

MASTRO[®] Service



Mastro GmbH

Hüserstraße 53
59075 Hamm / Germany



+49 (0) 23 81 / 973 71- 0



+49 (0) 23 81 / 973 71-88

www.mastroshop.com

INDEX

- 1. Warnings**
- 2. Compliance with “EEC” Directives for gas appliances**
- 3. Installation diagrams**
- 4. Technical data table - Fryer**
 - 4.1 Gas characteristics
- 5.**
- 6. Instructions for the qualified installer**
 - 6.1 Appliance installation
 - 6.2 Laws, technical regulations and general rules
 - 6.3 Discharge of fumes for type “A” appliances
 - 6.4 Checking for gas leaks
- 7. Maintenance**
 - 7.1 Conversion for use with a different type of gas – Fryer
 - 7.2 Changing spare parts - Fryer
- 8. User instructions**
 - 8.1 Turning the fryer burner on
 - 8.2 Approximate temperatures of the valve knob
 - 8.3 Turning the fryer burners off
 - 8.4 Turning the fryer off completely
 - 8.5 Safety thermostat
 - 8.6 Filling the fryer with oil
 - 8.7 Draining the bowl
- 9. Maintenance, cleaning and care**
- 10. Exploded functional parts table**

THIS APPLIANCE HAS BEEN MADE FOR COOKING FOOD AND MUST ONLY BE USED BY PROFESSIONALLY SKILLED PERSONNEL IN THE WAY DESCRIBED IN THIS INSTRUCTION MANUAL.

1. WARNINGS

- ◆ Read this handbook through carefully as it provides important information for a safe installation, use and maintenance.
- ◆ Keep this handbook in a safe place for future reference.
- ◆ Only professionally skilled personnel must install the appliance and, if required, convert it to receive a different type of gas.
- ◆ Only call one of the manufacturer's authorised technical assistance centres for repairs and demand original spare parts.

Failure to observe the above could undermine the safety of the appliance.

2. COMPLIANCE WITH "EEC" DIRECTIVES – GAS APPLIANCES

**This appliance has obtained the "CE" type approval certificate as it complies with the acceptance tests carried out in accordance with the following standard:
"ESSENTIAL REQUIREMENTS ANNEX I EEC DIRECTIVE 90/396 MD 26/06/1990"**

4.

TECHNICAL DATA TABLE - FRYERS

MODEL	BURNERS No. x kW	CAPACITY TUB L	TOTAL POWER kW	TOTAL GAS CONSUMPTION		DIAMETER OF NOZZLES IN HUNDREDTHS OF A MILLIMETRE	
				LPG G30 – G31 kg/h	METHANE G20 m³/h	LPG G30 – G31 28/30 mbar	METHANE G20 20 mbar
60/30 FRG	2 x 3,4	8	6.8	0,528	0,720	95L	140L
60/60 FRG	4 x 3,4	8+8	13.6	1,056	1,440	95L	140L
NOZZLE FOR PILOT BURNERS						30	51

4.1 GAS CHARACTERISTICS

The data relative to power and consumption refer to the following types of gas:

TYPE OF GAS	NET HEAT VALUE (NHV)	PRESSURE mbar	SUPPLY mm water
G20 (methane gas) CH ₄	9.45 kW m³/h	20	200
G30 (butane) C ₄ H ₁₀	12.68 kW/kg	30	300
G31 (propane) C ₃ H ₈	12.87 kW/kg	37	370
G25 (G20L – DE)	8.12 kW m³/h	20	200
G25 (aardgas NL)	8.12 kW m³/h	25	250

When installing the appliances, the gas supply pressures must be those given above in order to have maximum burner efficiency.

Pressures mbar: 1 millibar = 1 mbar = 10 mm (water column millimetres)

Power: 1 kW = 860 kcal = 3.6 MJ = 3412 BTU

6. INSTRUCTIONS FOR THE QUALIFIED INSTALLER

6.1 APPLIANCE INSTALLATION

- Remove the appliance from its packaging and position it (always) under a suction hood.
- Always use rigid galvanised steel or copper pipes for connecting the appliance.
- If the appliance is wall mounted, in contact with flammable material, place a layer of heat-resistant insulating material between the appliance and the wall or leave a space of 200 mm between the appliance and the wall.
- The appliance gas system and the characteristics of the room in which the appliance is installed must comply with current laws.

6.2 LAWS, TECHNICAL REGULATIONS AND GENERAL RULES

- Standard UNI-CIG 8723, Ministerial circular no. 68 dated 25/11/69 and variations.
- Accident prevention laws.
- Always install a cut-off cock between each appliance and the gas pipe.
- Check that aeration in the room is sufficient when the appliance is working, considering that the necessary quantity of air for combustion is 2 m³/h of air for each kW of installed power.

