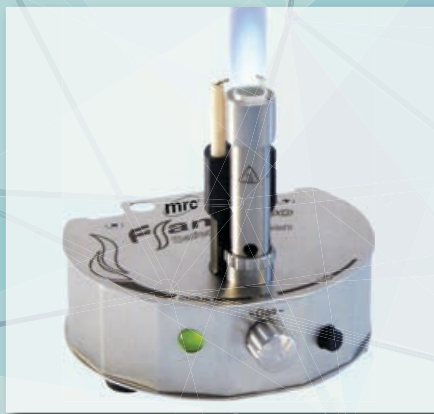


# Bunsen Burners Sterilizers



**mrc**



**FLAME-100**

## FLAME-100, Safety Bunsen

The safe alternative for all traditional Bunsen or alcohol burners!

### Multi-Use

The Flame 100 is ideally suited for all flame related applications in the laboratory. The 15 millimeter precision flame allows graduated heating of dental tools as well as safe sterilization of microbiological instruments. Flame size and intensity can be adjusted infinitely.

### Easy operation

The safety Bunsen burner Flame 100 activates immediately with the push of a button. No match or a pilot flame are required. Optionally, the Flame 100 can also be operated by a foot pedal\* or an external infrared motion sensor\*. The Flame 100 is suitable for stationary natural gas and propane/butane gas supplies as well as gas cartridges or gas cylinders. Numerous adapter systems are optionally available.

### Reliable safety

The proven Safety Control System (SCS) is also incorporated in the Flame 100. All potential hazards are constantly monitored and, if necessary, protective measures – such as the shutting off the gas supply – are activated. In addition to the ignition and flame control function and the overheating protection the safety package also features the continuous burner head control BHC. BHC unfailingly identifies burner head clogging by liquids or solid substances. Compared with a conventional Bunsen burner, the Flame 100 with the safety standard „SCS“ eliminates the risk of a gas leak or an explosion.

### Efficient

The Flame 100 is economical to operate and attractively priced for any laboratory, thus making savings for both your budget and the environment. Compared with traditional Bunsen burners, the gas consumption is reduced to a minimum, because the flame burns only when it is really needed. Compact and rugged. The housing and burner tube are made of stainless steel. The removable burner tube makes cleaning easy and the small footprint is an advantage for any lab bench.

### Flame 100 – for a safe flame in the laboratory!

- Flame without match
- Innovative safety technology
- Simple handling
- Cost-saving and environmentally friendly
- Minimum space required.

With button function Safety Control System (SCS) With Burner Head Control (BHC) 2 standard Programs for button (function knob) and foot pedal Removable burner tube Holding device for 2 inoculation loop holders Nozzles for natural gas, propane / butane gas Wrench 17mm for gas connection Tubing connector with swivel nut Screwdriver for electrode holder, Switching power supply (global) Instruction manual and 2-year warranty Stainless steel foot pedal optional: **6000402**



