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## **MB-Accumulator**

# **Operator's Manual**

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# 1. GENERAL DESCRIPTION

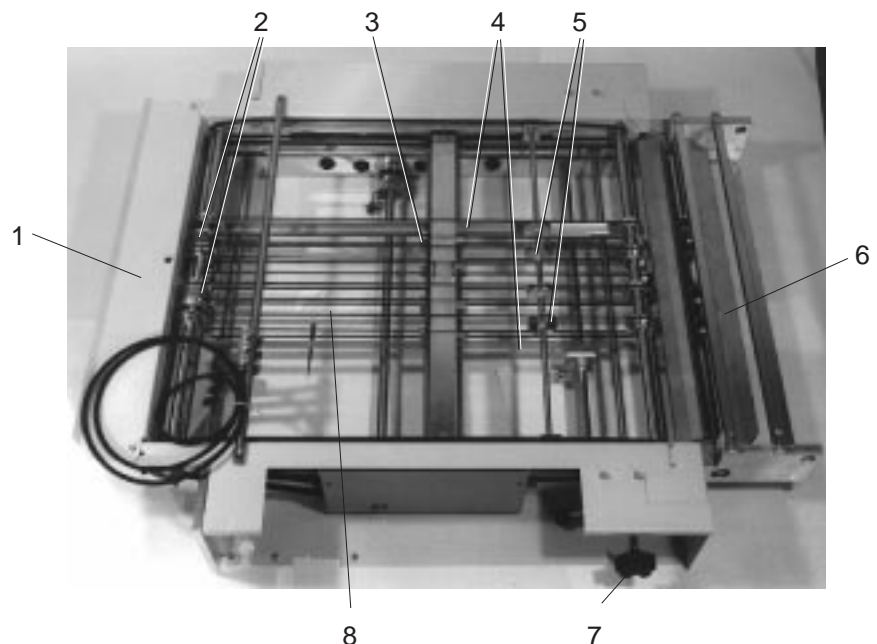
The MB-accumulator is built for collecting sheets of paper. It is positioned in-line with the fold unit multipli-CAS 524.

The features of the accumulator are as follows:

- simple operation
- central format setting knob
- easy modification of accumulating mode
- integrated operator panel
- functional design

The accumulator consists of the following components:

- 1 Fold roller cover
- 2 Infeed rollers
- 3 Ramps
- 4 Paper guides
- 5 Round belt rollers
- 6 Infeed guide
- 7 Knob for setting the format
- 8 Round belts



## 2. SPECIFICATIONS

**Performance:**

- Speed: from 18 m/min up to 180 m/min
- Capacity: max. 12 sheets, V-fold (DIN A4, 80 GSM)  
Special software req. for more than 7 sheets  
max. 7-8 sheets, C-fold (DIN A4, 80 GSM)  
max. 7-8 sheets, Z-fold (DIN A4, 80 GSM)

**Paper sizes:**

max. width 420 mm    min. width 180 mm  
max. length 420 mm    min. length 180 mm

**Fold length:**

- Number of fold plates: 4
- max. fold length in fold plate 1: 470 mm
- max. fold length in fold plates 2, 3, 4: 390 mm
- min. fold length: 35 mm

**Paper weight:**

80 - 120 GSM

**Electrical:**

- MB-Accumulator:
  - Voltage: 24 V DC
  - Power consumption: 8 W
  
- MB-System CAS 524:
  - Voltage: 400 V
  - Frequency: 50 Hz
  - Power consumption: 550 W
  - Fuses: F2 T6.3A (speed controller)  
F3 T0.4A (transformer)

**Dimensions:**

Length: 1900 mm  
Width: 820 mm  
Height: 1410 mm

**Transfer heights:**

Infeed height: 970 mm  
Delivery height: 890 mm

**Colour:**

RAL 7035 (light grey)  
silver grey

### 3. PROPER HANDLING OF THE MACHINE

The MB-Accumulator is designed to collect sheets of paper. It is unsuitable for handling other materials such as plastics, foils and textiles. The manufacturer/distributor is not responsible for damages resulting from such unsuitable handling. Responsibility lies alone with the user.

Installation of the machine, i.e. assembling as well as electrical work should be carried out only by skilled personnel authorized by the manufacturer or his representatives. Additional instructions are provided for this purpose.

Repairs and service should be carried out only by skilled personnel authorized by the manufacturer or his representatives.

The interval between inspections including safety-related functions depends on the machine usage.

For regular one-shift-operation, one inspection per year is recommended.

