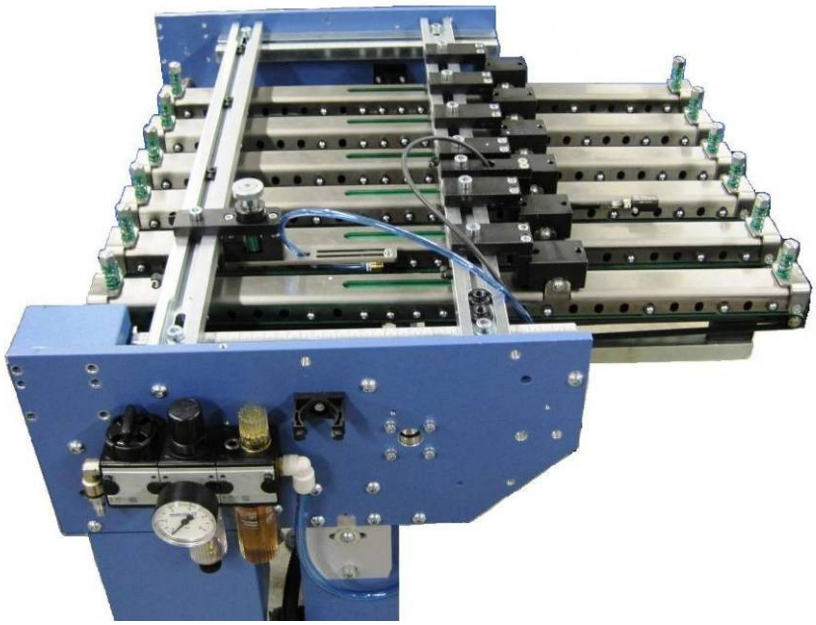
BOGRAMA AG

BOCHSLER GRAFISCHE MASCHINEN

UEB 550 B
Transfer Unit



Installation Instructions

Keep for future use.

After the installation into a machine, the installation instructions become part of the operating instructions.

Preface

In this BOGRAMA product, you have purchased a high quality industrial product with which you are able to attain the highest levels of reliability and performance provided you carefully follow the installation instructions and operating instructions. These installation instructions show you how to correctly install and operate the UEB 550 B transfer unit, and to follow the safety regulations.

Copyright

Warranty

The warranty claim stipulated contractually applies for our products. We exclude the following from the warranty claim:

- The customer's own add-on parts and modifications to the incomplete machine
- Damage attributable to deficient maintenance and repair work carried out on the customer's own authority
- Non-intended use
- Removal of protective and safety equipment, and any resulting damage

Customer service information

BOGRAMA machines and replacement parts are available worldwide from your local representatives.
Please contact your agent should you have any questions, customer service requests or require a repair service.
Always have your machine number and machine model to hand when ordering and making enquiries. Please refer to the nameplate on the fully configured machine for this information.

Version information

These installation instructions were released in March 2011 and can be ordered from BOGRAMA AG under **UEB 550 B**, specifying the version number (e.g. V1.0).
We reserve the right to make changes to the installation instructions without prior notice.

Manufacturer details

BOGRAMA AG
Bochsler Graphische Maschinen
Mettlenstrasse 1
CH - 8488 Turbenthal
Switzerland

Sales partners

MBO America

400 Highland Drive
US – 08060 Westampton
America

Copy of

original installation certificate

(separate document)

Table of contents

1 General

1.1 About the installation instructions

The installation instructions are aimed at users of the machine. They are intended to familiarise the operator with installation and operation, as well as the safety instructions.

These installation instructions form part of your transfer unit. After fitting the transfer unit to the machine, these installation instructions form part of the operating instructions for the machine. The installation instructions must be kept safely over the service life of the transfer unit. Pass on these installation instructions to every subsequent owner and user of the transfer unit.

Our transfer unit is state-of-the-art technology at the time of delivery. We reserve the right to make changes given our continual work on enhancements.

1.2 Identification of the product

Please refer to the nameplate (Fig. 1) on the machine for identification of the machine as well as the most important machine details, such as model, machine number and year of manufacture. You will need these details for ordering spare parts and to make use of our customer service department. You also need these details for the transfer unit.

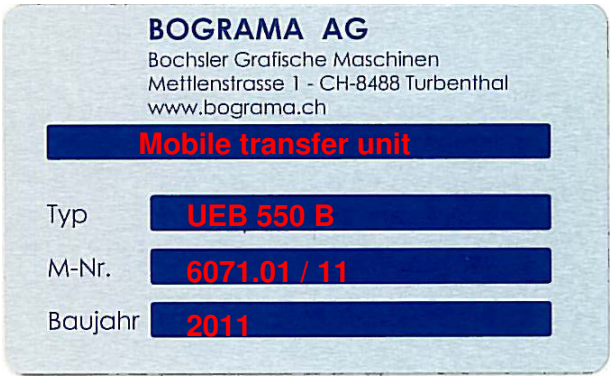


Figure 1: BOGRAMA AG nameplate

2 Safety

2.1 General

This section introduces the safety requirements - adherence to them is an absolute requirement when using the transfer unit.

Reading and understanding these installation instructions is mandatory for all those carrying out work with the transfer unit, and in particular with the machine.

2.2 Safety concept

The safety concept is based primarily upon a safe and nonhazardous design. The protective covers may only be removed by BOGRAMA technicians and trained personnel.

The operator of the transfer unit, especially the machine, commits to operating it only when it is in perfect condition and undamaged. Malfunctions which can impact safety must be rectified immediately.

2.3 Hazards

2.3.1 General residual risks

The use of technical products is associated with hazards. Hazards which cannot be eliminated by engineering measures or technical protective equipment are referred to as residual risks. The safety symbols in these installation instructions have been determined through risk assessment and make reference to known residual risks.

Should additional hazards and risks come to light during operation, the operator of the transfer unit commits to immediately informing BOGRAMA AG.

2.3.2 Safety instructions

Life phase	Hazard	Precautionary measure
In all life phases	General injuries	Reading and understanding of the installation instructions is mandatory for all those carrying out work on and with the transfer unit.
	Crushing	Never extend your hand into the running transfer unit.
	Getting caught up or snared	Never extend your hand into the running transfer unit.
	Cutting and amputation	Never extend your hand into the running transfer unit.
	Clothing and long hair	Always keep your hair in a bundle and use protection. Clothes must be tight-fitting and done up. Never extend your hand into the running transfer unit.
	Friction and abrasion	Never extend your hand into the running transfer unit.
	Access to/contact with moving parts	Never extend your hand into the running transfer unit.
	Loss of stability	Align the machine in the longwise and lateral directions using the four feet.
	Protective covers	You may not remove and render ineffective any protective covers.
	Burns	In emergencies, follow the internal operating instructions and their specifications. Base your actions on the instructions specified.
	Electrical	Protect the supply line of the drive motor from damage. The earth wire must always be connected properly. Protect the earth wire from damage.
Normal operation	Surface of the motor	Never extend your hand into the motor.
	Motor overload	You may not remove and render ineffective any protective covers. In emergencies, follow the internal operating instructions and their specifications. Base your actions on the instructions specified.
	Uncontrolled movements	Press the Emergency Stop button on the BSR before rectifying faults and paper jams in the UEB.

Transportation	Stability	The UEB may only be moved with a forklift or manual lift truck. Never hoist the UEB on one side. Make sure that no machine parts are damaged. Set the UEB down gently. Ensure the area is clear of people when moving the UEB.
Maintenance	Transfer unit	Only carry out maintenance work when the machine is idle.
Cleaning	Transfer unit	Disconnect the power supply prior to cleaning work. Emergency Stop!
In the event of a malfunction	General	Press the Emergency Stop button on the BSR before rectifying faults and paper jams.

