



**tecnoclima**

# CABINET WARM AIR HEATERS

Ranges **TC-TEK, ENERGY, DUO-MO  
BA PLUS, HB PLUS**

EN

since 1973

# CABINET WARM AIR HEATERS

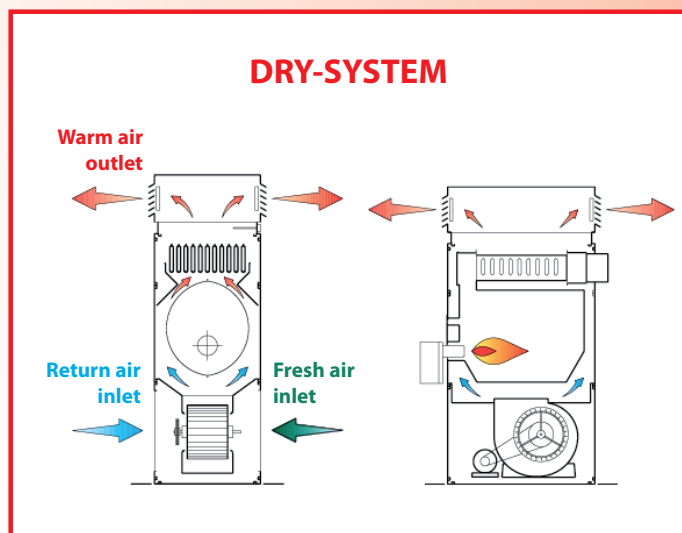
Tecnoclima cabinet warm air heaters are the ideal solution for heating and controlled ventilation of medium large areas such as workshops, laboratories, industrial halls, warehouses, gyms, shopping centers, exhibition halls, theaters, churches , etc. The operating principle is **simple, reliable and extremely effective**: cold air sucked by the fan is conveyed towards the heat exchanger, warmed up by the combustion that develops inside it; when crossing, the air raises its temperature and then it is distributed in the room to be heated. The heaters also allow the ventilation of the environment during the summer season.

The peculiarity of the **"dry" heating** technology is to directly and immediately transfer the heat produced by combustion in the environment to be heated, without use of intermediate heat transfer fluids (each intermediate heat exchange involves thermal losses and further system complexity), ensuring a high **overall efficiency** of the system, combined with a very **low thermal inertia**. These distinctive features make the installation of cabinet warm air heaters particularly advantageous in cases where rapid, reliable, intermittent or occasional heating is required or where there is a risk of freezing. Tecnoclima cabinet warm air heaters require very little maintenance and ensure durability and reliability over time.

**Tecnoclima cabinet warm air heaters have a wide range of energy-efficient models that meet the efficiency and atmospheric emissions requirements of the new European ERP2018 legislation which came into force on 1 January 2018.**



Tecnoclima cabinet warm air heaters can be equipped with outlet plenum for **direct diffusion** of warm air into the environment or integrated with ducted air distribution systems. In case of ducted systems, according to the air pressure required by the system, **high pressure versions are available**. The standard versions are designed to treat air at a minimum temperature of  $-15^{\circ}\text{C}$ , **but versions suitable for operation in extremely cold climates with air intake up to  $-40^{\circ}\text{C}$  are available.**



Tecnoclima range of cabinet warm air heaters is very complete, covers a wide range of powers and responds to the most diverse needs with models for **vertical, horizontal, indoor and outdoor installation**. The wide range of accessories allows to complete the installation quickly and obtain the best comfort and energy saving performance.

Tecnoclima uses best quality steel and functional components for the production of its cabinet warm air heaters, moreover, **each unit is carefully checked and tested** according to the most rigorous quality controls before shipping to the customer.

# TC-TEK

## PREVIEW MCE 2018



- **New cabinet warm air heaters platform** designed to respond not only to the new ERP2018 standards, but also to adapt to the most demanding and complex application requirements, without forgetting the large replacement market.
- **12 models** with thermal power from **50 kW to 1,2 MW**.
- Possibility to choose both **condensing models**, but also versions with operation **without condensation**, both **fully compliant to ERP2018**.
- Operation with **gas** and **diesel burners**, **two-stage or modulating**.
- Air flow from 5.000 to 100.000 m<sup>3</sup>/h.
- The range offers models for **vertical, horizontal, indoor and outdoor installation**.
- Increased pressure versions for centralized systems with duct air distribution
- Versions for extremely rigid climates (**up to -40 ° C**).



New range of **TC-TEK** cabinet warm air heaters are the distillate of 50 years Tecnoclima experience in the world of warm air. **The revolutionary concept of the innovative heat exchanger** allows not only to comply with **ERP 2018** regulations, but also to have a wide selection of models, easily configurable for different installation and market needs. The geometry of the exchanger (**patented**) allows to have condensing versions with very high efficiency, but also non-condensing models, ideal for old systems replacement.

**Technology, performance, width of range, simplicity and competitiveness** are the distinguishing features of the new **TC-TEK**, a worthy successor to the historic "TC" line of generators, for years synonymous with reliability, uncompromising performance and customer satisfaction.

