

OPERATION, SETTINGS & MAINTENANCE

# BLOC RT2

**AUTOMATIC PREPARATION UNIT**



# MECATHERM



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# **1.HANDLING AND INSTALLATION**



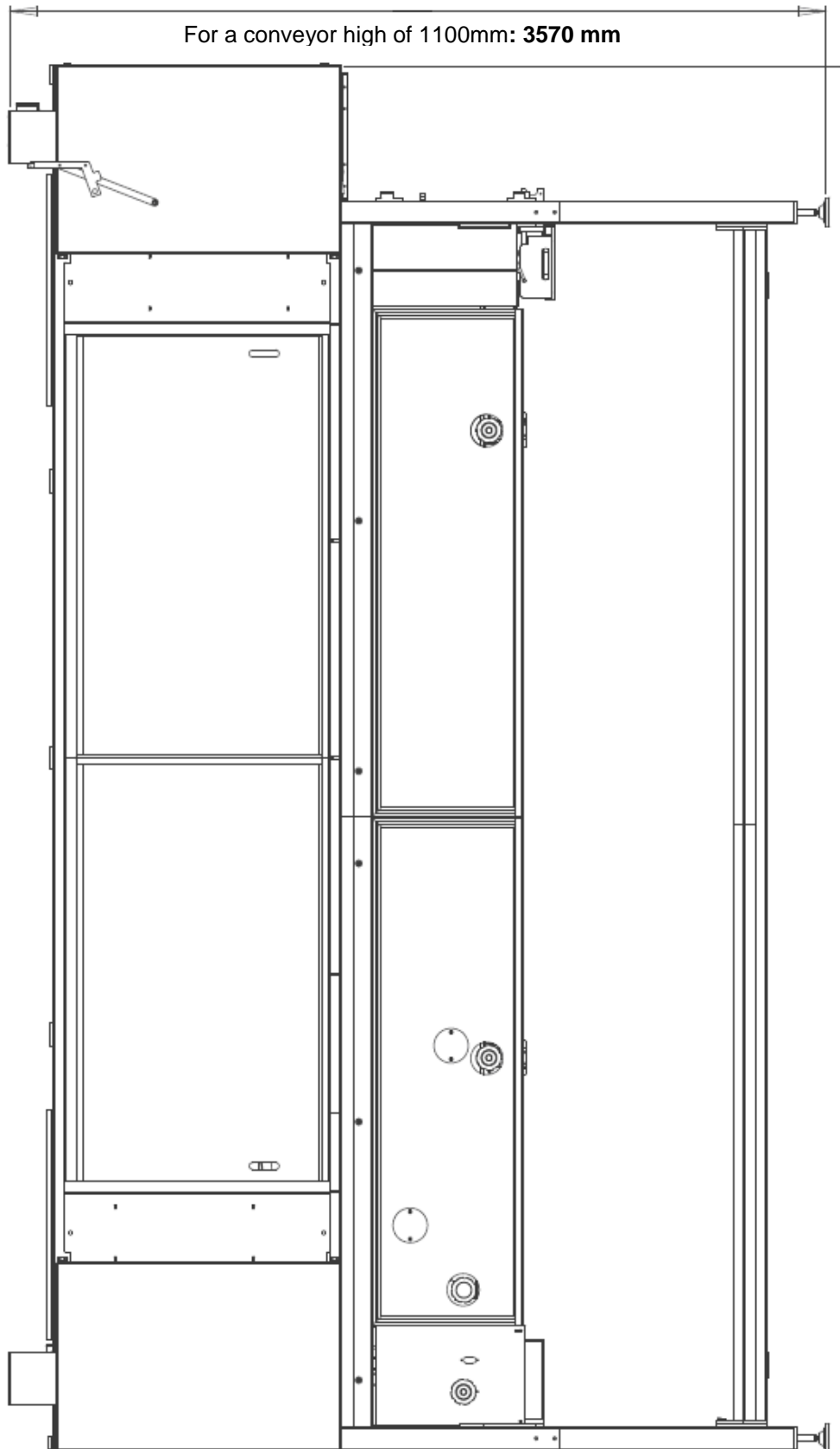
# 1.A.DIMENSIONS / WEIGHT

Dimensions:

Side view

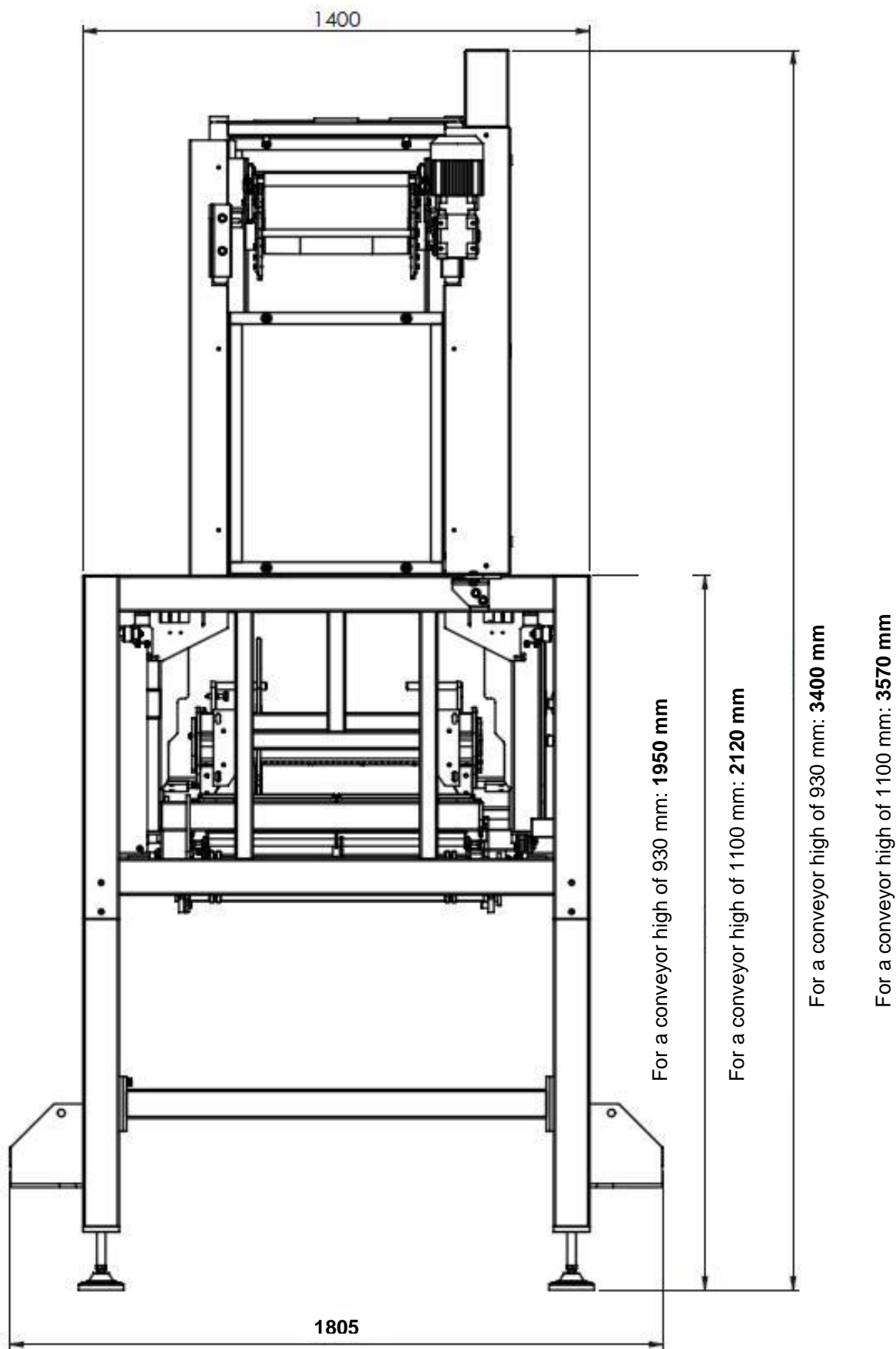
For a conveyor high of 930mm: **3400 mm**

For a conveyor high of 1100mm: **3570 mm**



6000

Front view



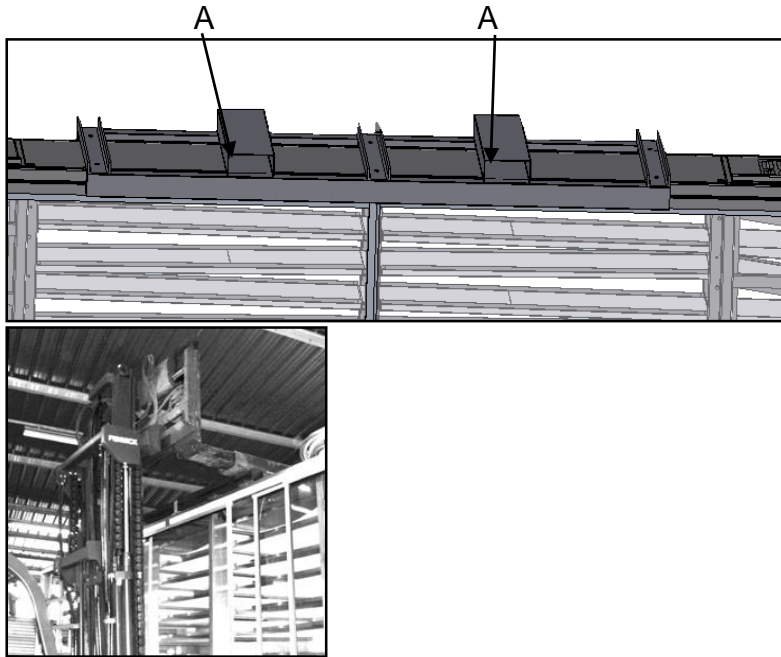
## 1.B.LOADING, UNLOADING & HANDLING

### Necessary equipment:

A fork-lift truck with a lifting capacity of 5 tonnes at 800mm from the apron.  
Lift height: Approx. 5 metres.

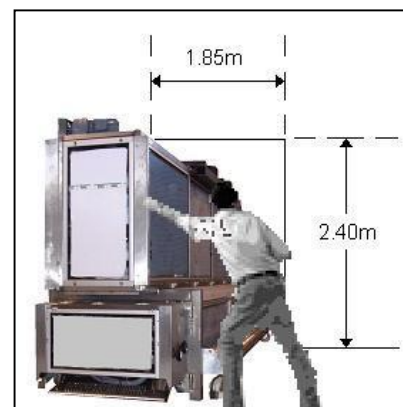
The BLOC RT2 is delivered with a fork-lift outlet. The truck forks can be inserted into the holes designed for this purpose (A).

**Warning:** Check that the support mount for the forklift is secured using 6 screws (zinc-trayd M12-20) P/N: 51137) and 6 thick washers (12 x 36 TH3 P/N: 51748)



**Warning:** The forklift forks must not touch the support bars under the moulding belt.

The BLOC RT2 is delivered on castor wheels, which makes it easier to move it to its installation area. However, 3 or 4 people are required to move the machine.



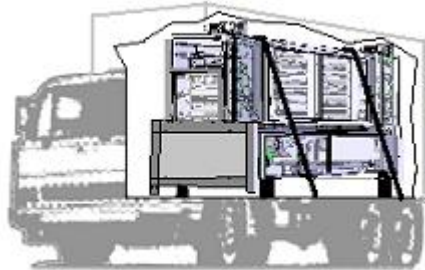
### Safety:

All loading, unloading and handling operations must be performed by qualified personnel.

# 1.C.SHIPPING

## BLOC RT2 shipped by road:

The BLOC RT2 is secured to two wood rafters.  
Straps block it to a tray.

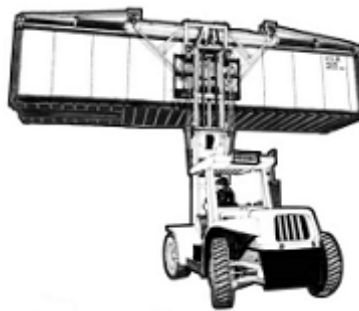


## BLOC RT2 shipped by air:

The BLOC RT2 is installed, fastened and secured in a container.

## BLOC RT2 shipped by sea:

The BLOC RT2 is installed, fastened and secured in a sealed container.



## 1.D.BLOC RT2 INSTALLATION

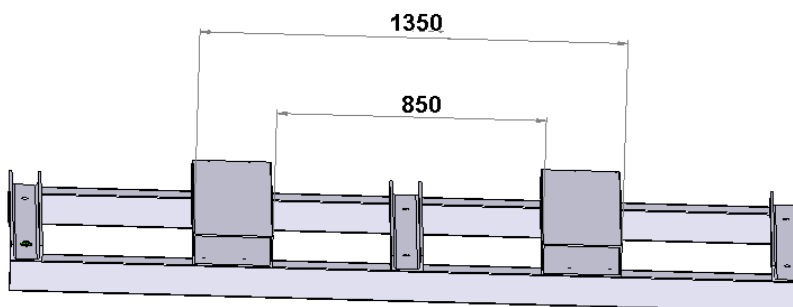
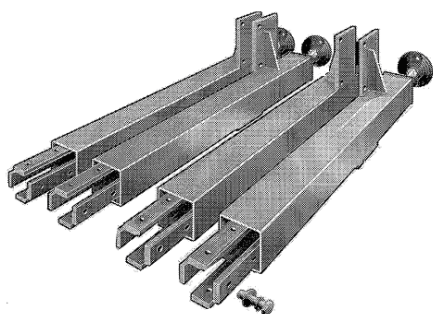
### Safety:

All installation operations must be performed by qualified personnel.

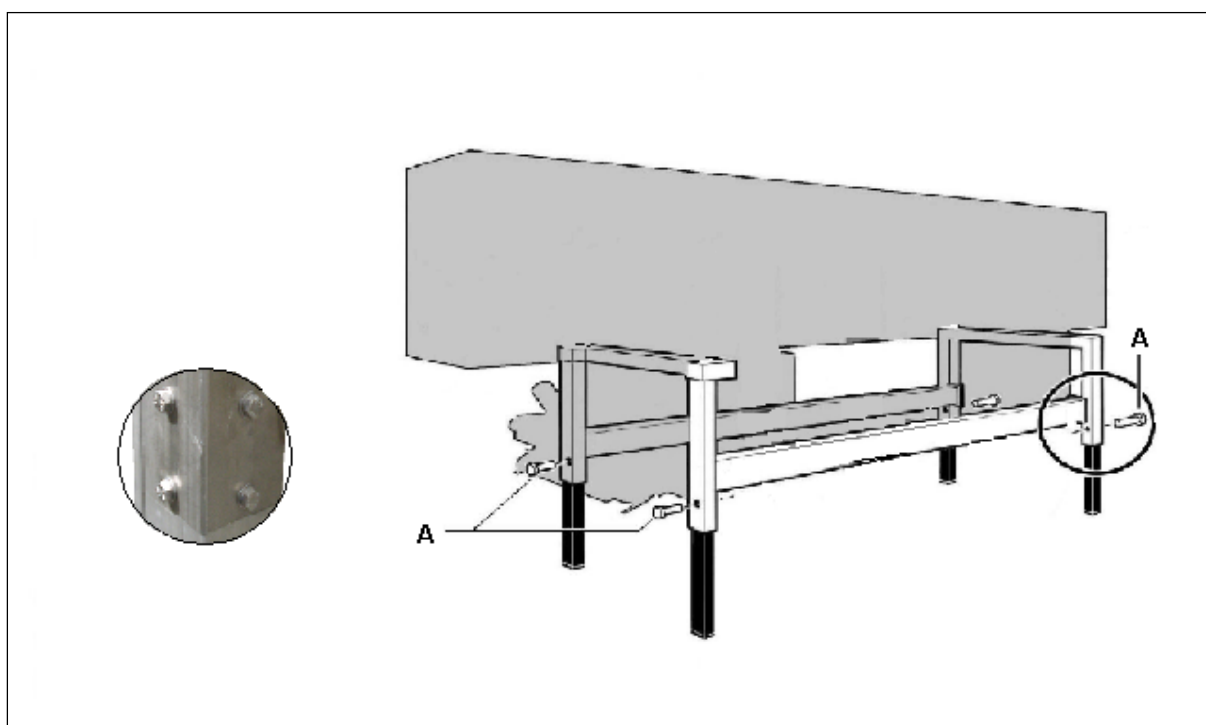
**Warning:** Check that the support mount for the forklift is secured using 6 screws (zinc-trayd M12-20) P/N: 51137) and 6 thick washers (12 x 36 TH3 P/N: 51748)

### Reminder

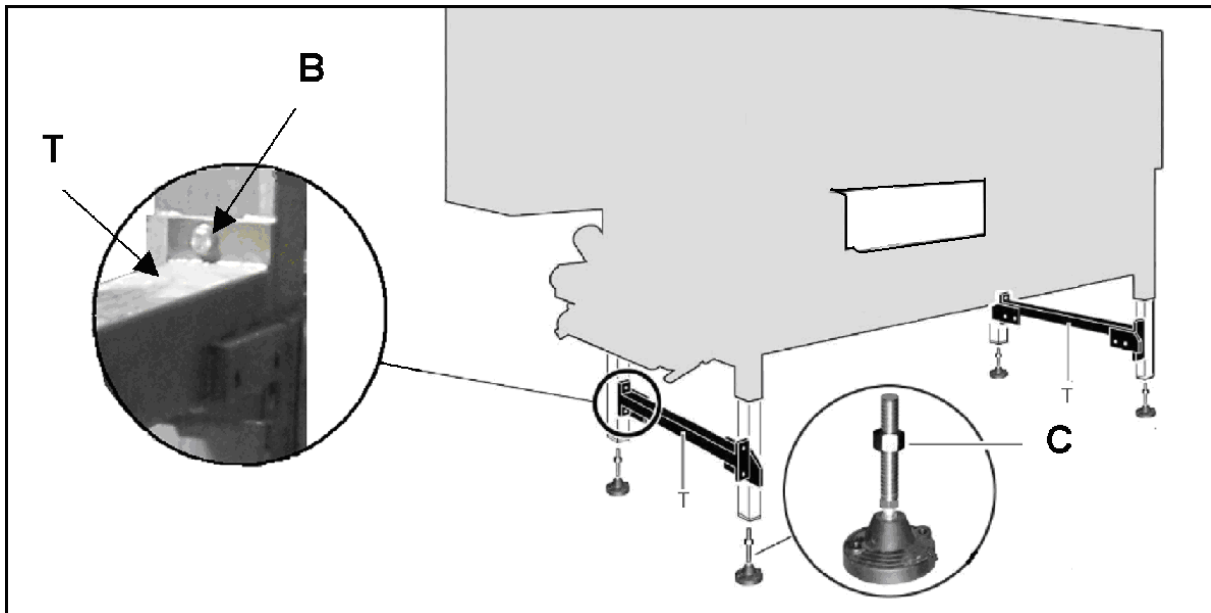
The forklift forks must not touch the support bars under the moulding belt.



