in this way a direct radiation to the environment.



These panels are particularly suitable for rooms with high fire risk, such as textile industries, automotive shops, carpentry shops, public entertainment and local environments with a number of people higher than 0.4 person per square meter, warehouses, leisure centres and shopping centres.

TS GENERAL FEATURES

The TS are composed by some tubes positioned in a steel sheet suitably shaped which include also the side edges.
Thanks to the latest technologies, the plate is made up of semi-circular grooves at modular distance.
The tubes are fitted in these housing, the profile of the plate wraps around two thirds of the circumference of each individual tube and blocks it. On the superior part, at intervals of about one meter, are positioned transverse brackets that block the whole system and allow the hooking of the linkages through the bolts. Between the lateral edges will be then inserted on the construction site the insulating mattress supplied.
The radiant panels with welded steel pipes (3/4”) are used on installations powered by water up to 120°C.
For overheated water there are used un-welded UNI 8863 steel pipes (3/4”).



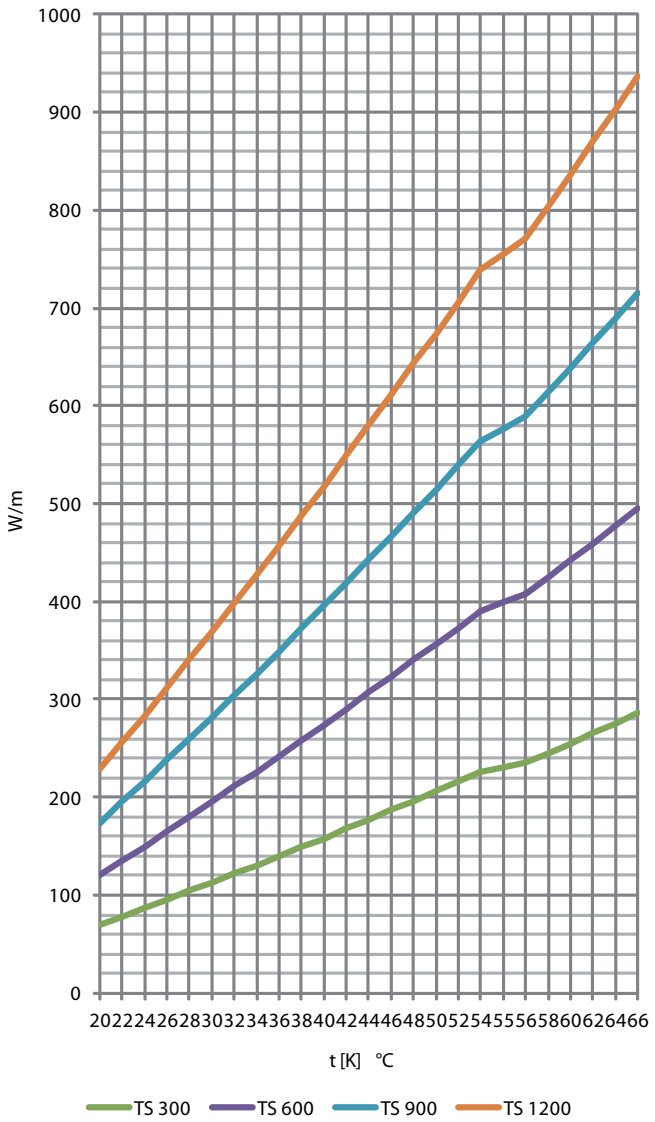
		A	B	C	D
TS 300	mm	320	110	250	80
TS 600	mm	620	110	400	80
TS 900	mm	920	110	700	80
TS 1200	mm	1220	110	1000	80

TS TECHNICAL FEATURES

Model		TS 300	TS 600	TS 900	TS 1200
Pipes number	n^{er}	3	6	9	12
Pipes diameter	pollici	3/4"	3/4"	3/4"	3/4"
Comprehensive width	mm	300	600	900	1200
Distance between pipes	mm	100	100	100	100
Empty weight					
Radiant panel	kg/m	8,33	14,50	21,00	28,60
Collector	kg	2,10	3,00	4,00	5,00
Weight with water					
Radiant panel	kg/m	8,33	14,50	21,00	28,60
Collector	kg	2,10	3,00	4,00	5,00
Water content	l/m	1,17	2,34	3,51	4,69
Joints and hoses weight	kg	0,54	1,08	1,62	2,16

TS THERMAL PERFORMANCE

On the graphic and on the table are indicated the values of the thermal emissions of TS radiant panels.



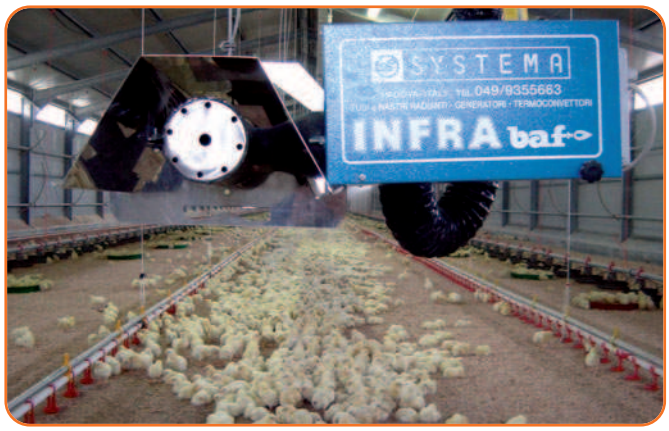
Δt [K] *	TS 300	TS 600	TS 900	TS 1200
°C	W/m	W/m	W/m	W/m
20	70	121	174	229
22	78	135	195	256
24	87	150	216	283
26	95	165	238	312
28	104	180	260	340
30	113	195	282	369
32	122	211	304	398
34	131	226	327	428
36	140	242	349	457
38	149	258	373	488
40	158	274	396	518
42	168	290	419	549
44	177	307	443	580
46	187	323	467	611
48	196	340	491	643
50	206	357	515	674
52	216	373	540	706
54	226	390	564	739
55	**231**	**399**	**577**	**755**
56	236	408	589	771
58	245	425	614	804
60	255	442	639	836
62	266	459	664	869
64	276	477	690	903
66	286	495	715	936

(*) = difference between the medium temperature of the fluid and the environment temperature

REFERENCES

HEATING FOR FARMING APPLICATIONS

INFRA MC: radiant heating for farming



"INFRA MC" radiant system has been designed and realized after a careful research and study of the animals, in order to heat specific areas through a direct radiant heating.

ADVANTAGES

- This system **heats directly only** the surface and **the animals** positioned below the radiant cone.
- **Infra MC does not heat the air directly.** Air will be heated by the latent heat of the animal bodies, which are heated directly by infra-red radiations.
- **Zone heating**, with remote control of the temperature.
- **A natural environment is created inside an artificial plant**, with excellent results and lower mortality among animals
- The equipments **can be combined with a lifting device**.

20-30% lower consumptions – 10-20% profit increase

INFRA MC models		18/2	18/2 S	27/3	27/3 S	36/4	36/4 S	45/5	45/5 S	24/2	24/2 S	36/3	36/3 S	48/4	48/4 S	36/2	54/3	72/4
Series		**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**B**	**B**	**B**	**B**	**B**	**B**	**C**	**C**	**C**
Lifting device		**NO**	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**	**NO**	**NO**
Length	m	21	21	30	30	39	39	48	48	27	27	39	39	51	51	39	57	75
N° of 28 kW burners	n°	2	2	3	3	4	4	5	5	2	2	3	3	4	4	2	3	4
Nominal power	kW	56	56	84	84	112	112	140	140	56	56	84	84	112	112	56	84	112
Efficiency	%	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90
Electrical power supply	V-Hz	400-50	400-50	400-50	400-50	400-50	400-50	400-50	400-50	400-50	400-50	400-50	400-50	400-50	400-50	400-50	400-50	400-50
Type of electrical power supply		3 phases +N	3 phases +N	3 phases +N	3 phases +N	3 phases +N	3 phases +N	3 phases +N	3 phases +N	3 phases +N	3 phases +N	3 phases +N	3 phases +N	3 phases +N	3 phases +N	3 phases +N	3 phases +N	3 phases +N
Electrical absorption	kW	0,75	0,75	0,75	0,75	1,1	1,1	1,5	1,5	0,75	0,75	0,75	0,75	1,1	1,1	0,75	1,1	1,5
Distance between the burners	m	9	9	9	9	9	9	9	9	12	12	12	12	12	12	18	18	18
Weight	kg	110	140	170	200	260	290	400	430	170	200	260	290	400	430	200	290	430

GEN80: Warm air generator for farming application

GEN80 is an innovative machine that can be suitable for more solutions.
In the last years farmers have increased the decisions of the poultry industry have focused on breeds which allow high meat production.
These breeds need great heat and many air changes not only during the weaning phase, but also after it. In winter, because of the adverse weather conditions (cold, humidity etc.) it is needed to heat the stall constantly, but in a diversified way, according to the age of the animals.
Studies and comparative analysis with other heating solutions have highlighted an energy saving of 23% with the use of GEN80, an increase in the performances and better qualitative results for the meat.

ADVANTAGES

- **Easy external installation**
- **Quick start up**
- **100% Efficiency (recycles the combustion products)**
- **Low installation costs**
- **Centralized control**
- **Can be combined with Infra MC radiant tubes**

TECHNICAL FEATURES GEN80

Nominal thermal capacity		kW	70
		kcal/h	60200
Inlet pressure	Natural Gas G20	mbar	20
	Butane G30	mbar	29
	Propane G31	mbar	37
Treated air capacity		m^3/h	1603
9-7 Marzorati motor		rpm	1400
Air pressure switch (SIT)		Pa	32
Gas valve			822 nova
Electronic board			Brahma DMN 31
Adjustable limit thermostat		°C	50/350
Gas Consumption	Natural Gas G20	m^3/h	7,41
	Butane G30	kg/h	5,52
	Propane G31	kg/h	5,44
Electrical power supply		V-Hz	230-50
Electrical power absorption		W	400
Weight		kg/h	70
Dimensions LxHxP		mm	460 x 1100 x 755

IMPIANTO INFRA MC AND GEN80 (radiant tube + warm air generator)

GEN80+INFRA MC = COMPLETE COMFORT FOR THE WHOLE LIFE OF THE ANIMAL AND HIGH ENERGY SAVINGS

GEN80 EXTERNAL VIEW

For further information please contact the export dept or the technical dept, which will be very glad to provide you with all the specific information of the product.

EOLO VIP: VERY IMPORTANT PERFORMANCE

The new modulating and condensing warm air generator

NEW!

TWO FUNCTIONING VERSIONS

VIP (AE - AC Models)

- Condensing warm air generator with high efficiency performances
- Modulation of the thermal capacity from 100% to 30%

VIP AUTOMATIC

(only AE models)

- Condensing warm air generator with high efficiency performances
- Automatic modulation of the thermal capacity from 100% to 30%
- **Automatic modulation of the air flow**

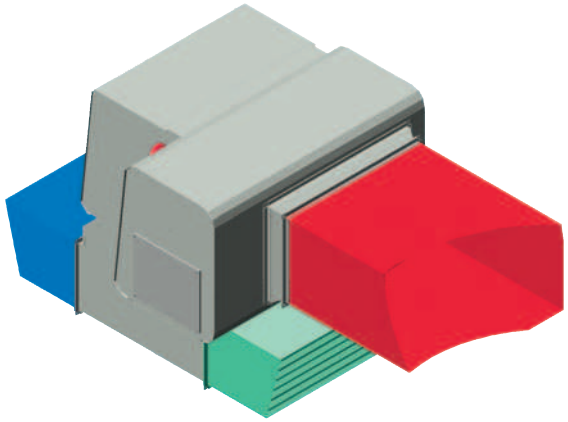
Power range: from 22 to 105 kW

CE 1450BU0015 Certification

TWO VENTILATION MODALITIES

AE With axial fans for the heating of all the environments

AC With centrifugal fans for the heating of the environments with canalization systems

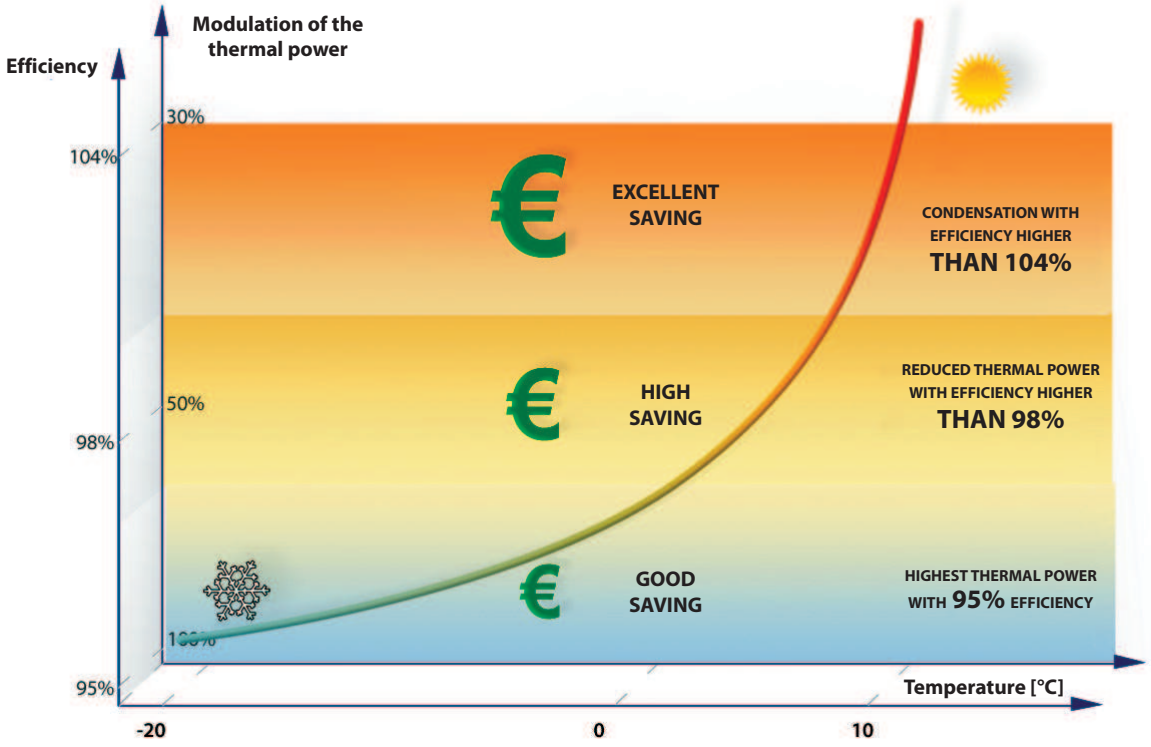


EOLO VIP: The new efficient and ecological warm air generator

Eolo VIP, flexible in its applications, is a product with an excellent quality/price ratio.

In order to obtain a better comfort and save the costs we suggest EOLO VIP, able to guarantee the highest temperature and consumption balance.

EOLO VIP AUTOMATIC is the top version among this new range of warm air generators. Thanks to its various control programs and its high performances, EOLO VIP AUTOMATIC assures an optimum comfort and relevant gas consumptions.



HIGH EFFICIENCY

The use of premix burners, expressly designed for this specific application, combined with the new exchangers allows these heaters to reach a relevant combustion efficiency.

