

ANIMAL STUNNING DEVICE VBE-7

Index number: M0109

Software version: _____

Serial number: _____

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1. GENERAL INFORMATION

1.1. Intended use

This manual has been prepared in order to provide authorized persons with information on the operation, installation, disassembly and disposal of the VBE-7 device. Failure to follow the instructions is a health and safety hazard and may result in material damage. The information must be kept in good condition by the responsible person and always available for inspection.

The device is designed to stun animals before slaughter, using electric current with a voltage lower than 400 V and frequency in the range of 50-800 Hz.

The device must be used only for its intended purpose

1.2. Warning and information pictograms











	Caution		Any repairs, maintenance or technical service must be carried out after disconnecting the device from the mains – pull out the plug from the socket
	Read the user manual		Do not touch! Dangerous voltage
	Must not be used by minors		This device is recyclable. It is subject to the selective collection of electrical and electronic equipment
	Do not connect the device to the mains if the connection or socket is damaged		Do not wash with pressure washers

Fig. 1 The meaning of pictograms placed on the device

1.3. Device rating plate

The stunning device has either a metal plate with silk-screen printing and / or punched or an adhesive label attached to its housing. The rating plate must not be removed and must remain intact and legible. If you need to obtain a copy of it, please contact the CUSTOMER SERVICE.

S/N _____ (SERIAL NUMBER)

		Schmid & Wezel GmbH Maschinenfabrik Maybachstraße 2 75433 Maulbronn Made in Germany	
Masch.-Bez.: <i>Maybachstraße 2, 75433 Maulbronn</i>		Bj.: <i>2022</i>	
Art.-Nr.: <i>001983920</i>		Typ: <i>VBE 6</i>	
S/N: <i>12345</i>	min ⁻¹ : <i>120</i>	230 V	
<i>3</i> A	<i>200</i> W	<i>50</i> Hz	<i>bar</i>
<i>kg</i>	IP <i>55</i>		
		CE	

Input

U = 230 V (rated voltage)
f = 50 Hz (frequency)
P < 700 W (maximum power)
I < 3 A (maximum current)

Output

U < 400 V (maximum output voltage)
I = 0.02 ÷ 2.5 A (stunning current)
f = 50 ÷ 800 Hz (frequency)
IP55
S2 240 (duty cycle)

Fig. 2 Rating plate

1.4. Customer service

For all service inquiries, please contact customer service directly quoting the serial number.

2. TECHNICAL INFORMATION

The stunning unit is placed in a sealed casing equipped with the fixing hooks.

Detailed technical data and a list of the most important components of the device can be found in:

- **Specification - Appendix A** (see *Optional extras*);
- **Parts list - Appendix B** (see *Optional extras*);
- **PC connection - Appendix C** (see *Optional extras*);
- **Additional options - Appendix D1, D2, D3** (see *Optional extras*);
- **Pneumatic separator (AU SYSTEM) - Appendix G** (see *Optional extras*).

2.1. Device construction

1. Main switch STOP/OFF button
2. White light indicating that the device is on
3. Main switch START / ON button
4. Control panel
5. Current [A]- display
6. Voltage [V]- display
7. Time [sek]- display
8. Yellow light indicating the end of stunning
9. Red light indicating stunning
10. Green light indicating 3rd electrode stunning or two-stage mode
11. SD card reader
12. Tong socket
13. Stunning signal volume control
14. Separator socket
15. PC socket
16. Main fuse socket

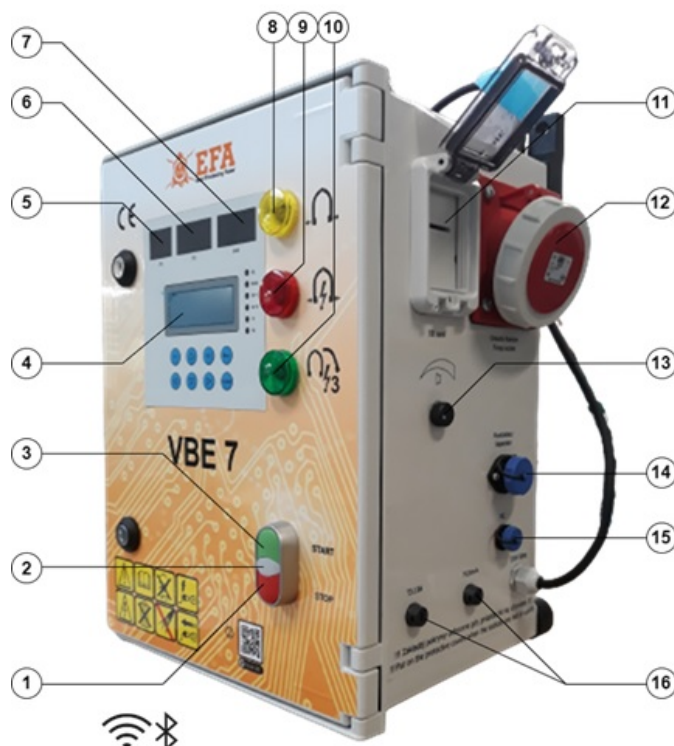


Fig. 3 Stunning device

2.2. Device connection diagram

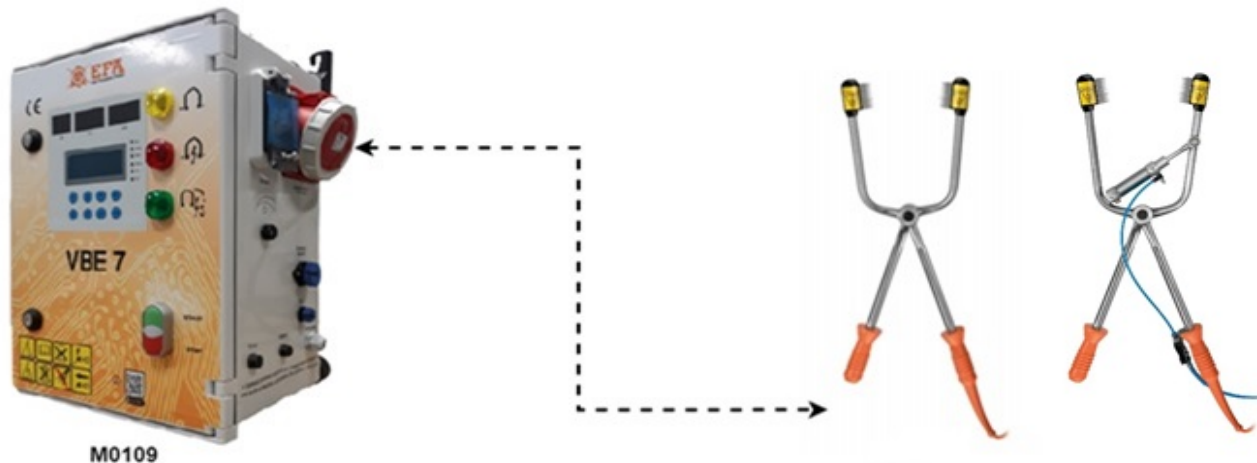


Fig. 4 Connection diagram

DIAGRAMS FOR OPTIONAL EXTRAS:

See OPTIONAL EXTRAS

- VBE-7 + Signalling mode **Appendix D1** (see *Optional extras*)
- VBE-7 + 3 Electrode **Appendix D2** (see *Optional extras*)
- VBE-7 + 3 Electrode + Signalling mode **Appendix D3** (see *Optional extras*)
- VBE-7 + PC **Appendix C** (see *Optional extras*)
- VBE-7 + AU System **Appendix G** (see *Optional extras*)

2.3. Device protection

The device is equipped with an electronic protection system against electric shock.