The machine may be placed on already existing sturdy tables or on mobile stands available from the manufacturer.

The machine weight should be considered when choosing a table for the machine.

No harmful emissions are produced.

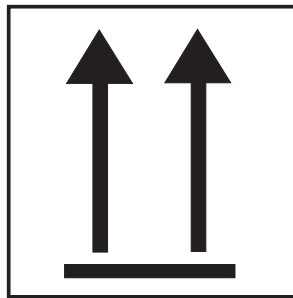
Read the operator's manual before working with the machine!

We recommend to carry out all operations and settings in the sequence mentioned in this manual.

## 4. SAFETY INSTRUCTIONS

### 4.1 Safety Instructions for Transport and Set-Up

The following instructions and warnings are applied to the packing to ensure appropriate and safe transport:



**Top! Transport in upright position only!**



**Protect from humidity!**



**Fragile! - Handle with care!**

These instructions and warnings must also be observed for transport within the users premises.

For transport to other premises resp. for return shipment the machines must be packed and provided with the same markings.

### 4.2 Fundamental Safety Instructions

#### Warnings and Symbols

The following symbols and designations are used in the manual to identify instructions of particular importance:



General instructions and special information how to use the machine most efficiently.



Instructions designed to prevent injury or extensive equipment damage.

### Basic Operation

The machine has been built in accordance with state-of-the-art standards and the recognized safety rules.

Nevertheless, operators and third parties may get injured when working with the machine, or damage to the machine and to other material property may result. The machine must only be used in technically perfect condition in accordance with its designated use and the instructions set out in the operator's manual. Any malfunctions, especially those affecting the safety of the machine, should therefore be rectified immediately.

## Organizational Measures

The operator's manual must always be available near the machine. In addition to reading the operator's manual, observe and instruct the user in all other generally applicable legal and other mandatory regulations relevant to accident prevention and environmental protection.

The operator's manual must be supplemented by instructions covering the duties involved in supervising and notifying special organizational features, such as job organization, working sequences or the personnel entrusted with the work.

Personnel entrusted with work on the machine must have read the operator's manual and in particular the chapter on safety before beginning the work.

Reading the instructions after work has begun is too late.

This applies especially to persons working occasionally on the machine, e.g. during setting up or maintenance.

Check, at least from time to time, whether the personnel is carrying out the work in compliance with the operator's manual and paying attention to risks and safety factors. For reasons of safety, long hair must be tied back or otherwise secured, garments must be close-fitting and no jewellery - such as rings - may be worn.

Injury may result from being caught on moving parts.

Observe all safety instructions and warnings attached to the machine.

See to it that safety instructions and warnings attached to the machine are always complete and perfectly legible.

In the event of safety-relevant modifications or changes in the performance of the machine during operation, stop the machine immediately and report the malfunction to the competent person.

Never make any modifications, additions or conversions which might affect safety without the manufacturer's approval. Adhere to prescribed intervals or those specified in the operator's manual for routine checks and inspections.

## Selection of Personnel, Basic Responsibilities

Employ only trained or instructed staff and set out clearly the individual responsibilities of the personnel for operation, set-up, maintenance and repair.

Work on the electrical system and equipment of the machine must be carried out only by a skilled electrician in accordance with electrical engineering rules and regulations.

## Standard Operation

Avoid any operational mode that might be detrimental to safety. Take the necessary precautions to ensure that the machine is used only in a safe and reliable state.

Operate the machine only if all protective and safety-oriented devices, such as removable safety devices, emergency stops, sound proofing elements, are in place and fully functional. In the event of malfunctions stop the machine immediately and prevent further use. Have any defects rectified immediately.

Before starting up or setting the machine in motion, make sure that nobody is in danger.

## Special Work, Maintenance, Repair

Observe the adjusting, maintenance and inspection activities and intervals set out in the operator's manual, including information on the replacement of parts and equipment.

Pull the power plug for maintenance and repair work or before opening the control box.

If the machine is completely shut down for maintenance and repair work, it must be secured against inadvertent starting by attaching a warning sign to the main switch.

Always tighten any screw connections that have been loosened during maintenance and repair.

## Special Dangers

The electric equipment of machines is to be inspected and checked at regular intervals. Defects such as loose connections or scorched cables must be rectified immediately.

