



RIBBON BURNER

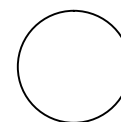
DECORATIVE FUEL EFFECT APPLIANCES FOR
USE WITH NATURAL GAS

**INSTALLATION, SERVICING & USER
INSTRUCTIONS**

**THESE INSTRUCTIONS TO BE LEFT
WITH THE END USER**

Multiglow Fires
St Nicholas - at - Wade
Birchington
Kent
CT7 0PQ

MULTIGLOW FIRES



**PLEASE READ THESE INSTRUCTIONS FULLY
BEFORE COMMISSIONING OR USE**

CONFORMITY

Because Multiglow Fire believe in the use of modern technology and materials, they reserve the rights to modify or change the layout and controls of their burner trays, at any time, whilst still complying with current specifications.

Therefore these 'Instructions' are a general guide only and not specifically in compliance with the shape or size of your appliance. These units must be installed in line with the current '**GAS SAFETY (INSTALLATION AND USE) REGULATION**' applicable to the country of use.

NOTE: For the safe and efficient operation of this appliance, it must be installed inline with the current British Standard (BS 5871:PART 3) or the equivalent standard for the country of use and take into account the Local and national building regulations or bylaws where necessary.

NOTE: **It is essential that this appliance is installed by a qualified installer.**

NOTE: This appliance has been designed for use on NATURAL GAS only.

Prior to installation, ensure that the distribution conditions (identification of the type of gas and pressure) and the adjustment of the appliance are compatible.

NOTE: Multiglow Fires will **not** accept any liability or responsibility for a appliance that has been installed outside of the technical data specified in this manual and is not in agreement with the above statements.

GENERAL NOTES

SECTION 1

The MUTIGLOW RIBBON BURNER is a Decorative Fuel Effect (D.F.E.) primary aerated gas fire, designed to comply with BS EN 509:2000, and is intended for decorative purposes only. It has been designed to operate on Natural Gas (N.G.) and must be fitted on a non-combustible hearth in a standard builders opening, with a class 1 chimney in compliance and satisfying the requirements of BS 5871- PART 3. The appliances have been tested and approved with the minimum flue dimensions as stated within the technical data tables.

The MULTIGLOW RIBBON BURNER conforms to the relevant Safety Standards but during use there are naked flames and parts of the casing become hot. A suitable guard conforming to BS.6539 (fireguards for use with solid fuel appliances) is therefore recommended to be fitted in front of the appliance where the young, elderly or infirm are concerned.

NOTE: This appliance is not fitted with an integral guard. In normal use consideration may be given to the use of a guard conforming to BS 6678 or BS 6539 such that the access to the naked flame is minimised.

NOTE: These units have gas consumption similar to that of a MEDIUM SIZED boiler (i.e.68000 BTU). Therefore, it is essential that the gas supply pipe work be of a size that will allow for the correct flow rate (See **TECHNICAL DATA** for required information). Ensure that the isolating tap does not have a reduced bore.

NOTE: These appliances are fitted with electrical remote controls, therefore adequate ventilation must be provided below the appliance so that any electrical / electronic component does exceed a temperature of 60 degrees centigrade

NOTE: In conjunction with the above note it is **IMPORTANT THAT THE BURNER CONTROL AND MODUBOX (FOR DUNGS SYSTEM) AND BATTERY CONTROL PACK (FOR GV 60) ARE AT LEAST 4-5" BENEATH THE BURNER WHEN INSTALLED (SO THAT THEY DON'T EXCEED THE MANUFACTURERS SPECIFIED TEMPERATURE LIMIT OF 60 DEGREES CENTIGRADE).**

**GENERAL & TECHNICAL
DATA**

SECTION 2

GAS TYPE G20 @ 20MBAR CATEGORIES I2H/I2E+

MODEL	A	B	C
SIZE	600mm	900mm	1200mm
MASS (kg)	6	7	9
HEAT INPUT (GROSS K.W).	12	13	15
FLOW RATE (M3/HR)	1.144	1,242	1,429
WORKING "P" (MBAR)	20	20	20
BURNER TEST "P"	9.2	6.9	7
MULTI-VALVE FUNCTIONAL	BM740/3	BM740/3	BM740/3
VALVE INLET CONNECTION	8MM	8MM	8MM
PILOT O.D.S. (SIT)	9013	9013	9013
INJECTOR	16/1100	16/1500	16/1700
MINIMUM FLUE REQUIREMENT			
DIAMETER(MM)	200	200	200
HEIGHT (Mtrs)	3	3	4.5
OPENING SIZE			
WIDTH (mm)	1000	1100	1500
HEIGHT (mm)	310	310	235
DATA LABEL	AFFIXED TO BURNER TRAY		

NOTE:

- MODEL CIRCLED CORRESPONDS TO THIS APPLIANCE

GAS TYPE G20 at 20 mbar - CATEGORIES I2H/2E/I2E+

MODEL	E			D		
BURNER WIDTH	300mm			400mm		
MASS(kg)	5.5			5.5		
GAS CATEGORY	I _{2H}	I _{2E}	I _{2E+}	I _{2H}	I _{2E}	I _{2E+}
COUNTRIES OF DESTINATION	AT, CZ,DK ES,FI, FR, GB, IE,IT PT, SE	DE, LU	BE, FR	AT, CZ,DK ES,FI, FR, GB, IE,IT PT, SE	DE, LU	BE, FR
HEAT INPUT (GROSS kW.)	6.95			6.95		
FLOW RATE (m ³ /h)	0.662			0.662		
WORKING "P" (mbar)	20			20		
BURNER TEST "P"(mbar)	7.2			7.9		
GAS VALVE	GV60			GV60		
OXYPILOT	SIT 9039			SIT 9039		
INJECTOR SIZE (1 per appliance)	BRAY 16/650			BRAY 16/650		
MINIMUM FLUE REQUIREMENT						
DIAMETER (mm)	178			178		
HEIGHT (m)	3			3		
OPENING SIZE						
WIDTH (mm)	600			600		
HEIGHT (mm)	390			390		
GAS CONNECTION SIZE	8mm			8mm		
DATA LABEL	AFFIXED TO BURNER TRAY			AFFIXED TO BURNER TRAY		

