

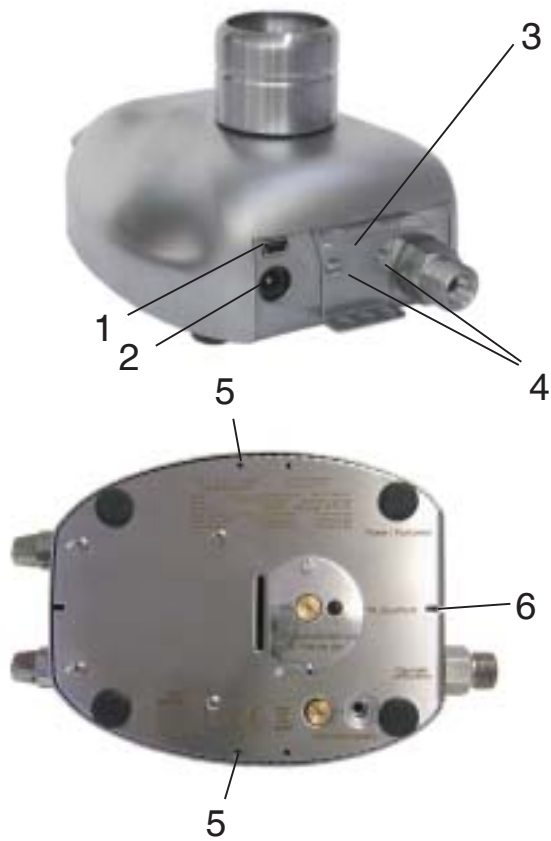
EN
Instruction Manual



Autoloop^{PRO}

**fully automatic
carrousel for
flame sterilizing
inoculation loops**





- 1 - Foot pedal connector safety gas burner
- 2 - Power connector safety gas burner
- 3 - Holding device for inoculation loop holder
- 4 - Fixing screws
- 5- Front mounting holes at right and left side
- 6- Guiding groove
- 7 - Guide spring
- 8- Positioning pin holes
- 9 - Connecting cable
- 10 - Supporting slots for inoculation loop holder
- 11 - Supporting stand
- 12 - Inoculation loop holder
- 13 - Removal position of Inoculation loop holder, left
- 14 - Removal position of Inoculation loop holder, right
- 15 - Display
- 16 - Inoculation loop
- 17 - Sterilization sensor
- 18 - Menu button
- 19 - Adjusting button
- 20 - Start button
- 21 - Flame orifice
- 22 - Safety gas burner
- 23 - Foot pedal connector Auto**loop**^{PRO}

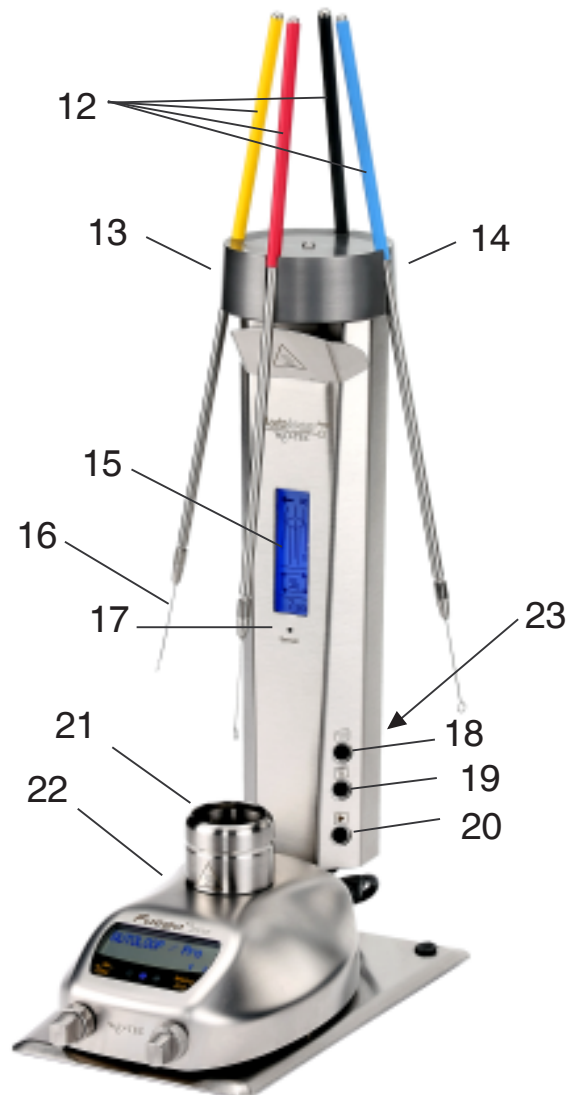


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Read these instructions carefully to familiarize yourself with the product. Please retain these operating instruction for future reference.

