



VBE 6



The Operating manual constitutes a basic part of the device, the content of which should be examined before installation, start-up and use.

The operating manual is located on the device's SD card.



In case of doubts or misunderstanding of instructions, contact the manufacturer of the device.

Symbol KTM 29.53.16.50

SWW 0782-11

CAUTION!

Do not modify the electrical installation.

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1. Work and operation safety



CAUTION! Carefully read this manual before use.

Operation and maintenance personnel must read this manual, as well as complete a device use training and health and safety training. Any alteration and modification of the products will void the warranty. The manufacturer shall not be held liable for the incorrect operation of altered or modified products. The device must be used in accordance with its intended purpose.



CAUTION! You must wear insulating gloves during rabbit stunning process (Program 1-6).

The product features an electronic anti-shock protection system.

Do not touch the electrodes.

If the electrode power is supplied outside the stunning process - the red light is on - stop the work immediately, switch the device off and contact the manufacturer.

If the red light is off during stunning, follow the procedures in sections 11 and 12. If the problem persists, return the device to the manufacturer for servicing.

- All maintenance works should be carried out with power supply disconnected.
- All device repairs should be carried out by the manufacturer.
- Do not modify the internal wiring, in particular do not remove the power supply plug or replace the special IP67 plug.
- Do not connect the power supply to the device with damaged cable insulation.
- The device may not be used by minors, disabled persons and personnel without proper training.
- Restrict access to the device to authorized personnel only.



CAUTION! Failure to comply with safety regulations can result in electric shock, disability or death.

2. Residual risks

Although the VBE -6 device was designed and marked with due care in order to eliminate hazards during device operation and maintenance, some risks cannot be avoided.

The residual risks result from incorrect operation or behaviour of the operator.

The highest risks are related to the following forbidden operations:

- using the device for purposes other than specified in this instruction manual,
- unauthorized modifications and repairs of internal wiring,
- contact of electrodes with any body part,
- connecting power supply to a device with visible damage,
- use of device by minors, disabled persons and personnel without proper training.

Considering residual risk, the VBE-6 is a state of the art animal stunning device, designed and manufactured to the latest standards.

Residual risk assessment

Compliance with the following requirements:

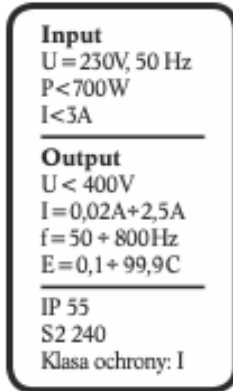
- careful reading of the user manual,
- no contact of electrodes with any body part,
- no unauthorized modifications or repairs of the internal wiring,
- all repairs carried out by the authorized service centre,
- verification of the earthing system before operation and at least every 12 months by an authorized electrician,
- verification of technical condition before operation and following any repairs,
- device use by authorized personnel only,
- access to the device restricted to authorized personnel only.
- may eliminate the residual risk, and ensure the safe operation of the VBE-6 Animal Stunning Device without any danger to the personnel or the environment.



CAUTION! Failure to comply with the guidelines may result in residual risks.

3. Signs and warnings

Signs and warnings on the power supply case:
Power supply data plate contains the following:



Input

$U = 230V$ (rated voltage)
 $f = 50\text{ Hz}$ (frequency)
 $P < 700W$ (maximum power)
 $I < 3A$ (maximum electric current)

Output

$U < 400V$ (maximum output voltage)
 $I = 0,02 - 2,5A$ (stunning current interval)
 $f = 50\text{ Hz} - 800\text{ Hz}$
 $E = 0,1 - 99,9C$ (electric charge)
 IP55
 S2 240 (duty cycle)
 Protection class: I

Safety symbols:



Symbols:

1. Caution.
2. Read the user manual.
3. Must not be used by minors.
4. Do not connect power supply to a device with damaged connector or socket.
5. Any repair or maintenance must be carried out with power supply disconnected - unplug the device.
6. Do not touch! Electrical equipment.
7. This product is subject to the Act of 29/07/2005 on waste electrical and electronic equipment, Polish Journal of Laws Dz.U. no. 180/2005, item 1495.
8. Do not use pressure washers.

Meaning of indicating lights:



- yellow END OF STUNNING
- red, signalling STUNNING IN PROGRESS
- green, signalling HEART STUNNING
- white, signalling DEVICE ON

4. Purpose

VBE-6 device is intended for stunning animals prior to electrical slaughter with a voltage of less than 400 V and frequency in the range of 50 to 800 Hz and conforms requirements of the Regulation of the Minister of Agriculture and Rural Development dated 09.09.2004 on qualification of persons entitled to professional slaughter and conditions and methods for killing of animals (Journal of Laws no. 205, pos. 2102), and complies with European Union requirements regarding the welfare of animals.

The device should be used only for its intended purpose:





- do not immerse in water fork tongs connected to the device;
- do not use the device for movement of animals;
- do not short circuit electrodes on metal objects;
- do not touch electrodes with bare hands, nor short circuit them on human body.

5. Technical data

Power supply	230 V; 50 Hz
Stunning voltage (output)	< 400 V; 50 a 800 Hz
Output current	0,02 a 2,5 A
Charge	0,1 a 99,9 C
Measuring voltage	~15 V
Charger weight	~15,0 kg
Tongs weight	3,0 kg
Overall charger dimensions	480 x 365 x 205 mm
Tongs charger dimensions	960 x 210 – 700 x 110 mm

6. Construction

The VBE-6 animal stunning device consists of:

			
<p>AC adaptor VBE-6</p> <p><u>001 983 920</u></p>	<p>VBE-6 signalling device with connection cable</p> <p><u>001 983 960</u></p>	<p>USB converter with connection cable</p> <p><u>001 983 961</u></p>	<p>stunning tongs</p> <p>Type of tongs are presented in the table below</p>

VBE-6 M0056 AC adaptor and VBE-6 signalling device are located in a waterproof casing, adapted to mount at the place of use.

