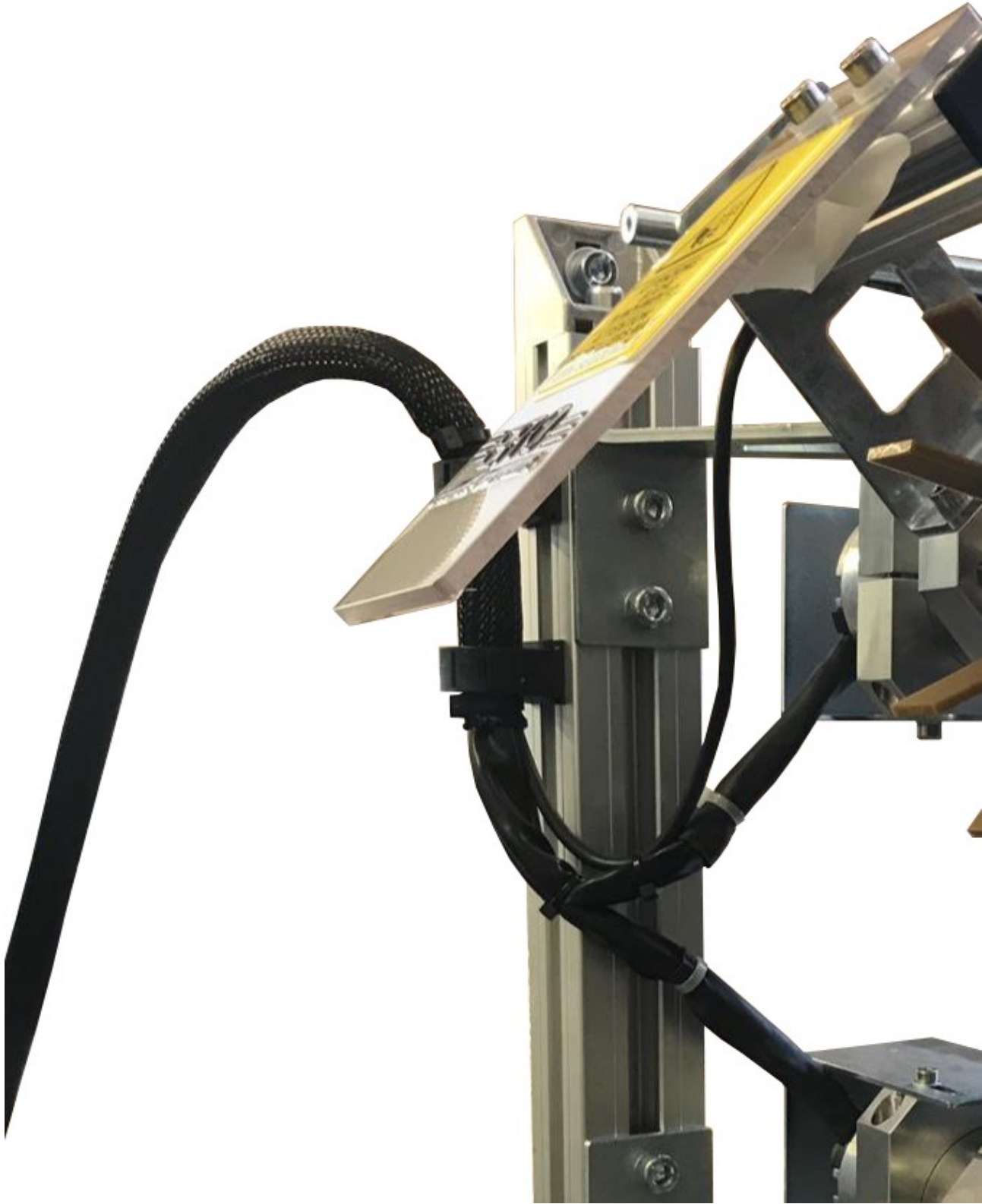
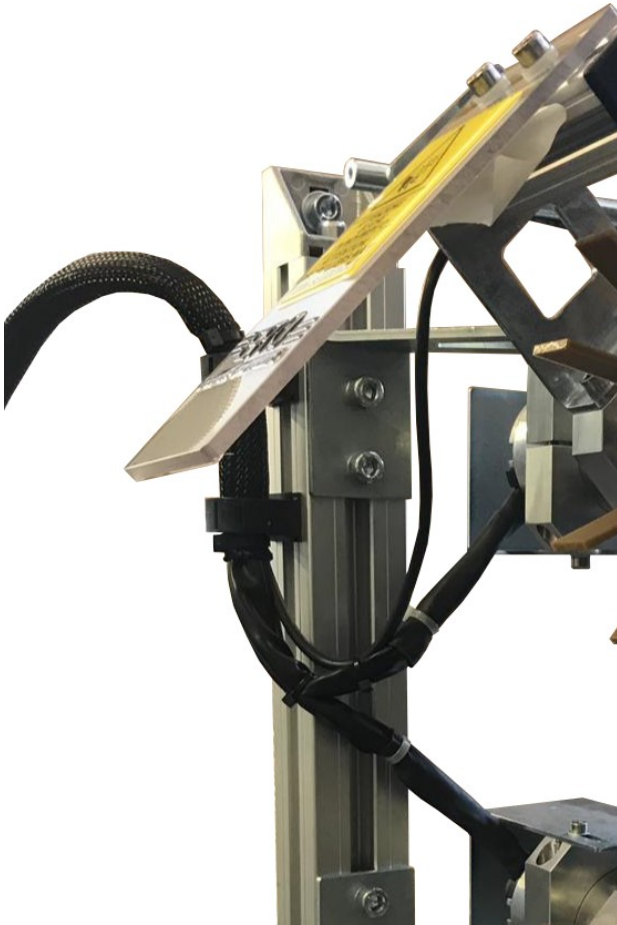




ELECTRIC TRIM REMOVAL HAND BOOK MANUAL



ELECTRIC TRIM REMOVAL HAND BOOK MANUAL



The ERO electric trim removal can be installed on the most important brand and type of flexo foldergluer/casemaker machines present on the market.