Use

Fully automated carousel for flame sterilizing inoculation loops

Safety precautions



On unpacking the unit, check for possible transportation damages. Do not operate the unit if damage is visible.

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.

If the flame is too large or the combustion time too long, the inoculation loop holder (12) can overheat and damage the handle.

Note that the flame orifice (21), the Autoloop^{PRO}, the inoculation loop holders (12) and the inoculation loops (16) remains hot after the flame has been extinguished. Danger of burn!

Keep substances away from the flame orifice (21).

Before cleaning and disinfecting the unit, switch it off the safety gas burner at the function knob and the Autoloop^{PRO} at the menu button. (18).

Because of the electronic parts at the back of the unit the backside should not be sterilized with a flame.

Allow sufficient time for flame orifice (21), Autoloop^{PRO}, inoculation loop holders (12) and inoculation loops (16) to cool down prior to cleaning, servicing or transport. Ensure that the Fuego and Autoloop^{PRO} are turned off.

Do not operate the unit near direct sunlight. Sunlight affects the sterilization monitor.

After use or for any longer period of time without attendance, turn the Autoloop^{PRO} off by a long push at the menu button (18) position and turn the safety gas burner off by a long push on the function knob. Turn off the gas supply at the main source.

The range

Autoloop^{PRO}

Art.No.: 8.000.400 for

Fuego SCS basic (RF)

Fuego SCS

Fuego SCS pro

Art.No.: 6.000.400 for

gasprofi 1 SCS micro

gasprofi 1 micro school edition

includes 4 inoculation loop holders & inoculation loops

Supporting stand (already assembled)

2 Positioning pins

Instruction manual

2 - Year warranty

The **Autoloop^{PRO}** is an addition to the Fuego SCS / pro / basic / basic RF and gasprofi 1 SCS micro / gasprofi 1 micro school edition. The **Autoloop^{PRO}** has been developed to enable more rational working with inoculation loops.

1. Start up / Starting Autoloop^{PRO}

1.1 Installation site

Operate the safety gas burner with **Autoloop^{PRO}** only on a **flat and level surface and at properly ventilated locations. Do not operate device near easily inflammable liquids, materials or in rooms exposed to the risk of explosions.**

1.2 Connecting the safety lab gas burner

Connect the gas burner to the gas supply and familiarize yourself with the functions of the safety gas burner. To do this, observe the operating instruction of the relevant gas burner.

Before connecting Autoloop^{PRO}

You should observe the following points for your own safety:

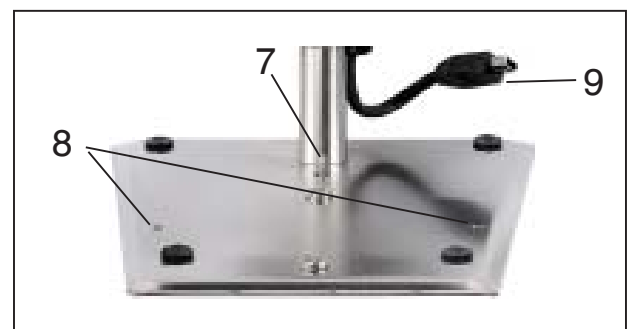
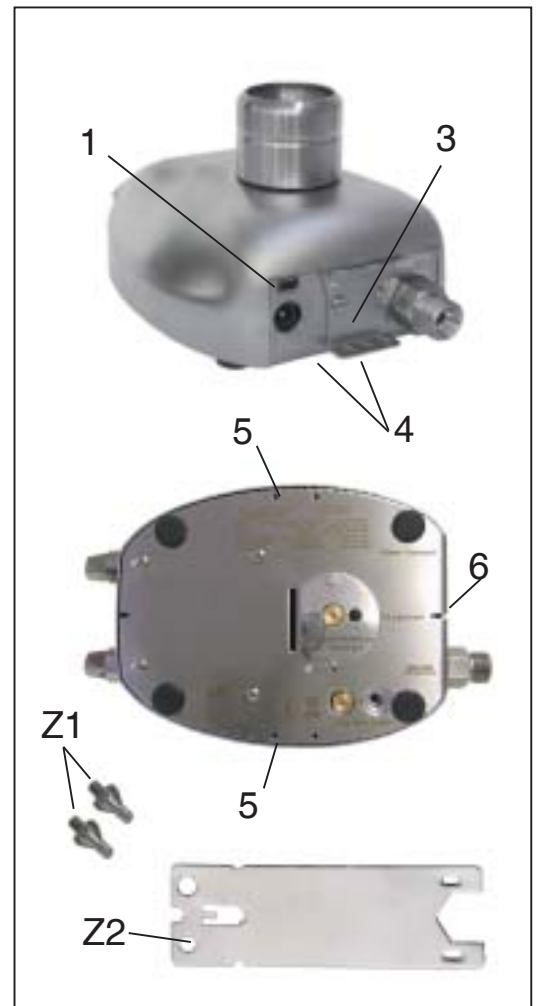
- **Switch the safety gas burner off**
- **Turn off the gas supply at the main source**

If installed, remove the Holding Device for inoculation loop holders (**3**) from the safety gas burner by loosening the fixing screws (**4**).