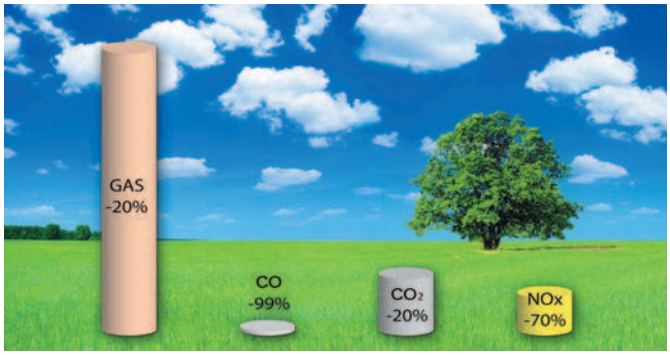
ENERGY SAVING

Thanks to the high efficiency of the system and the modulation of the burner thermal capacity, the thermal power is supplied according to the requested climatic conditions.

HIGH POLLUTING EMISSIONS WITH TRADITIONAL SYSTEMS

WITH EOLO VIP LOW POLLUTING EMISSIONS

NOx values are lower than 30 ppm and CO is quite absent. Thanks to the high efficiency, the gas consumptions are strongly reduced. As a consequence also the CO_2 emissions decrease.



EOLO VIP: Features

Functioning with high efficiency for all types of natural gas and liquid gas.

The premix burner and the electronic boards are positioned into two separated and sealed spaces, provided with IP45 protection, easy to be inspected.

The premix burner (designed and realized by Systema S.p.A.) has been positioned in the lower space and this allows easy and quick maintenance.

The new stainless steel combustion chamber is able to guarantee high efficiency and reduced load losses.

The exchanger has six smoke passes and it can be provided also with the condensing discharge.

The dimensions of the heater have been reduced and it does not take so much space.

Thanks to its new rounded line, this product can be installed anywhere.

EOLO VIP is CE certificated for installation of C type. It has been provided with seal connections for the air catch up and the combustion fume exhaust pipe.

The thermal power can be manually or automatically modulated and it changes from 30% to 100%.

In the VIP AUTOMATIC version the ventilation can be modulated too.

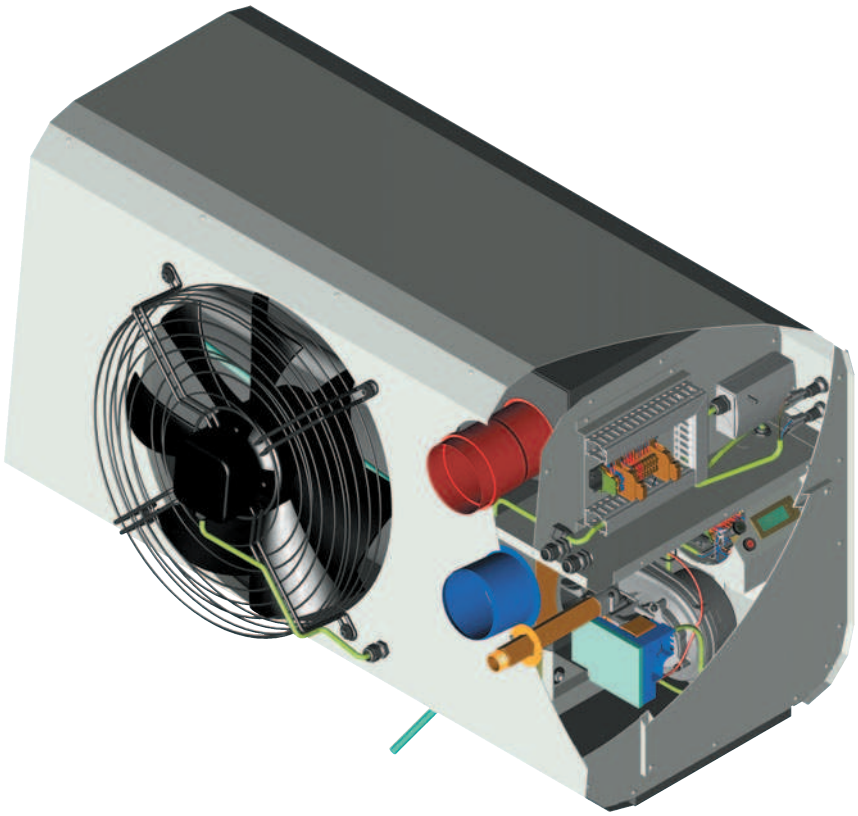
The burner has been insulated and cooled.

Easy maintenance of the burner.

Back-flame burner head.

The burner and the exchangers have been designed by Systema S.p.A. for the maximum efficiency.

Regulation of the gas capacity with a calibrated nozzle according to the type of gas used.

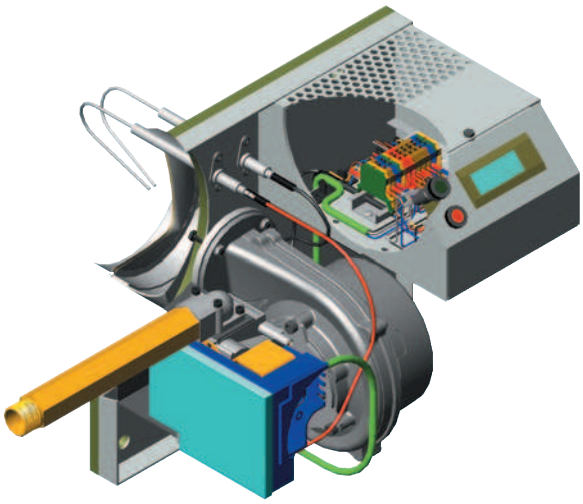


Quick regulation of the burner.

Device for the flame control combined with the gas valve (DBC) or installed inside the electrical components space.

Control of the fan speed (PWM).

Device with management SLAVE for all the models.



EOLO VIP: Configurations

Eolo VIP AE (HELICOIDAL)

This version is equipped with silent helicoidal fans with a high air capacity and an excellent launching in the environment.

The air flow with a temperature lower than 50°C allows an homogeneous heating of the buildings without significant heat stratifications near to the ceiling.

The air capacity is modulated in VIP AUTOMATIC model and fixed in VIP model.

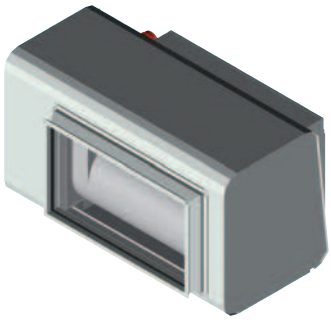
Eolo VIP AC (CENTRIFUGAL)

This version is equipped with centrifugal fans.

Thanks to the application of the 3 ways mixing air lock (optional) it would be possible to proportion the recirculated air mixture and the automatic recovered air.

In order to optimize the pressures and the air capacities, our heaters are provided with 0-10V outlet for the triac control or three-phases inverter.

Eolo VIP		25 AC	35 AC	45 AC		55 AC	65 AC	85 AC	100 AC
Max head	Pa	140							
Q.ty of fans	n°	1	1	2	1	2	2	2	2
Model		9/9	10/10	9/7	12/9	10/8	10/10	12/9	12/12
Air capacity Δ T 35°C	m^3/h	2000	3000	3900	4400	5000	6500	8200	9500
Optional Max head	Pa	300							

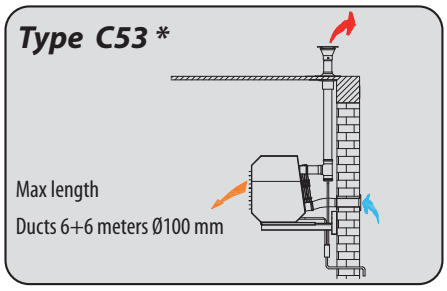


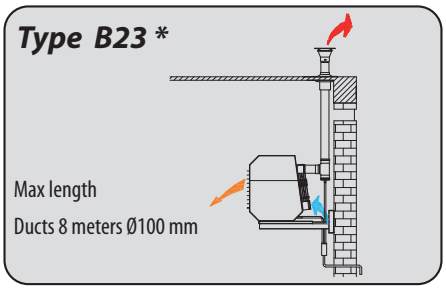
Eolo VIP S (WITHOUT FANS)

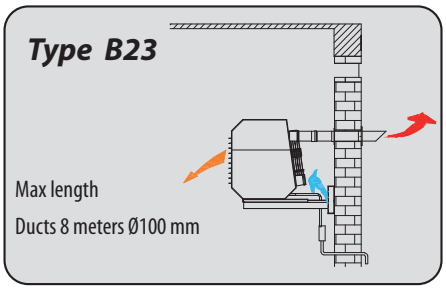
Warm air generator without fans, only when requested

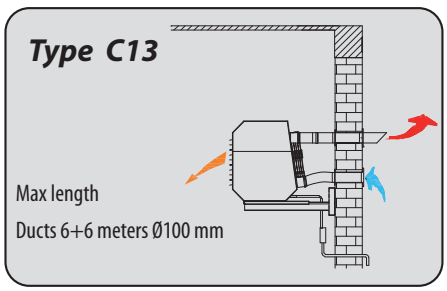
Eolo VIP S, supplied without fans, can be combined with ventilated canalization systems in case of civil and industrial heating.

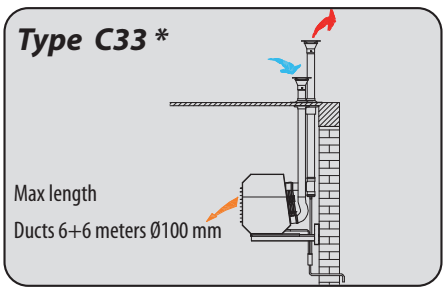
EOLO VIP: Installation types

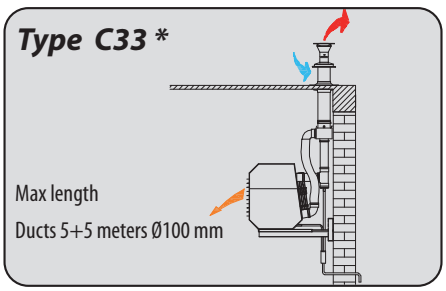












* Plan and adequate condensing discharge system (T element) to the base of the vertical exhaust pipe

EOLO VIP: Optional

Control panels

Standard control panel for the control of one zone (suggested up to 4 heaters, for more generators it is better to use the net control panel SCBUS I2NET CODE 04CEQU1210)

COD. 04CEQU1208 Features:

- three working programs:
  1) manual: the thermal power and the ventilation are set by the user
  2) two automatic programs: AUTO and PLUS for a modulating and gradual regulation of the heater
- Working thermostat on three temperature levels, which can be set according to the customer needs
- Weekly timer with "holiday" function
- Possibility to connect the external temperature probe
- Automatic reduction of the maximum thermal power according to the external temperature
- Automatic modulation of the minimum and maximum thermal power according to the internal detected temperature
- COOL function for ventilation in summer
- Automatic and proportional control device for the air suction lock in AC models
- Proportional control of the air capacity in AE models
- Possibility of management through a PC
- Flow temperature control probe

NET SCBUSI2NET for the control up to 32+32 generators

- CODE 04CEQU1210 to be installed inside the general control panels on the adequate DIN bar

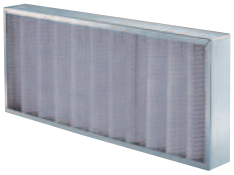
OTHER OPTIONAL

- **Fans with increased speed and head** (AC model)
- **Filters** (AC model)
- **Three-ways manual/motorized air suction duct**
- **Serial net and I2NET computerized management**
- **Splitting and coaxial fume and air pipes**
- **Vents and ducts**
- **Fire stop lock** (AC model)
- **External probe**
- **Rotating bracket**

Splitting pipes

Coaxial pipes

External probe



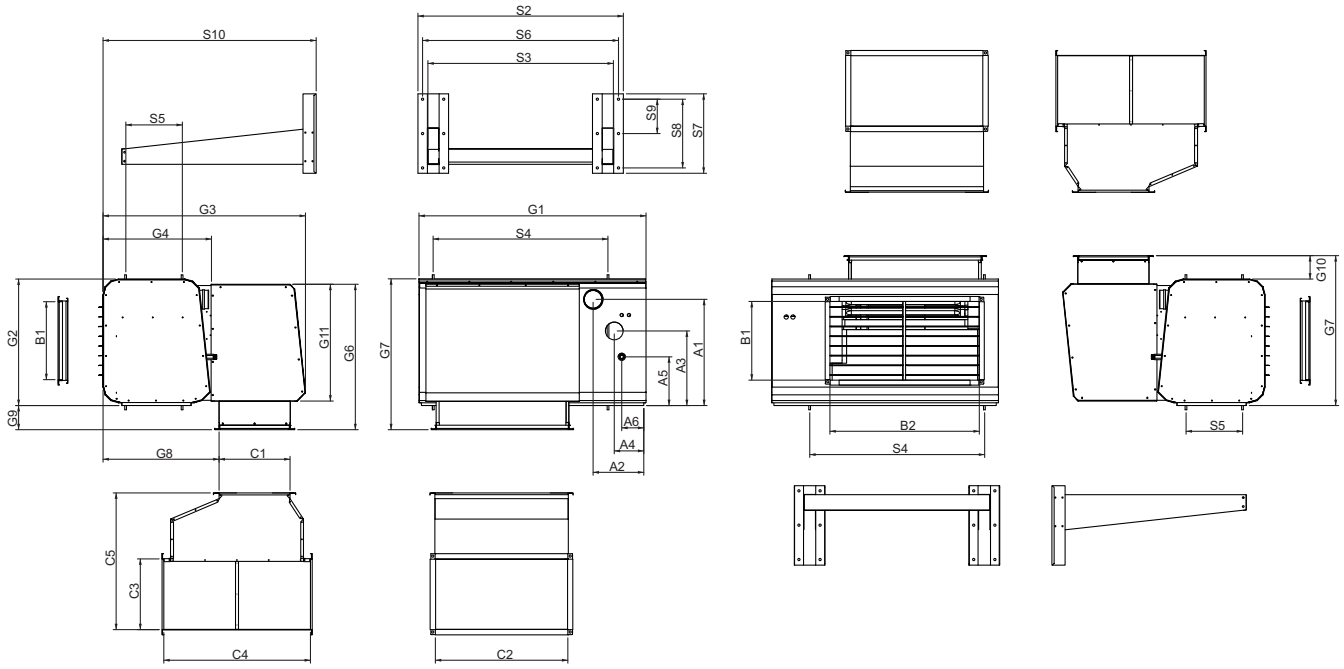
Filters (AC model)

Fire stop lock (AC model)