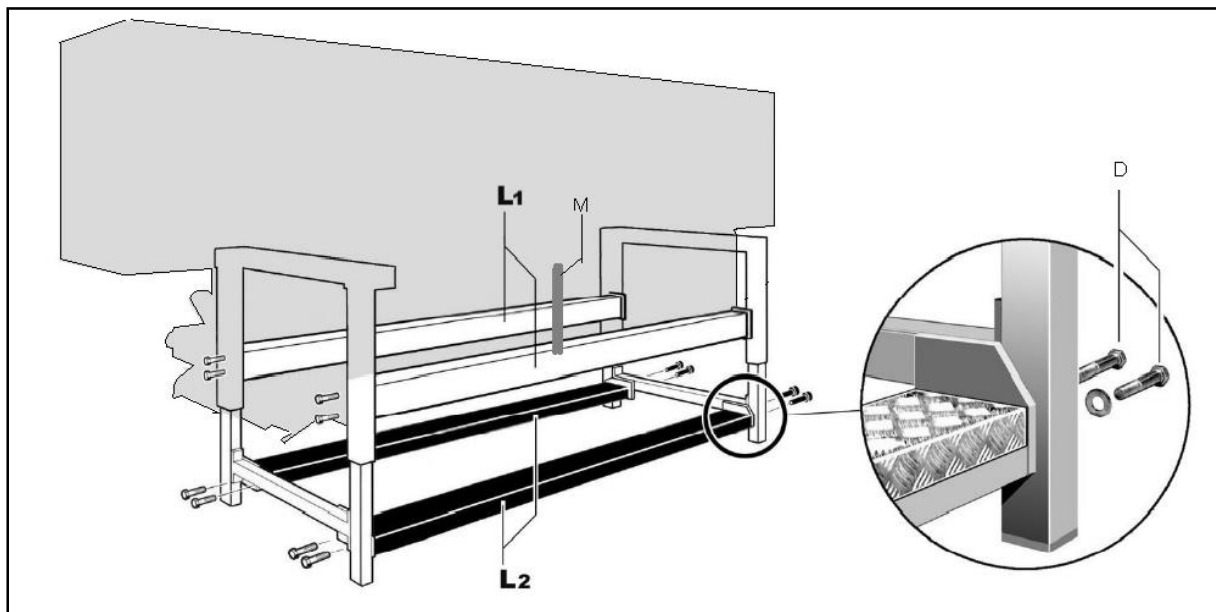
During BLOC RT2 delivery, the legs are not installed. They are delivered separately, with the necessary hardware.



Lift the Unit high enough to insert the legs by sliding the forklift forks into the support. Once the legs are inserted, fasten them using the screws, spring washers and flat washers (A).



Fasten the cross beams (**T**) between the legs, at the front and rear of the unit, using screws (**B**). Level the unit by turning the nuts (**C**).



Remove the intermediate support bars (**M**).

Remove the girders at (**L1**) and fasten them at (**L2**) using screws and nuts (**D**). Due to the weight of each girder, have two people available to remove each of them. If the Unit needs to be moved, remove the girders, cross beams and legs in the reverse order as indicated above.

# 1.E.CONVEYOR INSTALLATION

## FITTING

The space between the top of the conveyor system and the depositing board in the lower position must be 55mm.

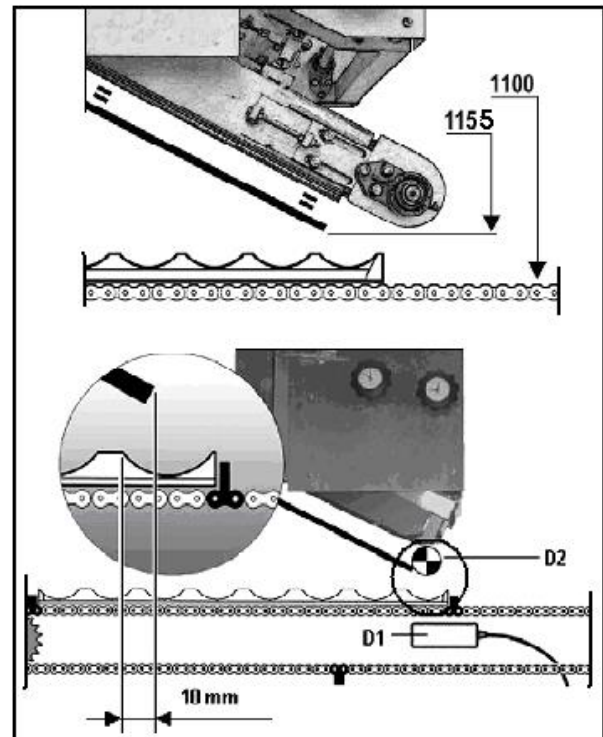
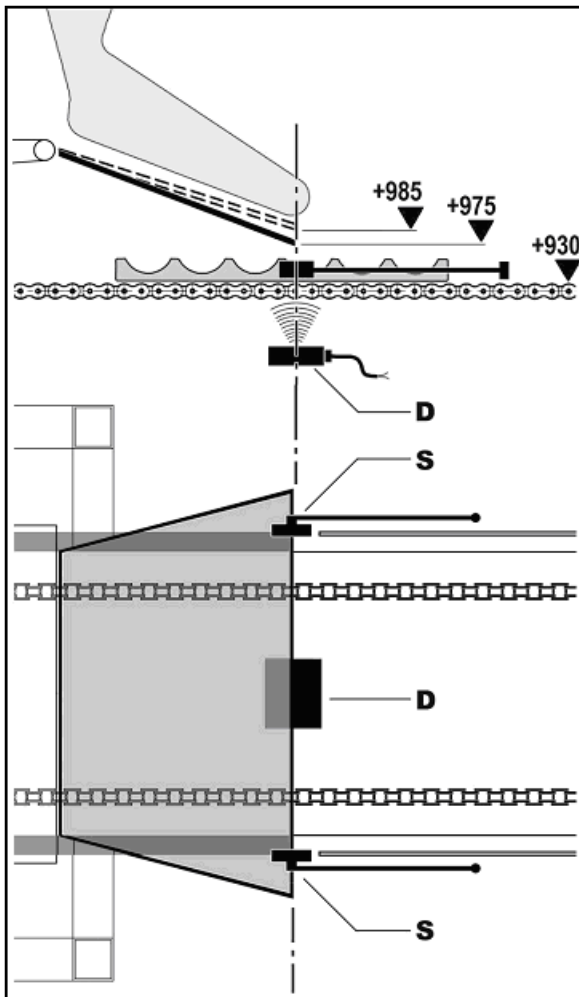
The conveyor system is at 930mm. The depositing board lower position must be  $930 + 55 = 985$  mm.

**Tray sensors and end stops:** They are located on the depositing board nose, whatever the direction of the trays.

The conveyor system is at 1100mm. The depositing board lower position must be  $1100 + 55 = 1155$  mm.

-Adjust sensor D1 so that when it triggers, the tray must be located under the depositing board, as indicated below.

-Place sensor D2 so that it detects dough pieces on the depositing board.



# 1.F.ELEVATOR + HD DIVIDER INSTALLATION

## FITTING THE DOUGH PIECE ELEVATOR

The dough piece elevator is delivered flat and secured to wood bearers. Lift the dough piece elevator and place it vertical.

**Take care of the weight:** 200 kg. It is preferable to use a forklift for handling operations.

If installation must be done manually, have 4 people available.

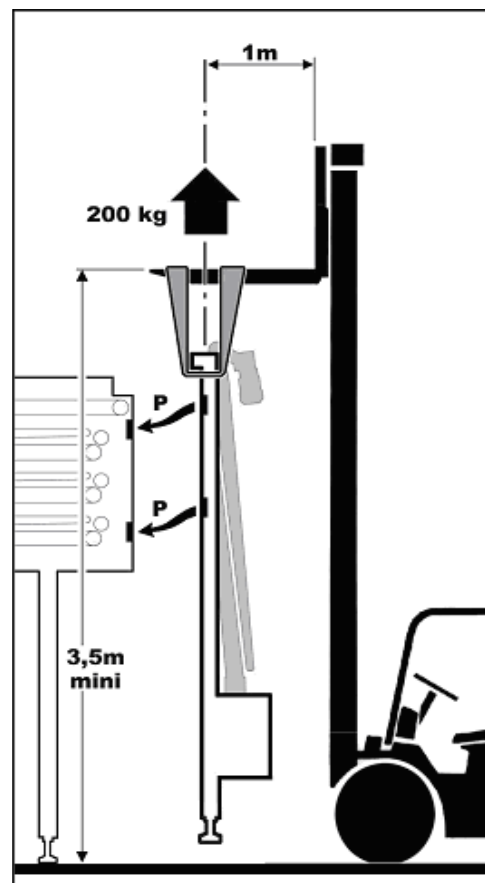
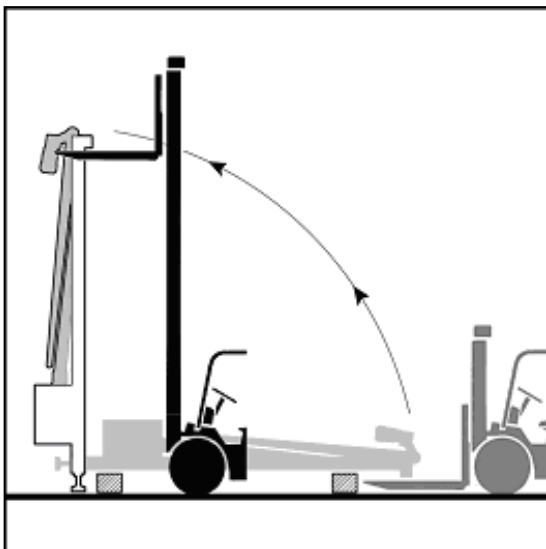
### Fitting:

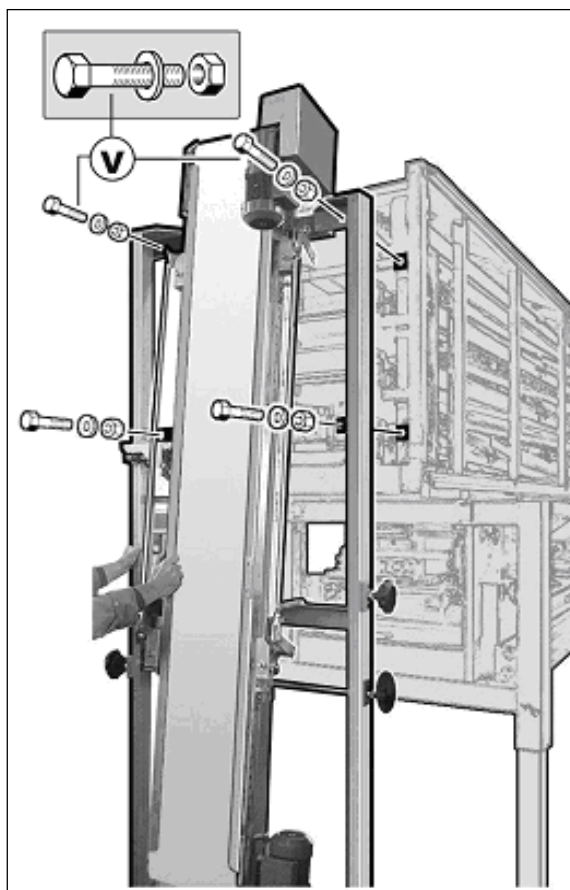
Strap the dough piece elevator under the upper cross beam and insert the forklift forks into the straps (bottom figure). Lift it up a few centimetres and bring it as close as possible to the unit.

Lay it on the ground and align the fastening lugs **P**, by loosening or tightening the legs.

### Fastening:

Fasten the dough piece elevator onto the unit using the 4 screws and nuts **V** (figure below).





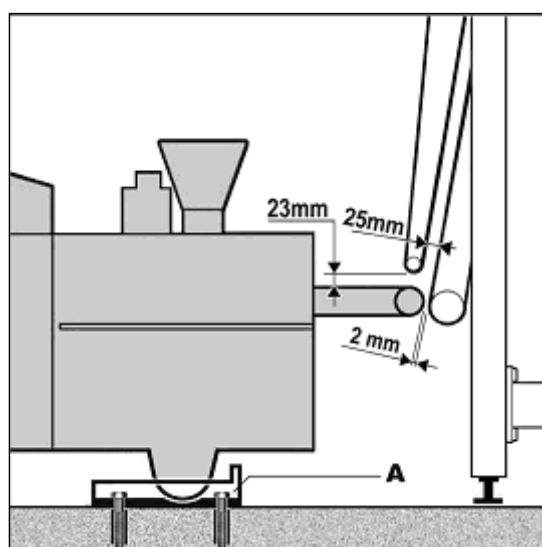
### FITTING THE DIVIDER

The height of 23mm is obtained by working on the dough piece elevator legs and the unit legs.

Place the divider against the elevator's inner belt, keeping a space of 2mm.

To ensure correct centring of the dough pieces along the transfer line, make sure both components are perfectly aligned and also that the unit axle is also aligned.

Blocking: The front wheels of the divider are maintained in two rails A that are sealed to the ground (see HD divider manual).



# 1.G.CONNECTION

## 1.G.1.Electrical

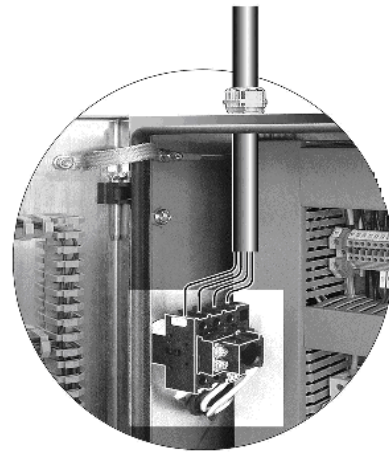
Make sure the main switch on the box is triggered.

Check:

- Compatibility (voltage, power, neutral) between the power network and the machine.
- the rotation direction of the motors (invert both phases if necessary).

Reminder:

Electrical power consumption: 20KVA



## 1.G.2.Pneumatics

Connection to compressed air:

6 bars of pressure, air filtered not lubricated.



# **2.GENERAL DESCRIPTION OF THE BLOC**



## 2.A.BLOC RT2

Located after the divider, the **BLOC RT2** is the head of the automatic line for the prefermentation, moulding, and automatic drop of dough into the 600 x 800, 1600 x 800 or 2000 x 800 baking holders at a throughput of 2500 baguettes/hour and variations obtained via different moulding operations. It produces calibrated long breads and baguettes and small breads obtained by chopping.

With the short bread option, the **BLOC RT2** produces big short breads such as batard breads, up to 900g.

Designed for continuous industrial use, the **BLOC RT2** provides high-quality treatment of the dough thanks to shaping operations performed progressively over several successive steps and regular lengthwise moulding respecting calibration for long dough pieces or for lengthened small breads obtained by chopping.

Whether it is used with fluted trays, flat trays or deposit belts, the **BLOC RT2** has very precise alignment properties when depositing the products, even during high throughput rates used in continuous production runs over 3 shifts.

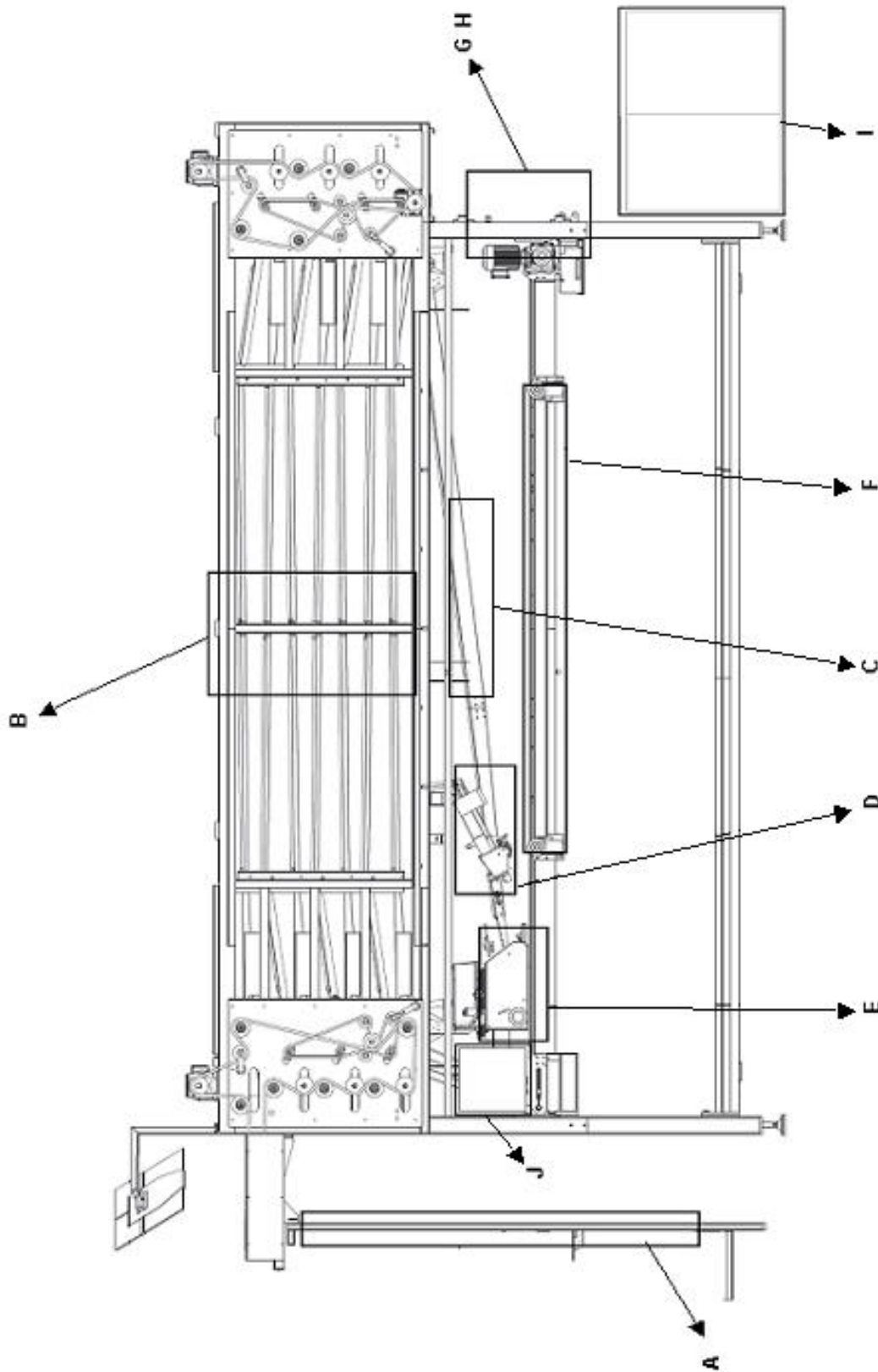
### Limitations for use:

The MECATHERM preparation unit is exclusively designed for pre-proofing, sheeting, and stretching dough.

