ermengineering
belting fabrication equipment

DC-200
Automatic die cutter 2000 mm.

IMPORTANT:

Read this user manual and follow the instructions and warnings before operating this device.

Any modification or transformation performed on this machine may cause loss of the manufacturer's guarantee and liability.

This manual must always remain near to the machine and visible to all the operating and maintenance staff, for any future consultation, forming part of the equipment.

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

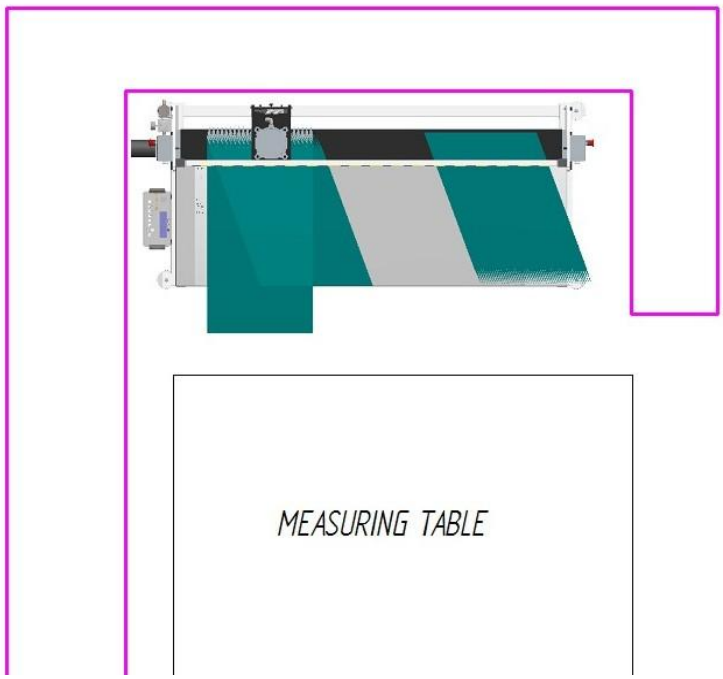
2012 Dec.

Index:

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

-.Installation and connection:

Place the machine near the measuring table, or right after it, in order to avoid the material to be cut coming into contact with the ground.
Leave 1 metre free on the four sides to facilitate personnel access when operating.



Level and balance the machine by means of the regulation bolts on the rubber feet.

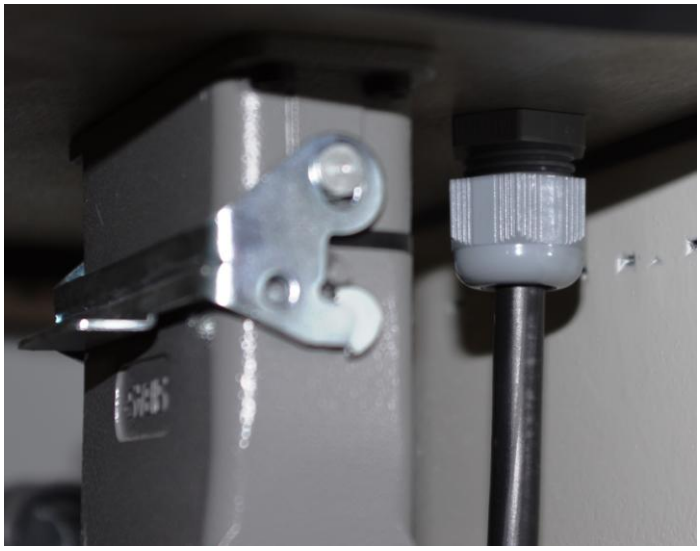
Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

Provide compressed air through a tube with minimum interior diameter of 8 mm. connected to the intake.

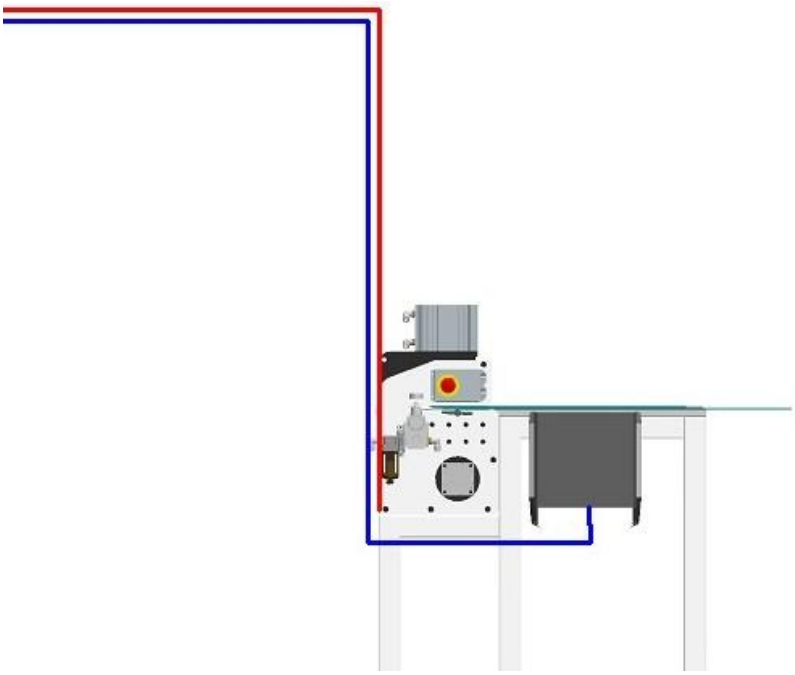
NOTE:
We must bear in mind that air consumption by this die cutter is 220 litres/minute

We shall connect the power cable to the control board at 230v. monophasal.

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com



NOTE:
It is recommended that the two supplies of air and power be run, hanging from above, to prevent personnel tripping or falling.



Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

-.Description:

Pneumatic die cutter with motorised head to cut conveyor belts in zigzag, with ball screw activated by a stepper motor and positioning control. Pressure and die cutting time control. Exchangeable cutting heads for different cutting geometries, with possibility of programming diverse forward steps.
Support bench with material positioning guides.
This die cutter is especially designed to cut thermoplastic materials with interior tissue.

-.Technical Characteristics:

Dimensions	2700 x 870 x 1160 (l x w x h)
Weight	313 Kg
Max. thickness	8 mm.
Voltage	2x 230
Power	0.20 kW
Max. pressure	6 bar

-.Using instructions:

WARNING:
THIS DEVICE INVOLVES THE HAZARD OF HANDS AND ARMS BEING TRAPPED BY THE MOVEMENT OF THE CUTTING HEAD
GREAT CARE MUST ALSO BE TAKEN BETWEEN THE CUTTING HEAD AND THE SUPPORT PLATE, AS THERE IS A DANGER OF CUTTING LIMBS.

- Once the machine is connected to the mains and provided with air, we shall proceed to start it up using the ON switch.

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

We shall check that the regulator pressure is between 2 and 6 bar.

This adjustment device suffers a loss of air to maintain constant the exact pressure

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

- Safety systems and messages.

This die cutter has been equipped with the following safety systems:

1- EMERGENCY STOP
This system allows an emergency stop to be performed at any time using the two push buttons located at both ends of the bench.

MESSAGE: EMERGENCY BUTTON PRESSED

To deactivate it, we must unlock the push button and then press RESET to return the head to the starting point.

2- TREAD BAR
This device does not allow engagement of the cutting head if the bar holding the belt is not lowered.

MESSAGE: CLAMP OPEN
To deactivate it, all one need do is lower the bar and press START.

3- DOOR OPEN

This device detects that the rear door of the blade head is open.

MESSAGE: COVER OPEN

The door must be closed to deactivate it.

4- CYLINDER DETECTOR

This device does not allow displacement of the head because it detects that the cutting cylinder is not raised. This may happen due to lack of air or failure of the detector.

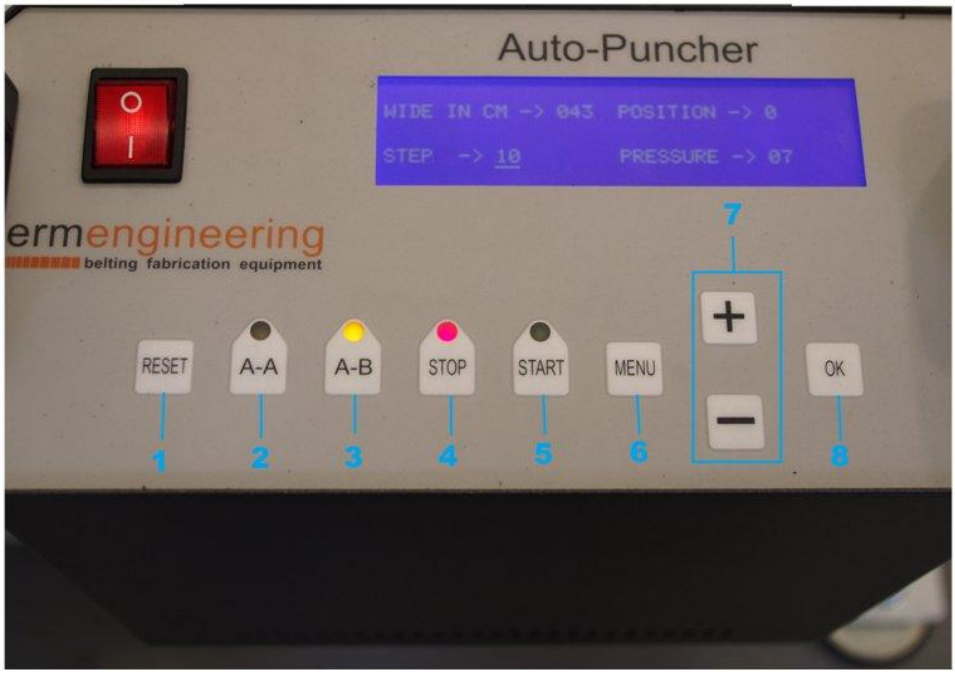
MESSAGE: CYLINDRE WRONG

To deactivate it, provide the machine with air or replace the detector.

