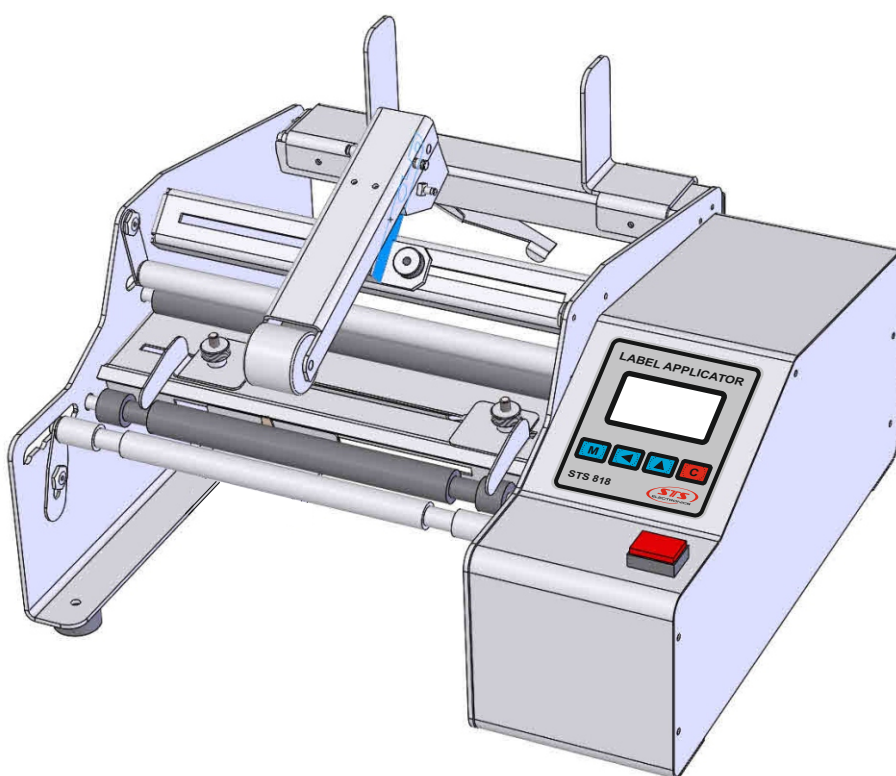

Labeling machine for spreading labels on cylindrical surfaces

LABEL APPLICATOR STS 818

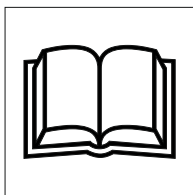


Operating manual /original instruction/

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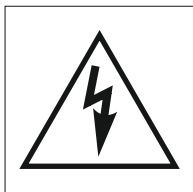
In the present Operation Manual have been used the following pictograms.



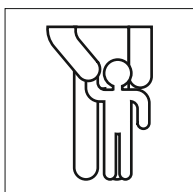
Read the Operation Manual!



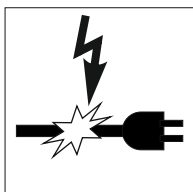
Follow safety warnings and instructions!



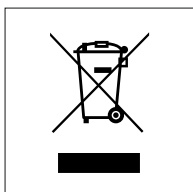
Protect yourself from electric shock. Danger to life!



Keep the children away from the machine!

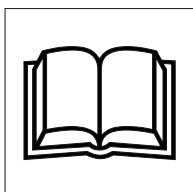


Risk of life from electric shock when a power cord or plug is damaged!



Dispose the packaging and the appliance in accordance with environmental regulations!

1. Introduction



Before starting the machine for the first time, get acquainted with the functions of the machine and be informed about the correct operation with electrical appliances. In this connection, read the following operating instructions. Follow the instructions in the manual. When handing over the machine to third parties, hand over and all the documentation.

Proper usage

The machine is designed to spread one or two self-adhesive labels (front side and back side ones) on cylindrical vessels of different diameter and length, with smooth walls. Labels should be on one roll, / in case of front and back labels - arranged consequently in series / on the conveyor.

Place the container horizontally on the machine shafts, between the detents. The process starts. The machine glues the label as it rotates the vessel. After stopping the rotation, the label is glued and the container is removed from the machine manually.

Any other use is considered unlawful and generates significant risks of accident. The manufacturer accepts no responsibility for faults and damages caused by use contrary to the indicated instructions.

The electrical protection of the machine is accomplished by protective sheath of the current-carrying parts and by zeroing of the metal housing. This requires the use of a straight electrical outlet (socket). Overcurrent protection is provided by fuses built into the machine. Their replacement should be performed by qualified personnel.

Attention !

Do not place any larger or smaller vessels on the machine than those specified in the technical data! Do not use damaged vessels or vessels which have irregularly shapes. There is a danger of being injured.

Do not dispose onto the shafts full vessels which are not sealed good! There is a danger of electric shock!

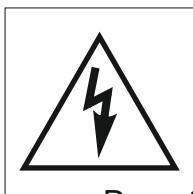
Do not use labels with size beyond those specified in the specifications! Feed with labels, maintain and clean the machine only when the power is off!

Do not cover the ventilation openings of the machine!

Be careful not to spill liquid on the machine!

Do not insert objects into the openings of the machine! There is a danger of electric shock!

Do not place your hand or fingers on the shafts of the machine! There is a danger of injury!

**Attention !**

In case of electric shock! Injury immediately disconnect the electrical supply through pulling the plug out of the socket!
Get medical attention immediately



Equipment /Figure 1.1, Figure 1.2/.

- | | |
|---|-------------------------------|
| 1. Supporting shaft. | 10. Control panel. |
| 2. Driving shaft. | 11. Start button. |
| 3. Stopers (detents). | 12. Sensor for labels. |
| 4. Pull shaft. | 13. Power switch. |
| 5. Pressing shaft. | 14. Power supply coupling. |
| 6. Clamping mechanism | 15. Driving shaft. |
| 7. Stoper (detent) of label tape roller . | 16. Label tape roller driver. |
| 8. Roll label holder. | 17. Coupling external start. |
| 9. Brake of the label tape roller. | |

Scope of the delivery.

