

EN Instruction manual

SCS

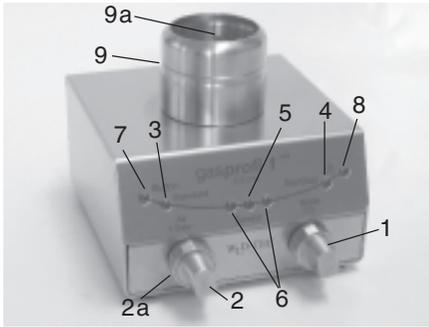


gasprofi 1 SCS micro

The smallest
laboratory gas burner
with more safety

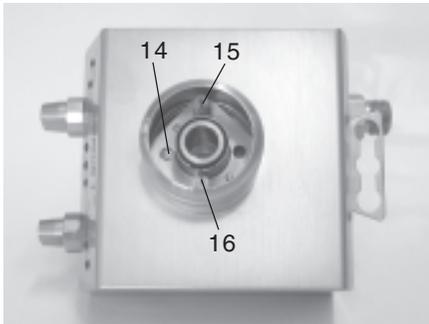
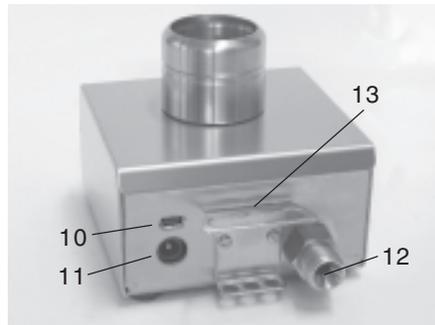


DIN 30665, part 1



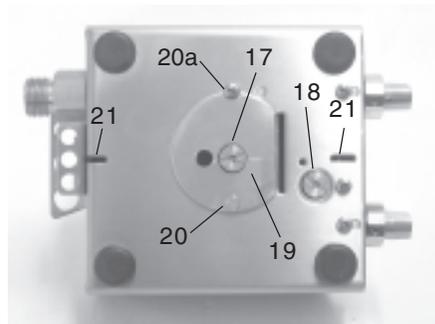
- 1 - Function knob
- 2, 2a - Dual knob: 2 - Gas adjustment
2a - Air adjustment
- 3 - LED Standard
- 4 - LED Start/Stop
- 5 - LED Sensor
- 6 - IR-Sensor
- 7 - LED Button
- 8 - LED Burner head HOT / BHC
- 9 - Burner head
- 9a - Flame orifice

- 10 - Connector for foot pedal
- 11 - Power connector for 9 V DC
- 12 - Gas inlet R 1/4" L
- 13 - Holding device for inoculation loop holder



- 14 - Burner head screw
- 15 - Monitor electrode
- 16 - Ignition electrode

- 17 - Active nozzle
- 18 - Nozzle holder for alternative gas
- 19 - Cover of the burner shaft
- 20 - Retaining screw for cover of the burner shaft
- 20a - Position screw for the cover
- 21 - Guide slots for tilt adjustment



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

Use: Safety laboratory gasburners for heating and flame sterilizing. Ideal for use in cleanroom workbenches and the laboratory.

**WARNING: DO NOT LEAVE THE ACTIVATED LABORATORY
GAS BURNER UNATTENDED!**

SAFETY PRECAUTIONS:

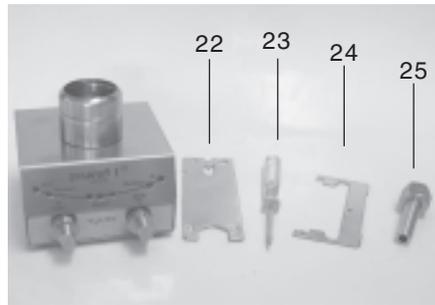
- On unpacking the unit, check for possible transportation damages. Do not operate the unit if damages are visible.
- After use or for any longer period of time without attendance, turn the main gas supply off and turn off the gas burner at the function knob (1).
- Pay attention to your relevant rules for using liquid gas.
- Only use DVGW safety tubings with thread or tubing connectors. Check the condition of the tube/hose frequently. Depending upon type of tube/hose, hose clamps are required.
- All gas connections must be adequately tightened with two wrenches. Ensure gas proofness with a suitable test fluid / equipment. DO NOT seal the swivel nut with Teflon tape etc.
- Keep hands or other parts of the body away from the burner orifice (9a).
- Do not operate the unit near flammable liquids or hazardous materials.
- Unattended operation of the unit is not permissible.
- Always work in a well-ventilated area.
- Note that the burner orifice (9, 9a) remains hot after the flame has been extinguished. Do not touch. Can cause burns.
- Allow sufficient time for flame orifice (9a) to cool down prior to cleaning, disinfecting, servicing or transport. Ensure that the unit and the gas supply are turned off.
- Because of the connectors at the back of the unit the backside should not be sterilized with a flame.
- Allow sufficient time for burner head (9) to cool down prior to disassembling.
- Operate the unit with assembled burner head (9) only.
- After cleaning the burner head (9) allow sufficient time to dry before assembling again.
- Keep substances away from the flame orifice (9a).
- Before mounting a nozzle check the O-Ring (26). Replace the sealing if damaged or worn.



The range: gasprofi 1 micro SCS

Art.-No. 6.004.000

with DoubleClick IR-Sensor and stainless steel foot pedal
adjustable IR-Sensor reaction distance
5 standard programs for button (function knob), IR-Sensor and foot pedal
SCS (Safety Control System), BHC (Burner Head Control)
Removable and decomposable burner head
Tilt mechanism, right / left (24)
Holding device for 3 inoculation loop holders
Nozzles for natural gas, propane/butane gas
Turbo flame
Wrench 17 mm (22) for gas connection
Screwdriver (23) for burner head and cover of the burner shaft
Schlauchtülle mit Überwurfmutter (25)
Power connection
Instruction manual and 2-year warranty



1. Setup Procedure:

The unit is shipped with the nozzle for natural gas (N) installed.

The nozzle must be changed if other gas is to be used.

Replacement procedure: Remove the Nozzle P from the nozzle holder (18)

with a coin or the edge of the wrench (22) by turning it counterclockwise.

Remove the active Nozzle N for natural gas (17) in the same way and exchange the nozzles.

ATTENTION: Before mounting a nozzle check the O-Ring (26).

Replace the sealing if damaged or worn (Art.-No. 8.000.010).

Now you are ready to connect the gas supply to the gas inlet (12).

The correct pressure for natural gas is within the range of 18 - 25 mbar, for propane/butane gas 28 - 57 mbar.

Only use DVGW or other gas approved safety tubings with thread or tubing connectors (25). Check the condition of the tube/hose frequently. Depending upon type of tube/hose, hose clamps are required.

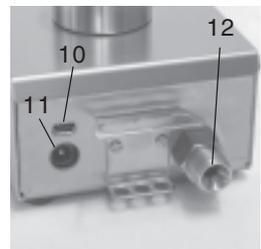
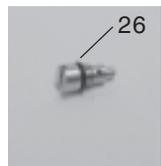
All gas connections must be adequately tightened with the wrench (22) (SW 17mm, included). Ensure gas proofness with a suitable test fluid / equipment. Do not seal up the included tubing connector (25) and swivel nut with Teflon tape etc.

A DVGW-proven or other gas approved pressure regulator (50mbar) must be used for liquid gas.

Pay attention to your relevant rules for using liquid gas.

1.1 Foot pedal connection:

Insert the connection cable of the foot pedal into the socket (10) at the back of the unit.



1.2 Electrical connection:

Insert the power cord into the socket **(11)** on the back panel of the unit, or into the socket of the foot pedal. The default supply must be connected to a voltage source of 100 - 240 V / 50/60 Hz.

