



HOT AIR GENERATORS

G36-16, G45-45
G56-70, G56-100

M A N U A L

Appliance running on Methane or Butane gas

E N G L I S H

Careful reading of this manual is compulsory before installing or undertaking any operations on the machine.



The **G series** hot air generators run on GPL (Liquid petroleum gas) and methane as the combustion fuel.

The **series G** generators are of direct combustion type. The air is heated by means of the thermal energy generated during combustion and is transferred to the environment to be heated with the combustion products, thereby rendering the thermal energy produced 100% available. The environment must be suitably ventilated in order to ensure sufficient air exchange.

Do not use the generator in basements or below ground level or in premises destined for domestic use.

There are a series of safety devices which come into effect in the event of faulty function. The electronic control device intervenes in the event of irregular flame or flame which tends to go out, stopping the burner and igniting the *burner block* button indicator. There are a series of safety devices which come into effect in the event of faulty function. The electronic control device intervenes in the event of irregular flame or flame which tends to go out, stopping the burner and igniting the *burner block* button indicator (Chap.7, pag.8 "Faults, causes and remedies").

INDEX

1. Warnings	page 2
• Warning symbols	page 2
• General warnings	page 2
• Warnings relative to positioning	page 3
2. Technical features	page 4
3. Installation	page 5
• Electrical connections	page 5
• Connection to fuel supply line	page 5
• Drawing and table of spares codes	page 6-7
• Gas type transformation	page 8
Means of use	page 9
• Start up	page 9
• Stop	page 9
4. Transport and handling	page 10
5. Maintenance	page 10
• Ordinary maintenance	page 10
7. Faults, causes and remedies	page 11

Appendix

A. Wiring diagram	page 12
B. Conformity declarations	page 13
C. Liability	page 14

MANUFACTURER

FRANCO s.r.l.

Strada Statale 22 N°80 – CERVASCA (CUNEO) Italy
Tel. (+39) 0171 611663 – Fax (+39) 0171 612337

1. WARNINGS

The present manual provides both the installers and users of the **series G direct exchange hot air generator** all the necessary information for installation, correct use and maintenance of the same. All these operations must be undertaken in accordance with current regulations in force as concerns machine use.

warning symbols in the manual:



Warning



Electrical warnings

CAUTION!

Calls attention to a potential risk to personal safety

general warnings:

The appliance to which the manual refers is NOT suitable for domestic use!

CAUTION!

Never cover the appliance!

There must be no obstructions or obstacles to the air delivery or suction conduits, such as cloths or covers placed over the appliance;

- The ventilation of the premises in which the generator is located must be guaranteed and adequate to meet the burner requirements;
- Check the generator before starting up and during use;
- Check the voltage rating necessary on table 1 (*page 4*);
- Connect the generator to a mains socket complete with grounding and magnetothermal switch with differential element;
- Connect the generator using a cylinder of at least 25 kg;
- Place the appliance in a fixed position;
- Never reduce the inlet or outlet sections of the generator;
- Whenever the appliance is not in use disconnect the isolator switch and disconnect the gas supply.
- check the type of gas for which the device has been regulated

It is important to ensure that:

- The generator is not installed in areas under risk of fire or explosion;
- There are no inflammable materials in the vicinity;
- All the necessary fire prevention precautions have been adopted.



This appliance can only be destined for the use for which it has been designed. All other uses are to be considered as being improper and therefore dangerous, the manufacturer will not accept liability for any damage resulting from improper or imprudent use.

In the event of faulty function have the system carefully checked by professionally qualified personnel.

Contact the Technical assistance centre for any repairs.

CAUTION!

