Instructions



Wrap-around applicator

# WICON

| Type | |
| --- | --- |
| Wrap-around applicator | WICON |

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**Further documentation**

Operator's Manual SQUIX

▷ https://www.cab.de/media/pushfile.cfm?file=2771



Configuration Manual cab Printers

▷ https://www.cab.de/media/pushfile.cfm?file=3257



Programming Manual cab Printers

▷ https://www.cab.de/media/pushfile.cfm?file=3047

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**1 Introduction**

## 1.1 Instructions

Important information and instructions in this documentation are designated as follows:

**Danger!**
**Draws attention to an exceptionally great, imminent danger to your health or life due to hazardous voltages.**

**Danger!**
**Draws attention to a danger with high risk which, if not avoided, may result in death or serious injury.**

**Warning!**
**Draws attention to a danger with medium risk which, if not avoided, may result in death or serious injury.**

**Caution!**
**Draws attention to a danger with low risk which, if not avoided, may result in minor or moderate injury.**

**Attention!**
**Draws attention to potential risks of property damage or loss of quality.**

**Note!**
**Advices to make work routine easier or on important steps to be carried out.**

Environment!
Gives you tips on protecting the environment.

▶ Handling instruction

▷ Reference to section, position, illustration number or document.

✳ Option (accessories, peripheral equipment, special fittings).

*Time* Information in the display.

## 1.2 Intended Use

- The device has been designed for operations with SQUIX series printers, being an option for labeling cylindric items of diameters 2 mm to 16 mm, such as single wires, strands, cables, hoses, tubes or round rods. Any other use has not been intended. The manufacturer / supplier is not liable for damages resulting from misuse. Risks are entirely up to operators.
- Intended use also includes observing this manual.
- The device has been manufactured state of the art according to accepted safety regulations. Nevertheless, operation may pose risks to the life and limb of operators or third parties, or result in limitations to the device and other material assets.
- The device must be used only in a technically perfect condition, in accordance with its intended use, conscious of safety and dangers and in compliance with the instructions included in this manual.

**Attention!**
**Operating the applicator requires printer firmware 5.41.1, or any later release.**

**Note!**
**All the current documentation are provided on the Internet.**

## 1.3      Safety Instructions

- Disconnect from power before installing the applicator or separating it from a printer.
- Operate the applicator only if assembled to a printer.
- Work not described in this manual must be performed only by trained staff or service technicians.
- Improper handling of electronic components and their software may result in malfunctions. Other incorrect work or modifications to the device can limit operational safety as well.
- Always have service work performed by a qualified repair shop, equipped with tools that are necessary to do this job properly.
- Do not remove warning stickers. Dangers cannot be identified any longer.

> ⚠ **Warning!**
> **This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.**

## 1.4      Safety Marking
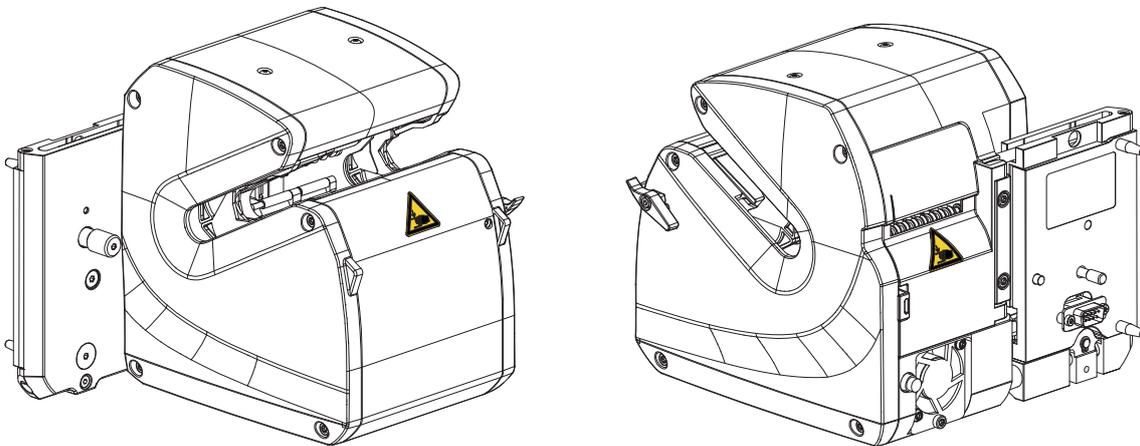


Figure 1    Safety marking

> ⚠ Risk of crushing by moving parts!
> ▶ Do not interfere in the applicator's work area.

## 1.5      Environment

♻ Obsolete devices contain valuable recyclable materials that should be sent for recycling.