It is forbidden to touch the electrodes!



CAUTION!

**Wires and sockets of the device must not be exposed to water.
The inspection window of the device should always be tightly closed.**

After finishing work, it is absolutely necessary to:

- disconnect the device from the mains;
- disconnect all elements of the stunning system and secure them properly;
- put all covers on the device sockets to protect against moisture;

Failure to follow the above recommendations may damage the device.

3. IMPORTANT SAFETY INFORMATION



CAUTION!

Read the entire user manual carefully before using the device.

Failure to comply with the safety rules listed below threatens work safety.

- persons who operate and maintain the device must read this manual or undergo training in operating the device as well as health and safety rules at the given workplace;
- the device cannot be used for purposes other than intended;
- all repairs should be carried out by the authorized service department. Unauthorized modifications or repairs will void the warranty. The manufacturer is not responsible for damages resulting from malfunction of the device in which unauthorized changes have been made;
- maintenance work should be carried out after disconnecting the device from the mains;
- it is forbidden to use the device with visible defects;
- the device must be connected to the grounded mains;
- it is not recommended for minors or untrained persons to operate the device.

3.1. Description of residual risk

Although the manufacturer takes responsibility for the construction and proper marking of the device, in order to eliminate hazards during operation and maintenance, certain risk elements cannot be avoided. Residual risk results from incorrect or improper handling of the device by the operator. The greatest danger occurs when performing the following prohibited actions:

- operating the device without reading the user manual or without training in operating the device as well as health and safety rules at the given workplace;
- using the device for purposes other than intended;
- unauthorized modifications or repairs to the device;
- carrying out maintenance work without disconnecting the device from the mains;
- using the device with visible defects;
- connecting the device to the ungrounded mains;
- operating the device by minors or untrained persons.

3.2. Assessment of residual risk

Recommendations to minimize residual risk (for people and the environment) when operating the device:

- carefully reading the user manual and undergoing training in operating the device as well as health and safety rules at the given workplace;
- using the device only for its intended purpose;
- carrying out modifications and repairs only by the authorized service department;
- carrying out maintenance work only after disconnecting the device from the mains;
- checking the technical condition of the device always before operation;
- connecting the device to the grounded mains;
- preventing minors or untrained persons from accessing the device.

4. HANDLING, STORAGE, TRANSPORT

4.1. Handling

Upon receipt of the equipment, the product rating plate must be checked against the order specification and that the application limits stated conform to the intended conditions of use. The device must be checked for damage / malfunctions. The sales department must be informed about any discrepancies in the above.

4.2. Storage

The device must be stored in moderate, dry and clean conditions and protected against mechanical impacts.

4.3. Transport

The device should be properly secured against any damage during transport. It is preferable to use the original manufacturer's packaging, adapted to the specification of the device. The cardboard box should have factory-made polystyrene filling, adjusted to the shape of the transported device, preventing it from moving inside the package. Any voids should be filled with additional filler to prevent the device from moving inside the package. The device should be clean and dry.

5. INSTALLATION



CAUTION!

The device should be installed in a place with the lowest possible humidity.
The START/STOP main switch should always be visible and accessible to the operator.

The device is equipped with an inseparable power cord with a plug that should be connected to a 230 V mains. The mains socket must be protected by a 10 A fuse against short circuit and overload. The cord must not be within reach of animals or be exposed to damage.

The device should be installed in a room with a drainage well.

The installation should be adapted to the equipotential bonding system.

6. USING THE DEVICE

6.1. Turning on the device



CAUTION!

The **START / STOP** main switch should always be visible and accessible to the operator.

```

----- VBE 7 -----
V2.1 03.22
EFA
www.efa-germany.com

```

Turn the device on using the START button on the START/STOP main switch. The white light on the main switch will turn on. The device will automatically enter the boot mode. An information tab will appear on the main display.

```

< PROGRAM 1 > : 1
Status: Ready
f: 50HZ Char.: 0.0C
Stunning number: 3

```

The device will then go into standby mode.

6.2. Control panel - buttons, indicators and displays

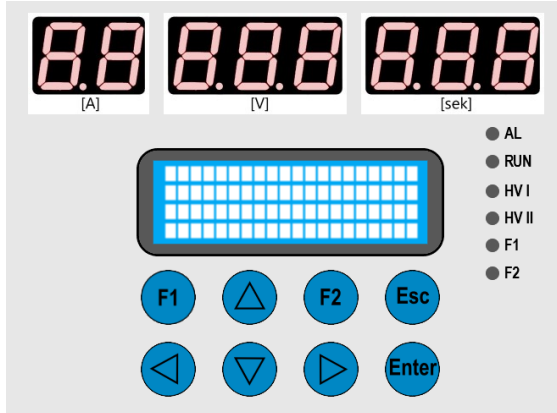








 <p>Fig. 5 Control panel</p>		Buttons - functions	
		 	selecting between the tabs
		 	selecting between parameters/ changing parameters value
			enter
			escape
			function key F1
			function key F2
Signalling indicators			
[AL]	no SDHC card	Displays in readiness for operation and stunning modes	
[RUN]	stunning in progress	[A]	current [A]
[HV I]	high voltage on the electrodes	[V]	voltage [V]
[HV II]	inactive	[sek]	time [s]
[F1]	inactive	Displays in programming mode	
[F2]	measuring voltage switched on	[A]+[V]+[sek]	service message

Fig. 5 Control panel

The control panel is used to configure the operation of the device and electrical parameters for individual stunning programs.

The control panel allows for:

- defining new stunning programs;
- setting the time and date.

6.3. Stunning process

The device works according to the selected program, with specific stunning parameters:

<	PROGRAM 1	>	:	1
Status:	Stunning	Phase:	1	
f:	126HZ	Char.:	1.3C	
Stunning number:	3			

Changing the stunning program - using a combination of buttons

or .



CAUTION!

For a description of the factory programs, see **Appendix E**.

The device measures the animal's resistance, automatically starts the stunning process and maintains the set parameters. The stunning voltage is automatically disconnected after the stunning process is over.

The stunning voltage is closely related to the resistance of the animal. The resistance depends on the type, weight of the animal and how the electrodes are applied. The device measures the resistance and

adjusts the voltage to obtain the required stunning current. **Table 1** shows the minimum current required, according to **Regulation 1099/2009**:

Type of animal	Minimum current [A]
sheep, goats, calves	1.0
lambs	0.6
pigs	1.3
cattle <6 months ÷ >6 months	1.25 ÷ 1.28

Table 1 Minimum current depending on the type of animal

For each of the programs on the device, you can set one of three stunning modes:

- continuous mode - **head**
- two-stage mode - **head-heart**
- third electrode stunning mode / AU system - **head and heart**

The stunning mode is determined by the Phase Type parameters:

Phase Type~2 , **Phase Type~3**, **Phase Type~2E** and **Phase Type~2Ep**

The length of the stunning process is determined by the following parameters:

- **Preset T** - stunning time - the time after which the alarm signalling the end of the stunning process is activated - after this time, the tongs can be removed from the animal's body;
- **1 PHASE (Phase Time [s]) + 2 PHASE (Phase Time [s]) + 3 PHASE (Phase Time [s])** - sum of phase times

If the sum of the **Phase Times** is greater than **the stunning time (Preset T)**, the stunning process continues until the tongs are removed from the animal's head or the sum of the **Phase Times** ends (Chart 1).

