

Cookie former

# FM128 K250...K600

Operating instruction SELECTRONIC-A

(Translation of Original Operating Instruction)



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»Congratulations to your new cookie machine.«



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## Safety regulations and security precautions

**Machine is ready to use, as it is supplied.  
Disconnect plug when attendance or repair machine.**

**Before you begin, read operating instructions!**

The machines of type FM 128 K 250, 300, 400, 450, 580 and 600, are fitted with the following safety equipment:

### **Security precaution of rollers**

In front of the roller is mounted a Plexiglas cover in front of the funnel with a hinge. The Plexiglas cover is held laterally by guide rails.

### **Security precaution of knife**

The machine has a knife guard, which automatically lays down on the knife when you open the dough hopper and thus excludes an injury.

### **Security precaution of hopper**

The hopper is equipped with a safety switch that shuts off all the movements while lifting. It is impossible to manipulate the safety switch.

### **Security precaution of lift grid**

The machine stops immediately when you open the grid above the hopper.

### **Security precaution of transport belt guard**

The transport belt for the back plate is provided with an inlet protection.

**All protective covers and panels are bolted and can only be opened with tool!**

## Proper use

As the name molding machine already says, the machine is suitable for forming short-bread like biscuits, spekulatius, milanese and cakebases (for cream cakes and other cakes, lattice of dough (for tarts), tartelettes, brezel, linzer, kipferl, etc. White cakes, brown cakes, gingerbread, and marzipan can be formed by special rollers.

## Food hygiene

The machine should be stored in a dry place. As a cover, we recommend a linen tape. Please do not use a plastic cover, because it may arise a humid climate under the cover, which can lead to mold and vermin infestation. The linen tape should be cleaned or exchanged as required (dry cleaning).

After use, it is important to clean the machine. Clean all interior and exterior surfaces, corners and edges which are accessible with a lint-free cloth. Intermediate the lint-free cloth in warm soap water, before further wipe.

**Do not steam clean or use a jet of water.**

**The machine has to be isolated from mains supply before carrying out any cleaning!**

## Operating instruction

Congratulations to your new cookie machine.

### **1. Unpacking the machine**

If you find a damage on the unpacked machine, call your agent and let him see the damage, so that the damaged machine can be replaced.

### **2. Connect the machine**

Before plugging the machine, get sure, that electricity network has a voltage of 3 x 400V + MP + protective conductor. the machine is set by this specification.

With 3 x 230 + MP + protection manager, the engine of the machine is reversed accordingly. If you have the correct voltage with the appropriate socket, you can let the machine run on trial basis. If the machine is running backward, stop the engine immediately and disconnect the power plug from the can. The machine is wired clockwise. It is banned to manipulate the clockwise rotation of connection.

**Let, if necessary, your socket change by a licensed electrician!**

If the machine is permanently connected without a firm plug, the machine needs an additional main switch.

#### **3.1. Beltregulation / upper transport belt**

The upper transportbelt, wich takes the figures from the knife, can be adjusted by hex nut M18 on spindle thread on both sides. Please regulate only few and do not tighten the belt too fast, because the belt takes some minutes to regulate.

If possible take always just one side to regulate, because otherwise the tension of the belt greatly increases unnecessarily. The belt gets narrow and snatches in extreme rase.

#### **3.2. Beltregulation / lower tranport belt**

The lower transport belt must not be adjusted.

They are connected by connectors and can be exchanged easily.

#### **4.1. Speed regulation of transport belt**

The speed of the lower transport belt can be in connection with the speed of the machine, regulated by Selectroniccontrol.

### 5. Changing of pattern roller

Flip the hopper gently to the front. After removal of the pattern roller plug or lock pin out of flange axis draw the left flange from the pattern roller, and pull the roller now out of the right flange.

Now you can take off the roller from the uppon. The installation is done in reverse order.



### 6. Removing and cleaning of the roller

By developed rollers, access - standing behind the machine - with the right hand into the left Griffuge the kneading rollers.

Drag with the left hand, the retention pin from the flange axis and pull the flange, as far as possible, outwardly.

