Modular transfer system

24 Volts

ITS - TLM 1500

User & maintenance manual

I02-243 / Translation of the original manual, version 05

Version tracking:

Version	Date	Description of modifications	Prepared by	Approved by
00	07/08/17	Initial	O. CELARD	M. MALEO
01	14/09/17	Modification of security instructions	O. CELARD	M. MALEO
02	23/01/18	Precision on motor wiring	O. CELARD	M. MALEO
03	18/09/18	Added information for disassembly and wiring of CROUZET drive motors + 2015 edition of ISO 9001 and 14001 standards: deletion of expired certificates	O. CELARD S. MAIRET	M. MALEO
04	07/11/22	Added information on transfer elements (paragraph 3.2) + modified text in paragraph 3.3.	J. BIDAUD	L. HERBIET
05	07/03/24	Addition of paragraphs 7.1 and 7.2 for changing 180° return strips	J. BIDAUD	L. HERBIET

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1 GENERAL INFORMATION

1.1 Important notice

The following instructions are used as technical documentation for the manufacturer of the final machine system. elcom company is the provider of the subset transfer system TLM 1500 ITS 24V.

The manufacturer of the final machine system must ensure that all safety equipment is provided and functional, that regular checks are made, that any danger arising from moving parts is controlled or reported (pinch, shear) and that the documentation is complete.

1.2 Applicable standards

The machine system where the subset is incorporated cannot be in service until all the terms and conditions established by directive 2006/42/CE have not been applied.

According to the European Directive 2006/42/CE, elcom transfer systems are considered as almost full machine system. They are therefore not subject to an EC declaration of conformity but are the subject of a declaration of incorporation. The latter is transmitted at the time of delivery, accompanied by the exploded view of the motorized equipment.

However, the following standards are considered for the design of elcom transfers:

- 2006/42/CE directive related to machine systems
- 73/23/CE directive related to electrical equipment

Elcom company provides monitoring and quality recognized by the ISO 9001 certification.

Regarding the environment respect, elcom company is also ISO 14001 certified.

1.3 Applications

The linear transfer elements TLM1500 ITS24V are provided for moving and positioning workpiece carriers depending on each configuration for the end customer.

They are intended to be incorporated in all the line of the user.

1.4 Terms of use

The elements of the TLM 1500 ITS24V transfer system is provided for a normal use in industrial workshop, type assembly or equivalent, in a dry environment.

They are not suitable for the transport of materials such as sand, granules or grains.

The maximum load applicable to the transfer system is specified in the catalog and must always be strictly followed.

To ensure a proper operation of the transfer and an optimal lifetime, using shall be focused on the followings:

- Operating temperatures between 0° and 40° C,
- Avoid dusty or smoky atmospheres,
- Avoid accumulation of sharp edged objects on conveyor,
- Avoid positioning of the machine under direct exposure to UV rays.

1.5 Security instructions

The security rules regarding transfer system, especially those related to electrical equipment must be followed during all using states: installation, transportation, production. To not follow these rules would be considered as bad use of the device.

Use the transfer in an explosive area may affect the integrity of the conveyor and is strongly not recommended.

Never handle maintenance operation alone: another person must be compulsory present in order to turn off power and apply first aid if necessary.

During any handling on the moving transfer or nearby (use, tension setting of the belt …), do not slide your hand between the belt is the support to prevent from any accident.

During the manipulation or using of the working transfer line, be careful of pinching areas indicated by this pictogram.

1.6 Motor's safety instructions

In the case of a power failure, the motor relay must fall, restarting the engines will be gradual and cycled with the restart of the plant. The engines are not suddenly restart when power is restored to the installation.

In contrary to the three-phase motors, 24V motors can be stopped frequently. During an emergency stop, you should stop the transport units in the area.

When you restart, it is necessary to delay a few seconds the start-up of the motors, in order to ensure the proper functioning of the stoppers (and positioning units), before to moving the workpiece carrier on the transfer

No reset by the controller is not necessary for the stoppers and positioning units, repositioning is done automatically (integrated program component).

1.7 Additional information

The aim of these instructions is to guarantee people safety and proper use of the transfer system. If you wish to use the transfer system in any other conditions, don't hesitate to contact us.

More information is available on **elcom** website:

https://www.elcom.fr/en/pallet-conveyor/

2 TECHNICAL CARACTERISTICS

- Maximum weight on workpiece carrier: 4 kg (except workpiece carrier)

- Maximum weight accumulation on stopper: 35 kg for a maximum stretch of 3 meters.

- Electric tension alimentation for motors: Direct 24 V

- Power consumption by motors: C = 0 (no load) → P < 10W
  (C= load in kilograms) C = 35Kg → 20W < P < 50W

Installed power for this equipment: 220 V - 150 W

- Emission sonore : < 80 dB

- Module weight: See the page :

https://www.elcom.fr/en/pallet-conveyor/

Warning! Every overload can lead to advanced damage for the belt or any other element.

3 COMMISSIONING

3.1 Receipt of equipment

When receiving the material, check that the packaging has not been damaged and that the equipment is in perfect condition.

3.2 Transfer parts

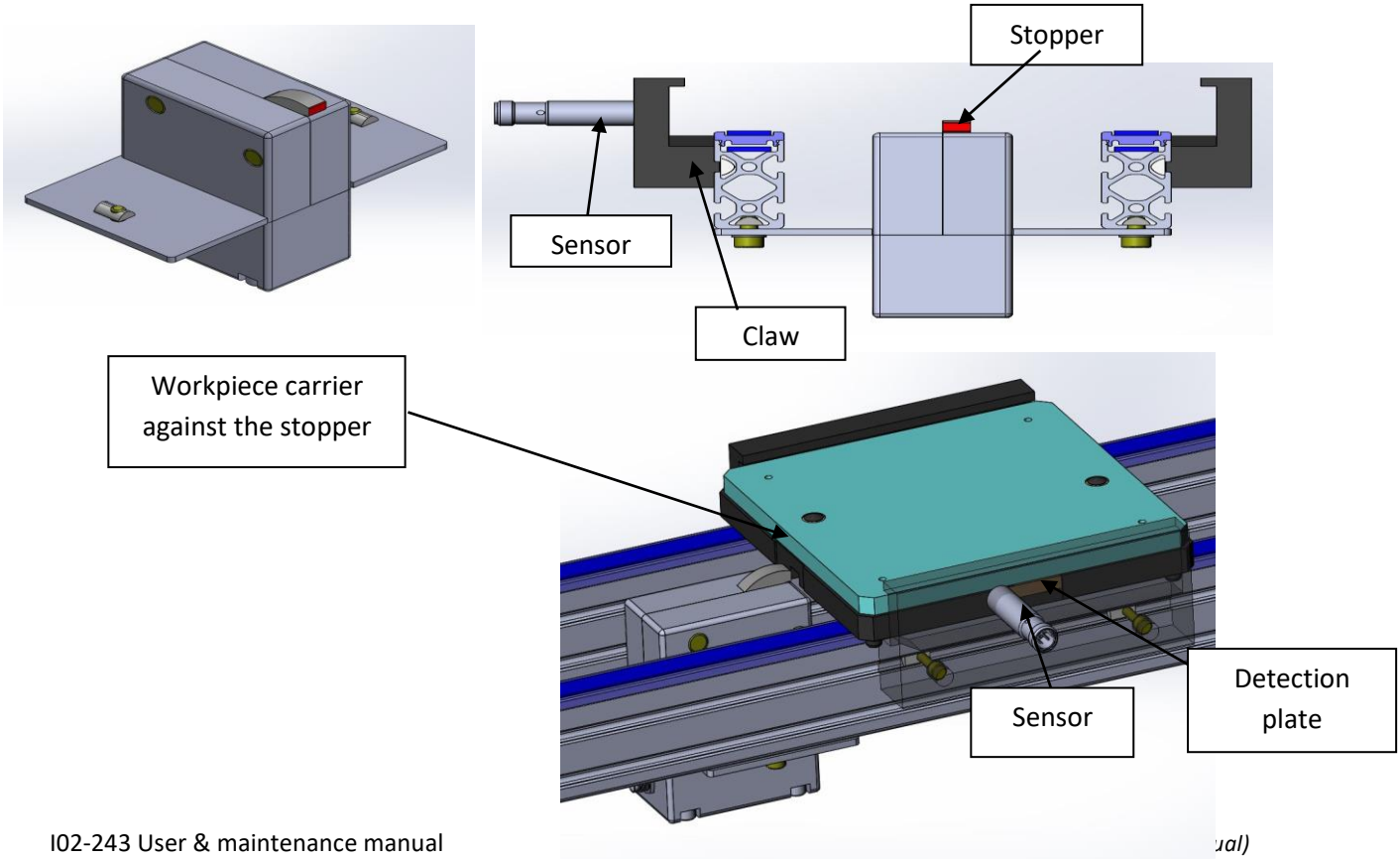
When handling the equipment and parts, take special care to avoid shocks.

1. Assemble the parts according to the lay-out of the line with the delivered fastening parts,
2. Level perfectly the conveying units while checking that the belts are properly laid on the belt guide,
3. Ensure the perfect stability of the whole line. To achieve this and according to the lay-out of the line, it may be necessary to perform ground fastenings,
4. Check the running direction of the belt without any load,
5. Adjust the cams and the selectors using a workpiece carrier,
6. Start the transfer system with all the workpiece carriers on.

3.3 Stoppers

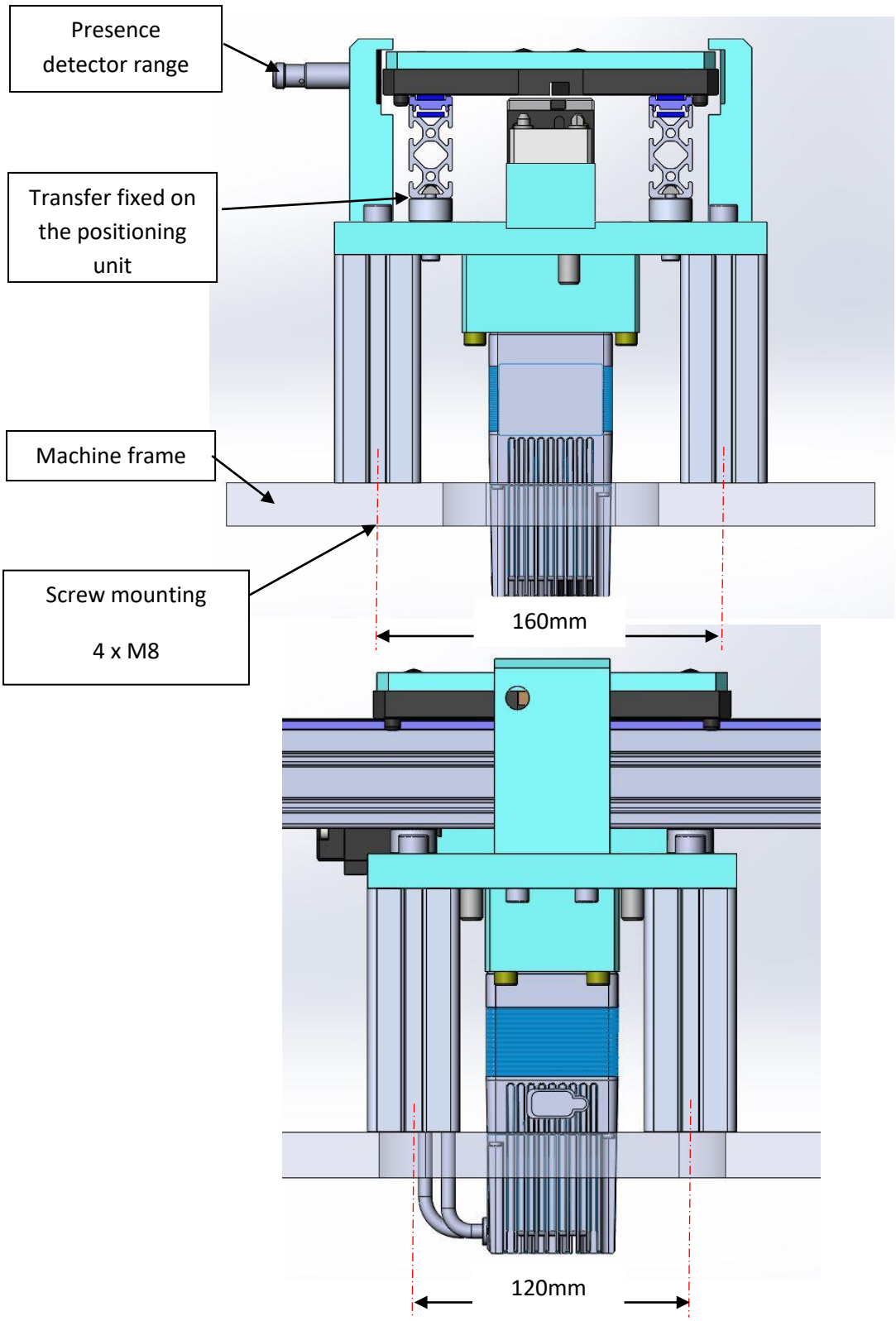
1. Place the stopper right in the middle of the two profiles of the system.
2. Put the workpiece carrier in contact of the stopper.
3. Adjust the presence detection range:
   - Move the 2 claws to align the sensor with the cam of the workpiece carrier (the sensor must pass 1)

When the sensor returns to 0, the stop back into the groove of the workpiece carrier



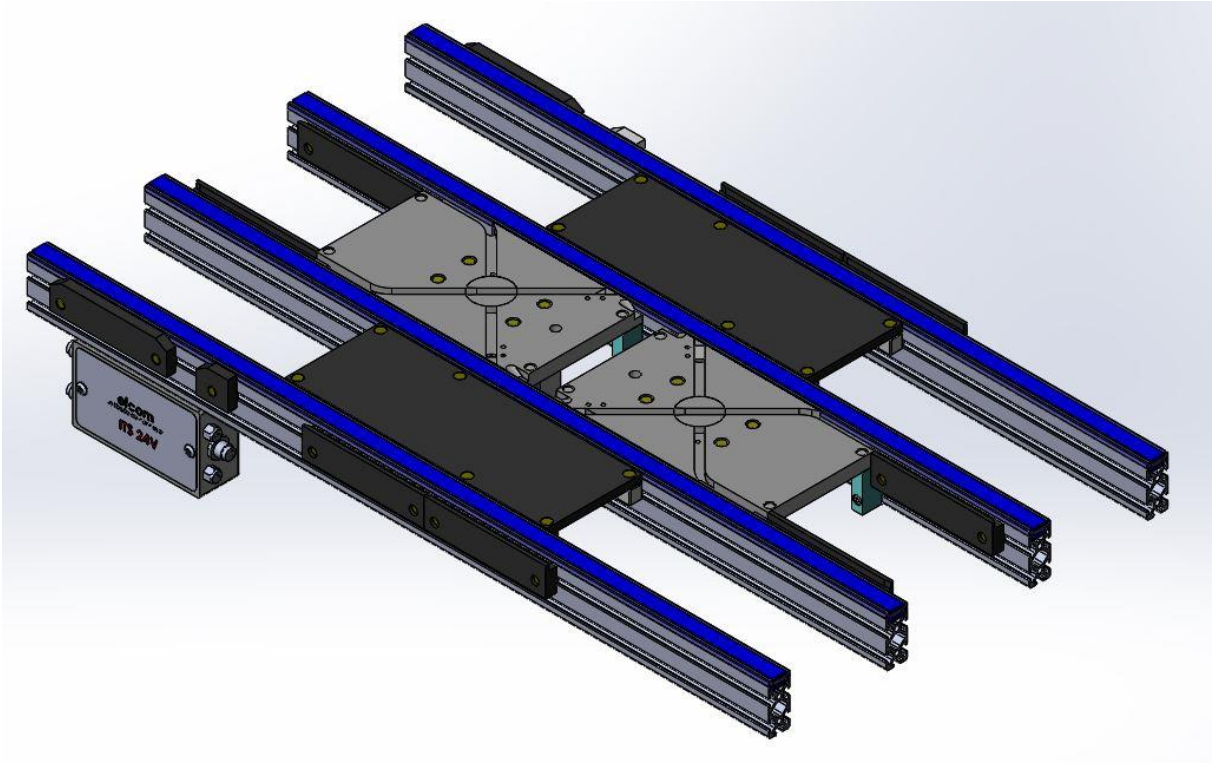
3.4 Positioning unit

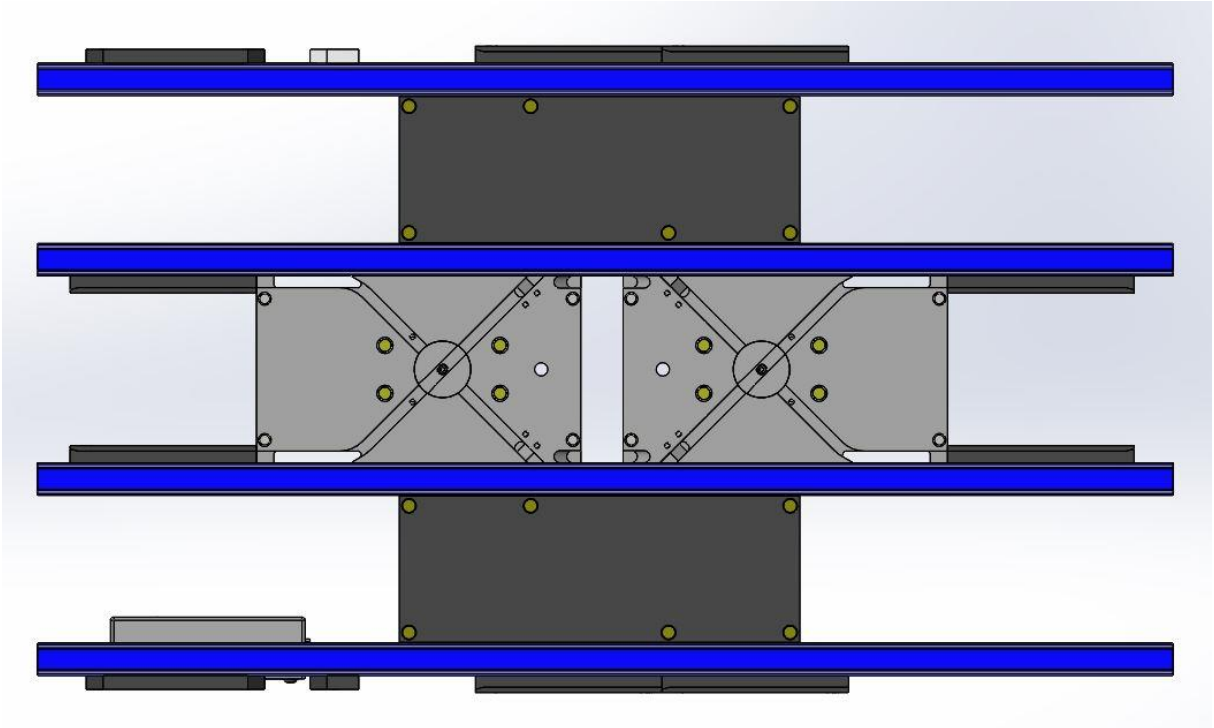
1. Place the stopper right in the middle of the two profiles of the system.
2. The presence detection range is preset.
3. The positioning unit must be fixed on a frame and not under the transfer.
4. Fix the transfer on the positioning unit.