INSTALLATION PARAMETERS

SECTION 3 – REGULATIONS AND CODE OF PRACTICE

- 3.1** In your own interest and safety it is law that all gas appliances are installed by a competent person, in accordance with the current Gas Safety (Installation and Use) Regulations applicable to the country of use. In addition, the installation must be carried out in accordance with the relevant and current local and national specifications and building regulations.
- 3.2** The fireplace surround, hearth and builders opening shall be of non-combustible material. Hearth and clearance dimensions must comply with the requirements of BS 5871 part 3.
- WARNING:** This appliance must not be fitted in any room where steam is present (e.g. bathroom).
- 3.3** The appliance must be mounted behind a non-combustible hearth and be 50mm (2") above floor level to discourage the over-laying of carpets or rugs etc.
- 3.4** The minimum clearance height above fireplace opening for a combustible shelf (having a depth of 150mm (6") is 200mm (8"), add 12mm (½") for each additional 25mm (1") depth of shelf.

WARNING:Please note that soft wall coverings may become discolored when close to a heating appliance – this should be borne in mind.

- 3.5** **FOR EACH APPLIANCE** the minimum flue dimensions are as stated within the technical data tables. It is essential that BS 5871-3:2001 section 9 is consulted with regards to each individual installation to ensure that there is no possibility of spillage.

WARNING:The flue must **NOT** be shared with any other appliance.

- 3.6** All chimney dampers or restrictions should be removed or permanently fixed in the open position.

WARNING:If the fireplace has previously been used with a solid fuel the flue should be swept clean prior to installation, and a flue flow test in accordance with national regulations carried out

- 3.7** The room in which the appliance is to be fitted must have permanent air vent with a minimum effective area of 100cm. Sq. (15½ sq. inches) and be accessible to the outside air.

NOTE:The permanent ventilation should be checked on a regular basis to ensure that there is no obstruction.

WARNING:An extractor fan must not be fitted in the room that the ventilation is taken from.

PRE-INSTALLATION CHECK

SECTION 4

FLUE SOUNDNESS

WARNING: The flue and builders opening **MUST** comply with statement 3.5 above.

- 4.1** Using a smoke bomb, carry out a flue flow test to check the effectiveness of the flue and ensure that there is no leakage into another part of the premises (including any loft) or, as appropriate, other adjoining premises.

NOTE: Although a smoke pellet produces a large amount of smoke, the volume is small compared with the volume of the combustion products from an appliance. Clearance of smoke from a pellet is, therefore, no guarantee that the products of combustion from the appliance will clear. This must be tested after the installation is completed by carrying out a spillage test.

WARNING:Smoke coming out of other than the correct terminal, or a down-draught or no-flow condition, indicates an unsatisfactory flue. The flue may need attention – seek expert advice.

VENTILATION

- 4.2** In line with 3.7 above, make sure that the room or space where the appliance is located is adequately ventilated and that the means of ventilation is suitable. When installing a raised chamber fire it is critical to ensure that the ventilation to the fire for combustion and cooling purposes are carefully thought through. Failure to do so may invalidate your warranty.

NOTE:The size and type of ventilation should take into account any other gas appliance that may be fitted in the room or space

GAS SOUNDNESS

- 4.3** It is a requirement that a means of shutting off the gas supply to the appliance is provided, so that it allows for gas soundness checks to be carried out on the installation pipe work and also provides the means of isolating/disconnecting the appliance in the case of an emergency.

NOTE:Check that an adequate size gas supply isolating tap is fitted and working.

CHECK CARTON CONTENTS

Contents:

- 1x Installation & Servicing Instructions
- 1x Mod90.3TLL control board
- 1x Modubox
- 1x Burner Control Unit
- 1x 230v /24v transformer
- 1x Remote Handset I/R

Or

- For GV 60
- 1 x I/R Eye
- 1 x Battery control pack
- 1 X GV 60 Valve (attached to burner)
- 1 x Handset I/R

COMPATIBILITY

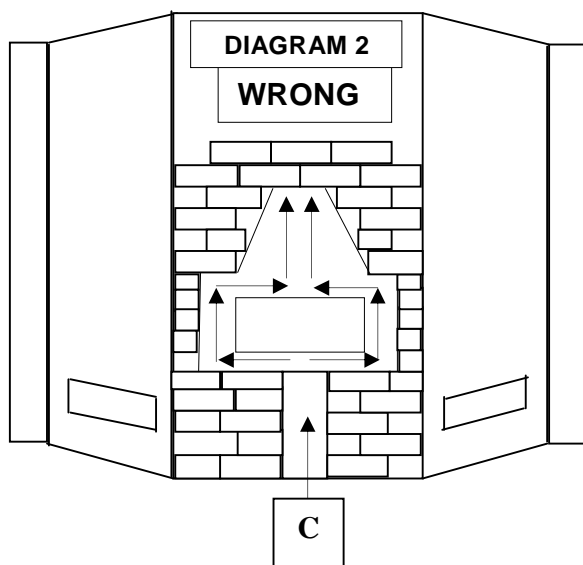
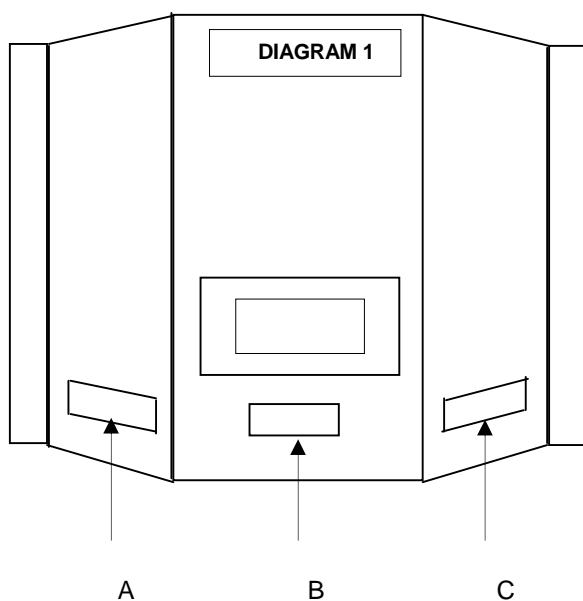
- 4.4** Before commencing installation, check that the local distribution conditions (identification of type of gas and pressure) and the adjustment of the appliance are compatible