Now access to the kneading rollers, that is, the left hand into the left Griffuge and the right hand into the right handle groove. While the kneading rollers lay in the sheet metal engine cover, you can slowly lift the rollers out of the machine. For cleaning put the roller on the side of the drive holes (red mark) and pull the dough from the roller with a scraper. Subsequently, the roller in the dishwasher (not more than 60°C), cleaned with high pressure cleaner or with the scrubbing brush with warm water by hand.



### 7. Knife position

The knife is driven by an eccentric and moves very fast on the strip of dough along the kneading roller. The position of the knife to the dough sheet, remove closer (thicker) or further (thinner), can be adjusted with the lever on the front of the machine. The best position is directly above the strip of dough, but very deeply engraved figures can be cutted quite a bit thinner (see also 8, the Cut-off).

The basic setting is: 3. line from above.

## 8. The cut-off knife

The knife of the cookie machine is special coated to prevent sticking of the figures, especially when the dough is sticky. Please avoid using sharp or hard objects to clean the knife. A woolen cloth, soaked in comestible oil should be taken for that. The position of the knife should be in the middle position at the start.

**Thicker:** The cookies will be thicker, when the distance between the knife and the belt of dough on the kneading roller is lower.

**Thinner:** The cookies will be thinner, when the distance between the knife and the belt of dough on the kneading roller is larger.

The basic setting is: 3. line from above.

The knife can be terminated with levers placed on the left side of the Plexiglas plate - Thick - Thin - on the optimal character strength.

The knife is very thin and very narrow, in order to provide optimal results.

Therefore the thickness adjustment must be undertaken with caution to not jeopardize the knife. The standard setting is about the 6th Line from below.

When dough with swelling factor, like already risen dough with a leavening agent, it may be that the optimal setting of the knife position is below.

The optimum thickness of figures is chosen when the figures are formed without any irregularities at the edges.

Is the lever switched upwards, (thick) thus forming one additional doughfilm next to the figure, which is undesirable.

By abrasion of the cutter drive, the lever require slight adjustment after some time, because on the eccentric the slide pin and the slide ring are going to wear out.

You can see that from the figures, wich get thinner.

By rotating the two parts, the original condition can be restored.

If you have your dough kneading roller, including a coat of dough, and passed a long time has left, it is required to switch the knife adjustment on thin and reset very slowly and carefully on the right position while the machine is running.

Never set the lever in the lowest position while the machine is filled with dough.

**Don't use the lever in any case to peel the dough. The knife could be drawn into the feeding roller and break!**

**Never set the lever with a jerk at the upper position, because it is forced, in this case, the knife in a position that can cause a breakage of the blade, or the knife can draw into the feeding roller.**

## 9. Warming up the machine (pre-heating of the rollers)

If you are unsure whether you need the heater to warm up the roller, you should always take the pattern roller and warm up a bit.

For this just turn the main switch on (ON), the mode switch on (PERMANENT) and the heater switch on (I). In this position, let the machine run about 5 minutes, with high-fat dough with heater switch on (II) some minutes longer.

When the roller is warm enough, you can start with the filling of the dough.

**Teflon rollers are usually not heated!**

**For Sticky dough with honey or syrup the heater may be turned off!**

**In honey / syrupdoughs with fat, it may be necessary to turn the heater on!**



### **10. Filling of the hopper with dough**

Dough can be pushed from the top of the hopper, either in slices, which fit through the bars, or it can be pushed through the bars into the hopper directly.

You can also open the bars and enter the dough into smaller pieces or slices.

First, the rear kneading rollers (checker, filling, feeding roller) must be covered with one coat of dough. Only when the roller is completely covered with dough, the machine forms perfect figures. Now, push the lever for the knife as far as setting of, until the figure is truncated at full strength. So the knife cuts the pieces of the dough kneading roller and passes them onto the upper transport belt.

### **11. Bring the figures on tray**

Now turn the switch from (PERMANENT) to (AUTO) and the machine back on (ON).

