

INSTRUCTION FOR THE MAINTENANCE OPERATOR OF THE UNIT V300

INTRODUCTION

Thank you for purchasing this VI.BE.MAC. S.p.A. industrial sewing machine.
Before using this unit, please read the following instructions in order to gain a better understanding of how the machine operates. The instructions illustrate the correct working method to follow in complete compliance with current legislation.



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“Suggestions to improve this manual are appreciated”

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Declaration of CE Conformity

Translated Version

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In quality of manufacturer, declares under its responsibility that the product:

COMPANY: VIBEMAC MODEL: **V300**
SERIAL NUMBER: XXXXXXXX MANUFACTURED IN YEAR: 2014 two thousand and fourteen

DESCRIPTION: VIBEMAC waist band machine for the application of waist band on jeans, casual and work wear. Complete of a display where is possible to adjust all machine parameters as cutting and skip/stitching.

The present declaration has been issued according to machinery directive 2006/42/CE dated 17 May 2006 and to the following directive:

- Electromagnetic Compatibility 2004/108/CE

As required, CE mark is applied on the machine.

PLACE AND DATE
SAN GIOVANNI LUPATOTO, 29/01/2016

Technical Director
Carlo Guerreschi

SAFETY SIGNALS

	ELECTRICAL SHOCK DANGER: BEFORE OPENING THE COVER OR DOING THE OPERATION SWITCH OFF THE MAIN POWER
	MECHANISM MOOVING: BEFORE DOING THE OPERATION BE SURE THAT THE MACHINE IS STOPPED AND DISCONNECTED FROM MAIN SWITCH
	DANGER: BE SURE TO FOLLOW THE ISTRUCTION
	DANGER: THE TEMPERATURE WILL BE OVER 70C° -160F°
	DON'T REMOVE SAFETY PROTECTIONS
	DON'T LUBRIFICATE OR ADJUST WHILE MOVING
	TURN OFF THE MAIN SWITCH BEFORE WORKING ON THE MACHINE
	THE USE OF EAR PROTECTION IS MANDATORY
	IT IS MANDATORY TO USE THE GOGGLES

1. INTRODUCTION

The correct and safe operation of the machine is only ensured if used in accordance with what is stated in this manual and, in general, in the accompanying documentation of the machine; Therefore it is essential to read and carefully store all relevant documentation.

It is always necessary to ensure that all operators have fully understood the rules of use; You are not responsible for any damage to persons or things arising from improper use of the machine.

Do not remove or deteriorate labels, texts, and warnings on machine parts. If you need to restore them, contact VI.BE.MAC. S.p.A.

VI.BE.MAC. S.p.A. Disclaims any and all liability for non-compliance with the safety and prevention rules described in the various sections of this manual and for any damage caused by improper use.

The machine covered by this manual is designed and manufactured in accordance with applicable law and state of the art, valid at the time of delivery. It is the responsibility of the customer to make continuous adjustments in order to keep it constantly compliant with the legal requirements and regulations in place at the installation site.

Any modification to the machine must be prevented by VI.BE.MAC. S.p.A.

All work on the machine (maintenance, adjustments, repairs, cleaning) must be carried out by appropriately trained personnel and according to what is stated in this manual.

1.1- Manual conservation

This instruction manual is an integral part of the machine and must be retained for any future reference.

We recommend:

- Keep the manual in an accessible place and known to all operators, which is protected from moisture and heat and protected from direct sunlight;
- Use the manual to avoid damaging all or part of the contents: do not remove, tear or modify parts of the manual for any reason.

In the case of sale or transfer of the machine to another person, this manual and its attachments must be delivered to the new user.



!ATTENZIONE!



Please read this instruction manual carefully before using the machine. Anyone using the machine must be adequately informed about the parts of this instruction manual
For the operations to be carried out.

2. GENERAL FEATURES OF THE MACHINE

The V300 waistband unit is equipped with an automatic cutting device, plier to perform a straight cut and a programmable skip stitch system to attach waistbands on jeans trousers, casual trousers, classics and work clothes...The automatic unit is composed by the following principal groups:

- VIBEMAC Sewing machine.
- Cutting device
- Touch screen (touch-display1)
- Brush-less motors for Puller and main motor with proper drive OMRON

Basic features of the unit:

The cutting device, moved by a cylinder controlled by a safety cover and sensor.

The skip stitch can be performed in 2 ways

Electronically (standard)

The puller device will pull the waistband and the sewing head will remain with needles in U.D.P

Pneumatic (extra kit)

Plate that covers the loop enlarger, preventing the formation of a chain stitch, moved by a pneumatic cylinder

2.1- Power supply

The supply voltage is 220V single-phase 50/60 Hz. Consumption is approx. 1 Kw.

2.2- Compressed air supply and consumption

Consumption is approx. 0.5 litres of air per cycle with a constant pressure of 5,5 bar.

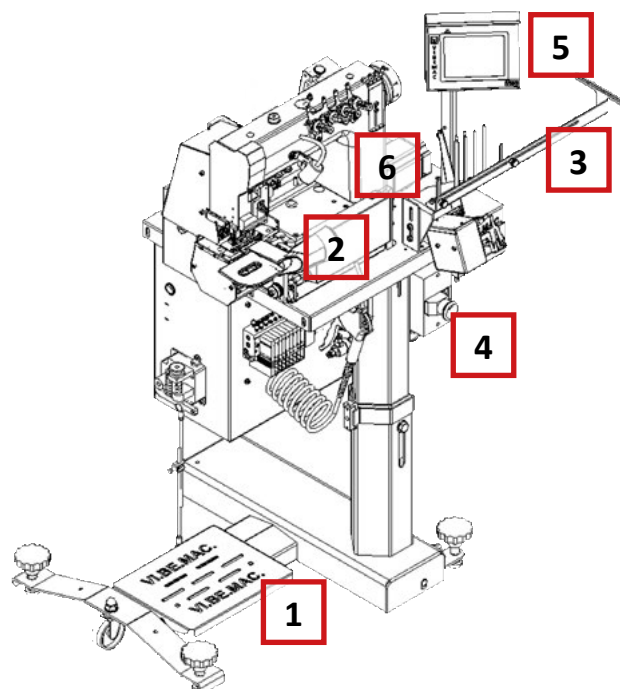
2.3- Dimension and weight

Width: 105 cm Length: 60 cm Height: 125 cm Weight: 130 kg (approx.)

2.4- Working position

The operator works in a seated position in front of the sewing machine with:

- the speed control pedal (1) located at his feet
- the waistband guide Folder Unit (2), secured to its own adjustable stand, placed in front
- the waistband tape guide (3), secured to its own adjustable support, placed on the right
- the main supply switch (4) under the table to his right, fixed to the stand
- the Touch screen (5) on his right, above the table
- the sewing head (6)



3. **CONDITIONS FOR USE**

All operations that comply with the following conditions are considered “normal”:

- the user applies all instructions in this manual and CE directives
- all safety standards are respected, not removing the casing or safety catches installed by the manufacturer
- the power supply is constant and does not fluctuate by more than 10%
- the unit has to be connected under an automatic cut-out switch of 30mA
- the machine is connected to an earthing system in order to prevent disturbances or electric shocks
- the machine is connected to an electric circuit with separate NEUTRAL and EARTH wires
- the machine is not used at high temperatures (over 40°C) or low temperatures (below 10°C)
- water or other fluids are not permitted to enter the motor
- water or other fluids are not permitted to come into contact with the control card, the solenoid valves and the cylinders
- the machine is not used in the presence of explosive gases, dust or oil fumes
- the machine is not connected to a compressed air system containing water or other fluids in the pressurized circuit
- the machine is connected to a compressed air system with minimum constant internal pressure of 5.5 bar
- the machine is installed in a factory not over 1000 mt from sea level
- the machine is installed on a flat service with no inclination
- only qualified personnel are permitted to commission the machine and carry out extraordinary maintenance work

The manufacturer declines all responsibility for damage caused to people or things by the machine if:

- the machine was not commissioned by qualified personnel
- any repairs to the machine were not made by qualified personnel
- the power supply is not constant or does not correspond to requirements
- the machine is not earthed, or there are electronic problems in the electrical system
- the motor has not been subjected to the scheduled maintenance operations
- original or model-specific spare parts have not been used
- the user demonstrates total or partial failure to observe the instructions
- rain or snow get in contact with the unit

It is absolutely prohibited to:

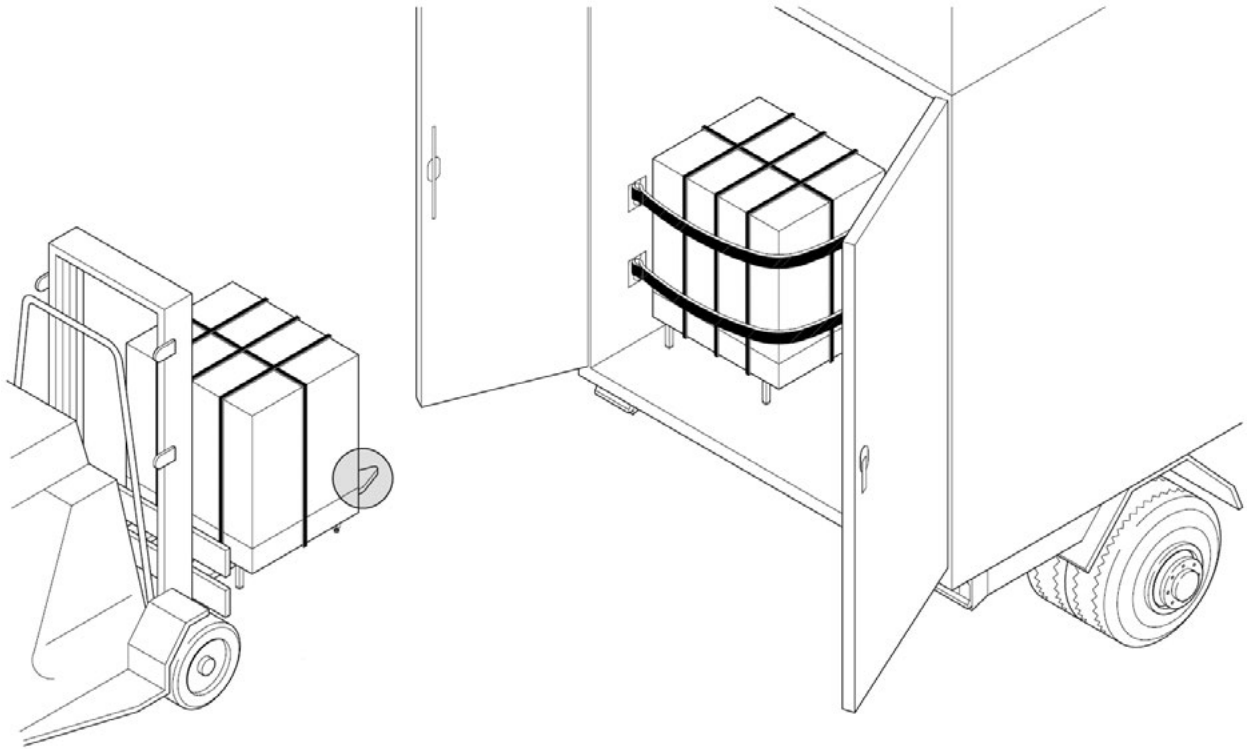
- remove the casing and safety devices from their positions, thereby posing a risk to the user
- remove the eye protection mirror without equipping the user with special eye protection glasses in compliance with the law
- deactivate the safety catches installed by the manufacturer, thereby posing a risk to the user
- make changes to the machine without authorization from the manufacturer, thereby posing a risk to the user
- exceptional circumstances

3.1- Guarante conditions

All unit components have a 1 (ONE) year guarantee and should be send to the manufacturer for inspection if found to be defective.

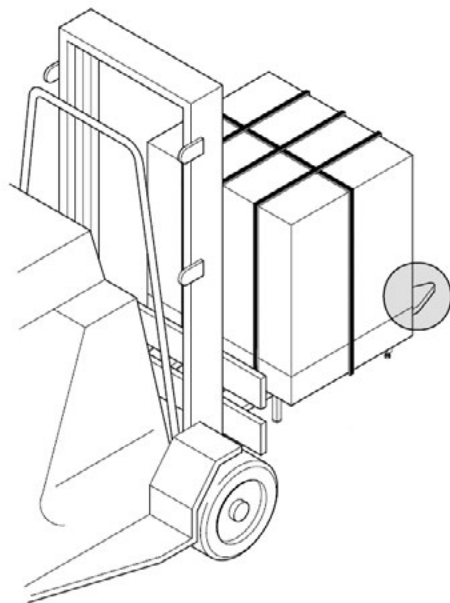
All pieces damaged due to negligence of the end user and/or incorrect adjustments to the unit, carried out by unqualified personnel, will NOT be recognized as defective and will not be covered by the guarantee. These will be charged at the normal price, including consequent delivery and/or installation costs.

4. LIFTING AND TRANSPORT

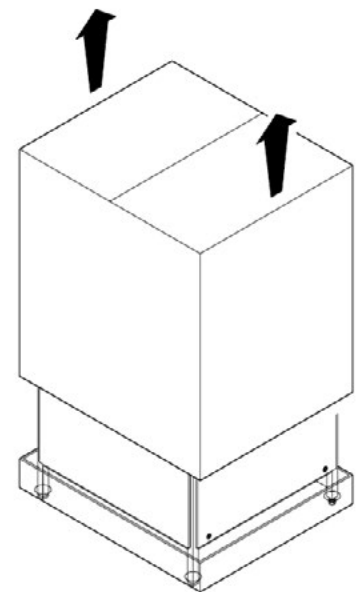


Make sure that during lifting the whole machine rests on the forklift forks.

Position the machine on the truck surly fixed with straps or balts that will insure the stability during the transport.



Make sure that during unloading the whole machine rests on the forklift forks. Place it on a hard flat surface repaired from weather.



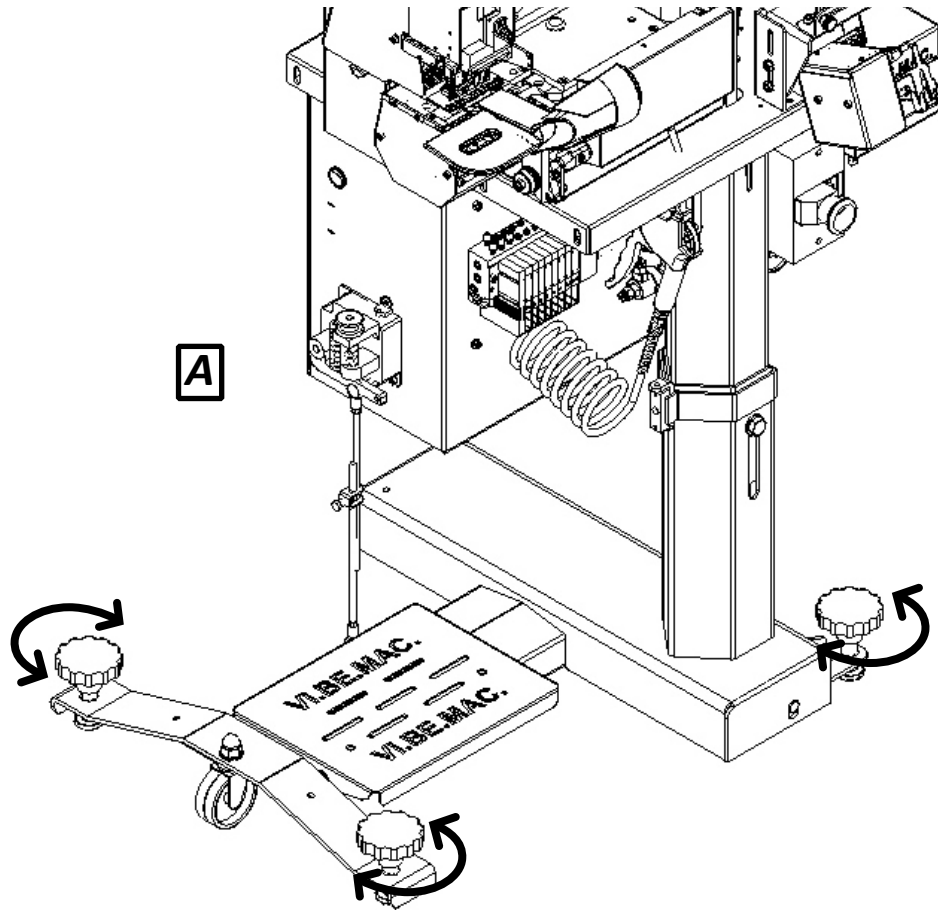
Remove straps, and loosen the fixing screws, remove the top part of the packing box by pulling it upwards.

5. INSTALLATION



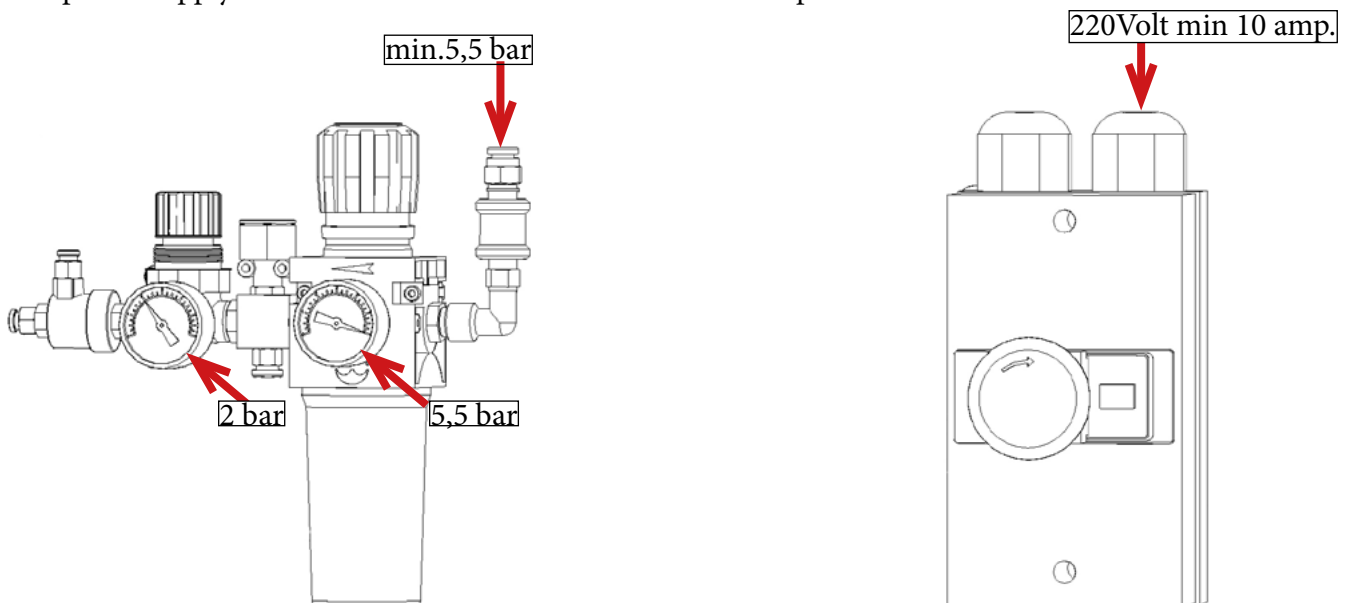
WARNING: THE INSTALLATION MUST BE PERFORMED ONLY BY SPECIALIZED PERSONS

We disclaim all responsibility for damages resulting from installation not complying with these instructions or from connecting the machine to power and utility lines not satisfying the necessary requirements. The machine should not be installed in environments in which explosive materials or substances are present. The unit must be installed on a flat surface. The machine must be positioned on a flat surface. And fixed with the 3 levelling foot (image A)



The air supply must be of 6 bar constant and the main air regulator must be adjusted at 5,5 bar

The power supply must be constant 220 volt minimum 10 Ampere with a fluctuation of $\pm 10\%$



6. DESCRIPTION OF BUTTONS AND CONTROLS

6.1- Machine Main Switch

The main switch is located below the table on the central leg of the stand.

There are two buttons:

The RED (OFF) button on the left for turning the unit off.

The BLACK (ON) button on the right for turning the unit on.

6.2- Touch Display

The touch display is the users interface where is possible to adjust all the features of the unit such as skip stitch and cutting

6.3- Control Pedal

The control pedal is located at the base of the stand and is connected to the lever.