▶ Send to suitable collection points, separately from residual waste.

The modular construction of the device enables it to be easily disassembled into its component parts.

▶ Send the parts for recycling.

## 1.6    Technical Data

| Wrap-around applicator | | | WICON |
|---|---|---|---|
| Item | Diameter | mm | 2.0 - 16.0 |
| | Length | mm at least | 132 |
| | Centering panel distant to left and right | mm | 124 |
| | Label margin distant to centering panel | mm | 12.7 |
| | Label margin distant to edge of item by stop | mm | 25 - 100 |
| | Deflection related to a length of 124 mm | mm | max. 1 |
| Label | Width | mm | 12.7 - 50.8 |
| | Height | mm | 19.1 - 70.0 |
| Applicator | Cycle time printing and applying or applying and printing | s | 1.8 - 6 |
| | Number of wrap-arounds | | 2 - 10 |
| | Speed of wrapping | u/sec | 3.0 |
| | Initial percentage of speed of wrapping | | 10 to 100 % |
| | Wrapper position | mm | -2 |
| Start | automatically, as soon as an item has been inserted by hand | | |
| | or via data interface | | |
| | or via I/0 interface | | |

| Label printer | | SQUIX 4/MP | |
|---|---|---|---|
| Materials guided on the printer | | centered | |
| Print method | | Thermal transfer | |
| Print resolution | dpi | 300 | 600 |
| Print speed | mm/s max. | 200 | 150 |
| Print width | mm max. | 105.7 | |
| Finishing | Roll diameter mm max. | 205 | |
| | Core diameter mm | 76 | |

Table 1       Technical data

## 1.7    Labels and Transfer Ribbon

!  **Attention!**
**Only wrap-around labels provided by the manufacturer guarantee proper applications.**
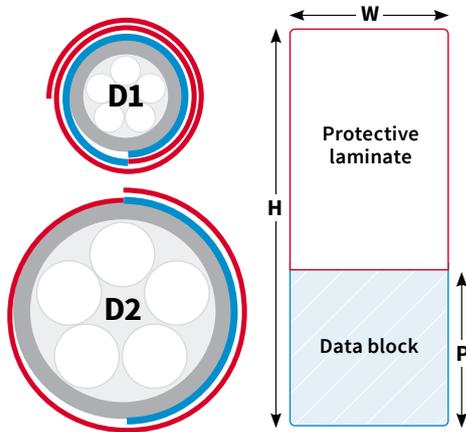**Item surfaces must be clean and free of lubricants.**



Figure 2    Label dimensions

| Part no. | Data block color | Product Ø | | Label width W mm | Label height H mm | Data block height P mm | No. of labels per roll | PU 1 Rolls | PU 2 Rolls in cardboard box |
|---|---|---|---|---|---|---|---|---|---|
| | | D1 mm | D2 mm | | | | | | |
| 5780138.130 | white | 2.0 | 4.0 | 12.7 | 19.1 | 6.4 | 7,450 | 1 | 20 |
| 5780139.130 | white | 2.0 | 4.0 | 25.4 | 19.1 | 6.4 | 7,450 | 1 | 20 |
| | | | | | | | | | |
| 5780140.130 | white | 3.0 | 5.0 | 25.4 | 25.4 | 9.5 | 5,800 | 1 | 20 |
| | | | | | | | | | |
| 5780146.130 | white | 4.0 | 8.0 | 12.7 | 38.1 | 12.7 | 4,000 | 1 | 20 |
| 5780147.130 | white | 4.0 | 8.0 | 19.1 | 38.1 | 12.7 | 4,000 | 1 | 20 |
| 5780148.130 | white | 4.0 | 8.0 | 25.4 | 38.1 | 12.7 | 4,000 | 1 | 20 |
| 5780149.130 | white | 4.0 | 8.0 | 50.8 | 38.1 | 12.7 | 4,000 | 1 | 10 |
| | | | | | | | | | |
| 5780151.130 | white | 6.0 | 14.0 | 25.4 | 63.5 | 19.1 | 2,450 | 1 | 20 |
| 5780153.130 | white | 6.0 | 14.0 | 38.1 | 63.5 | 19.1 | 2,450 | 1 | 10 |
| | | | | | | | | | |
| 5780154.130 | white | 6.0 | 16.0 | 25.4 | 70.0 | 19.1 | 2,250 | 1 | 20 |
| 5780155.130 | white | 6.0 | 16.0 | 50.8 | 70.0 | 19.1 | 2,250 | 1 | 10 |

D1 -    Up to this value, the printing area covers the circumference of an item.