The machine is now controlled by the metal contact switch, located under the front edge of the upper transport belt.

The baking sheets are introduced exclusively from the back of the machine.

The machine turns on by reaching the sensor at the front edge of the upper transport belt. The figures are now automatically transferred from the upper band to the baking sheet.

*(The following applies only two mechanical switches: If you need to adjust this one, because, for example, your baking sheets are a little narrow, be sure to hold on the posterior part of the smooth switching lax a finger against the switch before you turn the switching lax!)*

### **12. One-man operation**

If the tray is full, the machine is switched off with the switch contact plate. This gives you a chance to remove the sheet and to introduce a new sheet into the machine without needing an extra person. If you are working with several people at the machine, it may be useful to switch the machine on (PERMANENT). Don't forget to refill dough in time. There should always be dough for only 2 to 3 sheets in the hopper, that means, the space between the kneading roller and the grid should be half full.

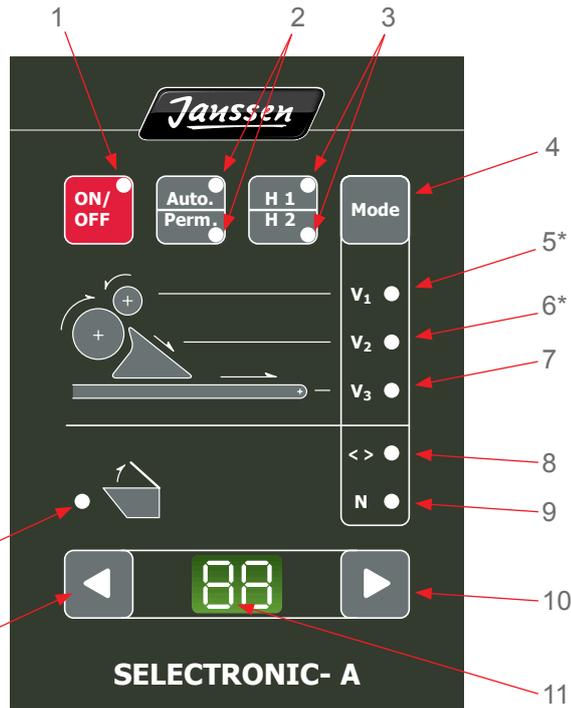
### **13. Distances on the baking sheet**

For very soft dough, it is possible that the figures push together on the knife. Nevertheless, to achieve an optimal assignment sheet, change the speed of the lower transport belt and proceed as described in 4.



## SELECTRONIC A Controller

The machines of the FM 128 K series are equipped as standard with a Selectronic A controller.



### Keypad explanation:

- 1..... On/Off button – the LED is lit when in the switched on state.
- 2..... Button for Automatic or Permanent operation – pressing the button repeatedly allows the operator to switch back and forth between Automatic (Auto.) and Permanent (Perm.). The machine must be in the Off mode (LED for button 1 not lit).
- 3..... Button for the heater – pressing the button repeatedly allows the operator to switch the heater on or off at Level I or Level II.
  - If the LED (H1) is lit, heater level I is active.
  - If the LED (H2) is lit, heater level II is active.
  - If neither LED or both LEDs are lit, the heater is off.
- 4..... The Mode button is used to select up to 5 menu items (see the note to the right in this regard). The selected menu items (5,6,7,8,9) are lit respectively below.
- 5..... When this LED (V<sub>1</sub>) is lit, you can read out the speed of the pattern roller on the lower display (11) or use the arrow buttons to the left and right (10, 12) of the display to change it.
- 6..... When this LED (V<sub>2</sub>) is lit, you can read out the speed of the upper conveyor belt on the lower display (11) or use the arrow buttons (10, 12) to the left and right of the display to change it.
- 7..... When this LED (V<sub>3</sub>) is lit, you can read out the speed of the sheet transport on the lower display (11) or use the arrow buttons (10, 12) to the left and right of the display to change it.
- 8..... When this LED (< >) is lit, you can read out the spacing of the shapes which are placed on the sheet on the lower display (11) or use the arrow buttons (10, 12) to the left and right of the display to change the spacing or simply decrease it.
- 9..... When this LED (N) is lit, you can read out the number of rows of shapes on the baking sheet on the lower display (11) or use the arrow buttons (10, 12) to the left and right of the display to change it.
- 10/11/12.... Values can be read out on the display (11) or they can be changed using the arrow buttons (10, 12) to the left and right of the display.
- 13..... the hopper symbol with the associated LED (13) indicates, whether the safety switches are closed correctly. When the LED is lit, then either E1 or E2 is shown on the display:



E1 = The emergency stop button is active or is being pressed.



E2 = The hopper is not closed.



E0 = Communication error (this error message should usually disappear again after 5-10 seconds. If it does not, please call customer service: +49 2151 24315).

# 11

\*) Note:

5\*:  
The V<sub>1</sub> speed change of the pattern roller is only available if the machine is equipped with a variable motor.

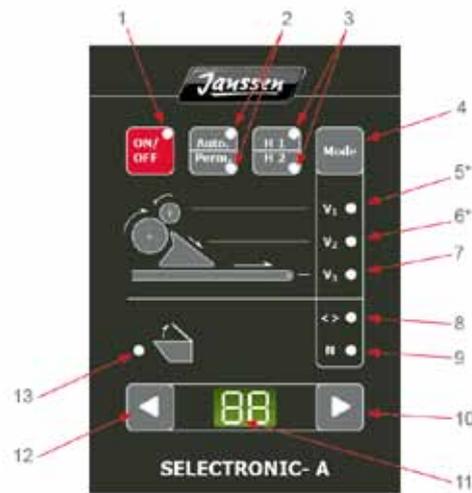
6\*:  
The V<sub>2</sub> speed change of the upper conveyor belt is only available if the machine is equipped with an upper conveyor belt adjuster.

You can work with the SELECTRONIC A in three different ways:

### Permanent operation (continuous operation)

You can feed the sheets into the machine continuously – this is also the operating mode for pre-warming the roller.

Please optimise the sheet speed during the first sheet passes (see page 14 “Adjusting the sheet speed”).



Now press button (2) for permanent operation (the lower LED on the button will light up).

Now switch the machine on (1). The machine will run until the ON/OFF button (1) is again pressed.

### Automatic operation (sensor operation)

Automatic operation is useful when only one person is operating the machine. The machine shuts off automatically when the sheet has been completely filled with cookies.

There are two different modes for this (they are described in more detail below):

#### A) Normal automatic sheet filling (Line-line mode)

#### B) Automatic sheet filling with specification of the cookie rows

The dough sensor must be set to the correct height (about 2 mm above the cookie) and at the centre of a row of cookies.

Use the sheet sensor under the leading edge of the upper conveyor belt to control the correct positioning of the beginning of the sheet and thereby the depositing of the first cookie on the sheet.

Now switch the machine on (1). Insert the baking sheet into the machine from the back. The sensor recognises the sheet and the machine will run until the sheet is completely filled with cookie rows or until the ON/OFF button (1) is again pressed.

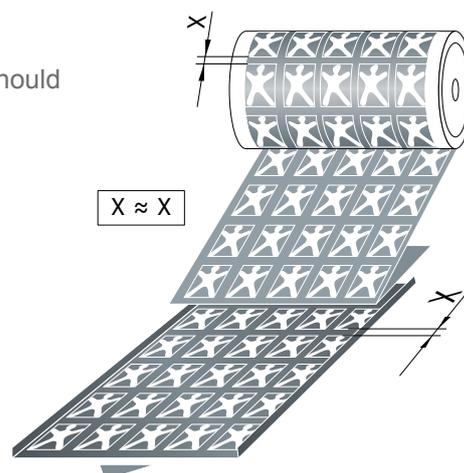
*Note: If the next sheet is inserted immediately following the previous one, the machine will not stop, but will begin filling the next sheet. This is why the already-filled sheet must be removed from the machine in time so that it does not fall down from the sheet transport unit in front. The spacing should be about 2 finger widths so that the sheet sensor can differentiate between the sheets.*

#### Automatic operation (A) – Normal automatic filling of the sheet (Line-line mode):

This function should preferably be selected when the spacing of the cookie rows on the sheet should be about the same as the spacing of the rows of shapes on the pattern roller.

