

**GENERATORE D'ARIA CALDA
GENERATEUR D'AIR CHAUD
WARMLUFTERZEUGER
SPACE HEATER
GENERADOR DE AIRE CALIENTE
ТЕПЛОВОЙ ГЕНЕРАТОР**

EC/GE

**EC 55 - EC 55 DV - EC 85 - EC 85 DV
GE 65 - GE 65 DV - GE 105 - GE 105 DV**

L-L 102.02-BM

**MANUALE D'USO E MANUTENZIONE
LIVRET D'ENTRETIEN
BEDIENUNGSANLEITUNG
INSTRUCTIONS MANUAL
MANUAL DE INSTRUCCIONES
РУКОВОДСТВО ПО ЭКСПЛУАТАЦИИ И ОБСЛУЖИВАНИ**

IMPORTANT

Before using the space heater, carefully read all of the instructions and follow them scrupulously.

The manufacturer cannot be held responsible for damage to persons and/or property caused by improper use of the equipment.

This instruction manual is an integral part of the equipment and must therefore be stored carefully and passed on with the unit in the event of a change of ownership.

GENERAL RECOMMENDATIONS

The space heaters run on diesel fuel. Direct combustion versions send hot air and combustion products into the room, while indirect combustion versions are fitted with a flue to discharge the fumes through the chimney.

Always follow local ordinances and codes when using this heater:

- Follow the instructions in this booklet very carefully;
- Use only in places free of flammable vapours or high dust content;
- Keep inflammable material at a safe distance from the heater (minimum 3 metres);
- Make sure fire fighting equipment is readily available;
- Ensure that the machine resting surface or ground is not made of flammable material;
- Make sure sufficient fresh outside air is provided according to the heater requirements. Direct combustion heaters should only be used in well vented areas in order to avoid carbon monoxide poisoning;
- the indirect combustion heater is installed near a chimney to take away the fumes (see the paragraph "FUMES FLUE POSITIONING DIAGRAM") and connected to an electrical switchboard;
- nothing is obstructing the aspiration and expulsion of air; movement of air may be obstructed in various ways including placing covers or other objects on the heater or positioning the heater too near a wall or other large object;
- In case of very low temperatures add kerosene to the heating oil;
- Make sure heater is always under surveillance and keep children and animals away from it;
- Before starting the heater always check free rotation of ventilator;
- Unplug heater when not in use.

SAFETY DEVICES

The heater is fit with an electronic device that controls the flame and the maximum safe temperature by means of a photocell and an overheat thermostat.

The electronic device controls start/stop times and trips the safety in case of malfunctions. It has reset button (13) that can assume different colours (Function Light) depending on the function mode:

- off: heater is in idle mode or in "stand-by" mode, waiting for heating request;
- steady green: heater functioning normally;
- steady red: heater in safety stop;
- flashing orange: heating interrupted due to excessive variations in voltage supply ($T < 175V$ or $T > 265V$); heating will resume automatically when voltage returns in range from 190 V and 250 V.

Warning



To restart heating after a safety stop, push reset button (13) for 3 seconds.

Warning



NEVER do more than two restarts in a row: uncombusted diesel fuel may accumulate in the

combustion chamber and suddenly flare up at the next restart.

If the safety stop persists, you have to find and eliminate the cause of the stop before you restart the heater. Push button (13) for at least 5 seconds to launch a self-diagnosis programme, after which the button will assume different colours (Self-diagnosis light) depending on the type of safety that tripped:

- flashing orange: false flame detected during restart cycle.
- flashing red: no flame during restart cycle.
- flashing red/green: no flame during work cycle.
- steady orange: internal error of electronic device.

Warning



See "TROUBLESHOOTING" to identify the cause of the malfunction.

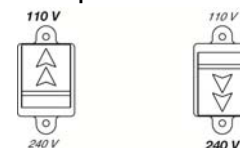
OPERATION

Before switching on the heater and, therefore, before plugging it into the electrical power supply, check that the power supply specifications are the same as those stated on the identification plate.

Warning



For models "DV" check that the arrows on the voltage supply selector key cover are pointing to the voltage value required.



If necessary:

- remove the cover;
- press deflector (18) to the position required;
- replace the protective cover.

Warning



To operate the machine, must install the air dispersion cone (19) on the front of the machine as shown in the figure above ("Operating diagram").

Warning



- **The power line must be earthed and fitted with a residual current circuit breaker.**
- **The heater plug must be inserted into a socket equipped with a mains switch.**


The heater must be placed on a flat, stable, and levelled surface in order to prevent it from overturning and/or diesel leaks from the tank filler cap.

You can run the generator in manual by setting switch (14) to ON.

The generator can only work automatically when a control device, such as for example a thermostat or a timer, is connected to the heater.

Connection to the heater is made by removing the socket cover (15) and inserting the thermostat plug.

To start the machine you must:

- if connected to the thermostat, turn the switch to (ON + );
- if not connected to the thermostat, turn the switch to (ON);

Warning



At the end of the start cycle, the electronic control device causes button (13) to flash briefly to confirm completion of the heater start cycle.