**AVAILABLE from JUNE 2018**



# ENERGY



- Maximum **energy efficiency** and **environmental comfort** thanks to power modulation and condensation operation at reduced thermal load.
- **8 models** with thermal capacity from 20 kW to 1.100 kW and air flow from 4.600 to 71.000 m<sup>3</sup> / h.
- **High efficiency ~ 103%.**
- Heat exchanger made entirely of stainless steel **AISI 304** with aerodynamic profile and turbulent imprints.
- Combustion chamber in **AISI 430** stainless steel.
- Can be combined with gas or diesel blown air burners, with **two-stage or modulating** operation.
- Suitable for **ducted or direct diffusion** systems with air outlet plenum.
- High performance centrifugal fans with variable ratio transmission (adjustable during installation).

**ENERGY** series warm air heaters are designed to be combined with burners with variable heat output, with **two-stage or modulating regulation**. In reduced thermal power operation, the temperature of the fumes is lowered until the condensation of the water vapor level contained therein, allowing **efficiency higher than 103%**.

The variable thermal power also allows a quick and effective preheating of the room to be treated. When the room temperature reaches the set point, operation at reduced power allows the maintenance of comfort without inconvenient temperature fluctuations, at a low thermal power, condensation regime and with reduced supply air temperature. These features allow not only an ideal comfort, **but also important savings in heating operation**. In applications with high or total external fresh air, the variable thermal power keeps the supply air temperature constant as the external environmental conditions change.

The wide range is divided into models **for vertical, horizontal, indoor and outdoor installation**.

In the case of ducted systems, **high pressure versions** up to 800 Pa are available. The standard version is designed to treat air at a minimum temperature of -15 °C. On request, suitable versions are available for operation with intake air up to **-25 °C and -40 °C**.

For transportability reasons, larger models are shipped in separate packages, to be assembled directly on the installation site.



# Technical features

## HEATING SECTION

### MAXIMUM OPERATING MODE

Models	U.M.	ENERGY 60	ENERGY 105	ENERGY 160	ENERGY 220	ENERGY 320	ENERGY 460	ENERGY 640	ENERGY 970
Thermal power input	kW	68,2	115,1	175,7	246,1	354,8	502,9	715,2	1.089,8
	kcal/h	58.635	99.025	151.145	211.670	305.120	432.495	615.045	937.300
Thermal power output	kW	60,1	103,5	160,3	217,1	323,9	465,2	648,6	970,0
	kcal/h	51.715	89.020	137.845	186.695	278.575	400.060	602.810	834.200
Air temperature increase	K	39	38	43	43	45	44	45	41

### MINIMUM OPERATING MODE IN CONDENSATION

Models	U.M.	ENERGY 60	ENERGY 105	ENERGY 160	ENERGY 220	ENERGY 320	ENERGY 460	ENERGY 640	ENERGY 970
Min thermal power input	kW	22,6	36,8	55,1	65,4	119,1	196,6	154,6	232,0
	kcal/h	19.430	31.665	47.345	56.280	102.465	169.075	132.990	199.520
Min thermal power output	kW	22,7	37,1	55,9	66,5	119,9	196,8	159,7	234,3
	kcal/h	19.540	31.950	48.040	57.155	103.115	169.265	137.370	201.150
Efficiency	%	100,6	100,9	101,5	101,6	100,6	100,1	103,3	101,0
Air temperature increase	K	14	14	15	13	16	19	11	9,8

## AERAILIC SECTION

Models	U.M.	ENERGY 60	ENERGY 105	ENERGY 160	ENERGY 220	ENERGY 320	ENERGY 460	ENERGY 640	ENERGY 970
Nominal air flow	Nm³/h	4.600	8.000	11.000	15.000	21.500	31.000	43.000	71.000
Static pressure (standard)	Pa	220	220	220	220	220	220	220	220
Fan motor (standard)	kW	1 x 1,1	1 x 2,2	1 x 3,0	1 x 4,0	1 x 5,5	1 x 9,2	1 x 15,0	2 x 11,0
Static pressure (S version)	Pa	450	450	450	450	450	450	450	450
Fan motor (S version)	kW	1 x 1,5	1 x 3,0	1 x 4,0	2 x 3,0	1 x 7,5	2 x 5,5	1 x 18,5	3 x 9,2

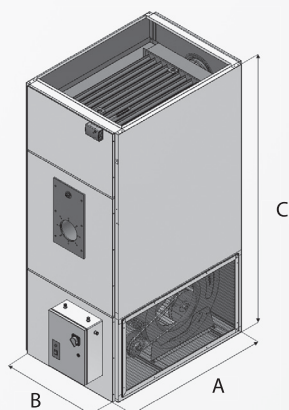
## ELECTRICAL SPECIFICATION

Models	U.M.	ENERGY 60	ENERGY 105	ENERGY 160	ENERGY 220	ENERGY 320	ENERGY 460	ENERGY 640	ENERGY 970
Electric voltage	V - 50Hz	400 3N ~ TRIFASE							