Table 1: Safety instructions

2.3.3 Exposed hazard points

Danger
Danger from moving machine parts, warning of hand injuries.
Failure to comply may result in material damage or serious injury to body parts from crushing, cutting, etc.

Never extend your hand into the running transfer unit.

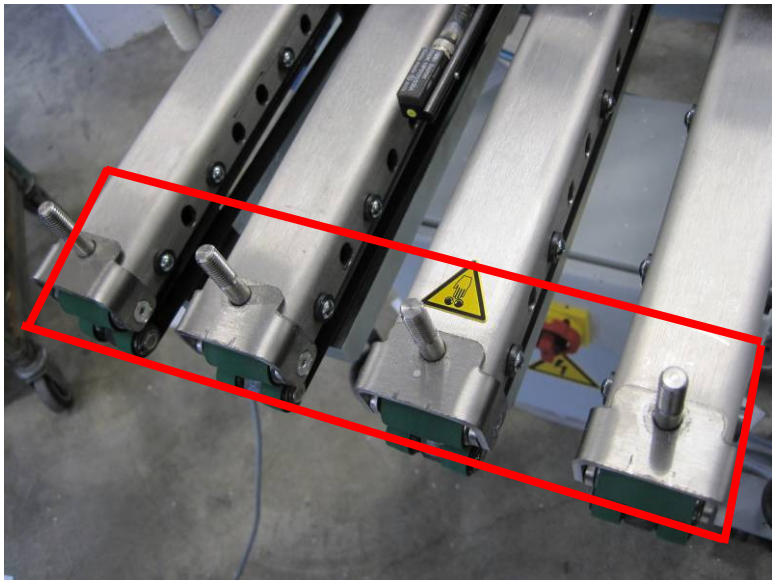


Figure 2: Hazard point 1, infeed

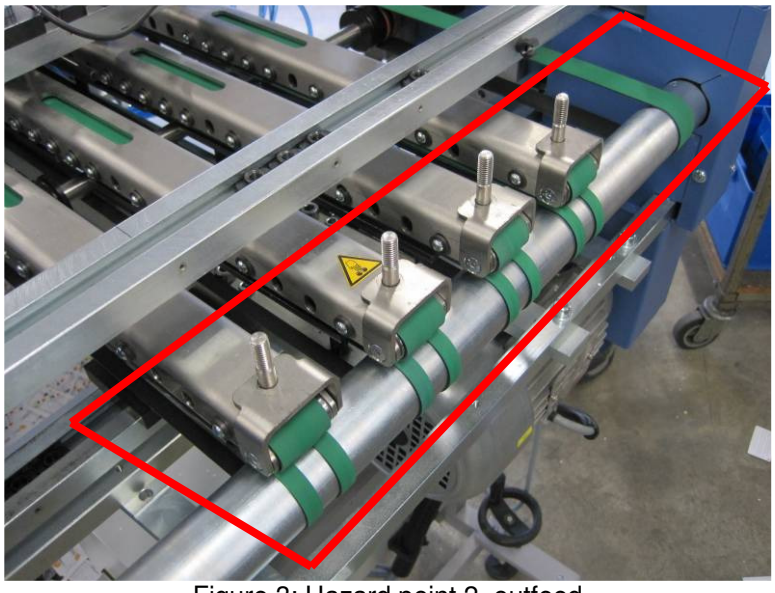


Figure 3: Hazard point 2, outfeed

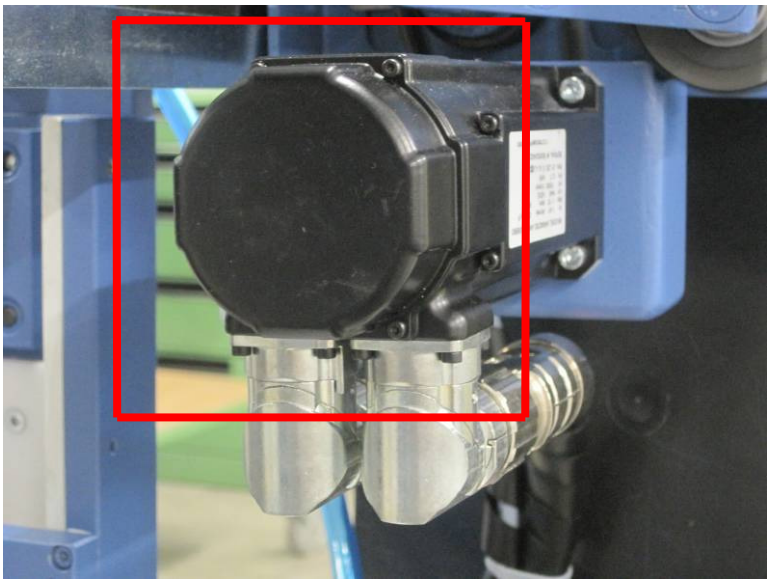


Figure 4: Hazard point 3, drive

3 Description

3.1 Intended use

- The transfer unit may only be installed on the machines listed in 3.3.
- The transfer unit is intended for the transfer and separation of paper and film.
- The transfer unit may only be operated when in perfect technical condition. Faults endangering safety must be rectified immediately by trained personnel or specialists from the manufacturer or supplier.
- The transfer unit may only be installed and operated by specially trained and authorised personnel.

3.2 Improper use

- Any use other than the transfer and separation of paper and film.
- Tampering with and modifications to the transfer unit on the customer's own authority.
- Removal of protective and safety equipment on the transfer unit.
- Operating the transfer unit without having undergone instruction or training from operating personnel.

The manufacturer/supplier shall assume no liability for any damage caused by improper use.

3.3 Fitting to machines

The transfer unit may only be fitted to the following BOGRAMA AG machine:

- BSR 550 Servo

4 Installation

4.1 Installation conditions

The following installation conditions must be satisfied for the transfer unit to be properly assembled into a machine with other parts without impacting safety and endangering the health of people.

- The transfer unit may only be installed on the machines listed in 3.3.
- The machine to which the transfer unit is fitted must be in perfect condition and be fully functional.
- All protective and safety equipment must be fully functional.
- The removal of protective and safety equipment is not permitted.
- Installation must be carried out as specified in 4.2.

4.2 Installation Instructions

1. Position and align the UEB

Figure 5: Positioned UEB

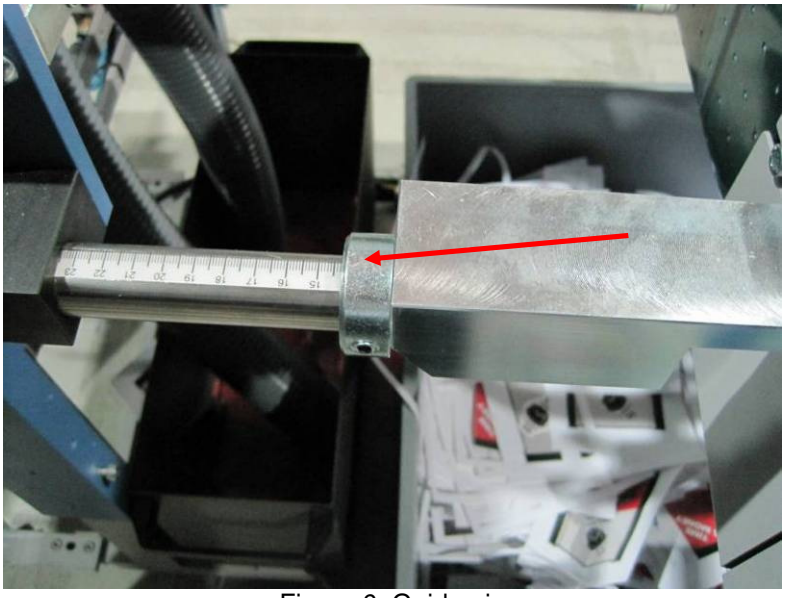


Figure 6: Guide pin

The UEB is positioned behind the BSR with 2 guide pins, attached to both sides of the UEB.