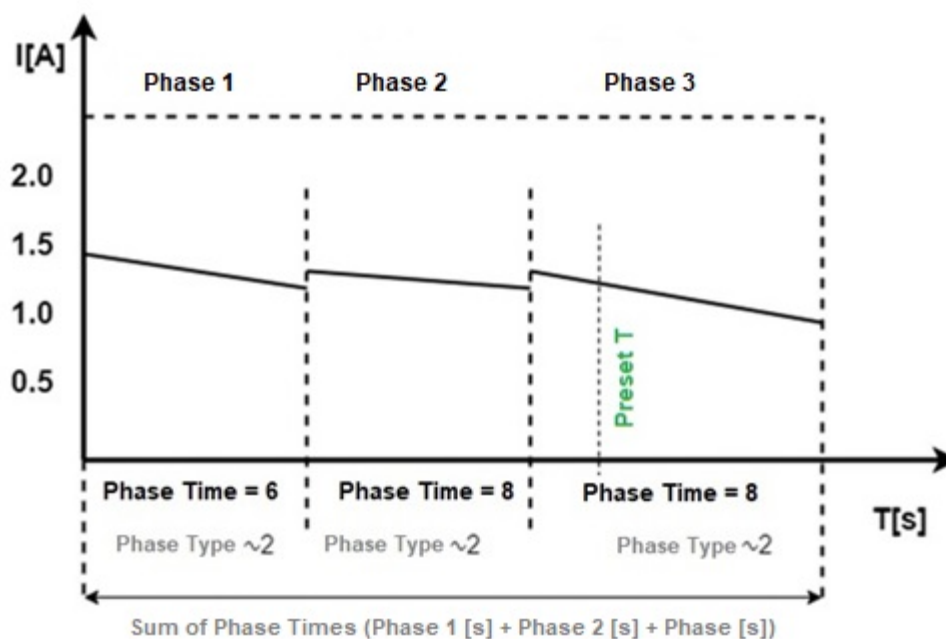


Chart 1. An exemplary diagram of the current - continuous stunning

6.3.1. Continuous mode - head

Before starting the stunning process, only the measuring voltage is present on the electrodes.

After pressing the electrodes against the animal's body, the device will go into a stunning mode. The stunning process will start automatically:

The control system will supply the stunning voltage - the red lamp will light up (STUNNING):

- the display **[A]** will show the value of the stunning current;
- the display **[V]** will show the value of the stunning voltage;
- the display **[sek]** will show the time value [s] counted from the beginning of the stunning process.

After reaching **the stunning time (Preset T)**, or after the sum of the **Phase Times**, the yellow lamp (END OF STUNNING) will light up and an acoustic signal will sound (*Chart 1*).

Remove the electrodes from the animal's head.

Pausing / resuming the stunning process:

- pausing the stunning process before its completion - when the electrodes of the stunning tongs are removed from the animal's head - the following message will be displayed on the main display:

```
< PROGRAM 1 > : 1
Status: Pause Phase: 3
f. 50HZ Char.: 3.2C
Stunning number: 3
```

- resuming of the stunning process - when the electrodes of the stunning tongs are re-applied to the animal's body before the time value set in the **Between St** - otherwise the interrupted process will be terminated;

Completion of the stunning process:

The duration of the full stunning process is determined by the sum of the **Phase Times** (the sum of the values of the **Phase Time** parameters of all three stunning phases);

After the sum of **Phase Times**, the device will automatically finish the stunning process:

```
< PROGRAM 1 > : 1
Status: End of stunning
f. 50HZ Char.: 4.3C
Stunning number: 3
```

6.3.2. Two-stage mode - head and heart

In the **head-heart** mode, one of the first stunning phases (**Phase 1 (Phase Type)** or **Phase 2 (Phase Type)**) should be set as the **transition phase** (*Chart 3*).

Before starting the stunning process, only the measuring voltage occurs on the electrodes.

After pressing the electrodes to the animal's head the device will enter the stunning mode. The stunning **STAGE I** (head) will start automatically:

The control system will give stunning voltage – the red light (STUNNING) will turn on:

- display [A] will show the stunning current;
- display [V] will show the stunning voltage;
- display [sek] will show the duration [s] counted from the beginning of the stunning process.

After the end of the **transition phase (Phase 1 (Phase Time [s]) or Phase 2 (Phase Time [s]))**, the device will signal the end of the stunning **STAGE I** (head) - the yellow light (END OF STUNNING) and the sound alarm will turn on.

Remove the electrodes from the animal's head.

Stunning with continuation after transition phase

For **Phase Type~2E** - the red light (STUNNING) will remain turned on - the stunning will continue until the electrodes are removed;

After removing the electrodes:

- the yellow light (END OF STUNNING) and the sound alarm will turn off;
- the red light (STUNNING) will turn off;
- the device will go into **standby mode** (Chart 2)- the green light (HEART STUNNING) will turn on;

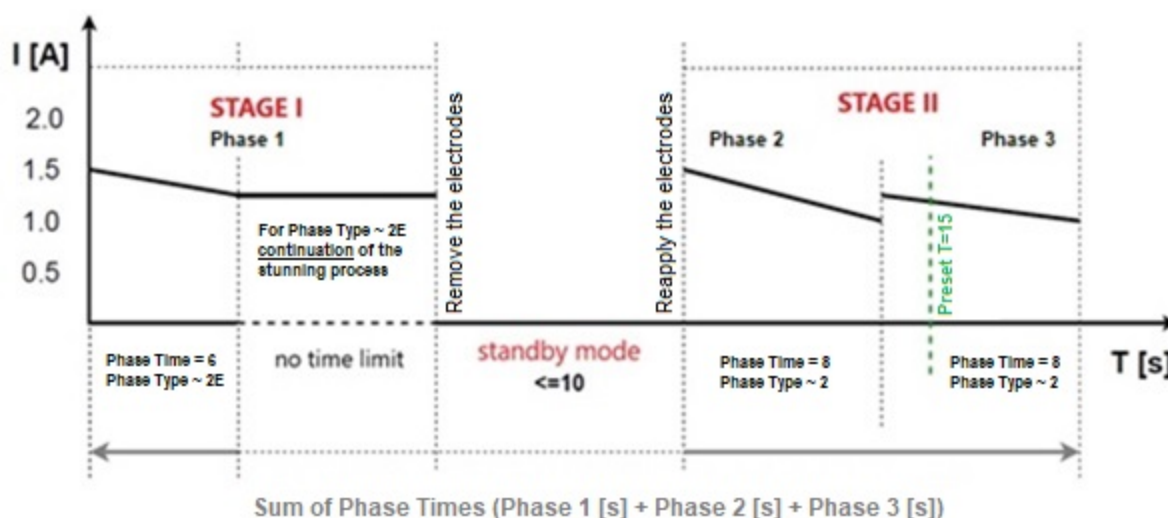


Chart 2 An exemplary current intensity diagram - stunning with continuation after the transition phase

Stunning with suspension after transition phase

For **Phase Type~2Ep** - the red light (STUNNING) will turn off - the stunning will be suspended (the measuring voltage will appear on the electrodes).

