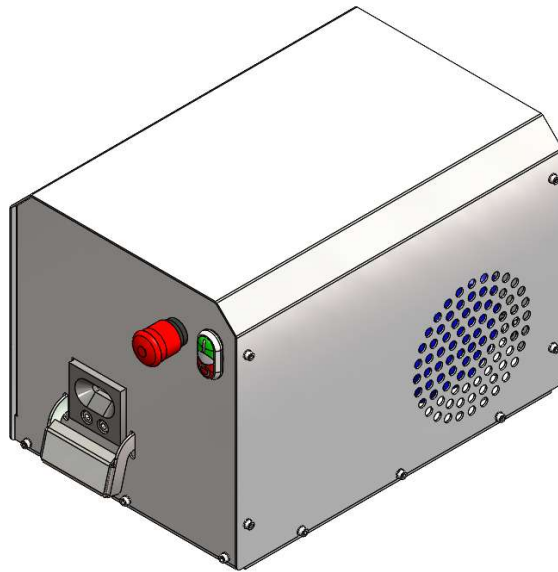


# OPERATING MANUAL

## for ST Light shredder

ST  
Light



Before using this product, please read this operating manual carefully.



*Please read this  
operating manual  
before attempting  
to use the machine*

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## 1. Introduction

Thank you for purchasing a ST shredder. This original operating manual, including safety instructions, should be read carefully before using the shredder. Please only use the device for the purposes specified in the operating instructions stated purposes. Maintenance should be carried out on a regular basis for machine longevity. The contents of this manual and specifications of this product are subject to change without prior notice.

**IMPORTANT!** It is the responsibility of the owner of the device to ensure that the installation of the device is carried out in accordance with the instructions for use. Intended use: The ST shredder is designed for to shred straps and wire in suitable dimensions and materials, for specification see chapter 2.

With the help of these operating instructions, qualified, trained and instructed personnel are to become familiar with the operating and operating procedures of the ST shredder. It is recommended by the manufacturer that the user learns about the correct application and general use of the machine before starting and operating it.



To ensure reliable and safe operation, this machine must be operated by trained personnel wearing eye protection and gloves. Personnel operating the equipment must understand the type of material that it is capable of processing. Any misuse of ST shredder can be dangerous. All operators should be familiar with the general operating instructions and warnings.

**Note:** It is the owners responsibility to install the ST shredder in conform with applicable federal, state and local laws and to instruct personnel in safe operating procedures.

## 2. Technical data

The ST Shredders are designed for economical processing of waste materials.

Shredder:	ST Light
Drive speed	16,9 m/min
Shred length	16 mm
Feed opening	8 x 30 mm
Motor	550 W, 3-phase
Weight	About 46 kg
Size (length x width x height)	520 x 322 x 365 mm

### 2.1 Cutting capacity

The ST light shredder has the capacity to cut the following material:

Shreddable material	Plastic / PET / PE / PP packaging bands (1 pc), max. 25 x 2 mm
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**IMPORTANT:** Shredding other materials may harm your machine and/or cause dangerous situations. Please contact the retailer or manufacturer before using the shredding for other materials.

## 2.2 Operating risks

When feeding material into the ST shredder, be aware of entanglement in the scrap material as it is drawn into the infeed funnel (**Figure A**). Unruly scrap material can hook on clothing and wrap around body parts, pulling the operator towards the machine. The infeed mechanism inside the funnel and guarding presents a pinch/crush hazard. If entangled, to press on the Safety handle (**Figure A**) to release and remove material from the machine.

Keep fingers away from the area of infeed funnel and the area of shred exiting hole (**Figure A**).

While rare, it is possible for processed material to kick-back out of the infeed funnel. Stand to the side when feeding material into the ST shredder. Do not look into the infeed funnel when the machine is running. Keep body parts away from underneath the machine where ejected material is discharged from the cutting chamber.

The responsible operator must take suitable countermeasures for all possible residual risks.

## 2.3 Safeguards

In front of the machine has a red button emergency stop switch (**Figure A**), which separates the electric current. After push the emergency stop switch, turn it to turn on the machine. Please note, after push the emergency stop switch, the machine needs some time until the final standstill.

The safety handle (**Figure A**) located under the infeed funnel can be used to release the grip of the infeed mechanism on the material being pulled into the machine.