### Product-Specific Safety Instructions



**Exercise caution in the vicinity of rotating shafts and rollers!**  
**Hair, loose garments and jewellery may get caught!**  
**SERIOUS INJURY MAY RESULT!**



**Exercise cautions in the vicinity of the perforating- and slitting knives!**  
**They have sharp edges for proper function!**  
**SERIOUS INJURY MAY RESULT!**

### 4.3 Cleaning and Maintenance

Regular and proper cleaning contributes to a long life of the machine and a consistent quality. Therefore it is important to clean the machine in regular intervals and above all to remove paper dust.

The interval between maintenance jobs depends on the workload.  
It is recommended to clean the machine once a week.



**Before cleaning the machine always PULL the power plug!**



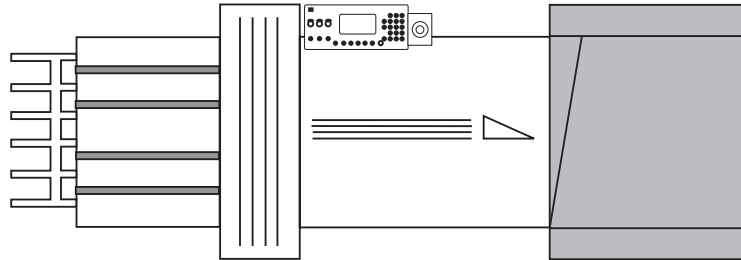
**Exercise cautions in the vicinity of the perforating- and slitting knives!**  
**They have sharp edges for proper function!**  
**SERIOUS INJURY MAY RESULT!**



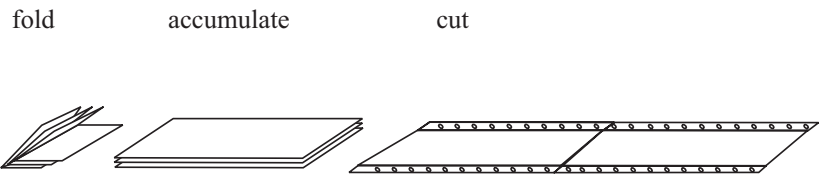
# 5. FUNCTIONAL DESCRIPTION

## System Layout

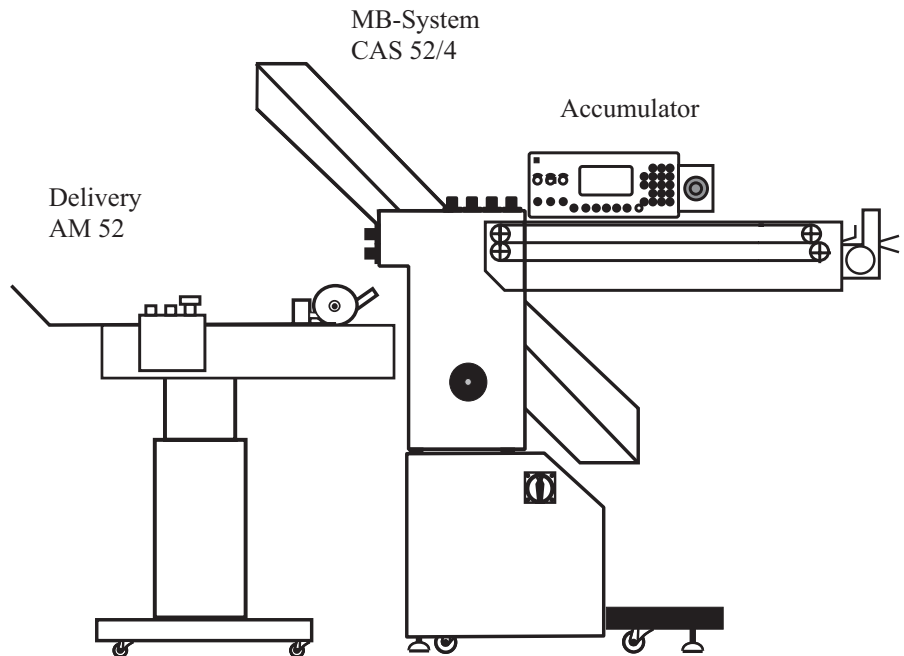
Delivery AM 52      MB-System CAS 52/4      Accumulator      Cutter