Should the appliance be accidentally allowed to fall or subject to violent blows or knocks it may become damaged, even if it is not visible, and therefore become dangerous. Therefore it is important to desist from using it and contact your technical assistance centre.

positioning instructions



Use only in a horizontal position

The hot air flow must not be directed on walls or objects. **Minimum distance 100 cm.**

The hot air flow must be directed in such a way as to avoid any fire risks; the hot air outlet must be positioned at **least 3 m** from any walls or inflammable object

Never direct the hot air flow towards gas cylinders;

Never cover the hot air outlet and suction inlets.

Keep the hot air suction grids clean.

Never position power feed cables in front of hot air outlet grating.

Keep this manual for all future reference!

2. TECHNICAL FEATURES

technical fact file

tab.1

			G36-16	G45-45	G56-70	G56-100
THERMAL POWER	LPG	Kw	16	45	70	100
	Nat. Gas	Kw	16	45	70	100
AIR FLOW		m ³ /h	1000	2000	5000	7000
GAS CONSUMPTION	GPL	Kg/h	1,14	3,188	5,07	7,24
	Nat. Gas	m ³ /h	1,706	4,768	6,67	7,62
ELECTRICAL SUPPLY			single-phase 230V 50Hz			
ELECTRICAL POWER		W	90		180	370
ABSORBED CURRENT		A	0,9		1,57	2,65
GAS PRESSURE	LPG G30	bar	0,030			
	LPG G31	bar	0,037			
	Nat. Gas G20	bar	0,020			
PROTECTION LEVEL			IPX4D			
DIMENSIONS	A	mm	420	530	650	650
	B	mm	800	800	930	930
	C	mm	520	630	750	750
WEIGHT		Kg	15	17	25	27
NOZZLES	LPG	Ømm	2	3,4	4,1	4,9
	Nat. Gas	Ømm	3	5,5	6,5	7

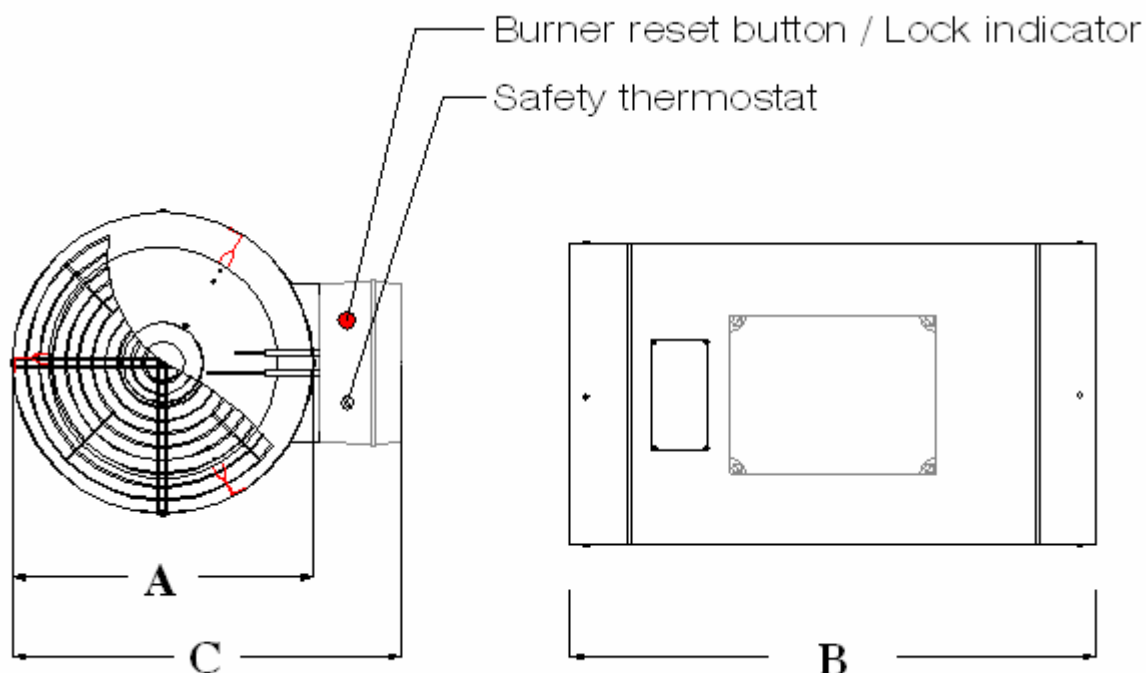


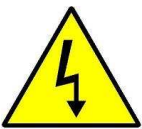
Fig.1

3. INSTALLATION

CAUTION! The *series G* hot air generator must be installed in accordance with current national and local regulations by professionally qualified personnel.