To adjust the retaining collars to the correct dimension, the UEB is pushed up to the BSR such that the belts of the UEB are just behind the outfeed belt of the BSR (Fig.7). Then the retaining collars can be fixed at this position, simplifying positioning later on.

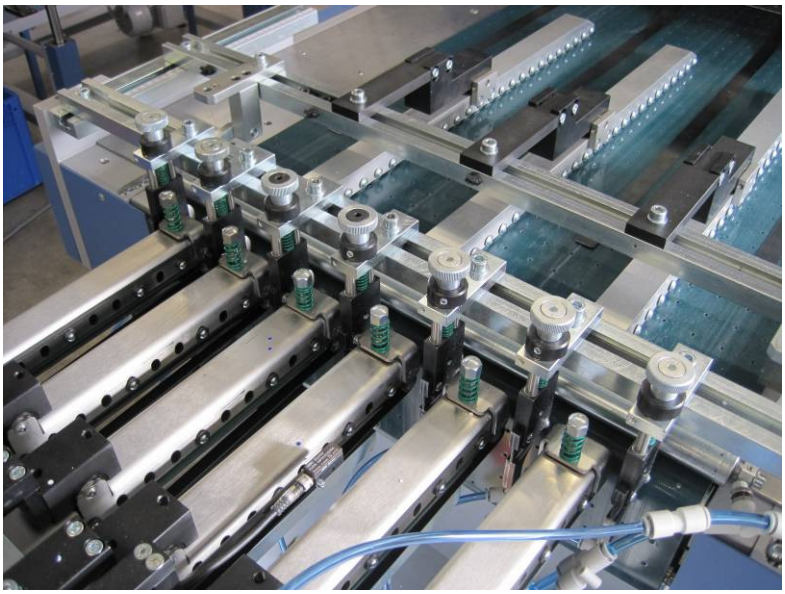


Figure 7: Positioned UEB

2. Lock the adjustment feet and wheels

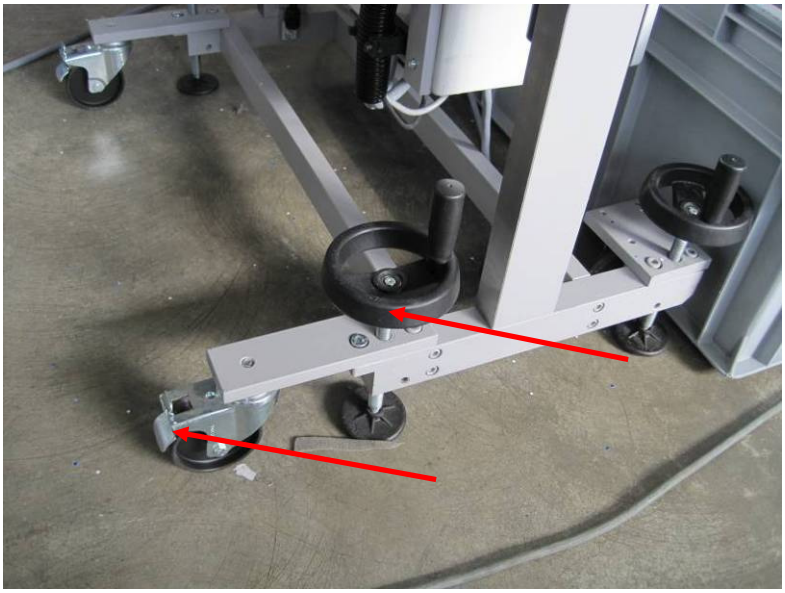


Figure 8: Adjustment feet and wheels

Once the UEB is positioned correctly, it must be attached to the floor with the adjustment feet to prevent movement. The wheels must also be secured with the locking mechanism on the wheels.

3. Connect cables

Warning!

Plugs are aloud to connect or disconnect only when the machine power is off.
Plugging or unplugging when the machine is on, can cause damages.

Figure 9: Connector plug XB110

The Varan cable is inserted into the socket provided. Ensure here that the connector is not inserted into the wrong socket (only into the socket with the UEB label).

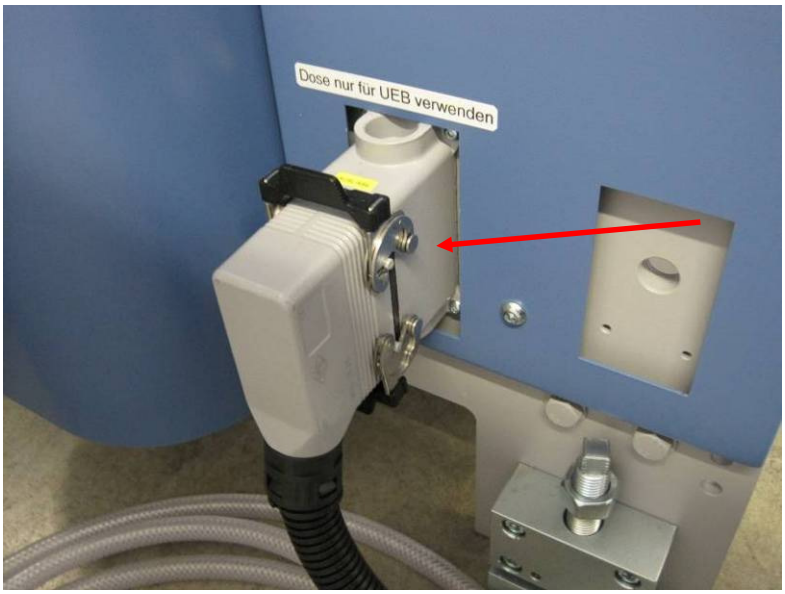


Figure 10: Connector plug XB4

The XB4 connector must be inserted into the appropriate socket on the outfeed of the BSR. The connector is coded and can therefore not be mistaken for any other BSR socket.
The connector provides power to the UEB. The belt motor is also activated via this connector.

4. Connect the compressed air supply

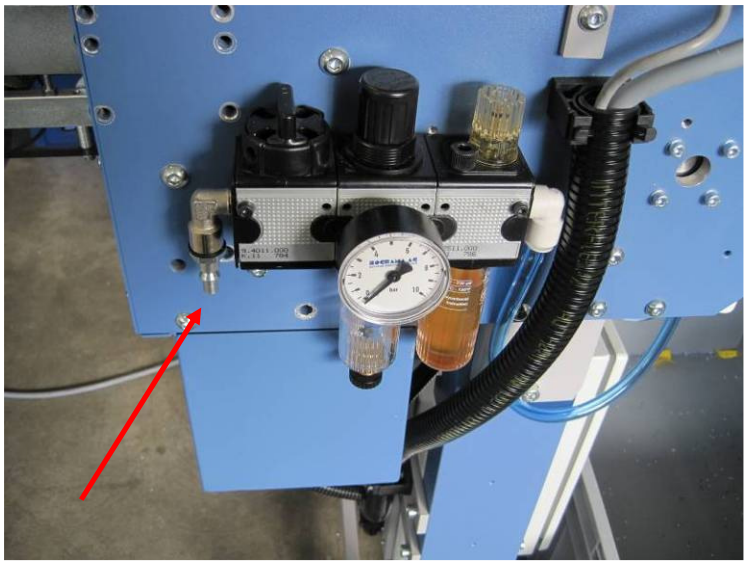


Figure 11: Air connection

The air connector must be connected at the place marked, and adherence to an operating pressure of at least 6bar is required.

