AGA-2300/ST

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Translation of the original manual.

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1. INTRODUCTION

This manual explains the operation and use of the AGA-2300 / ST automatic curtain cutting machine (slanted table) to the user. Read this manual carefully, especially chapter 2 - which is vital for guaranteeing the user's safety.
To understand the manual correctly and to operate the machine safely, we recommend special machine training by Eisenkolb or an experienced user. Always observe the safety requirements.
It is expected from personnel working with the AGA-2300 / ST to have sufficiently mastered the operating instructions and to be aware of possible hazards and risks.
The user must immediately report any failures in the machine to the supplier.

1.1 PURPOSE OF THE MACHINE

The AGA-2300 / ST curtain cutting machine is designed to automatically cut off curtain fabric and curtain lining at separate lengths. In addition, the machine is equipped with tools for applying fleece tape to the curtain and easily folding and fixating pleat tape.
It is also possible to use the machine only for cutting curtain fabric to size, so without adding lining and tape.
In most cases the sizes and working range of the machine are geared to the size of the workshop.

The operator must insert both fabrics (curtain fabric and lining) with the lower seam in the insertion beam. For this purpose, the working height can be adjusted to the operator's wishes.
As soon as the required curtain sizes have been entered and the machine has been started, both insertion beams will automatically be lifted to the proper height, after which the curtain and lining will be cut to the proper length at the bottom of the machine.
Then the work table will fold up automatically, so the operator can apply self-adhesive fleece tape to the curtain by using an uncoiler. The position of the lining compared to the curtain fabric is adjustable by using the menu-controlled control panel for folding the tape quickly and efficiently. Then it can be fixated by using 'spurs'.
The computer-controlled operating program enables the setting of each required fabric length (within the max. capacity). The machine features menu-controlled operation, which makes it very user-friendly.

The AGA-2300 / ST is developed for processing 4" pleat tape.

1.2 DOCUMENTS

This manual is based on the latest product information available at the time of publication. Eisenkolb reserves the right to make changes in their documentation at any time with no obligation to modify previous publications.
Keep this manual in a safe place for future use.

1.3 TEXTUAL CONVENTIONS

The following expressions are used to emphasize certain parts of the text:

TIP

Suggestions and recommendations to facilitate certain tasks.

ATTENTION

This comment points out possible problems to the user.

CAUTION

Failure to carefully follow the procedures may result in damage to the equipment.

WARNING

Failure to carefully follow the procedures may result in the operator injuring himself or others or seriously damaging the equipment.

1.4 USE OF SIGNS

Listings of various possibilities are indicated as follows in this manual:

- Possibility-1
- Possibility-2
- ...

Activities to be carried out are indicated as follows in this manual:

- Step 1
- Step 2
- ...

2. SAFETY

The AGA-2300 / ST was developed for easy and efficient use.
However, read this manual carefully and act accordingly.
Everybody working on or in the immediate vicinity of the equipment must be acquainted with these instructions.
In addition to the instructions in this manual, always observe the applicable safety requirements and provisions.

2.1 PICTOGRAMS AND GENERAL SAFETY INSTRUCTIONS

The pictograms and safety requirements below are important for using the ATS-2300 / ST.

	Keep limbs, hair and loose clothing out of the immediate vicinity of the cutter. Be careful, the edges of the steel lifting straps are sharp!
	Electrical voltage!
	General warning symbol.
	Watch out for moring parts (danger of entrapment)!
	Attention: heavy load at height.
	Respect the environment: Discard oils (hydraulics, drive motors) and redundant machine parts in accordance with local regulations.

Also observe the following points:

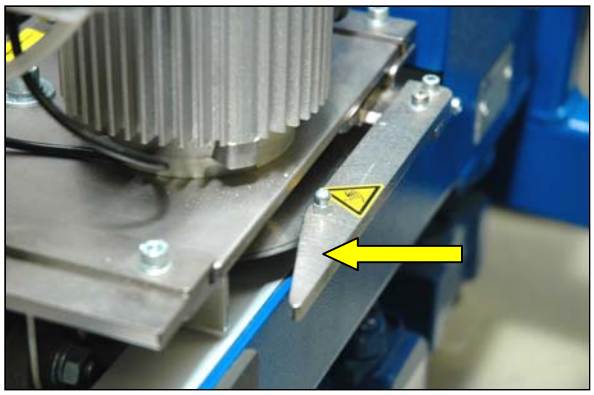
- Make sure that the work area is clean and well-lit.
- Keep the control boxes closed during normal use.
- Only use original parts.
- Carry out quality maintenance work regularly. Consult the instructions in chapter 7.

2.2 EQUIPMENT SAFETY DEVICES

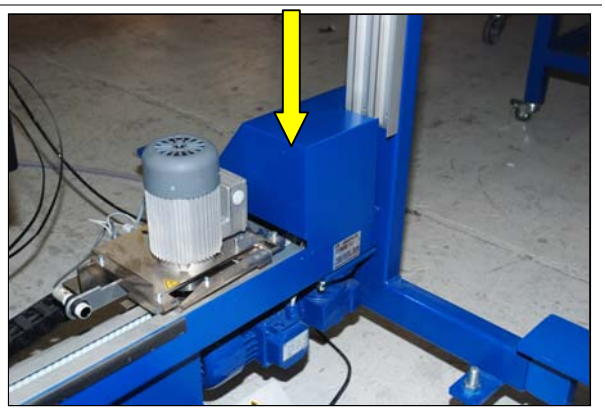
The AGA-2300 / ST is equipped with safety devices, as shown in the close-ups below:

- Emergency stop button on the control box. If this button is pressed, all motor-driven movements will be stopped immediately.
  In addition, the fabric clamp will be opened.

- Cutter protection.



- Fixed plates around the drive unit for movement of the cutting head.



2.3 SAFETY LABELS

In the table below the location of the various labels is shown (also see section 2.1):

WARNING

Replace the labels in case of damage or loss.

Position:

- On both insertion beams.

Position:

- On the fabric clamp.

Position:

- On the cutter protection.

Position:

- On all electric motors.

2.4 SPECIAL POINTS OF INTEREST

WARNING

To avoid starting the machine accidentally when touching one of the buttons on the touchscreen, switch off the machine under the following circumstances:

- If the machine is not used.
- If the machine is left unattended.
- If a malfunction occurs.
- If strange noises or smells are detected.

WARNING

The work table is set to the required height by a closed hydraulic system. Make sure that the hoses do not get caught and pulled out of the couplings (Figure 1).
This will result in splashing oil and damage to the machine.

Figure 1 Be careful with the hydraulic hoses!

2.5 SPECIFIC USE OF THE MACHINE

- The AGA-2300 / ST is developed for cutting curtain fabric and preparing pleat tapes. For other applications, please contact Eisenkolb.
- Only switch on the machine if all safety devices are in place and OK, as described in section 2.2 and 2.3.
- Carry out quality maintenance regularly, as described in chapter 7.
- Only qualified personnel is allowed to carry out maintenance and repair work on the pneumatic and electric control section.
- Only qualified personnel is allowed to carry out maintenance and repair work on the hydraulic height system.
- Keep the machine free from contamination such as fabric remnants, needles, scissors etc.
- Never insert curtain fabric in the machine if needles or pins are still present in the fabric. Cutting may cause them to break or fly off. Furthermore, it may damage the cutter.
- If the control box must be opened for repairs, first always remove the connector from the socket and then wait at least 5 minutes!
- The system components should only be applied in the combination described in this manual.
- Always replace the cutter immediately when it has been damaged and cannot cut the fabric properly anymore.

2.6 DISSUASIONS

- Do not use the machine for activities other than those described in this manual. The linked movements can cause dangerous situations.
- Do not use damaged or blunt cutters.
- When the machine is in use, persons other than the operator should stay out of the immediate vicinity of the moving parts, because of the entanglement hazard.
- Do not place unnecessary obstacles or tools on the machine.
- Never grab in the operating machine!
- Do not cover the motors or control box; covering the ventilation slots may lead to overheating!
- Mechanical operations on the system, such as drilling holes or welding components, may cause damage to the equipment.
- The machine is grounded. Do not remove this ground connection!
- Do not use the machine in the immediate vicinity of volatile or highly inflammable materials such as petrol or solvents, sprays, pure oxygen etc.
- Do not use the machine in the immediate vicinity of high-frequency welding equipment or other interference sources.
- Never work on the hydraulically-operated ergonomic system yourself. Do not remove any of the hoses!

2.7 SOUND LEVEL

The following noise measurements were carried out for this machine:

- Distance : 0.5 m.
- Height : approx. 1 m 50 from the floor.
- Equipment : Brüel & Kjaer, type 2219
- Controls : Cutting mode with regular curtain fabric
- Sound level : 74 dB(A)

2.8 CE MARKING

The AGA-2300 / ST complies with the EC directive for machine safety.
The CE declaration is shown in Figure 2.

