

ENVELOPE SEALING MACHINE

MERCURY Series



Instruction Manual

English

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This Instruction Manual is valid for :

Type Order ID number

MERCURY S ID / No 10027

MERCURY SC ID / No 10028

MERCURY SIR ID / No 10029

MERCURY SIRC ID / No 10030

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1 Manufacturer details

Manufacturer details according to the EU Machine Directives 2006/42/EG, Appendix II B

Manufacturer: **MAAG MERCURE AG**, Webereistrasse 59, CH-8134 Adliswil
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hereby declares that the Envelope Sealing Machine including all its models:

MERCURY S" line

meets all the basic health and safety requirements of the Machine Directives **2006/42/EG Appendix I**.

The technical documentation for this Envelope Sealing Machine is detailed in separate documentation for each model. The manufacturer agrees to transmit these technical documents to the national authorities electronically upon request. This Envelope Sealing Machine also adheres to following regulations: :

- ◆ Machine Directive 2006/42/EG
- ◆ Low Voltage Directive 2006/95/EG
- ◆ EMC-Directive 2004/108/EG

Company, location : **MAAG MERCURE AG**, CH-8134 Adliswil,

Date: 27th August 2014

Name, Title: Hans E. Maag, CEO



2 Safety Instructions

2.1 Symbols and Reference Key

Symbols: Assembly and commissioning by qualified personnel in accordance with operating instructions.

Please take heed of the following symbols and references. They are divided up into safety steps and are classified under ISO 3864-2.

DANGER



This means there is an immediate threatening danger.

When instructions have not been followed, death or serious harm to the body (invalidity) can be caused.

WARNING



This means there is a potentially dangerous situation. When the instructions have not been followed, death or serious harm to the body (invalidity) can be caused.

CAUTION



This means there is a potentially dangerous situation. When the instructions have not been followed, damage to objects as well as little or minor harm to the body can be caused.

INFORMATION



This means general advice: useful operator tips and operating recommendations which do not affect the safety and health of personnel.

2.2 Basic Safety Precautions



Before use :

Please read this instruction booklet thoroughly.

Important advice regarding the use, safety and the warranty of the machine is given. The machine is radio-screened and complies with technical specifications.

This instruction booklet allows the user to set up and operate this Envelope Sealing Machine in complete safety. The instructions and especially the safety precautions should be respected by all who use this Envelope Sealing Machine. In addition, further local rules and regulations must be adhered to for accident prevention.

The operating instructions must always be kept near the Envelope Sealing Machine .



Should the Envelope Sealing Machine be used for any other purpose than the one for which is was intended, used incorrectly or subjected to bad repair or maintenance, no liability for any damages can be guaranteed!

2.3 Safety Advice



Caution when on standby

—> **The machine should be turned off when :**

- ◆ placing the water reservoir on the moistening tank
- ◆ setting the guide plate and pile angle for size
- ◆ replacing worn parts with new ones
- ◆ the machine is jammed (such as an envelope or belt track jam)



WARNING

The Envelope Sealing Machine must not be used:

- ◆ in wet or damp areas.
- ◆ in temperatures below 10°C or over 50°C
- ◆ in areas containing highly flammable material
- ◆ in areas with explosive material
- ◆ in very dirty or dusty environments
- ◆ in corrosive environments (e.g. where the air has a high salt content)



Safety instructions when the machine is on or in use:

- ◆ do not carry out any manipulations
- ◆ do not touch the conveyor belt
- ◆ do not put your hands on the transport system and the sealer table
- ◆ Keep hands, long hair or dangling jewelry etc. away from the feed and moving parts .

3 Description of the Envelope Sealing Machine

3.1 General Information

The fully automated Envelope Sealing Machine models "MERCURY" and "MERCURY S" seal all standard envelopes with the format C6/5 to C5 as well as C4 Pocket envelopes with flaps on the long or short side both cleanly and quickly.

This machine allows for swift handling of your outgoing post, thanks to the astounding closing mechanism. It is easy to install and use even in the smallest spaces. The automatic functioning means you only have to tie the letter piles after they have been sealed. No manual opening of the flaps, handling or pressing of the letter piles is necessary.

3.2 Description of Functions

A large water reservoir with a controlled water level and automatic level regulator make sure there is a smooth supply of water to the moistening tank. The moistening roller is self-cleaning and the moisture level is variable.

