

ES-TE

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Automatic folder

estefold 4210

estefold 4211

Purpose:

Folding of Drawings

Operating Instructions

Safety

Installation

Operation

Trouble shooting

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Safety Measures

The supplied power cord must be used in a safety plug socket only. Use only extension cords with protective conductors, as otherwise protection from electrical hazards is not given.

Any interruptions with the protective conductor (e.g. by loosening the protective conductor at the point of connection) inside or outside the machine can lead to danger and especially breakdown.

Any intentional interruption with the protective conductor is not permitted.

Removal of the machine's cover bands and casings will release life parts or rotating parts. Therefore it is not permitted to remove any machine cover. If the machine needs to be serviced or repaired the responsible ES-TE Service Station should be notified.

In case the machine has to be opened exceptionally, it must be first separated from all life/high voltage sources: **Pull out the mains plug.**

An expert who is aware of the dangers/risks involved must only carry out repairs or adjustments of an open machine.

Warning: Do not touch any parts of the open machine since they might be of high voltage. Touching these parts may cause severe injury or death. Avoid any contact with parts inside the machine housing.

Unauthorized or high-handed changing and remodeling, which interfere with the machine's working safety, is not allowed.

Switch off the machine, when operation is no longer possible or considered to be unsafe.

Reasons could be for example:

Visible damages or faults of the electrical functions,
Occasional occurrences of abnormal operational procedures.

The machine should immediately be secured against unauthorized use. (Pull out plug; remove the machine, act according to the operating instructions).

Before the machine is operated again, inspection by specialists of an authorized ES-TE Service Station according to the valid professional code of practice/Standard for machines 89/392 EWG is required.

How to Use This Manual Effectively

Always keep this manual close to the machine to be able to read about the phases/steps of operation and the safety measures at any time.

For a better orientation there are a table of contents and marginal notes.

Safety Plug Socket

Pull out plug

*Repair by
Expert Technician*

Professional inspection

General

estefold is an automatic folder that folds large sized plots created by any digital printer according to DIN 824.

One of the 8 folding programs available can be selected by pressing a button on the machine's keyboard. Details of the selected program are displayed on a LCD display that allows the folder's easy operation.

Drawings will be folded length – and crosswise and discarded onto a conveyor belt, which lets you retrieve the folded drawings from the machine without bending down. One of the machine's options is an applicator that applies tabs for easy filing to the folded drawings.

estefold 4210

A large sized table lets you feed documents comfortably by hand.

estefold 4211

The specially designed transport table takes the plot over from the printer and transports it to the folder.

Drawings that are not supposed to be folded will be deployed on top the transport table.

In order to control the folding process, the documents pass the automatic folding table to the folder 's inlet. The folder works synchronized to the plotting speed.

The insertion rail on top the transfer table enables the user to feed documents manually as well.

The gas pressure shock absorber supporting the transfer table helps to tilt the table into an almost vertical position.

In consequence of that, easy change of paper rolls and general access to the printer is ensured.

Transport and Unpacking

A hair cross marks the transport box's centre of gravity. Every time the transport box is lifted the centre of gravity has to be watched. **Centre of gravity is not the box's optical centre.**

Each unit consists of one box.

Unpack the machine:

Remove the lid (screwed to the sides)

Remove the small sidewalls and lift the table out of the box.

Both beams that crate the transfer table have to be removed from the transport box

Remove the rest of the side walls

All steel connectors have to be removed from the bottom.

Place the machine on its wheels by winching the fastening screws in.

Important:

Always Keep the Transport box in Balance by Watching the Center of Gravity

How to Roll the Folder Out of the Box

Remove the tetragonal beam from the bottom of palette (the one with the screws) Roll the folder carefully off the palette to this side.

Pull the machine down the ramp slowly with two persons at least securing the machine.

When you are getting to the 2 cm step at the end of the ramp lift the folder slightly to make sure the machine's rolls will not break apart and set the machine down onto the floor carefully.

First Use

The room in which the machine is to be placed should be dry and dust free. Humidity should be about 65% and room temperature of 20° C to 22° C.

The machine must stand horizontally and very stable without shaking.

Always keep in mind to place the machine in a manner that does not block exits and allows an ergonomic workflow.