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Verklaring van overeenstemming	Eisenkolb B.V. verklaart hierbij dat de AGA-2300 / ST geconstrueerd, geproduceerd en getest werd in overeenstemming met onderstaande normen en daarom voldoet aan de CE-norm die is vastgelegd in de Machinerichtlijn 2006/42/EG.
Manufacturer's declaration	Eisenkolb B.V. hereby declares that the AGA-2300 / ST was constructed, produced and tested in accordance with the standards below and therefore complies with the CE standard established in the Machinery Directive 2006/42/EC.
Übereinstimmungserklärung	Eisenkolb B.V. erklärt hiermit, dass der AGA-2300 / ST in Übereinstimmung mit den unten stehenden Normen konstruiert, hergestellt und getestet wurde und daher der in der Maschinenrichtlinie 2006/42/EG festgelegten CE-Norm entspricht.
Certificat de conformité	Eisenkolb B.V. affirme par la présente que l'AGA-2300 / ST a été construite, produite et testée conformément les normes ci-dessous et qu'elle répond ainsi à la norme CE définie dans la Directive pour Machines 2006/42/CE.
Certificado de conformidad	Eisenkolb B.V. declara por la presente que la máquina AGA-2300 / ST fue construida, producida y verificada en conformidad con las siguientes normas y por eso cumple con la norma CE establecida en la Directiva de Máquinas 2006/42/CE.
Dichiarazione di accordo	Eisenkolb B.V. dichiara che l'AGA-2300 / ST è stata progettata, prodotta e collaudata in conformità con le norme qui presenti e dunque risponde alla normativa CE prevista dalla Direttiva Macchine 2006/42/EG.

EN 894-1, EN 953, EN 954-1, EN 983, EN 1037, EN-ISO 11111, EN-ISO 12100-1 & -2, EN 13850, EN 13857, EN-ISO 14121-1, EN-IEC 60204-1, EN 60304, EN-IEC 61000-6-2, EN-IEC 61000-6-4.

G.J. Eisenkolb. Managing Director of Eisenkolb B.V.

Bladel, 25-05-2010

Figure 2 CE declaration

3. TECHNICAL SPECIFICATIONS

The AGA-2300 / ST has the following technical specifications:

ASPECT	SPECIFICATION
Machine width	Customer-specific
Machine depth	1,000 mm
Machine height	Customer-specific
Weight	Depending on construction size
Electrical connection	200-240 V, 50/60 Hz (1 phase) + neutral + PE Max. power consumption 1.2 kW
Cutter capacity	180 W
Cutter movement capacity	180 W
Lifting motor capacity	550 W each
Compressed air connection	Operating pressure: 5 Bar (0.5 MPa) Min. supply pressure: 6 Bar (condition: according to ISO 8573, category 2)
Insertion possibilities for curtain fabric	• Mechanical clamps (insertion beam 1) • Rail for lower seam insertion (both insertion beams)
Pleat tape	4", single or double seam
Fleece tape	4", self-adhesive with back tape, adhesive part on the outside of the roll Max. roll diameter
Sizes on touchscreen	[cm] or [inch]

4. SYSTEM DESCRIPTION

4.1 OVERVIEW

The AGA-2300 / ST automatic curtain cutting machine is a modular available system that is geared to the available space in the workshop in terms of dimensions and working range.

Figure 3 shows the main components of the AGA-2300 / ST and its functionality is shown in two views.

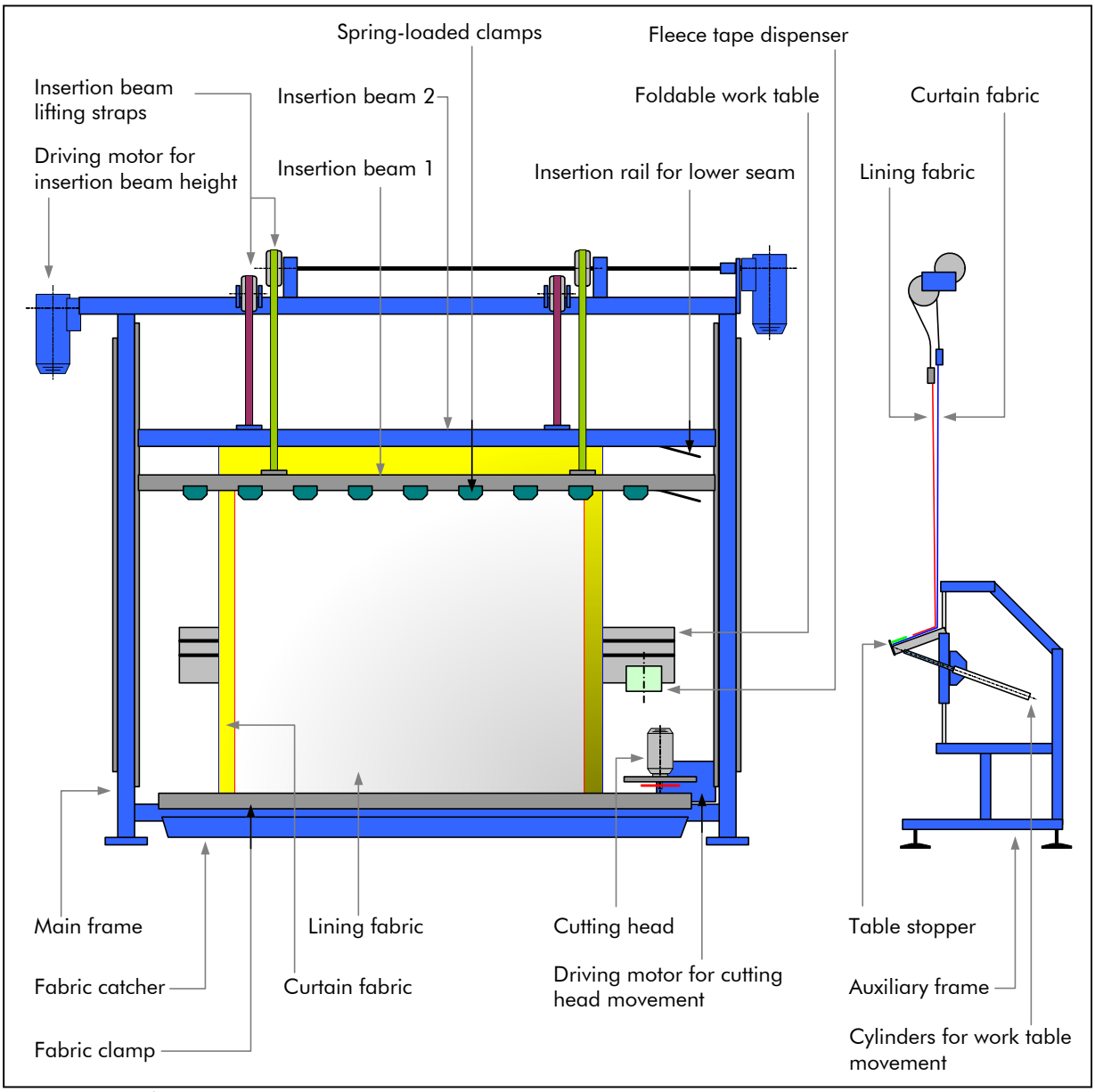


Figure 3 AGA-2300 / ST main components

4.2 MECHANICAL STRUCTURE AND OPERATION

4.2.1 FRAMES AND INSERTION BEAMS

The AGA-2300 / ST is constructed around an upright frame which is (generally) permanently mounted to the floor in the workshop.

Within the framework two horizontal insertion beams are mounted, which are both suspended from their own set of steel straps. These 'lifting straps' are driven by electric motors and can adjust the insertion beams independently to any height.
Insertion beam 1 is used for the curtain lining and beam 2 is used for the curtain fabric.
The following heights apply for each curtain:

- Insertion height: to slide the curtain easily and ergonomically into the machine.
- Cutting height: to cut the fabrics at the proper height set on the touchscreen.
- Finishing height: to put both fabrics on the folded work table so the pleat tape can be easily shaped.

All required settings will be explained in more detail in this manual.
The insertion beams are equipped with insertion rails in which the curtain and lining are put with the lower seam. This means that both fabrics are placed upside down in the machine.

Figure 4 Spring-loaded fabric clamps

A number of spring-loaded clamps are mounted on insertion beam 1 (Figure 4). They can be used for inserting and cutting a curtain to size.

4.2.2 CUTTING SECTION

A pneumatically-controlled fabric clamp is mounted at the bottom of the framework. It clamps both fabrics together at the bottom (the pleat tape side of the curtain) across the entire width, as soon as the insertion beams have lifted the fabrics to cutting height.
Above the fabric clamp a cutter unit with transport carriage is placed. This unit moves along the fabrics across the entire width and cuts them at the required height. The excess fabric drops in the fabric catcher (Figure 5).
Both fabrics are tensioned vertically between the insertion beams and the fabric clamp (the fabric tension for both lining and curtain can be set independently according to the user's wishes by using the control panel).

Figure 5 Fabric clamp, fabric catcher and cutter carriage

Two cutting speeds are available on the control panel for the cutting movement, so most of the fabrics can be processed without any problems (cutter rotation speed is the same for both cutting speeds). Speed 2 is approx. 50% higher than speed 1.

Figure 6 Cutting the fabric panels

4.2.3 WORK TABLE WITH FLEECE TAPE DISPENSER

The AGA-2300 / ST can be used to put self-adhesive fleece tape on the curtain pleat tape. After applying the fleece tape, the operator must fold the curtain once or twice and fixate the shaped tape temporarily. The user must determine whether and to what extent the lining is folded with the pleat tape.
A foldable work table on an auxiliary frame can be used as a tool. After both fabrics have been cut to length and lifted to the proper height, this table will rotate upwards. The curtain fabric hangs exactly against the table stopper and the lining is removed far enough so it can be folded at the required size with the pleat tape.

Figure 7 Work table in rest position

The work table has two long openings with brushes which are positioned correctly to fold 4" pleat tapes singly or doubly and fixate them with spurs.
Table height and working angle can be adjusted to carry out work as ergonomically as possible, as described in detail in section 4.3.

A fleece tape dispenser is mounted to the right side of the work table. A roll of self-adhesive fleece tape can be placed on the dispenser. The operator must unwind the tape while shaping the pleat tape.