EOLO VIP: Technical features

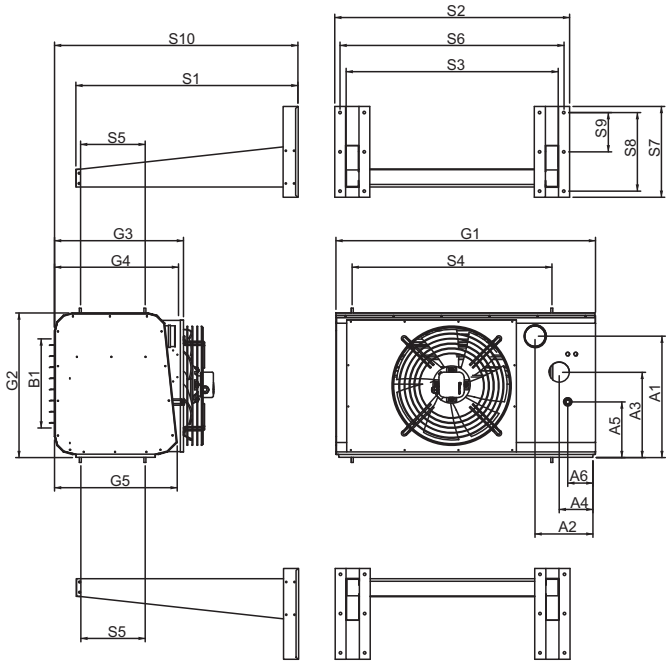
Model			VIP 25	VIP 35	VIP 45	VIP 55	VIP 65	VIP 85	VIP 100
Maximum thermal capacity	Nominal	kW (Hi)	22	32	43	52	63	86	105
	Efficiency	%	**>95%**						
	Yield	kW	20,9	30,4	40,9	49,4	59,9	81,7	99,8
Reduced thermal capacity	Nominal	kW (Hi)	12	17	22	28	32	42	52
	Efficiency	%	**>98%**						
	Yield	kW	11,8	16,7	21,6	27,4	31,4	41,2	51
Minimum condensation thermal capacity	Nominal	kW (Hi)	8	11	15	18	22	28	32
	Efficiency	%	**>104%**						
	Yield	kW	8,3	11,4	15,6	18,7	22,9	29,1	33,3
NOx EMISSIONS		PPM	**<30**						
Gas consumption									
TYPE OF GAS	FAMILY		**Maximum power gas consumption**						
NATURAL GAS	G20 (Natural gas) 20 mbar	m^3/h	2,33	3,39	4,55	5,29	6,35	9,10	10,58
LIQUID GAS	G30 (Butane) 29 mbar	kg/h	1,73	2,52	3,39	3,94	4,73	6,78	7,89
	G31 (Propane) 37 mbar	kg/h	1,71	2,49	3,34	3,88	4,66	6,68	7,77
TECHNICAL FEATURES									
AE Total absorbed electrical power		VA	260	340	570	530	690	805	1190
AC Total absorbed electrical power		VA	230	340	450	650	715	1105	1450
AE Treated air capacity		m^3/h	2900	3600	4500	5800	7000	9000	11000
AC Treated air capacity (140 PA)		m^3/h	2000	3000	3900	5000	6500	7600	9500
Q.ty of fans		pz	1	1	2	2	2	2	2
AE MIN/MAX Thermal head		°C	10/21	12/24	14/25	12/24	12/23	13/26	13/25
AC MIN/MAX Thermal head		°C	18/34						
Gas inlet diameter		Inc.	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"
Exhaust pipe diameter		mm	100	100	100	100	100	100	100
Suction pipe diameter		mm	100	100	100	100	100	100	100
Equipment type			B23 - C13 - C33 - C53						
Chimney pressure		PA	80	90	110	110	120	130	130
Working temperature	MIN / MAX	°C	-15 / + 40						
AE weight		kg	72	88	115	140	150	160	196
AC weight		kg	85	110	130	150	160	190	210
Certification categories	$II_{2ELwLs3PB/P}$ - $II_{2H3PB/P}$ - II_{2E+3+} - $II_{2HB/P}$ - $II_{2H3/P}$ - $II_{2ELL3PB/P}$ - II_{2E+P} - $II_{2L3P/B}$ - $I_{3P/B}$								

DIMENSIONS OF AC VERSION (Centrifugal fans)



EOLO VIP	A1	A2	A3	A4	A5	A6	B1	B2	C1	C2	C3	C4	C5	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
25 AC	475	240	150	120	255	133	350	450	350	400	350	800	630	854	600	1020	535	505	676	700	557	105	105	550	1000	822	714	648	232	768	500	390	195	1110
35 AC	475	240	150	120	255	133	350	700	350	650	350	800	630	1095	600	1020	535	505	676	700	557	105	105	550	1000	1061	953	887	232	1007	500	390	195	1110
45 AC	600	300	408	168	285	133	450	750	400	650	400	850	780	1145	715	1150	640	608	790	822	652	105	100	682	1100	1049	941	875	320	995	500	390	195	1207
55 AC	600	300	408	168	285	133	450	850	400	750	400	850	780	1285	715	1150	640	608	790	822	652	105	100	682	1100	1164	1056	990	320	1110	500	390	195	1207
65 AC	700	290	480	168	290	180	500	900	450	1050	450	885	655	1440	820	1285	720	690	790	820	730	-	-	750	1300	1338	1230	1164	332	1284	500	390	195	1405
85 AC	700	290	480	168	335	160	500	1000	450	1150	450	885	655	1600	820	1285	720	690	790	820	730	-	-	750	1300	1498	1390	1324	332	1444	500	390	195	1405
100 AC	700	290	480	168	335	160	500	1150	450	1250	450	885	655	1750	820	1285	720	690	790	820	730	-	-	750	1300	1663	1555	1489	332	1609	500	390	195	1405

DIMENSIONS OF AE VERSION (Helicoidal fans)



EOLO VIP	A1	A2	A3	A4	A5	A6	B1	B2	G1	G2	G3	G4	G5
25 AE	475	240	150	120	255	133	350	450	854	600	655	535	505
35 AE	475	240	150	120	255	133	350	700	1095	600	655	535	505
45 AE	600	300	408	168	285	133	450	750	1145	716	760	640	608
55 AE	600	300	408	168	285	133	450	850	1285	716	760	640	608
65 AE	700	290	480	168	290	180	500	900	1440	820	840	720	690
85 AE	700	290	480	168	335	160	500	1000	1600	820	840	720	690
100 AE	700	290	480	168	335	160	500	1150	1750	820	850	720	690

EOLO VIP	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
25 AE	1000	822	714	648	232	768	450	390	195	1110
35 AE	1000	1061	953	887	232	1007	450	390	195	1110
45 AE	1100	1049	941	875	320	995	450	390	195	1207
55 AE	1100	1164	1056	990	320	1110	450	390	195	1207
65 AE	1300	1338	1230	1164	332	1284	450	390	195	1405
85 AE	1300	1498	1390	1324	332	1444	450	390	195	1405
100 AE	1300	1663	1555	1489	332	1609	450	390	195	1405

REFERENCES AND APPLICATIONS OF EOLO VIP

STANDARD ENVIRONMENT RECIRCULATED AIR

EXTERNAL AIR INTAKE

INTAKE OF ONLY EXTERNAL AIR

INTERNAL-EXTERNAL RECIRCULATED AIR WITH AIRLOCK

INTERNAL-EXTERNAL RECIRCULATED AIR WITH AIRLOCK

INTERNAL-EXTERNAL RECIRCULATED AIR WITH AIRLOCK

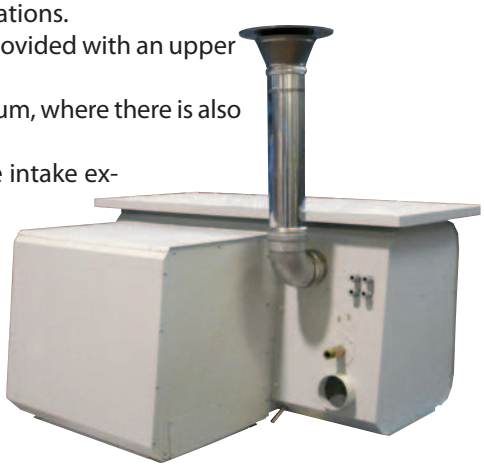
EOLO VIP MIX

The new modulating and condensing warm air generator for external applications

EOLO VIP MIX ADVANTAGES

- ☑ **10 YEARS GUARANTEE on the exchanger and the combustion chamber**
- ☑ **AUTONOMOUS IN ITS FUNCTIONING**
- ☑ **THERMAL POWER MODULATION FROM 100% TO 30%**
- ☑ **EASY TO BE INSTALLED**
- ☑ **SUITABLE FOR VARIOUS APPLICATIONS**
- ☑ **NOISELESS DURING ITS FUNCTIONING**
- ☑ **HIGH EFFICIENCY > 104%**
- ☑ **TYPE OF GAS: NATURAL GAS, LPG**

This range of direct exchange heaters has been designed for the external installations.
The painted steel skirt is characterized by a solid and self-supporting structure provided with an upper roof for a better protection of the machine from weather conditions.
This model is equipped with **centrifugal fans** positioned inside an air intake plenum, where there is also the possibility to install the filter.
The plenum is provided also with a flange for the connection to the duct of the intake external air and the recirculated air.
The air distribution duct is connected to the flange placed on the frontal part of the machine.
The fume exhaust pipe is a short stainless steel terminal positioned on the ceiling, whereas the comburent air intake is placed on the lower part of the machine.
The product can be combined and completed with several accessories (optional), such as filter, regulation airlock and firelock, support brackets, ducts and control panels able to satisfy every type of customer needs.



EOLO VIP MIX: Technical features

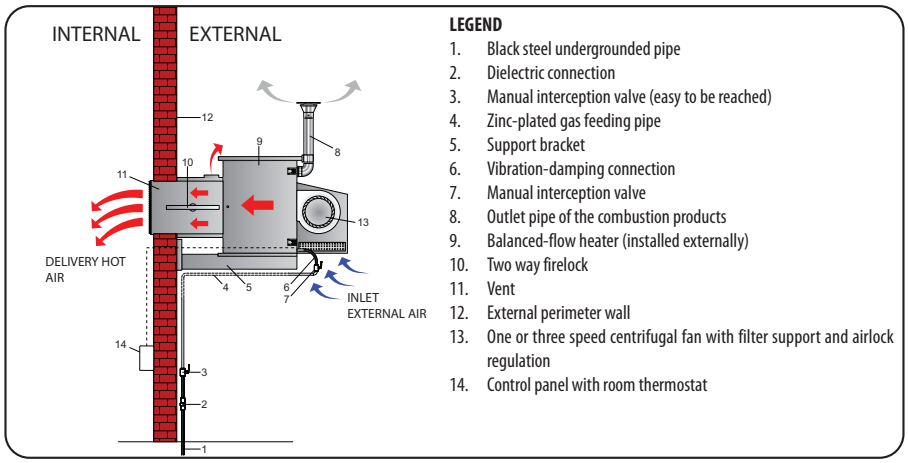
High efficiency with all the types of natural and liquid gasses. The premix burner and the electronic boards are positioned into two separated and sealed spaces, provided with IP45 protection, easy to be inspected. The premix burner (designed and realized by Systema S.p.A.) has been positioned in the lower space and this allows easy and quick maintenance.
The new stainless steel combustion chamber is able to guarantee high efficiency and reduced load losses.
The exchanger has six smoke passes and it can be provided also with the condensing discharge.
The thermal power can be manually or automatically modulated and it changes from 30% to 100%.
The burner and the exchangers have been designed by Systema S.p.A. for the maximum efficiency.
Regulation of the gas capacity with a calibrated nozzle according to the type of gas used.
Quick regulation of the burner.
Device for the flame control combined with the gas valve (DBC) or installed inside the electrical components space.
Control of the fan speed (PWM).
Device with management SLAVE for all the models.

Control panels, see page 34

OPTIONAL, as per EOLO VIP AC, see page 34

Modello			VIP MIX 25	VIP MIX 35	VIP MIX 45	VIP MIX 55	VIP MIX 65	VIP MIX 85	VIP MIX 100
Maximum thermal capacity	Nominal	kW (Hi)	22	32	43	52	63	86	105
	Efficiency	%	**>95%**						
	Yield	kW	20,9	30,4	40,9	49,4	59,9	81,7	99,8
Reduced thermal capacity	Nominal	kW (Hi)	12	17	22	28	32	42	52
	Efficiency	%	**>98%**						
	Yield	kW	11,8	16,7	21,6	27,4	31,4	41,2	51
Minimum condensation thermal capacity	Nominal	kW (Hi)	8	11	15	18	22	28	32
	Efficiency	%	**>104%**						
	Yield	kW	8,3	11,4	15,6	18,7	22,9	29,1	33,3
NOx EMISSIONS		PPM	**<30**						
Gas consumption									
TYPE OF GAS	FAMILY		**Maximum power gas consumption**						
NATURAL GAS	G20 (Natural gas) 20 mbar	m³/h	2,33	3,39	4,55	5,29	6,35	9,10	10,58
LIQUID GAS	G30 (Butane) 29 mbar	kg/h	1,73	2,52	3,39	3,94	4,73	6,78	7,89
	G31 (Propane) 37 mbar	kg/h	1,71	2,49	3,34	3,88	4,66	6,68	7,77
TECHNICAL FEATURES									
AC Total absorbed electrical power		VA	230	340	450	650	715	1105	1450
AC Treated air capacity (140 PA)		m³/h	2000	3000	3900	5000	6500	7600	9500
Q.ty of fans		pz	1	1	2	2	2	2	2
AC MIN/MAX Thermal head		°C	18/34						
Gas inlet diameter		Inc.	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"
Exhaust pipe diameter		mm	100	100	100	100	100	100	100
Suction pipe diameter		mm	100	100	100	100	100	100	100
Equipment type			B23 - C13 - C33 - C53						
Chimney pressure		PA	80	90	110	110	120	130	130
Working temperature	MIN / MAX	°C	-15 / + 40						
AC weight		kg	85	110	130	150	160	190	210
Certification categories			$II_{2ELwLs3PB/P}$ - $II_{2H3PB/P}$ - II_{2E+3+} - $II_{2HB/P}$ - $II_{2H3/P}$ - $II_{2ELL3PB/P}$ - II_{2E+P} - $II_{2L3P/B}$ - $I_{3P/B}$						

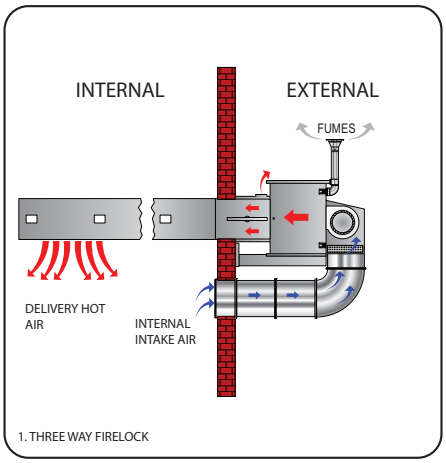
"EC" EOLO MIX TYPE



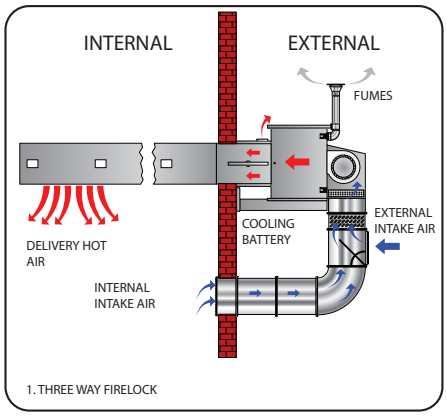
LEGEND

1. Black steel undergrounded pipe
2. Dielectric connection
3. Manual interception valve (easy to be reached)
4. Zinc-plated gas feeding pipe
5. Support bracket
6. Vibration-damping connection
7. Manual interception valve
8. Outlet pipe of the combustion products
9. Balanced-flow heater (installed externally)
10. Two way firelock
11. Vent
12. External perimeter wall
13. One or three speed centrifugal fan with filter support and airlock regulation
14. Control panel with room thermostat

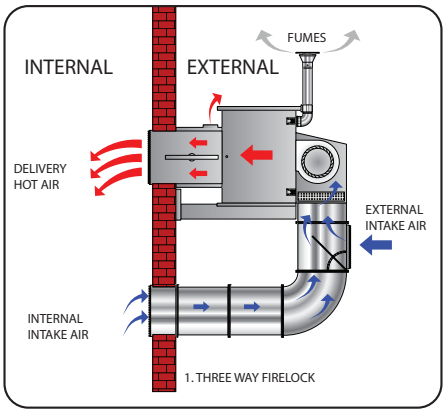
"ECR" EOLO MIX TYPE



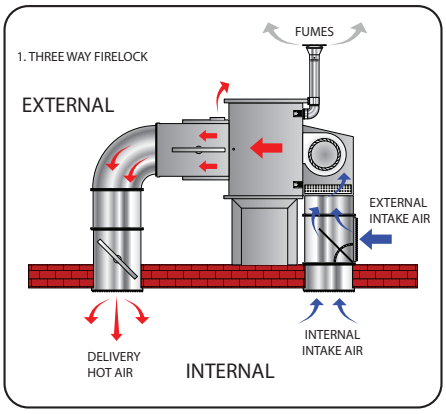
"ECRR" EOLO MIX TYPE



TIPO "ECRE" EOLO MIX



TIPO "ECRT" EOLO MIX (ROOF-TOP)



For all the types of applications here above described Systema S.p.A. supplies only the main components such as the warm air generator with its standard vents, firelocks, filters, support brackets, fume pipes.
All the other components for the complete realization of the project such as air ducts, regulation airlocks, cooling battery, etc have to be identified by the installer according to the specific project.