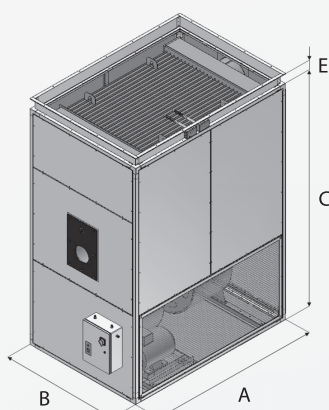
## Heater synthetic description

- **External casing** consists of demountable panels made of pre-painted galvanized steel sheet, with thermal insulation of the surfaces exposed to the heat exchanger. For all the models (except ENERGY 60) there is a load-bearing structure of painted galvanized steel of particular profile, joined by special die-cast aluminum joints.
- **High efficiency heat exchanger**, made of welded sheet steel, easy to inspect for normal operations of cleaning and maintenance, consisting of:
  - **Flame inversion combustion chamber**, in **AISI 430** stainless steel resistant to high temperatures, of large volume and low thermal load, with circular or ellipsoidal profile, complete with inlet with burner plate and flame control spy.
  - **Heat exchanger tubes entirely in AISI 304** stainless steel, suitable for the heater operation with reduced thermal power in condensation. Fumes tubes have a flattened tubular section with staggered and opposing turbulent imprints, with special reticular turbulators for maximum efficiency, complete with front and rear manifold with detachable inspection door, entrance for chimney connection and connection for condensation drainage.
- **Ventilation group** consists of one or more high performance centrifugal fans with low level of sound emission, powered by an electric motor (s) connected by a pulley and belt drive system, with a variable ratio driven pulley.
- **Fan-limit safety thermostat/s**, for automatic control of ventilation group and for the safety stop of the burner in case of abnormal overheating of the air.
- **Electrical panel** for command and control with general switch.

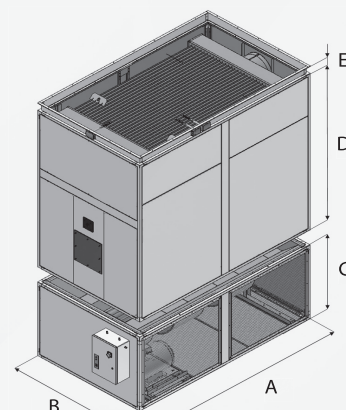
## ENERGY Vertical indoor installation version



ENERGY 60 ÷ 105 one section



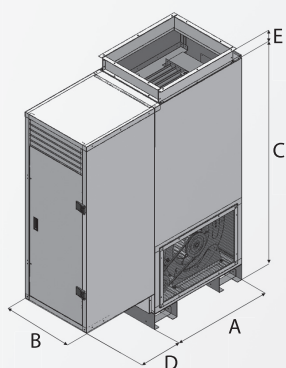
ENERGY 160 ÷ 320 one section



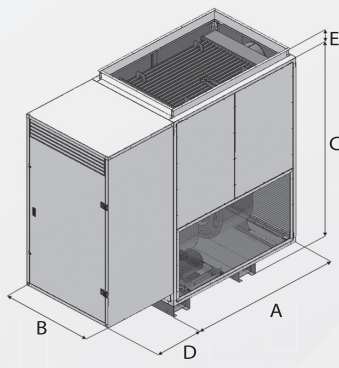
ENERGY 460 ÷ 970 2 sections

Models	Overall dimensions mm					Chimney Ø mm	Weight Kg	Weight with packaging Kg
	A	B	C	D	E			
ENERGY 60	812	544	1.580	–	–	150	135	140
ENERGY 105	1.060	774	1.926	–	–	200	255	260
ENERGY 160	1.300	900	2.120	–	100	250	450	457
ENERGY 220	1.500	1.000	2.120	–	100	250	535	542
ENERGY 320	1.700	1.200	2.350	–	100	300	750	760
ENERGY 460	2.090	1.270	1.000	1.870	100	330	1.180	1.190
ENERGY 640	2.500	1.500	1.000	2.120	100	370	1.650	1.660
ENERGY 970	3.500	1.500	1.200	2.120	100	380	2.150	2.160

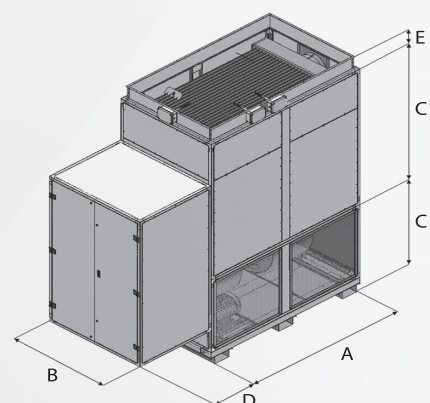
## ENERGY/K Vertical outdoor installation version