Rating:       360 à 400 Trays/h  
                  3,5 min à 5000 pcs/h  
                  7 min à 2500 pcs/h

## 2.B.DESCRPTION OF THE BLOC

### 2.B.1.Terminology



- A** Dough piece elevator
- B** Intermediate proofer
- C** Descending belt
- D** Centering system
- E** Sheeter
- F** Moulder
- G** Cassette stretcher
- H** Depositing tray
- I** Control box
- J** Controls

## 2.B.2.Composition and functions

### 2.B.2.a.DOUGH PIECE ELEVATOR

Compacts the dough piece and transfers it from the calibration belt coming out of the divider to the top part of the unit.

#### Composition:

- Fixed belt
- Moving belt
- Both belts have separate motorisations.
- Adjustable edges on both sides, using an adjustment crank.

### 2.B.2.b.PRE-PROOFING CHAMBER

The dough lumps are introduced into the pre-proofing chamber from the upper receiving belt. They travel onto the intermediate belts from level to level before ending up on the descending belt. The belts are driven by a pinion-chain-motor assembly.

#### Composition:

- 7 horizontal belts (effective width of belts 400mm)
- Space between belts is adjustable according to dough lump size.



### 2.B.2.c.DESCENDING BELT

Drives the dough lumps from the pre-proofing chamber to the sheeter.

- Moving belt



### 2.B.2.d.CENTERING SYSTEM

Recentres the dough lump before it enters the sheeter. It corrects the position of the dough lump according to size and not mass. The centring system is inactive when it is in its upper position (belt in "large bread" mode).



### 2.B.2.e.SHEETER

The dough lumps are flattened into pancake shapes by passing through 2 adjustable spacing rollers. On exit, the flat breads are taken under a heavy net that rolls the bread to give it a cylindrical shape before moulding. To obtain correct moulding, it is important that the dough lumps be correctly centred when entering the sheeter.



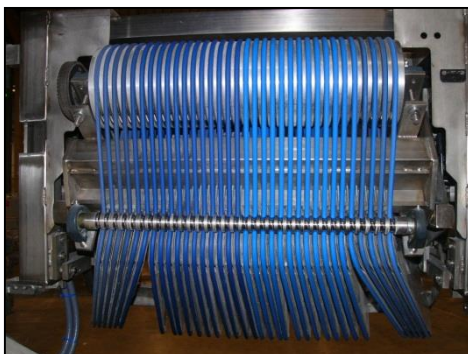
### 2.B.2.f.MOULDER

When exiting the sheeter, the dough lumps are rolled and enter onto the belt and the moulding boards.



### 2.B.2.g.CASSETTE STRETCHER

When exiting the moulding process, the cassette stretcher brings the dough lumps to the final length by stretching. The cassettes are different and are individually adjustable to bring, stretch, and spread out the proportioned dough lumps by constituting as many cassette groups as there are portions. At the end of the stretcher, the baguettes are dropped on the trays which are driven under the machine by a conveyor.



### 2.B.2.h.DEPOSITING TRAY

The depositing tray is designed to drop the dough lumps after stretching onto the trays.



### 2.B.2.i.ELECTRICAL CABINET AND 1.B.2.jCONTROL BOX

Including all electrical connections and control buttons for the machine.



# 3.RESIDUAL RISKS

Risks which cannot be fully eliminated)

According to European Directive 2006/42/CE:

*« When risks continue to exist in spite of all provisions made or when they are non obvious potential risks, the manufacturer will implement warnings. These warnings must preferably use pictograms comprehensible by all. »*

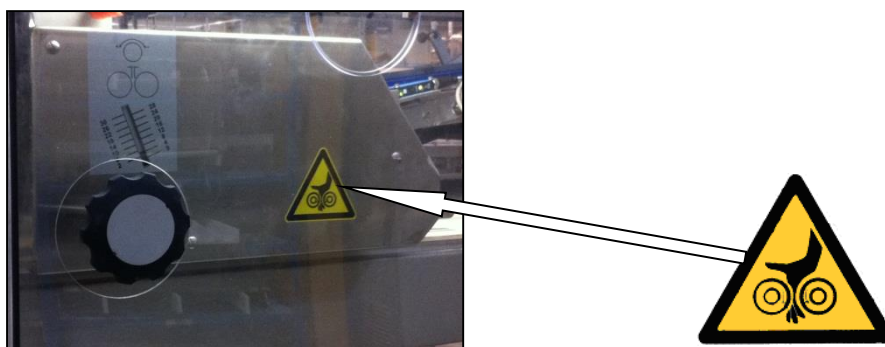
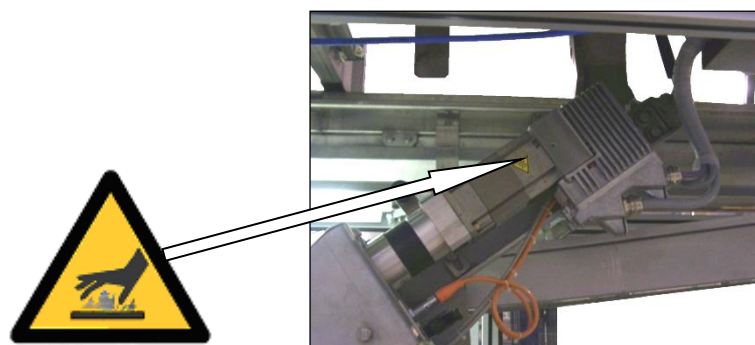
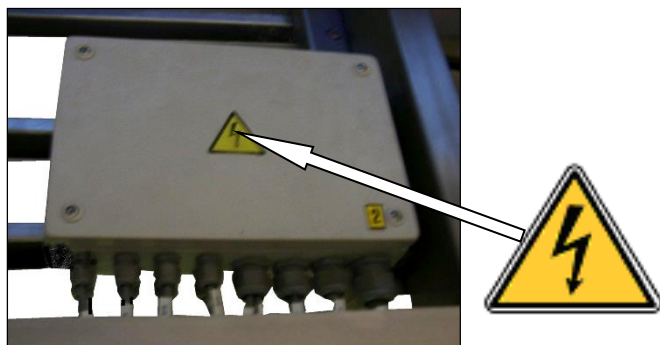


The BLOC RT2 is designed to comply with EEC safety standards (or any other standards according to the country it is installed in). If the machine is not used or worked on in a manner specified by the manufacturer or if safety instructions are not respected, serious and unforeseeable risks may be created


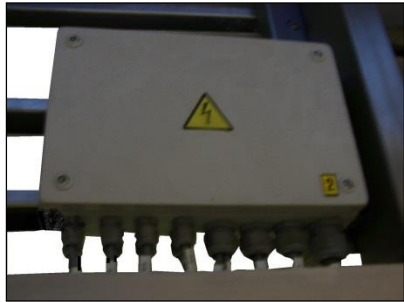





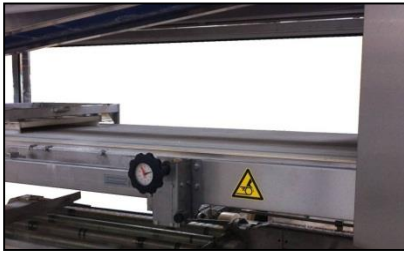

**Safety pictograms**

The BLOC RT2 is factory-equipped with safety pictograms indicating the zones where residual risks reside.

Examples of pictograms on the RT2:



The BLOC RT2 is factory-equipped with safety pictograms indicating the zones where residual risks reside.

<p><b>Warning : Electrical hazard</b> Do not work on a powered electrical cabinet. Be authorized to work in this zone.</p>		
<p><b>Warning : Burning hazard</b> through contact with the recentering device motor.</p>		
<p><b>Warning : Shearing and crushing hazard</b> Do not introduce the hands or any other body parts inside the zones of the machine bearing this pictogram to avoid shearing or crushing hazard.</p>		
		
		

**Reminder :** The unit may **stop automatically** when there is no dough left in the hopper and could **restart automatically** if any object cuts off the beam of the photocell that detects the dough level

# 4. OPERATION AND SETTINGS

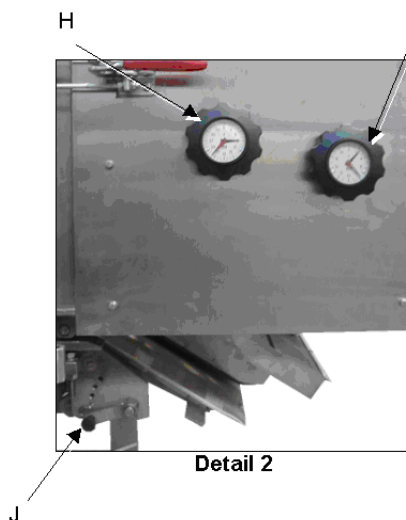
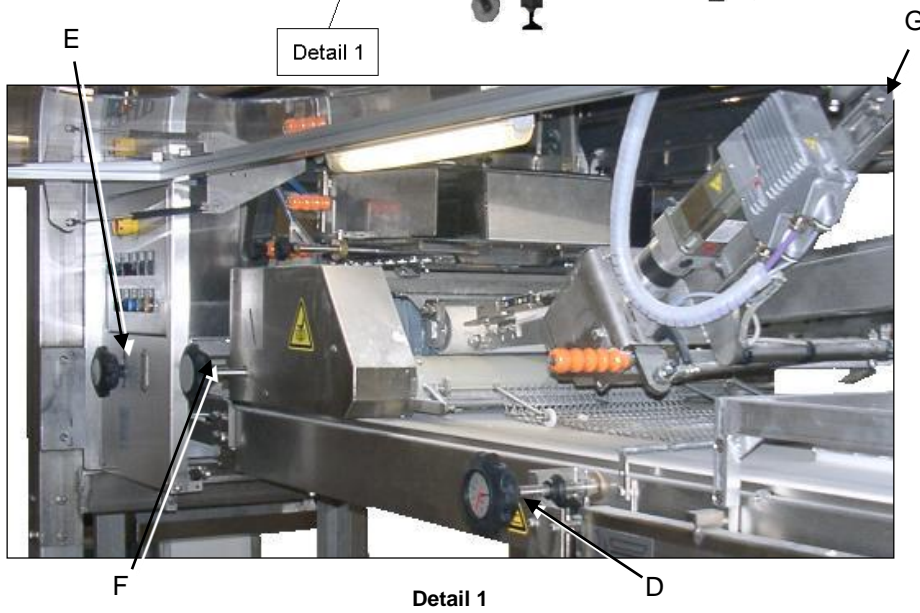
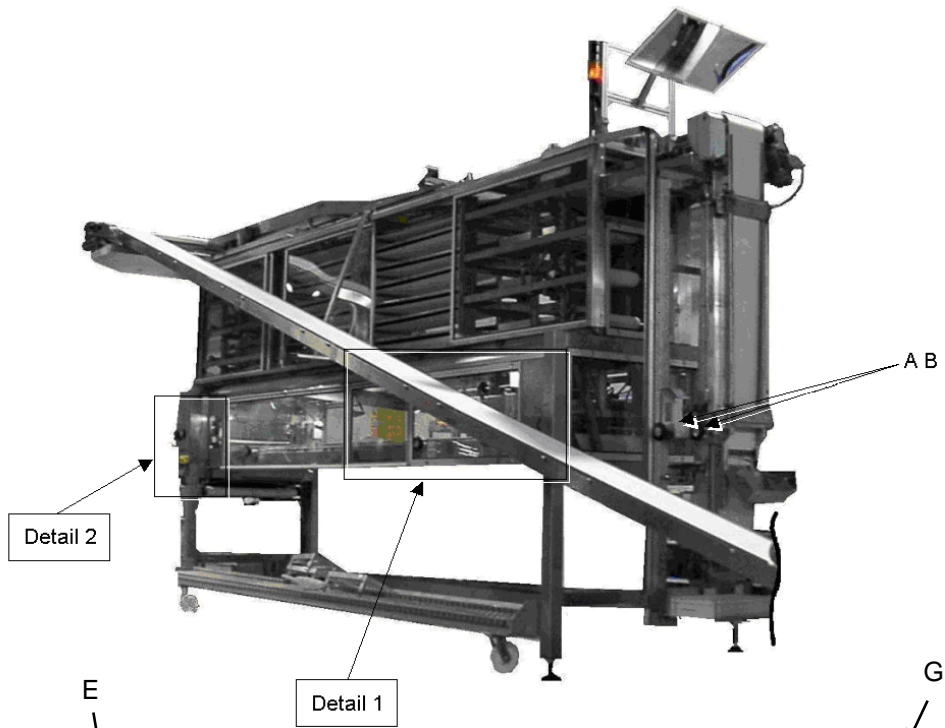
**Caution:**

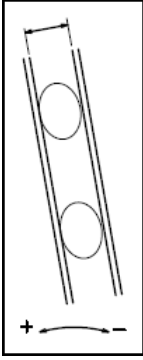
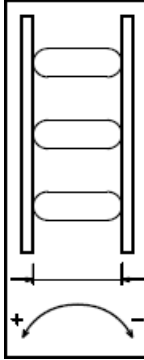
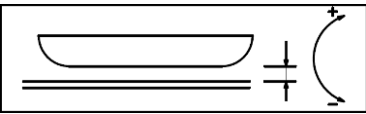

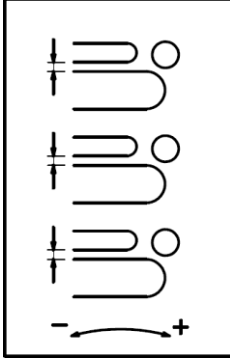
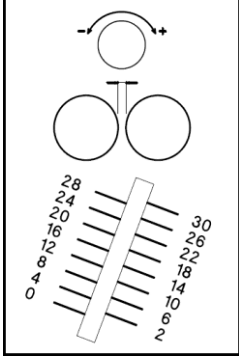
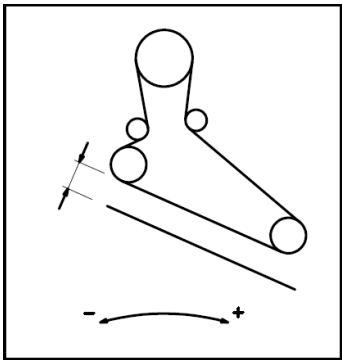
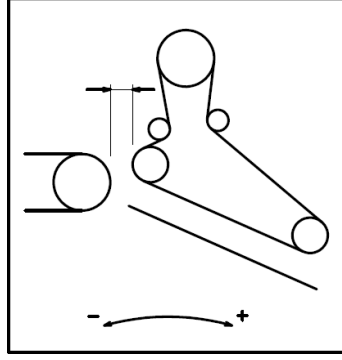
**Wearing gloves is recommended for adjustment operations and imperative for maintenance operations.**

**Safety warning:** When working on the equipment, the line must be **stopped, with the electricity and compressed air switched off.**

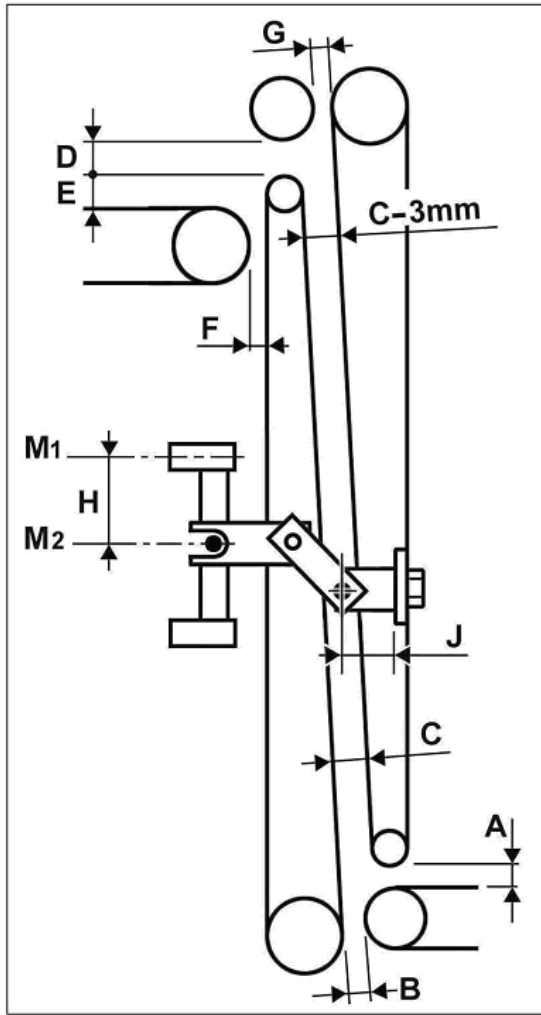


# 4.A.CONTROL AND SETTING COMPONENTS



<p>A) Space between elevator belts (Shape of dough piece) (if elevator)</p> 	<p>B) Space between elevator edges (length of dough piece) (if elevator)</p> 	<p>C) Space between belt and moulding tray (output)</p> 
<p>D) Space between belt and moulding tray (input)</p> 	<p>E) Space between the proofer belts</p> 	<p>F) Space between the sheeter rollers that determines sheet thickness</p> 
<p>G) Adjusting the descending belt's degree of inclination</p>	<p>H) Space between cassette stretcher and the depositing tray (vertical movement)</p> 	<p>I) Stretcher drive chain (horizontal movement)</p> 
<p>J) Adjusting the depositing belt's degree of inclination</p>		

### 4.A.1.Dough piece elevator

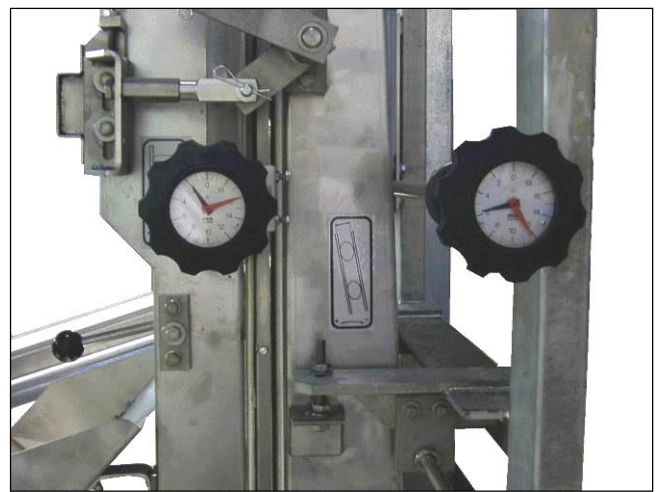


For all adjustments, alignment between the belt beds must be better than 1mm. This means that the space between the edges of two parallel belts must not exceed  $\pm 0.5 \text{ mm} = 1 \text{ mm MAX}$