3.5 Double cam

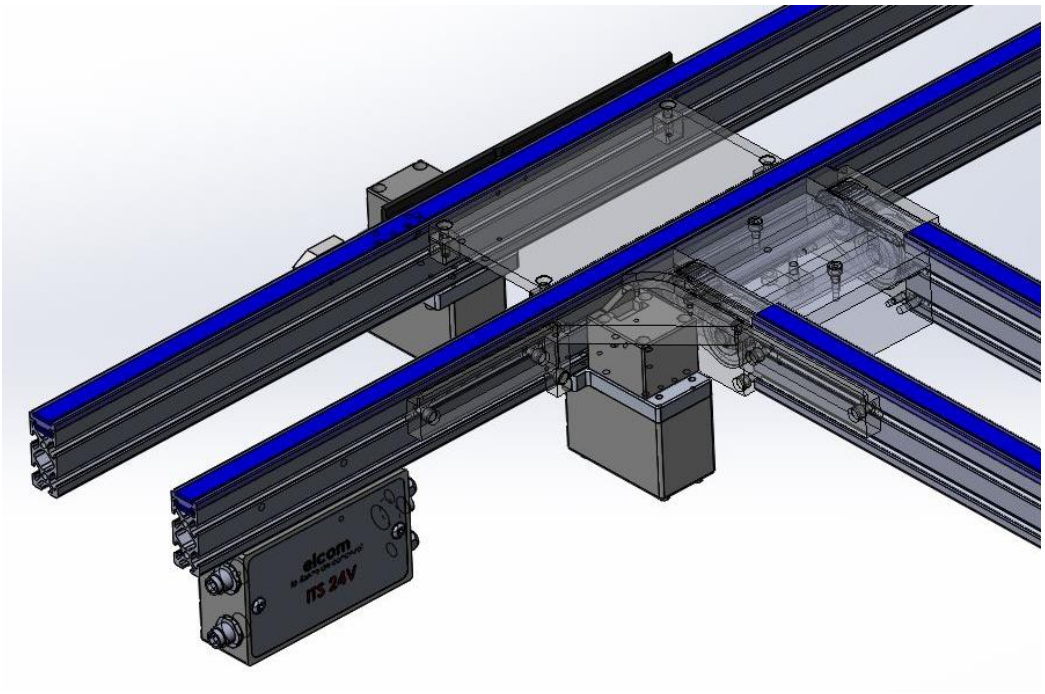
See overall drawing and assembly N°: 150 21 000 E

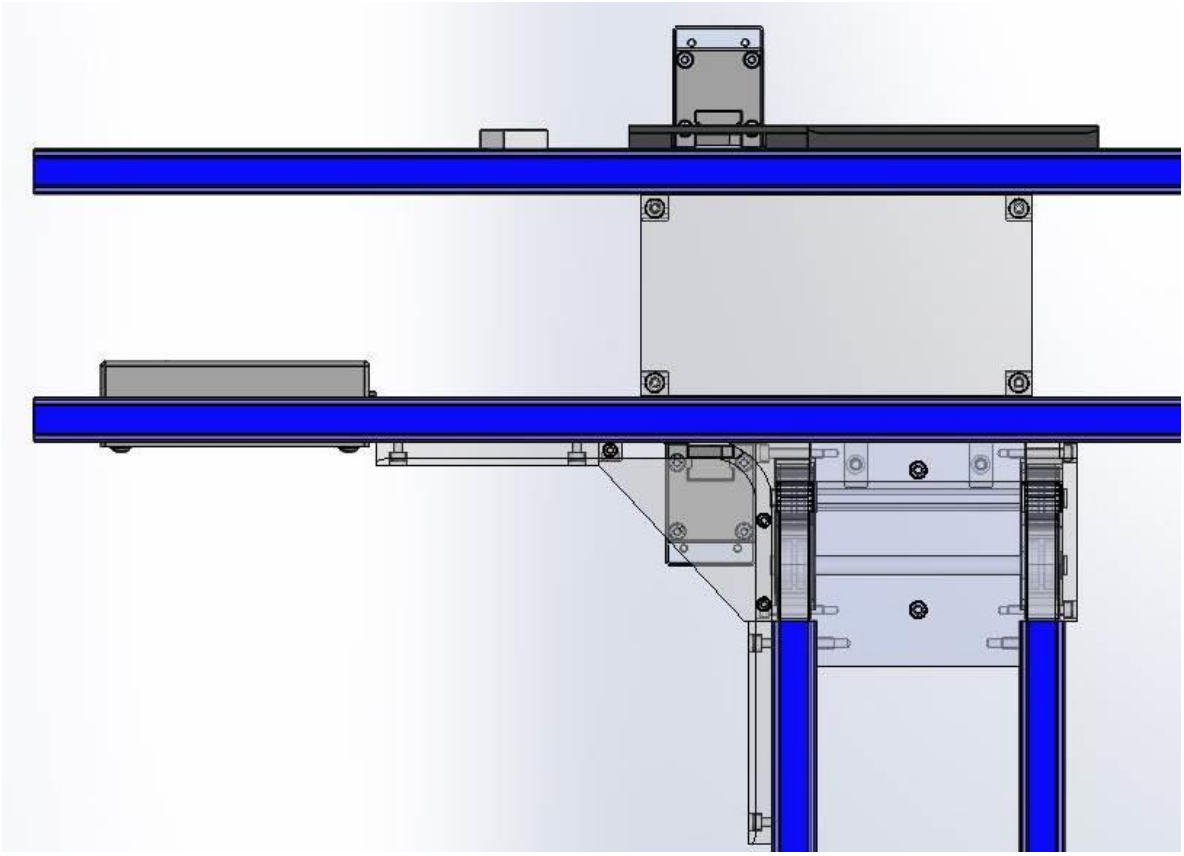




3.6 Derivation

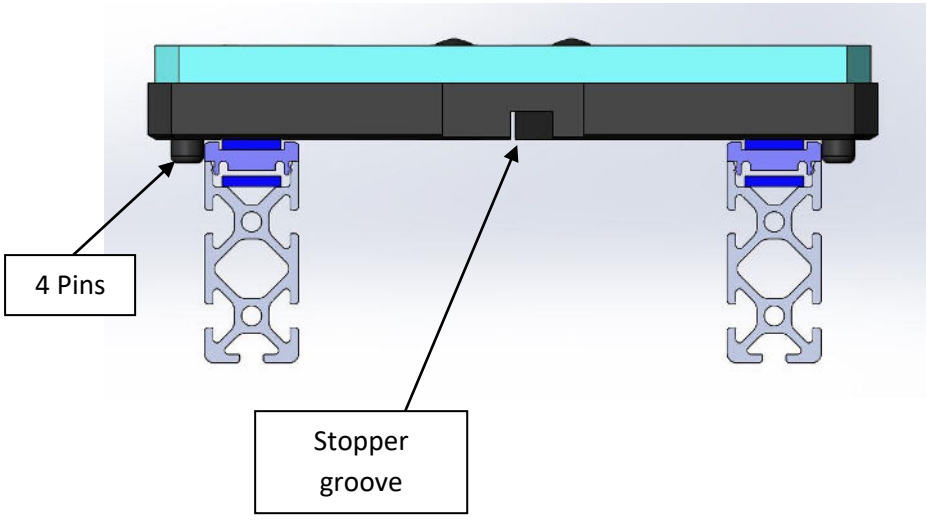
See overall drawing and assembly N°: 150 07 000 E (Right version) et 150 13 000 E (Left version)





3.7 Carrier

1. Check the function of the springs and the pins under the workpiece carrier.
2. Check that no part goes over the lower surface of the workpiece carrier.



4 MAINTENANCE

General visual check

Approximately every 500 hours, check the following points to ensure the proper functioning of the transfer system.

4.1 Belts wear

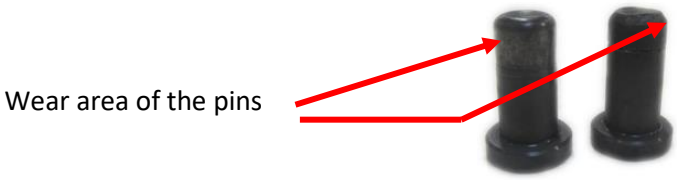
Regularly verify visually the state of the belt and especially the welding area.

4.2 Passageways of workpiece carriers

The friction of the pins while operating can make some marks appear. Those marks may over the long term require the part replacement.

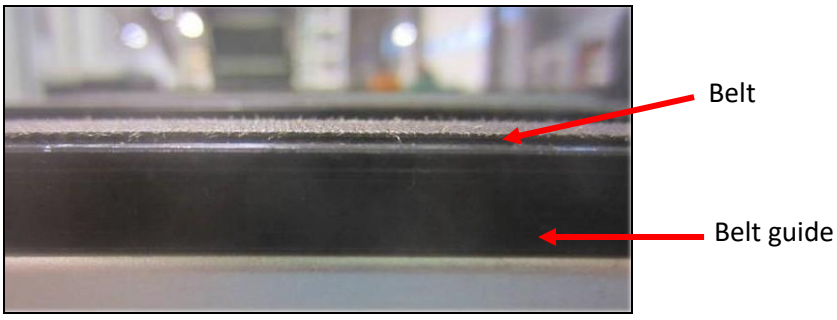
4.3 Pins

Pins are sensitive to wear, especially if the load is heavy. Wear can be noticed as soon as a loss of efficiency in the guiding of the workpiece carrier.



4.4 Wear of the belt guide

Belt guide must be replaced as soon as wear marks or friction on the belt start to appear.



4.5 Transfert parts

<u>Every 200 hours</u> :

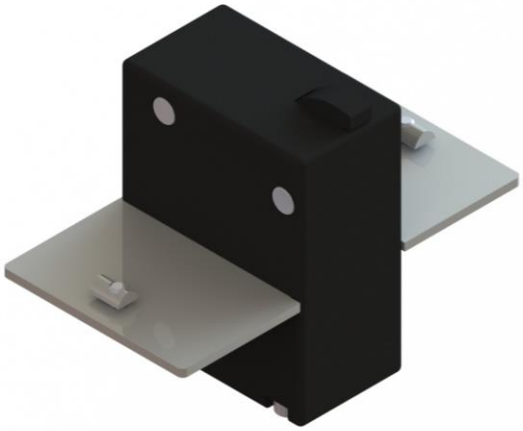
Remove dust from the whole system.

Use the product, réf. 800 00 003 (polish plastique Air Industry 2101).

4.6 Stoppers

<u>Every 5 000 hours</u> :

Clean all stoppers.



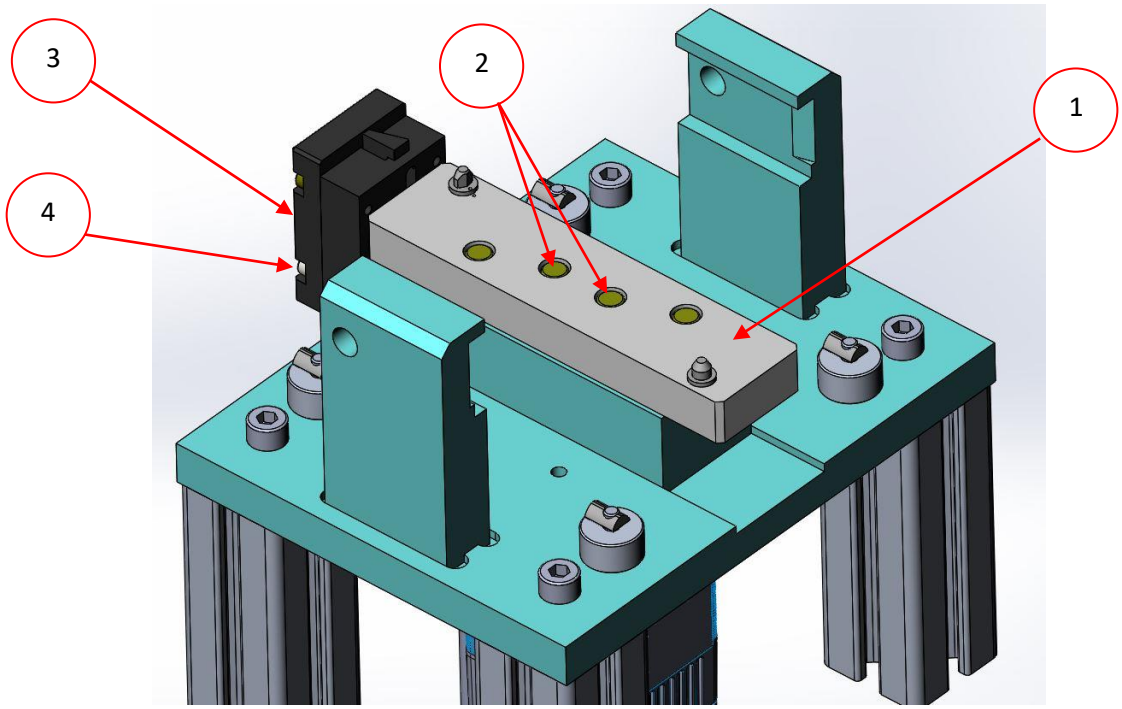
4.7 Positioning unit

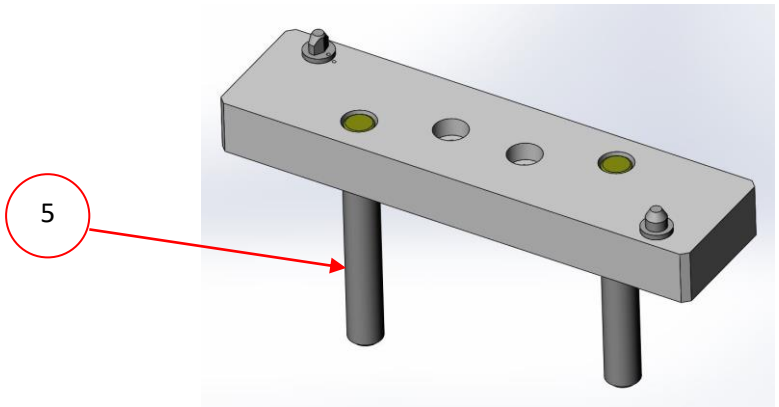
Every 1,000 hours:

Clean and lubricate guiding shafts:

- Take off the stopper Rep 3 by unscrewing 2 CHC M4 Rep 4.
- Take off the index plate Rep 1 by unscrewing the CHC M4 Rep 2.
- Clean and lubricate the guiding shafts Rep 5 (grease reference: 800 00 002)

Tool needed, Hex keys.





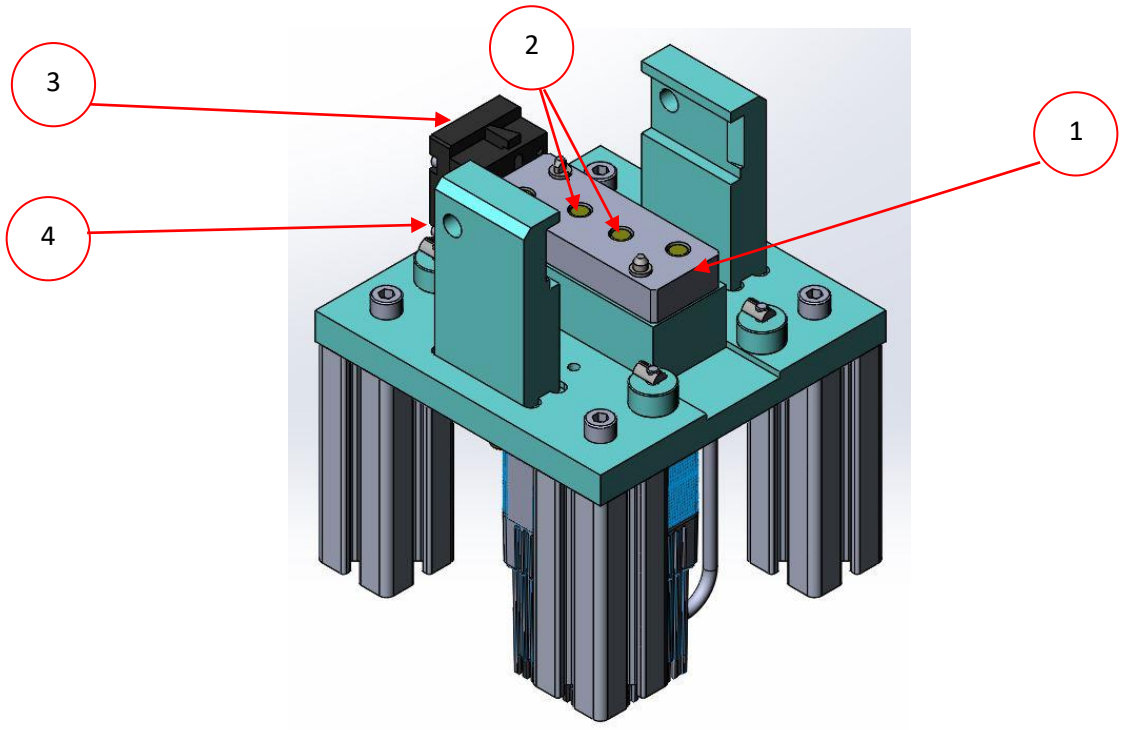
4.8 Positioning unit

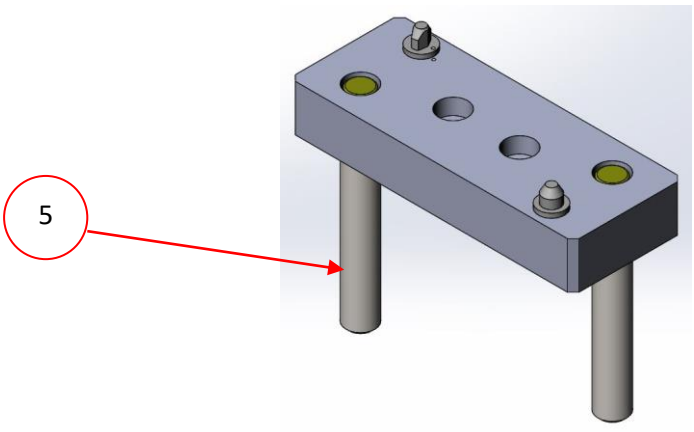
Every 1,000 hours :

