



MBO
Folding Technology

Operating Manual

Typen: R 700 and R 800

Continuous feeder

Contents

Prologue	4
1.0 Machine specification	4
1.1 Manufacturer	4
1.2 Type:	4
1.3 Technical data:	5
1.3.1 Sizes	5
1.3.2 Power requirements:	5
1.3.3 Operating speed:	5
1.3.4 Weights in kg:	5
1.4 Documentation	7
1.5 Supplementary documentation	8
1.6 User information / Functional description	9
2.0 BASIC SAFETY INSTRUCTIONS	10
2.1 Warnings and symbols	10
2.2 Safety at the working place - destined use of the feeder	10
2.3 Safety devices	12
2.3.1 Check list of protective hoods	12
2.3.2 Chart for protection hood of feeder and folding unit I	13
3.0 Transportation/Erection/Installation	14
3.1 Transportation	14
3.1.2 Cleaning	14
3.2 Erection / Installation	15
3.2.1 Feeder	15
3.2.2 Pressure / Vacuum pump	17
3.2.3 Guards	18
3.3 Electrical connection	19
3.3.1 Installation of main control panel	19
3.3.2 MC - Control	20
3.3.3 Main Power Connection	21

4.0	Service and maintenance	22
4.1	Exchange and/or tensioning of belts/tapes	23
4.1.1	Register belt at register table	23
4.1.2	Drive for Vacu-Infeed tape	24
4.1.3	Vacu-Infeed tape	24
4.1.4	Upper transport belt	25
4.1.5	Lower transport belts	25
4.2	Lubrication / Cleaning	26
4.2.1	Drive chain	26
4.2.2	Register table	26
4.2.3	Pressure/Vacuum Pump	27
4.2.4	Maintenance Report	29
5.0	Operation of the machine	30
5.1	Main control panel	30
5.2	Feeder	31
5.2.1	Upper table	31
5.2.2	Drum	32
5.2.3	Lower table	33
5.2.4	Transport control	34
5.2.5	Aeration/air support	36
5.2.6	Vacu-Infeed	39
5.3	Register table	40
5.3.1	Vacu-Alignment	40
5.3.2	Double sheet control	41
5.4	Sheet infeed control	42
5.4.1	Automatic learning of suction length and sheet gap	42
5.4.2	Photocells (Standard)	43
5.4.3	Photocells in folding units II and III (optional)	44
6.0	Options	45
6.1	Batch counter	45
6.2	Other options	45
6.3	Final remarks	45

Prologue

By purchasing an MBO folding machine you have acquired a valuable product. However, it is absolutely imperative that all Safety Regulations and Safety Instructions are complied with fully. This Operating Manual will help to instruct you on how to correctly operate the feeder, to comply with the Safety Regulations and also how to maintain the machine properly.

1.0 Machine specification

1.1 Manufacturer

MBO Binder & Co. - Maschinenbau Oppenweiler
Grabenstrasse 4, 71570 Oppenweiler
P.O. Box 1169, D-71567 Oppenweiler
☎ +49 7191 46 0
Fax +49 7191 4634
<http://www.mbo-folder.com>

1.2 Type:

Continuous feeder R 700 and R 800

1.3 Technical data:
1.3.1 Sizes

	R 700	R 800
Maximum open sheet size:	69 x 130 (200) cm	83 x 130 (200) cm 88 x 130 (200) cm*
Minimum open sheet size:	15 x 18 cm	15 x 18 cm

1.3.2 Power requirements:

Feeder:	0.18 KW	0.18 KW
Air pump:	2.60 KW	2.60 KW

1.3.3 Operating speed:

10-205 metres/minute

1.3.4 Weights in kg:

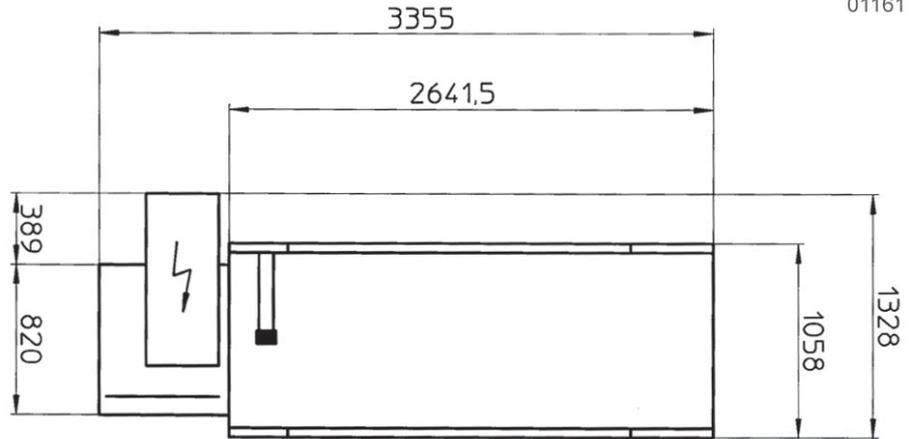
	Net	Gross
Feeder R 700:	960	1.200
Feeder R 800:	1.050	1.320

* = upon request

1.3.5 Floor plan (measurements in cm):

R700 /R800

01161



1.4 Documentation

Customer: _____

Machine no / Serial no: _____

Type of feeder: **Continuous feeder** _____

Type of air pump: _____

Electrical specifications: _____

Wiring diagram no: _____

Feeder: _____

Operational voltage (V / Hz): _____

Control voltage (V / A): _____

Control voltage (V / A): _____

Total nominal current (A): _____

Fuse at power supply (A): _____

Certificate of Conformity: _____

GS - marking no: _____

1.5 Supplementary documentation

Operating Manual of air pump: _____

Operating Manual of other manufacturers: _____

Spare parts lists: _____

Feeder: _____

Air pump: _____

Other manufacturers: _____

1.6 User information / Functional description

SHEET FEEDER for OPEN SHEETS

The feeder is designed to feed open sheets only. Feeding of any other material should not be attempted. The manufacturer or supplier will not be liable for any damage caused as a result.

Furthermore, the manufacturer will also not be liable for any malfunctions or damage of additional installations or alterations that were not delivered or installed by him.

The construction of your feeder may differ in some details from the photographs/diagrams shown. However, this does not have any influence on its safe operation. Since we are continuously working on further developments, we reserve the right to make alterations.

The production speed varies between 10 and 205 metres/minute. However, the efficiency depends on the type of paper, size, and type of fold, as well as on the different circumstances of the user which cannot be influenced by the manufacturer.

The following description should impart a general understanding of the feeder and its working method to the operator.

Please be advised that due to technical reasons and for better understanding certain options are already described in the standard feeder description.

The feeder basically consists of the basic frame, the upper and lower table including transport tapes, drum with tapes and chains, suction tape for sheet infeed, register table with suction tape for sheet alignment, and double sheet control.

2.0 BASIC SAFETY INSTRUCTIONS

2.1 Warnings and symbols

The following designations or symbols are used for very special instructions in this Operating Manual:



>**NOTICE**< Special instructions in respect of the economical use of the machine.



>**ATTENTION**< Special instructions or requirements and prohibitions to avoid injuries and damage.



>**DANGER**< Instructions or requirements and prohibitions to prevent personal injuries or extensive damage.

2.2 Safety at the working place - destined use of the feeder

- 2.2.1 MBO sheet feeders correspond to their prescribed Safety Technical Requirement at the time of their shipment. Therefore, any moveable and rotating parts are covered with protective hoods and are mechanically or electrically interlocked to such an extent so as to not unreasonably detract from the operation.
- 2.2.2 For safety reasons it is extremely important that all operating personnel receive sufficient technical safety instructions and are advised of all potential sources of danger. However, it must be remembered that even with proper use of the machine, accidents can occur which present a danger to life and limb of the operator or third parties. Respectively, it does not exclude the detraction of the machine and other material assets.
- 2.2.3 The feeder should only be operated when in good working order. Any malfunctions which may impair the safety must be removed immediately by trained personnel of the manufacturer/supplier.
- 2.2.4 The feeder is exclusively destined to feed sheets. The feeding of any other material should not be attempted as the manufacturer or supplier will not be liable for any damage caused thereof.
- 2.2.5 Carefully read the complete Operating Manual including the Safety and Service Requirements before you operate the feeder.
- 2.2.6 The Operating Manual should be kept with the feeder at all times.
- 2.2.7 Add to the Operating Manual if necessary, with internal Safety Instructions as well as with the legal regulations for the Prevention of Accidents.
- 2.2.8 Make sure that all frequently substituted operators are thoroughly informed about the aforementioned subjects and trained accordingly.

2.2.9 Never remove any protective or safety devices from the feeder, and do not make any changes which may impair the safety of the feeder.

2.2.10



>**DANGER**< Never use any tools which are not in perfect condition, and make sure that no tools are left on the feeder after completion of settings and maintenance work. Tools which fall into the feeder may cause serious injuries and damage.

2.2.11

Note that all Safety Instructions are kept in a legible and visible condition.

2.2.12

Any audible and visible change on the feeder in relation to the safety must be reported to the supervisor or manager of your company immediately.

2.2.13

The operating personnel should be aware that loose clothing, jewellery or (long?) hair can cause serious injuries if caught in the feeder.

2.2.14



It is absolutely prohibited to clean rollers, eliminate malfunctions, or to undertake adjustments while the feeder is on operation.

>**DANGER**< Therefore, always activate the EMERGENCY STOP button

2.2.15

Make sure that no other person starts the feeder while you are working on it!

>**DANGER**< Therefore, always activate the EMERGENCY STOP button, or turn OFF the main switch, or UNPLUG.

2.2.16

Do not turn the feeder ON if it has stopped for any inexplicable reason. Make sure that the feeder is in good working condition and that no other person is working on the feeder.

2.2.17

Turn off the main switch and secure it, if necessary, with a lock if you are required to undertake extensive mechanical or electrical maintenance and repair work.

2.2.18

Never open the main or subcontrol panel! Only authorised personnel should gain access to the electronic control cabinets as there are no user serviceable parts.



>**DANGER**< If control cabinet is open! All main terminals could be alive even though the main switch has been turned off.

2.2.19

Any damaged cables or electrical connections must be reported to the competent authorities of your company.