To mount the safety gas burner on the supporting stand of the **Autoloop^{PRO}** you can screw the two positioning pins (**Z1**) included in the delivery in the front mounting holes at the right and left side (**5**) of the safety gas burner. To tighten the positioning pins, use the tool (**Z2**) of the safety gas burner also included in the delivery.

Finally, position the safety burner on the supporting stand of **Autoloop^{PRO}** so that the guide springs (**7**) in the guiding groove (**6**) as well as the positioning pins (**Z1**) (if installed) in the position grooves (**8**) are fixed. Finally, insert the connecting cable (**9**) into the foot pedal connector (**1**) of the laboratory gas burner.

Alternatively, a foot pedal (optional) can be connected with the foot pedal connection (**23**) of **Autoloop^{PRO}**. With a foot pedal the automatic operation can be started or supplemental flame sterilisation, e.g. of bottlenecks be carried out during the automatic operation (see paragraph 1.5).



1.3 Safety burner: Setting application program of Autoloop^{PRO}

Use the function knob to switch the safety gas burner on.

Depending on the model of the gas burner, define the settings as follows: (Observe the operating instruction of the relevant gas burner):

Fuego SCS / Fuego SCS pro: The **Autoloop^{PRO}** is detected automatically by Fuego SCS / Fuego SCS pro when the application program “Pedal Standard” or “Pedal Start-Stop” is set. The application program starts automatically for the **Autoloop^{PRO}** as soon as **Autoloop^{PRO}** is connected and **“Autoloop^{PRO}” appears on the display.**

If the application program “Button Start-Stop”, “Sensor Auto-Off” or “Sensor Start-Stop” is set, turn the function knob of Fuego with **Autoloop^{PRO}** connected in the appropriate direction until **“Autoloop^{PRO}” can be read on the display.** (Observe the operating instruction of Fuego SCS / Fuego SCS pro)

Fuego SCS basic / basic RF*: The **Autoloop^{PRO}** is detected by Fuego SCS basic / basic RF automatically, and the application program switches to **“Pedal Standard”** unless it was already selected earlier.

If the “Button” function is selected, turn the function knob in the appropriate direction so that the **“Pedal Standard” LED lights up.**

gasprofi 1 SCS micro: The **“Pedal Standard”** function must be selected for the **Autoloop^{PRO}** to function correctly. Turn the function knob in the appropriate direction until **only the “Pedal Standard” LED lights up.**

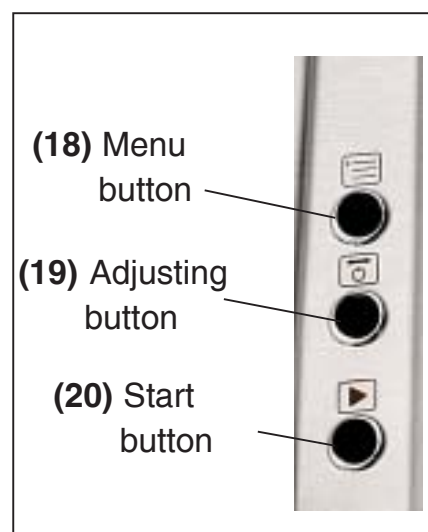
gasprofi 1 micro school edition: On connecting **Autoloop^{PRO}**, the gasprofi 1 micro school edition switches to the correct mode automatically.

1.4 Switching the Autoloop^{PRO} on and starting the automatic operation

Load the desired number of inoculation loop holders **(12)** (included in the delivery) with inoculation loops **(16)** and mount them in the carousel. The length of the inoculation loops should be between 3.5 and 5.5 cm.

Switch the **Autoloop^{PRO}** on by **actuating the menu button (18)**. The opening screen appears directly after the activation and it disappears automatically after 20 seconds, or it can be suppressed by actuating the menu button **(18)** a second time.

