



This quick start guide is intended to provide a quick overview of your FIREBOY's (FB) key features and to offer basic instructions for getting started. For detailed information, please refer to the operating instructions (OI) that can be found at www.integra-biosciences.com in different languages.

Intended use

This is a general-purpose laboratory instrument. Any use of this instrument in a medical or IVD setting is the sole responsibility of the user. FIREBOY plus/eco is an automatic safety Bunsen burner for heating or flame-sterilizing suitable laboratory materials. For continuous operation the optionally available long burner head must be used.

⚠ Safety information

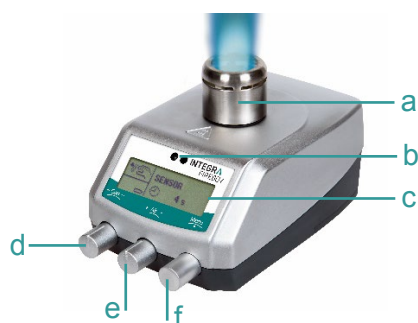
Regardless of the listed safety notes, all locally applicable regulations must be observed.

- 1) FIREBOY may only be used by properly trained personnel under constant supervision in a manner specified by INTEGRA Biosciences.
- 2) Observe the hazard warnings on the device. There is the risk of burns from the flame and the still hot device.
- 3) Do not use the FIREBOY near flammable material or in explosive areas. Work only in well ventilated areas.
- 4) Use only approved and tested safety gas tubing with threaded or hose connectors.
- 5) Firmly tighten all gas connections and verify gas tightness, e. g. with soap water.
- 6) Use only original INTEGRA Biosciences power supply pack or rechargeable batteries (FB plus only).
- 7) Be sure to close off the gas supply before: Transport of the device, changing the nozzle, the adapter, the gas cartridge or the battery, longer breaks, cleaning work.
- 8) Servicing work and repairs may only be performed by INTEGRA Biosciences or an authorized after-sales service member.

Getting started



Set up the instrument on a planar surface according to the IQ/OQ document (PN 144953). Supply voltage: 100 – 240 VAC, 50 – 60 Hz.



- a. Burner head
- b. Motion sensor (FB plus only)
- c. LCD display (FB plus only)
- d. GAS KNOB, to adjust the flame size
- e. AIR KNOB, to adjust the flame temperature
- f. MENU KNOB (FB plus) / PUSH BUTTON (FB eco), to switch on/off, for flame ignition or extinguishing and for menu navigation

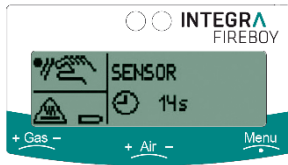
Switch on/off:

ON: Press (f) briefly, OFF: Press (f) for 2 sec

Settings and language selection (FIREBOY plus only)

Rotate the MENU KNOB to switch between the operating modes and select them by pressing down. Adjustable parameters are displayed on a black background. These can be changed by rotating the MENU KNOB and confirmed by pressing.

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- **SENSOR:** flame is ignited, if an object passes the sensor.
- **BUTTON:** flame is ignited by pressing the MENU KNOB.
- **FOOTSWITCH:** flame is ignited via the foot or benchtop switch.
- **SETTINGS:** To set general system parameters.

For language selection rotate the MENU KNOB and navigate to the **SETTINGS** menu. Select a language and confirm it by pressing. Set other system parameters to your requirements.

Fitting the nozzle for the gas in use



FIREBOY may only be operated with the nozzle that corresponds to the gas type in use.

| Type of gas | Nominal = maximal gas input pressure | Inscription nozzle |
|-----------------------|--------------------------------------|---|
| Natural (methane) gas | 20 mbar | N80  |
| Butane/propane gas | 50 mbar | P60  |

The P60 nozzle for butane/propane gas is fitted ex-factory. If necessary, replace the nozzle. Unscrew the brass screw on the lower side of the device with a small coin. Turn over the device and allow the nozzle to drop out. Insert a new nozzle and retighten the brass screw.

Adapters for the gas connection



When replacing the adapters, always close off the gas supply, remove the gas cartridge, switch off the device and disconnect the mains plug.



- Insert the appropriate adapter in the brass gas adapter opening on the rear side, make sure it audibly clicks into position.
- To remove the adapter, use a pointed tool to press the grey adapter mechanism on the lower side inward and pull the adapter to the rear.

Connecting the gas cartridge



The P60 nozzle and the gas cartridge adapter must be installed. Gas cartridges may only be used at 15–35 °C. Only replace a gas cartridge, if the adapter is connected to the device and closed.