2.2.20

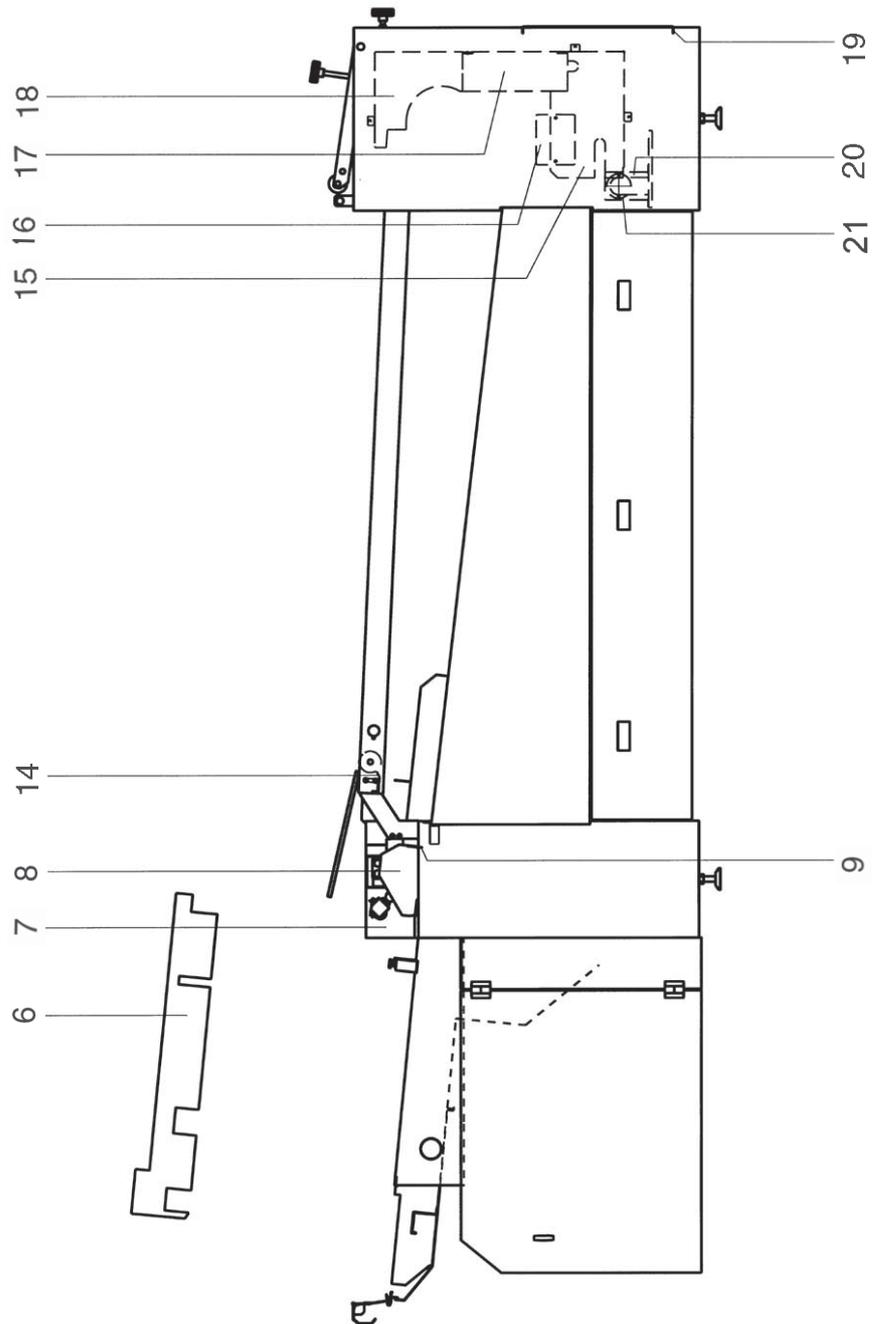
Machine connections must be installed in such a manner that no cables, tubes or hoses are left trailing.

2.3 Safety devices

2.3.1 Check list of protective hoods

POS.	Benennung	Function - control	Visual - control	Result	Result
6	Guard over the drive of suction tape or wheel				at drive side
7	Guard over drive shaft suction tape or wheel				
8	Guard over suction tape or suction wheel				
9	Guard angle in front of suction tape or wheel				See for setting instruction on page of Operating Manual
14	Guard at infeed point of tape roller				Upper table
15	Guard over the drive chain				at drive side/internal
16	External cover chain tensioner				at drive side/external
17	Guard over the drive chain				at drive side/internal
18	Guard over the drive chain				at drive side/internal
19	Guard plate from the drive to the operating side				
20	Guard over the drive shaft of gear				at drive side/internal
21	External cover drive shaft				at drive side/external
	Date	Name			Signature

2.3.2 Chart for protection hood of feeder and folding unit I



01162

3.0 Transportation/Erection/Installation

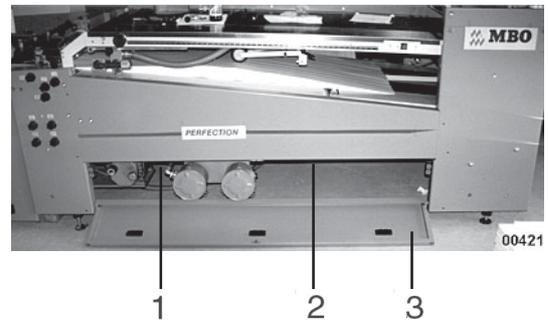
This part of the Operating Manual is directed specifically at the competent service personnel and other authorised internal personnel responsible for transportation and installation.

3.1 Transportation



>**DANGER**< The feeder may fall/tip over or slip away! Secure the feeder accordingly!

Unscrew the feeder off the pallet and move it with a fork lift at positions **1** and **2** to its final destination.



>**ATTENTION**< Make sure that the flap **3**, the air tubes and the valve behind it will not be damaged!



>**DANGER**< Risk of personal injuries!

3.1.2 Cleaning

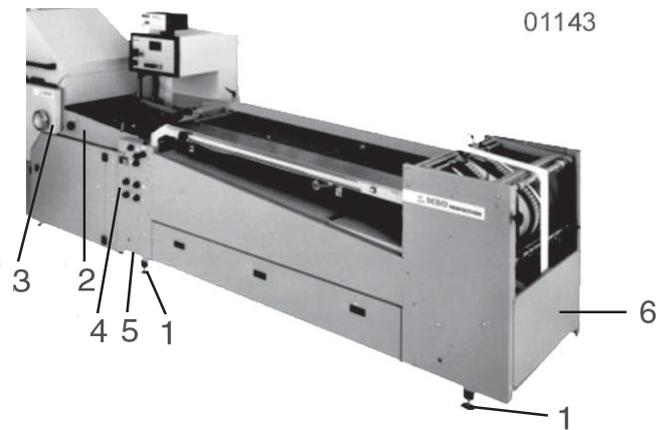


>**ATTENTION**< Clean the feeder with rust preventing agents.

3.2 Erection / Installation

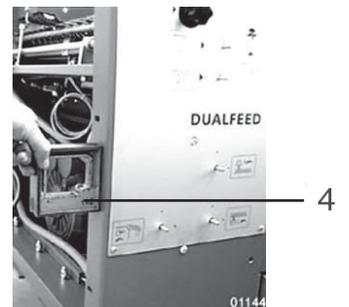
3.2.1 Feeder

Place the feeder onto the levelling screws and plastic feet **1** and move it to the folding unit. The alignment holes of the register table **2** and the feeder **3** must correspond to each other.

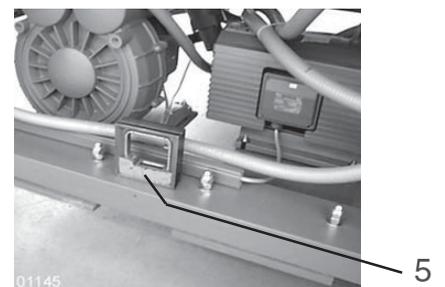


The exact position has been marked by the factory.

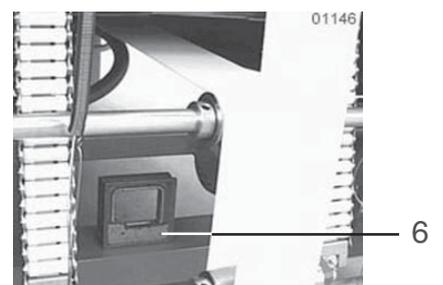
Set the exact height through the levelling screws,



adjust **4**, **5** and **6** with the spirit level and screw up without stress.

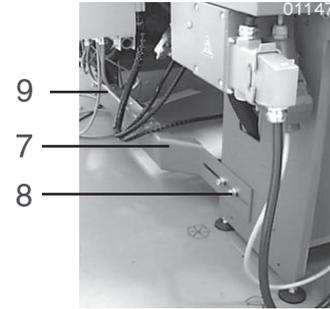


Continuation

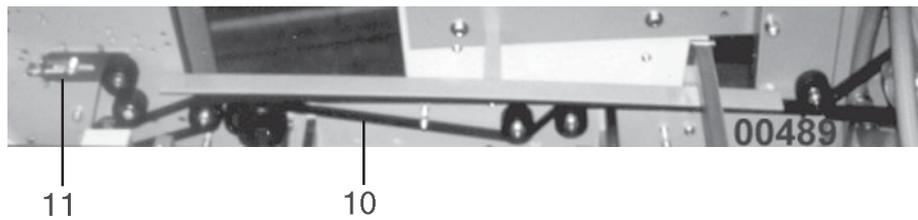


Continuation

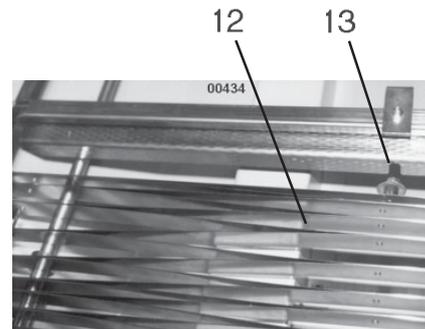
Screw up the feeder and the folding unit with the connecting part 7 to the positions 8 and 9 without stress.



Place the flat belt 10 for the drive of the Vacu-Infeed onto the drive roller and tension it with the tensioning lever 11.



Hang up the lattice 12 at all positions 13.



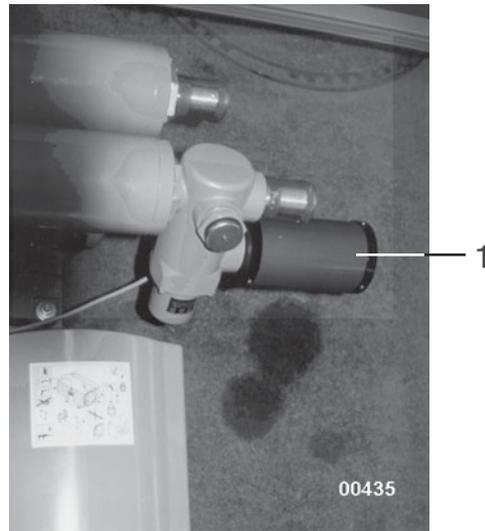
3.2.2 Pressure / Vacuum pump

The pressure/vacuum pump has been assembled beneath the feeder table by the manufacturer. The pressure and vacuum tubes are assembled.

Affix noise reducer 1.



