



SYSTEMA

AIRTIGHT GAS CONVECTORS

Pilot flame thermocouple series, natural balanced

Ventilated pilot flame thermocouple series, natural balanced

Electronic series, natural balanced

Ventilated electronic series, natural balanced

Ventilated/forced circulation series

mod. K21, K28, K40, K55

mod. K28V, K40V, K55V

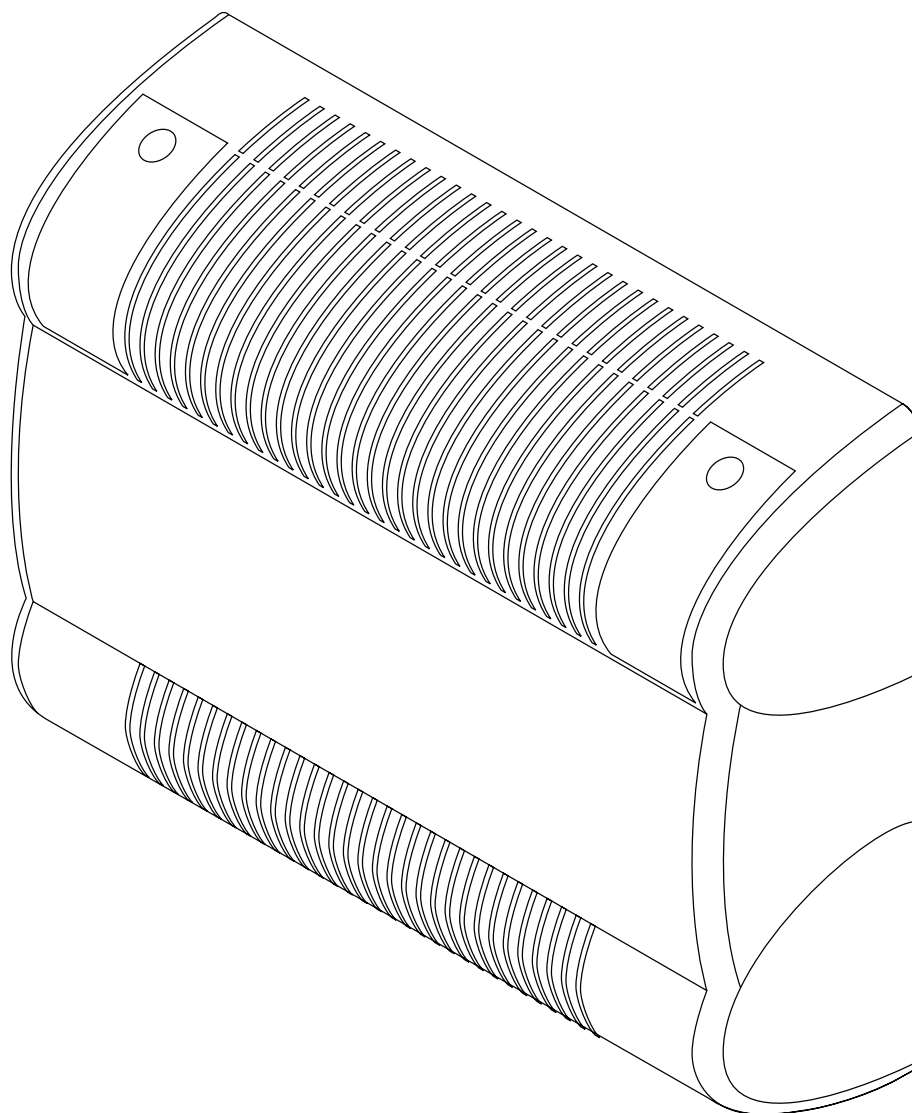
mod. K21E, K28E,
K40E, K55E

mod. K28VE, K40VE, K55VE


mod. K21FE, K28FE, K40FE,
K55FE

GREAT BRITAIN

INSTRUCTION MANUAL
"INSTALLATION, USE AND MAINTENANCE"



CE

 **IMPORTANT:** Read this manual carefully before starting up the system. In order to improve the product, Systema reserves the right to modify the content without prior notice.



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1 GENERAL RULES

This Manual is an integral and essential part of this device and must be carefully stored in its vicinity for purposes of rapid consultation.

Read the instructions and warnings provided herein carefully because they provide important information regarding safety, installation, use and maintenance.

Installation must be performed exclusively by qualified professional personnel in complete respect of the safety regulations in force. The Manufacturer declines all liability for damages caused by the erroneous installation or incorrect and/or inappropriate use of the device.

Keep all potentially dangerous packaging elements (nylon, polystyrene foam, wood, staples, etc.) far from the reach of children.

The device must be started for the first time by qualified personnel only.

Immediately switch off the device whenever it stops and/or malfunctions. All repairs must be performed by qualified personnel using original spare parts only. Failure to observe the above can compromise operational safety.

Scrupulously respect the indications provided by the Manufacturer to guarantee satisfactory operation.

Never leave clothes, paper or other objects that might obstruct the passage of hot air from the slots on top of the radiator.

Delicate surfaces such as curtains, furniture, and wooden or plastic chairs must be kept at a minimum distance of 30 cm from the device.

Provide extra protection against the risk of burning by contact of children, the elderly or disabled with the hot surfaces of the shell wherever necessary. Such additional protection must not obstruct the passage of hot air and the irradiation of heat from the front panel.

2 GENERAL TECHNICAL CHARACTERISTICS

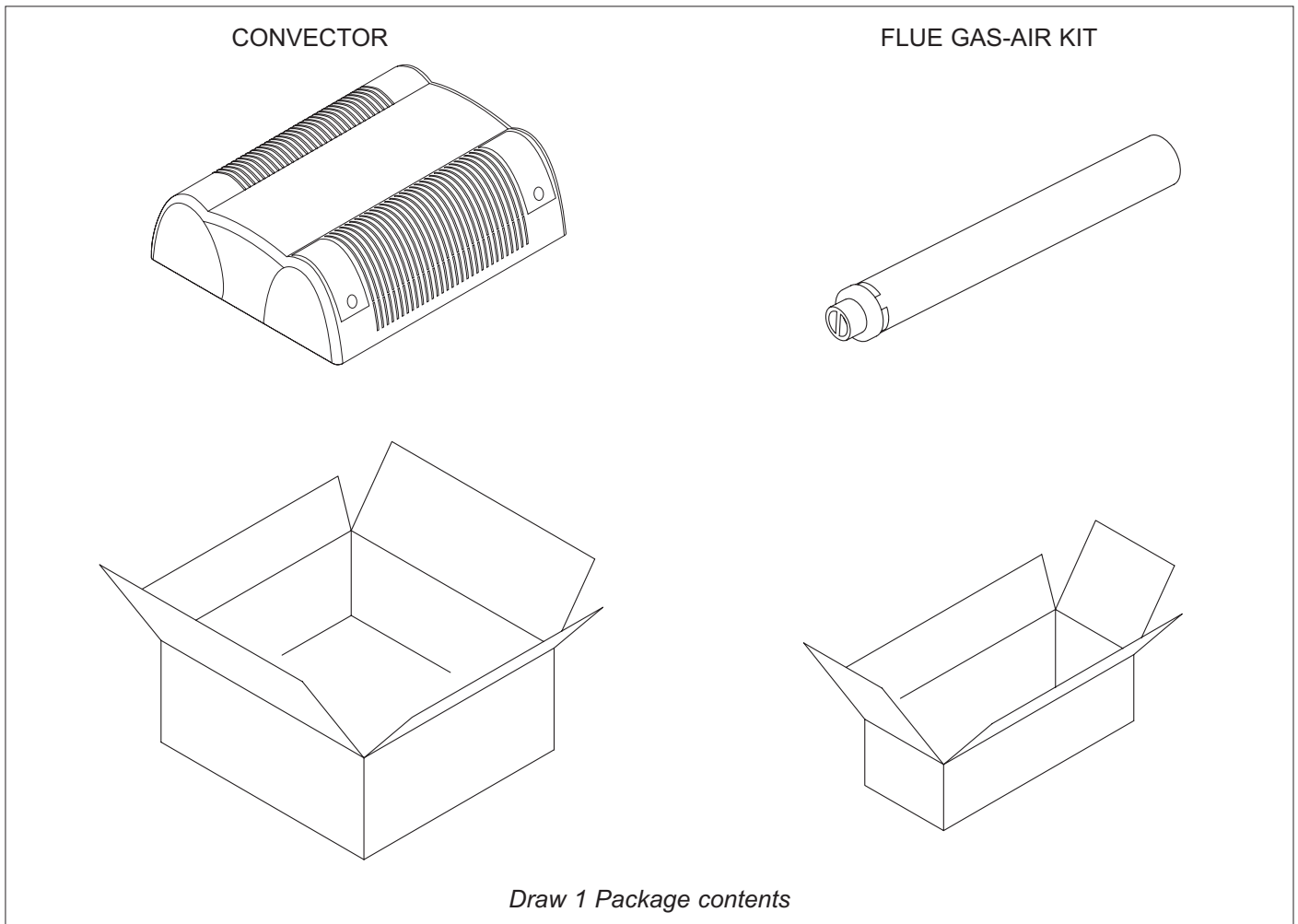
2.1 Device classification

Device type: Type C11 (natural draught) and C13 (forced draught) depending on the flue gas suction and expulsion system used.

Device output class: 1

2.2 Packing list and check on incoming material

- a) The device is delivered complete with all its parts in a box that also contains a set of wall attachment screws.
- b) The air/flue gas terminals and the grille are packed separately.



2.3 Description and operational characteristics

The airtight gas convector radiator is composed of a combustion chamber for the combustion of a gaseous component (methane or LPG) in airtight cast iron divided into two half-shells that can be opened for cleaning and the inspection of the burner. The working temperature of the external surface of the combustion chamber as fanned by the natural convection movement of the surrounding air or the forced circulation of the fans is usually reached in a few minutes.

The device functions automatically, and is equipped with the appropriate systems for safety, control, mixing, combustion, starting, the suction of combustion air and flue gas expulsion.

The combustion air suction and flue gas expulsion systems must be mandatorily connected directly to the building's exterior (C-type devices) and therefore there is no contact between the combustion chamber and the building's interior. This guarantees the maximum safety and permits the installation of the device indoors in complete respect of the standards in force.

2.4 Principal elements of the control and safety systems

- a) Electric control unit for the Electronic series models: this can be of two types depending on the convector model involved (forced or naturally balanced circulation). After receiving the electric signal from the room thermostat, the control unit runs a normal check on the pressure-switch when forced convectors are being controlled (if this check is not positive, the control unit does not grant triggering). The control unit then gives the signal for the performance of the pre-starting lubrication of the combustion chamber (>4 lubrications) and then the signal for spark ignition and starting by opening the gas solenoid valve. If no flame is detected (by the ionization probe) within the established safety time, the device goes into lock-out. In order to reset after lock-out, switch off the bipolar switch with the orange l.e.d. and then switch it back on again.

CONTROL UNIT TECHNICAL CHARACTERISTICS

Power supply voltage	.220/240 V 50/60Hz
Work temperature	.-20 ÷ 60°C
Pre-starting lubrication time	.10 s
Starting safety time	.max. 5 s
Switch-off safety time	.< 1 s

b) Pilot gas valve: there is only one type of pilot gas valve for all pilot flame convector models - a multi-functional valve with single control and combined manual all-or-nothing thermostat control equipped with thermoelectric flame detection device with reset inhibition, maximum flowrate pre-selection device or pressure regulator, minimum flowrate pre-selection screw, all-or-nothing modulation thermostat, pilot flame output with gas flowrate pre-selection screw, inlet filter and pilot filter, inlet and outlet

pressure taps - lateral gas outlets or gas outlets from below with RP 3/8 ISO 7 threads. To start, press the dial and switch on the pilot flame by keeping the dial pressed down for a few seconds. Then release the dial and check to make sure that the pilot flame remains on. If the pilot flame has gone out in the meantime, the reset inhibition device will prevent the re-starting of the convector until the established pilot flame detection device safety time has elapsed.

PILOT GAS VALVE TECHNICAL DATA

Gas connections	.RP 3/8 ISO 7
Max. inlet pressure	.50 mbar
Pressure setting range	.3 ÷ 18 mbar
Room temperature	.0° ÷ 80°C
Pressure regulator	.CLASS C
Pilot flame detection device	.Sit series 200 or 290 thermocouple
Starting time	.< 10 s
Switch off time	.< 60 s

c) Gas solenoid valve: for all electronic series and forced ventilation convectors, multifunctional and multigas with a double safety solenoid valve (connected in series) in Class A and a built-in rectifier bridge. The aluminum body holds the inlet gas connec-

tions - threaded G 3/8" outlet with respective pressure taps. Equipped with pressure regulator to be adjusted only by qualified technicians, the only maintenance operation possible on the valve.

GAS VALVE TECHNICAL DATA

Power supply voltage	.220/240 VAC 50/60 Hz
Electrical protection rating	.IP40
Closing time	.01 s
Work temperature	.-20 ÷ +60°C
Max. inlet pressure	.100 mbar
Work pressure range	.0 ÷ 100 mb
Gas flow rate	.1,5 m3/h (Natural gas DP = 2,5 mb)

d) Air suction unit: this serves to suck the air from the outside and inject it into the combustion chamber

with the consequent expulsion of the flue gases outwards through the appropriate flue gas duct.

SUCTION UNIT MOTOR RATING PLATE DATA

Electrical power supply	.230 VAC 50 Hz
Insulation	.CLASS H
Motor pack	.da 30 mm
Power	.20 WATT

e) Adjustment thermostat: this is a sensor-type thermostat that permits the temperature to be adjusted as required by the user for a comfortable room tem-

perature, and also permits the control of the starting and switching off of the device from the control unit.

THERMOSTAT CHARACTERISTICS

Electrical power supply	240 V 20 A
Work range	6° ÷ 30°C
Max. bulb temperature	42°C
Sensor	copper
Bulb	copper

f) Daily or weekly programmer (only on request): this serves to program the device's daily and weekly operation cycles and is positioned on the control

panel for access by the user for adjustment purposes.

2.5 Pilot flame series technical characteristics

TECHNICAL SPECIFICATIONS OF AIRTIGHT GAS CONVECTORS									
		PILOT FLAME THERMOCOUPLE SERIES MODELS							
		NON-VENTILATED				VENTILATED			
		K21	K28	K40	K55	K28V	K40V	K55V	
RATED HEAT FLOW	kW	2	2,5	4	4,6	2,5	4	4,6	
	kcal/h	1720	2150	3440	3960	2150	3440	3960	
WORKING HEAT OUTPUT	kW	1,8	2,2	3,5	4,1	2,2	3,6	4,1	
	kcal/h	1550	1900	3010	3530	1900	3100	3530	
COMBUSTION EFFICIENCY	%	90,0	87,0	87,3	87,5	87,5	88,0	88,0	
CATEGORY EFFICIENCY		1	1	1	1	1	1	1	
INJECTOR PRESSURE (power supply=20mbar)	Methane G20	mbar	13,2	12,0	12,5	14,0	12,0	12,5	14,0
INJECTOR PRESSURE (power supply=25mbar)	Gas L - G25	mbar	-						
INJECTOR PRESSURE (power supply=29mbar)	GPL Butane - G30	mbar	28.9	28.8	28.9	29.0	28.8	28.9	29.0
INJECTOR PRESSURE (power supply=37mbar)	GPL Propane - G31	mbar	36.6	36.8	36.7	36.5	36.6	36.7	36.5
BURNER INJECTOR DIAMETER	Methane G20	mm	1,25	1,45	1,90	1,90	1,45	1,90	1,90
	Gas L - G25	mm	1.25	1.45	1.90	1.90	1.45	1.90	1.90
	GPL Butane - G30	mm	0.75	0.85	1.05	1.10	0.85	1.05	1.10
	GPL Propane - G31	mm	0,75	0,85	1,05	1,10	0,85	1,05	1,10
MAX FUEL CONSUMPTION (0°C - 1013 mbar)	Methane G20	m³	0,21	0,26	0,42	0,49	0,26	0,42	0,49
	Gas L - G25	m³	0.25	0.31	0.49	0.57	0.31	0.49	0.57
	GPL Butane - G30	kg/h	0.158	0.197	0.315	0.363	0.197	0.315	0.363
	GPL Propane - G31	kg/h	0,155	0,194	0,311	0,357	0,194	0,311	0,357
ELECTRICAL POWER SUPPLY	V		--	--	--	--	230	230	230
	Hz		--	--	--	--	50	50	50
ELECTRICAL POWER (absorbed)	W		--	--	--	--	25	30	30
TREATED AMBIENT AIR FLOW	m³/h		--	--	--	--	150	240	270
HEATED AMBIENT VOLUME	m³		36	44	70	82	48	78	88
FAN SPEED NUMBER			--	--	--	--	2	2	2
OVERALL DIMENSIONS	Width	mm	420	420	560	560	420	560	560
	Height	mm	615	615	615	615	615	615	615
	Depth	mm	225	225	225	225	225	225	225
WEIGHT	kg		31	31	45	45	32	46	46
GAS FITTING DIAMETER	inc. (")		1/2"- M	1/2"- M	1/2"- M	1/2"- M	1/2"- M	1/2"- M	1/2"- M
AIR-FUME COAXIAL PIPE DIAMETERS	Air	mm	120	120	160	160	120	160	160
	Fumes	mm	90	90	90	90	90	90	90
AIR-FUME MAX LENGHT	coaxial pipes	mm	500	500	500	500	500	500	500
TYPE OF EQUIPMENT			C11						

