

# FORMAX<sup>®</sup>

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FD 430 Envelope Sealer

OPERATOR, MAINTENANCE,  
& PARTS MANUAL REV. 2



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# 1 SAFETY INSTRUCTIONS

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## 1.1 Symbols and reference key

Symbols: Assembly by qualified personnel in accordance with instructions.

Please note 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, serious harm to the body can be caused.**



### **WARNING**

**This means there is a potentially dangerous situation.**

**When the instructions have not been followed, serious harm to the body 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.**



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

# INFORMATION

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## 1.2 Basic safety precautions

### Before use :



Please read this instruction booklet thoroughly.

Important advice regarding the use and safety 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 the FD 430 Envelope Sealer safely. The instructions and especially the safety precautions should be followed by all who use the Envelope Sealer.

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 it was intended, used incorrectly or subjected to bad repair or maintenance, no liability for any damages can be guaranteed!***

## 1.3 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 50°F or over 120°F
- ◆ 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 make any adjustments
- ◆ do not touch the conveyor belt
- ◆ do not put your hands on the transport system and/or the sealer table
- ◆ Keep hands, long hair or dangling jewelry etc. away from the feeder and moving parts .

## **2 DESCRIPTION OF THE ENVELOPE SEALING MACHINE**

### **2.1 General information**

The fully automated FD 430 Envelope Sealer seals all standard envelope formats, #9 to 6x9 as well as 9 x 12 booklet envelopes with flaps on the longer side both cleanly and quickly.

This machine allows for swift handling of your outgoing mail, 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 make the letter piles after they have been sealed. No manual opening of the flaps, handling or pressing of the letter piles is necessary.

### **2.2 Description of functions**

A large water reservoir with a controlled water level and automatic level regulator ensure 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.

## **3 SET UP**

### **3.1 Transportation / moving**

When moving the Envelope Sealing Machine start by removing the water reservoir and empty the remaining water with the rubber suction 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.

Whenever possible use the original packaging when moving or transporting.



### 3.2 Setting up the envelope sealing machine

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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 a 115 vac grounded outlet.



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

3. The machine can be leveled by adjusting the two rear machine feet and aligning the circular bubble 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.

9. The moisture basin must be covered and the water reservoir bottle removed from the ring-shaped holder.

10. 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. Guide the infeed tray support pins into the receptacles and tighten both thumbscrews.

### **3.3 Power supply**

The operating voltage required is as specified below:

100-120VAC/60Hz or 200-240VAC/50Hz



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

***Always take notice of the type plate on the left side of the Envelope Sealing Machine!***

## 4 INSTRUCTIONS FOR USE

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### 4.1 Standard use

- ◆ Switch on with the main toggle switch next to the power cord 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!**

**This ensures that 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 infeed tray 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 envelope pile in the outfeed 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 stack on when the conveyor belt is running so that bottom envelope is always taken first!**

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

The Envelope Sealer comes with a **piling option as standard**.

This option allows for sealing of both normally stacked envelopes (**see Picture 1, Page 13**) as well as nested envelopes (**see picture 2, Page 13**)!

### **Settings for different letter thicknesses:**

1. In **position 1** (lower) the basin support and separate pressure-plate unit can be used for thickness **up to 8 mm** (all formats). For thickness **above 8 mm up to 16 mm** the basin support and feed separator plate unit need to shift in **position 2 (upper)**.
2. To shift the position, slightly release the knurled nut on the basin support and lift the basin support together with the basin to the upper limit stop (5mm) and fix the knurled nut again (picture 1+2, page 14). Use the same process for the separate pressure-plate unit (picture 3+4, page 14). Release knurled nut slightly and shift the separate pressure-plate unit to the upper position (12 mm) and fix the knurled nut again.



**The height adjustment of basin and separate pressure-plate unit must be executed together to work properly!**

## **4.2 Setting up and regulating the basin**

The correct water level for the moistening rollers is controlled by circular bubble level 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 the moisture basin so that the water reaches the top of the moisture roller, this is adjustable by turning the rollers.