## 2.4 Noise emission

The noise emission without input material is under 63 dB(A). The noise emission with input material is depending; which and amount material, collection container and environment. The responsible operator should be checking the noise emission and take appropriate action.

## 3. Getting started

### 3.1 Unpacking the shredder

Inspect the ST shredder as soon as it is received to ensure it is in good condition. Evaluate the transport conditions. In case of damage during transportation, the transportation company should be contacted immediately.

### 3.2 Machine location and setup

The machine can be used both indoors and in a heated outbuilding. Level of protection IP55.

- Shredder to be moved by minimum of two persons or a forklift.
- Bottom plate of the shredder has flanges pointing downwards, and from these features users can lift the shredder without causing damage to persons or shredder itself (**Figure A**).
- Place shredder to rigid stand on top of waste container, note shred exiting hole location.

The machine needs to be placed on a level surface and protected from the elements. The ST shredder uses a precision flywheel and blade arrangement to process scrap material. Never weld on the machine housing nor weld the machine in place. The machine is designed to be bolted with possible rubber damping to a stand. Failure to follow these warnings may result in voiding of the warranty, damage to the machine, and possibly result in bodily injury.

- Shredder must be installed at an ergonomically suitable infeed height.
- Suitable clearance is required around the front of the machine.
- End user must ensure that the utility connections do not present a slip, trip, or fall hazard.

#### **SAFETY INFORMATION:**

- Do not climb on the machine.
- Use access aids/step ladders when repairing or cleaning components out of reach.
- Clean up spillages or leaks immediately.
- Before removing guarding, allow sufficient time for the flywheel mechanism to coast to a stop and dissipate all energy.
- Suitable qualified personnel should be used to transport the machine and the instructions in 3.2 of this operating manual should be observed.
- Only trained operators and maintenance technicians who have read and understand this manual should work on the ST shredders.

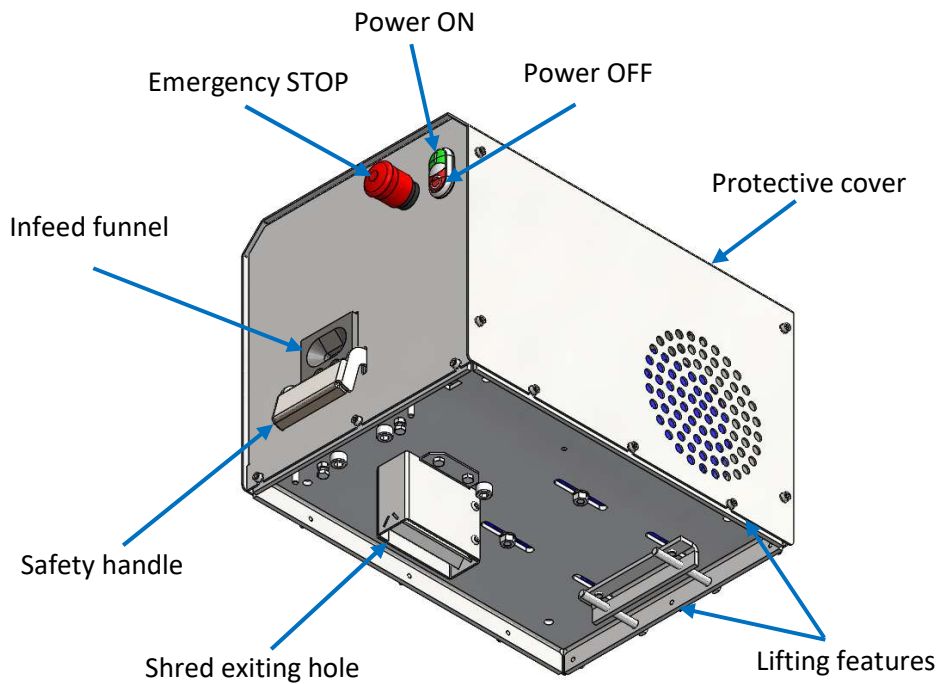


Figure A. View from the bottom.

### 3.3 Use of shredder

Electricity connection of the machine: 16 A, 400 V, 50 Hz, 3-phase.