2. Operation: Flame regulation

The flame can be varied in size and intensity by turning the gas knob **(2)** and adjusting the air knob **(2a)** to suit all requirements.

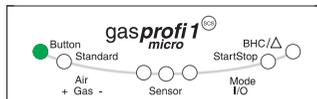
Attention: When operating the unit for the first time or after changing the nozzle, turn the gas adjustment knob **(2)** two revolutions to the left and turn the air adjustment knob **(2a)** 3-4 revolutions to the left, too.

2.1 Operation: On-Off switch, operating mode

Switch the unit on by a short push on the function knob **(1)**. It can be turned off by a long push (2 seconds +) on the function knob. By turning the function knob all programs can be selected and the IR sensor detection range can be adjusted.

2.2 Operation: Application programs

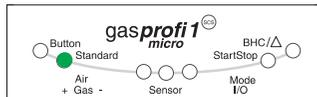
- BUTTON StartStop:



(LED Button is on)

The flame is ignited by operation of the function knob **(1)**. The flame is extinguished after renewed actuation of the function knob **(1)**. Additionally the flame is automatically extinguished when the burning timer has expired after 60 min.

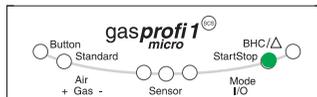
- PEDAL Standard:



(LED Standard is on)

The flame is ignited by operation of the foot pedal. The foot pedal remains depressed for the duration of use. The flame is extinguished upon release of the pedal.

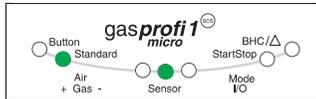
- PEDAL Start-Stop:



(LED StartStop is on)

The flame is ignited by operation of the foot pedal. The flame is extinguished after renewed actuation of the foot pedal. Additionally the flame is automatically extinguished when the burning timer has expired after 60 min. Alternatively the flame can be extinguished by a short push on the function knob **(1)**.

- SENSOR Auto-Off:

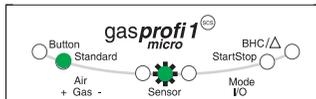


(LED Standard and LED Sensor is on)

For flame ignition, activate the DoubleClick IR-Sensor (6) by passing your hand over it twice. (see paragraph 3) The flame is extinguished automatically when the adjusted burning time expires (factory setting: 5 sec.). Alternatively the flame can be extinguished by a short push on the function knob (1).

The burning time can be adjusted with the learn function "SENSOR Auto-Off burning time" (see paragraph learn function "SENSOR Auto-Off burning time"). To activate the learn function press the function knob (1) while the application program SENSOR Auto-Off is selected.

- Learn function "SENSOR Auto-Off burning time":



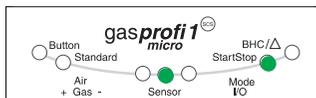
(LED Standard is on, LED Sensor blinks slowly)

This learn function is used to adjust the burning time for the application program SENSOR Auto-Off. To activate the learn function press the function knob (1) while the application program SENSOR Auto-Off is selected.

Learning the burning time: For flame ignition and to start the time measurement, activate the DoubleClick IR-Sensor (6) by passing your hand over it twice.

When the needed burning time is reached press the function knob (1) to stop the flame. Thereby the reached burning time is memorized and the application program SENSOR Auto-Off is selected again. Now, the memorized time is available for the application program SENSOR Auto-Off.

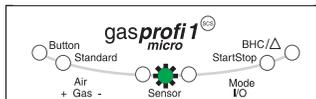
- SENSOR Start-Stop:



(LED Standard is on, LED Sensor is on)

For flame ignition, activate the DoubleClick IR-Sensor (6) by passing your hand over it twice. (see paragraph 3). The flame is extinguished after renewed activation of the IR-Sensor. Additionally the flame is automatically extinguished when the burning timer has expired after 60 min. Alternatively the flame can be extinguished by a short push on the function knob (1).