### **See also Paragraph 3.2, points 3...10**

The water level in the moistening rollers is properly regulated, when it does not reach the basin edge. Slowly aspirate the water with the rubber suction pear from the top of the moistening roller to get a controlled and continued flow of water from the reservoir. **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.

For example, when replacing the moisture tank the correct water level is set when the circular bubble level is locked 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

## Normally stacked envelopes:

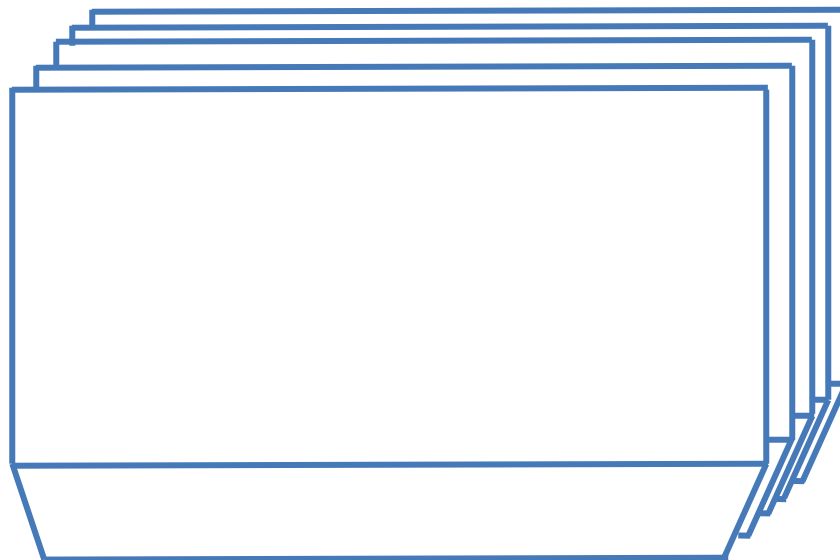
>>>>>>>>> direction of processing >>>>>>>>>



Picture 1

## Nested envelopes:

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



Picture 2

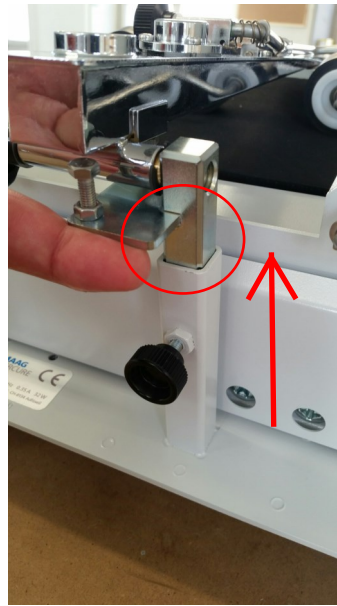
## Adjustment of basin support

Position 1



Picture 1

Position 2



Picture 2

## Adjustment of separate pressure-plate unit

Up to 8 mm



Picture 3

8...16 mm



Picture 4

Loosen knurled nut slightly and shift the feed separator plate unit to the upper position or slide down to the lower position. Fix the knurled nut again and align the spring plate on the separation pad.

overflow when the moistening rollers are in use.

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

If this happens the transparent water reservoir bottle should be replaced!

### 4.3 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 moved 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 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.

### 4.4 Tuning and adjusting the conveyor belt

The 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 slides toward the front of the sealer. By turning the screws during use to the left, the belt slides toward the back of the sealer.

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

## 5 SERVICING AND MAINTENANCE

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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!

*To begin all service the power plug must be removed from the power outlet in the wall (pull only on the plug, not the power cord!)*

*Then:*

- ◆ *Open or unscrew the electronic covering for maintenance work.*
- ◆ *Replace the fine-wire fuse in the fuse holder (miniature fuse 5 x 20 mm, 230 VAC / 800 mA or 115 VAC / 1.6 A).*
- *Replacement fuse is provided into the rocker switch black with on/off switch and fuse holder.*
- ◆ *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 should be used. For maintenance and repair, contact your local dealer. Not properly carrying out repairs or maintenance may lead to injury or the sealer not working properly!*

### 5.1 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.



**Performing these cleanings helps to ensure good adhesion and proper transportation of the envelope!**





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



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

## 5.2 Replacing the conveyor belt

1. Remove the first format slide (left), loosen the front left thumb screw M5x18.
2. Remove the outfeed 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 outfeed 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 is 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.