1. Ensure that emergency stop button is pressed down.
2. Plug the machine into the electrical outlet.
3. Turn the emergency stop clockwise to unlock.
4. Press the power ON button to start the machine (**Figure A**).
5. The shreddable material is placed into the shredder manually and is automatically cut into short lengths. Avoid feeding dirty bands. Sand, mud etc. may harm the blades and feeding rolls.
6. The shredded material falls into the container.
7. The shredded material is to be transported for recycling.



**IMPORTANT:** In case the material is not fed automatically, press the safety handle (**Figure A**) and pull back the material. Try again. If the material is stuck, stop the machine immediately by pressing “Power OFF” and unplug the machine from the electrical outlet. Open the protective cover. Diagnose, correct the problem, and reassemble the machine before starting it again. Feeding rolls will be damaged if the machine is not stopped. The material might get stuck because of improper feeding technique or too thick material.



**IMPORTANT:** Always unplug the machine from the electrical outlet immediately after use, before maintenance, or if you are leaving the machine unattended.

**How to determine power flow direction:** Place shreddable material into the shredder manually. The power flow direction is wrong if the material is not fed automatically into the shredder (by the feeding rolls). Please contact an authorized electrician to correct the problem.



## 4. Care and Maintenance

Maintenance should be performed regularly by a specially qualified person. Maintenance is needed when the cutting sound is increased or the cutting capacity declines.



**IMPORTANT:** Always unplug the machine from the electrical outlet immediately after use, before maintenance, or if you are leaving the machine unattended.

### 4.1 Adjusting primary drive belt tightness

Belt tightness may decrease over the time, so it needs to be adjusted in case of excessive slipping is being noticed.

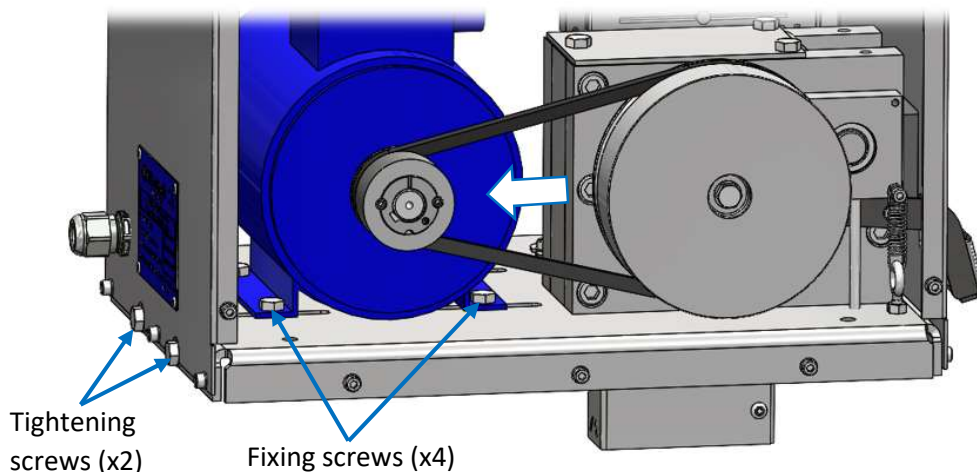


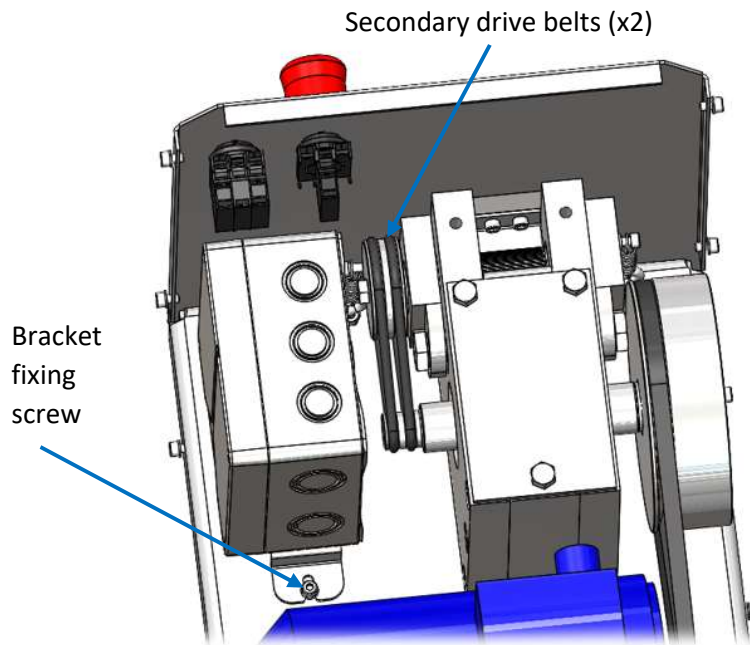
Figure B. View from the left.