2.3 Operation: Adjusting the IR-Sensor detection range



(LED Sensor blinks fast)

Turn the function knob (1) clockwise till the LED Sensor (5) blinks fast to select the function for adjusting the IR-Sensor detection range. To modify the IR-Sensor detection range press the function knob (1) briefly. (IR-Sensor coverage, 35 - 70 mm) Now, the IR-Sensor range can be adjusted by turning the function knob (1). The frequency of the blinking LED Sensor (5) indicates the adjusted detection range.

Clockwise rotation: The IR-Sensor detection range increases and the blinking of the LED Sensor (5) becomes faster.

Counter-clockwise rotation: The IR-Sensor detection range decreases and the blinking of the LED Sensor (5) becomes slower.

Hold the hand in front of the IR-Sensor (6) to test the adjusted IR-Sensor detection range. When the IR-Sensor is activated by the hand the LED StartStop (4) lights up. If the required detection range is not yet reached, modify the IR-Sensor detection range again by turning the function knob (1) clockwise or counter-clockwise.

When the required IR-Sensor detection range is reached press the function knob (1). The adjusted IR-Sensor detection range is now saved and the application program returns to SENSOR StartStop.

2.4 Operation: Switch-off

The unit can be turned off by pushing the function knob (1) for more than 2 seconds.

3. Safety symbols and safety functions:

- **Residual heat display:** The LED "Burner head HOT / BHC"  (8) indicates a hot burner head.

Attention: If the LED "burner head HOT / BHC" lights up DO NOT TOUCH the burner head. Can cause burns! Even after switching-off the unit the residual heat LED remains on till the burner head is cooled down.

Notice: Disconnecting the power supply or removing the power cord will clear the residual heat display even if the burner head is still hot.

- **BHC:** If the burner head is clogged the amber LED "Burner head HOT / BHC" (8) will flash. Additionally, if Burner head HOT / BHC is flashing, the maximum burning time in the sensor programs, in the button function and in the foot pedal operating mode "StartStop" is limited to 30 seconds.

(see paragraph 2.2). If burning times longer than 30 seconds are required in case of a clogged burner head, the foot pedal operating mode "Standard" can be used without time limit.

If Burner head HOT / BHC is flashing it is requested to clean the burner head immediately (see paragraph 5.1).

Automatic unit switch off:

Application program PEDAL Standard or PEDAL StartStop: The unit switches itself off automatically after 4 hours if the flame has not been lit in this period.

Application program SENSOR Auto-Off or SENSOR StartStop: The unit switches itself off automatically after 10 minutes if the flame has not been lit in this period.

All indicated malfunctions are automatically switched off after 4 hours, too (see paragraph 4). For further operation, switch the unit on again.

- **DoubleClick IR-Sensor:** For flame ignition, activate the IR sensor (6) by passing your hand over it twice within a time range of 1 sec. After the first activation the LED Sensor blinks fast for 1 sec. Within this time range the IR sensor (6) needs to be activated a second time to ignite the flame.

4. Error displays:

- **Ignition failure: Green LED "Button", "Standard" or "StartStop" blinks 2x**

This signal appears and indicates a malfunction if the flame fails to ignite after 7 seconds. In case of ignition failure check the burner head (9) for possible clogging, check the correct input pressure of the gas supply and verify that the correct nozzle is installed.

In case of this malfunction the gas supply will be shut off automatically.

Nozzle N: natural gas, 18-25 mbar

Nozzle P: propane-/ butane gas, 47-57 mbar

- Flame failure: Green LED “Button“, “Standard“ or “StartStop“ blinks 3x

This signal indicates a malfunction if the flame is extinguished by external factors and fails to reignite within 5 sec. In case of flame failure check the burner head (9) for possible clogging and verify the correct input pressure of the gas supply.