16. Affix the front panel to the left and right with M6x16 screws.
17. On the dividing panel (left) affix 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 affix firmly with disc M5.
19. Replace the basin in the stand, tighten star grip M10 (fully).
20. Slide infeed tray into place on the left and secure with M5x18 screw.
21. Replace outfeed tray with one body disc M6, a M6 spring disc and knurled nut M6 on the back.

### **5.3 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.

### **5.4 Replacing the separating rubber**

Depending on the degree of wear, the separating rubber should be changed regularly. **Always replace together with the transparent slide plastic sheet.**

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.**

### **5.5 Replacing the moistening rubber**

Depending on the degree of wear, moistening rubber should be replaced. This should always be completed by replacing the axis 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!**

## 5.6 Replacement of the rocker switch

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The new main rocker switch consists of a power socket, fuse holder and an integrated fuse element.

To replace the main rocker switch the the blade receptacles must be removed. Then the main rocker switch unit need only be pressed on from inner surface (straight plates needs to be pressed lightly).

## 5.7 Maintenance of the motor-drive mechanism

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

If the motor-drive mechanism is defective, the motor or the conveyor rubber belt needs to be replaced!



***Consult a technician or authorised representative!***

## 5.8 Replacement of the fuse

The fuse is located in the main rocker switch and 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).



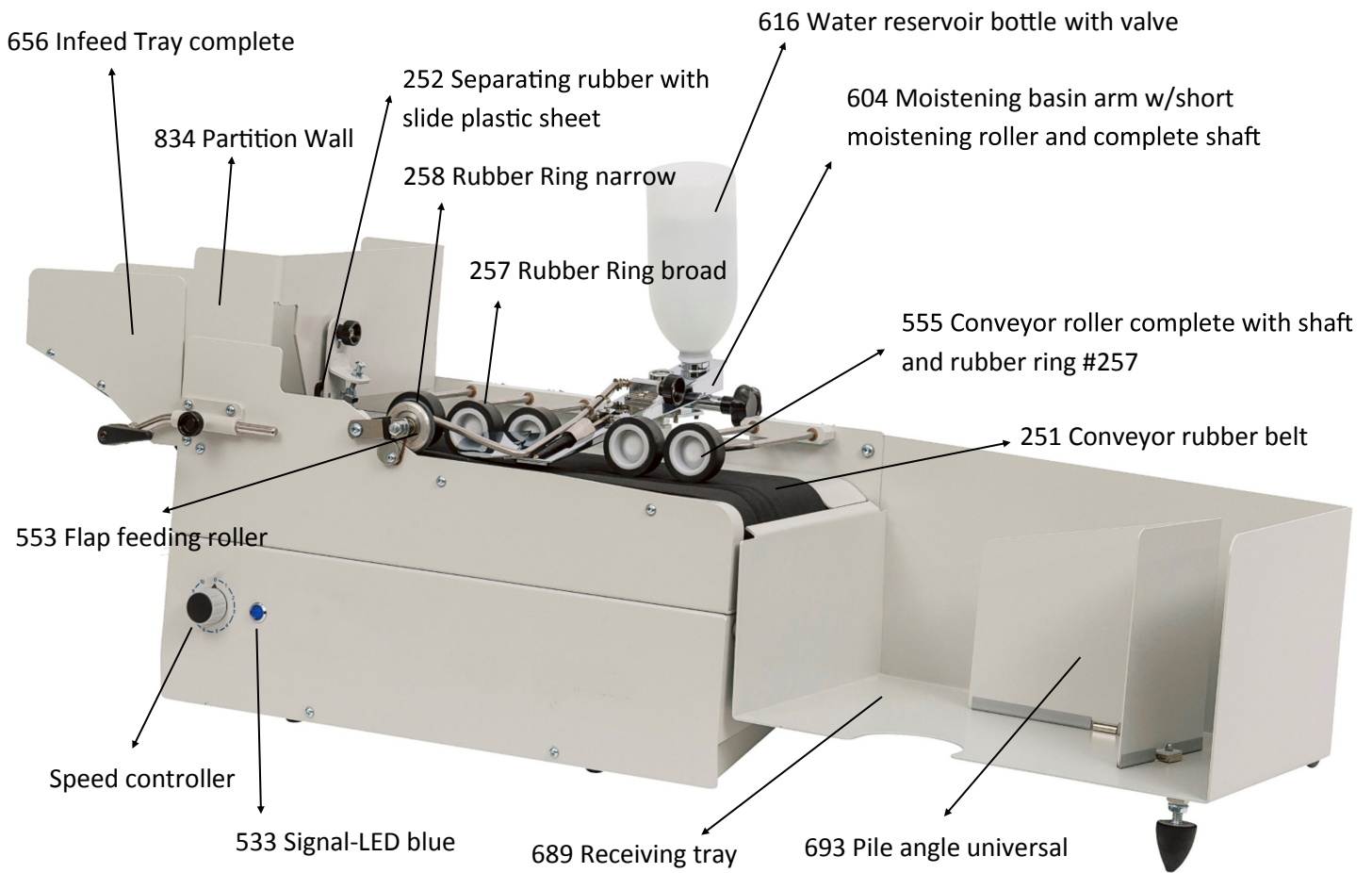
***Replacement fuse is provided into the rocker switch black with on/off switch and fuse holder.***

