

INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS



WAGENER
VULCANIZERS



INCLUDES INSTRUCTIONS ALSO FOR:

- Electronic controller Operating instructions
- Switch box Spare parts list
- Wiring plan
- Software Splice Watch-Basic

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1	Switch box Operating instructions
2	Electronic controller Operating instructions
3	Switch box Spare parts list
4	Wiring plan
5	Software Splice Watch-Basic

Switch box:

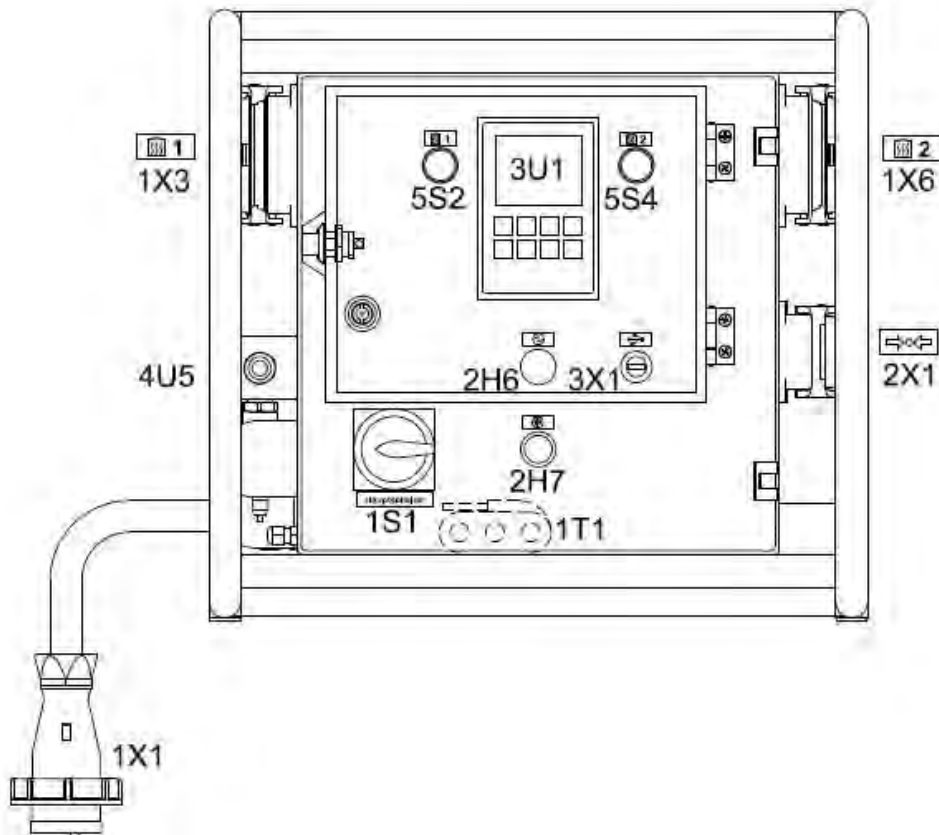
2- fold, Splice Watch

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1. Description



Principle sketch



NOTE

This figure shows a switch box with all possible equipment features. The actual equipment may differ from the figure shown.

Switch box:

2- fold, Splice Watch

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NOTE

When using vulcanizing heating platen with silicone heating elements, a residual-current operated circuit breaker (RCD 30 mA) must be connected between the power supply and the switch box.

The switch box is designed for three-phase systems and is equipped with all-round protective frame. There are mounted sockets on the side for connecting the vulcanizing heating platens. Depending on the equipment, there are additional mounted sockets on the housing, for example, for connecting a pressurized water unit.

As standard, the switch box is equipped with a main switch, an electronic controller, and a motor protector. A residual-current operated circuit breaker (RCD) for the heating and control current depends on the equipment. Illuminated buttons allow you to manually control the temperature of the heating platens. An acoustic buzzer indicates the end of the vulcanizing time.

The operating and display elements are located behind a lockable protective hood.

An integrated data acquisition system records the following parameters after starting the electronic controller:

- Vulcanizing temperature
- Vulcanizing time
- Power consumption of the heating platens
- Date/time

optional:

- System pressure

The vulcanizing data can be called up via the USB connection and visualized and evaluated on a computer with corresponding software.



NOTE

The following software is required:

- Splice Watch Basic

Switch box:

2- fold, Splice Watch

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NOTE

The following list contains all possible equipment features. For the actual equipment, refer to the spare parts list of the switch box.

The following elements are attached at the front:

Main switch	(1S1)	Switching the power supply on/off
Electronic controller	(3U1)	Temperature control of the platen 1, 2 Setting the temperature Setting the vulcanizing time Timer RESET Power consumption of the heating platens optional: Press pressure
Illuminated push-button, green	(5S2, 5S4)	Manual temperature control optional: Illuminating function when the heating platens are energized
Signal lamp, white	(2H6)	Mains control voltage is on
Electronic buzzer	(2H7)	End of vulcanizing time as an acoustic signal
USB socket	(3X1)	Data transfer to USB stick

Switch box:

2- fold, Splice Watch

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The following elements are attached at the left side:

Mounted socket	(1X3)	Connection for heating platen 1
Connector plug	(1X1)	Mains connection
Pressure measurement unit	(4U5)	System pressure measurement

The following elements are attached at the right side:

Mounted socket	(1X6)	Connection for heating platen 2
Mounted socket	(2X1)	Connection for pressurized water unit with EMU liquid

2. Function

 NOTE
See also: <ul style="list-style-type: none">• MultiControl compact controller operating manual• Chapter 6. Explanation of pictograms.

2.1 Commissioning

- Establish the mains connection. Make sure that the mains voltage matches the voltage specification on the type plate of the switch box.
- Establish the connection between the heating platen and the switch box using the connection cables provided for this purpose.

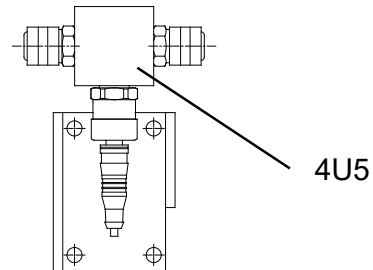
Switch box:

2- fold, Splice Watch

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- Optionally, connect a pressurized water unit to the mounted socket **2X1**.
- Optionally, connect the hose for pressure measurement to the pressure measurement unit **4U5**.

- Can be connected at either end
- One connection remains unused



- Switch on main switch **1S1**. The white signal lamp **2H6** lights up; the switch box is ready for operation. The electronic controller starts up.

In the event of a phase failure in the mains supply, activated residual-current operated circuit breaker (RCD) or triggered motor protectors, the white signal lamp **2H6** goes out and the switch box is not ready for operation.

2.2 Vulcanizing

- Set the vulcanizing time and the TARGET temperature at electronic controller **3U1**.
- Start the heating process at the electronic controller (automatic temperature control).

The temperature of the single heating platens and the remaining time are indicated in the display of the electronic controller.

The heating process starts and is brought to the TARGET temperature in a controlled manner.



NOTE




The illuminated push-buttons **5S2+ 5S4** light up when the heating platens are energized.

Switch box:

2- fold, Splice Watch

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When the set TARGET temperature is reached, the set vulcanizing time starts running. The end of the vulcanizing time is indicated by an acoustic signal from buzzer **2H7**.

- Buzzer **2H7** must be switched off and the vulcanizing time reset after the vulcanizing time has expired. For this, press the RESET button  on the electronic controller.
- Faults
 - The vulcanizing process is canceled by:
 - pressing the RESET button  twice briefly
 - keeping the RESET button  pressed for 3 sec.
 - If there is a fault in the electronically-controlled temperature control, each heating platen can be manually switched on and off using illuminated push-buttons **5S2 + 5S4**.

Manual temperature control:


- Left button: Heating platen 1
- Right button: Heating platen 2

The illuminated push-buttons must be kept in their position.

The temperature is controlled by external temperature measuring instruments.

- Main switch **1S1** is switched off after conclusion of vulcanization. The power supply and the connection to the heating platens can now be disconnected.

3. Data evaluation with Splice Watch

- Insert the USB stick into socket  **3X1**.
- Transfer the vulcanizing data to the USB stick (see "MultiControl compact controller" operating manual).
- Visualize and evaluate the vulcanizing data on the computer using appropriate software.

Switch box:

2- fold, Splice Watch

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4. Safety

- The switch box is not explosion-protected. Therefore, it must not be operated in areas in which the specific requirements with regard to explosion protection must be applied.
- The switch box must be protected from frost, moisture, dust, vibrations, increased ambient temperatures, and direct sunlight.



WARNING

Danger to life due to electrocution!

- Always disconnect the switch box from the electrical system before working on electrical equipment.
- Only have work on electrical equipment carried out by authorized, qualified expert personnel.
- Establish the electrical connections according to the wiring plan.
- Route the supply lines to the device so that they are not in danger of shearing off or being crushed.
- Lock the switch box door and keep the key in a separate location after completing the work.

5. Maintenance

- Clean the switch box regularly and store it dry.



NOTE









Defective electronic controllers cannot be repaired by the customer and must be replaced.

Switch box:

2- fold, Splice Watch

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6. Explanation of pictograms

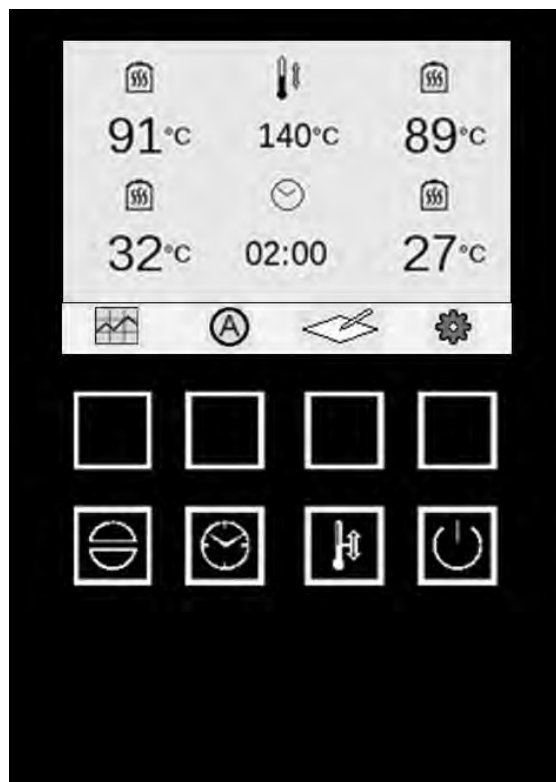
	<p>Phase control lamp, white: Mains voltage is connected, motor protectors are switched on</p>
	<p>Buzzer Vulcanizing time has expired</p>
	<p>Heating current channel (heating platen) 1 to 2</p>
	<p>USB socket</p>
	<p>Electronic controller: Push button: Start automatic temperature control</p>
	<p>Electronic controller: Push button: Set vulcanizing temperature</p>
	<p>Electronic controller: Push button: Set vulcanizing time</p>
	<p>Electronic controller: Push button: Timer reset or acknowledge fault</p>

MultiControl compact controller

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Multi-channel temperature controller
with additional functions

Article number LEK32401270



MultiControl compact controller

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1. General

The controller is a microprocessor-controlled multi-channel temperature controller with time feature and additional features.

The control functions, measuring inlets and operating structures of the device are designed for temperature control.

Heating control behavior is a two-step action with PID control characteristics.

1.1 Temperature controller functions

- Temperature control of max. 4 heating channels
- Uniform adjustment of all heating channels to the setpoint temperature through temperature difference monitoring
- Display of setpoint and actual temperature
- Heating channel status display through different colors
- Pause function for vulcanization interruptions

1.2 Time functions

- Display of the preset remaining vulcanizing time

1.3 Additional features

- Graphic display of temperature curve during vulcanizing
- Display of power consumption of active heating channels
- Storage of vulcanizing data / assignment number allocation
- Read-out of vulcanizing data / storage on USB stick

1.4 Optional special functions

- Display of press pressure during vulcanizing
- Display of humidity and outside temperature

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NOTE

The optional special features are enabled or disabled depending on the model of the vulcanizing press.

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2. Operating structure

The operating structure of the compact controller covers various operator levels. Buttons with fixed functions and buttons with dynamic function assignment are used to jump between levels, menus and displays.