electrical connections

- Connect the generator to a power socket corresponding to that indicated in table 1 (page 4).
- All the control and safety devices are already electrically connected.



Install an omni-polar switch with a 3mm opening between contacts on the power line of the device.

The feed power cable must have conductors with a section of 1,5mm².

1 phase + neutral + earth for M version burners (single phase)

3 phases + neutral + earth for T versions (three-phase)

The socket to which the appliance is connected must always be accessible.

connection to the fuel supply line

The *series G* generator is supplied complete with gas valve (double) on the panel on board the machine.

- The attachment for connection to the gas line of 1/2" M.
- The gas supply line to which the generator is connected must be of the same pressure as indicated in table 1 (page 4).
- Connect the gas supply pipe to the pressure reduction element and this last to the GPL cylinder or the Methane supply line.
- Open the cylinder tap and check the power supply pipe and the connections to ensure that there is no leakage.
- Use a hose with a maximum length of 2 m and ensure that there are no bottlenecks
- The cylinder must be changed in a well ventilated premises away from any inflammable sources

drawings and code table

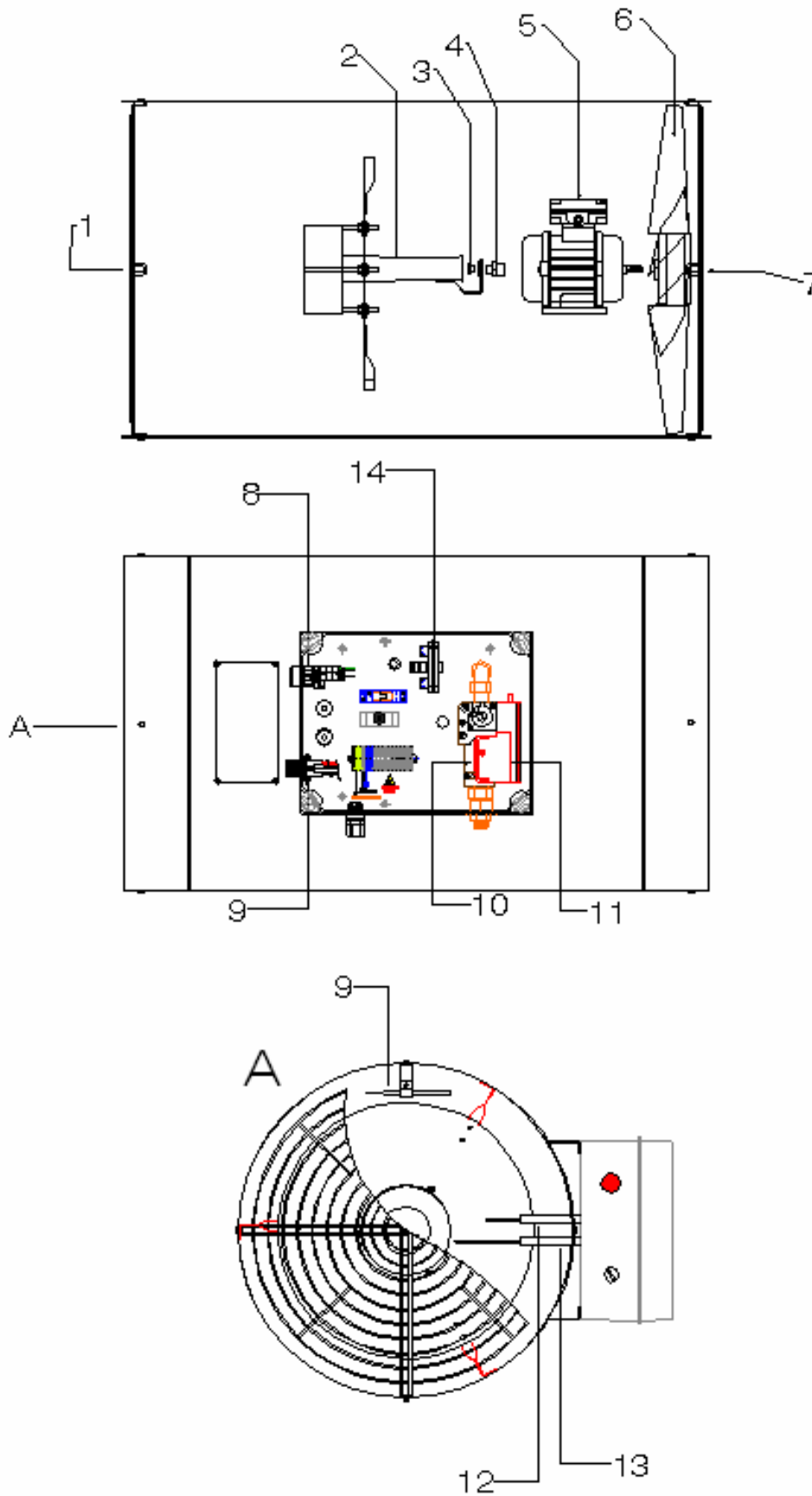


Fig.2

SPARE PART code table

tab.2

N°	DESCRIPTION	G36-16	G45-45	G56-70	G56-100	
1	Guard net on the delivery side	1201007	1301007	1401007		
2	Burner body	1202004	1302004	1402004		
3	Nozzle	LPG	L200	L340	L410	L490
		Nat. gas	L300	L550	L650	N.P.
5	Nozzle carrier	EN533MC				