The tape will be placed at the end of the curtain and the back tape will be wound on an auxiliary roll.

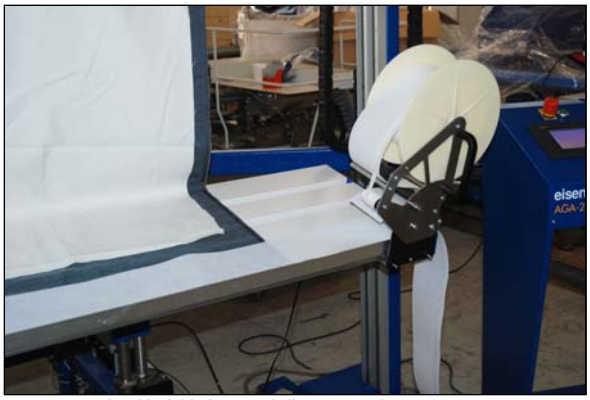


Figure 8 Work table folded up, with fleece tape dispenser

The pre-folded pleat tape must be temporarily fixated with spurs such as MicroFastener, see Figure 9.

Figure 9 Example of pleat tape fixation

4.3 ERGONOMIC WORKING POSITION

4.3.1 GENERAL

The AGA-2300 / ST has a number of facilities which make it user-friendly for the operator. They are:

- Adjustable insertion height, see section 4.3.2;
- Adjustable work table height, see section 4.3.3;
- Mechanically convertable tilting angle of the work table, see section 4.3.4;

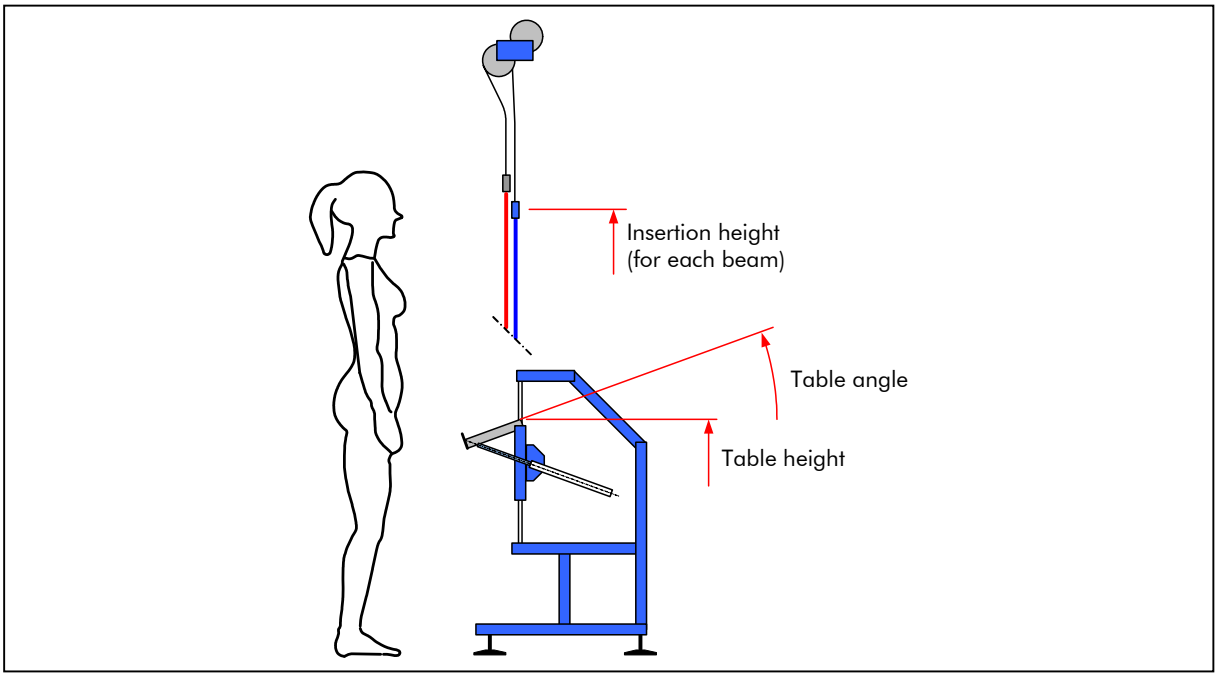
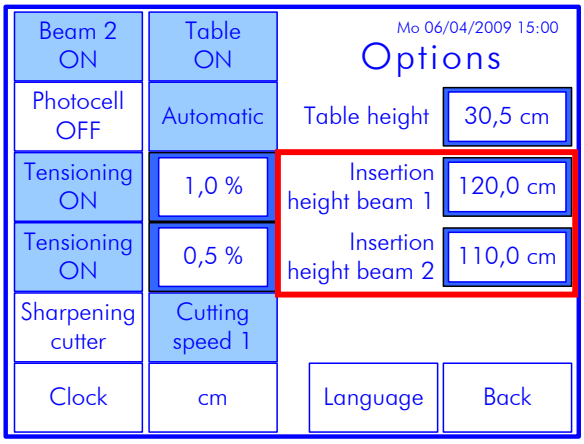


Figure 10 Ergonomic settings

4.3.2 ADJUSTABLE INSERTION HEIGHT

The insertion height for the fabrics can be set on the touchscreen for both insertion beams. Each operator can modify these settings quickly and easily.
The procedure is described in section 6.2.

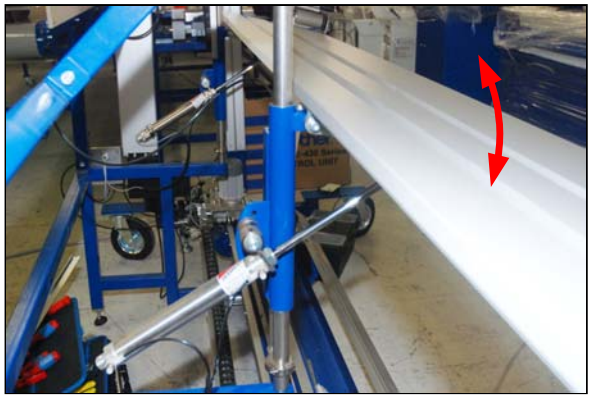


4.3.3 ADJUSTABLE WORK TABLE HEIGHT

The ideal work table height is personal, so it can be easily adjusted. The auxiliary frame on which the worktop is mounted, has a hydraulically-operated ergonomic module. By using a simple key panel this module will slightly raise or lower the 3 mounting positions.
After modifying the height, the new value must be entered on the touchscreen and sent to the machine operating system.
The procedure is described in section 6.2.

4.3.4 MECANICALLY CONVERTABLE TILTING ANGLE OF THE WORK TABLE

Three fixed positions can selected for the angle of the folded worktop. The optimal angle depends on personal preference and the sliding behaviour of fabrics on the table.
A mechanic intervention is required for using a different working angle.
The conversion is explained in section section 5.1.



4.4 OPERATING SYSTEM AND CONTROLS

The AGA-2300 / ST operating system automatically determines the height of the insertion beams for the various phases of the curtain production process.
The operator can determine the height of the beams for inserting the fabrics in a comfortable working position.

4.4.1 CONTROL PANEL

All operation and control components of the AGA-2300 / ST are included in a control panel, see Figure 11.

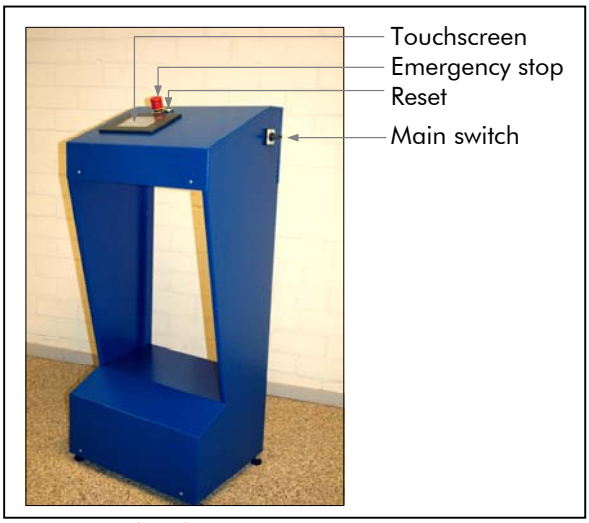


Figure 11 Control panel

The functions of the controls are described in the table below.

CONTROL	DESCRIPTION
Main switch	Use this switch to turn on or off the complete installation.
Emergency stop button	Press the emergency stop button in case of danger. • All electrically driven movements are stopped (vertical movement of insertion beams, as well as cutter drive and movement). • If the fabric clamp was closed or closing, it will be opened immediately.
Reset button	Press this button after unlocking the emergency stop button. The set curtain data will be maintained, but the machine will have to be restarted. Also press the reset button after turning on the main switch.
Touchscreen	This panel is used for setting and operating the machine; see section 4.4.2.

4.4.2 TOUCHSCREEN FOR MACHINE SETTINGS

A touchscreen has been mounted on the control box for entering the curtain data and for operating the machine, see Figure 12.

Figure 12Touchscreen

By softly touching the area of the required control with your finger, this control will be activated and appear in the next window or a value will be selected.
The exact operating controls are explained in the operating instructions, see chapter 6.

5. INSTALLATION AND COMMISSIONING

5.1 ADJUSTING THE WORK TABLE ANGLE

When the work table is in its rest position, it is positioned vertically. When the pleat tape must be finished, the work table will be tilted upwards.
The table can be adjusted in 3 different working angles. Proceed as follows:

- Turn on the machine's main switch.
- Lock this switch to avoid switching on the machine accidentally.
- Bleed the compressed air supply.
- Remove the mountings of all (3) pneumatic cylinders to the auxiliary frame.