2.6 Electronic series technical characteristics

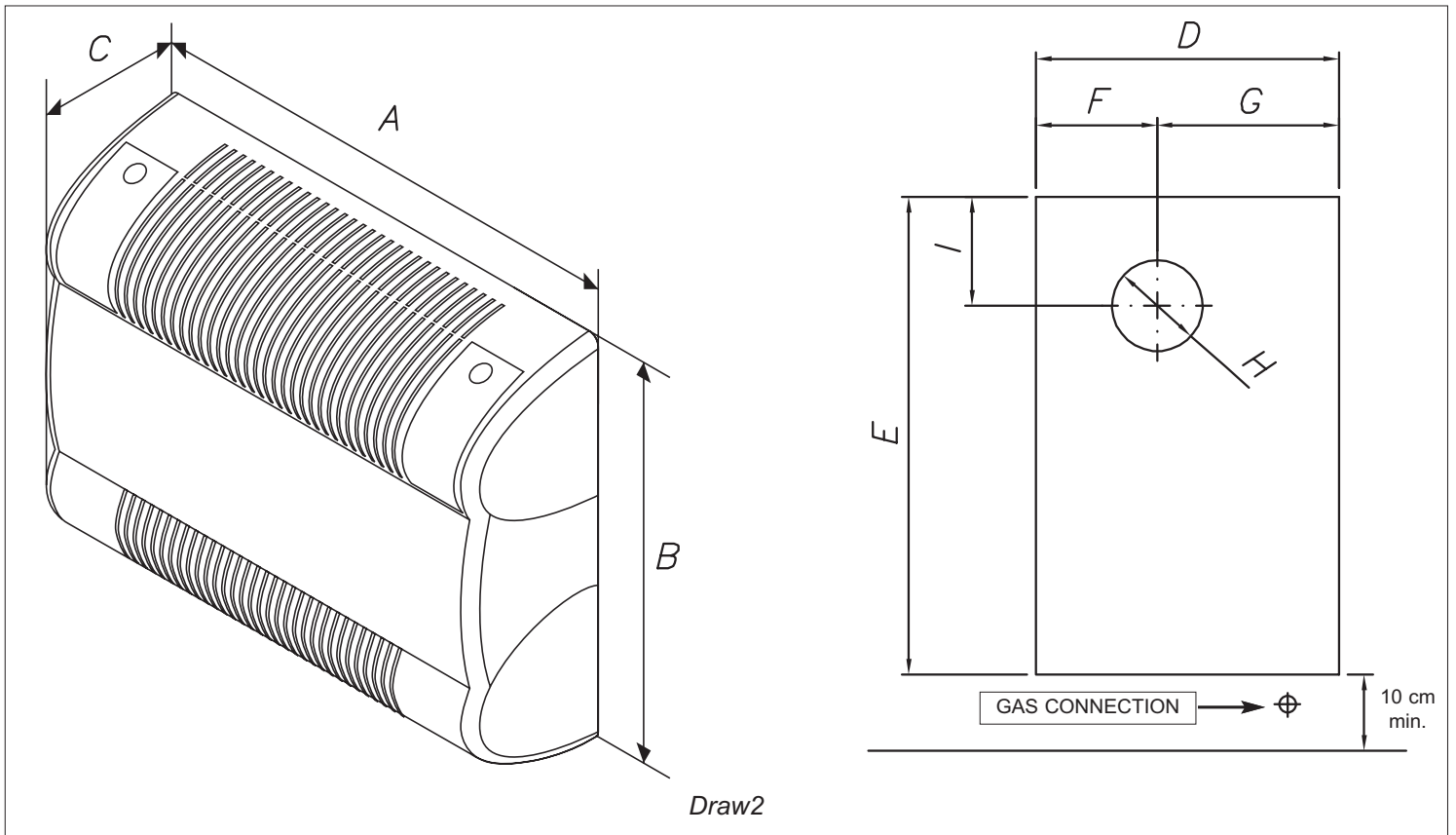
TECHNICAL SPECIFICATIONS OF AIRTIGHT GAS CONVECTORS														
			ELECTRONIC SERIES MODELS											
			NON-VENTILATED				VENTILATED			NON-VENTILATED				
			K21E	K28E	K40E	K55E	K28VE	K40VE	K55VE	K21FE	K28FE	K40FE	K55FE	
RATED HEAT FLOW	kW		2	2,5	4	4,6	2,5	4	4,6	2,4	3	4,3	5,3	
	kcal/h		1720	2150	3440	3960	2150	3440	3960	2070	2580	3700	4560	
WORKING HEAT OUTPUT	kW		1,8	2,3	3,6	4,1	2,3	3,6	4,1	2,2	2,7	3,8	4,6	
	kcal/h		1550	1980	3100	3530	1980	3100	3530	1900	2330	3270	3960	
COMBUSTION EFFICIENCY	%		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	
INJECTOR PRESSURE (power supply=20mbar)	Methane G20	mbar	14,0	12,0	11,0	13,5	12,0	11,0	13,5	12,0	13,0	12,0	12,0	
INJECTOR PRESSURE (power supply=25mbar)	Gas L - G25	mbar	13,5	12,5	11,0	10,0	12,5	11,0	10,0	12,0	13,0	12,0	12,0	
INJECTOR PRESSURE (power supply=29mbar)	GPL Butane - G30	mbar	28,5	28,5	28,0	29,0	28,5	28,0	29,0	28,5	28,5	28,4	28,6	
INJECTOR PRESSURE (power supply=37mbar)	GPL Propane - G31	mbar	36,5	37,0	35,5	37,0	37,0	35,5	37,0	36,5	36,5	36,4	36,4	
BURNER INJECTOR DIAMETER	Methane G20	mm	0,75	0,85	1	1,1	0,85	1	1,1	0,82	0,9	1,05	1,15	
	Gas L - G25	mm	1,5	1,6	2,1	2,3	1,6	2,1	2,3	1,5	1,7	2,1	2,4	
	GPL Butane - G30	mm	0,75	0,85	1	1,1	0,85	1	1,1	0,82	0,9	1,05	1,15	
	GPL Propane - G31	mm	1,25	1,45	1,9	1,9	1,45	1,9	1,9	1,4	1,6	1,9	2,1	
MAX FUEL CONSUMPTION (0°C - 1013 mbar)	Methane G20	m³	0,21	0,26	0,42	0,49	0,26	0,42	0,49	0,25	0,32	0,46	0,56	
	Gas L - G25	m³	0,25	0,31	0,49	0,57	0,31	0,49	0,57	0,30	0,37	0,53	0,65	
	GPL Butane - G30	kg/h	0,158	0,197	0,315	0,363	0,197	0,315	0,363	0,189	0,237	0,339	0,418	
	GPL Propane - G31	kg/h	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	
	Hz		50	50	50	50	50	50	50	50	50	50	50	
ELECTRICAL POWER (absorbed)	W		20	20	20	20	45	65	65	65	65	85	85	
TREATED AMBIENT AIR FLOW	m³/h		--	--	--	--	150	240	270	150	180	260	310	
HEATED AMBIENT VOLUME	m³		36	46	72	82	50	78	88	48	58	84	102	
FAN SPEED NUMBER			--	--	--	--	2	2	2	2	2	2	2	
OVERALL DIMENSIONS	Width	mm	420	420	560	560	420	560	560	560	560	730	730	
	Height	mm	615	615	615	615	615	615	615	615	615	615	615	
	Depth	mm	225	225	225	225	225	225	225	225	225	225	225	
WEIGHT	kg		32	32	46	46	32	46	46	32	33	52	52	
GAS FITTING DIAMETER	inc. (")		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	60	60	60	60	
	Fumes	mm	90	90	90	90	90	90	90	38	38	38	38	
AIR-FUME MAX LENGHT	coaxial pipes	mm	500	500	500	500	500	500	500	5000	5000	5000	3000	
TYPE OF EQUIPMENT			C11						C13					

(*) N.B. One meter of length must be removed for every elbow used in forced ventilation electronic models (FE).

Categories

AT	.....II _{2H3B/P}	IE	.....II _{2H3P}
DE	.....II _{2ELL3B/P}	LU	.....II _{2E3P}
FI	.....II _{2H3B/P}	PT	.....II _{2H3P}
GR	.....II _{2H3P}	CH	.....II _{2H3B/P}
IT	.....II _{2H3+}	ES	.....II _{2H3P}
NO	.....II _{2H3B/P}	GB	.....II _{2H3P}
BE	.....I _{2E+} / I ₃₊	NL	.....II _{2L3B/P}
DK	.....II _{2H3B/P}	SE	.....II _{2H3B/P}
FR	.....II _{2E+3+}	IS	.....I _{3B/P}

2.7 Overall dimensions



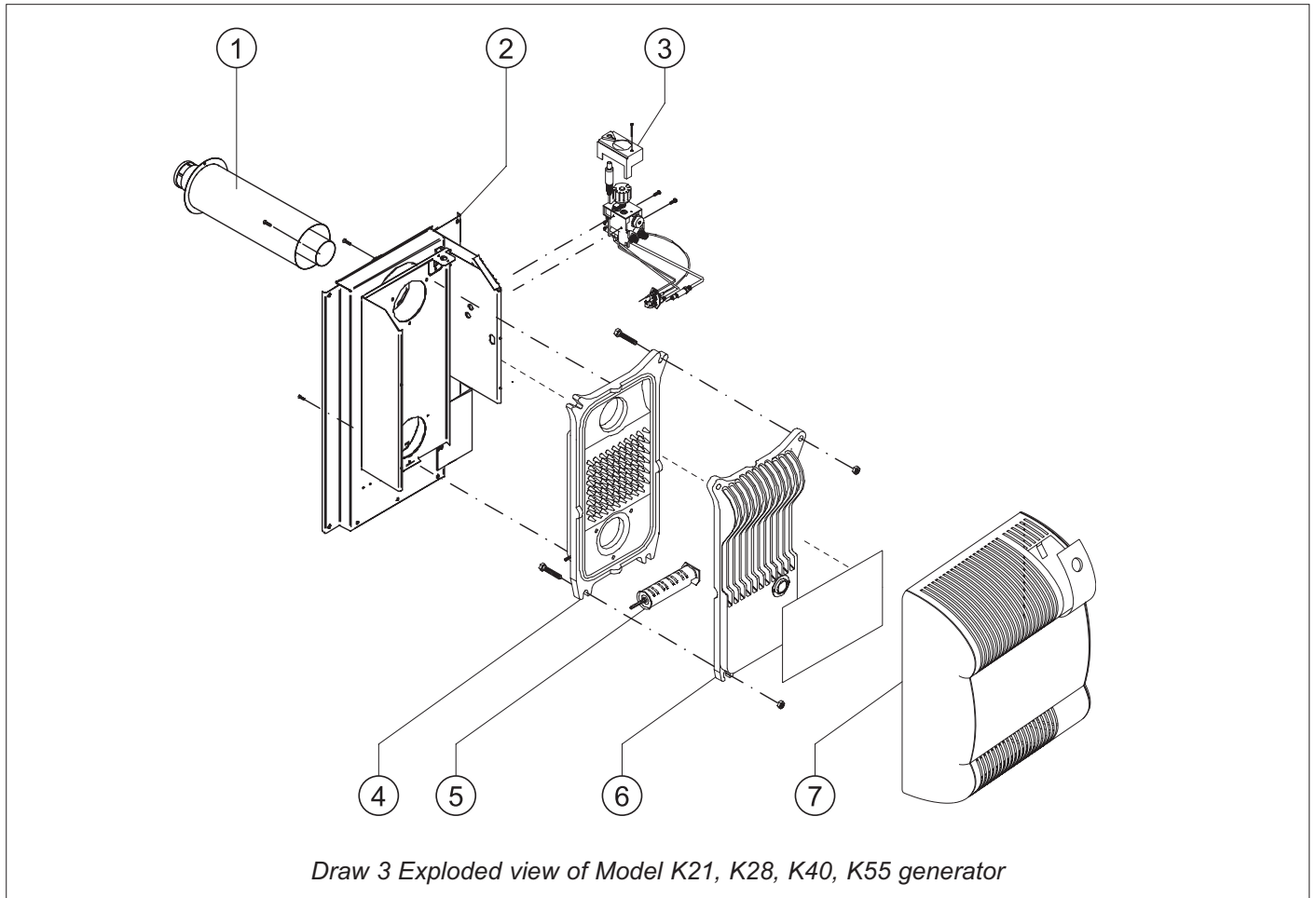
⚠ ATTENTION: the KING gas convector must be installed at 10 cm minimum distance from the ground; it is necessary to foresee the space for the gas interception. The hole for the gas pipe has to be provided under the appliance, between the appliance and the ground, according to the gas inlet of the appliance itself.

CONVECTOR OVERALL DIMENSIONS AND ASSEMBLY FRAME

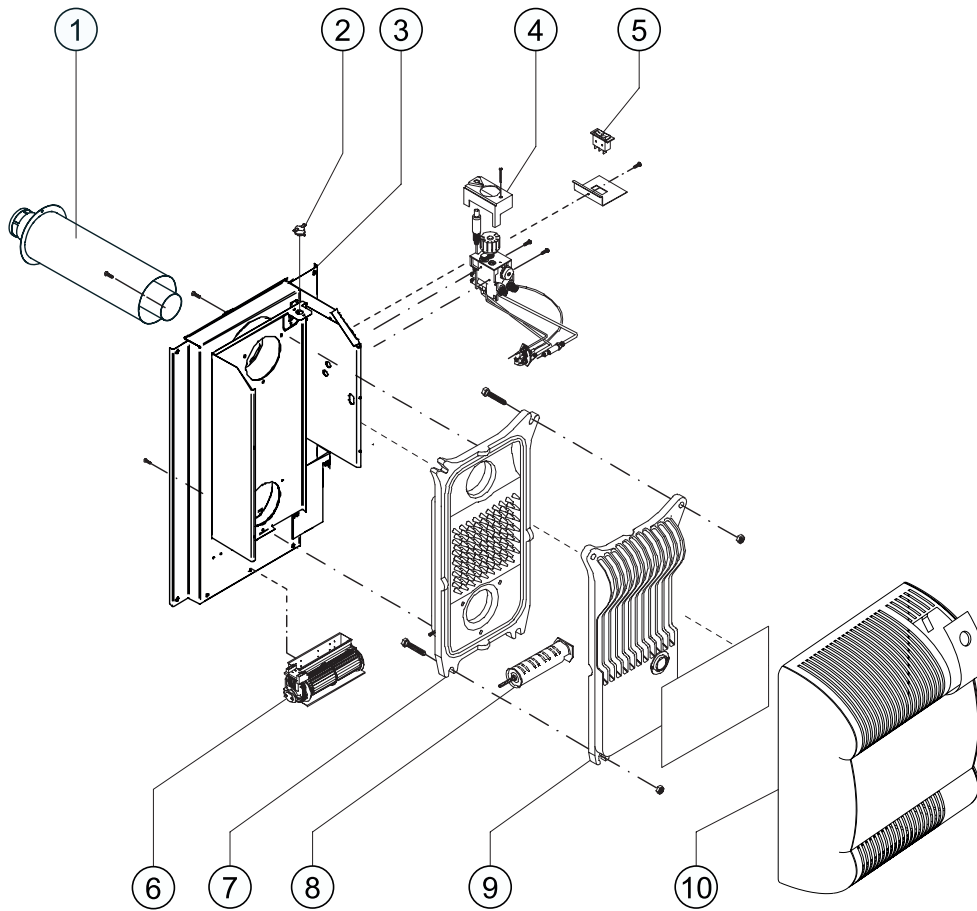
MODELS	A	B	C	D	E	F	G	H	I
K21	440	624	225	385	611	173	212	125	116
K28	440	624	225	385	611	173	212	125	116
K40	600	624	225	549	611	264	285	160	124
K55	600	624	225	549	611	264	285	160	124
K28V	440	624	225	385	611	173	212	125	117
K40V	600	624	225	549	611	264	285	160	124
K55V	600	624	225	549	611	264	285	160	124
K21E	440	624	225	385	611	173	212	125	117
K28E	440	624	225	385	611	173	212	125	117
K40E	600	624	225	549	611	264	285	160	124
K55E	600	624	225	549	611	264	285	160	124
K28VE	440	624	225	385	611	173	212	125	117
K40VE	600	624	225	549	611	264	285	160	124
K55VE	600	624	225	549	611	264	285	160	124
K21FE	585	616	225	535	612	305	230	60	108
K28FE	585	616	225	535	612	305	230	60	108
K40FE	745	616	225	689	612	399	290	60	108
K55FE	745	616	225	689	612	399	290	60	108

The data provided above are purely indicative. The Manufacturer reserves the right to perform modifications without notice.