The trim removal must be installed where it is more convenient, according to the machine type and feature, but always after the slotter section and before the glue station.

Pay attention the images of this manual may differ slightly from our last trim removal version

The ERO electric trim removal is equipped with a infra-red photo-eye as standard.

Please note the strips do not have to touch each other.

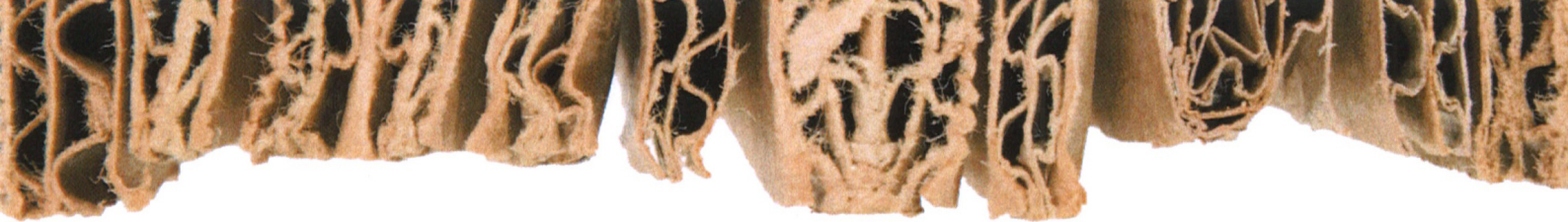
Suggested distance: 5-10 mm

Please make sure the strips just touch lightly the thinnest carton you are working with.

WATCH OUT:

Please note the trim removal is made up by two motors, each one with a writing on it: UPPER or LOWER. Be careful to follow this instruction. Install the UPPER fan upwards, and the LOWER one at the bottom.

IMPORTANT: please note the motors cannot be stopped in any way and any case.

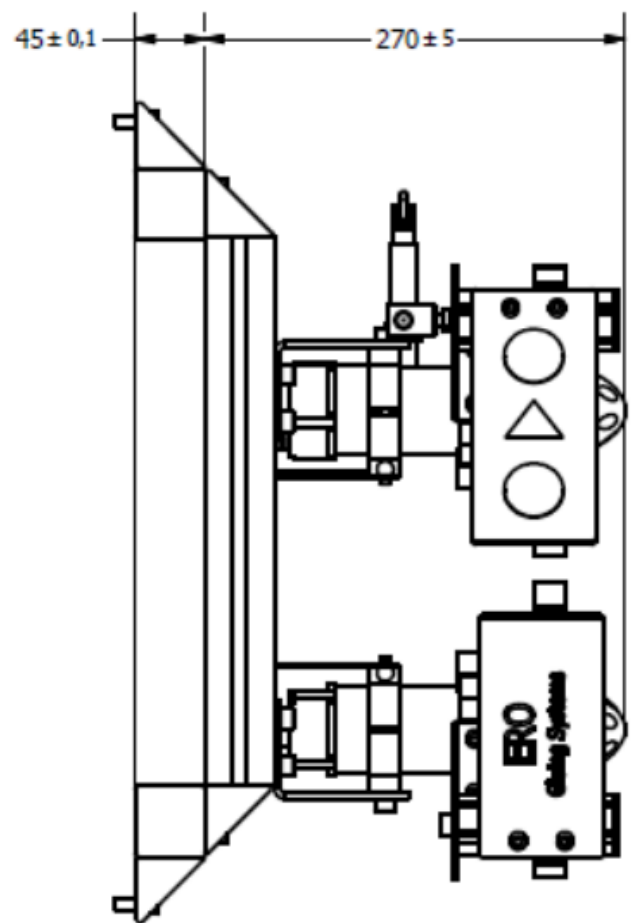
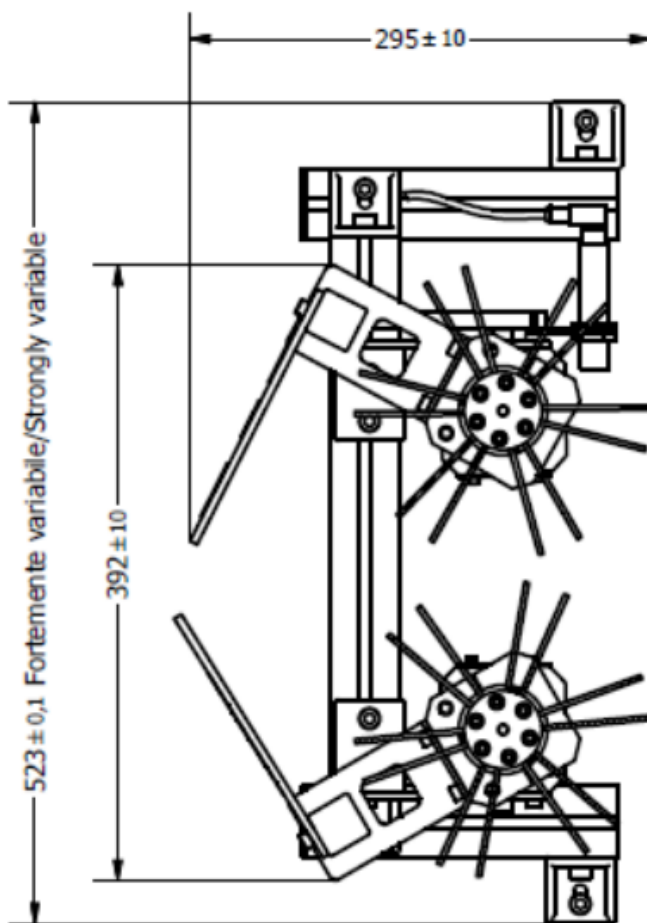


ELECTRIC TRIM REMOVAL TECHNICAL DATA

Vulkollan strips diameter: 200 mm

Electric motors speed: about 4000 rpm.