## 8 SPARE PARTS

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<b>Item no.</b>	<b>Description</b>	<b>Qty</b>
251	Conveyor rubber belt	1
252	Feed separating rubber with slide plastic sheet	1
254	Moistening roller short with extension long	1
FD 430-10	Moistening double roller long and extension short	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
531	Motor carbon brush 5/6 mm with spiral spring (2 pieces per set)	1 Set
533	Signal-LED blue, 24VAC/DC	1
535	Potmeter 5k Ohm, 0.5W, linear, Carbon	1
604	Moistening basin arm w/short moistening roller and complete shaft	1
616	Water reservoir bottle, transparent with valve	1
693	Pile angle universal to all receiving trays	1
656	Infeed tray complete	1
990/SP	Complete set of spare parts (incl. all rubber parts)	1 Set

## 6 PART DIAGRAM



### 604 Moistening basin arm w/short moistening roller and complete shaft

Optional FD 430-20 605 Moistening basin arm for square flap envelopes



- 609 Flap feeding plate
- 254 Moistening roller short with extension long
- 430-10 Moistening double roller long w/extension short
- 205 Torsion spring
- 607 Flaps feeding bar
- 610 Circular bubble level
- 623 Cover for moistening roller

## 8 TECHNICAL DATA

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Operating voltage:	90...264VAC / 50...60Hz
Standby:	18 Watts / 80 mA
Rated Power:	91 Watts / 400 mA (max.)
Dimensions (incl. format slide unit):	43" (max.) x 15" x 15" (l x w x h)
Weight:	25.6 kg
Piling-Option:	standard (for stacked and nested envelopes!)
Length of receiving tray:	15" (382 mm) (standard)
Max. width of envelope :	9.5" (250 mm)
Max. thickness of package*:	16 mm
Max. sealing capacity (C5, C5/6):	18,000 envelopes per hour
Licensing:	CE
Accessories (incl.):	Cover, suction rubber pear, replacement fuse, instruction manual

\* Position of basin two-stage adjustable for envelopes from 0...8mm and 8...16mm. The contents of the envelope in the case of letter thicknesses > 8 mm must be homogeneous, i.e. the max. deviation within the envelope may not exceed 1 mm. Folded letters should be folded as flat as possible!

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