**>ATTENTION< Check the clockwise rotation prior to initial operation!
If the motor is turning counter-clockwise it may cause considerable damage to the pressure/vacuum pump!**

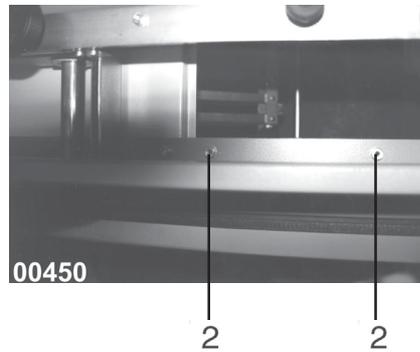
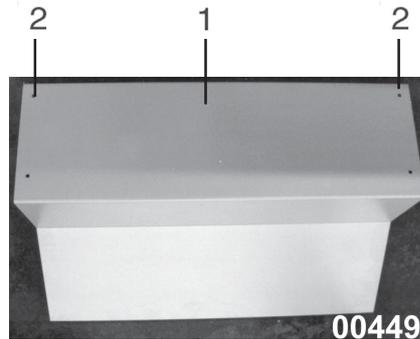


3.2.3 Guards

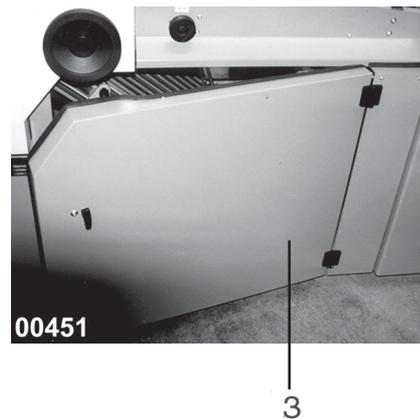


>DANGER< Attach all protective hoods delivered with the machine!

Affix the noise guard 1 beneath the register table with 4 screws 2.



Fit the door containing the tool tray 3.



3.3 Electrical connection



>DANGER< This work should only to be carried out by authorised or skilled personnel!

3.3.1 Installation of main control panel

Fasten the holder/support **1** by means of 5 screws **2** and attach **4** the main control panel **3** onto it.

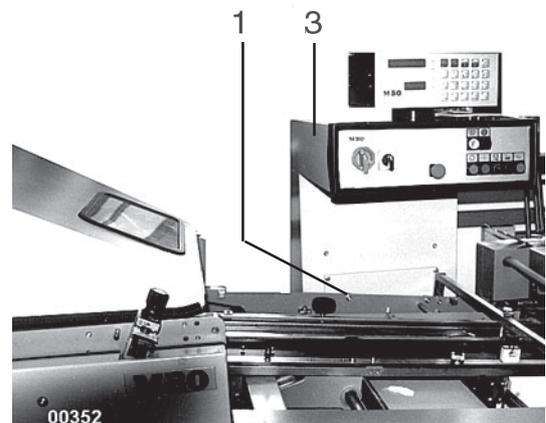
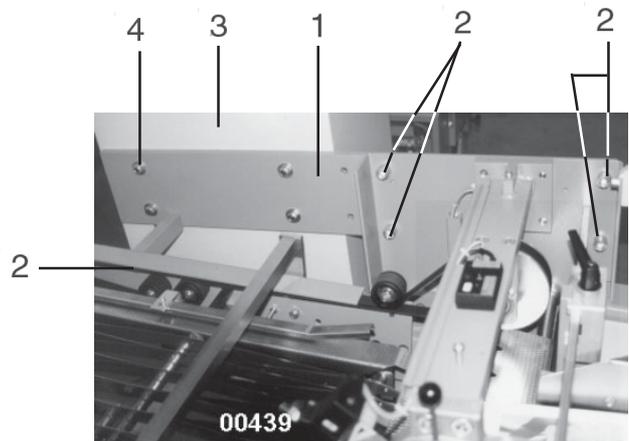
Insert the plugs of the machine and the feeder into the corresponding sockets at the control panel.

Matching plugs and sockets bear the same markings.

Connect the motor cables directly with the motor protective switches in the main control panel.

Connect the pressure/vacuum pump- the cables are numbered.

Make sure you closely observe the wiring diagram!



3.3.2 MC - Control

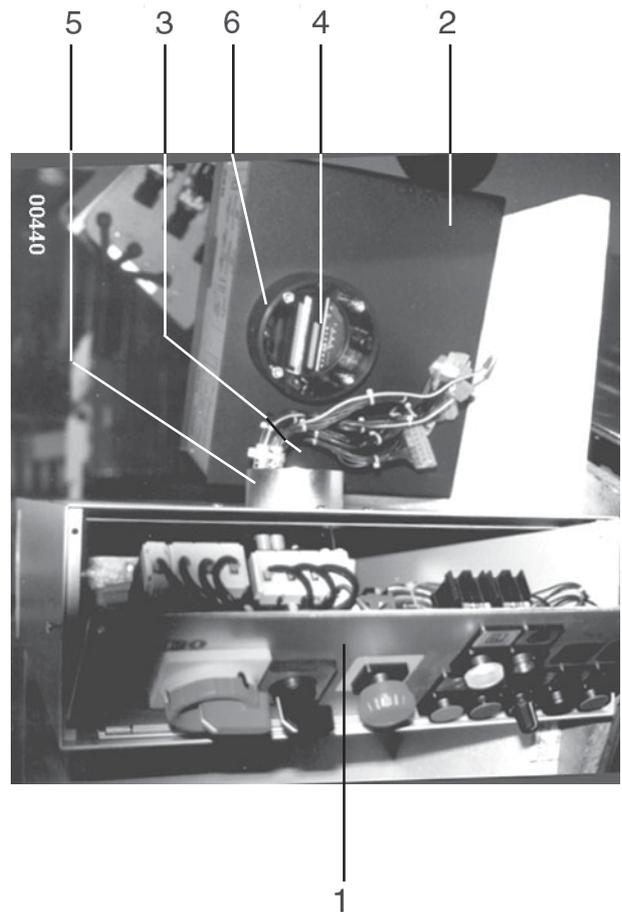
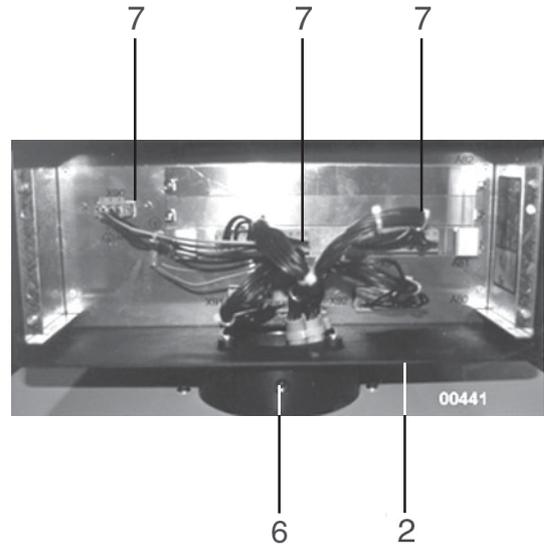
Open the front plate **1**
and remove the cover plate
at the rear side of the counter **2**.

Pull the cable through the opening **3**
and insert it through the opening **4**
into **2**. Place the counter **2** on the
adapter **5**.

Fasten the screw **6** to such an extent
that the counter **2** may still be rotated.

Insert the numbered
cable connections **7**.

Lock the front plate **1**
and affix the cover plate to
the rear side of the counter **2**.



3.3.3 Main Power Connection



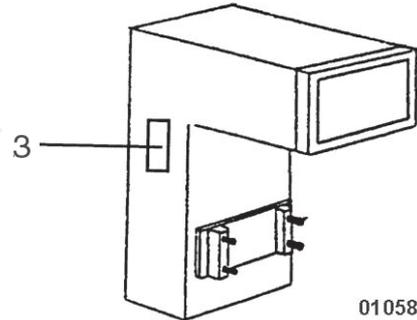
>DANGER - MAY BE HAZARDOUS TO YOUR LIFE< These works are only to be carried out by authorized or skilled personnel!



>ATTENTION< Check whether the supply voltage and frequency correspond to the data indicated on the machine label **3**.

Enter the connecting cable from the base of the control panel, connect the wires to the main terminals provided and secure it with protective plates.

Please note wiring diagram!



>ATTENTION<
Consider clockwise rotating field!



>ATTENTION< Check the rotating field of the motors! If necessary, alter the terminal strip in the main control panel.

4.0 Service and maintenance

This part is directed towards service personnel or other internally authorised personnel.



>**DANGER**< Unless the feeder is isolated no service or maintenance work should be carried out. Always activate the EMERGENCY STOP button or turn OFF the main switch and secure it with a safety lock.



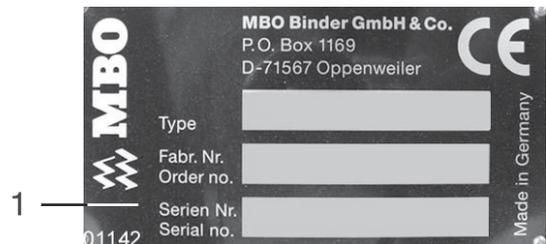
>**DANGER**< This, as well as the following described work, should be carried out by one person only! Danger of squeezing!!

Procurement of spare parts:



>**ATTENTION**< Only use the spare parts which are supplied or recommended by the manufacturer.

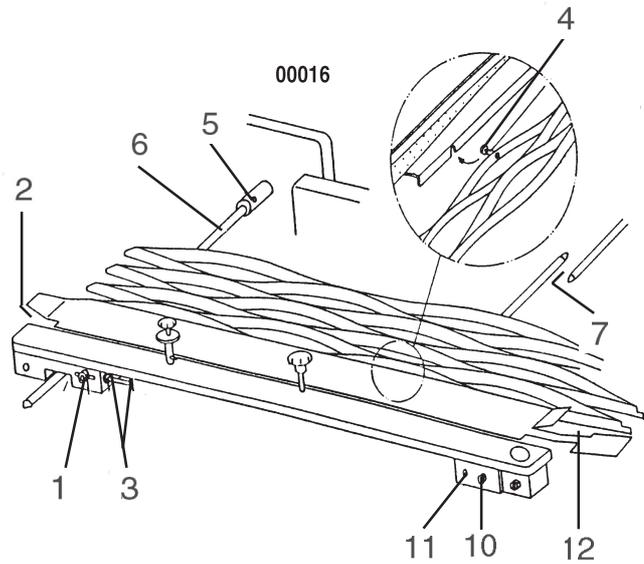
For enquiries and spare parts orders it is necessary to provide the machine and serial number, which may be obtained from the label **1**.



4.1 Exchange and/or tensioning of belts/tapes

4.1.1 Register belt at register table

Loosen the screw **1** and release the tension of the register belt **2** through screw **3**. Unhinge the lattice at **4**. Loosen the screw **5** and remove the rod **6**. Take the register belt off the rollers and thread out at **7**. Insert the new register belt in the opposite sequence.