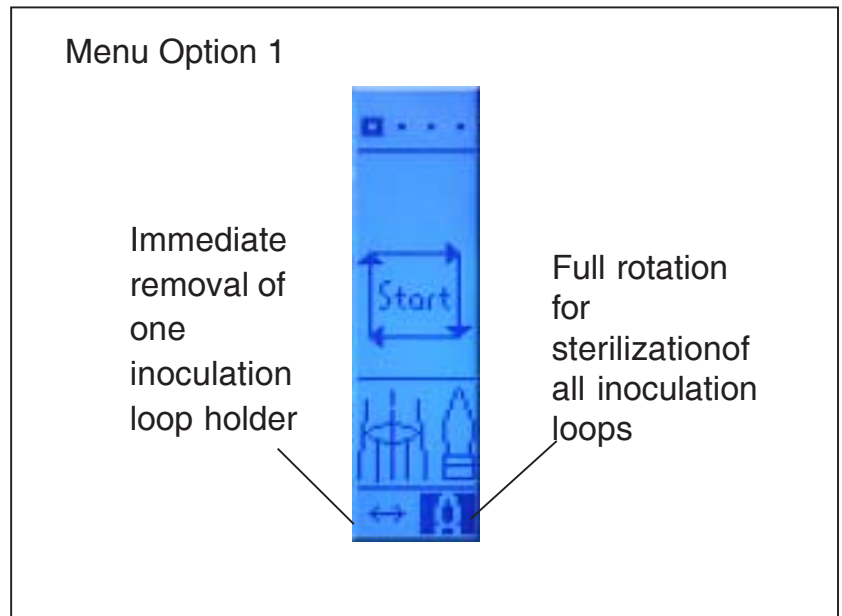
You can now view the first menu option “Start Options” on the display. Here you can toggle between an immediate start and a full rotation to sterilize all the inoculation loops by **actuating the adjusting button (19)**. The selected start option is displayed in a dark background.



*RF: Radio Frequency

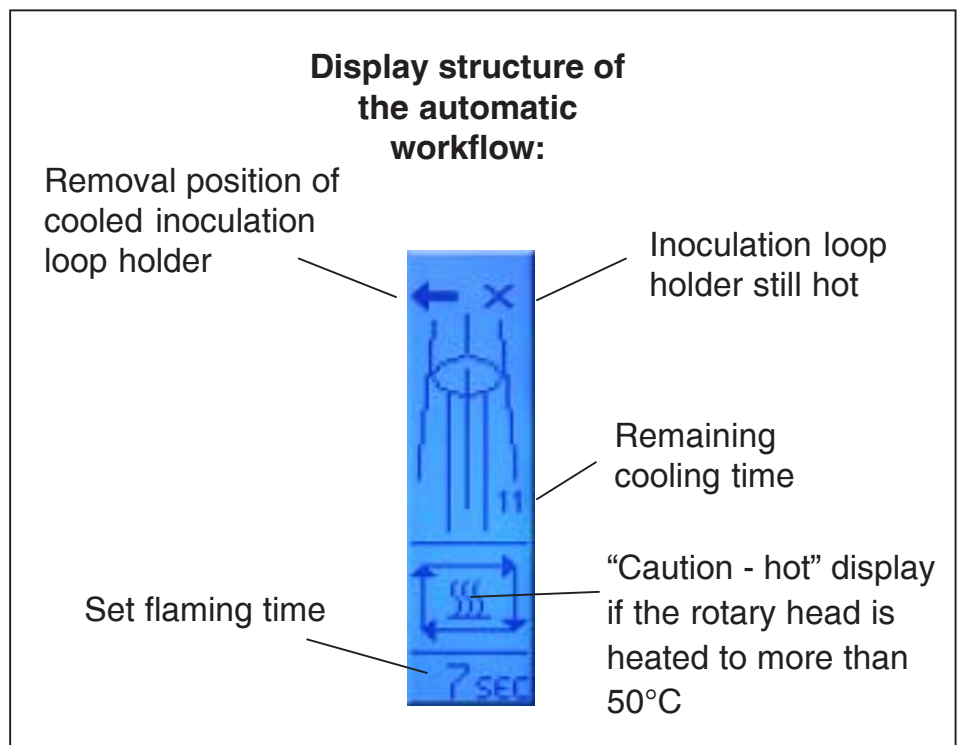
To start the automatic workflow, **actuate the Start button (20)** or foot pedal (optional). The display switches now to the automatic operation and depending on the selected start option the **Autoloop PRO** flame sterilizes all suspended inoculation loops or switches into wait position directly after the start till an inoculation loop holder is removed at the right or left side **(13,14)**.

Caution - FLAME: If the flame icon is selected (full rotation for sterilization of all inoculation loops) the carrousel moves all suspended inoculation loops to the flaming position automatically and flames them one after the other. **Do not touch the hot inoculation loops!**



1.4.1 Process of the automatic operation

A holder containing a sterilized, cooled inoculation loop should be taken out only from the side **(13, 14)**. After the removal, the carrousel rotates the blank position over the flame orifice **(21)**. Replace the used inoculation loop holder in the blank position over the flame orifice **(21)**. Remove new, sterilized and cooled inoculation loops at the side **(13,14)**. **After the removal, the recently used inoculation loop is flamed over the flame orifice (21). Caution: FLAME! Do not touch the hot inoculation loops!**



The carrousel returns to the wait position after the flame sterilizing is finished. An inoculation loop holder can be removed again from the right or left side **(13, 14)** and the just described process starts afresh.