Check immediately after unpacking the machine:-

- 1 labeling machine for spreading labels on vessels with cylindrical surfaces Label applicator STS818;
- 1 power cable 220V, 3x0,75mm², 1,8m;
- 1 'Start pedal' with connection cable and coupling M12-4P;
- 1 operation manual.

Technical data.

Supply voltage:	220V AC, 50Hz.
Own consumption:	<100VA.
Electrical connection:	cable with plug type 'SHUKO'.
Dimensions:	455mmW, 245mmH, 330mmD.
Machine weight:	15kg.
Diameter of the vessel:	25 ... 160mm.
Length of the vessel:	30 ... 300mm. /distance between stopers/ <i>note: the length of the vessel should not be smaller than the half of its diameter</i>
Diameter of the labels roll:	<200mm.
Spool diameter:	46 ... 76mm.
Width of the roll / of the label /:	25 ... 220mm.
Label length:	25 ... 500mm.
Distance between labels on the tape:	>2,5mm.
Download speed of the tape:	0.1m/sec.

Noise information.

Noise level determined by analysis A.
Acoustic pressure level <75dB (A).
Noise level <75dB.

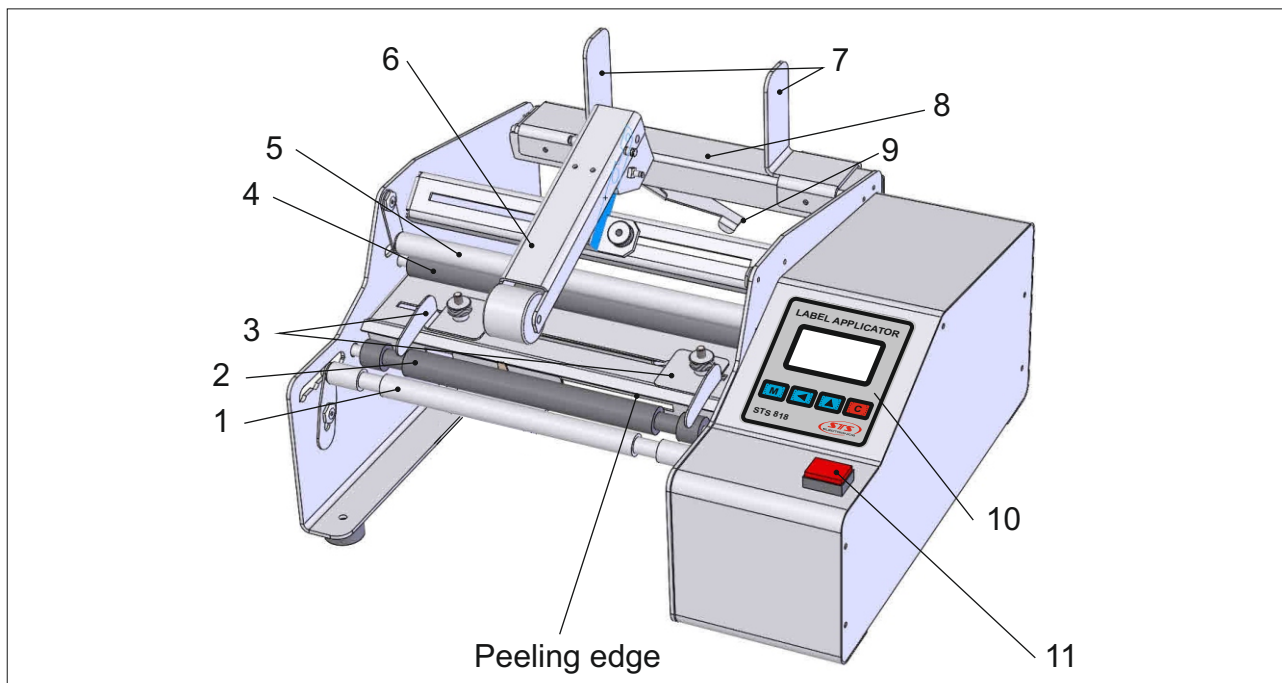


Figure 1.1

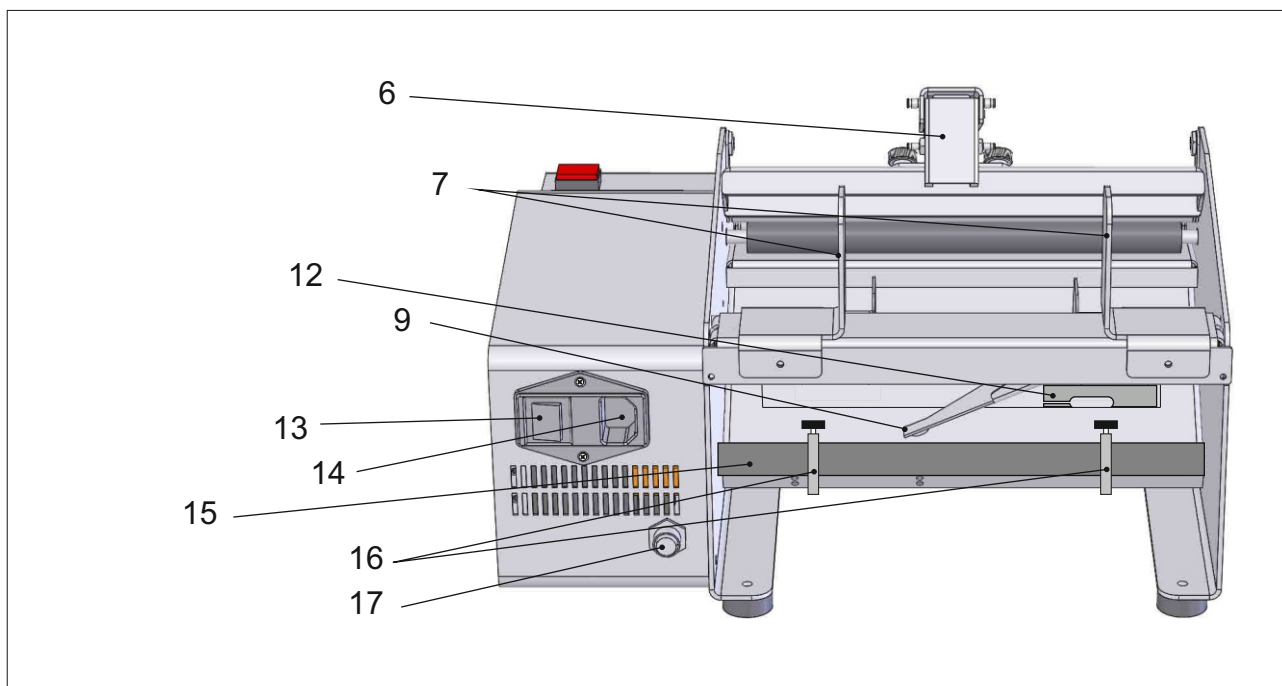


Figure 1.2

2. General safety instructions for handling electrical appliances.

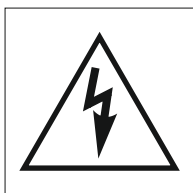
Attention!