### Accessories:

**6000406**  
**External DoubleClick IR-Sensor**  
touch-free flame activation

**6000402**  
**Foot pedal**  
made of stainless steel

**6000403**  
**Mini Foot pedal**  
made of plastic

**6000405**  
**Benchtop switch**  
made of stainless steel

**2000404RF**  
**RF-Stick radio set**  
stainless steel radio foot pedal (available in EU countries only)

**2000600**  
**Windshield**  
made of stainless steel

**2000701**  
**Adapter 360**  
for gas cartridges CV360

**6000800 – 6000850**  
**Safety adapter with pressure regulator & DVGW-tubing (0.5 m)**  
for gas cartridges

**2000300**  
**Tilt adjustment**  
made of stainless steel

**2000200**  
**Spray & Wax protector**  
with stainless steel base and glass cylinder

**2000201**  
without glass cylinder

Model	FLAME-100
Technology	Microprocessor
Programs	Button: Start-Stop mit Ubetwachungs timer, 60 min Foot pedal: Standard (Flame during pressed foot pedal, Foot pedal optional)
Safety features	Safety Control System (SCS) with gas safety cut off: ignition & flame control temp. monitor, burner head clogging monitor (BHC) automatic unit switch off, 4 h
Gas supply & consumption	Gas connection: 1/4" left with Gas filter Gas types: #2ELL3B/P: natural gas E/LL,18 – 25mbar. liquid gas, 20 – 50mbar Connected load: 48 g/h liquid gas Continuous cartridge operation: CV360–65min, CG1750–210min, (approx.) C206–230min, CP250–305min, CV470–550min, CV270–280min
Temperature	Flame temperature: 1200°C liquid gas, 1170°C on natural gas (E) Temp. threshold level: 0.66 kW liquid gas, 0.66 kW natural gas
Electrical	Power consumption: 2VA. Power connection: 100–240V / 50/60Hz / max. 0.3A, 9V DC / 1A
Mechanical	Burner tube: removable, stainless steel. Measurements (WXHxD): 89x34x88mm. Height with burner tube: 94mm. Weight: 385g.



**FLAME110**

**FLAME110, Flaming from any angle**

The extraordinary precision burner. Are you searching for a solution to heat or flame any item under any angle – even upside down?

**Multi-talent**

The new Flame 110 is ideally suited for any kind of flaming process in laboratory or industry.

Its long precision flame can heat your dental instruments, can sterilize your microbiological tools or flame deburr resp. flame polish your moulded plastic or rubber parts in any type of industrial production.

Always safe and perfect!

**Simple and safe handling**

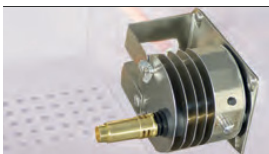
Simply push the button: Flame will start or stop instantly!

You may also control it by foot pedal\* or external IR motion sensor\*. Safety is built-in and always active (overheat protection and automatic re-ignition).

**Compact and efficient**

Stainless steel, efficient cleaning, small footprint, exclusive variability and convincing economics are vital for any type of laboratory and industrial workstation. Flame 110 is offering a perfect combination of features:

- Variable flame from any angle – even upside down
- Safety in any operation mode
- Very easy cleaning of removable burner head
- Operation with liquid gas from cylinders or cartridges (with optional adapters)
- Very economic consumption of gas.



**Accessories:**

**2110400**  
**Bracket**  
**Sidewise (r/l)**  
stainless steel



**2110450**  
**Bracket**  
**Horizontal**  
stainless steel



**6000402**  
**Foot pedal**  
made of stainless steel



**6000403**  
**Mini Foot pedal**  
made of plastic



**2000404RF**  
**RF-Stick radio set**  
stainless steel radio foot pedal (available in EU countries only)



**6000406**  
**External DoubleClick IR-Sensor**  
touch-free flame activation



**6000800 - 6000850**  
**Safety adapter with pressure regulator & DVGW-tubing (0.5 m)**  
for gas cartridges



**6000183/6000185 /6000190-Gas cartridges propane/butane**  
with/without valve



**2110150**  
**Safety medium pressure regulator - 1.5 bar**  
for gas cylinders of 5, 11 or 33 kg



**2110310-DVGW Safety tubing** for threaded connection 3/8" L (-) 1/4" L (1.5 m)  
**2110131-Schlauchbruchsicherung / Gas leak protection.**

**2110000L**

Nozzle for propane / butane gas Removable special burner head Bracket with 2 wing nuts for upside down mounting  
Wrench 17 mm

Switching power supply (worldwide) Instruction manual.



- ↑ Programs – Button function, Pedal Standard (food pedal optional)
- ↑ Gas inlet filter
- ↑ Removeable burner head
- ↑ Housing, gas connection & controls made of stainless steel
- ↑ DVGW approved.