ENERGY/K 60 ÷ 105 one section



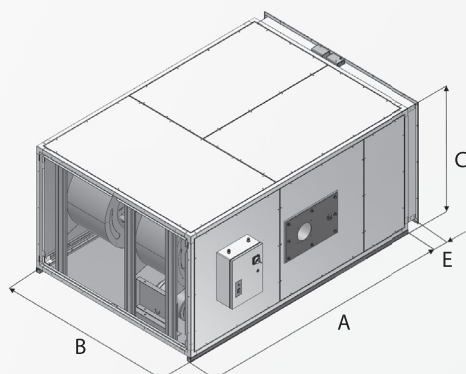
ENERGY/K 160 ÷ 320 one section



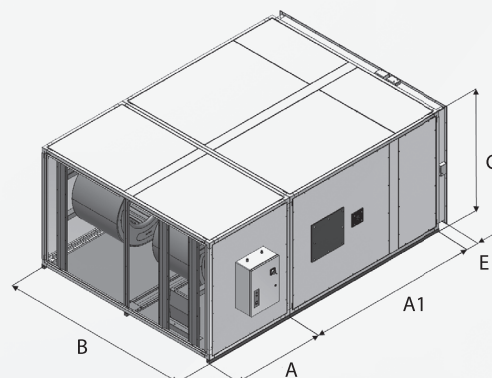
ENERGY/K 460 ÷ 970 2 sections

Models	Overall dimensions mm						Chimney Ø mm	Weight Kg	Weight with packaging Kg
	A	B	C	C1	D	E			
ENERGY 60/K	812	540	1.700	-	600	100	150	180	185
ENERGY 105/K	1.060	760	2.046	-	600	100	200	310	315
ENERGY 160/K	1.300	900	2.240	-	600	100	250	500	507
ENERGY 220/K	1.500	1.000	2.240	-	800	100	250	610	617
ENERGY 320/K	1.700	1.200	2.470	-	800	100	300	850	857
ENERGY 460/K	2.090	1.270	1.180	1.870	1.000	170	330	1.310	1.320
ENERGY 640/K	2.500	1.500	1.180	2.120	1.000	170	370	1.800	1.810
ENERGY 970/K	3.500	1.500	1.380	2.120	1.000	170	380	2.500	2.510

## ENERGY-O Horizontal indoor installation version



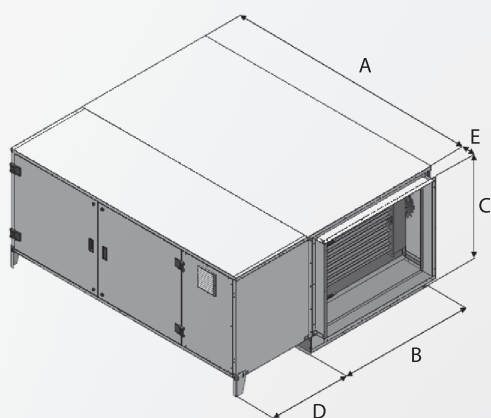
ENERGY-O 60 ÷ 320 one section



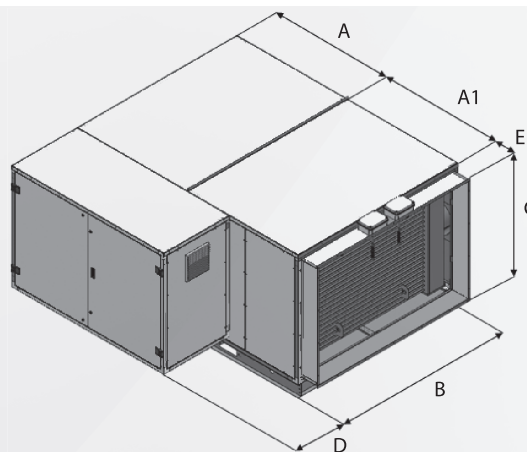
ENERGY-O 460 ÷ 970 2 sections

Models	Overall dimensions mm					Chimney Ø mm	Weight Kg	Weight with packaging Kg
	A	A1	B	C	E			
ENERGY-O 60	1.580	-	870	675	-	150	180	200
ENERGY-O 105	1.926	-	1.060	900	-	200	320	340
ENERGY-O 160	2.120	-	1.300	1.045	100	250	480	505
ENERGY-O 220	2.550	-	1.500	1.145	100	250	600	625
ENERGY-O 320	2.750	-	1.700	1.350	100	300	800	830
ENERGY-O 460	1.400	1.870	2.090	1.430	100	330	1.250	1.285
ENERGY-O 640	1.400	2.120	2.500	1.670	100	370	1.800	1.840
ENERGY-O 970	1.600	2.120	3.500	1.680	100	380	2.200	2.245

## ENERGY-O/K Horizontal outdoor installation version



ENERGY-O/K 60 ÷ 320 one section



ENERGY-O/K 460 ÷ 970 2 sections

Models	Overall dimensions mm						Chimney Ø mm	Weight Kg	Weight with packaging Kg
	A	A1	B	C	D	E			
ENERGY-O/K 60	1.580	-	812	685	600	-	150	240	245
ENERGY-O/K 105	1.950	-	1.060	910	600	-	200	370	375
ENERGY-O/K 160	2.120	-	1.300	1.020	600	170	250	555	562
ENERGY-O/K 220	2.550	-	1.500	1.125	800	170	250	680	687
ENERGY-O/K 320	2.750	-	1.700	1.320	800	170	300	860	867
ENERGY-O/K 460	1.400	1.870	2.090	1.440	1.000	170	330	1.350	1.360
ENERGY-O/K 640	1.400	2.120	2.500	1.600	1.000	170	370	1.900	1.910
ENERGY-O/K 970	1.600	2.120	3.500	1.700	1.000	170	380	2.450	2.460



## Control



Tecnoclima **ENERGY** series cabinet warm air heaters have been designed to be connected to a programmable thermostat to allow simple and intuitive system management.