6.3 DISCHARGE OF FUMES FOR TYPE “A” APPLIANCES

The appliances must be installed on premises that are suitable for the discharge of the combustion products and must comply with the installation rules. Our appliances are considered type “A” gas appliances (see the Technical Data Tables) and are not for connecting to a natural discharge duct for combustion products.

These appliances must discharge through specific extractors, or similar devices, connected to a properly working flue or discharged directly outside.

In the absence of these, it is admissible to have an air aspirator connected to a safe flue pipe or directly to the outdoors.

If this is not possible, an air suction device can be used connected directly to the outside, with a capacity that must be no less than that required, see Table 1, plus the quantity of fresh air that is necessary for the well-being of the workers.

6.4 CHECKING FOR GAS LEAKS

Once installed, check there are no gas leaks on pipe joints using a soapy water solution. You will know if there are leaks by the foamy bubbles that form. Never use bare flames to check for leaks.

When the appliance is ready to use, check that there are no gas leaks, by checking on the gauge, if used (for a period of 30 minutes), that there is no passage or consumption of gas.

7.

MAINTENANCE

There is very little maintenance thanks to the correct way the appliances have been made. However, we do advise having the systems checked by qualified personnel at least twice a year.

N.B.: the manufacturer declines all responsibility for direct or indirect damage caused by incorrect installation, bad maintenance, tampering, improper use and failure to comply with the accident prevention norms regarding the prevention of fire and safety for gas systems.

7.1 CONVERSION FOR USE WITH A DIFFERENT TYPE OF GAS - FRYER

The appliance is tested and set for working with gas according to the characteristics table affixed in proximity to the appliance's gas inlet.

In order for it to function with a different type of gas, proceed as follows:

- The conversion must be carried out by qualified personnel
- The nozzles for LPG are supplied with the appliance in a nylon bag
- Changing the burner nozzle (Fig. 1):
open the compartment doors (20), change the nozzles (30) according to the type of gas (see the TECHNICAL DATA table).
- Changing the pilot burner nozzle:
remove the panel (20), unscrew the pilot burner nut and change the nozzle (19) according to the type of gas (see the TECHNICAL DATA table).
- Adjusting the burners, checking supply pressures and working order:
once the nozzles have been changed, check that the gas pressure, both in the valve output and input, is as given in the TECHNICAL DATA table. To do this, remove the screws on the valve's (1) pressure tap (11), insert a rubber pipe connected to a gauge and check pressure. If the inlet supply pressure is different to that specified, find the cause and correct it.
- Adjusting the pilot burner:
this burner needs no adjusting. If you find it does need adjusting, act on the PILOT screw of the safety valve (1), see fig. 2
- Regulating the minimum flame – burner:
The valve has a on/off function so needs no adjusting.

7.2 CHANGING SPARE PARTS

Thermostatic cock (6):

remove the control panel (1), unscrew the entrance (9) and exit (10) joint connections. Unscrew the small pilot pipe fitting (11) and the thermocouple (12). Unscrew the screws (13) fixing the valve to the support. Unscrew the thermostat bulb (31) from the bowl (14).

Replace the valve and put everything back in place. Check that the thermostat bulb of the valve (31) is inserted in the special protection tube.

Safety thermostat (8)

drain the oil from the bowl, unscrew the nut (16), extract the thermostat bulb (8) and change the thermostat. Put everything back in place. Check that the safety thermostat bulb is inserted in the protection tube.

Thermocouple (12):

unscrew the thermocouple (12) from the valve (6) and from the pilot (17) and then change it.

Ignition plug (18):

Unscrew the plug securing nut (19) on the pilot and change the plug.

Piezoelectric lighter (20):

remove the ignition plug connection cable, unscrew the nut attaching the piezoelectric lighter to the control panel and replace it.

Changing the pilot (27):

Unscrew the two burner securing screws on the bowl, unscrew the nut (28) securing the nozzle holder (29). Change the burner and then put everything back in place.

N.B.:

After any replacement or repair, check that the parts work properly and adjust them as needed.

Check for leaks from the gas pipe fittings with a soapy water solution – never use a bare flame.

8. USER INSTRUCTIONS

8.1 LIGHTING THE FRYER BURNERS

Lighting the pilot flame:

Make certain that the thermostatic safety valve knob is in the CLOSED position (★ symbol). Press the ★ push button right down and holding it pressed, press the piezoelectric lighter push button at the same time. The pilot flame lights automatically.