D2 -    Up to this value, the protective laminate covers the printing area

With labels 19.1 mm to 63.5 m mm high (H), items of diameters 2 mm to 16 mm can be labeled. Using labels 70 mm high, the smallest possible item diameter is 6 mm.

Table 2       Labels and transfer ribbon

## 2.1 Preparing the Printer
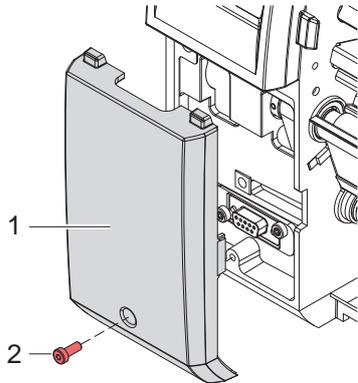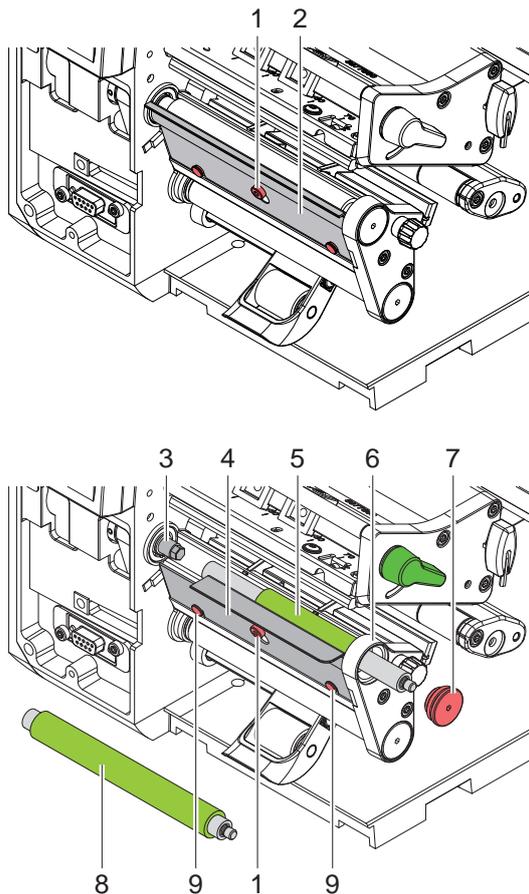
### 2.1.1 Removing the Front Cover



▶ Loosen screw (2) and remove the front cover (1).

Figure 3 Removing the front cover

### 2.1.2 Replacing Peel-off Plate and Print Roller



▶ Loosen screw (1) by a few turns.
▶ Remove the standard peel-off plate (2)
▶ Unlock printhead.
▶ Unscrew the roller bearing (7) from the bearing plate (6) using a 2.5 mm Allen key.
▶ Pull the standard print roller (8) off the shaft (3) and through the bearing plate (6).
▶ Clean the shaft (3).
▶ Set a narrow-rubbered print roller (5) onto the shaft (3) and turn the roller slightly until the hexagon of the shaft connects with the internal hexagon of the print roller.
▶ Set the roller bearing (7) onto the roller pin and screw in the bearing plate (6).
▶ Attach the WICON peel-off plate (4) to screw (1) and pins (9).
▶ Tighten the screw (1).

Figure 4 Replacing peel-off plate and print roller

## 2.2    Mounting the Applicator

> **!**    **Attention!**
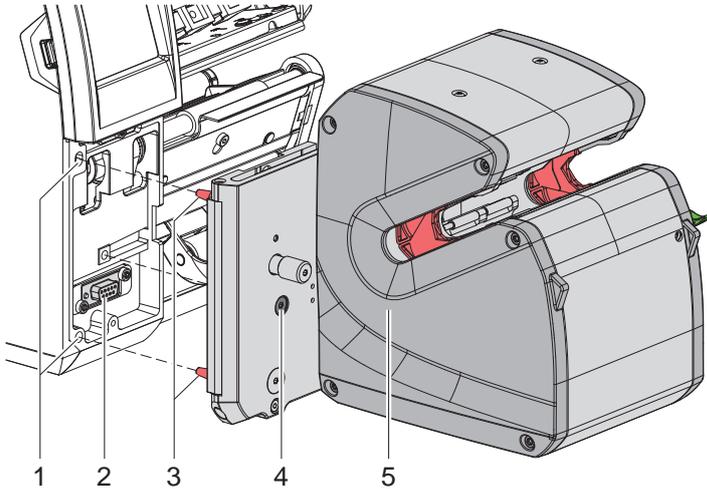> ▶ **Disconnect the printer from the power before installing or removing the applicator.**



Figure 5    Mounting the applicator

▶ Insert the pins (3) of the applicator (5) to the drill holes (1) on the printer.
▶ Push the applicator to the printer to connect the applicator plug with the peripheral port (2) of printer.
▶ Tighten the screw (4) to fix the applicator.

