

**INFRARED RAY HEAT GENERATOR
GÉNÉRATEUR DE CHALEUR À RAYONS INFRAROUGES**

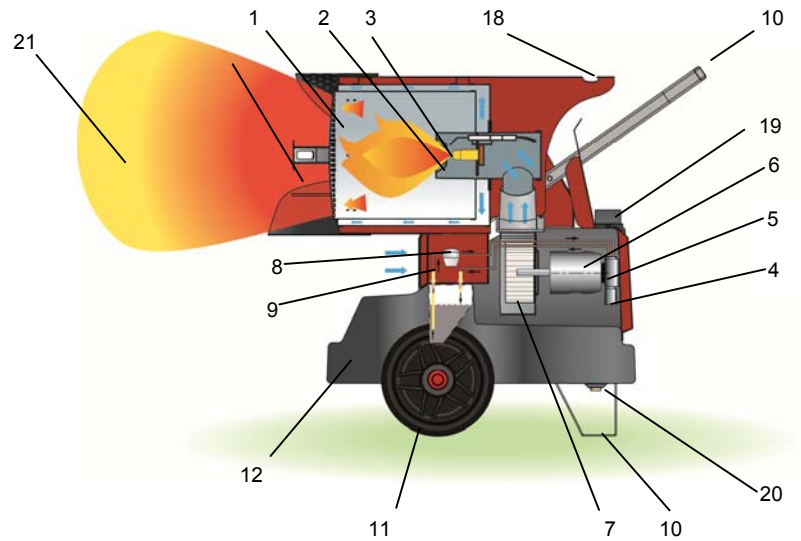
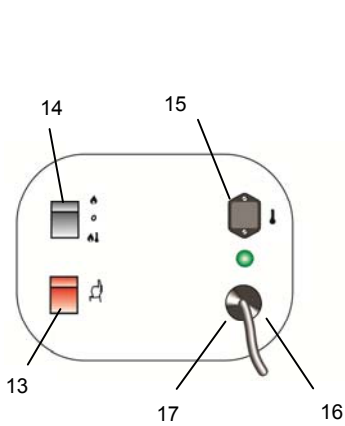


L-L 205.00-MT

FLAME 115

**INSTRUCTIONS MANUAL
LIVRET D'ENTRETIEN**

OPERATING DIAGRAM - SCHÉMA DE FONCTIONNEMENT



1 COMBUSTION CHAMBER
CHAMBRE DE COMBUSTION

2 BURNER
BRULEUR

3 NOZZLE
GICLEUR

4 SOLENOID VALVE
ELECTROVANNE

5 DIESEL PUMP
POMPE FIOUL

6 MOTOR
MOTEUR

7 FAN
VENTILATEUR

8 FUEL FILTER
FILTRE COMBUSTIBLE

9 FUEL CIRCUIT
CIRCUIT COMBUSTIBLE

10 SUPPORT/HANDLE
SUPPORT/POIGNEE

11 WHEEL
ROUE
RAD

12 FUEL TANK
RESERVOIR COMBUSTIBLE

13 RESET BUTTON WITH CONTROL LAMP
BOUCHON REARMEMENT AVEC LAMPE TEMOIN

14 MAIN SWITCH
INTERRUPTEUR MARCHE-ARRET

15 ROOM THERMOSTAT PLUG
PRISE THERMOSTAT D'AMBIANCE

16 CONTROL LAMP
LAMPE TEMOIN D'ALIMENTATION

17 POWER CORD
CABLE ELECTRIQUE

18 HANDLE
POIGNEE

19 FUEL CAP
BOUCHON DE REMPLISSAGE DU RESERVOIR

20 DRAIN PLUG
BOUCHON DE VIDANGE DU RESERVOIR

21 HEAT FLOW
FLUX DE CHALEUR

22 DEVIATORE CAMBIO TENSIONE
DEVIATEUR CHANGEMENT TENSION

IMPORTANT

Before using the heater, read and understand all instructions and follow them carefully. The manufacturer is not responsible for damages to goods or persons due to improper use of units.

GENERAL RECOMMENDATIONS

The heater described in this manual is a portable oil-fuelled infrared heat generator running on heating oil.

Its easy handling and large fuel tank allow it to be used locally and temporarily with complete stand-alone operation. The area to be heated is therefore hit by an even and uniform flow of heat, as can be seen by the shape of the irradiation cone (18), without air movement.

The unit is a direct combustion hot generator that works by sending both hot air and combustion products in the room you wish to heat: all the necessary precautions must therefore be taken to guarantee a sufficient exchange of air.

