

MERTIK MAXITROL®

GV30 Multifunctional Gas Control for Gas Appliances

(suitable for all gases according to DIN EN 437)

CE0085

Caution! Please read these instructions entirely before use.
The product must be installed and operated according to all applicable regulations!

INSTRUCTIONS FOR INSTALLATION & OPERATION



TECHNICAL SPECIFICATIONS

Multifunctional Gas Control according to DIN EN 126
Torsion and bending stress: group 2 (optional side valve:

Mounting Positions: The control may be mounted in an upright position (vertical with knobs on top) or at any angle 0° to 90° from the vertical position.

Capacity: 1,2 m³/h air at ΔP = 2,5 mbar (GV 31=1,4 m³/h) Pressure regulator: Class C according to DIN EN 126

Max. operating inlet pressure: 50 mbar

Ambient temperature range (GV30 control): 0...80°C

optional to max.: 110 °C

 Max. Sensor Temperature
 for Temperature Range

 50°C
 13...35°C

 110°C
 30...80°C & 40...73°C

 380°C
 100...340°C

The sensor should not come in contact with the flame!

WARNING

It is the appliance manufacturer's responsibility to determine the control's suitability for a specific application.

Installation and adjustments are to be made only by qualified service personnel. Turn off gas supply before starting installation. The GV 30 is shipped in a plastic bag to protect it from contaminants. It should only be removed immediately prior to installation.

Carefully follow the appliance manufacturer's service and maintenance instructions. If none are provided, carefully follow the procedure outlined below:

INSTALLATION INSTRUCTIONS

Main and Pilot Gas Connection

Pressure may be applied only to areas 1 to 4 (see diagram 1). The maximum allowed torque for main gas connections is 35 Nm. Compression Fittings: Square off tube ends and remove burrs. Slip gland and ferrule over tubing and insert into connection until it bottoms. Slide ferrule and gland into place and turn finger tight. Do not use joint compound. Tighten gland with a wrench about one turn beyond finger tight. Do not bend tubing after compression fitting has been tightened as this may cause gas leaks.

<u>Threaded Pipe Connections:</u> The GV30's main gas inlet and outlet are threaded to Rp 3/8 ISO 07 and may be connected directly to threaded gas pipe.

CAUTION: Do not rotate the side valve as this may cause leaks!

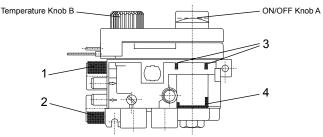


Diagram 1 - GV30 Stress Points

Thermocouple Connection

The GV 30 has an electrical thermocouple connection, which must be kept clean and dry. <u>Do not</u> expose the thermocouple to joint compound. To assure a good electrical connection, tighten only ¼ turn beyond finger tight. <u>Avoid</u> severe bending of the thermocouple tubing during installation (min. 25 mm radius) as this may cause it to kink.

Ignition Cable Connection

When placing the ignition cable, care should be taken not to stretch it too tightly. If possible, <u>avoid</u> contact with the heater's metal parts, especially those with sharp edges. Length of spark gap: 3 to 4 mm.

Remote Connection

The remote control is activated by ultra sound. The receiver box should be mounted so that the receiver aperture is not obstructed by the appliance's sheet metal. The receiver should point in the probable direction of the transmitter.

Ambient temperature (receiver): max. 60°C
Ambient temperature (cable): max. 180°C

Differentiated tab connectors prevent incorrect wiring of the receiver to the valve motor.

Installation of a Thermocurrent Interrupter

If a temperature limiting switch is used, a thermocurrent interrupter must be installed between thermocouple and GV 30. It has to be installed in the same manner as the thermocouple.

Installation of the Temperature Sensor (bulb)

The temperature sensing element should be placed in a location representative of room temperature. When placing the capillary tube <u>avoid</u> severe bending (min. 25 mm radius) as this may cause it to kink.

Leakage Test after Installation

Check for gas leaks with the main burner in the ON position. Paint all pipe connections with a strong soap and water solution (or other accepted leak tester) and check for bubbles. If a leak is found in any connection, reconnect the joint and repeat the leakage test. Never use a gas appliance if leakage is detected.

ADJUSTMENT

Pilot gas and pressure regulator or throttle adjustment screws are located under the cover. To remove the cover, first loosen the screw next to the "Temperature Knob B". Put a small screw driver into the slot next to the "ON/OFF Knob A", push outwards and lift the cover (see diagrams 2 and 3).

Pilot Flame Adjustment

The pilot flame is pre-set to maximum at the factory. To decrease the pilot flame, turn the screw clockwise.