Workflow:

1. Remove protective cover (**Figure A**). Pull out the main plug!
2. Loosen fixing screws (**Figure B**) for electric motor.
3. Move electric motor by rotating tightening screws (**Figure B**) clockwise to achieve adequate tightness for main drive belt.
  - Note that excess tightness could lead to belt/bearing failure.
4. Ensure that drive pulleys are aligned.
5. Tighten the fixing screws for electric motor.
6. Re-install protective cover.

## 4.2 Changing secondary drive belts

Belt elasticity might decrease over the time, so those needs to be changed in case of excessive slipping is being noticed.



*Figure C. View from the top.*

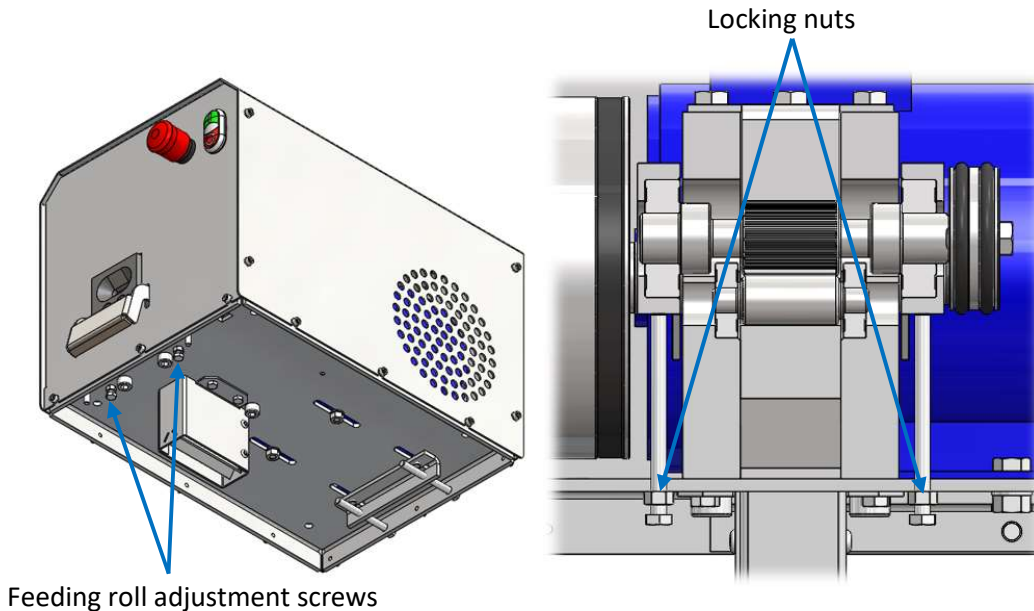
Workflow:

1. Remove protective cover (**Figure A**). Pull out the main plug!
2. Move electrical box with bracket to the side by removing bracket fixing screw (**Figure C**) to get the clearance for safe working.
3. Replace secondary drive belts (**Figure C**).
4. Re-install electrical box with bracket, push bracket towards front plate of the shredder while re-tightening the screw, so that front-end of the bracket is firmly attached as well.
5. Re-install protective cover.



### 4.3 Adjusting feeding roll clearance

Correct clearance for feeding rolls is important to be able to pull band inside the machine and to avoid feeding roll noise/wear, but also to avoid situation where band is being stuck in some external object while shredder feeds it in with such a force that it will become unstable and fall down from the top of container.



*Figure D. Feeding roll section.*

Workflow:

1. Loosen locking nuts for feeding roll clearance adjustment screws (**Figure D**).
2. Adjust clearance by turning the screws.
  - Clearance changes 1 mm for each full turn of the screw.
  - Same amount for both sides.
    - If feeding roll is misaligned, it may lead to belt/bearing failure.
3. Tighten the locking nuts.

## 4.4 Adjusting rotating blade clearances

Blade clearances must be correct for effortless cutting of the band. Worn out blades must be replaced.