In case of this malfunction the gas supply will be shut off automatically.

- Overtemperature: Green LED “Button“, “Standard“ or “StartStop“ blinks 4x

This signal indicates a malfunction if the interior temperature has exceeded 70 °C. At a normal room temperature with normal air circulation the unit is suited for continuous operation.

In case of overtemperature increase the air ventilation or change the operation site.

In case of this malfunction the gas supply will be shut off automatically.

- Burner head assembly monitor: Green LED “Button“, “Standard“ or “StartStop“ blinks 5x

This message indicates that the burner head is removed. Further operation is possible after the burner head is reinstalled.

- BHC: Amber LED “Burner head HOT / BHC“ flashes

This signal indicates that the time limit (30 seconds) is turned on in foot pedal operating mode “StartStop“, both IR-Sensor operating modes and in operating mode “Button“ due to a clogged burner head. For cleaning the burner head see paragraph 5.1.

Notice: All error displays can be reset by a long push (2 seconds+) on the function knob (1). (In case of overtemperature the unit needs to be cooled down and in case of burner head assembly monitor the burner head needs to be reinstalled prior a reset is possible.)

5. Cleaning and sterilizing:

Allow sufficient time for burner orifice (9,9a) to cool down before disassembling or cleaning the burner head. Check the unit is disconnected and that the gas supply is turned off at the mains. The burner can be cleaned with customary commercial disinfectants. Additionally, it is possible to remove the burner head and to clean it separately.

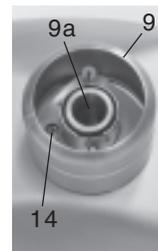
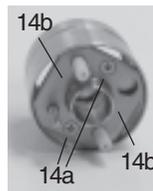
The stainless steel and glass construction allow 100% UV-radiation sterilization and short time surface flame sterilization.

Attention: Because of the connectors at the back of the unit the backside should not be sterilized with a flame.

5.1 Burner head disassembly and cleaning:

Allow sufficient time for burner orifice (9,9a) to cool down before disassembling or cleaning the burner head. Check the unit is turned off, that the gas supply is turned off at the mains. Clean the burner head with customary commercial disinfectants, sterilize it in an autoclave or wash it in a dishwasher. To remove the burner head proceed as follows:

Unscrew the burner head screw (14) completely with the included screwdriver. Turn approx. 8 revolutions to the left.



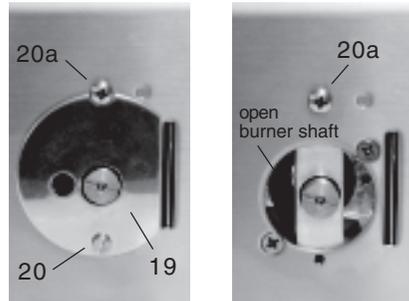
Now remove the burner head from the device by pulling it upwards.

Reinstallation is performed in the reverse sequence.

The dismounted burner head can be even dismantled into the individual components for in-depth cleaning: Unscrew both screws (14a) and take off the base plate (14b) of the burner head which was fixed by the two screws (14a). After the base plate is removed both electrodes can be pulled out for separate cleaning. Reinstallation is performed in the reverse sequence.

5.2 Burner shaft cleaning:

Unscrew the screw (20) completely with the included screwdriver. Take off the cover (19) of the burner shaft. Now the burner shaft can be cleaned or solid substances which have fallen into the unit can be removed. Reinstallation is performed in the reverse sequence. Take care that the notch of the cover fits to the screw (20a).

