

EN
Instruction manual



Flame¹¹⁰
Safety Bunsen

For laboratory use.

Flaming from any angle.



DIN 30665, part 1



Overview

- 1 - Gas adjustment
- 2 - Status - LED
- 3 - Burnertube
- 4 - Flame orifice
- 5 - Connector for foot pedal
- 6 - Gas inlet R 1/4" L gas adapter (left hand thread)
- 7 - Bracket
- 8 - Wing nuts
- 9 - Fixing hole
- 10 - Function knob
- 11 - Power connector

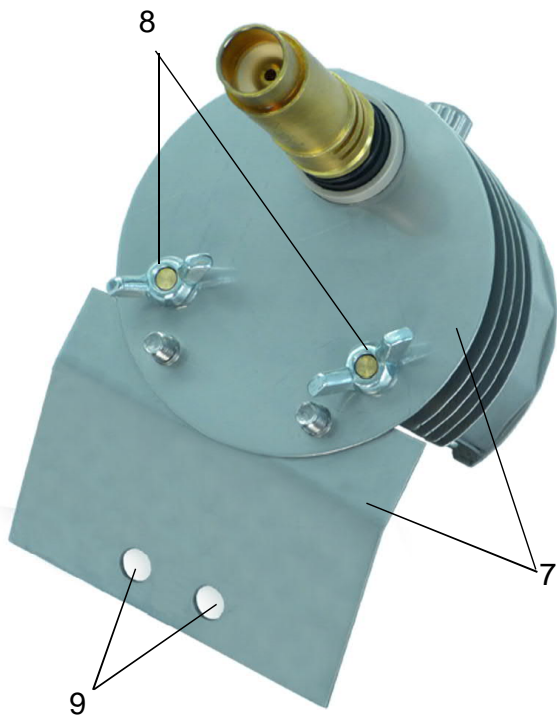


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Read these instructions carefully to familiarize yourself with the product. Please retain these operating instruction for future reference.

Use

Laboratory gas burner for flame sterilizing, flame deburring or flame polishing from any angle. For trade and industry.

WARNING: Do not leave the activated SAFETY BUNSEN burner unattended! The burner should only be operated upside down if downwards air extraction is in operation at the same time.

Safety Precautions



- On unpacking the unit, check for possible transportation damages. Do not operate the unit if damages are visible.
- Do not operate the unit near flammable liquids or hazardous materials.
- Make sure the burner is supported or standing firmly on a fireproof, heat resistant surface.
- Only use DVGW safety tubings with thread connection 3/8“L«-»1/4“L. Check the condition of the tube/hose frequently.
- All gas connections must be adequately tightened (left hand thread) Ensure gas proofness with a suitable test fluid / equipment.
- Pay attention to your relevant rules for using liquid gas.
- Always work in a well-ventilated area. The burner should only be operated upside down if downwards air extraction is in operation at the same time.
- Unattended operation of the unit is not permissible.
- Keep hands or other parts of the body away from the burner orifice (4).
- Note that the burner tube and burner orifice (3,4) remains hot after the flame has been extinguished. Do not touch. Can cause burns.
- After use or for any longer period of time without attendance, turn the main gas supply off. To depressurize gas hose keep the main gas supply off and activate the burner again until the flame extinguishes in order to burn the residual gas. Afterwards turn off the gas burner at the function knob (10).
- Allow sufficient time for burner tube (3) to cool down prior to cleaning, disinfecting, servicing or transport. Ensure that the unit and the gas supply are turned off.
- Allow sufficient time for burner tube (3) to cool down prior to disassembling.
- Operate the unit with assembled burner tube (3) only.
- After cleaning the burner tube (3) allow sufficient time to dry before assembling again.