After removing the electrodes:

- the yellow light (END OF STUNNING) and the sound alarm will turn off;
- the device will go into **standby mode** (Charts 2 and 3) - the green light (HEART STUNNING) will turn on.

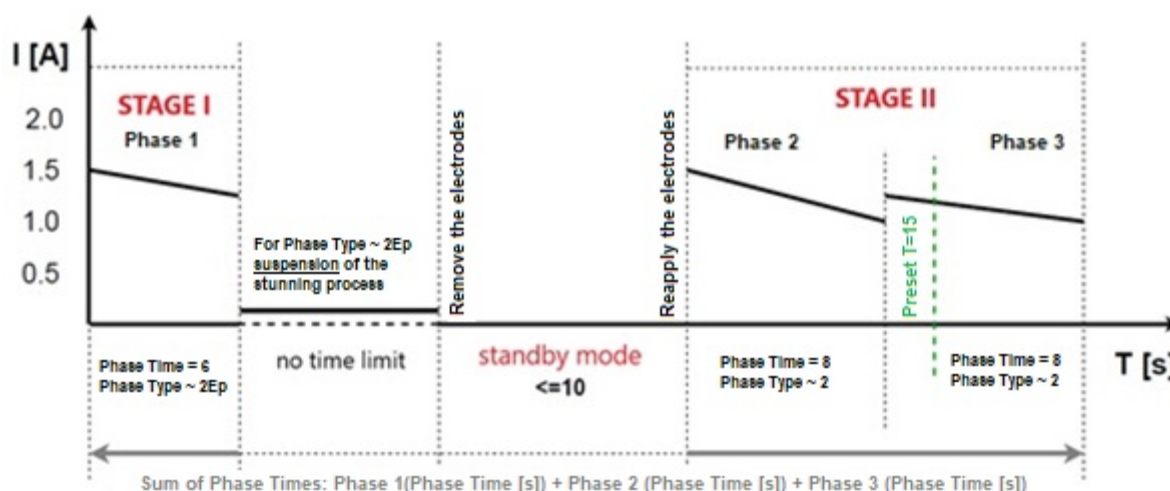


Chart 3 An exemplary current intensity diagram - stunning with suspension after the transition phase

The maximum waiting time for reapplying the electrodes to the animal's body is **10 seconds** - after this time, the device will automatically end the stunning process and reapplying the electrodes will start the next stage (Chart 2 and 3).

To initiate the stunning STAGE II (heart), place one electrode between the animal's eye and ear, and the other one in the heart area - the stunning process will resume automatically:

The control system will give stunning voltage – the red light (STUNNING) will turn on again:

- display **[A]** will show the stunning current;
- display **[V]** will show the stunning voltage;
- display **[sek]** will show the time value [s] counted from the beginning of the stunning process.

After reaching **the stunning time (Preset T)**, or after the sum of the **Phase Times**, the yellow lamp (END OF STUNNING) will light up and the sound alarm will turn on.

Remove the electrodes from the animal's head.

After reaching **the stunning time (Preset T)** or the sum of the **Phase Times**, the stunning process continues until the electrodes are removed from the animal's head or until the **sum of the Phase Times** ends.

After removing the electrodes:

- the red light (STUNNING) and the yellow light (END OF STUNNING) will turn off;
- the sound alarm will turn off;
- display **[A]** will show **0** (no stunning current);
- display **[V]** will show the measuring voltage on the electrodes;
- display **[sek]** will show the duration of the last stunning process.

After reaching the value set in the **Between St** parameter (pause between stunning) the device is in readiness for operation mode again.

Whenever the device is not in use, turn it off using the STOP button on the main START/STOP switch (Fig. 3) and disconnect it from the mains.

6.3.3. 3 Electrode stunning mode / AU system - head and heart



IMPORTANT!

Working with the use of the 3 electrode system / AU system requires the connection of the manifold set and connection of the pneumatic tongs with a button that triggers the stunning.

Appendix D2 - connection diagram (3 electrode system)

Appendix G connection diagram (AU system)

Before starting the stunning process, only the measuring voltage is present on the tongs electrodes (for **HV - 1**) or there is no voltage (for **HV - 2** or **3**); one-button on/off function (**HV-4**).

The stunning process initiation depends on the **HV** parameter value for the selected program: after pressing the electrodes against the animal's body, the device will switch to stunning mode:

- for **HV-1** -automatically;
- for **HV-2** - after pressing and holding the button on the tongs (releasing the button stops the stunning process);
- for **HV-3** - after pressing the button on the tongs (releasing the button does not stop the stunning process).
- for **HV-4** - after pressing the button on the tongs.

The control system gives the stunning voltage - the red light will come on (STUNNING)

- display **[A]** will indicate the value of the stunning current;
- display **[V]** will indicate the value of the stunning voltage;
- display **[sek]** will indicate the value of time or electric charge counted from the beginning of the stunning process;

If the 3 electrode system / AU system is used during stunning, the activation of the 3rd electrode will be signalled by the lighting of the green lamp (STUNNING WITH THE 3 ELECTRODE).

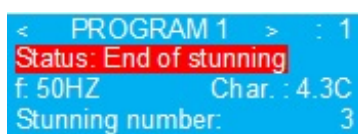
During the transition from the head electrode stunning PHASE to the 3 electrode stunning PHASE:

The 3rd electrode will be applied to the animal's body and activated - the green lamp will light up (STUNNING WITH THE 3 ELECTRODE);

- the device, after the set time in the **DelayOffG** parameter, will start stunning with the 3 electrode
- if during the stunning process the 3 electrode loses contact with the animal's body, then:
 - o the red light (STUN) will turn off;
 - o the green light (3 ELECTRODE STUNNING) will remain turned on;
- if, before the expiry of the time set in the **DelayOffS** parameter, the 3 electrode is re-applied to the animal's body, stunning with the 3 electrode system will resume - the red light will turn on (STUNNING);
- if, before the time set in the **DelayOffS** parameter is expired, the 3 electrode is not applied to the animal's body again, the stunning process is completed without the 3 electrode - the red light (STUNNING) will light up, the green light will turn off (3 ELECTRODE STUNNING) - the event will be recorded in stunning register (status **S**).

Completion of the stunning process:

- the duration of the full stunning process is determined by the sum of the **Phase Times** (the sum of the values of the **Phase Time** parameters of all three stunning phases);



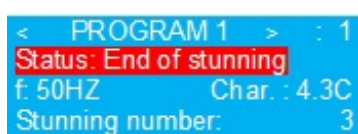
- for **HV-1** the stunning process can be paused or completed earlier by removing the tong electrodes from the animal's body;
- for **HV-2** the stunning process can be paused or completed earlier by removing the tong electrodes from the animal's body or by releasing the button on the tongs;
- for **HV-3** the stunning process will end automatically (the tong cylinder will be released only after the sum of **Phase Times** has expired).
- for **HV-4** the stunning process can be paused or completed earlier by pressing the trigger button once more.