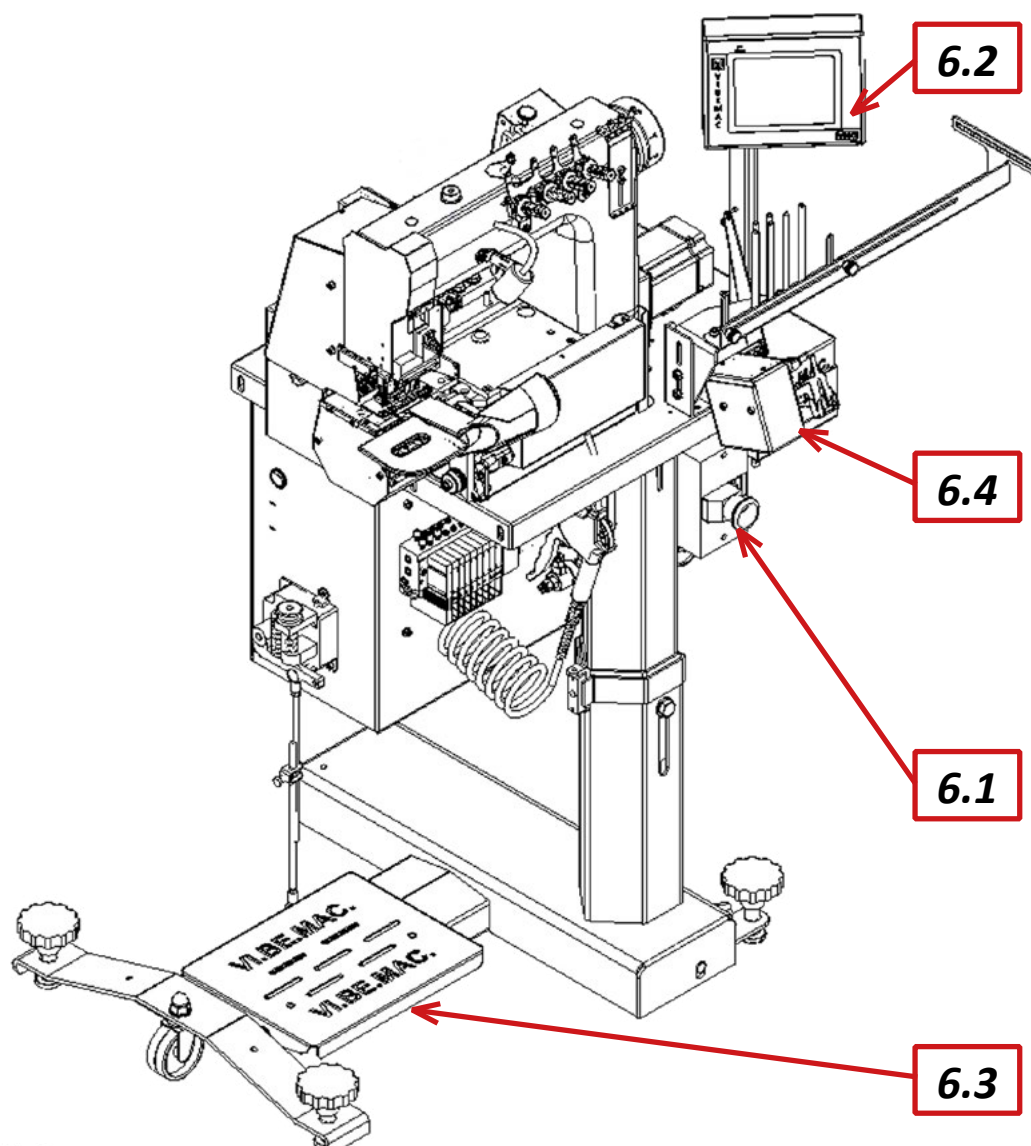
It is used to control the operating speed of the sewing machine.

6.4- Main Air Slide Valve

The main air slide valve, located at the intake of the pressure reducer, makes it possible to remove the air from the pneumatic circuit. Move the selector to select between two operating positions.

To open the air slide valve, move it down.

To close the air slide valve, move it up.



7. MACHINE START-UP

Press the black "ON" button on the main switch.

The machine will perform a complete rotation 360° and re position in the same position that the needle was when switched on

To make the unit position with needles in up position back pedal once.

The sewing head is ready to operate in AUTOMATIC mode with the last program used.

Open the air slide valve, located on the side of the reduction unit, moving it down.

8. WORKING CYCLE

In the V300 there are 2 working cycles selectable between:

- Automatic machine stop when the final cut is performed" (FINAL STOP)
- Automatic machine stop when photocell 2 is uncovered" (INTERMEDIATE STOP)

INTERMEDIATE STOP DISABLED

When the unit performs the Final Cut of the waistband ,it automatically stops the Sewing Head, even when the command lever is held completely down, to allow insertion of a new pair of trousers.

To reset the cycle release the pedal to its neutral position.

Press the Control Lever again to run a new Sewing Cycle.

This working system is used when:

- the length of the waistband of the trousers is longer than the length of the body of the trousers
- the unit maximum productivity has to be obtained

INTERMEDIATE STOP ENABLED

As soon as photocell N°2 is "uncovered" by the end of the trousers, the Sewing Head stops, even when the Command lever of the is held down, to allow insertion of a new pair of trousers.

bring the pedal back to its neutral position and press the Control Lever again to run a new Sewing Cycle. perform the final cut on the first pair of trousers and the initial cut on the second pair.

This working system is used when:

- the length of the waistband of the trousers is the same as, or slightly longer than, the length of the body of the trousers
- whenever it is not possible to use the cycle with the Final Stop

9. ROTATION DIRECTION

In the V300 unit the rotation direction of the unit is normally already programmed in the panel

10. STOPPING THE MACHINE

Push the red "OFF" button on the main switch.

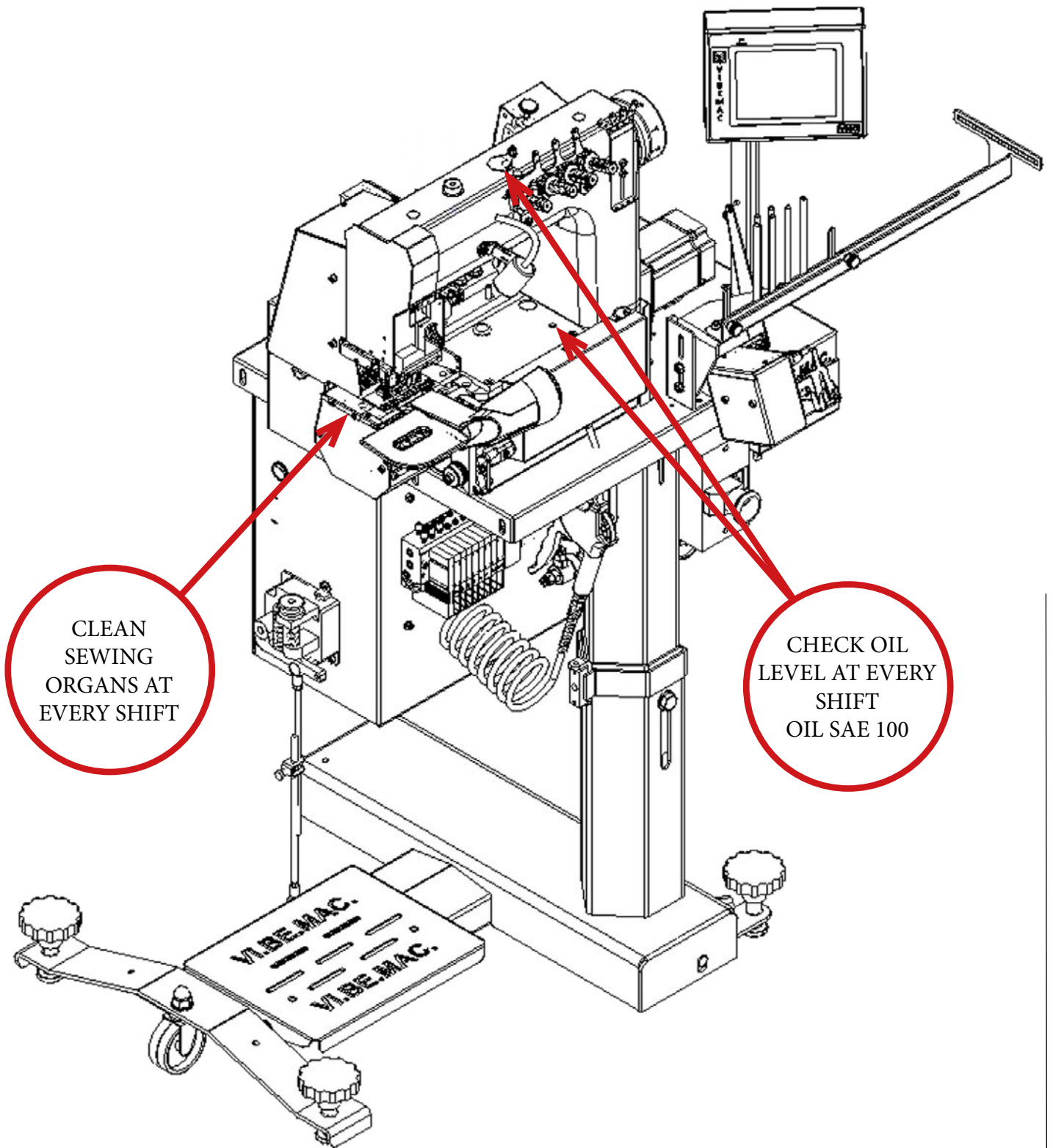
Close the air cock, located on the side of the reduction unit, moving it up

11. CLEANING AND MAINTENANCE

Apply every Morning before starting the production some oil in the marked spots of SAE 100 type

In case of Rotary Hook apply a few drops every morning of oil SAE 20 type

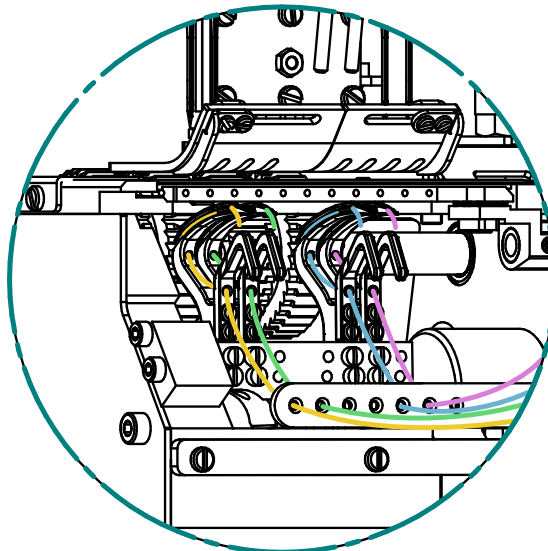
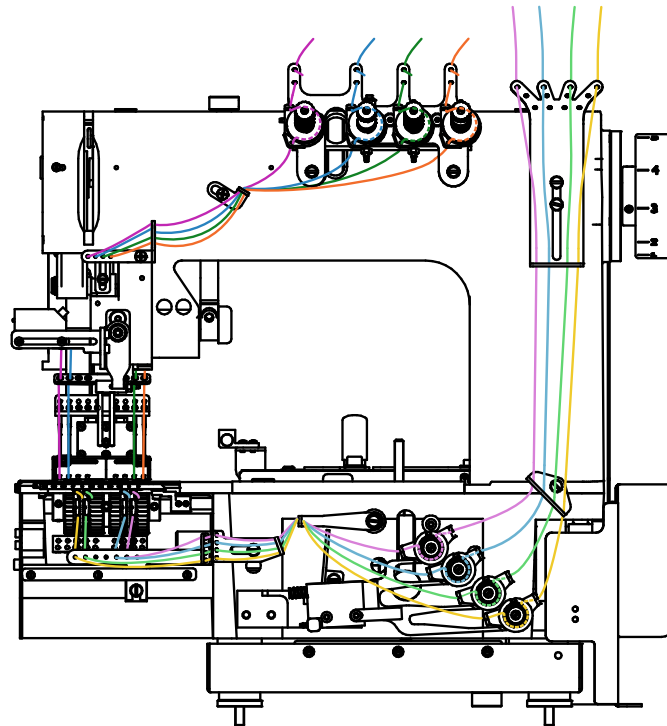
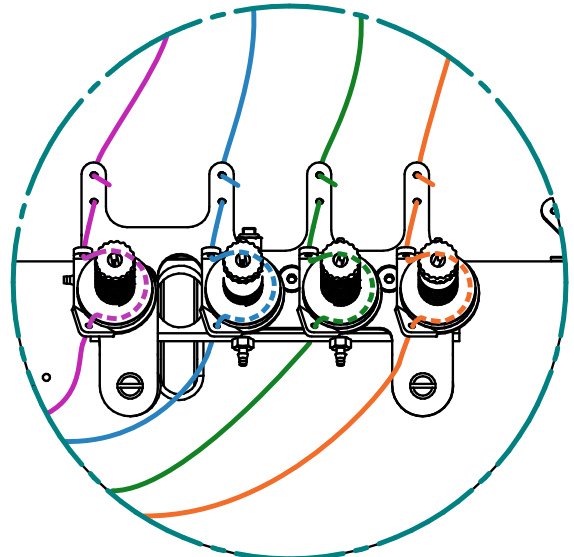
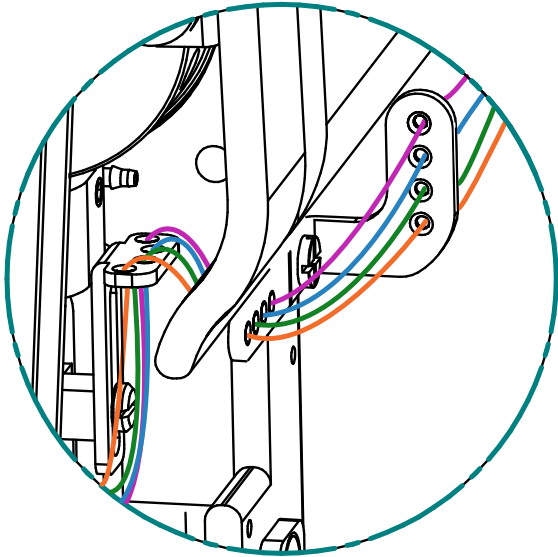
Clean the machine at least once a day with air gun to remove dust from sewing mechanisms



CLEAN
SEWING
ORGANS AT
EVERY SHIFT

CHECK OIL
LEVEL AT EVERY
SHIFT
OIL SAE 100

12. THREADING THE UNIT

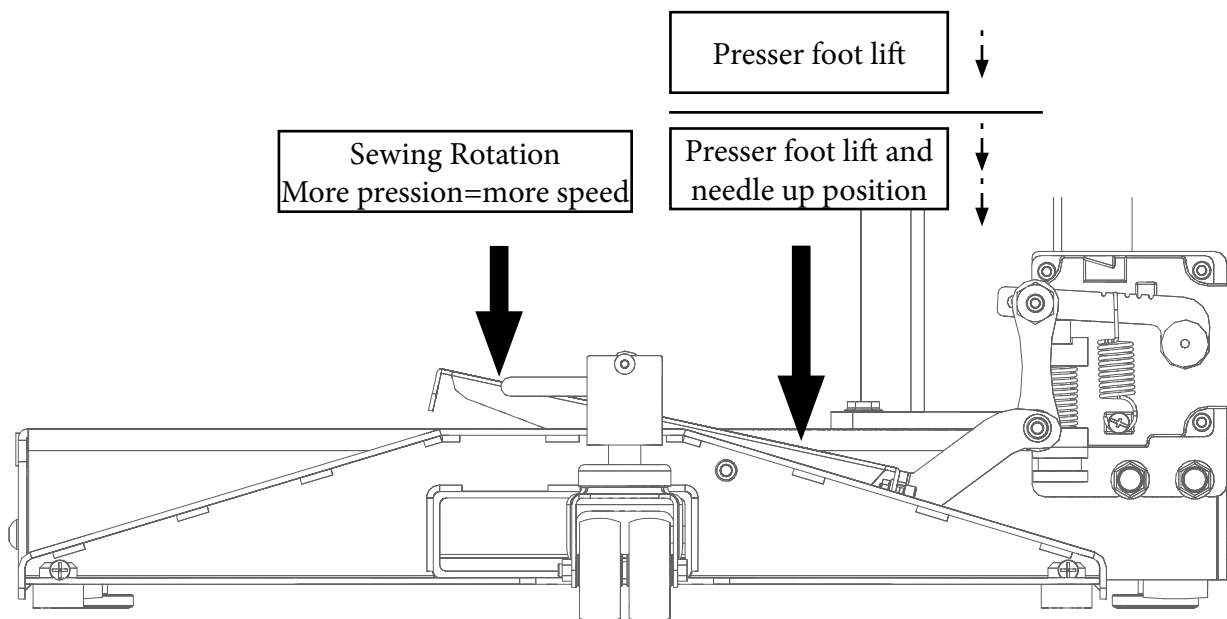


13. COMMAND PEDAL

It is positioned at the base of the stand, connected by a connecting rod to the lever of the Motor panel.

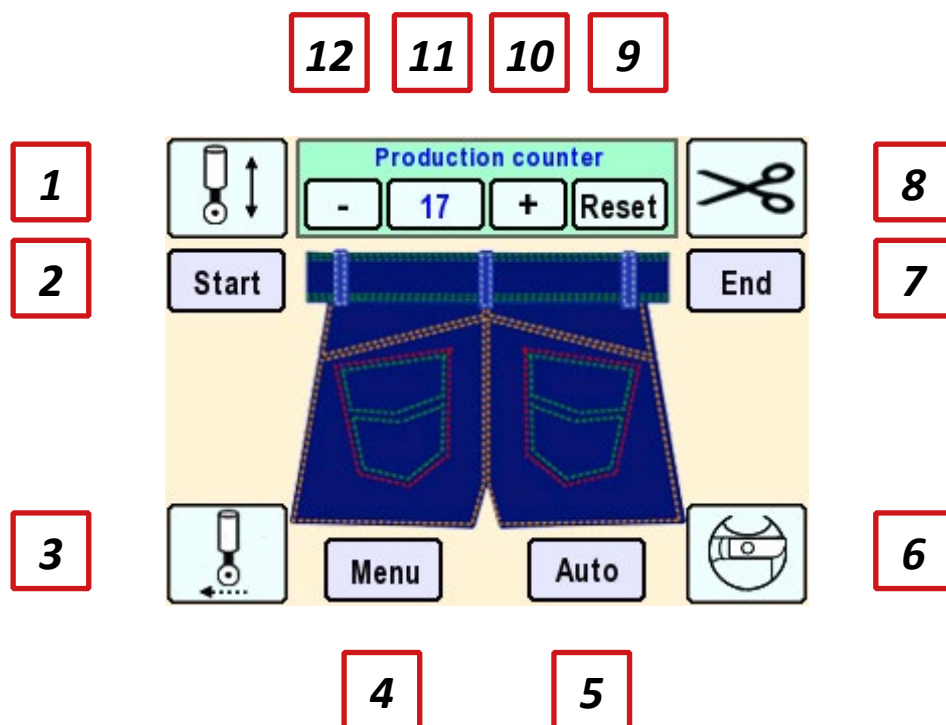
The pedal has 4 positions:

1. Forward, to increase the sewing speed;
2. Neutral;
3. Back pedal, to rise the presser foot;
4. Complete back pedal, rise presser foot and needle position in upper dead point;



14. TOUCH SCREEN FUNCTIONS

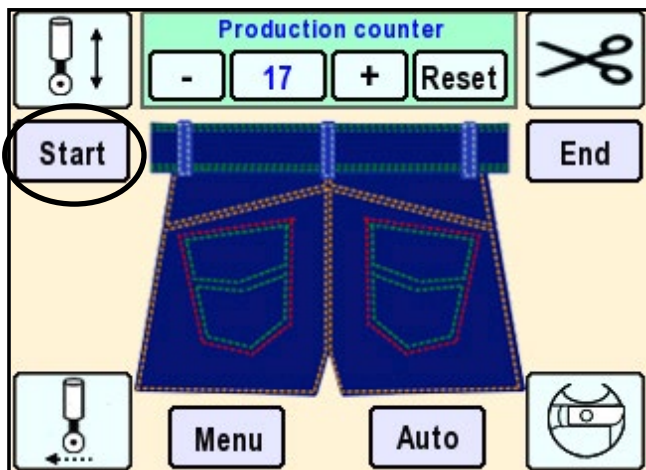
From the working screen it is possible to select the most common features that the operator will use during the production.



1. Puller up/down function , by pressing the key the puller will move from up to down and viceversa
2. Start parameters menu , will permit to enter in the sub menu to adjust start cutting and skip stitch
3. Puller feed ,will make the puller rotate
4. Main menu , will access the main menu functions
5. Pressing AUTO will deactivate all automatic functions (plier , skip stitch and cut)and it will work only as sewing (on the key will ne visualized **MAN**)
6. Bobin change , when pressed will position the needles in the correct position and open the left bobin
7. End parameters menu , will permit to enter in the sub menu to adjust start cutting and skip stitch
8. Manual cut , will activate the knife
9. Reset bobin counter , if held for 1 sec. will reset to 0 the value of production
10. Increase production counter
11. Production, keeps track of the number of finished cycles
12. Reduce production counter , to reduce the production counter in case of failed operation

14.1- Start parameters

From the working screen press the START icon to adjust the start cutting and skip stitch

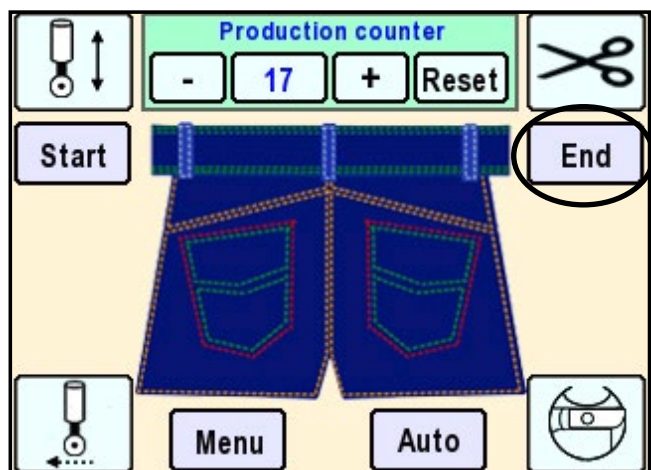


This screen will appear:

Start skip stitch	ON	1	Activate or deactivate the initial skip stitch
Start skip stitch length [mm]	25	2	Set skip stitch length
Start cutting	ON	3	Activate or deactivate the initial cutting
Start cutting length [mm]	20	4	Set initial cutting length
Start electronic skip stitch		5	To select electronic or pneumatic skip stitch
Home page		6	Return to home page

14.2- End parameters

From the working screen press the END icon to adjust the final cutting and skip stitch



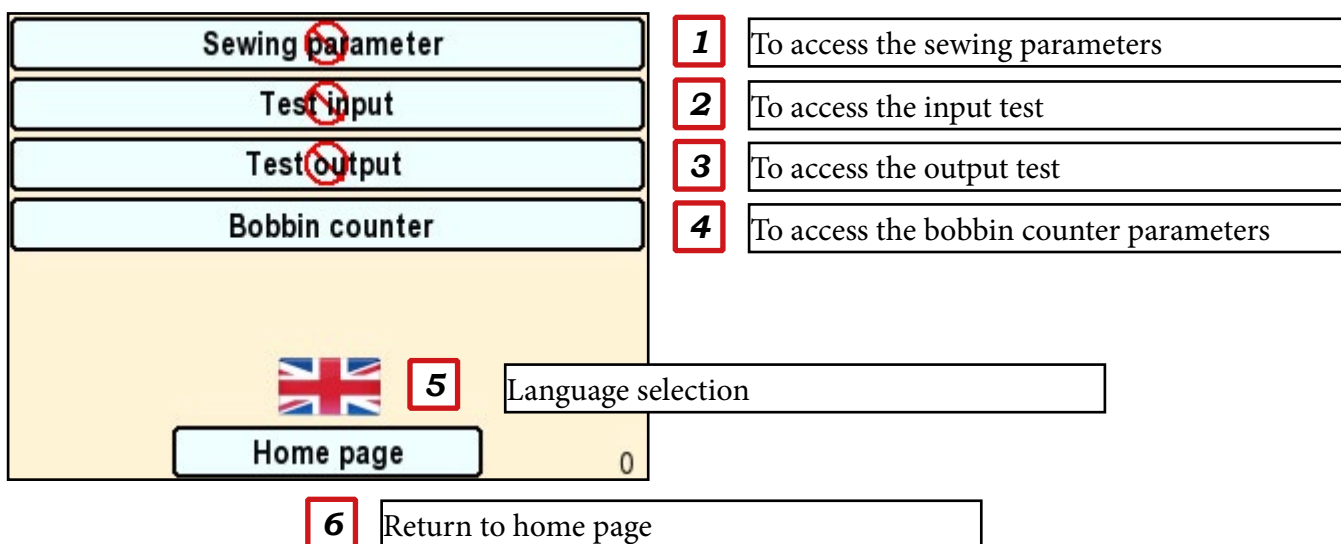
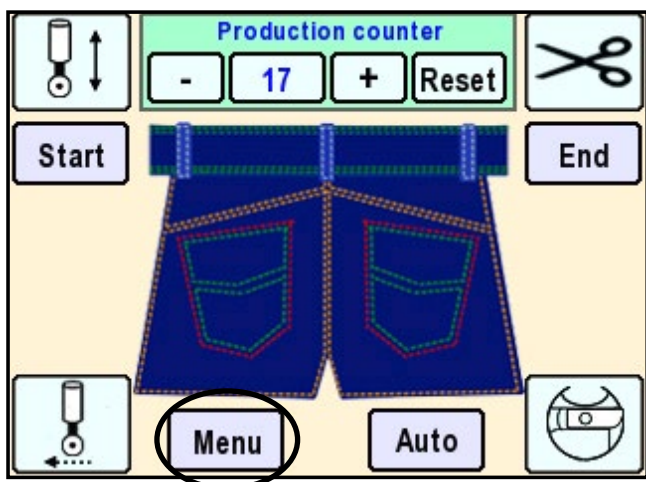
This screen will appear:

End skip stitch	ON	1	Activate or deactivate the final skip stitch
End final skip stitch [st]	5	2	Set skip stitch length (stitches)
End cutting	ON	3	Activate or deactivate the final cutting
End cutting length [mm]	20	4	Set initial cutting length
End electronic skip stitch		5	Enables/disables electronic or pneumatic skip stitch
Home page		6	Return to home page

The final skip stitch will be performed in stitches , if needed to increase the length it is possible to move the first photocell position , and changing the value from: MENU--SEWING PARAMETER--PHOTOCELL FOLDER POSITION,and change the value depending on how the photocell is positioned.