Connect the cartridges as described in the enclosed instructions for the adapters.



52 g butane cartridge adapter, e.g. for CV360:

- Ensure that the flat side of the cap (a) points towards the device.
- Turn the milled knob fully clockwise in OFF direction.
- Press the gas cartridge into the cap until it audibly clicks into position.
- Turn the milled knob fully counterclockwise in ON direction.

Connecting a tubing



A propane/butane gas cylinder must be equipped with a pressure regulator to not exceed the maximum input pressure of 50 mbar.



- Connect the tubing from the central gas supply or from the gas cylinder to the previously installed adapter and fix it with a clip, if necessary.

Electricity supply and connecting a switch



- Insert the mains plug in the socket on the rear side of the FIREBOY and plug it to the electricity mains. (FIREBOY plus can also be operated with the optional battery.) Switch on the device.
- Insert the plug of the foot or benchtop switch in the socket on the rear side, if required.

Operating

There are several options for flame ignition:

| FIREBOY plus | Ignition | Burning time |
|---------------|---|--|
| SENSOR | Object passes the sensor window (two times or once) | Timer with the option to extinguish by pressing the MENU KNOB |
| BUTTON | By pressing the MENU KNOB (continuous mode) | Extinguish by pressing the MENU KNOB, maximum burning time defined |
| FOOTSWITCH | By pressing the foot or benchtop switch | As long as pressed or fixed by timer with the option to extinguish by pressing the switch or MENU KNOB |
| FIREBOY eco | Ignition | Burning time |
| Button | By pressing the MENU KNOB (continuous mode) | Extinguish by pressing the MENU KNOB, maximum burning time of 60 min |
| Foot/benchtop | By pressing the foot or benchtop switch | As long as pressed |

Working with liquids



- In order to protect the burner chamber from contamination when working with liquids, the folding stand at the base can be used to incline the FIREBOY.
- The inclination direction can be modified by removing the folding stand after pressing it together and inserting it on the opposite side.

Maintenance



Allow the burner head to cool off before cleaning the device. Switch off the device and disconnect it from the gas supply. Allow the device to dry before operating it again.

- Clean the FIREBOY with a cloth moistened with soapy water or with a 70 % ethanol solution.
- If the burner head gets soiled, it can be pulled vertically out for disinfection.
- If the FIREBOY has been contaminated, wipe it with a lint-free cloth lightly soaked with a suitable disinfectant and wipe dry directly.
- Check the tubing frequently for brittle or porous areas. Replace it, if damaged, or at the latest 8 years after production (year imprinted on the tubing).

Equipment Disposal



FIREBOY must not be disposed of with unsorted municipal waste or incinerated. Dispose of the FIREBOY and the optional, discharged NiMH battery separately in accordance with the regulations in your area governing disposal of devices.

Manufacturer

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Declaration of conformity

INTEGRA Biosciences AG – 7205 Zizers, Switzerland

declares on its own responsibility that the devices

| Description | Model |
|---------------------|---------------|
| FIREBOY plus | 144000 |
| FIREBOY eco | 144010 |

comply with:

| EU Directives (DoW: Date of Withdrawal) | Before DoW | DoW | After DoW |
|--|--------------------|------------|-------------------|
| Low Voltage Equipment | 2006/95/EC | 20.04.2016 | 2014/35/EU |
| Electromagnetic Compatibility | 2004/108/EC | 20.04.2016 | 2014/30/EU |
| Restriction of Hazardous Substances | 2011/65/EU | | |
| Waste Electrical and Electronic Equipment | 2012/19/EU | | |
| Battery Directive | 2006/66/EC | | |

EU Regulations

| | |
|--|------------------|
| Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) | 1907/2006 |
| Capacity Labelling of Portable Secondary Batteries | 1103/2010 |
| Ecodesign - Power supplies | 278/2009 |

Standards for EU

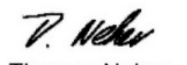
| | |
|--|-------------------------|
| Safety requirements for electrical equipment for measurement, control and laboratory use - General requirements. | EN 61010-1: 2010 |
| Electrical equipment for measurement, control and laboratory use - EMC requirements. | EN 61326-1: 2013 |

Standards for Canada and USA

| | |
|---|---|
| Safety requirements for electrical equipment for measurement, control and laboratory use - General requirements. | CAN/CSA-C22.2 No. 61010-1 |
| Safety requirements for electrical equipment for measurement, control and laboratory use - General requirements. | UL 61010-1 |
| Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. | Part 15 of the FCC Rules Class A |

Zizers, November 4, 2016


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