1.5 Foot pedal function during the automatic operation

For additional flame sterilisation (e.g. of bottle necks or test tubes) the foot pedal (optional) can be activated during the automatic operation.

Caution: On operating the foot pedal the flame ignites and in the display a foot pedal symbol appears.

If the position above the flame orifice (**21**) is occupied by an inoculation loop holder, the **Autoloop^{PRO}** rotates about 1/8 of a turn before igniting the flame, so as to release the flame orifice (**21**). As soon as the foot pedal is released the flame is extinguished and the **Autoloop^{PRO}** returns the inoculation loop holder back over the flame orifice. The display again shows the automatic workflow and it can be continued as normal.

Note: The additional Flame sterilization only works after at least one loop holder is picked up and taken back to the carousel.

Foot Pedal Symbol



1.6 Stopping the automatic operation

The automatic operation can be stopped at any time by actuating any button (**18, 19, 20**)

1.7 Switching the Autoloop^{PRO} off

The **Autoloop^{PRO}** is switched off by actuating the menu button (**18**) for a sustained period (> 2 seconds).

2. Changing the menu settings of the Autoloop^{PRO}

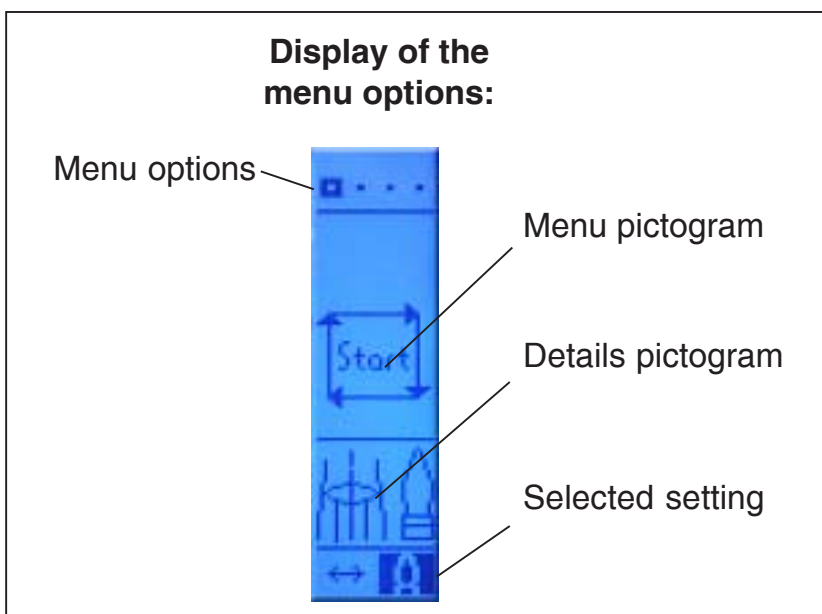
The **Autoloop^{PRO}** has 4 menu options that can be changed:

1. Start option
2. Flaming time
3. Cooling time
4. Sterilization monitor

The menu options **are selected by actuating the menu button (18)**.

The individual settings in the menu options can be changed by actuating the adjusting button (**19**).

Which of the four menu options is selected currently can be detected from the **marked point** in the top section of the display.



Note: You can start directly from any menu option of the automatic operation with the help of the start button (**20**). In other words, you can start the carousel with the Start button even if the menu option for setting the flaming time is selected.

Depending on the start option selected in menu option 1, all mounted inoculation loops are flamed or the **Autoloop^{PRO}** switches to wait position directly until an inoculation loop holder is removed from the right or left side **(13, 14)**.

2.1 Menu Option 1: Select start option

Refer to paragraph 1.4

Factory pre-set: Direct start

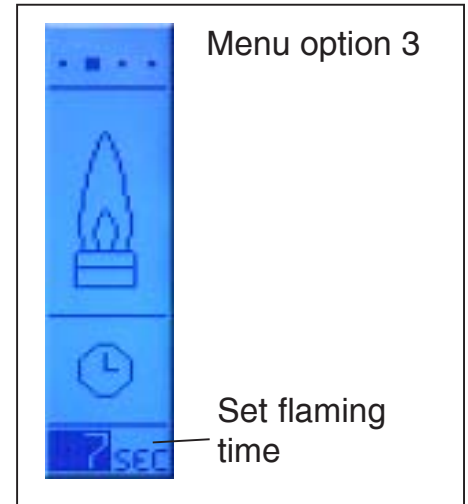
2.2 Menu Option 2: Set flaming time

The flaming time can be adjusted in the range of 1 - 15 seconds. The flaming time is increased by actuating the adjusting button **(19)**. The time returns to 1 second on reaching 15 seconds.