Figure 13 Cylinders for folding the work table

- Mount the cylinders in:
  - a higher opening for a level table;
  - a lower opening for a slanting table.

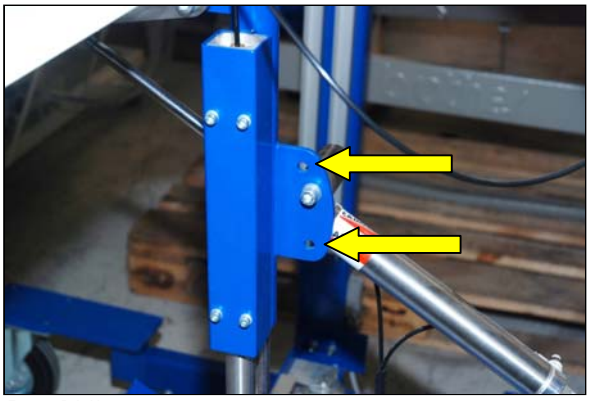


Figure 14 Mounting points

- Check the proper movement by pulling the work table manually upwards and lowering it again.
- Reinstall the compressed air supply.
- Switch on the machine.
- Carry out a test operation (without curtain) to check the movement and working position.

5.2 OTHER INSTALLATION WORK

The supplier will install and commission the AGA-2300 / ST. Therefore, these activities are not described in this manual.

6. OPERATION

6.1 SWITCHING ON AND STARTING THE MACHINE

- Switch on the entire machine by using the switch on the side of the control panel (see Figure 15).

Figure 15 Main switch

- Check if the compressed air system is switched on. If necessary, open the main tap and set the pressure reducing valve at the correct pressure value (5 Bar) (see Figure 16).
- Press **[Reset]**.

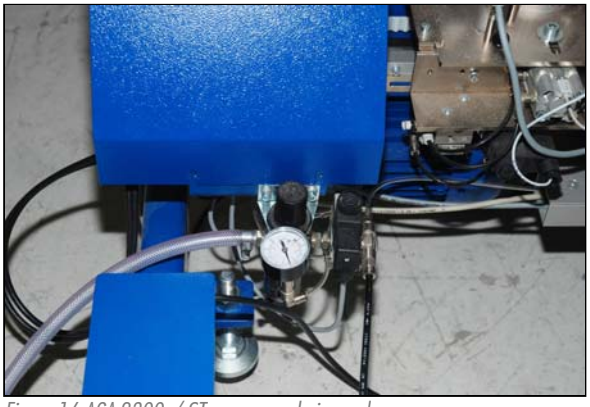


Figure 16 AGA-2300 / ST compressed air supply

After switching on, the touchscreen will illuminate and display the following (Figure 17):

Figure 17 Emergency stop screen

- Pull out the emergency stop button (if necessary).
- Press the green push button **[Reset]**. The touch-screen will show the ***Welcome screen*** (see Figure 18):

Figure 18 Welcome screen

- Press **[Calibrating]**.
  The insertion beams will make a slight movement to look for their starting position.
  As soon as the calibration is completed, the **Start screen** will appear (see Figure 19).

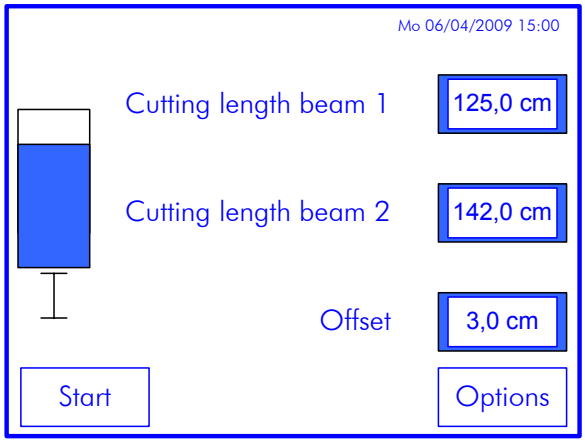


Figure 19 Start screen

- Press **[Options]** for:
  - Adjusting the working heights (see section 6.2), or
  - Adjusting the machine controls (see section 6.3).
- Then determine the curtain sizes, see section 6.4. Now the machine is ready for inserting and producing the curtain (see section 6.5).

Figure 20 shows the ***Options screen***.

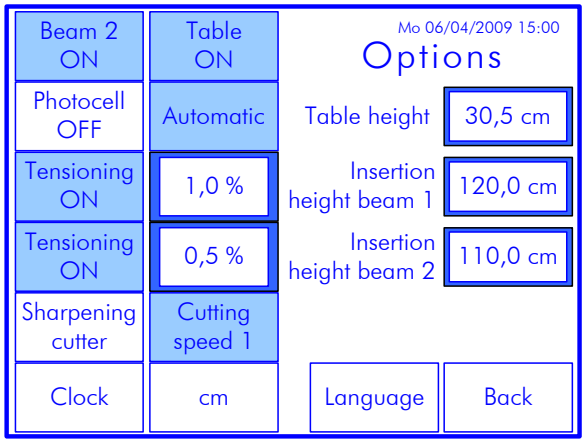


Figure 20 Options screen

6.2 ADJUSTING THE WORKING HEIGHTS

6.2.1 INSERTION HEIGHT

- Press the field next to ***Insertion height Beam 1*** to set the most comfortable working height for inserting the curtain fabric in the insertion beam clamps or sliding it over the rail.
  The screen displays a virtual keyboard.
- Enter the required height in cm on this screen and confirm with **[Enter]**.
- Repeat this for ***Insertion height Beam 2***.
  After exiting the ***Options*** screen, the insertion beam will move to its new value.

TIP-1

These settings are completely free and do not influence the curtain and curtain lining sizes to be produced.

TIP-2

Set beam 1 insertion height to a slightly higher value than beam 2 to create sufficient working space for inserting the curtain in the rear beam, without beam 1 getting in the way (see Figure 21).

Figure 21 Practical insertion heights

6.2.2 TABLE HEIGHT

Basically, the table height can be adjusted in any situation. However, it is easiest to adjust it while the table is folded.
The procedure is as follows:

- If required, press **[Start]** (without curtain and lining) on the ***Start screen***, then press **[Clamp]** and press **[Start]** again to fold up the table.
- Keep [⬆] or [⬇] on the ergonomic module key panel pressed to change the table height (Figure 22).

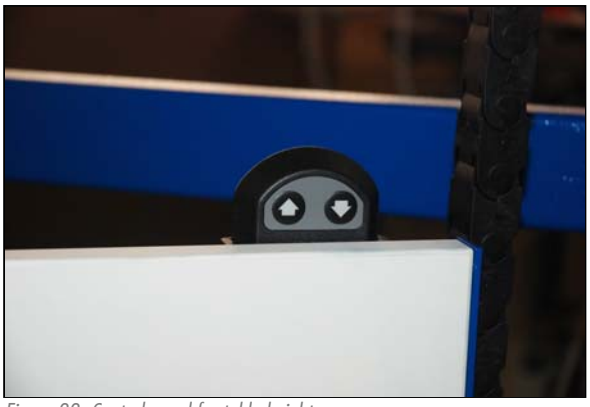


Figure 22 Control panel for table height

- Read the new table height (at the top of the painted steel tube, see Figure 23).

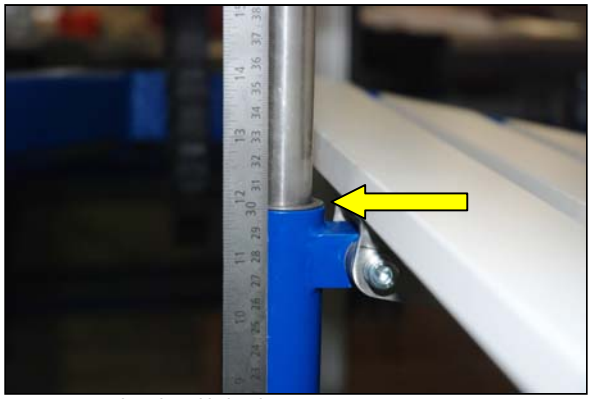


Figure 23 Reading the table height

- Enter this value behind ***Table height*** on the ***Options*** screen (see Figure 20 in section 6).

ATTENTION

If the wrong value is entered behind ***Table height***, the curtain will not be placed properly against the stopper frame of the folded work table and problems will arise while attaching the fleece tape and folding the pleat tape.