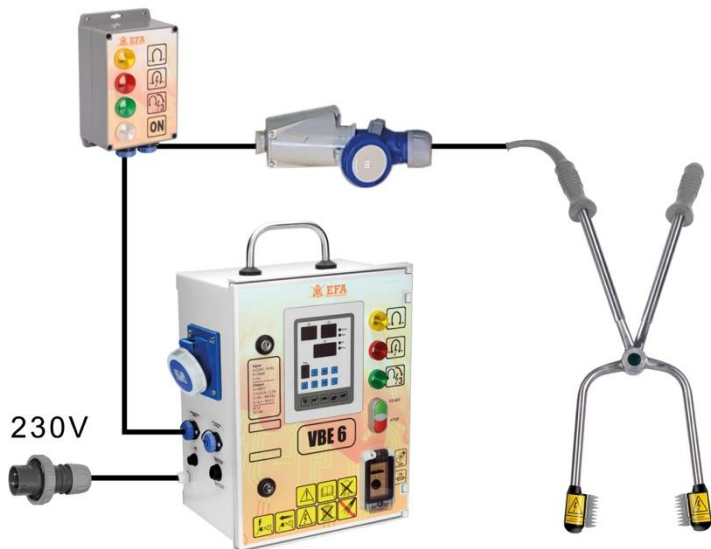
Stunning tongs are connected with the charger or signalling device via a cable ended with a special plug, which makes it possible to manoeuvre.

Pictures 1 and 2 show two connection options.









Fig. 1



Fig. 2



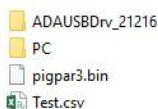
Type of tongs are shown in the table:

Tongs with pneumatic compression			
 	 	 	 
X / XO	Y	XP	YP

7. Device installing and start-up:

First, install the USB converter drivers and the software for communication with VBE-6 device. These are on the USB card, located in the inspection window of the VBE-6 device.

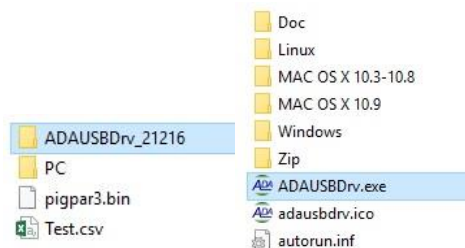
SD card main catalogue:



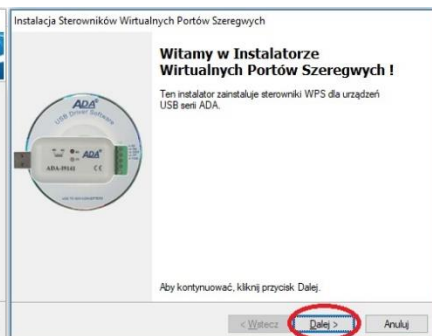
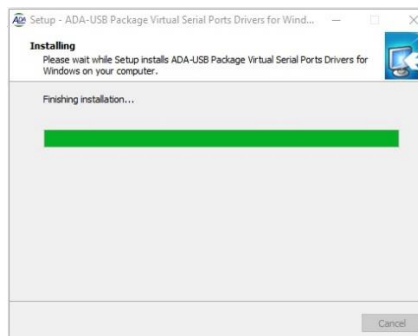
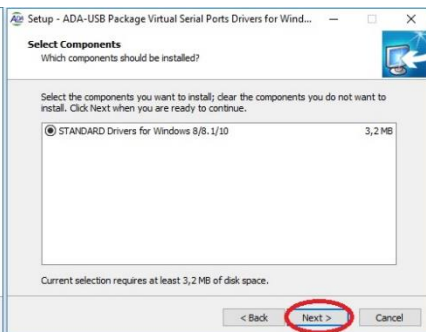
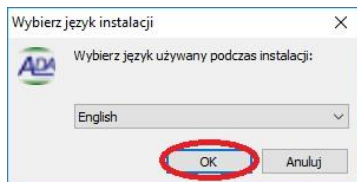
- ADAUSBDrv_21216 – USB converter drivers
- PC – software
- Pigpar3.bin – file containing factory settings parameters (possibility to restore at any time)
- Test.csv – file containing stunning device test parameters (it can be opened in the Excel spreadsheet)

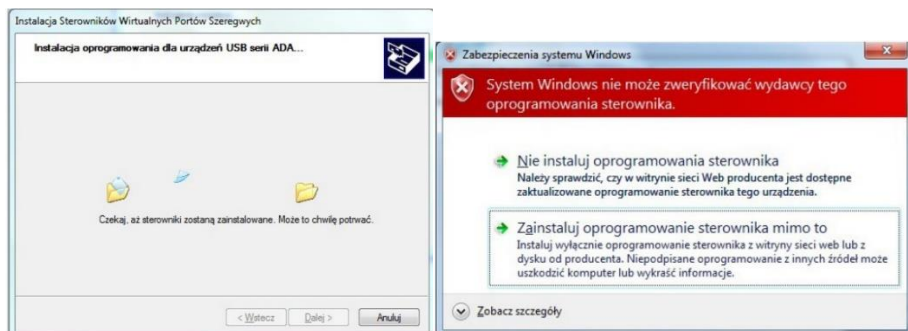
1. Installation of the USB converter drivers:

Access ADAUSBDrv_21216 folder in the SD card main catalogue. Then start the “ADAUSBDrv.exe” file.