The following safety precautions must be observed when using electrical appliances to protect against electric shock, risk of injury and fire. Read all of these instructions before using the machine and store them carefully.

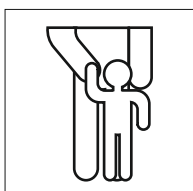


Safe work.

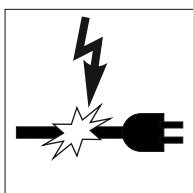
-Keep your workplace in order. Clutter in the work area can lead to accidents.



- Ensure good lighting in the workplace.
- Do not use the appliance in humid conditions.
- Do not use the appliance in places where there is a risk of fire or explosion.
- Keep bystanders, especially children, away from the appliance when operating the appliance.



- Do not use the appliance for purposes other than those intended.
- Do not use the cord to pull the plug from the wall socket. Protect the cable from oil heat and sharp edges.
- Avoid unnatural postures of the body. Take care of a secure posture, keep balance in every way.
- Carefully maintain your appliances.



- If you do not use the appliance, remove the plug from the socket.
 - Do not use the appliance with a damaged power switch.
- An electrical appliance that cannot be switched on and ?Carefully maintain your appliances.

- If you do not use the appliance, remove the plug from the socket.
- Do not use the appliance with a damaged power switch.

An electrical appliance that cannot be switched on and switched off is dangerous and needs to be repaired

-Be careful. Treat your work with caution. Do not use the appliance if you are not concentrated enough.

- Check the appliance for eventual damages. Check that the moving parts function flawlessly and are not tightened and that there are no damaged parts. All parts must be installed flawlessly and meet all conditions to ensure a faultless working condition of the appliance. Damaged safety components and parts must be repaired reliably by a certified electrician or replaced, unless otherwise stated in the instructions of the operation manual. Damaged circuit breakers must be replaced by a workshop.

Specific safety instructions.

The vessels are placed and removed manually. The adhesive procedure is started by pressing the built-in 'Start' button, or by an external start / 'Start' pedal connected to the intended coupling /.

- Do not place a vessel while the machine shafts are rotating.
- Do not start the machine with a vessel placed incorrectly.
- Do not remove the vessel from the machine before the shafts rotation is stopped.

Failure to keep the above instructions may result in injuries or damages.

3. Operating instructions



Attention !

Every operator working with the labeling machine (with the Label applicator) should become acquainted carefully with the present operating manual.

Mounting.

The machine should be placed on a flat, horizontal surface larger than its base. Should provide space around the machine for maintenance servicing and handling. From the kit supplied with it, a power cord is connected to the supply socket and also a 'start pedal' is connected to an external start cuplung.

Preparation for work.

The orientation of the vessel (left - right) is selected, depending on the direction of the printed labels. The height of the clamping mechanism and the position of the support shaft are adjusted according to the diameter of the vessel. Adjust the detents (the stopers) so that the container is in the middle of the work area.

The label tape roll is affixed to the label roller stand so that the labels face the adhesive zone. The position of the roll is fixed by the two magnetic stopers (detents). The brake is positioned in the middle of the roll.

The pressure shaft is 'unlocked' by moving it forward. The label roll is loaded according to the attached scheme – Figure 3.1. The sensor is positioned so that the label roll fully covers the sensor area (narrow gap). Sensor setting up