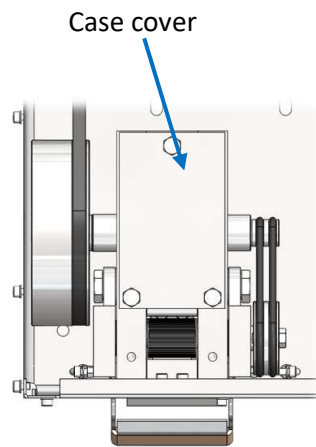


Figure E. View from the top.

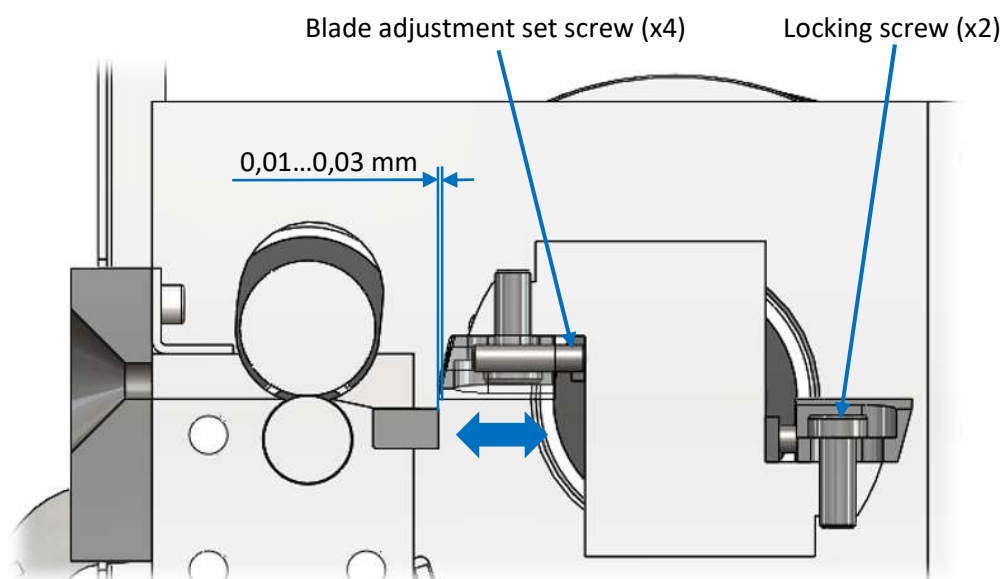


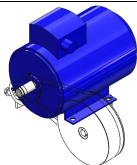

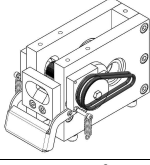
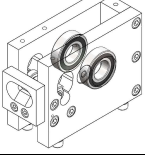
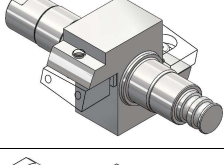
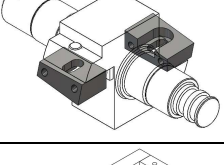
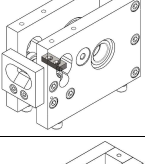
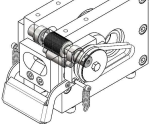
Figure F. Blade section.

Workflow:

1. Remove protective cover (**Figure A**). Pull out the main plug!
2. Remove case cover (**Figure E**).
3. Loosen locking screw for blade (**Figure F**).
4. Rotate blade adjustment set screws (**Figure F**) to get even clearance for the whole blade width (clearance 0,01...0,03 mm).
5. Tighten the locking screws for blades.
6. Test the cutting capacity by placing shreddable material between the blades, crank the machine manually. In case the material is not cut, or the blade touches the rotating blade, return to point 3 or replace the blades.
7. Re-install covers.

## 5. Spare parts

Original spare parts can be bought from the retailer or manufacturer. You will find the machine version and serial number on a label at the back of the shredder. Here is a list of most common wear parts. When ordering spare parts listed below, please quote their corresponding part codes:



No.	Part name	Part code	Pieces / shredder	Picture
1.	Electric motor, 0,55 kW	NT04-A0006-MO	x 1	
2.	Main drive belt	NT04-A0006-DB	x 1	
3.	Band drive belt	NT04-A0003-DB	x 2	
4.	Bearing for main axle	NT04-A0002-BE	x 2	
5.	Main axle	NT04-A0001-AX	x 1	
6.	Rotating blade - Left - Right	NT04-A0001-BL45 NT04-A0001-BL10	x 1 x 1	
7.	Fixed blade	NT04-A0002-BL	x 1	
8.	Feeding rolls - Upper - Lower	NT04-A0003-RO NT04-A0002-RO	x 1 x 1	

## 6. Warranty

The warranty period is twelve months. The warranty period commences from date of purchase. The warranty does not include transport costs and wear parts.