4.2.1 Checklist

Use the following list to check the installation of the transfer unit.

No.	Description
1	Position and align the UEB behind the BSR.
2	Secure the adjustment feet and wheels at the required position.
3	Connect plug XB110 to the BSR.
4	Connect plug XB4 to the BSR.
5	Connect the compressed air hose to the maintenance unit.

Table 2: Installation checklist

4.3 Removal

Proceed as described in Table 3 for removal of the transfer unit.

4.3.1 Checklist

Use the following list to check removal of the transfer unit.

No.	Description
1	Plug XB110 disconnected from the BSR.
2	Plug XB4 disconnected from the BSR.
3	Disconnect the compressed air hose from the maintenance unit.
4	Adjustment feet and wheels in the drive position.
5	Remove the UEB from the BSR.

Table 3: Removal checklist

5 Operation / control

5.1 Control panel

The transfer unit is operated from the control panel of the BSR machine. Please refer to the operating instructions for the machine for information on operating the control panel and switching on the machine.

5.2 Activation and deactivation

Once the UEB has been connected to the BSR, it must be activated in the Service menu to use the functions. The Supervisor menu (only accessible with a password) is used for activation.

It must also be deactivated at this point if the BSR is operated without UEB.

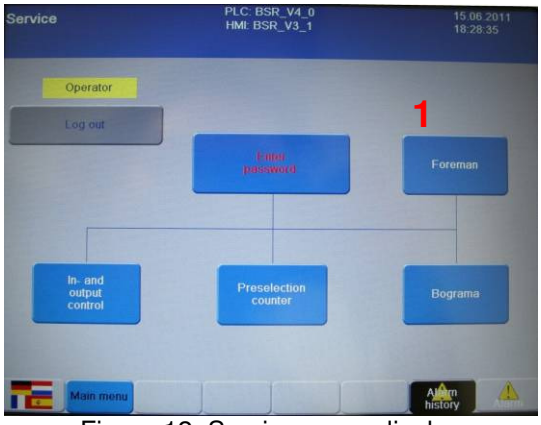


Figure 12: Service menu display

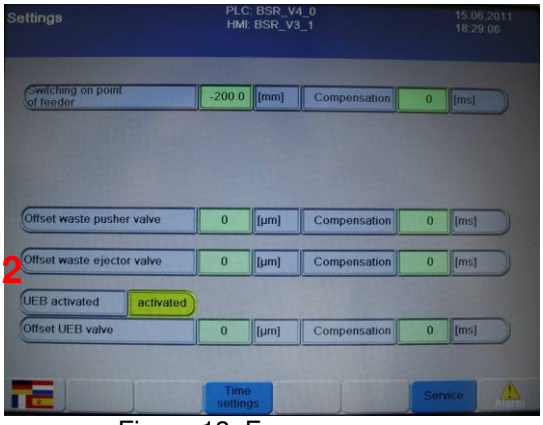


Figure 13: Foreman menu

No.	Function	Description
1	Foreman menu	Parameter menu with code request for supervisor
2	Activate/deactivate UEB	Key for activating and deactivating the UEB

Table 4: activation and deactivation

5.3 Manual mode with protective hoods closed

Danger from rotating belt drive. Failure to comply may result in serious material damage and injury.
Only carry out belt adjustments when the machine is idle.

Danger from rotating rollers. Failure to comply may result in serious material damage and injury.
Only carry out roller adjustments when the machine is idle.

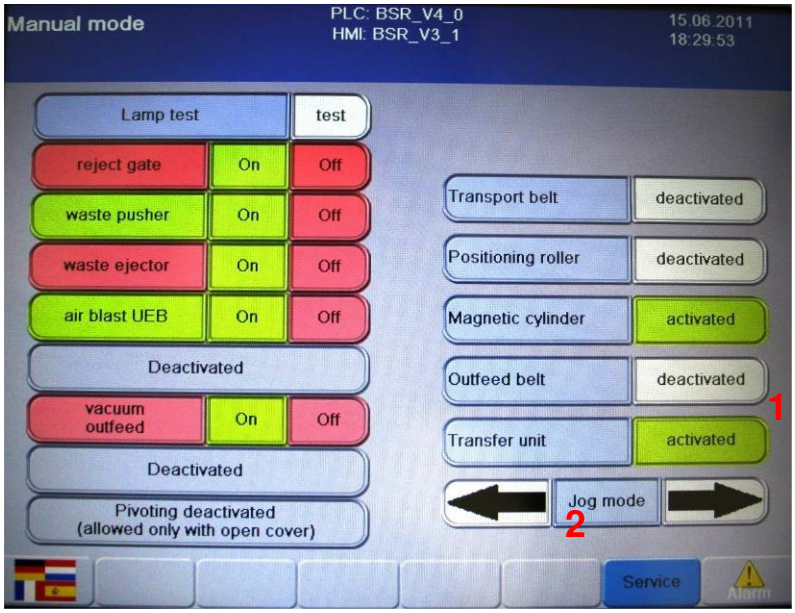


Figure 14: Manual mode display

No.	Function	Mode
1	**Transfer unit**	Activation and deactivation in manual mode
2	**Inching**	Start of the motor in the corresponding direction

Table 5: Inching in Manual mode

If the transfer unit is activated in Manual mode, this is shown clearly and the display background changes from white to green.

If the protective hoods on the BSR are closed, the motor can, as soon as it is activated, be moved in the appropriate direction with the arrow buttons in position 2. The speed is from the system specified.

5.4 Manual mode with protective hoods open (Setup)

Danger from rotating belt drive. Failure to comply may result in serious material damage and injury.
Only carry out belt adjustments when the machine is idle.

Danger from rotating rollers. Failure to comply may result in serious material damage and injury.
Only carry out roller adjustments when the machine is idle.

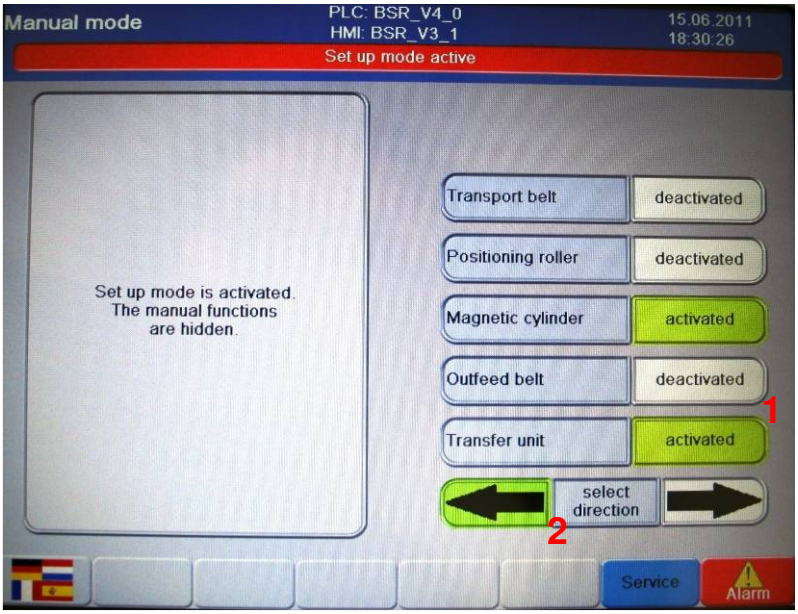


Figure 15: Manual mode display

No.	Function	Mode
1	**Transfer unit**	Activation and deactivation in Manual mode
2	**Direction preselection**	To select the direction of movement

Table 6: Direction preselection in Manual mode

If the transfer unit is activated in Manual or setup mode, this is shown clearly and the display background changes from white to green.