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

- Programming:

We must know the functions of the push buttons on the board to program the die cutter.



1- RESET

This must be pressed after an emergency stop, or position the head at the starting point after STOP.

2- A-A

- Selection of the A-A program
This program is used in the majority of cases, to always operate on the left guide rail and cut the belts performing the first end with the coverage on top and the second end with the fabric on top, both for direct finger die cutting as well as finger over finger die cutting.

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

3- A-B

- Selection of the A-B program

This program is only used in cases of diagonal belts, or belts with an hi profile, to operate the first end on the left guide rail and the second on the right guide rail, always with the coverage on top.

4- STOP

Allows the cutting process to be halted at any moment, to change the time or cutting pressure, for example.
On pressing START, it will continue the process without losing the positioning memory

5- START

Starts the cutting process or acts to reboot following a stop.

6- MENU

We shall use this button to jump from one programming field to another and thus amend the values:
WIDE IN CM
STEP
PRESSURE TIME

7- + / -

To increase or decrease the field values.

8- OK

To validate the modified value. Any modification must always be validated.

Belt cutting measures for the different dies.

80 x 10 90º……100 mm. Longer
80 x 10 70º……100 mm. Longer
120 x 15 90º……130 mm. Longer
50 x 20 finger over finger 90º……120 mm. Longer

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

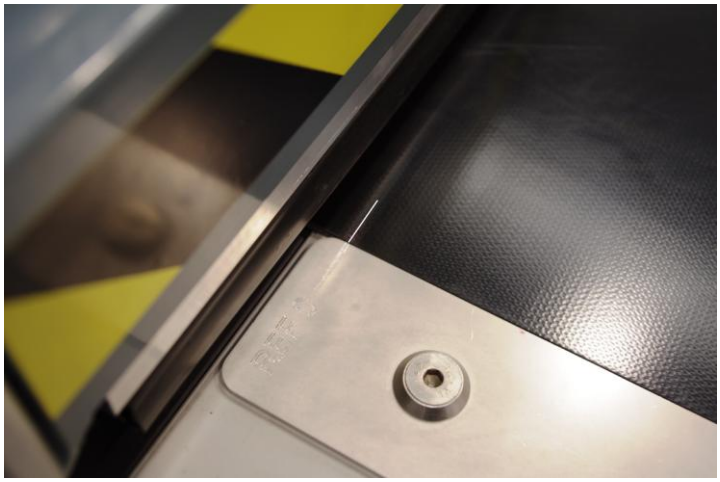
DIE CUTTING A-A direct finger.

First we place the first end of the belt on the left side by the guide rail with the coverage on top and position the end of the belt just by the 0 Ref. mark.

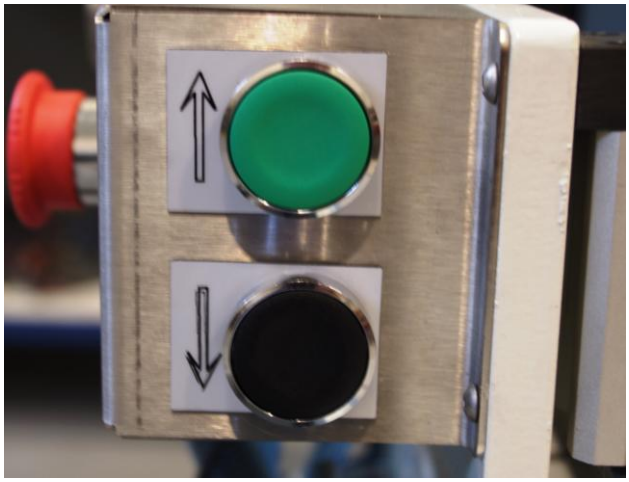
We then mark the measure to input the relevant material with a pencil, according to the die we want to use.

We then place the belt under the tread bar until the mark made matches up with 0 Ref. and we make sure it is fully in contact with the guide rail.

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com



We lower the tread bar by pressing the down button.



We select function A-A if it is not activated.

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

We use the + / - buttons to adjust the width of the belt in centimetres and press OK.

We check that the STEP is correct. If it is not, we use the MENU key to jump to the STEP field and input the desired value with + / - and then OK.

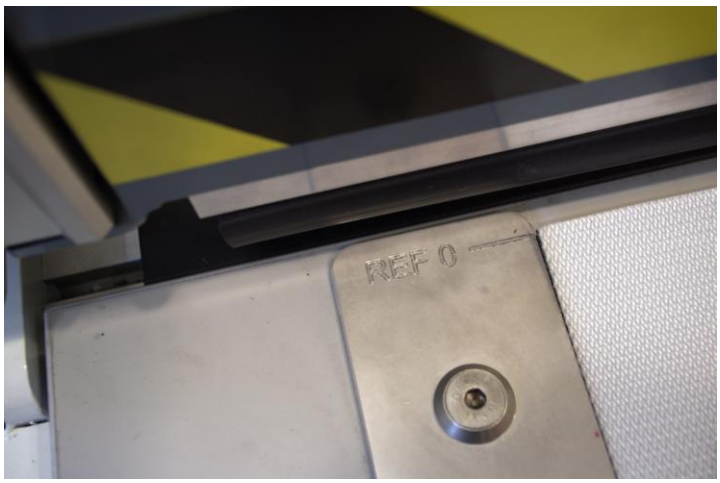
NOTE:
The values programmed shall not be lost, even when the equipment is switched off; the program always memorises the last values input.

We press START to begin cutting at the first end.

NOTE:
During the cutting process, no programmed value may be changed, except the cutting time. To do so, we press STOP and change that value, and START to continue.

Once the first cut is completed, we release the belt by pressing the raise bar button.

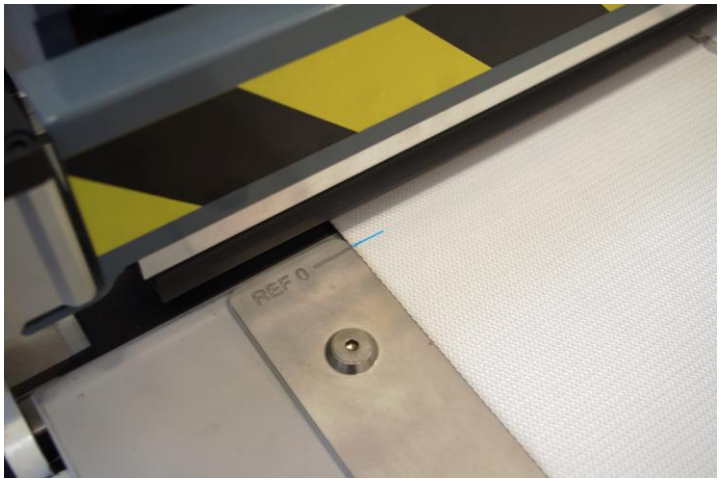
We place the second end of the belt on the left side by the guide rail, but the opposite way, that is, with the coverage down, and position the end of the belt just on the 0 Ref. mark.



Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

Then mark the measurement to feed in the material with a pencil, according to the die one wishes to use.

We then feed in the belt under the holding bar until the mark made aligns with 0 Ref. and we make sure it is fully in contact with the guide rail.



We lower the tread bar using the down push button and press START.

Once the operation is completed, we release the material by raising the tread bar.

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

DIE CUTTING A-A finger over finger:

NOTE:
For this type of die cutting, one requires prior separation of the fabrics with the ply separator device PS-15

Separate the fabrics of the 130 mm. belt at both ends.
We mount the 50x20 mm die.
We check that the A-A function is activated.
We program STEP 20 mm. and the required width in centimetres.

We shall regulate the pressure to 3 bar, as the cutting pressure is less due to the length of the blades.

We place the first end of the belt on the left side, by the guide rail, and place the end of the belt just on the O Ref. mark.

Then pencil mark the two measures to insert the material for the stops STEP-1 and STEP-2.

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

We then insert the material up to the first mark STEP-1.

We lower the tread bar using the push button to lower it and press START.
Once the first cutting operation has ended, we shall withdraw the surplus material.