Remove all packing materials and adhesives from the delivered folder. For the protection of the machine, a sheet of paper has been inserted. Remove it by turning the fold roller manually.

First place the folder in such a way that it stands fixed, stable and horizontally on the floor. Compensate minor imbalances by using the balancing feet **(1)**. All together there are 5 of them.

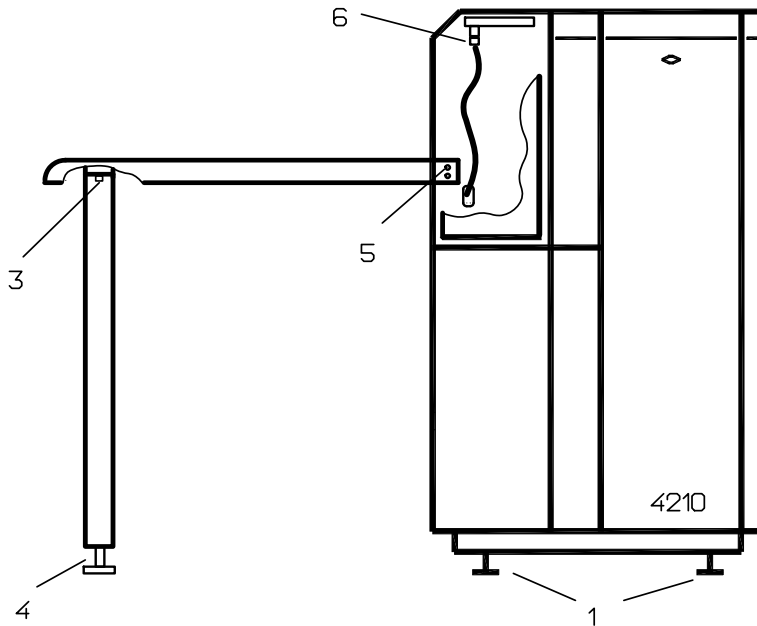
Fit the metal feet that come with the machine to the table (3)

Guide the cable into the right side of folder and connect it to print board M1307 (6)

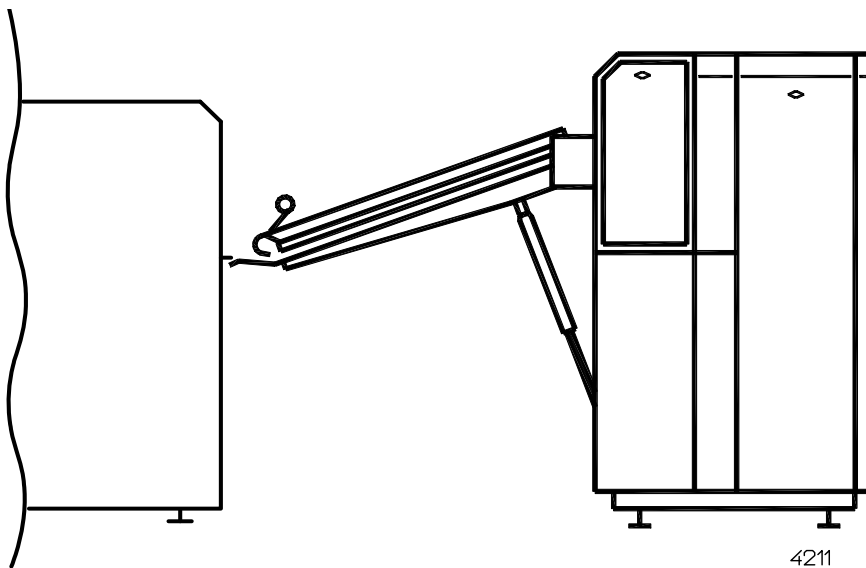
Adjust the table in a horizontal position by turning tare screw in order to be able to connect the table with the folder. (4)

Environment

Install the table estefold 4210



Install the table estefold 4211



An expert should always do the assembly of the machine.
Estefold 421x is delivered in one box.

Remove all packing materials and adhesives from the delivered folder.
For the protection of the machine, a sheet of paper has been inserted.
Remove this by turning the roller.
Loosen the bolts that connect the machine to the pallet.
First align the machine to the floor horizontally and make sure that it
stands safe on the metal feet. Compensate minor imbalances by using
the balancing feet **(1)**.