Rotational speed (variable speed drive):

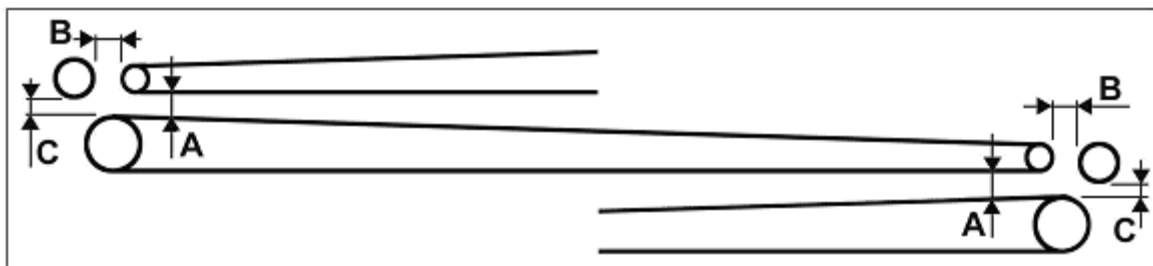
Factory settings (with edges): 50Hz

Setting range: 25 to 50Hz



ITEM	ADJUSTMENT RANGE (mm)	MIN. ADJUSTMENT T (mm)	MAX. ADJUSTMENT T (mm)	INDICATOR (number of scales)	MIN. INDICATOR	MAX. INDICATOR	ASSEMBLY DIMENSION (mm)	ADJUSTMENT T 350g (mm)	ADJUSTMENT T 700g (mm)	ADJUSTMENT T 900g (mm)	OBSERVATIONS
A	-	-	-	-	-	-	20	-	-	-	
B	-	-	-	-	-	-	1-2	-	-	-	
C	30	10	40	36	0	25	20	25	35	40	<b>ALIGNMENT BETTER THAN 1 mm</b> Measured at the entrance and exit of the elevator belt: "C" exit must be 3mm less wide than "C" entrance.
D	-	-	-	-	-	-	18	-	-	-	<b>ALIGNMENT BETTER THAN 1 mm</b>
E	-	-	-	-	-	-	10	-	-	-	<b>ALIGNMENT BETTER THAN 1 mm</b>
F	-	-	-	-	-	-	2-3	-	-	-	
G	-	-	-	-	-	-	2-3	-	-	-	
H	-	-	-	-	-	-	60	-	-	-	From the middle of M1 to the middle of M2.
J	-	-	-	-	-	-	52	-	-	-	

### 4.A.2. Intermediate proofer

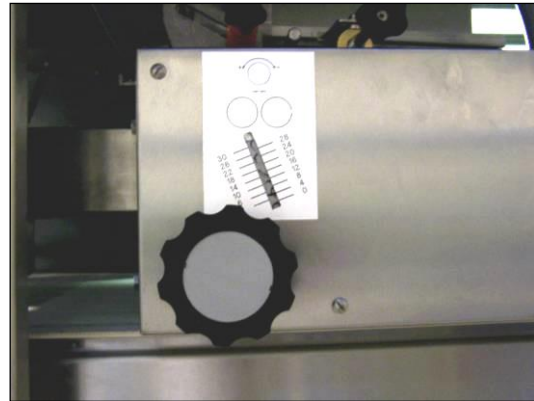
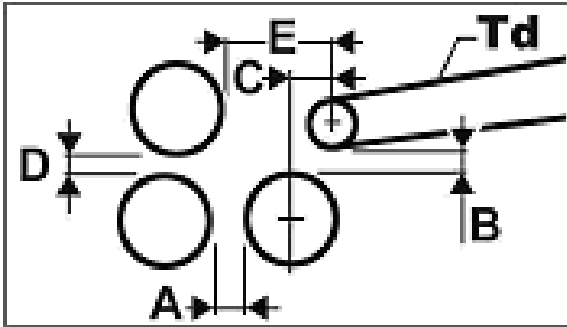


ITEM	ADJUSTMENT RANGE (mm)	MIN. ADJUSTMENT T (mm)	MAX. ADJUSTMENT T (mm)	INDICATOR (number of scales)	MIN. INDICATOR	MAX. INDICATOR	ASSEMBLY DIMENSION (mm)	ADJUSTMENT T 350g (mm)	ADJUSTMENT T 700g (mm)	ADJUSTMENT T 900g (mm)	OBSERVATIONS
A	41	15	56	36	0	36	20	30	42	50	ALIGNMENT BETTER THAN 1 mm
B	-	-	-	-	-	-	20 (25*)	-	-	-	ALIGNMENT BETTER THAN 1 mm * 25 mm to produce dough pieces bigger than 400 g
C	-	-	-	-	-	-	1-2	-	-	-	ALIGNMENT BETTER THAN 1 mm

**N.B.:** All B dimensions must be 20± 0,5 mm, constant from the top of the chamber to the bottom. **Important:** Never increase from the top to the bottom.

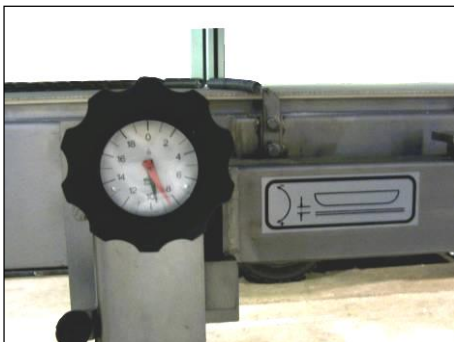
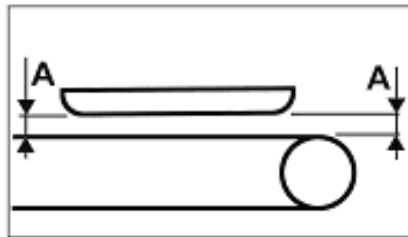


### 4.A.3. Sheeter



ITEM	ADJUSTMEN T RANGE (mm)	MIN. ADJUSTMEN T (mm)	MAX. ADJUSTMEN T (mm)	INDICATOR (number of scales)	MIN. INDICATOR	MAX. INDICATOR	ASSEMBLY DIMENSION (mm)	ADJUSTMEN T 350g (mm)	ADJUSTMEN T 700g (mm)	ADJUSTMEN T 900g (mm)	OBSERVATIONS
A	13	2	15	20	0	9,4	-	3	-	-	
B	-	-	-	-	-	-	1-2	-	-	-	ALIGNMENT BETTER THAN 1 mm * open A fully and load belt Td before adjusting
C	-	-	-	-	-	-	0*	-	-	-	* adjust A = 6 mm * adjust C = 0 mm
D	-	-	-	-	-	-	4,5	-	-	-	
E	-	-	-	-	-	-	-	20	-	-	

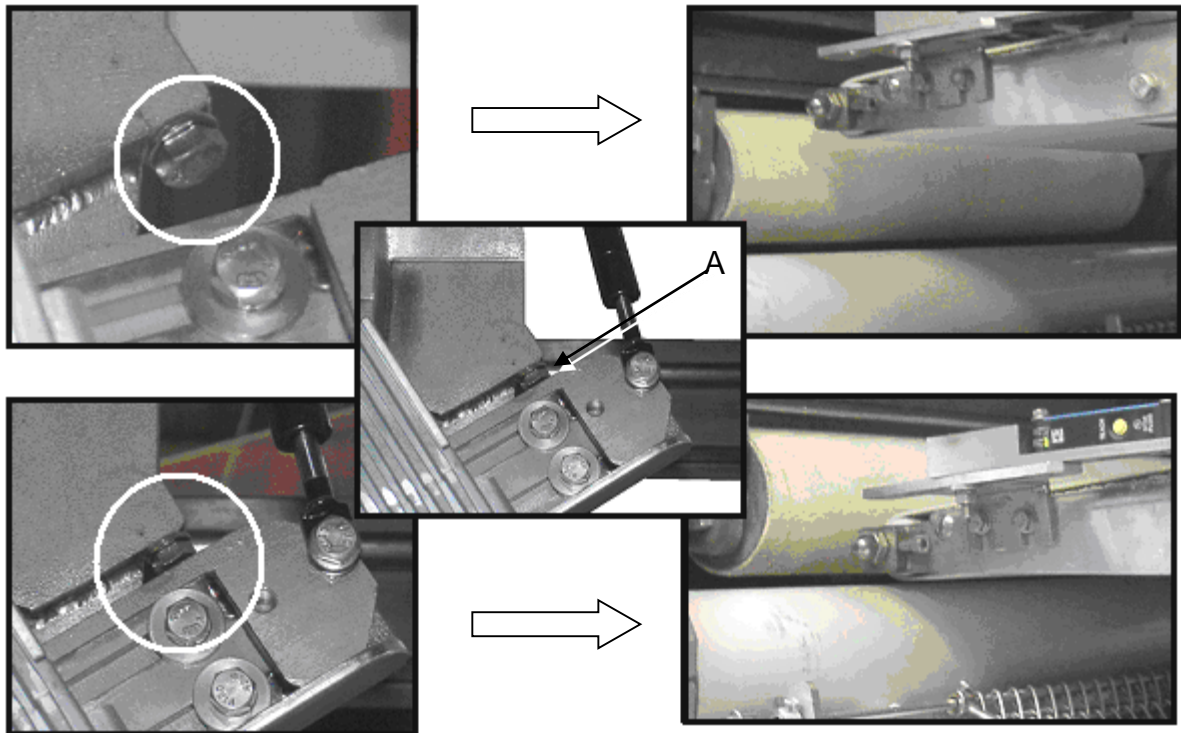
### 4.A.4.Moulding



ITEM	ADJUSTMEN T RANGE (mm)	MIN. ADJUSTMEN T (mm)	MAX. ADJUSTMEN T (mm)	INDICATOR (number of scales)	MIN. INDICATOR	MAX. INDICATOR	ASSEMBLY DIMENSION (mm)	ADJUSTMEN T 350g (mm)	ADJUSTMEN T 700g (mm)	ADJUSTMEN T 900g (mm)	OBSERVATIONS
A	40	15	55	20	0	13,58	-	-	-	-	Adjustments are identical at the FRONT and REAR (factory-adjustments).

### 4.A.5.Descending belt + centering system

Adjust the descending belt's degree of inclination using bolt A.

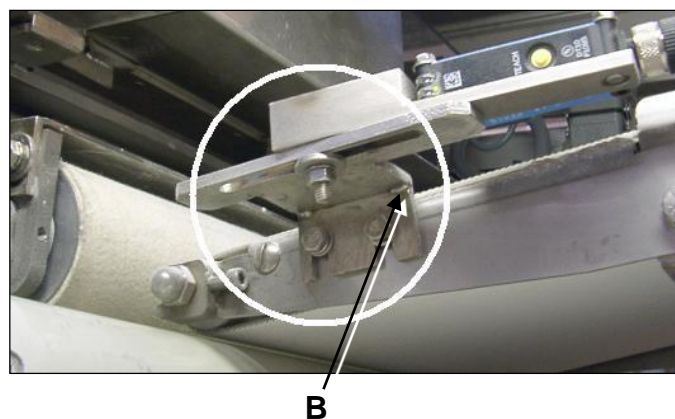


The centering system must be initialised before use.

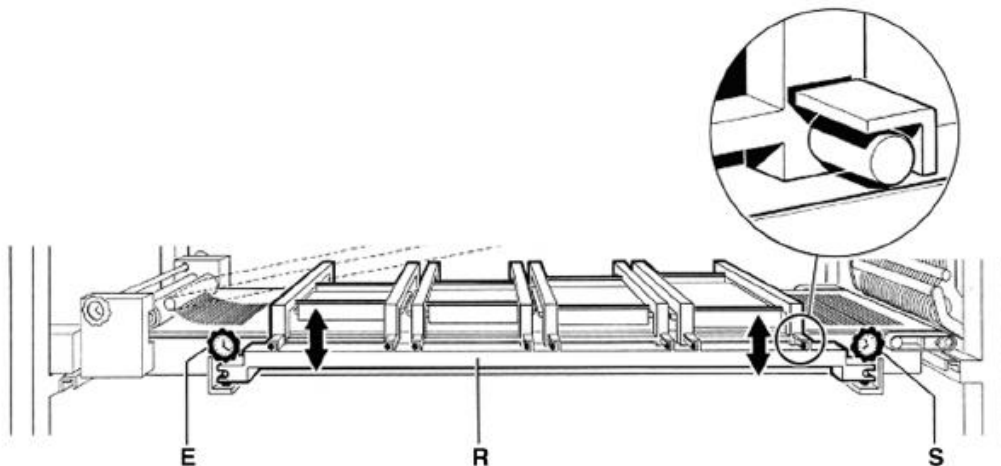
Check that the correct distance is between the centring system cells and the sheeter (150) (if the distance is too short, the dough piece does not have time to be centred before reaching the sheeter).

Adjust that distance by changing the position of screw B.

Note: When a photoelectric cell is moved, do not forget to do the same for the second one and make sure they are aligned.



## 4.A.6.Moulding plates



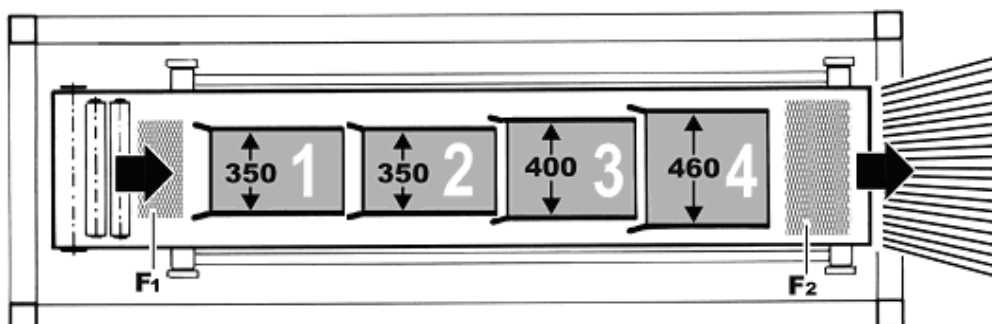
**Setting up** : the plates are put into a height adjustable frame and positioned by means of fingers inserted under support frames. Their sideways and lengthways positions are fixed.

**Adjustment** : the plate support frame R is adjustable in height at the inlet E and outlet S, by means of moulding thickness indicator wheels. The wheels are located at either side of the moulding belt.

### 4.A.6.a.Layout

The moulder includes 1 to 4 moulding trays, 350, 400, 460 and 520 mm wide, placed one after the other. Tray no. 4 can be replaced with a cutting board equipped with knives to divide whole baguettes into varying length sections.

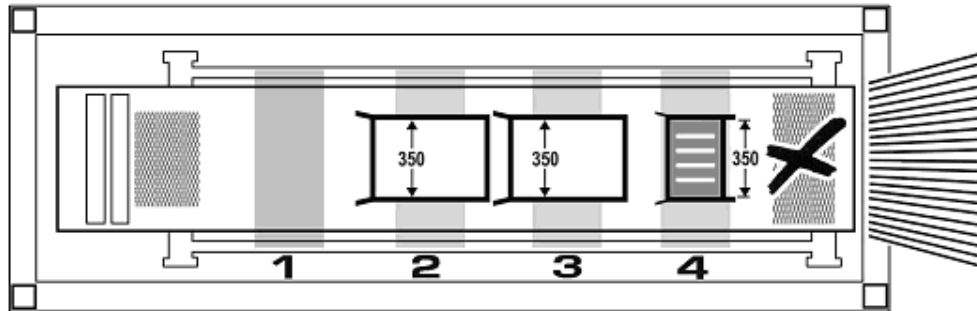
**Whole baguettes**: 2 to 4 trays are used as well as the curling net F1 and positioning net F2.



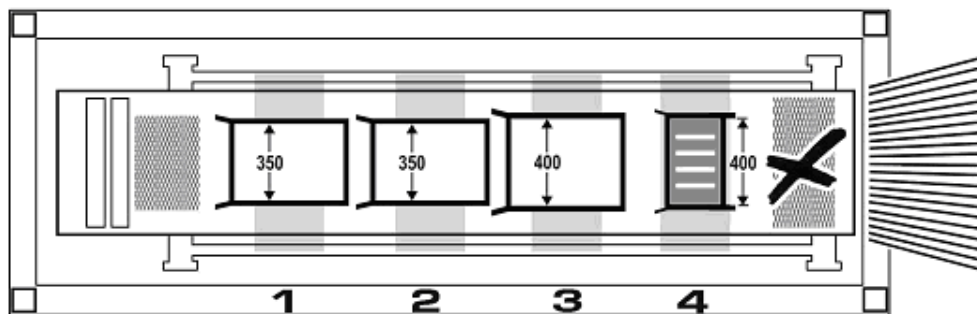
### 4.A.6.b. CUTTING BOARD

Tray no. 4 can be replaced with a cutting board equipped with knives to divide whole baguettes into varying length sections.

**Assembly A:** For chopping moulded products at 350mm.  
Use one or two 350mm wide moulding trays and place them on sections no. 2 and no. 3. The 350mm wide cutting board is secured to section no. 4. Remove the metal

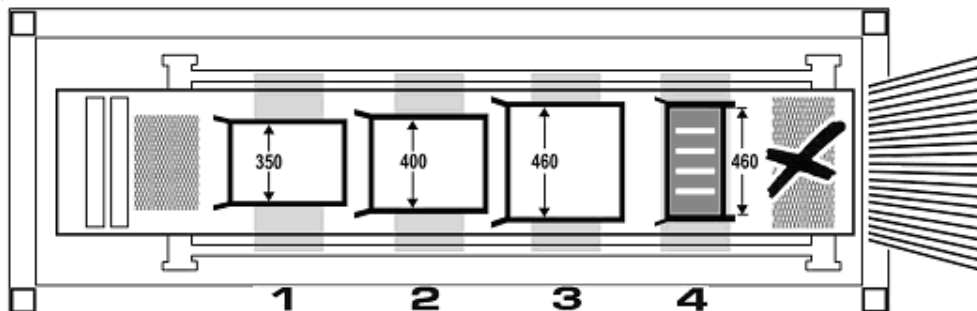


**Assembly B:** For chopping moulded products at 400mm.  
Use one or two 350mm wide moulding trays and place them on sections no. 1 and no. 2. A 400mm wide tray is placed on section no. 3. The 400mm wide cutting board is secured to section no. 4. Remove the metal repositioning mesh.