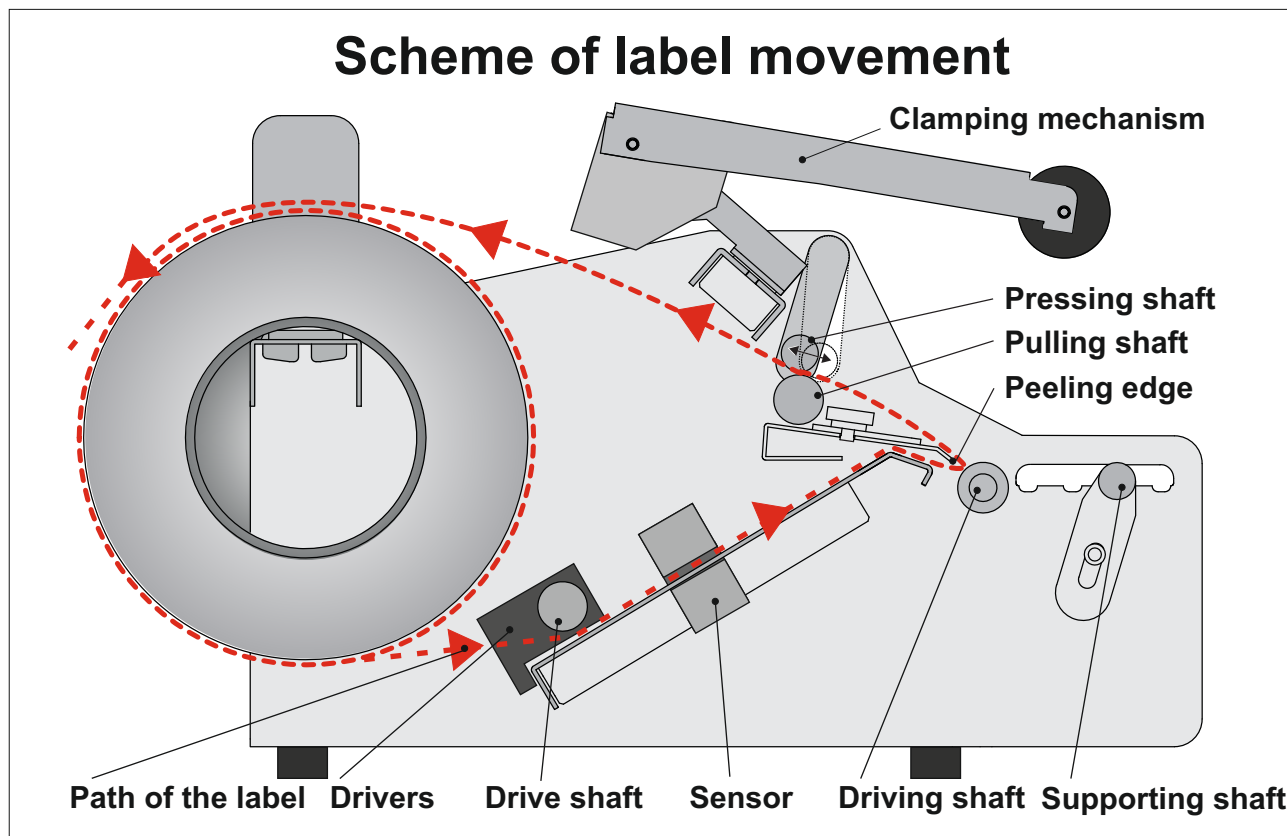


Figure 3.1

is carried out according to **Appendix 1**. The beginning of the label (front - for two labels) is positioned next to the peeling edge. The pressure shaft is 'locked'. Label tape drivers are positioned and fixed to the edges without squeezing it.

Turn on.

After the machine is switched on, an advertisement logo is visualised on the display and the software version after that is switched to operating mode.

Determination of parameter value 'Offset stop'.

The sensor which is reading the end of the label is located at distance 100mm before the peeling edge and its position cannot be changed. This requires the input of the 'Offset-stop' parameter / for single-label mode / and 'Offset-stop 1' and 'Offset-stop 2' / for two-label mode /. This parameter determines the proper positioning of the subsequent label to the peeling edge. The values depend on the length of the labels and the distance between them. For convenience, the measurement of the labels, the distance between them and the calculation of the offset are done before mounting the label roller on the machine.

In the case of single-label gluing, the parameter value is determined according to **Appendix 2**.

In the case of two labels gluing, the parameter values are determined according to **Appendix 3**. If the front label is less than 100mm and the back (rear) label is larger than 100mm, it must be started by spreading and gluing the longer label or by spreading and gluing the back (rear) one.

Working with the menu and changing parameters.

Menu access is password protected, which is fixed and cannot be changed. Through the menu can select the language, operating mode / one or two labels /.

For the one label mode shall be set : 'Offset stop' and additional adhesive movement time.

For the two labels mode shall be set: the gap between labels on the the tape, the distance between the labels affixed to the vessel, 'Offset-stop 1', 'Offset-stop 2' and the movement time for the adhesive. Access and operation with the menu is carried out according to **Appendix 4**.

Labeling.

First starting shall be done without a vessel for control. The new label / front - for two labels mode/, should be just to the peeling edge. Offset-stop adjustments are made if necessary.

The adhesive procedure is started by pressing the built-in 'Start' button, or by an external start / 'Start' pedal connected to the intended coupling /. Performance is indicated on the display. At the completion of the spreading and affixing (gluing) procedure, the label counter increases. During the working regime any time the key is pressed for more than 3 seconds, the counter is reset.

Adjusting the display.

The brightness and the contrast of the display can be adjusted if needed. Menu access and operation are described in **Appendix 5**.

Appendix 1 - Ajustment of the label sensor.

The sensor is positioned in such a way that the label and the support base must completely cover the sensor area (narrow gap) when moving. In the case of irregularly shaped labels, cut-off parts must not pass through the sensor area. The sensor and the label tape roller **must be** at rest during adjustment!

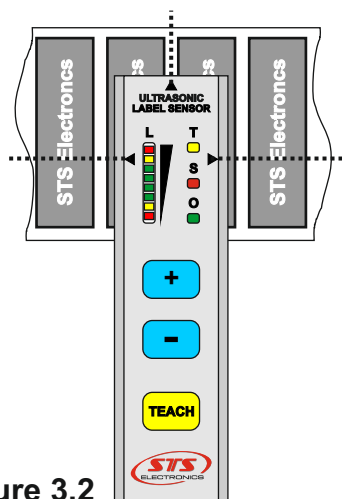


Figure 3.2

1. The label tape roller is positioned on the gap between the labels - Figure 3.2 taking into account the markers on the front face panel.

2. Press and hold **TEACH** key for more than 3 seconds - LED 'T' /yellow/ illuminates - sensor is in setting mode. When the key is released, the LED starts blinking - automatic sensor training begins. The signal level indicated by the bar graph 'L' is increasing. Waiting for LED 'T' to go out.

3. The label tape roller is positioned on a label - Fig.3.3.

4. The **TEACH** key is pressed. 'T' LED lights up. When the button is released, the LED starts to blink. With the 'T' LED off, the automatic tuning is complete.

If the gap signal level is insufficient / after step 2 / or there is insufficient gap between the gap-label signals / after step 4 /, the bargraph starts to blink - indicating an error.

Exit from this state is carried by new / correct / training or by turning off the power