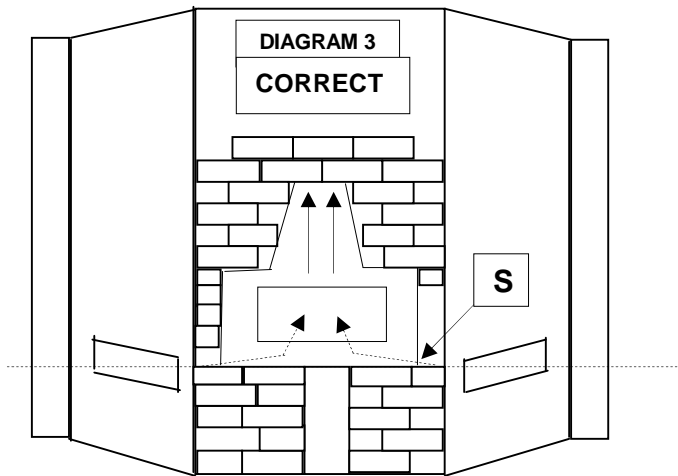
IGNITION CHECK

- 4.5 This appliance is fitted with an electronically controlled ignition system. Therefore an ignition check cannot be carried out prior to full installation. Care must be taken when installing this appliance and the spark ignition checked prior to the gas supply being turned on.

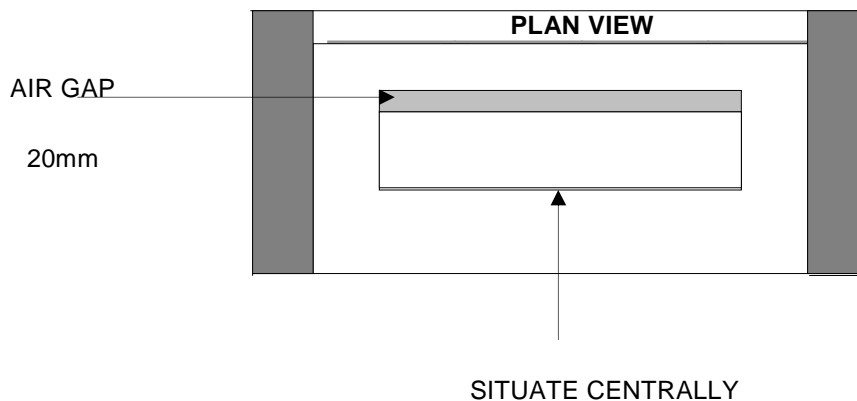
INSTALLATION

SECTION 5





POSITIONING AND COOLING



5.1

Proceed as follows:

- (a) Place appliance centrally into fire opening, with a 20 mm air gap behind the back edge of the burner.

NOTE: The requirement is that air is drawn from the room into the cavity below the burner and up through the vent at the back of the chamber, then up the flue. This will keep the control equipment below 60 degrees c – the manufacturers' recommendation.

- (b) Refer to diagram 1 which identifies where ventilation holes may be located. It is recommended that location A is chosen for aesthetic reasons. A proprietary grille should be used here. **The ventilation must be at least 100sq cm free area in total.**

NOTE: The vent cover should be fitted so that it enables easy access to the Underneath of the burner in case of component failure, annual Maintenance or in the case of the GV 60 manual ignition if required.

- (c) In all cases it is essential that the cavity marked **C** in diagram 2 is sealed as shown by arrow **S** in diagram 3, thus preventing the chance of air flow in the wrong directions as shown.
- (d) Ensure that every part of the flame is at least 225mm above the floor then a hearth may not be required.
- (e) However building regulation document J, paragraph 3:40 currently states. An appliance shall be placed on a hearth unless:
They are installed so that every part of any flame or incandescent material will be at least 225mm above the floor; or
The manufacturers' instructions state that a hearth is not required.

It is Multiglow Fires recommendation that a hearth is used with this appliance. Should you decide that a hearth is not required, then consideration should be given to the safety of the users of the room.

NOTE: When installing PLEASE ENSURE THAT THE BURNER CONTROL AND MODUBOX ARE AT LEAST 4-5" BENEATH THE BURNER WHEN INSTALLED (SO THEY DON'T EXCEED MANUFACTURERS SPECIFIED TEMPERATURE LIMIT OF 60 DEGREES CELCIUS)

5.2 GAS AND ELECTRICAL CONNECTIONS.

GAS SUPPLY

Purge the gas supply pipe work to remove all and debris BEFORE connection of the appliance. Using 15mm pipe to connect the valve to an isolating tap, which must be adjacent to the appliance [so that when the tap is closed appliance is totally isolated]. Turn on gas supply and check for gas soundness. [Tests should be carried out in accordance with the current Gas Safety Regulations].