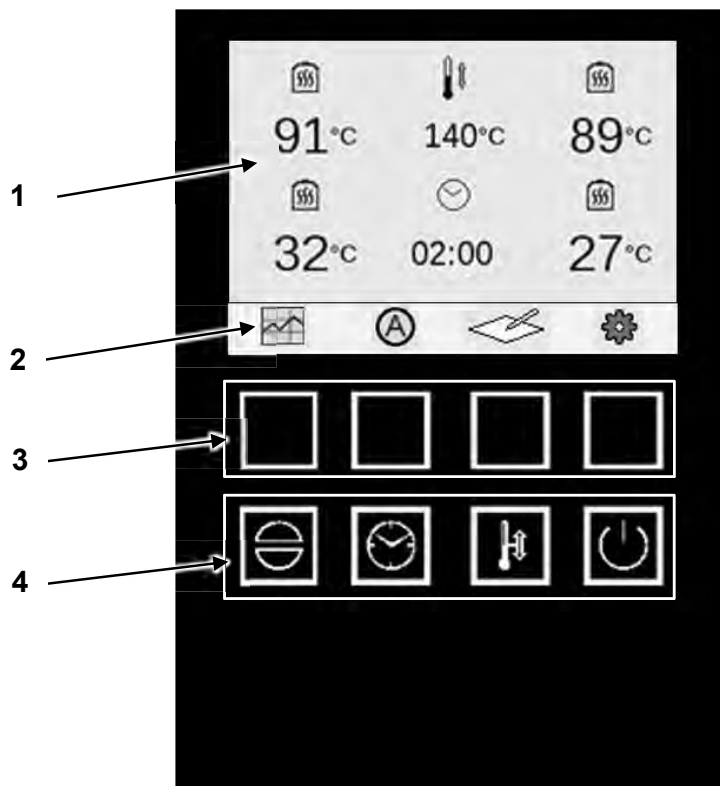


Fig. 1 Controller, operating structure

1	Display area for status displays, setpoint value settings, heating diagram, assignment number allocation and data transfer
2	Display area for buttons with dynamic function assignment
3	Buttons with dynamic function assignment (soft keys)
4	Buttons with fixed function (hard keys)

MultiControl compact controller

3. Operating and display elements

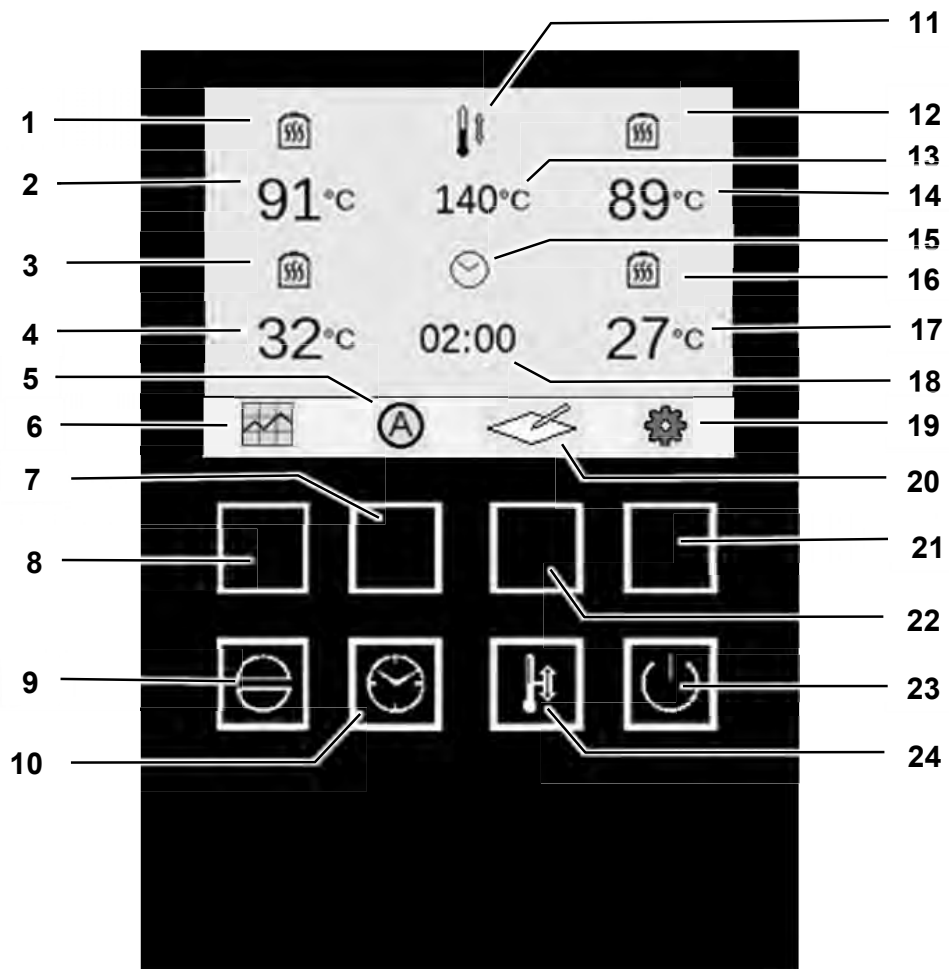


Fig. 2 Controller, operating and display elements











NOTE

Functions and displays may vary depending on controller configuration.






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1	<p>Status display: Heating channel 1</p>  Heating platen connected Display yellow during active heating
2	<p>Actual value display: Heating channel 1</p> Display yellow: Heating active Display green: Temperature in setpoint range Display red: Setpoint range exceeded Display blue: Automatic temperature control ended Display ---: No heating platen connected
3	<p>Status display: Heating channel 3</p>  Heating platen connected Display yellow during active heating
4	<p>Actual value display: Heating channel 3</p> Display yellow: Heating active Display green: Temperature in setpoint range Display red: Setpoint range exceeded Display blue: Automatic temperature control ended Display ---: No heating platen connected
5	<p>Function assignment for selector button 7</p>  Switch to "Power consumption" display  Switch to "Press pressure" display  Switch to "Humidity and outside temperature" display  Vulcanizing temperature / duration: Increase setpoint value  Assignment number allocation: Navigation to the right  Basic settings: Navigation down










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6	<p>Function assignment for button 8</p> <p> Switch to "Heating diagram" display</p> <p>▪ Vulcanizing temperature / duration: Reduce setpoint value</p> <p> Assignment number allocation: Navigation to the right</p> <p> Basic settings: Navigation up</p>
7	Button according to function assignment 5
8	Button according to function assignment 6
9	<p>Reset button</p> <p>End vulcanizing Press button for approx. 3 sec. or 2x briefly</p> <p>Pause vulcanizing Press button once briefly</p> <p>Acknowledge faults</p>
10	<p>Vulcanizing time button</p> <p>Jump to "Vulcanizing time" menu</p>
11	<p> "Vulcanizing temperature" icon</p>
12	<p>Status display: Heating channel 2</p> <p> Heating platen connected</p> <p>Display yellow during active heating</p>
13	Setpoint value display: Vulcanizing temperature
14	<p>Actual value display: Heating channel 2</p> <p>Display yellow: Heating active</p> <p>Display green: Temperature in setpoint range</p> <p>Display red: Setpoint range exceeded</p> <p>Display blue: Automatic temperature control ended</p> <p>Display ---: No heating platen connected</p>

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15	 Vulcanizing time icon  "Pause" icon
16	Status display: Heating channel 4  Heating platen connected Display yellow during active heating
17	Actual value display: Heating channel 4 Display yellow: Heating active Display green: Temperature in setpoint range Display red: Setpoint range exceeded Display blue: Automatic temperature control ended Display ---: No heating platen connected
18	Display: Vulcanizing time During vulcanizing: Remaining time display
19	Function assignment for selector button 21  Switch to "Basic settings" main menu  Switch to start screen  Adoption of data entries in the basic settings Adoption of data during assignment number allocation Adoption of setpoint entries for vulcanizing time and vulcanizing temperature
20	Function assignment for selector button 22  Jump to "Assignment number allocation" menu  Assignment number allocation: Navigation down  Cancellation of setpoint entries for "Vulcanizing time and temperature" Cancellation of data entries in "Basic settings" menu

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21	Button according to function assignment 19
22	Button according to function assignment 19
23	Start button Vulcanizing: Start automatic temperature control End pause, re-start vulcanizing
24	Vulcanizing temperature button Jump to "Vulcanizing temperature" menu

MultiControl compact controller

4. Commissioning

4.1 Switching on

Turn on switch box.

The controller starts up in approx. 30 seconds after switching on.

The controller is then ready for operation.

4.2 Setting vulcanizing temperature

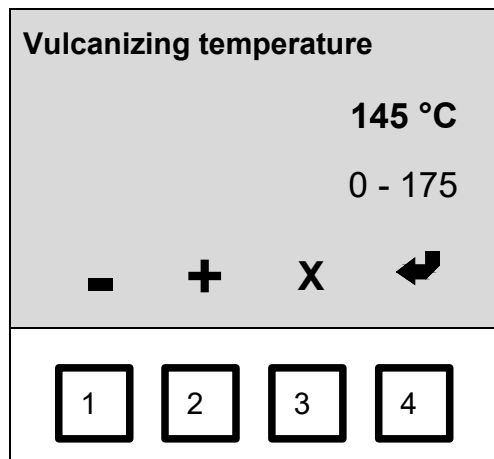



Fig. 3 "Vulcanizing temperature" operator level

1. Press  button.
 - The controller switches to the "Vulcanizing temperature" menu.
 - The last value set and the setting limits are displayed.
2. Set the desired temperature using buttons **1** and **2**.
3. Press button **4**.
 - The new value will be adopted
 - The controller switches to the "Start screen" display.



NOTE

The procedure can be canceled by pressing button **3**.

MultiControl compact controller

4.3 Setting vulcanizing time

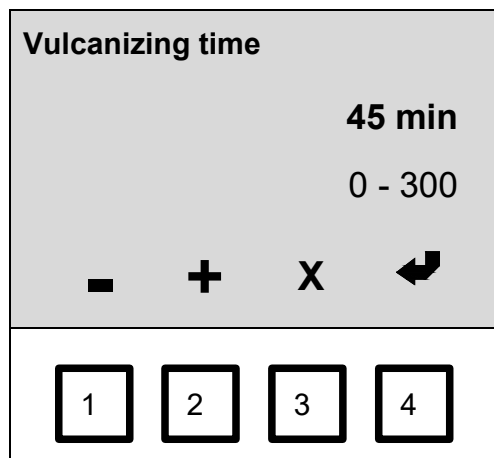



Fig. 4 "Vulcanizing time" operator level

1. Press  button.
 - The controller switches to the "Vulcanizing time" menu.
 - The last value set and the setting limits are displayed.
2. Set the desired vulcanizing time using buttons **1** and **2**.
3. Press button **4**.
 - The new value will be adopted
 - The controller switches to the "Start screen" display.



NOTE

The procedure can be canceled by pressing button **3**.


MultiControl compact controller

5. Vulcanizing



NOTE

If the vulcanizing temperature or time are changed when the controller is in operation, then the controller must first adjust to the new value.

1. Press  button.
 - The heating-up phase is started after 30 seconds.
 - The color of the temperature displays changes to yellow.
2. The vulcanizing time starts once the temperature of all connected heating platens are within the setpoint range.
 - The color of the temperature displays changes to green.



NOTE


The setpoint range is ± 5 K of the vulcanizing temperature.



NOTE

If the setpoint value is exceeded, the color of the temperature displays will change to red.

If the setpoint value is exceeded by more than 20 °C, the automatic temperature control switches off.



3. Automatic temperature control stops after the vulcanizing time has expired.
 - The color of the temperature displays changes to blue.
4. Acknowledge the end of vulcanizing by pressing the reset button  once.
 - The controller is reset to its start values.

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5.1 Pausing/aborting in case of malfunction

The automatic temperature control can be interrupted during the heating-up and vulcanizing phase.


1. Press the Reset button  once.
 - The automatic temperature control is stopped.
 - The interruption is displayed on the start screen with the pause icon **||**.
2. Press  button.
 - The automatic temperature control re-starts.



NOTE

If the current vulcanizing time is interrupted, only the temperature control is stopped; the timer will continue to run.

The automatic temperature control can be canceled at any time.


3. Press the reset button  twice briefly or once for 3 seconds.
 - The controller is reset to its start values.

MultiControl compact controller

6. Additional features

6.1 Graphic display of temperature curve

NOTE
The temperature curve can be displayed in a graph during vulcanizing.

1. Press  button.
 - The controller switches to the “heating diagram” display.
 - The heating curve of the current vulcanizing is displayed.

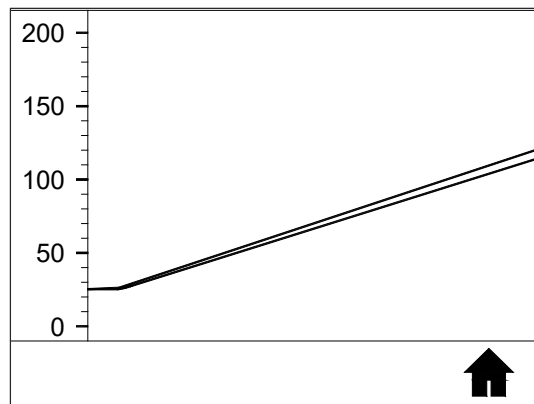




Fig. 5 Graphic display of the temperature curve

2. Press  button.
 - The controller switches to the “Start screen” display.

MultiControl compact controller

6.2 Display of heating platen current values

NOTE
The current values of the connected heating platens can be displayed during vulcanizing.