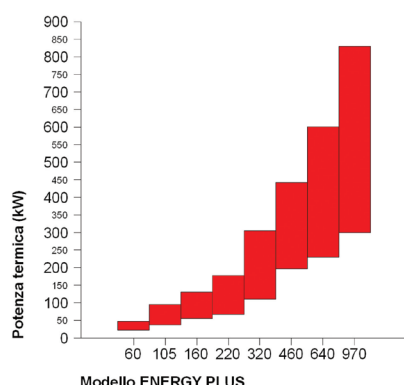
The thermostat can operate efficiently with any type of burner, single stage/ two-stage / modulating, and displays all the system's main operating values.

The display normally shows air temperature, time and heater's operating status.

On the panel, it is also possible to access other functions, for example:

- Change the temperature set-point in the room.
- View any additional sensors on-board the unit.
- Display and reset any alarms.
- Programme time slots for functions if necessary.
- Modify various operating parameters.

## Operating range

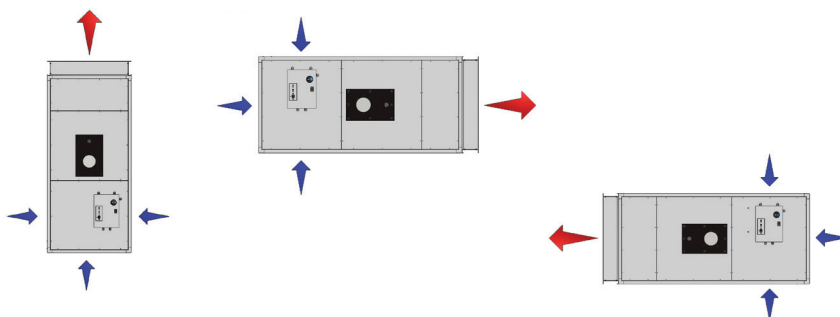


The graphic shows the operating range of **ENERGY** series warm air heaters, combined with a variable heating capacity burner.

## Versions

**ENERGY** series warm air heaters can satisfy all system needs and are available in the following versions:

- Vertical for indoors
- Vertical for outdoors
- Horizontal for indoors
  - air delivery to the right
  - air delivery to the left
- Horizontal for outdoors
  - air delivery to the right
  - air delivery to the left
- Downflow air supply.



# Accessories

On request, a complete range of dedicated accessories is available, specifically designed for installation with the **ENERGY** warm air heater.

- 1 **Diffusion plenum** with double-fins outlet panel for air direct diffusion in multiple directions.
- 2 Side **regulation damper** with manual or motorised control.
- 3 **Side air intake filter** in class G3, with differential pressure switch to control filter cell cleaning.
- 4 **Rain protection cap** with security grid.
- 5 Lower **regulation damper** with manual or motorised control.
- 6 Lower **air intake filter** in class G3, with differential pressure switch to control filter cell cleaning.
- 7 **Single-stage thermostat** with ON-OFF switch or **programmable thermostat**.
- 8 **Two-stage thermostat** with room or duct temperature probe.
- 9 **Modulating electronic thermostat** (see control section).
- 10 **Inverter** for air flow rate modulation.



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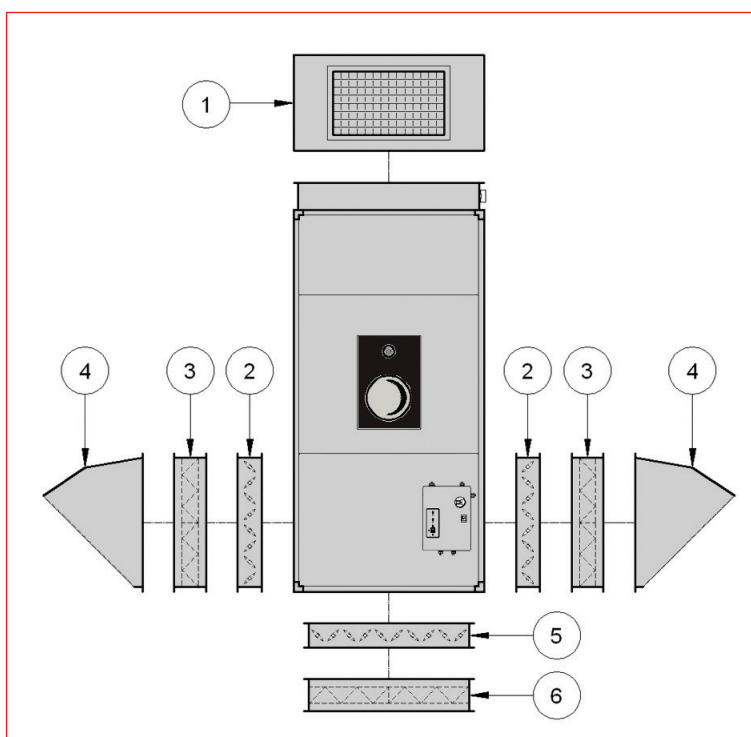
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# DUO-MO



- Maximum energy efficiency, with operation **totally in condensation**, even at maximum heating output.
- Reduced consumption thanks to the very **high thermal efficiency, between 102% and 109%**.
- **5 models** with thermal capacity from 115 to 600 kW and air flow from 14.000 to 58.000 m<sup>3</sup>/h.
- Heat exchanger entirely in stainless steel **AISI 304**.
- Combustion chamber entirely in **AISI 430** stainless steel.
- Optimal regulation thanks to the blown modulating gas burner, supplied complete with gas ramp, temperature probe and **modulation control** device.
- **Operation on two stages**: at maximum air flow rate for a quick heating of the environment and at reduced air flow rate for a more silent and comfortable maintenance of the optimal temperature conditions.
- **Programmable remote control panel** with room thermostat function supplied as standard
- Suitable for ducted or direct diffusion systems with air outlet plenum.