*Align the machine
horizontally*

Power Supply

The power supply box is positioned at the right bottom side of the machine. Please use only the delivered connecting cable or cables of the same safety standard.

The folder is pre-adjusted to 230 Volts/50 cycles.

Make sure that the mains supply voltage is identical with your supply.

Do not use multiple plug extension cords supplying plotter and folder at the same time. These cords will not stand the power consumption of plotter and folder.

Switching the Folder on

The main switch is at the front side of the machine.

Switch on the button.

The signal lamp "power" above the display glows.

The display shows the software version and the establishing date for a short time.

The machine makes a brief self-test (8 seconds) and will be ready for operation after confirming by a double peep.

The last used program will be called up.

In case an error is detected during the self test phase, a message will be shown in the display, e.g. light barrier 1 interrupted.

Make sure that there is no paper on the machine table or inside the machine.

Remove the paper and confirm by button ←

*Use delivered
Connecting cable only*

*Do not Use Multiple Plug
Extension!
Danger of Overheating!*

Switching the Folder on

Selecting Folding Programs

There are 8 folding programs available.

On the left hand side of the display the selected program number will appear.

"**Panel**" indicates the package width.

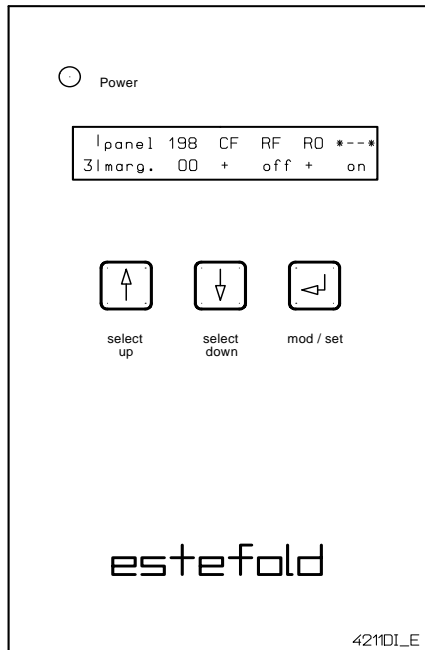
"**Mar.**" indicates the filing edge width.

"**CF**" indicates whether the cross folder is switched on or not

"**RT**" indicates whether the automatic reinforcement is switched on.

"**RO**" indicates whether the optional Rotating unit has been switched on

"*_*" indicates whether the transfer table is switched on. (Not used on **estefold 4210**)



All Program Settings are being Shown in the Display

With the keys ↑ and ↓ you select a folding program of your own choice.

What Formats Can Be Folded?

Longitudinal folding: All drawings with length up to 4 m and width up to max. 930 mm. The paperweight should not be less than 60 g/m² and not more than 110 g/m².

Cross folding: Maximum paper length of 2500 mm.

Film or materials with glossy shiny surfaces are not suitable.

Some kinds of paper offered on the market are of variable qualities. This could cause crumples or substantial folding tolerances. These low-grade papers should be replaced with those of better quality.

Fan folding up to 4 m

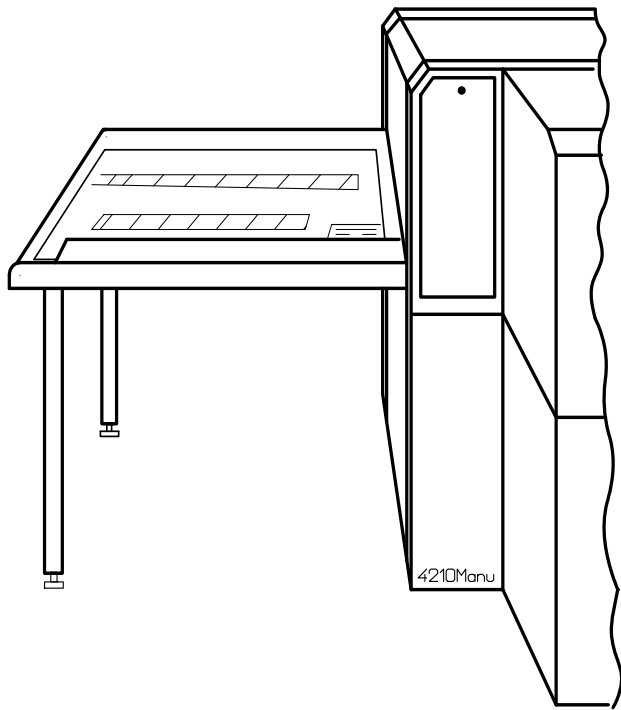
Cross folding up to 2,5 m

Feeding The Documents - estefold 4210

The drawing should always be inserted with the heading (legend) towards the front.