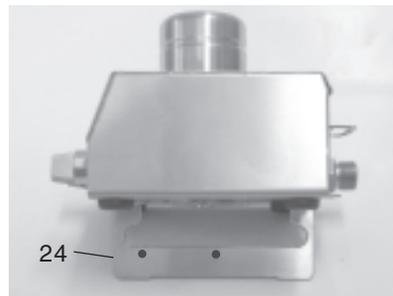


6. Turbo flame:

If the cover of the burner shaft (19) is removed the flame is extremely firm and consistent. To take off the cover of the burner shaft unscrew the screw (20) completely with the included screwdriver. With an open burner shaft the intensity of the flame cannot be adjusted by the air knob (2a) any longer. During the use of the turbo flame most of the needed air is taken inside through the open burner shaft. Remounting the cover of burner shaft. (see paragraph 5.2)

7. Tilt adjustment:

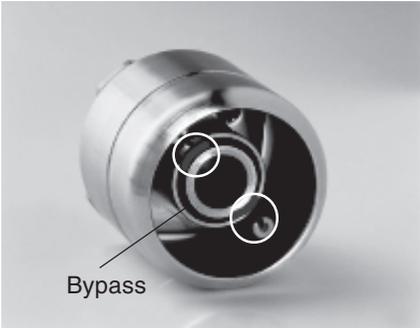
Insert the tilt adjustment (24) into the slots (21) at the bottom of the unit. The tilt-adjustment can be used to the left or right side to protect the burning chamber from contamination when working with liquids.



8. Warranty:

All 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 gasburners 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 or modifications.

Notes

Troubleshooting guide	
The LED's " do not light up	
<p>Check for correct connection and specification of the power adapter. Ensure that the original power adapter is used. Specifications: 9 V / DC, 1A Polarity: + — </p>	
The foot pedal does not work	
<p>Check for correct connection of the foot pedal. Ensure that the foot pedal socket and plug is not twisted or broken.</p>	
No Flame	
<p>In case of ignition or flame failure check if the burner head is clogged. Verify the input pressure of the used gas. Ensure that the correct nozzle is installed in the unit. Nozzle N: natural gas, input pressure: 18-25 mbar Nozzle P: propane / butane gas, input pressure: 47-57 mbar</p>	
LED "Burner head HOT / BHC" flashes / Inspection of the burner head (clogging)	
	<p>Take care that there are no liquids or other substances at the Bypass (area between the inner and the outer ring) Especially remove substances in the marked areas at the electrodes. If there are contaminants in this area, the flame cannot encircle the electrodes correctly.</p> <p>Clean this areas with a brush. The burner head can be cleaned with customary commercial disinfectants, or it can be sterilized in an autoclave or washed in a dishwasher.</p>
In operating mode Pedal "StartStop", SENSOR Auto-Off, SENSOR StartStop and „Button“ the flame burns 30 seconds, only	
<p>BHC time limit is active, LED "Burner head HOT / BHC" is flashing. The burner head is clogged and must be cleaned (see paragraph 3 and 5.1).</p>	
Flame too small / large / soft	
<p>Check the position of the air and gas adjustment. Check if the correct nozzle is installed. Nozzle N: natural gas, 18-25 mbar Nozzle P: propane / butane gas, 47-57 mbar Check if the drilling of the active nozzle is blocked. Unscrew the active nozzle. (see paragraph 1) If the drillig is blocked clean with a brush or compressed air.</p>	
No ignition spark/LED "Burner head HOT / BHC" flashes but the burner head is clean	
<p>Check if the ceramic electrodes are in good condition. In some cases the electrodes may break. To check move the ends of the electrodes. If they are not moving they should be okay. If they are moving more than 0.5 mm the electrodes are broken. The electrodes can be dismantled and changed by the user. (see paragraph 5.1)</p>	