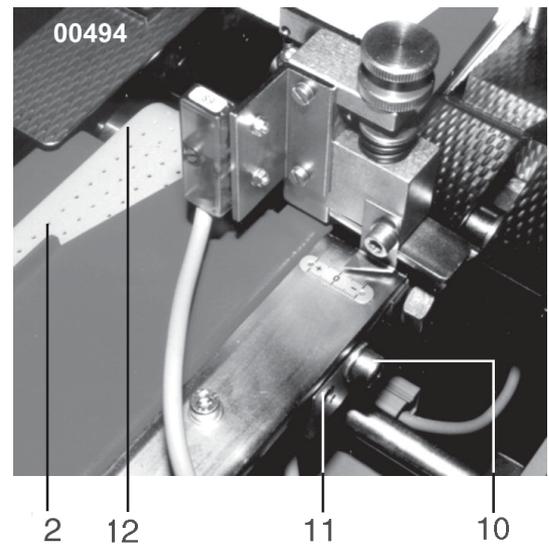
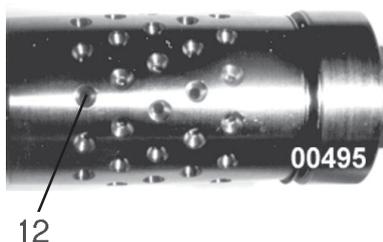
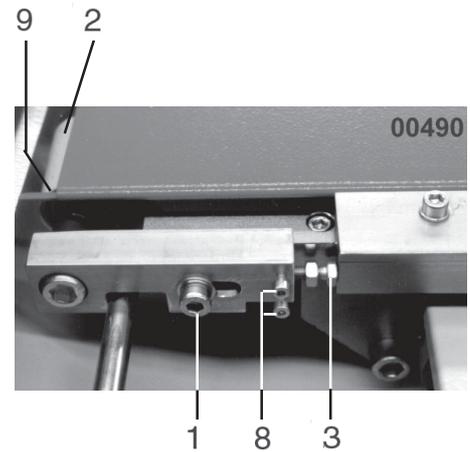
>ATTENTION<

Centering and adjusting of a new tape:

Loosen the screw **1** and adjust the new tape **2** flush left onto roller **9** through screws **8**. Re-fasten screw **1**.

Thereafter, loosen screw **10** and adjust (left-sided) the new tape **2** through the screws **11**. Make sure that the track of punched holes in the register belt **2** are matching with the bore holes of the vacuum roller **12**. Re-fasten the screw **10**.

Check:
Test with paper strips in the area of the vacuum roller **12** if vacuum is still provided - activate the pressure/vacuum pump!

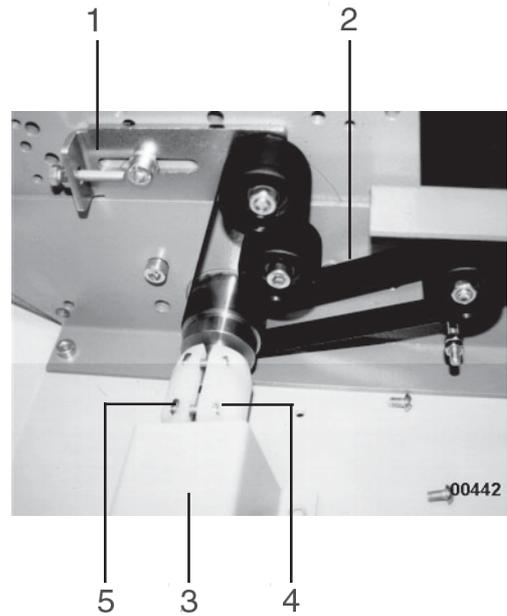


4.1.2 Drive for Vacu-Infeed tape

Tension the drive tape **1** by means of the tensioning lever **2**.

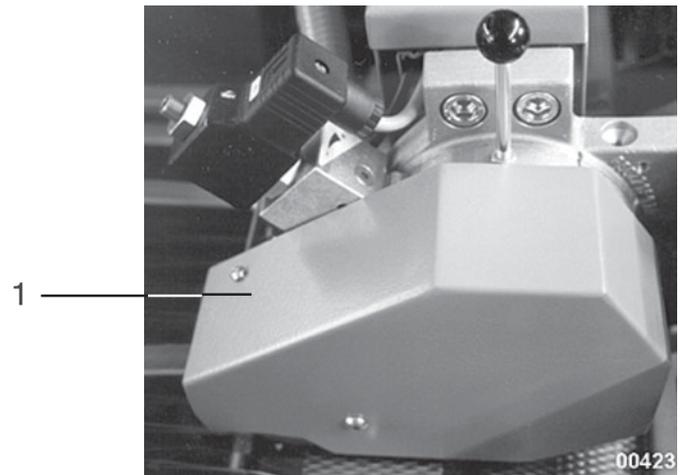
Exchange:

Remove the guard **3**, open **5** the coupling **4**, and re-thread the tape. The installation occurs in the opposite sequence.



4.1.3 Vacu-Infeed tape

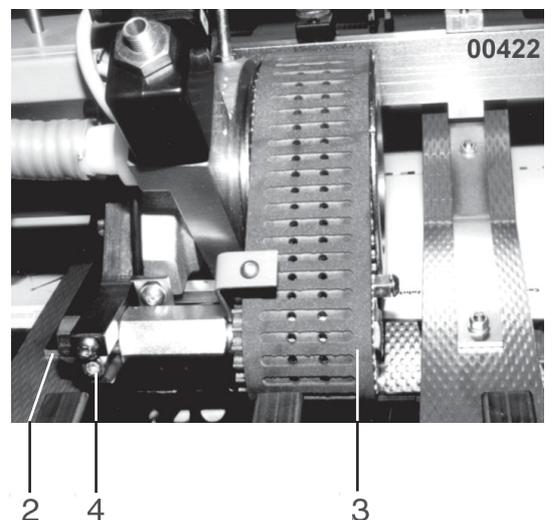
Remove the protective hood **1**,



loosen the nut **2** and tension the tape **3**. Insert the screw **4** (make sure it is not too tight!).

Exchange:

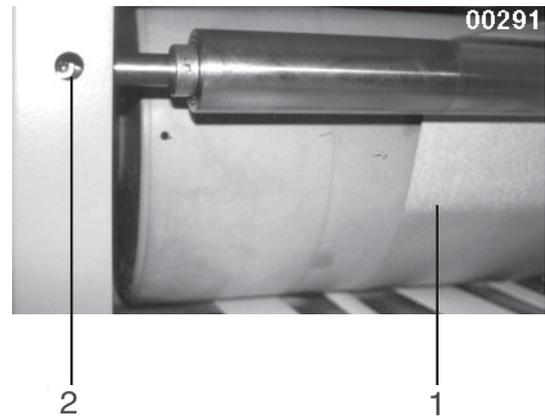
Loosen the screw **4**.



4.1.4 Upper transport belt

Make sure that the transport tape **1** is tightened to ensure trouble-free sheet transportation.

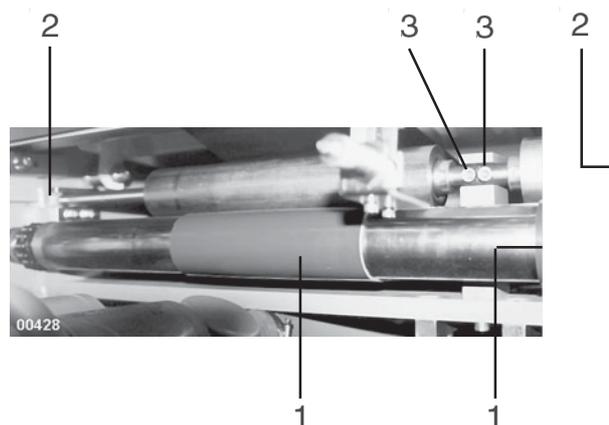
Insert both screws **2** simultaneously at both sides.



4.1.5 Lower transport belts

Make sure that both transport tapes **1** are tightened to ensure trouble-free sheet transportation.

Centre and tension both tapes individually by inserting both screws **2** or **3** at both sides.



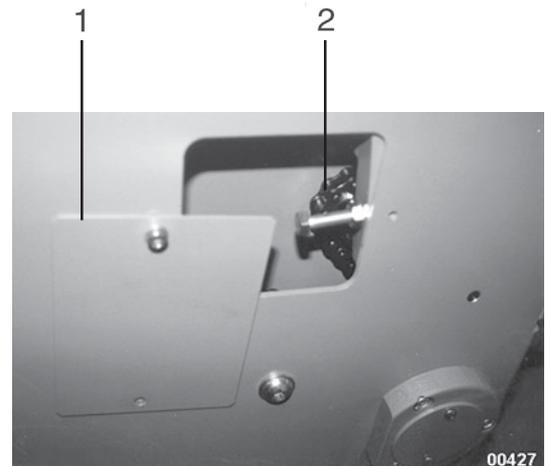
4.2 Lubrication / Cleaning



>NOTICE< Generally, the feeder should be cleaned after each job, particularly moveable parts which have been adjusted due to change of sheet size, because heavy dust may cause reduction of function.

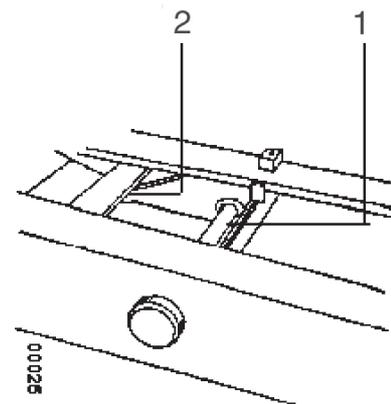
4.2.1 Drive chain

Open the cover **1** at the drive side, provide the chain **2** with oil occasionally. Lock the cover **1** again.



4.2.2 Register table

Clean the dust from the guide shaft for sheet size adjustment **1** as well as drive shaft **2** and provide them with a slight touch of oil.



4.2.3 Pressure/Vacuum Pump



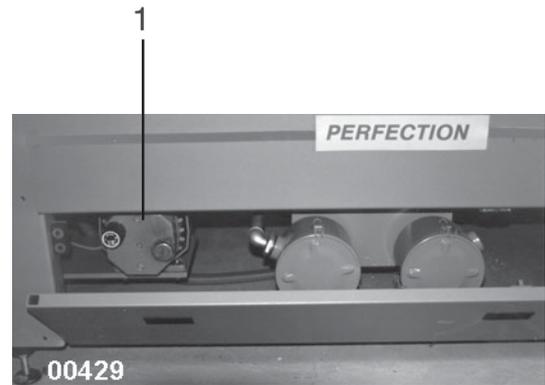
For maintenance intervals please check the separate Operating Manual of the manufacturer. >NOTICE< To ensure full efficiency, the filter cartridges should be checked and cleaned every 50 hours of operation and be exchanged every 6 months. Dirty or damaged cartridges must be replaced immediately. Do not remove the filter cartridge in any case, otherwise penetration of foreign substances will damage the pump. Make sure that the pump is turned OFF during maintenance work.

Filter - suction air

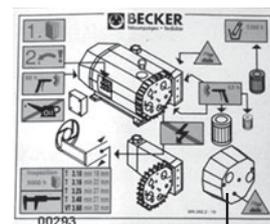
Remove the cap **1** as well as the filter cartridge **2**.

Clean the cartridge by blowing through from the internal to the external side.

Renew the cartridge every six months.