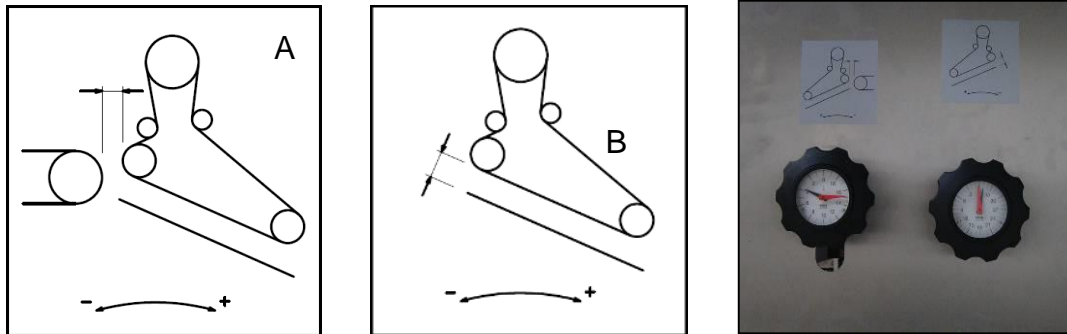


**Assembly C:** For chopping moulded products at 460mm.  
Use one 350mm wide moulding tray on section no. 1, a 400mm wide tray on section no. 2, a 460mm wide tray on section no. 3. The 460mm wide cutting board is secured to section no. 4. Remove the metal repositioning mesh.

**N.B.:** The number of boards varies according to the texture and required length of the dough.



### 4.A.7.Cassette stretcher

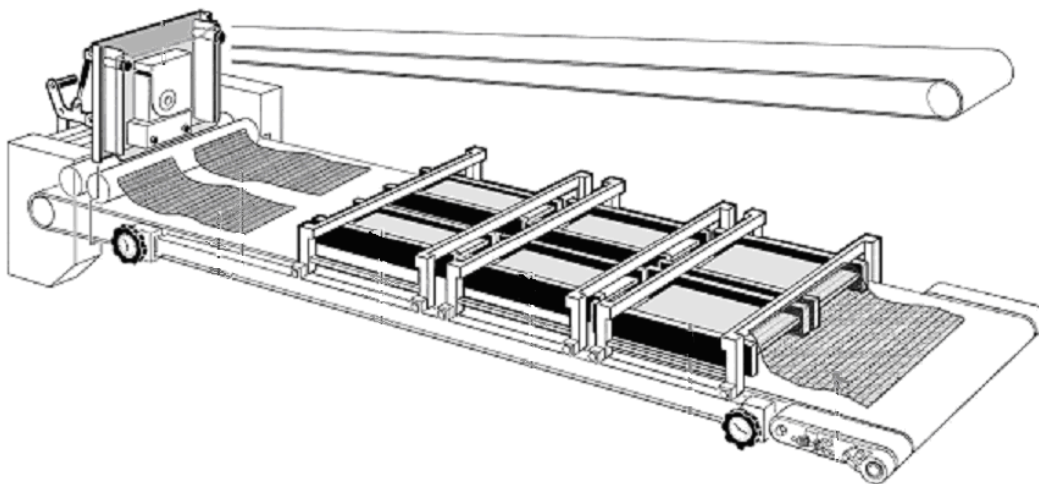


ITEM	Adjustment range (mm)	Min adjustment (mm)	Max. adjustment (mm)	INDICATOR (number of scales)	MIN. INDICATOR	MAX. INDICATOR	OBSERVATIONS
A	28	20	48	20	0	12	
B	43	12	55	36	0	39,08	
	-	-	-	-	-	-	ALIGNMENT BETTER THAN 1 mm between board and belts On positions: *P1 → board and belts are parallel p2, P3 and P4: Board and belt come together on exit

### 4.A.8.Short bread (option)

#### 4.A.8.a.DESCRPTION

This equipment automatically moulds and deposits heavy and short products such as country breads. Dough piece moulding is carried out on two parallel tracks, with alternative distribution on each of the tracks via a dough piece distribution device.



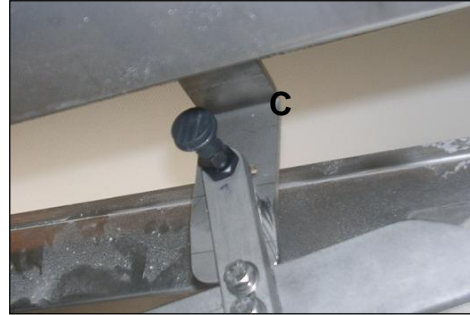
## 4.A.8.b.FITTING AND ADJUSTING

### FITTING THE DISTRIBUTION DEVICE

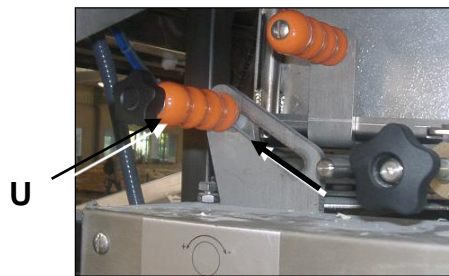
**A. Resting position:** The distribution device is in its upper position, the unloading belt is in the lower position and the counter roller is forward.

**B. Working position:**

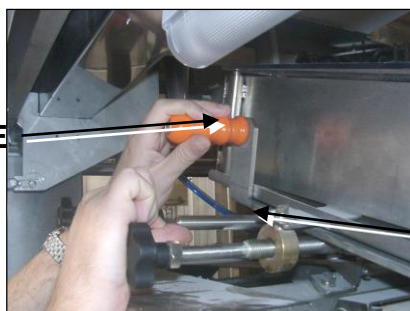
- Lift the unloading belt **T** to the upper position until the pegs **C** are in place.
- 



- Push the counter roller backwards (unlock the knob **U**)



- Unlock the index finger **D** and pivot the distribution device using **E**. The distribution device is in its operating position when it is lowered.



### CONTROL

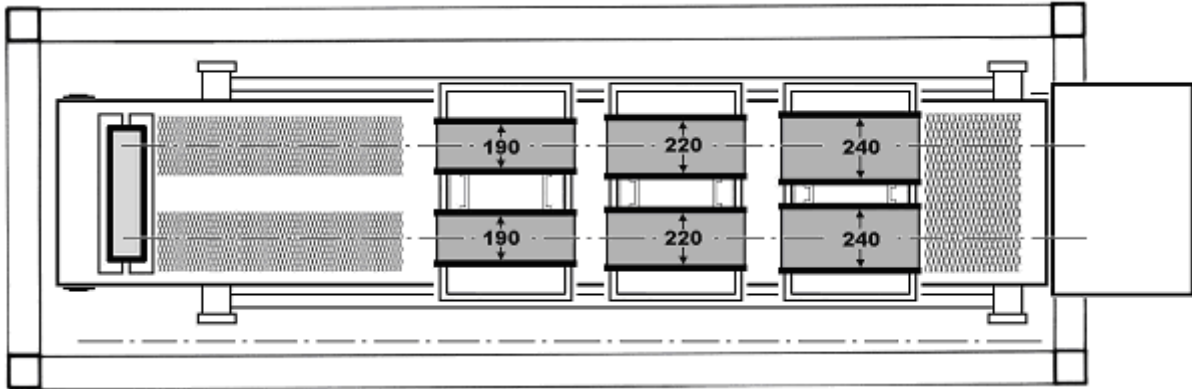
On the electrical cabinet, switch the "short bread selector" switch to 1 (or ON) to turn the distribution device on.

Switch to 0 (or OFF) to stop it.

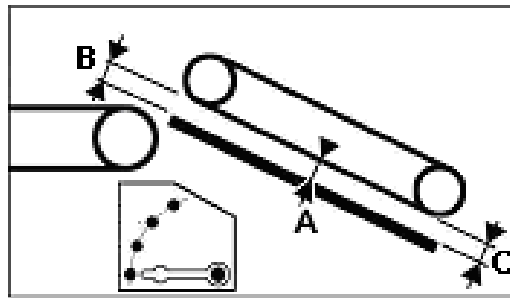
**N.B.:** This control activates or deactivates pneumatic power supply to the distribution device

### DUAL TRACK MOULDING TRAY

The moulding device includes 3 dual-track trays placed on sections no. 2, 3, and 4 depending on what is needed. Section no. 1 is taken up by the double curling net located at the exit of the sheeter.

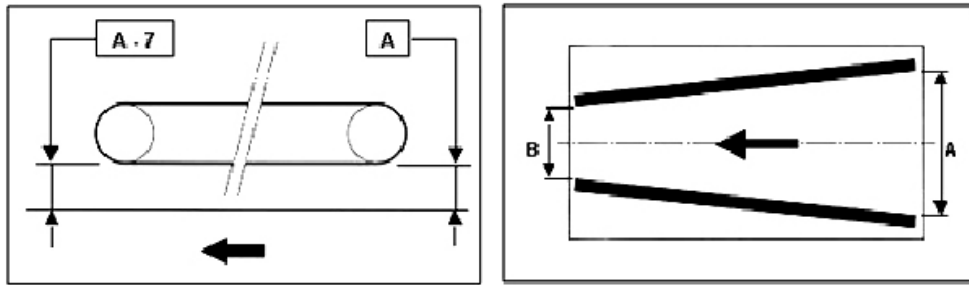


### 4.A.9.Descending belt (option)



ITEM	ADJUSTMENT RANGE (mm)	MIN. ADJUSTMENT T (mm)	MAX. ADJUSTMENT T (mm)	INDICATOR (number of scales)	MIN. INDICATOR	MAX. INDICATOR	ADJUSTMENT INDEPENDENT FROM WEIGHT (mm)	ADJUSTMENT T 350g (mm)	ADJUSTMENT T 700g (mm)	ADJUSTMENT T 900g (mm)	OBSERVATIONS
A	56	10	66	20	0	20		-	-	-	ALIGNMENT BETTER THAN 1 mm between board and belts On positions: *P1 → board and belts are parallel P2 P3 → Board and belt P4 → come together at exit
B-C	-	-	-	-	-	-	*	-	-	-	

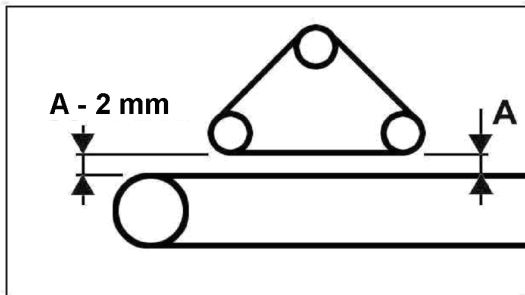
### 4.A.10. Counter moulding belt (option)



A min	A max	B min	B max
300	580	300	580

ITEM	ADJUSTMENT RANGE (mm)	MIN. ADJUSTMENT (mm)	MAX. ADJUSTMENT (mm)	INDICATOR (number of scales)	MIN. INDICATOR	MAX. INDICATOR	ASSEMBLY DIMENSION (mm)	OBSERVATIONS
A	65	15	80	20	0	17	-	TRANSVERSAL ALIGNMENT BETTER THAN 1 mm

### 4.A.11. Stretching belt (option)



ITEM	ADJUSTMENT RANGE (mm)	MIN. ADJUSTMENT T (mm)	MAX. ADJUSTMENT T (mm)	INDICATOR (number of scales)	MIN. INDICATOR	MAX. INDICATOR	ADJUSTMENT INDEPENDANT FROM WEIGHT (mm)	ADJUSTMENT T 350g (mm)	ADJUSTMENT T 700g (mm)	ADJUSTMENT T 900g (mm)	OBSERVATIONS
A	44	11	55	20	0	15	-	-	-	-	ALIGNMENT BETTER THAN 1mm <b>along the transversal direction of the moulding belt.</b> Difference between the height at the ENTRANCE and EXIT of belt = -2mm.

## 4.B.GENERAL REMINDER OF EQUIPMENT MAINTENANCE

### Equipment maintenance

Regular visual inspection of the different mechanical components as well as the belts and adjustment components prevents breakdowns that may have serious consequences.

In general, it is essential to regularly coat all areas on your equipment that need grease.

It is also essential to check that all hardware and fastening components on mobile equipments are sufficiently tight. It is also essential to clean your equipment regularly to ensure correct operation.

**Safety warning:** When working on the equipment, the line must be **stopped, with the electricity and compressed air switched off.**

### 4.B.1.Preventive maintenance program

During and at the end of production	Weekly maintenance	Monthly maintenance	Quarterly maintenance	Other interval
During production	Clean: -the drive chains -the blades and portion boards -the rollers (motor transfer) -the motor fins to remove flour.	Clean electrical components.	Check for wear on transfer belts.	Bi-annually
Clean surrounding environment				Check that fastening components on mobile elements and the green strip on drive rollers are sufficiently tight.
Check spacing of dough pieces and correct positioning on the belt.	Check: -chain tension. -LED operation on electrical cabinet. -the motor chain on the stretcher. -stretcher belt tension.	Visual inspection of seals, bearings, geared motors for signs of leaks.	Top up oil in the geared motors (if they are not lubricated for life).	Anually
Check efficiency of sheeter scrapers. If necessary, clean at the end of the production run.	Lubricate: -the sheeter roll with a self-adhesive lubricant. -the drive chains -the stretcher chains and bearings			Change: -the scrapers if necessary. -the belts and nose roller bearings.
Check tension, alignment and cleanliness of belts and rollers to prevent premature wear.				Grease bearings.
At the end production				Every 3 years
Wipe off the photoelectric cells				Replace: -oil in the geared motors -grease in the bearings -the motor sealing rings -the belt rollers
Empty the recovery trays				
Remove residue of dough on the moulding belt, counter moulding belt and both belts on the elevator.				Every 5 years
				Replace bearings and roller bearings on the machine

## 4.B.2.What to do if...

### 4.B.2.a.In the elevator

Problems	Cause	Solution
Appearance of lumps falling on the sides	a) Dough piece poorly centred at the entrance of the elevator b) The edges do not touch the mobile belt c) Too much compression	1) Recentre the dough pieces by adjusting the sizing belt 2) Remove, clean and refit and make the edges touch (take care not to block the belt) 3) Open the separation between the belt and/or edges
The moving belt blocks	a) Too much compression b) The belt is too slack	1) Open the separation between the belt and/or edges 2) Tighten the belt

### 4.B.2.b.Exiting the elevator

Problems	Cause	Solution
The dough pieces are alternately to the left or to the right or shaped like cones		Using the sizing belt edges, adjust the linear layout of the dough pieces coming into the elevator (see divider manual)
The distance between dough pieces is alternately short and long		Adjust the ejection points on the divider (see divider manual)
The dough pieces are conical or carry a bump always located on the same side	Poor alignment of the divider and elevator	Recentre the divider and sizing belt in relation to elevator
The distance between dough pieces is irregular or there are twin pieces.	The distance between the belt and elevator is too large.	Bring the elevator closer
The dough pieces twist		Open the elevator

### 4.B.2.c.In the proofer unit

Problems	Cause	Solution
The dough pieces are lopsided when transferring between belts	a) The dough pieces are not cylindrical when exiting the elevator b) The dough pieces have too much flour and slide during transfer c) The dough pieces glue to the belt return d) The dough pieces are not guided during transfer and fall e) The dough pieces glue to the noses on the sheets under the belt f) The transfer rollers are dirty g) Alignment fault between the transfer roller(s) and the opposite belt nose.	a) See previous section b) Reduce flour dusting c) Increase flour dusting d) Tighten the transfers e) Shape shorter cylinders in the elevator f) Clean the rollers g) Realign
The dough pieces are not centred	a) One or more belts travel to the side, the dough piece move from left to right or vice versa from the entrance to the exit of the belt system b) One or more belt frames are not correctly installed	Adjust and/or change
Spacing is irregular	Transfers are too open, the dough pieces fall and are not correctly guided	Tighten the transfers

### 4.B.2.d. Sheeting and rolling

Problems	Cause	Solution
	Presence of a central bubble after rolling	Decrease or increase sheeting thickness
The flat piece does not roll	a) Problem resides at the beginning only b) Dough pieces with too much flour c) Flat piece too thin d) Worn descending belt	a) Dampen the dough pieces and the moulding belt b) Reduce flour output c) Slightly open the sheeter d) Change the belt

### 4.B.2.e. Moulding

Problems	Cause	Solution
The ends are not closed	Poor moulding height	Decrease moulding height
The dough piece is shaped like a bone	Poor moulding height	Increase moulding height
The dough piece is larger on one side	a) The dough piece is poorly centred at the entrance of moulding b) The left and right edges are not spaced identically c) The counter belt and moulding belt are not transversally aligned (left-right) d) One side of the dough piece comes out of moulding before the other side e) The dough piece is poorly shaped	a) Move the unloading belt and recentre it b) Adjust with identical dimensions c) Adjust alignment. Warning: the inclination between the entrance and exit must remain d) Causes and solutions are identical to those in previous point e) Mould larger by tightening the edges and increasing the moulding height. Use the stretcher to obtain the desired length

### 4.B.2.f. Depositing

Problems	Cause	Solution
One or several channels are empty	a) Residues of dough are glued to the depositing belt or on cassette stretcher and are detected by the cell b) The cell occasionally detects the depositing belt or cassette stretcher c) The depositing settings programmed in the proofer OP are not correct (Drop time for dough pieces – Position for 1st drop – Number of dough pieces per tray – Distance between two drops) d) Can be caused by offset timing	a) Clean the belt b) Slightly move the cell c) Reprogram the OP d) The problem is limited to one tray only
Twins appear	a) The cell does not detect all dough pieces b) The cell detects the depositing tray c) The depositing settings programmed in the proofer OP are not correct (Drop time for dough pieces – Position for 1st drop – Number of dough pieces per tray – Distance between two drops) d) Can be caused by offset timing	a) Realign the cell in the axis of the reflector b) Distance the cell from the tray and secure it closer to the drop point c) Reprogram the OP d) The problem is limited to one tray only

## 4.B.3. Geared motor

### 4.B.3.a. Commissioning

Worm wheel reducers require an adaptation period of at least 24 hours before providing maximum efficiency. If the geared motor must operate in both rotation directions, the break-in period will be of 24 hours for each direction.

### 4.B.3.b. Inspection and maintenance operations

Do not mix synthetic lubricants and mineral lubricants together!  
As a standard, the geared motors are filled with oil.

### 4.B.3.c. Oil inspection

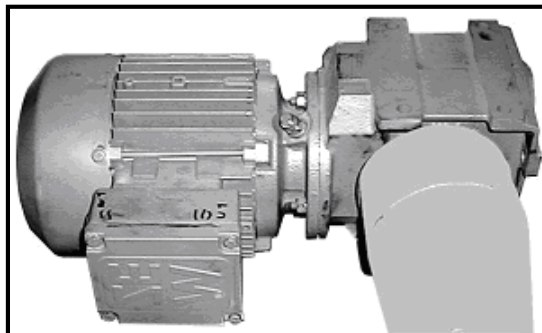
1. Take an oil sample from the drain plug.
2. Check oil quality (colour, consistency) If the oil is dirty, replace it (see below)  
**For geared motors with a level plug**, remove the level plug. Check oil level. If necessary, top up. Refit the plug.