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

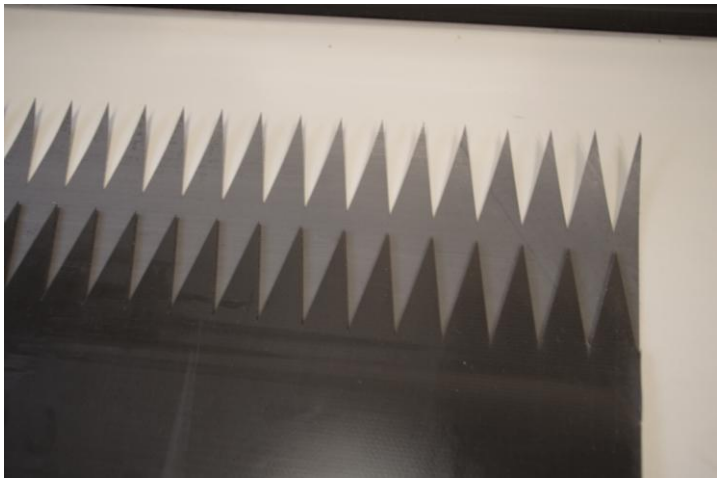
We shall place the anti-cut plate between the two cloths up to the end of the separator cut.

Once the anti-cut plate has been placed inside, we insert the material up to the second mark STEP-2.

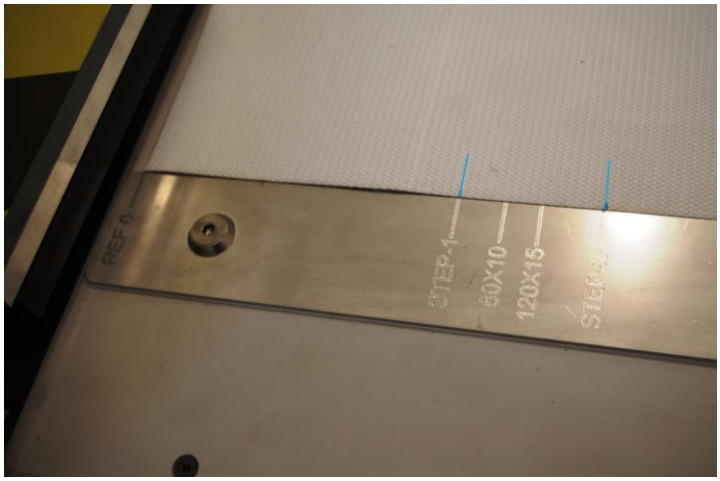
We reduce the cutting pressure to 2 bar, as the second cut shall only cut the top fabric.
We lower the tread bar and press START.

On finishing the second cut, we withdraw the surplus material and the anti-cut plate.

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com



We place the second end of the belt with the opposing face upward on the same left side and repeat the same operations.



Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

DIE CUTTING A-B for hi profile belts at 90º.

We select function A-B if it is not activated.

We mount the die chosen: 80x10 or 120x15.
We program the relevant gauge for the die mounted and program the width in centimetres.
We adjust the cutting pressure according to the hardness of the belt and the blade length.

First we place the first end of the belt on the left side by the guide rail and then position the end of the belt just by the 0 Ref. mark, in order to mark the relevant material insertion measurement according to the die we wish to cut with.

We then place the belt under the holding bar until the mark made aligns with 0 Ref. and make sure that it is fully in contact with the guide rail.

We lower the tread bar using the down push button.

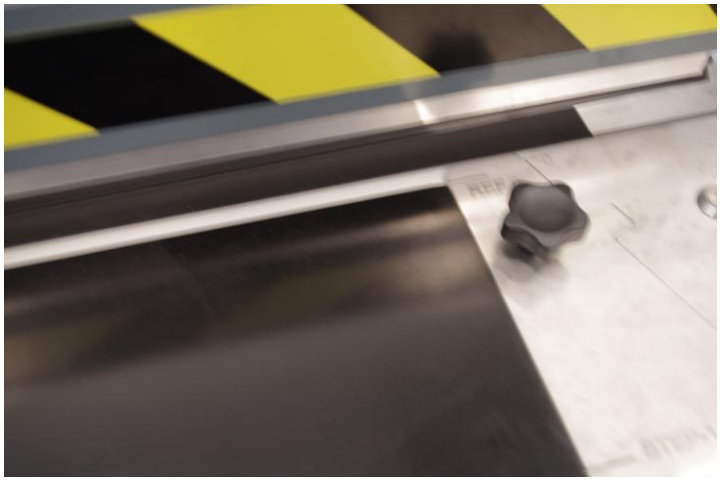
Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

Using the + / - buttons, we adjust the belt width in centimetres and press OK.
We check that the STEP is correct and, if that is not the case, using the MENU key, we jump to the field STEP and input the desired value with + / - and then OK.

We press START to start cutting at the first end.

Once the first cut has been performed, we observe that the head shall be positioned at point 0 of the end opposite the control board. On reaching that point, we release the belt by pressing the bar up button.

We place the second end of the belt on the right side next to the right guide rail and, with the coverage also on top, we position the final end of the belt just at the O Ref. mark, to pencil the mark with the measurement for insertion of the relevant material according to the die we wish to cut with.



We then place the belt under the holding bar until the mark made matches 0 Ref. and we make sure it is fully in contact with the guide rail.

We lower the tread bar using the down push button and press START.

Once the operation has ended, we release the material by raising the pressing bar.

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

DIE CUTTING A-B diagonal 70º

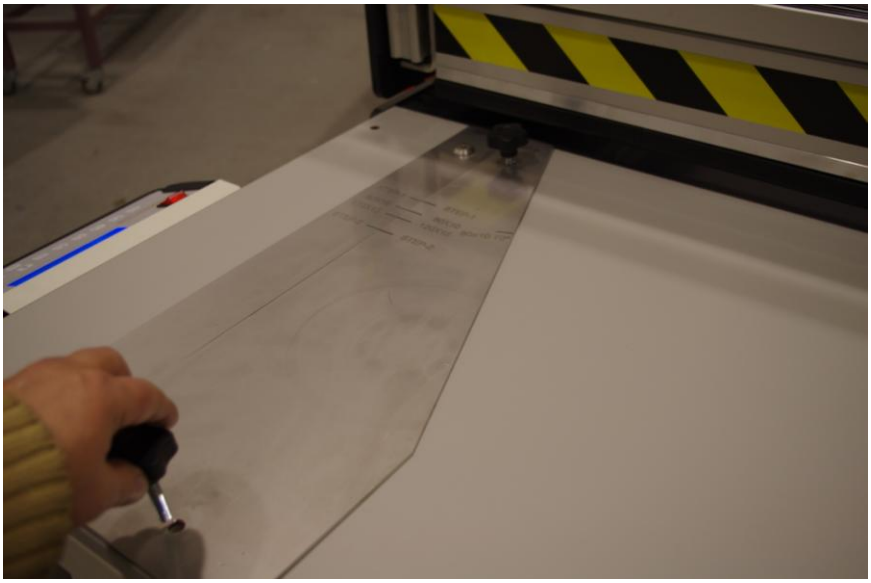
We select the A-B function if it is not activated.

We mount die 80x10 70º
We program the STEP to 10mm
We adjust the cutting pressure to 4//6 bar

We program the width in centimetres 10% wider than the belt width.
Example: if the belt is 400mm. wide, we will program 44 instead of 40.

We remove de diagonal guide of right side and place in the left side.

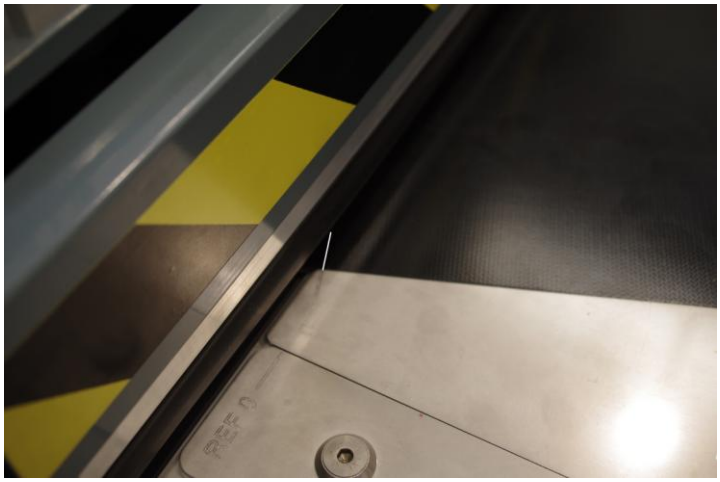
Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com



We place the belt that has already been cut in diagonal at 70º along with the supplementary guide to mark from 0 Ref. with the advance measurement of 80x10 70º.

We then insert the belt until it aligns with the mark made at point 0 Ref.

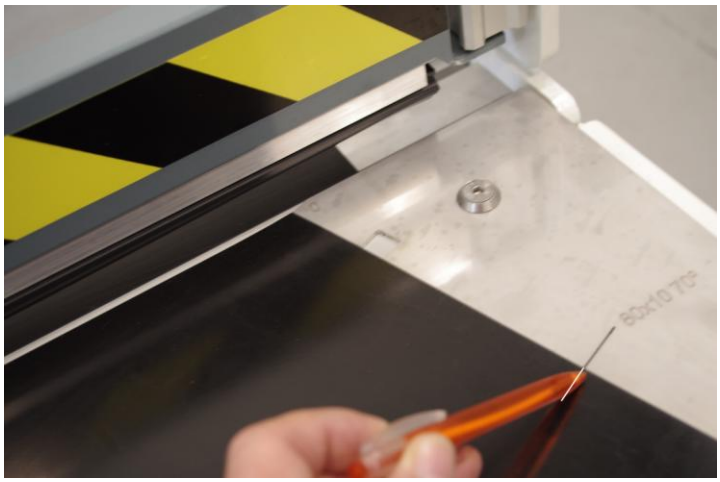
Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com



We lower the tread bar using the down push button and press START.