2.8 Exploded view of convector with parts list

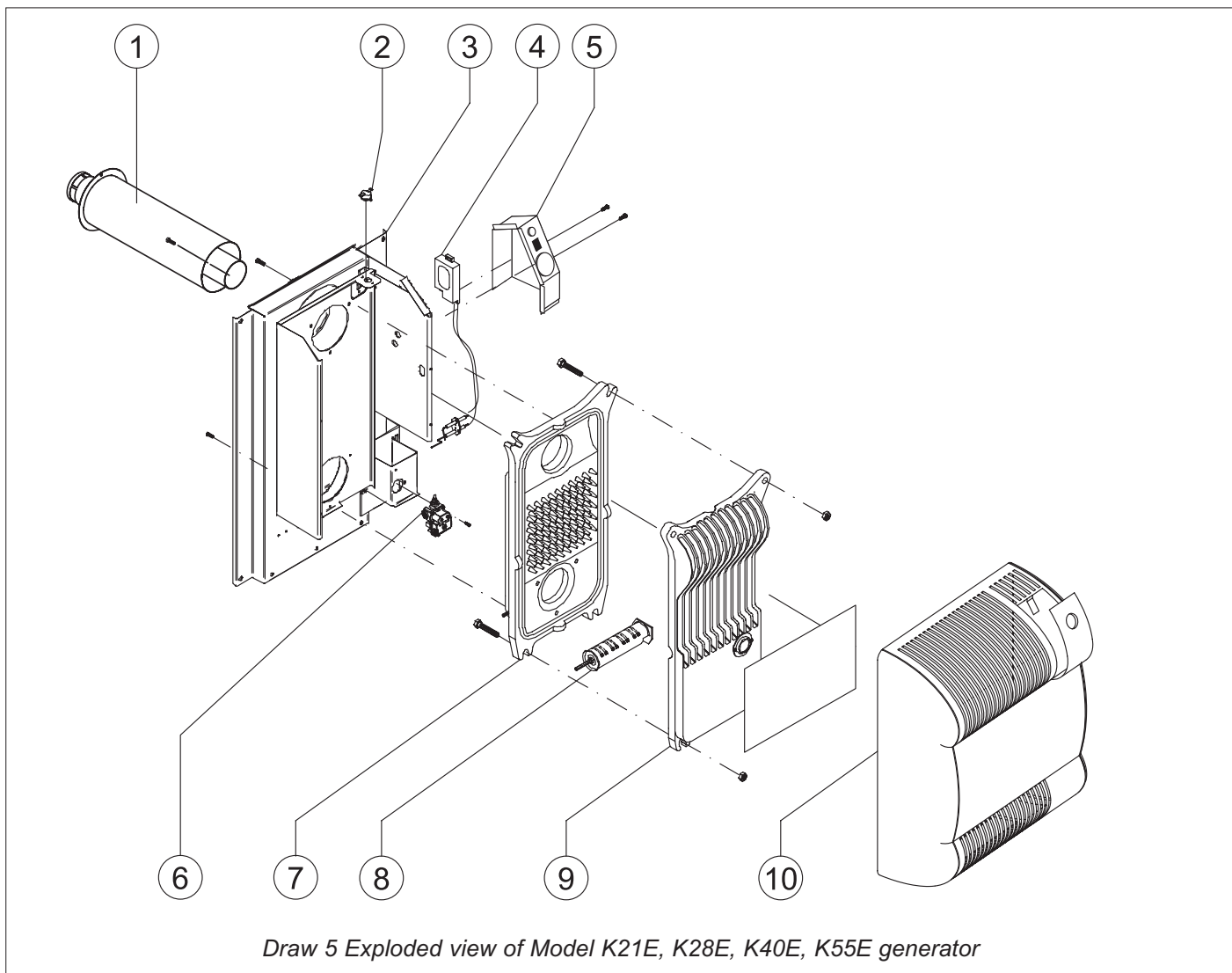


PILOT FLAME TYPE THERMOCOUPLE SERIES CONVECTOR (Ref. Draw 3)						
POS.	Q.	ITEM	K21	K28	K40	K55
			CODE	CODE	CODE	CODE
1	1	PAIR OF COAXIAL TUBES	02ACKT0808	02ACKT0808	02ACKT0810	02ACKT0810
2	1	AIR BOX	02CNSA0378	02CNSA0378	02CNSA0379	02CNSA0379
3	1	EUROSIT PILOT FLAME VALVE	02CNVE0679	02CNVE0679	02CNVE0679	02CNVE0679
4	1	REAR CAST IRON CASTING	02CNFU0201	02CNFU0201	02CNFU0203	02CNFU0203
5	1	BURNER	02CNBR0050	02CNBR0050	02CNBR0052	02CNBR0051
6	1	FRONT CAST IRON CASTING	02CNFU0200	02CNFU0200	02CNFU0202	02CNFU0202
7	1	SHELL	02MACO0028	02MACO0028	02MACO0029	02MACO0029

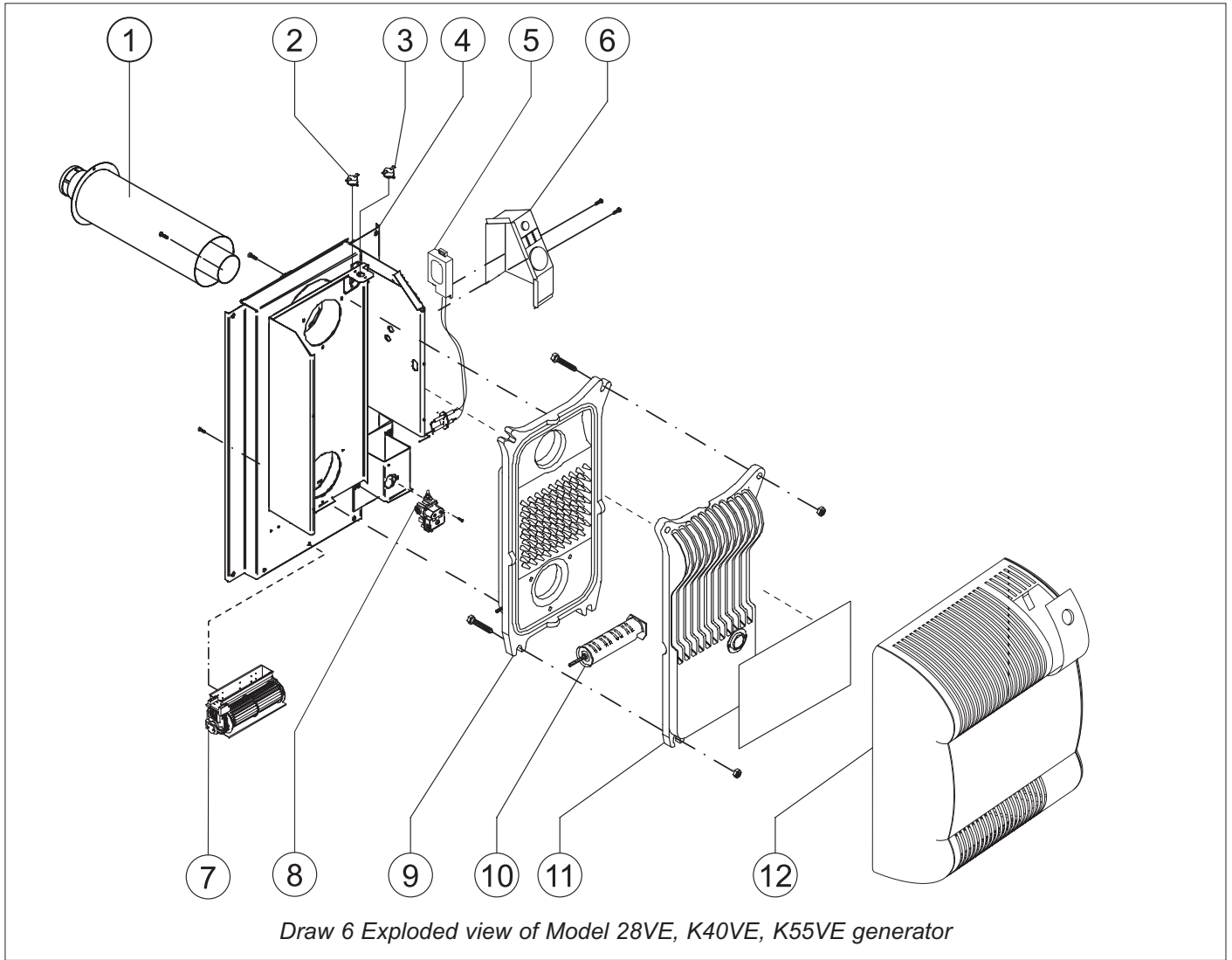


Draw 4 Exploded view of Model K28V, K40V, K55V generator

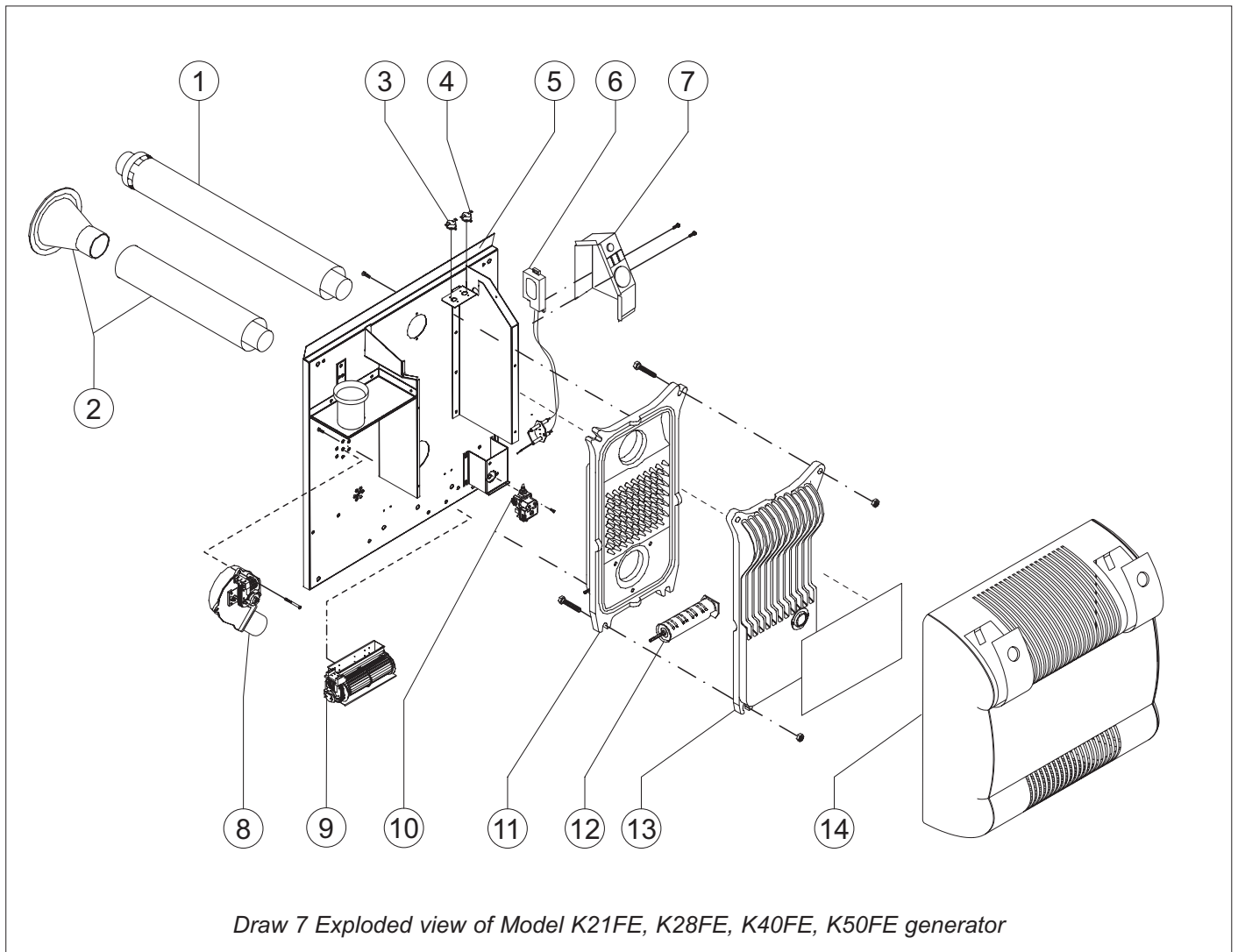
VENTILATED PILOT FLAME THERMOCOUPLE SERIES CONVECTORS (Ref. Draw 4)					
POS.	Q.	ITEM	K28V	K40V	K55V
			CODE	CODE	CODE
1	1	PAIR OF COAXIAL TUBES	02ACKT0808	02ACKT0810	02ACKT0810
2	1	FAN TRIGGERING THERMOSTAT	02CETR0470	02CETR0470	02CETR0470
3	1	AIR BOX	02CNSA0378	02CNSA0379	02CNSA0379
4	1	EUROSIT PILOT FLAME VALVE	02CNVE0679	02CNVE0679	02CNVE0679
5	1	MOLVENO I-II SWITCH	02CEDE0234	02CEDE0234	02CEDE0234
6	1	TANGENTIAL FAN	02CEVT0622	02CEVT0623	02CEVT0623
7	1	REAR CAST IRON CASTING	02CNFU0201	02CNFU0203	02CNFU0203
8	1	BURNER	02CNBR0050	02CNBR0052	02CNBR0051
9	1	FRONT CAST IRON CASTING	02CNFU0200	02CNFU0202	02CNFU0202
10	1	SHELL	02MACO0028	02MACO0029	02MACO0029



ELECTRONIC SERIES CONVECTORS (Ref. Draw 5)						
POS.	Q.	ITEM	K21E	K28E	K40E	K55E
			CODICE	CODICE	CODICE	CODICE
1	1	PAIR OF COAXIAL TUBES	02ACKT0808	02ACKT0808	02ACKT0810	02ACKT0810
2	1	LIMIT THERMOSTAT	02CETR0471	02CETR0471	02CETR0471	02CETR0471
3	1	AIR BOX	02CNSA0378	02CNSA0378	02CNSA0379	02CNSA0379
4	1	BRAHMA CM11F DEVICE	02CEAP2701	02CEAP2701	02CEAP2701	02CEAP2701
		IMIT AC02 DEVICE	02CEAP1028	02CEAP1028	02CEAP1028	02CEAP1028
5	1	ELECTRIC CONTROL PANEL KING E	02CEQU0345	02CEQU0345	02CEQU0345	02CEQU0345
6	1	WHITE ROGERS ELECTRONIC VALVE	02CEEC0164	02CEEC0164	02CEEC0164	02CEEC0164
		SIT 850 MICRO ELECTRONIC VALVE	02CEEL0166	02CEEL0166	02CEEL0166	02CEEL0166
7	1	REAR CAST IRON CASTING	02CNFU0201	02CNFU0201	02CNFU0203	02CNFU0203
8	1	BURNER	02CNBR0058	02CNBR0050	02CNBR0051	02CNBR0051
9	1	FRONT CAST IRON CASTING	02CNFU0200	02CNFU0200	02CNFU0202	02CNFU0202
10	1	SHELL	02MACO0028	02MACO0028	02MACO0029	02MACO0029

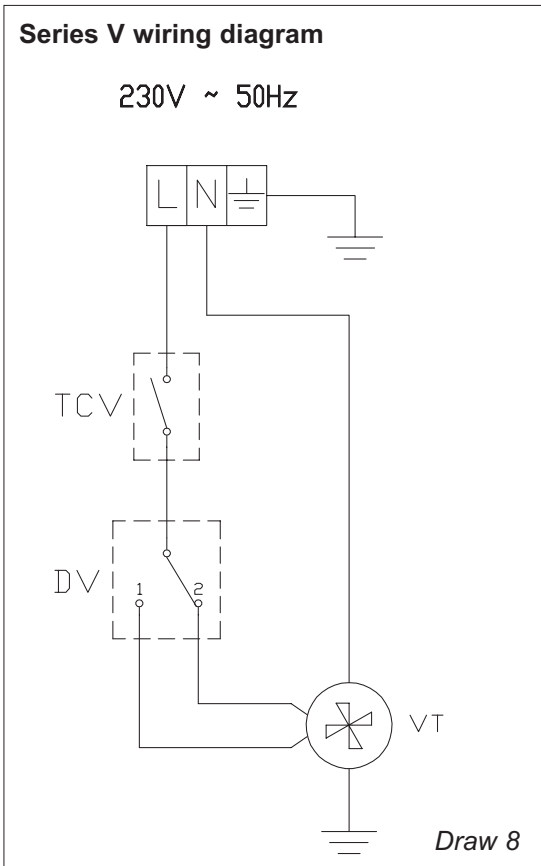


VENTILATED ELECTRONIC SERIES CONVECTORS (Ref. Draw 6)					
POS.	Q.	ITEM	K28VE	K40VE	K55VE
			CODE	CODE	CODE
1	1	PAIR OF COAXIAL TUBES	02ACKT0808	02ACKT0810	02ACKT0810
2	1	LIMIT THERMOSTAT	02CETR0471	02CETR0471	02CETR0471
3	1	FAN TRIGGERING THERMOSTAT	02CETR0470	02CETR0470	02CETR0470
4	1	AIR BOX	02CNSA0378	02CNSA0379	02CNSA0379
5	1	BRAHMA CM11F DEVICE	02CEAP2701	02CEAP2701	02CEAP2701
		IMIT AC02 DEVICE	02CEAP1028	02CEAP1028	02CEAP1028
6	1	ELECTRIC CONTROL PANEL KING VE	02CEQU0344	02CEQU0344	02CEQU0344
7	1	TANGENTIAL FAN	02CEVT0622	02CEVT0623	02CEVT0623
8	1	WHITE ROGERS ELECTRONIC VALVE	02CEEC0164	02CEEC0164	02CEEC0164
		SIT 850 MICRO ELECTRONIC VALVE	02CEEL0166	02CEEL0166	02CEEL0166
9	1	REAR CAST IRON CASTING	02CNFU0201	02CNFU0203	02CNFU0203
10	1	BURNER	02CNBR0050	02CNBR0058	02CNBR0058
11	1	FRONT CAST IRON CASTING	02CNFU0200	02CNFU0202	02CNFU0202
12	1	SHELL	02MACO0028	02MACO0029	02MACO0029

