



Gas burner automatic safety control

Model **G790**

*For forced- draught gas burners
Flame detector: Ionisation probe*

■ Description:

1. The G-790 gas burner control box is designed to control forced-draught gas burners.
2. The control box is well protected by a tough transparent polycarbonate casing. The plug in control box incorporates the electrical timer, flame check and reset circuits.
3. The reset button, an indicator lamp and the central screw fastening are situated on the upper part of the control box.

■ Technical data

- | | |
|------------------------------------|----------------------------|
| ■ Supply voltage | 220v (±15%) 50HZ (40-60HZ) |
| ■ Fuse rating | 10A (rapid) or 6A (slow) |
| ■ Power consumption | 3 VA |
| ■ Max. Current per output terminal | 4A |
| ■ Max. Current total | 6A |
| ■ Pre-purge time | approx.40S |
| ■ Insulation standard | IP44 |
| ■ Ignition safety time | 3sec |
| ■ Reset delay after shut down | 2sec |
| ■ Permissible ambient temperature | -10 0c...+ 60 0c |
| ■ Min. Ionisation current required | 10µ A |
| ■ Net weight | 180g |
| ■ Mounting attitude | any |



■ **Technical features**

1. Flame detection

Flame detection is carried out by a well insulated ionization probe which is made of a temperature resistant material. (material and insulation same as for ignition electrode). Flame detection by way of an ionization probe is only possible in conjunction with mains supplies which provide a neutral earth connection.

2. Burner control

Functional check of the air-proving switch before the start and monitoring of air pressure during pre-purge as well as during normal operation. In normal use switch contacts with a rating of 4A/220v are sufficient.

■ **Commissioning & maintenance**

1. Important note:

The wiring must be checked exactly when commissioning the installation. Incorrect wiring could damage the control box, putting the safety of burner system at risk.

The chosen fuse rating must not, on any account, be higher than the value given in the technical data. Failure to observe this instruction could, in the case of a short circuit, have serious consequences for the control box or burner system.

For safety reasons, it must be ensured that the control box performs at least one normal shut-down during every 24 hour period.

Switch off or disconnect the power before plugging in or unplugging the unit.

Burner control boxes are responsible for the safety of the system and should not be opened.

2. Possible faults:

2.1- Burner does not start:

- Fault in electrical supply, thermostat OFF
- Thermostat or gas-proving switch OFF
- Air proving switch not in no air position

2.2- Switches to lockout after attempted start without establishing flame:

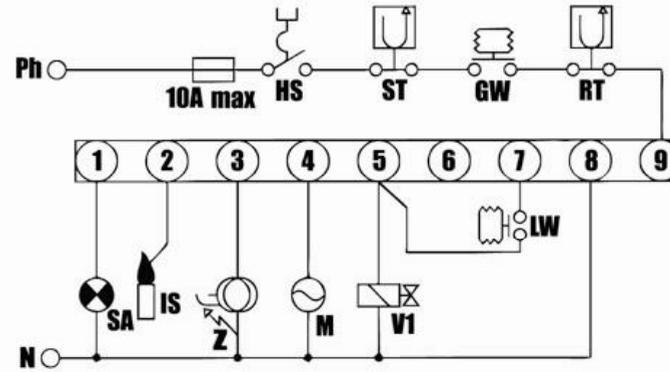
- No ignition or no fuel reaching burner
- Flame signal during the pre-purge phase

2.3- Burner starts, flame is established but control box switches to lockout after elapse of safety interval:

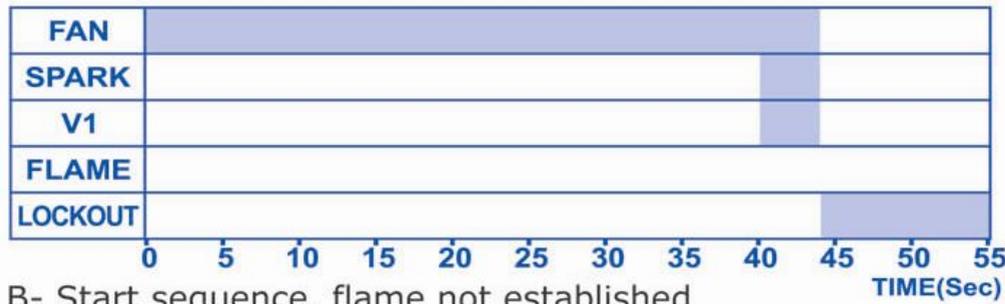
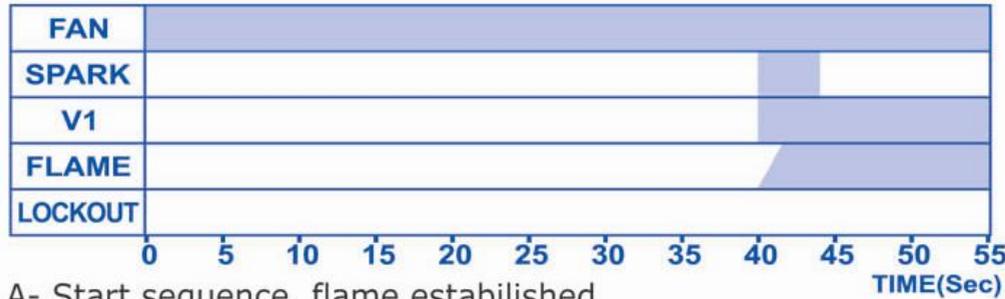
- No flame signal or signal too weak
- Flame detector dirty or defective

■ Circuit diagram of G-790

GW: Gas pressure switch
 HS: Main switch
 ST: Limit thermostat
 RT: Control thermostat
 IS: Ionisation probe
 Z: Ignition
 LW: Air pressure switch
 SA: External lockout signal
 VI: Gas valve
 M: Motor



■ Timing diagram



■ G-790 with baseplate