<p>The burner shuts-off due to overtemperature frequently In case of overtemperature increase the air ventilation or change the operation site.</p>
<p>The IR-Sensor cannot be activated It is possible to adjust the sensor range to 0 mm or more than 70 mm. Then the IR-Sensor is out of range and cannot be activated. In that case, increase or decrease the IR-Sensor range at the function for adjusting the IR-Sensor detection range (see paragraph 2.3)</p>
<p>Green LED "Button", "Standard" or „StartStop“ blinks 2x Ignition failure (see paragraph 4)</p>
<p>Green LED "Button", "Standard" or „StartStop“ blinks 3x Flame failure (see paragraph 4)</p>
<p>Green LED "Button", "Standard" or „StartStop“ blinks 4x Overtemperature (see paragraph 4)</p>
<p>Green LED "Button", "Standard" or „StartStop“ blinks 5x This message indicates that the burner head is removed. Further operation is possible after the burner head is reinstalled. (see paragraph 4)</p>
<p>Amber LED "Burner head HOT / BHC" is on permanently The residual heat display is active. DO NOT TOUCH the burner head. Can cause burns! (see paragraph 3)</p>
<p>Service address:</p> <p>WLD-TEC GmbH Produktion & Service Halle-Kasseler-Str.49 37318 Arenshausen Germany Phone: +49 (0)36081 68940 Fax: +49 (0)36081 68942 Email: sales@wld-tec.com Internet: www.wld-tec.com</p>



EG-KONFORMITÄTSERKLÄRUNG

Declaration of Conformity

zu den Richtlinien 2004/108EG und 73/23/EWG(EEC)

Following the Directives 2004/108/EC and 73/23/EWG (EEC)

Der elektronische Laborgasbrenner der Serie:

Electronic Laboratory gas burner

Gasprofi 1 SCS micro Typ / type 6.004.000

erfüllt die in den nachfolgenden Prüfgrundlagen aufgeführten Anforderungen in Verbindung mit den in Anhang A2 aufgeführten Netzgeräten.

This declaration relates is in conformity with the relevant provisions of the following standards together with the normative document A1 mains connection.

1. **Elektromagnetische Verträglichkeit**
Electromagnetic Compatibility Directive
- 1.1 **EN 61326-1: 2006 Elektrische Betriebsmittel für Leittechnik und Laboreinsatz, EMV-Anforderungen**
EN 61326-1: 2006 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
EN 61010-1: 2001 Sicherheitsanforderungen an elektrische Meß-, Steuer-, Regel- und Laborgeräte. Teil1: Allgemeine Anforderungen
EN 61010-1: 2001 Safety requirements for electrical equipment for measurement, control, and laboratory use. Part 1: General requirements

Göttingen den 01.07.2009

B. Wartewig
Geschäftsführer
Manufacturer

Technical data:

Technology Microprocessor

Programs

Foot pedal: Standard (flame during pressed foot pedal)
Start-Stop with timer, 60 min
IR Sensor: Start-Stop with timer, 60 min
Auto-Off with learn function, 1 sec - 60 min
Button: Start-Stop with timer, 60 min

Safety features

Safety Control System (SCS): ignition, flame and temperature monitor
with gas safety cut off burner head clogging and
assembly monitor (BHC)
automatic unit switch off, 4h
residual heat display

**Gas supply and consumption**

Gas supply: 1/4" left + filter
Gas types: I2ELL3B/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 - 370min

Temperatures

Flame temperature: 1350 °C on liquid gas
1300 °C on natural gas (E)
Temperature threshold level: 1 kW liquid gas, 1 kW natural gas

Electrical

Power consumption: 2 VA
Power connection: 100 - 240 V / 50/60 Hz / max. 0.3 A
9 V DC / 1 A
IR-Sensor coverage: 35 - 70 mm, adjustable
DoubleClick IR-Sensor: Time range 1 sec

Mechanical

Casing and operating controls: stainless steel / glass, UV and solvent resistant
Burner head: removable and decomposable, stainless steel
Cover of the burner shaft: Ø 23 mm, with drains
Measurements (B x H x T): 85 x 49 x 86 mm
Weight: 700 g

Licences

DIN-DVGW Reg.-Nr.: NG-2211AS0167
CE: EN 61326-1, EN 61010-1
EEC guidelines: 2004/108/EC and 73/23/EEC

WLD - TEC GmbH

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