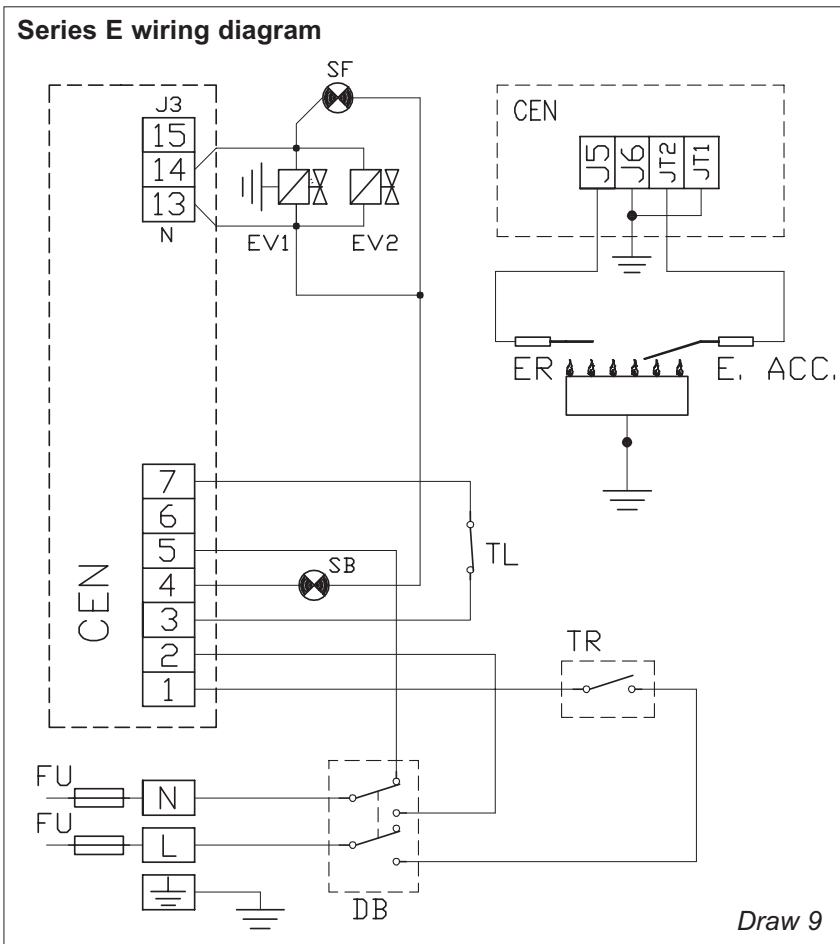


VENTILATED/FORCED CIRCULATION SERIES CONVECTORS (Ref. Draw 7)						
POS.	Q.	ITEM	K21FE	K28FE	K40FE	K55FE
			CODE	CODE	CODE	CODE
1	1	PAIR OF COAXIAL TUBES	02ACKT0800	02ACKT0800	02ACKT0800	02ACKT0800
2	1	STAINLESS STEEL ANTI-WIND GRILLE FOR RECESSED WALL MOUNTING	02ACKT0801	02ACKT0801	02ACKT0801	02ACKT0801
3	1	LIMIT THERMOSTAT	02CETR0471	02CETR0471	02CETR0471	02CETR0471
4	1	FAN TRIGGERING THERMOSTAT	02CETR0470	02CETR0470	02CETR0470	02CETR0470
5	1	AIR BOX	02CNSA0376	02CNSA0376	02CNSA0377	02CNSA0377
6	1	IMIT AC02 DEVICE	02CEAP1028	02CEAP1028	02CEAP1028	02CEAP1028
7	1	ELECTRIC CONTROL PANEL KING FE	02CEQU0343	02CEQU0343	02CEQU0343	02CEQU0343
8	1	EV 100 CENTRIFUGAL FAN	02CEAS3002	02CEAS3002	02CEAS3002	02CEAS3002
9	1	TANGENTIAL FAN	02CEVT0622	02CEVT0622	02CEVT0623	02CEVT0623
10	1	WHITE ROGERS ELECTRONIC VALVE	02CEEC0164	02CEEC0164	02CEEC0164	02CEEC0164
		SIT 850 MICRO ELECTRONIC VALVE	02CEEL0166	02CEEL0166	02CEEL0166	02CEEL0166
11	1	REAR CAST IRON CASTING	02CNFU0201	02CNFU0201	02CNFU0203	02CNFU0203
12	1	BURNER	02CNBR0050	02CNBR0050	02CNBR0058	02CNBR0058
13	1	FRONT CAST IRON CASTING	02CNFU0200	02CNFU0200	02CNFU0202	02CNFU0202
14	1	SHELL	02MACO0031	02MACO0031	02MACO4055	02MACO4055

2.9 Schema elettrico apparecchi

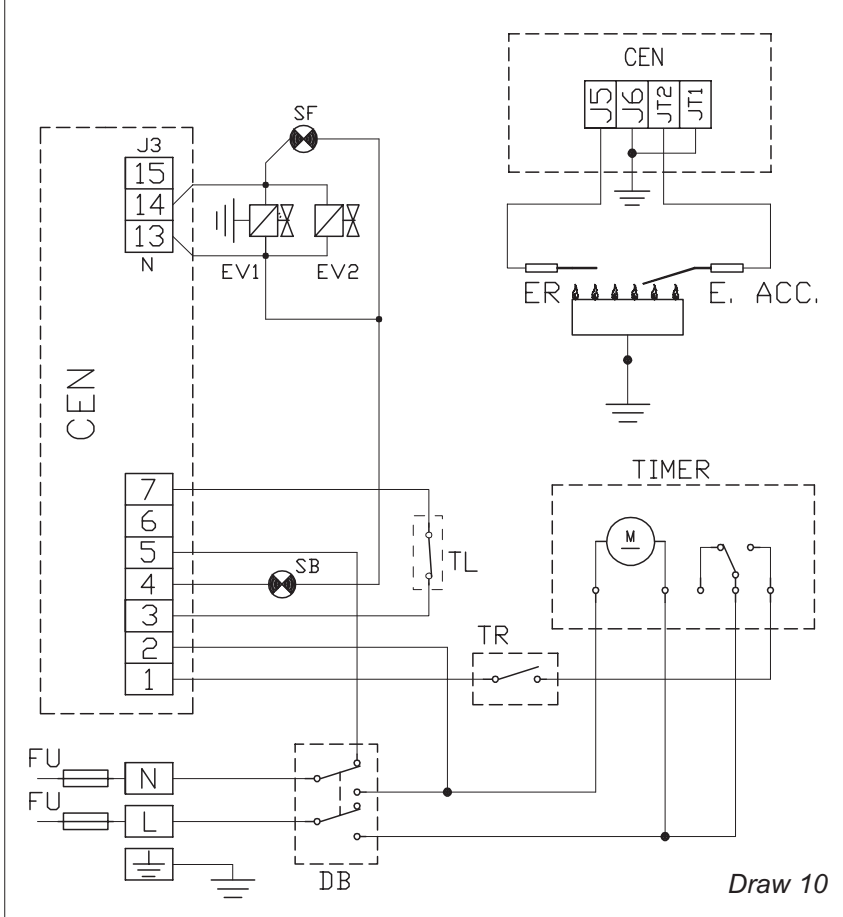


KEY	
L	Phase wire
N	Neutral wire
⏏	Ground
TCV	Fan triggering thermostat
DV	Speed change gear
VT	Tangential fan



KEY	
L	Phase wire
N	Neutral wire
⏏	Ground
DB	Bipolar switch
TR	Regulation thermostat
SB	Lock-out light
SF	Operation light
EV1 EV2	Electronic valve
ER	Detection electrode
E ACC.	Starting electrode
CEN	Imit AC02 or Brahma CM11F electronic valve
TL	Work thermostat

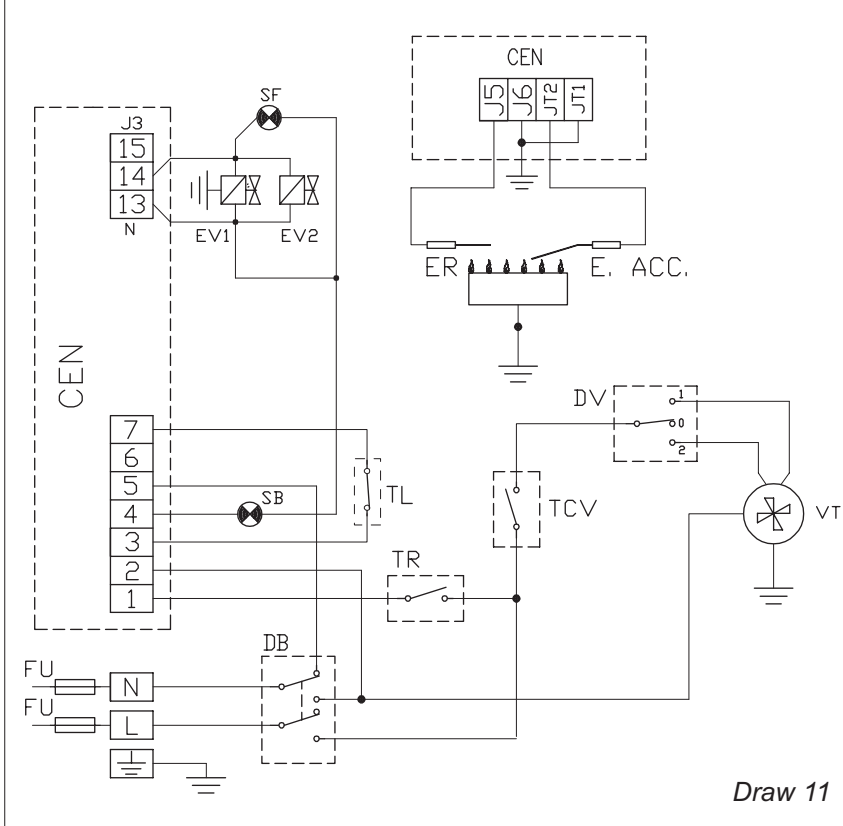
Series E with timer wiring diagram



Draw 10

KEY	
L	Phase wire
N	Neutral wire
⏏	Ground
DB	Bipolar switch
TR	Regulation thermostat
SB	Lock-out light
SF	Operation light
EV1 EV2	Electronic valve
ER	Detection electrode
E ACC.	Starting electrode
CEN	Imit AC02 or Brahma CM11F electronic valve
TL	Work thermostat

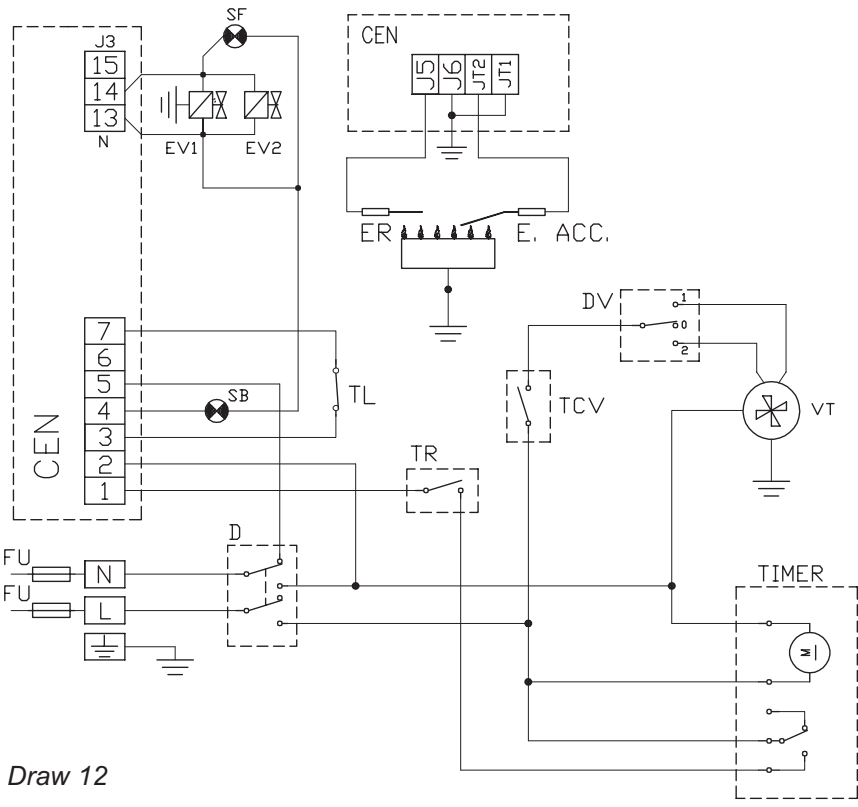
Series VE wiring diagram



Draw 11

KEY	
L	Phase wire
N	Neutral wire
⏏	Ground
DB	Bipolar switch
TR	Regulation thermostat
TCV	Fan triggering thermostat
VT	Fan
DV	Fan switch
SB	Lock-out light
SF	Operation light
EV1 EV2	Electronic valve
ER	Detection electrode
E ACC.	Starting electrode
CEN	Imit AC02 or Brahma CM11F electronic valve
TL	Work thermostat

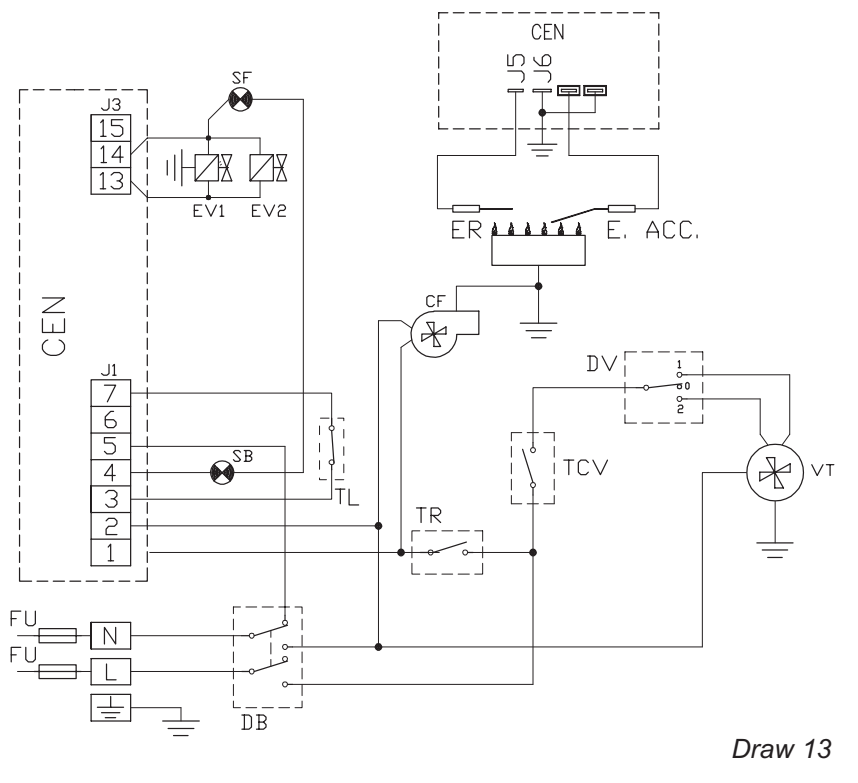
Series VE with timer wiring diagram



Draw 12

KEY	
L	Phase wire
N	Neutral wire
⏏	Ground
DB	Bipolar switch
TR	Regulation thermostat
TCV	Fan triggering thermostat
VT	Fan
DV	Fan switch
SB	Lock-out light
SF	Operation light
EV1 EV2	Electronic valve
ER	Detection electrode
E ACC.	Starting electrode
CEN	Imit AC02 or Brahma CM11F electronic valve
TL	Work thermostat