1. Press the  button in the “Start screen” display.
 - The controller switches to the “current values” display.

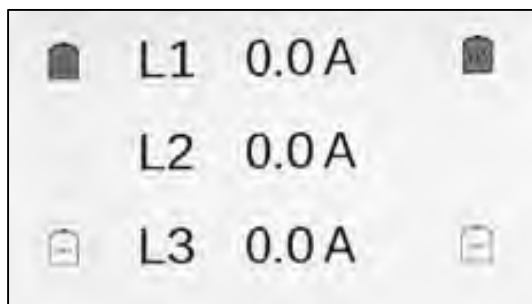







Fig. 6 “Current values” display

2. Press the  button and select the heating platen.
 - The current values of the selected heating platen are displayed.
3. Use the  button to query the current values of all connected heating platens.

NOTE

	heating platen connected
	heating platen not connected

4. Press  button.
 - The controller switches to the “Start screen” display.

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6.3 Assignment number allocation

NOTE

The vulcanizing data is stored internally with date and time and can be transferred to a USB memory stick.

In order to make it easier to find a data set, an assignment number/designation can be allocated to the vulcanizing.

CAUTION! Allocation must be carried out before vulcanizing is started.

1. Press the selector button .
 - The controller switches to the “Assignment” menu.

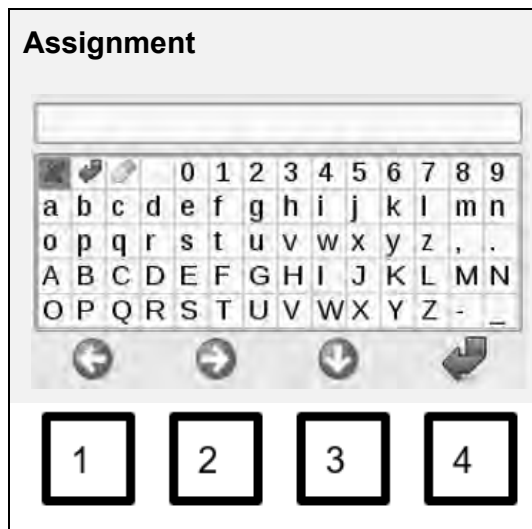



Fig. 7 “Assignment” menu




2. Select character with buttons **1, 2, 3**.
3. Confirm the selected character by pressing button **4**.
 - The character is accepted.
4. Repeat the process until the designation or assignment number is complete.
5. Use buttons **1, 2, 3** to select the input icon  in the character field.

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6. Adopt the designation or assignment number by pressing selector button 4.
- The controller switches to the “Start screen” display.
 - The designation/assignment number is displayed on the start screen beside the date.

Special characters in the character field:

-  Entry is not accepted
-  Entry is accepted
-  The last character entered will be deleted


MultiControl compact controller

6.4 Reading out vulcanizing data

NOTE

The vulcanizing data is recorded internally and can be transferred to a USB memory stick after the end of vulcanizing.

CAUTION! The oldest existing data is overwritten if the internal device memory is full.

1. Insert the USB stick at the switch box.
 - The USB stick is detected automatically and displayed at the top right of the start screen.
2. Press the  button in the “Start screen” display.
 - The controller switches to the main menu.

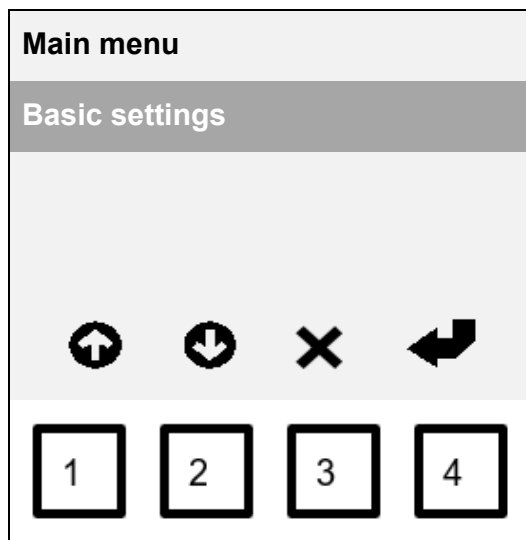


Fig. 8 “Main menu”

3. Select menu item “Basic settings” with buttons **1** or **2**.
4. Press button **4**.
 - The controller switches to the “Basic settings” menu.
5. Return from the menu with button **3**.

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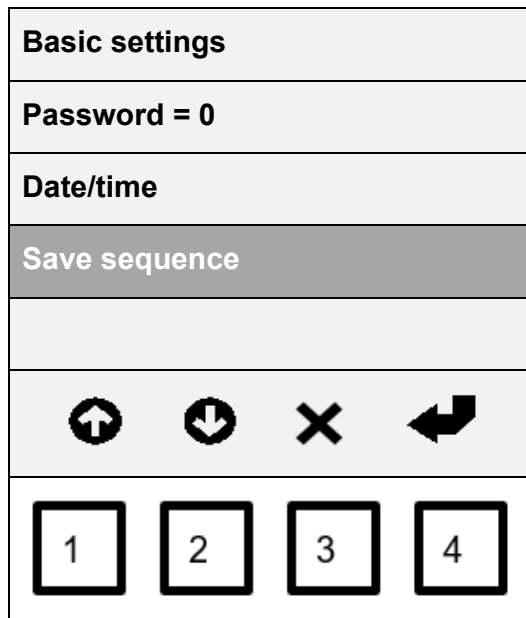


Fig. 9 "Basic settings – save sequence" menu

6. Use buttons **1** and **2** to navigate to menu item "Save sequence".
7. Press button **4**.
 - All vulcanizing data stored in the controller is written to the USB stick.
8. Return from the menu with button **3**.

NOTE

Once the writing process is finished, the USB stick icon will illuminate green on the start screen and the memory stick can be removed.

MultiControl compact controller

7. Optional special functions

NOTE
Depending on the switch box model and controller configuration, the press pressure, outside temperature and humidity can be shown during vulcanizing.

7.1 Displaying press pressure



Fig. 10 "Start screen" display

1. Press button **2** in the "Start screen" display several times until the controller switches to the press pressure display.
 - The current press pressure is displayed.

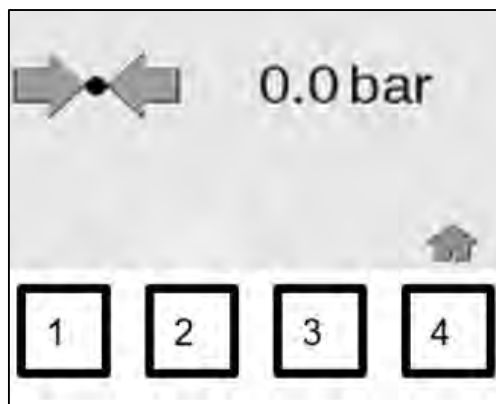


Fig. 11 "Press pressure" display

2. Return from the display with button **4**.

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7.2 Displaying outside temperature and humidity

1. Press button **2** in the “Start screen” operator level several times until the controller switches to the “Outside temperature and humidity” display.
 - The current outside temperature and humidity are displayed.

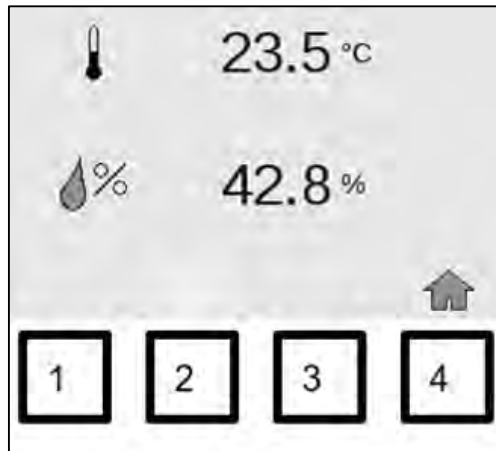


Fig. 12 “Outside temperature and humidity” display

2. Return from the display with button **4**.

MultiControl compact controller

8. Enter date / time

NOTE

The date and time must be re-entered when using in other time zones and after replacing the batteries.



Fig. 13 "Start screen" display

1. Press button 4 in the "Start screen" display.
 - The controller switches to the main menu.

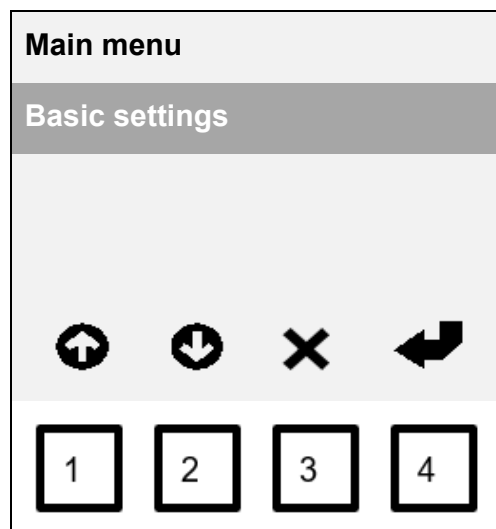


Fig. 14 Main menu

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2. Use buttons **1 + 2** to select the menu item “Basic settings”.
3. Press button **4**.
 - The controller switches to the “Basic settings” menu.

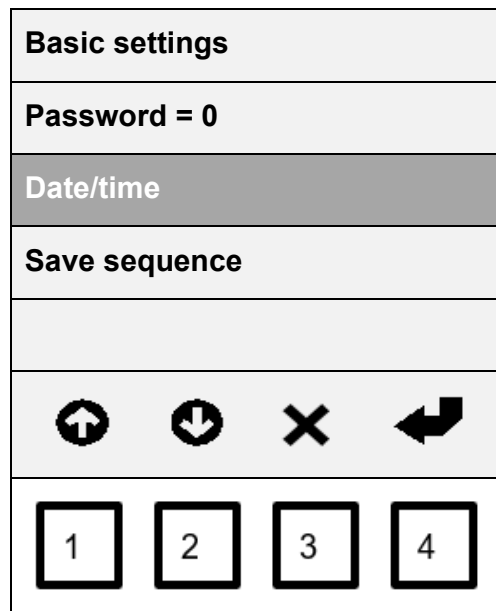


Fig. 15 “Basic settings – date/time” menu

4. Use buttons **1** or **2** to navigate to menu item **Date/time**.
5. Press button **4**.
 - The controller switches to the **Date/time** menu.
6. Return from the menu with button **3**.

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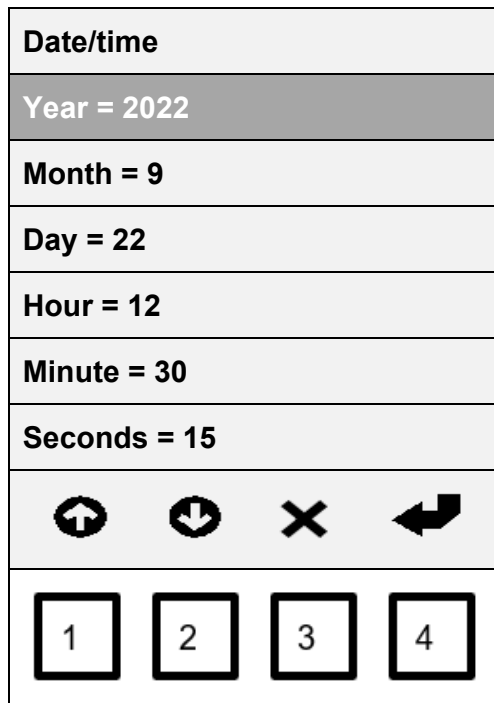


Fig. 16 "Date/time" menu

7. Navigate using button **1** or **2**.
8. Use button **4** to open the selected menu item and enter or change data using button **1** or **2**.
9. Press button **4** to adopt the data.

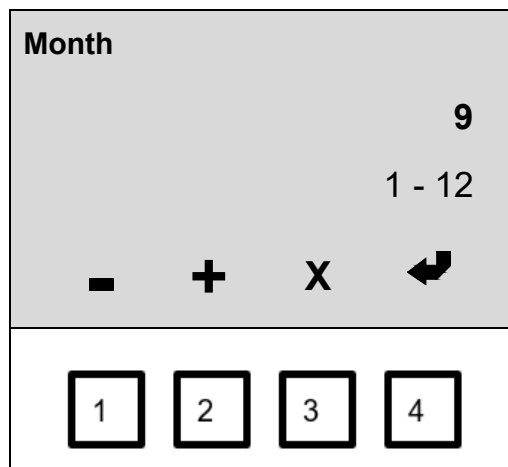


Fig. 17 "Date/time - month" menu

10. Return from the menu with button **3**.

MultiControl compact controller

9. Replacing the battery

Battery type: Lithium battery CR2032, 3 V, 230 mAh (210 mAh)

1. Remove the battery holder [A] at the back of the controller.
2. Insert the battery with its plus pin pointing upwards in the battery holder [A].
3. Insert the battery holder back into the controller.