6.3 FURTHER PREPARATIONS: SELECTING MACHINE CONTROLS

6.3.1 GENERAL

▸ Select the machine controls by pressing **[Options]** (Figure 24). The red boxes in the figure show which controls apply to beam 1 and beam 2:

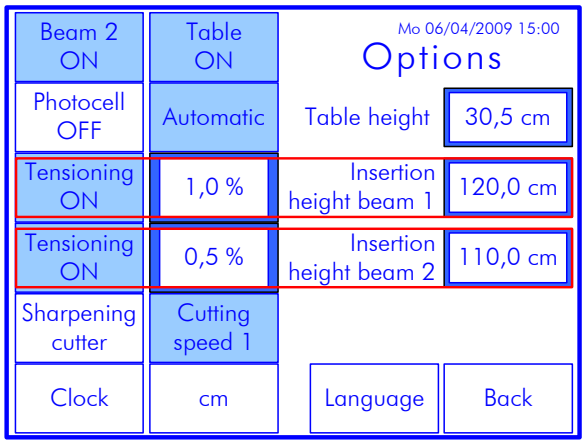


Figure 24 Options screen

- **Beam 2 On / Off**: select whether beam 2 must be activated or not:
  - Beam 2 On = for cutting the curtain and lining and shaping the pleat tape (see section 6.4);
  - Beam 2 Off = for cutting a curtain to size only (see section 6.6).
- **Photocell On / Off**: select whether the cutting movement must be stopped automatically as soon as the end of fabric is detected, see section 6.3.3;
- **Tensioning function and stretching percentage**: for tensioning the inserted fabric, see section 6.3.2;
- **Sharpening the cutter**, see section 7.3;
- **Setting the clock** (time and date display on touchscreen), see section 6.8.
- **Table On / Off**: select whether the table must be folded up automatically after cutting the curtain and lining.
  If no pleat tape is required, this value must be set to ***Off***. Section 6.6 describes this simplified process.
- **Automatic / manual**: select whether the cutter motor must return automatically to its starting position at the end of the cutting movement (see section 6.3.4).
- **Cutting movement speed**: select speed 1 (= low) or speed 2 (= high).
- **Unit of measure**: select whether the touchscreen must show the sizes in cm or inch.
- **Language**: select the language shown on the touchscreen.
- Modifying the table and insertion height: see section 6.2;

Switch a control on or off by pressing the button on the touchscreen.

TIP

If a control has been activated, it will be shown with a text (***ON*** or ***OFF***). In addition, the button has a dark colour when the control has been activated.

6.3.2 SETTING THE FABRIC TENSION

Some fabrics require additional tension before these can be cut. This is especially important for elastic fabrics; when the stretching tension is low, the fabric may be pushed away by the cutter instead of being cut. When fabrics are not elastic at all, additional tension must not be applied; this would cause the fabric to be pulled out of the fabric clamp.

ATTENTION

Determine the required tension based on your own fabric knowledge and experience.

To change the setting:

▸ Press **[Tensioning ON/OFF]** to switch the tension control of the insertion beams on or off.

▸ If the tension has been switched on: press the **[……%]** field. A virtual keyboard will appear on which the required value can be set (0 to 1 %).
The value entered determines the percentage with which the insertion beam is lifted additionally after the correct size has already been determined.

▸ Enter a value for each insertion beam.

TIP

The machine control determines how many mms the beam is to be lifted additionally (depending on the curtain height).

6.3.3 USING THE PHOTOCELL (END OF FABRIC PANEL)

A photocell has been mounted on the cutting head. This photocell moves along with the cutting head alongside the fabric and signals when the end of the fabric panel has been reached (Figure 25). Consequently, the cutting motor is switched off and the cutting head returns to the starting position.

In case of open fabrics, it is possible that the photocell does not function correctly (it will look through the fabric). In this case, the photocell must be switched off.

- Select **[Photocell ON/OFF]** to switch the photocell on or off.

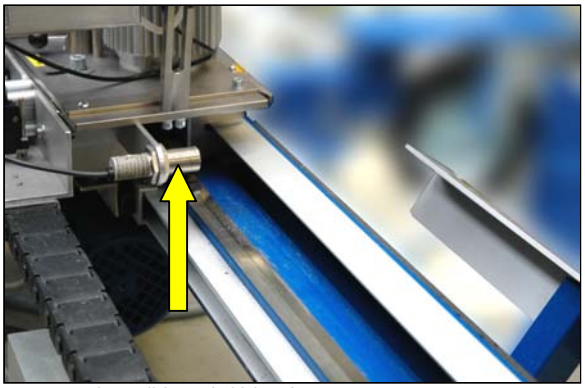


Figure 25 Photocell for end-of-fabric detection

6.3.4 AUTOMATIC RETURN AT END OF CUTTING MOVEMENT

In most cases it is convenient that the cutting head will return to its rest position at the end of the cutting movement. In this case, the selection field in the ***Options*** menu is set to ***Automatic***.
If this is not convenient, it is possible to put the cutting head in the ***Manual*** position. In this case, the user will have to activate the return movement by using the touchscreen after the cutting movement has been carried out.

6.4 DETERMINING THE CUTTING AND PLEAT TAPE DATA

The following data are important for cutting a curtain to size and inserting the lining at the proper place in the pleat tape:

- **Cutting length beam 1**: this is the total height of the lining fabric, including any seams in the pleat tape.
- **Cutting length beam 2**: this is the total curtain fabric height, including the total amount of fabric for the pleat tape.
- **Offset**: this is the required distance between the bottom of the lining and the bottom of the curtain (at seam side).

Figure 26 shows the curtain sizes in a simplified example. The figure on the left shows the finished curtain, in the position in which it will be used (pleat tape at the top). The figure on the right shows the curtain in the position in which it is placed in the machine. This is after the fabric has been cut to size and lifted to the proper height for folding the pleat tape.
The dotted lines show the fabric lengths before the pleat tape has been folded.

ATTENTION

It is assumed that the lower seam has already been made in the curtain fabric and lining fabric.

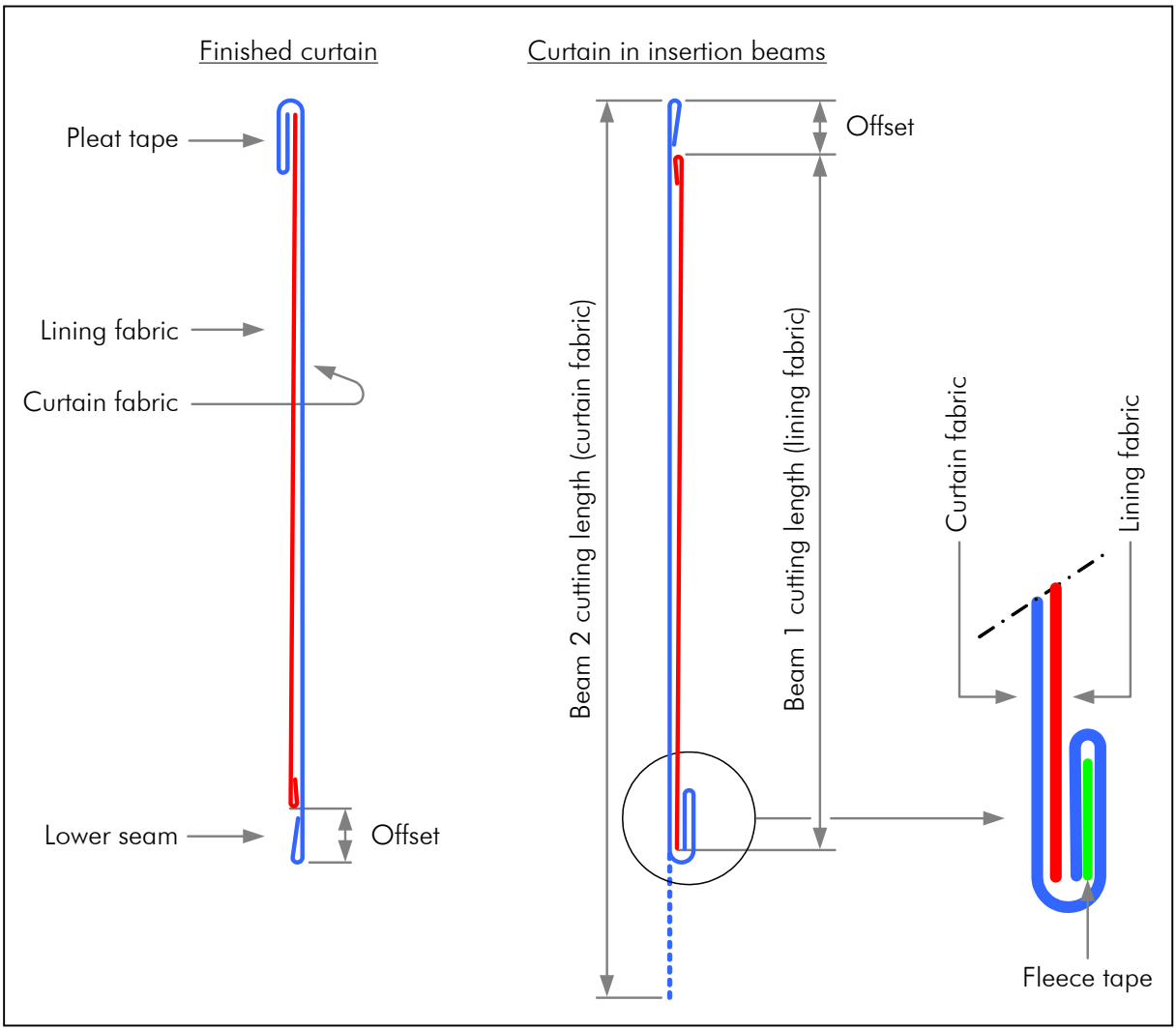


Figure 26 Curtain sizes

6.5 PRODUCING A CURTAIN

The procedure for making a curtain with folded pleat tape is as follows:

ATTENTION

Make sure that the insertion height (see section 6.2.1) and table height (see section 6.2.2) have already been set!