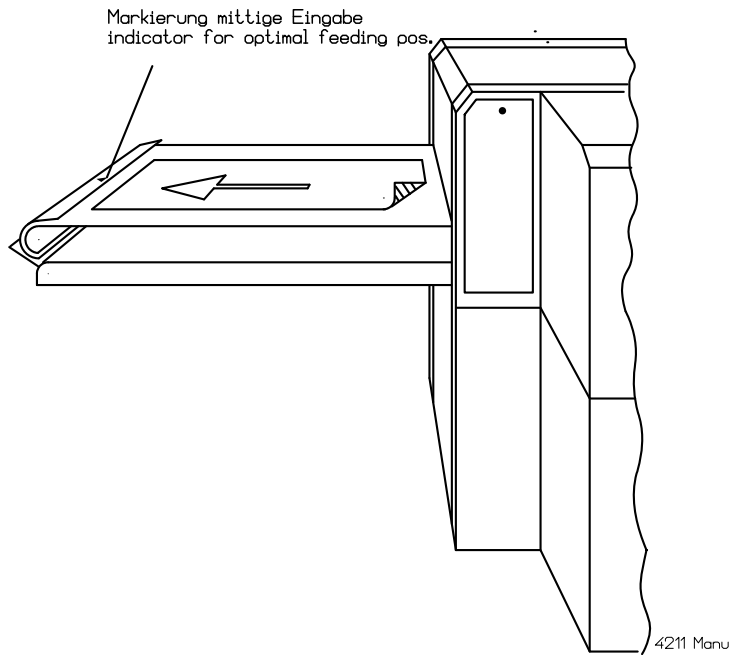
Lay the drawing compactly on the right side of the table and introduce it into the machine. The drawing will be drawn in and folded according to the selected program.

Heading facing in front

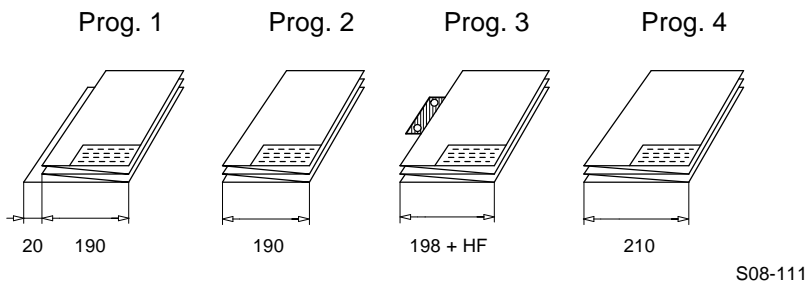


Feeding The Documents - estefold 4211

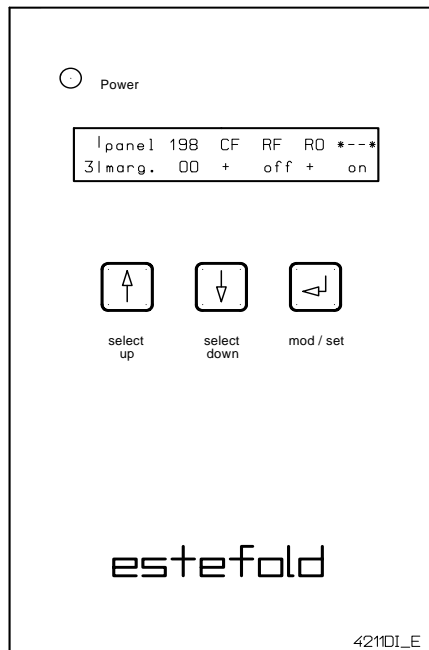
Additionally it is possible to insert drawings into the folder manually. Switch the folder to the offline mode (*---* OFF). Insert the sheet face down (text block must be also facing in front), aligning concentrically. The insertion rail on the table can be put in the ideal position. Please take care for a straight feed.