> **i**    **Note!**
> **The wrapper unit can be pivoted from the printer to insert materials and for service work.**

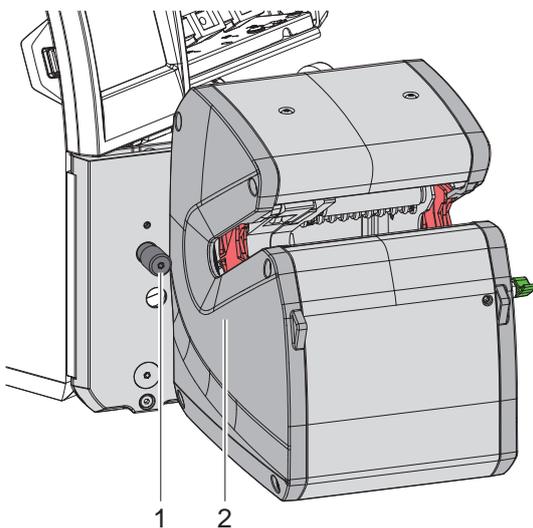

Figure 6    Pivoting the wrapper unit

▶ Loosen the knurled screw (1).
▶ Pivot the wrapper unit (2) from printer.
▶ When finished, pivot back the wrapper unit and tighten knurled screw.

ℹ **Note!**
**For details see the Operator's Manual of the printer.**


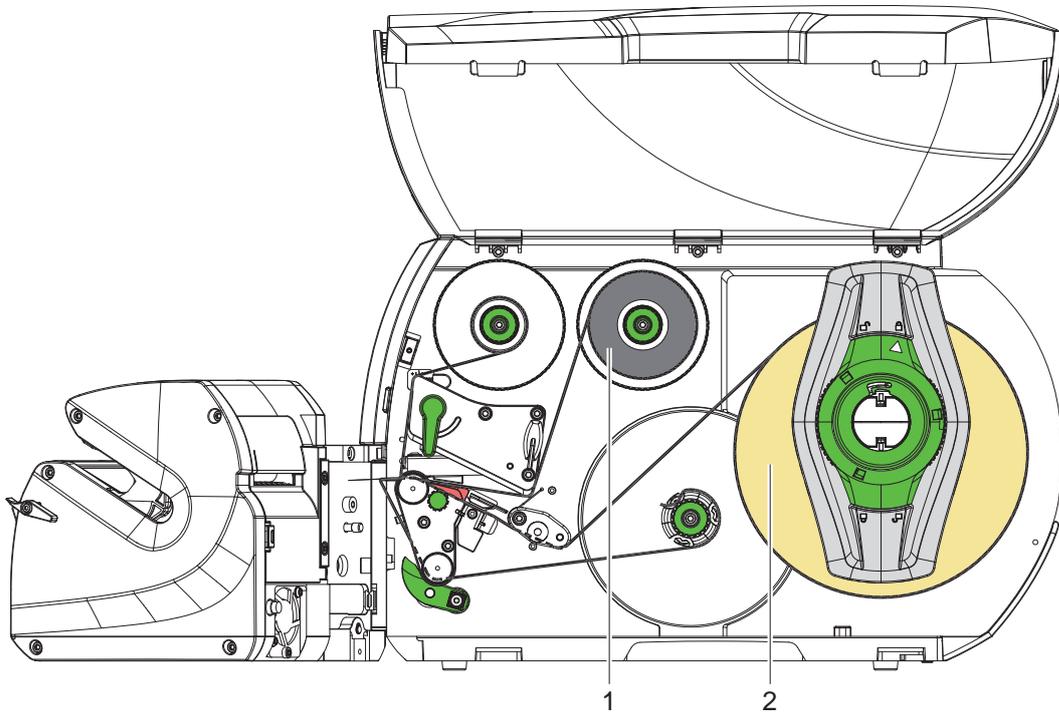
Figure 7    Loading materials

▶ Pivot the wrapper unit from the printer.

▶ Insert ribbon (1) and labels (2) as shown in the figure.

▶ Switch on the printer.

▶ Press ⬇ to synchronize the paper feed.

▶ Remove blank labels provided on label feed.

▶ Pivot back the wrapper unit and fix it to the printer.