Continuation



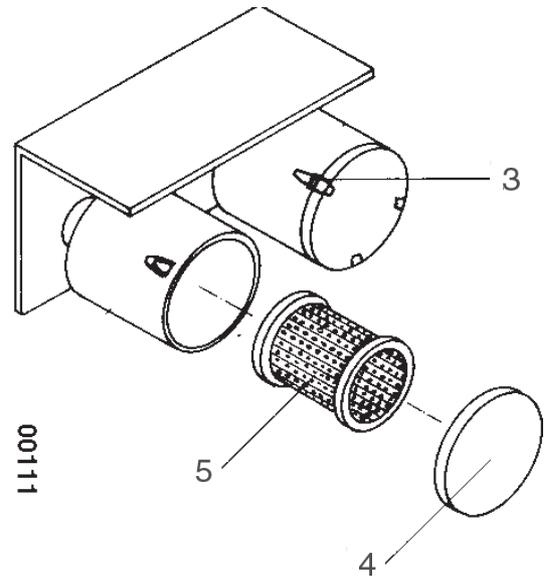
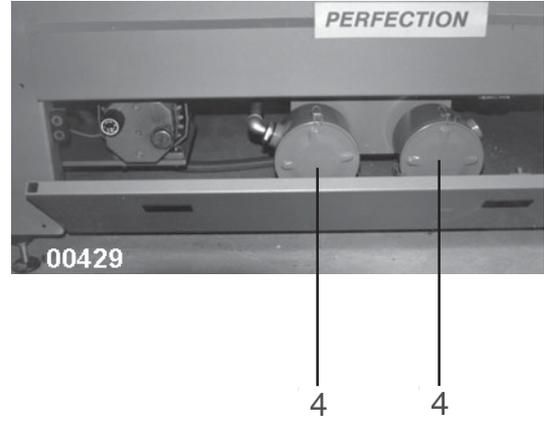
1 2

Continuation

Filter - air blast

Open the clips **3** and remove the caps **4** as well as the filter cartridges **5** and clean them by blowing through from the internal to the external side.

Renew the cartridges every six months.



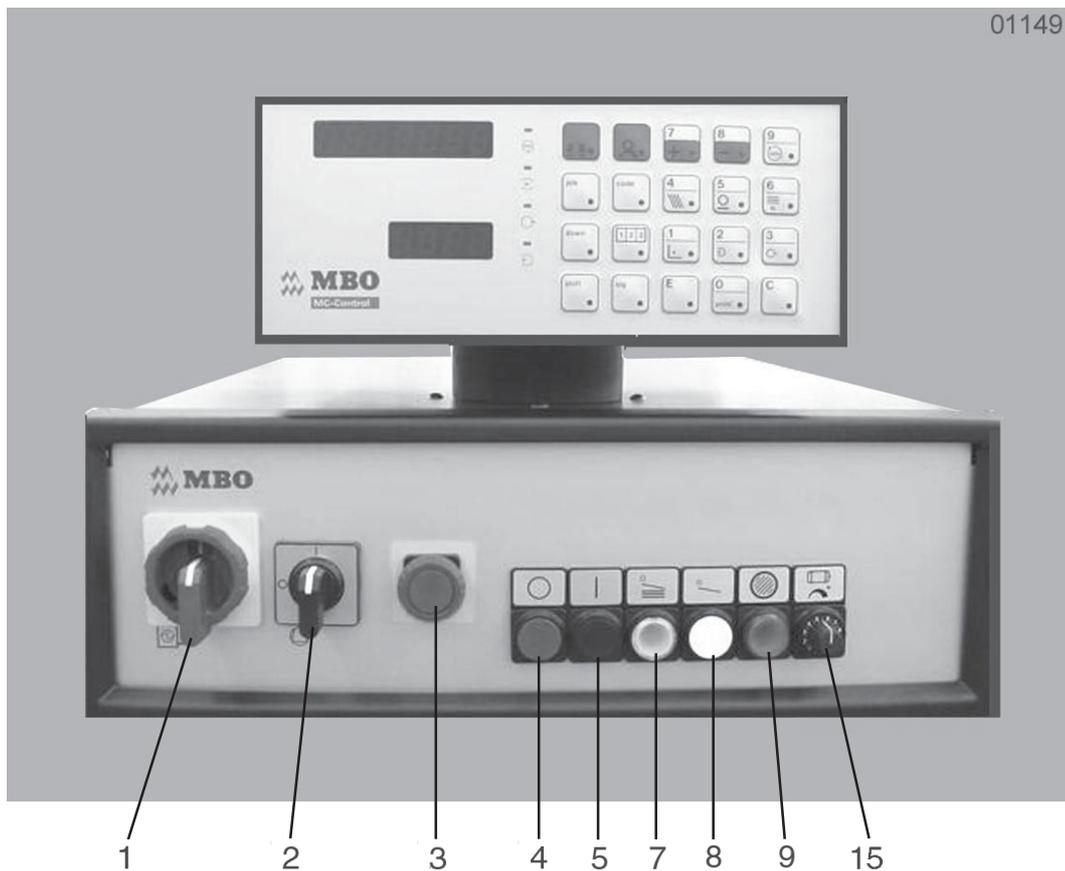
5.0 Operation of the machine

5.1 Main control panel

- 1 MAIN SWITCH
- 2 ON/OFF switch for AIR PUMP
- 3 Red mushroom button with locking for EMERGENCY STOP
- 4 Button to STOP the machine
- 5 Button to START the machine
- 7 Button for SHEET INFEED during production and feeder START/STOP
- 8 Button for SINGLE SHEET INFEED
- 9 INDICATOR LIGHT for main drive

- 14 MC Control with integrated sheet infeed control and batch counter.
See separate Operating Manual „MC Control“ for detailed description.

- 15 Potentiometer for electronic speed control of folding unit I

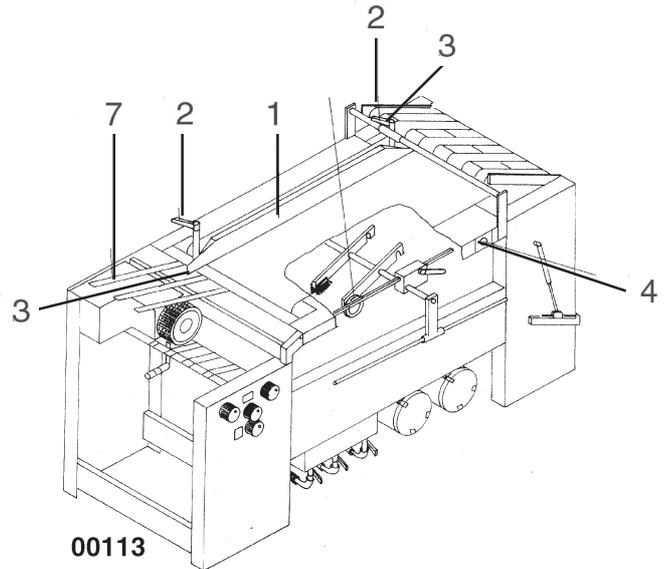


5.2 Feeder

5.2.1 Upper table

Set the lateral sheet stop **1** with knurled grips **2** to $\frac{1}{2}$ of sheet width; use the mm scale **3**.

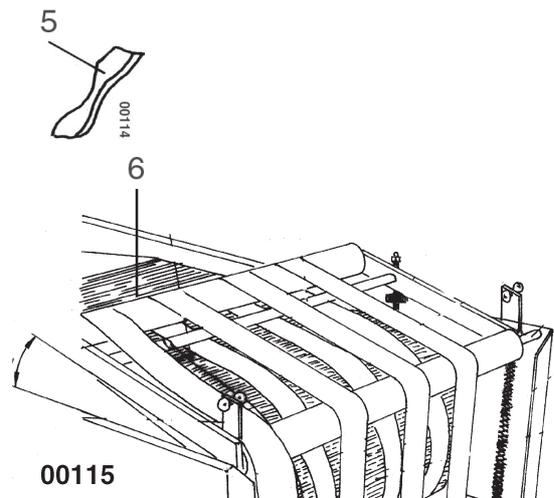
For pile transportation ON/OFF: Use the button **4** at the feeder table or blue push button at the main control panel **7**.



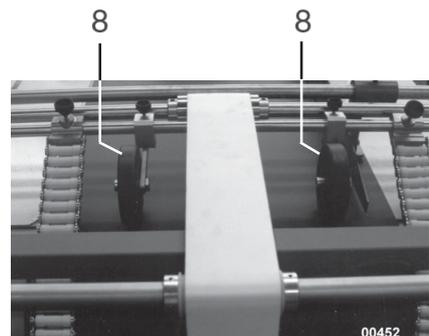
Place a bulk of sheets on the upper table and shingle them **6** with the spatula **5**.

Please bear in mind that the maximum loading height is approximately 8 cm.

Use the extension bars **7** when you process long sheet sizes.



Use the rollers **8** for processing short oblong sheets.



5.2.2 Drum

Set the roller chains **1** and long Teflon tapes **2** in accordance with the sheet size:
The distance of Teflon tapes **2** to the sheet edge should be approx. 2 cm; mediate the roller chains **1**.
Set the infeed angle between upper table and roller chains **1** and Teflon tapes **2** through the grip **4**.



>NOTICE< The paper edges may bend if the angle is too flat.

How to change the pressure of the tape **5** through the knurled screw **6**:
Clockwise turn, i.e. the tape becomes loose, counter-clockwise turn, i.e. the tape becomes stretched.

Pretension the lower table **8** with the draw springs **7**. Depending on the sheet size and the height of pile use one or two draw springs. Please note that the draw springs have different sizes and latches.

Guide the sheet with medium pressure around the drum **9**. Reduce the pressure when you process very smooth sheets and the shingle on the lower table **8** becomes extended. This will avoid any back draft of the pile.



>NOTICE< Set the pretension rather lighter than too strong, otherwise the sheets may sag.

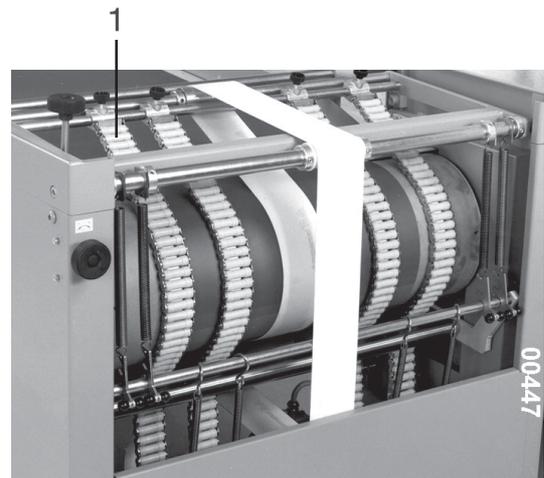
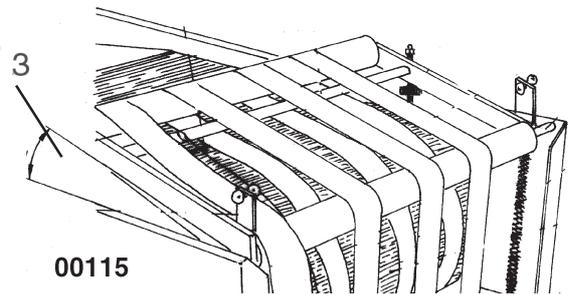
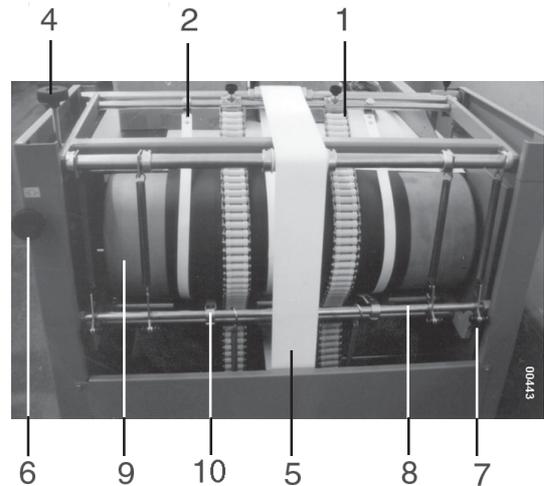
Use short Teflon tapes **10** at the transitional area to the lower table **8**.