Model	FLAME110
<b>Programs</b>	Button: Start-Stop with timer, 60 min Foot pedal: flame during pressed foot pedal
<b>Safety features</b>	with gas safety cut off: re-ignition 1 x per second overheat protection pressure monitoring at approximately 3 bar
<b>Gas supply &amp; consumption</b>	Gas connection: 1/4" left hand thread with gas filter Gas types: l3P 1.5 bar liquid gas Connected load: 38 g/h Cartridge operation (type - time): C 206 - 4,5 h, CV 300 - 6 h, CV 470 - 11 h
<b>Temperature</b>	Max. flame temperature: approx. 1200°C Flame measurements (h x Ø): max. 120 x 10 mm Temperature threshold level: 500 W
<b>Electrical</b>	Power consumption: 2 VA Switching power supply: 100 - 240 V / 50 / 60 Hz / max. 0.3 A 9 V DC / max. 1 A
<b>Mechanical</b>	Burner head: removable Measurements (h x Ø): 120 x 10 mm Height with burner tube: 135 mm Weight: 580g



FUEGO SCS BASIC

**Fuego-SCS-Basic:** More than standard The Fuego SCS basic can be safely operated by means of the supplied foot pedal or the button function. Different programs are available: a flexible start-stop function or the conventional foot pedal control for short-time applications. In addition, the flame can be started and stopped by briefly pressing on the function knob.

**Fuego-SCS-BasicRF:** Wireless operation Wireless and safe flame sterilization! The "RF" model allows operation via radio foot pedal without a disturbing cable. Other than that, the Fuego SCS basic RF has the same functions and safety systems as the standard model Fuego SCS basic. The radio foot pedal is included in the range of delivery.

**Fuego-SCS-Digital:** Versatile The Fuego SCS can be operated with the touch-free IR-Sensor, button function or foot pedal (optional). For all options, different programs exist that have been developed on the basis of practical experience: flexible start-stop functions, continuous application for up to 2 hours or programs for short flame sterilization - exact to the second.



FUEGO SCS BASIC-RF

**FUEGO SCS-Series, provides maximum safety and highest convenience for all flame-related applications in the laboratory.**

**Simply safe to operate** Depending on the model, the Fuego SCS Series can be operated with wireless IR-Sensor, button function or foot pedal.

**Universal** The Fuego SCS Series can be operated with stationary natural gas and propane / butane gas supplies, cartridge gas or gas cylinders.

**Top-off-the-Line safety** The Safety Control System SCS © means state-of-the-art safety technology which constantly analyzes potential hazards and, if necessary, initiates safety measures, such as an interruption of the gas supply. In addition to the ignition and flame control functions and the overheating protection, the new safety package also features continuous burner head control (BHC). BHC unflinchingly detects burner head clogging by liquids or solid substances and ensures the correct assembly of the burner head.

Exceptional passive safety features: A residual heat display protects against burns. The automatic unit cut-off function prevents unintentional ignition of the flame when the burner has not been ignited for a longer period.

**Environment-conscious** Excellent energy efficiency in accordance with the most recent standards reduces gas and power consumption. This increases the burning time when gas cartridges are used.

**Robust** Fabricated entirely of stainless steel - from the controls to the gas connection - and with displays which are protected by heat resistant glass, the Fuego SCS Series withstands even extreme laboratory conditions.



FUEGO SCS BASIC-RF

Model	FUEGO-SCS BASIC	FUEGO-SCS BASIC-RF	FUEGO-SCS DIGITAL	FUEGO-SCS DIGITAL-Pro
Programs				
Button function	✓	✓	✓	✓
Pedal Standard	✓	✓	✓	✓
Pedal Start-Stop	✓	✓	✓	✓
Sensor Auto-Off			✓	✓
Sensor Start-Stop			✓	✓
Temp. Regulation			✓	✓
Safety Control System with acoustic signals	✓	✓	✓	✓
Residual heat display	✓	✓	✓	✓
Animated graphic display			✓	✓
Foot pedal included	✓	✓ (radio)		
Single or DoubleClick IR-Sensor			✓	✓
Battery operation with tilt sensor				✓
Cooling reminder			✓	✓
Zero-pressure shut-down			✓	✓
Gas consumption display			✓	✓
2 user accounts			✓	✓
Gas inlet filter	✓	✓	✓	✓
Removable & decomposable burner head	✓	✓	✓	✓
Housing, burner head, gas connection & controls made of stainless steel	✓	✓	✓	✓
DVGW approved	✓	✓	✓	✓



**FUEGO SCS DIGITAL**

**More convenience** The animated and high-contrast graphic display can be easily read under all lighting conditions due to the blue background illumination. The self-explanatory, language-less symbol menu facilitates a rapid selection of all functions. The display is not in your line of sight? Acoustic signals additionally aid the user.