EOLO BLULINE

The new warm air generator

ADVANTAGES OF EOLO BLULINE

- ☑ **10 YEARS GUARANTEE on the exchanger and the combustion chamber**
- ☑ **AUTONOMOUS IN ITS FUNCTIONING**
- ☑ **EASY TO BE INSTALLED**
- ☑ **SUITABLE FOR VARIOUS APPLICATIONS**
- ☑ **NOISELESS DURING ITS FUNCTIONING**
- ☑ **HIGH EFFICIENCY > 93%**
- ☑ **TYPE OF GAS: NATURAL GAS, LPG, DIESEL**

EOLO BLULINE: Technical features

Functioning with high efficiency for all the types of natural gas and liquid gas.

The new stainless steel combustion chamber is able to guarantee high efficiency and reduced load losses.

The dimensions of the heater have been reduced and it does not take so much space.

EOLO BLULINE is CE certificated for installation of C type. It has been provided with seal connections for the air catch up and the combustion fume exhaust pipe.

Thanks to its new rounded line, this product can be installed anywhere.

The premix burner and the electronic boards are positioned into two separated and sealed spaces, provided with IP45 protection, easy to be inspected.

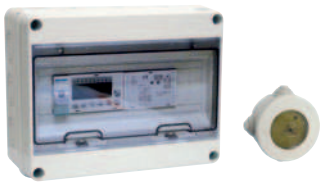
The burner has been insulated and cooled.

The burner and the exchangers have been designed by Systema S.p.A. for the maximum efficiency.

EOLO BLULINE: Control panel

There is the possibility to use each type of thermostat and/or chrono-thermostat, to complete the installation with our products:

Reset room thermostat
Switch ON/OFF
CODE 04CEQU1204



Digital chrono-thermostat
CODE 04CEQU1203

Inet control panel with one thermal zone and control up to 16 heaters
CODE 00CECR2678

Model			BL 25	BL 35	BL 45	BL 55	BL 65	BL 85	BL 100
Maximum thermal capacity	Nominal	kW (Hi)	22	32	43	52	63	86	105
	Efficiency	%	**>93%**						
	Yield	kW	20,9	30,4	40,9	49,4	59,9	81,7	99,8
NOx EMISSIONS		PPM	**<30**						
Gas consumption									
TYPE OF GAS	FAMILY		**Maximum power gas consumption**						
NATURAL GAS	G20 (Natural gas) 20 mbar	m^3/h	2,33	3,39	4,55	5,29	6,35	9,10	10,58
LIQUID GAS	G30 (Butane) 29 mbar	kg/h	1,73	2,52	3,39	3,94	4,73	6,78	7,89
	G31 (Propane) 37 mbar	kg/h	1,71	2,49	3,34	3,88	4,66	6,68	7,77
TECHNICAL FEATURES									
AE Total absorbed electrical power		VA	260	340	570	530	690	805	1190
AC Total absorbed electrical power		VA	230	340	450	650	715	1105	1450
AE Treated air capacity		m^3/h	2900	3600	4500	5800	7000	9000	11000
AC Treated air capacity (140 PA)		m^3/h	2000	3000	3900	5000	6500	7600	9500
Q.ty of fans		pz	1	1	2	2	2	2	2
AE MIN/MAX Thermal head		°C	10/21	12/24	14/25	12/24	12/23	13/26	13/25
AC MIN/MAX Thermal head		°C	18/34						
Gas inlet diameter		Inc.	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"
Exhaust pipe diameter		mm	100	100	100	100	100	100	100
Suction pipe diameter		mm	100	100	100	100	100	100	100
Equipment type			B23 - C13 - C33 - C53						
Chimney pressure		PA	80	90	110	110	120	130	130
Working temperature	MIN / MAX	°C	-15 / + 40						
AE weight		kg	72	88	115	140	150	160	196
AC weight		kg	85	110	130	150	160	190	210
Certification categories	$II_{2ELwLs3PB/P}$ - $II_{2H3PB/P}$ - II_{2E+3+} - $II_{2HB/P}$ - $II_{2H3/P}$ - $II_{2ELL3PB/P}$ - II_{2E+P} - $II_{2L3P/B}$ - $I_{3P/B}$								

EXAMPLES OF APPLICATIONS, AS PER PAGE 33

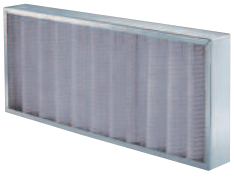
Optional

- **Fans with increased speed and head** (AC model)
- **Filters** (AC model)
- **Three-ways manual/motorized air suction duct**
- **Serial net and I2NET computerized management**
- **Splitting and coaxial fume and air pipes**
- **Vents and ducts**
- **Fire stop lock** (AC model)
- **External probe (to be combined with INET control panel)**
- **Rotating bracket**

Coaxial pipes

Splitting pipes

External probe



Filters (AC model)

Fire stop lock (AC model)

EOLO MIX BLULINE

The new warm air generator for external application

ADVANTAGES OF EOLO BLULINE

- ☑ **10 YEARS GUARANTEE on the exchanger and the combustion chamber**
- ☑ **AUTONOMOUS IN ITS FUNCTIONING**
- ☑ **EASY TO BE INSTALLED**
- ☑ **SUITABLE FOR VARIOUS APPLICATIONS**
- ☑ **NOISELESS DURING ITS FUNCTIONING**
- ☑ **HIGH EFFICIENCY > 93%**
- ☑ **TYPE OF GAS: NATURAL GAS, LPG, DIESEL**

EOLO MIX BLULINE:

Technical features

This range of direct exchange heaters has been designed for the external installations.

The painted steel skirt is characterized by a solid and self-supporting structure provided with an upper roof for a better protection of the machine from weather conditions.

This model is equipped with **centrifugal fans** positioned inside an air intake plenum, where there is also the possibility to install the filter.

The plenum is provided also with a flange for the connection to the duct of the intake external air and the recirculated air.

The air distribution duct is connected to the flange placed on the frontal part of the machine.

The fume exhaust pipe is a short stainless steel terminal positioned on the ceiling, whereas the comburent air intake is placed on the lower part of the machine.

The product can be combined and completed with several accessories (optional), such as filter, regulation airlock and firelock, support brackets, ducts and control panels able to satisfy every type of customer needs.

Functioning with high efficiency for all the types of natural gas and liquid gas.

The new stainless steel combustion chamber is able to guarantee high efficiency and reduced load losses.

The dimensions of the heater have been reduced and it does not take so much space.

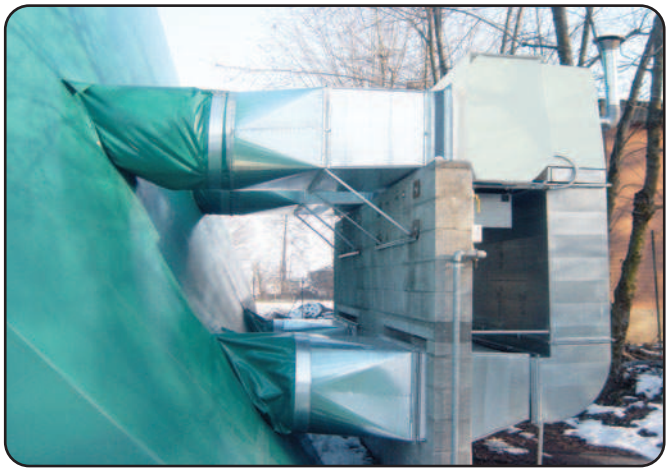
EOLO BLULINE is CE certificated for installation of C type. It has been provided with seal connections for the air catch up and the combustion fume exhaust pipe.

Thanks to its new rounded line, this product can be installed anywhere.

The premix burner and the electronic boards are positioned into two separated and sealed spaces, provided with IP45 protection, easy to be inspected.

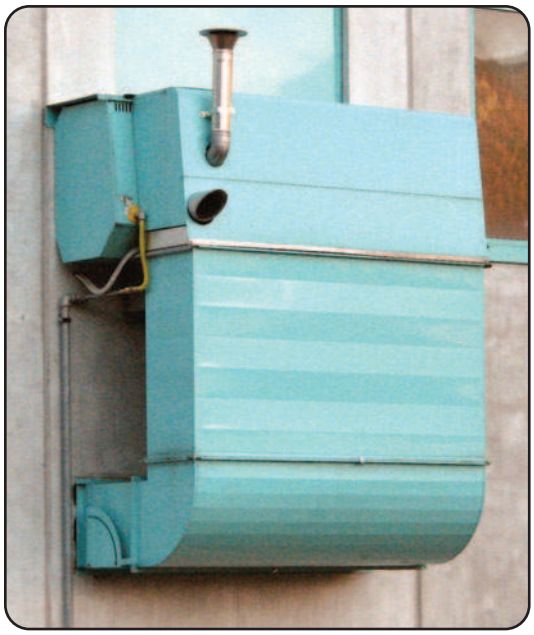
The burner has been insulated and cooled.

The burner and the exchangers have been designed by Systema S.p.A. for the maximum efficiency.



Mix Model			BL 25	BL 35	BL 45	BL 55	BL 65	BL 85	BL 100
Maximum thermal capacity	Nominal	kW (Hi)	22	32	43	52	63	86	105
	Efficiency	%	**>93%**						
	Yield	kW	20,9	30,4	40,9	49,4	59,9	81,7	99,8
NOx EMISSIONS		PPM	**<30**						
Gas consumption									
TYPE OF GAS	FAMILY		**Maximum power gas consumption**						
NATURAL GAS	G20 (Natural gas) 20 mbar	m^3/h	2,33	3,39	4,55	5,29	6,35	9,10	10,58
LIQUID GAS	G30 (Butane) 29 mbar	kg/h	1,73	2,52	3,39	3,94	4,73	6,78	7,89
	G31 (Propane) 37 mbar	kg/h	1,71	2,49	3,34	3,88	4,66	6,68	7,77
TECHNICAL FEATURES									
AC Total absorbed electrical power		VA	230	340	450	650	715	1105	1450
AC Treated air capacity (140 PA)		m^3/h	2000	3000	3900	5000	6500	7600	9500
Q.ty of fans		pz	1	1	2	2	2	2	2
AC MIN/MAX Thermal head		°C	18/34						
Gas inlet diameter		Inc.	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"
Exhaust pipe diameter		mm	100	100	100	100	100	100	100
Suction pipe diameter		mm	100	100	100	100	100	100	100
Equipment type			B23 - C13 - C33 - C53						
Chimney pressure		PA	80	90	110	110	120	130	130
Working temperature	MIN / MAX	°C	-15 / + 40						
AC weight		kg	85	110	130	150	160	190	210
Certification categories	$II_{2ELwLs3PB/P}$ - $II_{2H3PB/P}$ - II_{2E+3+} - $II_{2HB/P}$ - $II_{2H3/P}$ - $II_{2ELL3PB/P}$ - II_{2E+P} - $II_{2L3P/B}$ - $I_{3P/B}$								

EXAMPLES OF APPLICATIONS AS PER PAGE 37
CONTROL PANELS AND OPTIONAL AS PER PAGE 40-41



EOLO VIP B and EOLO B BLULINE

The new condensing and modulating floor standing heater with sliding temperature

NEW!

ADVANTAGES

- ☑ HIGH EFFICIENCY UP TO 108%
- ☑ NOISELESS
- ☑ 10 YEAR GUARANTEE
- ☑ INNOVATIVE DESIGN, THE BURNER IS POSITIONED INSIDE THE UNIT
- ☑ INTERNAL OR EXTERNAL VERSION
- ☑ EASY TO BE INSTALLED

The new condensing and modultating floor standing heater, includes 2 versions: **Eolo VIP B**, which is the modulating and condensing version and **Eolo B Bluline**, which is the base version.

The main features are as follows: efficiency, constructive quality, refined design, long-life.

There is a vast range of models and sizes: thermal power from 100 to 400 kW

EOLO VIP BC: modulating and condensing warm air generator with stainless steel exchanger. It is equipped with the premix burner, designed and realized by Systema S.p.A.

EOLO VIP BSC: condensing warm air generator with stainless steel exchanger. It does not include the burner and can be combined with all kind of gas burner.

EOLO B BLULINE is the high efficiency base version with premix burner, designed and realized by Systema S.p.A.

EOLO B BLULINE S is the high efficiency base version, it does not include the burner and can be combined with all kind of gas burner.

Technical features

The standing floor warm air generators "**B**" have been designed for both internal and external applications. They have been equipped with centrifugal fans and the air intake casing has been realized in order to give the possibility to install a filter and to connect the flange to the air intake duct.

The thermo-insulated skirt made of epoxy painted zinc-plated reflecting steel has a self-supporting structure.

It has been designed with the apposite space for the burner and the rollaway electrical cabling.

The machine is equipped with high efficiency heat exchangers.

There is the possibility to install the equipment outside with a temperature up to -40°C using the apposite kit (optional).

Easy maintenance to the electrical panels and the other components.