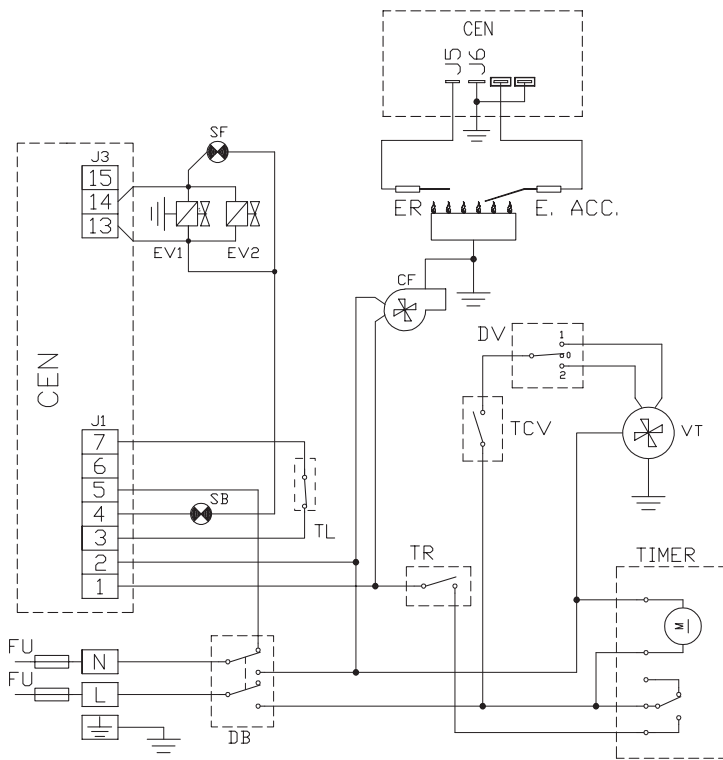
Series FE wiring diagram



Draw 13

KEY	
L	Phase wire
N	Neutral wire
⏏	Ground
DB	Bipolar switch
TR	Regulation thermostat
TCV	Fan triggering thermostat
VT	Fan
DV	Fan switch
SB	Lock-out light
SF	Operation light
EV1 EV2	Electronic valve
ER	Detection electrode
E ACC.	Starting electrode
CF	Fan
CEN	Imit AC02 electronic valve
TL	Work thermostat

Series FE with timer wiring diagram



Draw 14

KEY

L	Phase wire
N	Neutral wire
	Ground
DB	Bipolar switch
TR	Regulation thermostat
TCV	Fan triggering thermostat
VT	Fan
DV	Fan switch
SB	Lock-out light
SF	Operation light
EV1 EV2	Electronic valve
ER	Detection electrode
E ACC.	Starting electrode
CF	Fan
CEN	Limit AC02 electronic valve
TL	Work thermostat

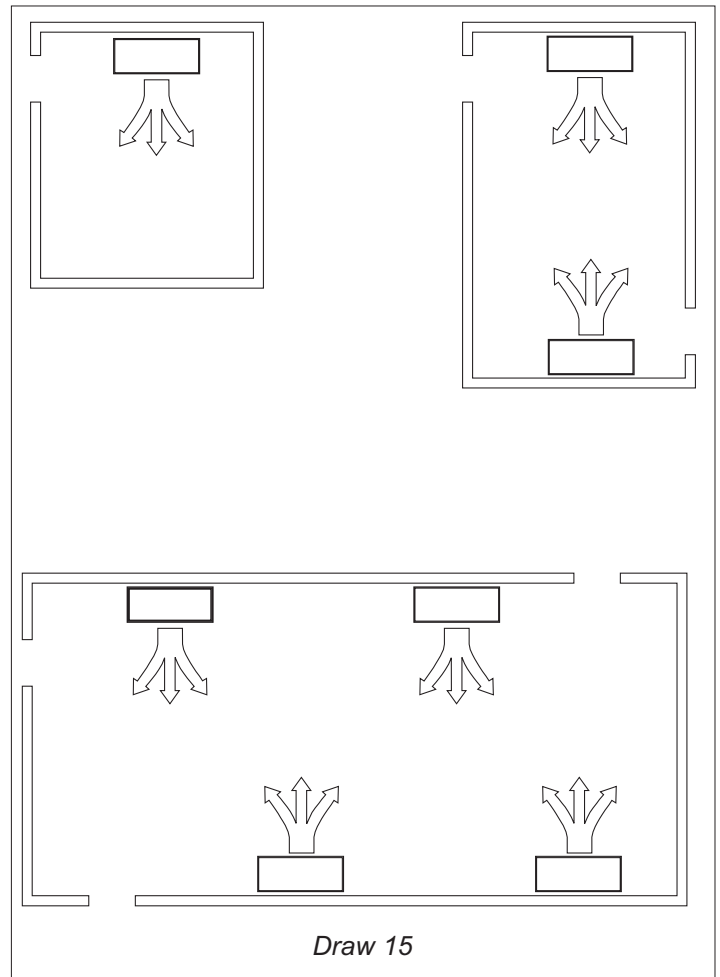
3 INSTRUCTIONS FOR INSTALLERS

3.1 Places of installation and safety distances

We recommend observing the following rules in order to obtain the maximum convector output efficiency:

- Position the device while bearing in mind the priority areas to be heated, the absorption walls (windows, doors, French windows etc.), and the existence of shelves and other obstacles that might compromise the circulation of the hot air released by the radiator above and the effect of the heat radiated from the front panel.
- If more than one device must be installed in the same room, we recommend staggered and opposing positioning in order to provide the entire area with uniform coverage.
- The devices must never be installed in recessed niches or positions that do not ensure sufficient aeration for good operation.
- Install the devices along perimetral walls whenever possible.
- **Observe the following rules to simplify interventions on the radiator or the removal of the shell:**
 - a) the distance of the device from the floor must never be less than 10 cm.;
 - b) any shelves installed above the radiator must be positioned at least 10 cm higher;
 - c) a minimum distance of 10 cm from the wall must be respected whenever devices are installed in recessed niches;
- avoid positioning furnishings above the shell.

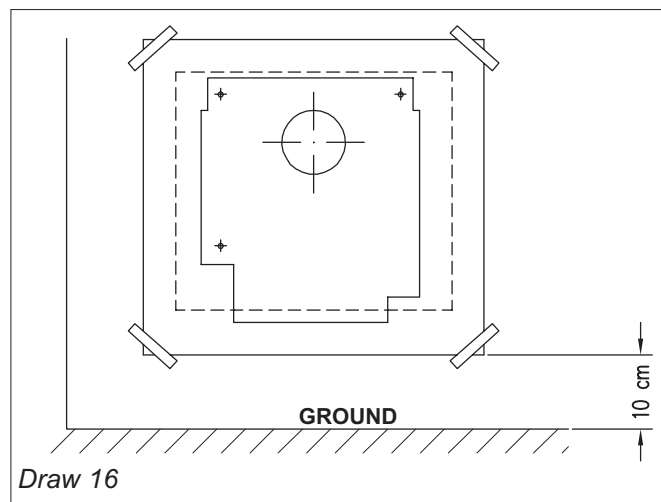
Installation must be performed only by qualified professionals in complete respect of the safety regulations in force. The Manufacturer declines all liability for erroneous installation or the inappropriate or incorrect use of the device.



3.2 Installation of the natural balanced appliance.

For the assembling of the appliance, please follow the instruction given in the following pages:

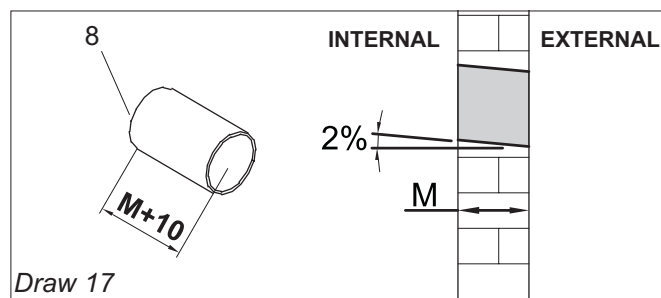
- 1) Place the template on the wall and fix it with adhesive tape at a distance of minimum 10 cm from the floor perfectly in square (see draw 16). Draw the hole for the exhaust and, if possible, make it with a 2% inclination outwards the wall (see draw 17).
- 2) Place the template in square again and be careful when centring it with the hole for the exhaust, then make 4 holes of 8 mm in diameter and insert the supplied inserts (see draw 16).



Draw 16

Cutting Pipes exhaust kit natural balanced models

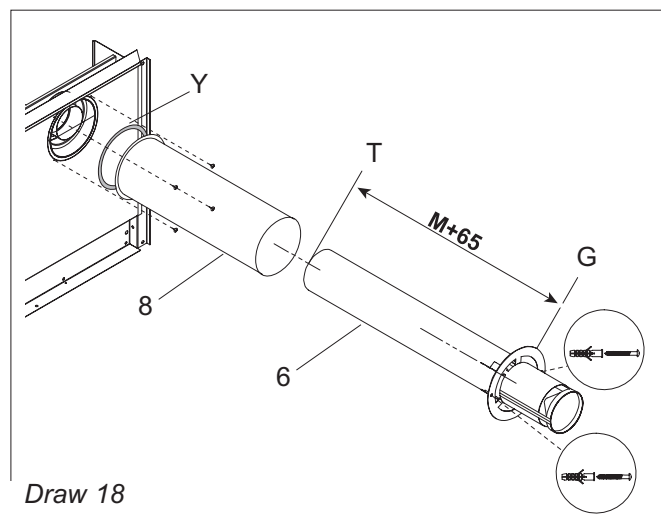
- 3) When the hole is done, measure the thickness of the wall (**M**).
 - Cut the suction pipe (8) on the side without rim (see draw 17) 10mm longer than the thickness of the wall (**M**).
 - Cut the exhaust pipe (6) 65mm longer than the thickness of the wall (**M**) measuring it from the air intake grid (**G**) to the end (**T**) of the pipe, which has to be inserted in the convector (see draw 18).



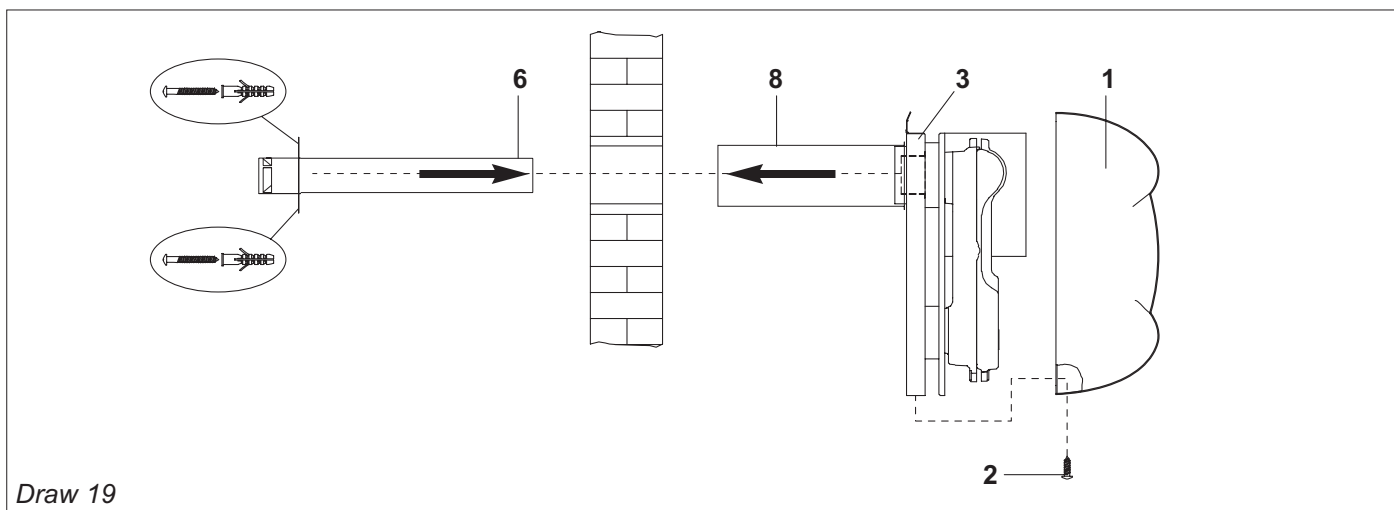
Draw 17

Assembling exhaust kit natural balanced models

- 4) Remove the shell (1) after having unloosing the fixing screws (2) (see draw 19)
- 5) Superimpose the gasket on the pipe.
 - Fix the suction pipe on the side of the rim (8) with the 4 self-threading screws supplied (see draw 22).
- 6) Place the convector with the supplied screws, wedge the fumes pipe grille (6) in the internal collar of the air box (3) and fix it on the external wall with the two supplied inserts.



Draw 18

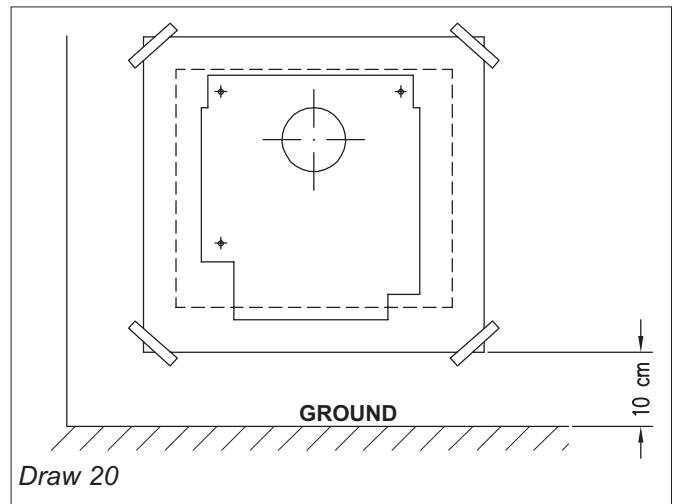


Draw 19

3.2.1 Installation of the forced appliance with model grille

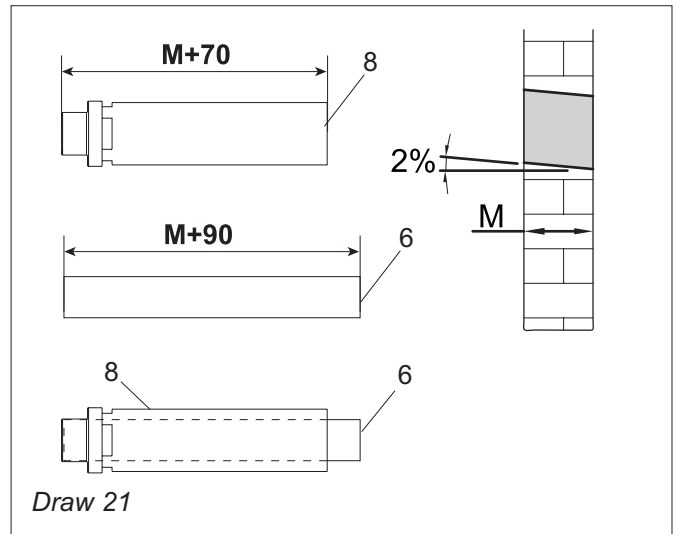
For the assembling of the appliance, please follow the instruction given in the following pages:

- 1) Place the template on the wall and fix it with adhesive tape at a distance of minimum 10 cm from the floor perfectly in square (see draw 20). Draw the hole for the exhaust and, if possible, make it with a 2% inclination outwards the wall (see draw 21).
- 2) Place the template in square again and be careful when centring it with the hole for the exhaust, then make 4 holes of 8 mm in diameter and insert the supplied inserts (see draw 20).



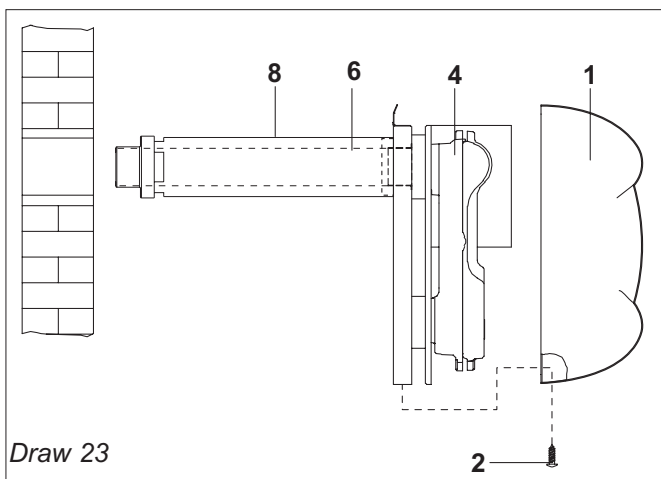
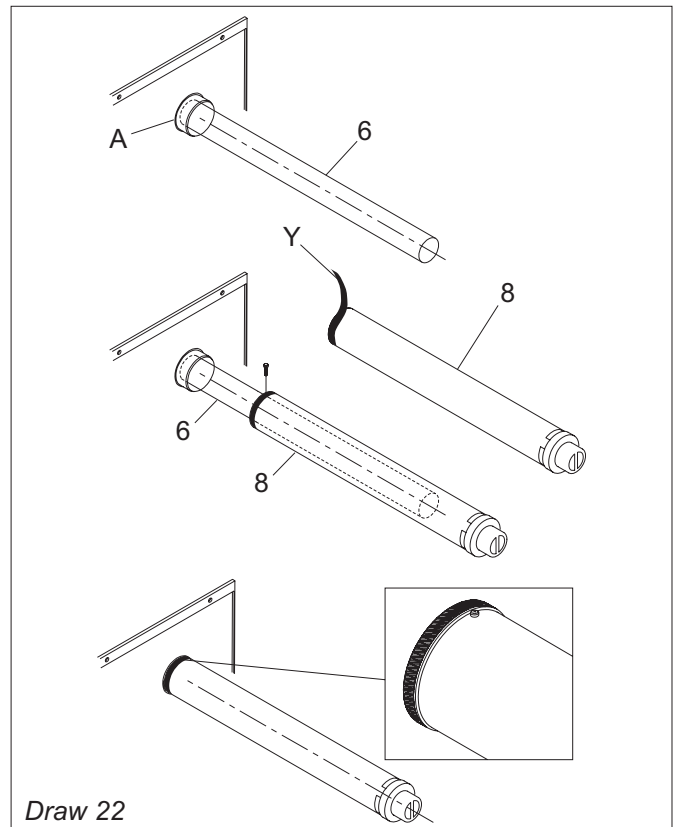
Cutting pipes exhaust kit forced with production model grille

- 3) When the hole is done, measure the thickness of the wall (**M**).
 - Cut the suction pipe (8) 70mm longer than the thickness of the wall (**M**) and on the opposite side of the final part (see draw 21)
 - Cut the exhaust pipe (6) 90mm longer than the thickness of the wall (**M**) (see draw 21).