It is possible to set the **time limit (Preset T)** or the electric charge (**Preset Q**) on the device:

- after reaching the limit value, the device will signal that the stunning process can be completed (despite the fact that the sum of **Phase Times** has not expired);
- reaching the **limit value** does not pause the stunning process;
- if the tong electrodes are not removed from the animal's body when the limit is reached, the stunning process continues until the sum of the **Phase Times** expires;
- when the **time limit (Preset T)** is greater than the sum of the **Phase Times** - the device will finish the stunning process after the sum of the **Phase Times** expires;
- when the **limit value** of the electric charge (Preset Q) is not reached until the sum of the **Phase Times** expires - the device will finish the stunning process after the sum of the **Phase Times** expires.

After reaching the **limit value** (or the sum of the **Phase Times**), on the device:

- the yellow light will turn on (END OF STUNNING);
- an acoustic signal will sound.
- the message **Status: End of Stunting** will appear on the main display only when the device has reached the sum of the **Phase Times**:



One must:

- for **HV-1** - remove the tongs from the animal's body;
- for **HV-2** - release the button and remove the tongs from the animal's body;
- for **HV-3** - remove the tongs from the animal's body when the device releases the tong cylinder;
- for **HV-4** - remove the tongs from the animal's body when the device releases the tong cylinder.

After the stunning process is completed (after the red light turns off) and the tong electrodes are removed from the animal's body:

- the yellow light will turn off (END OF STUNNING);
- the acoustic signal will turn off;
- the display [A] will show the value 0 (no stunning current);
- the display [V] will show the measuring voltage on the electrodes (for **HV-1**) or 0.0 (for **HV-2**, **HV-3** or **HV-4**);

- the display [sek] will show the duration or the value of the electric charge for the last stunning (depending on the settings of the service parameter **Preset T / Q**).
- after the time set in parameter **Between St** has expired, the device will re-enter the **standby mode**.

Whenever the device is not used, turn it off using the STOP button on the main START / STOP switch and remove the plug from the socket.

7. MAIN CONTROLLER OPERATION

The main device controller can be operated:

- directly on the device;
- on a computer program (for Windows operating systems);
- in the application (for Android operating systems).

Sections **8.1-8.3** describe the operation of the main controller directly on the device.





7.1. Bluetooth and Wi-Fi

The device is equipped with WiFi and Bluetooth connectivity. Communication is possible with a multimedia device using the android operating system. Connection requires a device (tablet, smartphone) and an installed application. The application allows you to view and edit the stunning parameters of the VBE-7 device.




Installation instructions available after scanning the QR code located on the front of the device.

7.2. Navigation - switching between tabs and list items




-  switching between tabs - [$\leftarrow \rightarrow$] active
-  marker - pressing the button  will switch to parameter edition mode indicated by the marker
-  switching between parameters in the tab





-  switching between tabs - [$\leftarrow \rightarrow$] inactive
-  change of the value of the selected parameter - each change should be confirmed by pressing 






7.3. Unlocking the parameters

1. Press  to enter the programming mode:



2. In tab **ACCESS CODE** use   to set the value to 7 (factory unlock code for other parameters - you can change it in the **SETTINGS** tab)


```
> ACCESS CODE < : 2
Access code : 5
```

3. Confirm by pressing :
 - The parameters have been unlocked:
 - switching between tabs - with buttons  ;
 - switching between parameters in the tab - with buttons  .

7.4. Editing of individual parameters







IMPORTANT!

A detailed description of the parameters can be found in **Appendix F**.

1. Unlock parameters: follow section **8.3**;

1. Using buttons   choose tab with parameters:

< SETTINGS > : 1 ACCESS CODE : 5< Language : English AddressRS : 3	< 1 PHASE : 1> : 1 Phase Type : ? 2 < Phase Time[s] : 1.0 Preset V/A : U	< 2 PHASE : 1> : 1 Phase Type : ? 2 < Phase Time[s] : 1.0 Preset V/A : U
< 3 PHASE : 1> : 1 Phase Type : ? 2 < Phase Time[s] : 1.0 Preset V/A : U	< OTHER : 1> : 1 Turn on HV : HV-1< Preset Q[C] : 12.0 BetweenSt [s] : 2.00	DATE : 1 Year : 2020< Month : 11 Day : 26




1. Using buttons   or   choose the program you want to edit:
The number of the edited program does not have to be the same as the number of the active program:

```
< 1 PHASE : 2> : 1
Phase Type : ? 2 <
Phase Time[s] : 1.0
Preset V/A : 1
```


edited program - a program in which changes to settings are made

```
< 1 PHASE : 2> : 1
Phase Type : ? 2 <
Phase Time[s] : 1.0
Preset V/A : 1
```



active program - program that is currently in use on the device

1. Using buttons   set the marker  on the parameter to be edited (list of parameters: **Fig. 5**):



< 1 PHASE : 1> : 1 Phase Type : ? 2 < Phase Time[s] : 1.0 Preset V/A : 1	< 1 PHASE : 1> : 1 Phase Type : ? 2 < Phase Time[s] : 1.0 Preset V/A : 1
---	---

2. Press  to confirm - changing the direction of the arrows means that the parameter has been selected and can be edited:

```
> 1 PHASE : 1 < : 1
Phase Type : ? 2 <
Phase Time[s] : 1.0
Preset V/A : I
```

3. Using buttons   select the required parameter value:

```
> 1 PHASE : 1 < : 1
Phase Type : ? 2 <
Phase Time[s] : 1.0
Preset V/A : I
```

4. Press  to confirm or press  to cancel:

```
< 1 PHASE : 1 > : 1
Phase Type : ? 2 <
Phase Time[s] : 1.0
Preset V/A : I
```

Tab selection arrows ( ) as well as switching between parameters () are active.

- you can change other parameters analogously.

5. Press  to exit programming mode.

7.5. Language selection

The parameter **Language** is used to select the language.

8. STUNNING PARAMETER RECORDER

The device is equipped with a recorder which measures electrical parameters and stores the measured values on an SDHC card located in the recorder slot.

The recorder meets the requirements of the **Regulation 1099/2009** (Appendix II point 4.1).

8.1. Parameter recording



CAUTION!

The compatible capacity of the SDHC card is 8 GB. The use of the larger capacity may result in handling problems. The maximum memory capacity is 16 GB.

Parameter recording begins when the stunning process is started - when the red light (STUNNING) turns on. The values of the stunning parameters are saved as text on the SDHC card, in a **piglog.csv** file. Every day a new file is created and cataloged in the appropriate folder.