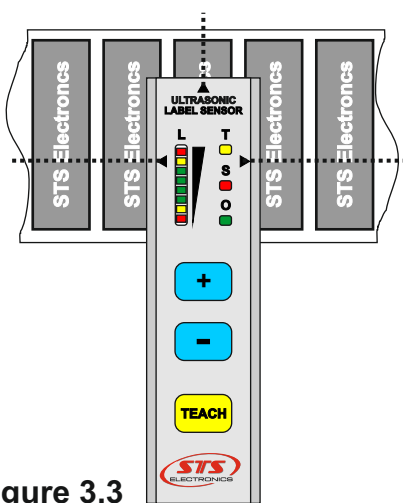


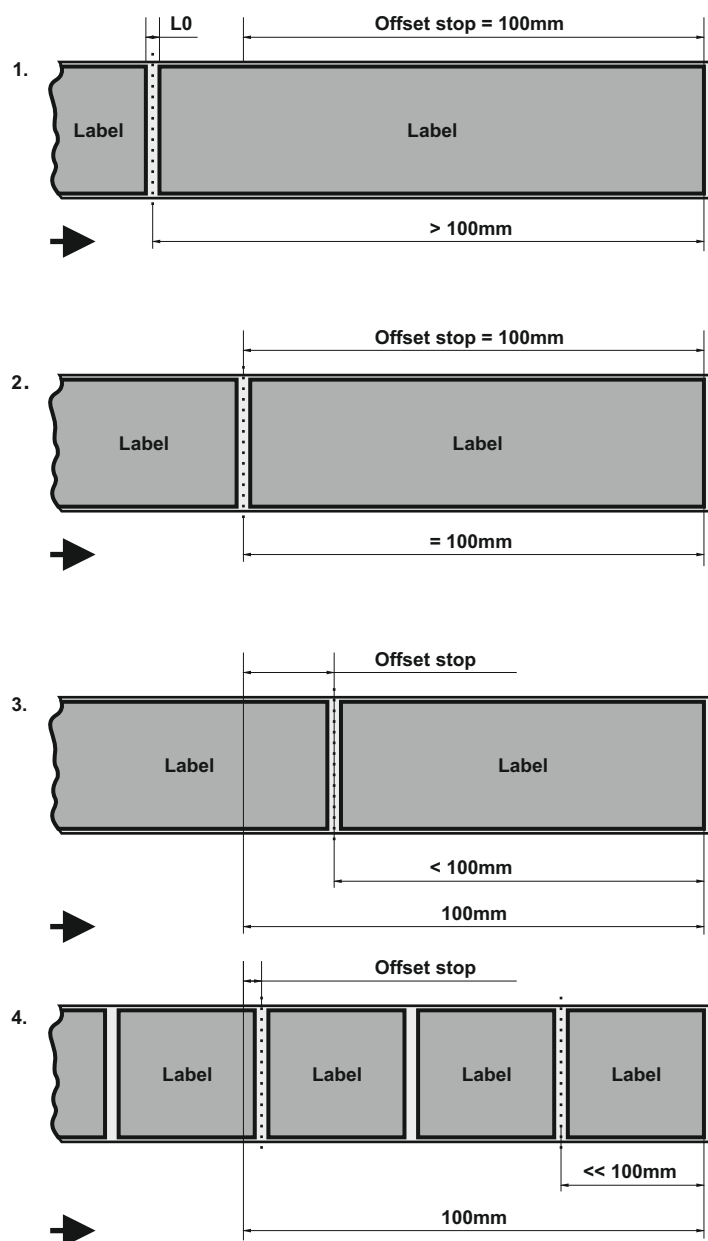
Figure 3.3

Appendix 2

Determination of parameter value Offset stop.

Determines the right positioning of the beginning end of the following (subsequent label) to the peeling edge.

There are some possible variants and they are shown on Figure 3.4



$L = 100\text{mm}$ - distance between the label sensor and the peeling edge.

1. The length of the used label is bigger than L . The parameter value of Offset is 100 [mm].

2. The length of the label used and the half of the gap are equal to L . The parameter value of Offset is 100 [mm].

3. The length of the label used is less than L . The Offset value shall be determined by subtracting the length of the label and the half of the gap from 100 [mm].

4. The length of the label used is several times less than L . The Offset value is determined by subtracting from 100 [mm] the sum of all lengths of the fitted labels and gaps between them, and adding the half of the gap.

Figure 3.4.

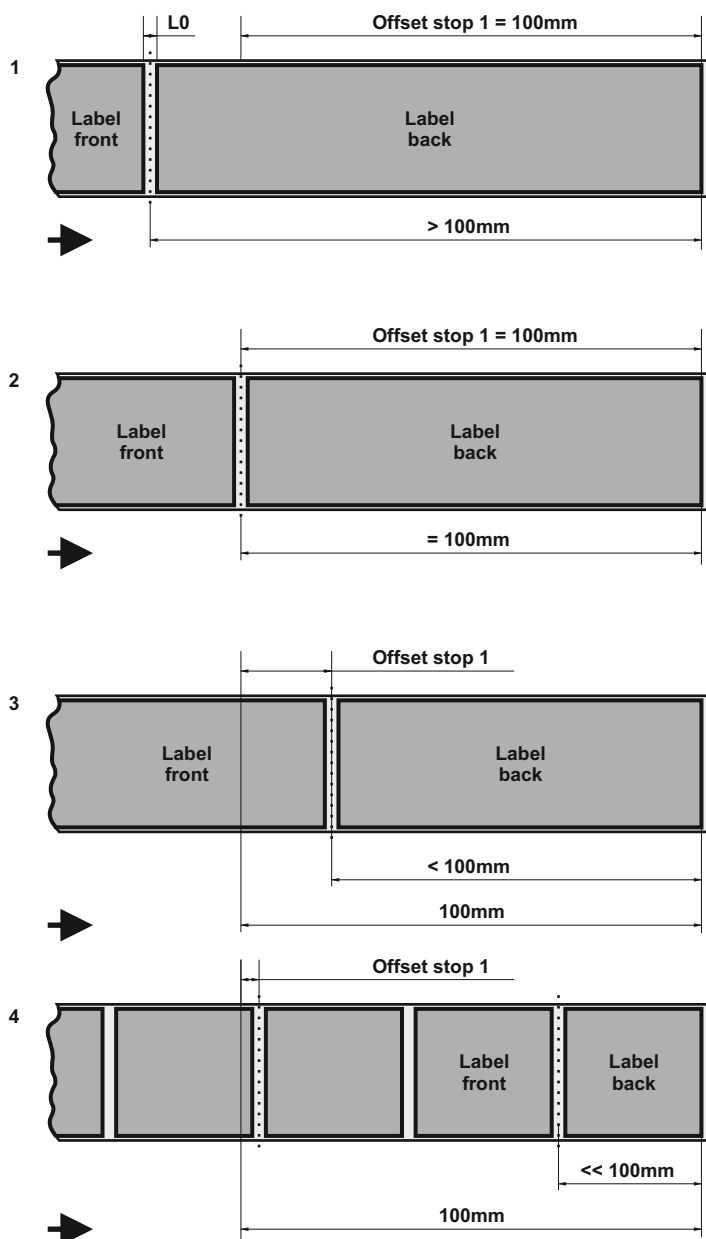
Note: Measured offset results are a good start. Several adjustments may be needed to better position the start of the label.