ATTENTION

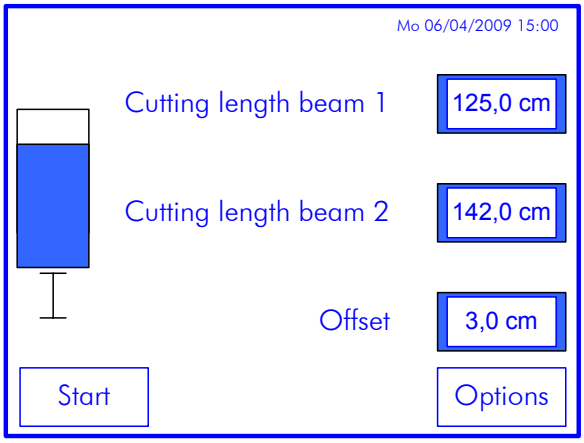
Enter these settings on the ***Options screen***:

- Beam 2 ON
- Table ON

STEP 1

After switching on and (if required) calibrating the machine, the touchscreen will show the ***Start screen*** (see section 6.1).
The ***Start screen*** is also shown when the **[Back]** button is pushed on the ***Options screen***.

- Enter the values for:
  - Cutting length beam 1 (lining fabric, this value is usually lower than the beam 2 cutting length)
  - Cutting length beam 2 (curtain fabric)
  - Offset



STEP 2

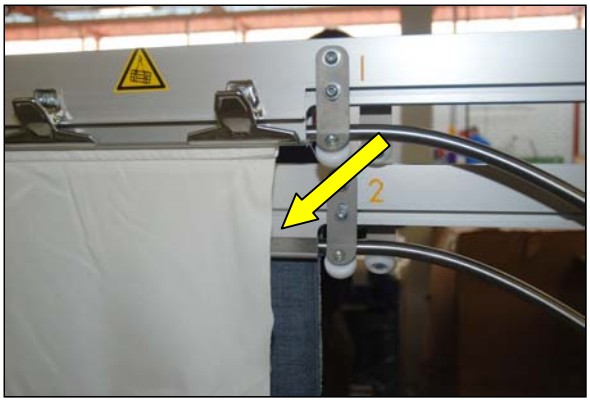
- Keep the curtain fabric with the left fabric side turned forwards and the lower seam upwards.
- Slide the curtain over the rail of insertion beam 2.
- Keep the side of the curtain equal to the front of the ruler.

STEP 3

- Slide the lining fabric over the rail of insertion beam 1 in the same way, with the seam pointing towards beam 2.

STEP 4

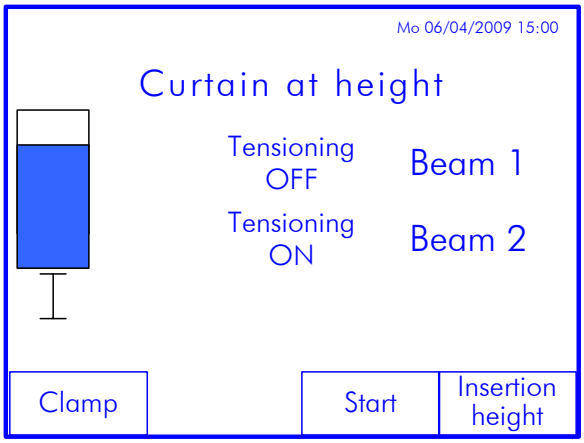
- Use the ruler to balance both fabrics compared to each other.



STEP 5

- Press **[Start]**. Both beams will go to the required height to cut the fabrics at the set length.
  The touchscreen shows whether the tension control is activated for both fabrics.

- If you detect that one of the settings has to be modified, press **[Insertion height]** to return the machine to its starting position. If required, the tension control (or any other setting) can be adapted on the ***Options screen***.



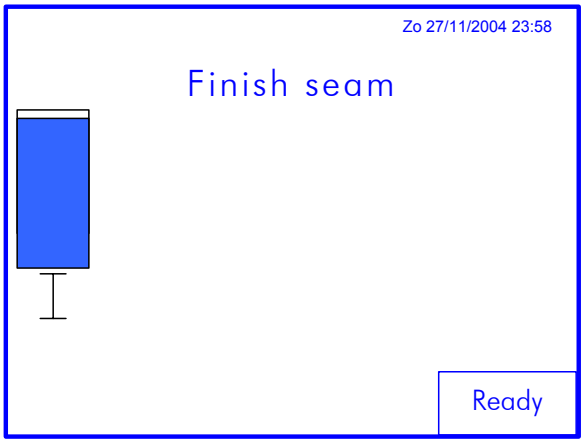
STEP 6

If all settings are correct:

- Press **[Clamp]**. The fabric clamp will close.
- Press **[Start]**. Both fabrics will be cut, the fabric clamp will be opened and the cutting head will return to its rest position.
  The fabrics are lifted to working height.
  The work table will turn upwards.

STEP 7

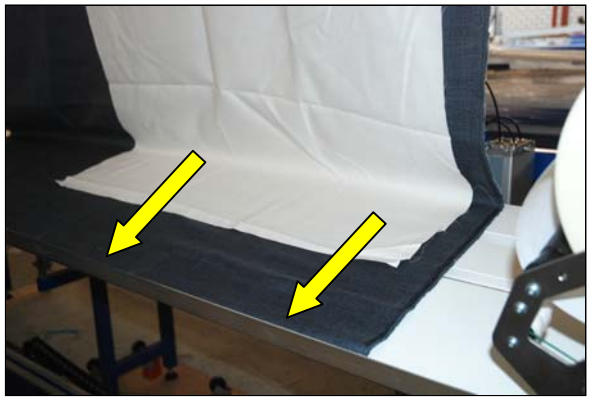
The touchscreen shows that the seam can be finished.
Do not yet press **[Ready]**!



STEP 8

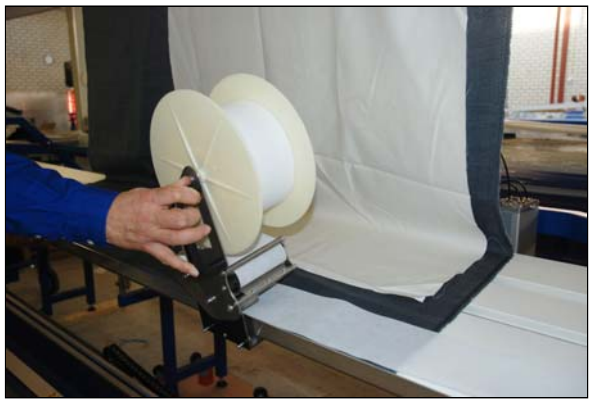
- If required, rectify the front of the curtain fabric to put it straight against the table stopper.
- Keep the lining fabric flat against the curtain fabric. Make sure that both fabrics are put together neatly, especially in the curve.

Now the lining is positioned correctly compared to the curtain fabric so it can be folded in the lower seam up to the set depth.



STEP 9

- Push the fleece tape dispenser towards the front of the curtain.
- Press the lock button on the dispenser and push the dispenser downwards.
- Move the dispenser from right to left along the curtain fabric to apply the fleece tape.
  Hold the curtain so it cannot move.



STEP 10

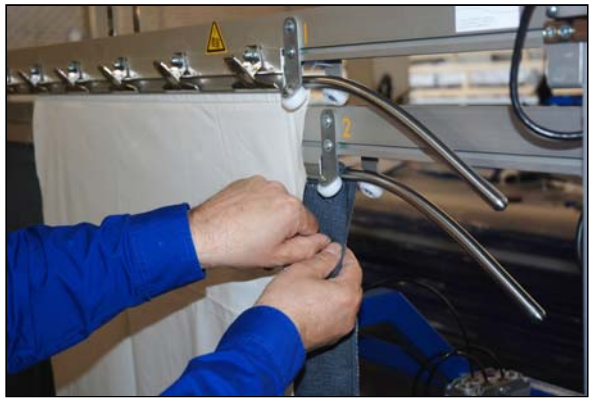
- Cut the fleece tape.
- Press the lock button again and tilt the dispenser upwards.
- Move the dispenser to its rest position.

STEP 11

- Fold the required seam (single or double).
- Fixate the seam with spurs.

STEP 12

- As soon as the pleat tape is ready: press **[Ready]**.
  The table will turn downwards and the insertion beams will return to insertion height.
- Slide both fabrics off the rails.



6.6 CUTTING A SINGLE CURTAIN

The procedure for cutting a curtain is as follows:

ATTENTION

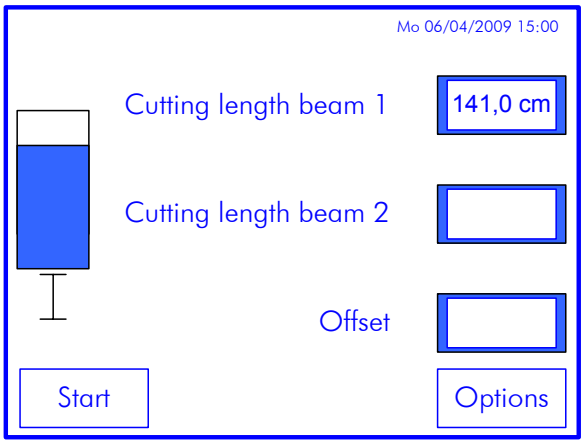
Enter these settings on the ***Options screen***:

- Beam 2 OFF
- Table OFF

STEP 1

After switching on and (if required) calibrating the machine, the touchscreen will show the ***Start screen*** (see section 6.1).
The ***Start screen*** is also shown when the **[Back]** button is pushed on the ***Options screen***.

- Enter the value for:
  - Cutting length beam 1 (curtain fabric)



STEP 2

- Hold up the curtain fabric with the lower seam at the top.
- Slide the curtain over the rail of insertion beam 1 or secure the curtain in the spring-loaded clamps.