EXTERNAL VERSION

INTERNAL VERSION

Technical features

Model			EOLO B BLULINE 150	EOLO VIP BSC 150	EOLO VIP BC 150	EOLO B BLULINE 200	EOLO VIP BSC 200	EOLO VIP BC 200	EOLO B BLULINE 300	EOLO VIP BSC 300	EOLO VIP BC 300	EOLO B BLULINE 350	EOLO VIP BSC 350	EOLO VIP BC 350	EOLO B BLULINE 400	EOLO VIP BSC 400	EOLO VIP BC 400
Nominal thermal power	Min	kW	100	70	70	150	70	70	200	90	90	250	120	120	350	140	140
	Max	kW	150	150	150	220	220	220	290	290	290	360	360	360	420	420	420
Thermal efficency	Min	%	90	92	98	90	92	98	90	92	98	90	92	98	90	92	98
	Max	%	92	98	108	92	92	108	92	98	108	92	98	108	92	98	108
Type of fuel			G20 - G30 - G31 - Gasolio	G20 - G30 - G31	G20 - G30 - G31	G20 - G30 - G31 - Gasolio	G20 - G30 - G31	G20 - G30 - G31	G20 - G30 - G31 - Gasolio	G20 - G30 - G31	G20 - G30 - G31	G20 - G30 - G31 - Gasolio	G20 - G30 - G31	G20 - G30 - G31	G20 - G30 - G31 - Gasolio	G20 - G30 - G31	G20 - G30 - G31
Burners	ON/OFF Gas Pre mix Systema		SI	NO	NO	SI	NO	NO	SI	NO	NO	SI	NO	NO	SI	NO	NO
	Gas MODULATING premix Systema		NO	SI	SI	NO	SI	SI	NO	SI	SI	NO	SI	SI	NO	SI	SI
	Other gas burners		1 or 2 stage blowed burner	1 or 2 stage blowed burner	1 or 2 stage blowed burner	1 or 2 stage blowed burner	1 or 2 stage blowed burner	1 or 2 stage blowed burner	1 or 2 stage blowed burner	1 or 2 stage blowed burner	1 or 2 stage blowed burner	1 or 2 stage blowed burner	1 or 2 stage blowed burner	1 or 2 stage blowed burner	1 or 2 stage blowed burner	1 or 2 stage blowed burner	1 or 2 stage blowed burner
	Diesel			--			--			--			--			--	
Electrical power supply			400V ~ 50Hz 3 phase + N + PE			400V ~ 50Hz 3 phase + N + PE			400V ~ 50Hz 3 phase + N + PE			400V ~ 50Hz 3 phase + N + PE			400V ~ 50Hz 3 phase + N + PE		
Fan		Q.ty	1	2	2	1	2	2	2	2	2	2	2	2	2	2	2
Air capacity	ΔT 40 °C	m^3/h	11000	11000	11000	15000	15000	15000	21000	21000	21000	26000	26000	26000	30000	30000	30000
	ΔT 30 °C	m^3/h	14000	14000	14000	19000	19000	19000	28000	28000	28000	35000	35000	35000	40000	40000	40000
Available pressure	Min	Pa	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
	Max	Pa	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600
Working temperature	Standard	°C	0 - 60	0 - 60	0 - 60	0 - 60	0 - 60	0 - 60	0 - 60	0 - 60	0 - 60	0 - 60	0 - 60	0 - 60	0 - 60	0 - 60	0 - 60
	(Optional)	°C	(-20) - 60	(-20) - 60	(-20) - 60	(-20) - 60	(-20) - 60	(-20) - 60	(-20) - 60	(-20) - 60	(-20) - 60	(-20) - 60	(-20) - 60	(-20) - 60	(-20) - 60	(-20) - 60	(-20) - 60
Electrical motor power	Min > 250 Pa	kW	3	3	3	4	4	4	7,5	7,5	7,5	2 x 4	2 x 4	2 x 4	2 x 5,5	2 x 5,5	2 x 5,5
	Max > 600 Pa	kW	5,5	5,5	5,5	7,5	7,5	7,5	11	11	11	2 x 7,5	2 x 7,5	2 x 7,5	2 x 11	2 x 11	2 x 11
Electrical protection ratio		IP	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44
Comburent air intake		Ø mm	150 (Optional)	150 (Optional)	150	150 (Optional)	150 (Optional)	150	170 (Optional)	170 (Optional)	170	200 (Optional)	200 (Optional)	200	200 (Optional)	200 (Optional)	200

Model EOLO B BLULINE EOLO VIP BSC EOLO VIP BC	Dimensions of the internal model	Dimensions of the external model
	L x H x P	L x H x P
	mm	mm
150	1500 x 2200 x 1900	1500 x 3400 x 1900
200	1500 x 2200 x 2200	1500 x 3400 x 2200
300	2000 x 2400 x 2200	2000 x 4000 x 2200
350	2000 x 2500 x 2500	2000 x 4000 x 2500
400	2000 x 2500 x 2800	2000 x 4000 x 2800

CONTROL PANELS:

EOLO B BLULINE, as EOLO BLULINE, see page 40
EOLO VIP BSC and EOLO VIP BC, as EOLO VIP, see page 34

ACCESSORIES:

See Systema S.p.A. price list.

Do not hesitate to contact our technical dept in order to get more information about our products.

EOLO VIP RT:

The new modulating and condensing warm air generator for ROOF TOP application

ADVANTAGES OF EOLO VIP RT

- ☑ **FOUR FUNCTIONING CONFIGURATIONS**
- ☑ **10 YEARS GUARANTEE on the exchanger and the combustion chamber**
- ☑ **AUTONOMOUS IN ITS FUNCTIONING**
- ☑ **THERMAL POWER MODULATION FROM 100% TO 30%**
- ☑ **EASY TO BE INSTALLED**
- ☑ **SUITABLE FOR VARIOUS APPLICATIONS**
- ☑ **NOISELESS DURING ITS FUNCTIONING**
- ☑ **HIGH EFFICIENCY > 104%**
- ☑ **TYPE OF GAS: NATURAL GAS, LPG**

EOLO VIP RT: Technical features

This range of "ROOF-TOP" **condensing** and direct exchange hot air generator have been designed for external installations on the roof.
The painted steel skirt is characterized by a solid and self-supporting structure provided with an upper roof for a better protection of the machine from weather conditions.
This model is equipped with centrifugal fans positioned inside an air intake plenum, where there is also the possibility to install the filter.
The plenum is provided also with a flange for the connection to the duct of the intake external air and the recirculated air.
The air distribution duct is connected to the flange placed on the frontal part of the machine.
The product can be combined and completed with several accessories (optional) and control panels able to satisfy every type of customer needs.
High efficiency with any type of liquid or natural gas.
The new stainless steel combustion chamber is able to guarantee high efficiency and reduced load losses.
EOLO VIP RT is CE certificated for C type installations. It has been provided with seal connections for the air intake and the combustion fume exhaust pipe.
The premix burner and the electronic boards are positioned into two separated and sealed spaces, provided with IP45 protection, easy to be inspected.
Back-flame burner head, insulated and cooled.
The burner and the exchangers have been designed by Systema S.p.A. for the maximum efficiency.
Regulation of the gas capacity with a calibrated nozzle according to the type of gas used.
Quick regulation of the burner.
Device for the flame control combined with the gas valve (DBC) or installed inside the electrical components space.
Control of the fan speed (PWM).
Device with management SLAVE for all the models.

Control panels EOLO VIP RT see pag. 34

EOLO BLULINE RT: Technical features

High efficiency with any type of liquid or natural gas.

The new stainless steel combustion chamber is able to guarantee high efficiency and reduced load losses.

The generator is CE certificated for C type installations.

It has been provided with seal connections for the air intake and the combustion fume exhaust pipe.

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Back-flame burner head, insulated and cooled.

The burner and the exchangers have been designed by Systema S.p.A. for the maximum efficiency

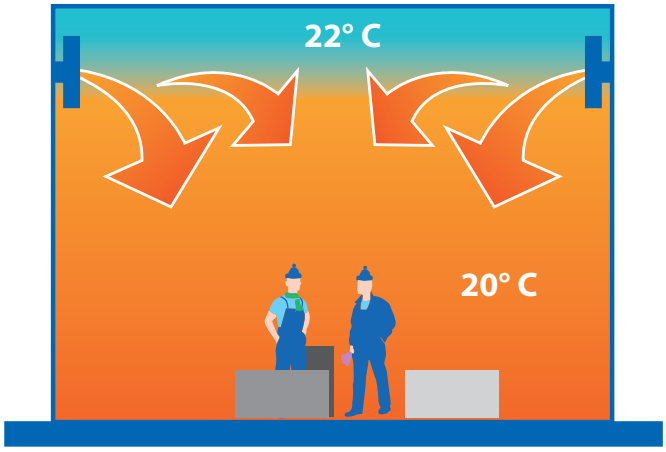
Control panels EOLO BLULINE RT see pag. 40

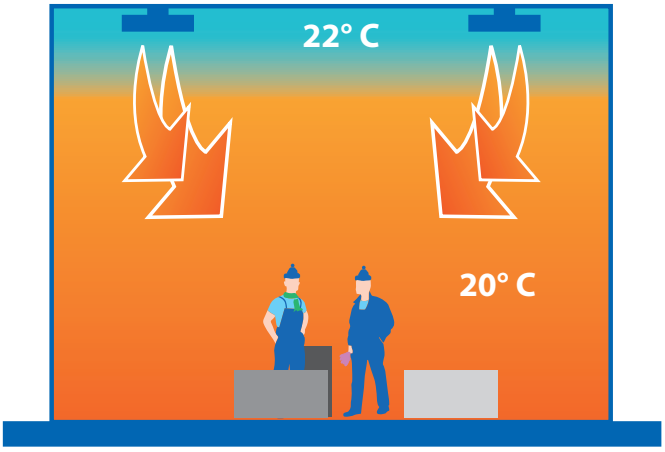
Application

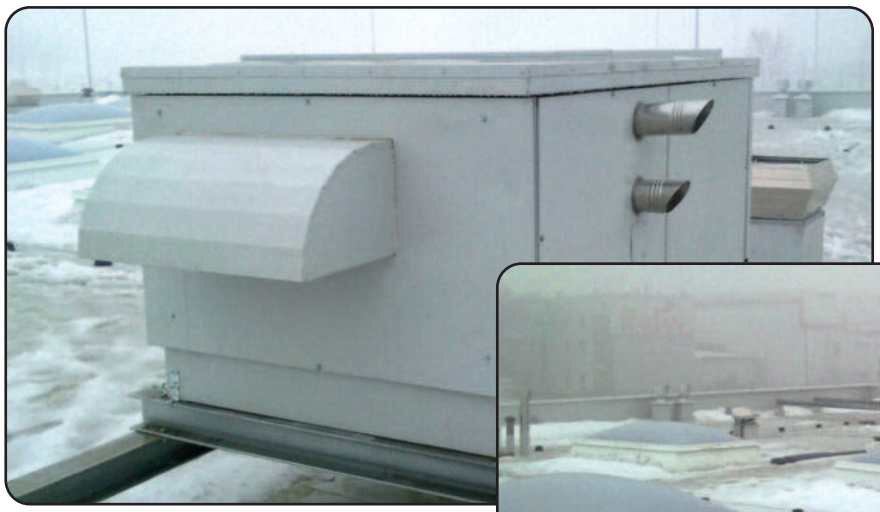
More the air is warm more it is slight so it usually rises to the upper sides of environments, where it is useless.

In this way there is the stratification of the air, which increases with the increase of the dimensions of the environment.

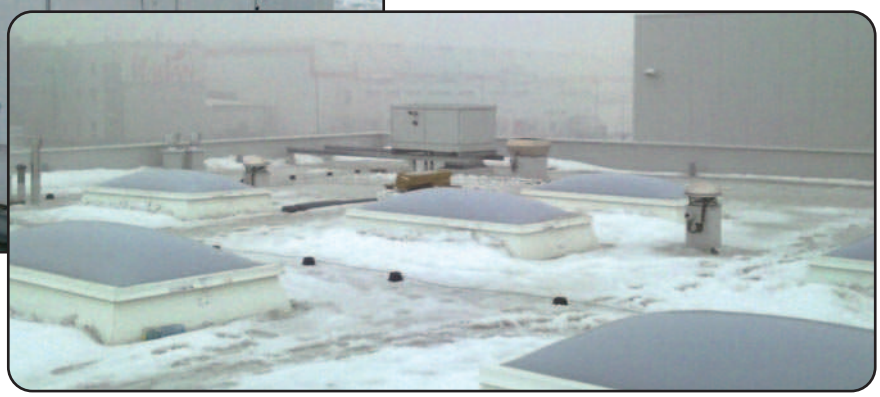
The hanging generators "EOLO VIP RT and EOLO BLULINE RT" have been designed and realized in order to avoid the stratification of the air. This is due to the fact that they blow the air from the top to the bottom, differently from the common air generators.







For any kind of request we kindly ask you to contact the Systema S.p.A. technical Dept. which will provide you all the information needed.



Description		EOLO RT 45	EOLO RT 55	EOLO RT 65	EOLO RT 85	EOLO RT 100
Maximum thermal power (all the models)	kW	43	52	63	86	105
Minimal thermal power for EOLO VIP RT	kW	15	18	22	28	32
Minimal thermal power for EOLO BLULINE RT	kW	43	52	63	86	105
Combustion efficiency EOLO BLULINE RT min/max	%	89/90				
Combustion efficiency EOLO VIP RT min/max	%	95/104				
Standard fans: with coupled motor		9/7	10/8	10/10	9/12	12/12
Standard water flow	m^3/h	4 000	5000	6500	7600	9500
ΔT: 35/38	°C	35/38				
Standard available pressure	Pa	160				
Exchange air flow min/max (on demand)	m^3/h	2000/4000	5000	6500	7600	9500
Ventilation air recovery efficiency	%	45 / 65				
Cooling/heating exchanger power	kW	25	25	35	40	50

KING: CAST IRON GAS FIRED RADIATORS FROM 2 TO 5.3 KW

Systema S.p.A presents its range of KING gas fired radiators, with forced and balanced flow, which represents an affordable alternative to conventional heating in use until now.

10 YEARS GUARANTEE
on combustion chamber and burner

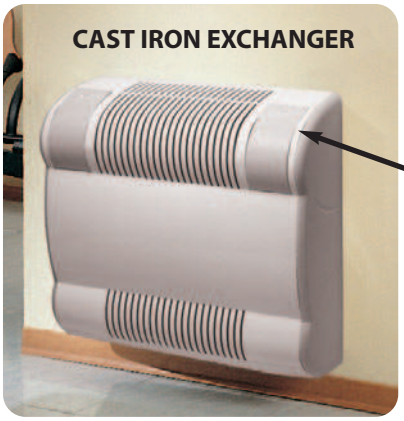
The combustion takes place in a airtight heat exchanger; the air needed for the combustion isn't taken from the room to be heated but it is taken from outside, by a specific pipe, and products of combustion are evacuated through a coaxial pipe.

It is realized in 34 versions, satisfying all potency, installation and dimensioning requests. On the forced models the pipes can be up to 5 m long, with coaxial exhaust and with right or left lateral exhaust. On the vented models you can choose between 2 speeds or switched off with convective exchange. The forced models are complete with the humidifying tank.

The King from 2 kW to 5.3 kW are made of cast iron, the most suitable, valuable and reliable material for the realization of the exchanger of these thermo-convectors as it is noiseless and gives a guarantee of duration (more then 10 years) and a high combustion efficiency.

It is stylish, refined and distinguishable thanks to its pleasant and functional rounded esthetic line, suitable for any type of environment, from modern to rustic. Thanks to its particular and unique upper front slots it guarantees a great comfort in a short time, a better thermal efficiency with heating by convection and radiation, ensuring effective heat distribution without causing the air stratification.

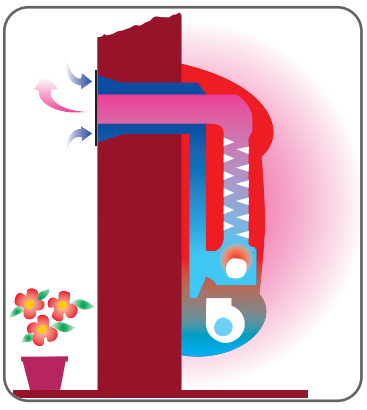
In compliance with UNI-CIG 7129 law devices of type C and B.

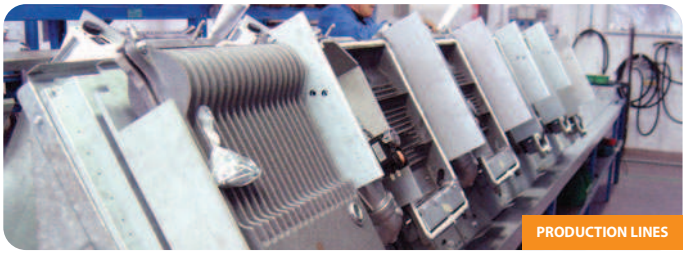


CONTROL PANEL

It is safe because the combustion cycle is completely sealed with respect to the environment to heat and the flame is controlled by a thermocouple or an electronic panel, according to the model, which stops the gas flow in case of flame switching off.
It allows greater energy saving in comparison with traditional systems (more or less 30/40%) as the set temperature is reached in a very short time.
As it is an autonomous gas radiator, it is easy and quick to be installed in different places.