5	Fan motor	MM056STD05200C		MM402A2M	MM404A2M	
6	Fan	MW350/2/25	MW448/3/30	MW557/6/25	MW557/8/30	
7	Guard net on the suction side	1201006	1301006	1401006		
8	Burner reset button Lock indicator	3-EP3105				
9	Safety thermostat	LM7P5006				
10	Gas valve	VK4105A				
11	Gas and flame control card	S4565A				
12	Ignition electrode	1201071	1301071	1401071		
13	Flame sensing electrode	1201072	1301072	1401072		
14	Air pressure switch			C6065F1175:2		

Gas type transformation

The **series G** direct exchange hot air generator is supplied in a version suitable for running on either methane gas or GPL

Should one possess a *series G* generator running on Natural gas and one wishes to change it to LPG (or vice versa) it is necessary to order the relative *nozzle*.

tab.3

	G36-16		G45-45		G56-70		G56-100	
	LPG	Nat. gas	LPG	Nat. gas	LPG	Nat. gas	LPG	Nat. gas
CODE	L200	L300	L340	L550	L410	L650	L490	Not present
Ø mm	2,0	3,0	3,4	5,5	4,1	6,5	4,9	Not present

transformation instructions:

Before undertaking the operation:



- Stop the machine,
- Isolate from electrical energy sources by removing the plug from the socket,
- Close the gas interception cock and wait for the generator to cool down

Operations: *(the numbers in brackets refer to tab.2 pag.7)*

- Dismantle the closure disc on the delivery side (7) and the fan (8) using a size 13 spanner,
- Unscrew the nozzle (3) and replace with nozzle of type suited to the fuel (*tab.3*),
- Tighten the nozzle (3) using a size 13 spanner,
- Re-assemble the fan (8) and the delivery side closure disc (7),
- Before switching the generator back on check that the gas delivery pipe pressure is correct (*tab.1 page 4*).