## 4.1 Setting the Lateral Position

**i** **Note!**
**The lateral alignment of the applicator is necessary to place the labels exactly on the product using the stop ▷ 4.2 on page 11.**
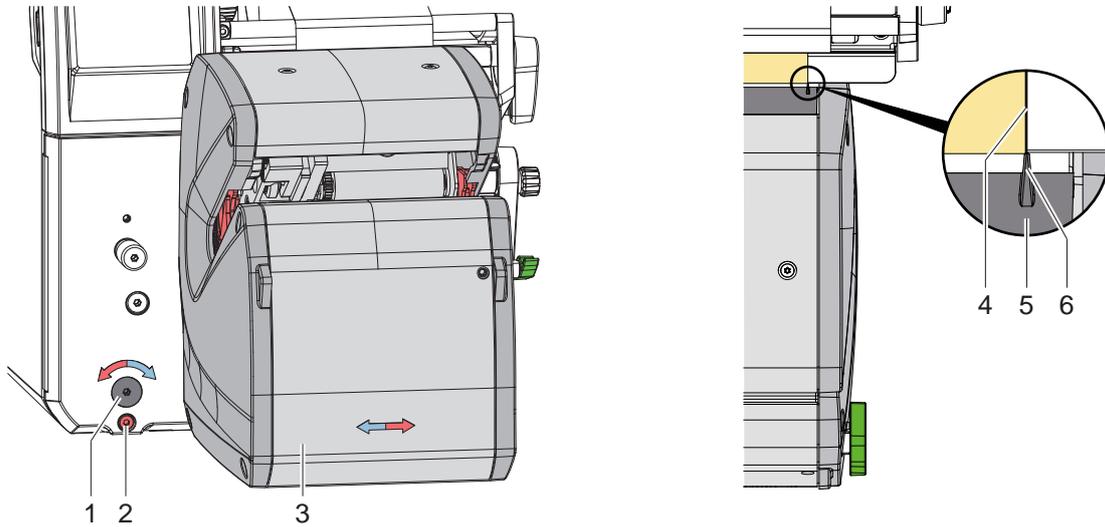


Figure 8    Setting the lateral position

▶ Loosen the screw (2).
▶ Move the wrapper unit (3) by turning the adjusting knob (1) and align the marker (5) to the liner margin (4).
▶ Tighten the screw (2)

## 4.2 Setting the Stop

Using the stop results in accurate repeatability of label positioning.

**i** **Note!**
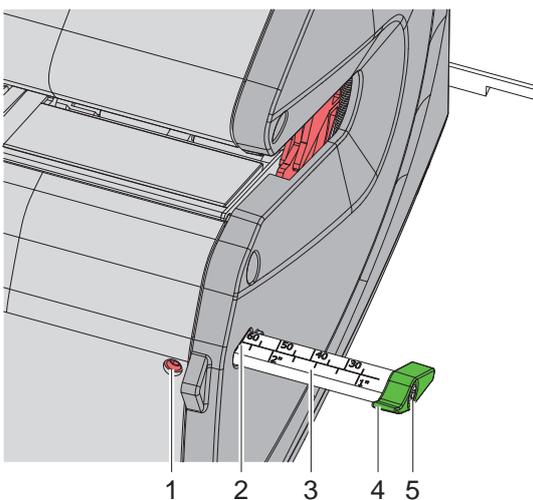**Markings on scale (3) are valid only with applicators set in the correct lateral position ▷ 4.1 on page 11.**



Figure 9    Setting the stop

▶ Loosen the screw (1).
▶ Set the scale (3) with the stop (4) so that the desired distance from the label margin to the end of the product is indicated next to the chassis (2).
▶ Tighten the screw (1).
▶ After loosening the screw (5), align the stop (4) for optimum contact with the product.

## 4.3 Setting the Parallelism of Labels and Products

In cases of offsets between the layers of a label wrapped around an item, modify the angle of the applicator to the printer.
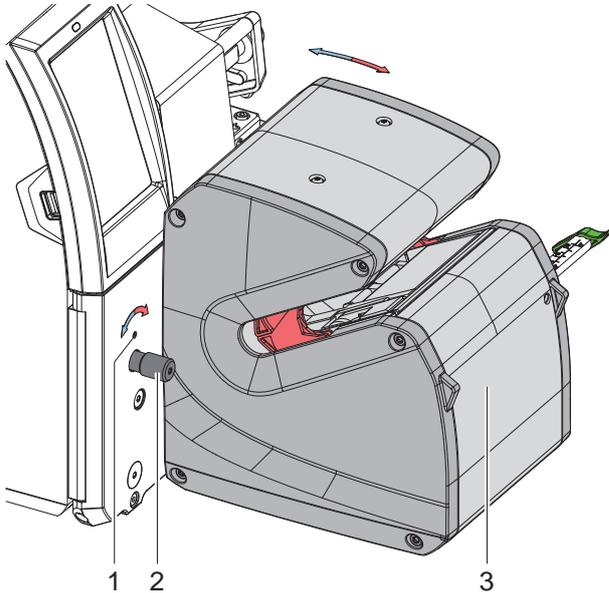


Figure 10 Setting the parallelism

▶ Loosen the knurled screw (2)
▶ Pivot the wrapper unit (3) in small steps by turning the set screw (1).
▶ Tighten the knurled screw (2)
▶ Start labeling and check the result.
▶ Modify the setting if required.