>NOTICE< Never Teflon tapes **2** as this will cause a braking effect!



>NOTICE< The R 800 feeder is equipped with four roller chains **1**. Use only two roller chains if you process a sheet width below 70 cm, but all four roller chains when you process a sheet width above 70 cm. Therefore mediate accordingly.

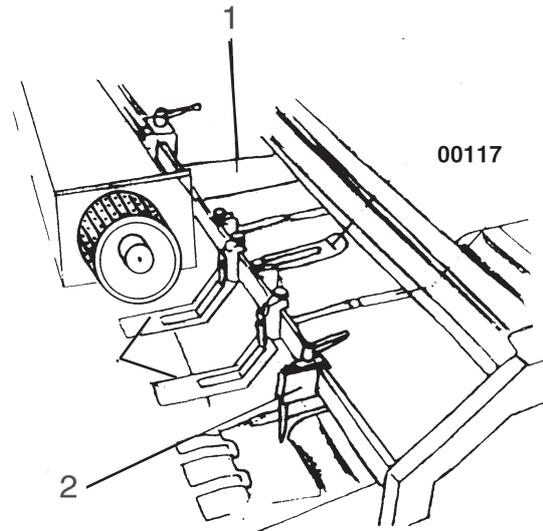


5.2.3 Lower table

Use the guide plate **1** and pin **2** for exact positioning of the paper.



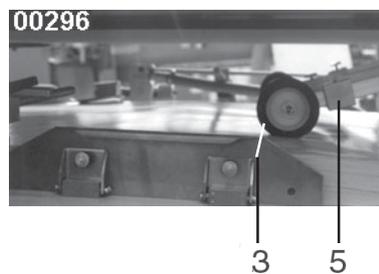
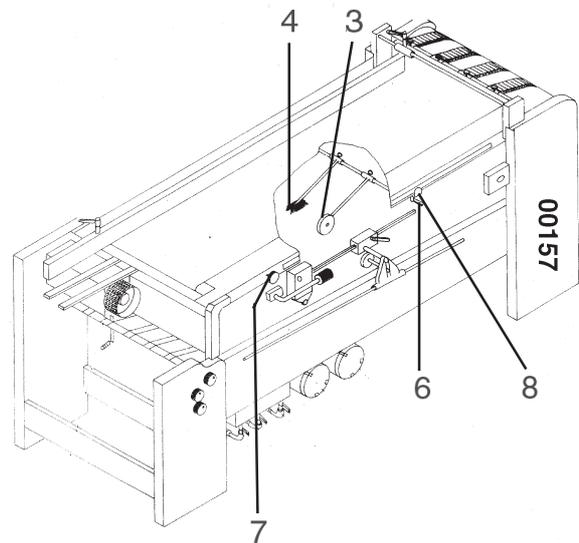
>**NOTICE**< If the sheets are pinched it may cause a paper jam!



For safe sheet separation set the rollers **3** and the brush **4** to the end of approximately 2-5 top sheets. The pressure may be changed through the weights **5**.

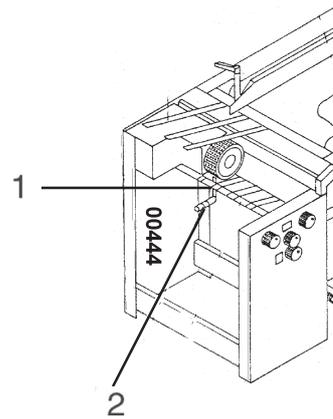
Positioning: Loosen the grip **6** and turn the knurled grip **7**.

Set the required length of the sheet to be processed at the mm scale **8**.



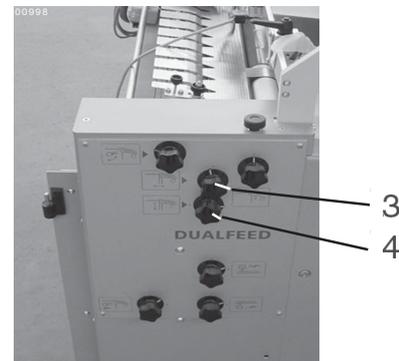
5.2.4 Transport control

The transportation of the sheet is controlled through the feeler tongue **1** and the sensor **2**. If no sheets are processed the feeler tongue **1** is resting at the sensor **2**: See drawing 5.2.1 for operation of the feeder.



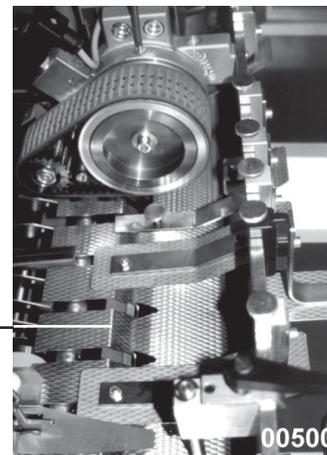
The oncoming sheets push the feeler tongue **1** away from the sensor **2**. This allows infinite speed reduction. STOP at a gap of approximately 8 mm.

Setting of feeler tongue 1:
Horizontally through the button **3**:
Feeler tongue **1** forward = more sheets are aerated.
Feeler tongue **1** backward = fewer sheets are aerated.
The front edge of the sheet should stop at **8**.

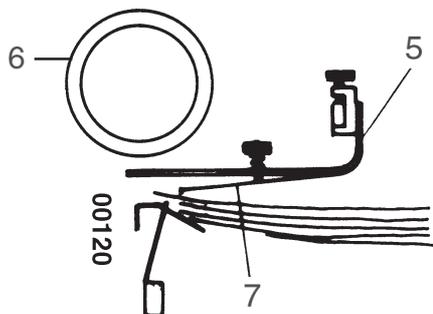
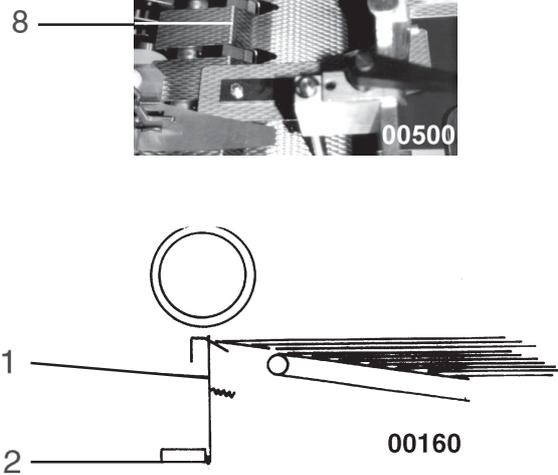


Vertically through the button **4**:
Feeler tongue **1** downward = if the sheets tend to roll down.
Feeler tongue **1** upward = if the sheets tend to roll up.

If the sheets tend to roll up:
Use the smoother **5** asides of the suction wheel/Vacu-Infeed **6**. Hold down the sheets which move up and avoid „double sheets“ through the adjustable plate spring **7**.



Continuation

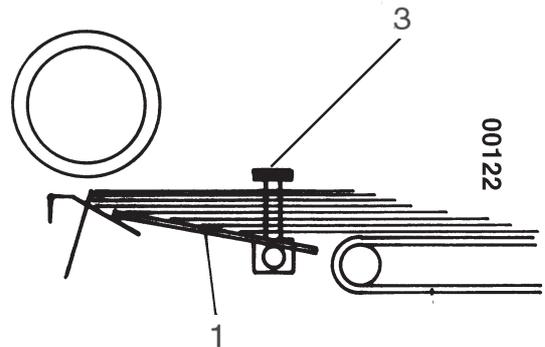
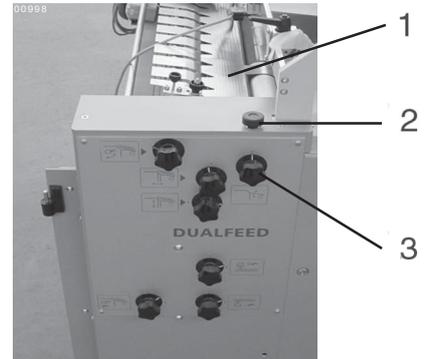


Continuation

Set the infeed plate **1** through the knurled grip **2** higher/lower and fix it through the knurled screw **3**.

For sheets which tend to roll down
= move the infeed plate **1** up.

For sheets which tend to roll up
= move the infeed plate **1** down.

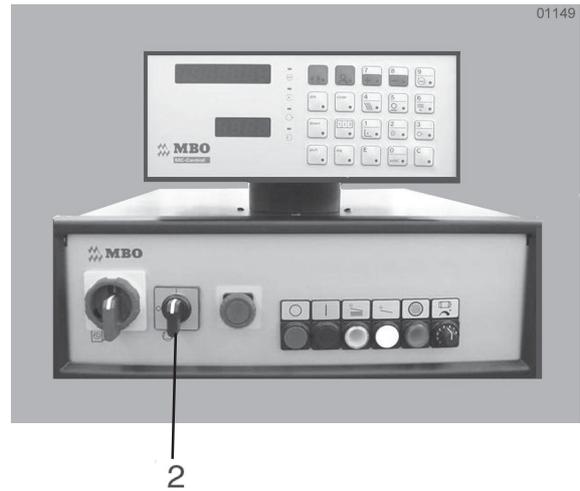


5.2.5 **Aeration/air support**

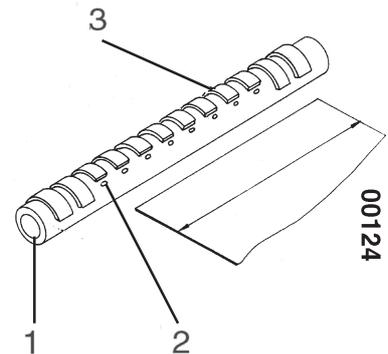
The support of air blast occurs through the turbo-type air pump.

The support of suction air occurs through the separate vacuum pump.

Both pumps can be turned ON/OFF through the switch **2** at the main control panel.

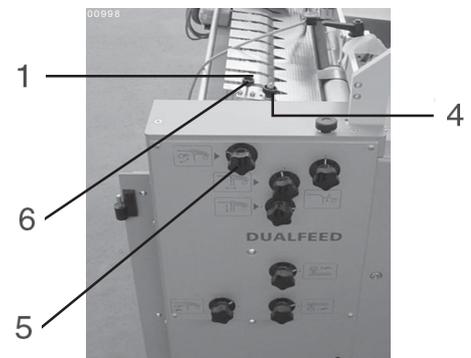


Air tube **1** with nozzles **2** may be opened or closed through the clips **3**. The quantity of opened clips depends on the sheet width. Please bear in mind that the clips under the suction wheel should always be opened.