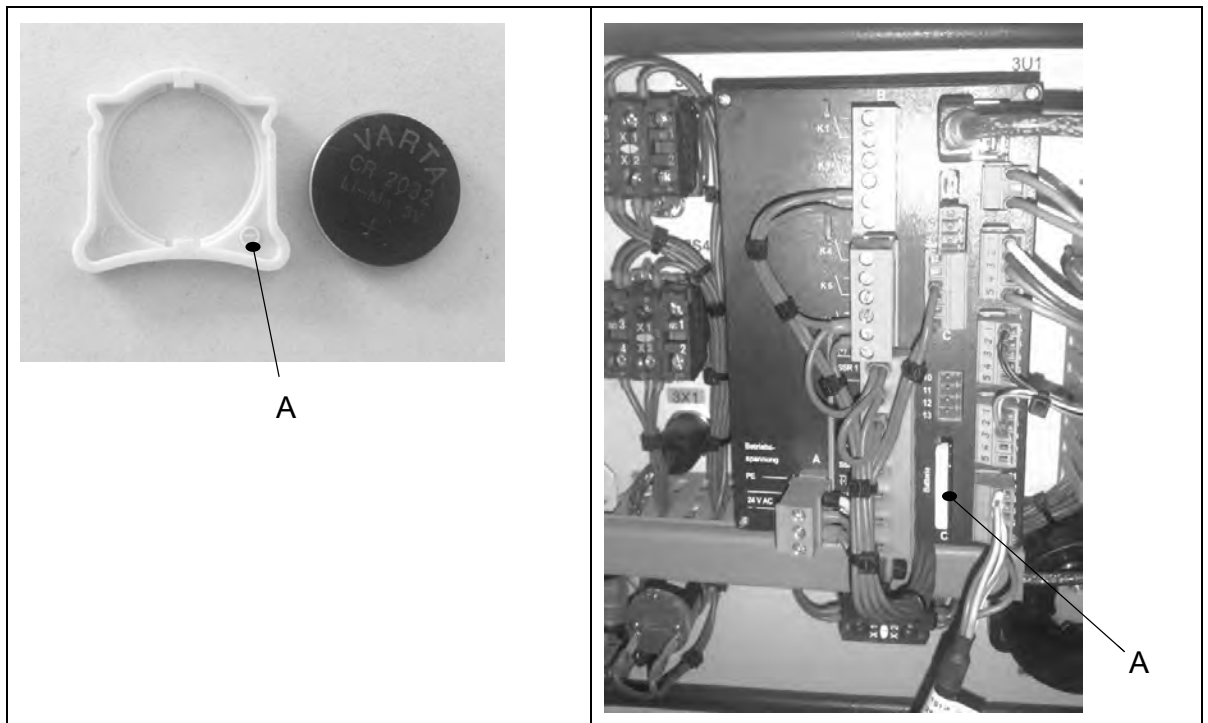


Fig. 18 Battery replacement



NOTE

If the battery is inserted incorrectly, the date and time are not stored and will be displayed incorrectly after a power failure.

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10. Error messages and malfunctions

Error message	Cause	Remedy
POWER FAILURE	Power supply has been interrupted during the process	
FEHLER_VORWAERMEN Error preheating	No sensor pair is operating correctly during the preheating phase	Check and replace sensor if necessary
FEHLER_AUFHEIZEN Error heating up timeout	The vulcanizing range has not been reached by all channels within the specified time	Check and replace sensor or heating element if necessary
FEHLER_VULK_BEREICH Error temperature under-shoot	A temperature was below the vulcanizing range for too long	Check and replace sensor or heating element if necessary
FEHLER_VULK_FUEHLER Sensor pair error	Both sensors of the started pair are defective; vulcanizing is no longer possible	Check and replace sensor if necessary
Fühlerfehler Kanal 1 Error sensor 1	Sensor break, sensor short circuit	Check and replace sensor if necessary
Fühlerfehler Kanal 2 Error sensor 2	Sensor break, sensor short circuit	Check and replace sensor if necessary
Fühlerfehler Kanal 3 Error sensor 3	Sensor break, sensor short circuit	Check and replace sensor if necessary
Fühlerfehler Kanal 4 Error sensor 4	Sensor break, sensor short circuit	Check and replace sensor if necessary
Overtemperature Overtemperature	The overtemperature threshold has been exceeded	Allow device to cool down, check activation

MultiControl compact controller

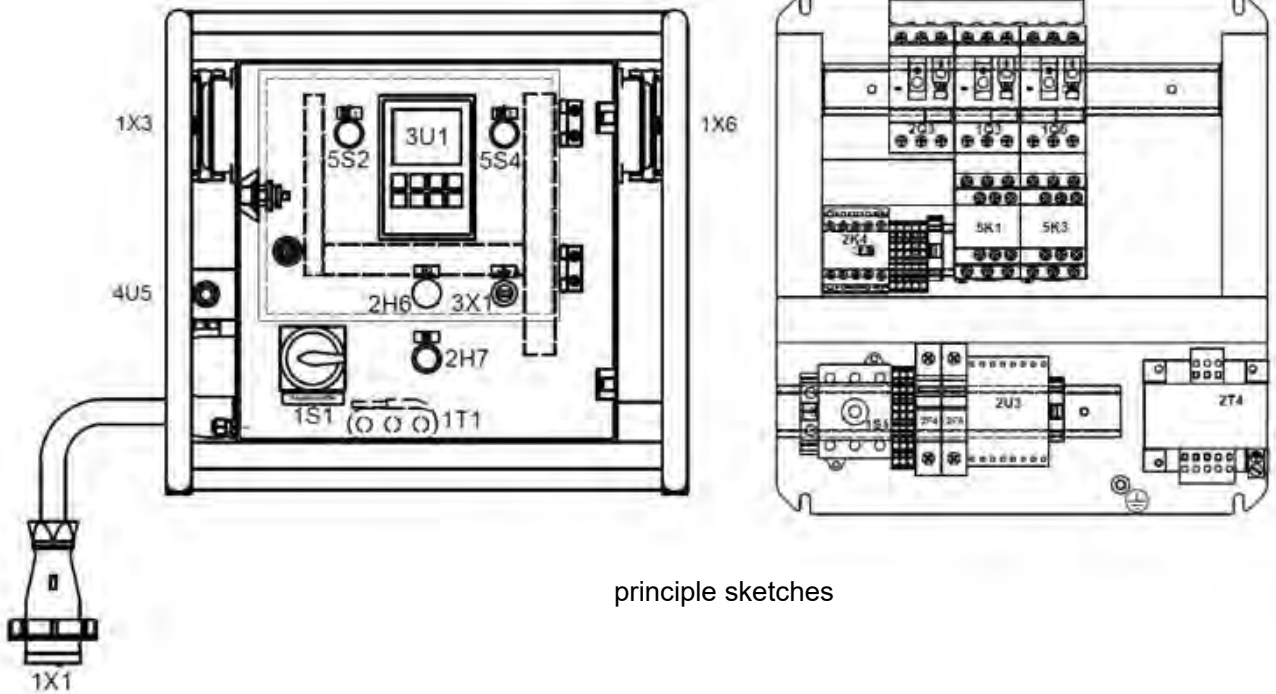
Page 28/28
Rev. B

Fault	Cause	Remedy
Actual value display sometimes jumps; control is erratic	Strong electrical interference pulses, possibly from non-interference suppressed, inductive consumers may be interspersed via incorrectly laid sensor cable, via the control cable or via the supply line, or the controller is installed near an inductive consumer.	Check and correct the fitting and installation of the device based on the fitting and installation instructions. Pay special attention to the wiring of consumer, control and sensor cables and optimize them. Check whether inductive consumers such as contactors, motors, connected transformers, etc. are sufficiently shielded and shield them when necessary. Connect an interference suppression filter to the power line of the device if all else fails.
The actual value display jumps wildly over the entire temperature range; control is impossible	The sensor cable is broken or worn through Defective sensor The terminal strip on the device is defective or corroded due to incorrect handling.	Replace the sensor cable Replace the sensor Check and clean the contacts on the device; replace the terminal strip. If contacts are defective, return the controller for repairs
The configured setpoint value is not reached	Insufficient heating or cooling power, the controller is incorrectly configured or parameterized Incorrect sensor used in the device or sensor is not correctly adjusted or incorrectly connected; sensor is badly positioned	Adjust the device to the control path. Check the heating or cooling power, installation, version and adjustment of the sensor, and correct if necessary
Imprecise or erratic control	Difficult control path, controller incorrectly adjusted	Adjust the controller to the control path.

Switch Box

2-fold, 16 A, SPW

page 1/2



principle sketches

EI ¹	WA16 2S 60 160A							Article-No.	Description
1Q3, 1Q6	x							EK10104111	motor protective switch 13-18 A
2Q3	x							EK1010402	motor protective switch 0.16-0.25 A
5K1, 5K3	x							EA02339941	contactor 18/32 A, 24 V, 50/60 Hz
2K4	x							EK10102249	contactor, 660/690 V, 50/60 Hz
1T1	x							EK10109100	current transformer 125 A
2T4	x							EK10000561	Transformer 100 VA, prim. 220-550 V, Se: 24 V
2U3	x							EK1000113	power unit 1A, 230-550 V / 24 V
3U1	x							EK32401270	multi compact controller