## Flow Chart

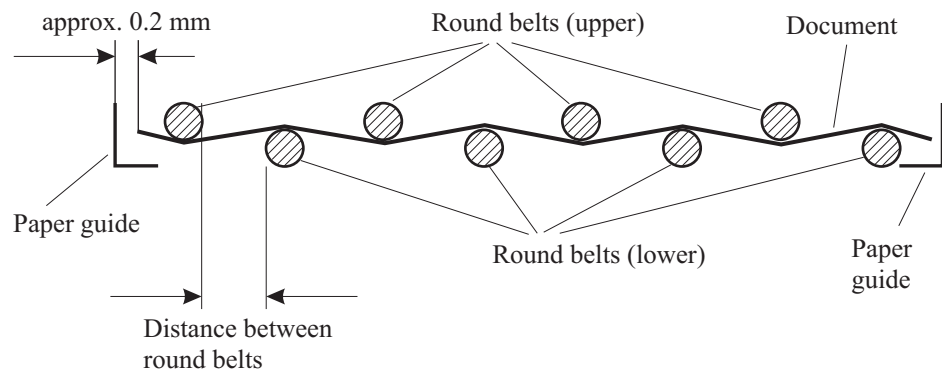


## Side View



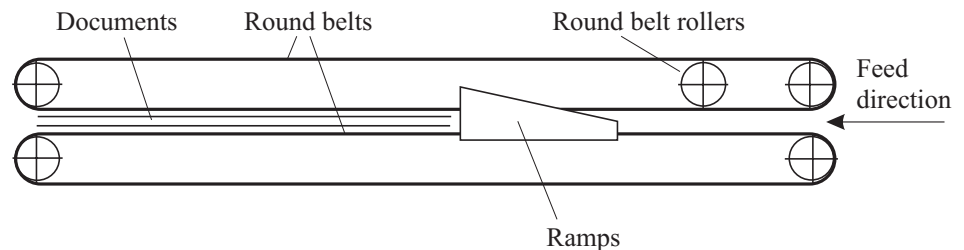
## Description

The documents coming from a cutter or feeder are transferred to the accumulator by infeed guides and infeed rollers. The lateral distance between documents and paper guides should be approx. 0.2 mm.

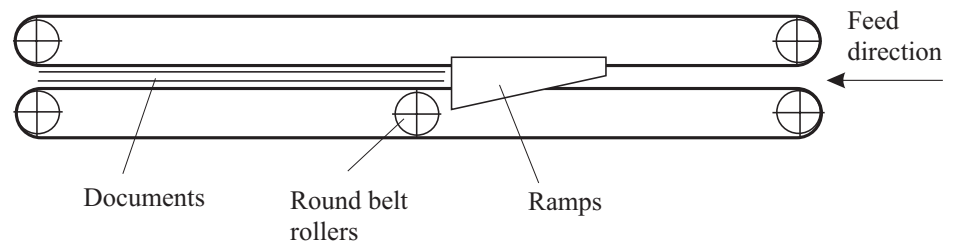


The round belts transport the sheets over the ramps. The overlapping of the upper and lower round belts enables that the trailing edge of the sheet is pushed down after passing the ramps. This avoids a paper jam by pushing the leading edge of the subsequent sheet into the trailing edge of the preceding one. Accumulation takes place after passing the ramps. The accumulation mode (bottom to top or top to bottom) depends on the position of the ramps.

- Accumulation mode from bottom to top: The subsequent documents are placed on top of the preceding ones.



- Accumulation mode from top to bottom: The subsequent documents are placed under the preceding ones.



Once the predetermined number of sheets in the accumulator is reached, the complete set of documents is transferred to the fold unit. The round belt rollers increase the tension of the round belts and therefore the friction on the documents. This ensures a safe and reliable paper transport.

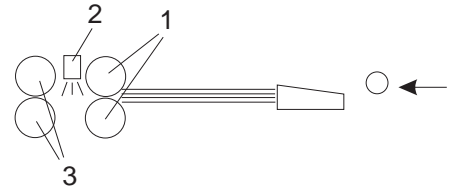
Two pairs of delivery rollers (1) transport the paper into the fold unit.

A clutch/brake assembly starts or stops the rotation of these rollers.

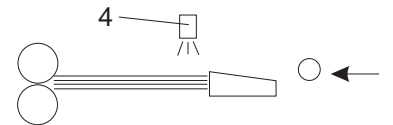
The rotary motion of the rollers is controlled by a photodetector (2) in the delivery section of the accumulator.

When the trailing edge of the sheets has reached the infeed rollers of the fold unit (3), the rotary motion of the delivery rollers (1) is stopped.

Now the accumulator is ready to collect the next set of documents.



The photodetector (4) counts the collected sheets in the accumulator.



The MB-accumulator can be equipped with a diverter.

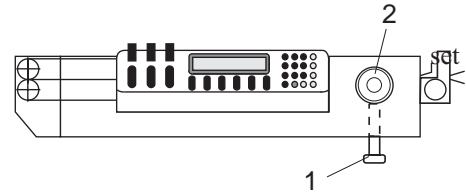
The sheets are read in the cutter.