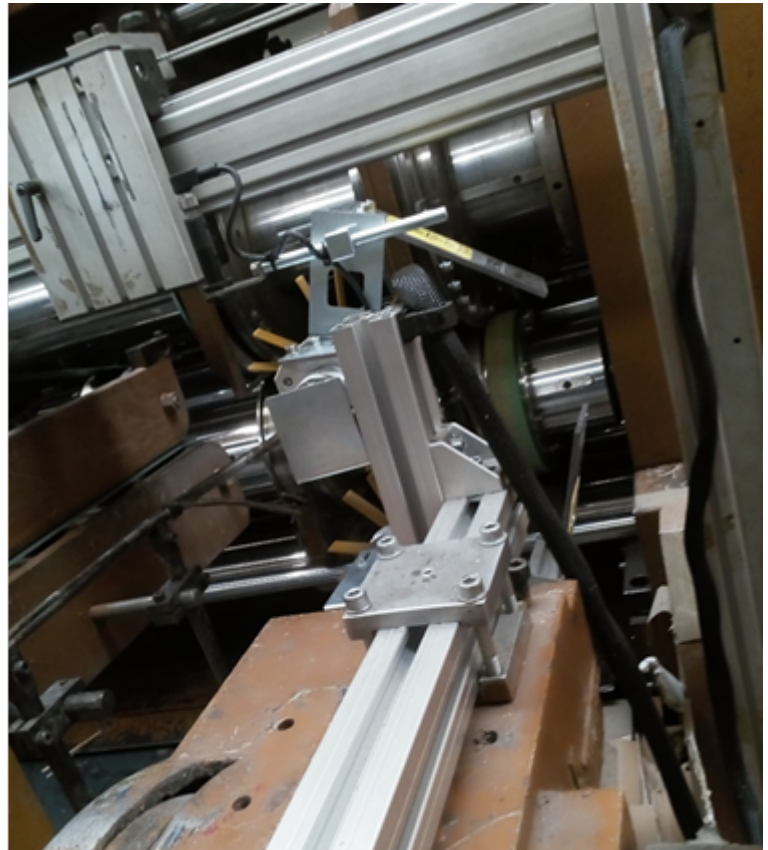
Total weight: 5 kg.





VERY IMPORTANT:

Please note the strips do not have to touch each other. Please make sure the strips just touch lightly the thinnest carton you are working with. So that when you are working with a thicker carton the impact of the strips on the carton will be higher and it will have more force.





The photo shows an example of electric trim removal working on a flexo foldergluer machine.



Thanks to the electrical box, motors slow down automatically after one second without boxes which go through the trim removal.

Running at a low speed strips are not dangerous as they don't have enough power to hurt, while when the trim removal is running at its working speed strips can hurt and they must not be touched.



These pictures show the electric trim removal installed on a flexo-folder machine.





Electrical motors technical data

Type: BLM57 140.004.000

Rated voltage (V): 36.0

Number of poles (n): 4

Rated speed (RPM): 4000

No load speed (RPM): 5500

Rated power (W): 270

Rated torque (Nm): 0.61

Maximum torque (Nm): 2.7

Rated current (A): 8

No load current (A): 0.8

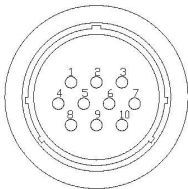
Maximum current (A): 70

Rotor inertia (g-cm²): 230

Torque constant (NmA⁻¹): 0.041

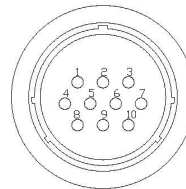


JAE PLUG UPPER MOTOR
1: 0V(GND) = SYSTEM GROUND CONNECTION
2: +5V = 5 VOLT OUTPUT
3: HU = SIGNAL (HALL CELL)
4: HW = SIGNAL (HALL CELL)
5:
6:
7: HV = SIGNAL (HALL CELL)
8: W = PHASE
9: V = PHASE
10: U = PHASE



JAE PLUG
UPPER MOTOR

JAE PLUG LOWER MOTOR
1: 0V(GND) = SYSTEM GROUND CONNECTION
2: +5V = 5 VOLT OUTPUT
3: HU = SIGNAL (HALL CELL)
4: HW = SIGNAL (HALL CELL)
5:
6:
7: HV = SIGNAL (HALL CELL)
8: W = PHASE
9: V = PHASE
10: U = PHASE



JAE PLUG
LOWER MOTOR

Cables section

Motor control Minimum 0.14mm² (AWG25)
Maximum 1.5mm² (AWG15)

Verify the installation

- Check all connections : Power supply and control logics.
- Make sure that all settings are correct for the application.
- Make sure that the characteristics of the DC power supply are appropriate for the drive.
- If possible, remove the load from the rotor of the motor to avoid wrong movements and eventual damages.
- Supply power and make sure that the led is ON. If it is OFF, shut down immediately and check if all connections are correct.
- Execute a movement and verify if the rotation direction is the desired one.
- Disconnect the power supply, fix the motor to the load and check the full functionality.

Analysis of malfunctions

The led indicates that the drive is correctly powered.