COMBUSTION CYCLE





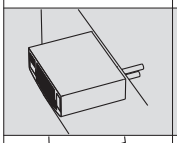
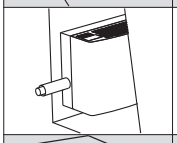
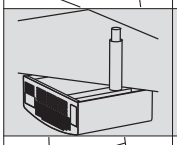
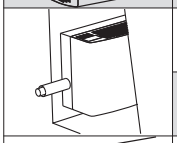
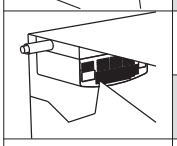
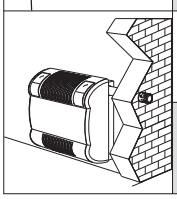
KING: STAINLESS STEEL GAS RADIATORS FROM 7 TO 13,3 KW

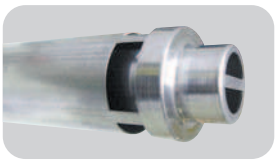
The stainless steel King is realized in 4 models from 7,2 kW to 13,3 kW. It is flexible in its applications (wall or ceiling) and the weight is low.
With king radiator you can choose to heat every single environment, programming the hourly and daily temperatures.
The controls are simple and grouped into a single easy to access panel located in a hidden compartment.
The centrifugal fan has 2 speeds.
The king radiator is supplied with exhaust and air intake tubes kit, fixing screws, kit of nozzles for gas change, assembly template, instruction manual and guarantee certificate.
In compliance with UNI-CIG 7129 laws devices of type C.

10 YEARS GUARANTEE
on combustion chamber and burner

CONTROL PANEL

STAINLESS STEEL EXCHANGER

OTHER APPLICATIONS KIT (OPTIONAL)					
Installation	**Code**	**Models**	**Description**		
	**02ACKT0001**	**K70FE K90FE K110FE K130FE**	**Kit, "S.S.O."** stainless steel king for ceiling installation with horizontal splitter exhaust pipe complete and two pipes Ø 60 length 1 m fit for air duct installation	**STEEL VERSION**	
	**02ACKT0002**	**K70FE K90FE K110FE K130FE**	**Kit "P.S.V."** stainless steel king kit for wall installation with vertical lower splitter exhaust pipe complete with two bends Ø 60 and 90 and two pipes Ø 60 length 1 m fit for air duct installation		
	**02ACKT0003**	**K70FE K90FE K110FE K130FE**	**Kit "S.C.V."** stainless steel king for ceiling installation with vertical lower splitter exhaust pipe with a remote control and roof tile kit 1m.		
	**02ACKT0004**	**K70FE K90FE**	**Kit "P.C.L."** stainless steel king kit for wall installation with lateral coaxial exhaust pipe complete with rear connection, lateral exhaust pipe, coaxial bend and coaxial terminal length 1 m		
	02ACKT0005	**K110FE K130FE**			
	**02ACKT0006**	**K70FE K90FE**	**Kit "S.C.L."** stainless steel king kit for ceiling installation with lateral coaxial exhaust complete with rear connection, lateral exhaust pipe, remote control, coaxial bend and terminal 1 m		
	02ACKT0007	**K110FE K130FE**			
	**02ACKT0700/A 02ACKT0700/B**	**K21FE K28FE**	**"Lateral exhaust" kit** cast iron king for wall installation with lateral coaxial exhaust complete with rear connection, lateral exhaust pipe, coaxial bend and wall level wind proof air-fumes terminal	**CAST IRON**	**VERSION**
	02ACKT0701/A 02ACKT0701/B	**K40FE K55FE**			



STANDARD FOR CAST IRON KING: STAINLESS STEEL AIR-FUMES WIND PROOF TERMINAL

OPTIONAL FOR STAINLESS STEEL KING: WALL LEVEL EXTERNAL WIND PROOF AIR-FUMES TERMINAL

TECHNICAL FEATURES OF CAST IRON AIRTIGHT GAS CONVECTORS

TECHNICAL FEATURES OF CAST IRON AIRTIGHT GAS CONVECTORS																					
CE CERTIFICATES 0694BN4044 0694BN4045			PILOT FLAME THERMOCOUPLE SERIES MODELS							ELECTRONONIC SERIES MODELS										
			BALANCED FLOW							BALANCED FLOW							FORCED FLOW			
			NOT-VENTILATED				VENTILATED			NOT-VENTILATED				VENTILATED			FORCED VENTILATED			
			K21	K28	K40	K55	K28V	K40V	K55V	K21E	K28E	K40E	K55E	K28VE	K40VE	K55VE	K21FE	K28FE	K40FE	K55FE
RATED HEAT FLOW		kW	2	2,5	4	4,6	2,5	4	4,6	2	2,5	4	4,6	2,5	4	4,6	2,4	3	4,3	5,3
WORKING HEAT OUTPUT		kW	1,8	2,2	3,5	4,1	2,2	3,6	4,1	1,8	2,3	3,6	4,1	2,3	3,6	4,1	2,2	2,7	3,8	4,6
COMBUSTION EFFICIENCY		%	90,0	87,0	87,3	87,5	87,5	88,0	88,0	89,8	90,0	88,0	88,0	90,0	88,0	88,0	88,5	88,0	88,3	85,0
CATEGORY EFFICIENCY			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MAX FUEL CONSUMPTION (0°C-1013 mbar)	Natural Gas G20	m^3/h	0,21	0,26	0,42	0,49	0,26	0,42	0,49	0,21	0,26	0,42	0,49	0,26	0,42	0,49	0,25	0,32	0,46	0,56
	Butane G30	kg/h	0,158	0,197	0,315	0,363	0,197	0,315	0,363	0,158	0,197	0,315	0,363	0,197	0,315	0,363	0,189	0,237	0,339	0,418
	Propane G31	kg/h	0,155	0,194	0,311	0,357	0,194	0,311	0,357	0,155	0,194	0,311	0,357	0,194	0,311	0,357	0,186	0,233	0,334	0,412
ELECTRICAL POWER SUPPLY		V	--	--	--	--	230	230	230	230	230	230	230	230	230	230	230	230	230	230
		Hz	--	--	--	--	50	50	50	50	50	50	50	50	50	50	50	50	50	50
ELECTRICAL POWER (absorbed)		W	--	--	--	--	25	30	30	10	10	10	10	37	37	37	55	55	60	60
TREATED AMBIENT AIR FLOW		m^3/h	--	--	--	--	150	240	270	--	--	--	--	150	240	240	150	150	260	260
HEATED AMBIENT VOLUME		m^3	36	44	70	82	48	78	88	36	46	72	82	50	78	88	48	58	84	102
FAN SPEED NUMBER			--	--	--	--	2	2	2	--	--	--	--	2	2	2	2	2	2	2
DIMENSIONS	Width	mm	420	420	560	560	420	560	560	420	420	560	560	420	560	560	560	560	730	730
	Height	mm	615	615	615	615	615	615	615	615	615	615	615	615	615	615	615	615	615	615
	Depth	mm	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
WEIGHT		kg	31	31	45	45	32	46	46	32	32	46	46	32	46	46	33	33	52	52
GAS FITTING DIAMETER		Inc.(")	3/8"-M	3/8"-M	3/8"-M	3/8"-M	3/8"-M	3/8"-M	3/8"-M	3/8"-F	3/8"-F	3/8"-F	3/8"-F	3/8"-F	3/8"-F	3/8"-F	3/8"-F	3/8"-F	3/8"-F	3/8"-F
AIR-FUME COAXIAL PIPE DIAMETERS	Air	mm	120	120	160	160	120	160	160	120	120	160	160	120	160	160	60	60	60	60
	Fumes	mm	90	90	90	90	90	90	90	90	90	90	90	90	90	90	38	38	38	38
AIR-FUME MAX LENGTH	Coaxial pipes	mm	500	500	500	500	500	500	500	500	500	500	500	500	500	500	5000	5000	5000	3000
TYPE OF EQUIPMENT			C11				C11			C11				C11			C13			

TECHNICAL FEATURES OF AIRTIGHT GAS FIRED CONVECTORS KING WITH STAINLESS STEEL HEAT EXCHANGERS

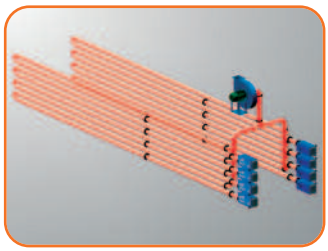
TECHNICAL FEATURES OF AIRTIGHT GAS FIRED CONVECTORS KING WITH STAINLESS STEEL HEAT EXCHANGERS						
CE CERTIFICATE 0694BN4046			FORCED/ELECTRONIC FLOW			
			K70FE	K90FE	K110FE	K130FE
RATED HEAT FLOW		kW (Hi)	7,2	8,2	10,1	13,3
WORKING HEAT OUTPUT		kW (Hi)	6,8	7,7	9,6	12,6
COMBUSTION EFFICIENCY		%	93,7	93,3	94,1	94
CATEGORY EFFICIENCY			1	1	1	1
MAX FUEL CONSUMPTION (0°C-1013 mbar)	Natural Gas G20	m^3/h	0,76	0,87	1,07	1,41
	LPG Butane G30	kg/h	0,568	0,647	0,796	1,049
	LPG Propane G31	kg/h	0,559	0,637	0,785	1,033
ELECTRICAL POWER SUPPLY		V	230			
		Hz	50			
ELECTRICAL POWER (absorbed)		W	85	85	150	150
TREATED AMBIENT AIR FLOW		m^3/h	470	470	470	470
HEATED AMBIENT VOLUME		m^3	154	174	223	293
FAN SPEED NUMBER			2	2	2	2
OVERALL DIMENSIONS	Width	mm	880	880	1150	1150
	Height	mm	710	710	710	710
	Depth	mm	330	330	330	330
WEIGHT		kg	44	44	56	56
GAS FITTING DIAMETER		Pollici (")	1/2" F			
AIR-FUME COAXIAL PIPE DIAMETERS	Air	mm	100	100	100	100
	Fumes	mm	60	60	60	60
AIR-FUME MAX LENGHT (Coaxial pipes)		mm	5000	5000	5000	5000
TYPE OF EQUIPMENT			C13			

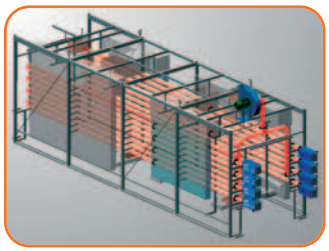
BAF-ES Gas-fired drying-furnaces
Gas fired heat exchangers

- **BAF-ES** is an air suction gas fired burner which produces heat through the right combination between sealed tubular exchangers and an air ventilation system
- **BAF-ES** is the perfect burner to be used with drying ovens for foundries, for food, painting, preheated sand etc.
- **BAF-ES** is the highest safety guarantee on the market, as it ensures the seal of the combustion products

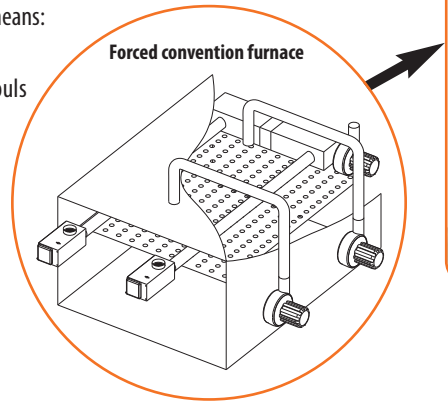
COMBUSTION IN DEPRESSION= MAXIMUM SAFETY

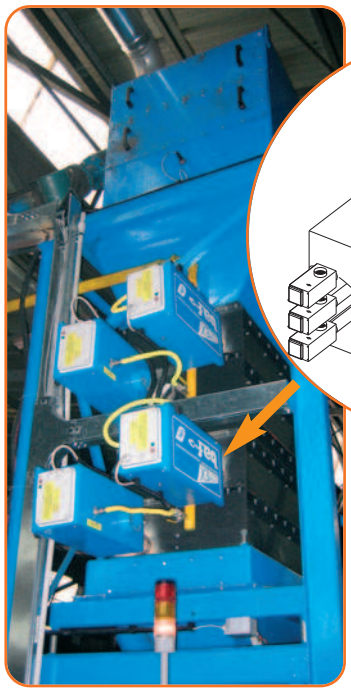
- **BAF-ES** thanks to the independent multi-burner system it ensures the continuity of working also in case of malfunctions, guaranteeing the continuity of the production process.
- **BAF-ES** facilitates the maintenance service of each burner without any interruption of the production process
- **BAF-ES** has an excellent modulating system; the available thermal energy is adequately modulated according to the real thermal needs, obtaining in this way a substantial energy saving
- **BAF-ES** creates the right balance between radiating and forced convection, guaranteeing the best drying for all the surfaces
- **BAF-ES** allows to dry at temperatures included between 100 and 500°C for baking cycles
- Low drying temperature means:
  - Less thermal leakages
  - Increased resistance of souls during casting
  - Less smoke during drying
  - Easier handling at the end of the drying

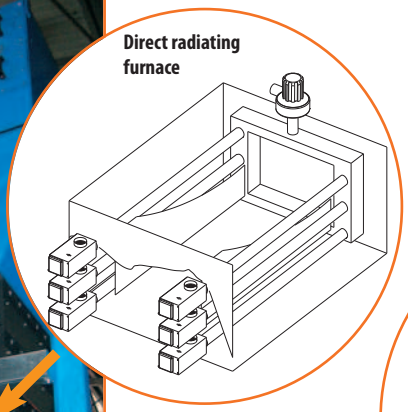


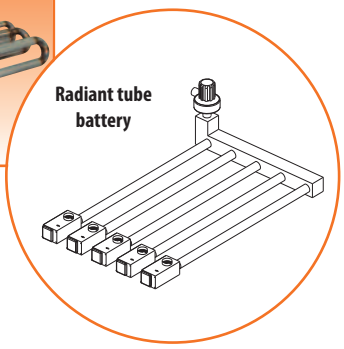


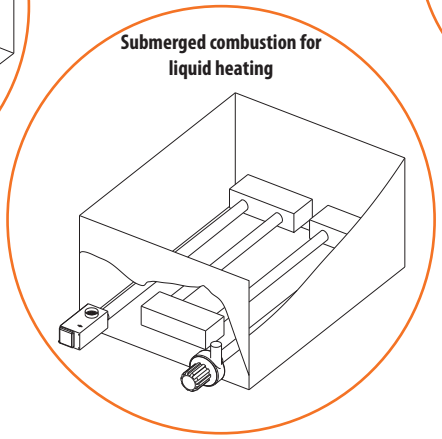
Example of a drying installation for water paintings on foundries souls.

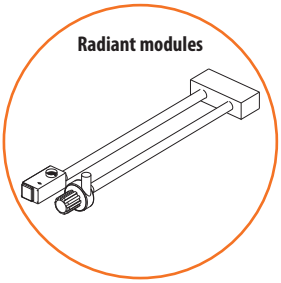












For further information please contact the commercial or technical Systema S.p.A. department, which will provide specific information for our products.

EHR Recovery of thermal energy coming from fumes for water heating

EHR is a system designed **for the recovery of thermal energy coming from over-heated air or combustion gas** usually expelled into the atmosphere.