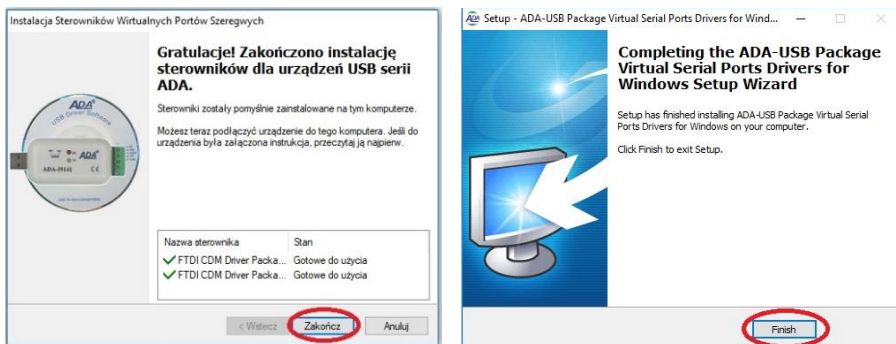


The window of the installation language selection should appear on the screen. Accept selection with the “OK” button. Further steps are shown on the images below:

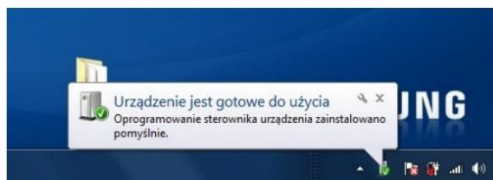




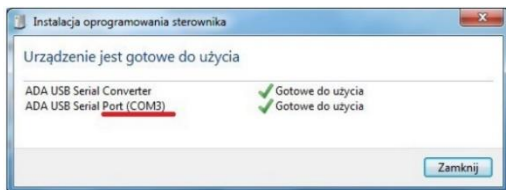
If, during installation there will be an information, that it is impossible to verify the drivers - disregard it and choose subsequent installation options. (the message does not have to occur).



Connect the USB converter (EM0329) to the USB port.

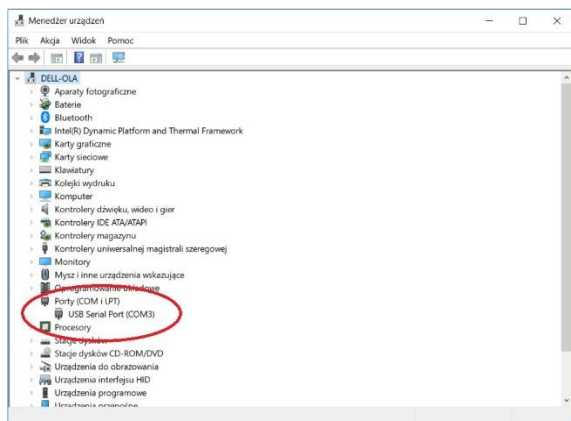


After that, window/bubble will appear with information, that the device is ready to use. After clicking the window/bubble - window will appear with information, which "COM" port has been assigned to the converter.



After completion of the installation, USB converter (EM0329) is seen by the system as a standard COM port.

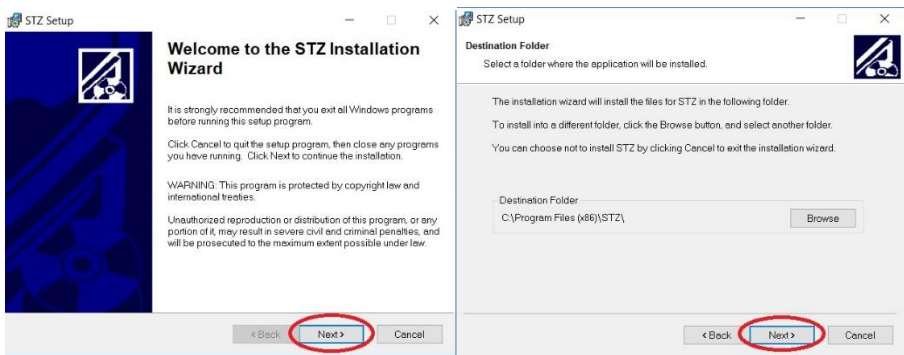
If window/bubble does not appear - created "COM" port can be found in the **"Control panel"** - **"Device Manager"** - in accordance with below instructions::



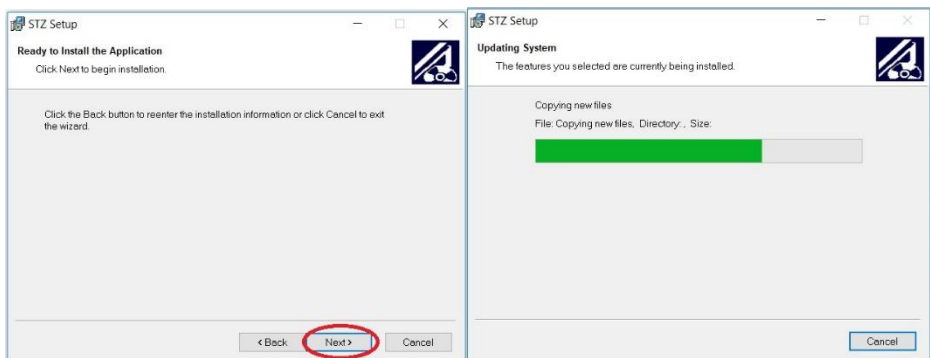
After completion of the installation of the USB converter drivers, install the software for communication with the VBE-6 charger. The software is in the SD card main catalogue, in the folder PC\Installer\setup.exe

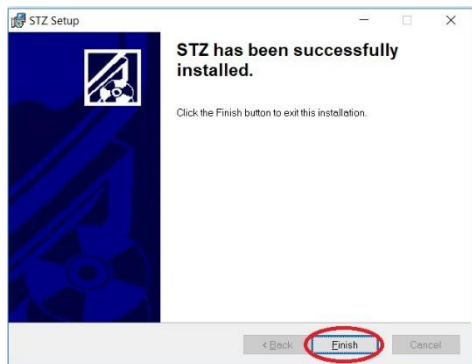


The installer will start, follow the pictures below:

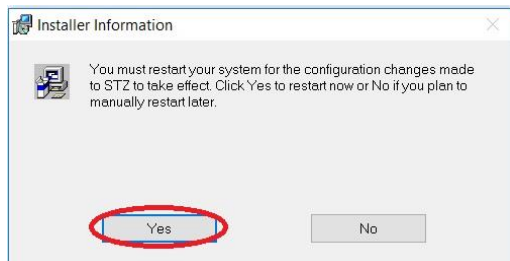


Do not change the default installation folder!