Clean and lubricate guiding shafts:

- Take off the stopper Rep 3 by unscrewing 2 CHC M4 Rep 4.
- Take off the index plate Rep 1 by unscrewing the CHC M4 Rep 2.
- Clean and lubricate the guiding shafts Rep 5 (grease reference: 800 00 002)

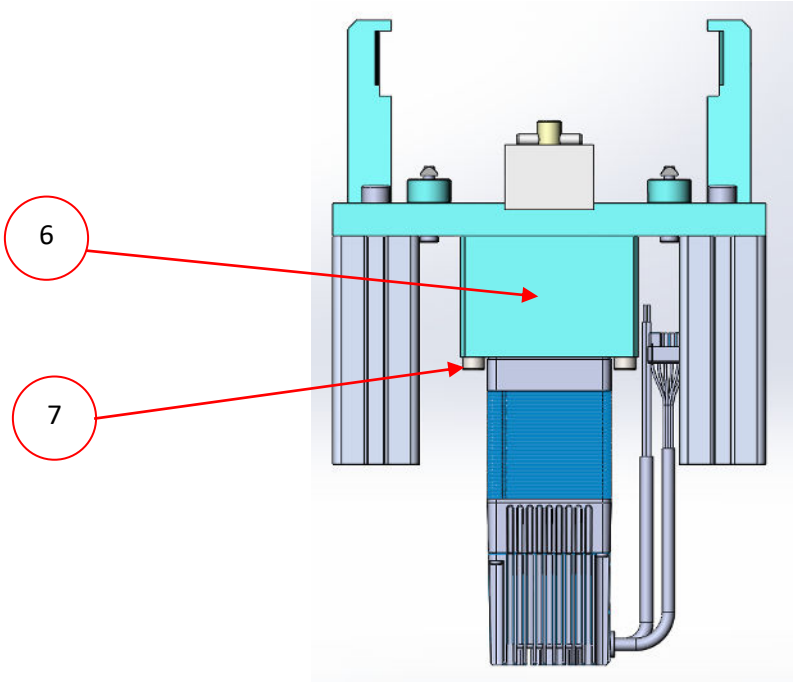
Tool needed, Hex keys



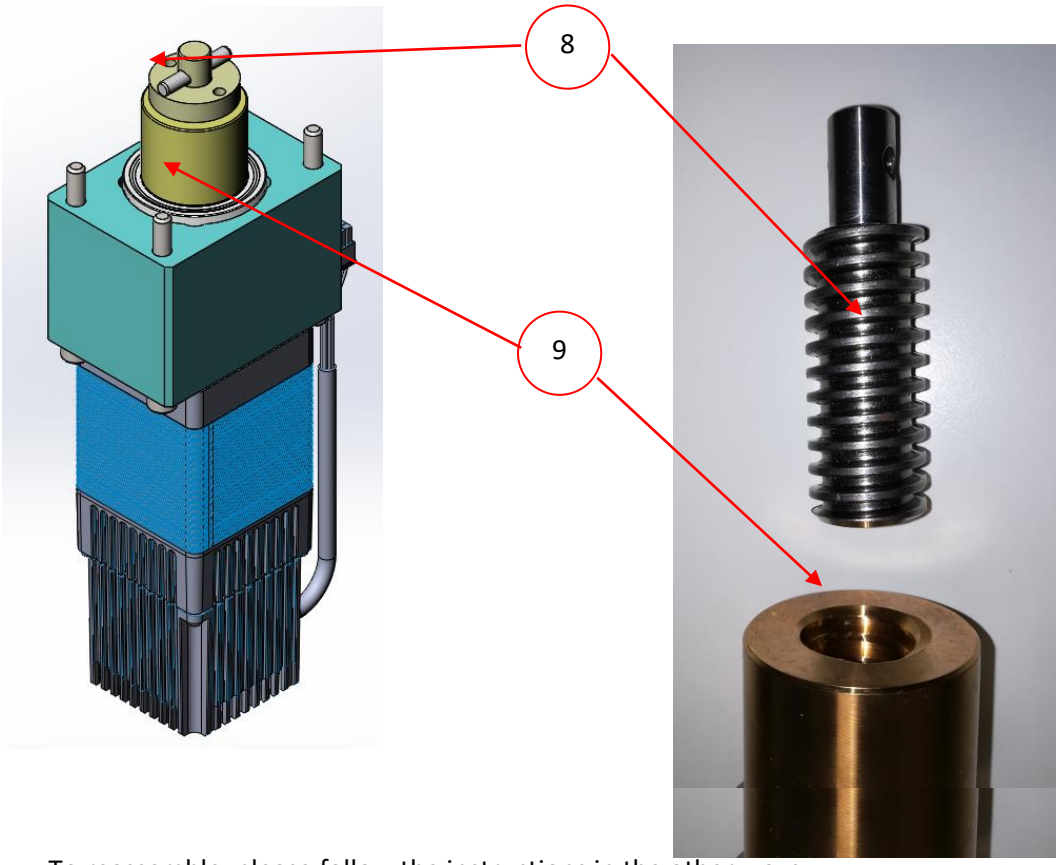


Cleaning and greasing the drive screw:

- Dismantle drive assembly item 6, secured by 4 CHC M6 screws item 7.



- Unscrew the screw and trapezoidal nut assembly completely by hand.
- Clean and grease bolt 8 and nut 9 (bearing grease without solid additives)



- To reassemble, please follow the instructions in the other ways.

4.9 Double cam

Every 5,000 hours :

Clean all doubles cams.

4.10 Derivation

Every 5,000 hours :

Clean all derivations.

4.11 Other elements of the transfert

Other elements do not require a specific maintenance.

A regular visual control is advised to check if there is no broken components and to control wear parts.

5 CHANGE-OUT OF THE 24V DRIVE MOTOR

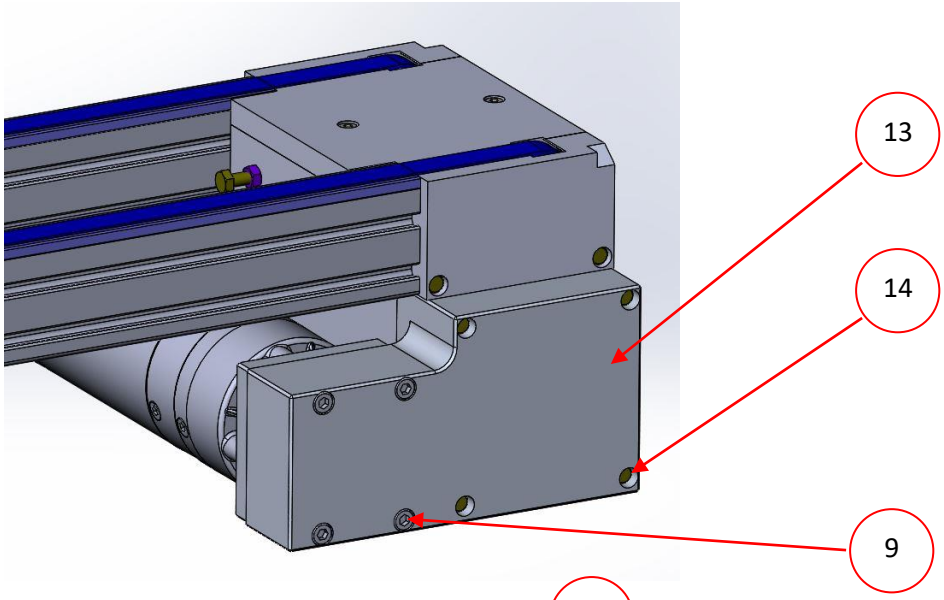
Shut down the machine that integrate the transfer system.

Disconnect the wires of the drive to replace.

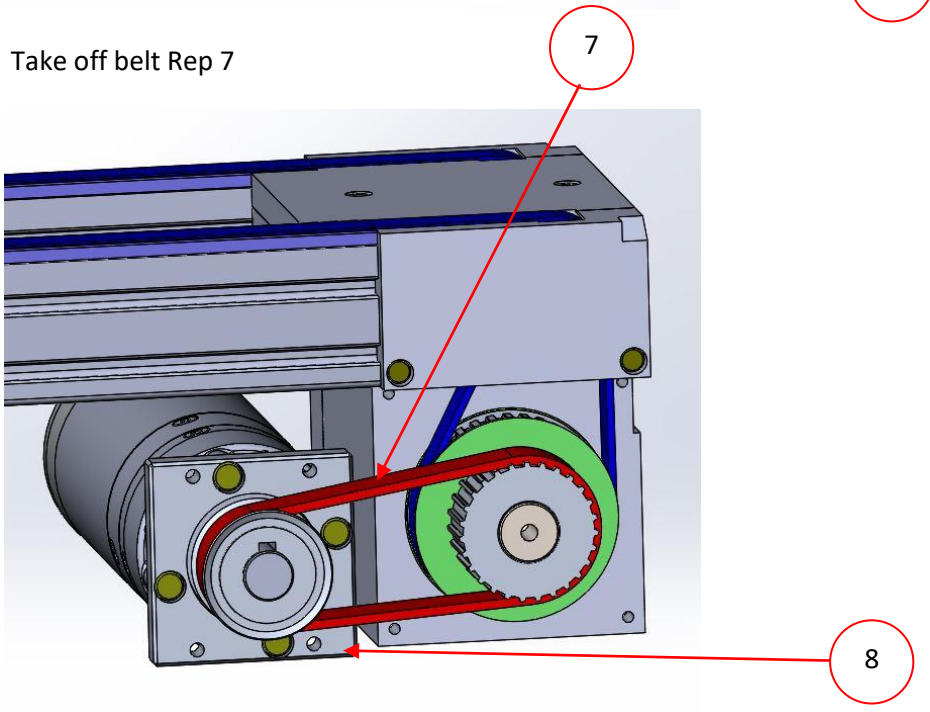
5.1 Unit with PAPST drive motor:

Take off the drive motor support Rep 8, fixed by 4 screws CHC M5 Rep 9 (see picture below)

Tool needed, Hex keys.

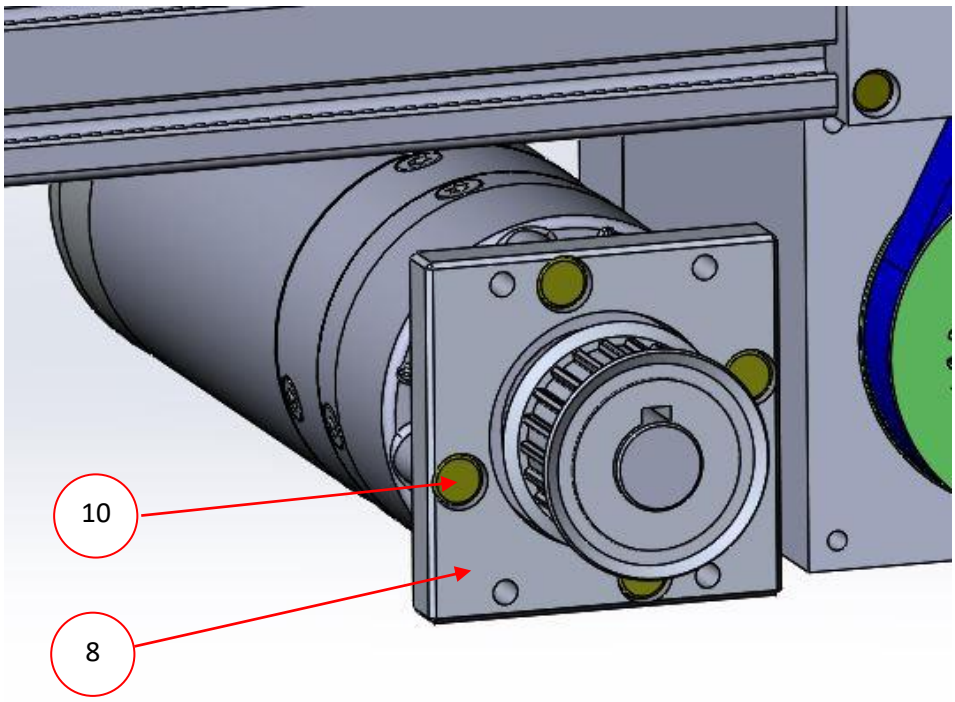


Take off belt Rep 7

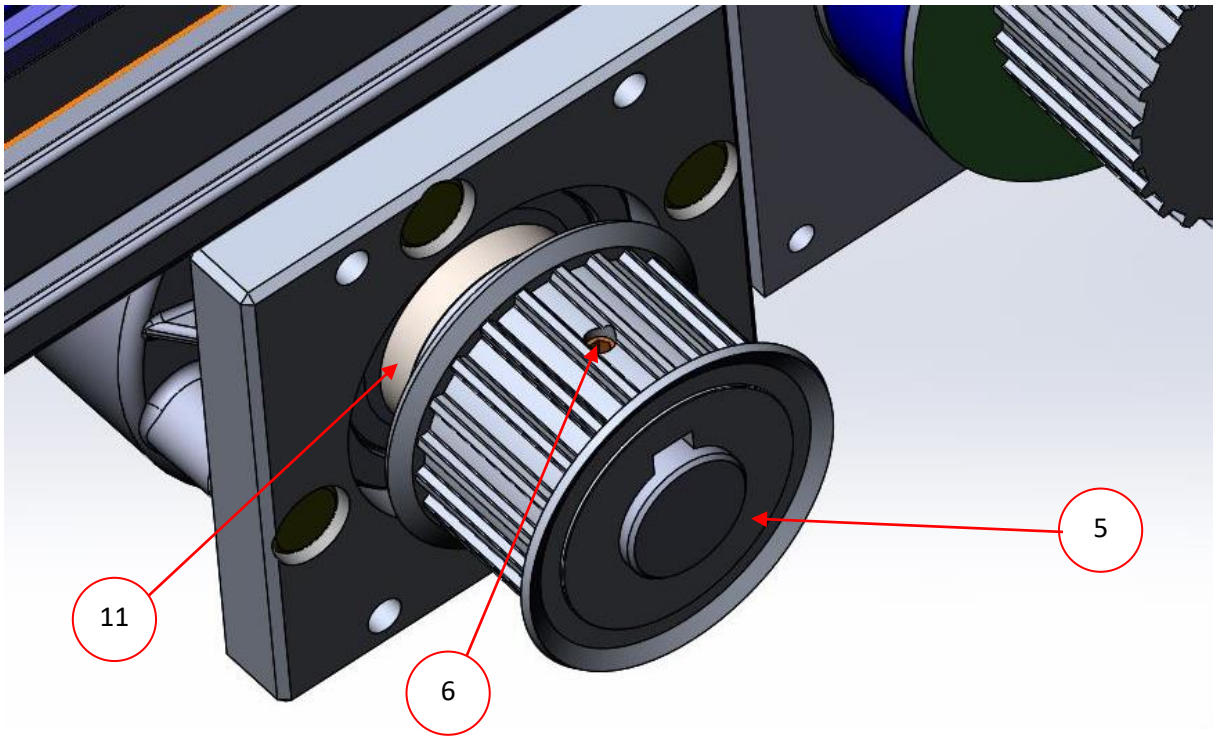


Take of the part Rep 8 fixed by 4 screws CHC M5 Rep 10.

Note: Please be sure to note the orientation of this part on the drive, to put the new drive in the correct position.



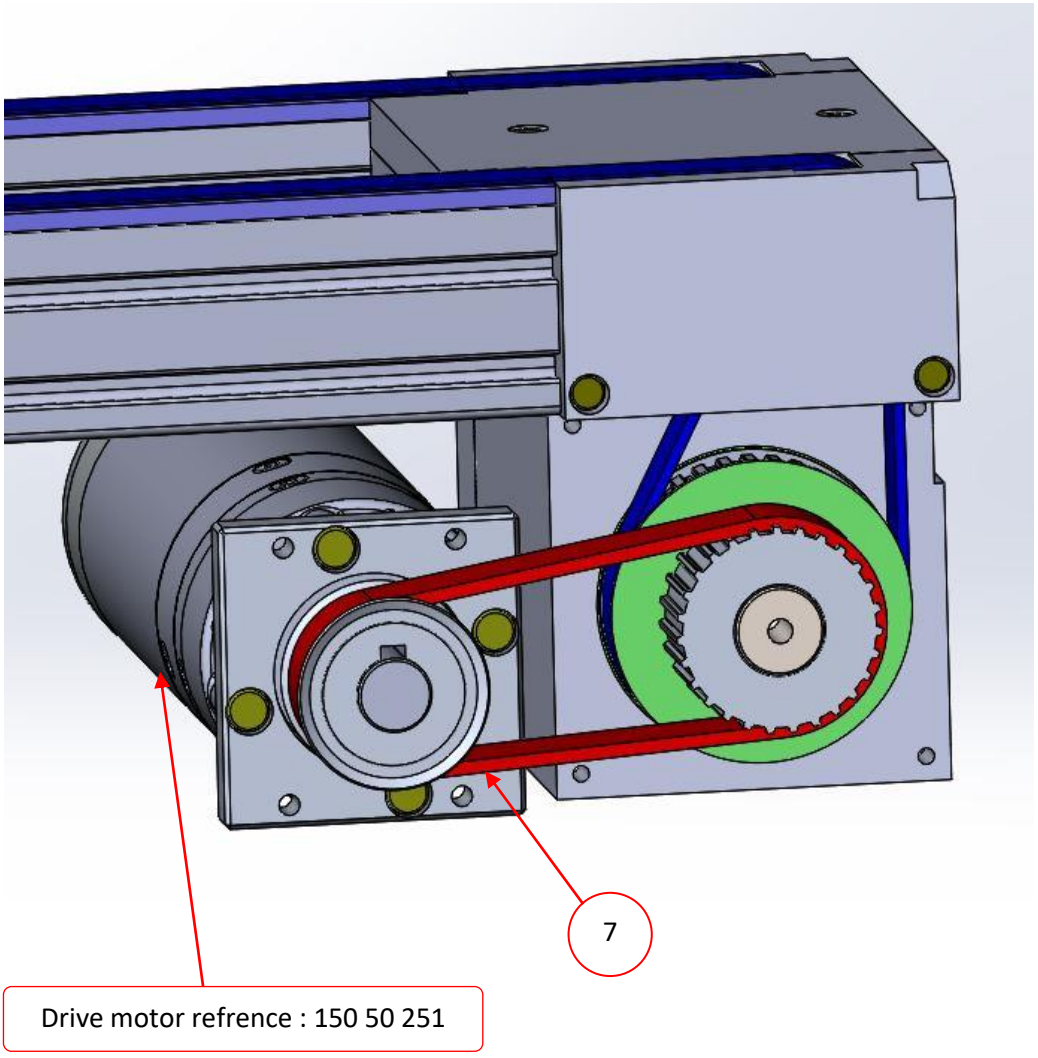
Take off the sprocket Rep 5 fixed by the pressure screw M4 Rep 6, and take off the spacer Rep 11



Mounting of the new drive motor:

Do all operation in the other way to mount the new drive motor.