Once the first cut is complete, we note that the head will be positioned at point 0 of the opposite end of the control board. On reaching that point, we release the belt by pressing the raise bar button.

We place the second end of the belt on the right side, by the right diagonal guide and with the coverage also on top, and position the far end of the belt just at the 0 Ref. mark, to pencil the measurement mark to insert the material, that will be 80x10 70º.

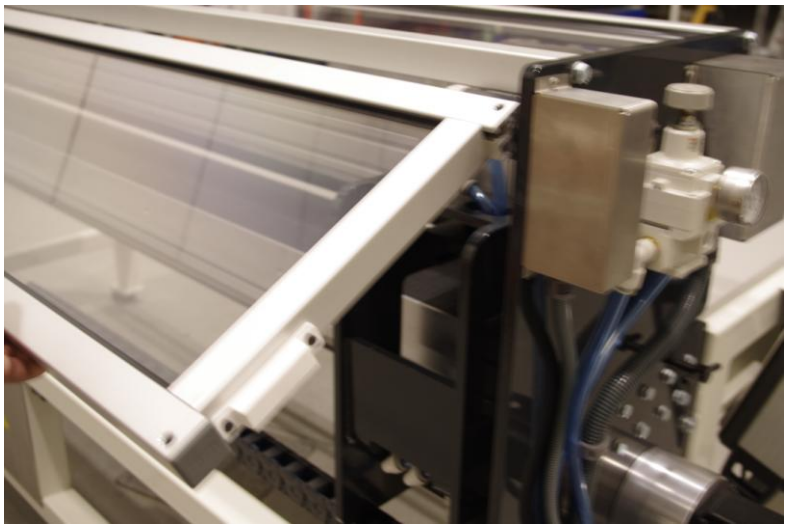


We then insert the material till the mark aligns with 0 Ref. and lower the tread bar and press START.

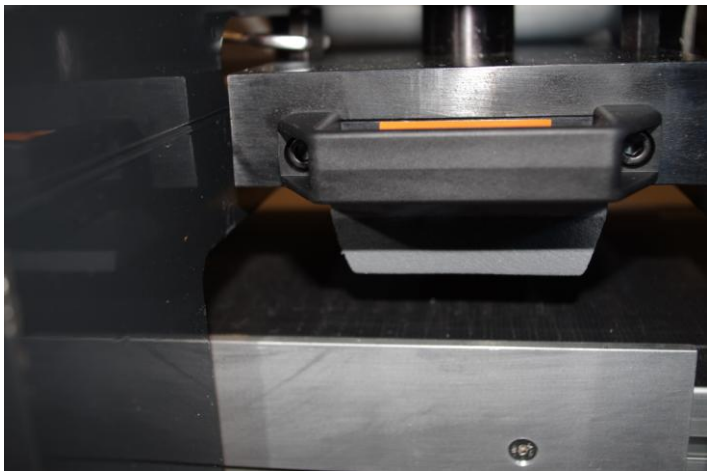
Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

-.Changing die head:

WARNING:
When changing the die, it is recommended to turn off the equipment with the OFF switch for greater safety.
- We open the rear door.

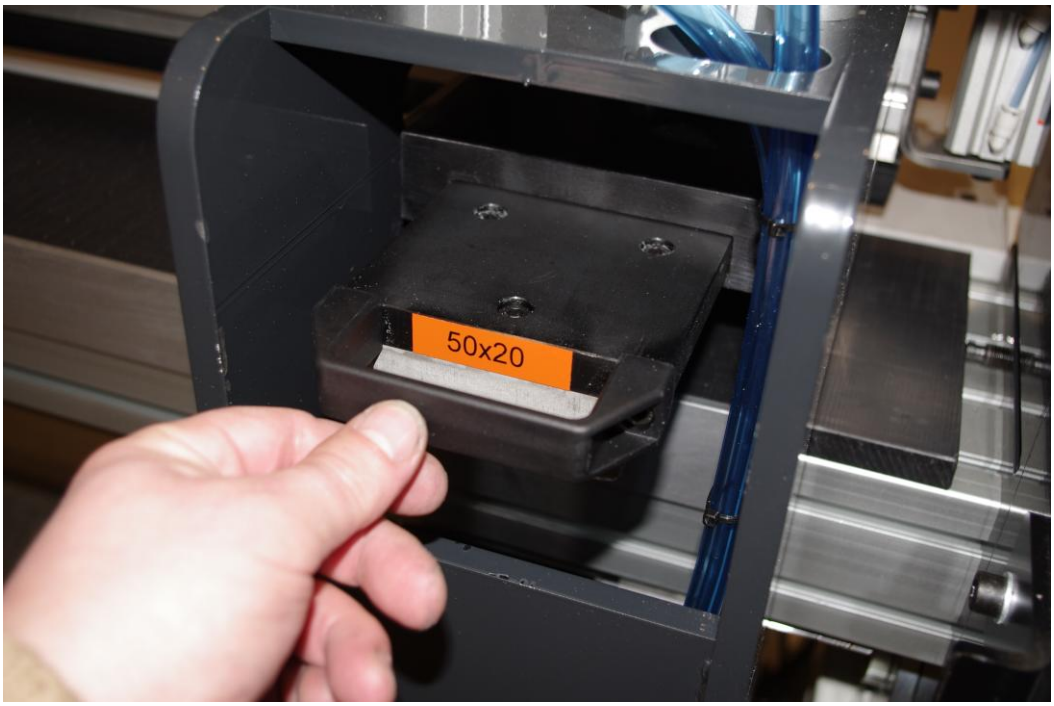


We loosen the 2 bolts using a 13mm Allen key.



Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

We remove the die and install the new one.



We tighten the 2 bolts again.
We close the rear door and program the correct gauge on MENU .... STEP ... OK

NOTE:
We must adjust the cutting pressure for each type of die or material.
Otherwise, excess pressure may cause breakage of the blades, or deterioration of the cutting nylon.

- Care and maintenance:

-Turn or change the polypropylene table when the surface is impaired, to do this, Turn off the machine and loosen the knob displacement.
After this, open the door and replace this table for a new one.

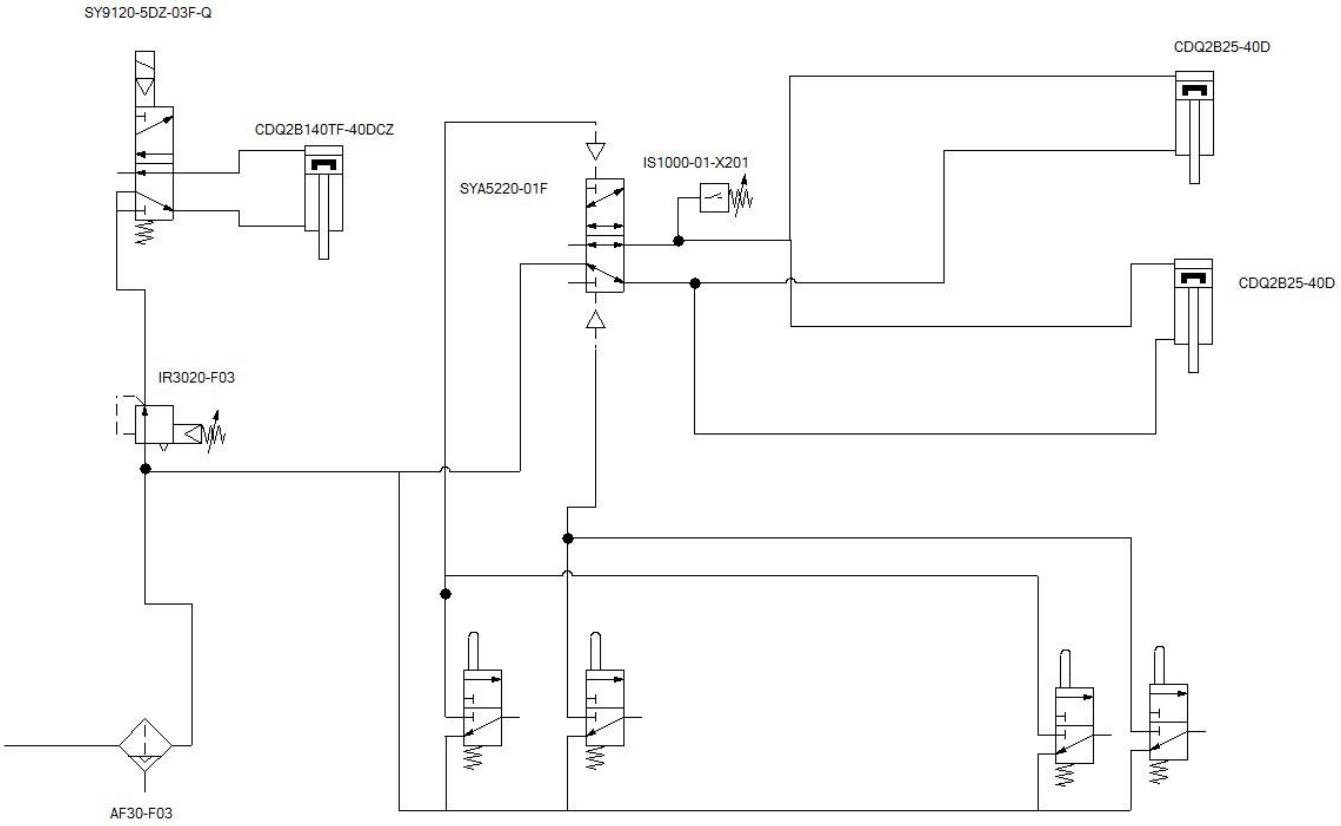
- Maintain the ball screw always greased.