After the installation, operator will be prompted to restart the computer.



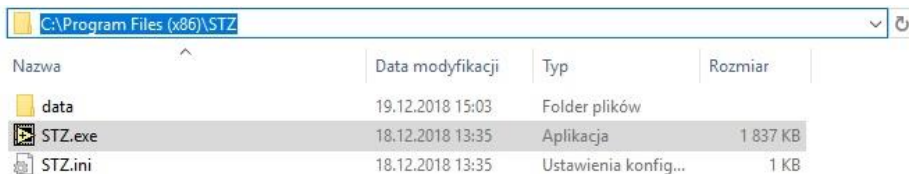
After successful installation of the software, open “config” folder on the “C” drive.



Before starting the program, connect the USB converter to the USB port, unless it has been done before. However, do not start the VBE-6 device yet.

Start the “STZ.exe” program located in:

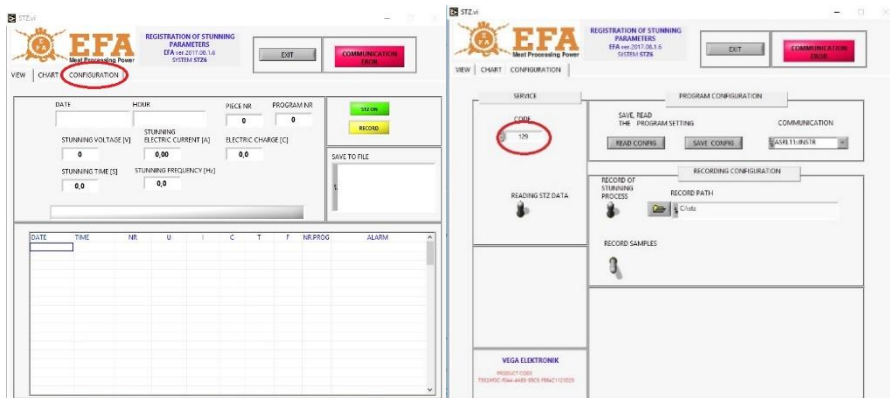
C:\Program Files (x86)\STZ.



Always start the program as an administrator!

All steps are shown below:

1. “CONFIGURATION” tab - insert 123 code in CODE window and press Enter



2. The code will unlock all options.
3. Place two switches in the up position:



4. In “COMMUNICATION” choose virtual “COM” number that has been installed during USB converter installation. It will be “ASRL” + installed port number.

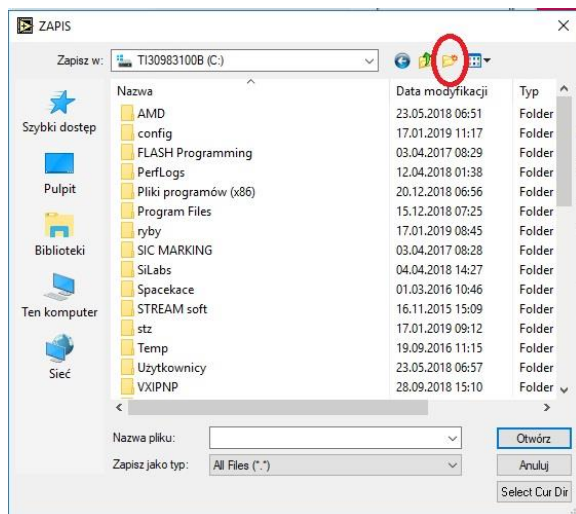


After inserting the USB converter plug into a different USB socket, a different port will be assigned each time.

5. Create a folder, where stunning logs will be stored



6. This should be done using:



7. Then name it i.e. STZ, enter the folder and press:

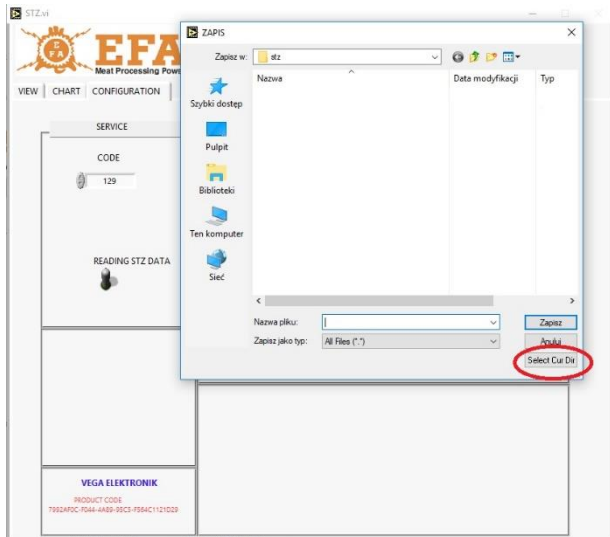
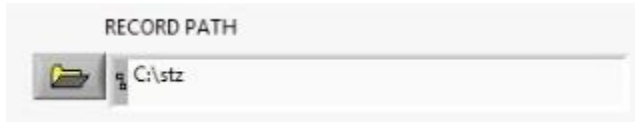


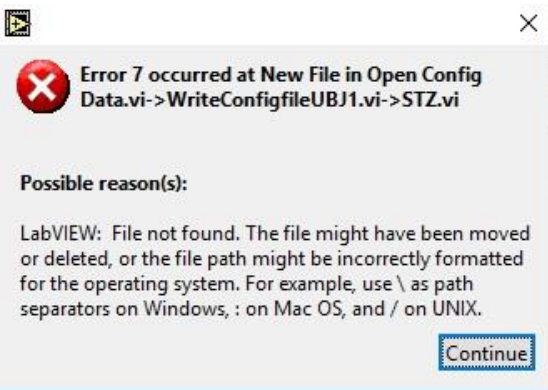
Photo shows a properly created catalogue:



8. Save the configuration:



If the message pops up:



It means, that "C:\config" folder has been created incorrectly:

It should be located directly at the system's C disc;

(detailed instructions can be found at...)