**DUO-MO** series warm air heaters are essentially made of a cabinet made of a sturdy supporting frame, closed with thermally insulated sandwich panels, where the air flow generated by **two independent fan groups** is conveyed towards a **special high efficiency heat exchanger**. The unique and distinctive feature of these heaters is **their operation always in condensation**, with efficiency of ~ 102% at maximum thermal power, which rises up to ~ 109% at reduced thermal power.

These results are obtained thanks to the exclusive heat exchanger, made entirely in corrosion-resistant **stainless steel** and designed with fumes flow in countercurrent to the air flow, **generously dimensioned surfaces and decreasing fumes passage sections**.

The unit is equipped with a dedicated temperature control system with a remote and completely programmable graphic user interface. Through the constant reading and processing of temperature signals coming from the environment to be treated and from the air supply set-point, **the burner modulates its thermal power, together with the variation of the air flow rate**. This particular operation with **two different air flow rates** allows an effective and rapid heating of the room to be treated. The temperature is maintained without oscillations, with reduced air flow and **better acoustic comfort**. Thanks to these distinctive characteristics, the use of **DUO-MO** series warm air heaters is particularly advantageous in cases where intermittent or occasional heating is required and where very low sound levels are required, such as in churches, places of worship in general, large used for the public.

For reasons of portability, larger models are shipped in separate packages, to be assembled directly on the installation site.



# Technical features

## HEATING SECTION

### MAXIMUM OPERATING MODE IN CONDENSATION

Models	U.M.	DUO-MO 115	DUO-MO 145	DUO-MO 245	DUO-MO 395	DUO-MO 615
Thermal power input	kW	115,9	143,4	240,0	382,2	600,0
	kcal/h	99.670	123.320	206.400	328.690	516.000
Thermal power output	kW	120,0	147,6	246,0	393,7	618,2
	kcal/h	103.200	126.940	211.560	338.580	531.650
Efficiency	%	103,4	102,9	102,5	103,0	103,0
Air temperature increase	K	26	31	31	31	32

### MINIMUM OPERATING MODE IN CONDENSATION

Models	U.M.	DUO-MO 115	DUO-MO 145	DUO-MO 245	DUO-MO 395	DUO-MO 615
Min thermal power input	kW	53,3	69,3	115,4	182,3	291,6
	kcal/h	45.810	59.590	99.270	156.750	250.780
Min thermal power output	kW	57,0	73,8	123,1	196,9	309,1
	kcal/h	49.020	63.470	105.820	169.290	265.830
Efficiency	%	107,0	106,5	106,6	108,0	106,0
Air temperature increase	K	12	16	16	16	16

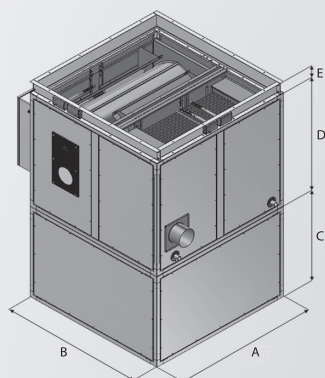
## AERAILIC SECTION

Models	U.M.	DUO-MO 115	DUO-MO 145	DUO-MO 245	DUO-MO 395	DUO-MO 615
Nominal air flow (max)	Nm³/h	14.000	14.000	23.000	37.000	57.500
Nominal air flow (min)	Nm³/h	9.100	9.100	14.950	24.000	37.400
Static pressure (max)	Pa	250	250	250	250	250
Electrical power absorbed	kW	2 x 2,2/0,75	2 x 2,2/0,75	2 x 4,0/1,2	2 x 5,5/1,7	2 x 11,0/3,7

## ELECTRICAL SPECIFICATION

Models	U.M.	DUO-MO 115	DUO-MO 145	DUO-MO 245	DUO-MO 395	DUO-MO 615
Electric voltage	V - 50Hz	400 3N ~ TRIFASE				

## Dimensions



DUO-MO 395



Modulating electronic remote control panel with display for the unit control.  
Supplied as standard

Models	Overall dimensions mm					Chimney Ø mm	Weight Kg	Weight with packaging Kg
	A	B	C	D	E			
DUO-MO 115	1.250	1.250	920	1.000	100	150	640	660
DUO-MO 145	1.250	1.250	920	1.000	100	150	640	660
DUO-MO 245	1.490	1.610	870	1.050	170	180	980	1.000
DUO-MO 395	2.000	2.000	1.000	1.400	170	200	1.420	1.440
DUO-MO 615	2.400	2.400	1.250	1.500	170	250	2.130	2.150

# BA PLUS



- Simple installation and quick start-up heaters.
- Complete with **pre-assembled plenum** for direct air diffusion.
- **Diesel burner with built-in tank** and thermostat.
- Simply connect electrical power supply and the smoke outlet to start the appliance in few minutes.
- **Range of 3 models** with powers of 30 kW, 60 kW and 100 kW.
- Low noise level centrifugal fan.
- Ideal for heating of small and medium-sized industrial environments such as workshops, laboratories, emergency facilities where a reliable, autonomous, rapid and easy installation is required.