**Innovative** - The DoubleClick IR-Sensor When activated, this additional safety function ensures that the burner can only be ignited by activating the DoubleClick IR-Sensor twice. The deflection range and the time interval of the DoubleClick can be individually adjusted. As a result, unintentional ignition or ignition due to dropping or falling objects is virtually impossible, this increases safety considerably.

**Precisely adjusted** With the new temp. regulation system and an optional temperature sensor, the laboratory gas burner becomes a temperature-control station.

**Pressureless** The zero-pressure shut-down provides additional safety at the end of work. With it the residual pressure is released from the connection hose and the gas hose's service life is increased.

**Gas exhausted?** No new cartridge at hand? The new gas consumption display reminds you to have a fresh gas cartridge on hand in a timely manner.

**Flexible and individual** The Fuego has to 2 user accounts & saves all safety settings, burning times and other parameters for individual & flexible use.

**Cooled down** The precisely adjustable, exact to the second, cooling time reminder aids you in exactly complying with the required cooling period for inoculation loops.

**Properly connected!** Graphic installation and operating instructions at the first switch-on facilitate the initial start-up.

**Fuego-SCS-Digital-Pro:**

**Battery performance** The exclusive Fuego



**FUEGO SCS DIGITAL-PRO**

SCS pro provides maximum flexibility. Wireless operation using state-of-the-art rechargeable battery technology guarantees independent operation. Two standard rechargeable batteries allow up to 9 hours of continuous operation. This corresponds to approximately 2000 inoculation loop flaming operations. The Fuego SCS pro has an integrated fast charging function and can be recharged in only 3 hours. The range of functions is identical to those of the Fuego SCS.

<b>Technology</b>	Microprocessor, illuminated graphic display with acoustic signals as operating aids 2,3
<b>Programs</b>	IR-Sensor <sup>2,3</sup> : Start-Stop with timer, 1 sec - 2 h Auto-Off with timer, 0 sec - 2 h Foot pedal: Standard (flame during pressed foot pedal) Start-Stop with timer, Fuego SCS basic / Fuego SCS basic RF: 1 h Fuego SCS / Fuego SCS pro: 1 sec - 2 h Button: Start-Stop with timer, Fuego SCS basic / Fuego SCS basic RF: 1 h Fuego SCS / Fuego SCS pro: 1 sec - 2 h Temperature regulation <sup>2,3</sup> : with timer, 1 sec - 2 h temperature range from +35°C to +350°C
<b>Safety features</b>	Safety Control System (SCS) with gas safety cut off: ignition & flame control temperature monitor, burner head clogging and assembly monitor (BHC), tilt sensor (>90°) <sup>3</sup> Automatic unit switch off: Fuego SCS basic / Fuego SCS basic RF: 4 h Fuego SCS / Fuego SCS pro: 1 min - 2 h Residual heat display: indicates a hot burner head Zero-Pressure shut-off <sup>2,3</sup> : end of work procedure to lower the pressure in the supply hose
<b>Comfort functions<sup>2,3</sup></b>	cooling reminder gas consumption display for gas cartridges
<b>Gas supply and consumption</b>	Gas connection: 1/4" left with gas filter Gas types: ll2ELL3B/P: natural gas E/LL,18 - 25 mbar liquid gas, 20 - 50 mbar Connected load: 70 g/h liquid gas Continuous cartridge operation: CV 360 - 40 min, Express 444 - 50 min, CG 1750 - 150 min, C 206 - 170 min, CP 250 - 210 min, CV 470 - 370 min
<b>Temperatures</b>	Flame temperature: 1350°C on liquid gas, 1300°C on natural gas (E) Temperature threshold level: 1 kW liquid gas, 1kW natural gas
<b>Electrical</b>	Switching power supply: 100 - 240 V / 50/60 Hz / 0.3 A; 9 V DC / 1 A Power consumption: 2 VA IR-Sensor detection range <sup>2,3</sup> : 5 - 50 mm, adjustable DoubleClick IR-Sensor <sup>2,3</sup> : time range 0.5 - 2.5 sec (adjust. / disengageable)
<b>Technical Data Battery Operation<sup>3</sup></b>	Type rechargeable battery: NIMH 2.4V (2 x Mignon (AA), 1.2V, 2600mAh) Operating time: up to 9 hours continuous operation Charging time: 90% /3 hours Charging current: 700mA
<b>Radio Frequency System<sup>1</sup></b>	Safety standard: MRC safety radio protocol Range: 2 - 5 m Frequency: 2.4 GHz Channels: 253 Batteries foot pedal: 2 x AA (Mignon) Life time batteries (foot pedal): approx. 2000 hours (operation 8 hours per day: > 1 year)
<b>Mechanical</b>	Casing and operating controls: stainless steel / glass, UV and solvent resistant Burner head: removable and decomposable, stainless steel Cover of burner shaft: Ø 23 mm, with drains Dimensions (w x h x d): 103 x 49 x 130 mm Weight: 700 g