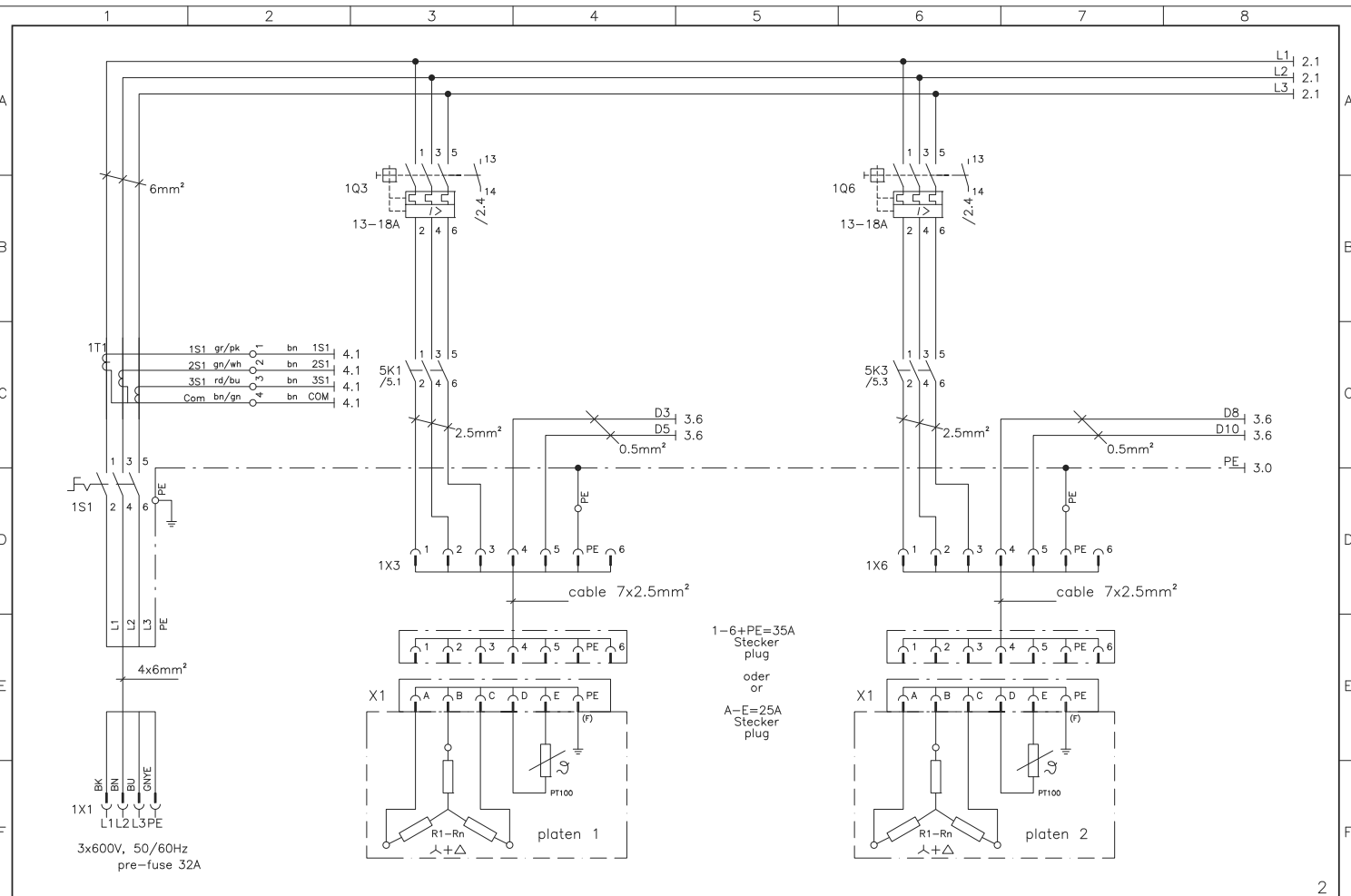
1 Equipment identifier

Switch Box

2-fold, 16 A, SPW

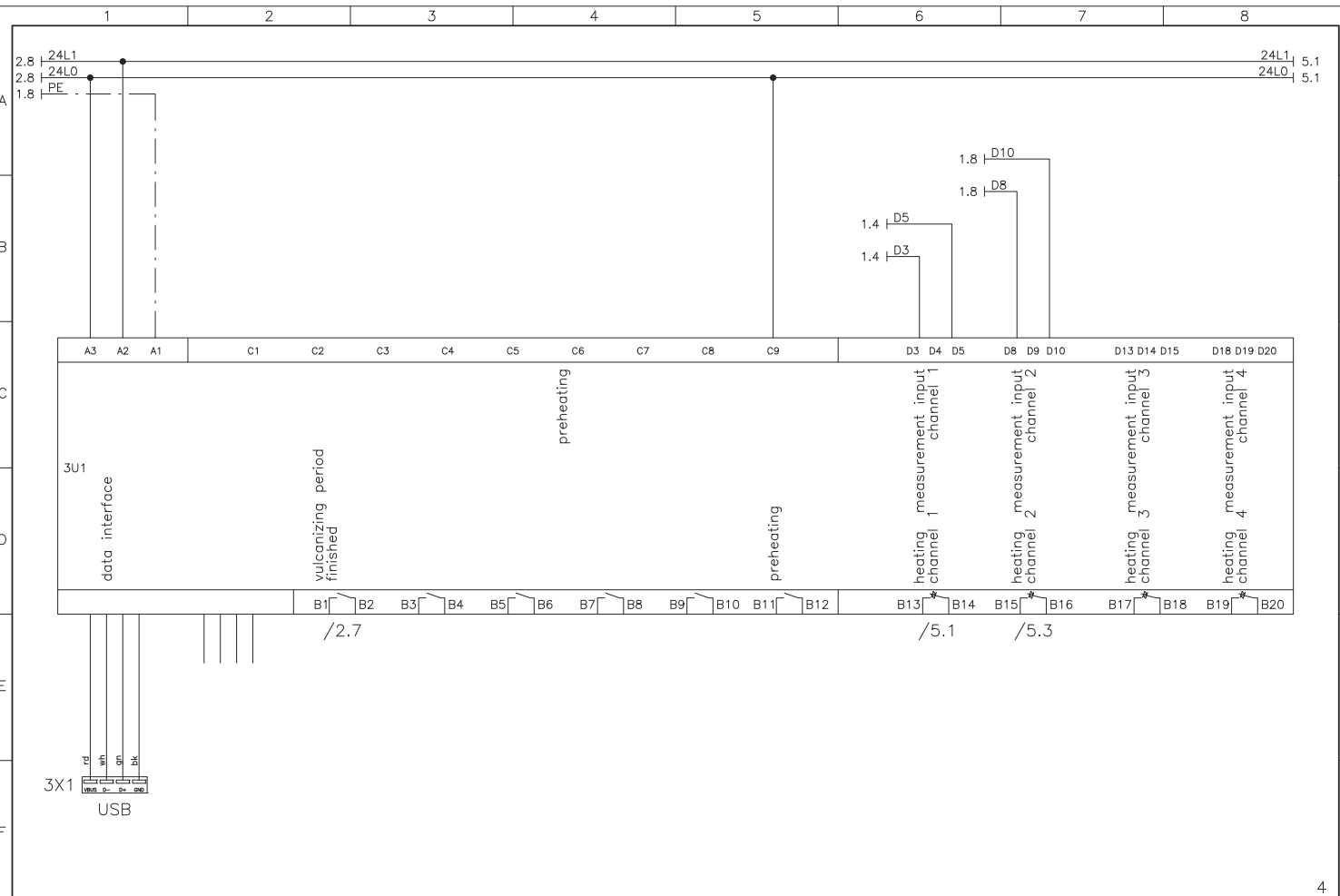
page 2/2

EI ¹	WA16 2S 60 160A							Article-No.	Description
4U5	x							NJA117013A EK10601041 EK31101060 EK30116951	pressure measuring unit comprises pressure switch 0-40 bar coupling DN7.2 G1/4" protective cap
4W6	x							EK3050903	cable jack with 5 m cable
1S1	x							EK1010731	main switch 3-pole, 40A, IP66
5S2, 5S4	x							EK10803711	illuminated push-button 24 V, LED green
2H6	x							EK10803672	pilot light 24 V, LED white
2H7	x							EK10603600	electronic buzzer 24 V, 85 dB
1X3, 1X6	x							EK10301796 EK10401744	mounted housing with cap female insert 6-pole, 35 A, 400/690 V
3X1	x							EK10603691	USB connector
1X1	x							EK1030051	plug 4-pole, 30 A, 600 V, IP67
...	x							EA02111704	rubber-sheathed hose 4x6 mm ²



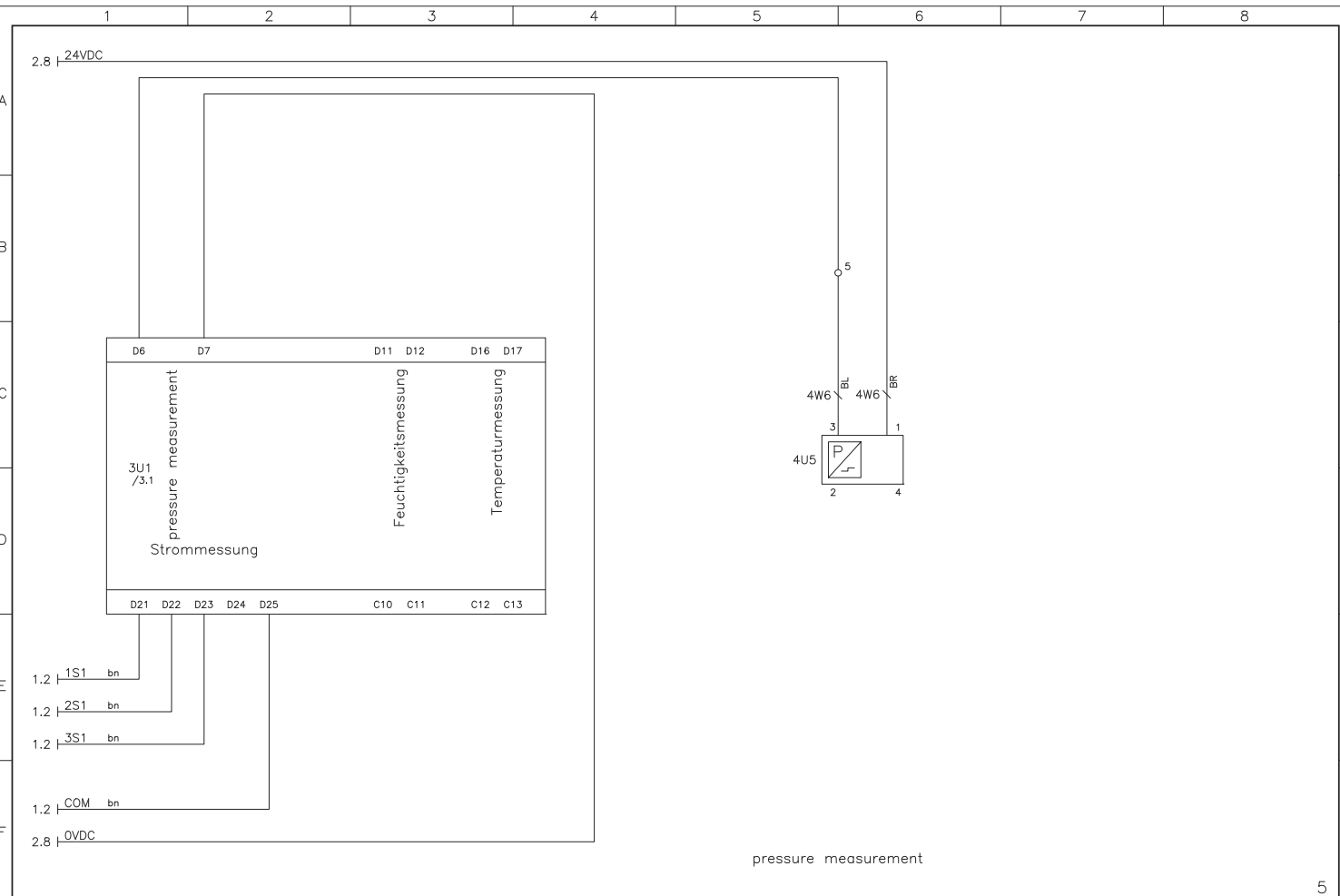
2

		date	03.06.2024	wiring plan		WAGENER VULCANIZERS		ASGCO		type	WA162S60160A	=
		drawn by	KL			replaced by				part no.	WA162S60160A	+
rev.	modification	date	name	chkd.	Pa	original	subst. for	drawing no.:		WA162SE60160A	page 1	+
								from		5	pg.	
												plot date: 02.07.24 09:32:06



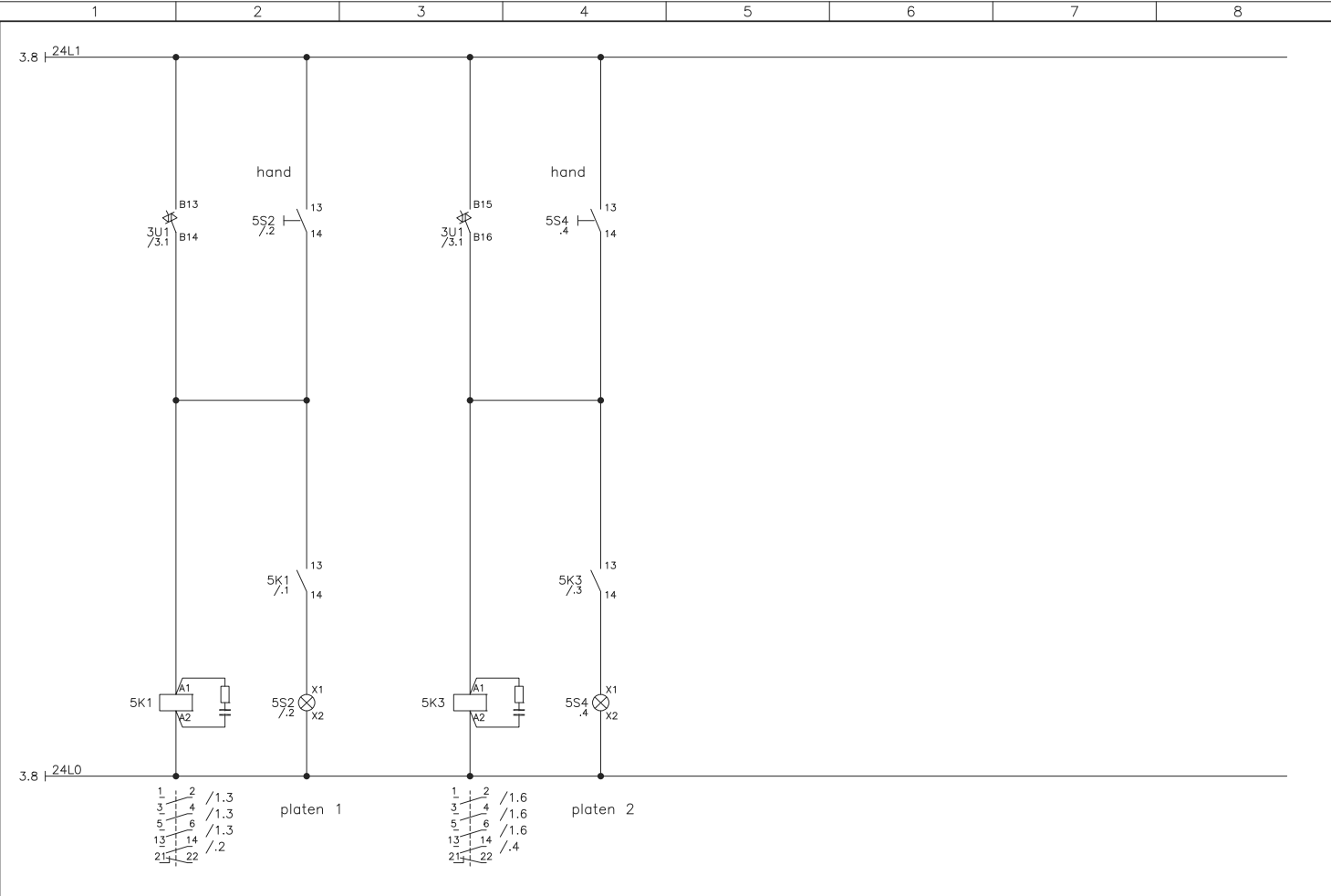
4

			date	03.06.2024	wiring plan				type	WA162S60160A	=		
			drawn by	KL							+		
			chk-dat	06.06.2024					part no.	WA162S60160A	drawing no.	WA162SE60160A	page 3
rev.	modification	date	name	chkd.	Pa	original	subst. for	replaced by					from 5
													pg.