When unit is started for the first time or is started after the oil tank has been totally emptied, the diesel flow to the burner may be impaired by air in the circuit. In this case the control box will cut out the heater and it might be necessary to renew the starting procedure once by depressing the reset button (13).

If the heater does not function, the first things to do are:

1. Check that the tank still contains some diesel;
2. Push reset button (13);
3. If the heater still does not function, see "TROUBLESHOOTING" to identify the cause of the malfunction.

Warning



Never stop the machine by unplugging the electrical plug: this could cause overheating.

STOPPING THE HEATER

Set main switch (14) on "0" position or turn thermostat or other control device on lowest setting.

The flame goes out and the fan continues to work for approximately 90 sec. cooling the combustion chamber.

TRANSPORT

Warning



Before moving the heater:

- Stop the heater as indicated in the "STOP" paragraph;
- Cut electrical power by removing the plug from the electrical socket;
- Wait until the heater cools.

Before moving the heater, make sure the oil tank cap is securely attached.

Warning



Diesel may leak during handling and transport: the fuel tank cap is not sealed. This allows air to enter and allows the tank to be emptied while the heater is running.

The heater can be supplied in a mobile version (with wheels) or wall version mounted on a support structure with anchors for fastening by means of ropes or chains. To move the mobile version, just grip the heater by the support handle and roll it on the wheels. The second version must be lifted by using a lift truck or similar equipment.

In this case, make sure that the ropes and/or chains are securely attached and that they are in perfect condition before you start to move the heater.

MAINTENANCE

To ensure correct heater function, you have to clean the combustion chamber, burner, and fan at regular intervals.

Warning

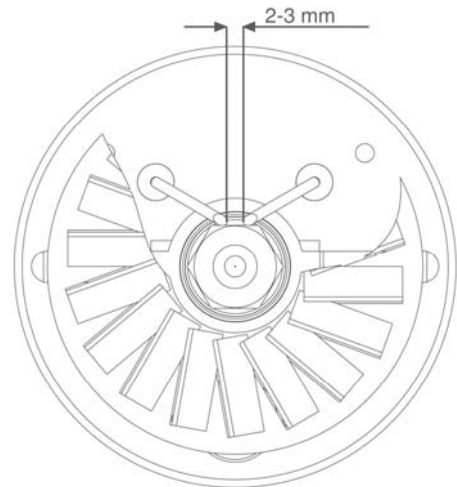


Before starting any maintenance procedure, ALWAYS:

- Stop the heater as indicated in the "STOP" paragraph;
- Cut electrical power by removing the plug from the electrical socket;
- Wait until the heater cools.

Every 50 hours of operation:

- Disassemble the filter cartridge, remove it, and clean it with clean diesel fuel;
- Disassemble the external cylindrical fairing and clean the inside and the fan blades;
- Check the condition of the leads and of the high-voltage connections to the electrodes;
- Disassemble the burner and clean all of its parts. Clean the electrodes and set the gap to the value specified in the paragraph "SETTING THE ELECTRODES".

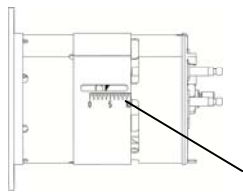


TROUBLESHOOTING

PROBLEM	RESET BUTTON (13)		CAUSE	REMEDY			
• Motor does not start, no ignition	• Off	-	• Wrong setting of room thermostat or other control	• Check correct setting of heater control. If thermostat, make sure selected temperature is higher than room temperature			
			• Defective thermostat or other control	• Replace control device			
• Fan does not start or stops during start-up or heating	• Flashing orange	-	• No electrical current	• Check mains • Check proper positioning and functioning of switch • Check fuse			
			• Voltage below 175V	• Check supply voltage: heater will restart automatically when voltage exceeds 190 V			
			• Voltage above 265V	• Check supply voltage: heater will restart automatically when voltage is below 250 V			
• Fan stops during start-up or heating	• Steady red	SELF-DIAGNOSIS LIGHT	• Flashing orange	• Presence of flame before transformer ignites • Defective photocell			
			• Defective electrical motor	• Replace electrical motor			
			• Defective electrical motor bearings	• Replace electrical motor bearings			
			• Burned out condenser	• Replace condenser			
			• Defective electric ignitor	• Check connection of H.T. wires to electrodes and transformer • Check electrodes setting (see scheme "SETTING THE ELECTRODES") • Check electrodes for cleanliness • Replace H.T. transformer			
				• Defective flame control box	• Replace control box		
				• Defective photocell	• Clean or replace photocell		
			• Insufficient or no fuel at burner	• Check state of motor-pump plastic coupling • Check for any air infiltrations in the fuel line by checking the air-tightness of the pipes and of the filter seal. • Clean or replace oil nozzle			
				• Defective solenoid • Defective electric ignitor	• Check electrical connection • Check thermostat LI • Clean solenoid valve and replace it if necessary		
			• Flashing orange	• Internal error of electronic device	• Reset the device and attempt at least two starts. If the problem persists, replace the device		
			• Fan starts and flame lights, generating fumes	• Steady green	-	• Insufficient combustion air	• Make sure air inlet and outlet are free • Check the position of the air regulation ring • Clean burner disc
							• Excess combustion air
						• Fuel contaminated or contains water	• Drain fuel in tank and load with clean fuel • Clean oil filter
• Air leaks in fuel circuit	• Check the seals on the ducts and the diesel filter • Check pump pressure • Clean or replace fuel nozzle						
	• Insufficient fuel at burner	• Check pump pressure • Clean or replace fuel nozzle					
• Excess fuel at burner		• Check pump pressure • Replace nozzle					
• Heater does not stop	• Steady green	-	• Defective solenoid seal	• Replace complete solenoid			