Always follow local ordinances and codes when using this heater:

- Read and follow this owner's manual before using the heater;
- THE INSTALLATION OF THE UNIT SHALL BE IN ACCORDANCE WITH THE REGULATIONS OF THE AUTHORITIES HAVING JURISDICTION. Also, as a recommended installation practice reference should be made to the current issue of CSA B139, Installation Code for Oil Burning Equipment in Canada and NFPA 31 Standard for the Installation of Oil-Burning Equipment In the USA;
- Use only in places free of flammable vapours or high dust content;
- Never use heater in immediate proximity of flammable materials (the minimum distance must be 10 feet);
- Make sure fire fighting equipment is readily available;
- 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;
- A rough estimate of opening required for each gallon (US) of capacity is three square foot at heater level, for direct-fired heaters;
- The heater is installed and connected to an electrical switchboard;
- Ensure that the machine resting surface or ground is not made of flammable material;
- Minimum clearances from combustible material must be:
 - 30" from side and rear (air inlet) of heater
 - 80" from ceiling
 - 40" on air outlet of heater.
- Never block air inlet (rear) or air outlet (front);
- In case of very low temperatures add kerosene to the heating oil;
- Connect the power cord to the mains and wait 15 min at least before starting heater, to allow pre-heated filter warming heating oil inside the filter;
- 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;
- Heater is not ductable.
- Unplug heater when not in use.

SAFETY DEVICES

The unit is fitted with an electronic flame control box. In case of malfunction this box will cut in and stop the heater, at the same time the pilot lamp in the control box reset button (13) will light up.

Warning



The reset push-button emits a different light, depending on the state of the machine:

- off, when the machine is running regularly;
- red, when the machine is in safety lock-out mode: to restart it, the reset button (13) must be pressed.

Heaters are also equipped with an overheat thermostat safety cut out which will stop the heater in case of overheating. This thermostat will reset automatically but you will have to depress button (13) on control box before being able to restart the heater.

OPERATION

Before any attempt of starting the heater is made, check that your electrical supply conforms to the data on the model plate.

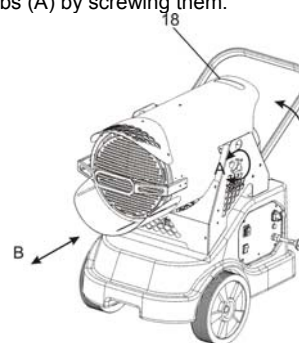
Warning



Mains must be fitted with a thermo-magnetic differential switch. Unit plug must be linked to a socket with a mains switch.

The hot generator must be placed on a flat, stable and level surface to avoid machine tipping and/or gas oil leakage from the tank fuel cap.

The flow of heat can be directed upward with an approximately 5° angle: loosen the two locking knobs (A) and tilt the combustion unit by pressing on the handle (18) until the desired angle is reached, then lock the knobs (A) by screwing them.



Warning



Before start-up, always ensure the guard (B) has been completely pulled out, so as to guarantee maximum protection of the machine resting surface.

You can run the generator in manual by setting switch (14) to ON. The heater can only work automatically when a control device, such as for example a thermostat or a timer, is connected to the generator.

Connection to the heater is made by removing the socket cover (4) 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)**.

When unit is started for the first time or is started after the oil tank has been totally emptied, the flow of oil 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 or twice by depressing the reset button (13).

Should the heater not start, check that oil tank is full and depress reset button (1).

Should the heater still not work, please refer to chapter "OBSERVED FAULTS, CAUSES AND REMEDIES".

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 approx. 90 sec. cooling the combustion chamber.

TRANSPORT

Before heater is moved, it must be stopped and unplugged. Before moving the heater wait till it has totally cooled off and make sure oil tank cap is securely fixed.

Warning

During handling and transport gasoil may leak: the tank fuel cap cannot guarantee sealing to allow the introduction of air and tank emptying during machine operation.

For handling in short to medium distances, it is enough to grab the generator by the handle and roll it on its wheels. In case of need, the generator can be lifted using ropes or chains secured to the hook (19) provided on the machine. In this case it is always best to ensure that the ropes and/or chains are securely hooked and that they are intact and stably in place before handling.

MAINTENANCE

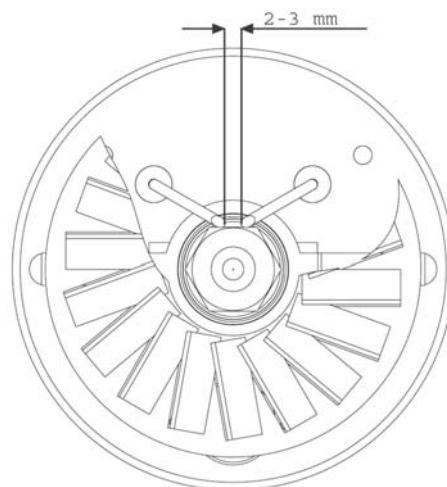
Preventive and regular maintenance will ensure a long trouble free life to your heater.