5

			date	03.06.2024	wiring plan			type	WA162S60160A	=			
			drawn by	KL						+			
			chk-dat.	06.06.2024				part no.	WA162S60160A	drawing no.	WA162SE60160A	page 4	+
rev.	modification	date	name	chkid.	Pa	original	subst. for	replaced by				from 5	pg.



		date	03.06.2024	wiring plan		WAGENER VULCANIZERS		ASGCO		type	WA162S60160A	=
		drawn by	KL							part no.:	WA162S60160A	+
		chk-dat.	06.06.2024							drawing no.:	WA162SE60160A	page 5 -
rev.	modification	date	name	chkd.	Pa	original	subst. for	replaced by				from 5 pg.

HERSTELLER / MANUFACTURED BY:

**Coal Control GmbH
Reisholzstraße 15
40721 Hilden
Germany**



Original operating manual

SPLICE-WATCH Basic Software

4/23/2024

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2 Product information

2.1 Description

The software is used for the evaluation of the measured data of a vulcanizing process. You can use a USB stick to transfer the measured data from a SPLICE WATCH-capable switch box to your end device. The following measured data are displayed in a diagram by the software:

- Vulcanizing time
- Vulcanizing temperature
- Ambient temperature
- Humidity
- Press pressure
- Energizing

SPLICE WATCH *report*

While creating a report, you have the possibility to display the graphs and further information as a PDF. You can enter details to the following parameters.

- Service
- Conveyor belt
- Vulcanizing press equipment
- Splicing kit material
- Splicing parameters

2.2 System requirements

For the installation and the error-free use of the software, your end device must meet the following requirements:

- Operating system Microsoft Windows 7 or higher
- Windows Feature .Net-Framework version 3.5
- USB port for installation and data transmission
- 1 GB free disk space
- PDF reader

2.3 Product version

- Splice Watch Basic ver.3.02.05

3 Installation



Before installing the software, make sure that there is no older version of the software available on the end device.

3.1 Uninstalling the old software

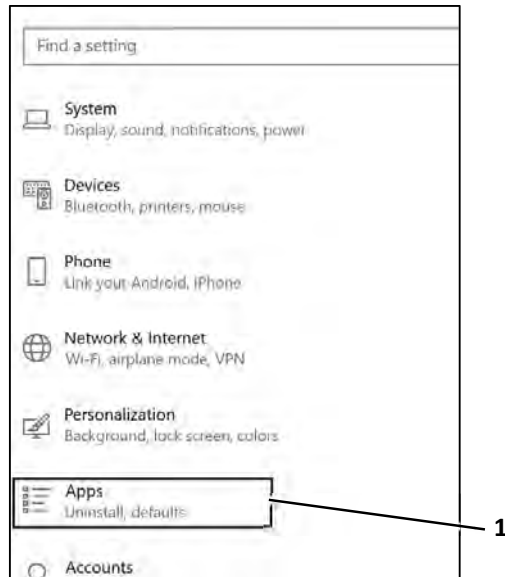


Fig. 1: System configuration

1. Open the Windows settings of your end device.
2. Select "Apps" **1**.

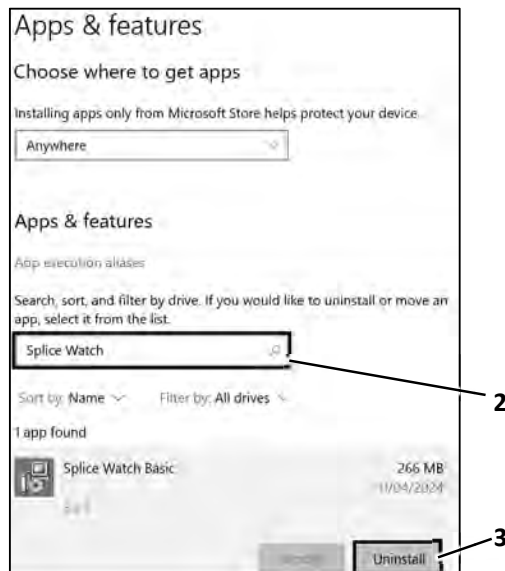


Fig. 2: Uninstalling the old software

3. Enter Splice Watch into the search field **2**.
4. Select "Uninstall" **3**.
5. Confirm the uninstalling.

3.2 Installing the new software

You receive a USB stick with the software.

1. Plug the USB stick into the USB interface of your end device.
- ✓ The folder with the installation file opens automatically.



If the folder does not open automatically, open the drive of the USB stick via the Windows Explorer with a double click.

Running the installation as an administrator



Fig. 3: Open the installation file as an administrator

2. Click the file **1** with the right mouse button.
3. Select "Run as administrator" **2**.

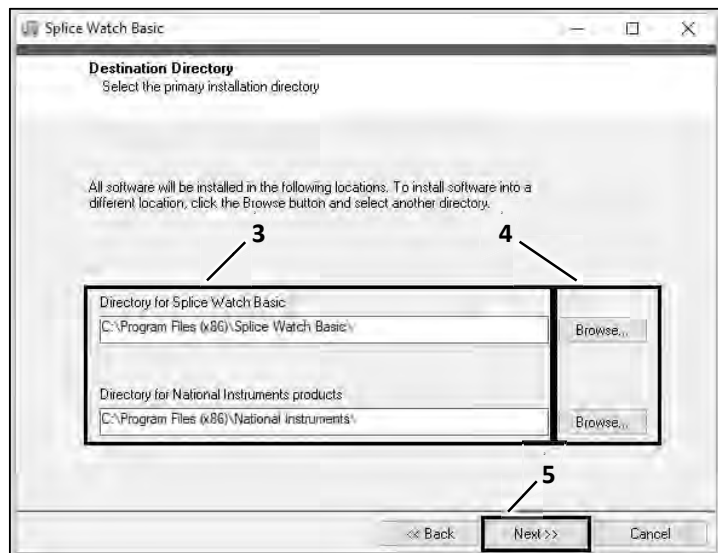


Fig. 4: Selecting the storage location

4. Choose a storage location via the "Browse" **4** fields. The storage location is shown **3**.
5. Select "Next" **5** to proceed with the installation.

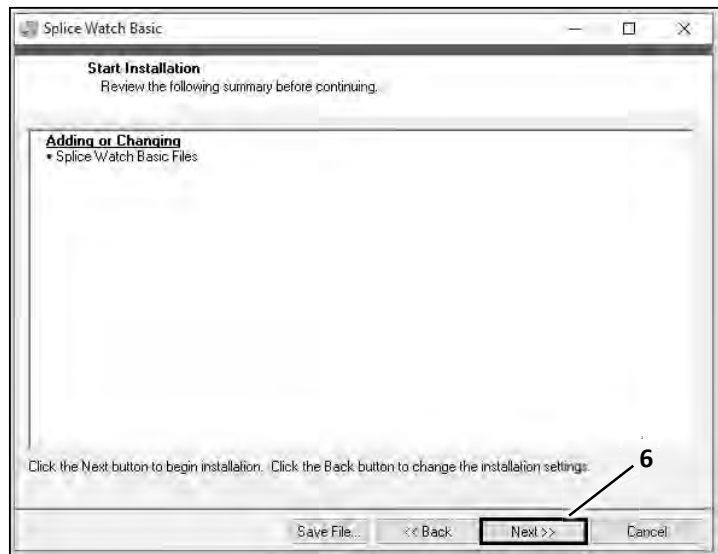


Fig. 5: Starting the installation

6. Select "Next" 6 to start the installation.



Fig. 6: Finishing the installation

7. Select "Finish" 7 to finish the installation.
- ✓ The installation has been successfully completed.

4 First steps

After the successful installation, you can start the software from the selected storage location.

! *Note for Windows 7 users*

When running the software, a window of the Windows User Account Control opens. The User Account Control (UAC) in Windows 7 protects your PC against malware. When running the software, you are always asked by the UAC to give your consent. To be able to run the software without any problems, it is recommended to change the authorization level of the software.

4.1 Program start

You can only start the software as an administrator. Make the following settings to be able to open the software with a double click:

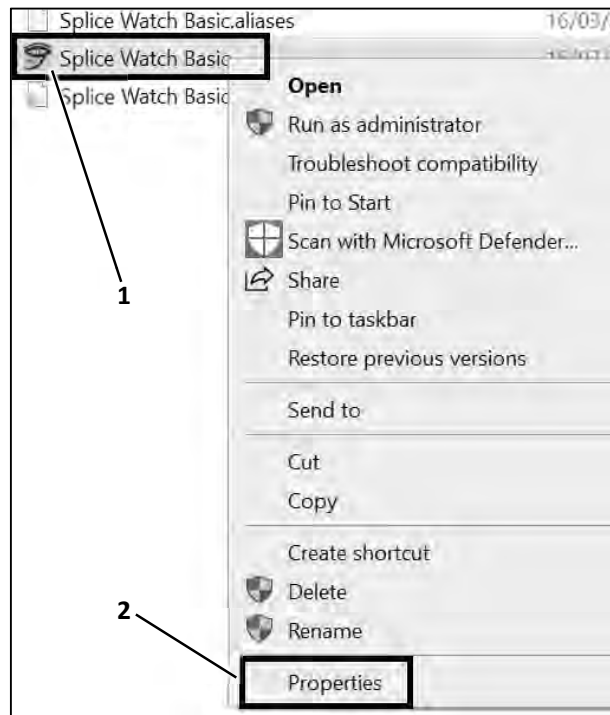


Fig. 7: Opening the software properties

1. Click "Splice Watch Basic" **1** with the right mouse button and select "Properties" **2**.
- ✓ The software properties window opens.

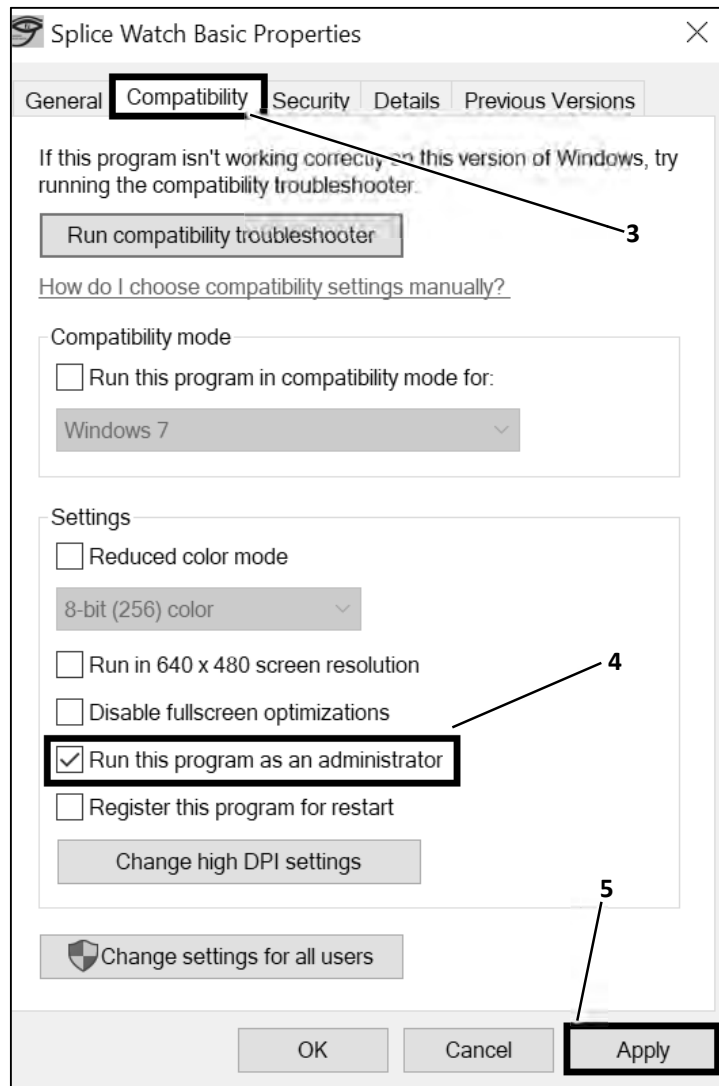


Fig. 8: Making settings

2. Select the "Compatibility" **3** tab.
 3. Tick the check box for "Run this program as an administrator" **4**
 4. Select "Apply" **5**.
- ✓ Now you can open the software with a double click.

