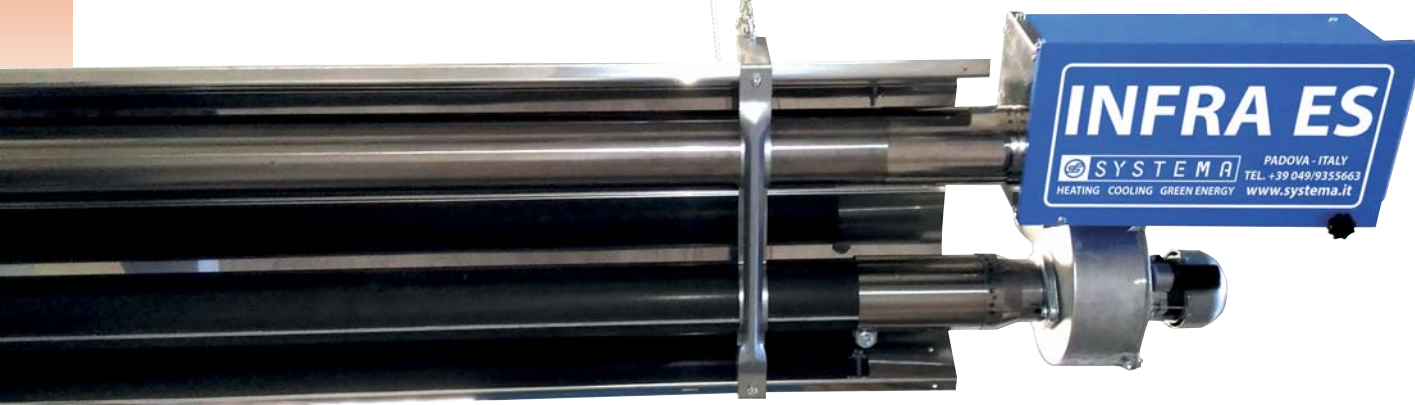








INFRA Energy Saving Radiant modules



THE ADVANTAGES OF RADIANT HEATING

- ☑ HIGH EFFICIENCY
- ☑ HEAT CONCENTRATION ON THE FLOOR
- ☑ LIMITED AIR STRATIFICATION BETWEEN FLOOR AND CEILING
- ☑ ABSENCE OF AIR MOVEMENT
- ☑ ABSENCE OF DUST
- ☑ NOISELESS
- ☑ HEALTHY ENVIRONMENTS
- ☑ HIGH COMFORT
- ☑ POSSIBILITY TO APPLY HEATING TO SELECTED ZONES
- ☑ THERMAL POWER STATION NOT REQUIRED

TECHNICAL FEATURES

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

- ☑ **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 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, 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.
- ☑ **“U” radiant tube** composed by a long-life stainless steel combustion chamber (stainless steel in 9-12-15 meter models). The fumes 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 efficiency.
- ☑ **Electric-fan** with class “H” ventilated motor, C3 self-lubricating special bearings, 230V~50 Hz IP 44, with overload cut-out included.
- ☑ **Stainless steel specular reflecting canopies** with high reflection capacity able to converge the radiant heating towards the floor.
- ☑ **Support brackets** for radiant tube and the reflecting canopies.
- ☑ The equipment meets the LOW TENSION 73/23 CEE regulation
- ☑ The equipment meets the ELECTROMAGNETIC COMPATIBILITY ECM 89/336/CEE regulation
- ☑ **The equipment has been checked according to the European regulation: EN 416-2**
- ☑ CE certificate according to the 90/396 CEE regulation
- ☑ Sanitary considerations of Infra radiant tubes, realized by Dr. Giuseppe RAUSA of FERRARA UNIVERSITY - ISTITUTO DI IGIENE E MEDICINA PREVENTIVA.