Folding Programs



The folding programs 1 – 4 are already provided as standards. Usually these programs should cover your requirements. Program 3 needs the reinforcement unit (optionally)



Changing Folding Programs

In case you need to have a different fold style you may change programs 5 to 8.

Example:

Program 5 should process packages of 185 mm with a margin of 25 mm.

- Select folding program 5 with button \uparrow or \downarrow .
- Press button \leftarrow until the indicator below **Panel** blinks.
- With buttons \uparrow or \downarrow select 185 mm.
- The cursor moves forward, the indicator below **Marg.** blinks.
- With buttons \uparrow or \downarrow select 25 mm.
- Press button \leftarrow .
- The cursor moves forward, the indicator below **CF** blinks.
- Press button \leftarrow .

Please notice that the adjustable width of the package must be at least 180 mm up to at most 210 mm. The range of adjustment of the margin is 0 – 30 mm. A package of 165/35 is therefore not adjustable.

Switching Cross Folder ON and OFF

- Press button \leftarrow The indicator below **CF** blinks.
- By using button \uparrow the cross folding is switched on.
- By using button \downarrow the cross folding is switched off.

*Customized
Fold Styles*

Switching Reinforcement Unit ON and OFF

- Press button until the indicator below **RF** blinks.
- By using button \uparrow the reinforcement tape is switched on.
- By using button \downarrow the reinforcement tape is switched off.
-

Optional

Switching the optional Rotating Unit On and Off

- Press button until the indicator below **RO** blinks.
- By using button **↑** the reinforcement tape is switched on.
- By using button **↓** the reinforcement tape is switched off.
-

Crossfolder

The folded package leaves the fan folder, falls onto the gravity roll carrier and will be inserted into the cross folder. Optionally, a reinforcement unit is integrated which glues a prepunched adhesive tape to the package. Faults of the reinforcement unit will be signaled acoustically and visibly in the display. The indicated code number shows the kind of fault (see fault codes of cross folder).

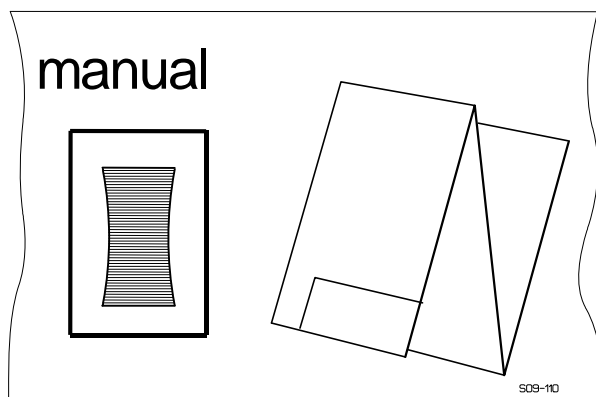
Feeding Documents into the Cross Folder Manually

It is possible, beside the automatic process, to use the cross folder manually.

Put the folded package on the roll carrier. Actuate the switch at the end of the roll carrier. The paper runs into the cross-folder and will be ejected on the delivery tray.

Proceed accordingly for further manual cross folding.