Note: to ease the positioning of the new drive motor, loosen the belt Rep 7 at the maximum and present the drive motor with an angle with regard to the support part



Drive motor refrence : 150 50 251

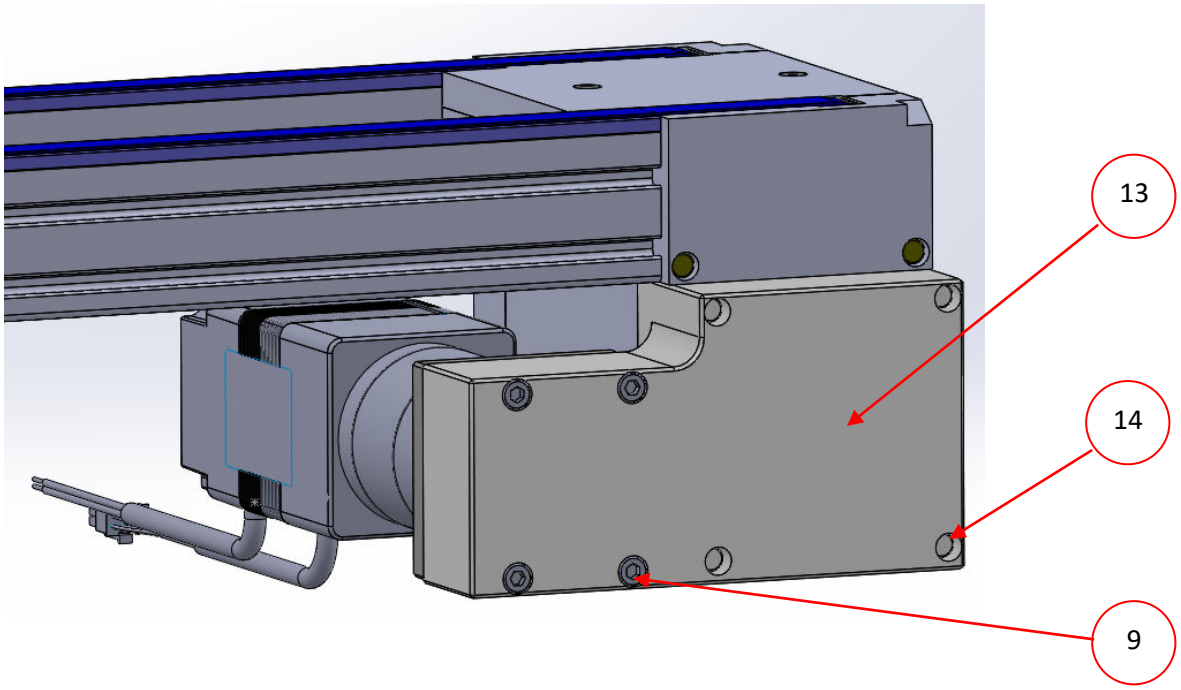
Drive motor documentation :

http://img.ebmpapst.com/products/datasheets/VDC34915K4B00-1454904.pdf

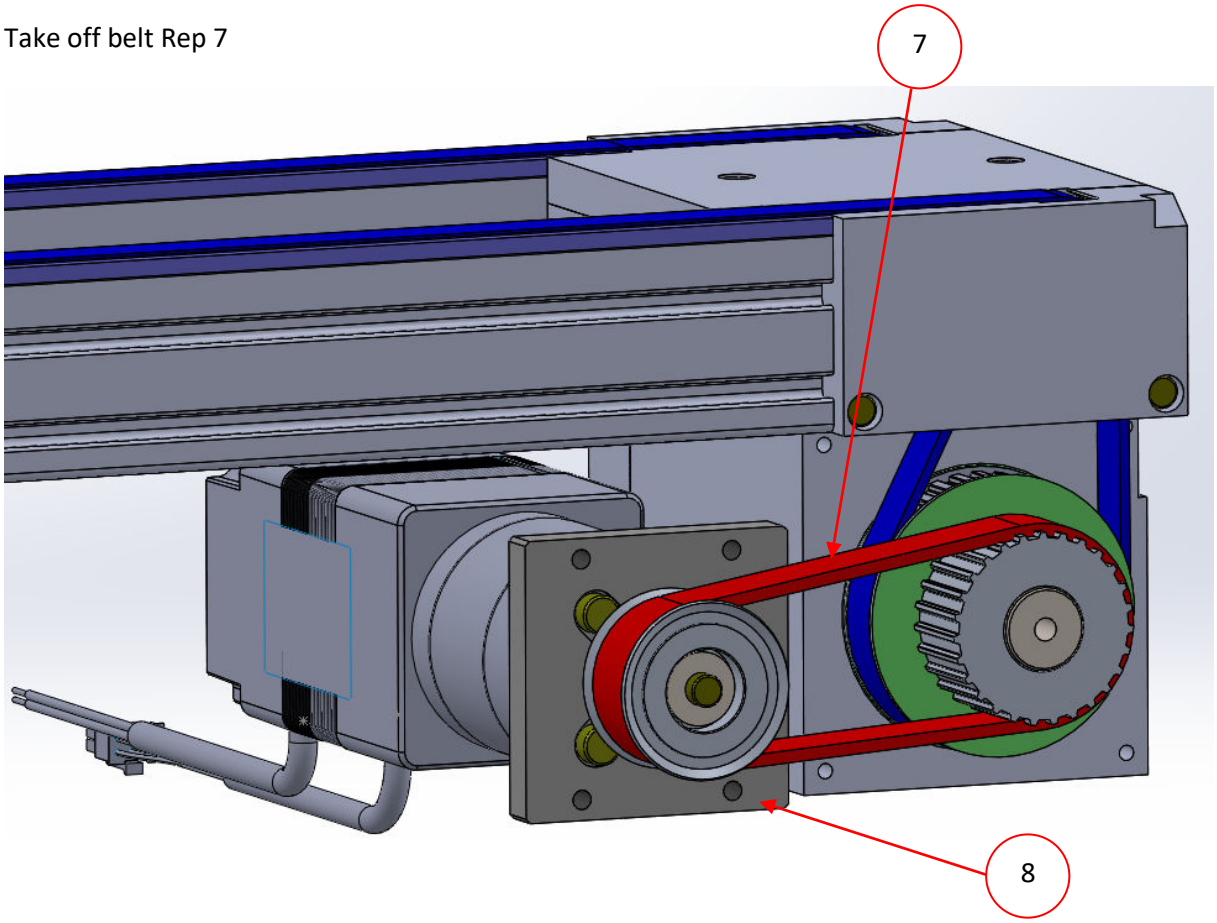
5.2 Unit with CROUZET drive motor:

Take off the drive motor support Rep 8, fixed by 4 screws CHC M5 Rep 9 (see picture below) and the hood Rep 13, fixed by 4 screws CHC M4 Rep 14.

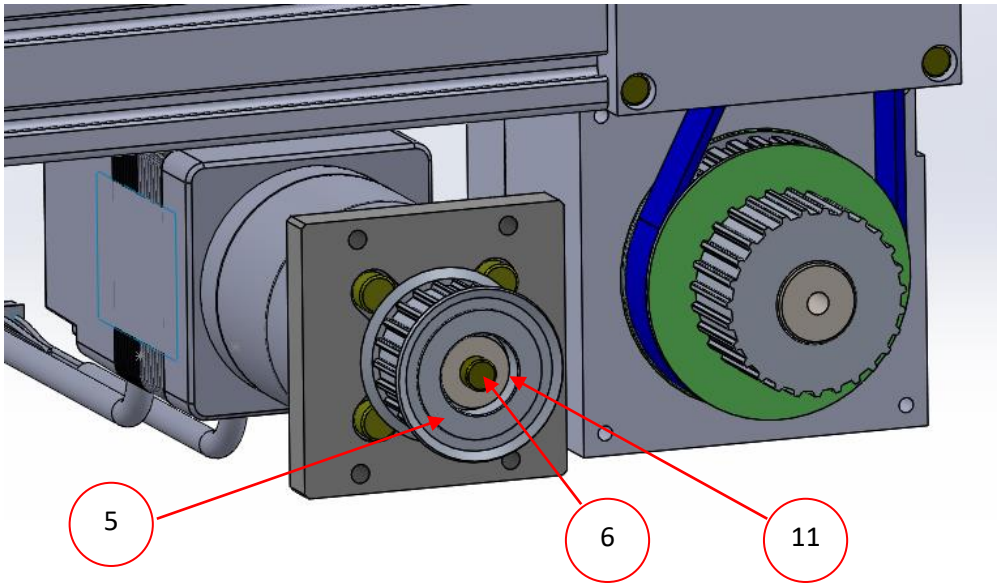
Tool needed, Hex keys.



Take off belt Rep 7

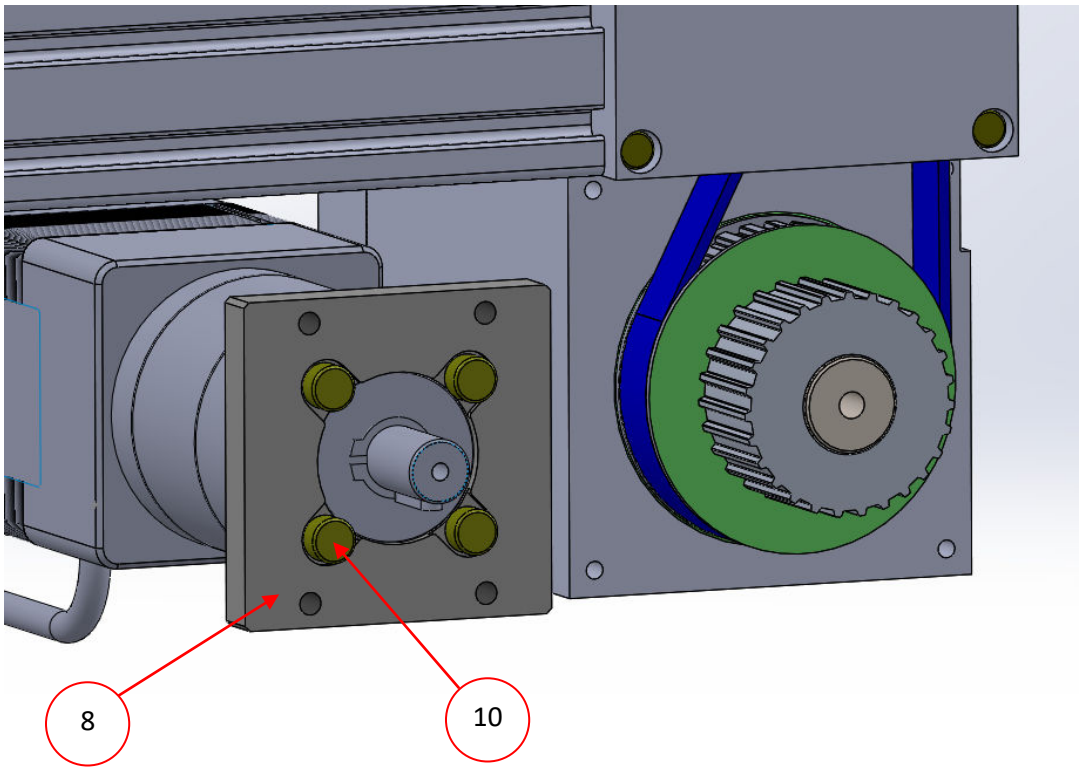


Take of the pinion Rep 5 fixed by a screws CHC M4 Rep 6 and the washer Rep.11.



Take of the part Rep 8 fixed by 4 screws CHC M5 Rep 10.

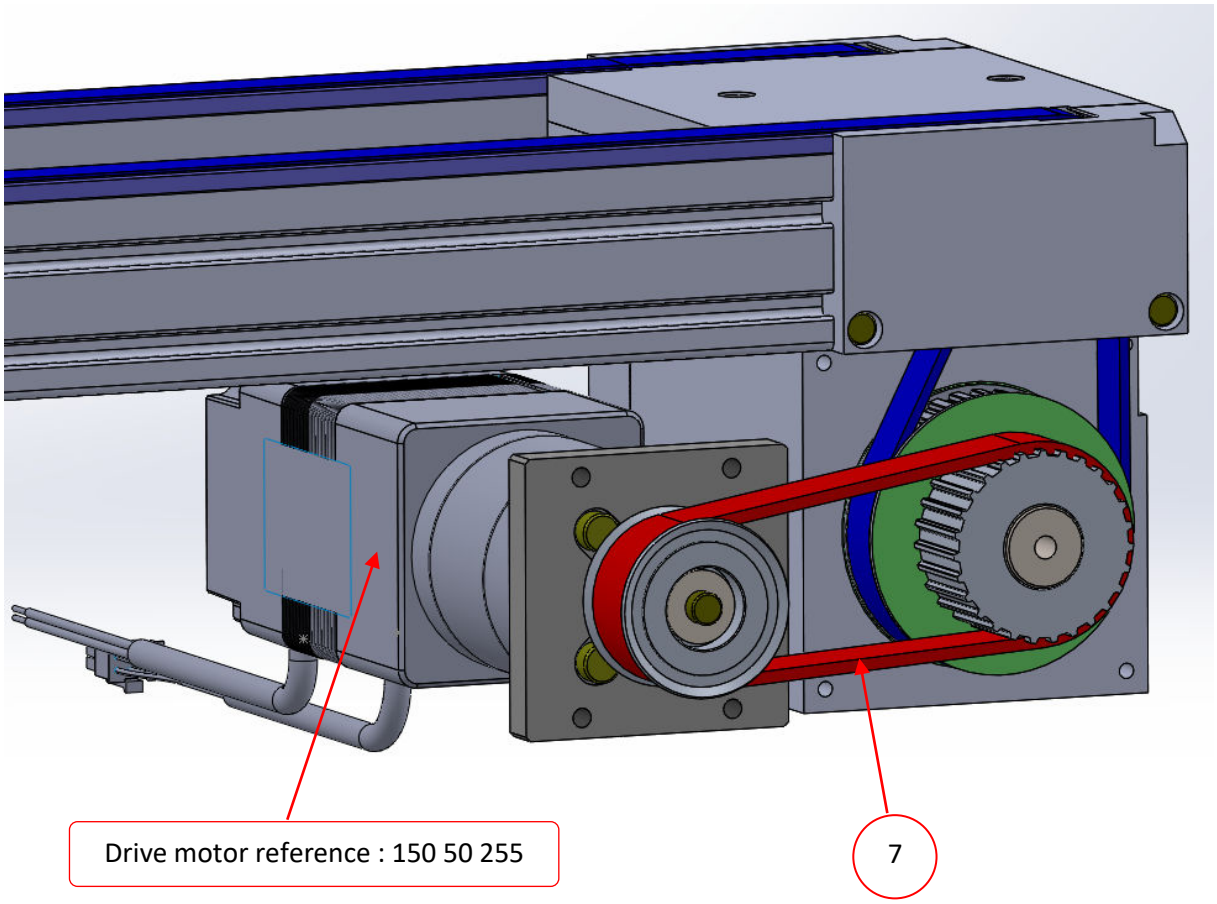
Note: Please be sure to note the orientation of this part on the drive, in order to put the new drive in the correct position.



Mounting of the new drive motor:

Do all operation in the other way to mount the new drive motor.