## 5.1     System Configuration

> ℹ **Note!**
> **This chapter describes the needful settings for the WICON functionality.**
> **Further information ▷ 6 on page 15 and ▷ Configuration Manual Printer.**

### 5.1.1   Backfeed

> ⚠ **Attention!**
> **After transferring a label from the printer to the applicator it is necessary to feed back the front edge of the next label to the printing line.**

▶ Start menu.

▶ Set ⚙ *Setup >* 🖨 *Printing >* 🔁 *Backfeed* to the setting *always*.

### 5.1.2   Basic Setting of the Peel-off Position without Print Job

▶ Pivot the applicator from the printer.

▶ Press ⬇ to recognize the peel position of the labels.
The current label must be peeled-off completely form the liner an the following label should be stopped about 1 mm in front of the peel-off edge.

▶ If necessary adjust the position via ⚙ *Setup >* 📖 *Labelling >* 🖐 *Peel-off position*.

## 5.2     Creating a Layout

### 5.2.1   Activating the Peel-off Mode

▶ Activate the peel-off mode in the software
This is done with the "P command" in the direct programming, ▷ Programming Manual.

### 5.2.2   Job Related Correction of the Peel-off Position

▶ Observe the peel-off position during operation.

▶ Do not change the basic setting ▷ 5.1.2 but correct the peel-off position via software.
In the direct programming an offset can be added to the "P" command.
Example: With „P 4.0" the label will be moved 4 mm further. ▷ Programming Manual.

### 5.2.3   Example

```
m m
J
H 100,5,T
S l1;.0,.0,63.0,66.0,25.0
P 4.0
G 1.0,1.0,0;R:23.0,18.0,.2,.2[FILL:100%]
T 22,12,180,3,5.5;WICON
T 18,4,180,3,5.5;[SER:0001,1,1]
A 300
```

▶ For the label format use the complete label height including the transparent area.
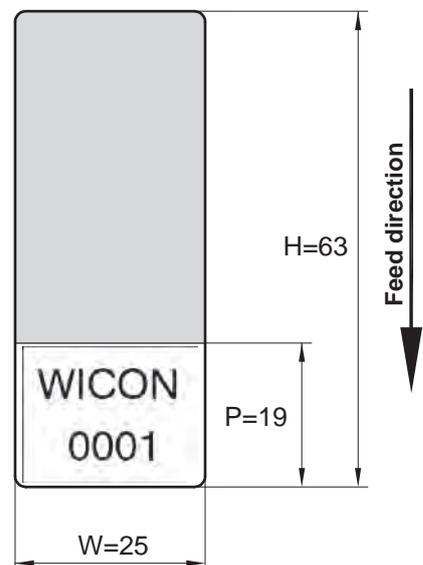
▶ Place all print information in the white area.



Figure 11  Programming example

## 5.3 Labelling



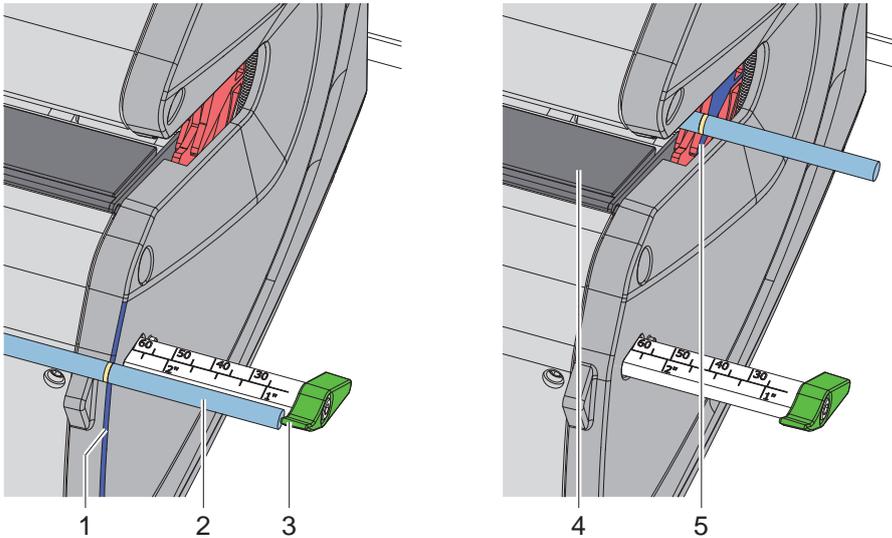Figure 12 Insert product

▶ Set the end of the product (2) to the stop (3).