Assembling exhaust kit forced with production model grille

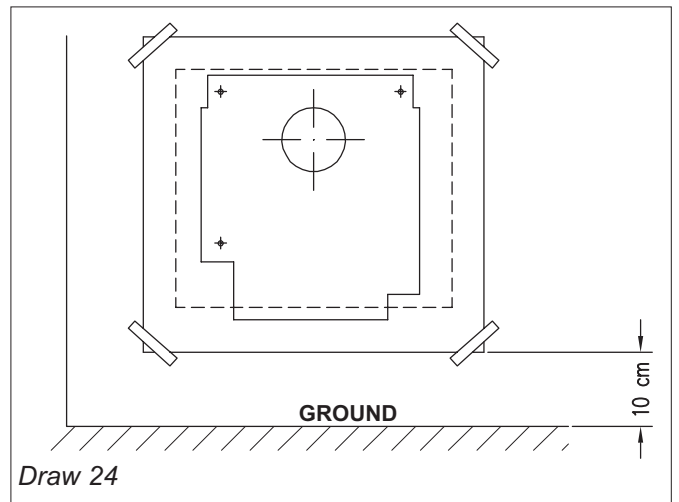
- 4) Remove the shell (1) after having unloosing the fixing screws (2) (see draw 23)
- 5) Thread up the fumes pipe (6) in the internal collar of the air box (see draw 22)
- 6) Thread up the gasket (**Y**) on the suction pipe (8) (see draw 22)
- Fix the pipe (8) on the small collar (**A**) of the air box using the screws supplied (see draw 22)
- 7) Place the convector (4) (draw 23) on the wall next to the hole done before, and then fix it with the screws supplied.



3.2.2 Installation of the forced with grille appliance squared up

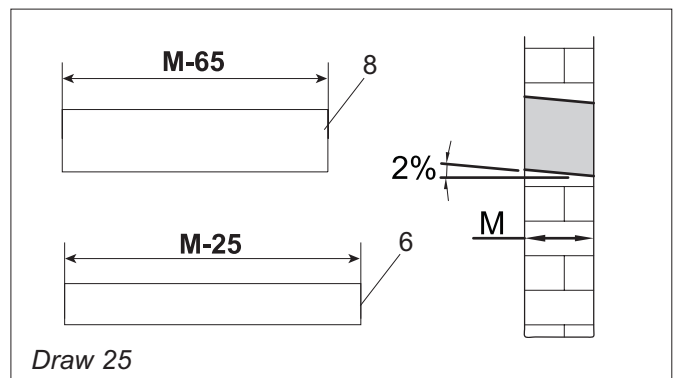
For the assembling of the appliance, please follow the instruction given in the following pages:

- 1) Place the template on the wall and fix it with adhesive tape at a distance of minimum 10 cm from the floor perfectly in square (see draw 24). Draw the hole for the exhaust and, if possible, make it with a 2% inclination outwards the wall (see draw 25).
- 2) Place the template in square again and be careful when centring it with the hole for the exhaust, then make 4 holes of 8 mm in diameter and insert the inserts given (see draw 24).



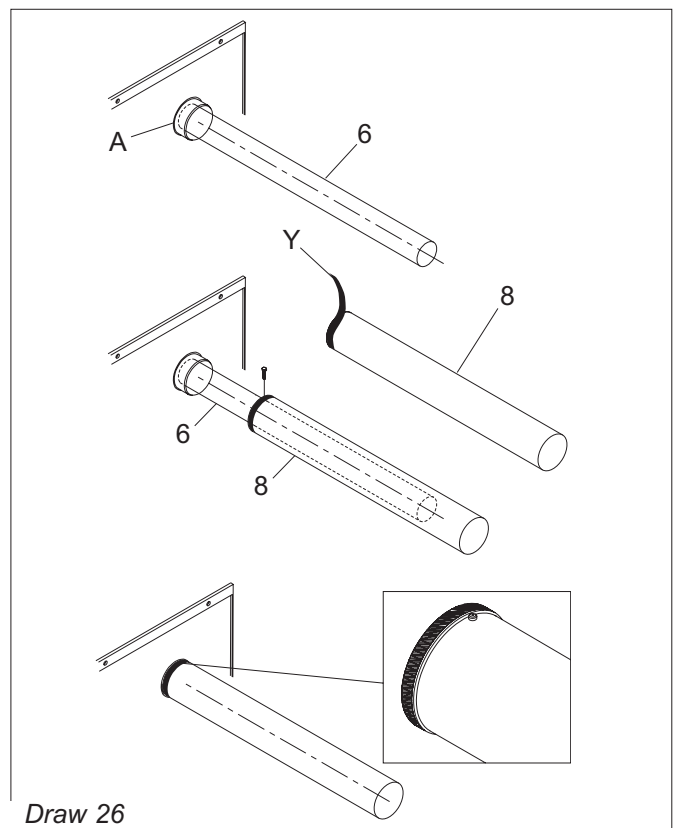
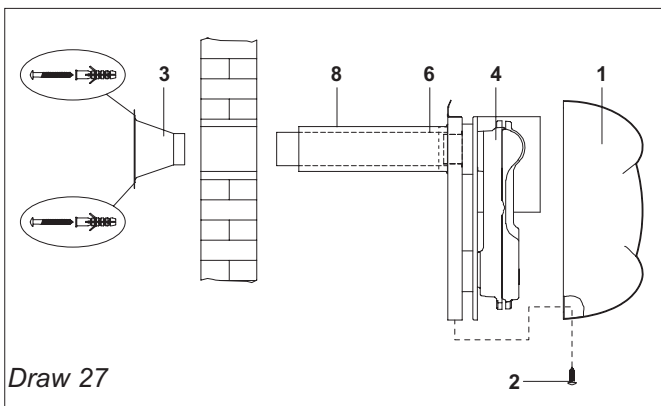
Cutting pipes exhaust kit forced with grille squared up

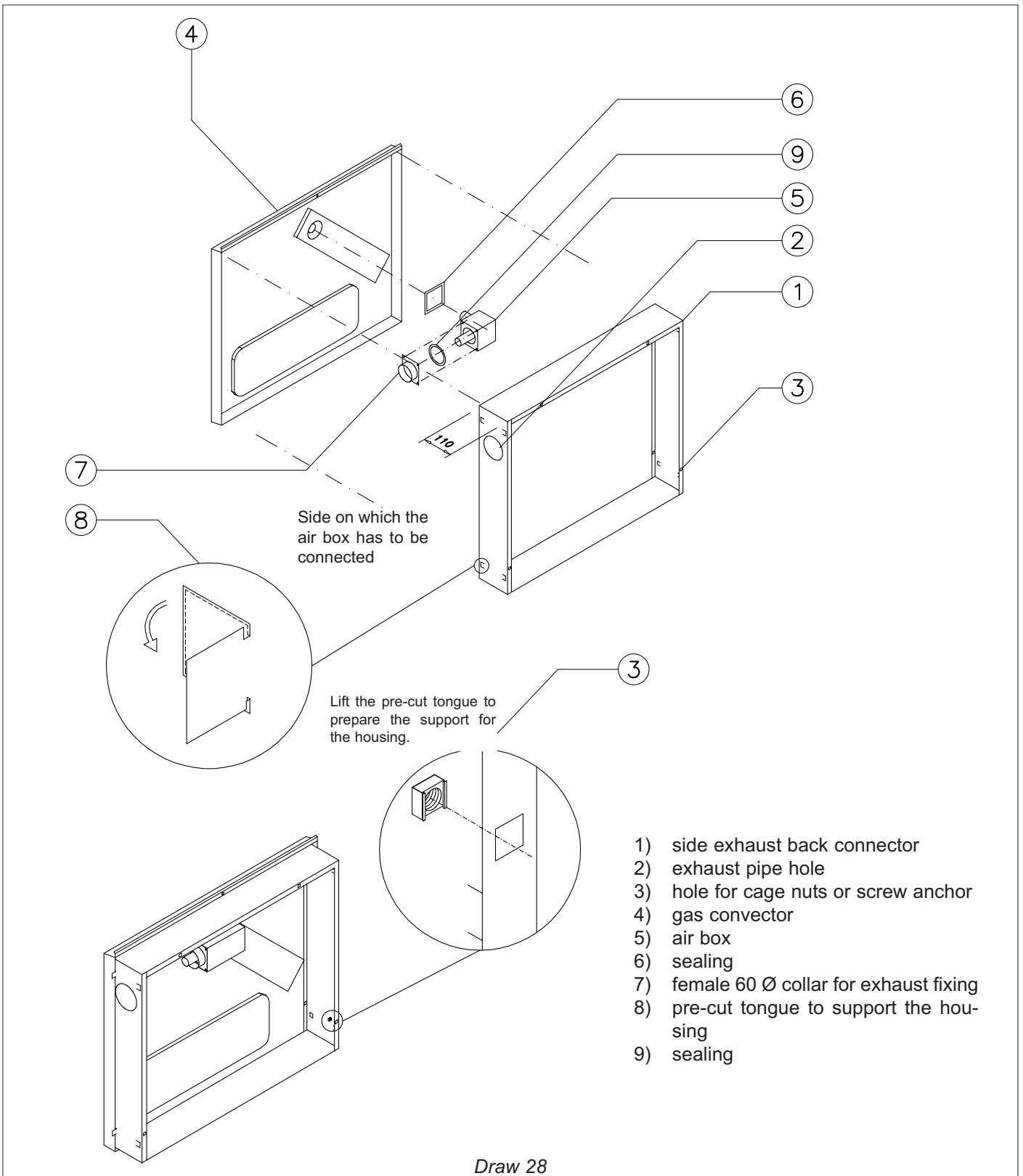
- 3) When the hole is done, measure the thickness of the wall (M).
 - Cut the suction pipe (8) 65mm shorter than the thickness of the wall (M) (see draw 25).
 - Cut the exhaust pipe (6) 25mm shorter than the thickness of the wall (M) (see draw 25).



Assembling exhaust kit forced with grille squared up

- 4) Remove the shell (1) after having unloosing the fixing screws (2) (see draw 27)
- 5) Thread up the fumes pipe (6) in the internal collar of the air box (see draw 27)
- 6) Thread up the gasket (Y) on the suction pipe (8) (see draw 26)
- Fix the pipe (8) on the small collar (A) of the air box with the supplied screws (see draw 26)
- 7) Place the convector (4) (draw 27) on the wall next to the hole done before, then fix it with the supplied screws.
- 8) Couple the template very closed to the wall (3) (draw 27) from the outside and fix it with the inserts supplied.



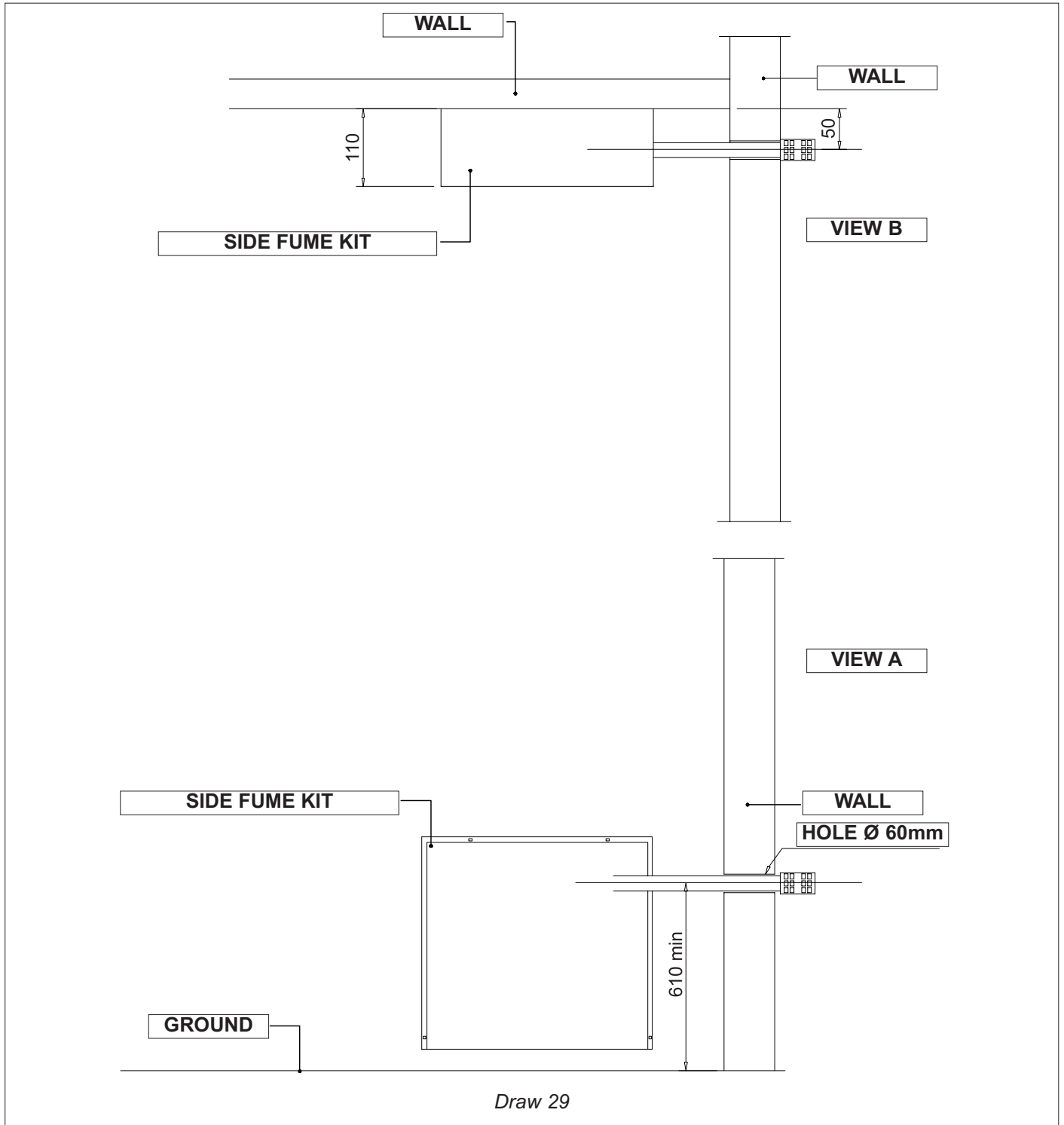


Installation of King with side wall exhaust pipe

- 1) Drill (Ø60) the wall following the instructions at A and B measures (see drawing 29)
- 2) Fix on the wall the back connector for the side wall exhaust pipe (1) with the exhaust pipe hole (2) on the right or on the left keeping the centre of the hole Ø 60
- 3) Put the 4 cage nuts inside the fitting holes (3)

- 4) Fix on the gas convector (4) the air box (5) using the 4 screw included in the equipment
- 5) Fix the box (5) to the female Ø60 collar (7) using the 4 screws included in the equipment - don't forget to put the sealing (9) before the screw
- 6) Lift the 4 pre-cut tongues (8) placed on the back connector (1)

- 7) Fix the gas convector (4) to the back connector using the screws included in the equipment - they have to be screwed on the cage nuts (3)
- 8) Cut the coaxial tube at the right measure and fit it on the air box (5) and on the Ø60 collar (7)



3.3 Gas line connection

The gas line connection must be made with respect to the regulations in force.

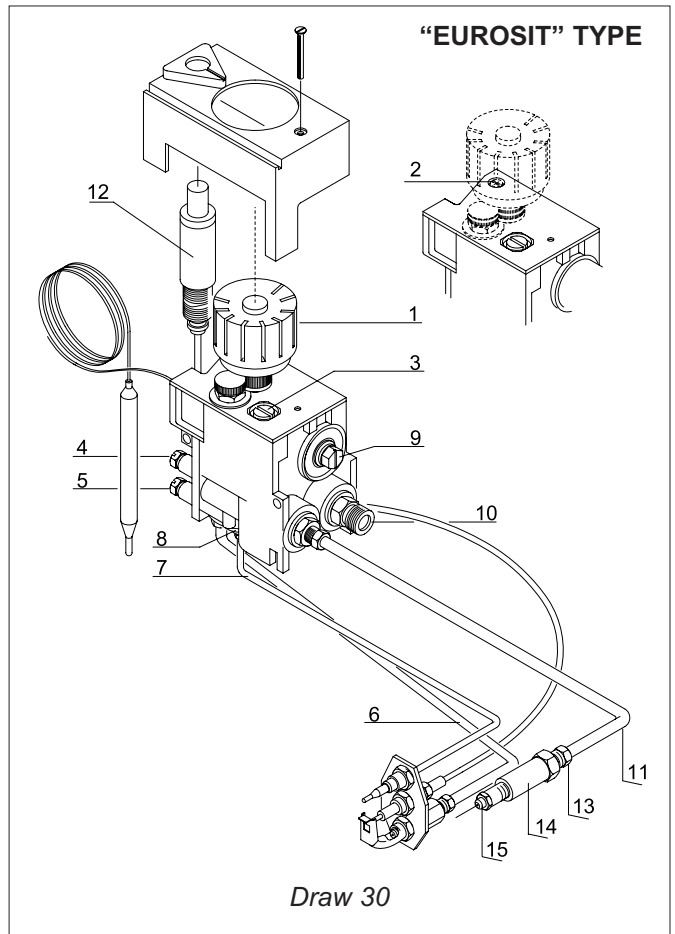
- a) The device cannot withstand pressures of higher than 40 mbar (0,04 bar) without risking the breakage of the gas valve membrane.
- b) Always use ball valves and flexible joints for gas when connecting the devices.
- c) Gas supply line pressure adjustment: all the devices are tested and calibrated at the Manufacturer's factory for their respective operating pressures (see the data provided in the table).