Manual cross-fold



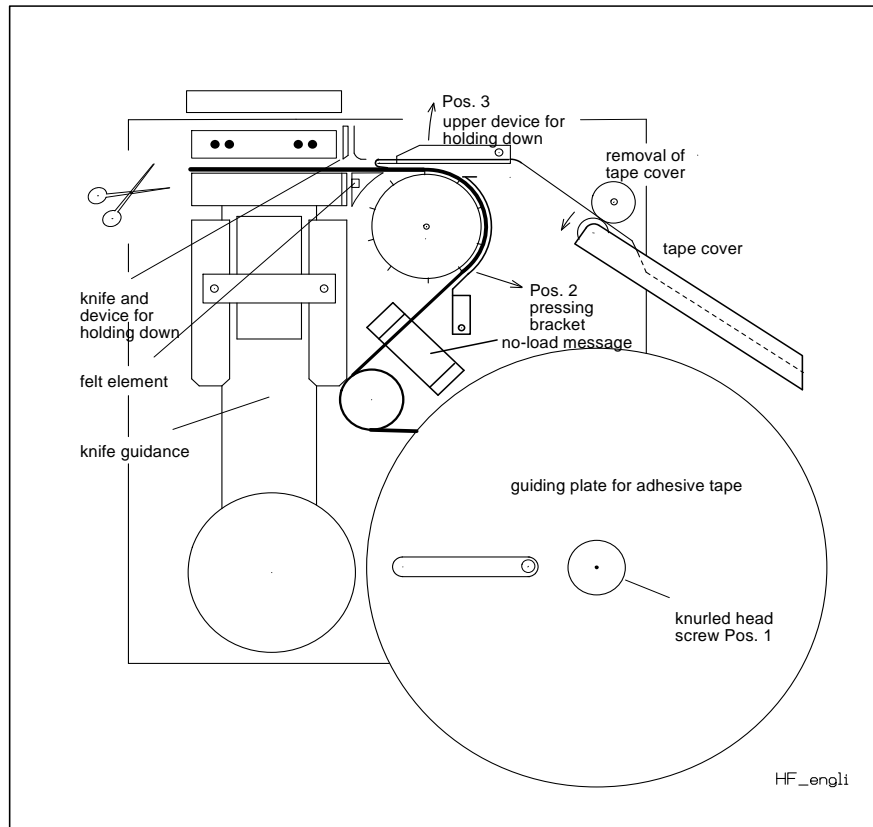
Reinforcement Unit

The reinforcement unit is installed in folder's the right machine chamber. It is easily accessible by opening the door.

optional

Replacing Tab Rolls

Replace the roll according to the drawing below. To ease the load, lock the pressing bracket (pos. 2) and the device for holding down (pos. 3) in the arrow's direction of.



Trouble shooting

Fault signals are also given acoustically by a long peep. In the display you will find the code of the occurring error. By pressing button \uparrow the paper will be ejected at the front, by using button \downarrow the paper will be ejected at the backside.

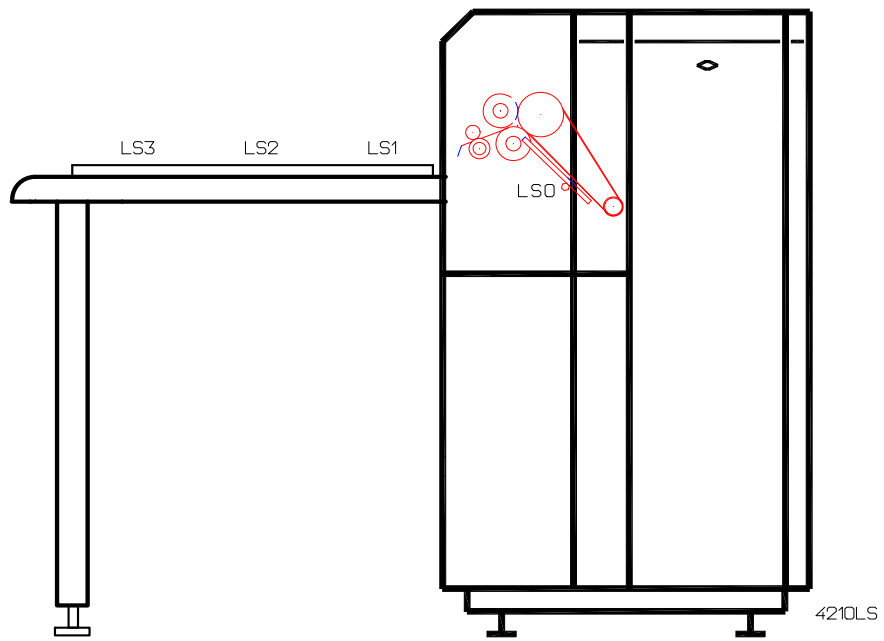
The settlements of faults have to be completed by pressing button \leftarrow . A system restart will follow automatically.