- example file path for 25.11.2020: SD/REGDATA/2020-11/25-03-01/piglog.csv
- after the start of the next day, the device will create a new folder in which general data (**piglog.csv**) and detailed data for each stunning will be saved:
change of day to November 26, 2020: SD/REGDATA/2020-11/26-03-01/
- after the beginning of the next month, the device will create a new folder in which (in separate folders) general and detailed data for each day of that month will be saved:
- month change to December 2020: SD/REGDATA/2020-12/01-03-01/

Each line in the **piglog.csv** file refers to one stunning process. The values in the row are written in the following order:

- subsequent number of the stunning process (it resets after turning the device off);
- stunning date in *day-month-year* format;

- the end time of the stunning process in *hour-minutes-seconds* format;
- average voltage [V] measured during the stunning process;
- maximum current [A] measured during the stunning process;
- electric charge [C] measured during the stunning process;
- duration of the stunning process [s];
- initial current frequency [Hz];
- program number;
- status (service information).

Lp.	Date	Time	U[V]	I[A]	q[C]	t[sek]	f[Hz]	NrPgm	Status
1	11.05.2020	12:51:16	162	1.31	6.5	6.8	500	2	----
2	11.05.2020	12:52:11	161	1.32	6.5	6.8	500	2	--S-
3	11.05.2020	12:53:23	162	0.83	6.5	6.8	500	2	M---
4	11.05.2020	12:54:13	162	1.31	6.5	6.8	500	2	----
5	11.05.2020	12:54:52	162	1.31	6.5	1.2	500	2	--T-
6	11.05.2020	12:55:59	161	1.12	6.5	3.8	500	2	M-T-
7	11.05.2020	12:57:19	218	1.39	5.3	4.5	500	2	----
1	11.05.2020	12:51:16	162	1.31	6.5	6.8	500	2	----

Table 2 Sample readings of stunning parameters

M - stunning current too low (below the minimum value **[A]**);

Falling below the minimum value is signalled by the alarm (the yellow light starts blinking and the sound alarm turns on; it is also recorded in the register as the “M” status);

B - incomplete program (process);

T - stunning time too short (below the minimum value **[s]**);

S - unsuccessful stunning attempt using the 3rd electrode system.



ATTENTION!

The recorder battery can be replaced only at an authorized service center.

8.2. A detailed recording of stunning parameters

In addition to the main register, the detailed parameters of each stunning are recorded in the text files in the same folder. These files are used to create a stunning graph in a dedicated program. A detailed record of the stunning takes place every 300ms.

8.3. Parameter reading

To read the recorded data on SD card you must:

- remove the SDHC card from the slot on the device;
 - insert the SDHC card into the SD card reader on your computer;
- open the **piglog.csv** file in any text file reader (e.g. Notepad) or spreadsheet (e.g. Excel).

The data can also be read:

- on the computer (for Windows operating systems);
- on the phone (for Android operating systems).

- The piglog.csv files should be backed up regularly on the computer
- Editing the piglog.csv files may lead to registration errors

9. DOWNLOADING AND UPLOADING STUNNING PARAMETERS

The device is equipped with the functions of **uploading** and **downloading** parameters.






To **upload** service parameters on the device from SDHC card:

- find SDHC plik **pigpar7.bin** file with the service parameters (path to file: karta SD/PARAMETERS/pigpar7.bin);
- copy **pigpar7.bin** file to main directory of the SDHC card (path to copied file: karta SD/pigpar7.bin);
- follow steps listed in subsection **10.1**.

To download your own parameter settings from the device to SDHC card (e.g. to transfer them to another device) follow steps listed in subsection **10.2**.






9.1. Uploading parameters to the device from the SDHC card

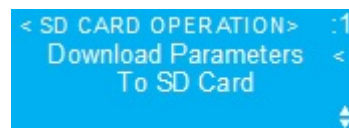
For the parameters to be uploaded successfully, a file named pigpar7.bin must be in the main directory of the SDHC card

1. Insert the SDHC card with **pigpar7.bin** file in the SD card slot (in the inspection window);
2. Unlock parameters: follow paragraph **8.2**;
3. Use   to select **CARD OPERATION**;
4. Use   to select: **Upload Parameters From SD Card**:
5. Confirm your selection by pressing ;
 - **Sd-P** will appear on the display [A] [V];
 - the parameters have been correctly uploaded to the device from the SDHC card.



9.2. Downloading parameters from the device to the SDHC card

1. Insert the SDHC card in the SD card slot (in the inspection window);
2. Unlock parameters: follow paragraph **8.2**;
3. Use   to select: **CARD OPERATION**;
4. Use   to select: **Download Parameters To SD Card**:
5. Confirm your selection by pressing ;
 - **P-Sd** will appear on the display [A] [V];
 - the parameters have been correctly downloaded to the device from the SDHC card.



*If the file named **pigpar7.bin** already exists in the main directory of the SDHC card, it will be replaced by a new file.*

10. CLEANING, MAINTENANCE, REPAIRS AND DISPOSAL

10.1. Cleaning

The device does not require any special maintenance, however, it is necessary to maintain it in proper technical condition and cleanliness (**GLW manual, chap. 8, section 2, subsection 1c.**) :

- clean it manually taking into account the safety rules of using electrical devices;
- clean the housing after each use by wiping with a cloth;
- do not use any detergents.



CAUTION!

Do not wash the device with pressure washers.

The device should be protected against moisture and excessive dust.

Always disconnect the device from the mains during cleaning and maintenance.

10.2. Maintenance

The purpose of the maintenance is to keep the device in a state of full technical efficiency. The scope of maintenance activities should comply with guidelines stated below:

- **Daily maintenance** - before and after operation:
 - consists in constant monitoring of the technical condition of individual assemblies and parts that impact work safety.
- **Periodic maintenance:**
 - determining the technical condition of the device;
 - determining the degree of wear of individual assemblies and parts of the device;
 - removal of possible faults and damages.



CAUTION!

It is necessary to calibrate the device at an authorized service center once a year (**GLW manual, chap. 8, section 2, subsection 1c.**).

Before shipping, clean the device and properly protect it against any damage in transit.

The service center issues a document confirming that the device has been calibrated and works properly



CAUTION!

In accordance with **the GLW Manual** (Chapter 8 section 2 subsection 1b), **the condition of the equipment for stunning animals should be checked before each stunning cycle.**

Proper operation of the device can be checked with the **AZ** Tester, manufactured by KOMA:

- connect the Tester to the oblique socket and turn the device on using the START button;
- press and hold the button on the Tester to start the simulated stunning process; - the red lamp (STUNNING) will light up on the device;
- hold the button until the yellow light (END OF STUNNING) and the sound alarm will turn on;
- after releasing the button, the simulated stunning process will end: the red light (STUNNING), the yellow light (END OF STUNNING) and the sound alarm will turn off;
- the measuring voltage will be displayed on the display **[V]**.

If the simulated stunning process was successful, the device is working properly.

10.3. Repairs

- If the device malfunctions, report the defect to the authorized service center;
- In case of repairs and inspections in unauthorized service centers, the manufacturer is not responsible for the technical condition of the device and its proper functioning;
- In case of any maintenance or repairs the device must be disconnected from the mains.

10.4. Disposal



CAUTION!

The device must be disposed of in an electrical and electronic device recycling plant.