To check the outlet pressure (Natural gas) use the check point 4 (Draw 30) and 1 (Draw 30a) placed above the valve outlet after removing the locking screw. In case the pressure value should not correspond to the valued indicated check (burner working) the inlet pressure trough the check point (5 Draw 30) **the inlet pressure must be like indicated in the tables to the page 8, 9.**

For gas LPG (butane-propane), the valve flow adjuster must be totally excluded. On the heaters supplied with EUROSIT valve turn anti-clock-wise 1/2 spin the pressure adjuster 9 (Draw 30). On the heaters supplied with WHITE ROGER or SIT 850 MICRO turn completely the pressure adjuster 3 as Draw 30a. To check the inlet pressure use the check point placed (5 Draw 30 and 2 Draw 30a) above the valve inlet gas connector. Whenever the inlet pressure values should not correspond to the value indicated on the regulation data table, adjust the pressure (burner working) manually trough the pressure adjuster placed on the top of the valve.

After these pressure adjustment operations have been completed, remember to close the pressure taps located on the gas safety valve using the respective screws.

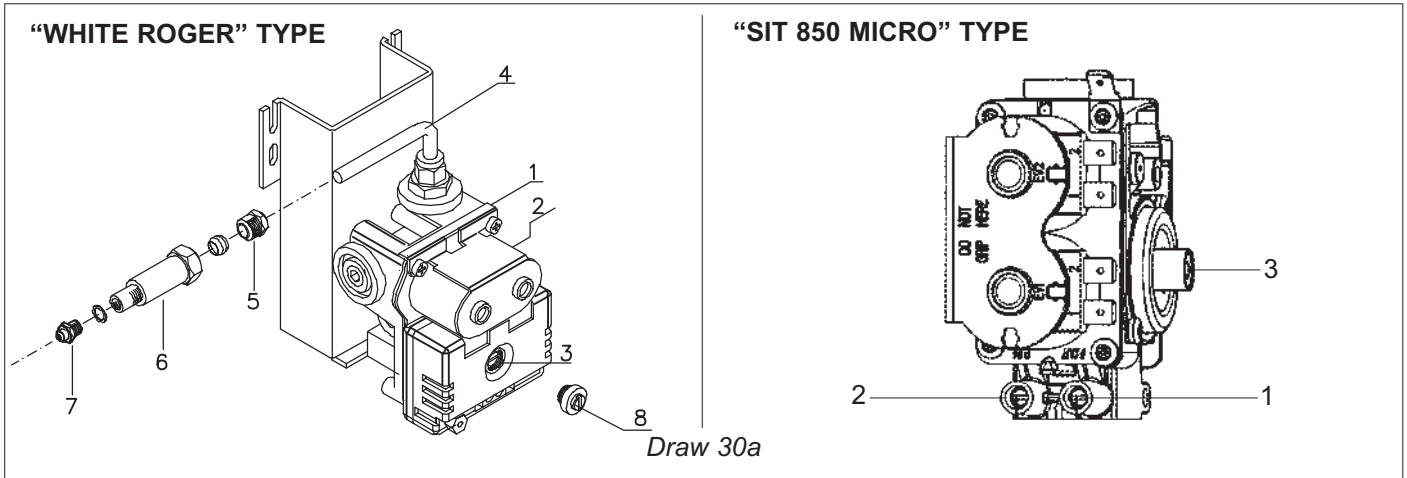
VALVE FOR PILOT FLAME DEVICES (K21, K28, K40, K55, K28V, K40V, K55V)



LEGEND

- 1) Control dial
- 2) Pilot frame adjustment screw
- 3) Minimum flow adjustment screw
- 4) Outlet pressure tap (at nozzle)
- 5) Inlet pressure tap (from mains)
- 6) Pilot flame supply line pipe
- 7) Thermocouple
- 8) Magnet unit
- 9) Pressure regulator - stabilizer
- 10) Gas inlet connector thread
- 11) Main burner supply line pipe
- 12) Piezoelectric button
- 13) Sealing connector
- 14) Nozzle-holder sleeve
- 15) Nozzler

**SOLENOID VALVE FOR ELECTRONIC DEVICES
(K21E, K28E, K40E, K55E, K28VE, K40VE, K55VE,
K21FE, K28FE, K40FE, K55FE)**



3.4 Transformations for various types of gas supplies for pilot flame-type devices (Mod. K21, K28, K40, K55, K28V, K40V, K55V)

Transformation must be performed only by qualified professionals in complete respect of the safety regulations in force. The Manufacturer declines all liability for erroneous installation or the inappropriate or incorrect transformation or use of the device.

Transformation from Methane gas to LPG. gas

- 1) Close the gas supply line and disconnect the electrical power supply.
- 2) Remove the cast-iron front panel by unscrewing the four M8 screws at the corners.
- 3) Remove the gas supply line pipe from the main burner (11) using the sealing connector (13) (See Draw 30).
- 4) Remove the nozzle-holder (14) and the nozzle (15), and replace the nozzle with the one contained in the transformation kit after first checking to make sure that the diameter corresponds to the diameter listed on the rating plate.
- 5) Disable the valve's pressure regulator by screwing the screw (9) clockwise (+) all the way down.
- 6) Remove the gas pipe (6) from the pilot, remove the pilot nozzle and replace it with the one contained in the transformation kit.
- 7) Re-close the cast-iron front panel, making sure that the fiberglass sealing liner remains in place.
- 8) Check for leakage of gas along the threaded joints.

LEGEND

- 1) Outlet pressure tap (at nozzle)
- 2) Inlet pressure tap (from mains)
- 3) Pressure regulator - stabilizer
- 4) Main burner supply line pipe
- 5) Sealing connector
- 6) Nozzle-holder sleeve
- 7) Nozzle
- 8) Brass closing plug

- 9) Start the device, and make sure that the supply pressure to the burner is like indicated in the tables to the page 8, 9 (*) using the pressure tap (5).

- 10) Indicate on the rating plate the type of gas transformation performed on the device.

(*) For LPG gas (Butane-Propane), a "I" stage pressure reducer must be installed near the tank in order to reduce the pressure to 1.5 bar; a "II" stage pressure reducer must be installed on the main external supply line in order to reduce the pressure like indicated in the tables to the page 8, 9.

Transformation from LPG gas to Methane gas

- 1) Close the gas supply line and disconnect the electrical power supply.
- 2) Remove the cast-iron front panel by unscrewing the four M8 screws at the corners.
- 3) Remove the gas supply line pipe from the main burner (11) using the sealing connector (13) (See Draw 30).
- 4) Remove the nozzle-holder (14) and the nozzle (15), and replace the nozzle with the one contained in the transformation kit after first checking to make sure that the diameter corresponds to the diameter listed on the rating plate.

- 5) Remove the gas pipe (6) from the pilot, remove the pilot nozzle and replace it with the one contained in the transformation kit.
- 6) Re-close the cast-iron front panel, making sure that the fiberglass sealing liner remains in place.
- 7) Check for leakage of gas along the threaded joints.
- 8) With a 20 mbar supply pressure, use the adjustment screw (9) to bring burner pressure (4) to its nominal rating plate value. Screwing in the clockwise direction increases the pressure, while unscrewing counter-clockwise decreases the pressure.
- 9) Indicate on the rating plate the type of gas transformation performed on the device.

EURO SIT SOLENOID VALVE REGULATION

Take out the plastic cover of the valve.

Regulation of gas flow of pilot burner

Turn the knob in Pilot position (★). To increase the flow turn the PILOT regulation screw counter-clockwise and vice-versa.

Regulation of gas pressure (output) at the main burner

The gas regulator is adjusted to the right position by the manufacturer. Modifications of such adjustment have to be done by qualified personnel, respecting the following instructions.

Turn the knob to the position 7, corresponding to the maximum (the bulb of the thermostat has to be at the minimum declared temperature)

Using a screwdriver take out the plastic cover of the valve.

To increase the output pressure turn the screw "9" counter-clockwise and vice-versa.

After this adjustment the regulator has to be in compliance with the UNI EN 126 standard for pressure regulators.

At the end of regulations, put again the plastic cover onto the valve.

Disabling the pressure regulator

Using a screwdriver take out the plastic cover of the valve.

Turn completely clockwise the screw "9" : the internal bush will be released from the screw, disabling the pressure regulator (gas of III family).

At the end of regulations, put again the plastic cover onto the valve.

3.5 Transformations for various types of gas supplies for electronic devices (Mod. K21E, K28E, K40E, K55E, K28VE, K40VE, K55VE, K21FE, K28FE, K40FE, K55FE)

transformation must be performed only by qualified professionals in complete respect of the safety regulations in force. The Manufacturer declines all liability for erroneous transformation or the inappropriate or incorrect use of the device.

Transformation from Methane gas to LPG gas

- 1) Close the gas supply line and disconnect the electrical power supply.
 - 2) Remove the cast-iron front panel by unscrewing the four M8 screws at the corners.
 - 3) Remove the gas supply line pipe from the main burner (4) using the sealing connector (5) (See Draw 30a).
 - 4) Remove the nozzle-holder (6) and the nozzle (7), and replace the nozzle with the one contained in the transformation kit after first checking to make sure that the diameter corresponds to the diameter listed on the rating plate.
 - 5) Disable the valve's pressure regulator by removing the brass plug (8) and then screwing the screw (3) clockwise (+) all the way down.
 - 6) Re-close the cast-iron front panel, making sure that the fiberglass sealing liner remains in place.
 - 7) Check for leakage of gas along the threaded joints.
 - 8) Fire the device, and make sure that the supply pressure to the burner is like indicated in the tables to the page 8, 9 (*) using the pressure tap (5).
 - 9) Indicate on the rating plate the type of gas transformation performed on the device.
- (*) For LPG gas (Butane-Propane), a "I" stage pressure reducer must be installed near the tank in order to reduce the pressure to 1.5 bar; a "II" stage pressure reducer must be installed on the main external supply line in order to reduce the pressure like indicated in the tables to the page 8, 9.

Transformation from LPG gas to Methane gas

- 1) Close the gas supply line and disconnect the electrical power supply.
- 2) Remove the cast-iron front panel by unscrewing the four M8 screws at the corners.
- 3) Remove the gas supply line pipe from the main burner (4) using the sealing connector (5) (see Draw 30a).
- 4) Remove the nozzle-holder (6) and the nozzle (7), and replace the nozzle with the one contained in the transformation kit after first checking to make sure that the diameter corresponds to the diameter listed on the rating plate.

- 5) Re-close the cast-iron front panel, making sure that the fiberglass sealing liner remains in place.
- 6) Check for leakage of gas along the threaded joints.
- 7) With a 20 mbar supply pressure read on the pressure tap (2), use the adjustment screw (3) to bring the pressure of the burner (1) to its nominal rating plate value. Screwing in the clockwise direction

increases the pressure, while unscrewing counter-clockwise decreases the pressure.

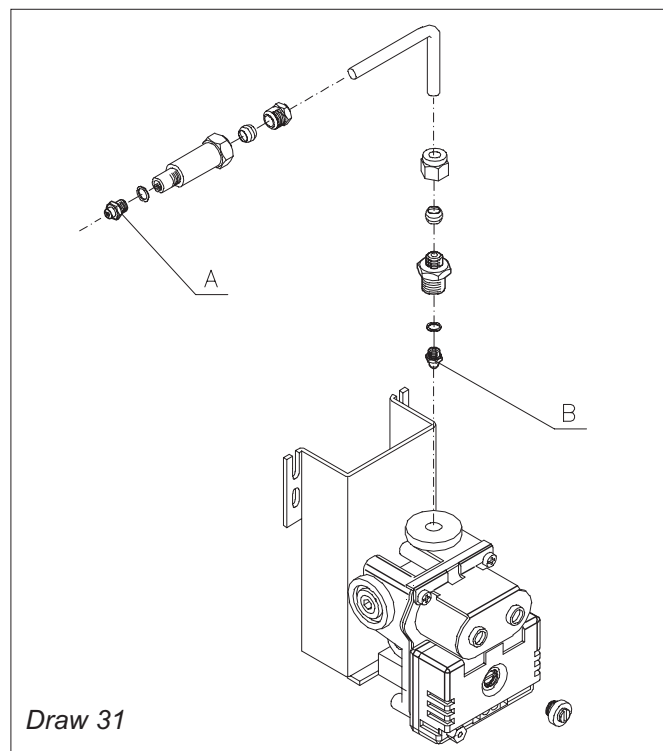
- 8) Indicate on the rating plate the type of gas transformation performed on the device.

3.6 Adaptation of the electronic devises for France and Belgium (Mod. K21E, K28E, K40E, K55E, K28VE, K40VE, K55VE, K21FE, K28FE, K40FE, K55FE)

The transformation must be performed exclusively by qualified professional personnel in complete respect of the safety rules in force; the manufacturer declines liability for damages caused by the erroneous transformation or incorrect and/or inappropriate use of the device.

For France and Belgium, in case of methane gas feeding, the valve must be installed us the one represented on the draw.

For the transformation from LPG into METHANE gas, the burner nozzle must be substituted (A see draw 31) and remove the diaphragm (B see draw 31).



3.7 Electrical connections from the control panels to the devices

Check to make sure that a good ground connection has been made and respect the correct connections of the phase and neutral wires. otherwise the flame detection and control systems will not work.

3.9 Starting and operation of pilot flame devices (Mod. K21, K28, K40, K55, K28V, K40V, K55V)

- 1) Set the dial (1) in the position (★) on the index (See Draw 30).
- 2) Press the dial (1) and keep it pressed down for approx. 10 seconds.
- 3) Press the piezoelectric button (12) to light the burner's pilot flame.
- 4) After lighting the burner's pilot flame, keep the dial (1) pressed down for approx. 10 seconds, and then release.
- 5) Turn the dial (1) counter-clockwise to fire the main burner and set it on the index at values from 1 to 7 which correspond to 13 ° - 38 °C respectively.
- 6) In order to switch the main burner off, rotate the dial (1) to the (i) position (★) on the index. In order to switch the burner's pilot flame off (and consequently the unit itself), turn the dial (1) to the (l) position (●) on the index.

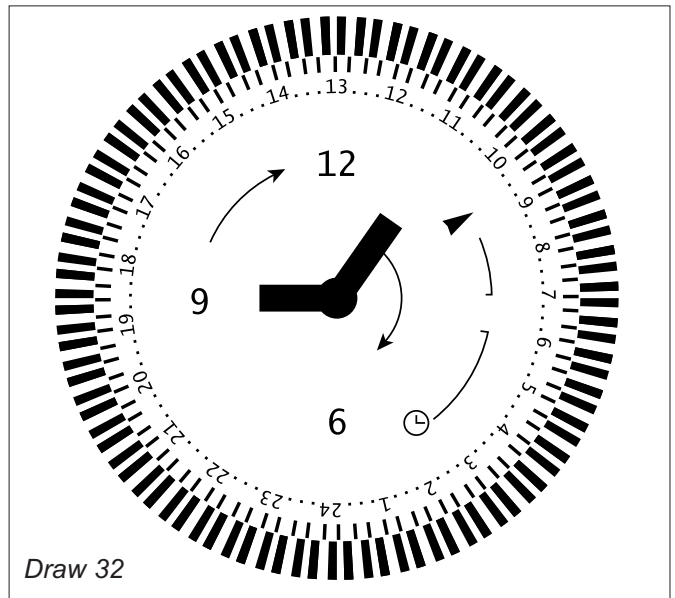
Wait 60 seconds before trying to start the device again.

3.10 Starting and operation of electronic devices (Mod. K21E, K28E, K40E, K55E, K28VE, K40VE, K55VE, K21FE, K28FE, K40FE, K55FE)

- 1) Press the bipolar switch "ON - OFF" to connect voltage to the circuit.
- 2) Position the 0-40 °C thermostat on the desired temperature value. After these operations have been performed, the "green operation" light will automatically light up. Once the temperature set on the thermostat has been reached, the "green operation" light that indicates flame presence will switch off.
- 3) Press the bipolar switch to turn the device off.

3.11 Utilization of the daily programmer (optional)

- 1) Set the right time using the white reference triangle positioned above the programmer disk's starting/switch-off switch by rotating clockwise.
- 2) Pull the sectors on the programmer disk corresponding to the period of operation desired outward (for example, from 10.00 AM to 17.00 PM). These sectors are used to set the period of operation.
- 3) Numerous intervals of operation throughout the day can be programmed by selecting the sectors as required.
- 4) When setting starting at 10.00 AM and switch-off at 17.00 PM, the device will always start and stop at the same time, day after day, for the period of time set.