Model	Fuego SCS Basic	Fuego SCS Digital
<b>Technology</b>	Microprocessor	Microprocessor, LC-display
<b>IR-Sensor</b>	Start-stop with timer~2h, auto-off with timer~2h	
<b>Foot pedal</b>	Standard (flame during pressed foot pedal)	
<b>Button</b>	start-stop timer - 60min,	start-stop timer ~2h
<b>Safety control system (SCS) with gas safety cut off</b>	Ignition and flame control, temperature monitor, burner head clogging and assembly monitor (BHC), automatic unit switch off, 4h residual heat display	Ignition and flame control, temperature monitor, burner head clogging and assembly monitor (BHC), automatic unit switch off, 1-2h residual heat display
<b>Gas connection</b>	1/4" left with gas filter	
<b>Gas types</b>	I2ELL3B/P, nature gas E/LL 18-25 mbar, liquid gas, 20-50 mbar	
<b>Connected load</b>	70 g/h liquid gas	
<b>Continuous cartridge operation</b>	CV360 - 40min, Express 444 - 50min, CG1750 - 150min, C206 - 170min, CP250 - 210min, CV470 - 370min	
<b>Flame temperature</b>	1350°C on liquid gas, 1300°C on natural gas (E)	
<b>Temperature threshold level</b>	1kw liquid gas, 1kw natural gas	
<b>IR-Sensor coverage</b>	-	5-50mm, Adjustable
<b>Power consumption</b>	2 VA	
<b>Power connection</b>	100-240V 50/60Hz max. 0.3A 9V DC/1A	
<b>Casing &amp; operating controls</b>	Stainless steel/glass, UV and solvent resistant	
<b>Burner head</b>	removable and decomposable, stainless steel	
<b>Cover of burner shaft</b>	Ø23 mm, with drains	
<b>Measurements (mm)</b>	W103xD49xH130	
<b>Weight</b>	700g	



### Model: AutoLoop, Carousel For Flame Sterilizing Inoculation Loops

The inoculation loop carousel Autoloop PRO, which is suitable for up to 4 inoculation loops, was developed to comply with current requirements in microbiological, cell biological and bio technological laboratories.