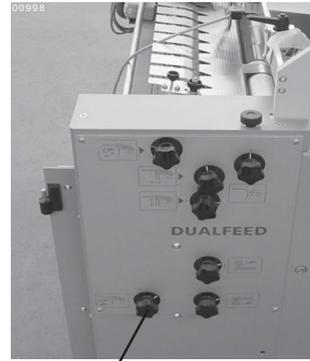
The air tube **1** is height adjustable through knurled nut **4**; it may be swivelled through the knurled grip **5** and fixed through the knurled screw **6**.

Continuation



Continuation

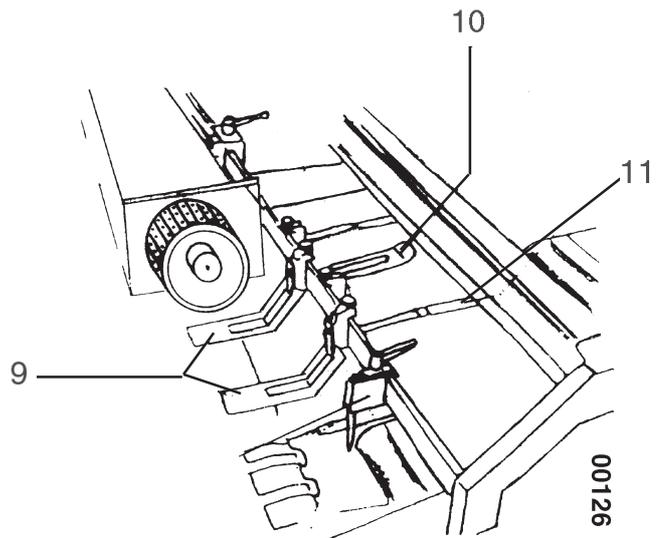
Regulate the frontal
air blast through the valve **7**.
Approximately 10-15 sheets
on top of the pile should be aerated.



7

Use the smoothers **9** and **10**
as well as the spring steel tape **11**
for safe sheet conveyance
to the alignment table.

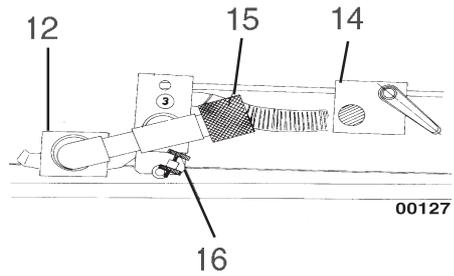
Continuation



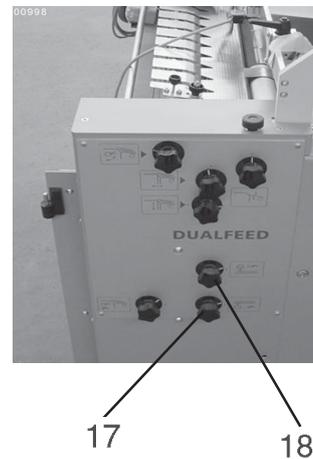
00126

Continuation

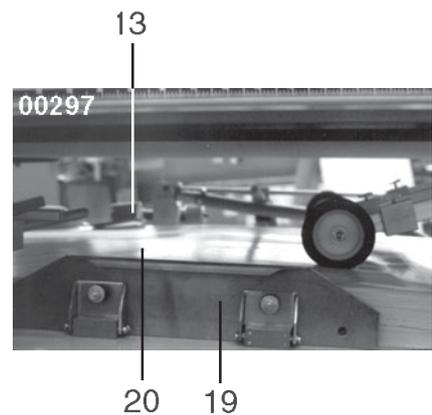
The positioning of the side blower **12** at the operator side into length and crosswise direction occurs through holder **14**. Set the balance through the weight **15** to such an extent that the side blower **12** is slightly touching the sheet; fix it through the nut **16**.



Regulate the quantity of air blast through the valve **17**.



>NOTICE<
Use the plate **19** at the operator side when you process large sheet sizes for air back-up within the pile **20**. Use the side blower **13** at the drive side. Regulate the air blast through the valve **18**.



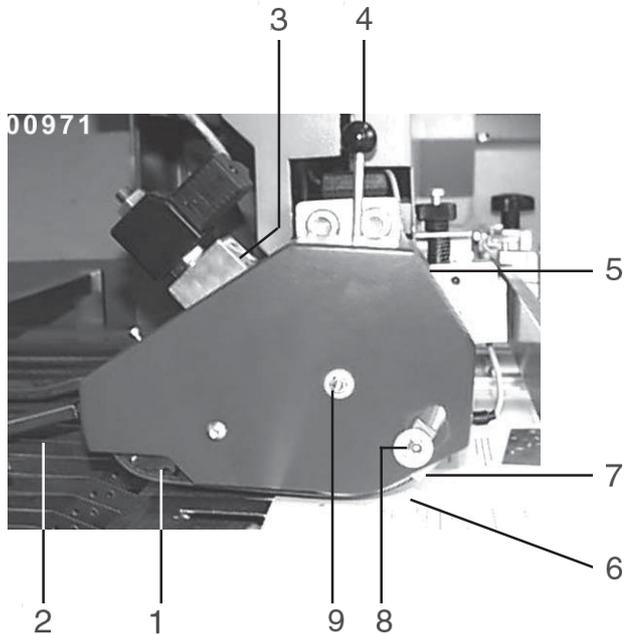
5.2.6 **Vacu-Infeed**

The Vacu-Infeed **1** carries the sheets onto the register table **2**.

The power of vacuum for various types of paper can be adjusted through the red screw **3**, use the scale +/-

Depending on the sheets' tendency for rolling, the point of suction can be set forward or backward through the lever **4**.

The red markings **5** indicate the position.



>**DANGER**< The distance **6** between the piles' surface and the protective angle **7** must be set as small as possible - not to exceed 8 mm -.

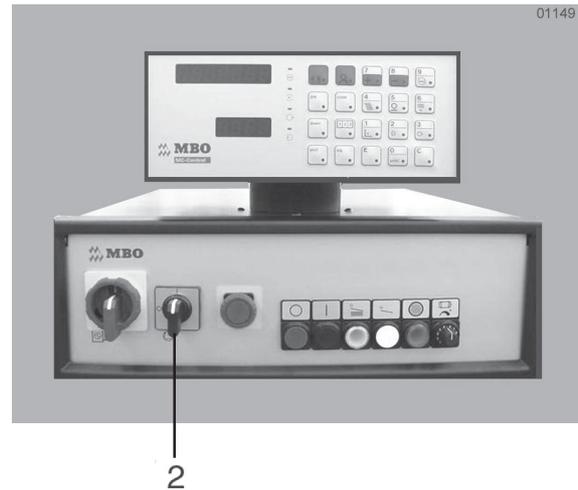
Refasten the nuts **8** and **9** after the adjustments.

5.3 Register table

5.3.1 Vacu-Alignment

The Vacu-Alignment 1 has a separate vacuum pump 3.

The ON/OFF position also occurs through the switch 2.



Heavy or thick paper needs more vacuum than light or thin paper. The setting occurs at the twist-grip 4, scale +/-.

For safe sheet transfer at the infeed, heavy or oblong sheets require more vacuum at the vacuum roller 5. The setting occurs at the twist grip 6, scale +/-.

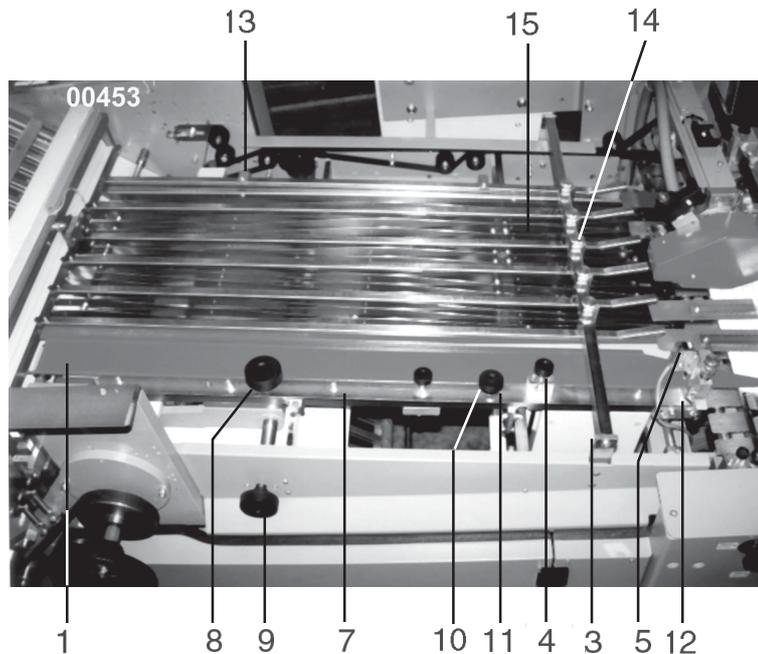
Set the sidelay 7 through the knurled grip 8 to 1/2 of the sheet width at the mm scale. The fine adjustment occurs through the knurled grip 9.

Angle to the fold rollers: Loosen the knurled screw 10.

The setting adjustment should be made at 11, and the reading-off at the scale 12, +/-.

Set the guide plate with the rail 13 above it to such an extent that the paper edge is running between it.

The quantity of smoother bars 14 above the lattice fence 15 depends on the sheet width.



5.3.2 Double sheet control

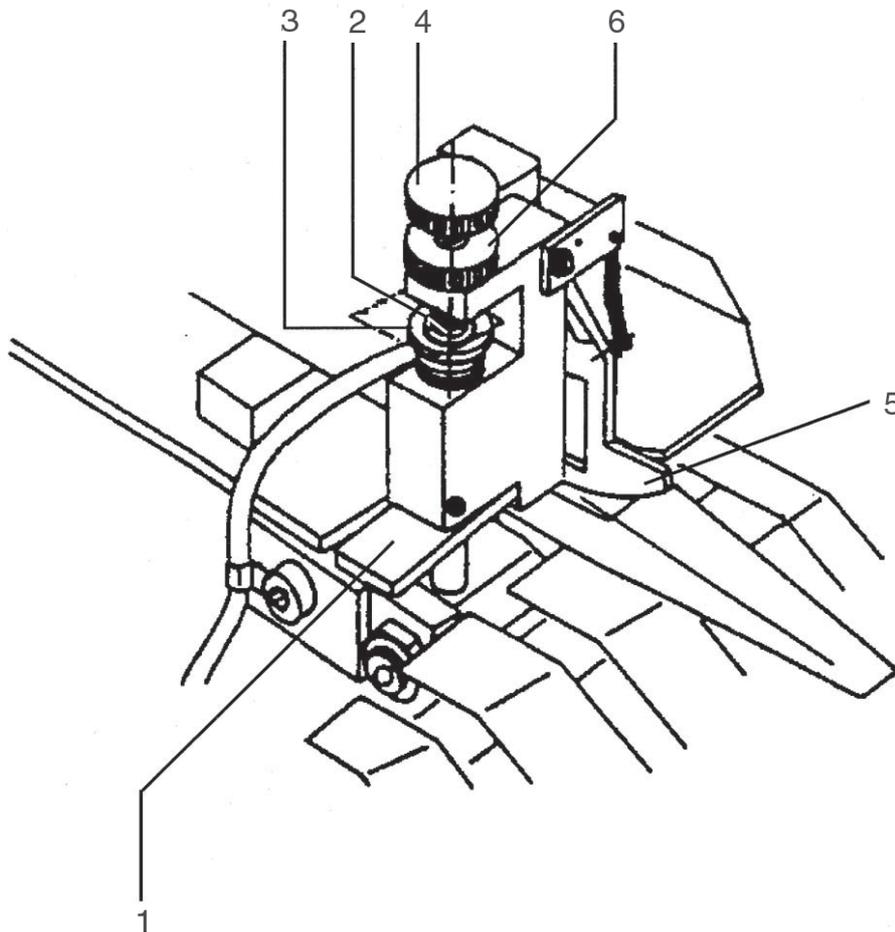
Press the lever 1 and insert a paper strip (which you are processing) into the gap 2 between the bolt 3 and the knurled screw 4.