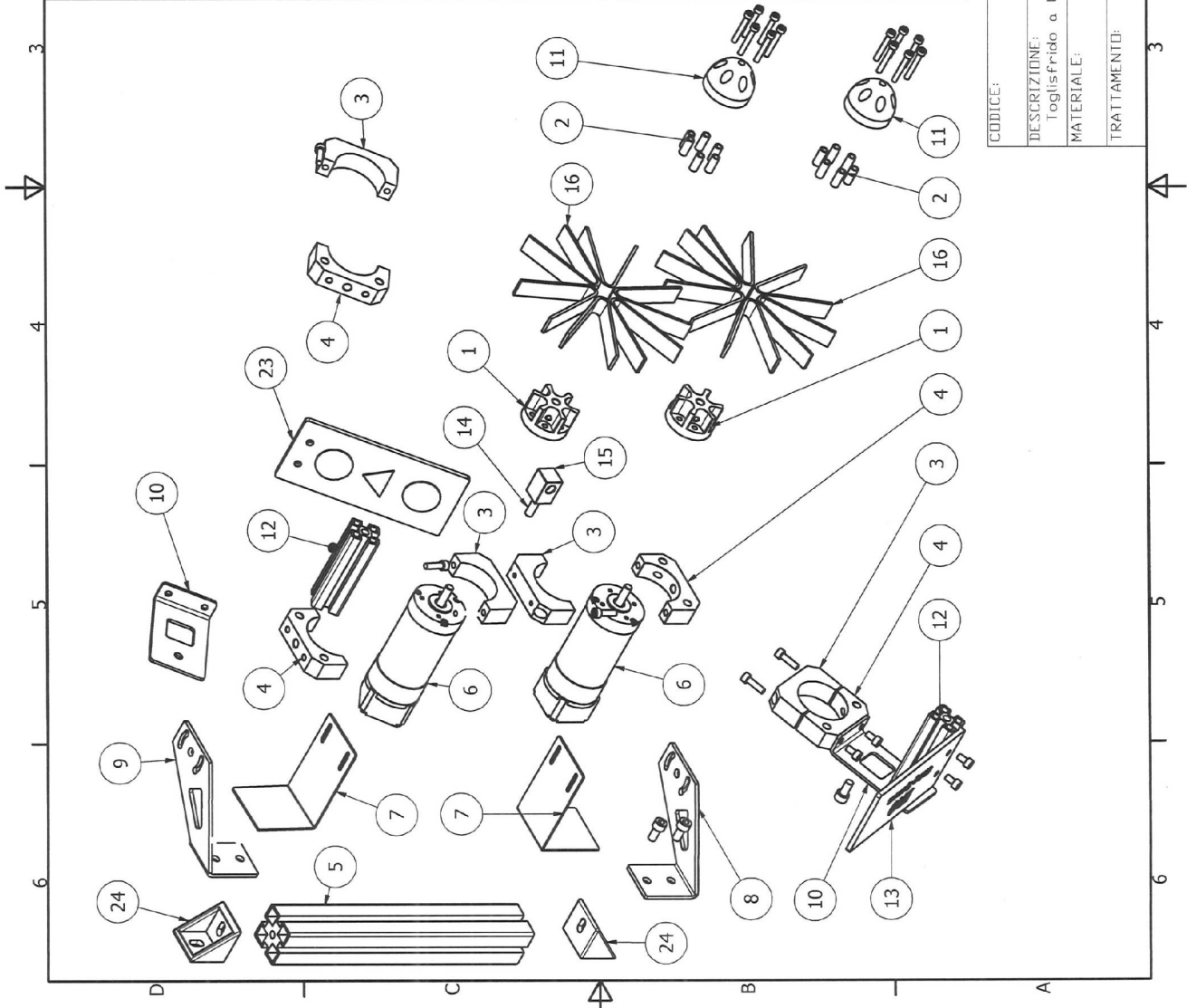
When one of the following situations occurs, please check:



DEFECT The external fuse on the power supply of the drive is burned.
CAUSE Can be caused due to a wrong connection of the power supply.
ACTION Connect the power supply correctly and replace the fuse.

ELENCO PARTI/PARTS LIST

Parte/Part	QTA/Quan	Cod./Code	Des.ne/Des.
1	2	85.3000.2	Mozzo/Hub
2	12	85.3050	Colonna/Column
3	4	83.0400	Coperchio supporto/ Support cover
4	4	85.3200	Supporto inf motore/ Lower motor support
5	1	45.45.300	Barra 45x45x300/ 45x45x300 bar
6	2	Mot85.LDVM50	Motore brushless/ Brushless motor
7	2	85.3500.2	Protezione connettore/ Connector protection
8	1	85.3250I.2	Squadra motore inf.re/ Lower motor support
9	1	85.3250S.2	Squadra motore sup.re/ Upper motor support
10	2	85.3250.2	Supporto protezione lamelle/Strip protection support
11	2	85.3100.2	Ogiva/Ogive
12	2	30.30.100	Barra 30x30x100/ 30x30x100 bar
13	1	85.3560Ero	Protez. lamelle/Strips protection
14	1	85.3700	Perno fotocellula/ Sensor pivot
15	1	20.2050	Raccordo verticale/ Vertical fitting
16	12	85.3150	Lamella/Strip
23	1	85.3560Warning	Protezione lamelle/ Strips protection
24	2	Squadria45.45	Squadra 45.45/45.45 square



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CODICE: _____ DATA: 12/10/2012