NOTE Soft soldered joints must not be used beneath the burner tray.

WARNING Flexible pipe must not be used.

**ELECTRICAL SUPPLY (DUNGS) SEE SCHEMATIC DRAWING
GV 60 SEE SCHEMATIC DRAWING**

Both of the above can be found in the operating instructions for the relative system.

WARNING: The free air circulation below the burner must be such that the temperature of any electrical or electronic component does not exceed 60 degrees centigrade.

NOTE In line with the best engineering codes and practices it is essential that the electrical wiring be protected from accidental damage, it is advised that the flexible cables are placed in a plastic tube or sheath especially where the wiring must pass through a wall or behind a fireplace surround. All wiring situated below the burner should be placed so that the maximum clearance is obtained from any potential hot spots.

MERTIK MAXITROL®

GV60 Remote Electronic Ignition and Control System

OPERATING INSTRUCTIONS

⚠ WARNING

If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- A. **BEFORE OPERATING** smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
 - Do not touch any electrical switch; do not use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department.
- B. Use only your hand to push in or turn the gas control knobs. Never use tools. If a knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- C. Do not use this control or any gas appliance if any part has been under water. Immediately call a qualified service technician to inspect the control or gas appliance to replace any part of the control system and any gas control which has been under water.
- D. These instructions are to be referenced as a user guide, and do not supersede appliance manufacturer's lighting instructions.

SPECIFICATIONS

Gas combination control according to CSA or CE approval (see label).

Fuels: CSA: Natural & Propane (LP) gas only;
EN 126: Natural & Propane (LP) gas only.

APPLICATION

e-FLAME is a battery-powered electronic remote ignition and control system for gas appliances with pilot burners and ODS systems.

OPERATING INSTRUCTIONS AUTOMATIC IGNITION

⚠ WARNING

When pilot ignition is confirmed, motor turns automatically to maximum flame height.

Follow appliance manufacturer's instructions for gaining accessibility to the gas control and the pilot. When turning main valve knob, do not force. Knob has a slipping clutch, allowing for manual main burner(s) flame height adjustment as well as adjustment to pilot stand by position (see figure 1).

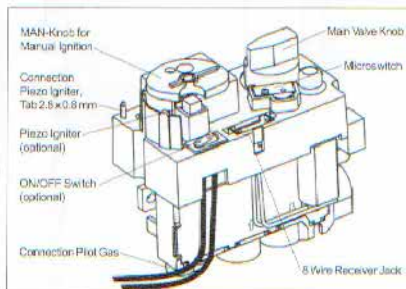








Figure 1: Combination Control GV60



09/11 EN ISO 9001:2008
Zertifiz. Nr. 100 2131



09/11 EN ISO 14001
Zertifiz. Nr. 100 2131

1. **STOP!** Read the safety information included before proceeding.
2. For a control equipped with, or for use with, a thermostatic remote, set the thermostat to the lowest setting.
3. Turn main valve knob to the **OFF**, full clockwise position. 
4. Turn MAN-knob to the **MAN**, full clockwise position. 
5. Place manual ON/OFF switch (if equipped) to the **O** (off position).
6. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. **If you smell gas STOP! Follow "A" in the safety information above.** If you don't smell gas, proceed to step 7.
7. Turn MAN-knob to the **ON**, full counterclockwise position. 
8. Place manual ON/OFF switch in **—** (on position).
9. Simultaneously press and hold the  (star) and  (up arrow) buttons (if Infrared Model:  (star up, arrow) and the small lower button) until a short acoustic signal confirms the start sequence has begun; release buttons. Continuing signals confirms the ignition is in process. A short acoustic signal (0.2 sec., 1 Hz) indicates the ignition process is complete and there is main gas flow.

▲ WARNING

When pilot ignition is confirmed, motor turns automatically to maximum flame height.



NOTE: If the pilot does not stay lit after several tries, turn the gas control knob (main valve knob) to **OFF** and proceed to step 11.

10. Set thermostat (if equipped) to desired setting or use remote control to adjust flame. In standby mode: press  (up arrow) to increase flame height, press  (down arrow) to decrease flame height or set appliance at pilot flame.
11. If the appliance will not operate, follow the instructions "TO TURN OFF GAS TO APPLIANCE" and call your service technician or gas supplier.

**OPERATING INSTRUCTIONS
MANUAL IGNITION**


Follow appliance manufacturer's instructions for gaining accessibility to the gas control and the pilot.

When turning main valve knob, do not force. Knob has a slipping clutch, allowing for manual flame height adjustment as well as adjustment to pilot standby position.

1. **STOP!** Read the safety information included before proceeding.
2. Turn main valve knob to the **OFF**, full clockwise  position.
3. Turn MAN-knob to the **MAN**, full clockwise  position.
4. Place manual ON/OFF switch (if equipped) to the **O** (off position).
5. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. **If you smell gas STOP! Follow "A" in the safety information above.** If you don't smell gas, proceed to step 6.
6. Place manual ON/OFF switch in **—** (on position).
7. With the MAN-knob in **MAN** position a manual pilot valve operator is accessible (see figure 2).

- Fully push down manual pilot valve operator and hold in, to start pilot gas flow. Immediately light the pilot with a match, while continuing to hold in the manual pilot valve operator for about one (1) minute after the pilot is lit. Release manual pilot valve operator. If pilot does not stay lit, repeat steps 2 through 8.

NOTE: If the pilot does not stay lit after several tries, turn the gas control knob (main valve knob) to **OFF** and proceed to step 11.