1. The Range

Art.-No.: 2.110.000-L

with button function

Nozzle propane/butane gas \varnothing 0.15 mm

Removable special burner head

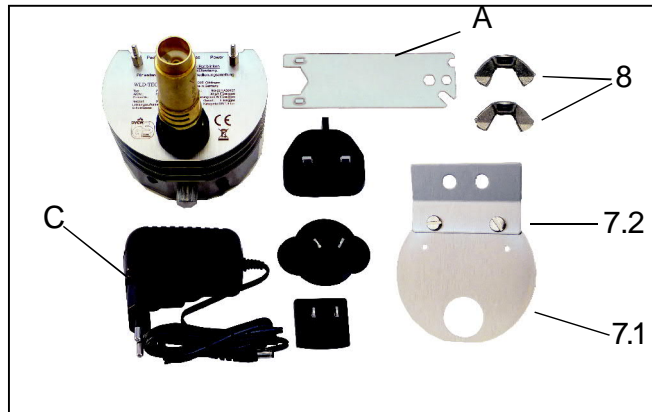
Brackets (7.1+7.2) with
2 wings nuts (8)

for upside down mounting

Wrench 17 mm for gas connection (A)

Switching power supply (global) (C)

Instruction manual + 2 year warranty



2. Montage:

Note: Make sure the burner is supported or standing firmly on a fireproof, heat resistant surface. If necessary, attach the gas connection prior to fixing the burner on the mounting bracket. (See paragraph 3)

2.1 Standard (Fig. 1)

Stand the Flame 110 on its rubber feet. The brackets (7.1+7.2) and wing nuts (8) are not needed.

2.2 Upside down (Fig. 2 and 5)

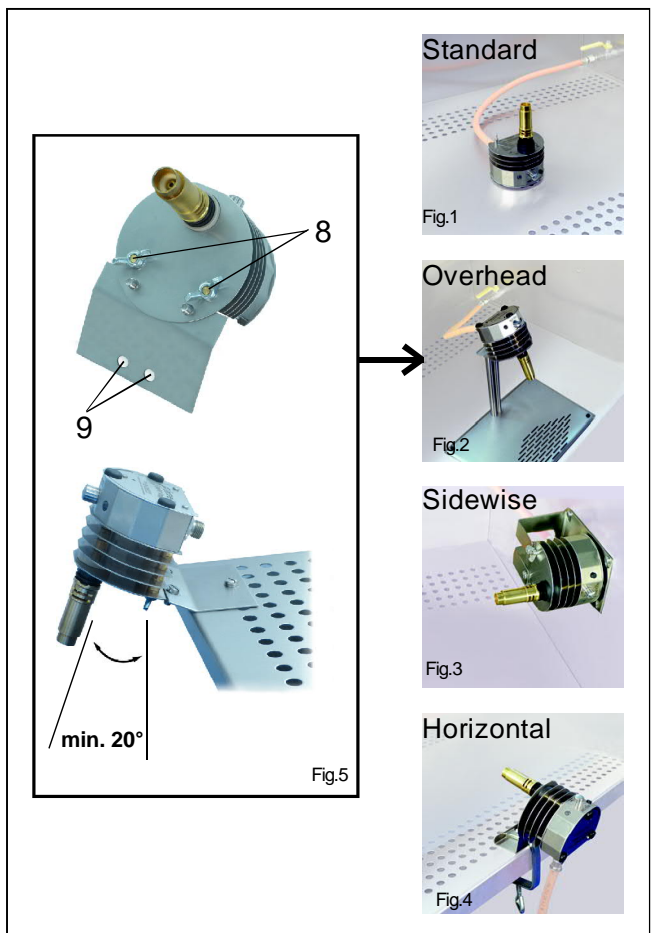
Fix the mounting plates (7.1+7.2) with the fixing holes (9, $\varnothing = 5$ mm) on an individual bracket. Then push the burner (as in the illustration) into place on the mounting plate and fix in place with the wing nuts (8). Ensure it is fixed or standing firmly. The device must be angled at a minimum of 20°.

Note: The burner should only be operated upside down if downwards air extraction is in operation at the same time.