- Change the blades when the loss of quality in cut fingers.

Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

ermengineering
belting fabrication equipment

- Pneumatic drawing:



ermengineering
belting fabrication equipment

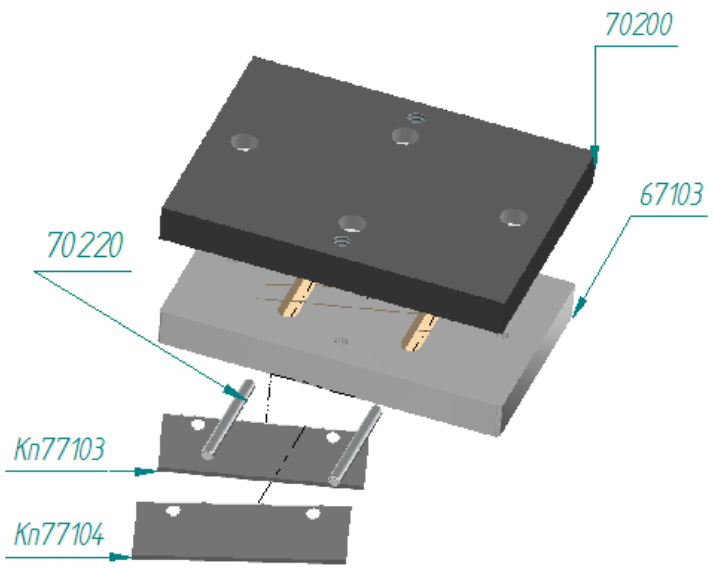
Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

ermengineering
belting fabrication equipment

-. Spare parts:

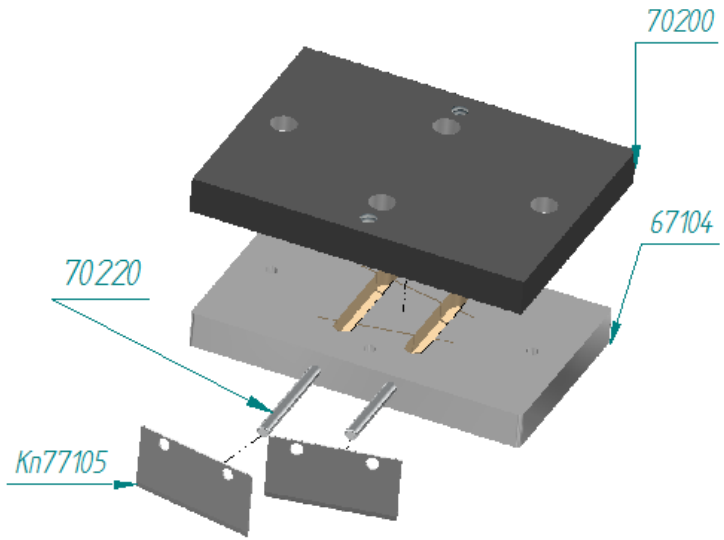
PUNCHING PLATE 80X10 70º

Number	Part name	Units
Kn77103	cuchilla 0.7x79.5-70.par	1
Kn77104	cuchilla 0.7x82.5-70.par	1
70200	Distancial troquel 120 DC.par	1
70220	Pasador troquel.par	2
67103	TROQUEL-80X10-70.par	1



PUNCHING PLATE 50X20

Number	Part name	Units
Kn77105	cuchilla 0.7x52.5.par	2
70200	Distancial troquel 120 DC.par	1
70220	Pasador troquel.par	2
67104	TROQUEL-50x20.par	1

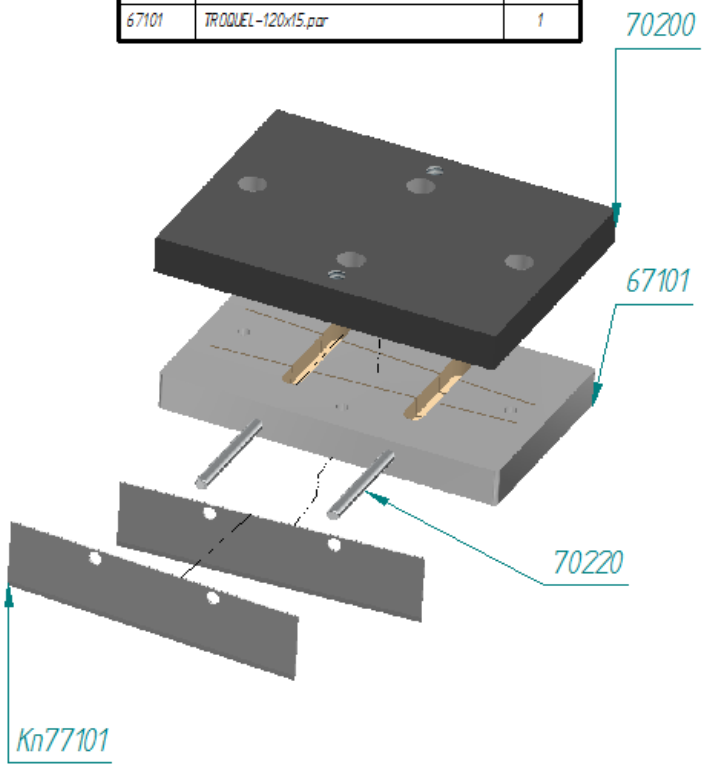


Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

ermengineering
belting fabrication equipment

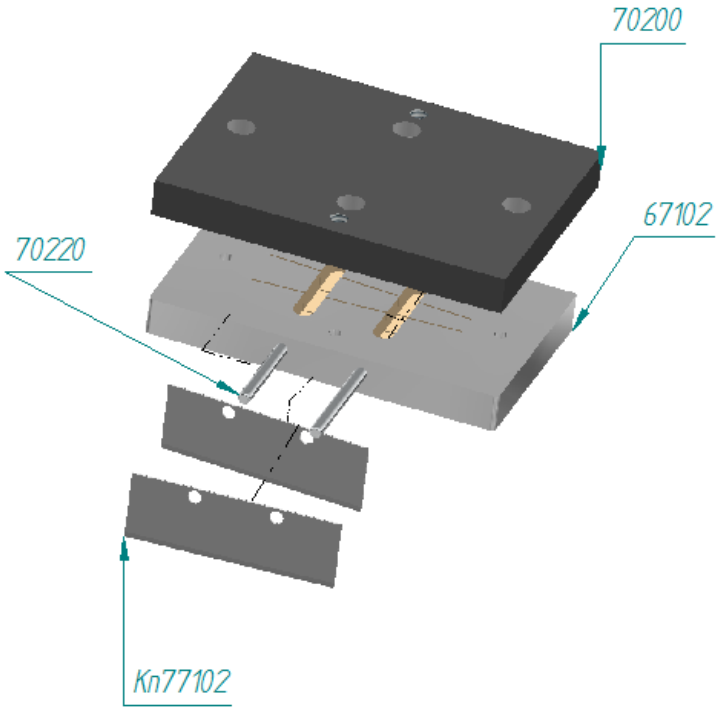
PUNCHING PLATE 120X15

Number	Part name	Units
Kn77101	cuchilla 0.7x122xdoble bisel normal.par	2
70200	Distancial troquel 120 DC.par	1
70220	Pasador troquel.par	2
67101	TROQUEL-120x15.par	1