**BA PLUS** warm air heaters are the ideal solution for heating of small and medium-sized industrial environments where direct diffusion of warm is requested, without duct diffusion system. Heaters are powered by diesel **single-stage burner**. The standard supply of air diffusion **plenum with adjustable outlet fins on all four sides** and a fixed transmission fan unit helps to make installation particularly economical, quick and simple.

The centrifugal fan, with motor directly coupled to the impeller and with **low noise emission level**, allows the installation of the heater directly into the environment to be treated.

The burner is contained in a special compartment, where the diesel tank is also housed. On the control panel there is a room thermostat to ensure fully automatic operation of the heater. The heater is complete with electrical panel and control and safety devices and, during summer season, it is set up to provide only ventilation of the environment.

For the biggest model BA 100 PLUS diesel tank is sold separately as accessory.

# Technical features

## HEATING SECTION

### HEAT EXCHANGER

Models	U.M.	BA 30 PLUS	BA 60 PLUS	BA 100 PLUS
Thermal power input	kW	27,1	61,3	99,3
	kcal/h	23.300	52.720	85.400
Thermal power output	kW	25,2	56,7	92,3
	kcal/h	21.650	48.760	79.400
Air temperature increase	K	27	32	31
Diesel tank capacity	l	75	90	-

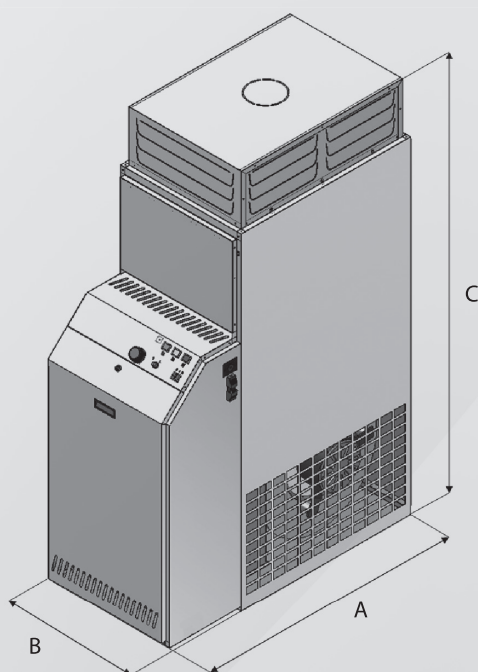
## AERAILIC SECTION

Models	U.M.	BA 30 PLUS	BA 60 PLUS	BA 100 PLUS
Nominal air flow	Nm <sup>3</sup> /h	2.760	5.300	8.800
Fan motor	W	245	560	2.200

## ELECTRICAL SPECIFICATION

Models	U.M.	BA 30 PLUS	BA 60 PLUS	BA 100 PLUS
Electric voltage	V-50Hz	230 1 N~	230 1 N~	400 3 N~

# Dimensions



BA PLUS 30 ÷ 100

Models	Overall dimensions mm			Chimney Ø mm	Weight Kg*	Weight with packaging Kg
	A	B	C			
BA 30 S	1.020	500	1.600	120	140	150
BA 60 S	1.120	540	1.700	150	180	190
BA 100 S	1.400	760	2.000	200	315	325

\* Without burner



# HB PLUS



- Simple installation and quick start-up heaters.
- Suitable for direct or ducted air distribution **in residential and commercial environments.**
- **Range of 2 models** with a thermal capacity from 20 to 40 kW, adjustable on two different levels of power, calibrating the burner power.
- Ideal for heating small and medium-sized areas such as cottages, mountain homes, restaurants, shops and commercial environments.
- Centrifugal fan with **very low sound level.**
- Equipped with **blown single-stage diesel burner.**
- **High efficiency 93%**

**HB PLUS** warm air heaters are available in 2 sizes and find their use for controlled air heating of small and medium-sized rooms, mainly in the residential area. By means of burner power calibration each model may be set on two levels of power. The centrifugal fan with motor directly coupled to the impeller and with a low noise emission level, allows installation of the appliance in **residential** environments and in general in all cases where a limited useful static pressure is required.

**The patented heat exchanger** is made of flattened section tubes with a trapezoidal shape with turbulent imprints that allow to achieve **very high efficiency.** The combustion chamber is made of thick steel that attenuates the combustion noise emissions, preventing them from being transmitted to the rooms through the ducts. The burner housing compartment is carefully encased with sound-absorbing material. The recirculating air intake is complete with a **filter integrated** into the heater itself.

The **HB PLUS** heater is complete with electrical panel and control and safety devices and during the summer season it is set up to provide only ventilation of the environment.