14.3- Menu

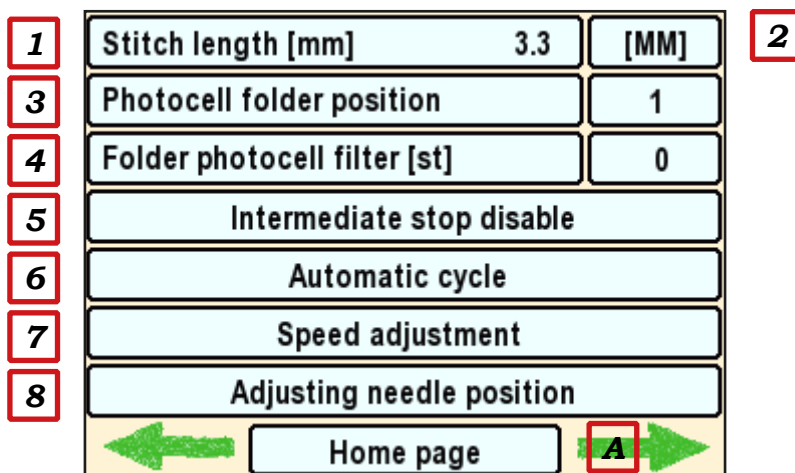
From the working screen press the MENU icon to enter the following regulations:



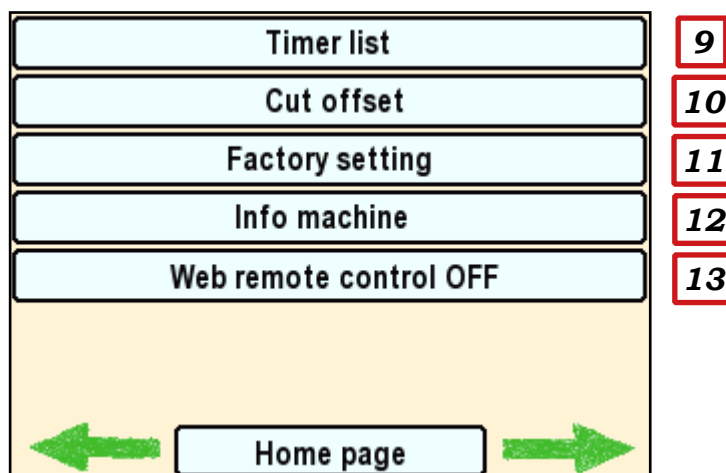
To change the value of the parameter 1-2-3 (Sewing parameter, Test input, Test output) is necessary to insert the password **2536**

14.3.1- Sewing parameters

Once entered the sewing parameter menu on the display will appear the options as lower image:

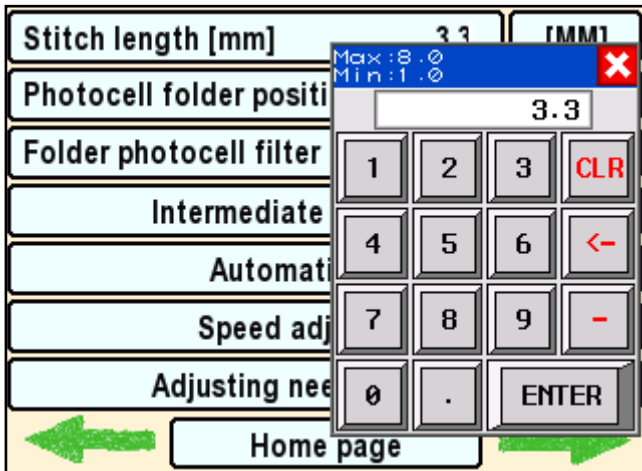


Pressing the RIGHT arrow icon (A) will change page to next page of parameters



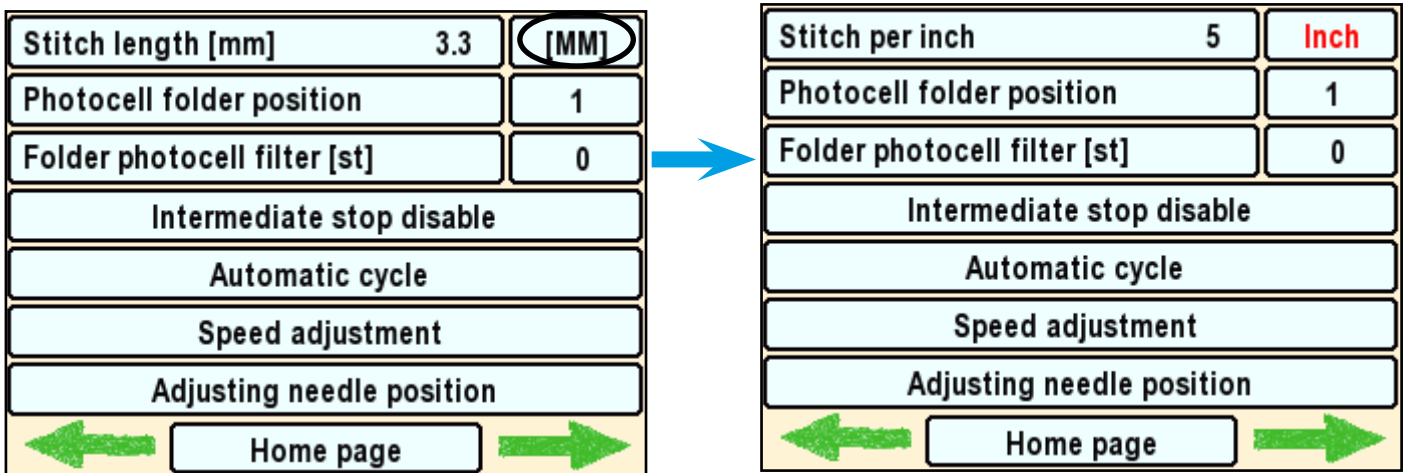
1. Stitch length

Pressing the key a numerical key board will appear input the desired value and confirm pressing enter.



After changing stitch length always regulate the needle bar transport.

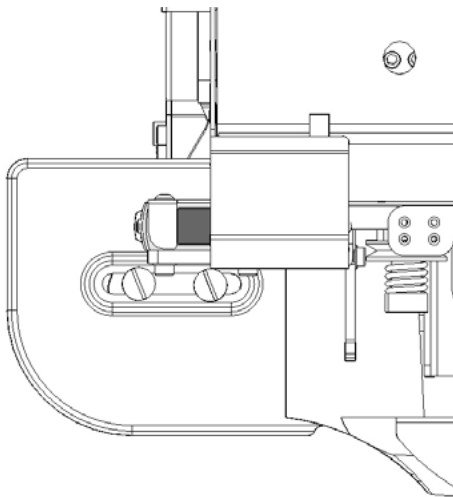
2. Inch or millimetre selection



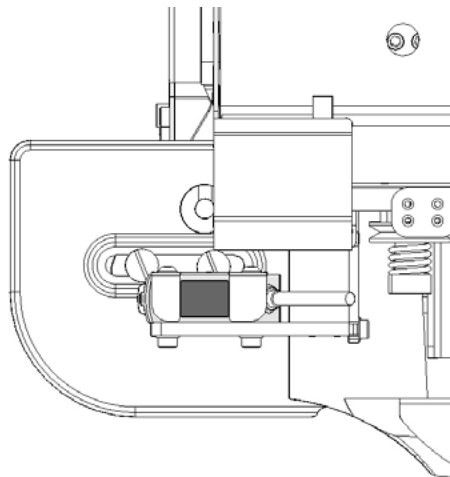
To change from mm to inches, simply press the 2 key and the selection will automatically change

3. Photocell folder position

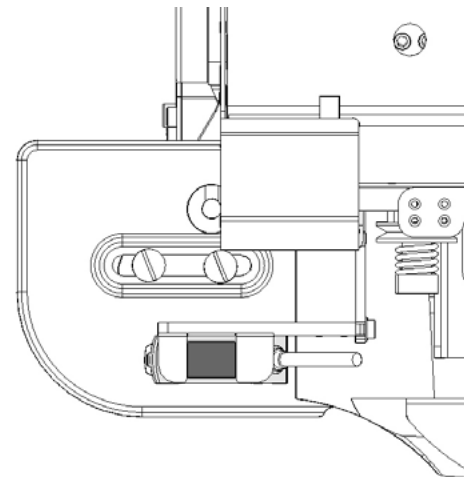
1 Standard final skip stitch



2 Long final skip stitch



3 Very long final skip stitch



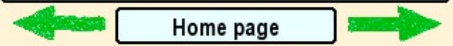
Stitch length [mm]	3.3	[MM]
Photocell folder position	1	
Folder photocell filter [st]	0	

Intermediate stop disable

Automatic cycle

Speed adjustment

Adjusting needle position



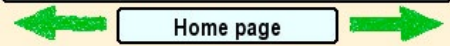
Stitch length [mm]	3.3	[MM]
Photocell folder position	2	
Folder photocell filter [st]	0	

Intermediate stop disable

Automatic cycle

Speed adjustment

Adjusting needle position



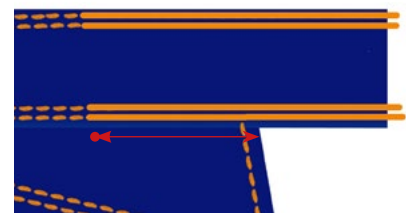
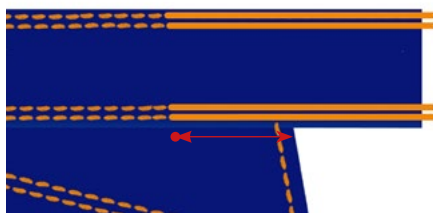
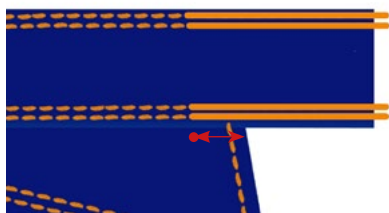
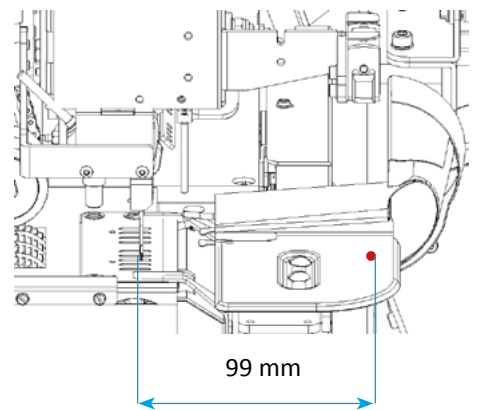
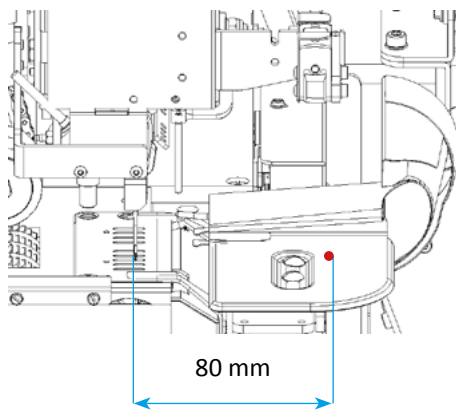
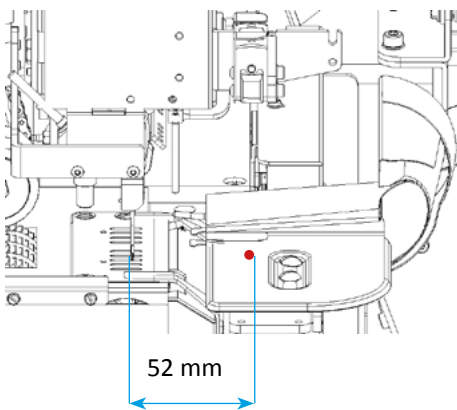
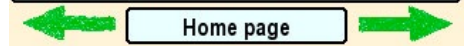
Stitch length [mm]	3.3	[MM]
Photocell folder position	3	
Folder photocell filter [st]	0	

Intermediate stop disable

Automatic cycle

Speed adjustment

Adjusting needle position



4. Folder photocell filter

Applying folder photocell filter, is to be used only in special cases, this will apply a filter to the photocell adding the same number of points inserted to the skip stitch programmed.

This filter must be used only in special cases to avoid that the unit will execute the skip stitch and cut in the middle of the sewing cycle caused by the characteristics of the fabric.

Stitch per inch	5	Inch
Photocell folder position	1	
Folder photocell filter [st]	0	
Intermediate stop disable		
Automatic cycle		
Speed adjustment		
Adjusting needle position		
← Home page →		

Stitch per inch	5	Inch
Photocell folder position	1	
Folder photocell filter [st]	0	
Intermediate stop disable		
Automatic cycle		
Speed adjustment		
Adjusting needle position		
← Home page →		

Stitch per inch Max: 2 Min: 0

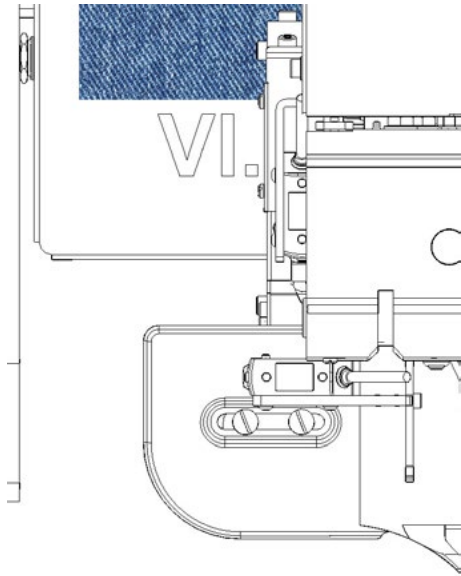
0

1	2	3	CLR
4	5	6	<-
7	8	9	-
0	.	ENTER	

5. Intermediate stop

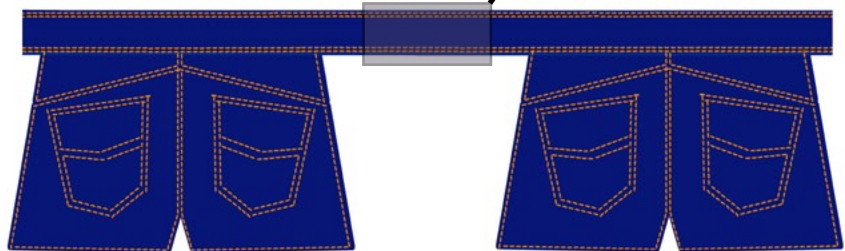
A) intermediate stop disabled (OFF)

IN CASE THERE IS SOME EXTRA FABRIC



Stitch per inch	5	Inch
Photocell folder position	1	
Folder photocell filter [st]	0	
Intermediate stop disable		
Automatic cycle		
Speed adjustment		
Adjusting needle position		
← Home page →		

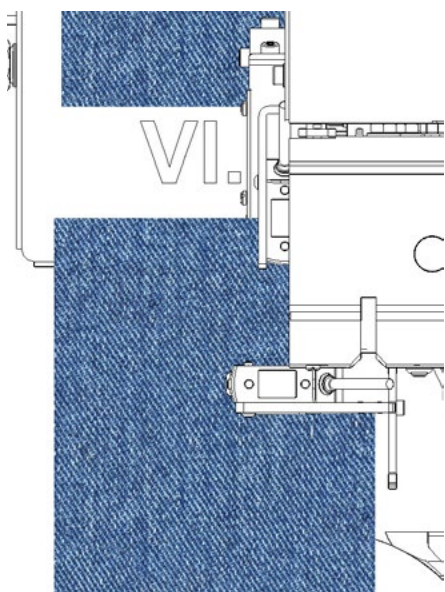
WAISTBAND



With the intermediate stop position DISABLED the unit will perform the complete trousers cycle with skip stitch and cutting in the beginning and at the end.

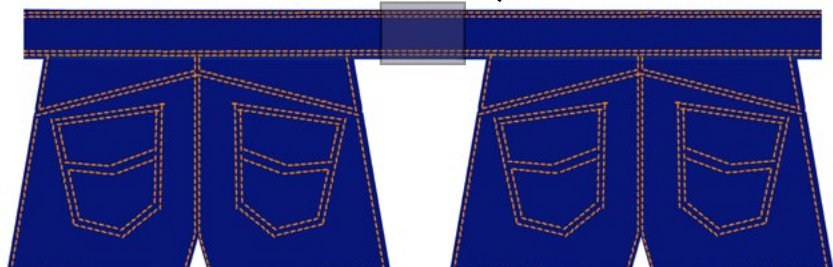
B) intermediate stop enable (ON)

IN CASE THERE IS NO EXTRA FABRIC



Stitch length [mm]	3.3	[MM]
Photocell folder position	3	
Folder photocell filter [st]	0	
Intermediate stop enable		
Automatic cycle		
Speed adjustment		
Adjusting needle position		
← Home page →		

WAISTBAND



With the intermediate stop position ENABLED the unit will perform initial skip stitch and cut then will perform the complete stitching till the end perform the final skip stitching and stop, at this point the operator can insert the next pair of trousers and the machine will execute the final cutting of the first , the skip stitch and cut of the second trousers MINIMIZING the waste of the waist band.

6. Automatic cycle

Stitch per inch	5	Inch
Photocell folder position	1	
Folder photocell filter [st]	0	
Intermediate stop disable		
Automatic cycle		
Speed adjustment		
Adjusting needle position		
← Home page →		

Stitch per inch	7	Inch
Photocell folder position	1	
Folder photocell filter [st]	0	
Intermediate stop disable		
Only manual sewing		
Speed adjustment		
Adjusting needle position		
← Home page →		

In automatic cycle the unit will work with skip stitch and cutting. In “Only manual sewing” only the sewing head will be working

7. Speed adjustment

From the following screen you can adjust the speed of each transaction, and the following screen where you can select whether you are using the rotary hook or looper.

Maximum speed [rpm]	4000
Pneumatic skip speed [rpm]	1300
Start skip speed	100
End skip speed	100
Speed manual feed	32
Home page	

Rotary hook	Looper
-------------	--------

Max: 3000	Min: 1000	3000	
Rotary hook			
1	2	3	CLR
4	5	6	<-
7	8	9	-
0	.	ENTER	

Max: 4200	Min: 1000	4200	
Rotary hook			
1	2	3	CLR
4	5	6	<-
7	8	9	-
0	.	ENTER	

A numerical key board will appear giving the available range of speed , input the desired speed and confirm pressing enter.

PRESS HOME PAGE TO RETURN TO WORKING SCREEN

8. Adjusting the needle position

In Adjusting the needle position, is possible to regulate, Up stop position, Down stop position and Bobbin change position

Needle up position degrees	340
Needle down position degrees	140
Bobbin change degrees	190

Home page

Needle up position degrees	340
Needle down position degrees	140
Bobbin change degrees	190

Needle up position degrees
 Max : 360
 Min : 320

340

1	2	3	CLR
4	5	6	<-
7	8	9	-
0	.	ENTER	

Home page

Needle up position degrees	340
Needle down position degrees	140
Bobbin change degrees	190

Needle up position degrees
 Max : 170
 Min : 130

140

1	2	3	CLR
4	5	6	<-
7	8	9	-
0	.	ENTER	

Home page

Needle up position degrees	340
Needle down position degrees	140
Bobbin change degrees	190

Needle up position degrees
 Max : 250
 Min : 150

190

1	2	3	CLR
4	5	6	<-
7	8	9	-
0	.	ENTER	

Home page

Each regulation will have a min. and max. value .
 PRESS HOME PAGE TO RETURN TO THE WORKING SCREEN.