2.3 Bracket sidewise (Fig. 3)

Optional Art.-No.: 2.110.400

Remove the mounting plates (7.1+7.2) by unscrewing. Push the mounting plate (7.1) onto the burner, then insert both parts on the "sidewise" bracket and secure with the wing nuts (8). The "sidewise" bracket can then be secured with 2 screws on the left or right side.



2.4 Bracket horizontal (Fig. 4, page 5)

Optional Art.-No.: 2.110.450

Remove the mounting plates (7.1+7.2) by unscrewing. Screw the mounting plate (7.1) to the “horizontal“ bracket. Push the table clamp through the “horizontal“ bracket and screw onto the laboratory table top (up to 65mm thick).

3. Connecting the gas supply

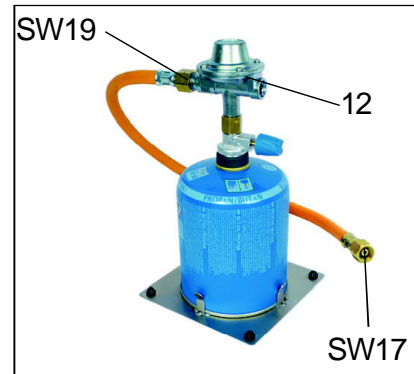
Nozzles, gas type and pressure: **5 / Ø 0.15 mm**, Propane-/ Butane gas for a pressure of 1.5 bar.

Gas cartridge adapters (12) are optional available:

C206-1.5: Art.-No.: 2.110.800

CV300-1.5: Art.-No.: 2.110.831

CV470-1.5: Art.-No.: 2.110.850



LPG gas bottle with 5, 11 resp. 33kg

For use with LPG gas bottles, first of all an EC or DVGW certified safety-medium-pressure regulator (13) with gas leak protection valve (1.5 bar) (14) must be mounted on the gas bottle.

Pay attention to your relevant rules for using liquid gas.

For connecting the Flame 110, a DVGW safety hose (15) with a 3/8“ L«-»1/4“ L threaded connection

is required. Connect the 1/4“ L thread connection of the DVGW gas hose to the gas connection (6) of the

laboratory gas burner. Connect the 3/8“ L thread connection of the gas hose to the gas leak

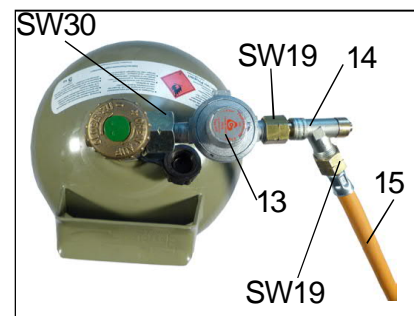
protection, resp. to the gas cartridge adapter. Check the hose regularly for signs of damage.

For all gas connections, make sure that the connections are firmly tightened with 2

wrenches (SW17, SW14) and are gas tight (left-hand thread). The SW14 wrench is used to hold the fitting on the unit, and the swivel nut is tightened with the SW17 wrench. On the gas

leak protection side, the connections are to be made gas tight with an SW19 wrench (left-hand thread). Use test equipment to check for leaks. **Do not seal up the thread of the gas**

inlet of the laboratory gas burner with Teflon tape, etc.



Accessory (13-15) for LPG gas bottles is optional available:

Safety-medium-pressure regulator 1.5 bar (13): Art.-No.: 2.110.150

Gas leak protection 1.5 bar (14): Art.-No.: 2.110.131

DVGW-safety tubing (15) Art.-No.: 2.110.310

for threaded connection 3/8“ L«-»1/4“ L (1.5 m)

4. Electrical connection

Insert the power cord of the power supply **(C)** into the socket **(11)** on the back panel of the unit, or into the socket of the foot pedal (optional). The default supply must be connected to a voltage source of 100 - 240 V / 50/60 Hz. The mains power supply unit may only be connected if these values comply with the intended electricity supply. Before using it, push the corresponding socket adapter onto the mains power supply plug.