Note: to ease the positioning of the new drive motor, loosen the belt Rep 7 at the maximum and present the drive motor with an angle with regard to the support part



Drive motor documentation :

https://soda.crouzet.com/pn/?i=80180051

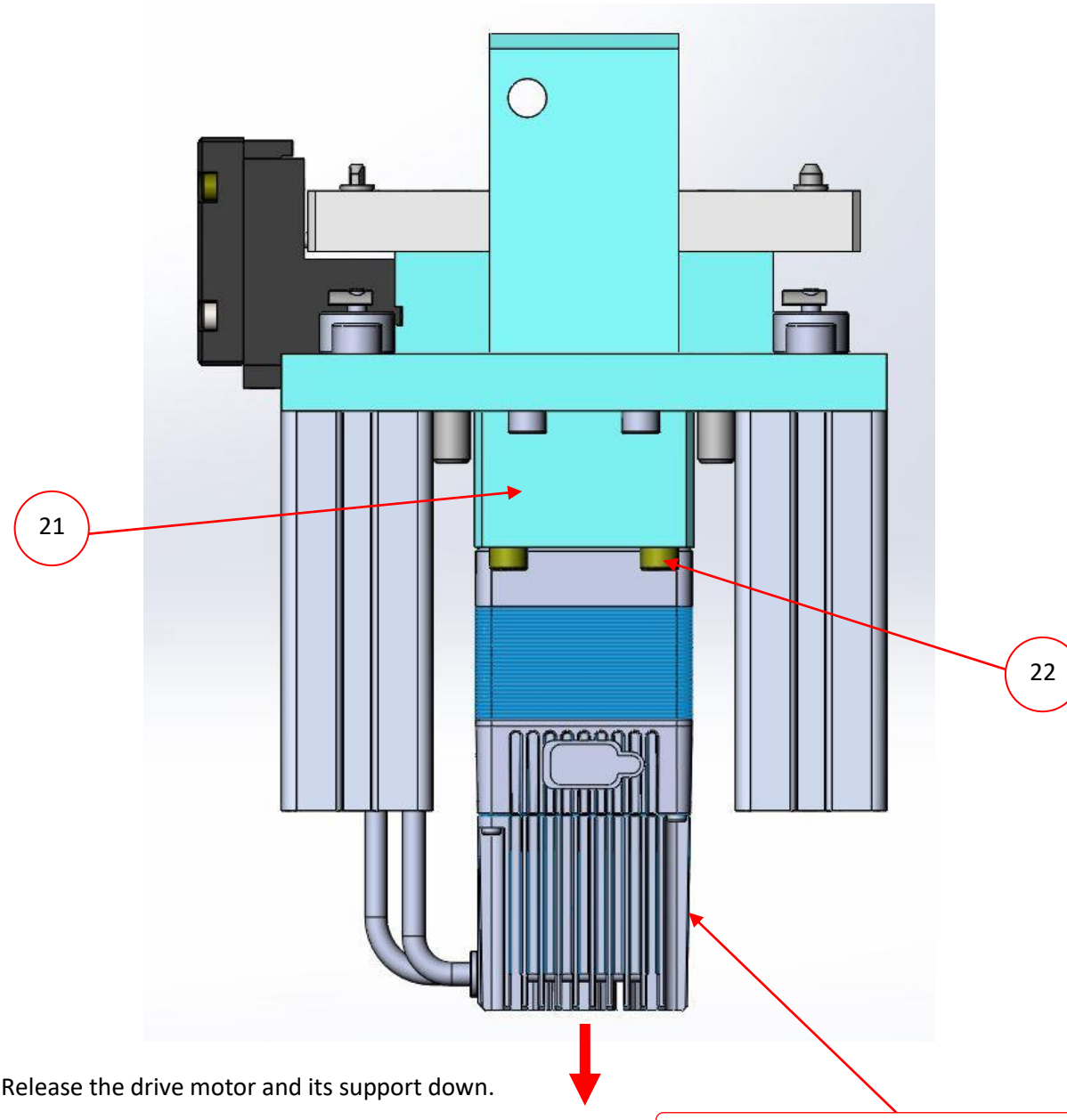
6 CHANGE-OUT OF THE DRIVE MOTOR OF INDEX UNIT 24V

Shut down the machine that integrate the transfer system.

Disconnect the wires of the drive to replace.

Take off the chasing Rep 21, fixed by 4 screws CHC M4 Rep 22 (see picture below)

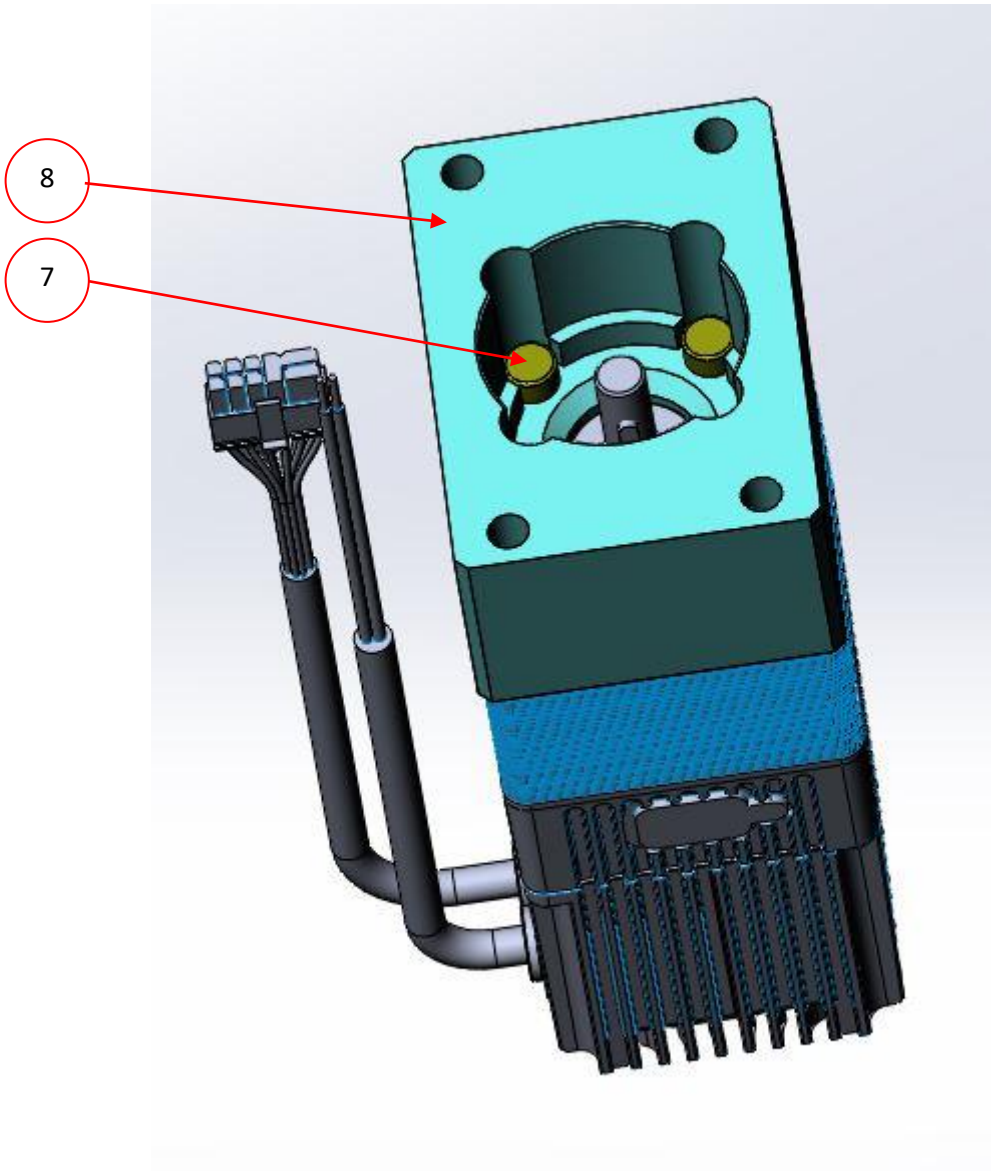
Tool needed, Hex keys.



Release the drive motor and its support down.

Drive motor reference : 120 64 255

Take off the support motor Rep 8, fixed by 4 screws CHC M5 Rep 7



Mounting of the drive motor:

Do all operation in the other way in order to mount the new drive motor.

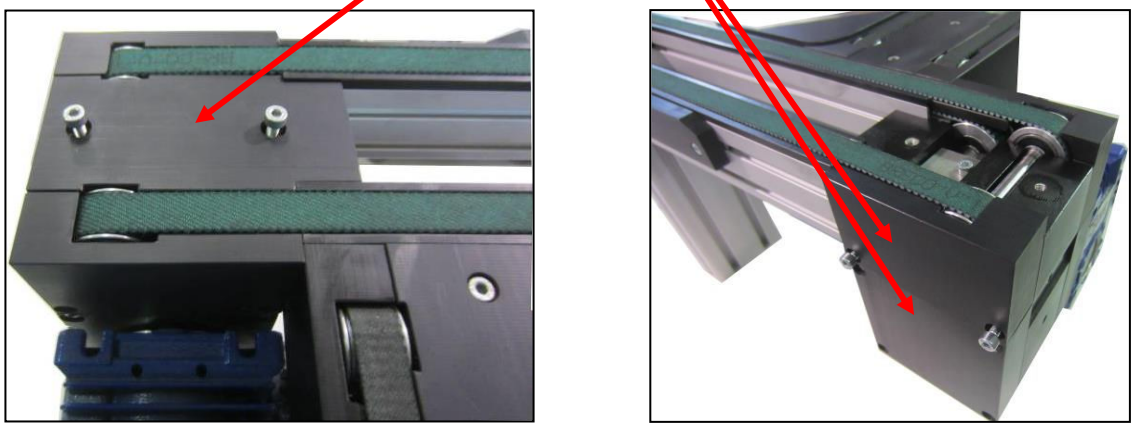
7 CHANGE-OUT OF THE BELT

7.1 Changing the toothed belt

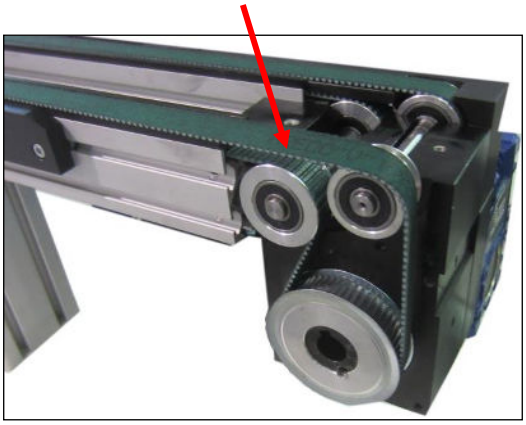
The new toothed belt is already mounted welded.

Take off the worn belt and put the new one respecting the flexion on the sprocket, and under the guide belt.

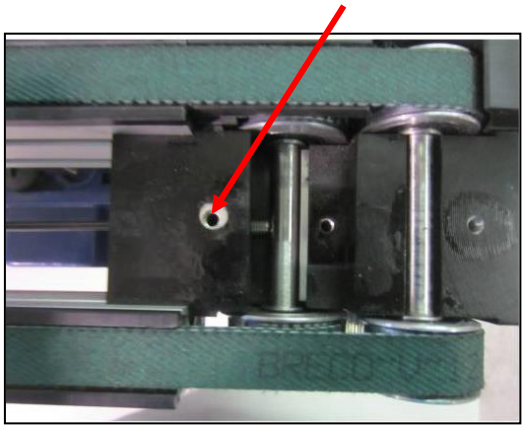
Covers to take off



Way of the belt



Access of the tension screw

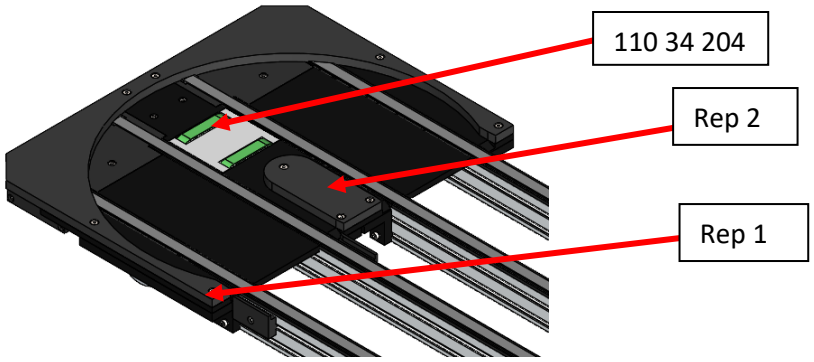


Tense the belt by tightening the screw and put back the covers.

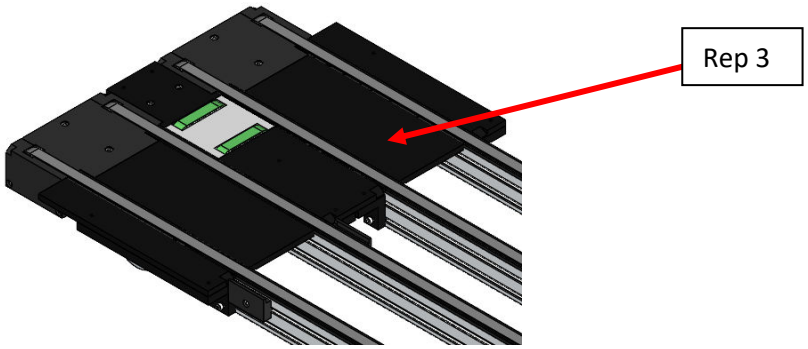
7.2 Changing the 180° return belts

The new 11034204 strips are already welded on delivery.

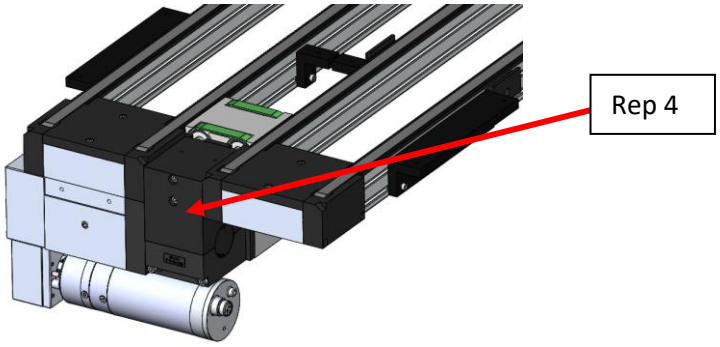
Remove outer guide Rep 1 (6 FHC 4x25) and central guide Rep 2 (2 FHC 4x25 + 1 FHC 4x16).



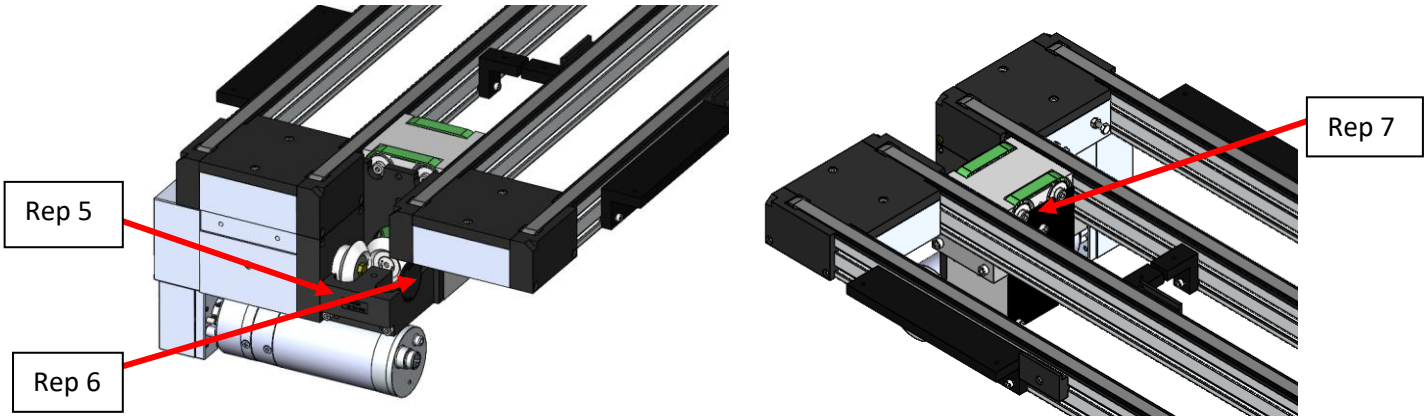
Remove the Rep 3 base plate (2 CHC 4x16) by pulling it upwards away from the intermediate block and sliding it under the main unit strips.



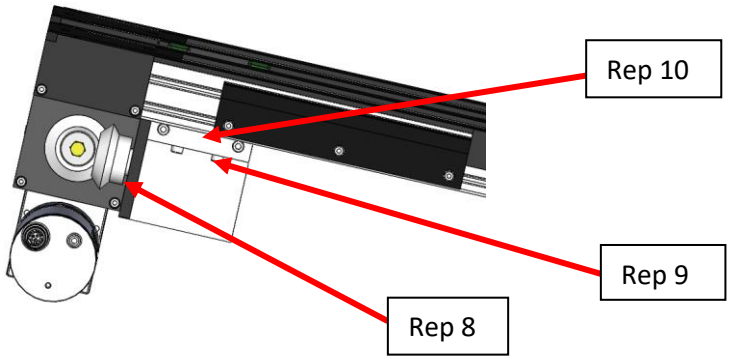
Dismantle upper housing Rep 4 (2 CHC 5x90 + 1 CHC 5x40 below).



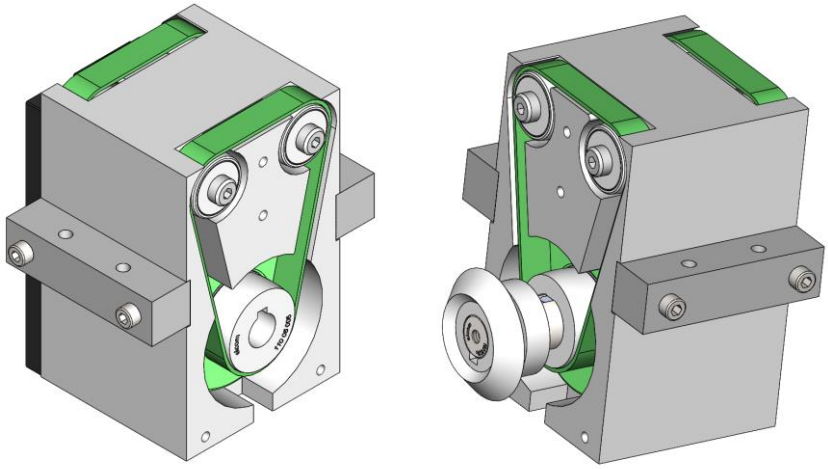
Remove lower housing Rep 5 + obturator Rep 6 (2 CHC 5x90), paying attention to the state of the grease. Remove transmission flange Rep 7 (3 CHC 5x8).



Remove the block with the complete green strips + the spacer plate Rep 8 after removing the 4 CHC screws 5x25 Rep 9 under the brackets Rep 10 holding it to the underside of the transfer.

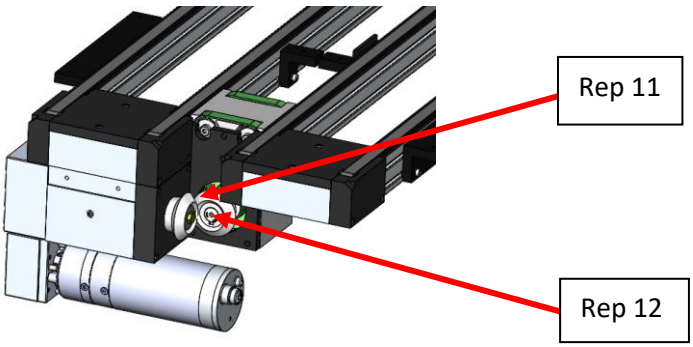


The belts are now accessible. Using an appropriate tool (e.g. a flathead screwdriver to create a lever arm), position the belt on the upper 2 pulleys, then bite down on the lower crowned pulley until it is firmly in place on all 3 pulleys. Take care not to damage the belts during this operation.