9. Timer list

From timer list it is possible to change the timer value

T01:Delay start cicle [ms X 10]	5
T02:Delay pressure foot up [ms X 10]	0
T03:Duration high pressure P.F. [ms X 10]	100
T04:Delay start skip stitch [ms X 10]	5
T05:Delay sewing after start skip stitch [ms X 10]	5
T06:Delay end skip stitch [ms X 10]	0
T07:Delay sewing for end cut [ms X 10]	0
← Home page →	

T08:Time to close safety cut [ms X 10]	10
T09:Duration activation cut [ms X 10]	8
T10:Delay pulling plier [ms X 10]	5
T11:Delay plier back after opening [ms X 10]	15
T12:Delay start manual feed [ms X 10]	10
← Home page →	

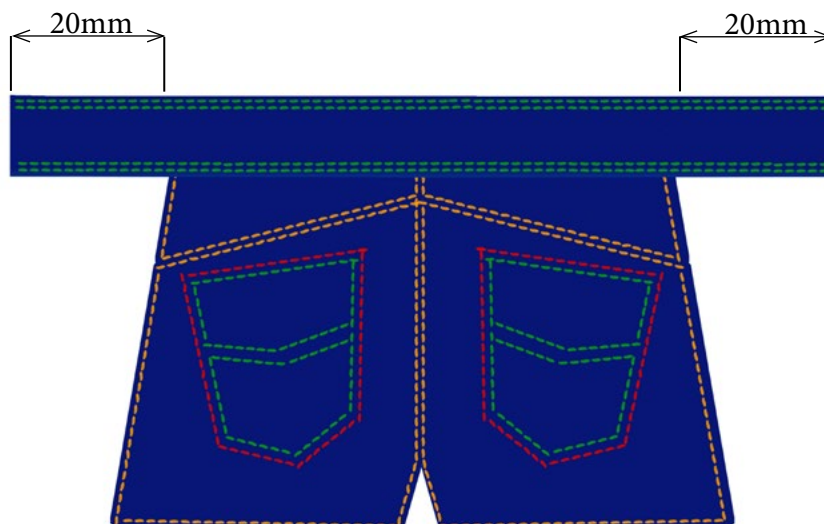
To return to the working screen press Home page.

10. Cut offset

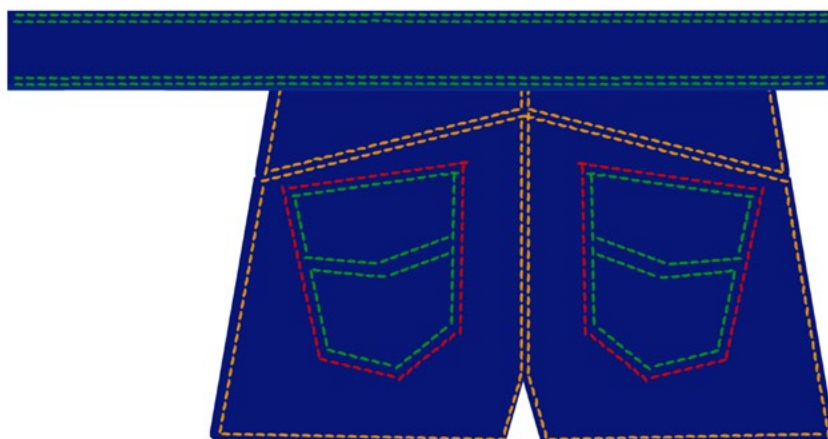
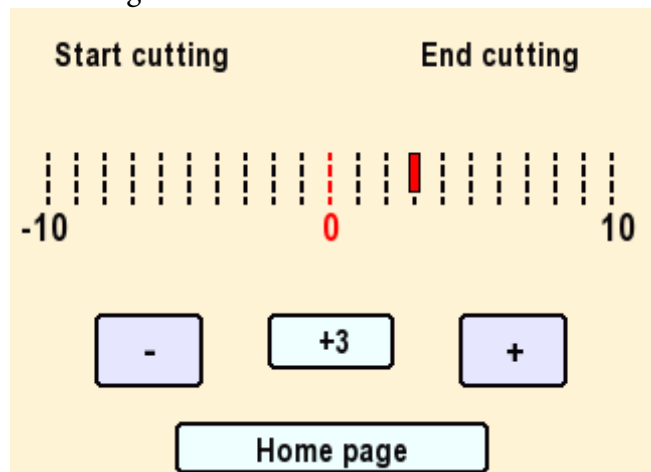
Cut offset is to balance the start and end cut in case there may be some difference, if set the start and end cut at the same value you must have a result equal (as image)

End skip stitch	ON
End final skip stitch [st]	5
End cutting	ON
End cutting length [mm]	20
End electronic skip stitch	
Home page	

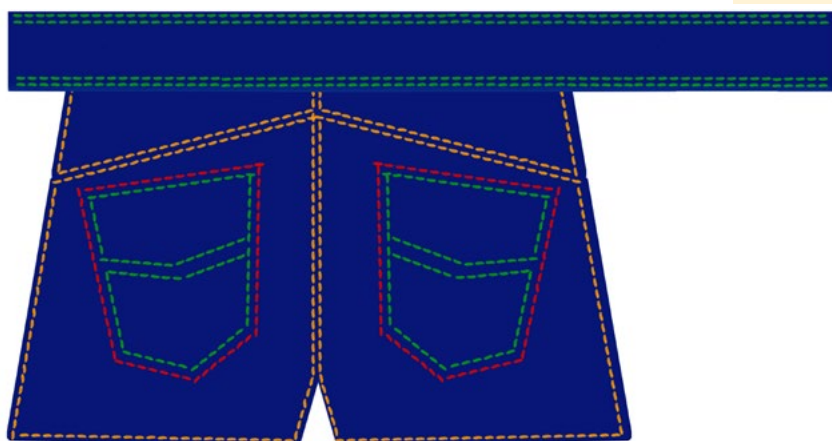
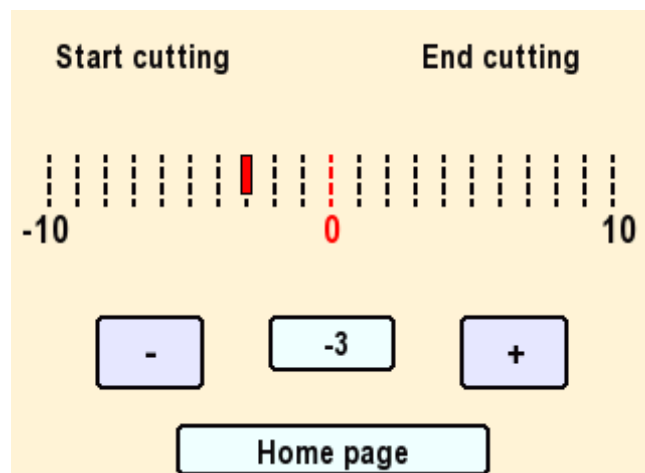
Start skip stitch	ON
Start skip stitch length [mm]	25
Start cutting	ON
Start cutting length [mm]	20
Start electronic skip stitch	
Home page	



If the result setting the same value is that the cut is longer in the START (as image) you can correct it by increasing the value towards END CUTTING

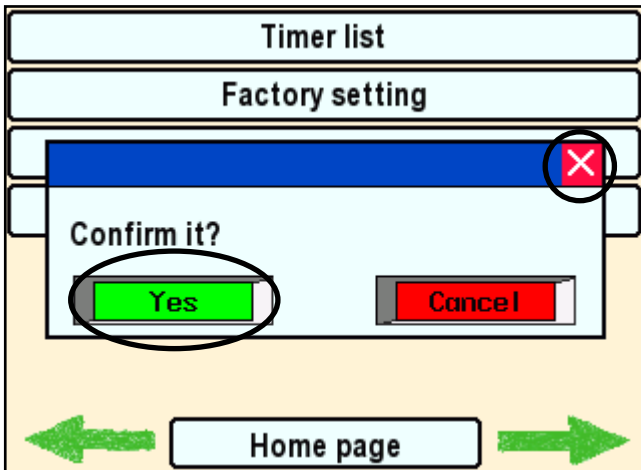


If the result setting the same value is that the cut is longer in the end (as image) you can correct it by increasing the value towards START CUTTING.



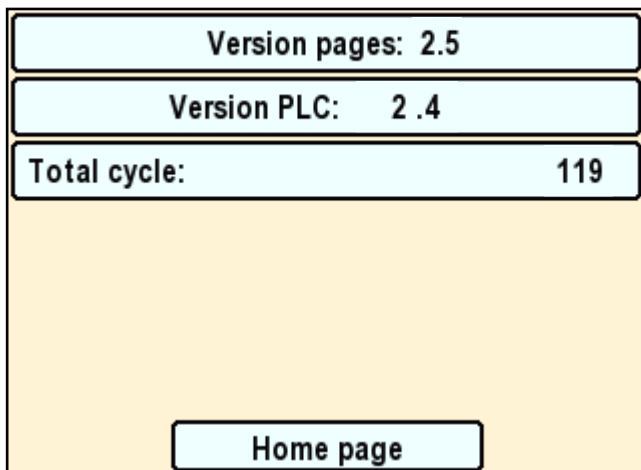
11. Factory setting

Pressing Factory setting this screen will appear, if confirmed pressing yes all parameters will returned to standard VI.BE.MAC. values. If pressing Cancel or X on the upper right side the machine will return to the previous screen.



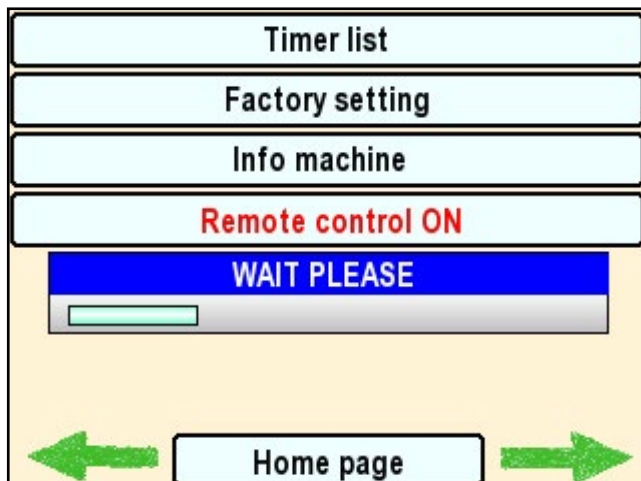
12. Info machine

Will show the version of the software of the plc and the total cycles of the machine.



13. Web remote control

The web remote control is an advanced function that will be always done guided by a VI.BE.MAC technician.



14.3.2- Test Input

In “Test Input” you can control the operation of each input.

To test the sensors just pass a metallic object in front of it, while to test the photocells just pass under a piece of fabric.

PEDAL SIGNAL: Pressing the pedal or back pedaling the value will change. Pressed forward (990 maximum value) and back pedalling (50 minimum value)

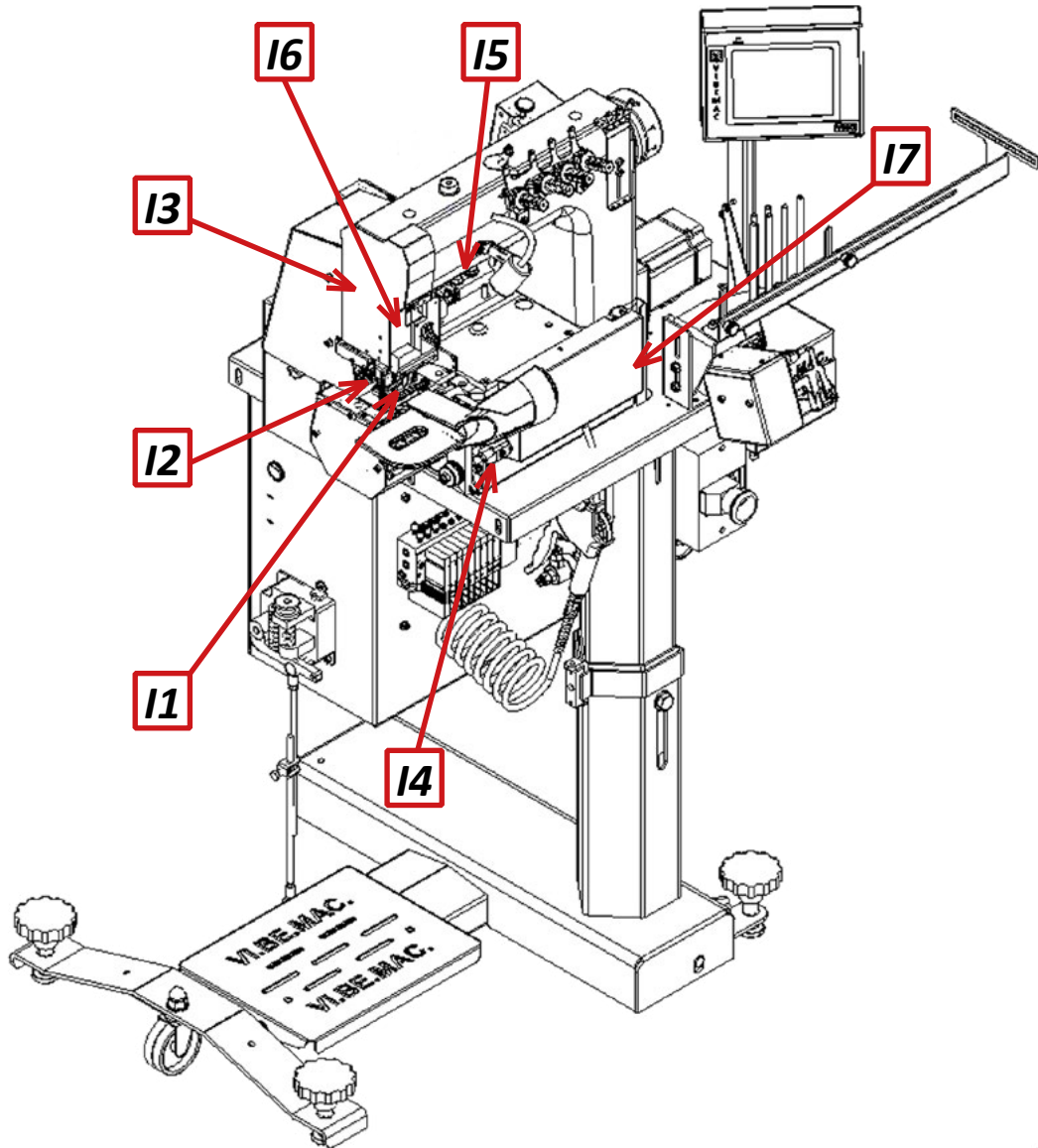
ENCODER SIGNAL: Rotating the handwheel will increase or decrease the value according to the direction of rotation. **MAIN MOTOR STOP:** turning the handwheel by hand will shift from ON to OFF.

I1:Folder photocell	OFF
I2:Cuting photocell	OFF
I3:Needle bar cover sensor	ON
I4:Folder sensor	OFF
I5:Puller cover sensor	ON
I6:Safety cutting sensor	OFF
I7:Lower covers sensor	ON

← Home page →

Pedal signal	371
Encoder signal	1361
Motor sewing signal stop	ON

← Home page →



14.3.3- Test Output

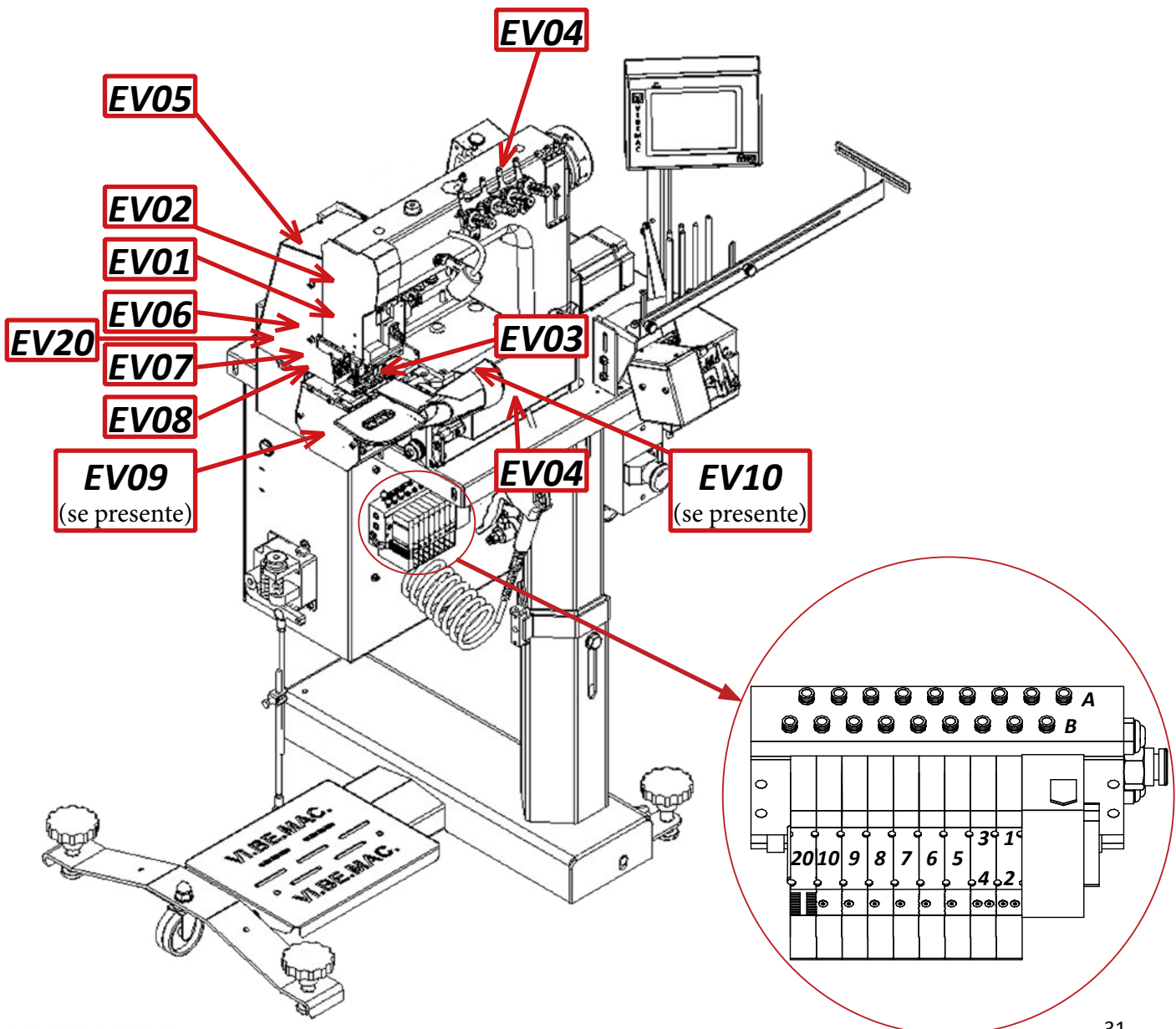
In the test output is possible to check each output of the unit end verify if it is properly working. Pressing on the logical status (off in the image), on the side of each electro valve name and function it is possible to change it (to on) and check il the output is correctly working.

EV01:Pressure foot high	OFF
EV02:High pressure P.F	OFF
EV03:Needle cooling	OFF
EV04:Thread release	OFF
EV05:Puller UP	OFF
EV06:Safety cut	OFF
EV07:Plier Forward/Back	OFF

← Home page →

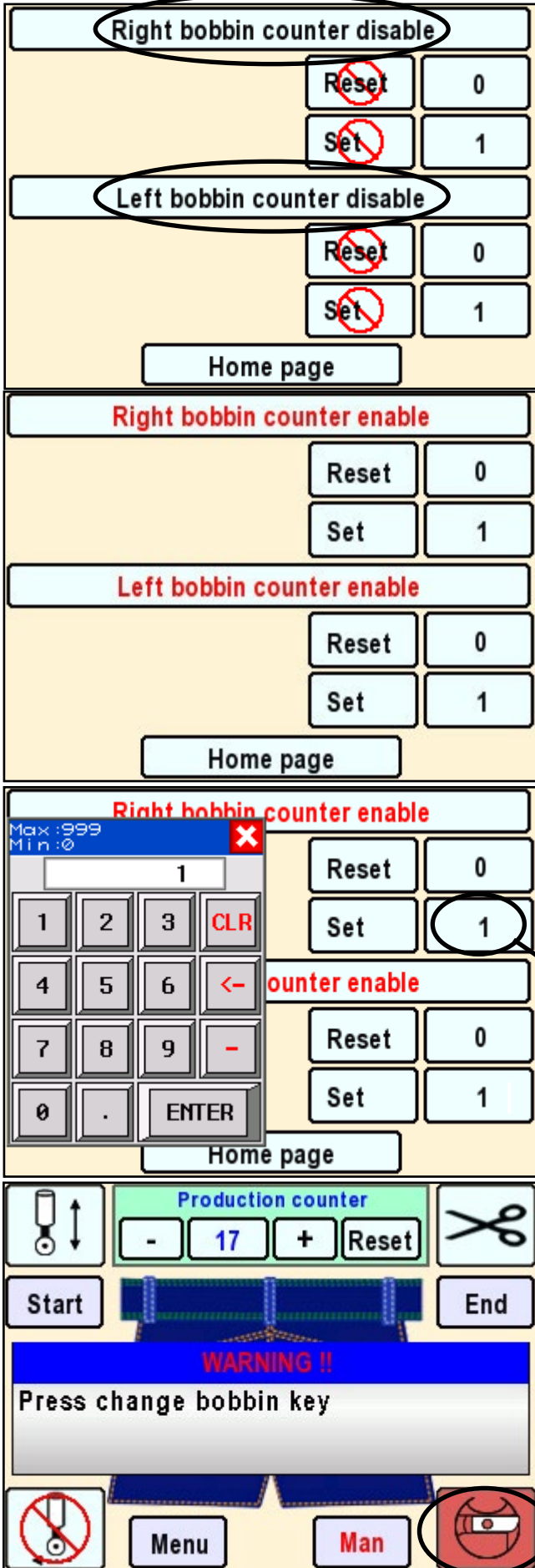
EV08:Plier open/close	OFF
EV09:Open added head	OFF
EV10:Pneumatic skip stitch	OFF
EV11:Cutting	OFF

← Home page →



14.3.4- Bobbin Counter

You can enable or reset this counter by pressing the button to turn on the meter, as an image.