Appendix 3

Determination the parameter value of Offset stop 1

Offset stop 1 determines the correct positioning of the beginning end of following (subsequent) back label against to the peeling edge. Measermnt shall be done from the begining end of back label.

There are several possible variants and are shown in Figure 3.5



$L = 100\text{mm}$ - distance between the label sensor and the peeling edge.

1. The lenght of the used back label is bigger than L . The parameter value of Offset is 100 [mm]

2. The length of the back label used and the half of the gap are equal to L . The parameter value of Off set is 100 [mm].

3. The length of the back label used is less than L . The offset value shall be determined by subtracting from 100 [mm] the length of the label and the half of the gap.

4. The length of the back and front labels is several times less than L . The offset value is determined by subtracting from 100 [mm] the sum of all lengths of the fitted labels and gaps between them /alternating back and front/, and adding the half of the gap.

Note: Measured offset results are a good start. Several adjustments may be needed to better position the start of the label.

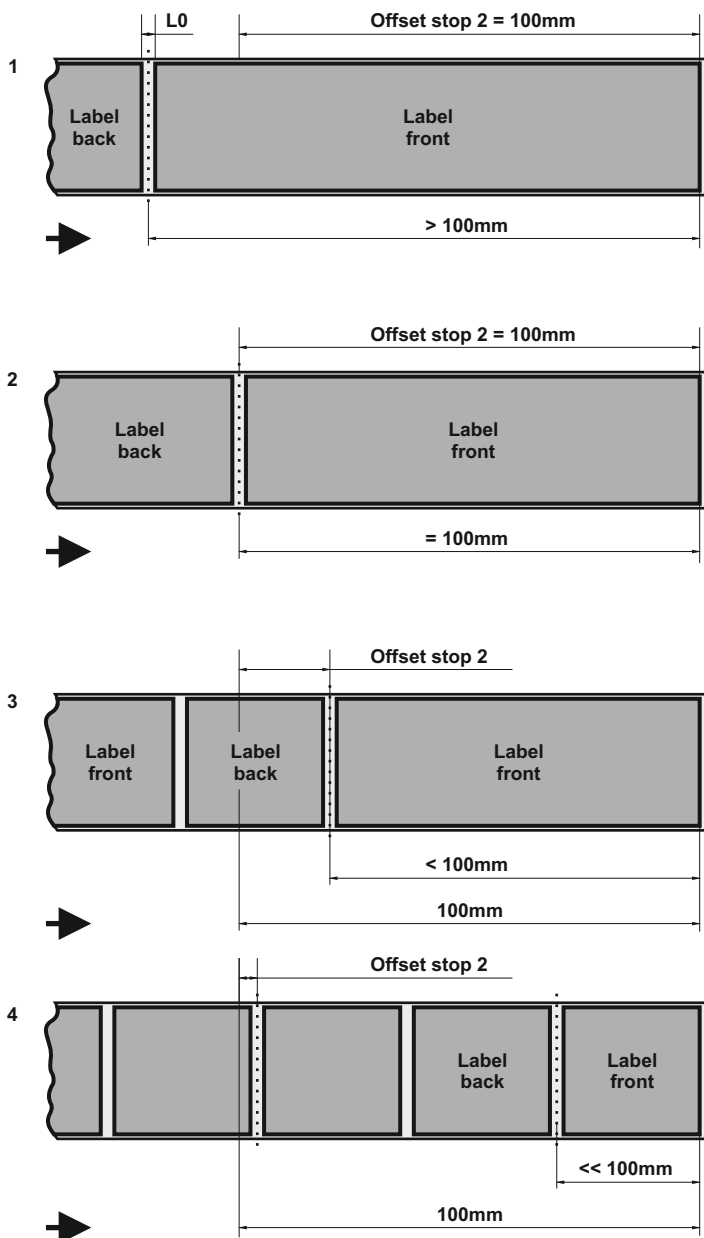
Figure 3.5

Determination of the parameter value - Offset stop 2.

Offset stop 2 determines the right (the correct) position of the beginning of the following (subsequent) front label to the peeling edge. Measurement shall be done from the beginning of the front label.

There are some possible variants and they are shown in Figure 3.6.

$L = 100\text{mm}$ - the distance between the label sensor and peeling edge



1. The length of the used front label is bigger than L . The parameter value of Offset is 100 [mm].

2. The length of the front label used and the half of the gap are equal to L . The parameter value of Offset is 100 [mm].

3. The length of the front label used is less than L . The offset value shall be determined by subtracting from 100 [mm] the length of the label and the half of the gap.

4. The length of the back and front labels is several times less than L . The offset value is determined by subtracting from 100 [mm] the sum of all lengths of the fitted labels and the gaps between them /alternating back and front/, and adding the half of the gap.

Figure 3.6

Note: Measured offset results are a good start. Several adjustments may be needed to better position the start of the label

Appendix 4 - Working with the menu and changing parameters.

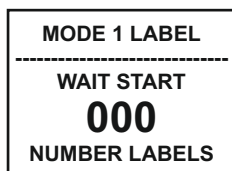


Figure 3.7

Access to the parameter change menu is password protected. Pressing and holding the **M** key for longer than 3 seconds displays a password window - Figure 3.8. It is canceled by pressing the **C** key, and access to the input menu by pressing the **◀** key - Figure 3.9. The password is entered by pressing the **▲** key and thus the displayed digit changes cyclically



Figure 3.8

Going to the next digit is done by pressing the **◀** key. Pressing the **C** key returns to the default password input position.

The password for this machine is **8083** - fixed and cannot be changed by the user. If the password is incorrectly entered, an error window is displayed - Figure 3.10. By pressing the **M** key goes to a new input - Figure 3.8. Cancellation of new input shall be done by pressing the **C** key and it goes into working mode - Figure 3.7.



Figure 3.9

Properly entered password gives access to change the parameters. The first window that appears is the language selection - Figure 3.11. By pressing the **◀** key, the language is cyclically changed - Figure 3.12. Confirmation of the desired selection is done by pressing **M** key. Go to the next parameter input - Select mode / 1, 2 labels / - Figure 3.13.