4.1 Foot pedal connection / External IR motion sensor

Insert the connection cable of the foot pedal or the external IR - motion sensor (accessory) into the socket **(5)** at the back of the unit.

Foot pedal, IR motion sensor and benchtop switch are optional accessories:

Stainless steel foot pedal:

Art.-No.: 6.000.402

Foot pedal mini / plastic:

Art.-No.: 6.000.403

Wireless foot pedal (EU countries only):

Art.-No.: 8.000.404-RF

External IR - motion sensor

Art.-No.: 6.000.406



5. Operation

5.1 On-Off switch

Switch the unit on by a short push on the function knob **(10)**. The Status-LED **(2)** lights up green when the unit is on and ready for use. It can be turned off by a long push (2 seconds +) on the function knob.

5.2 Application programs

- BUTTON StartStop:

The flame is ignited by operation of the function knob **(10)**. The flame is extinguished after renewed actuation of the function knob **(10)**. Additionally the flame is automatically extinguished when the burning timer has expired after 60 min. Whilst the burner is functioning, the status LED **(2)** lights up orange.

Unattended operation of the unit is not permissible.

PEDAL Standard:

The flame is ignited by operation of the foot pedal, benchtop switch or external IR motion sensor **(optional, see paragraph 4.1)**. For the duration of use the foot pedal remains depressed or keep your hand within the range of the IR motion sensor. The flame extinguished once the foot pedal is released or as soon as nothing is within the range of the IR motion sensor. Whilst the burner is functioning, the status LED **(2)** lights up orange.



5.4 Flame regulation

The flame can be varied in size by turning the gas knob **(1)**. **Attention:** When operating the unit for the first time, turn the gas adjustment knob **(1)** two revolutions to the left.

5.5 Switch-off / End of work

The unit can be turned off by pushing the function knob **(10)** for more than 2 seconds.

Attention: After use or for any longer period of time without attendance, turn the main gas supply off. To depressurize gas hose keep the main gas supply off and activate the burner again until the flame extinguishes in order to burn the residual gas. Afterwards turn off the gas burner at the function knob **(10)**.

6. Safety Symbols

The Flame 110 is equipped with an automatic re-ignition system. To prevent accidental extinguish of the flame caused by external influences, during operation the Flame 110 ignites 1 time/sec.

Temperature monitor

If the interior temperature has exceeded 70 °C, the gas supply will be shut off and the unit indicates a malfunction (see paragraph 7).

Pressure monitoring at about 3.5 to 4 bar

If the gas pressure in the supply hose exceeds 3 bar, the gas valve cannot open and ignition cannot start. The hose must first be depressurized in order to relieve the gas valve.

Automatic unit switch off

The unit switches itself off automatically after 4 hours if the flame has not been lit in this period. All indicated malfunctions are automatically switched off after 4 hours, too (see paragraph 7). For further operation, switch the unit on again.

Tilt sensor

When starting the burner in overhead position the tilt sensor will be active. If the burner tilts now for more than 90° (e.g. if someone accidentally knock over the base bracket), the burner shuts off automatically. To start the burner again, put it in the starting position (overhead) again or remove the power supply. When starting the burner not in overhead position the tilt sensor will not be active and the unit can be tilt in any direction.

7. Error displays

Status - LED (2) blinks red

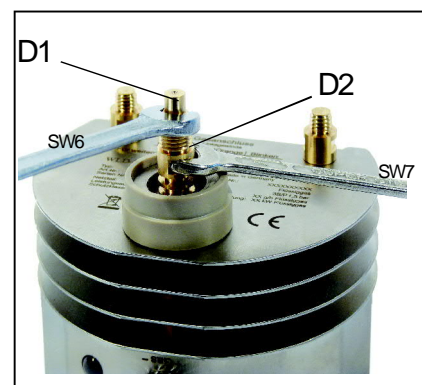
This signal appears if the temperature inside the device exceeds +70°C.