Model	AutoLoop
<b>Technology</b>	Microprocessor
<b>Display</b>	fully graphic dot-matrix
<b>Rotational direction</b>	left / right, depends on removed holder
<b>Inoculation loop holder</b>	1 - 4, with optical holder detection
<b>Time of flame sterilizing</b>	1 - 15 sec
<b>Time for cool-down period</b>	1 - 45 sec
<b>Safety features</b>	temperature control, flame activation warning, indicator of remaining cool-down, tilt sensor, residual heat display
<b>Adjustable sterilization monitor</b>	1 - Off, 2 - low intensity, 3 - middle intensity, 4 - high intensity
<b>Stand by</b>	automatic unit switch off: 1 h (or with stand-by time of the burner)
<b>Operating voltage</b>	via Fuego (foot pedal socket)
<b>Casing</b>	stainless steel & aluminum, UV & solvent resistant
<b>IR-Sensor coverage</b>	5-50mm, Adjustable
<b>Measurements(mm)</b>	W135xD180 Height Autoloop: 305
<b>Weight</b>	1200 g



STER-100



STER-200



STER-220

**STER-Series, Gas Burners, 1300°C**

**Features:**

- Electronic instant ignition
- High temp. attainable: 1300°C
- Safety, clearing
- Adjustable flame
- Refillable butane fuel tank

**Applications:**

- Sterilizing • Welding • Heating
- Brazing • Digestion • Cooking

Model	STER-100	STER-200	STER-220
Max. temperature	1300°C	1300°C	1300°C
Fuel capacity (g)	45	45	45
Working time (min)	60	60	60
Safety lock	YES	-	-
Dimensions (mm)	H161xW137xD79	H92xW115xD79	H94xW115xD78
Dry weight (g)	380	407	425



Spare Heater

STER-815

**STER-815/ STER-816, Bacti-Cinerator Sterilizer, 835°C**

The Bacti-Cinerator Sterilizer sterilizes microorganisms utilizing infrared heat produced by a ceramic core element. The ceramic element contains no asbestos and ensures maximum sterility without splatter across the work surface area. Complete sterilization occurs within 5-7 seconds at optimum sterilizing temperature of 1500°F (815.6°C). The small footprint makes the Bacti-Cinerator Sterilizer an ideal instrument for anaerobic and aerobic chambers alike.



STER-816

Model	STER-815	STER-816
Central High-temperature	825°C±50°C	
Max-diameter of Sterilizer Goods	Φ14mm	Φ35mm
Length of Sterilizer	150mm	100mm
Dimension (mm)	D185xW98xH190	D162xW98xH225
Power	170W	320W
Weight	1.3kg	1.3kg

**Heaters:**

- 300-07021-01 - 220V Heater for STER-815
- 300-07021-02 - 120V Heater for STER-815
- 300-07051-01 - 220V Heater for STER-816
- 300-07051-02 - 120V Heater for STER-816

**STER-817D/ STER-818, Dry Glass Bead Sterilizer, 260°C**



STER-817D  
Stainless

STER-817D and STER-818 Glass Bead Sterilizers are incorporated with an imported thermostat, which heats the highest temperature with 300°C in 25m in, these units having a stainless steel body, are compact enough to be placed on any Laminar Air Flow Work benches or any other worksite tables in a clean room atmosphere.

STER-817D and STER-818 are a quick, easy and accurate alternative to traditional methods of sterilization. Once switched "ON", the units are ready to use within 25min and ensure total sterilization by destruction of all micro-organisms within 10sec.

Model	STER-817D	STER-818
Crucible size	40mm dia. 80mm Depth	40mm dia. 140mm Depth
Preset Temperature Range	100°C - 300°C	
Initial Stabilization Time	≤25 Minutes	≤25 Minutes
Weight of Glass Bead	150g	300g
Dimension (DxWxH)	130x145x155mm	130x145x215mm

**STER-101, Boiling Water Sterilizer, 100°C**

**Specifications:** Timer: 0-60 min. mechanical timer with bell • Heater: 1500watts • Thermostat: Temp. over to 150°C auto cut-off power • Body material: 18.8 stainless steel • Tray DIM.: W350xD165xH30mm • Overall Dimension: W525xD190xH170mm • Net/Gross Weight: 3.5/4.0Kgs • Power Supply: 220V/50-60Hz/7Amp.

**Features:** All hydraulically pressed 18.8 stainless steel, can withstand electrolysis without corrosion • Long life immersion Stainless nickel pipe heater & corrosion proof • Precision mechanical timer with bell switch control • Waterless overheating prevention system with auto power cut-off • Build-in low level cut-off device.



STER-101