Figure 3.10

Pressing the **◀** key cycles through the mode / ONE LABEL / TWO LABELS /. Confirmation of the desired selection is done by pressing the **M** key.

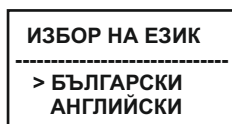


Figure 3.11

Selecting 'ONE LABEL' mode.

When selecting the 'ONE LABEL' mode, and confirming it, it proceeds to entering the next parameter - Offset stop - Figure 3.14. Its value determines the proper positioning of the beginning of a subsequent label to the peeling edge. Its determination depends on the length of the label and is given in **Appendix 2**.

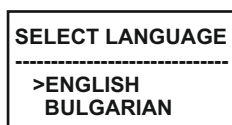


Figure 3.12

The input is made by changing the specified number trough pressing the **▲** key. Go to the next digit shall be done by pressing the **◀** key. The process is cyclical.

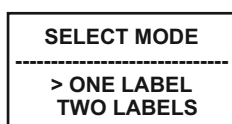


Figure 3.13

OFFSET STOP
017 ^
[001 ... 999 mm]

Figure 3.14

TIME MOVE MOTOR
02.00 ^
[00.00 ... 60.00 s]

Figure 3.15

MODE SELECT
ONE LABEL >TWO LABELS

Figure 3.16

LABELS GAP
03 ^
[xx (mm)]

Figure 3.17

DISTANCE LABELS
01.17 ^
[00.90 ... 30.00 cm]

Figure 3.18

OFFSET STOP 1
017 ^
[001 ... 999 mm]

Figure 3.19

OFFSET STOP 2
017 ^
[001 ... 999 mm]

Figure 3.20

By pressing the key, the reading is reset. By pressing the key, the set offset is confirmed and proceeds to setting the next parameter - movement time - Figure 3.15. The value determines the time of rotation of the vessel in order to adhere the label. It is set by the user at his discretion. The input is made by changing the specified number by pressing the key. The next digit is passed by pressing the key. The process is cyclical. By pressing the key, the reading is reset. By pressing the key the set time is confirmed and switched to operating mode - Figure 3.7.

Selecting 'TWO LABELS' mode.

When selecting the 'TWO LABELS' mode, please see Figure 3.16, and confirming it, the next parameter shall be entered - the gap between the labels - Figure 3.17.

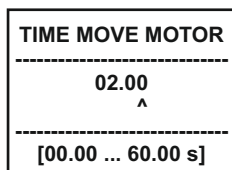
The entry is made by changing the specified number by pressing the key. The next digit is passed by pressing the key. The process is cyclical. By pressing the key the reading is canceled. By pressing the key, the given gap is confirmed and proceeds to the next parameter - label spacing (distance between front and back label) - Figure 3.18.

The value determines the correct location of the front / back label. It is determined by the circumference of the vessel and the total length of the two labels - referred to in **Appendix 6**.

The input is made by changing the specified number trough pressing the key. To move to the next digit, press the key. The process is cyclical. By pressing key the reading is reset. By pressing key, the set distance is confirmed and the next parameter is set - Offset stop 1 Figure 3.19. Its value determines the proper positioning of the beginning of the front label to the peeling edge. Its determination depends on the length of the two labels (front, back), and is given in **Appendix 3**.

The input is made by changing the specified number by pressing the key. To move to the next digit, press the key. The process is cyclical. By pressing key the reading is reset. By pressing key, the set Offset stop 1 is confirmed and proceeds to the next parameter - Offset stop 2 - Figure 3.20. Its value determines the proper positioning of the beginning of the back label to the peeling edge. Its determination depends on the length of the two labels (front, back), and is given in **Appendix 3**.

The input is made by changing the specified number trough pressing the key Going to the next one

**Figure 3.21**

digit shall be done by pressing the  key. The process is cyclical. By pressing  key the reading is reset. By pressing  key, the set Offset stop 2 is confirmed and proceeds to the setting of the next parameter - movement time - Figure 3.21. The value determines the time of rotation of the vessel in order to adhere the label properly.

It is set by the user at his discretion. The input is made by changing the specified number by pressing the  key. To move to the next digit, press the  key. The process is cyclical. By pressing  key the reading is reset. By pressing  key, the set time is confirmed and switched to Figure 3.7 operating mode.

When staying in a parameter menu window for more than 60 seconds without activity (pressing any key), the machine enters Figure 3.7 operating mode. Changes made so far are being recorded.

Appendix 5 - Adjustment of the brightness and the contrast of the display.

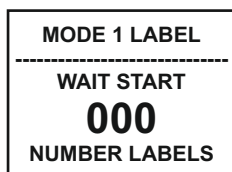


Figure 3.22

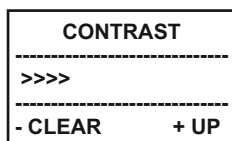


Figure 3.23

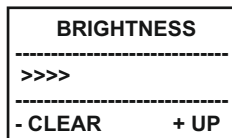


Figure 3.24

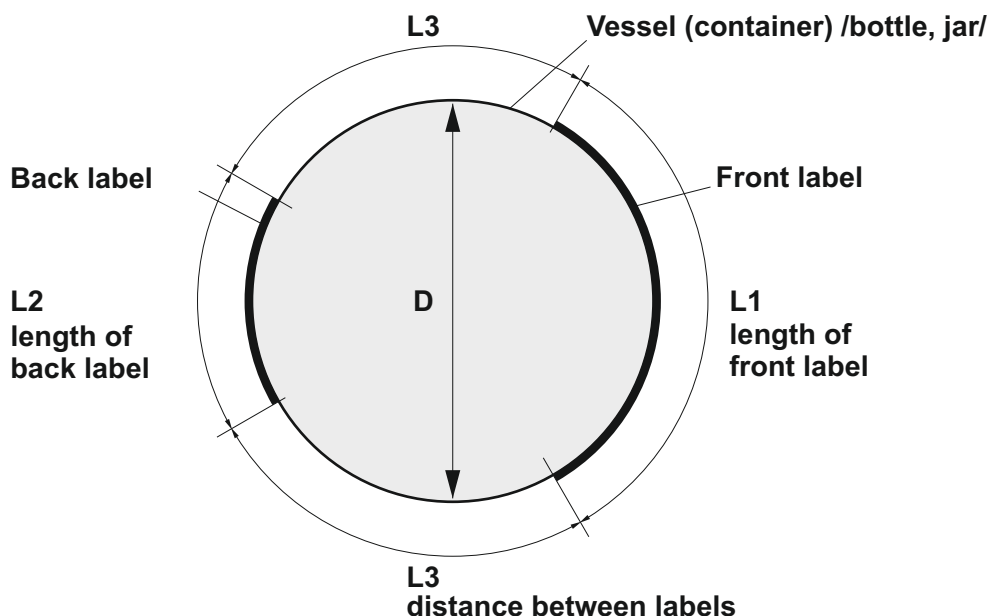
The menu for changing the display settings is accessed from the operating mode - Figure 3.22.

