

## Manuals+

[Q & A](#) | [Deep Search](#) | [Upload](#)

manuals.plus /

- › [Riello](#) /
- › [Riello Gulliver BGK1 Low NOx Oil Burner 18-35 kW User Manual](#)

### Riello 14001

# Riello Gulliver BGK1 Low NOx Oil Burner

User Manual

## PRODUCT OVERVIEW

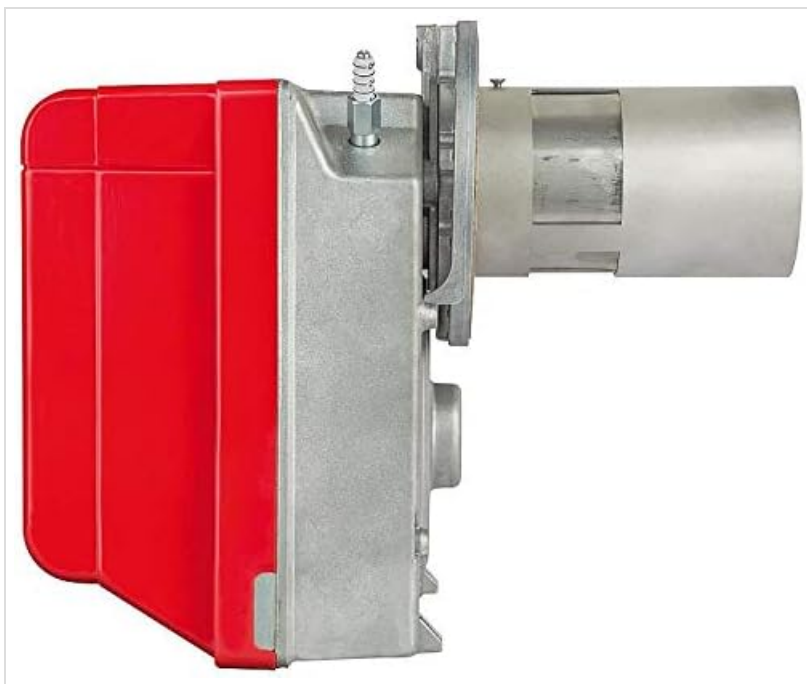


Image: The Riello Gulliver BGK1 Low NOx Oil Burner, featuring a red casing and a metallic combustion head, designed for efficient heating systems.

The Riello Gulliver BGK1 is a single-stage monobloc oil burner designed for EL fuel oil, offering a power output range of 17.8 to 35.6 kW. This burner is engineered for high efficiency and reduced pollutant emissions, particularly low NOx.

Key features include:

- Blower with forward-curved blades.
- High-quality ABS plastic cover with oil-resistant soundproofing.
- Self-closing air damper with external adjustment.
- Single-phase electric motor, 230 V, 50 Hz.
- Anti-dust disc for flame stability.
- Gear pump for fuel supply, with filter, pressure regulator, and manometer/vacuum meter connections.

- Internal bypass for single-flange installations.
  - Integrated solenoid valve in the pump for fuel supply.
  - Flame monitoring sensor with optical fiber.
  - Microprocessor control unit with advanced diagnostic functions and integrated ignition transformer.
  - Radio interference protection filter.
  - PTC oil preheater with thermostatic control.
  - Protection rating IP X0D (IP 40).
- 

## INSTALLATION AND SETUP

Proper installation is crucial for the safe and efficient operation of your Riello Gulliver BGK1 oil burner. It is recommended that installation be performed by a qualified technician.

### Package Contents:

- Riello Low-NOx BGK1 Oil Burner (17.8 to 35.6 kW)
- 2 oil hoses and 2 fittings for oil supply connection
- Flange, burner flange gasket, screws, and nuts for fastening
- 7-pin connector (level 1) integrated into the control unit (counter-plug not included)
- Installation, Use, and Maintenance Instructions
- Spare parts list
- Accessories for remote unlocking (not for BGK0.1)

### Installation Guidelines:

1. **Boiler Compatibility:** Ensure the maximum door thickness is respected concerning recirculation openings. If necessary, the boiler's door insulation may need to be cut, subject to the boiler manufacturer's authorization.
  2. **Combustion Chamber Load:** The maximum combustion chamber load must be 1200 kW/m<sup>3</sup> to achieve high pollutant reduction.
  3. **Hearth Dimensions:** Hearth dimensions must at least conform to the test flame tube according to EN 267 standard.
  4. **Fuel Connection:** Connect the provided oil hoses and fittings to the oil supply system. Ensure all connections are secure and leak-free.
  5. **Mounting:** Securely fasten the burner to the boiler using the provided flange, gasket, screws, and nuts.
  6. **Electrical Connection:** Connect the 7-pin connector to the control unit. Ensure proper electrical wiring according to local regulations and the provided wiring diagram in the detailed manual.
- 

## OPERATING INSTRUCTIONS

The Riello Gulliver BGK1 burner is designed for automated operation. Once properly installed and configured, it will operate based on the boiler's demand.

### Start-up Procedure:

1. **Power On:** Ensure the main power supply to the burner and boiler is switched on.
2. **Fuel Supply:** Verify that the oil supply valve is open and there is sufficient fuel in the tank.
3. **Control Unit:** The microprocessor control unit will initiate the start-up sequence, including pre-purge, ignition, and flame establishment.

4. **Flame Monitoring:** The optical fiber flame monitoring sensor continuously checks for flame presence. If no flame is detected or if it extinguishes, the burner will enter a lockout state for safety.