In the event of overtemperature, ensure adequate ventilation. After the unit has cooled down, the error display can be reset by pressing the function button **(10)**. In case of malfunction, the gas valve will not open, or is immediately closed.

8. Burner tube - and nozzle cleaning

For thorough cleaning, the burner tube **(3)** and the nozzle **(D1)** can be dismantled. Shut off the gas at source, allow the flame orifice and burner tube **(3, 4)** to cool and remove the unit from service. (See paragraph 5.5).

Unscrew the burner tube **(3)** counter-clockwise and remove. Clean the burner tube with compressed air, acetone or petroleum benzine. Subsequently, the nozzle **(D1)** can also be loosened counter-clockwise with 2 wrenches (SW6 and SW7) and cleaned. The SW7 wrench is used to hold the burner tube support **(D2)** on the device; loosen the nozzle with the SW6 wrench **(D1)**. Reassemble in reverse order.




9. Troubleshooting guide

Status - LED does not light up after turn on the unit

Check for correct connection and specification of the power adapter.
Ensure that the original power adapter is used. (imprint WLD-TEC).

Specifications: 9 V / DC, 1A

Polarity: + —  -

No ignition

In case of ignition failure check the burner tube and nozzle for possible clogging.

(Burner tube - and nozzle cleaning, see paragraph 8) If applicable the burner tube must be changed. Replacement burner tube **Art.-No.: 2.110.400**

No flame

In case of ignition or flame failure check if the burner tube and the nozzle is clogged.
Check the correct gas pressure propane / butane gas, 1.5 bar. The gas valve close automatically at approximate 3.5 to 4 bar.

(Pressure monitoring, see paragraph 6)

The burner shuts-off due to overtemperature frequently

In case of overtemperature increase the air ventilation/exhaust.

Status - LED (2) blinks red

Overtemperature **(see paragraph 6 and 7)**, Cool down the unit.

10. Warranty

WLD-TEC gas burners are covered under our two-year manufacturer warranty against any manufacture defects in material and workmanship. The WLD-TEC warranty guarantees all gas burners under normal usage conditions and does not cover any damages as a direct result of user misuse or/and abuse. The warranty is void upon any unauthorized servicing, disassembly, modifications or industrial use.

Burner for industrial use: **Art.-No.: 2.110.000-i**

Service adresse

WLD-TEC GmbH
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Telefax: 036081 68942
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Internet: www.wld-tec.com

Technical Data

Technology

Microprozessor

Programs

Button: Start-Stop with timer, 60 min
Foot pedal (optional): Standard (flame during pressed foot pedal)
External IR motion sensor (optional): flame during activated external IR motion sensor

Safety features

Re-ignition: permanent re-ignition 1x per sec.
at active flame
with gas safety cut off: temperature monitor
pressure monitoring at approximately 3.5 to 4 bar
automatic unit switch off, 4 h
tilt sensor with gas safety cut off (>90°)

Gas supply and consumption

Gas connection: 1/4" left with gas filter
Gas types: I3P 1.5 bar liquid gas
Connected load: 38 g/h
Continuous cartridge operation:
(Type - time): C 206 - 4.5 h / CV 300 - 6 h / CV 470 - 11 h

Flame characteristics

Max. flame temperature: approximate 1200 °C
Flame measurements (h x Ø): max. 120 x 10 mm
Temperature threshold level: 500 W

Electrical

Power consumption: 2 VA
Protection class: II
Power connection: 100 - 240 V / 50/60 Hz / max. 0.3 A
9 V DC / 1A

Mechanical

Burner tube: removable
Measurements (h x Ø): 75 x 88 mm
Height with burner tube: 135 mm
Weight: 580 g

Licenses

DIN-DVGW Reg.-No.: NG-2211AS0167
CE: EN 61326-1, EN 61010-1, EN61010-2-010
EU guidelines: 2014/30/EU, 2014/35/EU, 2011/65/EU