4.2 Selecting the language

The default system language of the software is English. Proceed as follows to change the language:

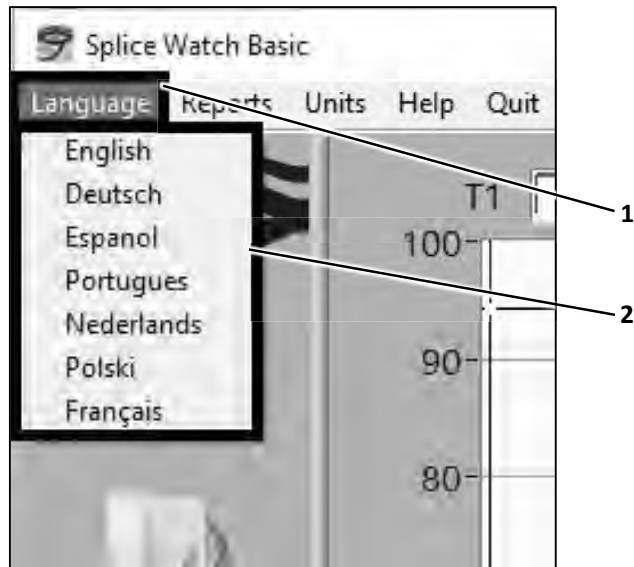


Fig. 9: Selecting the language

1. Select the "Language" **1** tab.
 2. Select the desired language **2**.
- ✓ The following window opens:

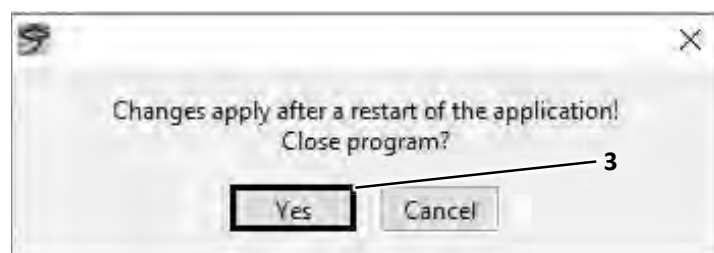


Fig. 10: Confirming the language setting

3. Select "Yes" **3** to confirm the selection.
- ✓ The software is closed.
4. Restart the software.
- ✓ The selected language has been applied successfully.

4.3 Setting the units

The default units in the software are "mm" for length, "bar" for pressure and "°C" for temperature. Proceed as follows to change the units:

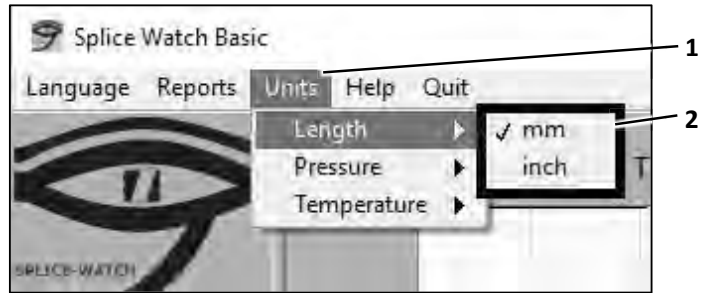


Fig. 11: Setting the length unit

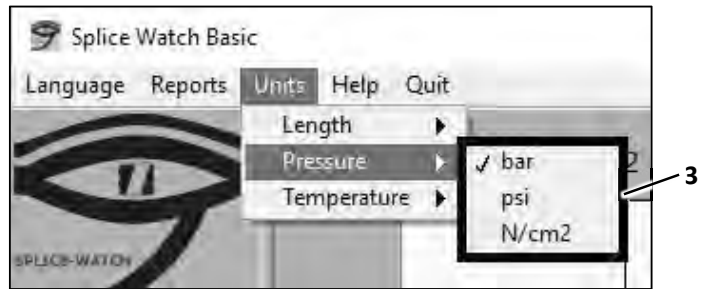


Fig. 12: Setting the pressure unit

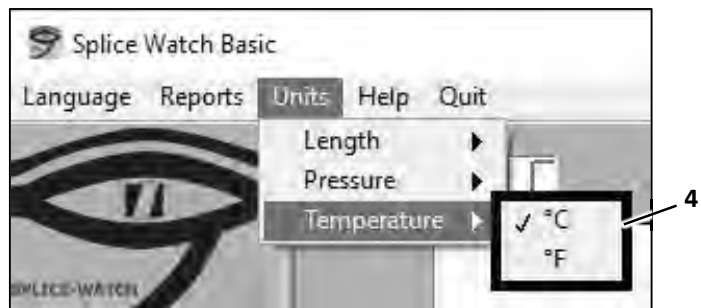


Fig. 13: Setting the temperature unit

1. Select the "Units" **1** tab.
 2. Select the length unit **2**.
 3. Select the pressure unit **3**.
 4. Select the temperature unit **4**.
- ✓ The selected units are applied.

5 Software interface

The work interface of the software can be divided into seven main elements:

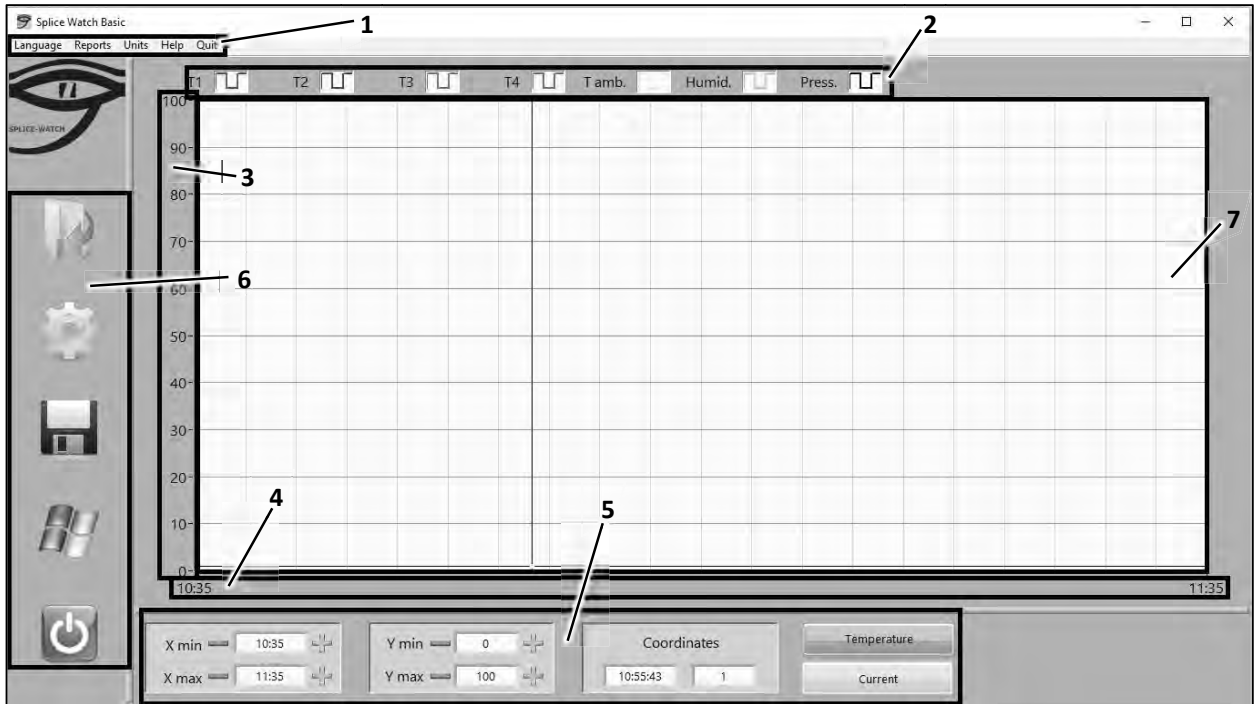


Fig. 14: Seven main elements of the start screen

- Legend*
- 1 Menu bar
 - 2 Display area color selection
 - 3 Y axis
 - 4 X axis
 - 5 Axis setting, coordinate display and parameter selection
 - 6 Elements of the program control
 - 7 Diagram display area

5.1 Menu bar

The menu bar consists of five tabs:

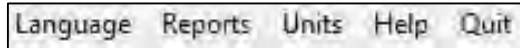


Fig. 15: Menu bar

5.1.1 Language

The "Language" tab can be used to select the language version of the software. Seven languages are available:

- English
- German
- Spanish
- Portuguese
- Dutch
- Polish
- French

After a restart of the software, the changes are applied.

5.1.2 Reports



Fig. 16: Stored reports

Click the "Reports" tab to open the stored vulcanization reports.



A PDF reader is required.



To create a report, see *chapter 6.3: Creating reports* page 19.

5.1.3 Units

The "Units" tab can be used to set the units to be used. Three selection options are available:

- Length
- Pressure
- Temperature

The unit changes are applied immediately.

5.1.4 Help

The "Help" tab shows you the software version and the contact data of the manufacturer.

5.1.5 Quit

Clicking the "Quit" tab will close the software. A window opens in which the closing of the software must be confirmed.

5.2 Display area color selection

The display area for the color selection shows you the colors assigned to the current measured values.



Fig. 17: Graphic displays

- T1 – T4 = Temperature of the vulcanizing heating plates
- T amb. = Ambient temperature
- Humid. = Humidity
- Press. = Press pressure

5.3 Y axis

The measured values shown in the diagram can be read from the scale on the Y axis. The following values are shown:

- Temperature
- Humidity
- Pressure
- Power consumption

5.4 X axis

The X axis shows the time course of the entire vulcanization process.

5.5 Axis setting, coordinate display and parameter selection

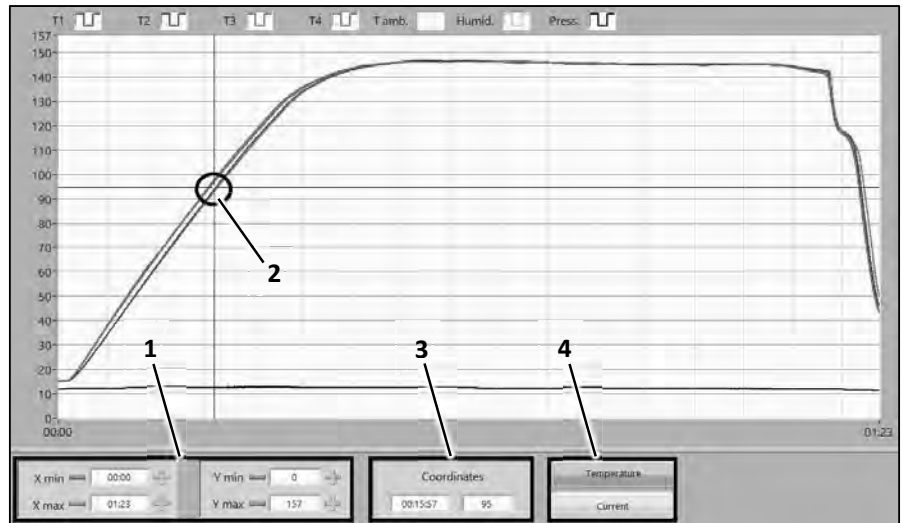


Fig. 18: Changing the parameters and the coordinate display

You can adjust the minimum and maximum values of the X and Y axis. For this, use the green "+" icon or the red "-" icon in the field **1**. If you move the mouse pointer over the diagram display area, crosshairs **2** are displayed. In the "Coordinates" field **3**, you can read the exact time value and the corresponding parameter value. Use the field **4** to switch the display between the temperature curve and the power consumption diagram.

5.6 Elements of the program control

The elements of the program control can be used to open the downloaded files of the switch boxes, to make graphical settings and to create reports.