The writing will change to RED colour and the writing will change to Left/Right bobbin counter enable

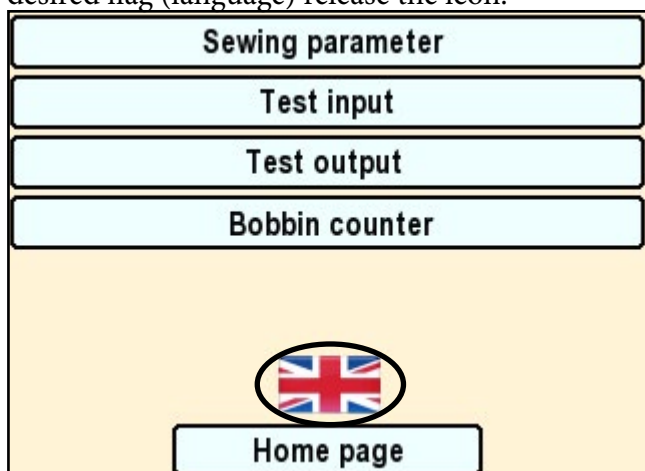
Once Enabled the desired bobbin counter pressing Set will appear a numerical key board, insert the desired value and press Enter to confirm

The value must be considered as multiplied by 10: $1=10$

When the bobbin reaches the value this alarm window will appear on the screen, at this point, press the bobbin icon to change the bobbin and to return back to working condition press Bobbin icon that will automatically reset the value.

14.3.5- *Language selection*

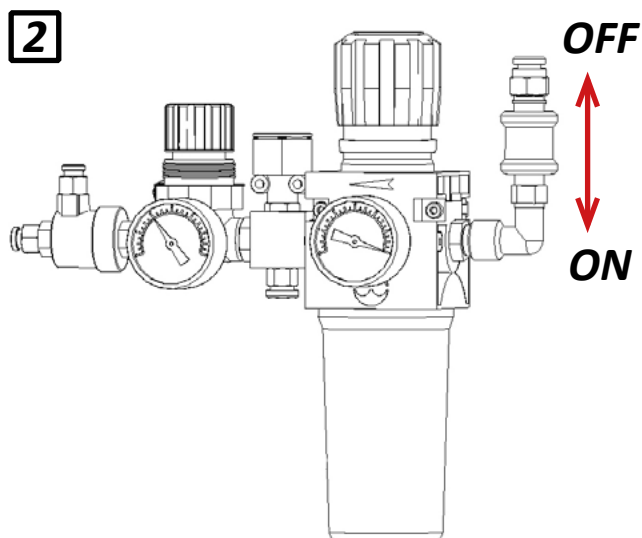
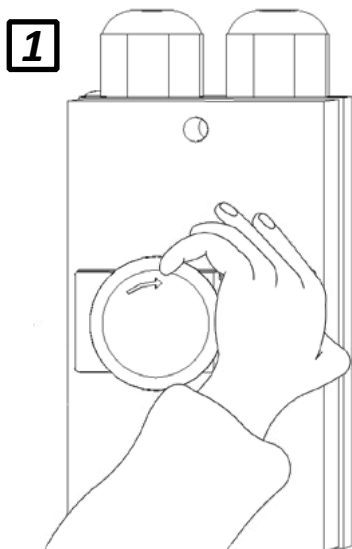
To select the language just keep pressed the flag and it will automatically change flag, once reached the desired flag (language) release the icon.



To return to the working screen press Home page key.

15. MECHANICAL REGULATIONS

During all mechanical regulations switch off the unit from the main switch (image 1) and remove the air from the main air slide valve (image 2) and always pay attention to the safety signals to avoid any kind of injuries to people or mechanical breakage



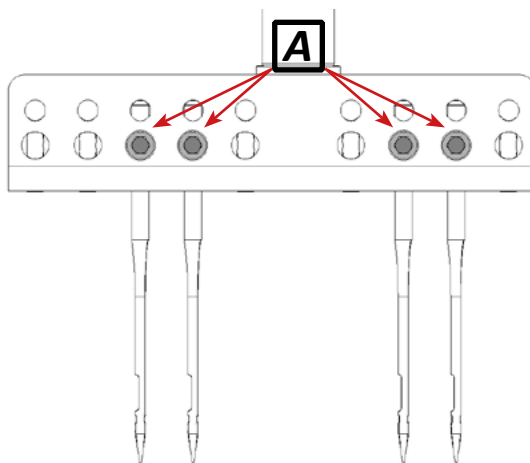
15.1- Needle change



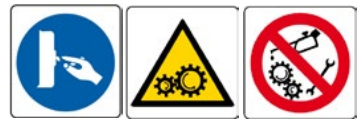
To change needle, always switch off the unit and loosen grab screw A remove the needle re position the needle and tighten the grab screw.

Needle on use:

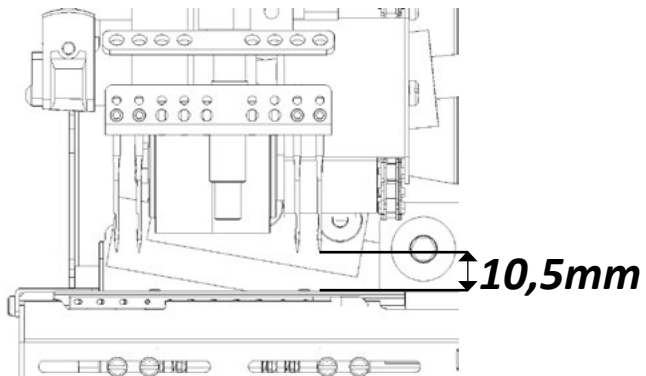
62x57 F-125 for chain stitch and 134 San 6 F 125 for lock stitch



15.2- Needle bar height

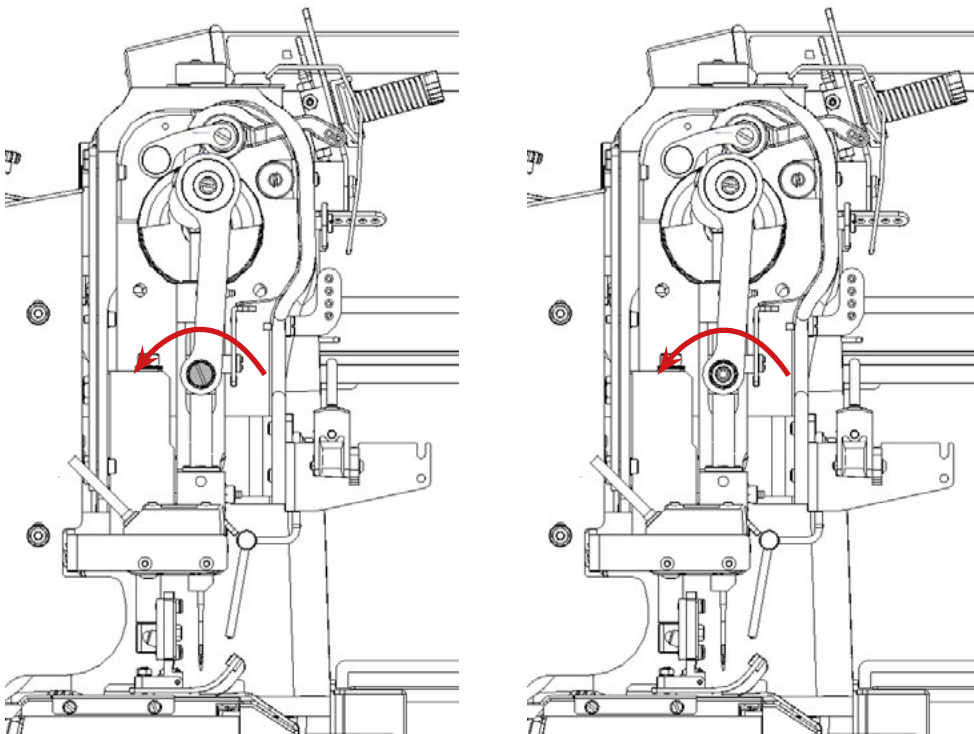


Needle bar height must be adjusted so that from the needle point to the needle plate the distance must be 10,5mm.

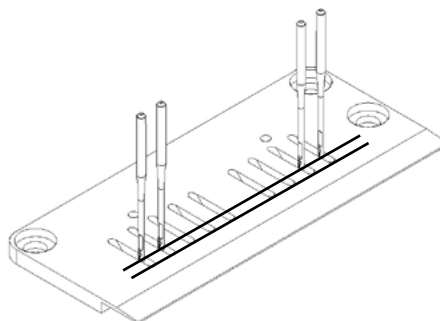
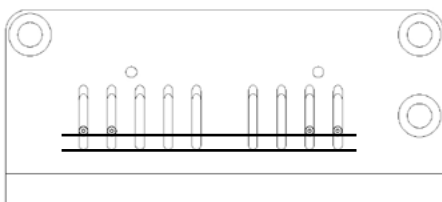


This measure is with needles 62x57

To adjust the needle bar height open the front cover and loosen the screw, then loosening the internal grub screw and the needle bar will be loose, adjust it so that at upper dead point the distance from the needle and the needle plate is 10,5 mm this measure is with 62x57 needles.



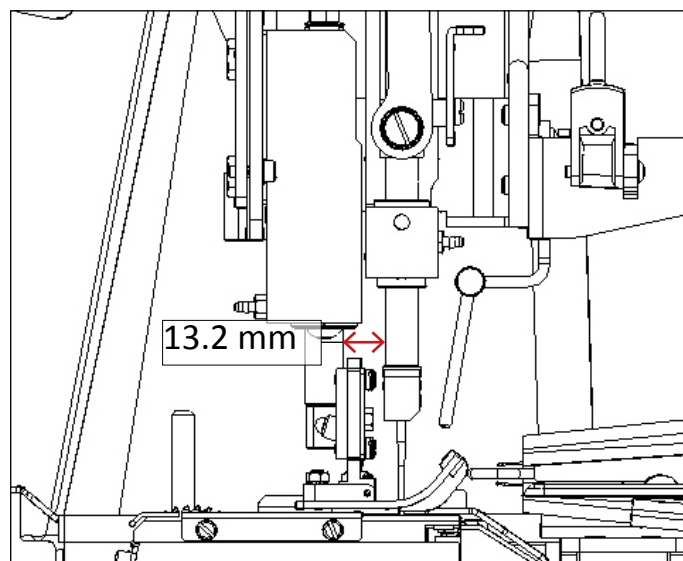
After adjusting the needle bar height, check that the alignment on the needle plate is perfectly parallel between first and last needle.



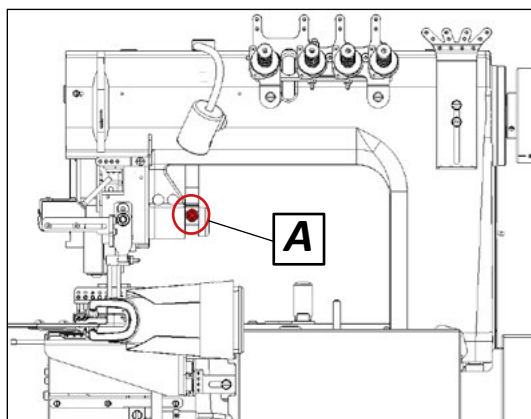
At the end of all re tighten the grub screw and re position the external safety screw.

15.3- Needle bar translation adjustment

The distance between the needle bar and the presser foot bar must be of 13,2 mm with needle bar in lower dead position.

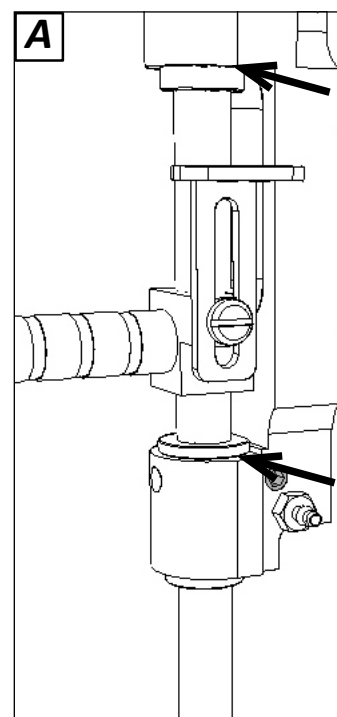


To adjust this distance loosen the screw A position the needle bar at 13,2 mm from the presser foot bar and re tighten the screw.



15.4- Needle bar lubrication

The needle bar lubrication can be regulated from the 2 grab screws (as image A), tightening the screws will reduce the lubrication an loosening the screws will increase it.



15.5- Needle bar translation



Always adjust the needle bar movement on the basis of the selected stitch length. To do so press button stitch length button (image A) on the upper part of the head and turn the hand wheel.

When button A is pressed down:

- Turning the hand wheel towards the operator (anticlockwise) will increase the translation
- Turning the hand wheel towards the operator (clockwise) will decrease the translation.

Release the button once adjusted.

To verify:

Lift puller.

Lift presser foot.

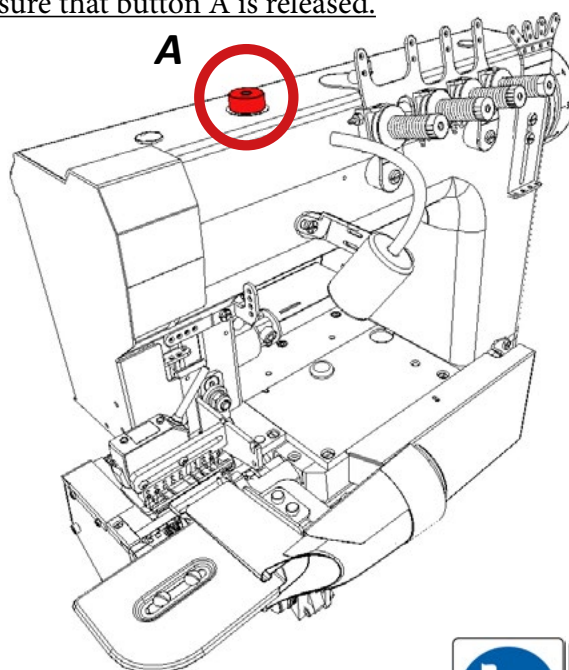
Insert a piece of paper and lower presser foot and puller and rotate the hand wheel in order to check whether the needle perforates the paper perfectly, or, whether it is ripped (elliptic hole).

Adjust the movement length until the hole is perfectly round.

WARNING

Never press button A while the machine is in operation.

Before starting up the machine, make sure that button A is released.

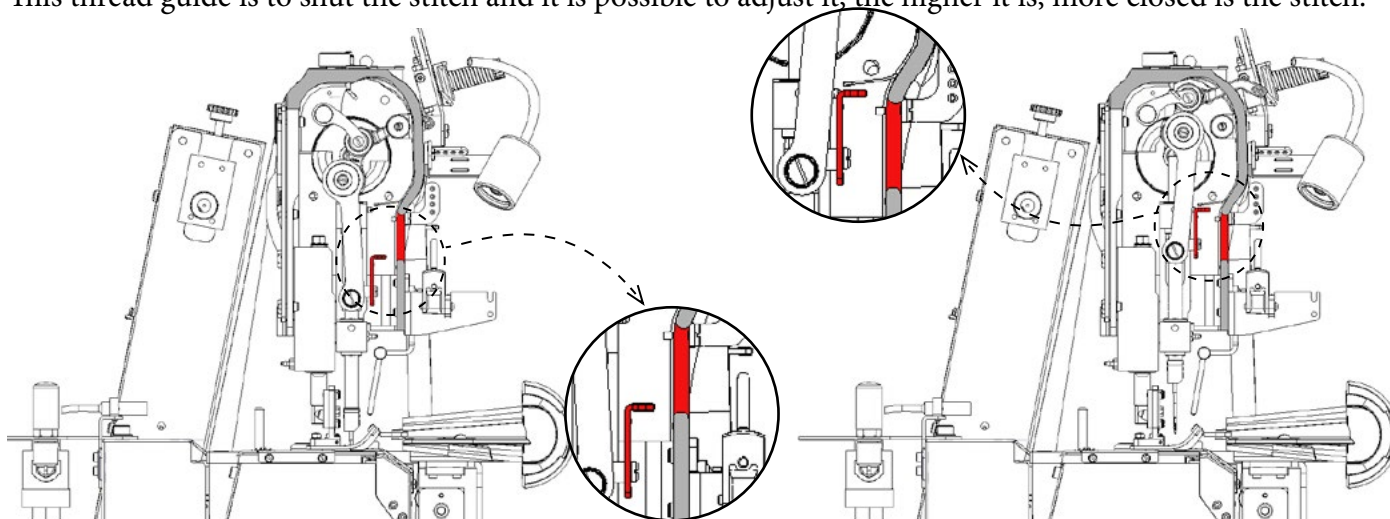


15.6- Needle bar thread guide adjustment

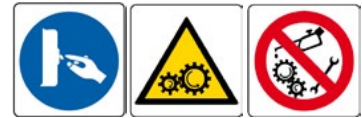


The needle bar thread guide must be adjusted so that when the needle bar is in lower or upper position the thread guide is in line with the casting opening.

This thread guide is to shut the stitch and it is possible to adjust it, the higher it is, more closed is the stitch.



15.7- Meeting point regulation

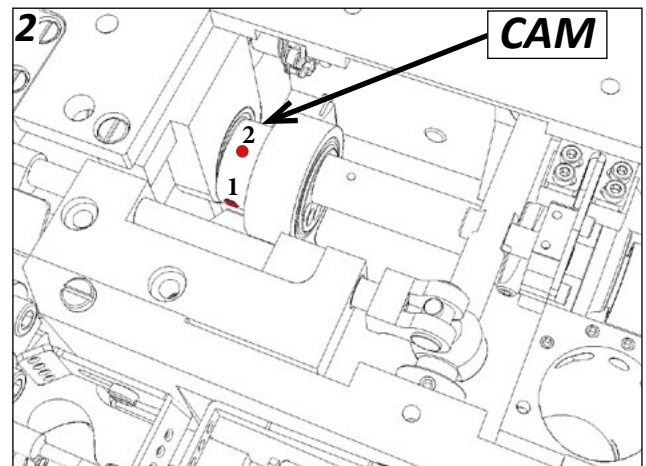
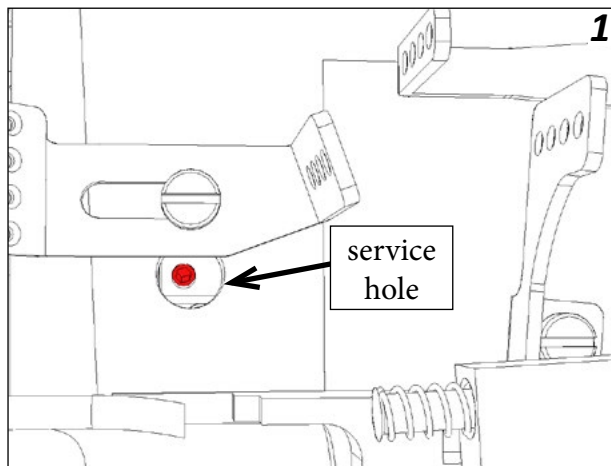


From the cam that has two screws (image2) it's possible to regulate the movement of the looper that must be in synchrony with the needle

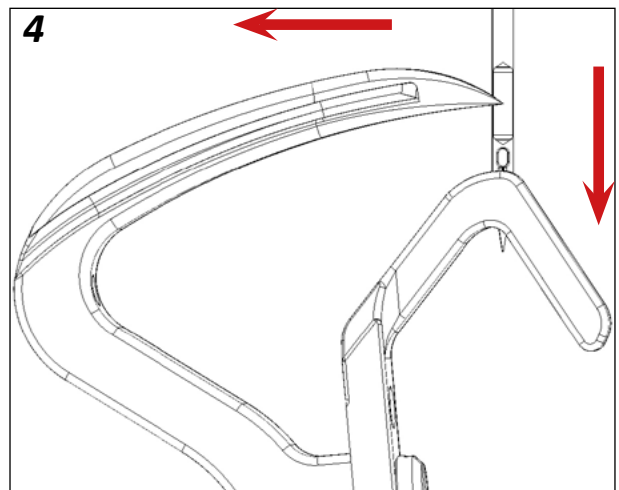
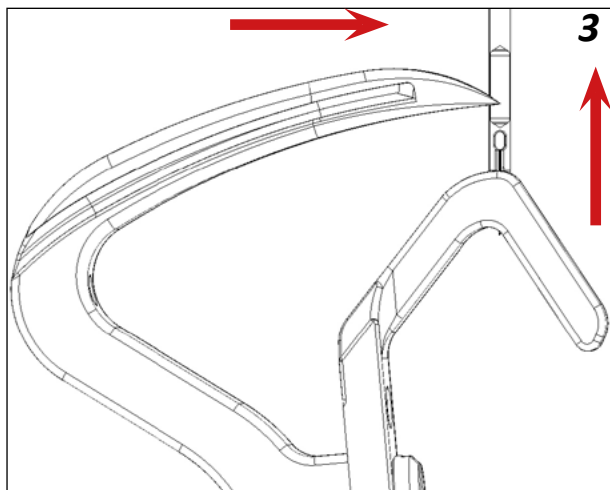
Loosen the screws and position the first so it will be reachable from the service hole (image 1) and position the needle bar in lower dead point. Rotate the cam so that the point of the looper in forward and backward stroke will pass in the middle of the needle (image 3-4)

The cam must be positioned with the second screw in sense of rotation (anti clock wise) in corrspondance with the service hole on the casting.

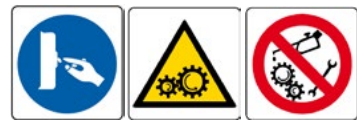
Check the position wit the image under.