8 CE-Konformitätserklärung / Declaration of Conformity

Wir, der Hersteller, erklären hiermit, dass das Produkt: /
 We, the manufacturer, hereby confirm, that the product:

Gerätetyp / Type: FW8000M/09
 Artikel-Nr. / Part-No.: 1899085
 Zeichnungs-Nr. / Drawing-No.: 15.4474.500-01

weitere Merkmale /
 additional information:

mit der beiliegenden Beschreibung die Anforderungen der Niederspannungsrichtlinie 2006/95/EG (gültig bis 19. April 2016) der Niederspannungsrichtlinie 2014/35/EU (gültig ab 20. April 2016), der EMV-Richtlinie 2014/30/EG und Öko-Design Richtlinie 2009/125/EG erfüllt.

Hiermit bestätigen wir, dass unsere Produkte, unabhängig von der Produktionsstätte, RoHS-konform produziert werden und die Anforderungen der EU Richtlinie 2011/65/EU (Neufassung der Richtlinie 2002/95/EU) erfüllen.

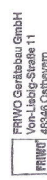
with the enclosed description fulfills the requirements of the Low Voltage Directive 2006/95/EC (valid to 19. April 2016) the Low Voltage Directive 2014/35/EU (valid from 20. April 2016), the regulations of the EMC Directive 2014/30/EC and the eco design Directive 2009/125/EC.

Hereby, we certify, that our products, regardless of the production location, RoHS compliant and fulfill the directive 2011/65/EC (revised version: directive 2002/95/EC).

Das Gerät entspricht der / The unit corresponds to:

- a) Niederspannungsrichtlinie / Low Voltage Directive EN 60601-1 Ed.3.0/72007
- b) EMV-Richtlinie / EMC Directive EN 60601-1-2 12/2007
- c) Öko Design / ECO Design Not applicable

Ausstellungsdatum / Date of issue: 22.03.2016



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A. Wegener

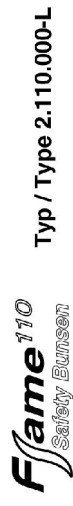
Firmenstempel / Company stamp

Armin Wegener
 Vice President Research & Development



EU-KONFORMITÄTSERKLÄRUNG
 Declaration of Conformity

zu den Richtlinien / following to the Directives: 2014/30/EU, 2014/35/EU & 2011/65/EU
 für Sicherheitsbunsenbrenner / for Safety Bunsen Burner



Typ / Type 2.110.000-L

1. Elektromagnetische Verträglichkeit / Electromagnetic Compatibility Directive

- 1.1 EN 61326-1:2013 Elektrische Betriebsmittel für Leittechnik und Laboreinsatz, EMV-Anforderungen
 Electrical equipment for measurement, control and laboratory use, EMC requirements
- Störaussendung: Elektrische Betriebsmittel der Klasse B, Gruppe 1
 Generic Emission Standard: Electrical Equipment, class B, Group 1
- Störfestigkeit: Industrielle Bereiche
 Generic Immunity Standard: Industrial areas

2. Sicherheit elektrischer Betriebsmittel / Security of electrical resources

- 2.1 EN 61010-1:2010 Sicherheitsanforderungen an elektrische Mess-, Steuer-, Regel- und Laborgeräte, Teil 1: Allgemeine Anforderungen
 Safety requirements for electrical equipment for measurement, control, and laboratory use. Part 1: General requirements
- 2.2 EN 61010-2-010:2014 Sicherheitsbestimmungen für elektrische Mess-, Steuer-, Regel- und Laborgeräte, Teil 2-010: Besondere Anforderungen an Laborgeräte für das Erhitzen von Stoffen
 Safety requirements for electrical equipment for measurement, control, and laboratory use. Part 2-010: Particular requirements for laboratory equipment for the heating of materials



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Arenshausen, 20.04.2016



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