The time setting runs in the reverse direction if the adjusting button **(19)** is held down for more than 2 seconds.

Adjustment range: 1 - 15 seconds

Factory pre-set: 5 seconds



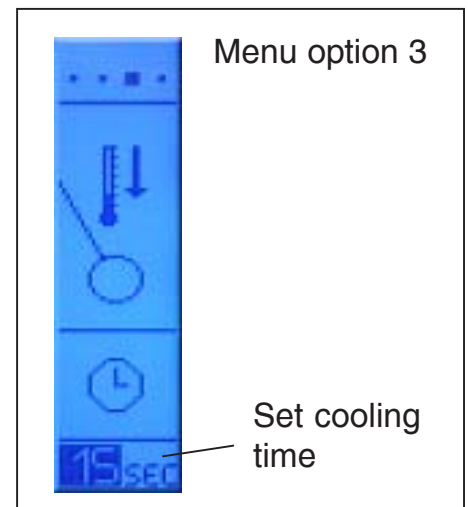
2.3 Menu Option 3: Set cooling time

The cooling time can be set individually depending on the used inoculation loop material. Please find out the correct time for the relevant inoculation loop at your workplace and set it with the adjusting button **(19)** accordingly.

In the automatic operation, the set cooling time is flashed on the display.

Adjusting range: 1 - 45 seconds

Factory pre-set: 15 seconds



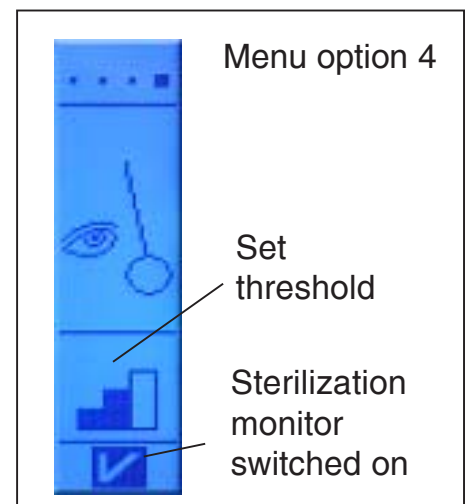
2.4 Menu Option 4: Set sterilization monitor

The **Autoloop^{PRO}** is equipped with a sterilization monitor to monitor a successful sterilization.

The sterilization monitor can be set to three levels or switched off completely with the adjusting button **(18)**.

For detailed information about the functioning of the sterilization monitor, please refer to paragraph 3.

Factory pre-set: Off



3. Working of the sterilization monitor

The sterilization sensor (17) monitors whether an inoculation loop is flame sterilized successfully. This monitoring function can be switched on and off with menu option 4 and can be set to three levels: **low, medium or high annealing intensity** of the inoculation loop (refer to paragraph 2.4).

Working:

During the flaming operation, the sterilization sensor (17) monitors the burning inoculation loop. If a proper annealing intensity is reached, an OK message appears on the display and the inoculation loop is rotated out of the flaming position.

Note:

The set flaming time (refer to paragraph 2.2) is to be understood as the maximum time when the sterilization monitor is activated. The flaming operation ends if a proper annealing intensity is reached, even if the flaming time has not yet expired fully.

An activated sterilization monitor saves gas and time because the flame burns only as long as it is necessary.

Recommendation:

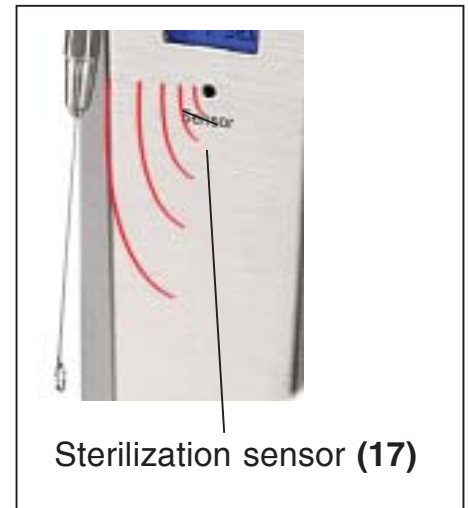
With the sterilization monitor on, you can set a longer flaming time (10 - 15 seconds). This way more time is available for the flaming operation if necessary, in case the flame e.g., is affected by an air current.

If an adequate burning intensity is not detected even after the flaming time expires, the inoculation loop remains in the flaming position over the flame orifice (21) and a “Stop message” appears in the display.