**Normal Operation:**

- The burner will cycle on and off as required by the thermostat or boiler control system to maintain the desired temperature.
- The self-closing air damper adjusts automatically to optimize combustion.
- The PTC oil preheater ensures the fuel is at the optimal temperature for efficient atomization and combustion.

**Remote Unlocking:**

The BGK1 model supports remote unlocking. Refer to the detailed installation manual for instructions on connecting and utilizing remote unlocking accessories.

**MAINTENANCE**

Regular maintenance ensures the longevity and optimal performance of your Riello Gulliver BGK1 burner. All maintenance procedures should be carried out by qualified personnel.

**Recommended Maintenance Schedule:**

- **Annually:**
  - Inspect and clean the combustion head and nozzle.
  - Check and clean the flame monitoring sensor (optical fiber).
  - Inspect and clean the fan and air intake.
  - Check the fuel pump pressure and filter.
  - Verify electrical connections and wiring integrity.
  - Perform a combustion analysis to ensure optimal efficiency and low emissions.
- **Periodically (as needed):**
  - Clean the exterior of the burner.
  - Check for any unusual noises or vibrations.

Refer to the detailed maintenance instructions provided with the burner for specific procedures and recommended spare parts.

**TROUBLESHOOTING**

The microprocessor control unit of the Riello Gulliver BGK1 features advanced diagnostic functions to assist in identifying operational issues. In case of a lockout or malfunction, the control unit may display a fault code.

**Common Issues and Solutions:**

Problem	Possible Cause	Solution
Burner does not start	No power supply; Safety lockout; No fuel.	Check power switch and circuit breaker; Press reset button on control unit; Verify fuel supply and open valve.

Problem	Possible Cause	Solution
Burner starts but locks out (no flame)	No ignition; Faulty flame sensor; Clogged nozzle; Air in fuel line.	Check ignition electrodes; Clean or replace flame sensor; Clean or replace nozzle; Bleed air from fuel line.
Excessive smoke or poor combustion	Incorrect air/fuel mixture; Clogged nozzle; Dirty combustion head.	Adjust air damper (by qualified technician); Clean or replace nozzle; Clean combustion head.

For persistent issues or complex diagnostics, consult a qualified heating technician. Do not attempt repairs beyond your technical expertise.

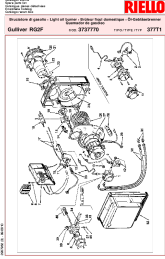





## TECHNICAL SPECIFICATIONS

Specification	Value
Manufacturer	Riello
Model	Gulliver BGK1
Part Number	14001
Power Output Range	17.8 - 35.6 kW
Fuel Type	EL Fuel Oil
Electrical Supply	230 V, 50 Hz, Single-phase
Protection Rating	IP X0D (IP 40)
Max. Combustion Chamber Load	1200 kW/m³
Flame Monitoring	Optical Fiber Sensor
Control Unit	Microprocessor with diagnostics

## WARRANTY AND SUPPORT

Information regarding the specific warranty terms for the Riello Gulliver BGK1 Low NOx Oil Burner is not provided within this manual. Please refer to your purchase documentation or contact your supplier for warranty details.

For technical support, spare parts, or professional servicing, please contact an authorized Riello service center or your product distributor. Always ensure that any work on the burner is performed by certified professionals.

	<p><a href="#">Riello Gulliver RG2F Oil Burner Parts List and Diagram</a></p> <p>Detailed spare parts list and component diagram for the Riello Gulliver RG2F light oil burner (Model 377T1, Code 3737770), including part numbers and English descriptions.</p>
	<p><a href="#">Priročnik za namestitev, uporabo in vzdrževanje gorilnika RIELLO Gulliver RG1NR na plinsko olje</a></p> <p>Ta dokument vsebuje podrobna navodila za namestitev, uporabo, vzdrževanje in odpravljanje napak enostopenjskega gorilnika RIELLO Gulliver RG1NR na plinsko olje, vključno s tehničnimi podatki, varnostnimi predpisi in postopki za odpravljanje težav.</p>
	<p><a href="#">Riello 40 Series Residential Oil Burners F3 &amp; F5 Installation Manual</a></p> <p>This manual provides detailed installation instructions for Riello 40 Series Residential Oil Burners, models F3 and F5. It covers component identification, setup, mounting, electrical connections, nozzle placement, and adjustment procedures. The manual is intended for retrofit applications and includes technical data, specifications, and spare parts lists.</p>
	<p><a href="#">Riello 40 BF Single Stage Operation Oil Burner Installation and Operating Manual</a></p> <p>Comprehensive installation and operating manual for the Riello 40 BF single-stage oil burner, covering technical specifications, installation procedures, wiring diagrams, troubleshooting, and spare parts.</p>
	<p><a href="#">Riello 40 Series F3 &amp; F5 Residential Oil Burner Installation Manual</a></p> <p>Comprehensive installation manual for Riello 40 Series residential oil burners, models F3 and F5. Covers technical data, component identification, setup, mounting, electrical connections, oil line configuration, pump purge, adjustments, and spare parts.</p>
	<p><a href="#">Riello 40 G10 Light Oil Burner Installation and Maintenance Manual</a></p> <p>This document provides comprehensive installation, use, and maintenance instructions for the Riello 40 G10 light oil burner. It includes technical data, diagrams, electrical wiring schematics, and combustion adjustment procedures.</p>