

GAS BURNER SIMULATION TRAINER



Experimental capabilities

- Study of the burner and understanding of electrical diagrams
- Electrical wiring of the burner and measures
- Burner settings (baffle position, air damper, pressure and flow measurements)
- Commissioning, observation of operation and analysis of parameters
- Burner maintenance (diagnosis and troubleshooting)

Operating principle

The SIM070 bench allows the study of a gas burner for a floor-mounted boiler. It is designed to teach students how to install a burner (wiring, etc.), commissioning (gas valve, regulator, pressure switches, etc.) and troubleshooting (simulation of breakdowns).

The operation of the burner is fully simulated, there is no firing. The fuel is replaced by compressed air.

The rugged design of this equipment makes it perfectly suited for use in a school setting.

Its anodized aluminum structure on wheels gives it a very high robustness as well as great flexibility of integration into your premises. The manufacture of this equipment complies with the European Machinery Directive

Technical details

The bench includes at least the following elements:

1. A gas burner for floor-standing boiler from Cuenod
2. A burner holder with secure attachment and a box to simulate the boiler. The chamber contains an air compressor for natural gas simulation.
3. A simulated gas supply line comprising:
 - A shut-off valve
 - A pressure reducing valve (adjustable operating pressure)
 - A G4 gas meter
 - A needle gas pressure gauge
4. A box with the burner terminals shown. Wiring is done via double-well cords
5. A box with the boiler terminals shown. The box is equipped with a control thermostat and a safety thermostat
6. A power supply box comprising:
 - Electrical protection (30mA circuit breaker and thermal circuit breaker)
 - An emergency stop button
 - A general power supply disconnect switch
 - One switch-off button
 - A voltage indicator light
7. A flow meter to measure the flow rate
8. A purlin box allowing the simulation of 7 purlins:
 - Failure 1: Burner power phase fault
 - Failure 2: Burner power neutral fault
 - Failure 3: Safety thermostat fault
 - Failure 4: Control thermostat fault
 - Failure 5: Ignition electrode fault
 - Failure 6: Gas pressure switch fault
 - Failure 7: Gas valve fault 1
 - Failure 8: Air pressure switch fault
 - Failure 9: Gas valve fault 2
 - Failure 10: Ionization probe fault

Services required

Documentation

- Electrical supply : 230 Vac – 50 Hz – 10 A
- Electrical network : 1phase(s) + Neutral + Earth.
- Dimensions: (LxWxH mm): 800 x 1200 x 1200
- weight (Kg): 80

- User's manual
- Technical documentation of the components
- Lab exercises
- Wiring diagram
- Certificate of conformity CE

Note : if the equipment installation is operated by our staff, all supplies and exhaust connections required must stand at less than 2m from the machine