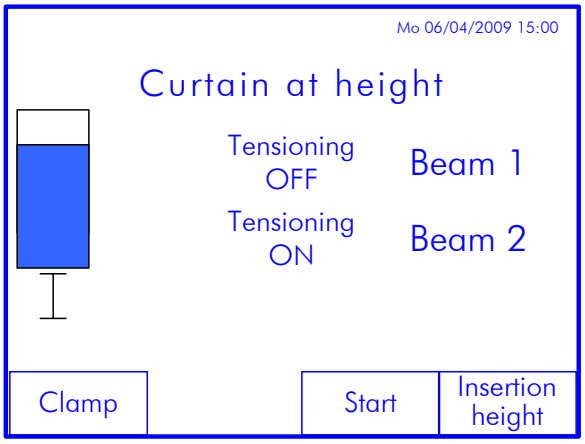
STEP 3

- Press **[Start]**. The insertion beam will go to the required height to cut the curtain at the set length.
  The touchscreen shows whether the tension control is activated.

If you detect that one of the settings has to be modified, press **[Insertion height]** to return the machine to its starting position. If required, the tension control (or any other setting) can be adapted on the ***Options screen***.

If all settings are correct:

- Press **[Clamp]**. The fabric clamp will close.
- Press **[Start]**. The curtain will be cut, the fabric clamp will be opened and the cutting head will return to its rest position.



STEP 4

The touchscreen shows that the seam can be finished. This is not applicable.

- Press **[Ready]** and the insertion beam will return to insertion height.
- Remove the curtain.

6.7 PLACING A NEW ROLL OF FLEECE TAPE

ATTENTION

The machine can only process 4" fleece tape.

STEP 1

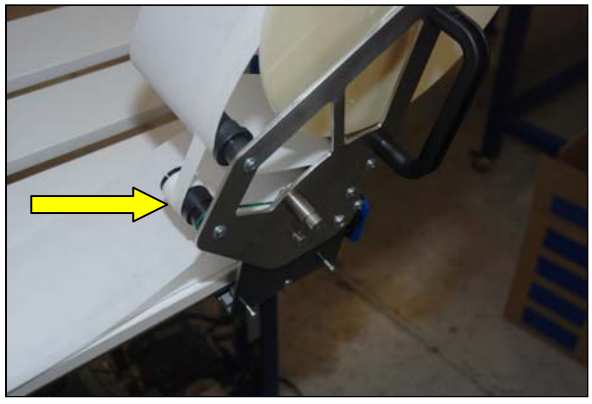
- Fold up the work table by having the machine carry out the first part of the procedure (see section 6.5, step 1, 5 and 6).
- Loosen the spring clip and remove the end cover.
- Remove the empty roll.
- Place the new roll (winding direction as shown on photo).
- Reinstall the end cover.

STEP 2

- Guide the fleece tape through the guide rolls.
- Guide the tape underneath the pressure roll.

STEP 3

- Loosen the back tape and fasten it to the winding shaft.



6.8 SETTING THE CLOCK

The top right corner of the screen shows the current date and time.
If these are to be changed (for example when switching from summer time to winter time), proceed as follows:

- Go to the ***Options*** menu.
- Press **[Clock]**.
  A new screen will appear on which the current data can be entered.
- Press **[Back]**.

6.9 SWITCHING OFF THE MACHINE

The main switch on the control box must be turned off to shut down the AGA-2300 / ST.
Wait at least 20 seconds after switching off the machine, before it can be restarted.

7. MAINTENANCE

This chapter describes the normal maintenance of the AGA-2300 / ST.

WARNING

All maintenance work should be carried out by qualified personnel with the machine shut down completely (unless indicated otherwise)!

7.1 DAILY MAINTENANCE

- Frequently blow out the machine with a blowing gun. Never blow in the direction of other persons!

7.2 WEEKLY MAINTENANCE

- Clean the insertion beam lifting straps weekly. Use a tissue with a degreasing agent for this purpose.

CAUTION

- Preferably use white spirit or a similar degreasing agent.
- Limit the quantity and close the bottle properly immediately after use.
- Do not inhale dangerous vapours and wash your hands after use.
- Avoid open fire and/or burning cigarettes.
- Never use benzine, methylated spirits or oils.

Procedure (Figure 27):

- Turn on the main switch.
- Go to the ***Options*** menu.
- Set the insertion height to approx. 35 cm. The insertion beams will now lower so the lifting straps unwind completely and are easily accessible.
- Turn off the main switch.
- Clean the straps.

Figure 27 Cleaning the lifting straps

7.3 MONTHLY MAINTENANCE

Clean the guide rails of the cutter completely with a dry cloth (upper part and both sides)
Apply some sewing machine oil to a cotton cloth and lubricate both sides (Figure 28).

ATTENTION

The upper part does not have a guide function and can remain dry. This way, it will attract less dust and it won't soil the curtain.

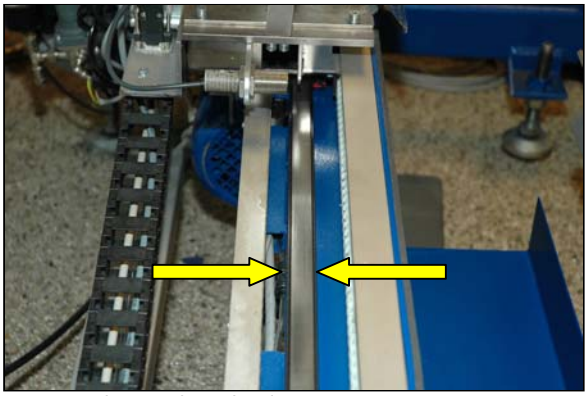


Figure 28 Lubricating the guide rails

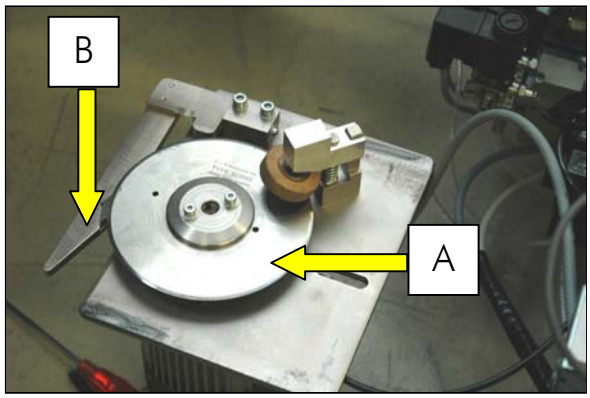
7.4 SHARPENING THE ROUND CUTTER

A rotating round cutter and a counter cutter are present in the cutting head. The round cutter can be easily sharpened without removing any protection.

STEP 1

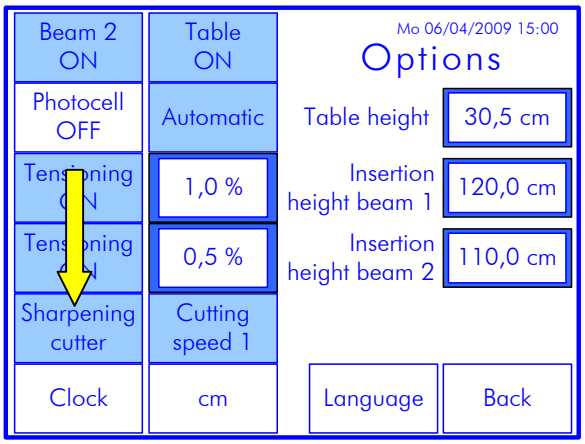
A = Rotating round cutter
B = Counter cutter

The photo serves as an indication only; the protection does not have to be removed for sharpening.



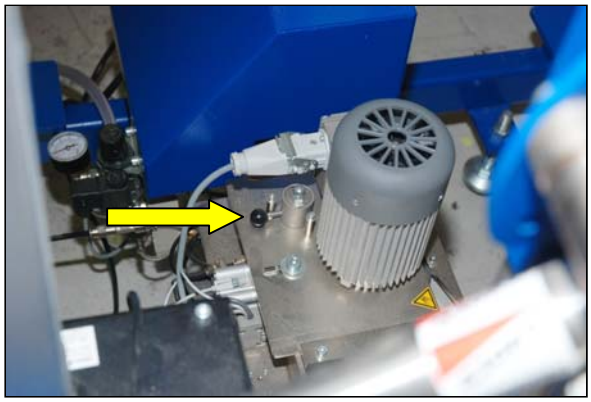
STEP 2

- Turn on the main switch.
- Go to the ***Options*** menu.
- Press **[Sharpening cutter]**.
  The cutter will now be activated for 7 seconds (without moving).



STEP 3

- Push the grindstone handle (during rotation of the cutter) in the direction of the arrow on the motor plate.
  The grindstone now pushes on the cutting face of the cutter, thus sharpening the cutter.
- Repeat this procedure (steps 2 and 3), if required.



7.5 REPLACING THE ROUND CUTTER AND THE COUNTER CUTTER

If cutting problems keep occurring, the round cutter and possibly the counter cutter must be replaced.

ATTENTION

Before replacing the cutters, make sure that the cutting problems have no other causes.

- First check if the tension on the fabric panel is set correctly (see section 6.3.2);
- Make sure that the round cutter has been sharpened (see section 7.3).

Proceed as follows to replace the cutters:

STEP 1

- Turn off the main switch.

STEP 2

- Turn off the main compressed air supply (the manometer must indicate 0 Bar!).

STEP 3

- Loosen the bolt in the groove hole.

STEP 4

- Loosen the 2 bolts of the clamping strip.

ATTENTION

This is the clamping strip at the side of the blue protective cover (see photo)!