The speed is adjustable from 0-100% using the knob.

4 Set up

4.1 Transportation / Moving

When moving the Envelope Sealing Machine first of all you must remove the water reservoir and empty it of water with the suction rubber pear.

Remove the format slide from the machine and place both supplied support pins in the format slide guide. Make sure the machine is supported by these pins.

Place the basin at the front between the underside and conveyor belt with bubble wrap or something similar.



When possible use the original packaging when moving or transporting.

4.2 Using the Envelope Sealing Machine

1. The Envelope Sealing Machine must be placed on a level and solid base. The boxes must be placed on the surface.
2. The Envelope Sealing Machine must be connected to an earthed outlet (2-pin plus earth) 230VAC or 115VAC according to the type plate.



When setting up, the machine must always be turned off (the warning light must not be blinking!)

3. The machine can be centered by adjusting the two rear machine feet using circular level on the basin.
4. Check whether the circular level has moved. If necessary, adjust the machine feet again.
5. The transparent water reservoir must be filled with tap water. If the tank were to tip over quickly the valve closes off the water.



In hard water areas add 4 to 5 drops of cleaning fluid. This way you will have a equally smooth and spot-free liquid!

6. The moistening basin should be topped up to the limit and the water reservoir (neck down) inserted into this position inside the ring of the moistening basin until the neck completely rests inside.
7. The water must now reach the top of the moistening roller. Check for the optimal wetness manually when turning the moistening roller.



8. The correct amount of water will now automatically be supplied to the moistening roller from the transparent water reservoir (vacuum effect!)

The suction rubber pear is used to check the water level and to empty the moisture basin.

When carrying out maintenance or moving the machine, the water basin and reservoir must be completely emptied:

1. The moisture basin must be topped up and the water reservoir taken out of the ring-shaped holder .
2. The rest of the water in the moistening tank can be sucked out via the suction rubber pear through the ring-shaped hole and the moisture basin water level will slowly go down.



In this way the water compartment is shut off and the machine parts connected to electric power cannot come into contact.

11. Take out the support pins from the format slide and insert the format slide in both guides.

4.3 Power supply

The operating voltage required is as specified below:

100...120VAC/60Hz and 200...240VAC/50Hz



The switching power supply has been pre-selected by the factory!

Always take notice of the type plate on the back of the Envelope Sealing Machine!

5. Instructions for use

5.1 Standard use

- ◆ Switch on with the main toggle switch next to the powercord input.
- ◆ Turn the rotary control switch to approx. 70-100% (position 7 ... 10).
- ◆ Set the five transport rollers by moving the axis of its lever arms in the areas along the back side as close as possible to the envelope flap.



The flaps may under no circumstances pass under the feed rollers!

In this way both narrow and wider envelopes with long flaps can be transported and closed effortlessly.

- ◆ Place all the envelopes of the same width together, place the flaps all on the same side.
- ◆ The format slide should be positioned with an additional 2mm space around the edge of the envelope and for longer formats they should open to the left.
- ◆ Place the pile angles in the receiving tray according to the envelope size set.
- ◆ With the left hand take a stack of envelopes, all with the same side facing up and the envelopes staggered up towards the back.



Only place the letter stack on when the conveyor belt is running so that the lowest envelope is always taken first!

- ◆ Take the sealed envelopes out of the stack and press the top flap lightly.
- ◆ More stacks of letters can be added during running.
- ◆ When idle, adjust the speed control using the rotary knob to position "0" and if necessary, turn the machine off completely.

5.2 Setting up and regulating the basin

The correct water level for the moistening rollers is controlled by circular levels on the moisture basin by raising or lowering the two rear machine feet.

Once the water reservoir has been filled, it must be inserted into the ring of moisture basin so that the water reaches the top of the moisture roller, adjustable by turning the rollers.

See also Paragraph 4.2, points 3...10

The water level in the moistening rollers is properly regulated, when it does not reach the basin edge. By slow aspiration with the suction rubber pear from the top of the moistening roller a correct continued flow of water from the reservoir is controlled. The moistening roller top must always be in the water.

If the water level in the moistening rollers is too high, the mechanism must be placed deeper and if the water level is too low, the mechanism must be positioned higher, again by adjusting the two rear machine feet.