8. If applicable, per appliance manufacturer's instructions, replace pilot access panel before proceeding.
9. Turn MAN-knob to the **ON**, full counterclockwise  position.

- Turn main valve knob to the full **ON**, full counterclockwise ↺ position
- If the appliance will not operate, follow the instructions "TO TURN OFF GAS APPLIANCE" and call your service technician or gas supplier.

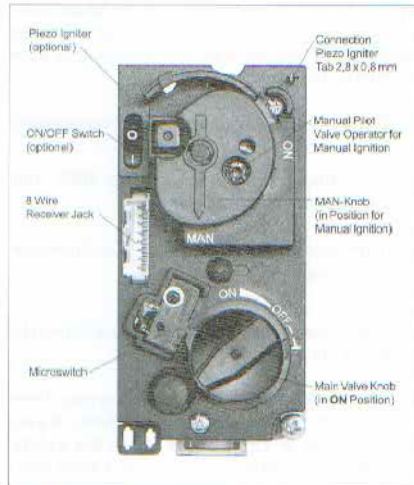


Figure 2: Combination Control, Cover

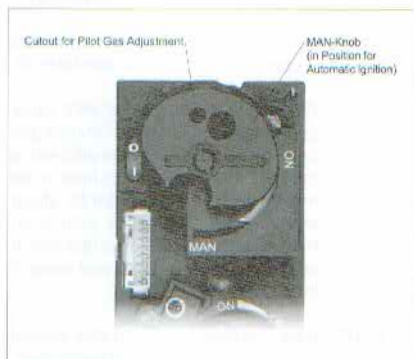


Figure 3: Combination Control, Detail View MAN-Knob

TO TURN OFF GAS TO APPLIANCE

- Follow appliance manufacturer's instructions for gaining accessibility to the gas control.
- Set thermostat (if equipped) to lowest setting.
- Place manual ON/OFF switch in **O** (off position).

- Turn manual valve knob to the **OFF** full clockwise ↻ position.
- Turn MAN-knob to the **MAN**, full clockwise ↻ position.
- Replace appliance accessibility cover (if applicable), per appliance manufacturer's instructions.

NORMAL OPERATION Adjustment - Flame Height

Set thermostat (if equipped) to desired setting or use remote control to adjust flame. In standby mode: press ▲ (up arrow) to increase flame height, press ▼ (down arrow) to decrease flame height or to set appliance at pilot flame (see figure 4).

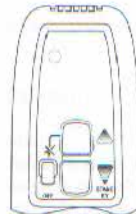


Figure 4: Remote Handset, Standard Model

Adjustment - Flame Height, if Infrared Model

To increase flame height press simultaneously ✱ ▲ (star, up arrow) and the small lower button. There is a separate button left for switching off (see figure 5).

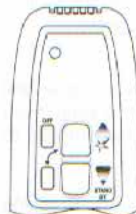


Figure 5: Remote Handset, Infrared Model

NOTE: (Thermostatic Models) To save battery power, press ▼ (down arrow) to turn main gas to pilot gas. Press OFF button to shut off the device including pilot flame. The device can be shut off with the ON/OFF switch, thus disabling the remote handset.

MERTIK MAXITROL®

HANDSET REMOTE CONTROLS G6R-H

OPERATING INSTRUCTIONS



Figure 1

Figure 2

Figure 3

Figure 4

*Not for use on open front gas fires (CE only).

⚠ WARNING

If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

Specifications:

Gas combination control according to CSA or CE approval (see label).

Fuels: CSA: Natural & Propane (LP) gas only;
EN126: Natural & Propane (LP) gas only

Available Remote Handset Models:

- Standard
- Display (figures 3 and 5)
- Timer and Thermostat (figures 4 and 6)

NOTE: For all lighting/ignition instructions please follow the Operating Instructions for the ignition system.

Adjustment - Flame Height

(Standard, Display, Timer/Thermostat Handsets)

In standby mode: Press ▲ (up arrow) to increase flame height. Press ▼ (down arrow) to decrease flame height or to set appliance at pilot flame.

Adjustment - Flame Height

(Infrared Model)

To increase flame height press ✱ ▲ (star, up arrow) and the small lower button simultaneously. There is a separate off switch button.

Setting °C/24 hour or °F/12 hour Clock (Display and Timer/Thermostat Handsets)

1. Press **OFF** and ▼ (down arrow) until display changes from Fahrenheit/12 hour clock to Celcius/24 hour clock and vice versa.

Setting the Time

(Display and Timer/Thermostat Handsets)

1. The display will flash after either:
 - a. Installing the battery or
 - b. Simultaneously pressing the ▲ (up arrow) and ▼ (down arrow).
2. Press ▲ (up arrow) to set the hour and the ▼ (down arrow) to set the minute.
3. Press **OFF** to return to manual mode or simply wait and it will automatically return to the manual mode.

Definitions:

(Remaining instructions pertain to Timer/Thermostat Handset ONLY)

★ TEMP TEMP MODE – Daytime Temperature Mode: The room temperature is measured and compared to the set temperature. The flame height is then automatically adjusted to achieve the Daytime set temperature.

BATTERY REPLACEMENT

Battery replacement is recommended at the beginning of each heating season. Batteries need to be changed when an acoustic error message appears during ignition (see "POSSIBLE ERROR MESSAGES").

Receiver: 4 x 1.5V "AA"
(quality alkaline recommended)

Remote Handset: 1 x 9V
(quality alkaline recommended)

GENERAL NOTES

A code is preset for all Mertek Maxitrol electronics, but can be changed if required. If you wish to change the code, complete the following:

1. Change DIP switch position (see figure 6).



Figure 6: DIP Switch in Remote Handset Battery Compartment

2. Press and hold the receiver's reset button until you hear 2 acoustic signals. After the second longer acoustic signal release the reset button and within the subsequent 20 seconds, press the ▼ (down arrow) on the remote handset, until you hear an additional long acoustic signal confirming the new code is set (see figure 7).