If the protective hoods on the BSR are open, movement can only be initiated in Setting mode using the Enable button.
The direction of movement must be preselected with one of the arrow keys. The Enable button then carries out the movement.
The speed is from the system specified.

Operating the Enable button
The Enable button is used to carry out dangerous movements in Setting mode. This is for the safety of the operator.
The Enable button has 3 positions.

The movement is stopped in position 0.


Figure 16: Position 0

The Enable button must be pressed gently to move to position 1. The operator feels resistance (Pressure point) when pressing – this is now position 1. Movements are carried out in this position.


Figure 17: Position 1

Pressing the Enable button too hard changes to position 2. This is equivalent to the Emergency Stop function and therefore stops the motors.


Figure 18: Position 2

5.5 Configuring cycle times

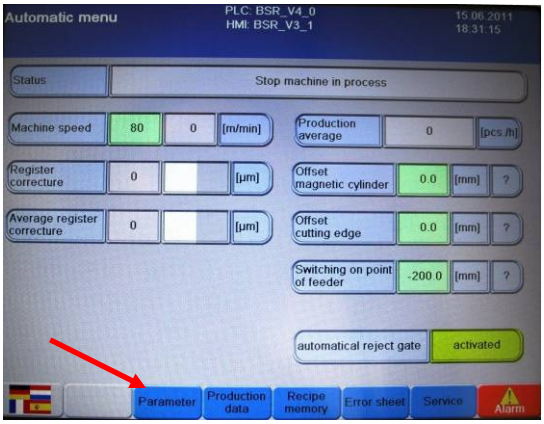


Figure 19: Automatic menu

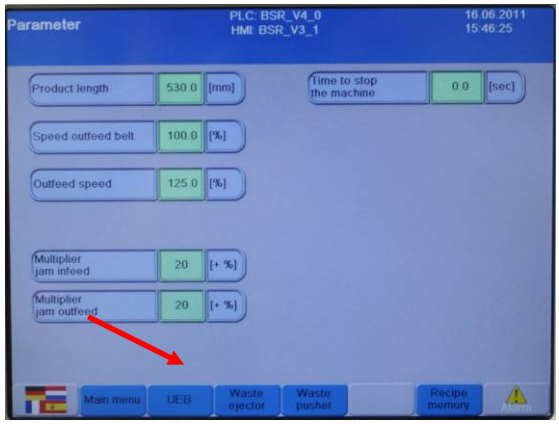


Figure 20: Parameters

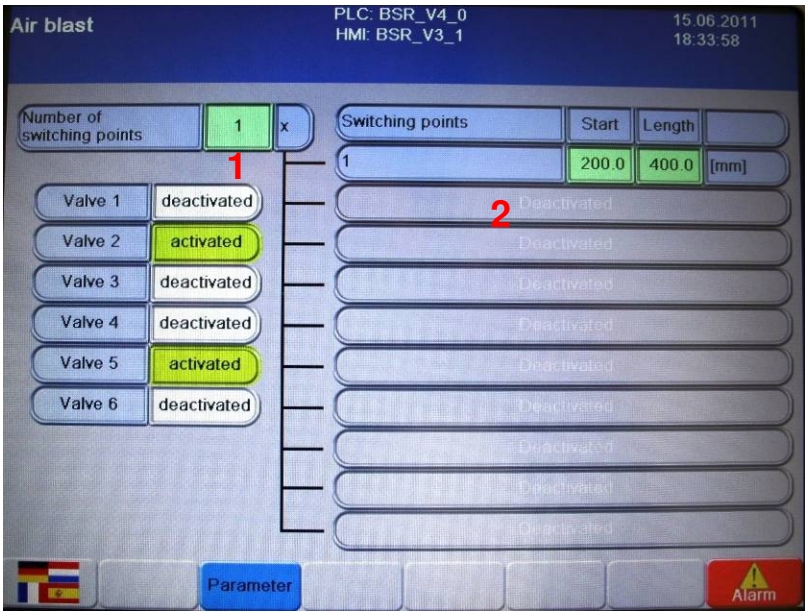


Figure 21: Cycle times for blow air

A switch must be made from the Automatic menu to the Parameter menu to set the cycle times for the blow air in the transfer unit. The button for the UEB then appears here.

The number of switching points is shown in position 1. These are freely selectable from 0 to 10 switching points.
The number of switching points entered is shown graphically (2). Only as many entry fields as entered are enabled.

The start of the 1st switching point is the front edge of the product.

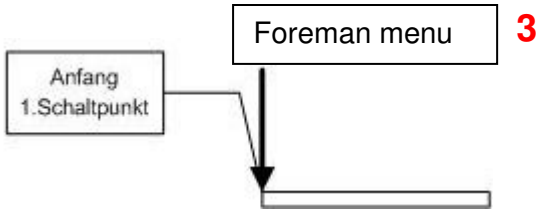


Figure 22: View of 1st start point

The zero position of the switching points is set at the factory but can be adjusted in foreman menu (3) if necessary. The zero position shifts dynamically depending on the machine speed. The control unit calculates the shift with the stated compensation time.

5.6 Faults

5.6.1 Product blockage

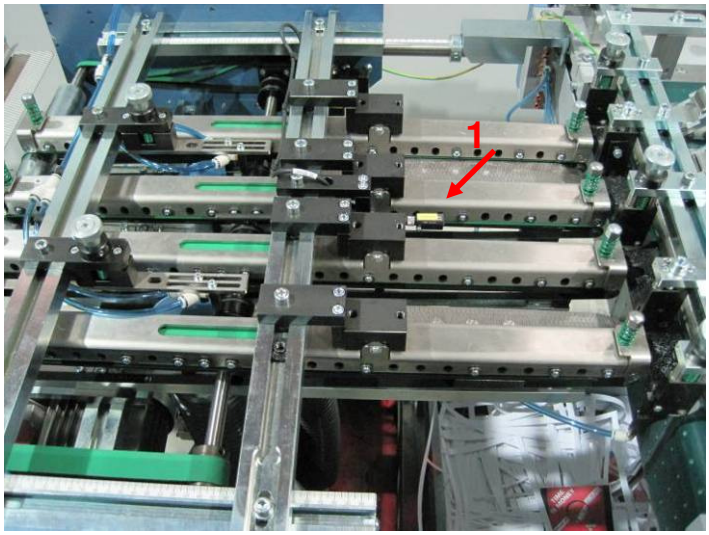


Figure 23: Blockage monitoring

The light barrier monitors the transfer unit for product blockage.
If a blockage is detected, the system is stopped and a message is displayed. The signal lamp also turns red.