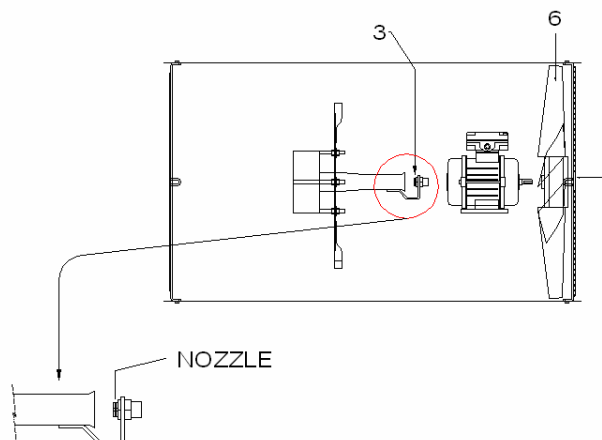


Fig.3

4. MEANS OF USE

start up

- To start up the generator simply power the machine at the voltage as indicated in table 1 (page 4).
- Ensure that the pressure of the gas supply line to which the generator is connected corresponds to that indicated in table 1 (page 4).
- Open the gas supply tap.

Should it fail to start up the first operations to be undertaken are:

1. Check the power supply voltage on the generator control panel;
2. Check that the gas cylinder is full and that the power supply tap is open;
3. ensure that the ignition electrode is not in need of cleaning, that it does not touch any lethal parts or is too far away from the burner;
4. press the *reset* button;

If the ignition function is difficult or irregular ensure that:

1. The fan is not blocked and that the suction and delivery grills are not obstructed;
2. The flame control electrode is not defective;

Should the generator still fail to function after these operations it is necessary to consult par. 7 “Faults, causes and remedies” (page 11) to find out the reason.

CAUTION!

In the event of any strange over-heating. The thermostat intervenes switching off the burner. Attempt to find out the cause for this over-heating before using the appliance again. Consult qualified personnel if necessary.

stopping

- To stop the generator it is necessary to disconnect the electricity supply from the switch (either magneto-thermal or earth switch) or by operating the environmental thermostat, if present.
- Close the cylinder tap or the gas supply tap.

5. TRANSPORTATION AND HANDLING

The *series G* generator may be raised and suspended using the relative brackets.

CAUTION!

Before shifting the appliance it is necessary to:

- Stop the machine according to the instructions indicated in par.4 “Stop” (page 9),
- Disconnect the electricity supply by removing the plug from the socket,
- wait for the generator to cool down,
- Fully unscrew the fitting which connects the gas delivery pipe to the generator.

6. MAINTENANCE

CAUTION!

Before commencing any operations the maintenance technician must:

- Stop the machine,
- Isolate it from electrical sources by removing the plug from the socket,
- Wait for the generator to cool down,
- Close the gas interception cock.

The maintenance personnel must carefully comply with the relative accident prevention regulations currently in force!

ordinary maintenance

The appliance must be checked by a qualified technician at least once a year. The following aspects require checking:

- Check the condition of the gas supply pipe and use only original spares for replacement;
- Remove the guard grills and clean;
- Clean the blades and the fan motor;
- Blow into the burner body using compressed air several times;
- Clean all surfaces using a cloth, as well as the electrodes and the manual resetting lock thermostat;
- Check the function of the locking thermostat and all the safety appliances.

The appliance is state of the art. Its electrical and mechanical reliability and long lasting wear is guaranteed providing it is correctly used and regularly maintained.