Figure 7: Receiver with Reset button

POSSIBLE ERROR MESSAGES

Symptom: Long signals (0.8 sec. tone, 0.2 sec. break) during ignition.

Probable Cause: Battery is nearly empty (When signal appears for first time, approximately 10 ignitions left).

Symptom: 5 second continuous tone.

Probable Cause: Error, must be corrected, e.g. cable is not connected, ON/OFF switch is in **O** (off position).

OPERATION AND ASSEMBLY INSTRUCTIONS FOR MODUFIRE SYSTEM

TECHNICAL DATA

Rated voltage : ~(AC) 24 V
via transformer : (20 VA)~(AC) 230 V
Frequency : 50 Hz
Power consumption approx : 17 VA
Degree of protection : IP 00
Ambient temperature : 0 - 60 °C
Connectivity Rast5, encoded Molex KK
Flat-type connector : 6.8 x 0.8 mm(insulated)
Flat-type connector : 2.8 x 0.8 mm

The modufire system comprises the automatic ignition, flame supervision device and a facility for setting flame height via a remote control.

The modufire system meets the requirements of EN 509 relating to decorative gas appliances.

SAFETY INSTRUCTIONS

Before lengthy downtimes, shut off the gas supply and/or disconnect the modufire system from the power supply.

If the appliance unintentionally switches on or off automatically, shut off the gas supply and disconnect the modufire system from the power supply. The gas appliance must not be put back into operation until it has been checked by a specialist.

The gas valves are closed after a flame failure occurs. The modufire system is in fault mode and must be unlocked manually by simultaneously operating the 'LO' and 'HI' switches for > 3s. The system is now ready for operation again.

If the power supply is interrupted and/or the air pressure switch is opened, a system shut-down follows. The modufire system is now in standby mode, and is required to be switched on manually.

Only trained personnel may perform work on the BM 740.

Never use appliance as a lever!

Direct contact between BM 740 and setting masonry, concrete walls and floor surfaces is not allowed.

On completion of work on the BM 740, perform a leakage and function test.

If a fuse has blown, the safety devices of the Modubox must be checked for proper functioning because of the danger of contact welding due to short-circuiting.

Degree of protection IP 40 must be assured by the installation. Ignoring these instructions can lead to personal injury or consequential damages to property.

MODUFIRE SYSTEM COMPONENTS (diagram)

1 Transformer (TR)
2 modubox
3 DGAL70N
4 BM 740/3 mod
5 IR transmitter (IRT)
6 IR receiver (IRR)
7 Cable harness
8 Ignition line

METHOD OF OPERATION OF OVERALL SYSTEM

The modufire system is placed on standby by applying voltage and closing the 'ON' master switch. The burner can be switched on and off after opening the gas valve by pressing the 'HI' and 'LO' buttons simultaneously for > 3s.

After the burner has been ignited, flame height can be set to any value between min and max capacity using the 'LO' and 'HI' buttons. Press the 'LO' button to reduce flame height and the 'HI' button to increase flame height.

If an external buzzer is connected, an acoustic signal sounds when the MIN or MAX setting is reached. Systems with an air supervision device perform a static check on the air pressure switch after power-on and the blower is switched on.

The system starts once the pressure value set at the air pressure switch is reached.

TECHNICAL DATA OF MODUBOX

Rated voltage ~ (AC) 24 V
Frequency 50 Hz
Non interchangeable internal fuse
Switching capacities: ON/OFF 24 VAC/1 A
Blower 230 VAC/2 A
Modulation current: after switch-on 95 - 115 mA
MIN setting < 60 mA
MAX setting > 150 mA at rated voltage
Response time MIN/MAX approx. 10 s
Switch-on delay > 3 s
Switch-off delay > 3 s
Degree of protection IP 00
Ambient temperature 0 - 60 °C
Connectivity 24 V Molex KK
Connectivity 230 V flat-type connector
6.3 x 0.8 mm, insulated
Installation position: any Weight 0.25 kg

APPLICATION

modubox A (atmospheric version)

This version is for applications which require no air pressure supervision and auxiliary blower.

modubox F (blower version)

This version is for applications which require air pressure supervision and/or auxiliary blower.

METHOD OF OPERATION

The modubox is in standby mode after closing the master switch 'ON'. The DGAL70N is switched on by pressing the 'H' and 'LO' buttons simultaneously for >3 s. Modulation current, and hence flame height, is increased or decreased by pressing the 'H' or 'LO' button. The modubox only starts in the medium-fire setting if it was previously switched off for at least 2 minutes! An external buzzer which gives an acoustic signal when the MIN or MAX setting is reached can be connected to the modubox.

The DGAL70N is switched off by pressing the 'HI' and 'LO' buttons simultaneously for >3 s. If the power supply is interrupted for longer than 20 ms, the modubox switches to standby mode and must be reactivated manually.

In the case of the modubox F with air supervision device, the 230 VAC contact (X5, X6) is closed, and thus the blower is switched on, after the air pressure switch has signaled idle mode via connections X3/1 and X3/3. If the air pressure switch switches over from interface X3/3 to X3/2, the modubox switches the DGAL70N on.

INSTALLATION

Electrical connection

Molex-KK connectors are used for electrical connection. The wiring must be configured in accordance with the applicable local regulations and the terminal diagram. Insulated flat-type connectors must be used to connect the blower.