PUNCHING PLATE 80X10

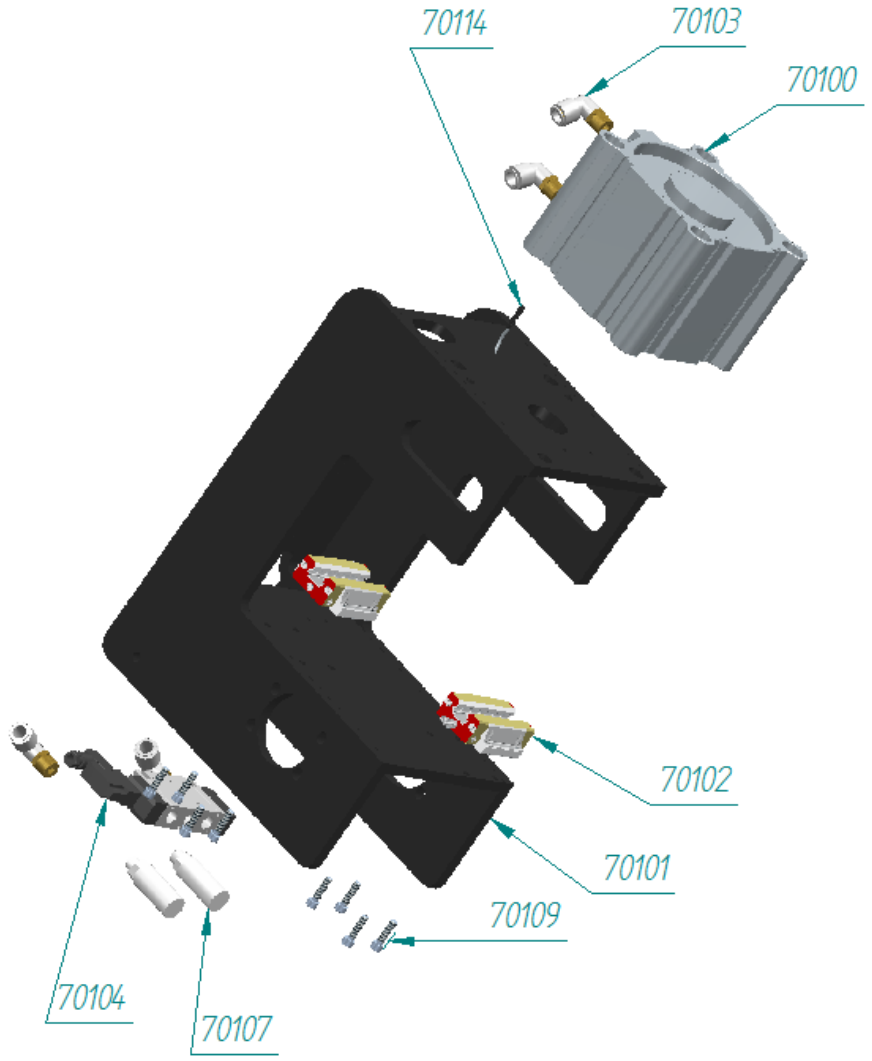
Number	Part name	Units
Kn77102	cuchilla 0.7x62xdoble bisel normal.par	2
70200	Distancial troquel 120 DC.par	1
70220	Pasador troquel.par	2
67102	TROQUEL-80X10.par	1



Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

ermengineering
belting fabrication equipment

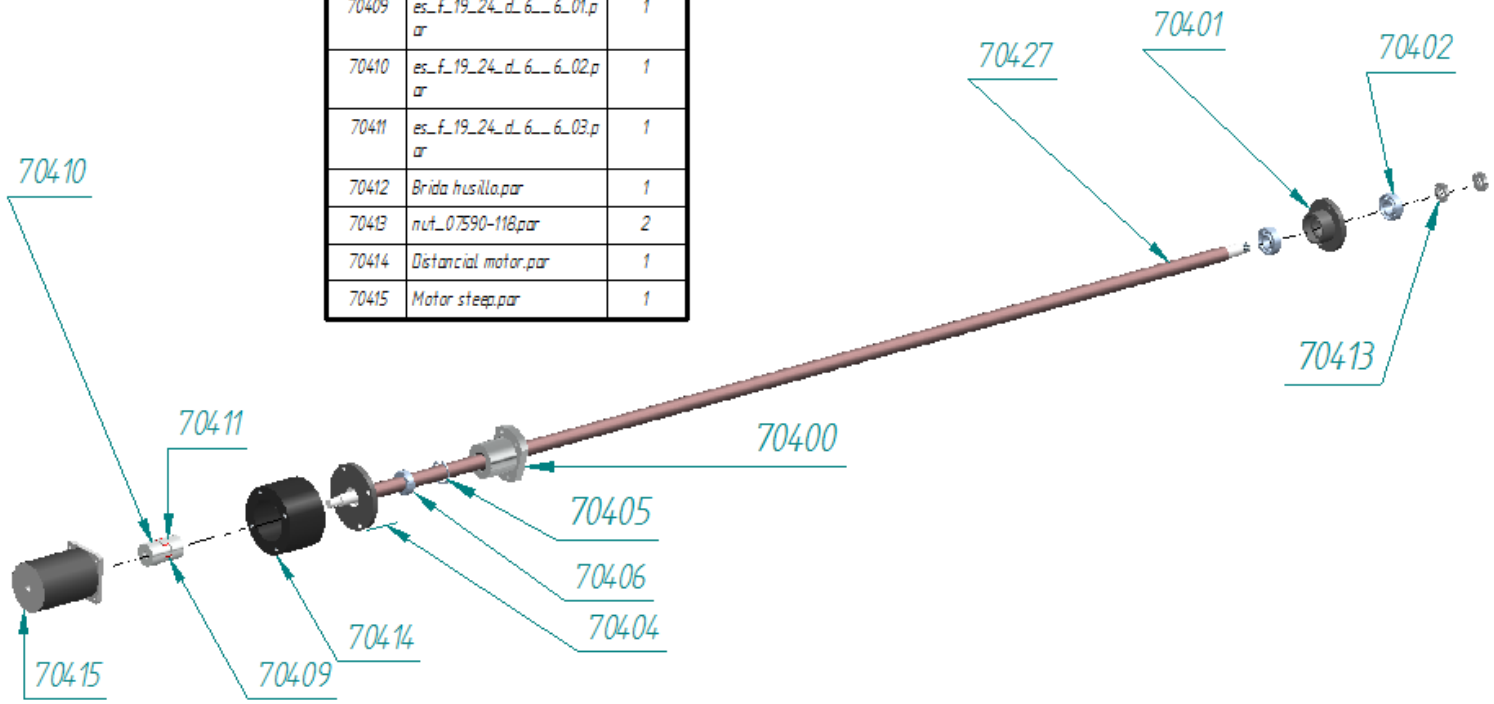
Number	Part name	Units
70100	CD1Q2B140TF-400CZ.asm	1
70101	Cabeza CD1500.asm	1
70102	Patin Hiwin 20.par	2
70103	KQ2L12-03S.par	5
70104	SY9120-5DZ-03.asm	1
70105	Screw_DIN_912_M14x50_v10.00.par	4
70107	ANA1-02.par	2
70109	Screw_DIN_912_M6x25_v10.00.par	8
70114	D-A93.par	1



Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

ermengineering
belting fabrication equipment

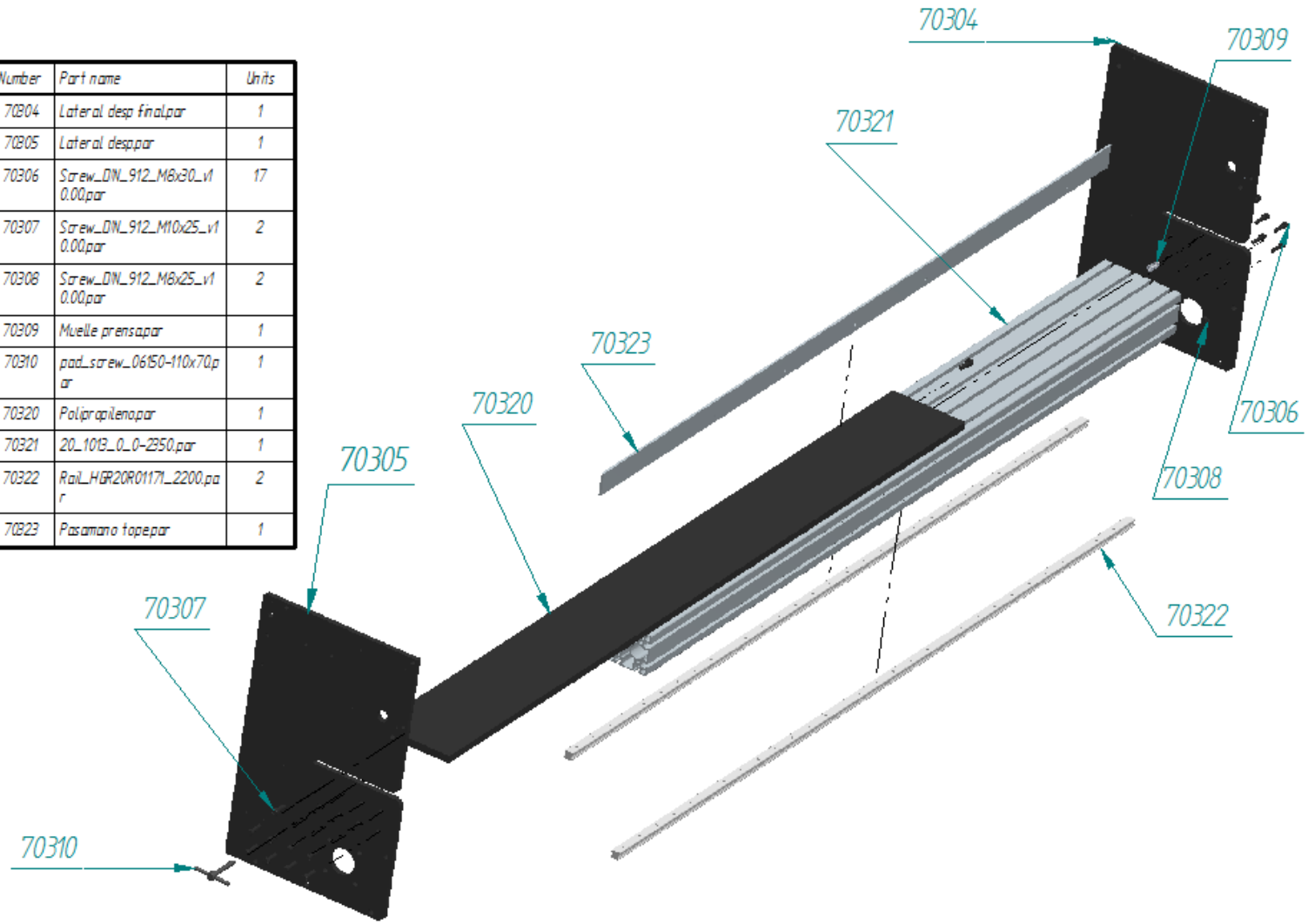
Number	Part name	Units
70400	Brida husillo tuerca.asm	1
70401	BRIDA BANCADA 2.par	1
70402	Bearing_DIN_628_1_1993_7204_B_v9.00.par	2
70404	BRIDA BANCADA.par	1
70405	Guard_ring_B_DIN_472_40x1.75_A_v10.00.par	1
70406	6004 20-42-12.par	1
70427	Husillo DC2000.par	1
70408	es_f_19_24_d_6__6.asm	1
70409	es_f_19_24_d_6__6_01.par	1
70410	es_f_19_24_d_6__6_02.par	1
70411	es_f_19_24_d_6__6_03.par	1
70412	Brida husillo.par	1
70413	nut_07590-118.par	2
70414	Distancial motor.par	1
70415	Motor steep.par	1



Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

ermengineering
belting fabrication equipment

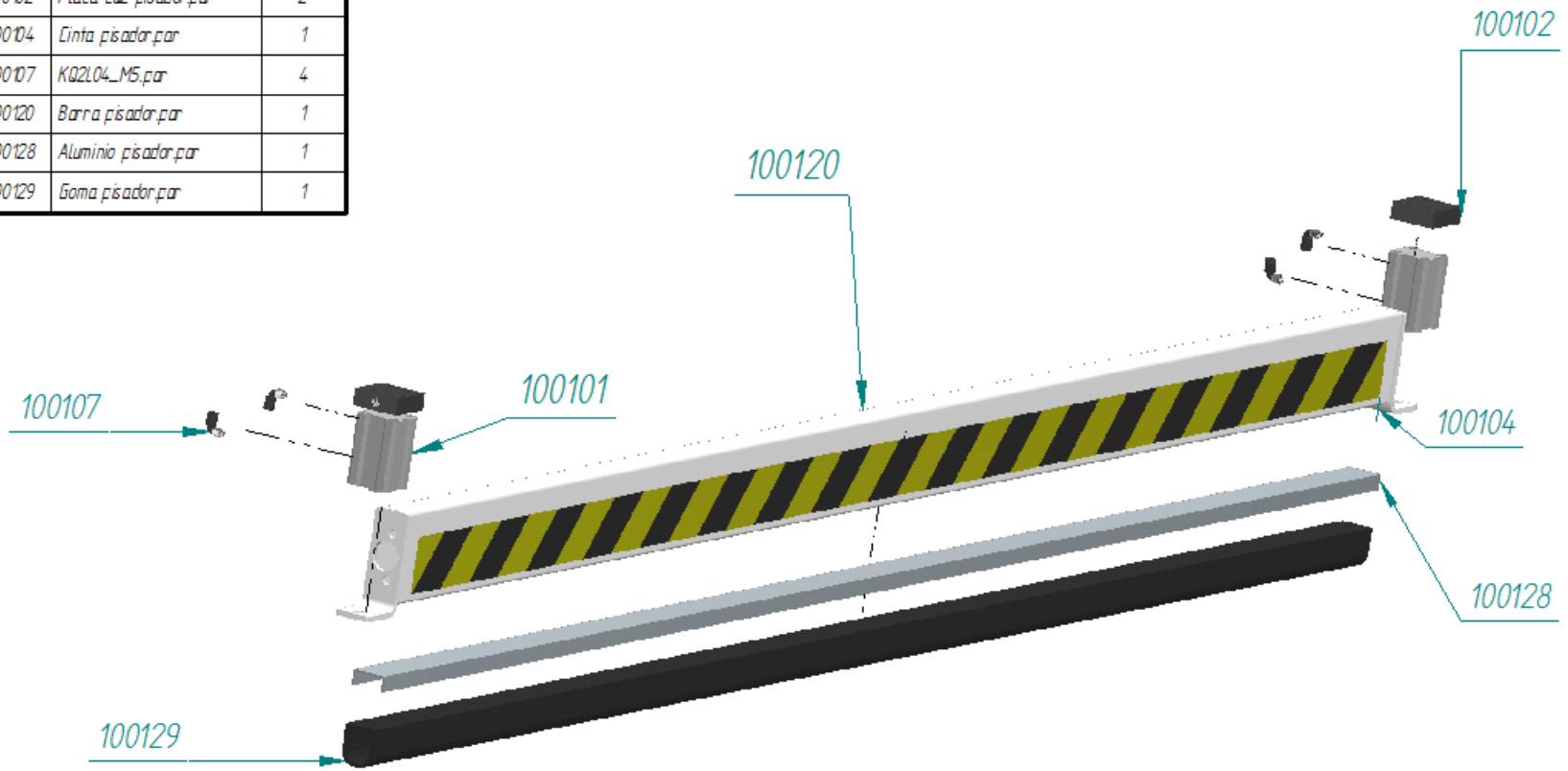
Number	Part name	Units
70304	Lateral desp final.par	1
70305	Lateral desp.par	1
70306	Screw_DIN_912_M8x30_v1 0.00.par	17
70307	Screw_DIN_912_M10x25_v1 0.00.par	2
70308	Screw_DIN_912_M8x25_v1 0.00.par	2
70309	Muelle prensa.par	1
70310	pad_screw_06150-110x70.par	1
70320	Polipropileno.par	1
70321	20_1013_0_0-2950.par	1
70322	Rail_HGR20R01171_2200.par	2
70323	Pasamano tope.par	1



Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

ermengineering
belting fabrication equipment

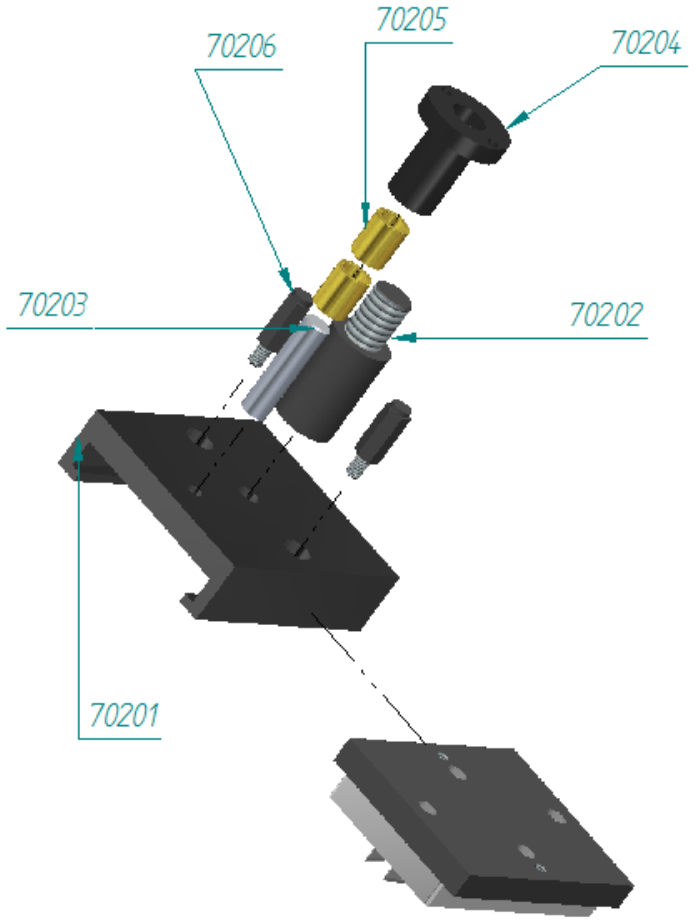
Number	Part name	Units
100101	C02825_400_0_.par	2
100102	Placa C02 pisador.par	2
100104	Cinta pisador.par	1
100107	K02104_M5.par	4
100120	Barra pisador.par	1
100128	Aluminio pisador.par	1
100129	Goma pisador.par	1



Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

ermengineering
belting fabrication equipment

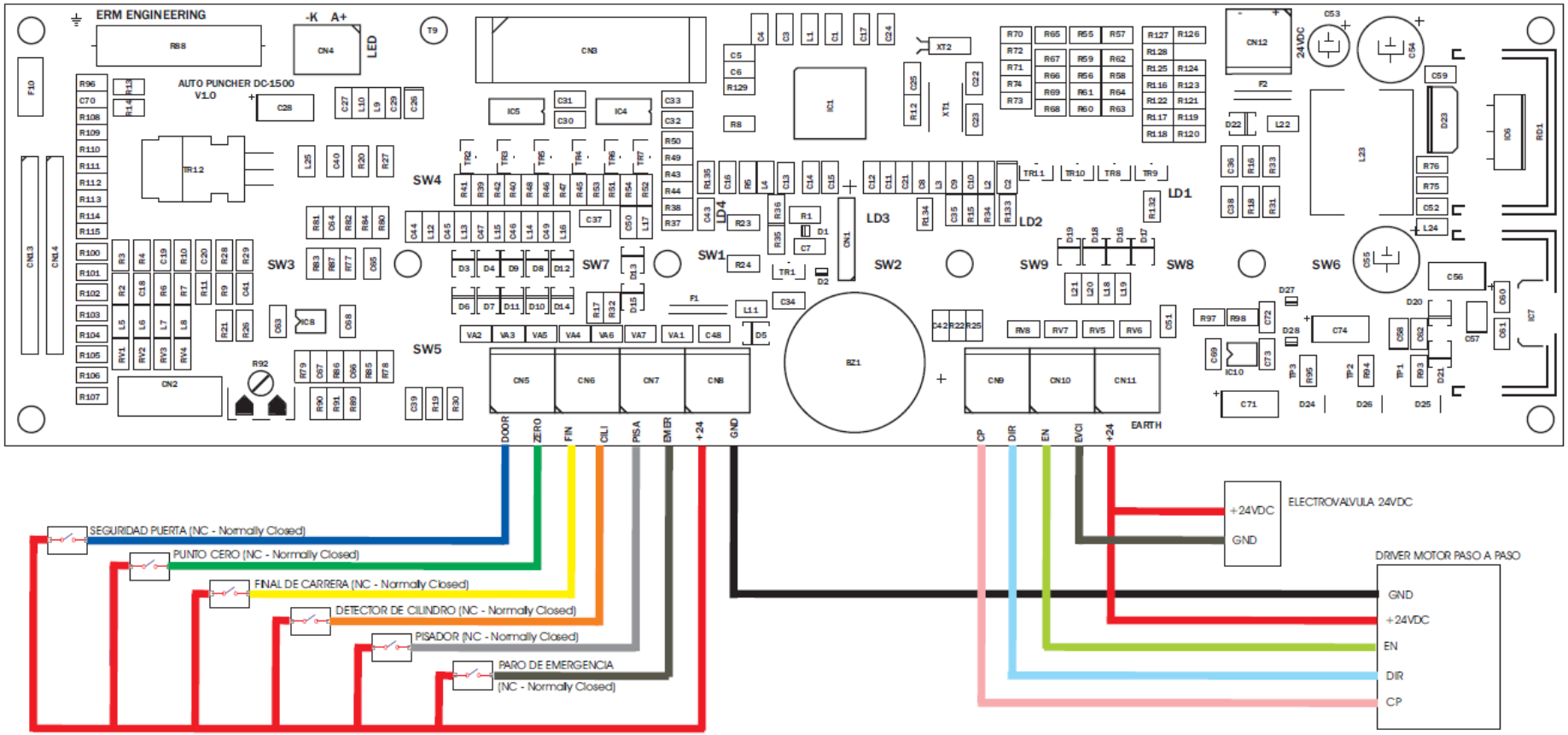
Number	Part name	Units
70201	Base distancial.par	1
70202	Enlace troquel.par	1
70203	Guia cabezal.par	1
70204	Soporte guia cabeza.par	1
70205	Selfoil 15x20x25.par	2
70206	Tornillo troquel.par	2



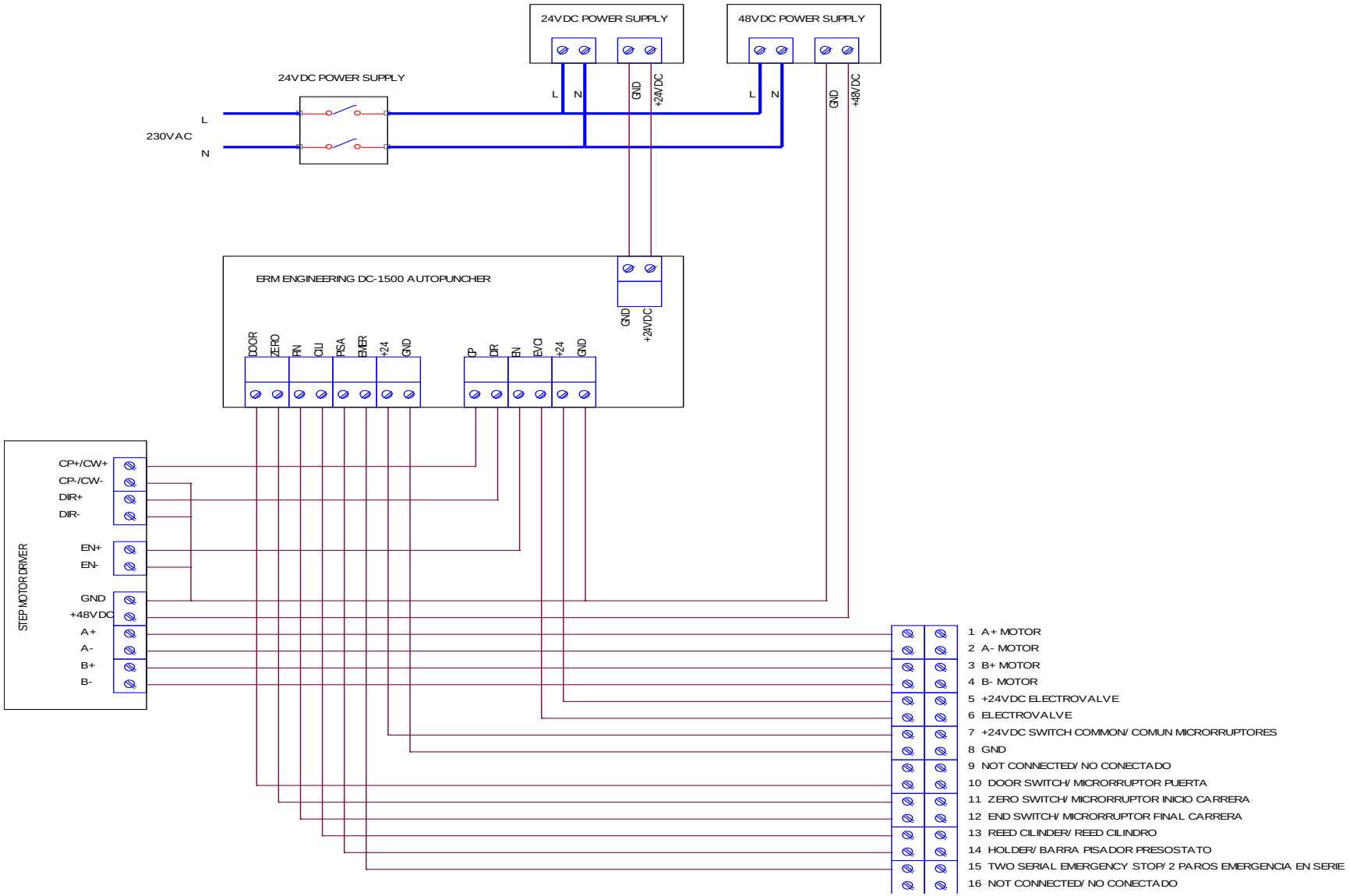
Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

ermengineering
belting fabrication equipment

- Electrical drawing:



Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com



Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com

-.EC Declaration of conformity:

WE DECLARE, under our responsibility, NOTWITHSTANDING HIGHER AUTHORISED CRITERIA, that the machine:

-Model: DC-150
-Serial no.: 13840
-Manufacturer date: 2012

Complies with the design and construction specifications of the European Standards on General Machine Safety:

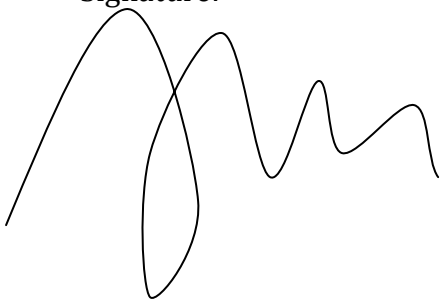
EN 292-1. General Machine Safety.
EN 292-2. General Machine Safety.
EN 60204-1 General Machine Safety. Electrical specifications.
EN 418. Emergency Device Specifications.
EN 294. General Safety. Higher Members.

Inspired by the directives of the Official Journal of the European Communities:
89/392/EEC General Machine Safety Directive.
73/23/EEC Low Voltage Directive.
89/336/EEC Electromagnetic Compatibility Directive.

Authorised by: Eduardo Ramos Martínez

Date: 15-06-2012

Signature:



Avda. Sot de les Vernedes 8, 08396 Sant Cebrià de Vallalta (Barcelona) Spain
(+34) 937632525
info@ermengineering.com
www.ermengineering.com