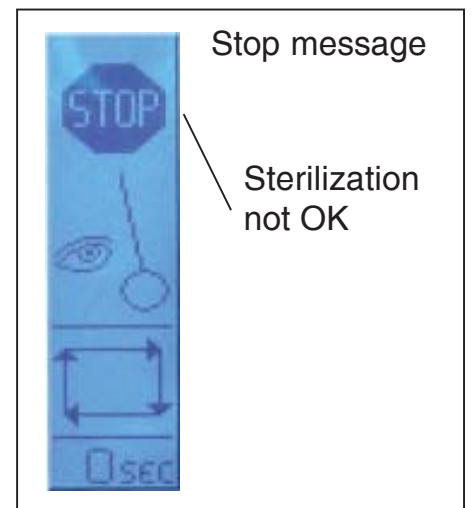
1. The flaming operation is restarted by actuating the Start button (20).

2. A reduced display appears by actuating the menu button (18).

You can switch between the two menu options “**Set flaming time**” and “**Set sterilization monitor**” with the menu button (18). If the stop message appears too frequently, use the adjusting button (19) to increase the flaming time or decrease the threshold of the annealing intensity. Also check whether the settings on the gas burner are sufficient for the flame intensity and height.



Sterilization sensor (17)

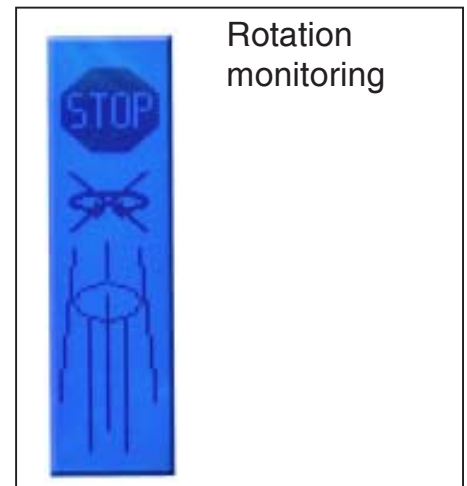


4. Error messages

4.1 Rotation monitoring

The rotation monitoring mechanism stops the power supply to the motor after five seconds, if the next position could not be reached during this interval.

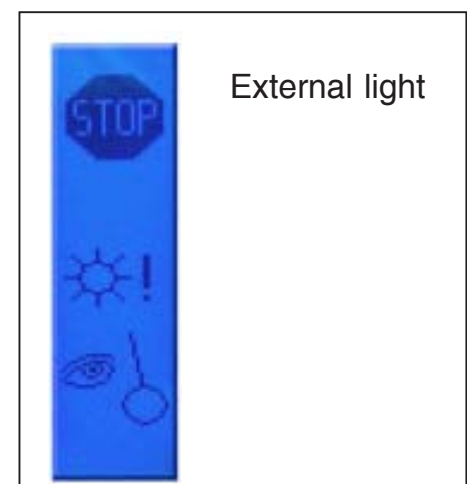
Please check whether the rotation movement is obstructed. To resume operation, press the menu button **(18)**.



4.2 External light

The sterilization sensor **(17)** is also activated by other glowing objects (e.g., the coiled filament of a conventional bulb). The message "External light" appears on the display if the sterilization sensor **(17)** is activated by another light source.

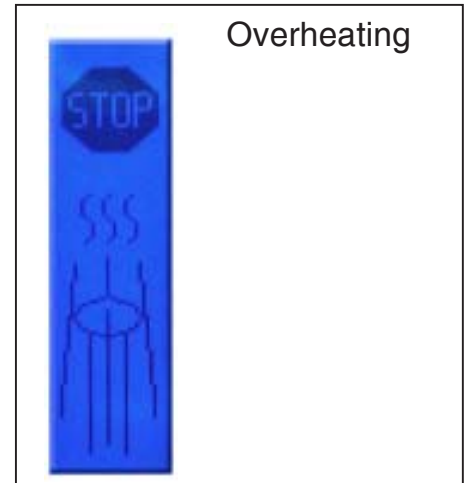
Please remove external light sources from the detection range of the sensor. To resume operation, press the menu button **(18)**.



4.3 Overheating

The automatic operation is stopped as soon as the internal temperature of the **Autoloop^{PRO}** housing reaches 70°C. Check the height and intensity of the flame.

Allow **Autoloop^{PRO}** to cool down. After the cooling, actuate menu button **(18)** to continue operation.

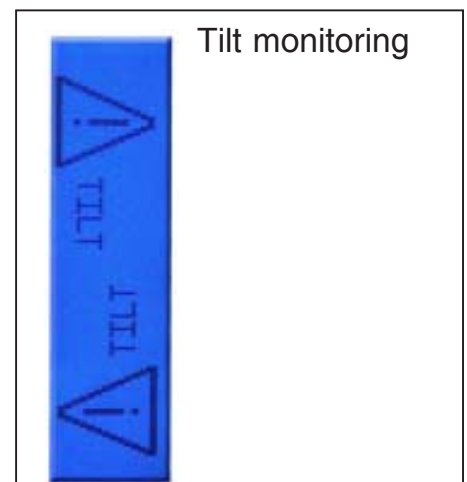


4.4 Tilt monitoring

The tilt monitoring display is activated if the device topples over. The possible rotary movement or an activated flame is stopped.