When the correct water level is set - also, for example, when replacing the moisture tank - the circular level is recorded by means of its three fixing screws and therefore the right water level is retained.

Despite correct regulation of the water level in moisture basin, the water may overflow when the moistening rollers are in use.

This may be due to a leaking water reservoir (no longer airtight, e.g. as a result of a crack). Thus, the required vacuum in the plastic container is no longer present, and hence the water flows constantly into the moisture tank and overflows at the moistening rollers.

5.3 Regulating the moistening of the envelope flap

Depending on the quality of the paper, the shape of the flap and the flap adhesive, a lighter or stronger moistening of the flap may be required for sealing.



To regulate the moistening, the **black knurled nut must be displaced laterally on the moistening line.**

A quarter turn clockwise results in a lighter wetting, a quarter turn counterclockwise results in a stronger wetting.

The ideal occlusive speed can be adjusted with the rotary knob adjustment from 0 ... 100% (range 0 ... 10).

Depending on the size and contents of the envelopes, the speed should be selected so that the envelopes can be properly ejected and stacked.

5.4 Tuning and adjusting the conveyor belt

The lateral end of the conveyor belt on both rubber rollers is adjustable by means of two screws on the rear panel. By turning the screws during use to the right, the belt runs forward. By turning the screws during use to the left, the belt runs backwards.

The conveyor belt is properly controlled during the operation, provided that its leading edge matches the front edges of the two belt rollers.

5.5 Models MERCURY „S / SIR“

This Envelope Sealing Machine **MERCURY S-Series** is **standard equipped** with the **piling feature**:

This standard feature seals both normally stacked envelopes (**see picture 1, page 14**) as well as nested envelopes (**see picture 2, page 14**)!

The models **MERCURY „SIR and SIRC“** are equipped with the additional integrated, photoelectric Infrared system (**IR**) and uses automatic **START/STOP function**.

1. The format slide should be positioned **with an additional 2mm space** around the edge of the envelope (enough room for the envelopes to be processed)
2. Place the pile angles in the receiving tray according to the envelope size.
3. Then the machine can be switched on using the power switch (control light turns on, **but the conveyor belt is not running!**)
4. **Insert the stack and now the engine is automatically switched on. Once the last envelope has been processed after approximately 3-4 seconds the machine will automatically turn off!**
5. **Use smaller stacks so that the mixed envelopes don't interfere with each other.**



CAUTION !

Do not touch once the conveyor belt is running! Do not rest your hands on the machine! Take care with long hair or dangling jewellery when near the conveyor belt system!



The format slide must not be placed perpendicular, this way the interleaved envelopes can be processed properly.

Normally stacked envelopes:

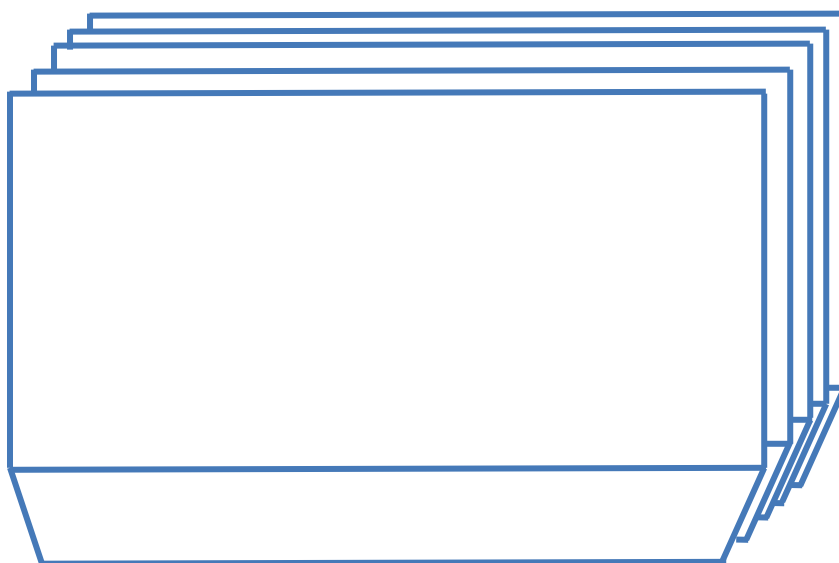
>>>>>>>>>>>>>>> direction of processing



Picture 1

Nested envelopes:

>>>>>>>>>>>>>>> direction of processing



Picture 2

5.6 Models MERCURY "SC / SIRC"

This Envelope Sealing Machine **Model MERCURY SC and SIRC** is additional equipped with the **integrated counter (C)**.