Fuses

The modubox must be protected externally by a 6.3 A slow-acting back-up fuse or 10A quick acting back-up fuse. The max. permissible switching capacities must be observed! No back-up fuse is required when using DUNGS safety transformers!

TECHNICAL DATA OF BM 740/3MOD

Rated voltage
(DC) 24 V
Power consumption approx. 4 W(for each coil)
Switch-on duration 100 % ED
Modulation current (V2):
MIN setting approx. 60 mA
MAX setting approx. 150 mA
Max. operating pressure 65 mbar
Gas family 1, 2, and 3 as per EN 437
Valves 2x Class B, Group 2 as per EN 161
Nominal width DN 8
Main gas connection
M14 x 1.5 for 8 mm tube or RP 1/4 ISO 7/1
Max. torque 17 Nm
Pilot gas connection M10 x 1 for 4 mm or 6 mm tube
Max. torque 7 Nm
Degree of protection IP 20
Ambient temperature 0 - 80 °C
Storage temperature -25 - 80 °C
Connectivity: Flat-type connector 6.3 x 0.8 mm
Installation position: vertical to horizontal, readjustment of gas type setting may be necessary.
Default settings for gas type G20
Installation position: horizontal
Weight 0.38 kg

MEASUREMENT AND SETTING OPTIONS

The gas pressure can be measured at the fitting outlet using the pressure tap. To measure the outlet pressure, turn the screw approx. 1 turn anticlockwise. After completing the measurement, close the screw in the clockwise direction.

Setting the main gas volume

The main gas volume is set using the flow-restriction screw. Turn clockwise to reduce the flow rate and anticlockwise to increase the flow rate.

Setting the low-fire gas volume

The low-fire gas volume is set using the flow-restriction screw. Turn clockwise to reduce the flow rate and anticlockwise to increase the flow rate.

Gas type selection

The gas type, as well as position compensation, is set using the adjustment screw. Turn clockwise to increase the pressure and anticlockwise to decrease the pressure.

Changing over from gas family 2 to 3:

- Connect pressure gauge to pressure tap. Put gas appliance into operation.
- If necessary, turn the flow restriction screw clockwise so as to avoid overloading the gas appliance. Set gas appliance to MAX position. Set the desired MAX pressure at the flow-restriction screw:
 - turn clockwise to reduce pressure
 - turn anticlockwise to increase pressure
- Turn the adjustment screw anticlockwise until the pressure drops. After that, turn the adjustment screw back 1/4 turn.
- Set the gas appliance to the MIN position. Set the desired MIN pressure at the flow restriction screw:
 - turn clockwise to reduce pressure
 - turn anticlockwise to increase pressure
- Check MAX and MIN pressures again and readjust if necessary.
- Close pressure tap.

Changing over from gas family 3 to 2:

- Connect pressure gauge to pressure tap. Put gas appliance into operation.
- Set gas appliance to MAX position.
- Turn the adjustment screw clockwise until the pressure stops rising. After that, turn the adjustment screw back 1/4 turn. Set the desired MAX pressure at the flow-restriction screw:
 - turn clockwise to reduce pressure
 - turn anticlockwise to increase pressure
- Set the gas appliance to the MIN position. Set the desired MIN pressure at the flow restriction screw:
 - turn clockwise to reduce pressure
 - turn anticlockwise to increase pressure
- Check MAX and MIN pressures again; readjust if necessary.
- Close pressure tap.

TECHNICAL DATA

DGAI. 70N
Classification as per EN 298 ATLLXN
Rated voltage ~-(AC) 24 V
Frequency 50 Hz
Non interchangeable internal fuse:
Switching capacities:
Ignition gas valve 24 VDC/1 A
Main gas valve 24 VDC/1 A
Important: only connect DC valves!
Ionization flame detector
Ionization current/operation > 3-A
Switch-off sensitivity 0.5 - 1-A
Short-circuit current limitation approx. 100-A
fault unlock via R1 (modufire system: Hi + Lo > 3 s)
Degree of protection IP 20
Ambient temperature 0 - 60 °C
Connectivity RAST5, encoded
Weight 0.33 kg
Installation position: any

METHOD OF OPERATION

(only DGAI.70N without modufire system components)

When the controller issues a heating request, the ignition starts after a max. startup delay period of 3 s and the pilot gas valve is opened. The fault LED flashes briefly to indicate that the starting cycle has commenced. The ignition is switched off when the pilot flame signal is received. The main gas valve is opened at the end of the startup safety period (SZA) if a flame is present. The main gas valve on the 90.3 TLL model is opened approx. 2 s after the pilot flame signal is received. If a flame signal is issued prior to fuel release, then starting is inhibited as long as the flame signal is present.

The DGAI. 70N Mod... TLL comprises an electronic interlock circuit (EN509) which prevents automatic restarting on restoration of the power supply after a mains failure.

Fault unlocks.

If a fault occurs, the DGAI. 70N is unlocked by switching R1 on and off again. (modufire system: Hi + Lo > 3 s)

INSTALLATION

Electrical connection

The wiring must be configured in accordance with the applicable local regulations and the terminal diagram.

Fuses

The automatic gas burner control must be protected externally by a 6.3 A slow-acting back-up fuse or a 10 A quick-acting back-up fuse.

The max. permissible switching capacities must be observed! No back-up fuse is required when using DUNGS safety transformers!

If a fuse blows, the safety devices of the automatic gas burner control must be checked for proper functioning because of the danger of contact welding due to short-circuiting.

COMMISSIONING

All connections must be checked prior to commissioning. During the commissioning procedure, the following safety functions must be checked:

- Switch-off of controllers, switches and limiters (if fitted)
- Interrupt flame detector, ionization line or short electrode to earth.