Pressing and holding for longer than 3 seconds on the  key will enter the contrast adjustment mode - Figure 3.23. The current level is represented by a bargraph / >>>> /. Adjustment is done gradually by pressing  key to decrease and  key to increase.

By pressing the  key, the desired value is stored and switched to the brightness setting mode - Figure 3.24. The current level is represented by a bargraph / >>>> /. Adjustment is incremental by pressing  key to decrease and  key to increase. The desired value is memorized by pressing the  key, and goes into working mode - Figure 3.22.

Appendix 6

Determination of the parameter value - Distance between the labels



$L1$ - length of front label [mm]

$L2$ - length of back label [mm]

$L3$ - distance between front and back label [cm]

D - diameter of the vessel /container/ [mm]

$$L3 = ((D * 3,14 - L1 - L2) / 2) / 10 \quad [\text{cm}]$$

Example:

For a vessel with a diameter of 73 mm, and the length of the labels respectively front 85 mm and back 55 mm, the distance between the labels is obtained as follows:

$$L3 = ((73 * 3,14 - 85 - 55) / 2) / 10 \quad [\text{cm}]$$

$$L3 = 4,461 \quad [\text{cm}] .$$

Input ?value up to the second character: 04,46 [cm].

4. Maintenance and cleaning

**Attention! Risk of injury!**

Always disconnect the plug from the socket before performing any work on the machine.

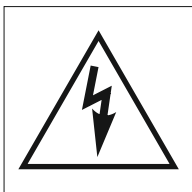
The labeling machine does not require any technical maintenance within the specified service life.

Clean the machine after finishing the job.

Use a brush or a dry cloth. Do not use solvents to clean the cabinet and face panel.

Technical alcohol may be used to clean the shafts. No liquids should enter the machine.

Make sure that the vents are always clear.



If detergent gets into your eyes, wash it immediately with water!

If discomfort or vision problems continue, seek medical attention!

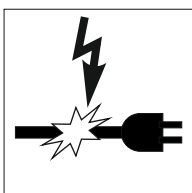
In the event of electric shock or injury, disconnect the power supply immediately by pulling the plug out of the socket!

Get medical attention immediately

5. Service

**Attention!**

Have the machine serviced by qualified personnel only and only use original spare parts. This guarantees the safety of the machine.



If the power cord is damaged, replace it with a new one. This ensures the protection against electric shock and guarantees the safety of the machine.

6. Warranty

General conditions

The machine is manufactured with due care and tested in good faith. It is intended for use in normal climatic conditions, in an environment with normal fire safety, without liquids and gases aggressive to the housing material. In case of a warranty event, contact a certified service center.

Warranty conditions

Warranty period: 24 months from the date of sale.

The warranty applies only to defects in materials and factory defects, but not to damage emerged during transportation, worn parts or damage of fragile parts.

In the case of malicious and misconduct, use of force and encroachment not done by our repairers, the warranty is void.

Your legal rights are not limited to this warranty.

The warranty period is not extended after the warranty service has been provided. This also applies to replaced and repaired parts.

After the warranty period, repairs are paid.

7. Transportation



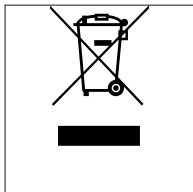
Attention!

Transport the machine to be done in its original packaging. Use the original reinforcing materials.

Avoid tilting or tipping the machine. Keep away from getting wet and hit.

The weight of the machine together with the package is 17 kg.

8. Disposal of the machine



The packaging is made from environmentally friendly materials that you can hand over for recycling.

Do not dispose of electrical appliances with household waste!

According to European Union Directive 2002/96 / EU, end-of-life electrical appliances must be collected separately and disposed of for recycling in accordance with environmental protection requirements.

9. EC DECLARATION OF CONFORMITY - original

With the present STS Electronics Ltd., Gabrovo, 41 Industrial Street, tel .: 066/801536,
e-mail: info@stselectronics.eu manufacturer

Declares

under its own responsibility that the **STS 818 labeling machine** complies with the requirements of:

DIRECTIVE 2006/42 / EC, introduced by the Ordinance on Essential Requirements and Conformity Assessment of Machines

DIRECTIVE 2014/30 / EC, introduced by the Ordinance on Essential Requirements and Conformity Assessment for Electromagnetic Compatibility.

The product meets the requirements of the following harmonized standards:

BDS EN ISO 12100: 2011

Machine safety. General principles for design. Risk assessment and reduction risk (ISO 12100: 2010)

BDS EN 60204 - 1: 2006 + A1: 2009

Safety of machinery. Electrical equipment of machines. Part 1: General requirements.

BDS EN 61000-6-2: 2006

Electromagnetic compatibility (EMC). Part 6-2: Common standards. Resistance to interference with industrial environments.

BDS EN 61000-6-4: 2007 +A1: 2011

Electromagnetic compatibility (EMC). Part 6-4: Common standards. Radiation standard for industrial environments.

The person who compiled the technical file - eng. Krasimir Savov

Date: 12.02.2020
Gabrovo City

Sign:
Manager: Diplomedated Engineer Krasimir Dikov



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10. Producer

**STS Electronics Ltd.
City of Gabrovo 5300
14 „Stancionna“ street**

FACTORY NUMBER: _____