Pulse counter with 7-digit LCD, 48 Hz/8 kHz with integrated lithium battery, without backlight.

Description of the counter

- Scaling factor, factory-programmed
- 7-digit LCD-display, 8,6 mm high
- Counting range 30Hz or 1 kHz / 0..99999999, no decimal point
- Data storage on internal EEPROM
- DIN-housing 48 x 24 mm, dark-grey
- Power supply over internal battery

Functionality

When pushing the light-grey button on the front, the counter will be reseted.

Registration of the documents resp. letters has be effected by CLASS 1 Laser. The peak power of the laser is 4.5mW.



DON'T STARE DIRECTLY INTO THE LASER BEAM!
This cause damage your eyes!

The Laser unit is located behind the frontpanel and marked by warning label.

6. Servicing and Maintenance



The machine should be covered after use with the protective cover so that the rubber parts are not damaged by external light, sun and heat sources!



First of all the power plug must be removed from the power point in the wall or removed from the main rocker input switch.

Then:

- ♦ *Open or unscrew the electronic covering for maintenance work.*
- ♦ *Replace the fine-wire fuse in the main rocker switch (miniature fuse 5 x 20 mm, 230 VAC / 800 mA or 115 VAC / 1.6 A).*
- ♦ *Cleaning and maintenance work*
- ♦ *Damage to the power cable (to be replaced immediately)*
- ♦ *Short circuit or other electrical faults (an authorised representative or technician should be consulted)*



Only original spare parts must be used. For maintenance and repair, contact the competent dealer. Not properly carrying out repairs or maintenance may lead to the user putting himself in considerable danger!

6.1 Cleaning

The **conveyor belt** should be cleaned externally from time to time with a roller cleaning agent, (as for all printers) and a lint-free cloth.



In this way a good adhesion and continual letter transportation is guaranteed!

The **moisture tank** must be unscrewed with the axis from the star grip for cleaning and rinsed under running water.

It is important to make sure that the moisture tank is not deformed. It should rotate on its axis freely!

6.2 Replacing the conveyor belt

1. Remove the first format slide (left), loosen the front left thumb screw M5x18.
2. Remove the second receiving tray box (right) at the rear 2xM6 with a knurled nut, remove 2xM6 spring washers and 2x M6 body discs.
3. Remove basin (loosen large star grip M10 to the right)
4. At the separating wall, loosen and remove the spring pressure plate with separating rubbers and belt.
5. On the front wall to the left loosen M5x20 screw and U disc M5 (approximately 6-8 mm).
6. On the front panel loosen first the 2 M6x16 screws on the left and right (left: through hole in top side panel, right at receiving tray).
7. Tilt the front panel slightly forward, remove the left side cover, or in IR plate tilt to the left (hanging with IR sensor on the cable).
8. Remove body screws plus body discs completely M6x16 from the front panel and pull the front panel forward.
9. Pull off the cogged belt right over pulley clockwise with a little effort.
10. Remove conveyor belt on both sides pulling forward over the drive rollers.
11. First place new conveyor belt right over the drive roller 5 cm, then left place over roll, drive both back until the belt at the edge of the belt rolls. Now with light pressure push right behind the drive pulley conveyor rollers (leave space for cogged belt)
12. Insert cogged belt on the pulley to the right (rotate counterclockwise in the pulley-groove)
13. Replace front panel (support rollers under the belt)
14. Replace 2 M6x16 fixing screws, on the left with 3 body discs and on the right with 1 body disc, do not tighten fully! yet
15. Tilt the front panel slightly forward, hook left side panel.on
16. Fix the front panel to the left and right well with M6x16 screws.
17. On the dividing panel (left) fix with M5x20 screws and M5 discs.



Make sure that the front wall is in line with the main body and the side cover is level with the front!

18. Assemble belt, separating rubbers and spring pressure plate on the panel, tighten with a knurled nut M5 and fix firmly with disc M5.
19. Replace the basin in the stand, tighten star grip M10 (fully).
20. Slide format slide into place on the left and secure with M5x18 screw.
21. Replace receiving tray with one body disc M6, a M6 spring disc and knurled nut M6 on the back.