Errors Fan Folder

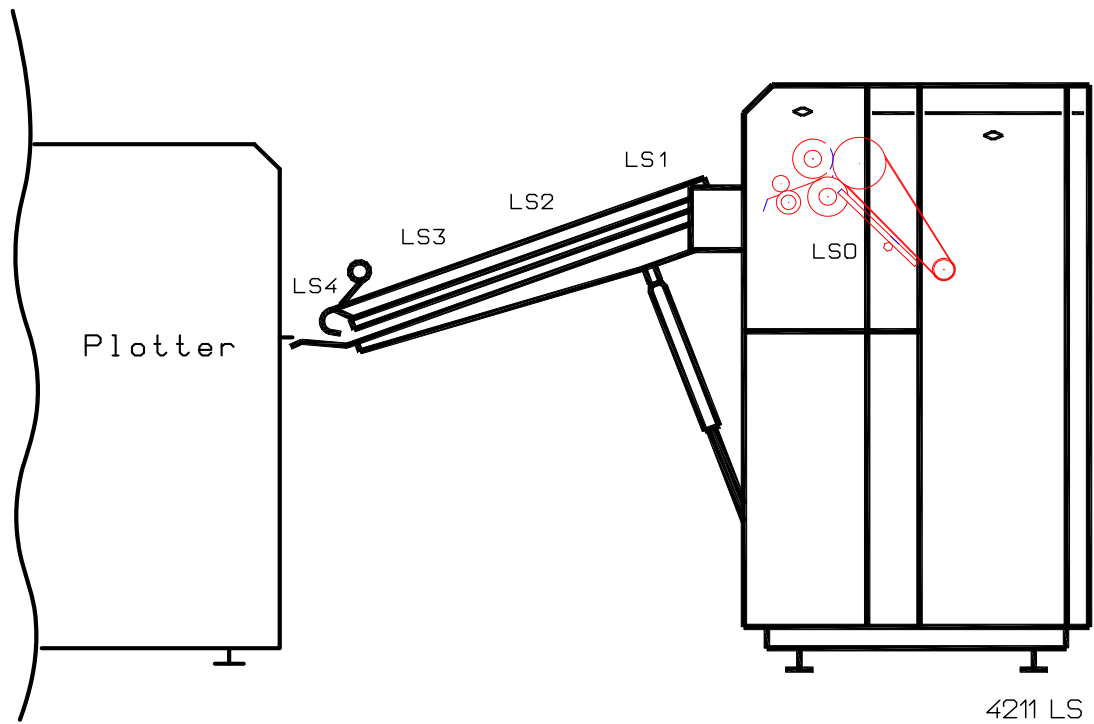
<i>Error</i>	<i>possible cause</i>	<i>possible remedy</i>
Automat does not switch on when switching I/O.	Safety switch above the covering is not on. Mains fuses defect. Micro fuse defect.	Close covering. Replace the fuses.

After switching on or during operation the message "top is open" appears in the display.	The upper cover is open or not closed properly. The safety switch is not positioned correctly.	Close the cover. Adjust the safety switch
After switching on or during operation the message "light barrier # cut" appears in the display.	Paper rests near of relevant light barrier (see diagram below). Thick layer of dust on the light barrier or prism. Prism underneath the light barrier is dirty, has not been positioned correctly or has fallen off.	Remove paper rests. Clean the prism under the light barrier with a soft brush or cloth. Adjust the prism or renew it.
During operation the message "paper jam!" appears in the display.	Paper jam inside the machine.	By pressing button ↓ the folding roller will turn in outlet direction. Hold the button pressed until the paper has come out of the machine. It is also possible to open the covering and move the roller manually.
After switching on or during operation the message "end stage not ready" appears in the display. The margin does not correspond with the chosen folding program.	Motor control defective. Fuses have failed. Printed circuit board is loosened from the support. Incorrect adjustments of light barriers or mechanical transfer problems.	Contact customer services. Check the fuses (on the printed circuit boards X3 and X4) Switch off and plug the printed circuit board into the socket. Change the value for the margin in programs 5-8 until the correct length is reached. Contact customer services
Strong formation of creases at the folding package Substantial variation within the fold	Belts of the fold roller have been run out of the guide. Inadequate paper quality Chain of folding motor has been loosened. Chain of folding motor is too tight. There are losses in steps. Brake strap at entry roller is dirty or defective.	Align belts. Use better quality. Tighten chain. Loosen chain. Clean or exchange brake strap.