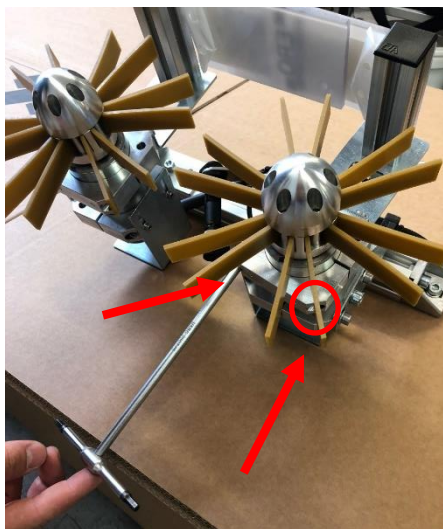
DESCRIZIONE: Taglisfrido a lamelle/Strips trim removal

MATERIALE: _____

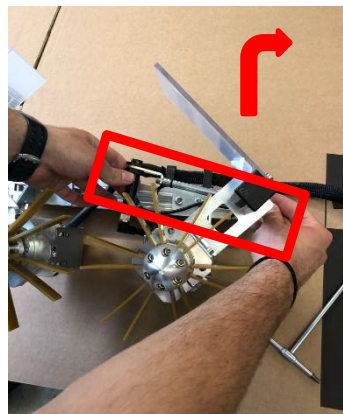
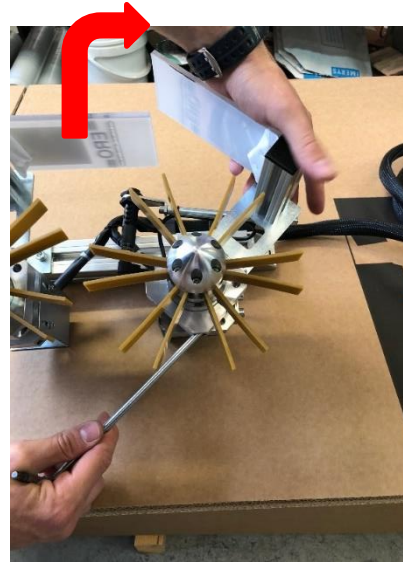
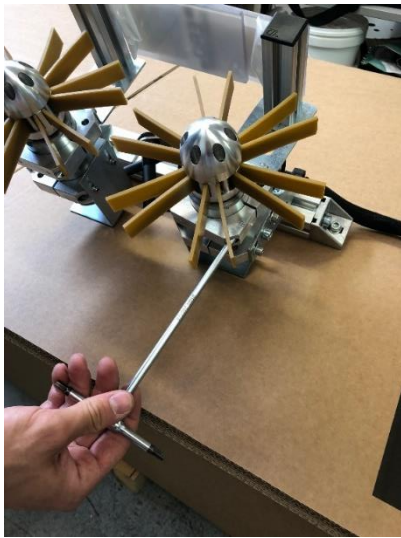
TRATTAMENTO: _____ ASSIEME: _____

INSTRUCTION FOR A CORRECT INSTALLATION OF THE ERO TRIM REMOVAL

HOW TO PREPARE A TRIM-REMOVAL DEVICE



Loosen the Screws
from both sides
to rotate the two "arms".



The ERO electric trim removal is delivered ready to work.

IMPORTANT: please note the ERO electric trim removal is a great help to keep always the boxes cleaned from trim and tabs but please note the electric trim removal cannot replace the job of the knives of the casemaker machine

The device accepts a power range between 110 and 230 VAC.

Please position the system always before the glue station.



The system is provided by aluminum bars which must be installed on your inliner flexo foldergluer machine directly.

Please note the trim removal is made up by two motors, each one with a writing on it: UPPER or LOWER.

Be careful to follow these labels. Install the UPPER fan upwards, and the LOWER one at the bottom.

IMPORTANT: please note the motors cannot be stopped in any way and any case, even if a protection prevents motors from burning.



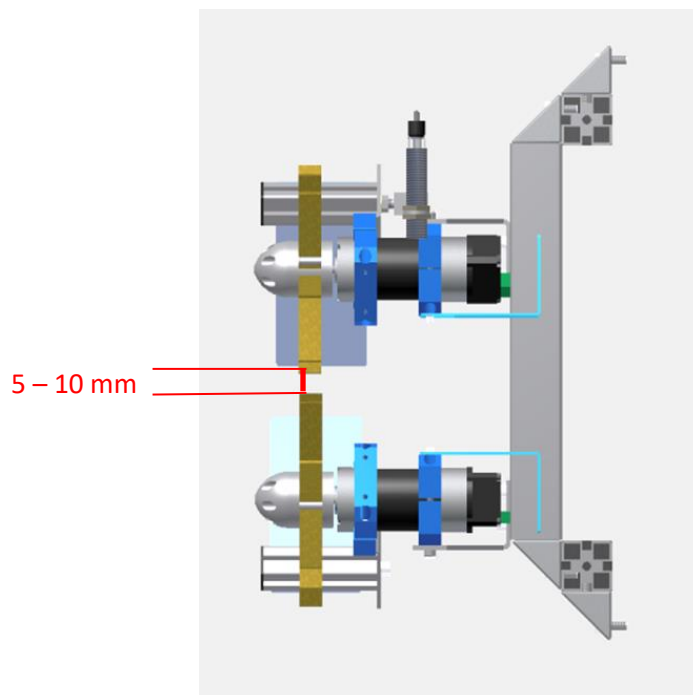
The ERO electric trim removal is equipped with a infra-red photo-eye as standard. For safety reasons, when the motors start working, they turn at a slow speed. When the photo-eye detects the box the device starts working at a high speed. When the photo-eye does not detect any box for more than 1 second, the motors will slow down their speed.

Please note to keep your body at a security distance from the device and **not** to put hands near the motors or through the strips when the device is working for any reason. Always for security reasons, the photo-eye is installed behind the motors in a protected position. This means that the first box is going to be processed partially.