Disposal of the device:



- the crossed-out wheeled bin symbol (placed on the device) indicates that it is strictly forbidden to place the device in a mixed waste container;
- the device was made of materials suitable for secondary raw materials;
- the device is marked as compliant with Directive 2012/19 / EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE);
- correct disposal of the device may contribute to reducing the negative impact on the natural environment and human health;
- the device must be disposed of in accordance with local regulations regarding the disposal of electrical and electronic waste, at an appropriate collection point;
- it is forbidden to leave the device unattended, because it can be a threat to the natural environment and human health.

Disposal of the packaging:

The device packaging was made of recyclable materials. Individual packaging elements must be disposed of responsibly and in accordance with waste management regulations.



Packaging marked with this symbol should be placed in the blue container (PAPER)



Packaging marked with this symbol should be placed in the yellow container (METAL, PLASTIC MATERIALS)

11. TROUBLESHOOTING



CAUTION!

- If the red light (STUNNING) on the device turns on when there is no stunning process, it means that there may be a stunning voltage on the electrodes. It is absolutely necessary to stop work, turn off the device and notify the authorized service centre.
- If the red light (STUNNING) does not turn on during the stunning process, have the device serviced immediately by the authorized service centre.

Examples of troubleshooting procedure:

Problem	Cause	Recommendations
Bursting of blood vessels and bone displacement; animal not properly stunned	Incorrect stunning parameters Incorrect stunning method Restless animal	Select correct stunning parameters: frequency, time, voltage Analyze the stunning process
Device not working	Blown fuse	Replace the fuse
	The device is turned off	Turn the device on with the START button on the main switch START/STOP
No stunning process	The electronics do not work The displays do not work	Check the fuse or report the fault to the authorized service centre
	No measuring voltage on the electrodes, even though the display [V] indicates otherwise	Clean the electrodes Check the tongs cable Contact authorized service centre
The red light (STUNNING) is off	Red lamp burned out	Contact authorized service centre
The yellow light (END OF STUNNING) is off	Yellow lamp burned out	Contact authorized service centre
The green light (HEART STUNNING) is off	Green lamp burned out	Contact authorized service centre





<p>The message SErViCE appears on the displays</p> 	The date of the annual technical inspection and calibration is approaching	Contact authorized service centre
	Short circuit detected	Turn on/off the device
	SD card locked	Unlock by sliding the Lock switch.
	No SD card	Insert the card into the SD card reader

Table 3 Potential faults and how to remove them

12. ELECTRIC DIAGRAM

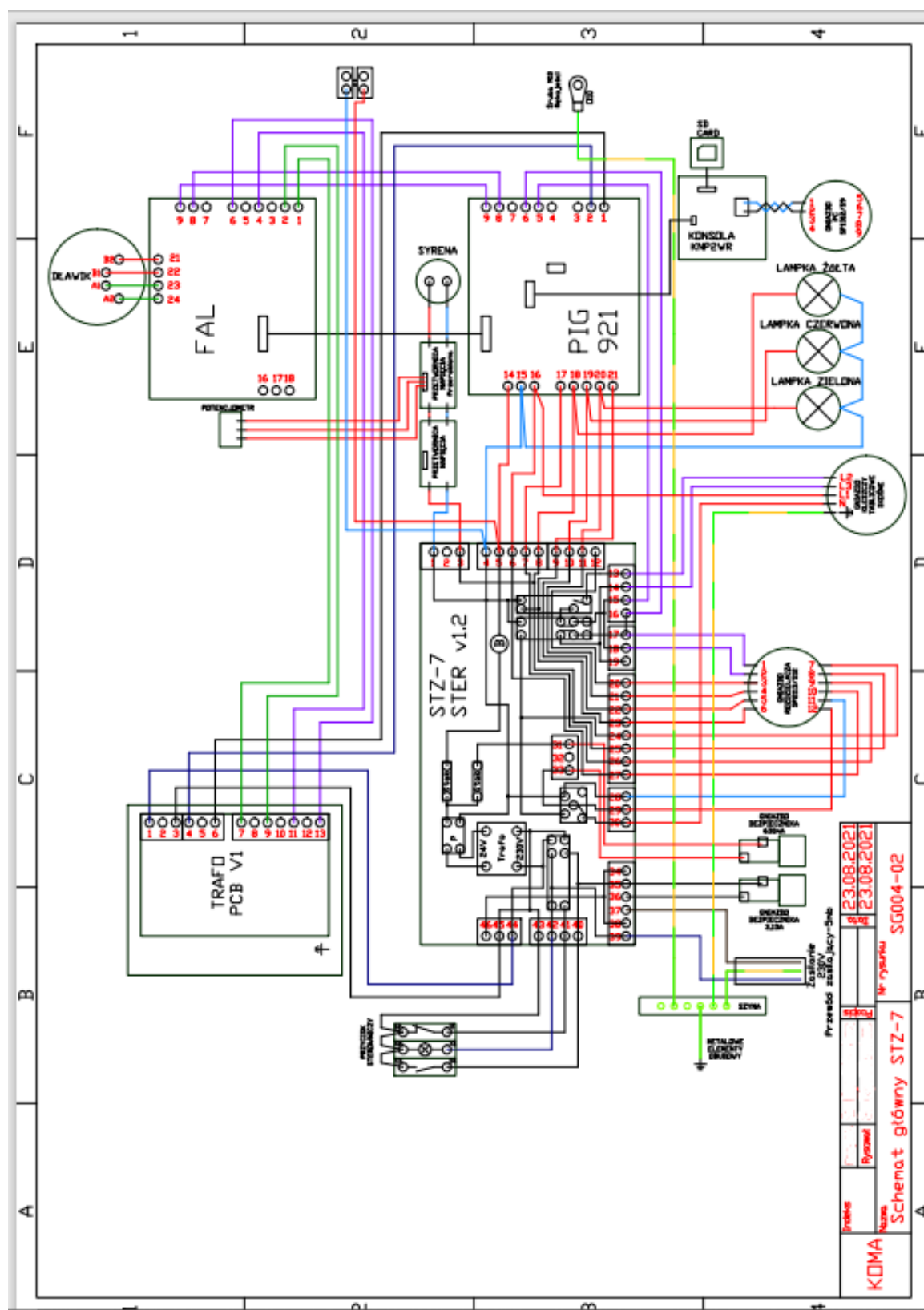


Fig. 6 Electric diagram

FOR THE USER

Please read carefully the content of the warranty card and strictly adhere to the terms contained in it, and follow the general rules given in the user manual of the device.

The manufacturer is not responsible for the technical condition of the device and tongs, as well as for their safe functioning when carrying out unauthorized repairs, technical inspections or calibrations.

13. OPTIONAL EXTRAS

For all inquiries related to additional options, please contact the sales department directly.