Position of Light Barriers *estefold 4210* Fan Folder



Position of Light Barriers *estefold 4211* Fan Folder

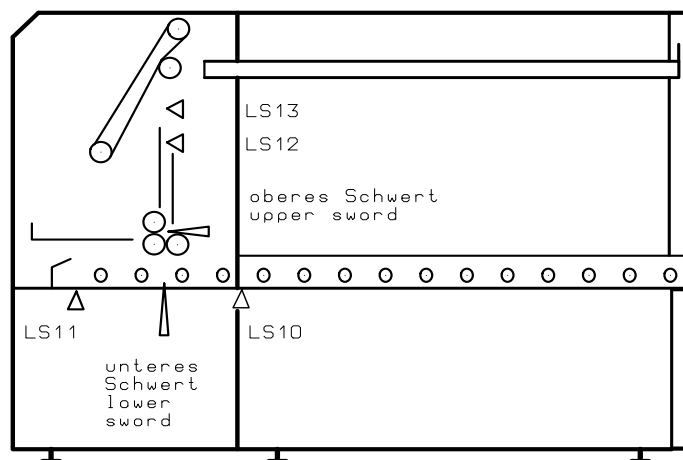


Errors Cross Folder (CF)

Errors are being indicated by a numerical code

Code	Description
0	Cross-folder is not switched on or is not ready – doors or covering is open. No 24 V.
1	Paper jam
2	Time out before reaching roll carrier – light barrier 11 stop
3	Time out before reaching light barrier 12 (well)
4	Time out before reaching whip
5	Time out before ejection of paper (jam in well)
6	Error light barrier 11 – buffer, lower sword
7	Error light barrier 10 – inlet
8	Error light barrier 12 – lower well
9	Error start up of upper sword
10	Error final position of upper sword
11	Error start up of lower sword
12	Error final position of lower sword
13	Interference of serial connection to longitudinal folder
14	
15	Excess current drive motor
16	Time out before reaching light barrier 13
17	Error light barrier 13 – upper well
18	Parameter 5 in the service mode has to be set to "0" (except for Finland)
19	The parameter "RFU" in the diagnostics is set to "198/210" (for Finland) instead of "198" for the normal Reinforcement Unit.

Position of Light Barriers inside the Cross Folder



4211QUER

Errors Tab Applicator

Code	Description
1	Not ready
2	Error final position of motor
3	Tape roll is empty or light barrier is defective
4	Tape jam
5	Not ready

Technical data

	estefold 4210	estefold 4211-4	estefold 4211-8	estefold 4211-15
	offline	online	online	online
Folding speed	approx. 10 A0/min	up to 4 m/min	up to 8 m/min	up to 15 m/min
Online interface	no	yes / serial	yes / serial	yes / serial
Folder technology	roller - sword	roller - sword	roller - sword	roller - sword
Paper feeding	manually	automatically/manu.	automatically/manu.	automatically/manu.
Paper length	210 – 4000 mm	210 – 4000 mm	210 – 4000 mm	210 – 4000 mm
Paper width	275 – 930 mm	275 – 930 mm	275 – 930 mm	275 – 930 mm
Stacking belt	up to 50 drawings DIN A0	up to 50 drawings DIN A0	up to 50 drawings DIN A0	up to 50 drawings DIN A0
Package width	180 – 210 mm	180 – 210 mm	180 – 210 mm	180 – 210 mm
Filing edge	0 – 30 mm	0 – 30 mm	0 – 30 mm	0 – 30 mm
Folding programs	8	8	8	8
Fold	exceeds DIN 824	exceeds DIN 824	exceeds DIN 824	exceeds DIN 824
Tab applicator	optional	optional	optional	optional
Delivery unfolded	no	optional	yes	yes
Dimensions(WxLxH)	1670x1440x1085	1670x1475x1085	1670x1475x1085	1670x1475x10085
Feeding Height	860 mm	550 – 1600 mm	550 – 1600 mm	550 – 1600 mm
Power supply	115/230V, 50/60Hz 10A / 6A	115/230V, 50/60Hz 10A / 6A	115/230V, 50/60Hz 10A / 6A	115/230V, 50/60Hz 10A / 6A
Weight	250 kg	270 kg	275 kg	275 kg