Insert a double paper strip under the segment 5 while the machine is running. Turn the knurled screw 4 until the segment 5 has switched, and counter it with the knurled nut 6 after the adjustment of the double sheet control has been completed.

If you check with a single paper strip the machine must continue to run. Re-adjust, if necessary!

Please note that the double sheet control stops the sheet infeed at first. The machine will stop if no sheets are in the machine!

01059



5.4 Sheet infeed control

5.4.1 Automatic learning of suction length and sheet gap

START the machine **1** and turn the pump **2** ON.

Keep the button SUCTION LENGTH **3** pushed and activate the SINGLE SHEET button **4**. A „learning“ sheet is entered with a basic suction length. It is measured by the photocell **5**, and required suction length is automatically determined.

If necessary, you may increase or decrease the suction length by pushing the buttons **3** and **6** (+) or **3** and **7** (-) simultaneously.

Adjust the machine and set photocell **8** above the sheet exit.

Calibration of sheet monitoring:

Keep the button SHEET GAP **9** pushed and activate the SINGLE SHEET button **4**.

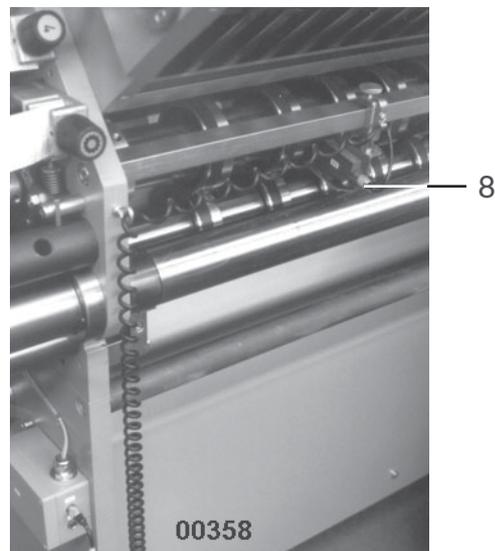
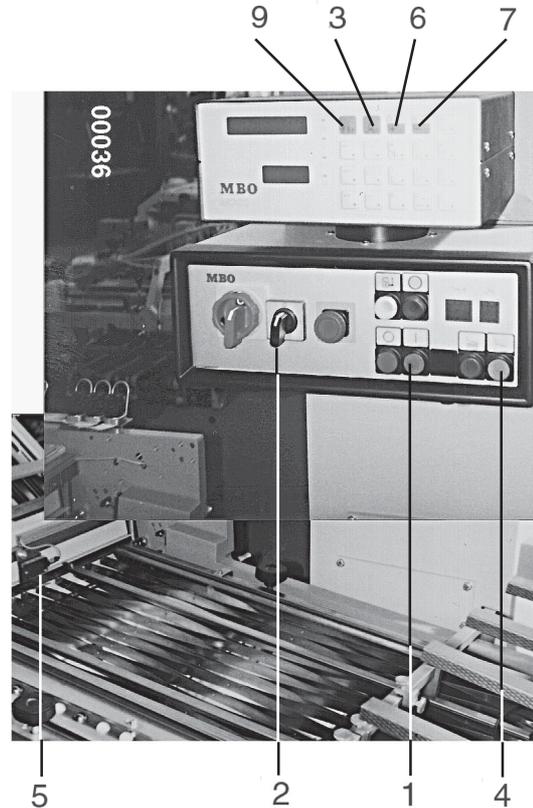
All photocells are calibrated by one „learning“ sheet.

The sheet gap is automatically determined for 2 cm (at minimum).

If necessary, increase as follows:
Push buttons SHEET GAP **9** and **6** (+).

Any sheet gaps exceeding more than 2 cm may be reduced through the buttons **9** and **7** (-).

Please also follow the attached Operating Manual „MC Control“.



5.4.2 Photocells (Standard)

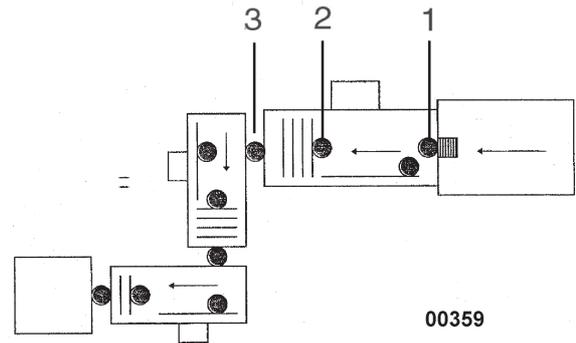
Photocell 1 controls the sheet infeed at the suction wheel/Vacu-Infeed and is counting the infeed sheets.

Photocell 2 controls the infeed of parallel unit and calculates the sheet or suction length.

Photocell 3 controls the exit of parallel unit and counts the sheets at the exit.

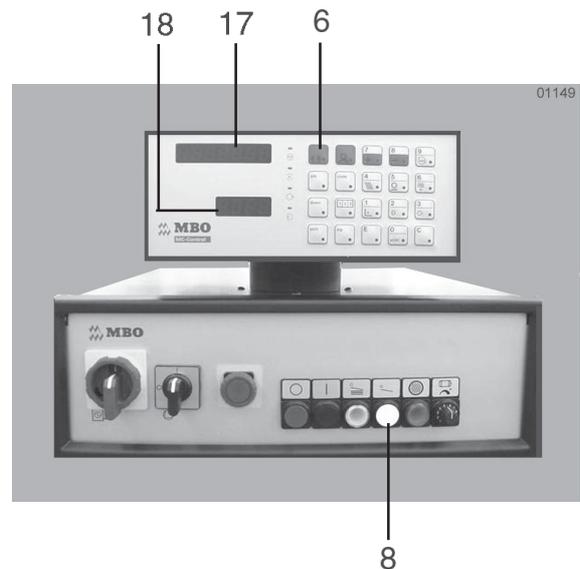


>NOTICE< The machine will stop if one of the sheets fails to pass one of these photocells at the time calculated, or is passing this photocell longer than calculated. The **MC counter 17** will display an **ERROR REPORT 18**. It will show the error position - see also. Operating Manual attached separately.



Calibration of photocells:

Adjust the machine completely (folding length, fold rollers, etc.) and push the buttons **6** and **8** simultaneously.



A „learning sheet“ is passed through the machine. The photocells detect its length and time of passage. This will automatically program the sheet control and the sheet monitoring.

5.4.3 Photocells in folding units II and III (optional)

In addition to the standard design (5.4.2) the following items are available:

Photocell 4 controls the infeed at sidelay of the folding unit II

Photocell 5 controls the infeed at the folding unit II

Photocell 6 controls the exit at the folding unit II

Photocell 7 controls the infeed at sidelay of the folding unit III

Photocell 8 controls the infeed at the folding unit III

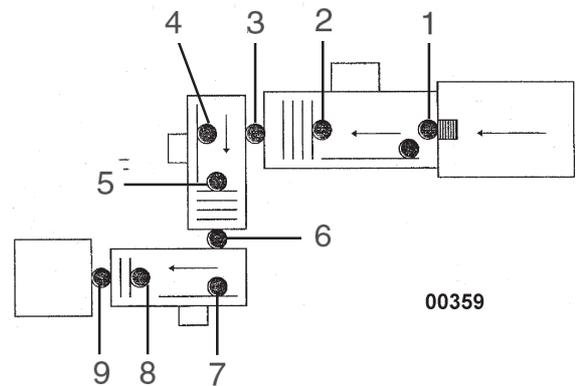
Photocell 9 controls the exit of the folding unit III and the transition to a subsequently following unit



>**NOTICE**< The machine will stop if one sheet fails to pass one of these photocells at the exact calculated time or is passing this photocell longer than calculated.

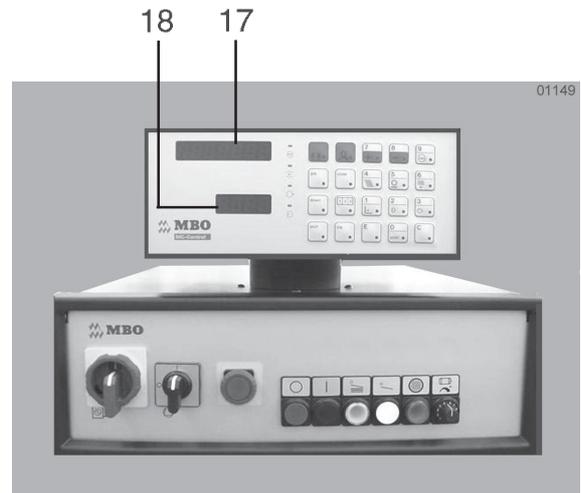
The **MC** counter 17 will display an **ERROR REPORT 18**.

It will show the position of the error - see also Operating Manual attached separately.



Calibration of photocells:

See the attached special Operating Manual



6.0 Options

6.1 Batch counter

The counting functions of the standard batch counter MCC 3 are integrated into the „MC Control“ and are described as „MC Control“ in the attached Operating Manual. Should, however, another counter have been installed by the manufacturer, its Operating Manual is also attached separately.

6.2 Other options

If this feeder does not contain the options, separate manuals are attached with.

6.3 Final remarks

You have now reached the end of this Operating Manual. We hope that you have understood everything. If so, then our efforts to prepare this Manual have been worthwhile. Of course, we accept comments and wish to thank you for any suggestions you may have to improve it. Even we are not perfect! We wish you every success with this machine. However, should you have any problems with its operation, please do not hesitate to contact our technicians or supervisors who will be able to assist you.



Änderungen vorbehalten
Alterations reserved
sous reserve de modifications

Binder & CO.
Postfach 1169
D - 71567 Oppenweiler

Telefon 07191 / 46-0
Telefax 07191 / 4634
<http://www.mbo-folder.com>

Stand 10/2002H/N