Suitable for:

- **Medium and large environments**
- **High buildings**
- **Industrial and commercial premises, gymnasiums**

TECHNICAL FEATURES OF STANDARD VERSION

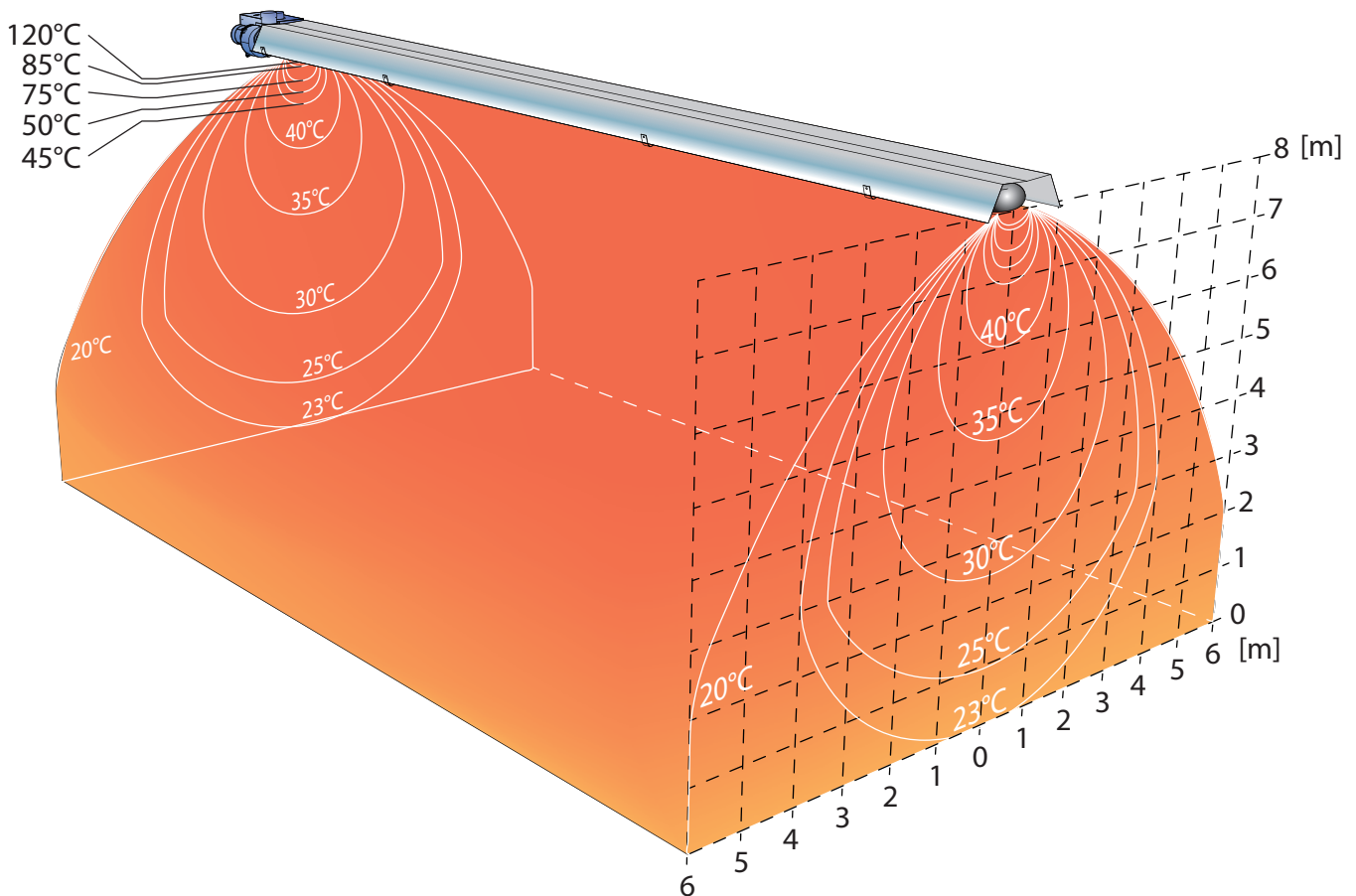
MODELS		INFRA 6 ES 28	INFRA 6 ES 35	INFRA 9 ES 45	INFRA 9 ES 53	INFRA 12 ES 45	INFRA 12 ES 60	INFRA 15 ES 60	
Thermal capacity	kW	28,0	35,0	45,0	53,0	45,0	60,0	60,0	
Thermal power	kW	25,70	31,96	40,95	48,39	40,95	54,6	54,9	
Combustion efficiency *	%	91,8	91,3	91,0	91,3	91,0	91,0	91,5	
Electrical power supply	V/Hz	230 V - 50/60 Hz							
Total electrical power	W	70	70	120	120	120	120	120	
Air pressure switch adjustment	Pa	60	30	30	44	60	44	60	
Fan power	W	55	55	100	100	100	100	100	
Type of fan	-	Standard					Increased		
Blade fan	Ø mm	102	102	133	145	145	145	145	
Gas connection (F)	Inches	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	
Air connection (M)	Ø mm	100	100	100	100	100	100	100	
Fume connection (F)	Ø mm	100	100	100	100	100	100	100	
Fume diaphragm	mm	47	-	50	60	58	-	-	
Weight (standard version)	kg	86,5	86,5	139	139	176	176	208	
Weight (with RBT insulating canopies)	kg	105,5	105,5	167,5	167,5	214	214	246	
Nominal consumption at 15°C at 1013,25 mbar									
Natural gas G20	m³/h	2,96	3,70	4,76	5,61	4,76	6,35	6,35	
Natural gas G25	m³/h	3,99	4,98	6,41	7,54	6,41	8,54	8,54	
Natural gas G27	m³/h	3,61	4,52	5,81	6,84	5,81	7,74	7,74	
Natural gas G2.350	m³/h	4,12	5,14	6,61	7,79	6,61	8,82	8,82	
LPG butane G30	kg/h	2,21	2,76	3,55	4,18	3,55	4,73	4,73	
LPG propane G31	kg/h	2,18	2,72	3,50	4,12	3,50	4,66	4,66	