### 4.B.3.d. Oil replacement

Replace oil only if it is at room temperature. If the oil is too cold it may not be liquid enough to pour correctly.

**Drain only if the surface of the geared motor is cool. If it is too hot, the oil may cause serious burns!**

1. Place a container under the drain plug.
2. Remove the level plug, the vent plug and the drain plug.
3. Drain the oil.
4. Refit the drain plug.
5. Fill with new oil through the vent. The quantity depends on assembly position. Check level from plug.
6. Refit the level plug.
7. Refit the vent plug.

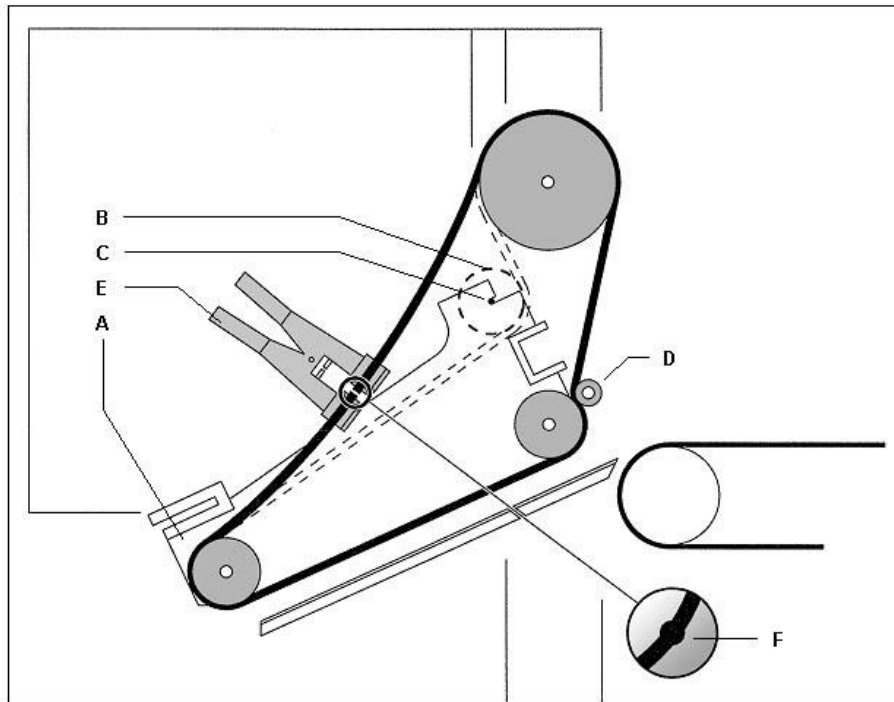


### 4.B.3.e.What to do if...

<b>Problems</b>	<b>Cause</b>	<b>Solution</b>
<b>Cyclical</b> and unusual operating noises	a) Rolling noise: bearings damaged b) Irregular rattling on the gear teeth	a) Check oil b) Contact customer service
<b>Irregular</b> and unusual operating noises	Oil dirty or insufficient quantity	Check oil
Oil leak on <ul style="list-style-type: none"> <li>• Motor flange</li> <li>• Motor shaft seal ring</li> <li>• Geared motor flange</li> <li>• Output shaft seal ring</li> </ul>	Seal damaged	Contact customer service
Oil leak on vent plug	a) Too much oil b) Vent plug poorly positioned c) Cold start frequent (oil foams) and/or level too high	a) Correct oil level. b) Refit the vent plug. c) Replace vent plug with vent valve

## 4.B.4.Replacing stretcher belt

### Steps to perform



1. Pivot the stretcher unit by opening the clamp above the adjusting wheels.
2. Open the window in the front of the stretcher.
3. Find cassette (**A**) where the damaged belt is located.
4. Push the tension pulley (**B**) to the rear gently. Remove the pulley taking care not to loose the axle (**C**).
5. Remove the damaged belt. Cut it if it is not already cut.
6. Cut a new belt to the same dimensions.
7. Insert this new belt into the cassette by loosening the support roller (**D**) as needed. The connection of both ends must be performed in the area indicated on the drawing.
8. Weld the belt using the welding tong (**E**) – see instruction manual on next page
9. After welding, eliminate beads (**F**) without damaging the belt.

### TAKE CARE NOT TO DAMAGE THE BELT

10. Refit the tension pulley (**B**).
11. Refit the support roller (**D**) in its original position.

**Use:**

The welding device PQ-15 was specially designed for rapid and safe welds on round Polycord belts up to 15mm diameter.

**Method of operation:**

The thermal power and PQ-15 welding iron (2) adjustments are optimally adapted to the energy needs when welding Polycord round belts with hot blade (1).

The design of the guide heads (11) fitted on the guide tong (5) guarantee butt welding without offsetting the Polycord round belts.

The closure spring (3) on the guide tong (5) has three adjustable position, allowing connection for all-diameter Polycord round belts with an almost optimal butting pressure. The adjustment tray (8) located on the guide tong (5) indicates the position required of the closing spring (3) for each belt diameter.

The support (6) eases handling. Using a sufficient number of guide tongs (5) and supports (6) make for regular work.

**Commissioning:**

Secure the support (6) to the workbench using the lock bolt (7).

Fit the guide tong (5) on the support (6).

By working the 2mm diameter Polycord round belts, set the distance between both guide heads (11) at 2mm using the stop bolt (13). The stop bolt (13) is also used as a stop to prevent the guide heads (11) from touching.

Connect the welding iron (2) to the power supply and place the wire clamp.

**Warning:** Never hang the welding iron (2) from the cable with the heated blade (1) downwards (risks of deterioration).

Weld the Polycord round belts.

Cut the Polycord round belt at a right angle using snips S-16 (see chapter "Available accessories").

Deciding on the belt length: see manual 1260

Click the closing spring (3) into the required position (adjustment tray 8)

Open the guide tong (5) and secure it by inserting the safety clamp (4) into the hole.

Open the guide heads (11) by loosening the knurled nuts (12).

Insert the ends of the belt laterally into the guide heads (11) and provide an excess of 2-4mm according to diameter.

Secure the belt using the knurled nuts (12)

**Important:** Secure the belt without torsion stress, meaning in its resting elastic condition.

Insert the welding iron (2) between the guide heads (11).

Loosen the safety clamp (4) and delicately close the guide tong (5).

Let the ends of the belt melt until the bead reaches approx. 1-2mm according to belt diameter.

**Important:** Do not breathe vapours produced by the welding (only perform welding operations in ventilated areas)!

Slightly open the guide tong (5).

Remove the welding iron (2) and set it on the wire clamp. At the same time, delicately close the guide tong (5) (connection of both melted zones).

Let the 1-2mm connection cool down in the guide tong (5)

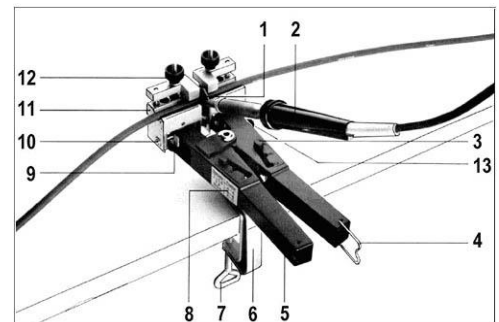
Open the guide heads (11) by loosening the knurled nuts (12) and remove the connected belt.

Open the guide tong (5) and close the safety clamp (4).

The PQ-15 welding device is ready for the next joining.

After use, disconnect the welding iron (2) from the power supply.

After having removed the bead using a tweezers, file, or emery disc, the Polycord round belt is ready for use.

**Maintenance:**

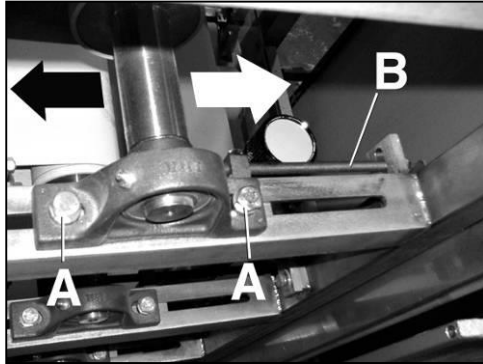
Using a soft cloth, clean the heating blade (1) with hot water to remove melted material from the Polycord.

**Important:** Never clean the heating blade (1) using hard objects (screwdriver, spatula, etc.) (risks of damage to the Teflon coating)!

Check that the guide tong (5) moves freely. Clean and oil the pin (9) regularly as well as the guide rod (10) if necessary.

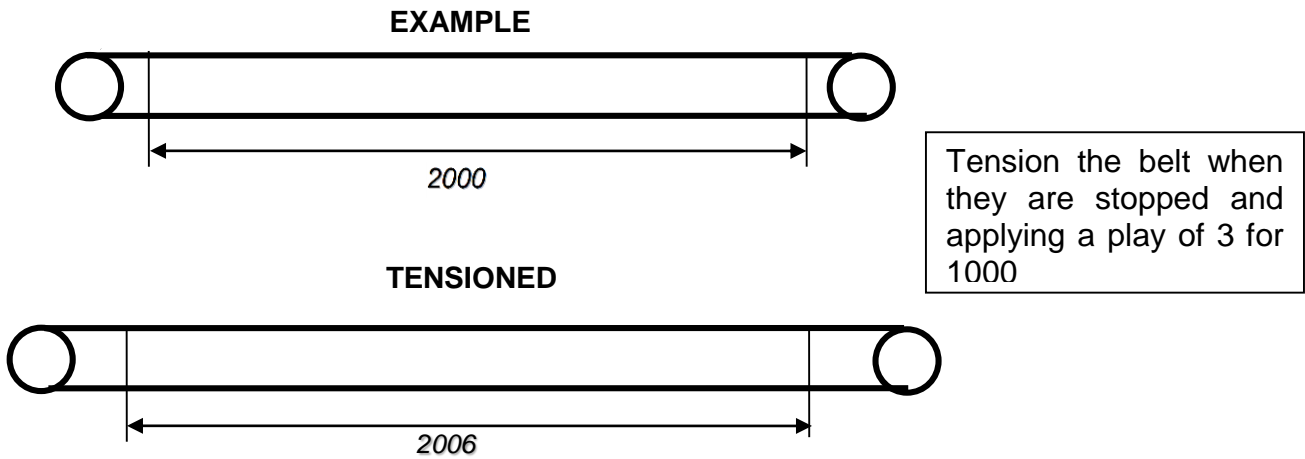
### 4.B.5. Belt tension

Proofer belt tensioning is always performed on the drive rollers to prevent misalignment between the nose rollers and passage rollers.



Loosen screws A  
Adjust using screw B  
Tighten screws A

In general, the line must be stopped, with the electricity and compressed air switched off when working on the machine. However, adjustment operations on a deviating belt can be performed with the machine in operation. It is necessary that all precautions be taken (See Safety chapter).

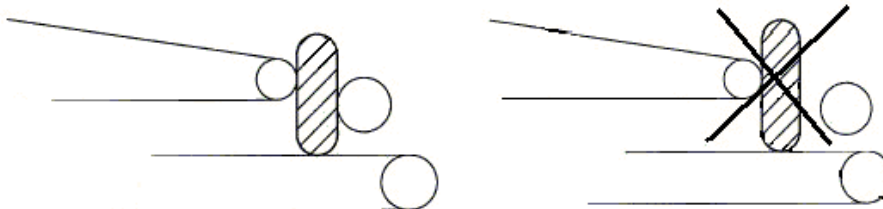


### 4.B.5.a.Transfer

Check that the conveyor belt does not slip. If they do, tension them.

Make sure the dough pieces are correctly transferred to each level of the proofing chamber (adjust tightness or loosening as necessary). If the dough pieces come together in the proofing chamber that means that belts are slipping. In this case, tension the belts.

**See "Tensioning the proofer belt".**



### 4.B.5.b.Ventilation

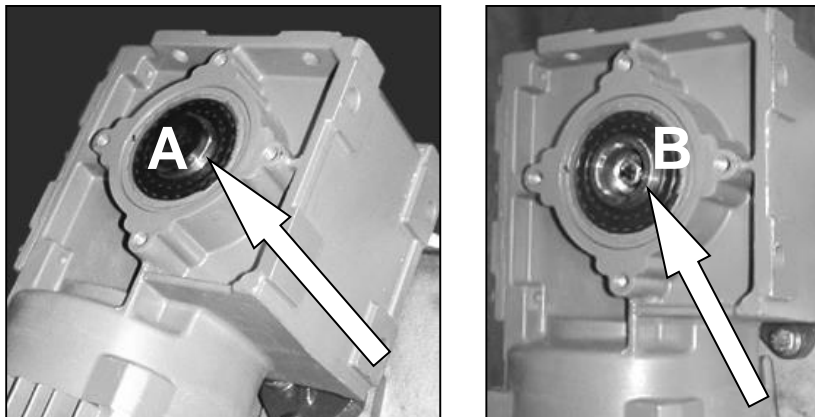
If the products are too gluey when transferring from one belt to the other, it is possible to create a draft by opening the central sliding doors (doors not secured) and the trapdoor on the top of the machine. This prevents the product surface from being too humid.

## 4.B.6.Replacement of the elvator belts

### 4.B.6.a.Disassembling of the mobile belt

#### Dismount the motor

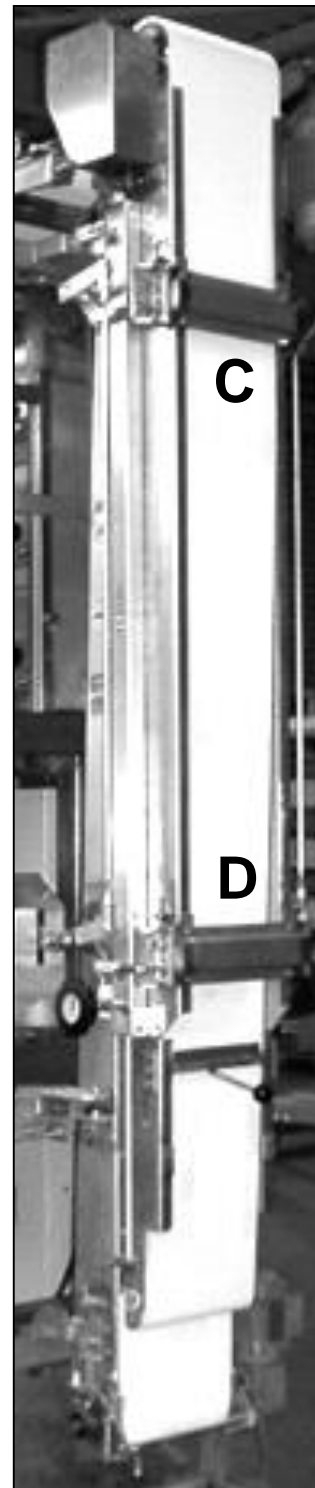
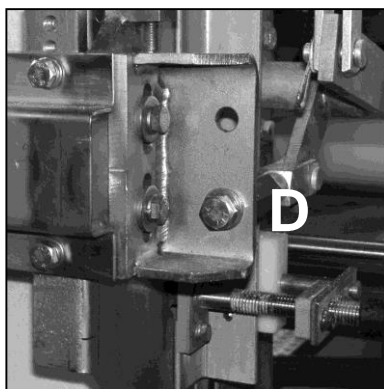
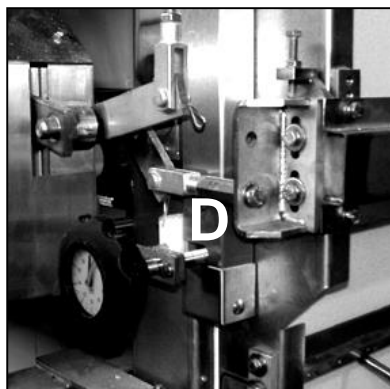
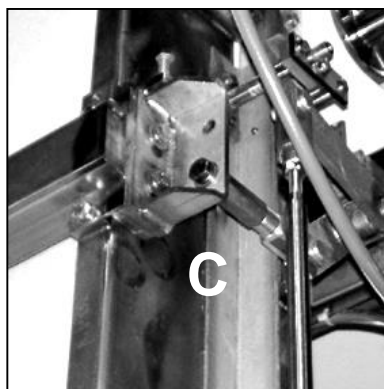
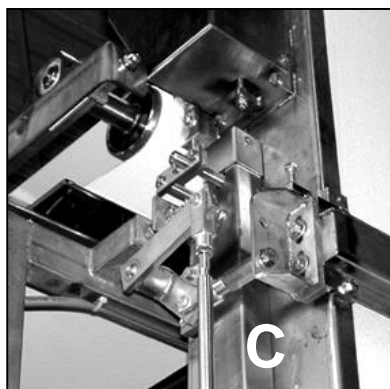
Remove the plastic cap **A** to reach the locknut **B** of the motor on the shaft.



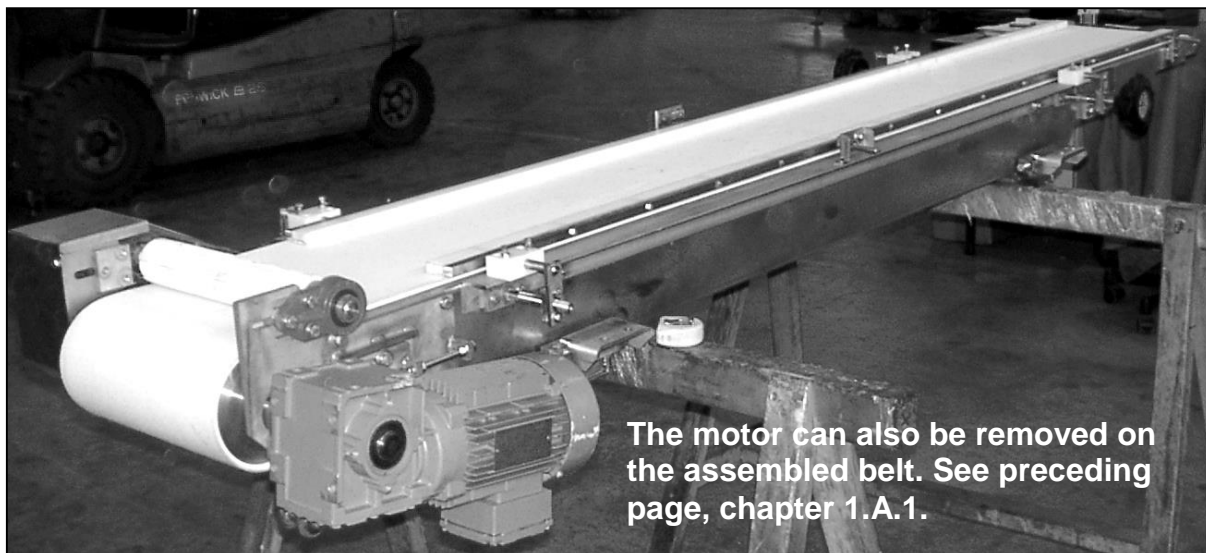
Pull the motor outwards and pose it on the top of the bloc.