## 7. Safety instructions

### Warning labels

	<b>GENERAL DANGER</b>		<b>ELECTRICAL HAZARD</b>
	<b>HAND ENTANGLEMENT HAZARD</b>		<b>HOT SURFACE BURN HAZARD</b>
	<b>ELECTRICAL PLUG</b>		<b>READ OPERATORS MANUAL BEFORE OPERATING OR SERVICING MACHINE</b>
	<b>WEAR EYE PROTECTION WHEN OPERATING OR SERVICING MACHINE</b>		<b>WEAR HEARING PROTECTION WHEN OPERATING MACHINE</b>
	<b>WEAR GLOVES WHEN OPERATING OR SERVICING MACHINE</b>		<b>LOCKOUT / TAGOUT BEFORE SERVICING MACHINE</b>
	<b>STAND TO SIDE WHEN FEEDING MACHINE</b>		<b>DO NOT OPERATE WITH GUARDING REMOVED</b>

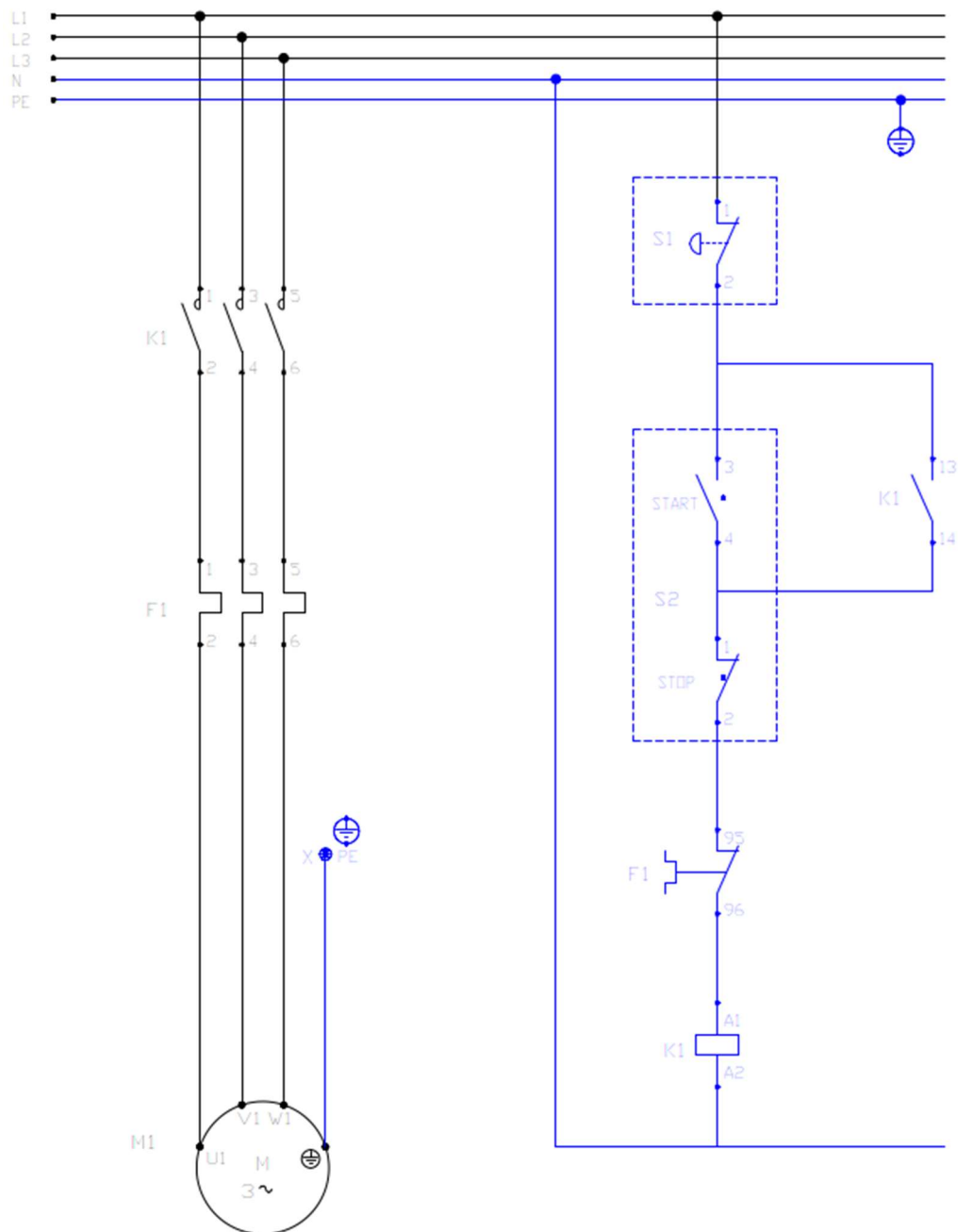
**Please read these safety instructions before attempting to use the machine.**