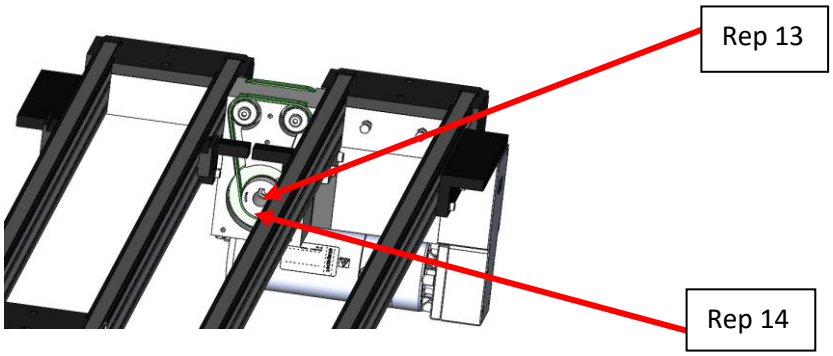


It is also possible to change the belts without dismantling the transfer intermediate block.

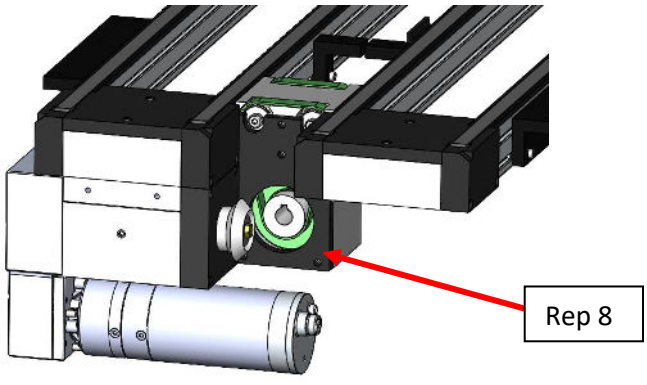
To do this, the bevel pinion Rep 11 must be removed from the intermediate block.



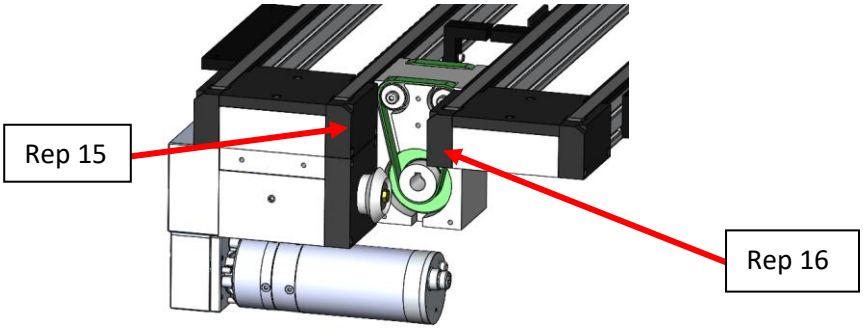
Remove the CHC 6x30 screw (item 13) at the rear of shaft (item 12), then move the shaft forward until the pinion is uncoupled from the drive pulley (item 14). Remove the pinion-shaft-slotted washer sub-assembly.



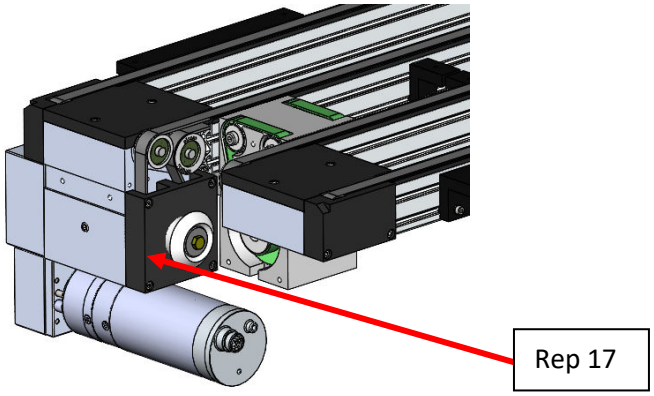
The Rep 8 spacer plate is free and can be removed from below.La plaque entretoise Rep 8 est libre et peut être enlevée par le dessous.



Remove the 2 flanges Rep 15 and 16.

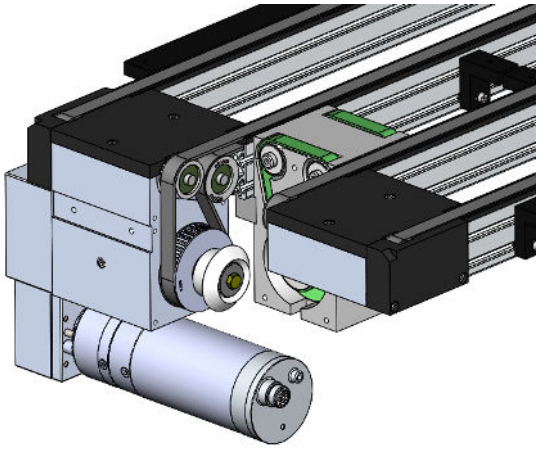


The strips are now accessible. Change as described above.



To gain access to the conveyor belt on the 180° return side, remove flange Rep 17

(4CHC 4x25) and follow procedure 7.1



To reassemble, repeat the previous steps in reverse order, adjusting the grease level in the lower housing if necessary (theoretical grease volume 35 cm3).

8 WIRING THE 24V DRIVES MOTORS

8.1 Unit with PAPST drive motor:

TLM 1500 ITS 24V is not delivered with a pre-wired motor. The motor interface is to be made by a connector.

The power connections are composed of the following pins:

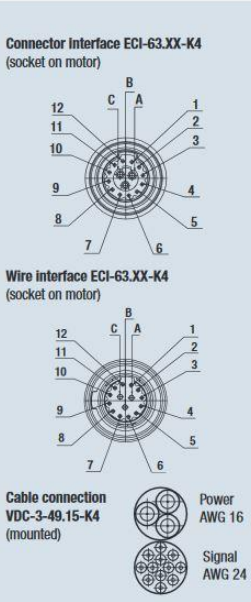
PIN C	0V
PIN B	+ 24 V
PIN A	Non utilisé (ballast)

The control connections are composed of the following pins:

PIN 12	Connected to the + 24 V
PIN 3	Speed of 9m/min (IN1) wired on the + 24V
PIN 4	Speed of 12m/min (IN2) wired on the +24 V
PIN 3 + 4	Speed of 16 m/min Vitesse d'avance de 16 m/mn câblé sur le + 24 V
PIN 1	Wired on the + 24 V, for pulling (Right position drive motor) or for pushing (Right position drive motor)
PIN 2	Wired on the + 24 V, for pulling (Left position drive motor) or for pushing (Left position drive motor)

<u>CAREFUL:</u> Pin B and Pin C of the power connections and the Pin 12 of the control connections have to be powered before the wires controlling the speed and rotating direction of the drives.

Connection description – K4



	Wire	Pin	Configuration	Function	AWG
Signal	white	1	IN A	NPN 24V	24
	brown	2	IN B	NPN 24V	
	green	3	IN 1	NPN 24V	
	yellow	4	IN 2	NPN 24V / analog 0...10V / brake	
	grey	5	OUT 1	PNP 24V	
	pink	6	OUT 2	PNP 24V	
	blue	7	OUT 3*	PNP 24V	
	red	8	analog IN 1	0...10V (differential)	
	black	9	analog GND	GND for analog IN 1 (differential)	
	violett	10	RS485 A (+)	Progr. bus	
	grey/pink	11	RS485 B (–)	Progr. bus	
	red/blue	12	U_{Logic}	Logic power supply + (24V)	
Power	grey	A	Ballast	Ballast resistor	16
	brown	B	U_{ZK}	Power supply	
	black	C	GND	Power-/ Signal-GND	

* Output (OUT 3) is only available on ECI-63.XX-K4

8.2 Unit with CROUZET drive motor:

TLM 1500 ITS 24 V drive is delivered pre-wired with 2 cables of 500mm length.

A power cable made of 2 wires:

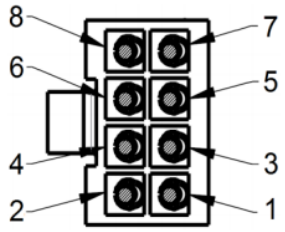
- a black wire: 0 V
- a brown wire: + 24 V

A command cable made of 8 wires:

- a green wire, wired on the +24V (Permanent)
- a yellow wire for the direction of movement, wired on the +24 V.
- a blue wire to limit the torque, signal 0/10 V.
- an orange wire to adjust the speed of movement, signal 0/10 V
- a black wire, wired on the 0V.
- a brown wire for the output: pulse
- a purple wire for the output: torque limit reached.
- a red wire for the output: direction of movement

<u>CAREFUL:</u> the brown wire and black wire of the power cable and the green wire of the command cable must be powered before the wires controlling the speed and rotating direction of the drives.

Connecting	
Input - Output cable	With Molex connector ref: 43025-0800
Output cable, UL style 2464 80°C 300V - 8 wires AWG24	
Input: ON/OFF	1 - Green
Input: Direction	2 - Yellow
Input: Torque limit	3 - Blue
Input: Speed	4 - Orange
0V	5 - Black
Output: Pulse	6 - Brown
Output: Torque limit reached	7 - Purple
Output: Direction	8 - Red
Power supply cable	
Cable UL style 2517 105°C 300V - 2 wires AWG16 - 500 mm	
+ 12Vdc -> + 32 Vdc	Brown
0V	Blue



<u>The speed of move is adjustable by a signal 0/10 V (orange wire) :</u>

Minimum speed:	9 m/min – Signal value = 4.2 V (About 1680 tr/min for speed motor drive)
	12 m/min – Signal value = 5.6 V (About 2240 tr/min for speed motor drive)
	15 m/min – Signal value = 7 V (About 2800 tr/min for speed motor drive)
	16 m/min – Signal value = 7.4 V (About 2968 tr/min for speed motor drive)
Maximum speed:	19 m/min – Signal value = 8.8 V (About 3528 tr/min for speed motor drive)

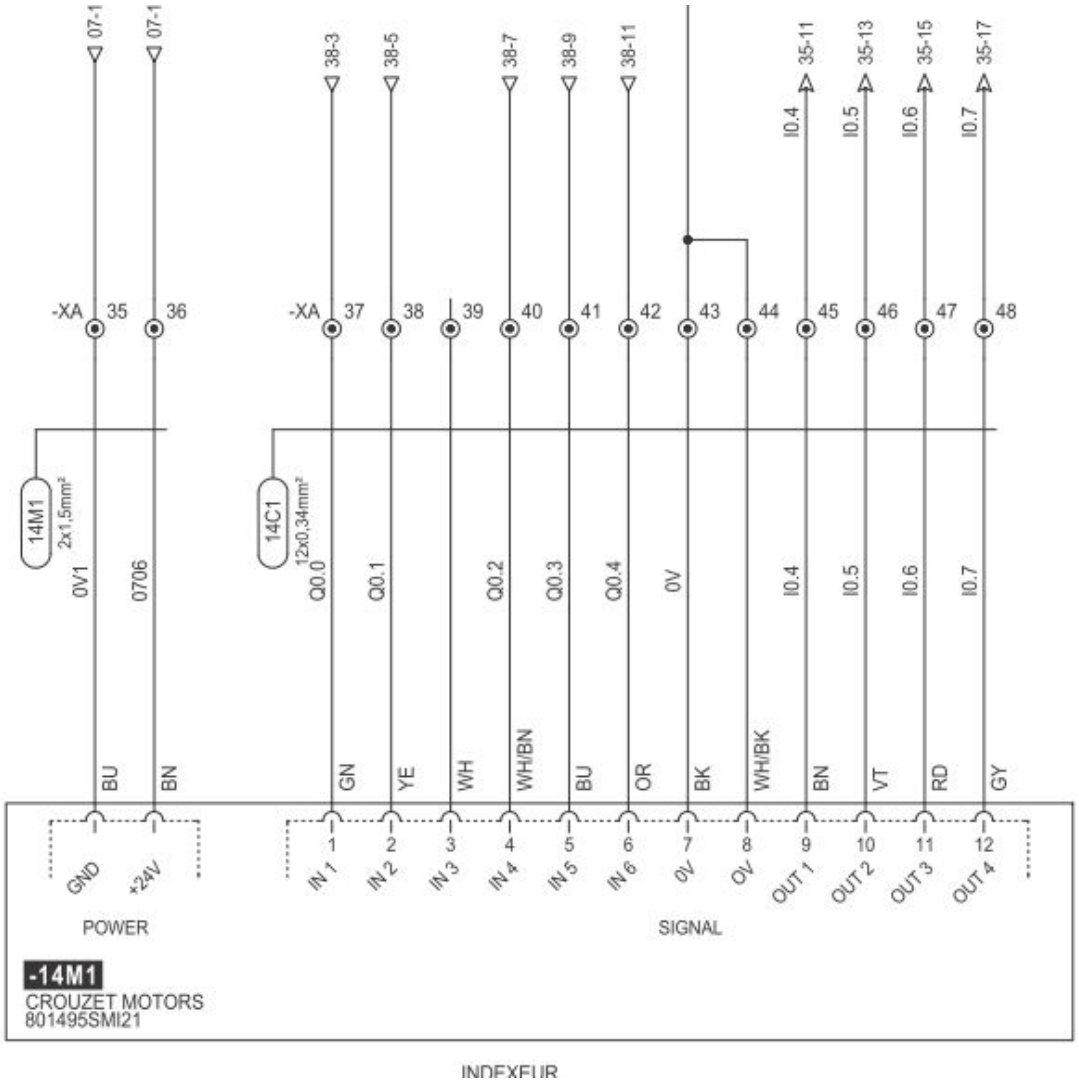
9 WIRING OF THE DRIVE MOTOR OF INDEX UNIT 24V

CONTROL WIRES :			
1	INPUT IN-E1	24V DC for POSITION 1 : Realising carrier	GREEN
2	INPUT IN-E2	24V DC for POSITION 2 : Stopping carrier	YELLOW
3	INPUT IN-E3	Not used	WHITE
4	INPUT IN-E4	24V DC for POSITION 3 : Fastening carrier	WHITE / BROWN
5	INPUT IN-E5	24V DC for homing (after a start or in case of emergency stop)	BLUE
6	INPUT IN-E6	24V DC for power supply and ok for control (Permanent)	ORANGE
7	GND		BLACK
8	GND		WHITE / BLACK
9	OUTPUT OUT-S1	Position OK	BROWN
10	OUTPUT OUT-S2	Motor not connected (failure)	PURPLE
11	OUTPUT OUT-S3	Rotation OK for the motor	RED
12	OUTPUT OUT-S4	Motor failure	GREY

Information: Each time you turn on the power, wait 5 seconds before using the motor.

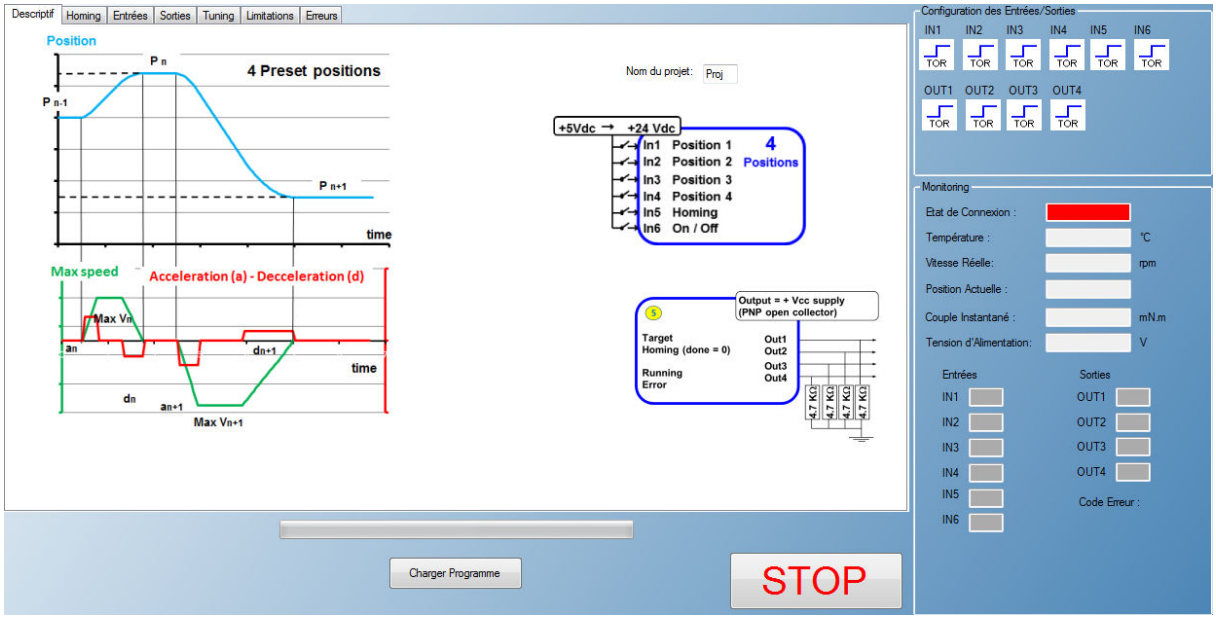
POWER SUPPLY WIRES :	
+ 24 Vdc	BROWN
0 V	BLUE