Warning

Never service heater while it is plugged in, operating or hot. Severe burns or electrical shock can occur.

Every 50 hours of operation: disassemble filter and wash with clean oil, remove upper body parts and clean inside and ventilator with compressed air, check correct attachment of H.T. connectors to the

electrodes and check H.T. cables, remove burner assembly, clean and check electrode settings, adjust according to the following scheme.

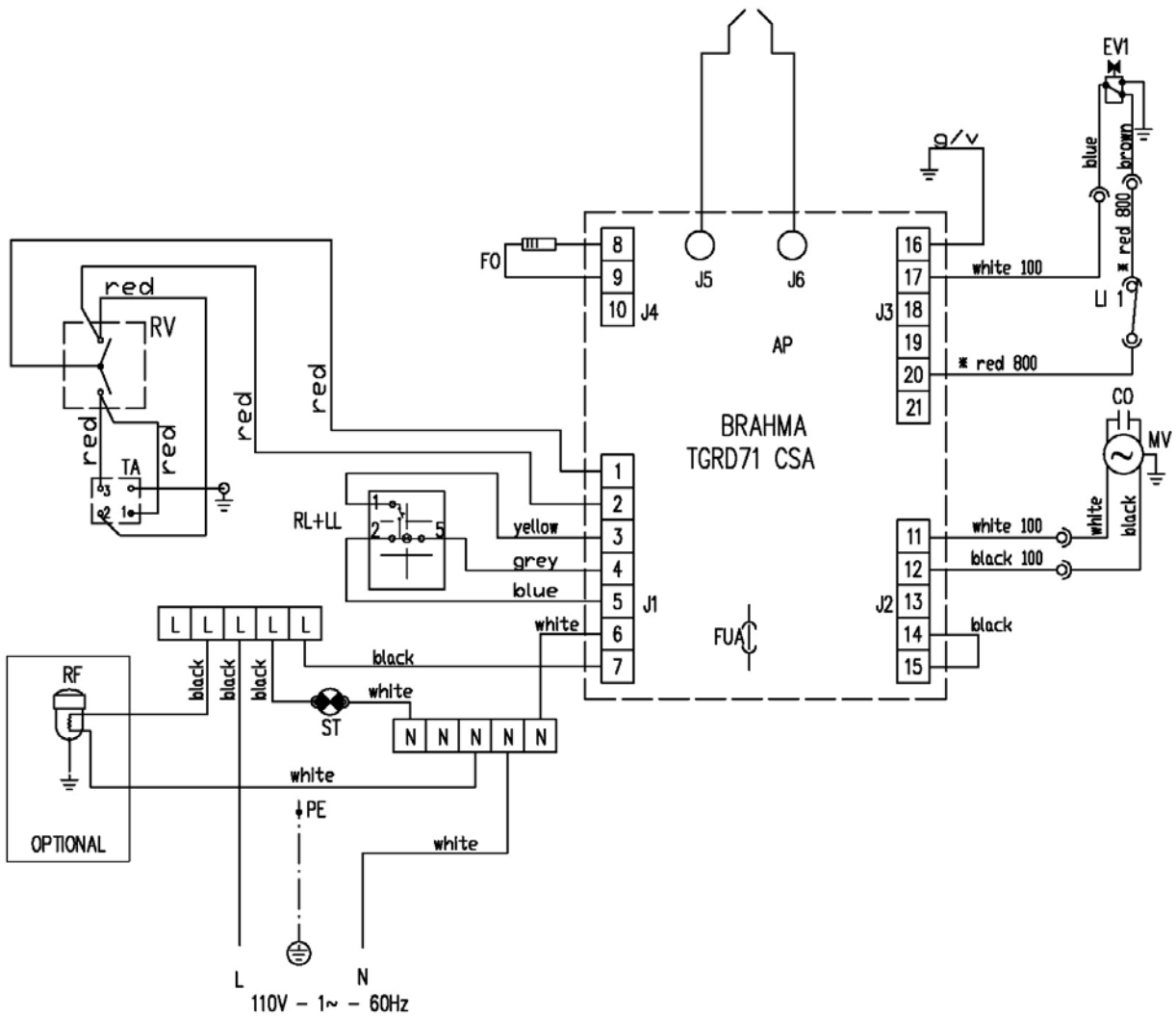


OBSERVED FAULTS, CAUSES AND REMEDIES

OBSERVED FAULT	CAUSE	REMEDY
• Motor does not start, no ignition	• No electrical current	• Check mains
		• Check proper positioning and functioning of switch
		• Check fuse
	• Wrong setting of room thermostat or other control (thermostat and clock)	• Check correct setting of heater control. If thermostat, make sure selected temperature is higher than room temperature
	• Thermostat or other control defective	• Replace control device
	• Electrical motor defective	• Replace electrical motor
	• Electrical motor bearings defective	• Replace electrical motor
• Motor starts, no ignition or cuts out	• Electric ignitor defective	• Check connection of H.T. leads to electrodes and transformer
		• Check electrodes setting (see scheme Fig. 2)
		• Check electrodes for cleanliness
		• Replace H.T. transformer
	• Flame control box defective	• Replace control box
	• Photocell defective	• Clean or replace photocell
	• Not enough or no fuel at all at burner	• Check state of motor-pump plastic coupling
• Check fuel line system including fuel filter for possible leaks		
• Clean or replace oil nozzle		
• Solenoid defective	• Check electrical connection	
	• Clean or replace solenoid	
• Motor starts, heater emits smoke	• Not enough combustion air	• Make sure air inlet and outlet are free
		• Check setting of combustion air flap
		• Clean burner disc
	• Too much combustion air	• Check setting of combustion air flap
	• Fuel contaminated or contains water	• Drain fuel in tank with clean fuel