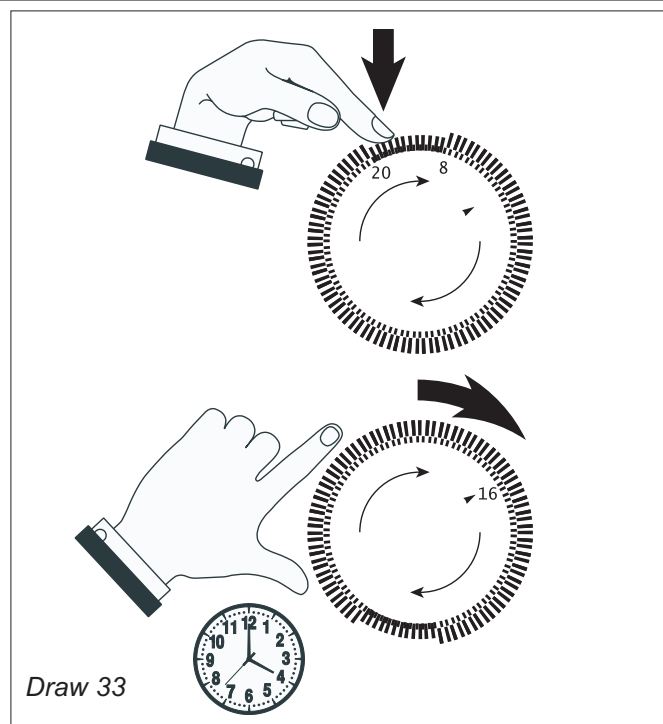


Draw 32

⚠ ATTENTION! When using the daily programmer, the program set will be run when the switch is set in the central position. When set in the "I" position, the device will operate continuously and the timer will be disabled. When set in the "O" position, the device will switch off and the timer will be disabled.

3.12 Utilization of the weekly programmer (optional)

- 1) Push the programmer disk sectors corresponding to the period of operation desired towards the center (for example, from 08.00 AM Monday morning until 20.00 PM Tuesday). The red sector that appears at the edge of the disk indicates the period of device starting.
- 2) Set the right time by rotating the white reference triangle at the center of the programmer disk clockwise.
- 3) When setting starting at 08.00 AM Monday and switch-off at 20.00 PM Tuesday, the device will always start and stop at the same time and day, week after week.



3.13 Malfunctions and solutions for pilot flame devices (Mod. K21, K28, K40, K55, K28V, K40V, K55V)

DEFECTS	CAUSES	SOLUTIONS
1. The burner pilot flame fails to light.	a) There is no gas or the pressure is too high.	a) Check the supply pressure on the valve (5 Draw 30).
	b) There is no electrical spark discharge on the burner.	b) Check the spark plug, cable and piezoelectric element.
	c) The pilot flame nozzle is clogged or inadequate to the type of gas being used (Methane or LPG).	c) Replace using original spare parts.
2. The burner pilot flame lights but goes off when the dial is released.	a) The dial (1 Draw 30) has been released before ten seconds have passed.	a) Keep the dial pressed down for more than ten seconds.
	b) The thermocouple has oxidized.	b) Replace using original spare parts.
	c) The solenoid valve coil is malfunctioning.	c) Replace using original spare parts.
3. The main burner flame goes off.	a) The gas pressure reaching the nozzle is too high.	a) Adjust the pressure to the rating plate values using the pressure tap (4 Draw 30).
	b) The wrong type of nozzle has been used.	b) Replace using the right type of nozzle for the type of gas being used.
	c) The flue gas expulsion pipe has not been perfectly connected between the cast-iron casting and the external anti-wind grille.	c) Check the connection seal.
	d) The anti-wind grille has been clogged.	d) Clean the grille.

3.14 Malfunctions and solutions for electronic devices (Mod. K21E, K28E, K40E, K55E, K28VE, K40VE, K55VE, K21FE, K28FE, K40FE, K55FE)

DEFECTS	CAUSES	SOLUTIONS
1. The “red” lock-out light switches on.	a) There is no gas or the pressure is too high.	a) Check the supply pressure on the valve (5 Draw 30a).
	b) There is no electrical spark discharge on the burner.	b) Check the condition of the starting electrodes, the respective spark detection system, and the position of the starting electrodes.
	c) The electric polarity of the neutral phase has been inverted.	c) Invert the polarity of the neutral phase.
	d) The device has not been correctly grounded.	d) Ground the device correctly.
	e) There is a malfunction in the electronic unit (in most cases this is due to electrical discharges produced by lightning. We recommend disconnecting the electrical power supply during periods when the device will not be used.	e) Replace using original spare parts.
	f) Air is present in the pipes and causes the device to lock-out after 10 seconds of discharge on the burner.	f) Switch the bipolar switch equipped with the “orange l.e.d.” off and on to reset.
	g) The centrifugal fan positioned in the combustion air suction circuit is malfunctioning (no starting occurs).	g) Replace using original spare parts.
	h) failure of one or both coils of gas solenoid valve.	h) Replace with an original spare part
	i) failure of the redresser bridge of gas solenoid valve	i) replace with an original spare part
2. The tangential fan for the supply of surrounding air fails to start working.	a) The fan is jammed.	a) Check and remove all foreign objects.
	b) The fan motor is malfunctioning.	b) Replace the entire fan-motor unit.
	c) The fan triggering thermostat is malfunctioning (this can be checked by making an electric bridge on the thermostat itself).	c) Replace the fan triggering thermostat (38 - 40 °C) using original spare parts.
3. Main burner with the flame which is detaching	a) Gas pressure at the nozzle too high	a) Regulate the pressure at the nominal value using the 4 intake (Draw 30)
	b) Wrong nozzle.	b) Replace the nozzle with the one corresponding to the gas actually used
	c) Exhaust pipe not correctly connected between the cast iron body and the external terminal	c) Verify the seal of the connection
	d) Obstructed terminal	d) Clean the terminal

4 INSTRUCTIONS FOR THE USER

4.1 General rules

This Manual is an integral and essential part of this device and must be carefully stored in its vicinity for purposes of rapid consultation.

Read the instructions and warnings provided herein carefully because they provide important information regarding safety, installation, use and maintenance.

The device must be started for the first time by qualified personnel only.

Immediately switch off the device whenever it stops and/or malfunctions. All repairs must be performed by qualified personnel using original spare parts only. Failure to observe the above can compromise operational safety.

Scrupulously respect the indications provided by the Manufacturer and have the device serviced by qualified personnel (at least once a year) to guarantee satisfactory operation.

Delicate surfaces such as curtains, furniture, and wooden or plastic chairs must be kept at a minimum distance of 30 cm from the device.

Provide extra protection against the risk of burning by the contact of children, the elderly or disabled with the hot surfaces of the shell wherever necessary. Such additional protection must not obstruct the passage of hot air and the irradiation of heat from the front panel.

4.2 Warranty

4.2.1 Object and duration of the guarantee

- 1) The Guarantee is limited to defects in the material or manufacturing of the components supplied by SYSTEMA. In the case of material or manufacturing defects, SYSTEMA shall repair or replace the faulty parts free of charge ex works; ANY OTHER FORM OF GUARANTEE OR COMPENSATION, BOTH LEGAL AND CONVENTIONAL, IS EXPRESSLY EXCLUDED. The replaced parts shall be promptly returned to SYSTEMA, carriage paid to the works at S. Giustina in Colle (PD) at the user's expense. If work is carried out under guarantee, the user shall be charged a flat rate, as well as a distance refund if the place of intervention is more than ten kilometres from the S.C. (Service Centre).
- 2) The validity of the Guarantee runs from "Commissioning", on condition that this takes place

within 6 (six) months of the date of purchase of the appliance by the user. In any case the Guarantee expires 18 (eighteen) months from the date of the SYSTEMA invoice.

- 3) Any replacement of faulty parts (or of the whole appliance) shall not prolong the original expiry term of the Guarantee. The Guarantee on the replaced parts shall cease with the expiry date of the Guarantee on the Appliance.
- 4) The "duration of the guarantee" shall be 1 (one) year on each component of the appliance.

4.2.2 Exclusions from the guarantee

- 1) The Guarantee is not operative in the following cases:
 - a) Faults that cannot be attributed to defects in the material or manufacture, without limitation:
 - breakages that occurred during transport;
 - non conformity of the plant with the laws and the local regulations in force;
 - failure to respect the installation specifications given in the technical notes accompanying the appliance and/or of good technical practice;
 - damage caused by accidents, fire, general accidents or negligence that cannot be attributed to SYSTEMA.
 - b) Tampering or faults due to interventions of non authorised personnel.
 - c) Defects caused by malfunctions depending on the electric power supply mains or on fuel.
 - d) Faults due to: bad maintenance, neglect or improper use, variations in voltage in the power supply, humidity and dust in the premises, errors in dimensions and/or faulty performance of installation.
 - e) Corrosion or breakages caused by: stray current, condensation, overheating caused by incorrect regulation of the gas pressure in the supply or in the burner, or the use of gas fuel with different heating characteristics from those on the data plate.
 - f) Use of non original spare parts or parts not authorised by SYSTEMA.
 - g) Normal wear and tear.
 - h) Products that have been incorrectly kept or stored.
- 2) The Guarantee is not operative in the following cases:
 - a) Payment of the appliance has not been carried out within the terms contemplated in the contract.
 - b) If "Commissioning" has not been performed by the S.C. and/or a copy of the respective Guarantee Certificate, duly compiled in all parts and signed,

has not been received.

- c) The user has not reported with fault within 10 days of discovering it.

4.2.3 Competence

- 1) Operations under Guarantee must be requested, on pain of expiry, to the S.C. that carried out "Commissioning". In this case the user must show the S.C. the Guarantee Certificate.
- 2) The S.C. will take action during normal working hours, depending on its own organisation necessities.

4.2.4 Operativity and effectiveness of the guarantee

- 1) In order to make the Guarantee operative and effective, the user must:
 - a) Ask the installer for the name of the S.C. for "Commissioning".
 - b) Show the Guarantee Certificate to the personnel in charge, completing it in all parts and asking the S.C. to apply the stamp and sign it in the spaces

provided.

4.2.5 Responsibility

The customer relieves the supplier of all responsibility for accidents for damage that may occur to the machines or the plants during operation. The supplier is responsible to the buyer only he guarantee obligations specified above.

4.2.6 Legal disputes - Territorial competence and rights of the parties

It is established that the competent court is the Court of Padua (Italy), even in the case of action for connection or call under guarantee. The loss of a suit does not exonerate the buyer from the obligations to make payment, which must be fulfilled according to contract, until the final decision is made by the Legal Authority.

5 PUTTING THE DEVICE OUT OF USE

Whenever the device will not be used for a long period of time, we recommend performing the following operations:

Set the main power switch in the "O" position and disconnect the device from the electrical power mains.

Close the gas supply line valve and disconnect the device from the gas supply mains.



ATTENTION! Please make sure that all operations of disconnecting are performed by authorized personnel.

6 SCRAPPING

Whenever this device will no longer be used, we recommend making it inoperative by disconnecting it from the electrical power and gas mains removing the control panel.

We also recommend making harmless all parts that may constitute sources of risk.

Remove the entire electrical system by observing the laws in force regulating the elimination of such materials.

Scrap the rest of the device as scrap metal and take it to an authorized collection center for such materials.



ATTENTION! Please make sure that all operations of disconnecting are performed by authorized personnel.

7 CE CERTIFICATE



Product Conformity Certificate

Numero / Number 17300 Sostituisce / Replaces -
 Emesso / Issued 23/11/2007 Scopo / Scope Directive 90/396/CEE

Rapporto / Report: 164044 Pag. 1 di 2

Kiwa Gastec Italia certifica che
Kiwa Gastec Italia hereby declares that

i prodotti riportati nelle pagine seguenti, costruiti da
the products mentioned in the following pages, made by

SYSTEMA S.p.A.

di / in S. Giustina in Colle (PD), Italia

soddisfano i requisiti riportati nella
meet the essential requirements as described in the
Direttiva Apparecchi a Gas (90/396/CEE)
Directive on appliances burning gaseous fuels (90/396/CEE)

Kiwa Gastec Italia Spa.


 Daniël Vangheluwe
 Vice Presidente

E' permessa la pubblicazione del certificato.
Publication of the certificate is allowed.

Kiwa Gastec Italia Spa.
 Via Treviso, 32/34
 31020 San Vendemiano (TV)
 Tel. 0438 411755 Fax 0438 22428

G A S T E C

Notified Body

0694





Numero / Number 17300 Sostituisce / Replaces -
 Emesso / Issued 23/11/2007 Scopo / Scope Directive 90/396/CEE

Rapporto / Report : 164044

Pag. 2 di 2

stufe convettive a gas, tipo
independent gas-fired convection heaters, type

Marchio / trade mark: **SYSTEMA**

Modelli / models: KING K21 KING K40V KING K55E
 KING K28 KING K55V KING K28VE
 KING K40 KING K21E KING K40VE
 KING K55 KING K28E KING K55VE
 KING K28V KING K40E

costruite da /

made by

SYSTEMA S.p.A.

di / in

S. Giustina in Colle (PD), Italia

NIP/ PIN : 0694BN4044
 Rapporto / report : 164044
 Tipi di apparecchi / appliance type : C₁₁

I suddetti prodotti sono stati approvati per
Mentioned products have been approved for

AT	II _{2H3B/P}	BE	I _{2E+1} I ₃₊	DE	II _{2ELL3B/P}
DK	II _{2H3B/P}	ES	II _{2H3P}	FI	II _{2H3B/P}
FR	II _{2E+3+}	GB	II _{2H3P}	GR	II _{2H3P}
IE	II _{2H3P}	IS	I _{3B/P}	IT	II _{2H3+}
LU	II _{2E3P}	PT	II _{2H3P}	SE	II _{2H3B/P}
NL	II _{2I3B/P}	NO	II _{2H3B/P}	CH	II _{2H3B/P}
CY	I _{3B/P}	MT	I _{3B/P}	EE	II _{2H3B/P} II _{2H3P}
LT	II _{2H3B/P} II _{2H3P}	LV	II _{2H3B/P} II _{2H3P}	CZ	II _{2H3B/P} II _{2H3+}
SK	II _{2H3B/P} II _{2H3P}	SI	II _{2H3B/P} II _{2H3P}	HU	II _{2H3B/P}
BG	II _{2H3B/P}	PL	II _{2E3B/P} II _{2E3P}	RO	II _{2H3+}

Product Conformity Certificate

Kiwa Gastec Italia Spa.
 Via Treviso, 32/34
 31020 San Vendemiano (TV)
 Tel. 0438 411755 Fax 0438 22428

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Product Conformity Certificate

Numero / Number 17300 Sostituisce / Replaces -
 Emesso / Issued 23/11/2007 Scopo / Scope Directive 90/396/CEE

Rapporto / Report: 164045 Pag. 1 di 2

Kiwa Gastec Italia certifica che
Kiwa Gastec Italia hereby declares that
i prodotti riportati nelle pagine seguenti, costruiti da
the products mentioned in the following pages, made by

SYSTEMA S.p.A.

di / in S. Giustina in Colle (PD), Italia

soddisfano i requisiti riportati nella
meet the essential requirements as described in the
Direttiva Apparecchi a Gas (90/396/CEE)
Directive on appliances burning gaseous fuels (90/396/CEE)

Kiwa Gastec Italia Spa.

Daniël Vangheluwe
 Vice Presidente

E' permessa la pubblicazione del certificato.
Publication of the certificate is allowed.

Kiwa Gastec Italia Spa.
 Via Treviso, 32/34
 31020 San Vendemiano (TV)
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Numero / Number 17300 Sostituisce / Replaces -
 Emesso / Issued 23/11/2007 Scopo / Scope Directive 90/396/CEE

Rapporto / Report : 164045

Pag. 2 di 2

stufe convettive a gas, tipo
independent gas-fired convection heaters, type

Marchio / trade mark: **SYSTEMA**
 Modelli / models: KING K21FE
 KING K28FE
 KING K40FE
 KING K55FE

costruite da /
made by **SYSTEMA S.p.A.**
 di / in S. Giustina in Colle (PD), Italia

NIP/ PIN : 0694BN4045
 Rapporto / report : 164045
 Tipi di apparecchi / appliance type : C₁₃

I suddetti prodotti sono stati approvati per
Mentioned products have been approved for

AT	II _{2H3B/P}	BE	I _{2E+} I ₃₊	DE	II _{2E13B/P}
DK	II _{2H3B/P}	ES	II _{2H3P}	FI	II _{2H3B/P}
FR	II _{2E+3+}	GB	II _{2H3P}	GR	II _{2H3B/P}
IE	II _{2H3P}	IS	I _{3P}	IT	II _{2H3+}
LU	II _{2E3P}	PT	II _{2H3P}	SE	II _{2H3B/P}
NL	II _{2L3B/P}	NO	II _{2H3B/P}	CH	II _{2H3B/P}
CY	I _{3B/P}	MT	I _{3B/P}	EE	II _{2H3B/P} II _{2H3P}
LT	II _{2H3B/P} II _{2H3P}	LV	II _{2H3B/P} II _{2H3P}	CZ	II _{2H3B/P} II _{2H3+}
SK	II _{2H3B/P} II _{2H3P}	SI	II _{2H3B/P} II _{2H3P}	HU	II _{2H3B/P}
BG	II _{2H3B/P}	PL	II _{2E3B/P} II _{2E3P}	RO	II _{2H3+}

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