6.3 Replacing the conveyor roller rubber rings

Depending on the degree of wear, these rubber rings of the conveyor rollers should be replaced regularly. Always replace all 5 rubber rings at the same time!

These rubber rings can be easily removed by hand by raising the conveyor rollers.

6.4 Replacing the separating rubbers

Depending on the degree of wear, the separating rubbers should be changed regularly. Always replace together with the transparent plastic belt!

The separating rubber is removed by unscrewing the knurled nut on the side panel.



When inserting, make sure that the transparent plastic belt is put in first.

6.5 Replacing the moistening rubbers

Depending on the degree of wear, moistening rubbers should be replaced. This should always be completed by replacing the axel and square top.



When inserting, make sure that the square top touches the inner square of the axis so that the axis can not rotate!

6.6 Replacing the switching unit

The new (grid) toggle switch is in two parts; toggle lever and the plugged switching unit with connectors, 6 A / 250 VAC.

To disassemble and replace the switching unit, first the blade receptacles must be removed. Then turn the switching unit by about 20 ° and remove. The new switching unit need only be pressed on until it snaps into place and the connections plugged in.

6.7 Maintenance of the mechanism

The mechanism is basically maintenance free! The drive has automatic belt tension and a safety clutch.

If the mechanism is defective, the mechanism or the timing belt needs to be replaced!



Consult a technician or authorised representative!

6.8 Replacing of the fuse

The fuse is located in the main rocker switch. Can be opened with a small screw driver. Remove the blown fuse and insert the new fuse according to the marked specification (miniature fuse 5x20mm, 230VAC / 800mA or 115VAC / 1.6A).



On delivery a spare fuse is located on the back of the machine body next to the type plate!

7. Disposal

An Envelope Sealing Machine that is no longer usable should not be disposed of as a single part, rather in different sections depending on the material and then dismantled and recycled. Non recyclable parts should be disposed of correctly.

7. Spare parts

Item no.	Description	Quantity
251	Conveyor rubber belt endless	1
252	Separating rubber with slide plastic sheet	1
254	Moistening roller short with shaft and square tip	1
255	Moistening roller two pieces long with shaft and square tip (u)	1
257	Rubber ring broad for flaps feeding roller 30x37mm D=19.5mm - 0.8mm thick	5
258	Rubber ring narrow for flaps feeding roller	1
356	Rocker Switch black with on/off switch and fuse holder	1
527	Permanent DC motor 24VDC, 5000 RPM, single worm gear 10:1, 900 Ncm, without pulley	1
529	PWM DC Power Controller 9-28V, 10A max.	1
530	150W Single Output Switching Power Supply V out: 24VDC/6.5A	1
533	Signal-LED blue, 24VAC/DC	1
604	Moistening basin arm w/short moistening roller and complete shaft	1
605	Moistening basin arm w/long moistening roller and complete shaft	1
616	Water reservoir, transparent with valve	1
693	Pile angle universal to all receiving trays	1
653J	Format slide complete	1
990/SP	Complete set of spare parts	1 set

9. Technical data:

MERCURY S Series

Operating voltage:	100...120VAC/60Hz and 200...240VAC/50Hz
Standby:	18 Watts / 80 mA
Rated Power:	91 Watts / 400 mA (max.)
Dimensions (incl. format slide unit):	1110 (max.) x 450 x 365 mm (l x w x h)
Weight:	32.1 kg
Piling-Option (for stacked and nested envelopes!):	standard (Models MERCURY S/SC/SIR/SIRC)
Automatic Start/Stop:	optional (Models MERCURY SIR/SIRC)
Counter (integrated):	optional (Models MERCURY SC/SIRC)
Length of receiving tray:	400 mm Standard
Max. width of envelope:	335 mm (B5/B4, C6/5, C4, C4 Pocket)
Max. thickness of package:	6 mm
Max. sealing capacity (C5, C5/6):	18'000 envelopes per hour
Power cable length:	2.0 meters (external)
Area of use:	according to EU-Norms
Licensing:	CE
Product warranty:	2 years
Accessories (incl.):	Cover, suction rubber pear, replacement fuse, instruction manual

In the interest of further technical development, any design and technical modifications to the Envelope Sealing Machine are reserved.