STEP 5

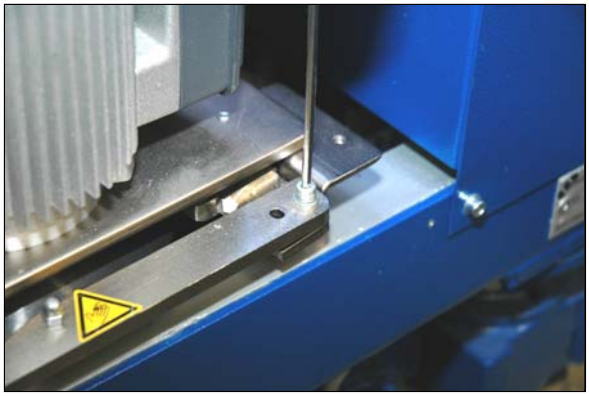
- Remove the cutting head from the machine.

STEP 6

- Insert a thin pin or screwdriver in the inner hole of the round cutter.
- Turn the cutter with the pin, until the pin falls into the hole in the background.
  The cutter is now blocked for rotation.
- Loosen the 2 bolts of the clamping ring.

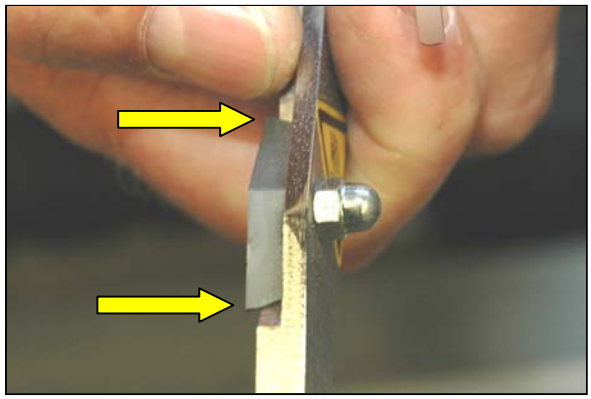
STEP 7

- Remove the round cutter from the cutting head.
- If the counter cutter has to be replaced as well: loosen the counter cutter carrier.



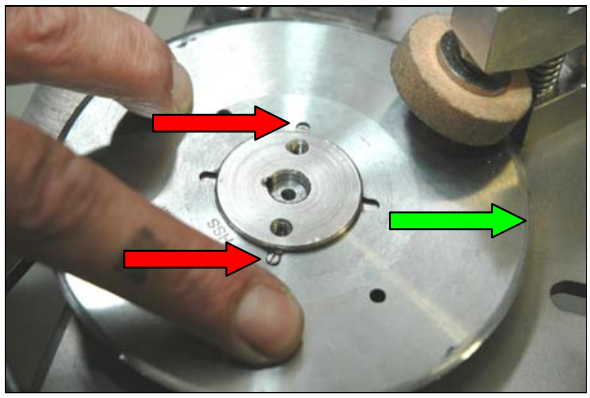
STEP 8

- Loosen the hard metal insertion cutter with a properly fitting Torx screwdriver.
- The insertion cutter can be rotated 180° in order to use the other available cutting side.
- If both sides are worn, then place a new insertion cutter.
- Mind the direction of the conical shape!



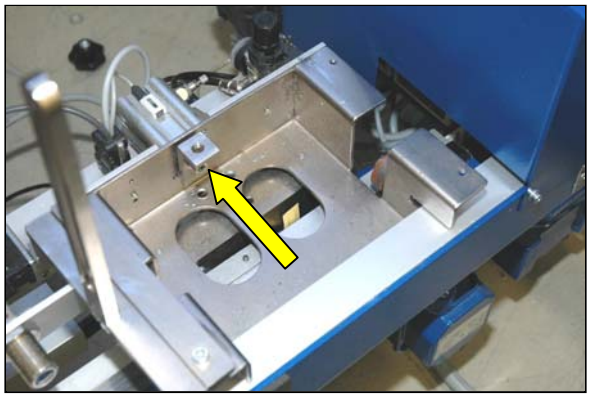
STEP 9

- Install the counter cutter.
- Push the counter cutter down against the springs and reinstall the round cutter.
- Make sure that the facet edge (green arrow) of the round cutter points upwards (the grindstone must be positioned against the facet edge).
- Also make sure that the notches fall around the bolt heads (red arrows).
- Tighten the clamping ring above the round cutter (see step-6).



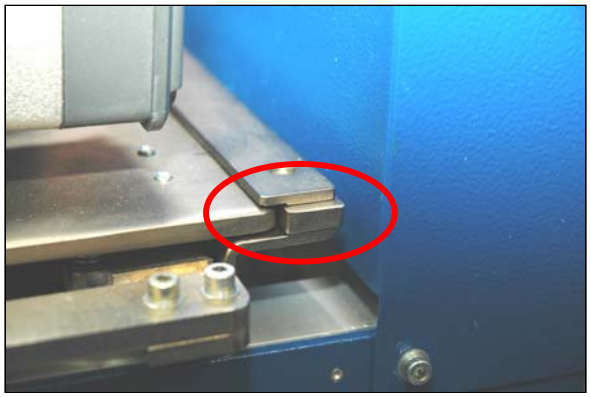
STEP 10

- Push the mounting bracket on the air cylinder back as far as possible.
- Blow out the entire room with a blowing gun.



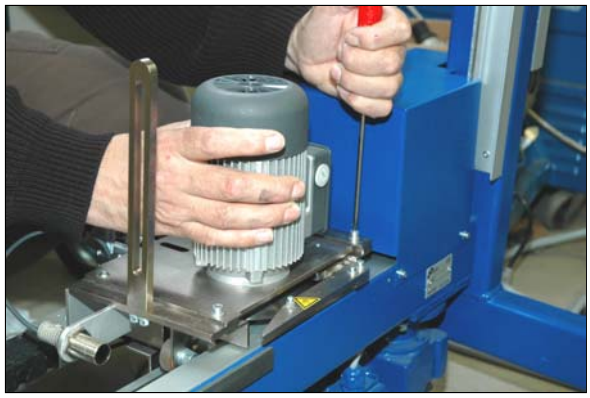
STEP 11

- Reinstall the cutting head in the machine.
- Install the distance edge and the protection strip.
- Make sure that the grinded edge of the protection strip is in the correct position (see frame).



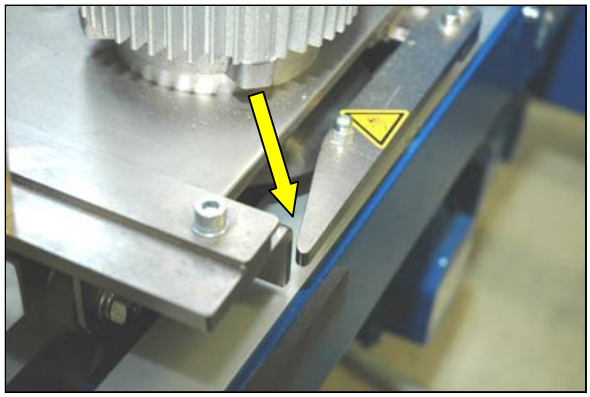
STEP 12

- Push the distance edge as close against the motor plate as possible, causing the plate to have hardly any clearance.
- Check if the motor plate can still slide!
- Tighten the edges.



STEP 13

- Move the motor plate until the space between the corner edge and the top of the counter cutter is approx. 2 mm.
- Also check if the counter cutter carrier is practically parallel to the motor plate.



STEP 14

- Tighten the cutting head (make sure that the air cylinder does not slide out!).

STEP 15

- Check for the proper operation by cutting a test piece.

8. MALFUNCTIONS

8.1 ERROR MESSAGES ON THE TOUCHSCREEN

If the machine operating system detects errors in the control or machine operation, all movements will be stopped and the touchscreen will display an error message. Figure 29 shows an example.
In some cases, the operator can solve the malfunction himself because the message is obvious.

If not, proceed as follows:

Figure 29 Error message

STAP-1

- Push the emergency stop button and pull it out again.
- Press the **[Reset]** button on the control panel.

STEP -2

The touchscreen shows the welcome screen.

- Press **[Calibrating]**.

WARNING

Only qualified personnel is allowed to work on the electric equipment! Wait at least 5 minutes after switching off before opening the control box!

CAUTION

If malfunctions occur which are not trivial or which cannot be solved according to the method described, consult your supplier.
Do not perform any activities on this machine other than those described in this manual.

8.2 EMERGENCY STOP SITUATIONS

When a dangerous situation occurs, the machine can be stopped immediately by pressing the emergency stop button.

- All motor-driven movements will be stopped immediately.
- The fabric clamp is opened.
- The work table remains in its current position.

Restore the situation, as described in chapter 8.

9. SPARE PARTS

See appendix for recommended spare parts.

10. DISMANTLING

When the AGA-2300 / ST is no longer used and has to be dismantled, follow the steps below in the correct order:

- Make sure that the control panel is switched off.
- Remove the electric main connection and detach the connector from the cable.
- Remove the compressed air connection.
- Disassemble the hydraulically operated ergonomic system. Keep in mind that the system is filled with hydraulic oil which may be pressurized.
  Wear suitable safety gloves and safety glasses. Clean up any spilt oil with suitable grains.
- Disassemble the electric engines and discard the oil in accordance with local regulations.
- Keep the possible instability of the upright frame into account when disassembling. Therefore, keep the machine anchored to the floor as long as possible.
- All components and fluids have to be discarded in accordance with local regulations, preferably by a company that will recycle the materials.

ATTENTION

These steps only refer to parts supplied by Eisenkolb and described in this manual.