# Technical features

## HEATING SECTION

### HEAT EXCHANGER

Models	U.M.	HB 100 PLUS		HB 130 PLUS	
		HB 101 PLUS	HB 102 PLUS	HB 131 PLUS	HB 132 PLUS
Thermal power input	kW	23,1	27,1	35,2	39,9
	kcal/h	19.866	23.306	30.272	34.314
Thermal power output	kW	21,6	25,2	32,7	37,1
	kcal/h	18.575	21.651	28.153	31.878
Air temperature increase	K	30	27	31	29

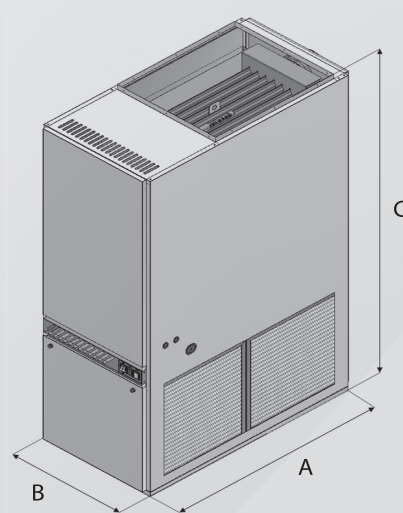
## AERAULIC SECTION

Models	U.M.	HB 100 PLUS		HB 130 PLUS	
		HB 101 PLUS	HB 102 PLUS	HB 131 PLUS	HB 132 PLUS
Nominal air flow	Nm³/h	2.160	2.760	3.170	3.850
Static pressure	Pa	80	80	80	80
Fan motor	W	245	245	370	370

## ELECTRICAL SPECIFICATION

Models	U.M.	HB 100 PLUS		HB 130 PLUS	
		HB 101 PLUS	HB 102 PLUS	HB 131 PLUS	HB 132 PLUS
Electric voltage	V-50Hz	230 1 N~MONOFASE			

# Dimensions

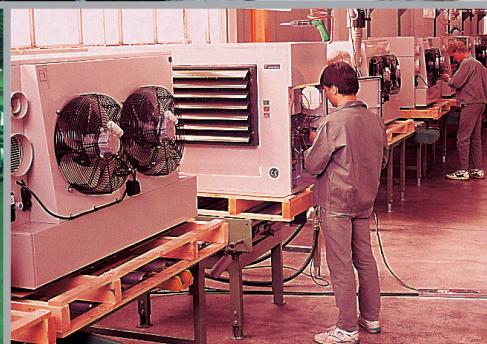


HB PLUS 100 ÷ 130

Models	Overall dimensions mm			Chimney Ø mm	Weight Kg*	Weigh with packaging Kg
	A	B	C			
HB 101 PLUS	968	500	1.395	150	128	140
HB 102 PLUS	968	500	1.395	150	128	140
HB 131 PLUS	968	600	1.395	150	132	145
HB 132 PLUS	968	600	1.395	150	132	145

\* Woithout burner





## TECNOCLIMA S.p.A.

Tecnoclima S.p.A. was founded in 1973 by Alfonso Vescovi and extends over a surface area of 50.000 square meters.

Its purpose is to produce equipment for air treatment, heating and conditioning.

For more than 40 years the **production takes place entirely in Italy**, in the historic production site near Trento.

### TECNOCLIMA GROUP:

<b>TECNOCLIMA S.p.A.</b>	Pergine (Trento) Italia
<b>EMAT S.A.</b>	Genas (Lyon) France
<b>OOO TC Group Energia</b>	Moscow Russia

### BRANDS:

<b>TECNOCLIMA</b>	well-known worldwide for its high quality equipment for air heating and air treatment
<b>CLIMA ITALIA</b>	prestigious brand in the air conditioning sector
<b>EMAT</b>	France leader company in the warm air heating and air treatment



### PRODUCTS AND TECHNOLOGIES:

**Standard products** with more than 300 models of warm air heaters, roof top, air treatment units, heat pumps, heat recovery units and hydronic terminal units.

**Special products:** specifically designed and manufactured according to customer's specifications.

**Advanced technologies:** condensation with modulating and premix burner, variable air flow with inverter, plug-fans, static and thermodynamic recovery, regulations and controls with dedicated software internally developed.

### APPLICATIONS:

#### Heating, Ventilation and Air Conditioning:

- Halls and warehouses for industrial and commercial use
- Greenhouses and farms
- Places of worships
- Tensostatic structures and air domes
- Temporary structures, tents and rental structures
- Residential sector

#### Clean high temperature air for process applications:

- Painting
- Drying
- Heat treatment
- Polymerization
- Food industry processes

### EXPORT COUNTRIES:

Argentina, Australia, Austria, Azerbaijan, Belgium, Byelorussia, Bulgaria, Bosnia, Chile, China, Cyprus, Colombia, Croatia, Denmark, Egypt, France, Germany, Jordan, Grain Britain, Greece, Hungary, India, Israel, Chorea, Lebanon, Lithuania, Malta, Norway, Nederland, Poland, Portugal, Romania, Chez Republic, Moldova Republic, Slovakia Republic, San Marino Republic, Russia, Serbia, Slovenia, Spain, Sweden, Switzerland, South Africa, Taiwan, Turkey, Ukraine, Uruguay, New Zealand.



**TECNOCLIMA S.p.A.**

Viale Industria, 19 - 38057 Pergine Valsugana (TN) - Italy

phone +39 0461 531676 - fax +39 0461 512432

[www.tecnoclimaspa.com](http://www.tecnoclimaspa.com) - [tecnoclima@tecnoclimaspa.com](mailto:tecnoclima@tecnoclimaspa.com)

### INTERNATIONALLY RECOGNIZED QUALITY



Since the Company is constantly focused on products' improvements, all equipment and accessories may be subjected to alterations and modifications without notice.