9. Press "EXIT" to end and accept the procedure.



Restart the program as an administrator and start the VBE-6 charger.

If everything has been done correctly, that the message:

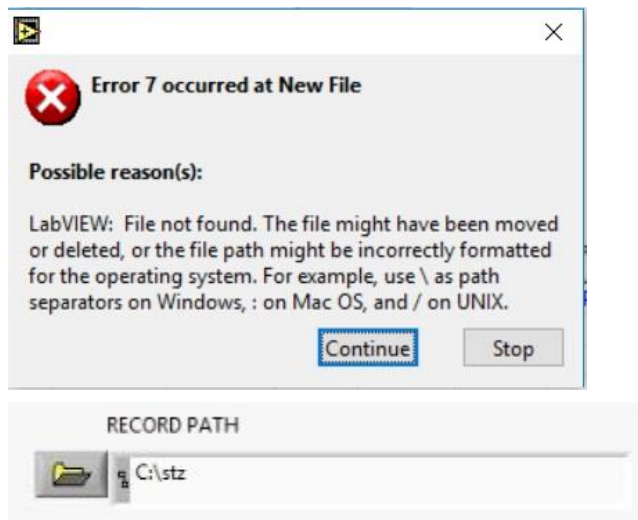


Should change to:

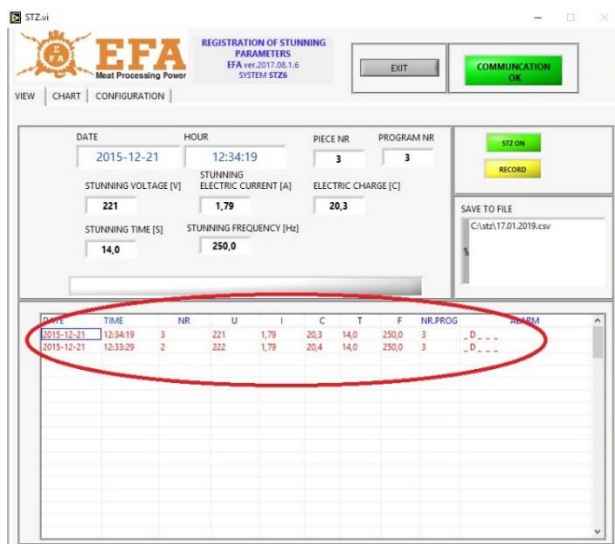


It means, that the device is configured, and stunning process can be started:

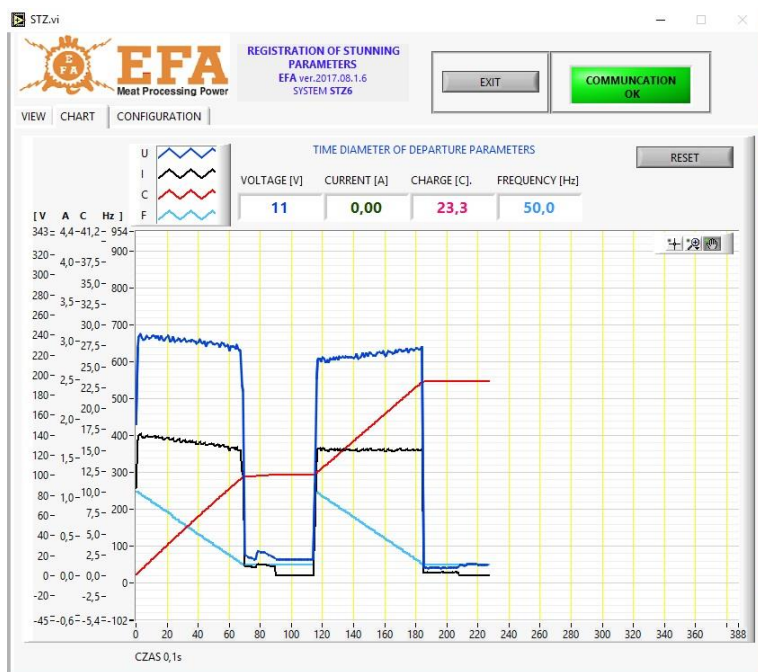
The message shown below means, that folder has not been created correctly and the procedure should be repeated.



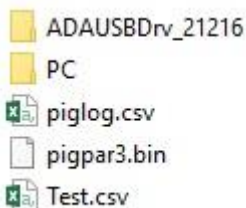
10. After each stunning there will be a log added in the "VIEW" tab:



During the stunning process, stunning parameters chart will be created in real-time in the CHART tab.



If the card will be inserted, after first stunning the VBE-6 device will create a “**piglog.csv**” file in the main catalogue, in which individual stunning will be registered.



8. Operating principle

PIG821, slaughter parameter controller used on the VBE-6 device works in 2 modes:

- voltage / frequency, current and electric charge / time measurement mode,
- slaughter parameters setting mode.

Operating principle of the VBE-6 device is based on automatic resistance measurement of the stunned animal body. In a “ready to work” state, on open fork tongs, there is only low, safe measuring voltage of approx. 15 V. When the electrodes are pressed against the animal body, measurement of resistance starts and after animal detection stunning process starts automatically with working voltage (it will be signalled with red LED light STUNNING).

Stunning voltage or frequency value will be shown on the display **[V]**, stunning current value - **[A]** Electric charge/time value counted from the beginning of slaughter phase will be shown on the display **[C]**.

Slaughter phase progress is determined by the configuration of a chosen program. The program can be set in two modes:

- Head
- Head-heart

Stunning mode of a given program can be set with “**tP1**”, “**tP2**”, “**tP3**” parameters.