5.6.2 Module fault

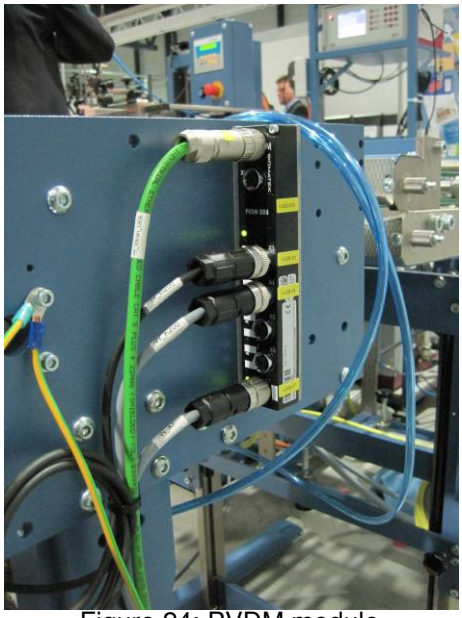
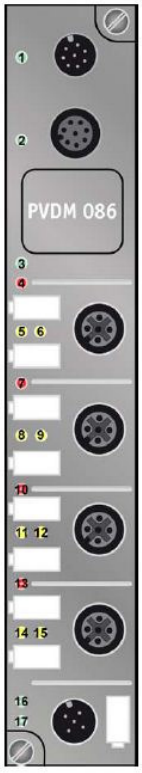


Figure 24: PVDM module

Status LEDs



LED No.	Color	Function
1	green	VARAN IN Link
	yellow	VARAN IN ACTIVE
2	green	VARAN OUT Link
	yellow	VARAN OUT ACTIVE
3	green	Total Diagnosis STATUS OK
	red	Total Diagnosis STATUS ERROR
4	red	Short circuit in the supply of I/Os 7+8
5	yellow	I/O 8 active
6	yellow	I/O 7 active
7	red	Short circuit in the supply of 5+6
8	yellow	I/O 6 active
9	yellow	I/O 5 active
10	red	Short circuit in the supply of 3+4
11	yellow	I/O 4 active
12	yellow	I/O 3 active
13	red	Short circuit in the supply of 1+2
14	yellow	I/O 2 active
15	yellow	I/O 1 active
16	green	+24 V DC
17	green	+24 V DC I/O supply

Figure 25: LED status

In the event of a fault occurring in a bus module element, the system is stopped and a message is shown on the display. The signal lamp also turns red.

6 Pneumatics diagram

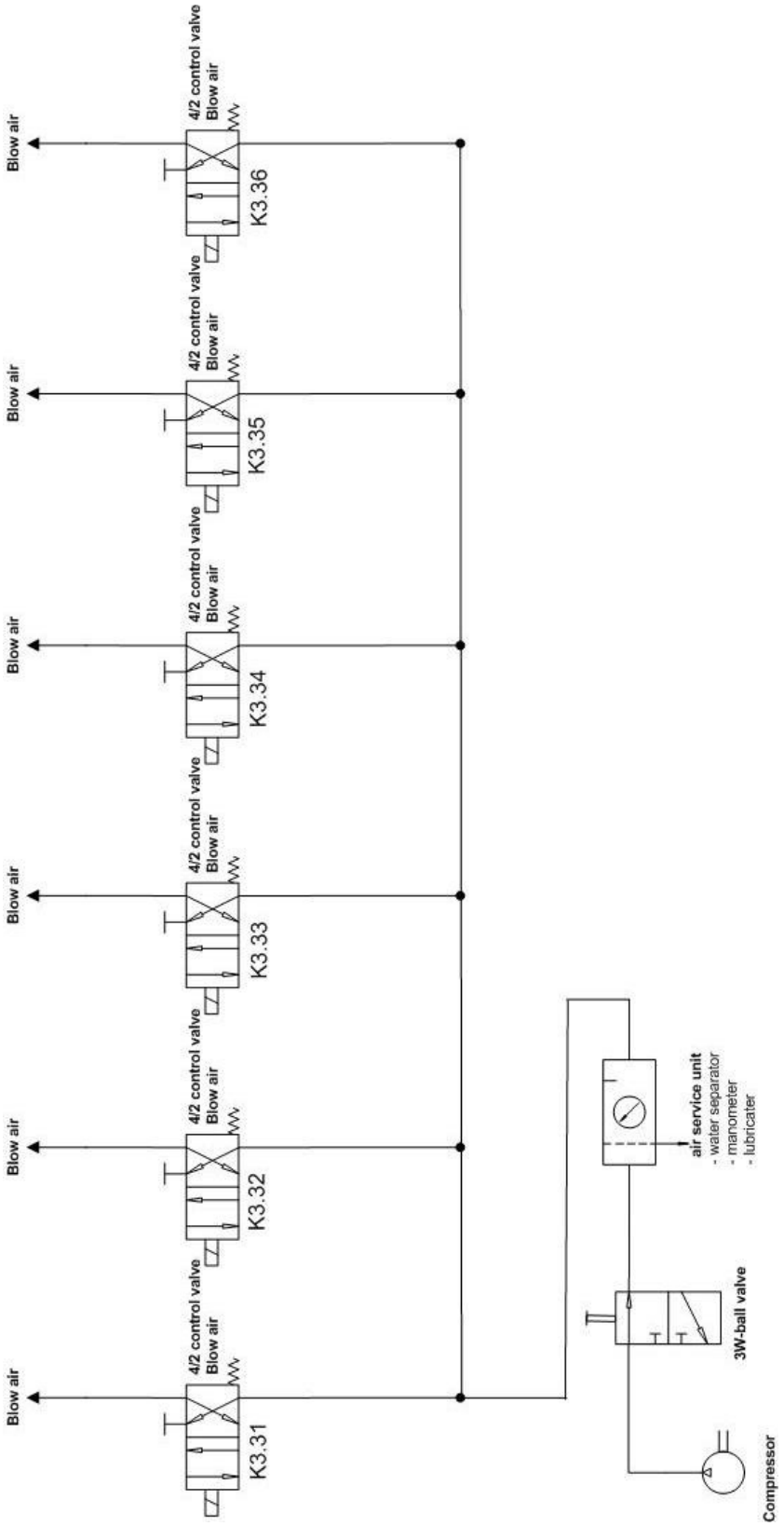


Figure 26: Pneumatics diagram of transfer unit

BOGRAMA AG

Bochsler Grafische Maschinen

OPERATING INSTRUCTIONS

Transfer Unit

with Stripping Station

UEB 550/750

Table of Contents

Machine Transport, Installation and Maintenance

Transport

The machine is shipped completely assembled.
Loose parts (tools, operating tools and other accessory parts) are packed separately. Look through packing materials!

Installation

To bring the machine to its intended location, the machine can simply be moved thanks to its rolling subframe. The machine is fixed in place and aligned at its location with the positioning feet.
The electrical connection is designed for a voltage of 230 volts.
The connection cable (approx. 16 ft/5 m) with a grounding plug is mounted on the switchbox.

Maintenance

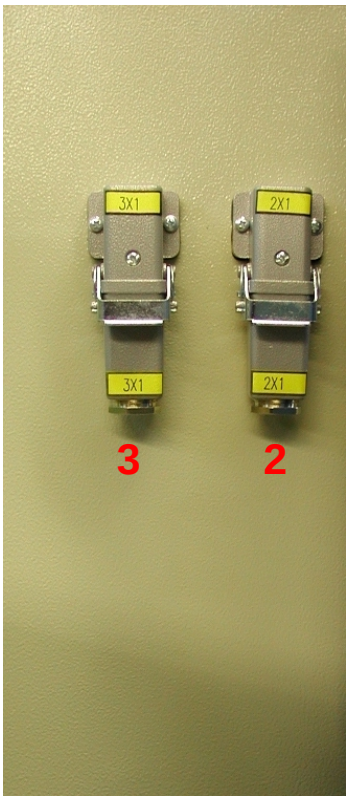
There are no special lubricating specifications, as all bearing points are equipped with closed bearings with long-term lubrication.