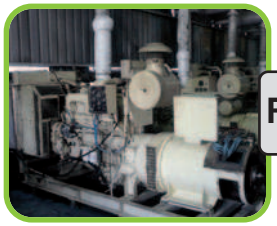
ADVANTAGES

- **EHR transforms the thermal energy** of the fumes coming from drying-furnaces and ovens for heat treatment, glasshouses, ovens for paper, cogeneration systems, generators etc, in hot water up to 105°C.
- **EHR is a product designed and realized** according to the user's requests and the type and quantity of heat to be recovered.
- **EHR is used with fume temperature from 130°C to 900°C.**
- **EHR** is available in a **range of power from 60kW to 1300kW.**
- **EHR has an interesting PAYBACK.**
- **EHR has 5 years of GUARANTEE.**

Energy
Heating
Renewable

Recovers heat instead of wasting it

FUNCTIONAL SCHEME



FUMES

HOT WATER

CO-GENERATOR/PROCESS CYCLES

EHR RECUPERATOR

Case history

BELGIUM- 450 kW hot water cogeneration system

Comando remoto con Touch Screen

FUMES

HOT WATER

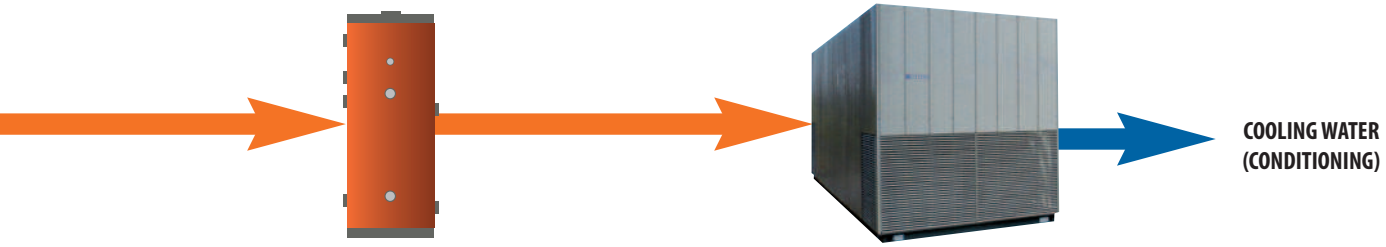
CO-GENERATOR

FUMES COLLECTORS

EHR RECUPERATOR

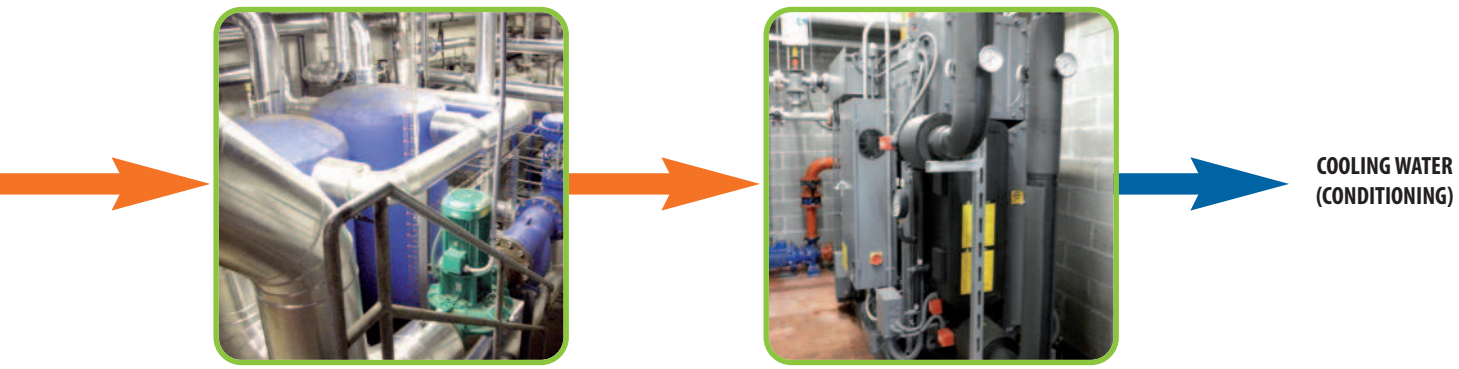
EHR investment PAYBACK

ECONOMIC EVALUATION OF ENERGY RECOVERY AND COMPARISON WITH OTHER TECHNOLOGIES REFERRED TO ONE PROCESS CYCLE BY USING EHR CONTINUOUSLY FOR 1 YEAR						
PAYBACK		**HOT WATER PRODUCTION**		**CHILLED WATER PRODUCTION (7°C / 14°C)**		
COMPARISON →		**WITH ehr**	**WITH GAS-FIRED BOILER**	**ehr + HOT WATER ABSORBTION CHILLER**	**CONDENSING GAS ABSORBTION CHILLER**	**CHILLER WITH ELECTRICAL PRESSURE**
Available fumes power	kW	320	-	320	-	-
Performance		80%	95%	80%	-	-
Water useful power	kW	256	256	256	-	-
Cooling efficiency		-	-	0,75	1,08	2,8
Cooling power (7°C/14°C water)	kWf	-	-	192	192	192
Natural gas consumption	m^3/h	-	28,54	-	18,83	-
Natural gas cost	$€/m^3$	-	0,35	-	0,35	-
Electricity consumption per hour	kWh	4,8	1	9	8	68,64
Electricity cost	€/kWh	0,16	0,16	0,16	0,16	0,16
Total cost per hour (gas+electricity)	€/h	0,77	10,15	1,44	7,87	10,98
Working hours per year	Annual hours	7392	7392	7392	7392	7392
TOTAL COST PER YEAR (gas+electricity)	**€/year**	**€ 5.677**	**€ 75.032**	**€ 10.644**	**€ 58.182**	**€ 81.182**
ANNUAL COST ON USE	**€/year**	**ZERO**	**€ 69.355**	**ZERO**	**€ 47.538**	**€ 70.537**



STORAGE

HOT WATER ABSORPTION CHILLER



THERMAL POWER PLANT

HOT WATER ABSORPTION CHILLER

EHR Constructive characteristics

Available in 3 versions

Static, basic model only recovery

Dynamic, complete with fumes exhauster

Centralized, complete with electrical and hydraulic connections

Supply description

STATIC

- **Plate heat exchanger made by stainless steel aisi 316 L,** designed for a counter-current heat exchange
- **Inlet and outlet** chimney with flow balancing.
- **Stainless steel frame** for high temperatures, resistant to oxidation.
- **Inspection doors** for maintenance.
- **Fume** connection flange.
- **Appropriate** thermal insulation.

DYNAMIC

- **Centrifugal fume fan** controlled by an inverter, designed for suction and forced discharge of recovery fumes.

CENTRALIZED

- **Integrated management system for centralized EHR** provided with:
- Electrical panel with **PLC**, **fan modulation inverter**, **thermo-regulator** for the management and control of the heated water temperature.
- **Proportional valves for the regulation** and modulation of the source energy.
- **Intercepted hydraulic flow and return collectors** complete with control security **I.S.P.E.S.L.** devices
- **Software for the EHR programming and supervising** with possibility of remote control.

TECHNICAL FEATURES (a calculation example)		
Available fume capacity	m^3/h	10.000
Inlet fume temperature	°C	300
Outlet fume temperature	°C	100
Thermal head for fumes	°C	200
Available mass fume capacity	kg/h	6.160
Available fume power	**kW**	**320**
Inlet water temperature	°C	94
Outlet water temperature	°C	84
Thermal head for water	°C	10
Water flow	l/h	22.038
Thermal power	**kW**	**256**
Efficiency of ehr	%	80%

For a correct feasibility and dimensioning study, Systema S.p.A. technical dept. needs to evaluate the technical data sheet completely filled.

EHR the renewable energy of Systema S.p.A.

EHR References

TURIN - Glassworks 80 kW HOT WATER

ROME - Biomass 340 kW bigeneration HOT WATER + CHILLED WATER

LECCO - Wire drawing 115 kW HOT WATER

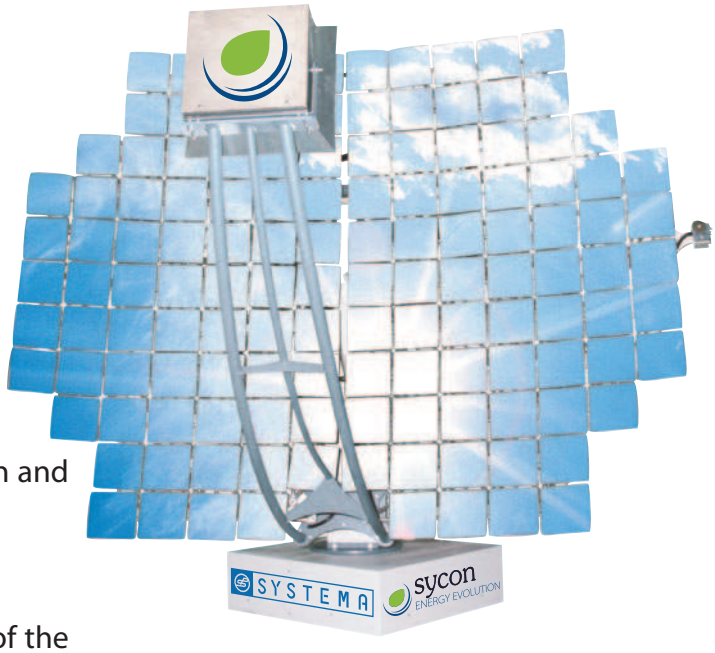
MILAN - smelting foundry 180 kW Bigeneration HOT WATER + CHILLED WATER

Industrial Applications

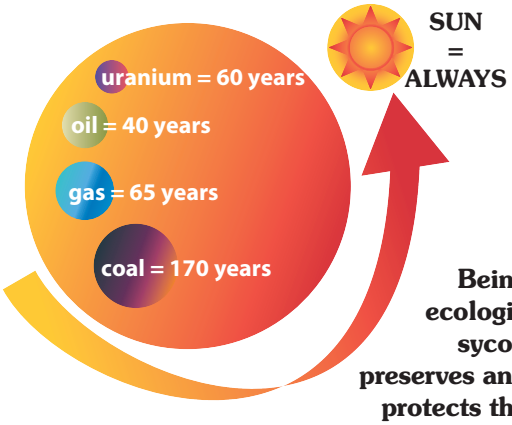
- Heating
- Conditioning (with absorption chillers)

sycon
ENERGY EVOLUTION

Solar tracker



- GPS orientation system both in the azimuth and zenith directions
- Hot water up to 110° C
- Automatic modulation of water capacity
- Automatic adjustment for the positioning of the concentrator
- Software for PC remote control
- GSM modem for remote control
- High absorption of solar energy
- Wind-resistant structure fitted with an automatic shifting system, which is able to put the solar concentrator in the safety position
- Safety device to protect **sycon** from bad weather conditions
- **sycon** can be combined with a hot-cold **energetic module**

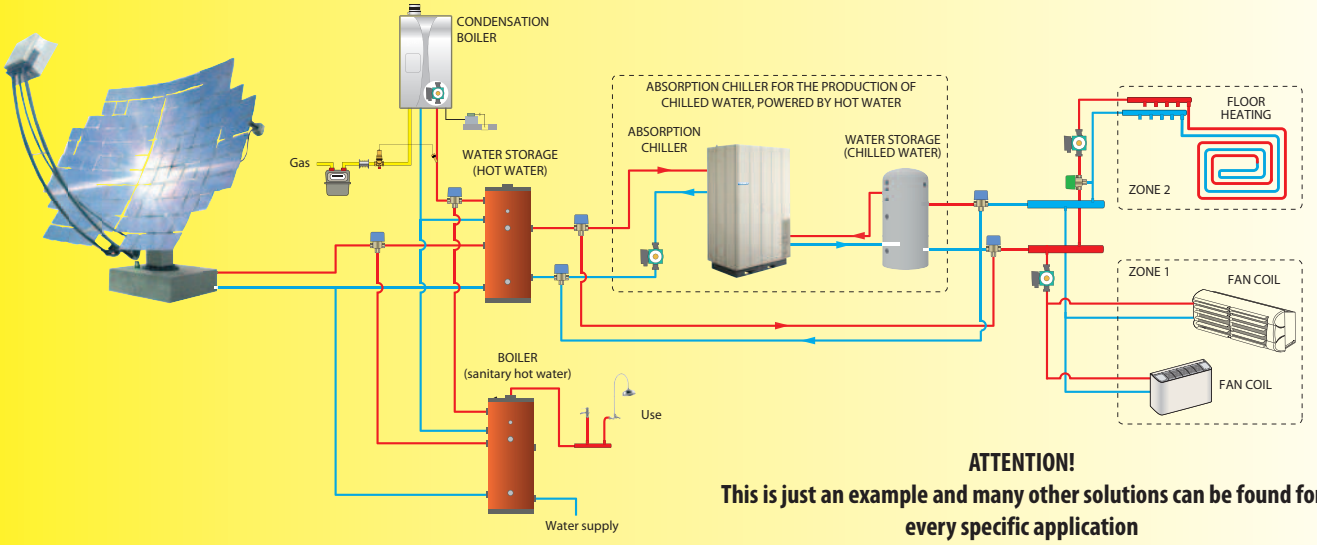


Being ecologic sycon preserves and protects the environment

EXAMPLE OF APPLICATION IN A HEATING AND COOLING INSTALLATION

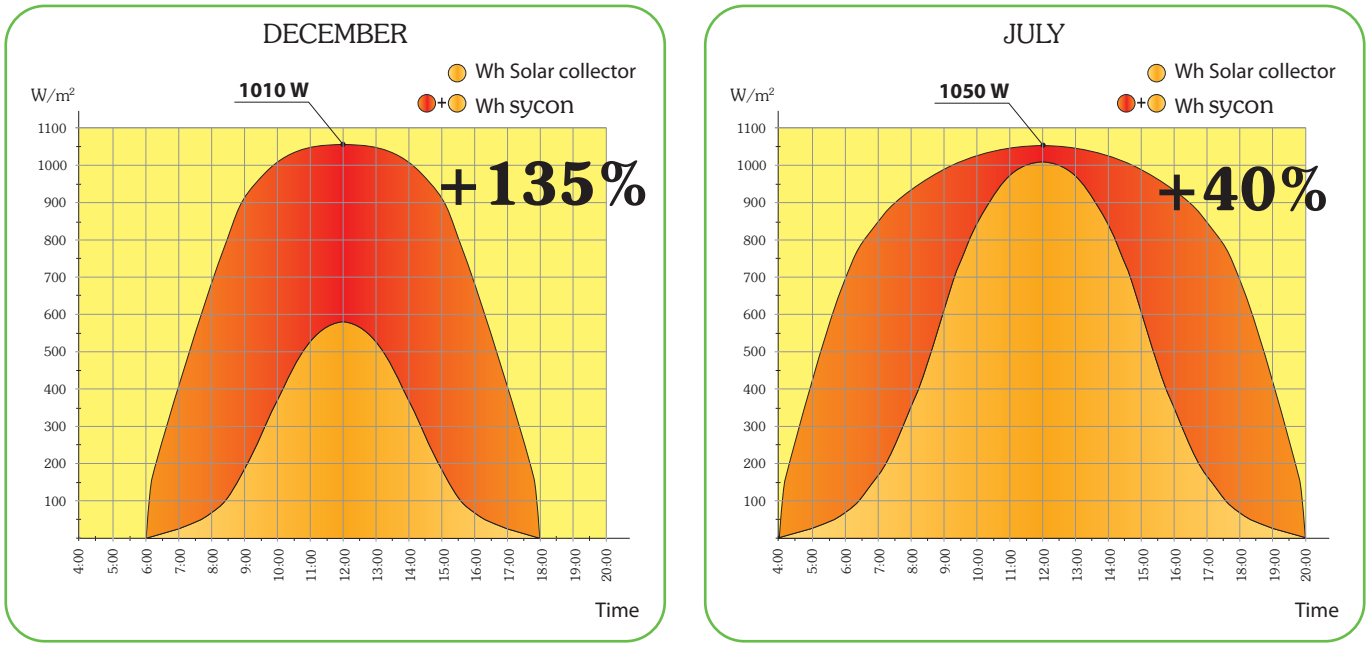
HEATING: Hot water produced by the solar energy concentrator SYCON and by the optional supplementary condensation boiler.