In the forward movement of the looper the point must pass under thr middlr of the needle grove (image 3), in the back stroke the point must pass a little higher respect to the center of the needle grove (image 4)

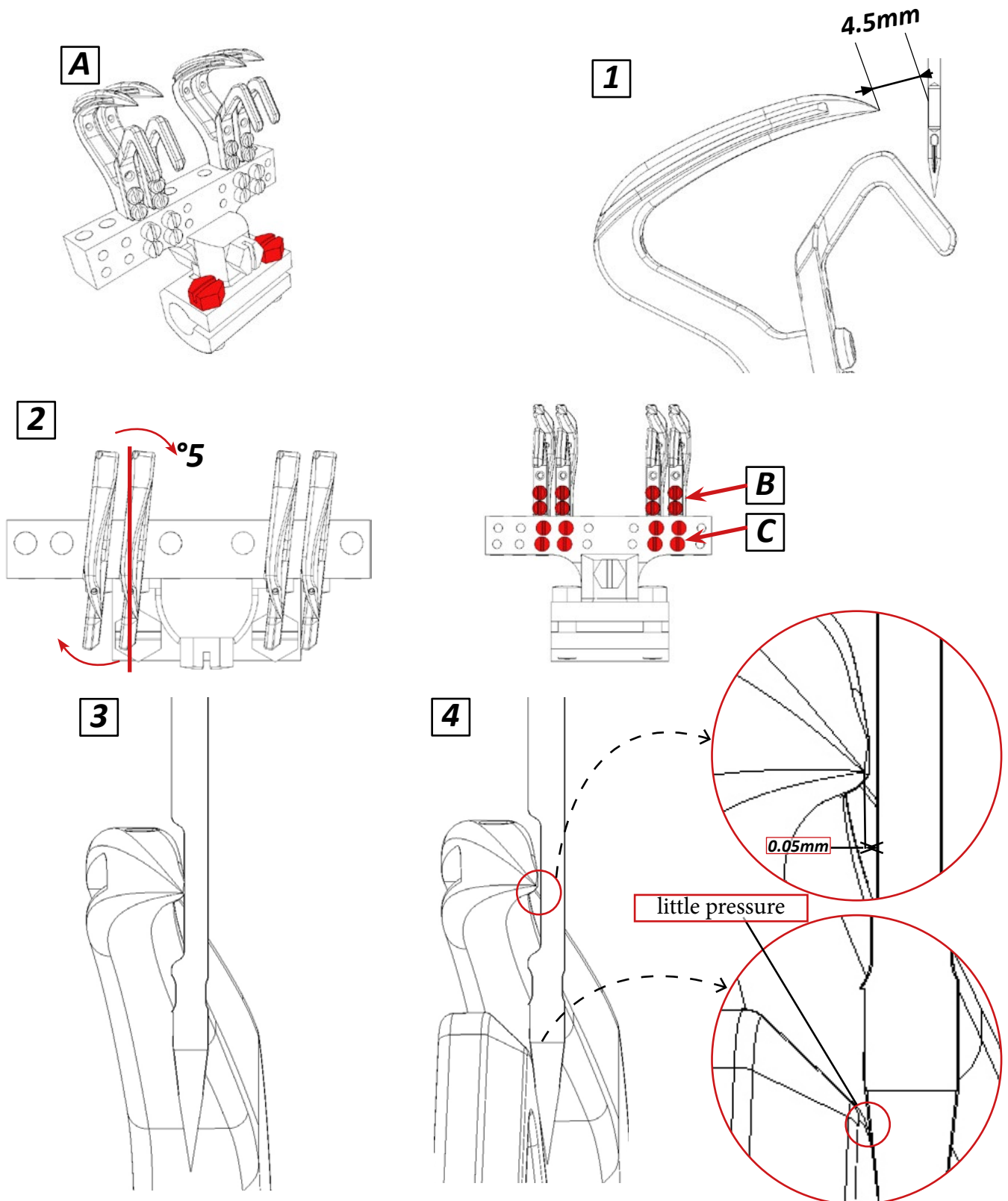


15.8- Regulation looper

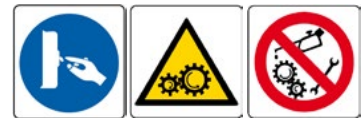


Position the needle bar in lower dead point, loosen the two screws (image A) that fix the looper support to the shaft and check that the distance between the looper point and the needle must be 4,5mm (image 1). Once set fix the screws. Loosen the screws of the looper (image C) and of the needle gard (image B) and rotate the loopers a little in clock wise sense (image 2).

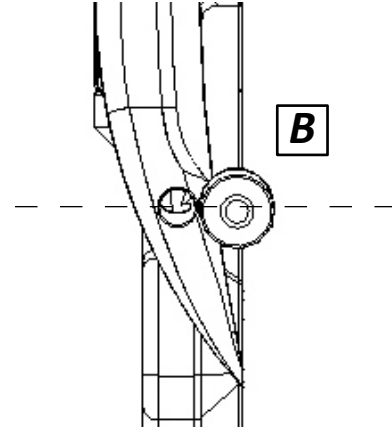
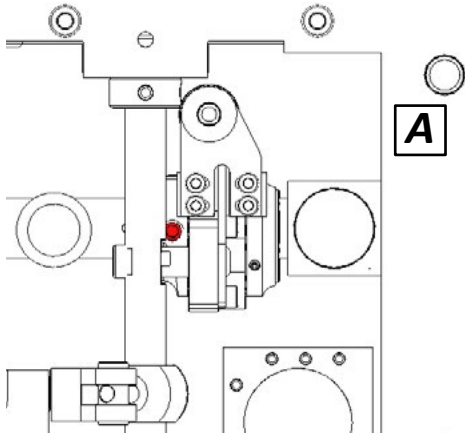
Rotate the hand wheel until the point of the looper arrives in the center of the needle and verify that the point doesn't touch the needle (image 3) then tighten the screws (image C). Position the needle gard so that it slightly touches the needle (image 4) making sure that the distance from the looper and the needle must be around 0,05 mm.



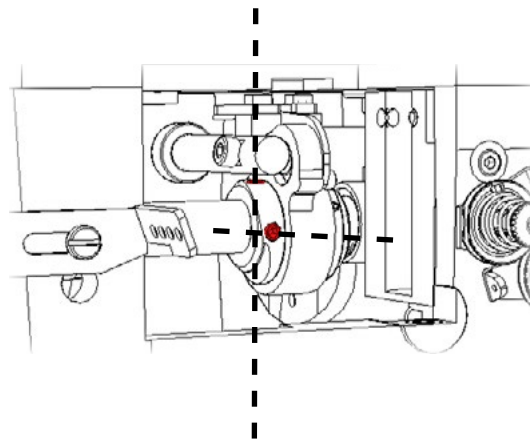
15.9- Regulation of spreader



From the cam (image A) is possible to sincronize the moovement of the spreader with the looper.
Position the needle bar , using the hand wheel so that the needle hole and the looper hole are aligned (image B)



With the needle bar in this position the cam screws must be (as image) one un and one facing the operator.

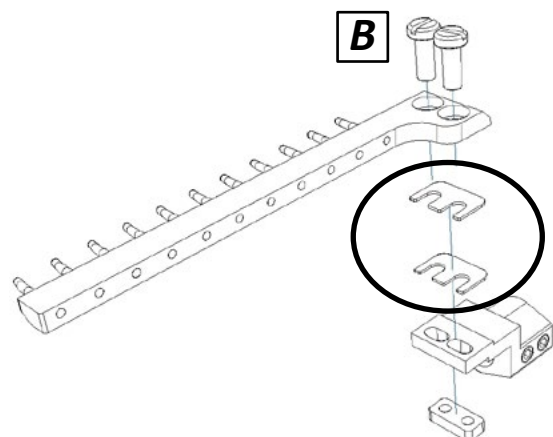
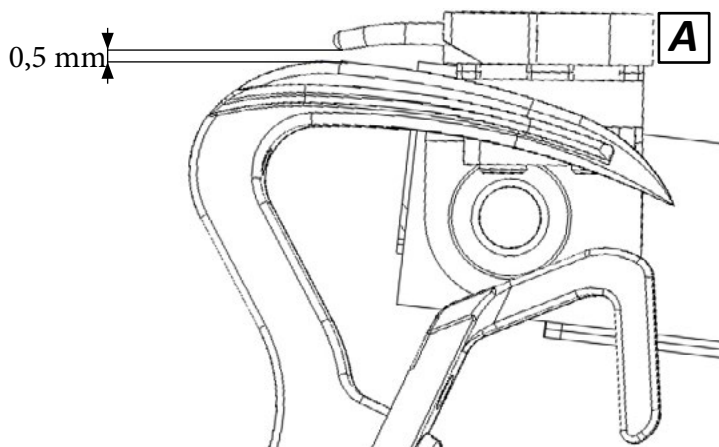


15.10- Spreader height



When the looper is completely forward the distance from the spreader pin and the back of the hook must be 0,5mm (image A)

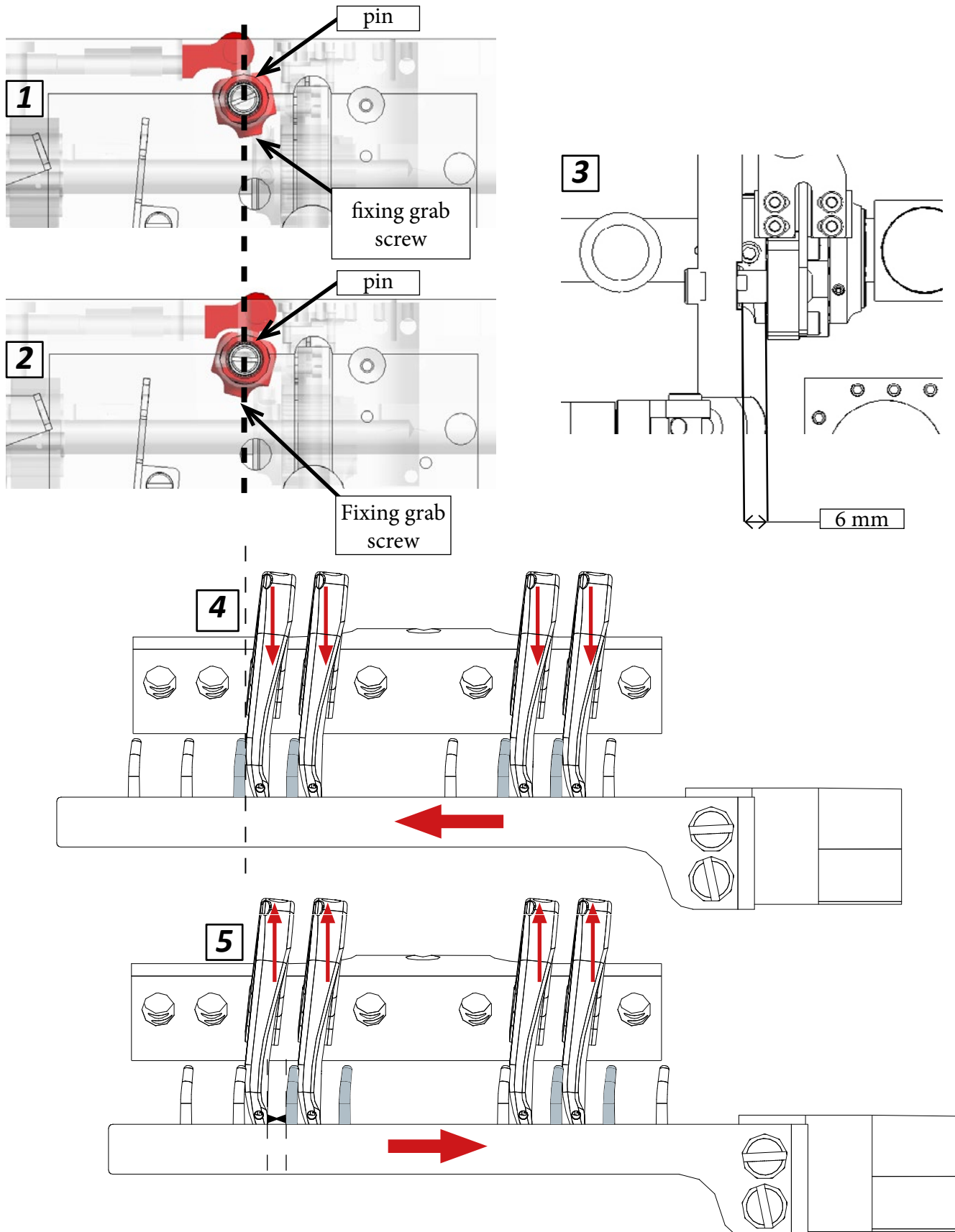
Under the spreader must be positioned 2 spacers (image B)



15.11- Spreader movement



The movement of the pin that makes the spreader move must be the same forward and backwards respect to the axis of the shaft (image 1-2) and can be adjusted from the grab screw that fixes it to the shaft , on the lower part .to acheive the maximum race of the spreader the cam must be positioned at 6mm from the shaft (image3). The correct movement of the spreader is when it's all to the left it must be in the side of the looper (image4) so that when it will go to the right it will have the mazimum race possible to open the thread (image 5).



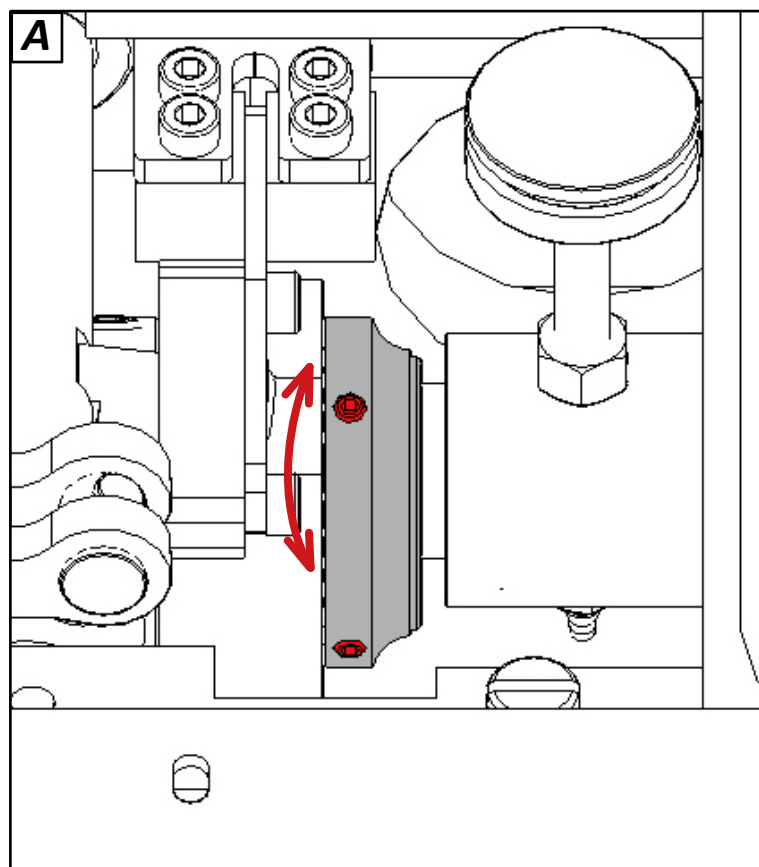
15.12- Spreader play regulation



If the spreader has some play left or right, it's possible to adjust it:

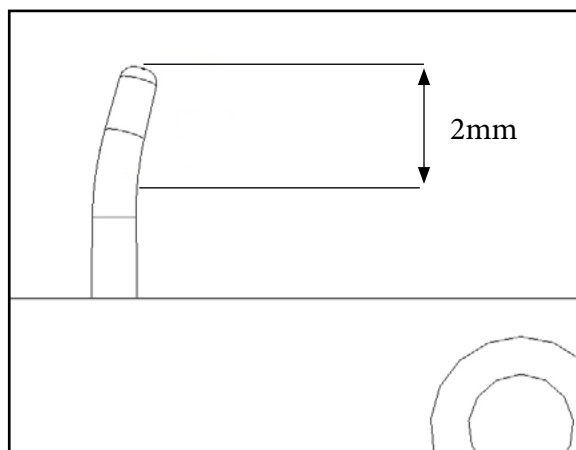
Loosen the 2 grab screws (image A).

Tighten the ring so that the movement of the eccentric is free and there is the least play possible.



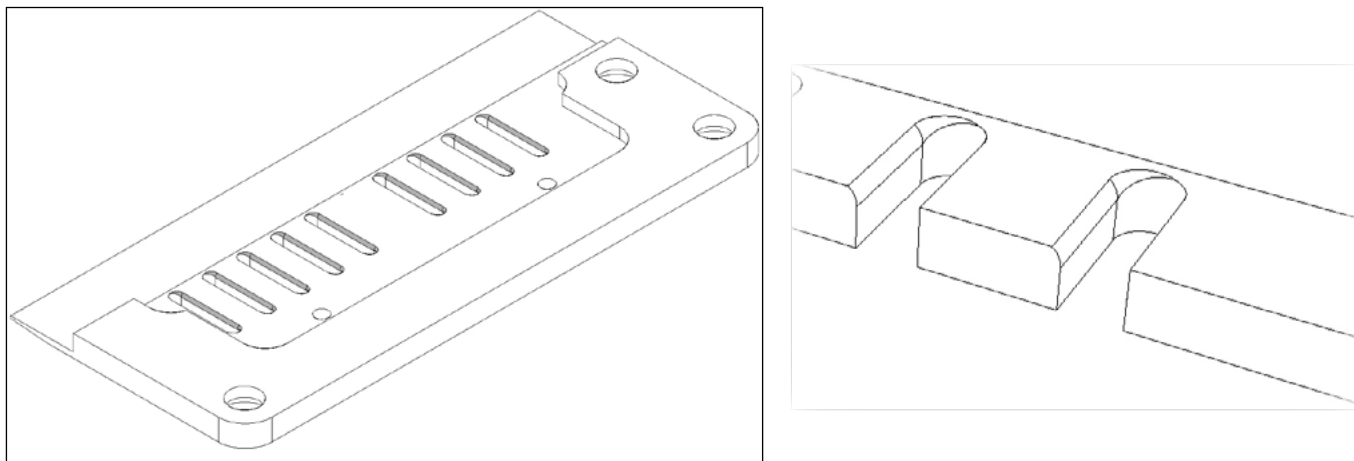
15.13- Spreader pin position

The end of the pins should be bent slightly to the right (2 mm) in order to prevent the thread from slipping.



15.14- Needle Plate

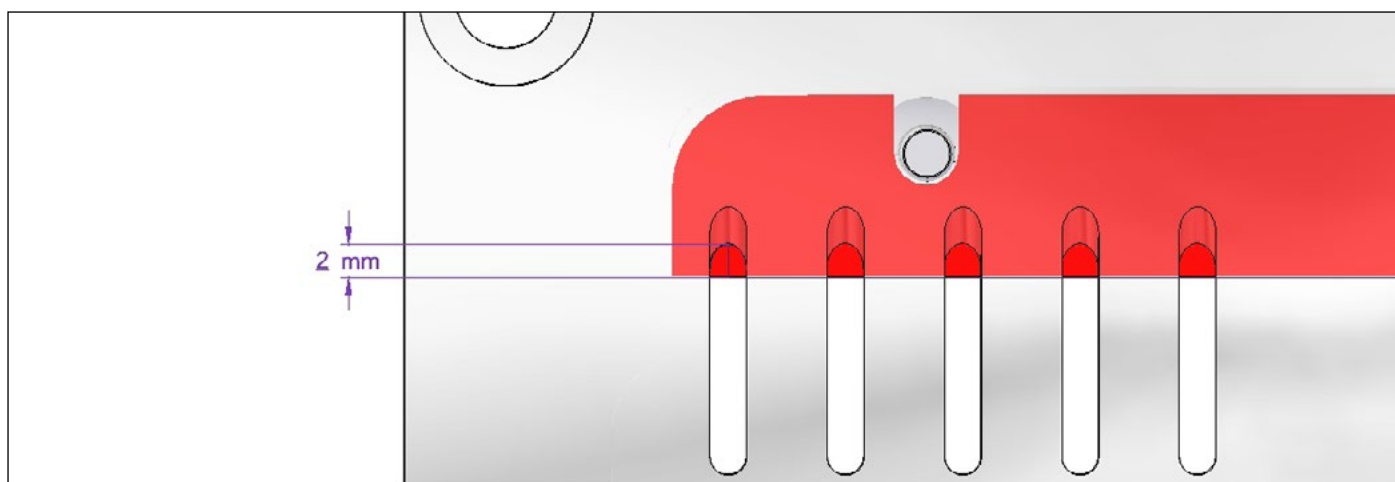
To help the opening of the triangle, on the lower side, the needle plate on the under right side is a little slanted (see lower image).



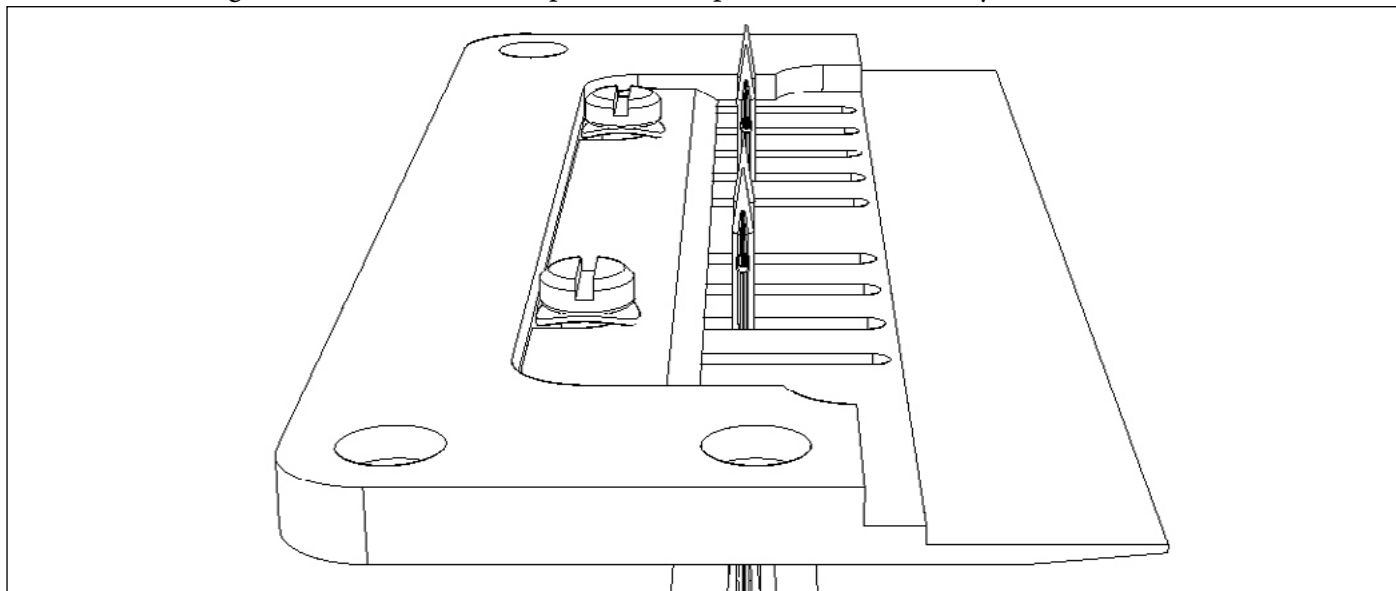
This operation is usually made by hand with sand paper to increase the opening of the triangle little more

15.15- Needle plate thread cutting blade regulation

The thread cutting blade under the needle plat must be regulated so that the blade will overcome the eyelet for 2 mm.