13.1. APPENDICES

1. Specification - **Appendix A**,
2. Parts list – **Appendix B**,
3. PC connection - **Appendix C**
4. Additional options – **Appendix D1, D2, D3**,
5. Preset parameters – **Appendix E**,
6. Parameter description – **Appendix F**
7. Pneumatic separator (AU SYSTEM) – **Appendix G**

14. WARRANTY CARD

WARRANTY CARD

The **Warranty** applies to the power unit **VBE-7** (called the **product**) serial number:/...../..... manufactured in a year..... and being an integral part of the VBE-7 stunning set

The Warrantor: P.P.U.H KOMA Sp. z o.o. located in Słone, at Księżycowa 38, 66-008 Świdnica, registered in the Register of Entrepreneurs of the National Court Register under the KRS number: 0000137191, the registry court: District Court in Zielona Góra, VIII Commercial Division of the National Court Register, NIP number: 929-010-08-60, share capital fully paid up in the amount of PLN 50 000,00

GENERAL WARRANTY TERMS:

1. **Warrantor's statement:** The warrantor declares that the product has been made in accordance with the construction and technical documentation contained in the technical conditions of receipt and execution. The warrantor ensures that the product functions as intended, which is described in detail in the product's user manual.
2. **Warrantor's liability:** The warrantor is liable to the right holder under the warranty for physical defects in the product (defective materials, damaged components, etc.) that have appeared during the warranty period.
3. **Duration of the warranty:** The warranty period is not longer than ... **months**. The warranty period is counted from the date the product is passed to the customer. The date of passing the product to the customer is the same as the date of issuing the accounting document regarding the purchase of the product. The defects of the product reported to the warrantor after the warranty period has expired are not covered by the warranty.
4. **The scope of the warranty:** The warranty applies to physical defects of the product revealed during the period referred to in point 3 and applies only to the product and its components that were manufactured by the warrantor or his direct subcontractors. The warranty covers: materials, workmanship and assembly of parts, assemblies and subassemblies.
5. **Loss of the right to benefit from the warranty:** The warranty expires in the case of:
 - breaking the seals or other mechanical damage;
 - using the product for purposes other than its intended use or contrary to the user manual;
 - improper installation, maintenance or storage;
 - making repairs and changes without the consent and knowledge of the manufacturer;
 - damages resulting from a delay in reporting a defect by the right holder under the warranty.

All information regarding the correct installation, use, maintenance and storage of the product has been described in detail in the user manual.

PROCEDURE FOR SUBMISSION OF A WARRANTY CLAIM:

1. **Reporting a defect:** The customer is obliged to immediately inform the warrantor about the occurrence of a physical defect in the product. Reporting a defect during the warranty period obliges the warrantor to consider the claim under the warranty also in the case of delivery of the product to the service center after the expiry of the warranty period. The notification should be made via the application form on the warrantor's website - www.koma.zgora.pl; The warrantor's service center is open on weekdays from 7:00AM to 3:00PM
2. **Verification of entitlement to benefit from the warranty:** The verification takes place on the basis of the warranty card attached to the product and proof of purchase of the product (the warranty card - filled out, stamped and signed by the seller - is treated as proof of purchase). The warrantor is not bound by any changes made without his knowledge and consent in the content of the warranty card.
3. **Warrantor's obligations:** The warrantor undertakes to repair the product free of charge, if its physical defect is subject to the warranty and has been reported during the warranty period. If the removal of the defect is impossible or the cost of its removal is disproportionate to the value of the product, or the repair is particularly difficult, then the warrantor shall, as appropriate, replace all or part of the product or refund all or part of the costs of purchasing the product, respectively.
4. **Deadline for the performance of the warrantor's obligations:** The warrantor undertakes to perform its obligations towards the right holder under the warranty within 14 days from the day on which the product was delivered to the warrantor's service center. In justified cases (in particular due to the need to obtain appropriate components or consultations with subcontractors), this time limit may be extended, however not longer than up to 30 days. The warrantor is obliged to notify the right holder of the warranty about the extension of the repair period and its reasons.
5. **Product replacement:** The right holder under the warranty has the right to replace the product with a new one, if he has reported defects four times during the warranty period and after having completed the repairs it still has defects. Any defective products or parts that have been replaced under the warranty, become the property of the right holder under the warranty.
6. **Refusal to accept a warranty claim:** If there is no basis to consider the application made under the warranty - in particular due to: failure to identify a defect, or occurrence of a case not covered by the warranty, or expiry of the warranty period, or expiry of the warranty - the warrantor shall inform the right holder under the warranty that the application has not been accepted and will justify his decision.
7. The warranty is extended by the time the product was repaired during the warranty period.
8. **Return of the purchased goods:** a consumer or entrepreneur with the rights of a consumer who has concluded a distance or off-premises contract may withdraw from it within 14 days without giving any reason and without incurring costs (except for direct costs of returning the goods). The consumer is responsible for reducing the value of the item as a result of using it in a way that goes beyond what is necessary to establish the nature, characteristics and functioning of the item.

EXCLUSIONS FROM WARRANTY:

The warranty covers only physical defects of the product. The warranty does not cover in particular defects resulting from:

1. **force majeure, random events, external forces** (which occurred due to external reasons) e.g. atmospheric discharges, voltage surges, power failures, faulty electrical installation, faulty plumbing, damage caused by third parties, etc.;
2. **using the product for purposes other than its intended use or contrary to the user manual**, including: improper storage, installation not in accordance with the user manual, failure to carry out recommended technical inspections, improper maintenance, use of improper consumables;
3. **using the product by minors or untrained persons**;
4. **mechanical, thermal, chemical and corrosion damages** (in the event of flooding or exploitation in conditions of constant humidity);
5. **adaptations, alterations, and other interference in the construction of the product** without the knowledge and consent of the warrantor;
6. **natural wear of the product's components** such as consumables and other parts listed in the user manual and technical documentation that have a specified operating time;
7. **failure to ensure periodic maintenance and technical inspection of the product**, and in particular cleaning, adjusting, checking the operation, correcting errors in the operation or programming user settings and other activities to be performed by the user in accordance with the user manual;
8. The warrantor shall not be liable for the loss of the product or for its damage or destruction (resulting from reasons other than defects inherent in the product). The warrantor shall not be liable for damages caused by defects in the product resulting from its improper use and maintenance.

FINAL PROVISIONS:

1. **Technical inspections:** The manufacturer recommends an annual technical review of the product. The service can be performed at the appropriate service center. The service is payable and is not subject to the warranty and does not constitute grounds for extending the warranty. After the expiry of the warranty, the warrantor provides paid services.
2. **Warranty to Guarantee ratio:** This warranty does not exclude, limit or suspend the rights of the buyer arising from the provisions on Guarantee for defects of goods sold.
3. **Reference:** To the extent not covered by the provisions of these warranty conditions - the provisions of the Act of April 23, 1964 shall apply to the warranty. – Code of Civil Law (consolidated text: Journal of Laws year: 2014, item: 121 as amended) and other generally applicable provisions of Polish law.
4. **Solving disputes:** All disputes arising or which may arise between the warrantor and the right holder under the warranty shall be submitted to the court having jurisdiction over the place and property determined in accordance with the provisions of the Code of Civil Law.
5. **Personal data protection:** The right holder under the warranty agrees to the processing of his data in a personal database administered by the P.P.U.H. KOMA SP. z o.o. located in Stone, at Księżycowa 38. Personal data will be processed for service purposes. The person providing personal data has the right to access the data and correct it. Providing personal data is voluntary, but necessary to carry out the service procedure. The processing of personal data takes place on the basis of the provisions of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46 / EC (General Data Protection Regulation).

.....
Sale date
(day, month, year)

.....
Sales point stamp

.....
Seller's signature

Stone 12.08.2021

This device is recyclable. It is subject to the selective collection of electrical and electronic equipment.



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