Legend

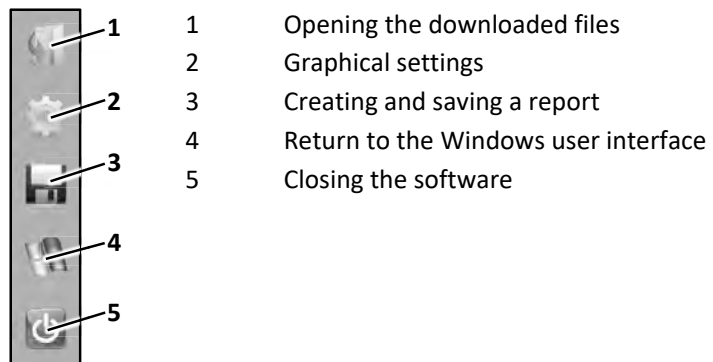


Fig. 19: Program control

5.7 Diagram display area

In the diagram display area, the recorded measured values are shown in form of colored lines. Click "Temperature" **1** and "Current" **2** to change the view.

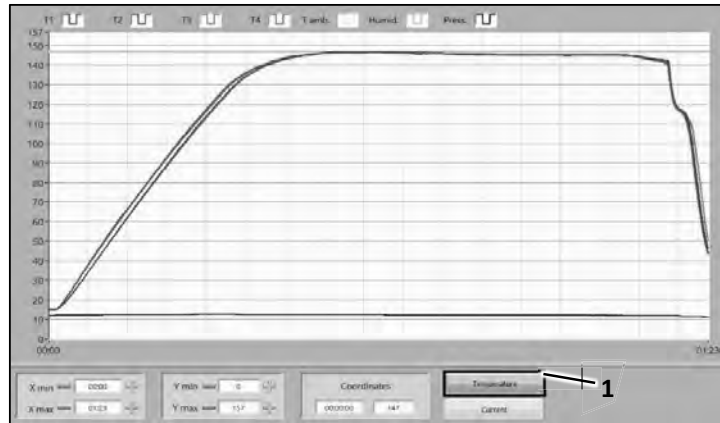


Fig. 20: Display of the temperature in the diagram display area

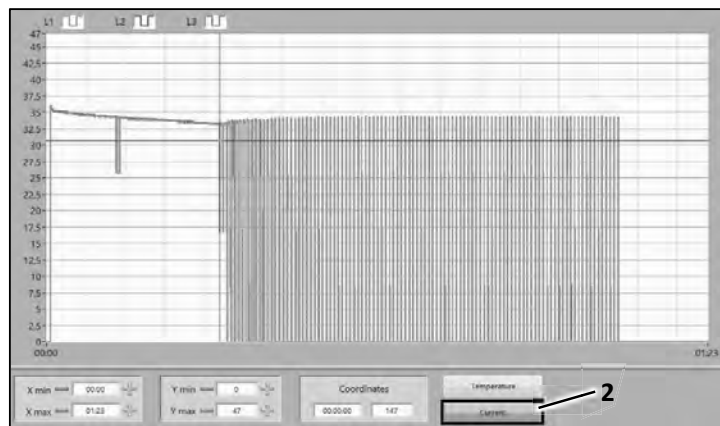


Fig. 21: : Display of the current in the diagram display area

6 Evaluation of stored data

6.1 Opening the files

You can open the downloaded files of the vulcanization process directly from the program.

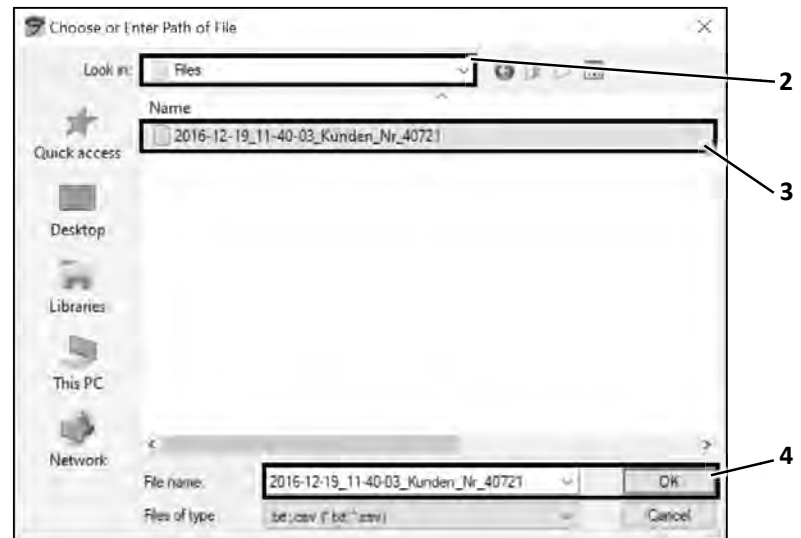
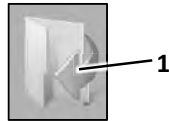


Fig. 22: Opening the file

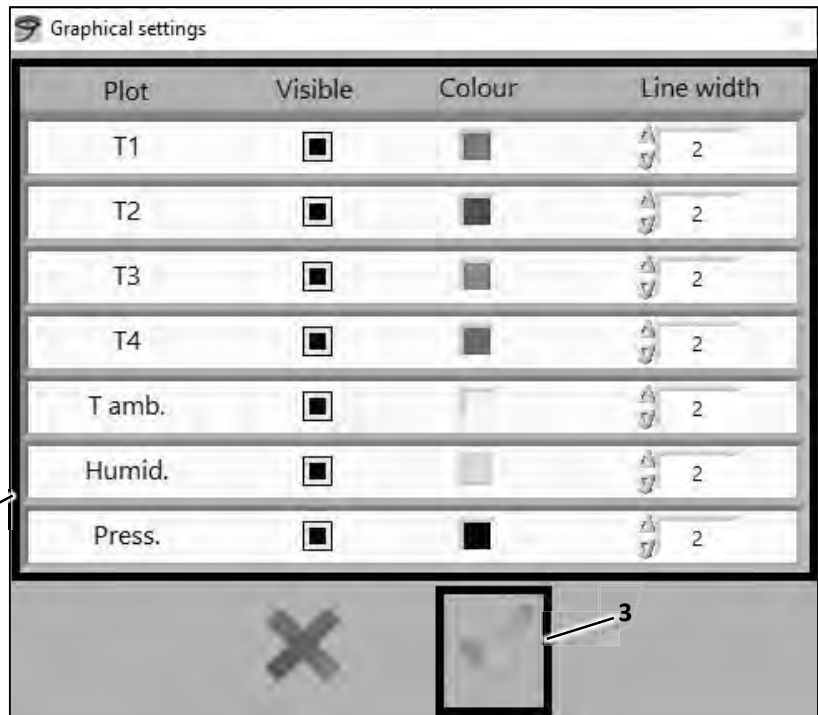
1. Select the icon **1** to open a file.
 2. Select the storage location **2** of the files.
 3. Select a file from the list **3**.
 4. Confirm the opening of the file **4** with "OK".
- ✓ The stored measured values open in the diagram display area.

6.2 Graphical settings

The colored lines in the diagram display area can be adapted individually.



1



2

3

Fig. 23: Making graphical settings

1. Select the icon **1** to display the graphical settings.
 2. Adjust the visibility, the color and the line width in the field **2**.
 3. Confirm the selection by clicking the green check mark **3**.
- ✓ The changes are applied immediately.

6.3 Creating reports

You can create a report in PDF format for each vulcanization process. Enter the vulcanization parameters in the SpliceWatch report and assign the corresponding switch box files to the report.

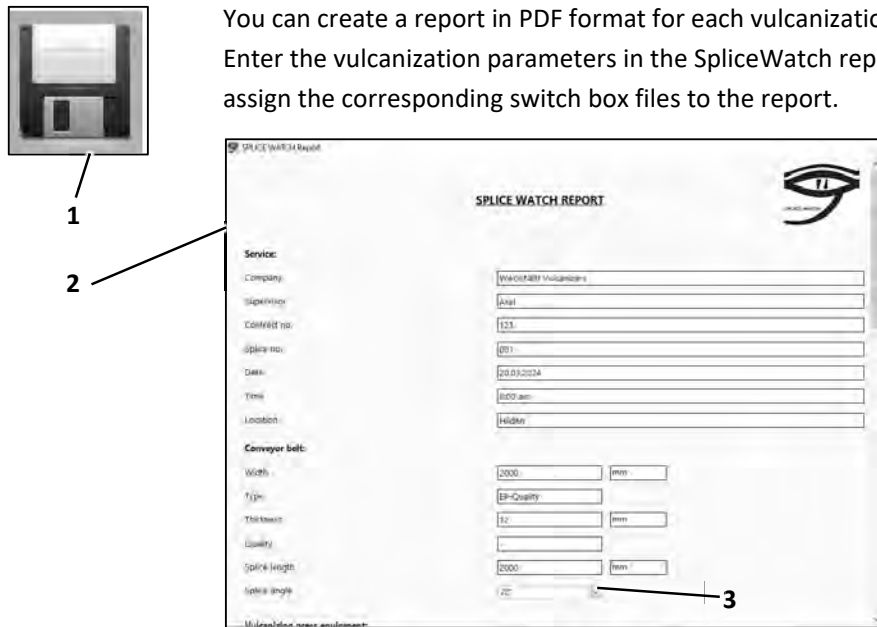


Fig. 24: Creating a SpliceWatch report

1. Select the icon 1.
- ✓ The window 2 for creating the report opens.
2. Enter the data for the parameters.

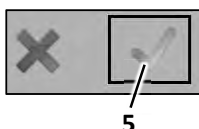


Some fields are provided with a drop-down list 3. In these fields, the values can be selected from the list or entered freely.



Fig. 25: Selecting the switch box files

3. Open the downloaded switch box files by clicking the icon 4 next to the switch box parameters.
- ✓ You can select up to four files.
4. Confirm your entries by clicking the icon 5.
- ✓ A window opens where you can select the storage location for the report.



6.4 Opening the report

You can open the stored reports via the Windows Explorer or directly from the software.

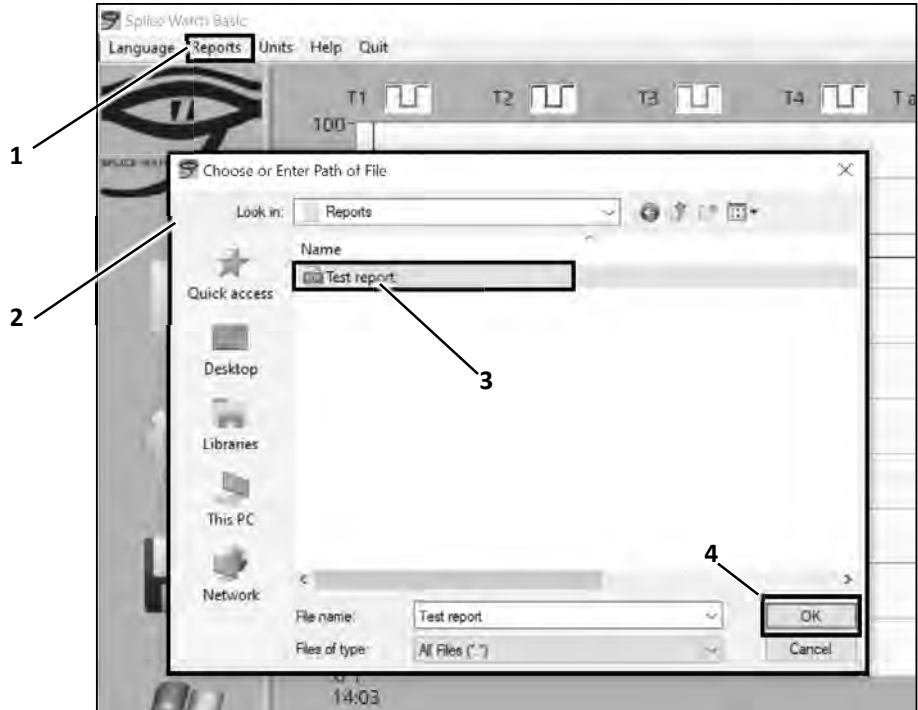
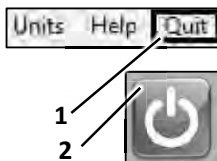


Fig. 26: Opening the report

1. Select the "Reports" **1** tab.
- ✓ The window **2** opens.
2. Select a report **3** from the list.
3. Confirm your selection by clicking "OK" **4**.
- ✓ The selected report opens in your PDF reader.

7 Quitting the software

Quit the software by clicking the "Quit" tab **1** or via the Quit icon **2**.



1. Confirm the termination of the software.
- ✓ The window of the software interface is closed.

8 Annex

8.1 Contact data

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40721 Hilden

Germany

Tel.: +49 2103 951-882

Fax: +49 2103 951-839

E-mail: info@coal-control.de

Internet: www.coal-control.de

8.2 Warranty

The warranty period and scope are specified in the general terms and conditions.

8.3 Copyright

This operating manual is subject to the copyright of Coal Control GmbH. The contents may only be reproduced with our permission.