The pneumatic conditioning unit is filled with oil when the machine is delivered. Check the oil level occasionally and add oil as required. Also check the water separator on the conditioning unit and drain off the condensed water if necessary.
Operating pressure: 87 psi/6 bar

Consumable Materials

Oil for the pneumatic conditioning unit: **ISO VG68, CGLP68**

UEB 550/750 Connections



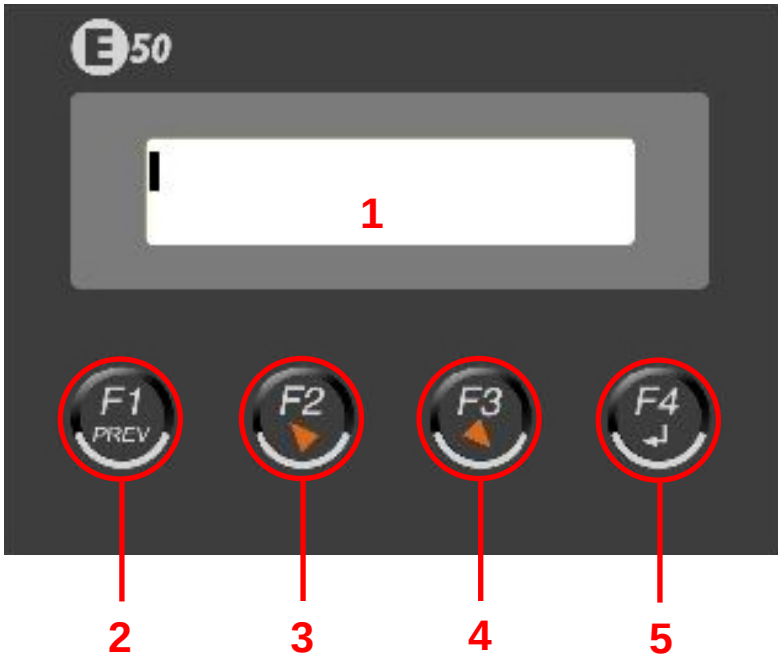
No.	Function
1	Main switch ON/OFF
2	Release to upstream machine
3	Release from downstream machine

MAC 50 Program Control

No.	Function
1	Display of MAC E50
2	STOP belt drive
3	START belt drive
4	Photoelectric barrier ON/OFF
5	Limit stop (manual triggering)
6	Blowing air (manual triggering)
7	Single stroke (manual triggering)
8	Belt speed

UEB 550/750 Control Panel

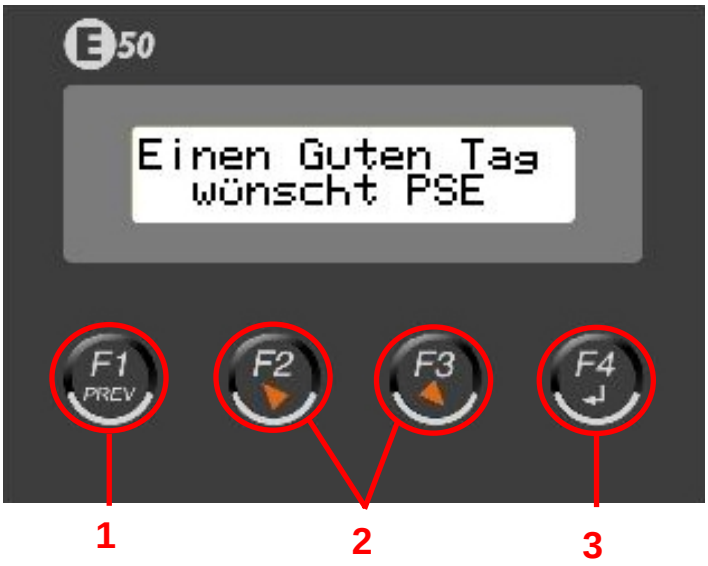
Display of MAC E50



No.	Designation	Function
1	Display	
2	Function button	Section of the desired function
3	Numeric value entry plus	Increasing numeric value entry
4	Numeric value entry minus	Decreasing numeric value entry
5	Enter button	Confirmation button

MAC E50 – Program Control Setup

Switch on machine: Main switch ON.



Pressing the F1 button (1) repeatedly accesses the desired function for entering the times. With the buttons F2 and F3 (2) the times are specified and then confirmed and saved with the Enter button (3).

Stroke Valve DT (Delay Time) 0.00 sec.	**Delay time** from detection of the sheet via the light sensor to triggering of the stroke. 0.00 to... sec	**Stroke Valve OT** (Operate Time) 0.00 sec	**Operate time** is how long the stroke is extended until it returns. 0.00 to..... sec
Blowing Air DT (Delay Time) 0.00 sec.	**Delay time** from detection of the sheet via the light sensor to the start of the blowing air 0.00 to ... sec.	**Blowing Air OT** (Operate Time) 0.00 sec.	**Operate time** of the blowing air until the section drops down 0.00 to ..... sec
End Stop DT (Delay Time) 0.00 sec.	**Delay time** of the back stops to stopping of the sheet. 0.00 to ... sec.	**End Stop OT** (Operate Time) 0.00 sec.	**Operate time** of the back stops until the sheet is released. 0.00 to ... sec.
Monitoring Time 0.00 sec	**Delay time** until the belt drive is switched off in case of sheet backup via the light sensor 0.00 to ..... sec		

Paper Backup

Belt operation is automatically stopped if a paper backup occurs. The products are removed by hand and the error message is confirmed with a button from F1 to F4.
Now belt operation can be restarted and production can be resumed.

Cycle Control via Photocell

The cycle control of the machine is carried out by the photocell located before the folding station, which detects each individual product.
All required functions are triggered via the photocell.

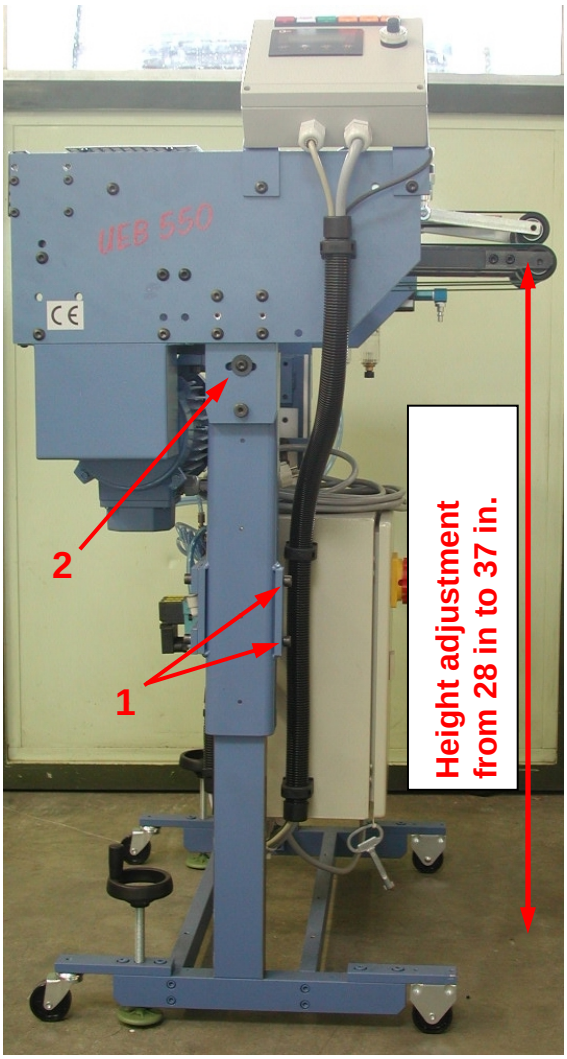
All required time settings must be determined for the corresponding format sizes by the user. The photocell is mounted approximately 20 mm behind the product edge, which switches off the controller as quickly as possible in case of a sheet backup. The correct time values are achieved when the next sheet has run up to approx. 2 – 3 in (5 – 8 cm) onto the sheet lying in the transfer station in the continuous operating process.
(For times, see Program Control Setup on Page 7)

> It is advisable to transfer the determined data for each product to the included data sheets and to file the sheets in a binder. This enables the optimum data for each order to be quickly reproduced in each case. (Page 14 – Appendix)

Monitoring:
As the photocell is simultaneously used for sheet backup monitoring, the photocell should be set to the maximum value during setup. With a time value which is less than the stroke-valve delay time, a belt drive switch-off would otherwise take place.
Following setup, the monitoring time can be reduced to the minimum value again.