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The minimum rate can be set either by screwing in a calibrated minimum rate screw (fixed orifice) or an adjustable minimum rate screw. Controls with adjustable screws are factory set at maximum flow. Turn the screw clockwise to decrease the minimum flow. Depending on the control type, fixed orifices are either one-piece with an O-ring or two-piece (with a cover screw). Care should be taken to screw the fixed orifice into the end stop.

The minimum flow rate of the optional side outlet is also adjustable by means of a screw located at the side outlet. The valve is shipped from the factory set at maximum flow. Turn the screw clockwise to decrease the minimum flow.

The GV 31 (two point switch ON/OFF version) is intended for use in appliances such as storage water heaters and has, therefore, no minimum flow rate.

Outlet Pressure Adjustment

Connect a pressure gauge to the outlet pressure tap. For GV 30 controls equipped with a pressure regulator: adjust the required outlet pressure with the pressure regulator adjustment screw [located between "Temperature Knob B" and "ON/OFF Knob A". The turning direction is stamped on the brass cover. For GV 30 controls equipped with a throttle: the throttle adjustment screw is located in the same position, but with the inverse turn direction (also stamped on the brass cover).

Changing the Gas Type

The GV 30 is suitable for all gas types and can be converted to meet the heater manufacturer's requirements for a specific gas type by readjusting the pressure regulator, the minimum flow rate and pilot flame accordingly. To convert for LPG, it is necessary to deactivate the pressure regulator (or throttle) by setting the adjustment screw at maximum pressure i.e. turn the regulator adjustment screw fully clockwise to the bottom limit (or the throttle adjustment screw fully counter-clockwise to the upper limit).

Final Check

Always test the operation of the appliance after any adjustment has been made. Observe several complete cycles to ensure that all burner components function correctly.

The GV30 is maintenance-free

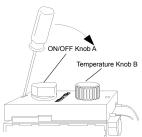
and has been designed to function

without being opened. Hence, the

with the fastening screws. Do not

control knobs are not removable. NEVER open the valve or tamper

SERVICE INSTRUCTIONS



change any adjustment marked with red paint.

Diagram 2 - Removal of cover

OPERATION

Lighting Procedure

- a. Turn "ON/OFF Knob A" slightly counter-clockwise towards the IGNITION position until reaching stop, press down and hold for 5 seconds (gas flows <u>only</u> to the pilot burner).
- b. Continue pressing down while turning further counter-clockwise to the PILOT position (this activates the piezo), continue to hold down for 10 seconds after pilot burner has been lit. (If pilot does not light, the procedure may be immediately repeated while holding the knob down).
- c. Upon lighting, release knob and further counter-clockwise to the ON position (both pilot and main gas flow).

Shut off Procedure

- a. Turn "Knob A" clockwise until reaching stop (PILOT position)
- Press down slightly and continue turning clockwise from PILOT position to the OFF position.

When the thermocouple has cooled sufficiently (time will vary based on thermocouple type used), pilot lighting procedure may be repeated. After the appliance has been completely shut off, re-ignition is possible after about 1 minute (to allow the thermocouple to cool).

Setting of the main burner gas flow

The main burner gas flow can be set with the "Temperature Knob B".

Controls with Temperature Sensor (GV30, 31)

Position "1" is the minimum and position "7" is the maximum temperature setting.

Controls with Manual Adjustment (GV32)

The gas flow for the GV32 is manually set with the "Temperature Knob B". The minimum flow is set in the same way as in the standard version. To shut off the gas flow totally, the ON-OFF Knob A must be turned to the PILOT position.

Controls with motor (GV34, 35)

The "Temperature Knob B" is turned by a motor (6...9 V dc). The gas flow can be modulated between HIGH and LOW and also switched ON and OFF. Normally the motorized "Knob B" will be operated by remote control, but it can also be operated manually.

WARNING!

EXERCISE CAUTION WHEN LEAVING A MOTORIZED CONTROL UNATTENDED IN OPERATION. In rare cases, the receiver could respond to extraneous ultrasonic waves, thereby activating the motor and adjusting the flame height.

Setting Second Burner Flame Height

GV 30 controls with a side outlet have an additional knob to control the flame height of the second burner. Turn the knob according to the printing on the cover.

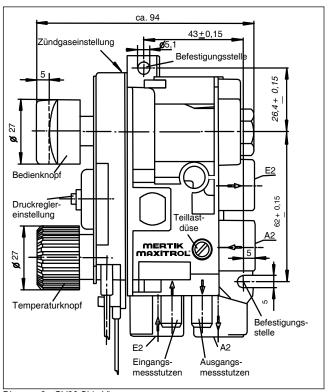


Diagram 3 - GV30 Side View