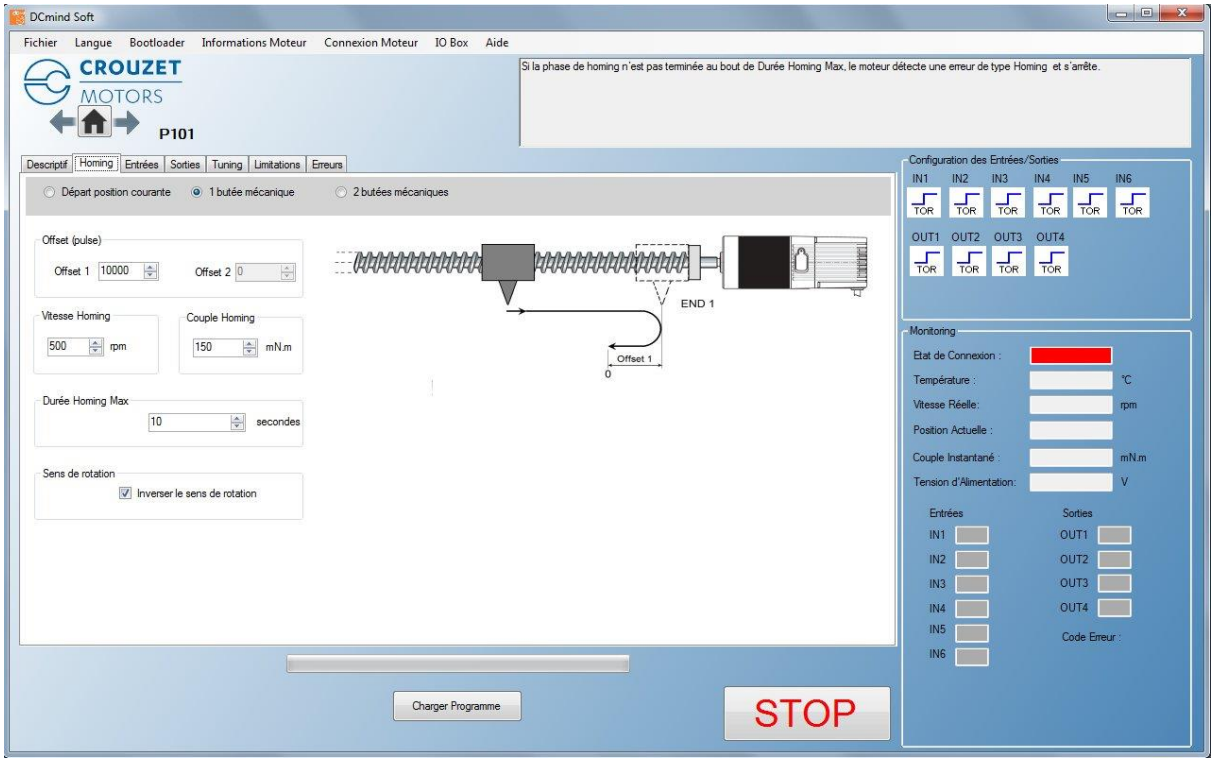
CONNECTOR Micro USB for software with DCmind program @CROUZET:
To adjust: speed position torque limitations - DONE BY elcom

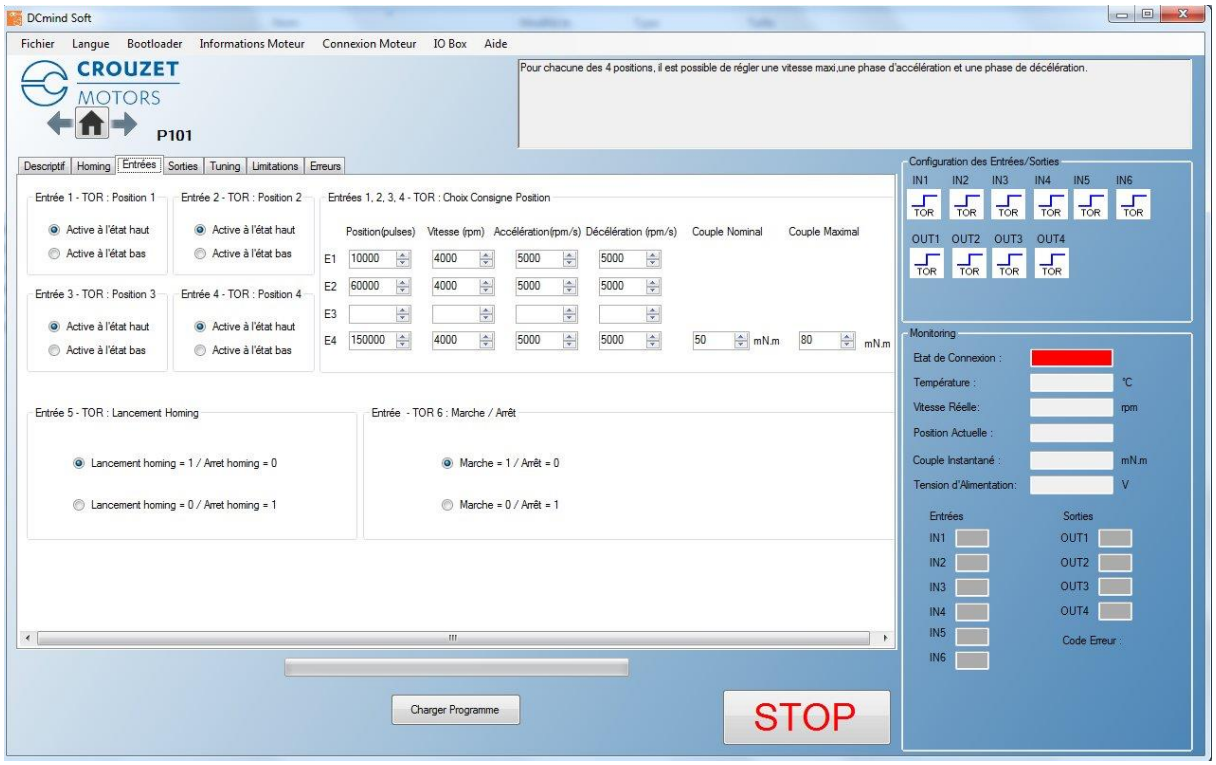


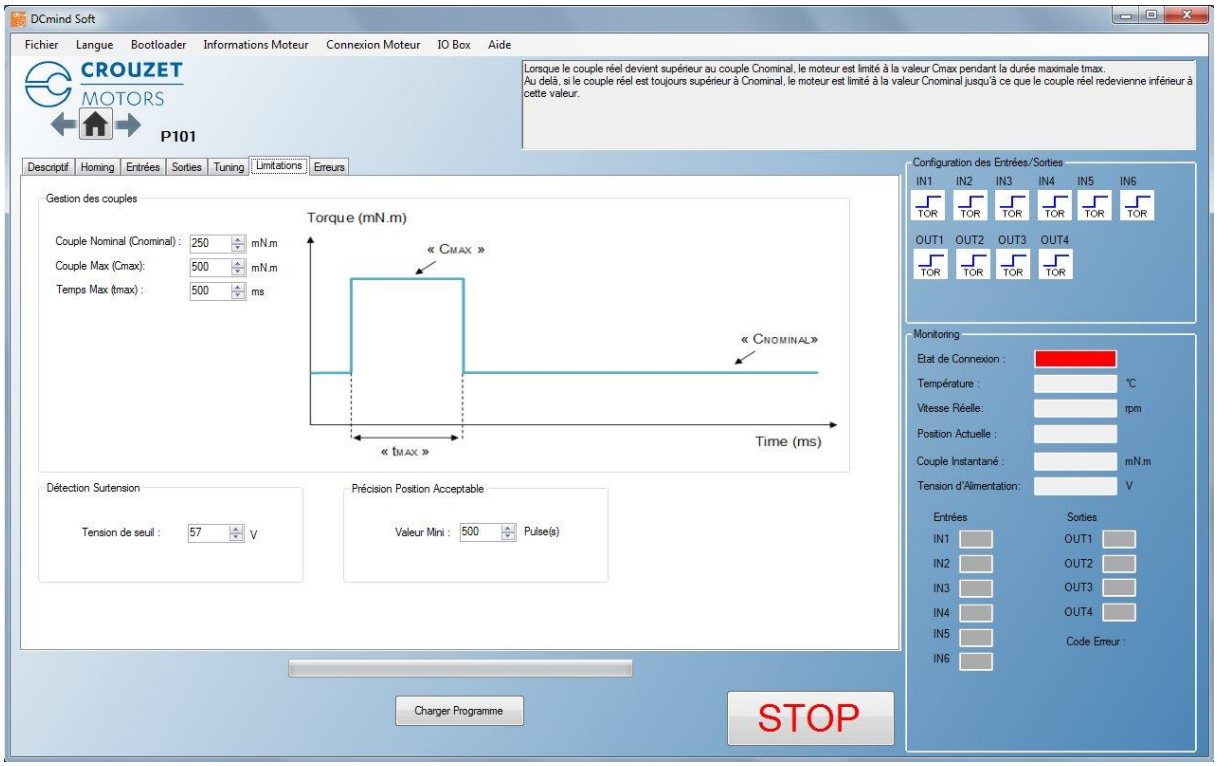
Program :

Install the software with file : ***Setup_DCmind Soft_V_Elcom.msi***




DCmind Soft
Fichier Langue Bootloader Informations Moteur Connexion Moteur IO Box Aide
CROUZET MOTORS
P101
Si la phase de homing n'est pas terminée au bout de Durée Homing Max, le moteur détecte une erreur de type Homing et s'arrête.
Descriptif Homing Entrées Sorties Tuning Limitations Erreurs
Départ position courante
1 butée mécanique
2 butées mécaniques
Offset (pulse)
Offset 1 10000
Offset 2 0
Vitesse Homing
500 rpm
Couple Homing
150 mN.m
Durée Homing Max
10 secondes
Sens de rotation
Inverser le sens de rotation
END 1
Offset 1
0
Configuration des Entrées/Sorties
IN1 IN2 IN3 IN4 IN5 IN6
TOR
OUT1 OUT2 OUT3 OUT4
Monitoring
Etat de Connexion :
Température : °C
Vitesse Réelle: rpm
Position Actuelle :
Couple Instantané : mN.m
Tension d'Alimentation: V
Entrées
Sorties
Code Erreur :
Charger Programme
STOP


DCmind Soft
Fichier Langue Bootloader Informations Moteur Connexion Moteur IO Box Aide
CROUZET MOTORS
P101
Pour chacune des 4 positions, il est possible de régler une vitesse maxi,une phase d'accélération et une phase de décélération.
Descriptif Homing Entrées Sorties Tuning Limitations Erreurs
Entrée 1 - TOR : Position 1
Entrée 2 - TOR : Position 2
Entrée 3 - TOR : Position 3
Entrée 4 - TOR : Position 4
Active à l'état haut
Active à l'état bas
Entrées 1, 2, 3, 4 - TOR : Choix Consigne Position
Position(pulses) Vitesse (rpm) Accélération(rpm/s) Décélération (rpm/s) Couple Nominal Couple Maximal
E1 10000 4000 5000 5000
E2 60000 4000 5000 5000
E3
E4 150000 4000 5000 5000 50 mN.m 80 mN.m
Entrée 5 - TOR : Lancement Homing
Lancement homing = 1 / Arret homing = 0
Lancement homing = 0 / Arret homing = 1
Entrée - TOR 6 : Marche / Arrêt
Marche = 1 / Arrêt = 0
Marche = 0 / Arrêt = 1
Configuration des Entrées/Sorties
IN1 IN2 IN3 IN4 IN5 IN6
TOR
OUT1 OUT2 OUT3 OUT4
Monitoring
Etat de Connexion :
Température : °C
Vitesse Réelle: rpm
Position Actuelle :
Couple Instantané : mN.m
Tension d'Alimentation: V
Entrées
Sorties
Code Erreur :
Charger Programme
STOP



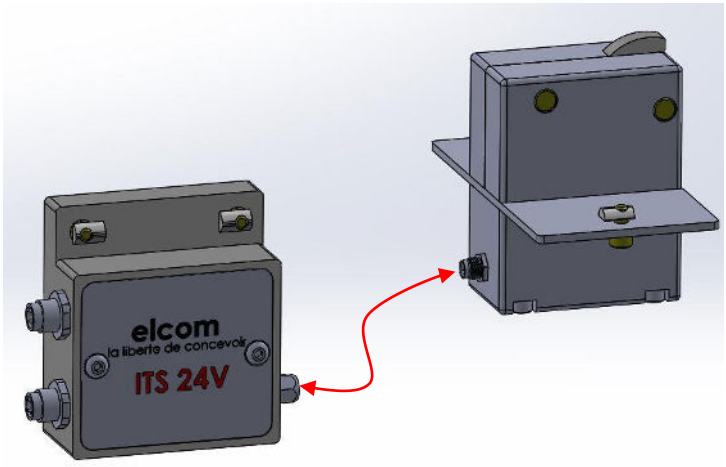
10 WIRING OF THE 24V EQUIPMENTS

10.1 Connectic required to wire the electrical stoppers.

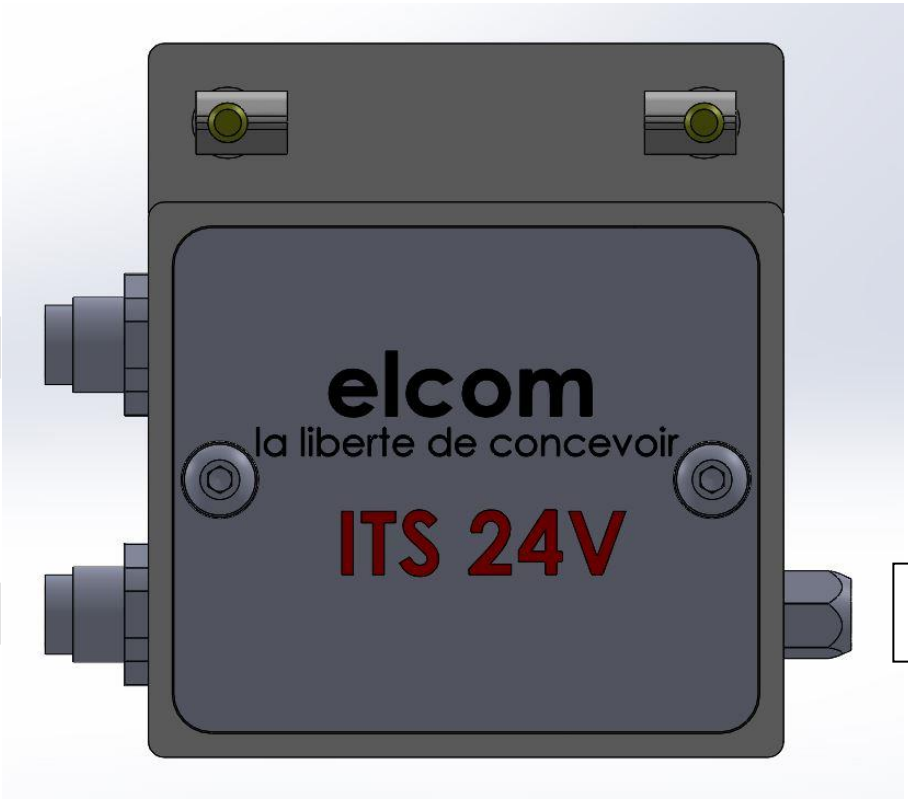
(see schematic simple card for stopper)

To wire an electric stopper, you'll need:

- An extender M8, 3 pins with a connector male and a connector female (straight or elbow). It makes the connection between the stopper and the small controlling box of the stopper.



- An extender with a connector female M12, 4 pins (straight or elbow) to connect on the small controlling box of the stopper.
  The other extremity of this cable might be with a connector M12, or wired directly, according to the cabling required on the project.



Note: each small control box is equipped on the left side by two connectors M12 Male, 4 pins.

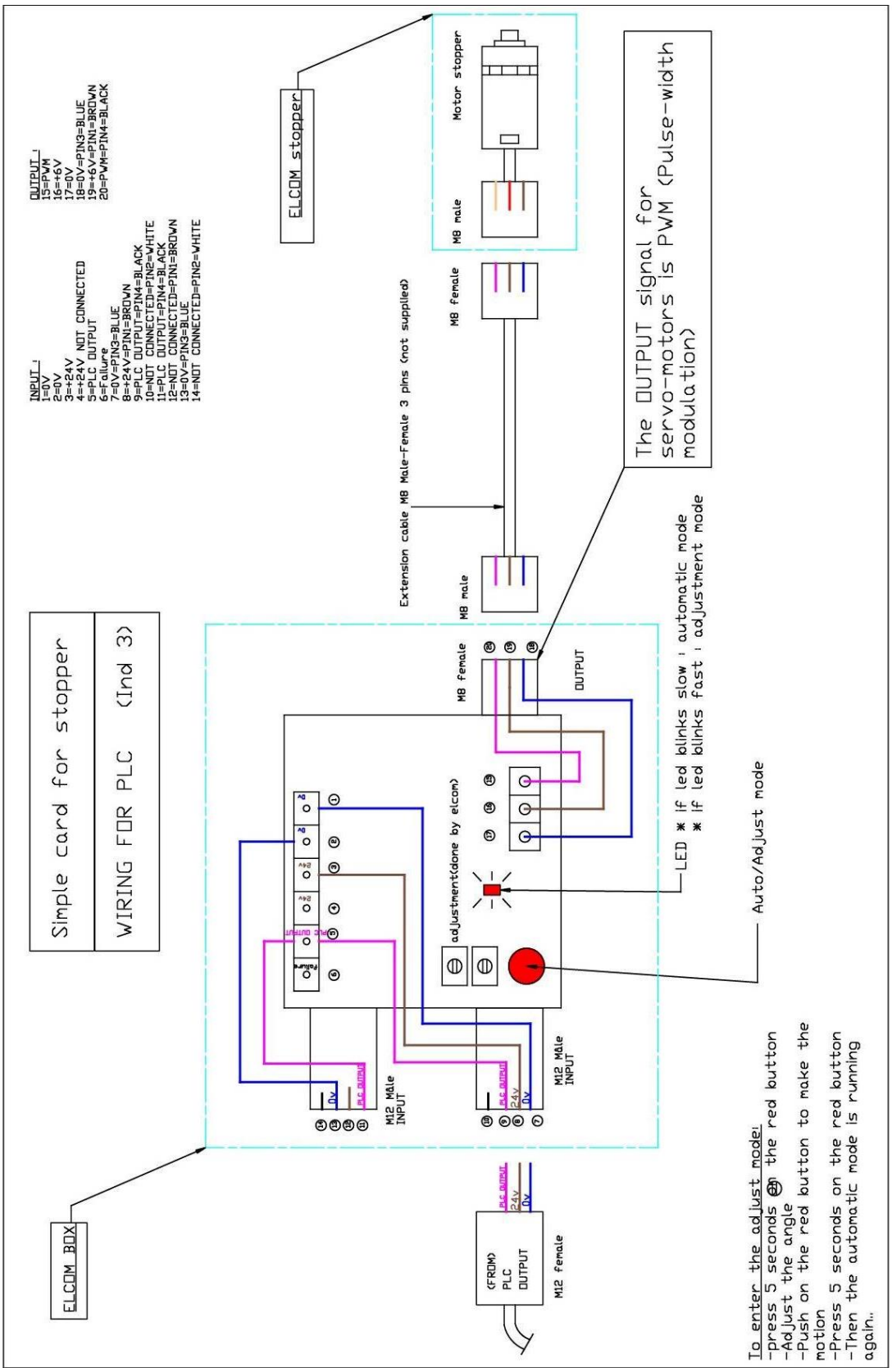
The lower connector is to control the stopper by an automat (PLC)