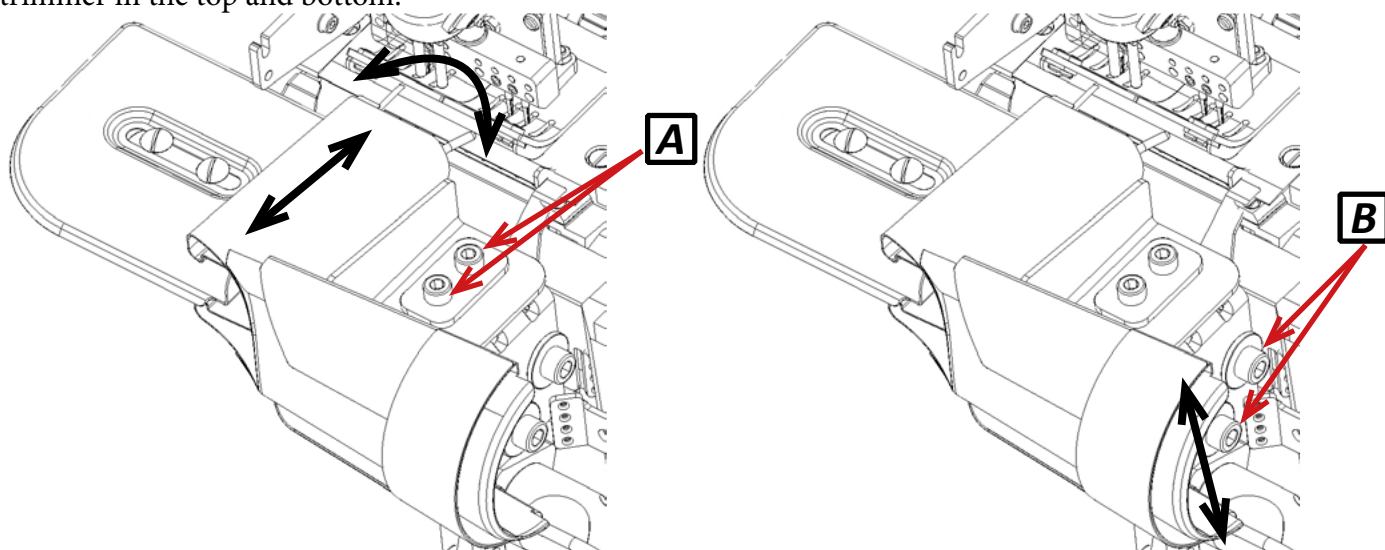
The thread cutting blade under the needle plat must be positioned in this way.



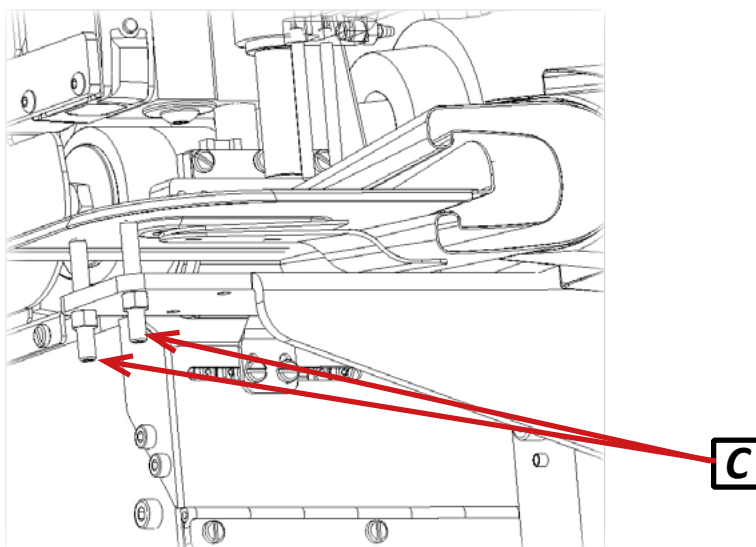
15.16- Folder regulation

You must first select the “AUTO” display, this will activate the “MANUAL” function.

Loosen the screw A to adjust the trimmer forward, backward, left and right. Loosen screw B to adjust the trimmer in the top and bottom.



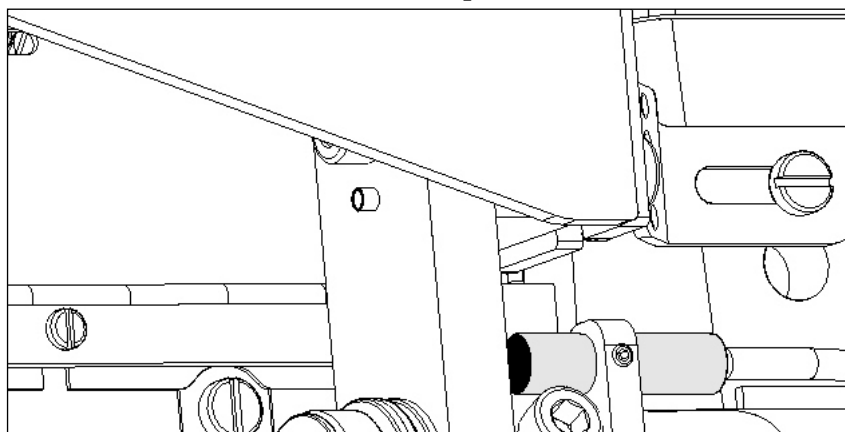
Once the folder is centred correctly, adjust screws C so that the folder surface will be nice and firm.



15.17- Folder sensor regulation

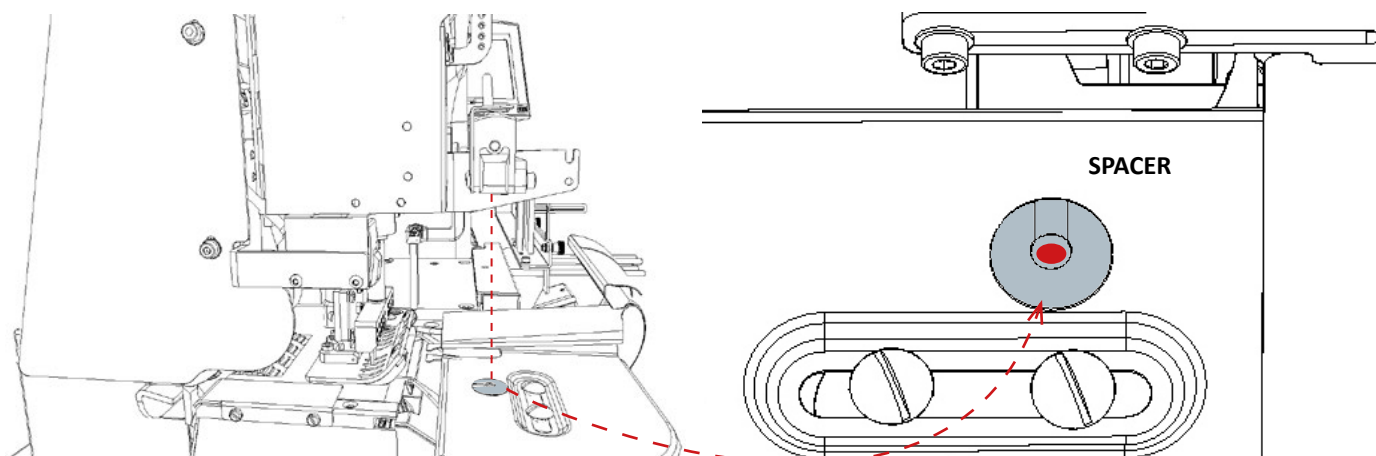
The folder sensor must be adjusted so that when the folder holder is all forward (working position) the sensor is NOT reading and as soon as the folder is moved out of position it will be reading.

When the folder is not in correct position on the screen will appear a message **FOLDER OPEN**, when this message will appear machine will stop, to reactivate it or re position the folder in correct position or it is possible to back pedal and the machine will sew without skip stitch or cut.



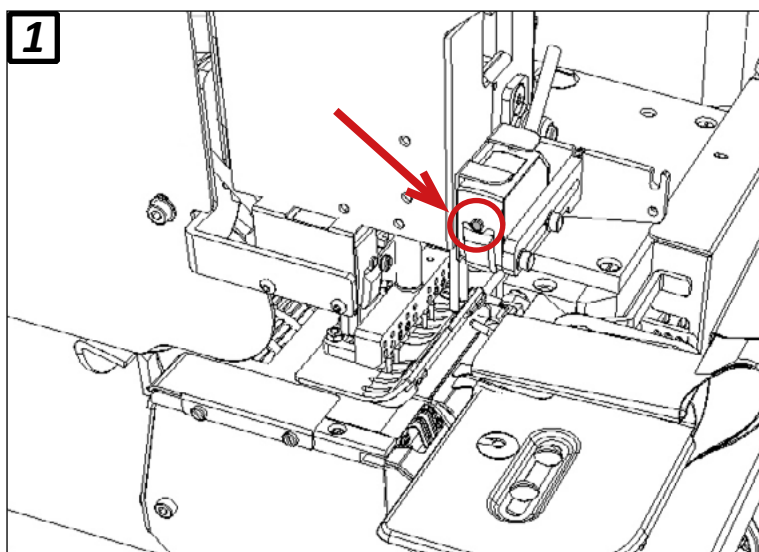
15.18- Photocell centring

Apply the spacer with LOCTITE 243 and verify that the hole is perfectly in the center of the red light of the photocell and that the milling is positioned towards the needlessly the hole will remain clean.

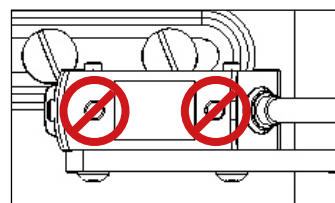


15.19- Skip stitch photocell regulation

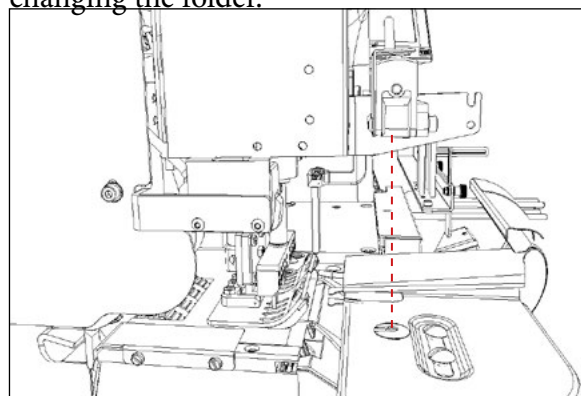
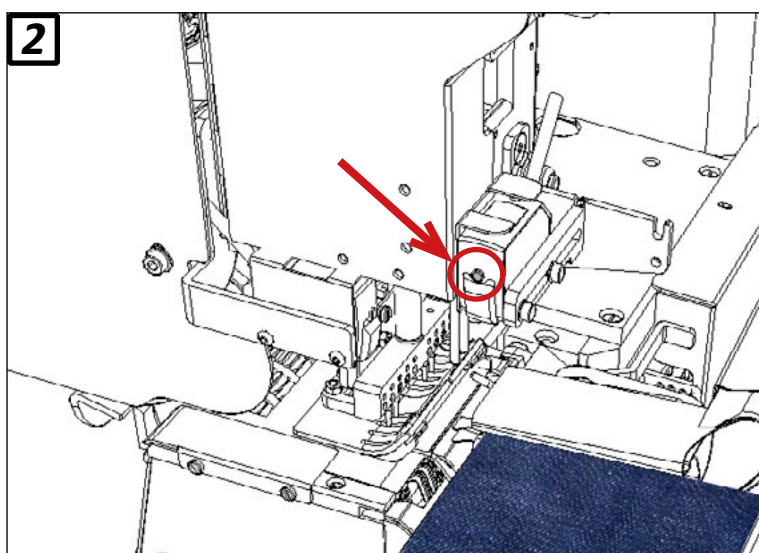
Press the front button (picture 1) once, place a single layer of fabric over the spacer, stretch it and press the front button of the photocell (picture 2) again. If this adjustment is made correctly, on the display must appear 0 with a maximum tolerance of ± 1 mm.



The 2 top buttons of the photocell must never be touched

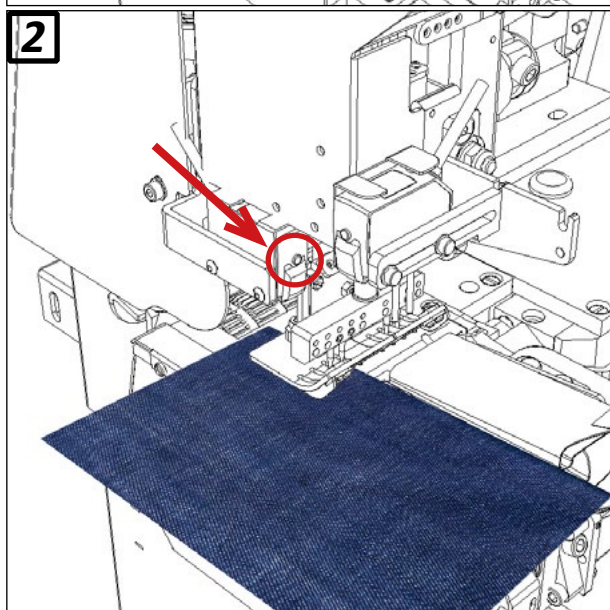
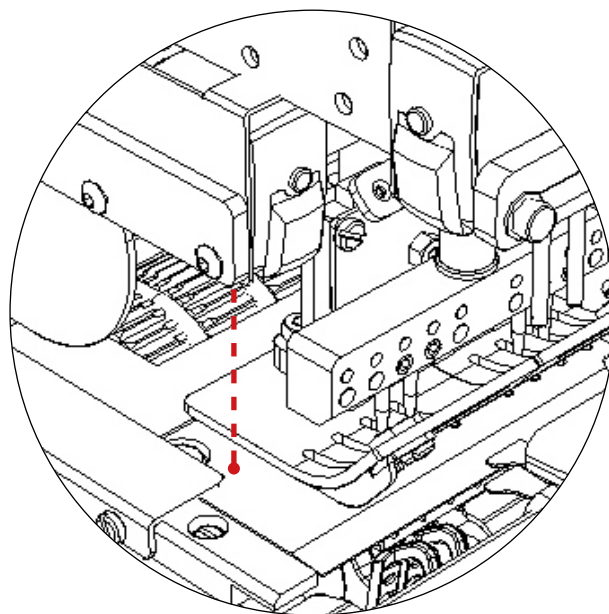
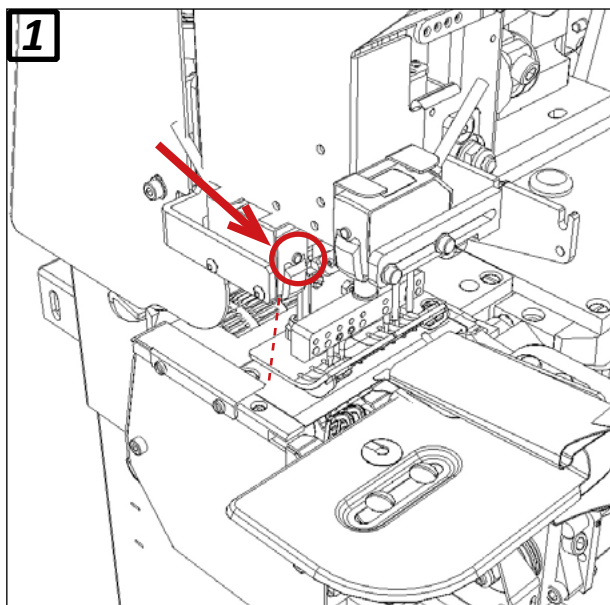


The photocell is working detecting the distance from the folder and not the colour of the fabric so it is not needed to adjust the photocell when changing the fabric, the photocell must be adjusted only when changing the folder.

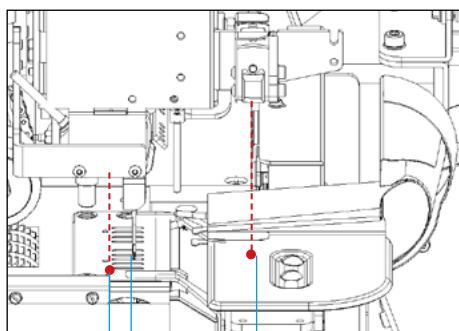


15.20- Photocell centring di STOP

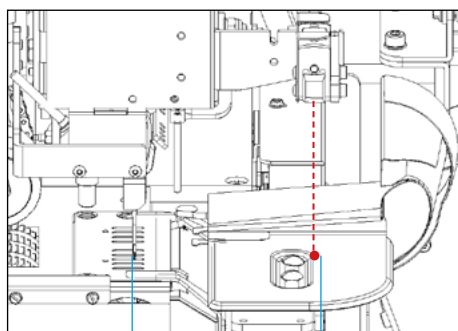
The photocell must be adjusted so that it will read on the side of the plate (image 1). Press the front button (image 2) once and position one layer of fabric nice and flat under the photocell and press again the button. If the operation is done successfully on the display must appear 0 with a maximum tolerance of ± 1 mm.



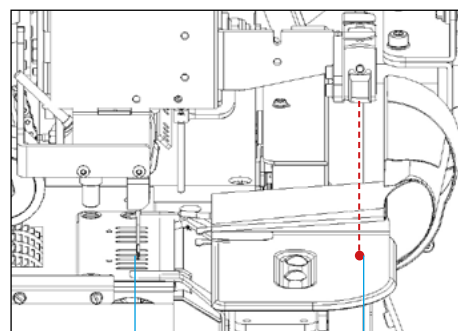
BASIC PHOTOCELL MEASURE FROM NEEDLE



17 mm 52 mm

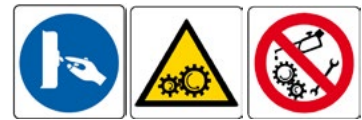


80 mm



99 mm

15.21- Regulation needle bar translation

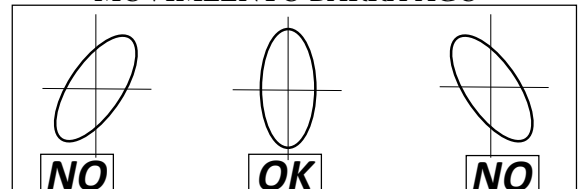


The needle bar translation must be adjusted by the eccentric. The purpose of the eccentric is to synchronize the movements on the needles with the fabric.

To adjust correctly the eccentric:

- slightly tighten the grab screw (image 1) and leave the other one loose
- press the button to regulate the stitch length (image 2)
- rotate the hand wheel anti clockwise till end stroke
- loosen the grab screw that previously was slightly tighten (image 1)
- rotate the hand wheel anti clockwise until the 0 will be in correspondence of the screw (image 3)
- at this point fix both grab screws

MOVIMENTO BARRA AGO

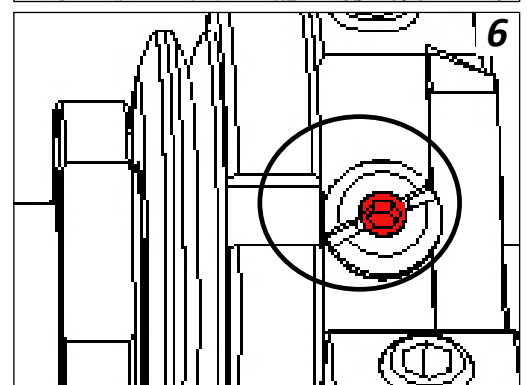
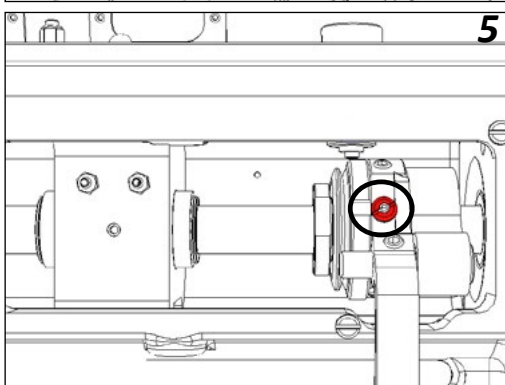
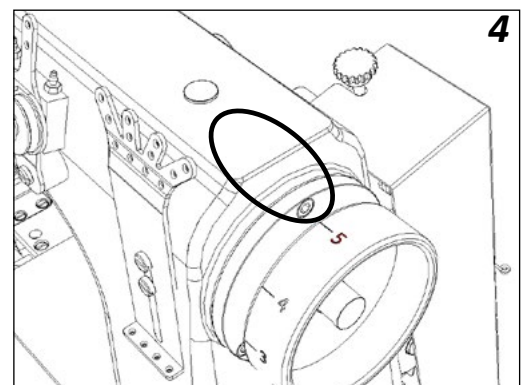
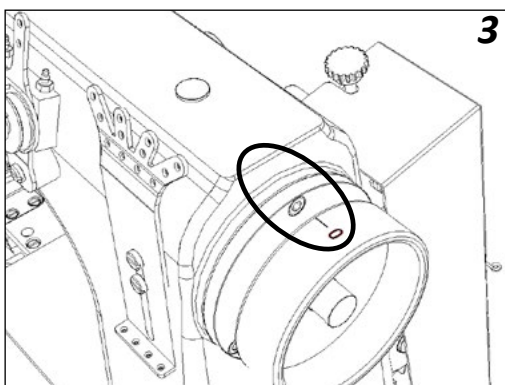
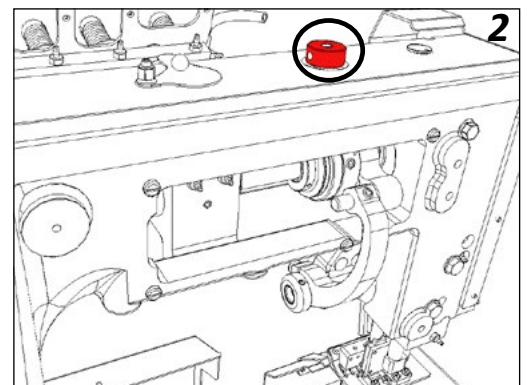
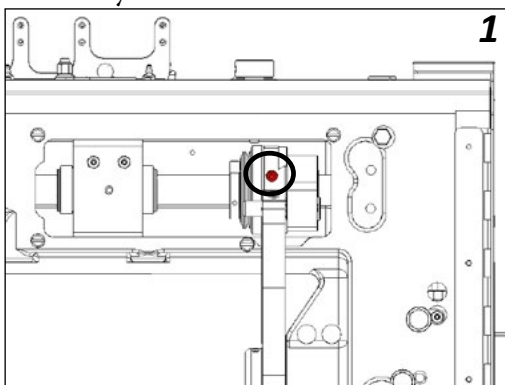


15.22- Regulation needle bar translation end stroke

Press the button to adjust the stitch length (image 2) and rotate the hand wheel until the number 5 is in correspondence with the screw (image 4).

at this point tighten the screw (image 5) against the eccentric, then press the button to adjust the stitch length (image 2) and rotate the hand wheel until the 0 is in correspondence with the screw (image 3), adjust the needle feeding as desired.