▶ Grab the product with thumb and index finger of right hand on the outside of the chassis (1). At the same time, hold the product with your left thumb and index finger 1 to 2 centimeters distant from the chassis.

▶ Keep this grip to guide the product into the centering panels. At this, the thumb and index finger of the right hand touch the centering panel (5).

▶ Close the centering panels by inserting the product and keep tight flexible material. As soon as both panels are closed, the applicator is ready for labeling.
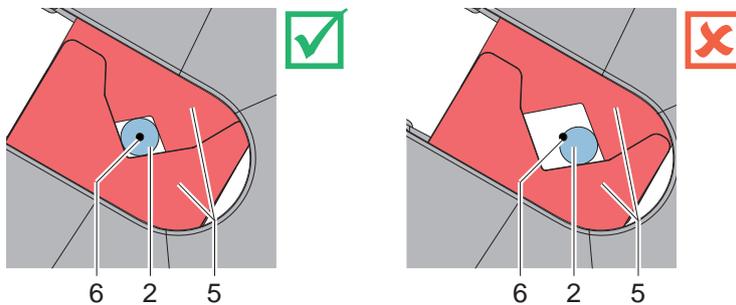


Figure 13 Product in centering panel

**!** **Attention!**
▶ **When the product (2) is inserted with excessive power it can be moved beyond the axle (6) of the applicator. Following the labels can form loops on the product.**

▶ Depending on the setting, wrapping is triggered immediately or by a START signal. At this, the touch guard (4) is closed and the label wrapped around the product.

▶ Hold the product with both hands during wrapping.
After wrapping has finished, the touch guard is opened.

▶ Remove the labeled product.

ℹ **Note!**
**The values of the setup are basic settings for the current printer/applicator combination.**
**After changing the applicator or printer a re-adjustment may be necessary.**

**Changes required for processing different print jobs should be implemented by additional offsets available in the software.**

**The offset values from setup and software are added together for execution.**

**For detailed instructions for configuration ▷ Configuration Manual of the printer.**

## 6.1        Settings of the Printer Menu

ℹ **Note!**
**In that chapter are described the specific applicator parameters of the menu** *Labelling* **only.**

**For more information about the configuration ▷ Configuration Manual of the printer.**

▶ Start menu.

▶ Select ⚙ *Setup >* 🔲 *Labelling*.

| Parameter | Description | Default |
|---|---|---|
| 🛈 *Device info* | Applicator information:<br>Software edition, diameter of the last product,<br>number of label applications, error notes, number of rotations | |
| ⊕ *Calibrate device* | Calibration of the diameter measurement by means of a product with a diameter of 10 mm<br><br>▬🅳 With service key inserted the diameter of the calibrating product can be set. | |
| 🔁 *Reset service counter* | ▬🅳 **Access only with service key inserted!**<br>Reset of the applicator's service counter | |
| 🔳 *Cycle sequence* | Select type of operation:<br>*Print-apply*:<br>Printing a label and applying it to an item are triggered by a START signal. After a cycle has finished, the transport module contains no label.<br>*Apply-print*:<br>Printing an initial label is triggered by a separate signal, so is its transfer to the transport module.<br>A START signal triggers the label be applied and, in subsequence, the printing of another one.<br>After a cycle has finished, the transport module contains a label. | *Print-apply* |
| 🔲 *Automatic FSTLBL* | ✳ only with *Cycle sequence* = *Apply-print*<br>The FSTLBL signal is triggered automatically in subsequence to a print job been started. | *Off* |
| 🖐 *Peel-off position* | Shifting the peel-off position with reference to the rear margin of a label<br><br>Modification is possible also via software.<br>Configuration values add up with those of software. | *0.0 mm* |
| 🔲 *Wrap position* | ▬🅳 **Access only with service key inserted!**<br>Position of the label relating to the roller of the transport module before wrapping | *-2.0 mm* |
| 🎵 *Wrap start* | Labeling is triggered automatically by inserting a product or by an external signal | *Automatic* |
| 🔲 *Check for product* | ▬🅳 **Access only with service key inserted!**<br>Checking of the centering panel state | *Enabled* |
| 🔲 *Adhesion speed* | Variable start wrapping speed for the first 150 degree of the rotation to improve the sticking of the front edge<br>Value range: 10-100% of the normal speed ; 0%: Automatic | *0 %* |

Table 3        Menu *Labelling*

**Calibrate Device**

▶ Switch on the device.