1. Always use goggles, protective gloves, and earmuffs.
2. Keep your hands away from the bottom of the machine, where shred exiting hole is located (**Figure A**). Serious health – and equipment damage exists, in case something is being fed to the machine from the shred exit hole.
3. Always stop and unplug the machine from the electrical outlet if the material is stuck and before opening the protective cover (**Figure A**).
4. Please always turn the shredder off when not in use.
5. Always unplug the machine from the electrical outlet immediately after use, before maintenance, or if you are leaving the machine unattended.
6. Adjust the feeding rolls to a suitable level to make sure the feeding rolls run smoothly and to avoid situation where band is being stuck in some external object while shredder feeds it in with such a force that it will become unstable and fall down from the top of container.
7. Always keep your work area clear from electrical wires and spillages.
8. Stop and unplug the machine from the electrical outlet in case the cutting sound deviates from normal. Diagnose and correct the problem before starting the machine.

## 8. Troubleshooting

PROBLEM	CAUSE	SOLUTION
Material feed stops	Too large of gap exist between the feed rolls for the material being fed	Adjust the feeding roll gap acc. to section 4.3
	Banding is twisted or bent	Straighten out bent portion or remove it
	Worn feed rolls	Replace feed roll
Machine fails to cut	Material is too large for the machine	Run appropriate size material into the machine
	Cutting blades are dull	Replace cutting blades
Machine will not start or stop running	Motor protection tripped	Reset motor protection
	Broken drive belt	Replace belt
	Failed electrical service	Check circuit power
	Switch failure	Replace switch

## 9. Wiring diagram



- **S1:**
  - Emergency stop switch, FINNPARTTIA P22STOP
  - Emergency stop name plate, FINNPARTTIA HÄTÄRENGAS
  - Opening contact, FINNPARTTIA GIOKOSK1AK
- **S2:**
  - Double push button, FINNPARTTIA P22TUPLA
  - Closing contact, FINNPARTTIA GIOKOSK1SK
  - Opening contact, FINNPARTTIA GIOKOSK1AK
- **F1:**
  - Overload relay, FINNPARTTIA ABBLR1,8
- **K1:**
  - Contactor, FINNPARTTIA ABBMINISU
- **M1:**
  - Electric motor, 3x400V 0,55kW

## 10. EC Declaration of conformity

(Machinery directive 2006/42/EC, Annex II A)

**Manufacturer:**

Oy Nimetech Ab

Maskinvägen 5

66100 Malax

(+358) 06 365 1910

**Person authorised to compile the technical documentation:**

Niklas Sandqvist, Maskinvägen 5, 66100 Malax

Herewith we declare that:

**Model** ST Light

**Serial number**

**Machine type** Shredder for plastic band

Meets all the relevant provisions of the following directives:

Machinery directive (2006/42/EC)

Electromagnetic compatibility directive (2014/30/EU)

And additionally, we declare that following European standards (or parts/sections of those) has been applied

SFS-EN ISO 12100:2010

SFS-EN ISO 13850:2015

SFS-EN ISO 13857:2019

SFS-EN 14118:2018

SFS-EN 14120:2015

Date



Oy Nimetech Ab  
Niklas Sandqvist  
CEO