If the machine is switched on again following a belt standstill, then it must be ensured that no products are lying on the belt feed between the photocell and the upstream machine.

Height Adjustment of UEB 550/750



The height adjustment is designed so that it can be adjusted to various paper infeed heights from 700 mm to 950 mm. After the clamping screws (1) on the support legs are loosened on both sides, the transfer can be adjusted to the required infeed height. Firmly retighten the clamping screws.

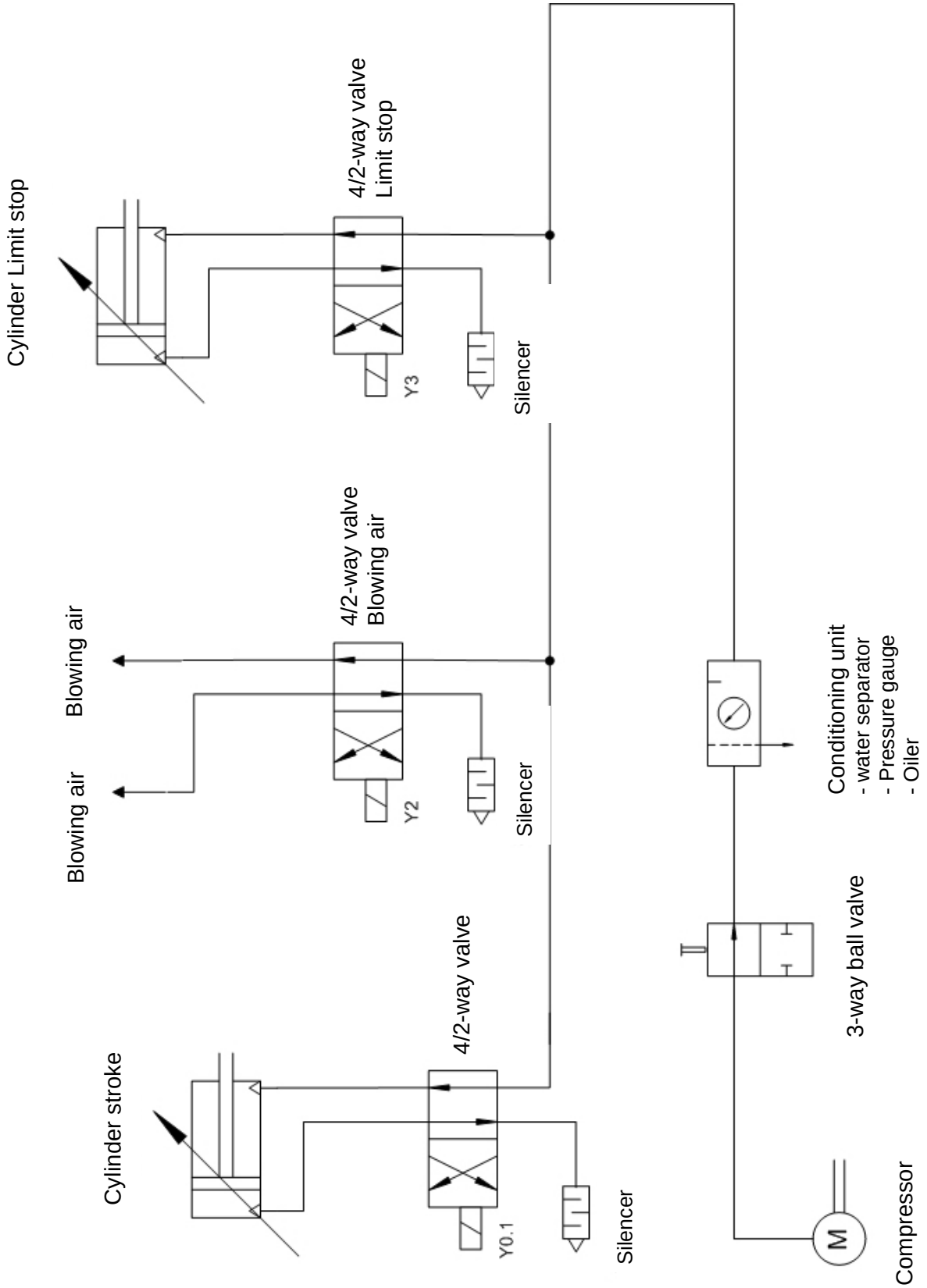
To overcome height differences between the upstream machine and the downstream machine, the transfer unit can be tilted by 15°. After the clamping screw (2) is loosened on both sides, the transfer unit can be tilted into the correct position.

If the transport belts must be replaced due to wear, then the new transport belts must be welded in with a pair of welding pliers.

For the transport belt size, see Page 13, Spare Parts.

Pneumatic Diagram

The maximum air consumption of the UEB 550/750 is **9,000 strokes/hour**, **123 cu ft (3,500 liters)/hour** with blowing air at an operating pressure of **87 psi (6 bar)**.



Operating Tools

The following operating tools are supplied with the machine: (1 each)

Screwdriver	No. 1
T-handle Allen wrench:	6 mm

Spare Parts

(UEB 550/750 Transfer Unit)

Belt drive motor:		GST 04-1M-VCK / 071-32 0.37 kW / 240/415 V / 50/60 Hz
Frequency converter:		FR-S 520S 0-4k – EC
Photocell:		FHDK 10P5101S35A with cable box ESG32AH0200
PLC controller:		FX1S – 14MT-DSS
Operating device:		MAC E50
Drive belt:	Drive – Shaft	0.16 in dia. x 21 in (4 mm dia. x 545 mm)
	Shaft – Shaft	0.16 in dia. x 15 in (4 mm dia. x 385 mm)
Pneumatic system:	Conditioning unit	KWE-215-1/4 Kombi-We
	Shut-off valve	FKH-210-1/4 3-W.-Fl
	MAC valve	46-SC1-JDA0-1KA
	"H" guide unit	0 821 401 295
	Cylinder	CD85N16-10C-B
Conveyor belts:		
Round belt	Bottom	0.16 in dia. x 53 in (4 mm dia. x 1,355 mm)
Round belt	Top	0.16 in dia. x 53 in (4 mm dia. x 1,355 mm)
Flat belt	Bottom	1 x 50 in (25 x 1,270 mm) MAM-04H
Flat belt	Top	1 x 50 in (25 x 1,270 mm) MAM-04H

Special Accessories (only on customer request)

Round-belt welding device:	Guide pliers	Model FZ – 01
	Braze welding iron	Model FZ – 70
Conveyor-belt welding device:	Cutting shears	Model AQ – 40
	Welding press	Model PQ – 52
	Cooling pliers	Model DE – 60
	Guide rail	Model FS – 1 in/25 mm - 0.8 in/20 mm - 0.6 in/15 mm - 0.5 in/12 mm - 0.4 in/10 mm

(depending on belt width)

Data Sheet for Time Values

Stroke Valve Delay	**Stroke Valve** Operate Time
Blowing Air Delay	**Blowing Air** Operate Time
Limit Stop Delay	**Limit Stop** Operate Time
Monitoring Time Delay	

Customer.....

Product….....

Format Size…….....

Usable Size.……..... x

Section…….....mm Parting cut…….....

Other…….....