▶ Start menu.

▶ Select ⚙ *Setup >* 📇 *Labelling >* ⊕ *Calibrate device*.

▶ Insert a 10-mm test pipe (Part No. 5988543).

▶ Select *Continue*.
The wrapping unit will be turned ten times with closing and opening the jaws and measuring the diameter of the test pipe.

▶ The display shows the success of the calibration, the determined offset and the tolerances of the offset value.

▶ Select *Continue*.
The determined offset will automatically be stored and considered for future measurements.

## 6.2 Special JScript Commands

ℹ **Note!**
**Some parameters of the menu** *Setup > Labelling* **can be changed or overridden by JScript commands in a print job.**
**These changes are valid for the current print job only.**

❗ **Attention!**
**The meaning of the commands O Ax=y in the following table are valid for WICON only.**
**For other applicators the meaning of these commands are different.**

**Command O Ax=y**

| x | Meaning | Value range y | Default | Example |
|---|---------|---------------|---------|---------|
| 1 | Wrap start | START signal Automatic | Automatic | O A1=START signal |
| 5 | Wrap position | -10.0...0.0 | -2.0 | O A5=-3.0 |
| 9 | Adhesion speed | 0..100% | 0% | O A9=50 |

Table 4      O Ax commands

❗ **Attention!**
**The y-values must be set as shown in the table regarding blanks and case sensitivity.**

| Error message | Cause | Remedy |
|---|---|---|
| *Label detected in wrong position* | Applicator not adapted to the media width | ▶ Setting the lateral position<br>▷ 4.1 on page 11 |
| *Label on belt detected* | A label on the transport belt is detected when a new labeling cycle shall be started after an error has occurred or the previous job has been canceled. | ▶ Remove labels from transport belt. |
| *Touch guard error* | Failure of the touch guard movement | ▶ Remove labels and product from the applicator.<br>▶ If error recurs call service. |
| *No label on belt detected* | After a labeling cycle is started no label is detected on the transport belt. | ▶ Remove labels and product from the applicator.<br>▶ If error recurs call service. |
| *No product detected* | The diameter recognized by the applicator is under the defined minimum diameter | ▶ Use products with correct diameters. |
| *Wrapping failed* | Failure of the wrapping unit movement | ▶ Remove labels and product from the applicator.<br>▶ If error recurs call service. |

Table 5        Fault correction

**How to remove labels from the applicator**
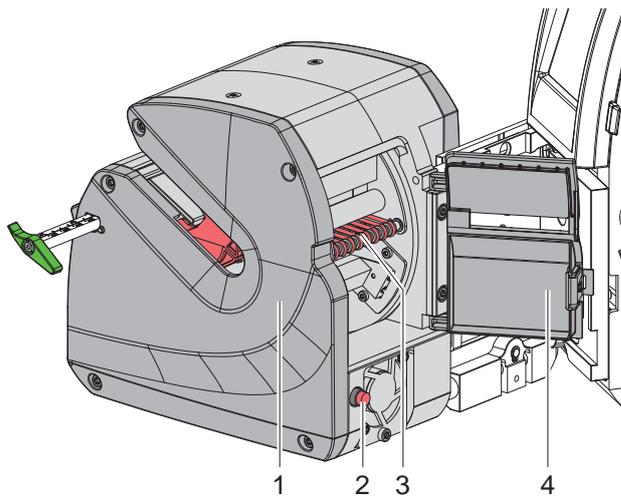


▶ Pivot the applicator (1) from the printer.

▶ Unlock and open the door (4).

▶ Remove the labels from the inside of the applicator.
   Press the button (2) to promote the transport system (3) moving backwards.

▶ Close the door and pivot back the applicator.

Figure 14  Removing labels from the applicator

**8 Approvals**

## 8.1 Reference to the EU Declaration of Conformity

The WICON applicators comply with the relevant fundamental regulations of the EU Rules for Safety and Health:
* Directive 2014/30/EU relating to electromagnetic compatibility
* Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment
* Delegated directive (EU) 2015/863 as regards the list of restricted substances

**EU Declaration of Conformity**

▷ https://www.cab.de/media/pushfile.cfm?file=3982

## 8.2 FCC

**NOTE : This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. The equipment generates, uses, and can radiate radio frequency and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user may be required to correct the interference at his own expense.**