#### Dismount the mobile belt

**Caution** : support the belt assembly during these operations. Remove left and right in **C** (top) and **D** (bottom).

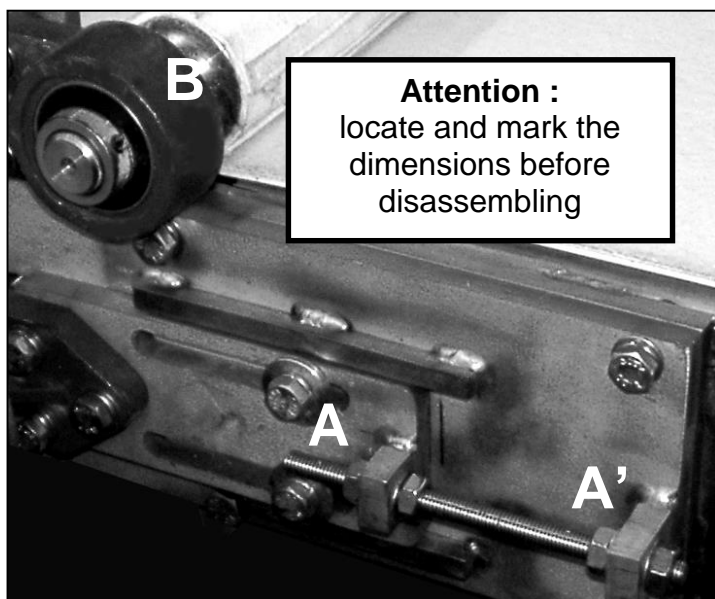


Pose the entire mobile belt on trestles as indicated below.



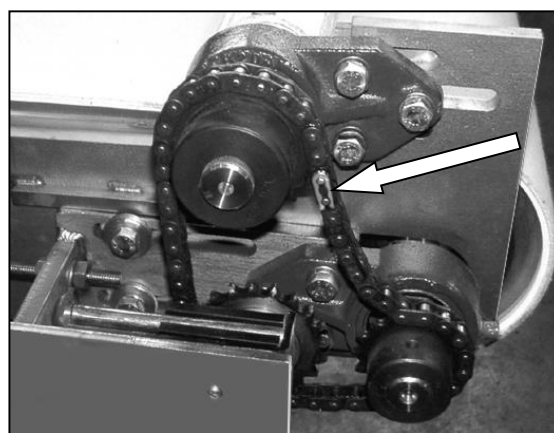
### Slacken the belt

Slacken the belt while operating the screws **A** and **A'** (below) on each side of the frame.



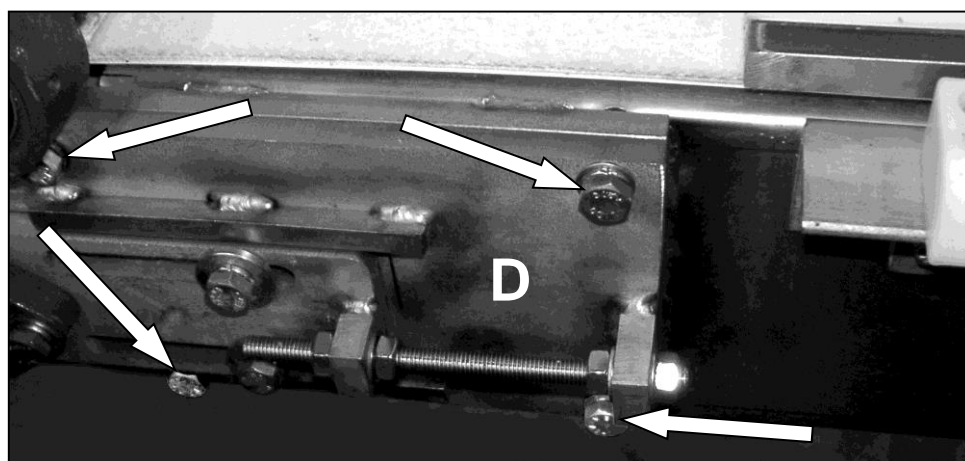
### Dismount the ejection roller (B opposite)

Unlock the quick fix of the chain (arrow below).

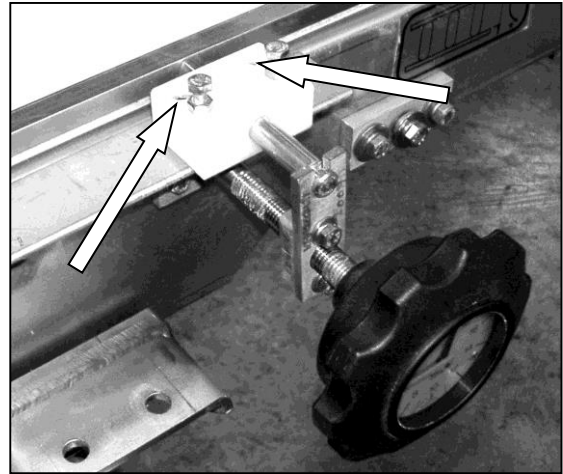
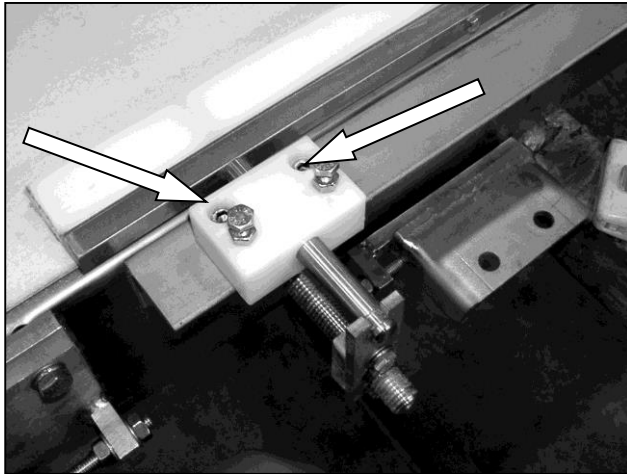


### Remove the flange D

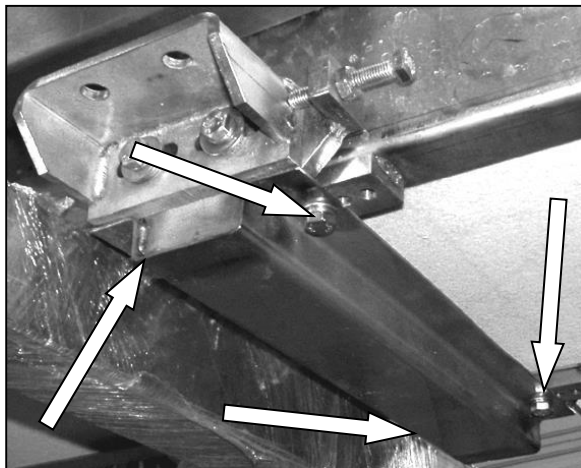
opposite by unscrewing the screws located by arrows.



### Dismount the edges



### Remove the fixing cross beam (8 x 16 screws below)



### Dismount the scraper (see below).

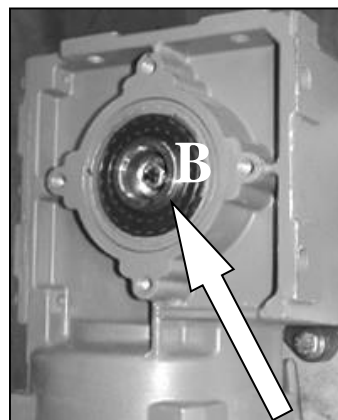
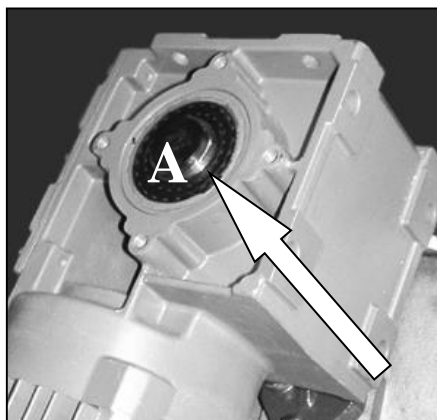


**Caution :**  
locate and mark the dimensions  
before disassembling.

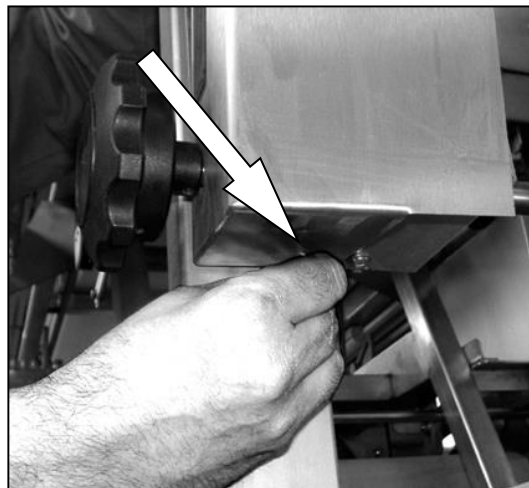
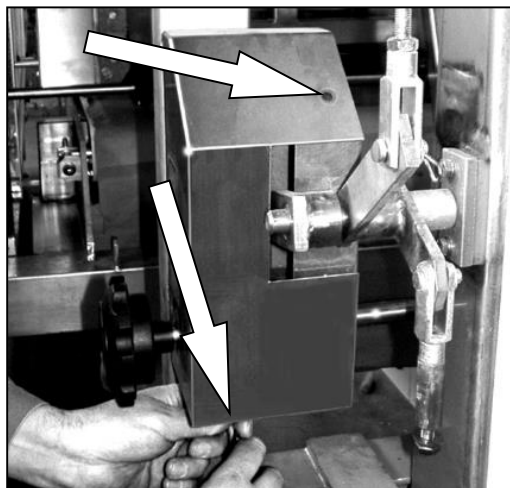
### 4.B.6.b. Disassembling of the fixed belt

#### Dismount the motor

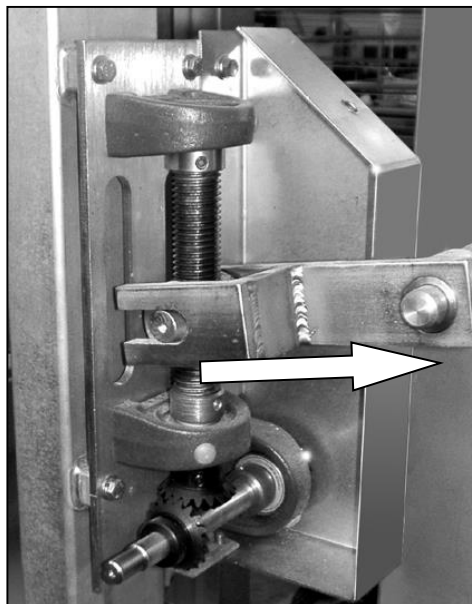
Remove the plastic cap **A** to reach the locknut **B** fixing the motor on the shaft. Remove the motor and pose it by ground beside the bloc.



#### Dismount the cover of the adjusting device



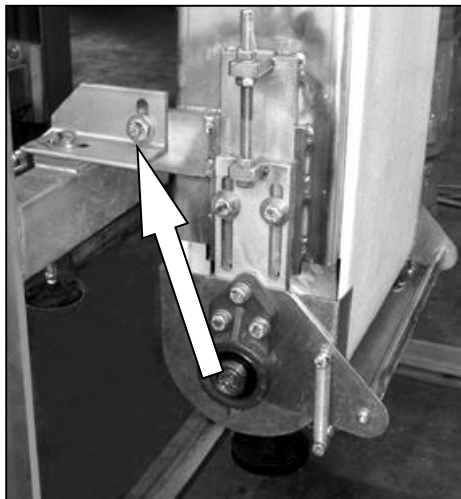
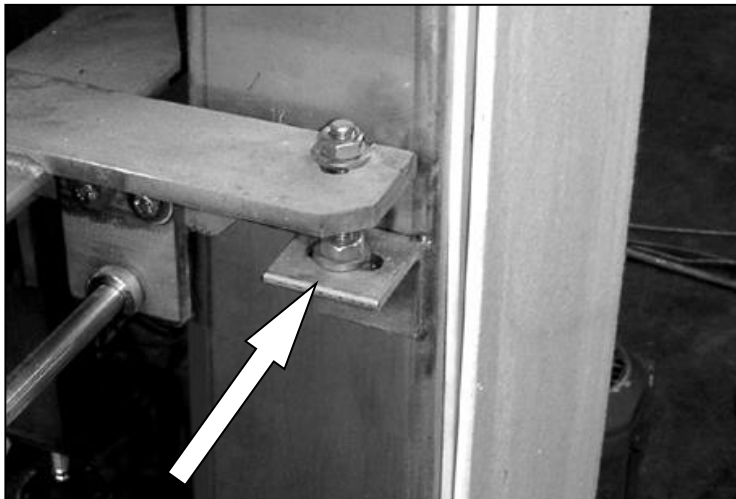
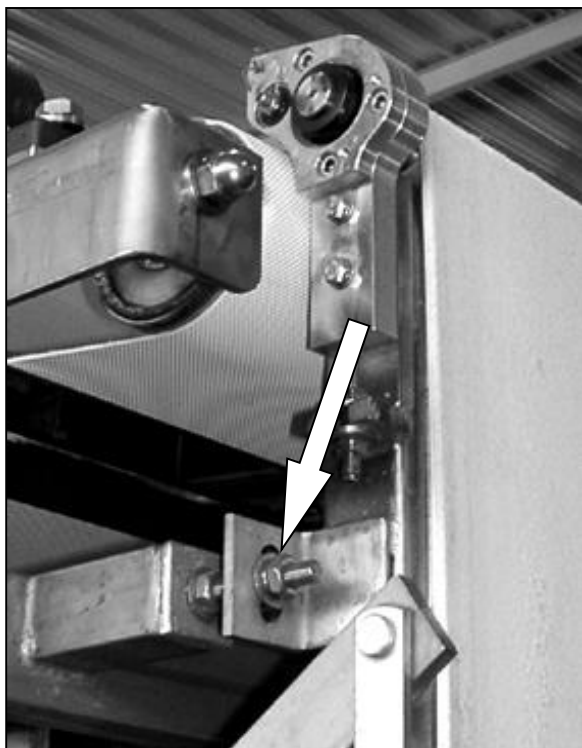
Dismount the holding screws of the cover. Remove the adjustment handwheel and remove completely the cover to release the mechanism (arrow).



**Now dismantle the fixed belt unit.**

Pay attention so that this particularly heavy unit is well maintained during the operations of disassembling then of reassembly.

**Attention :** memorize and mark the existing adjustments in order not to have to remake all of this once the new reassembled belt.

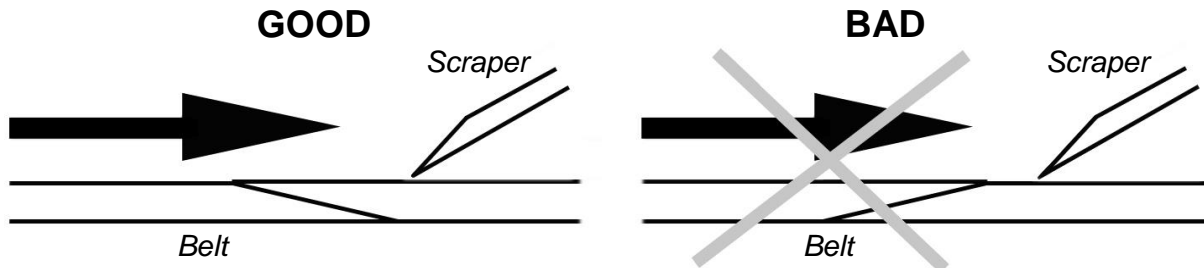
**Bottom fixing****intermediate fixation****Top fixing**

As for the mobile belt, pose the unit on trestles. Slacken the belt and dismantle all that disturbs the replacement of the belt.

#### 4.B.6.c.Reassembly of the fixed belt

**Take care of the good sense of rotation of the welded belt.**

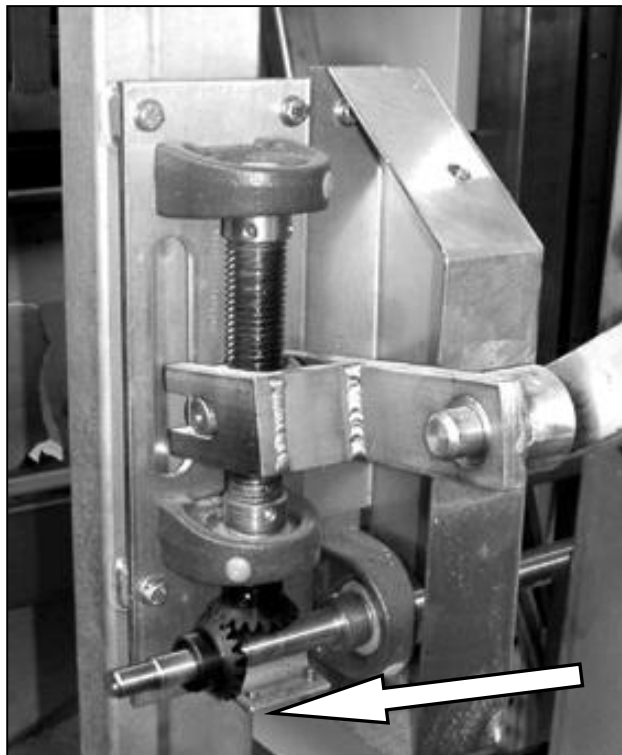
A light superposition is indeed present at the place of connection and must be directed so that the scraper “does not tackle” this welding in the bad direction, which would cause a faster deterioration of the belt.