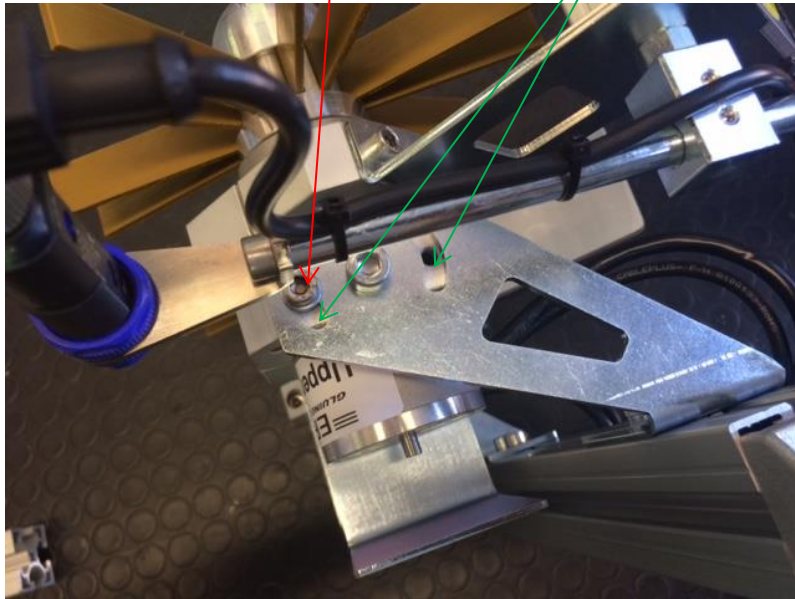
The picture below shows how boxes run through the trim removal. Please note that the position of the motors is fundamental to guarantee the good job of the whole device. The strips should just touch lightly the box. Kindly make sure the contact with the box is not too close otherwise the strips will get damaged and wear out too fast. In other words, the box should pass through the two motors touching lightly the strips (strips should touch neither too much nor have any contact with the box). Please note the strips do not have to touch each other.



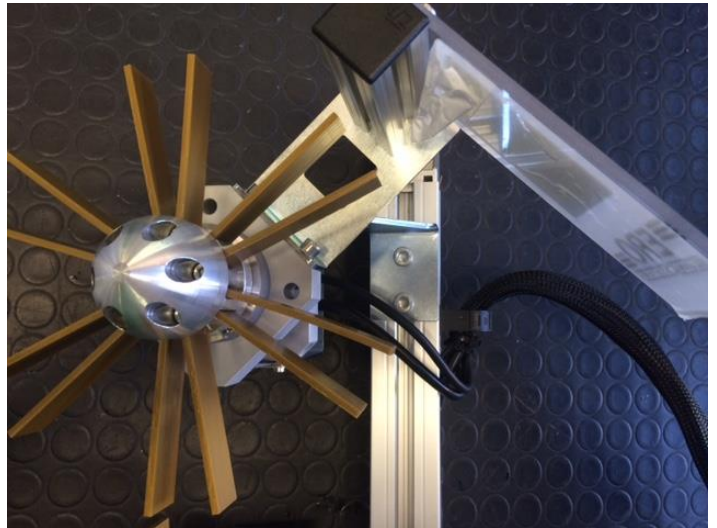
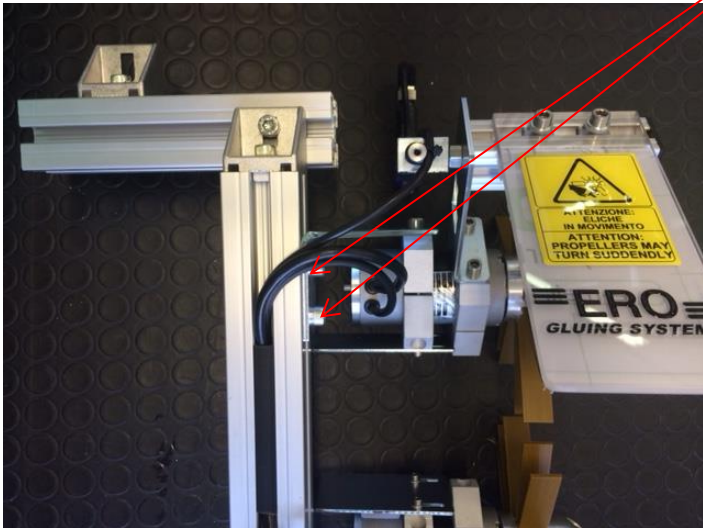
Suggested gap between closest parts of the strips: 5-10 mm. IMPORTANT: please note the following is just an indication but the brushed must be set according to the box you are producing.



Kindly note that motors position is fully adjustable thanks to the guide which permits its angle regulation which can be fixed by the screw



The motor height can be also adjusted using the screws thanks to a sliding movement