1) To do so, press the mode button (4) until LED (9) below lights up. Then press the arrow button (10, 12) until two lines can be seen on the display (11).

2) Now press button (2) for automatic operation (the upper LED on the button will light up). Inserting the baking sheet causes the machine to start.



### Automatic operation B) – Automatic sheet filling with specification of the cookie rows:

This function should preferably be selected when the spacing of the cookie rows on the sheet should not be too large and therefore smaller than the spacing of the rows of shapes on the pattern roller.

This could be the case for special shapes which, due to technical reasons, cannot be engraved on the roller circumference optimally, e.g. a large St. Nickolaus with a length of over 14 cm. This can only be engraved on the roller circumference (393 mm) twice. With Permanent, there would be a large gap between the rows of shapes on the baking sheet. Here, the automatic function offers the option of reducing the spacing on the sheet to achieve a better utilisation of the surface of the baking sheet (see the figure).



In automatic operation, you can now enter the desired number and spacing of the rows of shapes on the sheet (trial and error! – it depends on sheet speed and sheet length).

1) Set the number N of the cookie rows on the sheet:

To do so, press the mode button (4) until LED (9) in the mode field below lights up.

Then press the arrow button (10) until the desired number of cookie rows (e.g. 8) on the sheet is shown on the display.

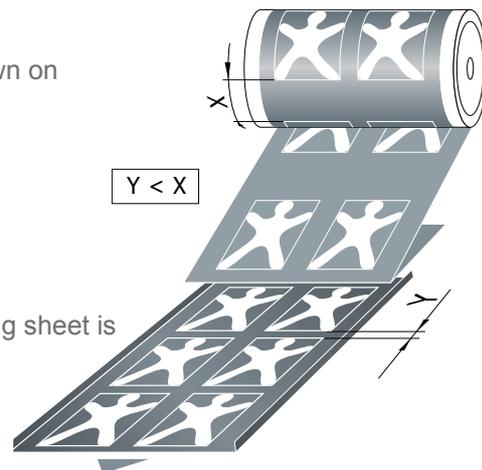


2) Set the spacing <-> of the cookie rows relative to each other on the sheet:

To do so, press the mode button (4) until LED (8) below lights up.

Then press the arrow button (10, 12) until the desired spacing of the cookie rows on the baking sheet is shown on the display (11).

The spacing must be set using repeated trials.

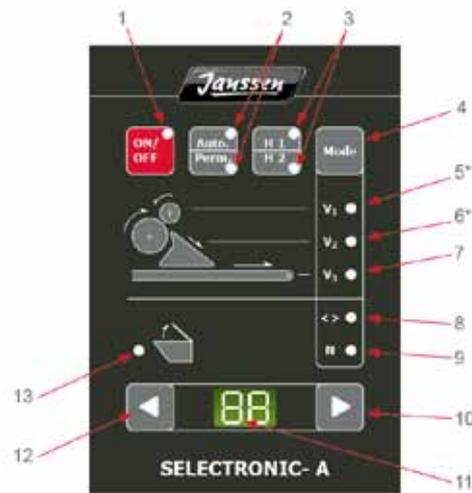


3) Now press button (2) for automatic operation (the upper LED on the button will light up). Inserting the baking sheet causes the machine to start.

### Adjusting the sheet speed $V_3$

The sheet speed  $V_3$  can be set either faster or slower relative to the speed of the upper conveyor belt (this can also be done during operation).

1) To do so, press the mode button (4) until LED (7) below lights up. Then press the arrow button (10, 12) until the desired speed of the sheet transport belts is shown on the display (11).



### Adjusting speed $V_2$ of the upper conveyor belt

This function is only available when a separate upper conveyor belt is installed.