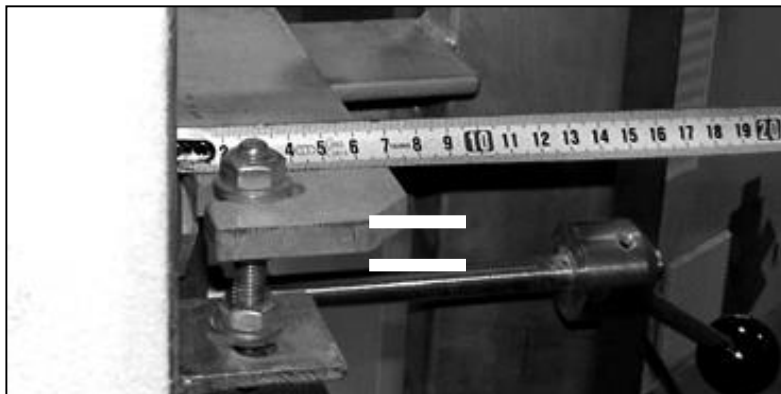
**Reassemble all that was dismantled for the installation of the new belt.**

**Install the elevator fixed belt back on the bloc.**

Take care to engage correctly the mechanism of adjustment (see picture below).

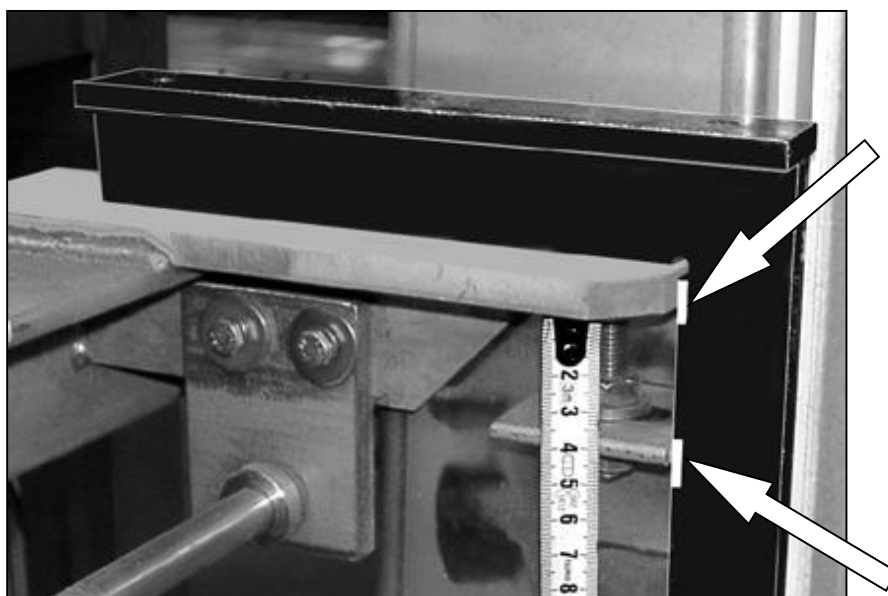


**Center the fixed carpet correctly (70 mm on each side)**

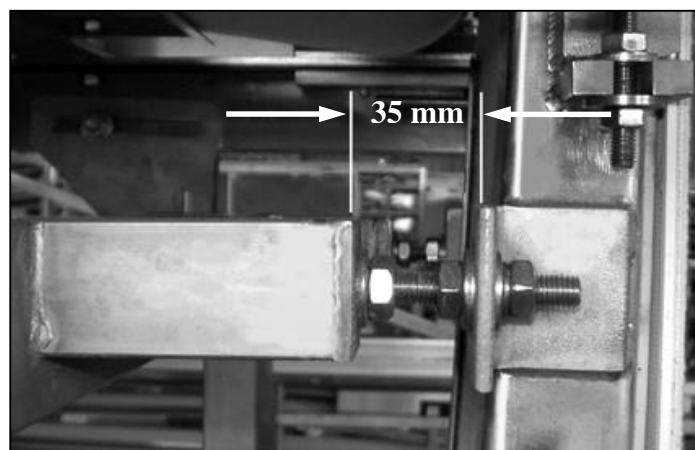


**Other dimensions to be respected during the reassembly of the fixed belt**

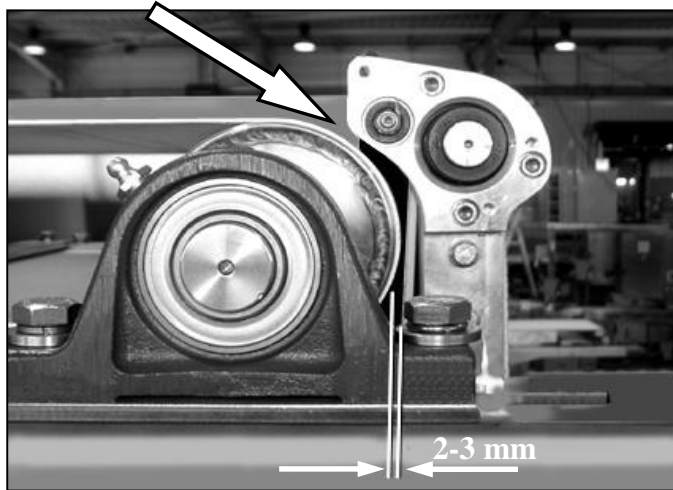
**Intermediate fixing of the fixed belt :** the two supports (frame and belt) are aligned (arrows). Use a square as indicated below. The spacing is of 37 mm.



**Fixing the top of the fixed belt :** respect the dimension of 35 mm (interior)



**Spacing between the elevator belt and the bloc belt :**

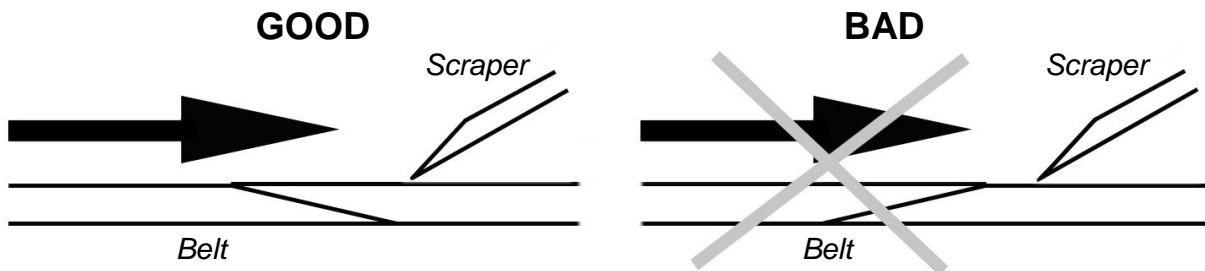


Check that the space between the elevator small roller and the bloc belt (arrow) is 2-3 mm.

**4.B.6.d.Reassembly of the mobile belt**

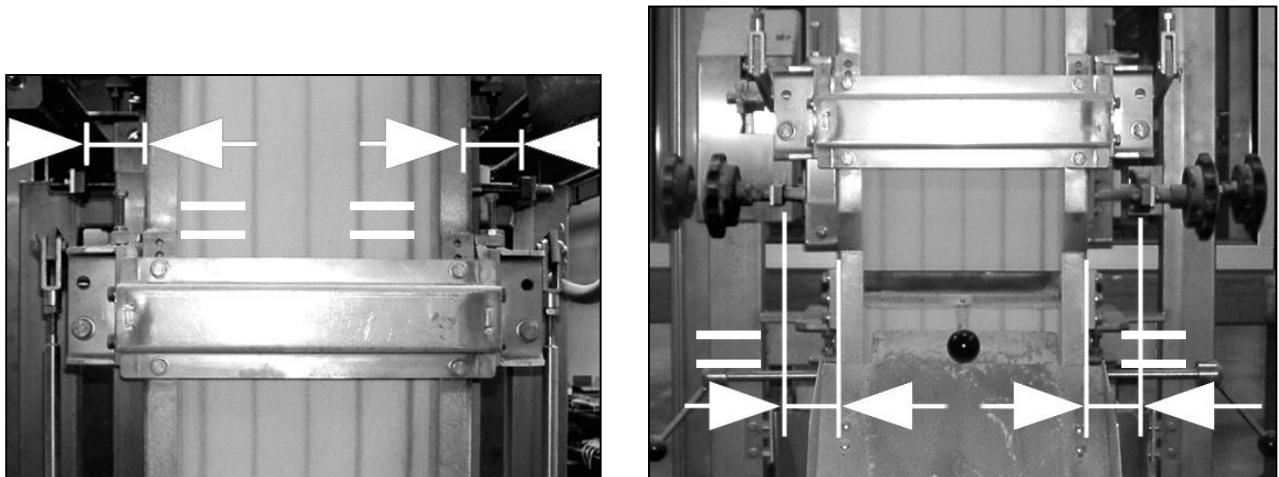
**Take care of the good sense of rotation of the welded belt.**

A light superposition is indeed present at the place of connection and must be directed so that the scraper “does not tackle” this welding in the bad direction, which would cause a fast deterioration of the belt.

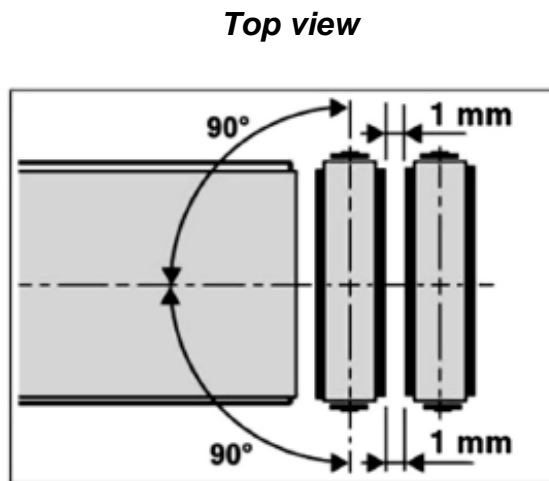
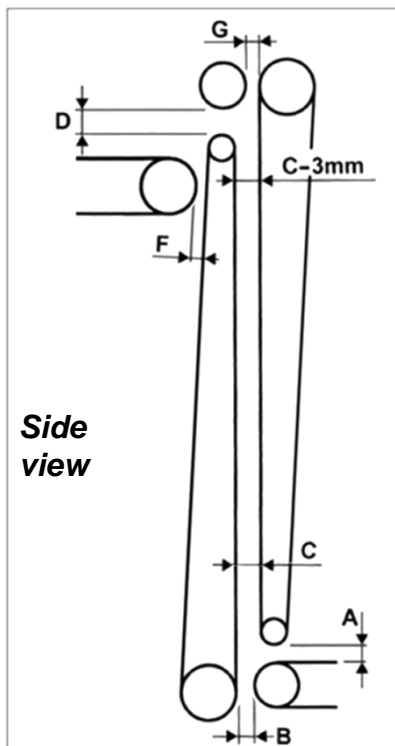


**Reassembly all that was dismantled for the installation of the new belt. Proceed in opposite direction of disassembling**

**Take care of the centering of the belts**



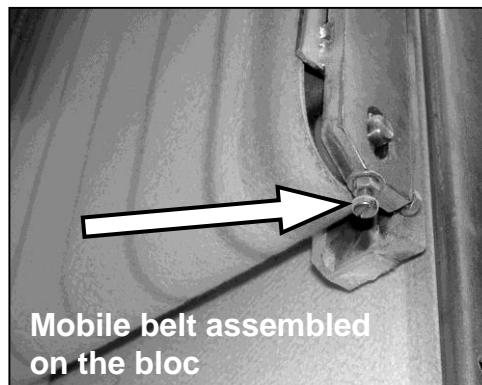
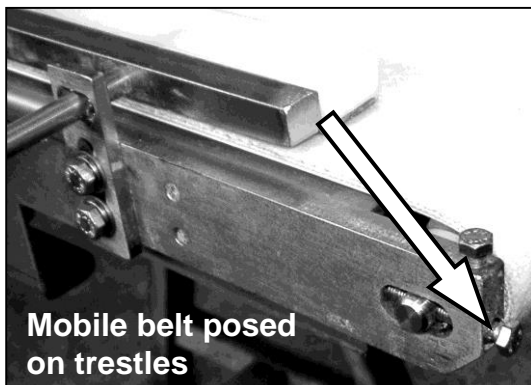
## Dimensions to be respected after reassembly of the mobile belt.



For all the adjustments, parallelism between the plans of the belts must be better than 1 mm. That means that the difference between the edges of two parallel belts should not be higher than  $\pm 1 \text{ mm} = 2 \text{ mm}$  MAXIMUM.

REF	SETTING RANGE (mm)	MINIMUM SETTING (mm)	MAXIMUM SETTING (mm)	INDICATOR (number of graduations)	SETTING 350 g (mm)	SETTING 700 g (mm)	SETTING 900 g (mm)	NOTES
<b>A</b>	-	-	-	<b>20</b>	-	-	-	
<b>B</b>	-	-	-	<b>1-2</b>	-	-	-	
<b>C</b>	<b>30</b>	<b>20</b>	<b>50</b>	<b>20</b>	<b>25</b>	<b>35</b>	<b>40</b>	<b>ALIGNMENT BETTER THAN 1 mm</b> Measurement at the elevator belt inlet and outlet: "C" inlet should be 3 mm less wide than "C" outlet.
<b>D</b>	-	-	-	<b>18</b>	-	-	-	<b>ALIGNMENT BETTER THAN 2 mm</b>
<b>F</b>	-	-	-	<b>2-3</b>	-	-	-	
<b>G</b>	-	-	-	<b>2-3</b>	-	-	-	

### Possible adjustments of the belt drift.



Absence of drift has to be checked with the bloc moving.



# **5.CLEANING**



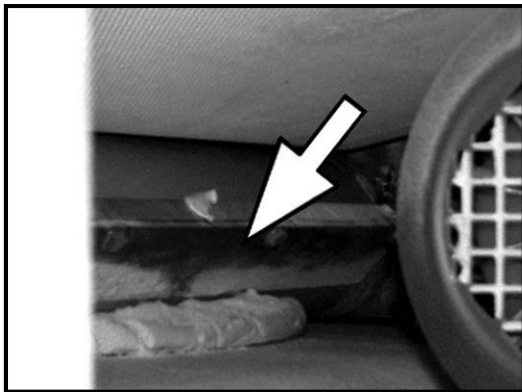
## 5.A.CLEANING

Cleaning operations must always be carried out when the machine is disconnected from the power and compressed air supply. Cleaning must be performed at least once a week or at the end of each production run. Always work from the top to the bottom.

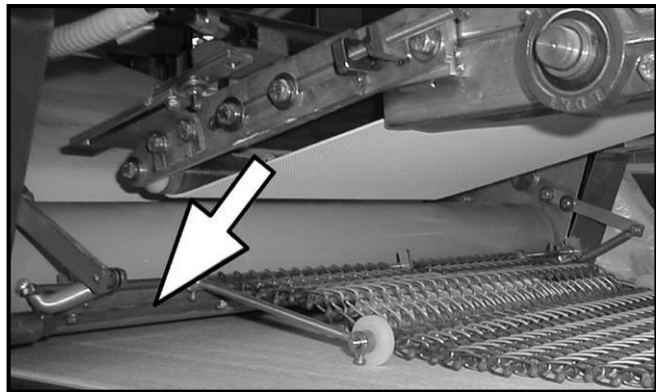
### Important:

- Never use a sharp metal tool with sharp edges.
- Do not use chlorated water, nor cleaning products with a chloride base (bleach for example).

### 5.A.1.Sheeter

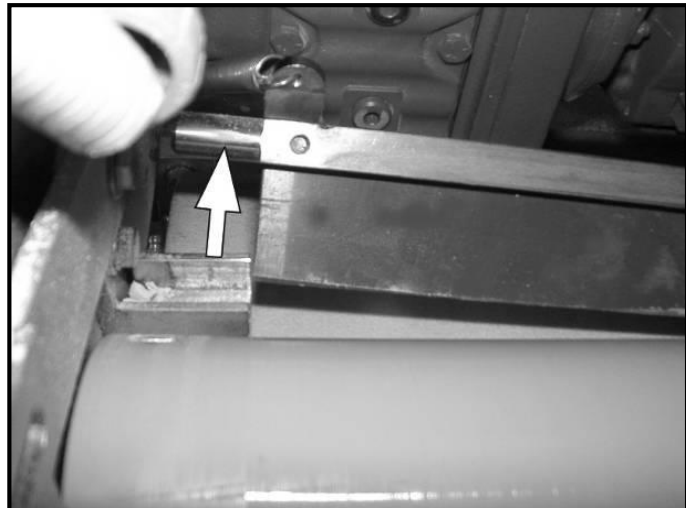


*Scraper located under the front section of the sheeter.*



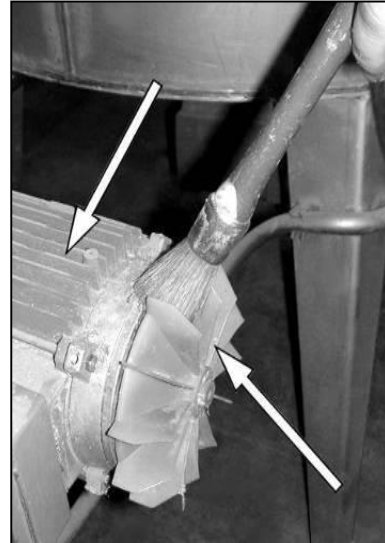
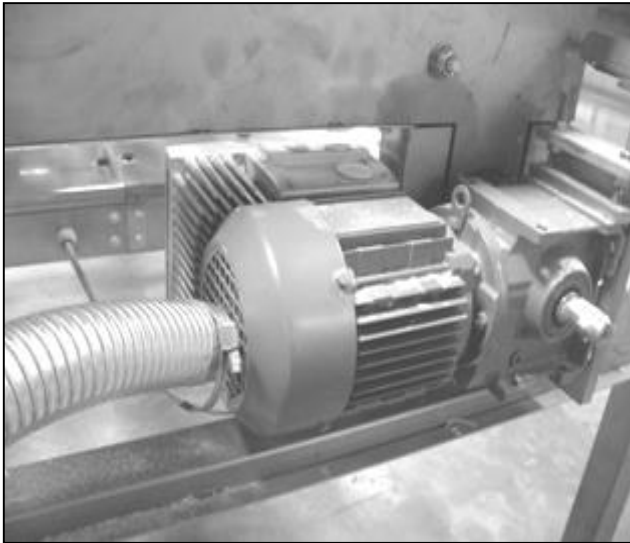
*Scraper located under the rear section of the sheeter.*

To clean the sheeter scrapers, remove the scrapers from their housing, extract them from the machine and clean them with a wet sponge.



## 5.A.2. Geared motors

The cleaning of the cooling fan and the ventilator has to be done with an aspirator, **do not use compressed air.**



## 5.A.3. Transfer rollers

Check cleanliness and alignment between the belts. This inspection must be performed after dough is blocked up. A dirty roller compresses the dough pieces that fall lopsided when they pass through them. Poor alignment guides the dough piece to one side but the piece falls on the other, which causes it to be lopsided when it passes through. Check and adjust the roller each time a belt is changed.

## 5.A.4. Electrical cabinet

It is important to clean the electrical components to prevent fire risks due to flour or humidity.

Remove the outer grid by pushing the snap using a flat screwdriver. Lift the grid and change the filter.