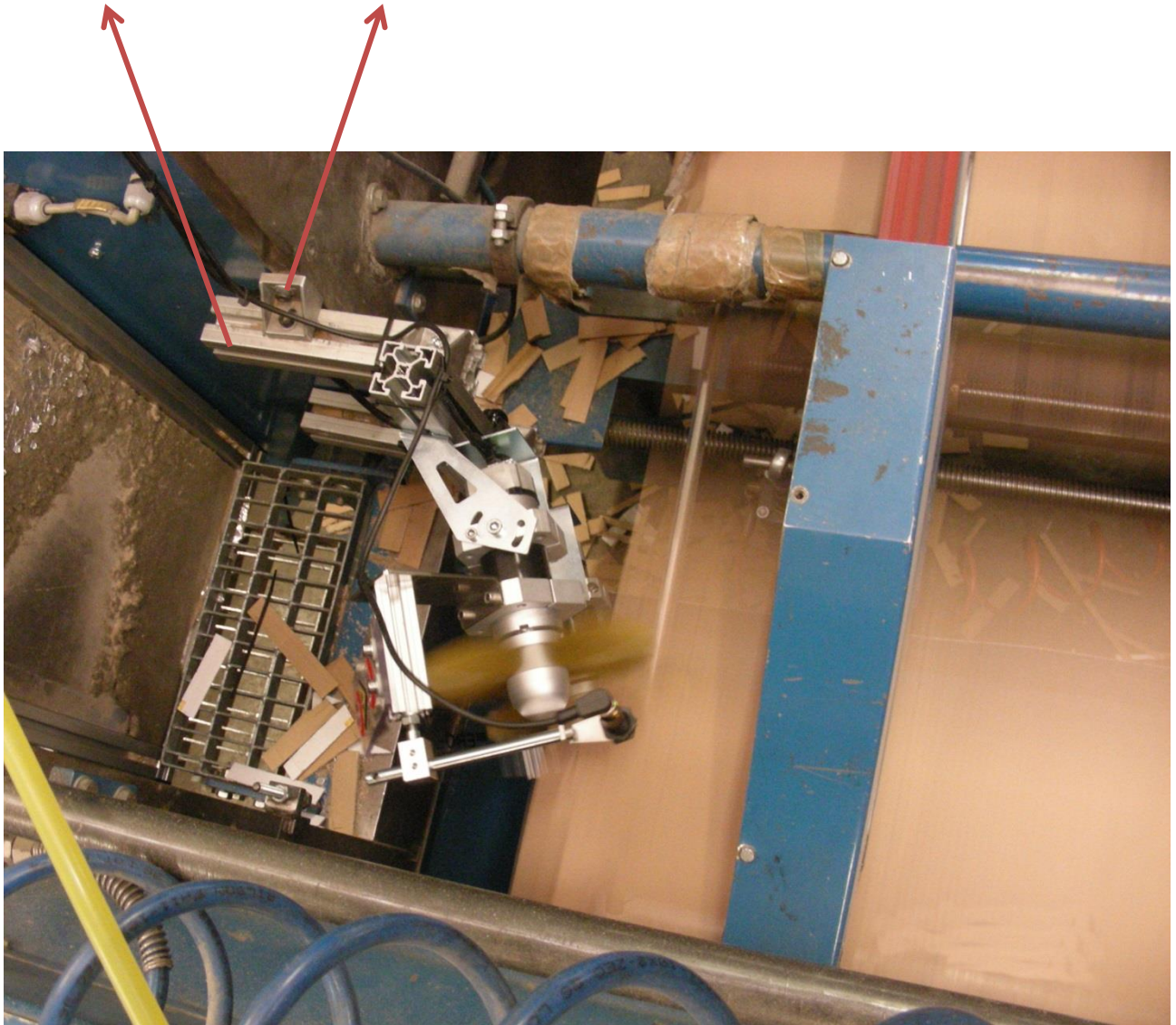
According to the available space and machine type where the trim removal is going to be mounted, there are different possibilities of installation.

The first possibility is to install it directly on the machine, fixing it as shown in the pictures below.



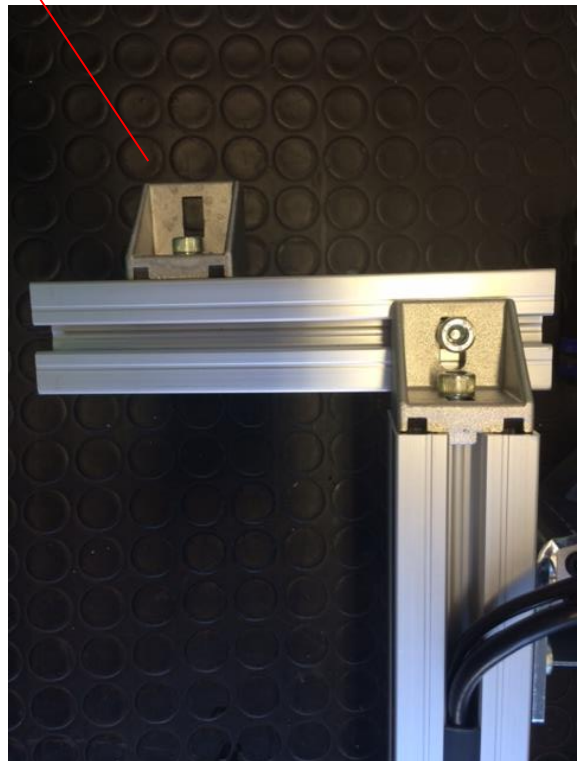
The second possibility is to install it using the two short bars provided, fixing them on the machine.

The following picture shows an example of installation of the system on the correct area. The provided aluminum bars and bars and square supports must be mounted onto the machine directly.