The speed  $V_2$  of the upper conveyor belt can be set either faster or slower relative to the speed of the pattern roller (this can also be done during operation).

This speed setting can be necessary to slightly stretch or compress a cookie during forming.

Classic applications are the forming of round baked pastry cases, large cookies or continuous bands of dough.

Especially for continuous bands of dough, having the upper conveyor belt run more slowly can prevent the band of dough from tearing.

1) To do so, press the mode button (4) until LED (6) below lights up. Then press the arrow button (10, 12) until the desired speed of the upper conveyor belt is shown on the display (11). The correct value can only be determined through repeated trials.

### Adjusting speed $V_1$ of the upper conveyor belt

This function is only available when a separate variable motor is installed.

The speed  $V_1$  of the entire machine can be set either faster or slower (this can also be done during operation).

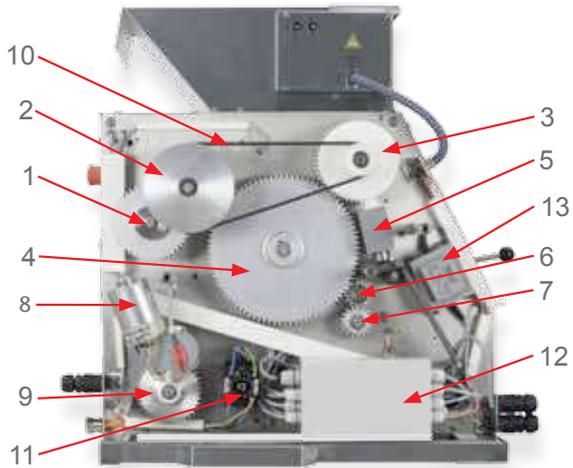
This speed adjustment could be necessary to synchronise the cookie forming with the speed of the downstream conveyor oven. Furthermore, it can be helpful in the case of very thick pieces of dough that are not filled in completely otherwise to run the machine more slowly.

1) To do so, press the mode button (4) until LED (5) below lights up. Then press the arrow button (10, 12) until the desired speed of the upper conveyor belt is shown on the display (11). The correct value can only be determined through repeated trials.

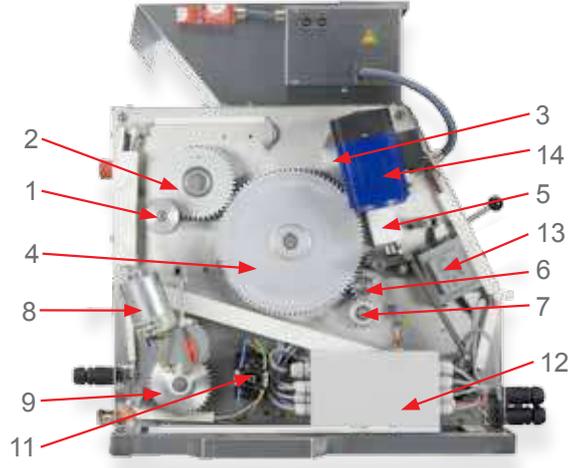
**After completing work, the machine must be switched off by means of the main switch on the side of the machine!  
Pull the plug from the mains!**

## Drive scheme FM 128 K

Selectronic without motor for the knife



Selectronic with motor for the knife



- 1... motorshaft: gear/small = 15 teeth, gear/big = 45 teeth
- 2... intermediate shaft: gear/small = 15 teeth, gear/big = 45 teeth  
\* V-belt/pulley / knife drive
- 3... pattern roller: gear = 50 teeth + knife drive/pinion
- 4... kneading roller: gear = 88 teeth
- 5... knife drive with bevel gear
- 6... upper transport belt drive: intermediate gear = 15 teeth
- 7... upper transport belt drive: intermediate gear = 17 teeth
- 8... direct current motor for tray transportation + gear 14 teeth
- 9... gear for drive rear transport shaft 38 teeth
- 10... drive belt for knife drive: 8 x 775
- 11... mainswitch
- 12... selectronic mainboard
- 13... transformer 18 V
- 14... motor for knife drive