		• Clean or replace oil filter
	• Air leaks in fuel circuit	• Check fuel line and filter for possible leaks
	• Not enough fuel at burner	• Check pump pressure
• Clean or replace fuel nozzle		
• Too much fuel at burner	• Check pump pressure	
	• Replace nozzle	
• Heater does not stop	• Solenoid defective	• Replace solenoid coil or complete solenoid

If heater is still not working properly, please revert to nearest authorized dealer.

WIRING DIAGRAM – SCHEMA ELECTRIQUE



- | | |
|---|--|
| AP CONTROL BOX
COFFRET DE SECURITE | RV SWITCH
COMMUTATEUR |
| TA ROOM THERMOSTAT PLUG
PRISE THERMOSTAT D'AMBIANCE | ST ELECTRIC PILOT
LAMPE TEMOIN D'ALIMENTATION |
| L1 OVERHEAT THERMOSTAT
THERMOSTAT DE SURCHAUFFE | RF HEATED FILTER >> OPTIONAL
FILTRE GASOIL RECHAUFFE |
| EV1 SOLENOID VALVE
ELECTROVANNE | RL RESET BUTTON
BOUTON REARMEMENT |
| FO PHOTOCCELL
PHOTORESISTANCE | LL LOCK OUT INDICATOR LIGHT |
| CO CAPACITOR
CONDENSATEUR | RV1 SWITCH
COMMUTATEUR |
| MV BURNER MOTOR
MOTEUR BRULEUR | TD TRANSFORMER H.V.
TRANSFORMATEUR H.T. |
| FUA FUSE
FUSIBLE | |

TECHNICAL SPECIFICATIONS CARACTERISTIQUES TECHNIQUES		FLAME 155	
Max heating output Puissance thermique max	[BTU/h]	115.159	
Fuel consumption Consommation	[gal/h]	0,849	
Power supply Alimentation électrique	Phase Phase	1	
	Voltage Tension	[V]	120
	Frequency Fréquence	[Hz]	60
Power consumption Puissance électrique	[W]	175	
Nozzle Gicleur	[USgal/h]	Delavan 0,65 - 80° W	
Pump pressure Pression pompe	psi	166	
Adjustment of combustion air flap Réglage du volet d'air comburant	[in]	a = 0,126	
Tank capacity Capacité réservoir	[USgal]	11,35	
Noise level at 1 m Niveau sonore à 1 m	[dBA]	69	
Dimensions, L x W x H Dimensions, L x P x H	[in]	35.24 x 20.94 x 31.81	
Weight Poids	[lb]	92.5	



FOOT / HANDLE ASSEMBLY INSTRUCTION - NOTICE DE MONTAGE DU PIED/DE LA POIGNEE

			N°
A		TE M5x12	4
B		TBEI M8X25	4
C		TE M5x20	3
D		Ø8xØ17x1,5	4
E		TE M8x16	3
F		Metal wheel holder Ø25	2
G		Plastic plug	2

F00153-BM.00

F00056

Ed. 12/08

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