COOLING: Cold water produced by a lithium bromide Absorber SYBCT operated by the hot water generated by SYCON and by the optional supplementary boiler.



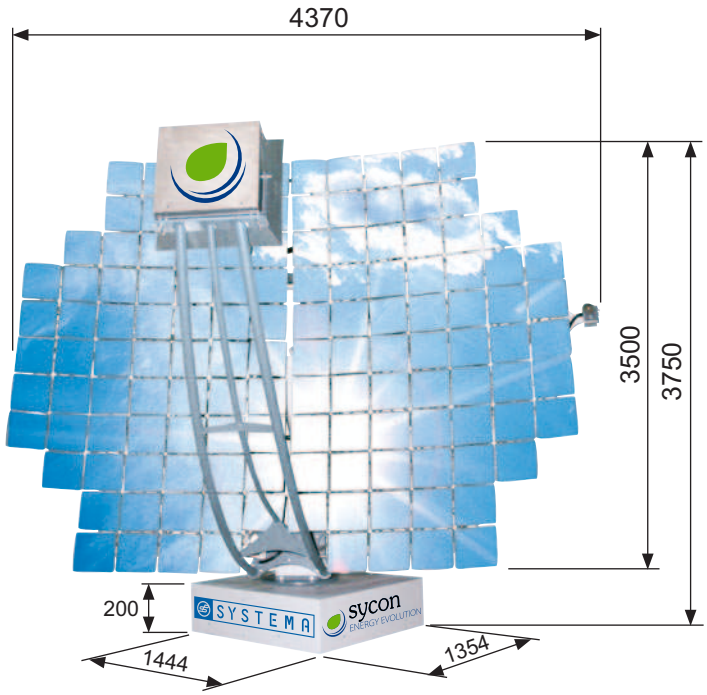
ATTENTION!
This is just an example and many other solutions can be found for every specific application

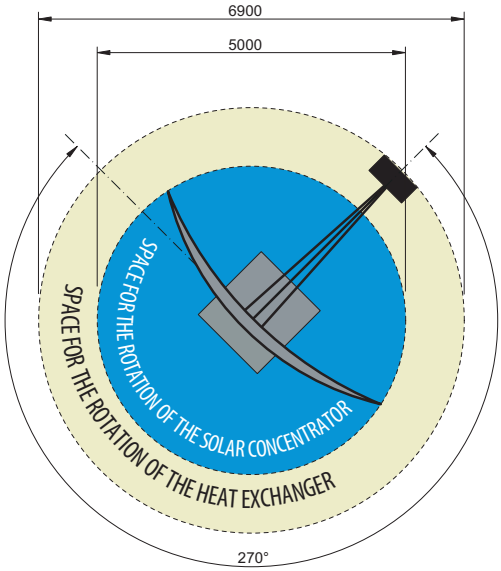
COMPARISON OF THE DAILY SOLAR RADIATION BETWEEN SYCON AND A SOLAR COLLECTOR DURING WINTER AND SUMMER.

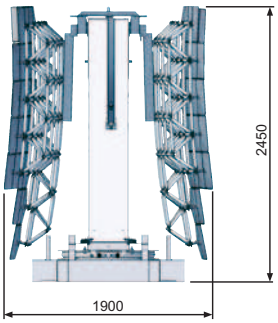


Notes: technical data referred to 1 m² of reflecting surface

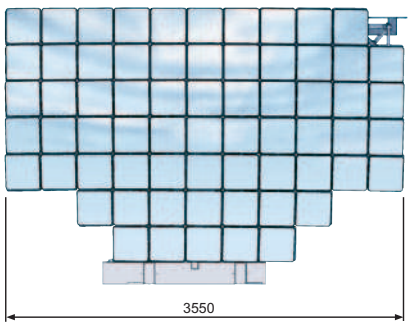
OVERALL DIMENSIONS FOR INSTALLATION







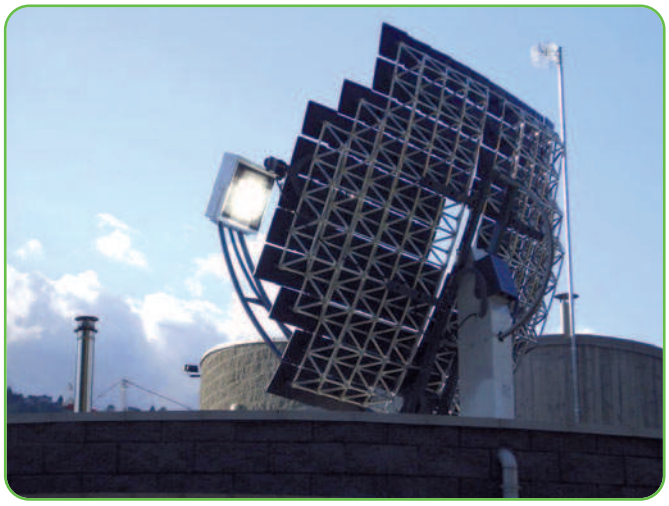
SOLAR TRACKER CLOSED FRONT VIEW



SOLAR TRACKER CLOSED SIDE VIEW

TECHNICAL CHARACTERISTICS		
Net **reflecting surface** of the solar unit	m^2	12
Number of mirrors	n°	128
Max heat power delivered to the heat exchanger	kW	7,39
Average daily energy supplied to the heat exchanger (in case of sunny summer day) at 37°C, North latitude	kWh	100
Average daily energy supplied to the heat exchanger (in March) at 37°C, North latitude	kWh	70
Water flow of primary circuit at maximum power	m^3/h	0,67
Load loss of sycon	kPa	16
Residual pressure available for the system using the optional circulation pump	kPa	42,5
Size of the heat exchanger	mm	750 x 700 x 250
Maximum sizes of **sycon**, when it is working	mm	4.700 x 5.600 x 4.194
Sizes of base	mm	1.350 x 200 x 1.440
Turning area of **sycon**	Ø mm	4.700
Turning area of the heat exchanger	Ø mm	7.000
Max. **azimuth rotation angle**	α°	270
Hydraulic connections M-R	F"	1
Water content	l	10
Weight	kg	900
Electric power supply	V/Hz	230/50
Electric power	W	740
WITH ENERGETIC MODULE:		
Modulating power (cold)	kW	17 ÷ 300
Modulating power (hot)	kW	20 ÷ 400

REFERENCES



FRESCO OK

A FRESH RELIEF

EVAPORATIVE COOLER

ZERO EMISSION

THE PRODUCT

The evaporative cooler "**FRESCO OK**" is a simple product, designed to cool the working environments of medium and big dimensions with low investments and reduced consumptions.

Thanks to this product the environment temperature is reduced, exchanged and filtered in big quantities.

It can be used in several sectors, industry, tertiary, commercial and farming.

It works on the basis of the air adiabatic saturation process.

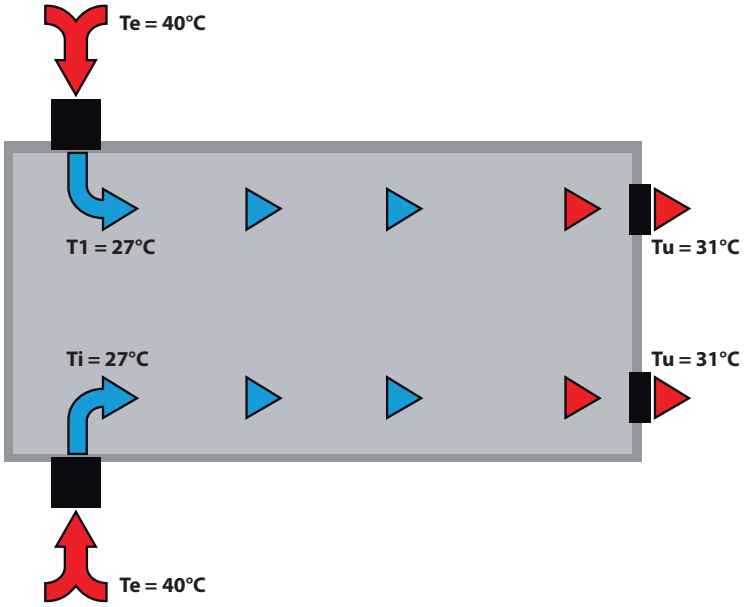
The external air is sucked by a ventilator and goes through special cellulose alveolar panels. In this manner the external air gives away part of its heat during the water evaporation process with the consequent drop of the temperature that goes out from the diffuser and cool the environment.

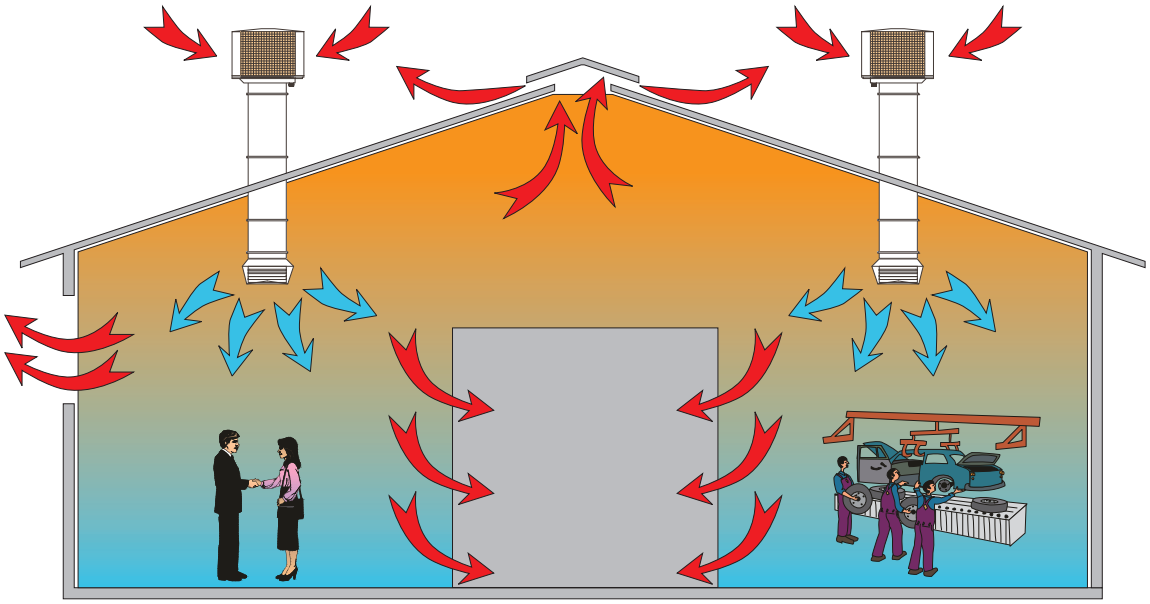
ADVANTAGES

- Competitive price
- It improves the worker health and the company productivity
- It keeps and stabilizes the environmental temperature protecting the perishable goods
- The air is exchanged up to 25 times per hour, improving the environmental hygiene and cleaning the air from bad smells, dusts, fumes and heat produced by machineries and production processes
- It cools and filters the environmental air
- It can be used only as ventilation when it is not so hot
- Noiseless
- Possibility to control more zones with different temperature
- Reduced energy costs
- Ecological product, no refrigerant gas used
- It can be used also as air extractor outwards

APPLICATION FIELDS

Ceramic industry
Foundry and die-casting processes
Textile industry
Processes for plastic molding pressure
Bookbinderies
Stretched flexible structures
Steel, aluminium, alloy production
Warehouse and logistic points
Farming
Machine shops
Chemical product production
Industrial printing shops
Industrial dyeing plants





TEMPERATURE REDUCTION

External temp. °C	PERCENTAGE OF THE RELATIVE EXTERNAL HUMIDITY %				
	30 %	40 %	50 %	60 %	70 %
30	19	21	23	24,5	26
35	22,5	25	27,5	29,5	31
40	26	29	31,5	33,5	35,5
45	30	32,5	35,5	38	40

INSTALLATION

FRESCO OK can be easily installed outside the buildings to be cooled, on the roof, on the floor or on the wall.
It needs electrical and hydraulic connections
For the distribution of the fresh air in the environment it can be connected to a duct equipped with a diffuser.

TECHNICAL FEATURES

The external structure is ideal against the oxidation caused by bad weather conditions. Easy to be installed, this product is not so heavy and does not weigh down the roof.

The models are equipped with:

- Reversible low consumption electric fans with double function
- Hydraulic circuit with solenoid valve and level sensor
- Water distribution collectors with electric pump
- Cellulose alveolar panels with high saturation efficiency
- Automatic water discharge
- Periodic self-cleaning of the hydraulic circuit and the evaporating panels
- Brackets
- Control panel

ELECTRONIC CONTROL

All the vertical models are equipped with the new electronic control device that allows the automatic regulation of the temperature.

Its features are as follows:

- 100 settings of speed
- timer up to 99 hours
- adjustable cleaning cycles
- digital display
- automatic emptying at the end of the day
- 100 extraction speeds
- prewash: washes and moisturizes the filters before starting the fan
- it is provided also with the base functions of ventilation, cooling and extraction

MODELS		FR AN9	FR APV (inverter)	FR 30AP	F40A/100
Air movement	m^3/h	18000	18000	30000	30000
Type of fan		HELICOIDAL	HELICOIDAL	HELICOIDAL	HELICOIDAL
Electrical power supply	V/Hz	230/50	230/50	400/50	400/50
Electrical power	W	1100	1100	3000	1900
Average water consumption	l/h	15-20	15-20	25-30	68
Dimensions (LxPxH)	mm	(625+30) x 770 x 1000	(675+30) x 790 x 1000	1350 x 1350 x 1200	1220 x 1220 x 2400
Empty-loaded weight	kg	65-70	70,5-80	115- /	123-141
Air outlet plenum (LxP)	mm	642 x 642	642 x 642	900x900	Ø 900

REFERENCES

CUSTOMER SERVICE

PRE-SALE SERVICE

Systema supports its customers in all the phases for the planning of a heating or cooling system, both for industrial and civil applications. Thanks to our qualified technical support, we are able to help our customers both during the pre-sale and the post-sale activities. The wide range offered by Systema, together with a well-established experience in different sectors, enables the technical staff to plan solutions able to heat or cool any kind of building and assure high comfort, no matter what the outdoor conditions are. This is confirmed by the large number of Systema has all over the world.

SALES NETWORK

Its existing premises are 23.000 m^2, 7.000 covered area, dedicated to the manufacturing, warehouse, offices, laboratory, meeting/conference halls and show rooms. It counts on a sales network of 38 agencies all over Italy and 32 distributors all over the world. Another premise of Systema S.p.A. is a 1.500 mq area totally devoted to homologation approvals, R&D, training centre for designer as well as for Italian and foreign assistance centres.

SERVICE

Systema S.p.A. produces and sells high quality products which require technical service carried out by qualified technicians that can guarantee high efficiency and long duration of the machines. This is the reason why Systema S.p.A. has organized an operative structure with the aim of offering the best service to its customers.
We constantly make training courses for our technicians in order to operate with one of the most efficiency service net in the market for heating and air-conditioning. Our company offers technical services for all type of heating and absorption systems and guarantees quality of the service and performance.

SYSTEMA

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