The upper connector is to control the stopper by a bus (BUS)

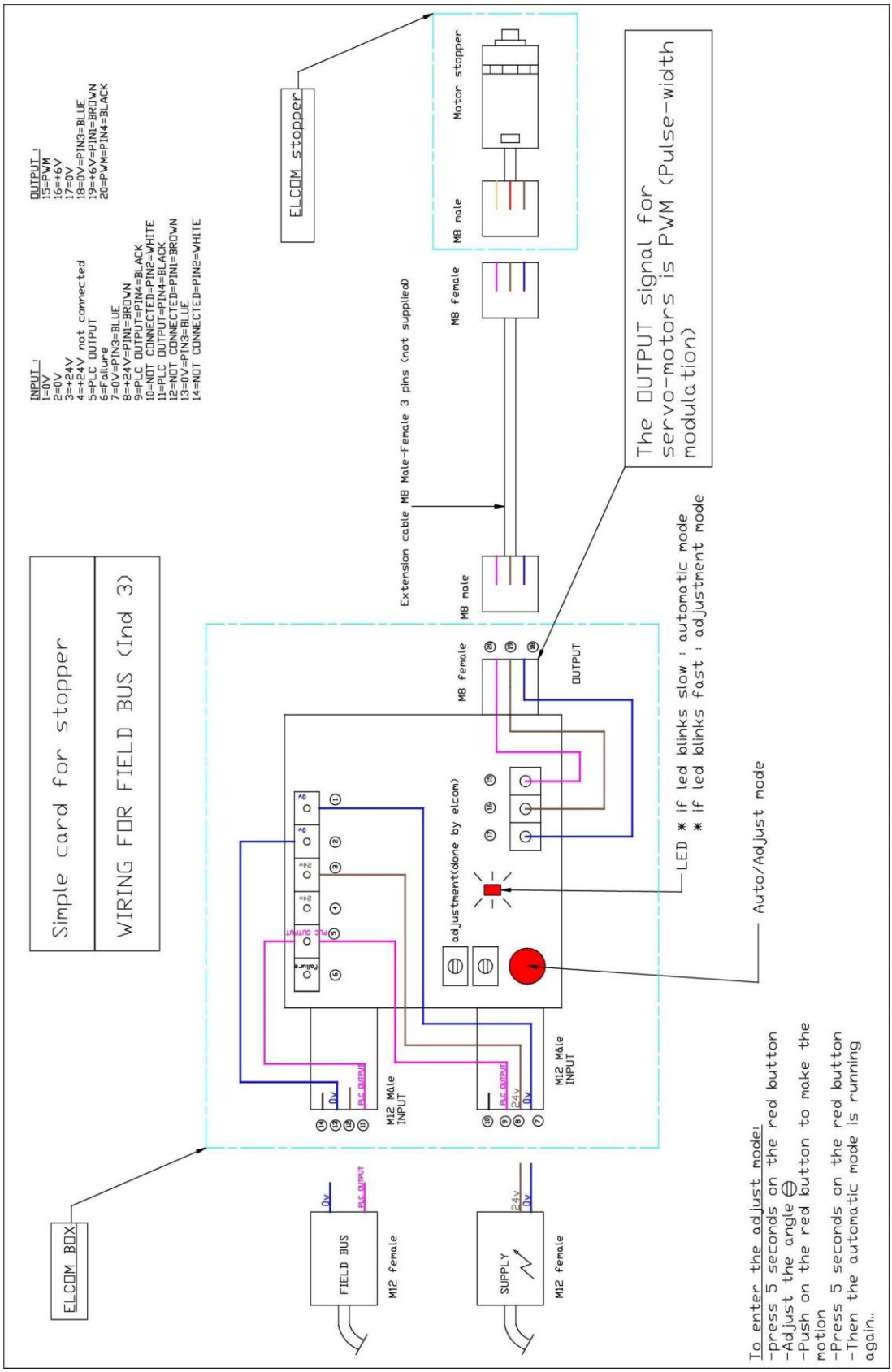
Note: the extension cables are not delivered by Elcom.

10.2 Wiring of the control box of the stoppers

Wiring schematic PLC for a stopper:



Wiring schematic FIELD BUS for a stopper:



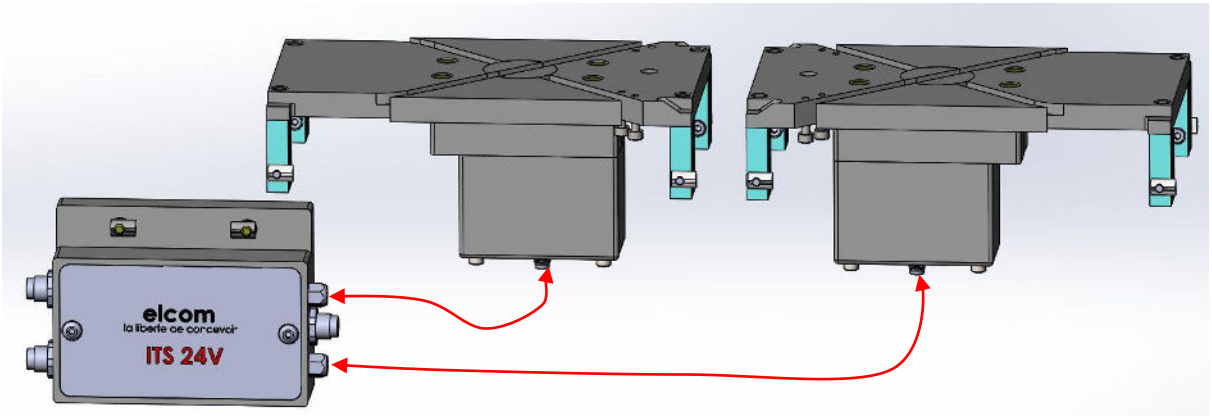
10.3 Connectic required to wire the doubles cams and derivations 24V

To wire the double cam 24V or a derivation 24V, you'll need:

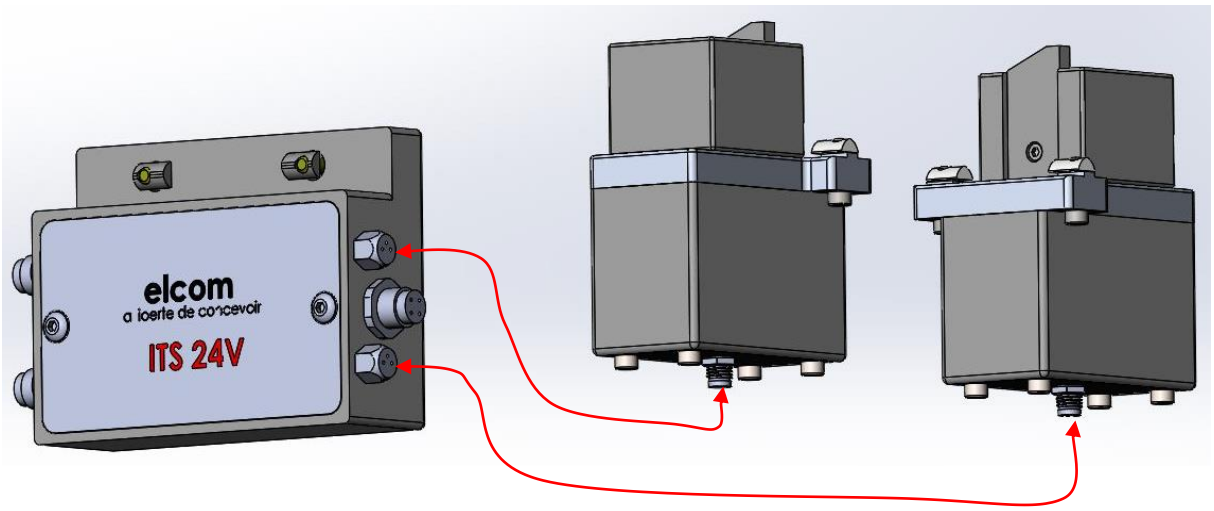
- Two extender M8, pins with a connector male and a connector female (straight or elbow).

It makes the connection between the double cam or derivation and the controlling box.

Double cam log in



Derivation log in



- An extender with a connector female M12, 4 pins (straight or elbow) to connect on the small controlling box of the double cam or derivation.

The other extremity of this cable might be with a connector M12, or wired directly, according to the cabling required on the project.

Note: each small control box is equipped on the left side by two connectors M12 Male, 4 pins.

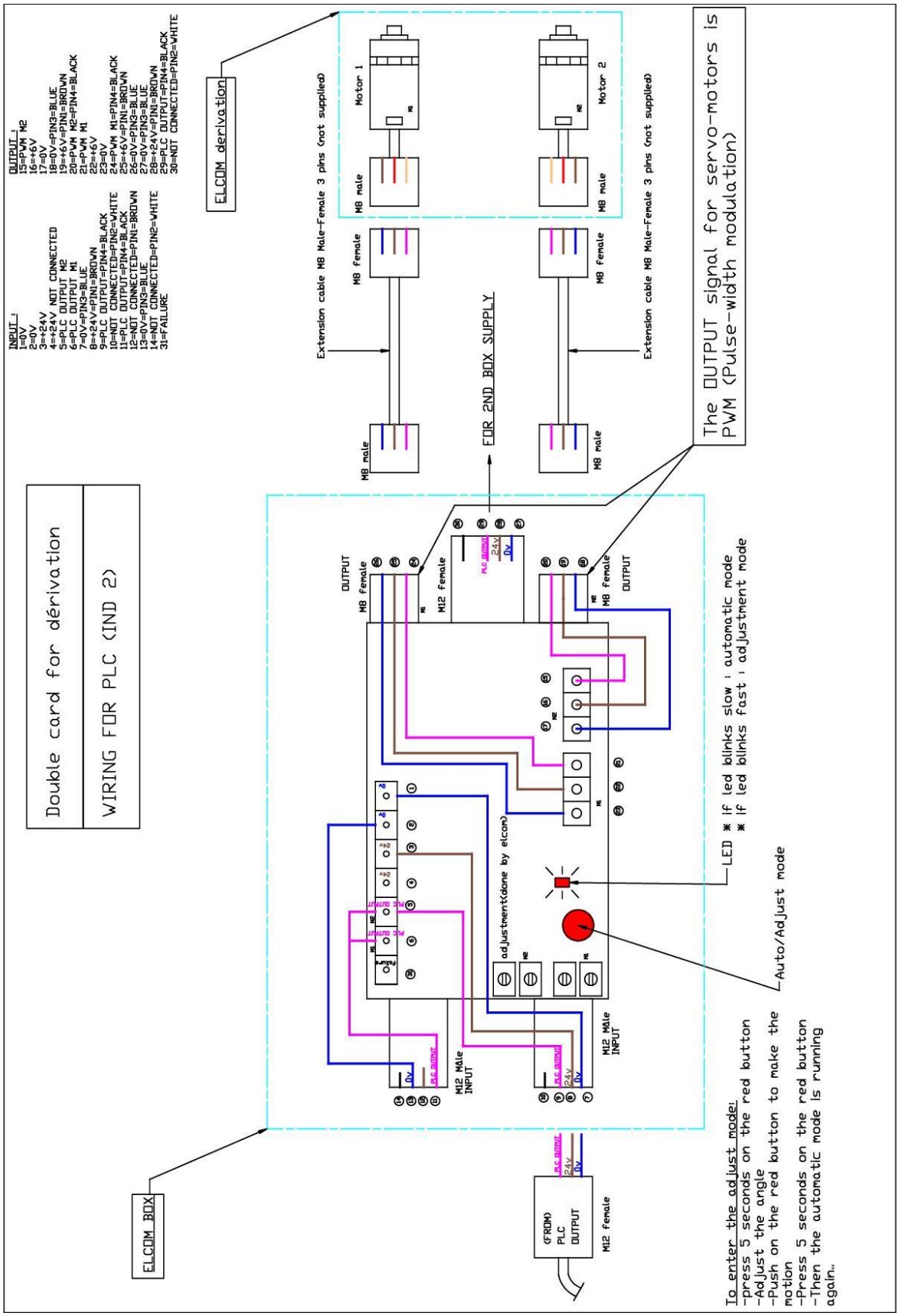
The lower connector is to control the double cam or derivation by an automat (PLC)

The upper connector is to control the double cam or derivation by a bus (BUS)

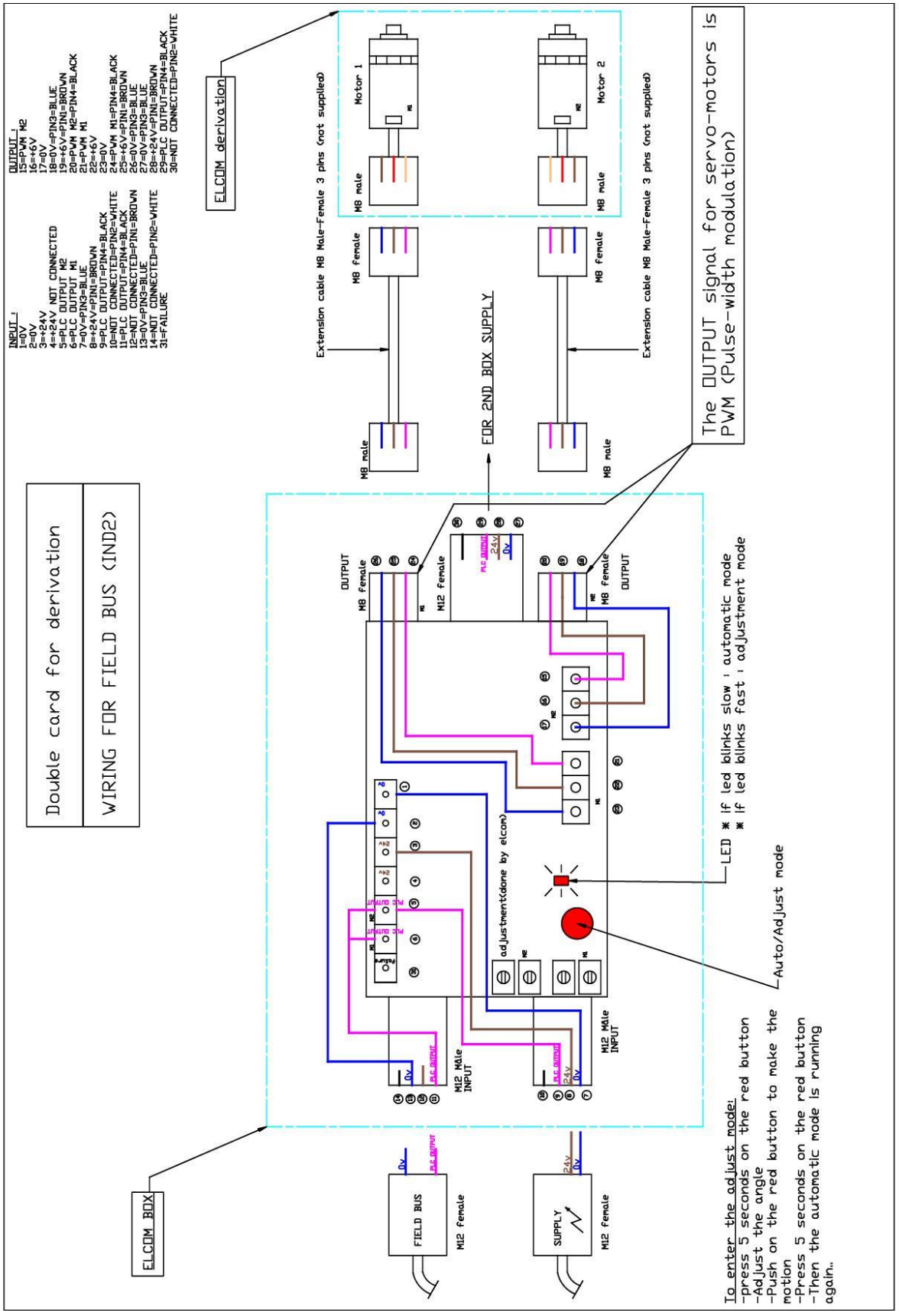
Note: the extension cables are not delivered by Elcom

10.4 Wiring of the control box of the double cam 24V or derivation 24V

Wiring schematic PLC for a double cam or a derivation:



Wiring schematic FIELD BUS for a double cam or a derivation:



11 RESPONSABILITY

Elcom cannot be held responsible for any damages or harms due to non-authorized modification of any parts, especially the safety parts.

Only original components can be used for maintenance or fixing.

Elcom cannot be held responsible for any malfunction if some spare parts have been used without the validation of **elcom**.

Elcom reserves the right to make improvements and technical modifications without any further notice.

12 CUSTOMER SERVICE

Do not hesitate to contact us for any question or advice. We will be glad to assist you:

Téléphone : + 33 (0)4 74 43 99 61

Email : elcom38@hellomoov.com

Address: 1 rue Isaac Asimov
ZAC de la Maladière
38300 Bourgoin-Jallieu

Before any contact, please note down the serial number of the transfer system. This number can be found on the transfer system sticker, like the following example:

13 APPENDIX

13.1 Maintenance schedule

Maintenance of the modular transfer system TLM 1500 ITS 24V

Fréquency	Action	Components	Chapter
200 hours	Dusting	Transfer system elements	4.5
500 hours	Control	Belts – Belt guide – Workpiece carrier	4.1
1000 hours	Clean and lubricate	Positioning unit	4.7
5000 hours	Clean	Double Cams	4.8
5000 hours	Clean	Derivations	4.9
5000 hours	Clean	Stoppers	4.6

13.2 Quality and environmental commitment : ISO certifications

Our company is recognized according to the following ISO standards and their respective evolutions since our first certification:

- Quality Management through ISO 9001 [since 2002]

- Environmental Management through ISO 14001 [since 2013]

All our current certificates are available for download in French, English and German on our website https://www.elcom.fr/en/elcom-documents/