After reaching the set “**SPT**” time value yellow LED light will illuminate and acoustic signal will be generated signalling the end of the stunning, but the stunning process will continue until the stunned animal will not be released. After the end of the sum of “**dl1**”, “**dl2**” and “**dl3**” times, regardless of whether the “**SPT**” time passes, yellow LED light will illuminate and acoustic signal will be generated, and red LED light will go off, signalling the end of stunning. Releasing fork tongs from the animal head will cause yellow LED light to go off and turning off of the acoustic signal. Current value will drop to 0 (display **[A]**, electrodes will have only measuring voltage of approx. 15 V. From this moment, the device is ready for the next stunning process after 2 seconds.

8.1. Stunning modes

Head mode

In this mode, stunning process last till passing of the “**dl1**” + “**dl2**” + “**dl3**” times. After this time, the device will cease to stun - at the same time giving an acoustic and visual signal (yellow light END OF STUNNING) until fork tongs are removed from the animal's head. In case of releasing fork tongs prior passing of the “**dl1**” + “**dl2**” + “**dl3**” times, device automatically switches from stunning to measuring mode, and a “**B**” error is logged, unless “**SPT**” time has passed (end of stunning signalling parameter).

Head-heart mode

In this mode, the stunning process is divided into two stages. In the first stunning stage, the fork tongs are applied to the head of a stunned animal. After the expiration of the “**dl1**” or “**dl2**” time (one of these times must have a transition to heart stunning mode set)-first stunning stage will end. Upon completion of the first stage acoustic and visual signal will be generated (yellow LED light) indicating need to transition to the second stage. Fork tongs from the head of the stunned animal should be removed (signalled with green LED light) and placed in such a way, as to touch with one electrode between an eye and an ear, and near the heart with a second electrode.

Time for recapturing an animal is defined by the "**toFS**" parameter (usually 10 sec.). After re-restraining of an animal, the process continues until the end of the programmed time. End of stunning is signalled with acoustic and visual signal (yellow LED light). If, after the first stage operator will fail to capture the animal during "**toFS**" time, the device will stop stunning process, and the error message "**B**" will appear in the registry

8.2. Stunning error messages

The register in the "Status" column contains any errors that may occur during the stunning process. Each error has an assigned letter.

Explanation of individual errors:

- "**M**" - stunning value below minimum value of 1.3 A:

If, during the stunning current value drops below the given 1.3 A, it will be recorded in the register with a "**M**" error message.

- "**T**" - stunning below minimum time of 4 sec.:

If total stunning time will be shorter than 4 seconds, it will be recorded in the register with a "**T**" error message.

8.3. Stunning parameters

Stunning parameters depends on type and size of an animal (according to WE/1099/2009)

Animal	Min. current [A]
sheep, goats, calves	1,0
lambs	0,6
pigs	1,3
cattle <6msc ÷ >6msc 1,25 ÷ 1,28	1,25 ÷ 1,28

Recommendation: According to the FSIS 6900.2 Directive regarding humane slaughter methods, it is recommended to use current frequency to 800 Hz.

The method of changing the stunning parameters are given in point of the VBE-6 instruction manual.

Stunning device operates according to the chosen slaughter program. Present slaughter program is presented on the single Prog. display. Slaughter program number can be changed with a P button. Factory settings of individual slaughter program values, see attachment no. 1.








Operator can change parameters of a given program, depending on type of the stunned animal.

9. Instruction manual for the PIG821 slaughter parameter controller in VBE-6.

9.1. The appearance of the VBE-6 controller panel and the meaning of the buttons.

The appearance of the VBE-6 controller panel and the meaning of the buttons.




-  up
-  down
-  Enter (confirm)
-  Escape (exit)
-  Change of the stunning program
-  Change of the displayed [V] value from the voltage to frequency and back
-  Service button

The meaning of displays in the measurement mode

Prog - number of chosen stunning program

[A] - the intensity of the electric current (Amps)

[C] - electric charge (coulomb) / time (seconds)

[V] - voltage (volt) or frequency (Hertz) after pressing button 

The meaning of signalling lights

Alarm - signalling no SDHC card

Pgm - programming mode

HV - high voltage on electrodes

Proc - current drop below threshold value

The meaning of displays in the programming mode

[A]+[C] - name of parameter being altered









[V] - value of the parameter being altered












Prog - number of the edited program













9.2. The purpose of the controller console.



Controller console is used, during stunning, for displaying current values, such as: voltage/frequency - display **[V]**, intensity - display **[A]**, set electric charge/time - display **[C]** and present stunning program. It can also be used to change the current values for individual stunning programs, such as amperage (ampere), frequency [Hz] and set electric charge/time (sec), as well as define new sound programs and setting the current time and date.

9.3. Programmable controller parameters









Parameter	Description
	Cd - access code, parameter allowing on access to the programmer parameters.
Parameters common for all programs	
	Lc - Parameter allowing on setting the access code
	tSG – Parameter inactive in this software version
	YEAr – Date setting parameter (Year)
	Mon – Date setting parameter (Month)
	dAY – Date setting parameter (Day)
	Hour - Date setting parameter (Hour)
	Min – Date setting parameter (Minute)

	SEc – Date setting parameter (Second)
	toFH – Parameter inactive in this software version
	Pr - Parameter allowing on choosing required stunning program
Parameters of the chosen stunning program	
	toFF [s]– time counted from release of the fork tongs (during stunning), if during this time operator catch the animal again, the stunning will be continued, otherwise the stunning process will end.
	dL1 [s]- time of 1st slaughter phase
	Fr1b [Hz] - initial frequency of the 1st slaughter phase
	Fr1E [Hz] - final frequency of the 1st slaughter phase (frequency transits smoothly from Fr1b value in a dL1 time)
	SP1b [Hz] - initial current amperage of the 1st slaughter phase
	SP1E [A] - final current amperage of the 1st slaughter phase (frequency transits smoothly from SP1b value in a dL1 time)
	Tp1 – parameter defines dL1 section type. Detailed description see chapter: 10.4. Part type
	dL2 [s] - time of the 2nd slaughter phase (setting the dL2 value to "0" will cause skipping this phase and disappearing the parameters Fr2b; Fr2E; SP2b; SP2E from the menu)