Check the flame is lit through the holes (21) on the appliance panel.

Keep the valve push button (24) pressed for 10-15 seconds in order to heat the thermocouple and then let it go.

Repeat this operation if the burner goes out.

Lighting the burners and adjusting the temperature:

Once the pilot flame is lit, turn the thermostatic safety valve (6) knob (22) into the position minimum 1 to maximum 8 (the other numbers represent the intermediate temperatures).

The burners light automatically and once the temperature is reached you set with the knob, the thermostatic valve turns the burners off, lighting them again when the temperature drops.

8.2 APPROXIMATE TEMPERATURE OF THE VALVE KNOB

Pos. 1 = 100 °C

Pos. 2 = 110 °C

Pos. 3 = 125 °C

Pos. 4 = 135 °C

Pos. 5 = 145 °C

Pos. 6 = 160 °C

Pos. 7 = 170 °C

Pos. 8 = 180 °C

Tolerance $\pm 10\%$

8.3 TURNING THE FRYER BURNERS OFF

Turn the knob round to the ★ position. The burners will go out, leaving only the pilot flame alight.

8.4 TURNING THE FRYER OFF COMPLETELY

Press the ● push button right down (23) and then let it go. This stops gas reaching the burners and the pilot burner. This button will stay down automatically for 1 minute after which it returns to its initial position. Only now can the fryer be turned on again, repeating the steps from the beginning.

8.5 SAFETY THERMOSTAT

Besides the thermostatic safety valve (1), the appliance also features a safety thermostat (8) situated inside the control panel and will work if the thermostatic valve fails to turn the burners out when the oil reaches maximum temperature.

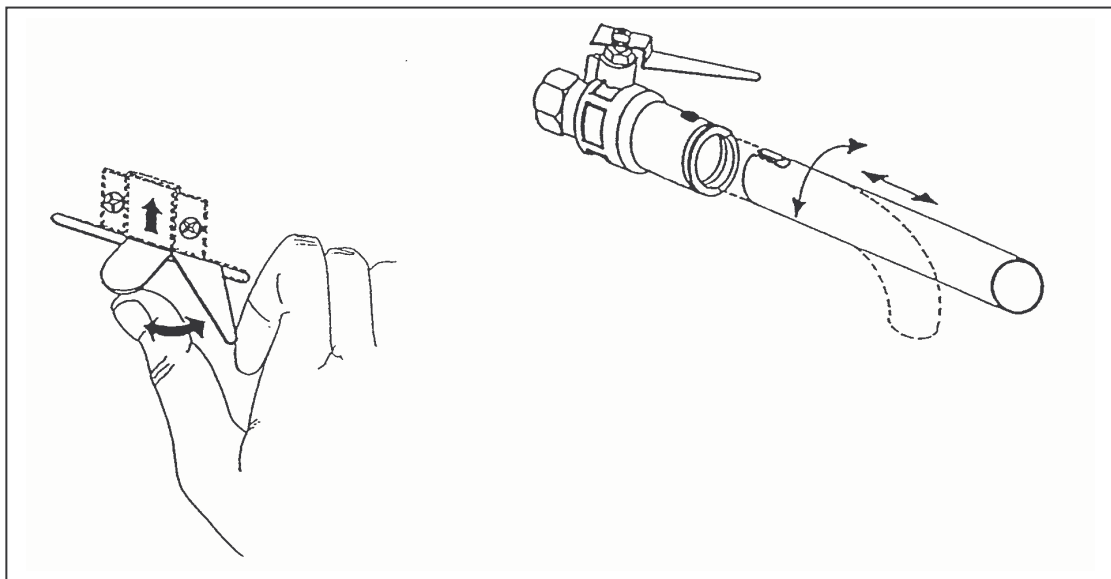
If the safety thermostat intervene, find the reason immediately and change the part that is not working if necessary. Press the red push button on the safety thermostat to light the burners again.

8.6 OIL LOAD

Check that the bowl drainage tap is closed. Fill up with oil or fat until you reach the minimum or maximum notch printed on the back of the bowl.

8.7 EMPTYING THE BOWL

The user must make sure that there is a specific tank for collecting the drained water. Mount the drain pipe with bayonet joint, conforming to the drawing. Operate the lever to drain the water as shown in the drawing.



9. MAINTENANCE, CLEANING AND CARE

Have it checked by a specialised technician at least twice a year.

Clean the steel parts with water, detergent and a wet cloth. The detergent used must not contain any corrosive or abrasive substance as it can damage the steel surfaces.

After washing, rinse with clean water and dry with a dry cloth.