Work only on a level surface.

The display disappears on its own as soon as you set the device upright again.

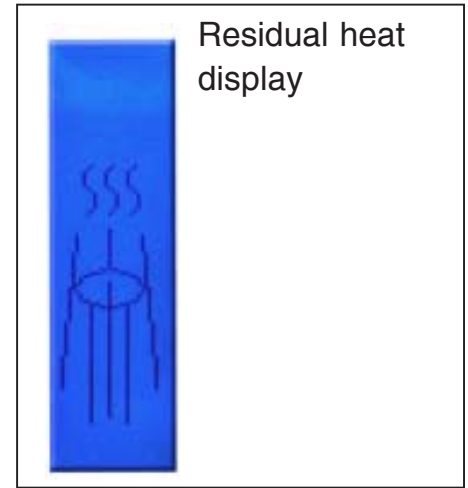


5. Residual heat display

If the rotary head is heated to more than 50°C during the operation, the system displays a “Caution – hot” sign (refer to paragraph 1.4.1) during the automatic operation. If the device is switched off, residual heat screen is exhibited at the display of **Autoloop**^{PRO} until the rotary head cools down to below 50°C.

Note 1: If the power supply to the safety gas burner is disconnected, the **Autoloop**^{PRO} display disappears irrespective of the actual temperature of the rotary head.

Note 2: If the **Autoloop**^{PRO} is operated with a gasprofi 1 micro school edition, the display of **Autoloop**^{PRO} disappears as soon as the gasprofi 1 micro school is switched off.



6. End of work

To flame the last inoculation loop at the end of the work, take out an inoculation loop at the right or left side (**13, 14**) and wait for the flaming operation. Replace the unused inoculation loops and switch off device with the menu button (**18**).

Alternatively, all four inoculation loops can be flamed again: Stop the automatic operation by actuating a button. Select “Full rotation“ in Menu Option 1 (refer to paragraph 1.4) and restart **Autoloop**^{PRO} with the start button (**20**). Finally, switch off **Autoloop**^{PRO} with the menu button. Then switch off the safety gas burner and turn off the gas supply.

7. Warranty

The **Autoloop**^{PRO} is covered under our two-year manufacturer warranty against any manufacture defects in material. The WLD-TEC GmbH warranty guarantees the **Autoloop**^{PRO} under normal user conditions and does not cover any damages as a direct result of user misuse and/or abuse. The warranty is void upon any unauthorized servicing, disassembly or modification.



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*

Autoloop PRO 

Typ / Type 8.000.400

Typ / Type 6.000.400

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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B. Wartewig
(Geschäftsführer, CEO)

Arenshausen, 20.04.2016

Technical data

Technology:	Microprocessor
Display:	Full graphical dot-matrix display
Direction of rotation:	left / right, depending on holder removal
Inoculation loop holder:	1 - 4, with optical holder detection
Adjustable flaming time:	1 - 15 sec
Adjustable cooling time:	1 - 45 sec
Safety appliances:	Temperature control Flame activation warning Display of remaining cooling time Tilt sensor Residual heat display
Adjustable sterilization monitor:	1 - Off 2 – Low annealing intensity 3 – Medium annealing intensity 4 – High annealing intensity
Stand by:	Automatic unit switch off: 1 h (or the stand-by time of the burner)
Power supply:	via the gas burner (no additional supply needed)
Housing:	Stainless steel and aluminium, UV- and solvent-resistant
Dimensions:	Supporting stand (Art. No. 8.000.400): 135 x 180 mm (B x T) Supporting stand (Art.-No. 6.000.400): 135 x 135 mm (B x T) Height of Autoloop ^{PRO} : 305 mm
Weight:	Art. No.: 8.000.400: 1200 g Art. No.: 6.000.400: 1100 g
CE:	EN 61326-1, EN 61010-1, EN61010-2-010
EU Directives:	2014/30/EU, 2014/35/EU, 2011/65/EU

Troubleshooting Guide

Rotation monitoring	Check whether the rotary movement is obstructed. (Refer to paragraph 4.1)
External light	Please remove external light sources from the detection range of the sterilization sensor. (Refer to paragraph 4.2)
Overheating	Allow Autoloop ^{PRO} to cool down (Refer to paragraph 4.3)
Tilt monitoring	Set Autoloop ^{PRO} in upright position (Refer to paragraph 4.4)

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