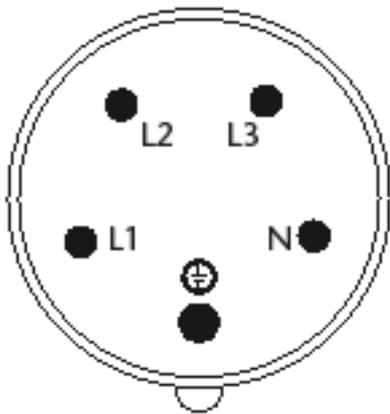
## Connection and assignment of a 5-pin 230/400 volts CEE plug or outlet

Our machines of the series M250, 400, 450, 580, 600 and K250, 400, 450, 580, 600 require a 16 amp. socket.

All machines require both the 230/400 and the 230 volts function.

Our machines are connected at the factory to run right.

The drawing shows a top view at outlet in cap raised, or a plug from the wiring side.



	protective conductor	color of cable: yellow/green
N	Neutral	color of cable: blue
L1	Phase 1	color of cable at plug: brown
L2	Phase 2	color of cable at plug: black
L3	Phase 3	color of cable at plug: black or gray

Between the phases L1 + L2, L2 + L3 and L1 + L3 must be a voltage of 380 - 440 volts present, between the phases L1 + N, L2 + N and L3 + N a voltage of 220 – 240 volts.

Let these measurements prior to connecting the machine by a professional.

The change of direction of rotation are only by changing the phases L2 + L3 against each other.

For damage to relay, roller heating, motor and electronics by a faulty electrical outlet or by improper changing of the phases of the machine, we accept no liability.

**The machine must be connected only to a properly connected and accepted building systems, which also has a FI (fault current protection) are secured.**

**Test in a six-monthly periodic the electrical equipment of the machine to perform BGV A3.**

## Technical data

Designation Table machine	K 250	K 400	K 450	K 580	K 600
Tray-/ rollerwidth (mm)	250	400	450	580	600
Occupancy width	ca. 205	ca. 370	ca. 405	ca. 560	ca. 560
Capacity in normal operation (m <sup>2</sup> /min)	ca. 1	ca. 1,6	ca. 1,8	ca. 2,3	ca. 2,3
Power (KW)	2,3	4,5	4,5	4,5	4,5
Motor 230/400 V	0,37	0,37	0,37	0,37	0,37
Variomotor	possible	possible	possible	possible	possible
Heater (W)	2 x 1000	1 x 2000	1 x 2000	2 x 2000 (An- schluß-	2 x 2000 (An- schluß-
Emergency stop	yes	yes	yes	yes	yes
Addotional start	no	yes	yes	yes	yes
Dimensions of table machine in working position (mm)					
lenght	1265	1450	1450	1450/2350	1450/2350
wide	580	805	805	955	955
height	630	670	670	670	670
Dimensions of open base, short and long version (mm)					
lenght	590/930	900	900	900	900
wide	565	815	815	965	965
height	635/641	645	645	645	645

The noise of the machine is under 70 db (A).

Technical amendments reserved - Stand 2008

## EC declaration of conformity

(in terms of the EC directive machines 89/392/EWG, Annex II A)

We hereby declare that the construction of cookie machine

FM 128 K

Nr.:

is according to the following relevant provisions:

Machinery directive 89/392 EWG with 91/368 EWG + 93/44 EWG

Low voltage directive 73/23 EWG + 89/336 EWG

applied harmonised standards, in particular DIN EN 294, DIN EN 349,  
DIN EN 60204

applied national technical specifications, in particular  
DIN 45635 Teil 1 + 29, DIN V 8418.

This CE Declaration goes out and lose their validity when the machine have been  
used for other than the intended purposes or the manufacturer have not been agreed  
modifications to the machine.

Niederrheinische Formenfabrik  
Gerh. Janssen & Sohn GmbH & Co. KG

.....  
Dr. Petra Gersch  
(Geschäftsführerin)

Electronical diagram - SELECTRONIC-A