IONIZATION FLAME SUPERVISION DEVICE

The ionization electrode acts as a flame probe, the burner usually acts as the earth. Good flame adhesion must be assured in the ionization current measurement range. The burner must be connected to terminal X1/3 with a low resistance for returning the ionization current. The insulation resistance of the ionization electrode should be higher than 50M Ω . If a separate ionization electrode is used (double-electrode operation), jumper MB must be interrupted.

Measuring the ionization current

The ionization current is measured with a DC micrometer. The current should not drop below 3-A during operation. If the ionization current drops below approx. 1-A, a fault shut-down follows. To measure the ionization current, interconnect the micrometer between the ionization electrode and connector. When using a common ignition and ionization electrode (single-electrode operation), the MB jump must be interrupted in order to measure the ionization current. After completing the measurement, terminals X2/7 and X2/8 must be bridged in place of jumper MB.

HAND-HELD IR TRANSMITTER

Technical data:

- Ambient temperature 0 - 50 °C
- Weight 0.2 kg
- Batteries: 2 type AAA
- Range: approx. 15 m (in direct view)

METHOD OF OPERATION

The hand-held transmitter can invoke the same functions as the 'HI' and 'LO' buttons.

Switching on from standby mode: Press buttons 1 and 2 simultaneously until the signal LED (flashing) goes out.

Switching off in standby mode: Press buttons 1 and 2 simultaneously until the signal LED (flashing) goes out.

To increase flame height: Press key 3. The signal LED remains lit as long as the key is pressed.

To reduce flame height: Press key 4. The signal LED remains lit as long as the key is pressed.

If the signal LED does not come on while pressing key 3 or 4 or 1 and 2, then replace the battery pack.

When loading the batteries, pay attention to correct polarity!

To ensure reliable operation, the hand-held transmitter must be oriented towards the surface of the IR receiver sensor.

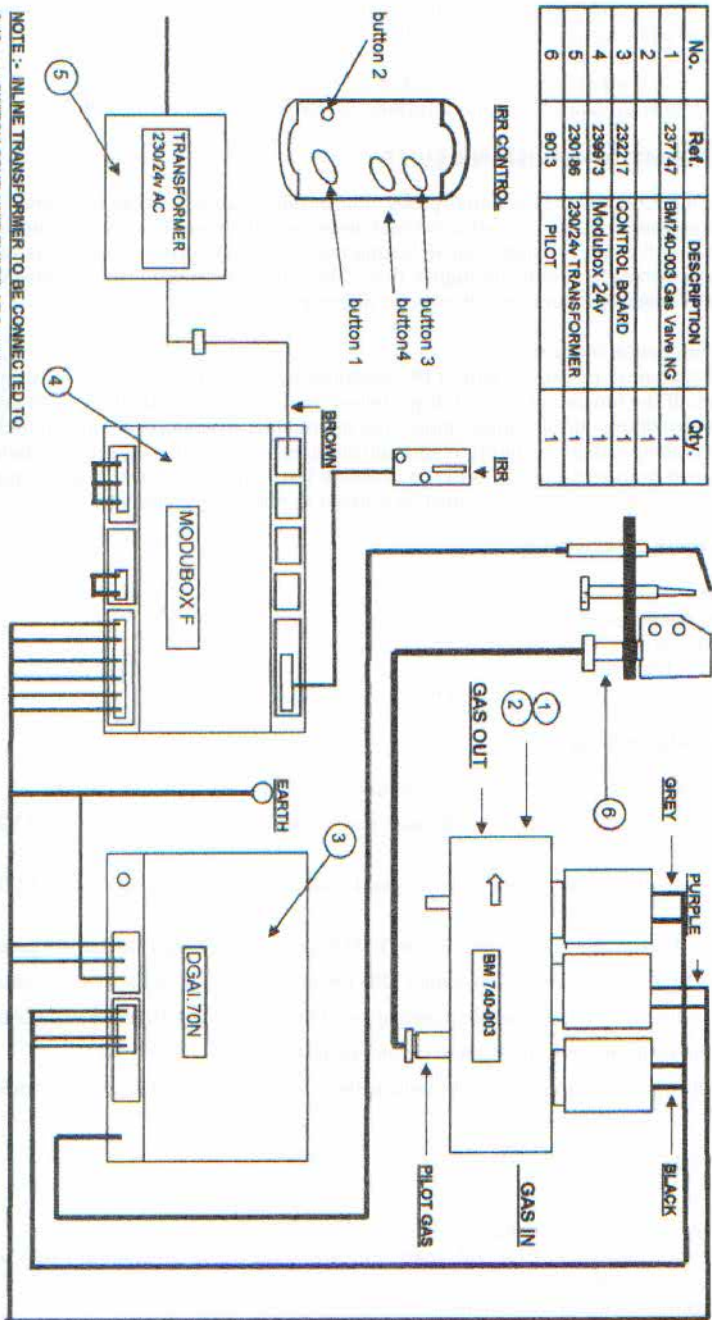
IGNITION LINES

Technical data:

- Max. ambient temperature 180 °C
- The ignition lines should be laid apart from the other lines. An ignition line length of 1m should not be exceeded.
- Cable harnesses, connecting cables
- Technical data: Max. ambient temperature 60 °C

ELECTRICAL REMOTE (DUNGS SYSTEM) SCHEMATIC DIAGRAM

No.	Ref.	DESCRIPTION	Qty.
1	237747	BM740-003 Gas Valve NG	1
2			1
3	232217	CONTROL BOARD	1
4	239973	Modubox 24v	1
5	230186	230/24v TRANSFORMER	1
6	9013	PILOT	1



NOTE :- IN-LINE TRANSFORMER TO BE CONNECTED TO A 13 AMP SWICH SPUR UNIT FUSED AT 3 AMPS