Faulty sheets which should not be processed can be ejected by the diverter.

## 6. ADJUSTMENTS

### Format Length

To change the format length, loosen the screw (1) underneath the accumulator. Adjust the format length by turning handwheel (2) to the left or right.



For proper accumulation, there should be a distance of 1-2 mm between sheets and trailing edge of the ramps.

Retighten the set screw (1).

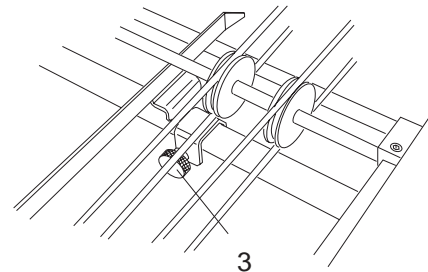
### Format Width

The two lateral paper guides can be adjusted to format width after loosening knurled screws (3).

It is recommended to arrange the paper guides in a slightly V-shaped manner.

Set the lateral distance between sheets and paper guides as follows:

- Infeed section:  
lateral distance should be 1-2 mm.
- Delivery section:  
lateral distance should be approx. 0.2 mm



Retighten the knurled screws (3) after setting the paper guides.

### Pressure of the Infeed Rollers

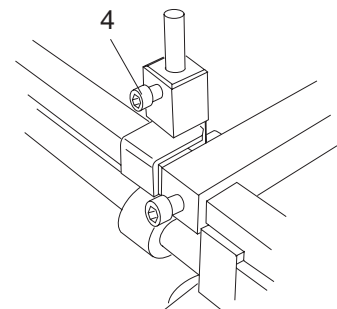
The pressure of the infeed rollers depends of the paper quality. The documents should be gripped and then guided to the accumulator without creasing.

To adjust the pressure of the infeed rollers, loosen the Allen screw (4) on each setting element.

Adjust the pressure and retighten the Allen screw.



Observe equal setting on both sides.



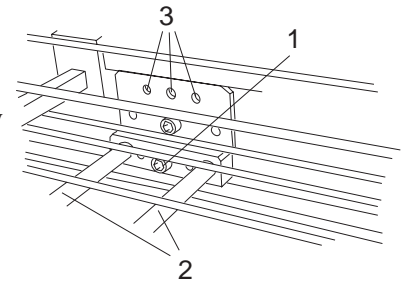
## Accumulation Mode

The position of the ramps define the accumulation mode. It is possible to accumulate from bottom to top or from top to bottom.

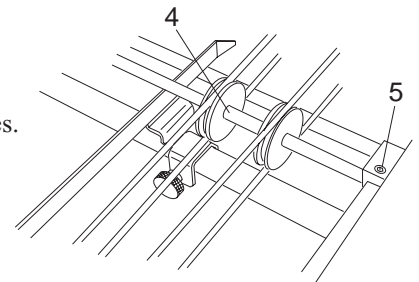
The accumulator is factory set to accumulation mode from bottom to top. This means that subsequent documents are placed on top of the preceding ones.

To change the accumulation mode, proceed as follows:

- Remove one Allen screw (1) on each side.
- Remove the ramp assembly (2) completely.
- Turn the ramp assembly and insert it in the upper holes (3) provided for this purpose.
- Insert the Allen screws of the ramp assembly and retighten.



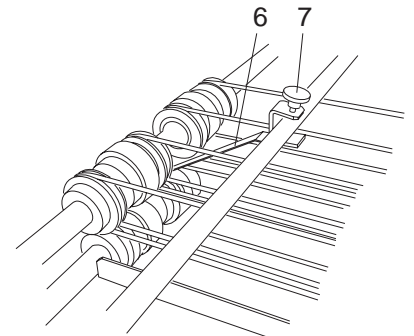
- Mount the round belt roller assembly (4) to the bottom side.  
For this, loosen Allen screw (5) on both sides. Remove the assembly and place it on the lower carrier rails. Retighten Allen screws (5).



## Paper Guide Spring

The paper guide spring (6) ensures the proper transport of the accumulated sheets to the subsequent fold unit.

If necessary, reposition the paper guide spring after loosening knurled screw (7). Retighten the knurled screw.



## Fold Roller Gap in Subsequent Fold Unit

If the first fold is made in fold plate 2, adjust the gap between the first pair of fold rollers to 1-2 mm (also see the operator's manual of the folder).