If the heater is still not working properly, please contact your nearest authorized dealer.

CARATTERISTICHE TECNICHE - CARACTERISTIQUES TECHNIQUES TECHNISCHEN DATEN - TECHNICAL SPECIFICATIONS CARACTERÍSTICAS TÉCNICAS - ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ		EC 55 EC 55 DV	EC 85 EC 85 DV	GE 65 GE 65 DV	GE 105 GE 105 DV	
Combustione – Combustion – Verbrennung Combustion - Combustión - Сгорание			Indiretta, Indirecte, Indirekt Indirect, Indirecta, Непрямое	Diretta, Directe, Direkt Direct, Directa, Прямое		
Potenza termica max - Puissance thermique max Wärmeleistung max - Max heating output Potencia térmica máx - Макс. тепловая мощность	Hi	[kW]	55,0	85,0	65,0	105,0
		[kcal/h]	47.318	73.119	55.885	90.252
	Hs	[kW]	58,6	90,6	69,3	111,1
		[BTU/h]	200.728	310.177	237.067	380.331
Potenza termica netta - Puissance thermique nette Nennwärmeleistung - Net heating output Potencia térmica neta - Чистая тепловая отдача	Hi	[kW]	49,2	75,2	---	---
		[kcal/h]	42.350	64.710	---	---
	Hs	[kW]	52,5	80,2	---	---
		[BTU/h]	179.652	274.507	---	---
Portata d'aria - Débit d'air - Nenn-Luftleistung Air output - Capacidad aire - Производительность воздуха		[m ³ /h]	2.500	4.300	2.500	4.600
Consumo combustibile – Consommation – Brennstoffverbr Fuel consumption - Consumo combustible - Расход топлива		[kg/h]	4,64	7,17	5,48	8,85
Alimentazione elettrica Alimentation électrique Netzanschluss Power supply Alimentación eléctrica Электрическое питание	Fase - Phase Phase - Phase Fase - Фазы		1	1	1	1
	Tensione - Tension Spannung - Voltage Tension - Напряжение	[V]	230 110/230 (DV Model)	230 110/230 (DV Model)	230 110/230 (DV Model)	230 110/230 (DV Model)
	Frequenza - Fréquence Frequenz - Frequency Frecuencia - Частота	[Hz]	50	50	50	50
Potenza elettrica - Puissance électrique - Leistungsaufnahme Power consumption - Potencia eléctrica - Электрическая мощность		[W]	850	1.140	598	1.170
Ugello – Gicleur - Düse Nozzle - Boquilla - Форсунка		[USgal/h]	Delavan 1,10-80° W	Delavan 1,50-80° W	Delavan 1,25-80° W	Delavan 2,00-80° W
Pressione pompa - Pression pompe - Pumpendruck Pump pressure - Presión bomba - Давление насоса		[bar]	12	12	16	14
Diametro uscita fumi - Diamètre sortie fumées Abgasrohr Durchmesser - Flue diameter Diametro salida humos - Диаметр выхода продуктов сгорания		[mm]	150	150	---	---
Capacità serbatoio - Capacité réservoir - Tankinhalt Tank capacity - Capacidad depósito - Емкость бака		[l]	65	105	65	105
Livello sonoro a 1 m - Niveau sonore à 1 m Geräuschspegel a 1 m - Noise level at 1 m Nivel sonoro a 1 m - Уровень шума на расстоянии 1 м		[dBA]	72	75	71	74
Dimensioni, L x P x A - Dimensions, L x P x H Masse, H x B x T - Dimensions, L x W x H Dimensiones, L x W x H - Размеры, Д x Г x В		[mm]	1435 x 555 x 940	1740 x 690 x 1025	1200 x 555 x 860	1492 x 670 x 1005
Peso – Poids - Gewicht Weight - Peso - Bec		[kg]	81	110	58	86
Fusibile – Fusible - Sicherung Fuse - Fusible - Предохранитель		[A]	10			
Regolazione serranda aria comburente - Réglage du volet d'air comburant Einstellung der Brennluftklappe - Adjustment of combustion air flap Abertura cierre aire comburente - Регулировка воздушной заслонки		[mm]	a = 6	a = 10	a = 20	a = 15
		[N°]	A = 4	A = 5,5	A = 8,5	A = 6,5



A