* Standard conditions

THERMAL MONITORING WITH INFRA 9 ES 45

CONDITION TEST: max surface temperature of the radiant tube: 450°C, type of heated material: wood-cartoon with a surface of 0.5 m² and a thickness of 5 mm, suspended in the air.

The temperatures are taken after 90 of thermal radiation, working temperature: 16°C and air speed <0,15 m/s



TECHNICAL FEATURES OF MODELS WITH FUME RECIRCULATION

INFRA ES-R, the exclusive radiant tube with fume recirculation has been specifically designed to reduce the Low NO_x emissions in the atmosphere, to optimize the **RADIANT FACTOR** of the heat exchanger reaching a higher combustion efficiency up to 93%.

The heart of this new radiant module consists in an intake air gas burner with partial air-gas premix and a fume fan specifically dimensioned according to the power of the radiant tube.

The configuration of the fume recirculation collector is relevant for the optimal balance of flow-fume temperature and emitting exchanger temperature.

The combustion chamber, being the more stressed part, has been realized with stainless steel material in order to guarantee a long life of the equipment. Whereas the other elements of the heat exchanger have been realized with calorized aluminized steel.

The stainless steel canopy has got a high reflecting coefficient, the curve and the aluminized steel brackets complete the structure of the radiant tube.

INFRA ES-R is available in two different models:

- **Infra 9 ES-R 53** with a length of 9 meters and a power capacity of 53 kW,
- **Infra 12 ES-R 60** with a length of 12 meters and a power capacity of 60 kW.

TECHNICAL FEATURES OF "R - FUME RECIRCULATION" VERSION

MODELS WITH RECIRCULATION		INFRA 9 ES-R 53	INFRA 12 ES-R 60
Thermal capacity	kW	53,0	60,0
Thermal power	kW	49,29	55,5
Combustion efficiency *	%	93,0	92,5
Electrical power supply	V/Hz	230 V - 50/60 Hz	
Total electrical power	W	120	120
Air pressure switch adjustment	Pa	44	44
Fan power	W	100	100
Type of fan	-	Standard	Increased
Blade fan	Ø mm	145	145
Gas connection (F)	Inches	1/2"	1/2"
Air connection (M)	Ø mm	100	100
Fume connection (F)	Ø mm	100	100
Fume diaphragm	mm	60	-
Weight (standard version)	kg	139	176
Weight (with RBT insulating canopies)	kg	167,5	214
Nominal consumption at 15°C at 1013,25 mbar			
Natural gas G20	m ³ /h	5,61	6,35
Natural gas G25	m ³ /h	7,54	8,54
Natural gas G27	m ³ /h	6,84	7,74
Natural gas G2.350	m ³ /h	7,79	8,82
LPG butane G30	kg/h	4,18	4,73
LPG propane G31	kg/h	4,12	4,66

* Standard conditions