	Fr2b [Hz] - initial frequency of the 2nd slaughter phase (frequency transits from the Fr1E value)
	Fr2E [Hz] - final frequency of the 2nd slaughter phase (frequency transits from the Fr2b value in a dL2 time)
	SP2b [A] - initial current amperage of the 2nd slaughter phase (frequency transits from the SP1E value)
	SP2E [A] - final current amperage of the 2nd slaughter phase (current transits from the SP2b value in a dL2 time)
	Tp1 – parameter defines dl1 section type. Detailed description see chapter: 10.4. Part type
	dL3 [s] - time of the 3rd slaughter phase (setting the dL3 value to "0" will cause skipping this phase and disappearing the parameters Fr3b; Fr3E; SP3b; SP3E from the menu)
	Fr3b [Hz] - initial frequency of the 3rd slaughter phase (frequency transits from the Fr2E value, if dL=0 from the Fr1E)
	Fr3E [Hz] - final frequency of the 3rd. slaughter phase (frequency transits from the Fr3b value in a dL3 time)
	SP3b [A] - initial current amperage of the 3rd. slaughter phase (frequency transits from the SP2E value, if dL2=0 from SP1E)
	SP3E [A] - final current amperage of the 3rd. slaughter phase (current transits from the SP3b value in a dL3 time)
	Tp1 – parameter defines dl1 section type. Detailed description see chapter: 10.4. Part type
	SPt [s] - time given in seconds is counted from the beginning of the stunning, after which end of stunning will be signalled (the yellow light and acoustic signal will turn on continuously) active and visible parameter, if the c-t (hidden service) parameter is set to 0.



	SPC [C] - electric charge given in Coulomb units [C], counted from the beginning of the stunning, after which end of stunning will be signalled (the yellow light and acoustic signal will turn on continuously) active and visible parameter, if the c-t (hidden service) parameter is set to 1.
	EnHU 0 - program is deactivated and it is omitted during parameter selection with the "P" button. 1 - program is active, fork tongs are energised with measuring voltage of approx. 15 V. 2 – Parameter inactive in this software version 3 – Parameter inactive in this software version
	toFS – maximum time operator has after the first stunning phase to capture an animal in the heart area, parameter activated after Head-heart selection.

9.4. Decoding of parameters.




- Enter the menu by pressing the Enter button . The correct entry into the programmer menu is signalled with blinking **Pgm** (program) light, the display will show blinking "Cd"  and below the value "0";
- Press the Enter button again . When "0" flashes on the [V] display, use the up and down buttons   to set the value "5" (this is the factory-set code for unblocking the remaining parameters, it can be changed by changing the Lc parameter);
- Press the Enter button again . On [A] [C] displays blinking "Lc" text should appear. At this moment remaining parameters are unblocked, and operator can access them with up and down buttons  .

9.5. Changing the individual stunning parameters.

- First, decode the parameters according to point. "4. Decoding of parameters".
- Next, with up and down buttons   find "Pr" parameter  (parameter for the to-be-modified program selection);
- Press Enter . When [V] value is blinking, choose program number to be changed. Press Enter after program selection , and using up and down buttons   select parameters to be changed (parameter list and their meaning are given in the table, page 3);
- Press Enter after the selection of the required parameter . When [V] display is blinking, change parameter values using up and down buttons  .

- Press the Enter button again after setting the value . Now another parameter can be changed in a same way, or operator can exit and save changed parameters by pressing Escape .

9.6. Setting the current date and time

- First, decode the parameters according to point. “4. Decoding of parameters”.
- Then, using up and down buttons   find parameter „YEAR” (Year) .
- If [V] display value does not correspond to the current date, press Enter and using up and down buttons set correct date and press the Enter button again. Repeat above procedure on remaining date parameters:

(Mon-month, dAY-day, Hour- hour, Min-minute, SEc-second)

- After setting all parameters exit by pressing the Escape button .

10. Stunning parameters logger

Logging equipment complies with the Council Regulation (EC) No. 1099/2009, dated 24-09-2009. (attachment II point 4.1) on the protection of animals at the time of killing.

Logging equipment come pre-installed in the **VBE-6** stunning device. During the slaughter, logger measures electric parameters related to slaughter and log these values on the SDHD card, located in the logger slot.

Logging of the stunning parameters starts upon turning on of the **VBE-6** device (start of stunning), when current exceed the value of 0.02 A. If current disappear within 1 second, collected parameters are deleted and not logged. If current exceed 0.02 A and lasts for at least 1 sec., it will be saved on the memory card.

Stunning parameter values are logged on SDHC card, in the **piglog.csb** text file format. Each line represents one slaughter.

Line of entry comprises of following values (from left):

- Slaughter subsequent number (reset after turning off the logger power supply);
- Slaughter date in a year-month-day format.
- Slaughter end time in an hour-minute-second format.
- Average voltage [V] measured during the slaughter;
- Max. current [A] measured during the slaughter.
- Electric charge value [C] measured during the slaughter;
- Slaughter duration [s];
- Initial current frequency [Hz];
- Program no.
- Errors logged during stunning

Example stunning parameter readings in the Excel format:

No.	Date	Time	U[V]	I[A]	q[C]	t[seg]	f[Hz]	NoProg	Status
1	15.12.2018	08:21:53	218	1,69	13,8	21,3	800	1	MD--S---
2	15.12.2018	8:22:19	220	1,69	14	10	800	1	-----
3	15.12.2018	8:23:04	220	1,69	14	10	800	1	-----
4	15.12.2018	8:23:38	217	1,68	13,6	10	800	1	-D-----
5	15.12.2018	8:24:24	218	1,69	6,3	4,7	800	1	-D-B----
6	15.12.2018	8:24:41	218	1,69	1,2	14,5	500	1	M-T-S---
7	15.12.2018	8:24:44	218	1,69	1,2	14,5	500	1	M-T-S---

NOTICE 1. Values given in the above reading, such as: intensity, frequency, charge and slaughter process duration are parameters set on the PIG821 controller of the VBE-6 device and can be changed by the user.