If the appliance is going to be out of use for a long period of time, rub all steel parts briskly with a cloth soaked in Vaseline oil, leaving a protective layer. Also aerate the premises periodically.

Any contact with ferrous materials, both continuous and occasional, must be avoided at all costs as such materials can corrode. This means that ladles, spatulas, spoons, etc., must be in stainless steel.

For the same reason, avoid cleaning the stainless steel parts with steel wool, brushes or scrapers made of ordinary steel. Stainless steel wool can be used, rubbing it in the direction of the grain.

10. EXPLODED FUNCTIONAL PARTS TABLE MOD. 60/30 FRG E 60/60 FRG

FIG. 1

Mod. 60/30 FRG
Mod. 60/60 FRG

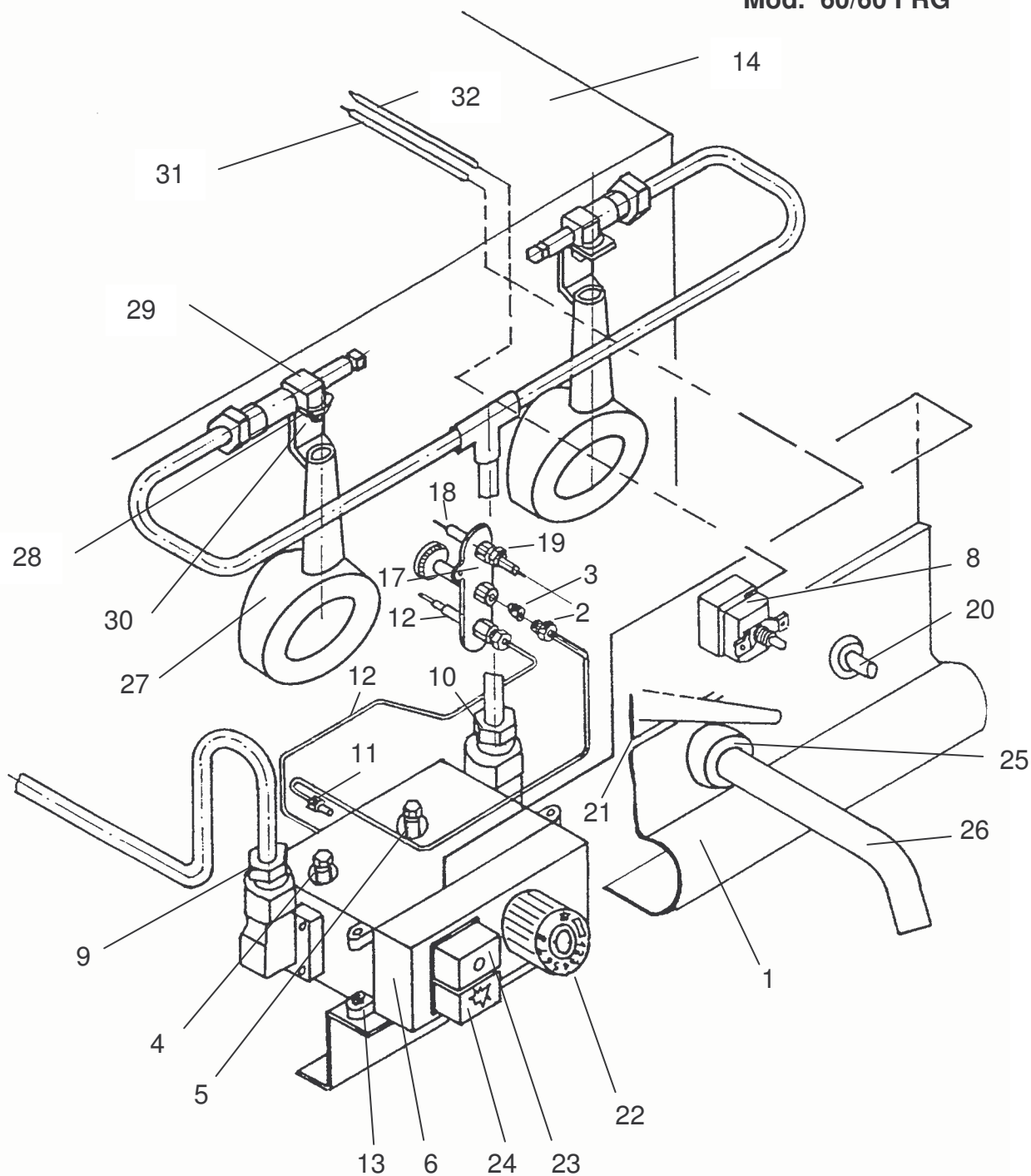


FIG. 2