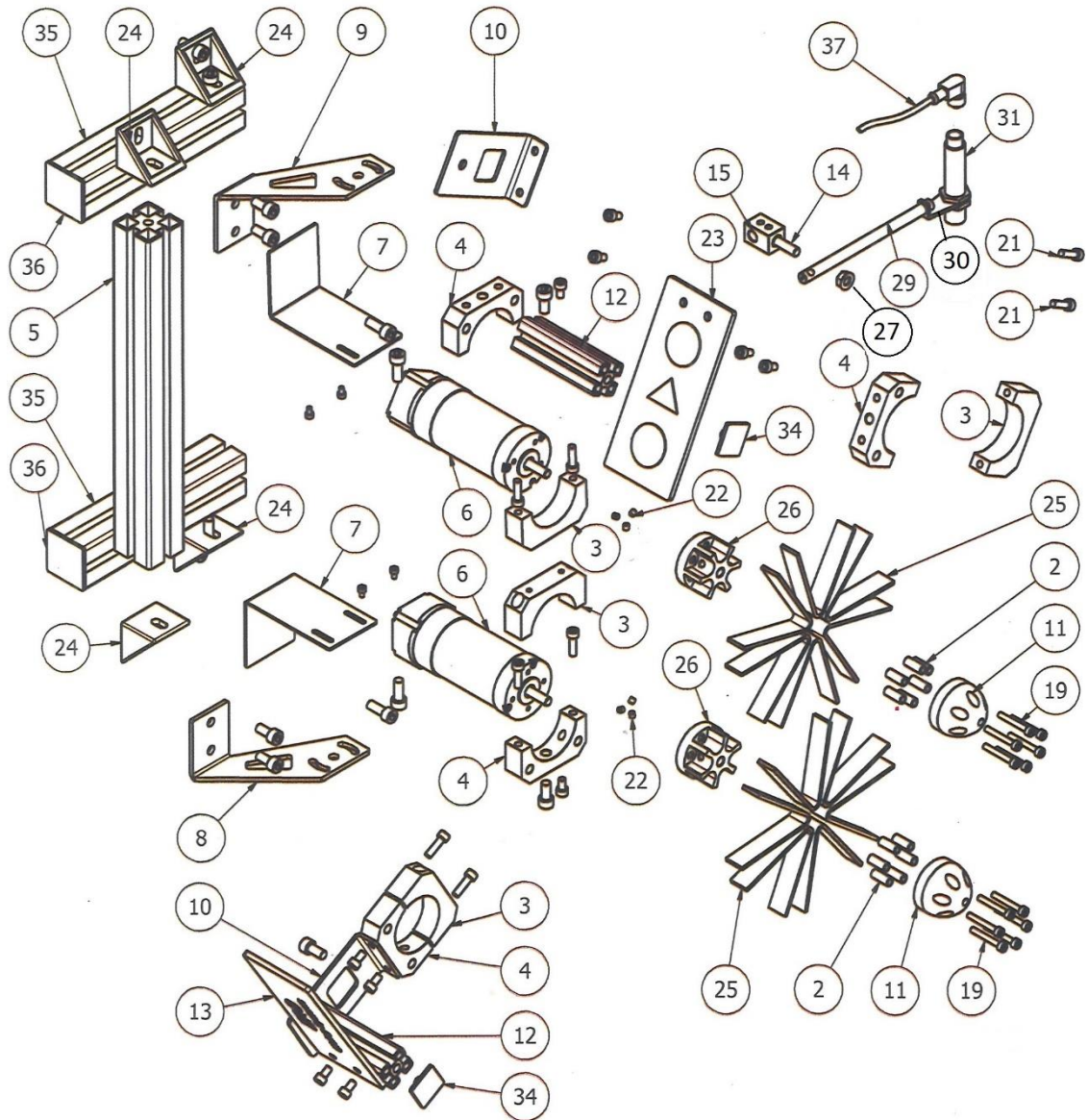




ZOOM IN



PLEASE SEE THE FOLLOWING DRAWING FOR THE SPARE PARTS:



Please see the following example which shows how to prepare the stripe which must be replaced. We suggest to replace the stripes all together and they must be prepared and replaced as follows:



ELECTRICAL BOX

You should connect in the labeled cables in the corresponding plug in the electrical box.

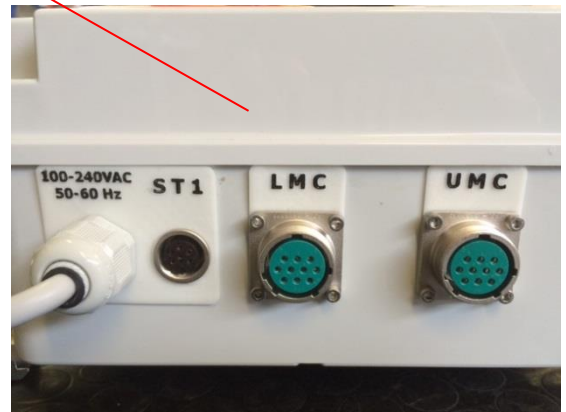
LMC = lower motor

UMC = upper motor

ST1 = photo-eye



ZOOM IN



Please note that the electrical box is the last thing to mount. The first thing to install is the station with the motors and once its position is decided you can decide where to place the electrical box. Kindly note cables are 5 mt long. First of all, kindly check the minimum machine width – calculating it on the smallest box dimension - and make sure there are no obstacles to the trim removal motors and then place the electrical box, considering the cable length is 5 meters.



CONFORMITY DECLARATION

PRODUCER:

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DECLARES THAT THE PRODUCT

CATEGORY: EQUIPMENT FOR FLEXOMACHINES
PRODUCT NAME: COMPLETE TRIM REMOVAL SYSTEM

SERIAL NUMBER: 07217027WR
MANUFACTURE DATE: JULY 2021

COMPLIES WITH THE PRESCRIPTIONS OF THE
FOLLOWING APPLICATION DIRECTIVES:

- CE 2006/42 "MACHINERY DIRECTIVE"
Direttiva macchine
- CE 2014/30 "ELECTROMAGNETIC COMPATIBILITY"
Compatibilità elettromagnetica
- CE 2014/35 "LOW VOLTAGE"
Bassa tensione

*EN 60204-1 2006+A1:2009, EN ISO 12100 2010, EN 349:1993+A1 2008,
EN ISO 13857:2008, EN ISO 13850:2015*

Authorized person for the technical file: Ing. Giacomo Porcari
Castenedolo (BS) July 2021

ERO s.r.l Production manager