NOTICE 2. Astronomical time registered by the logger adjusted to the user's local time zone. The change of the time zone can be made by the service. The change from winter to summer time are done automatically.

Ablezen der aufgezeichneten Parameter

Um die aufgezeichneten Daten abzulesen, ist die SDHC-Karte herauszunehmen und die Karte in den Kartenleser des PC zu stecken. Die aufgezeichneten Daten können in NotePad oder Excel geöffnet werden. Es empfiehlt sich, die Datei **piglog.csv** von Zeit zu Zeit mit einem anderen Namen, wie z.B. Februar 2019.csv, auf die Festplatte zu kopieren und von der SDHC-Karte zu löschen. Das Registriergerät erstellt dann eine neue Datei **piglog.csv**.






11. Downloading and uploading stunning parameters

VBE-6 device is equipped with downloading stunning parameters from the VBE-6 device to the SD card and uploading parameters from the SD card on to the VBE-6 device.

Set of service parameters:

There is a "pigpar3.bin" file on the SD card, containing service settings for stunning parameters. To upload given set of parameters to the VBE-6 device, copy "pigpar3.bin" file to the SD card main catalogue and follow point I "Procedure for uploading parameters from the SD card to the VBE-6 device".

I. Procedure for uploading parameters from the SD card to the VBE-6 device.




- place the SD card containing "pigpar3.bin" file into the VBE-6 inspection window;
- Press simultaneously two buttons  , then, without releasing them, press and hold  until text appears on the control console display  . Release the buttons, when the text appears;

- ▶ Appearance of **Sd - P** means correct upload of parameters from the SD card to the VBE-6 device;
- ▶ For the process to be accomplished successfully, a file named **“pigpar3.bin”** must be in the root directory of the SD card.

There is a possibility of uploading own set of stunning parameters from the VBE-6 device into the SD card (i.e. to transfer parameters between devices).

Proceed in accordance with point II. “Procedure for downloading the VBE-6 parameters into the SD card”.

II Procedure for downloading the VBE-6 parameters into the SD card:

- ▶ place SD card into the inspection window of the VBE-6 device;
- ▶ press simultaneously two buttons   , then, without releasing them, press and hold  until text appears on the control console display **P- Sd** . Release the buttons, when the text appears;
- ▶ appearance of **P- Sd** means, that file **“pigpar3.bin”** has been uploaded to the root category of the SD card;
- ▶ if there is already a file named **“pigpar3.bin”** on the SD card, it will be overwritten.

12. Maintenance

The device does not require any special maintenance, in order to maintain proper cleanliness, it is only necessary to wipe the power supply box with a cloth. Do not use any detergents. However, it is necessary to clean the electrodes with a wire brush for stainless steels in order to ensure proper contact with the body of the animal and correct measurement of the body resistance of the stunned animal and an effective flow of the stunning current. It is also necessary to keep the device in proper technical condition and cleanliness. Do not immerse electrodes in washing and disinfecting solutions.

If the power cord is damaged, it should be replaced by the manufacturer of the device to avoid danger.



CAUTION!

Do not wash the device with pressure washer! Cleaning must be carried out manually, considering the safety conditions of electrical devices!

13. Maintenance, repairs, disassembly and disposal

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

- Daily service before and after work involves constant monitoring of the technical condition of individual components and parts that impact safety.
- Periodic maintenance, aimed at determining the wear of components and parts, as well as eliminating defects and malfunctions.



CAUTION! According to the Regulation of the Minister of Agriculture and Rural Development dated 09.09.2004, Journal of Laws no. 205, pos. 2102, §5 point 4, stunning device and equipment must be checked before every use.

Correct operation of the charger can be checked with the Tester AZ-1 (manufactured by the PPUH KOMA). In place of connecting the forks, connect the AZ-1 tester and turn on the power supply with the START/STOP switch. After pressing the button located on the tester, the simulated stunning process begins. Press and hold the button, until activation of the acoustic signal and yellow light turns on. After releasing the button, the simulated stunning process should end, the red and yellow lights go off and the alarm signal will be turned off. The voltmeter [V], should re-display about 15 V. The simulated stunning cycle started and completed in such a way confirms, that the device is operational.



CAUTION! Once a year, it is necessary to calibrate the device in the manufacture service facility. After successful calibration manufacturer issues appropriate document.

In case of repairs or inspections by third party with electrical qualifications, manufacturer is not responsible for the technical condition of the device and its safe operation.



In case of irregularities, report the defect to the manufacturer.

In case of complete wear of the device, its disassembly and disposal should be performed as follows:

- Unscrew all possible parts.
- Used and unusable parts should be taken to the waste electronic equipment collection facility.

Take precautions when dismantling the device by using appropriate hand tools and personal protective equipment (gloves, work clothes, apron).

14. Troubleshooting

Examples of troubleshooting are shown in Table 4.

PROBLEM	CAUSE	RECOMMENDATION
The rupture of blood vessels and bone displacement of a stunned animal, head incorrectly stunned.	Wrong stunning parameters. Innapropriate stunning technology. Animals under stress.	Choose the right stunning parameters: Frequency, charge/time, current. Analyse stunning process.
The device does not work.	Damaged pipe fuse interrupter	Replace with a new 3.15 A.
	START/STOP switch is tuned off (pic. 1, pos. 10)	Press START .
	Cause unknown	Contact service
No stunning process.	Electronic system does not work. No indications on the display.	Check fuse or contact manufacturer's technical support.
	No voltage on tongs. Voltmeter shows approx. 15 V.	Clean electrodes. Check fork tongs. Contact manufacturer's technical support.
LED light is not on	Blown LED diode.	Contact manufacturer's technical support.

AN DEN FOR THE USER

Please read carefully the contents 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 VBE-6 stunning device.



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