7. TROUBLE SHOOTING GUIDE

Fault	<i>Cause</i>	Solution
The generator fails to start	No electricity supply	Check electrical connection and mains voltage
	Overheated motor (fan rotates badly or is blocked)	Check the electrical connection and mains voltage
	Defective switch	Suspend the gas supply, disconnect the plug and fit a new switch
	Defective flame control appliance	Replace the appliance
	The ignition electrode fails to make a spark	Check that the electrode does not touch the metallic parts or is too distant from the burner. Clean
The generator stops and the burner block indicator light comes on	There is no gas delivery to the solenoid valve	Check that the gas supply is open. Check that the gas cylinder is not empty. Press the reset button
	The solenoid valve fails to open	Check the solenoids. Check the electrical connection.
	The flame sensing electrode fails to sense correctly	Check that the electrode is not too distant from the burner. Clean. Check the electrical connection and the mains voltage
	Grating on the fan and delivery side clogged with dirt and particles	Remove the external body and clean the grating
	Safety thermostat intervention	Check that the delivery and suction grating is not obstructed. Check the ensure that the environment is well ventilated. Check that the hot air can escape freely
	Defective safety thermostat	Check the thermostat and replace if necessary
The generator consumes too much gas	Defective flame control device	Replace the appliance
	Gas leaks	Find the leak using soapy water and replace the defective part
The generator fails to stop	The nozzle is loose	Connect and securely tighten
	Defective switch	Stop the gas supply, disconnect the power plug and insert a new switch
	Defective flame control device	Replace the appliance
	The solenoid fails to close	Suspend the gas supply, allow the generator to burn the gas in the pipe, disconnect the plug, dismantle the solenoids, clean and reassemble or replace

APPENDIX

CERTIFICATO DI ESAME **CE** DI TIPO

EC TYPE EXAMINATION CERTIFICATE

No. **51BN2203**

VISTO L'ESITO DELLE VERIFICHE CONDOTTE IN CONFORMITÀ ALL'ALLEGATO II, PUNTO 1,
DEL DPR 15/11/96, N. 661, ATTUAZIONE DELLA DIRETTIVA 90/396/CEE,
SI DICHIARA CHE I SEGUENTI PRODOTTI (MODELLI/TIPO):

*On the basis of our assessment carried out according to Annex II, section 1,
of Legislative Decree of 1996/11/15, No. 661, national transposition of the Directive 90/396/EEC,
we hereby certify that the following products (model/type):*

Generatori di aria calda

Warm air generators

Modelli G36., G45., G56..

Models G36., G45., G56..

*(ulteriori informazioni sono riportate in allegato)
(for further information see annexes)*

CONSTRUITI DA:
Manufactured by:

**FRANCO SRL
S.S. 22 N. 80
12010 CERVASCA CN**

SODDISFANO LE DISPOSIZIONI DEL DECRETO SUDEDETTO.
Meet the requirements of the aforementioned national legislation.

QUESTO CERTIFICATO DI ESAME CE DI TIPO È RILASCIATO DA IMQ S.P.A. QUALE
ORGANISMO NOTIFICATO PER LA DIRETTIVA 90/396/CEE.
IL NUMERO IDENTIFICATIVO DELL'IMQ S.P.A. QUALE ORGANISMO NOTIFICATO È: **0051**

*This EC Type Examination Certificate is issued by IMQ S.p.A. as Notified Body for the Directive 90/396/EEC.
Notified Body notified to European Commission under number: 0051*

2003-01-28

DATA

IMQ s.p.a.
VIA QUINTILIANO 43 - 20138 MILANO

IL PRESENTE CERTIFICATO ANNULLA E SOSTITUISCE IL PRECEDENTE DEL
This Certificate cancels and replaces the previous one of

2002-02-20

FRANCO s.r.l.**will not accept liability in the following cases:**

- Maintenance is not undertaken on the *series G generator* by skilled and competent personnel.
 - Use contrary to that specified in the national regulations.
 - Use of non-original spares.
 - Power supply defects.
 - Removal of the envisaged safety guards.
 - Complete or partial failure to follow instructions.
 - Modifications made on the *series G generator*
 - Negligence.
-