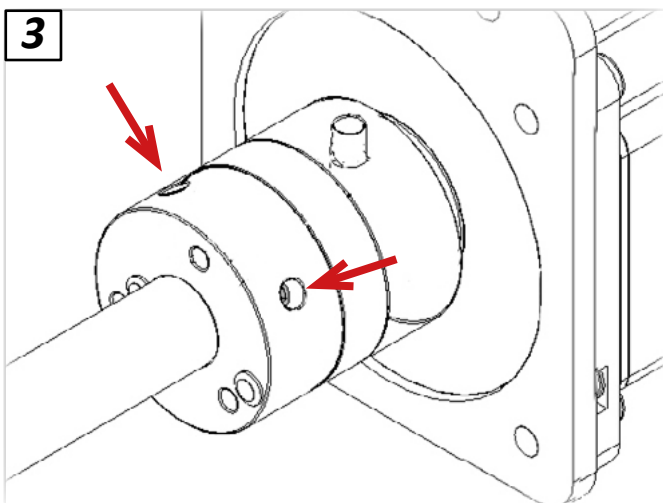
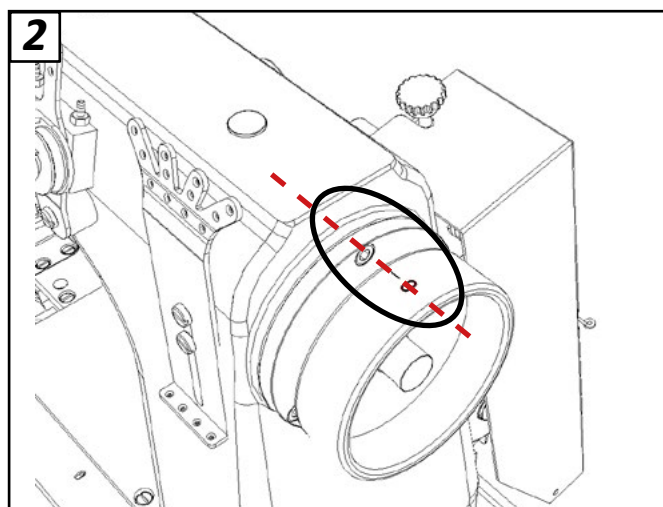
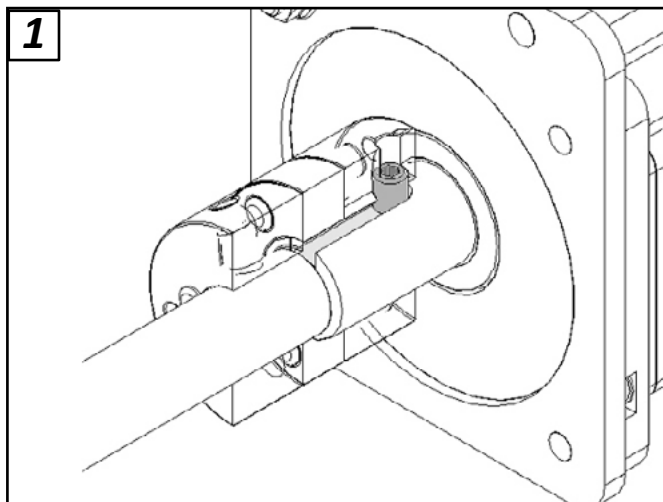
Fix firmly the screws.



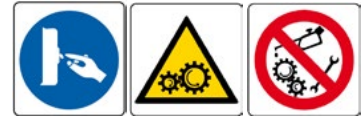
15.23- Motor regulation



1. Fix the first screw of the coupling in rotation sense, in the motor shaft grove (image 1).
2. Tighten the second one, leaving the screws of the sewing machine shaft loose.
3. Turn on the unit, at this point the motor will do a complete rotation.
4. Back pedal so it will position in needle high position.
5. Position the 0 on the hand wheel in correspondence with the screw (image 2).
6. Tighten the screw on the sewing head shaft (image 3).

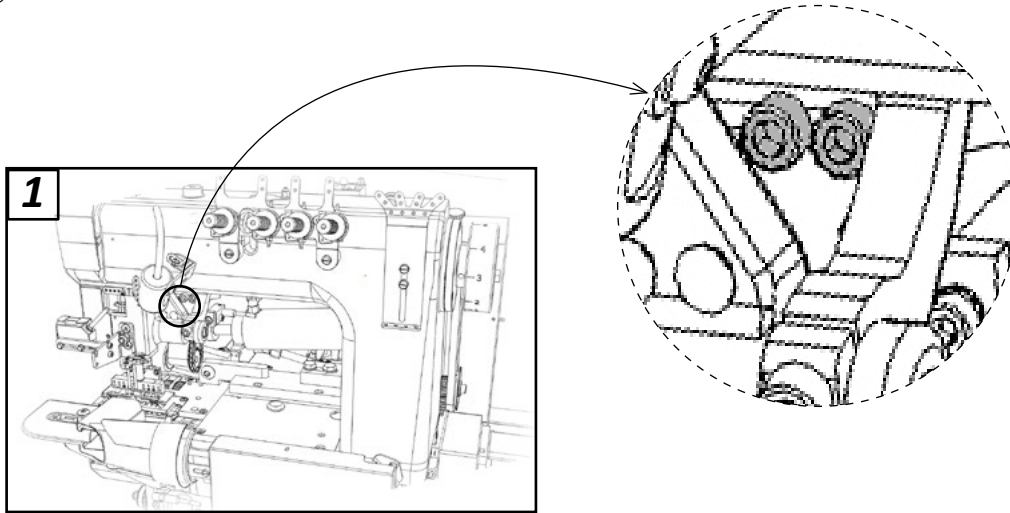


15.24- Puller regulation

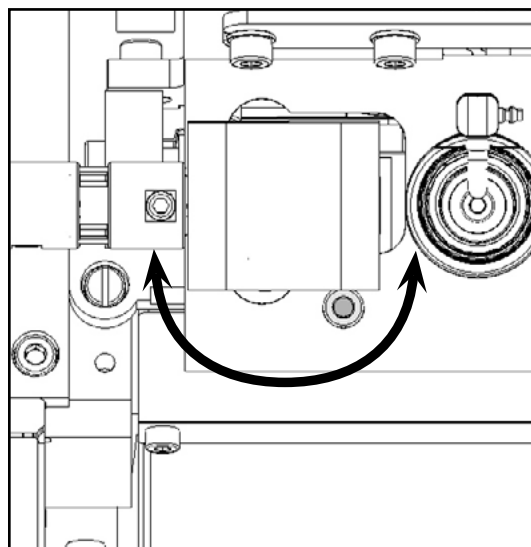
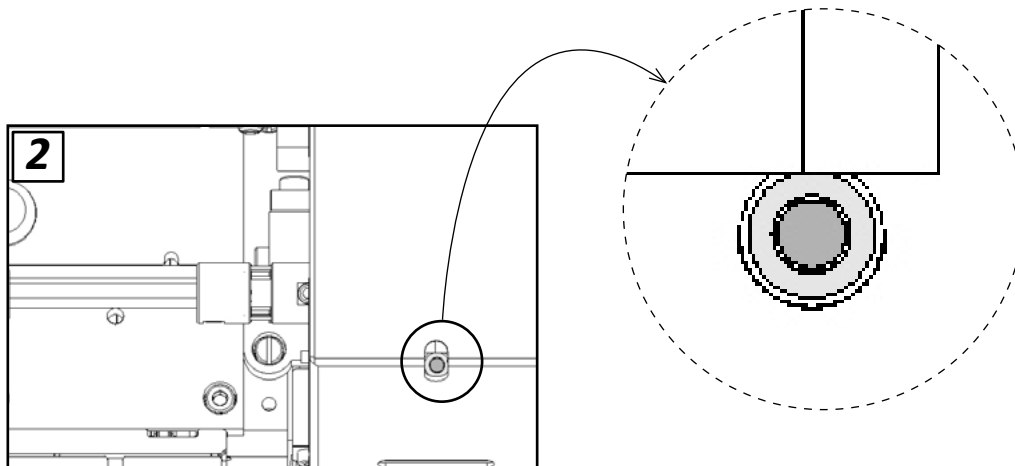


The puller device can be regulated to the right or left to obtain more or less curve on the waist band and rotated in case of a very curved waist band.

To adjust the puller right or left loosen the 2 screws (image 1) and move the puller to the desired position and tight again the screws.



To rotate the puller loosen the screws as (image 2) and rotate the puller as desired and tighten once adjusted.



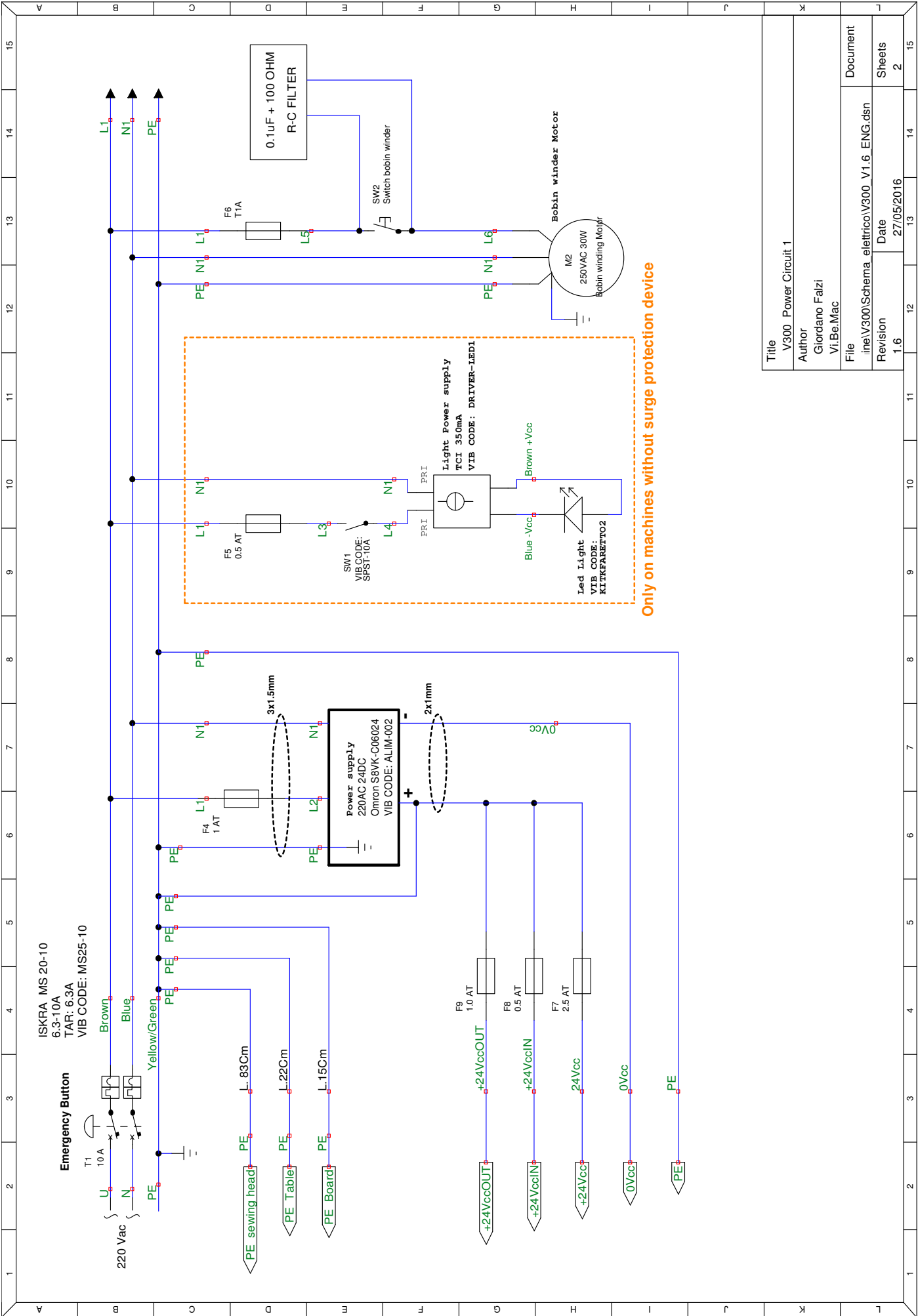
16. ELECTRICAL DIAGRAM

Electrical diagram V300



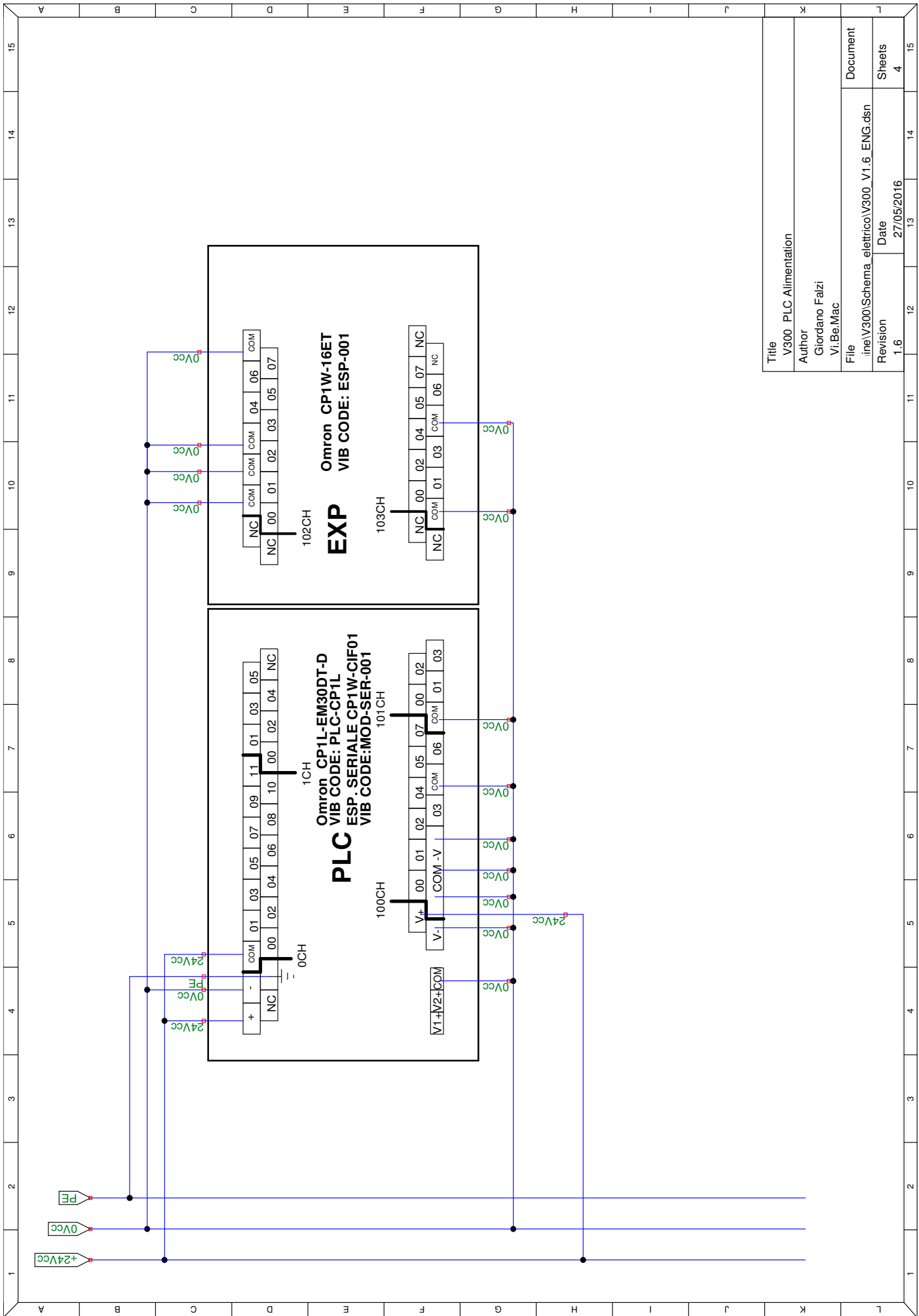
Vi.Be.Mac.

Title	Schema elettrico V300		
Author	Giordano Faizi Vi.Be.Mac		
File	line\V300\Schema_elettrico\V300_V1.6_ENG.dsn		
Revision	Date	Document	Sheets
1.6	27/05/2016		1

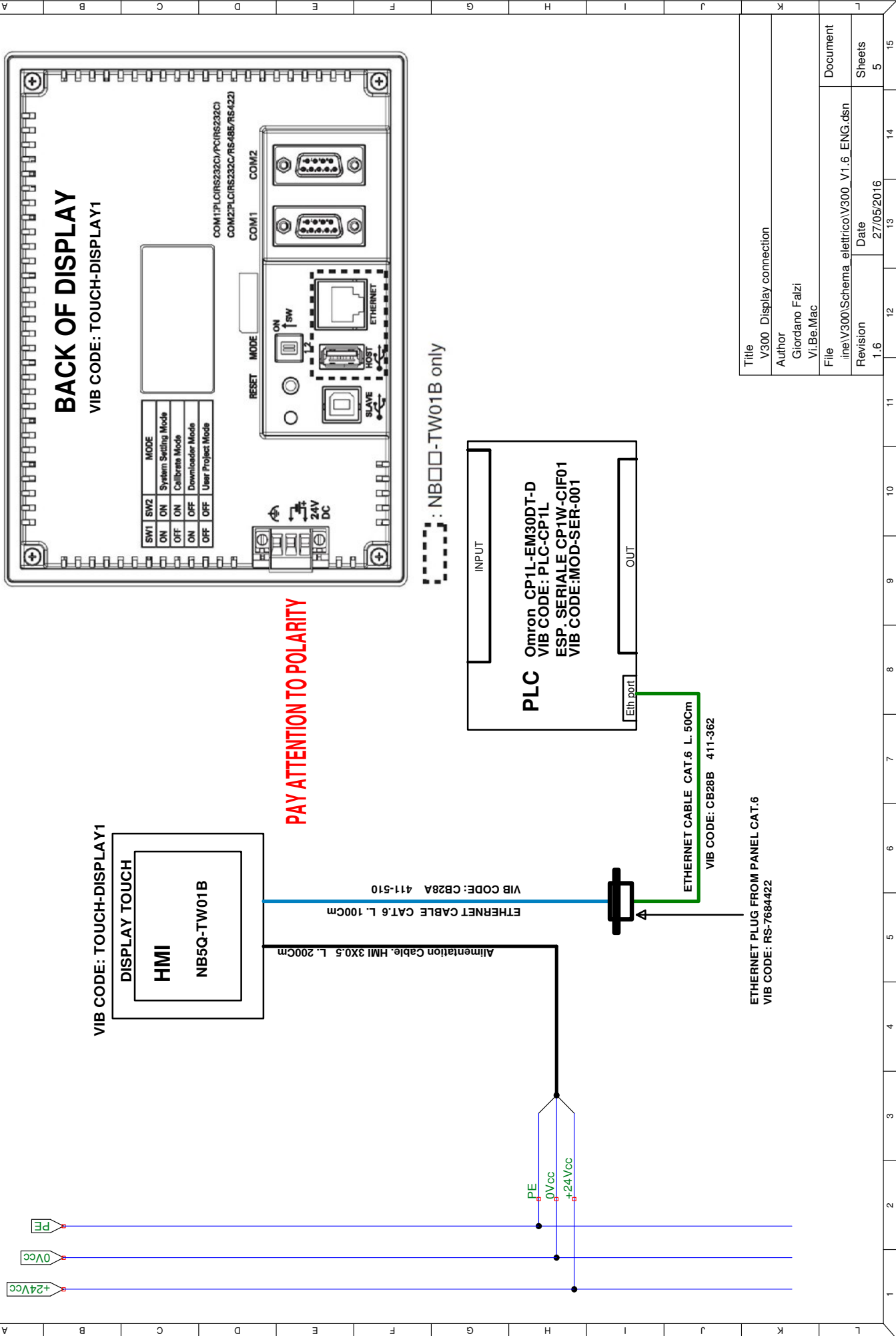


Only on machines without surge protection device

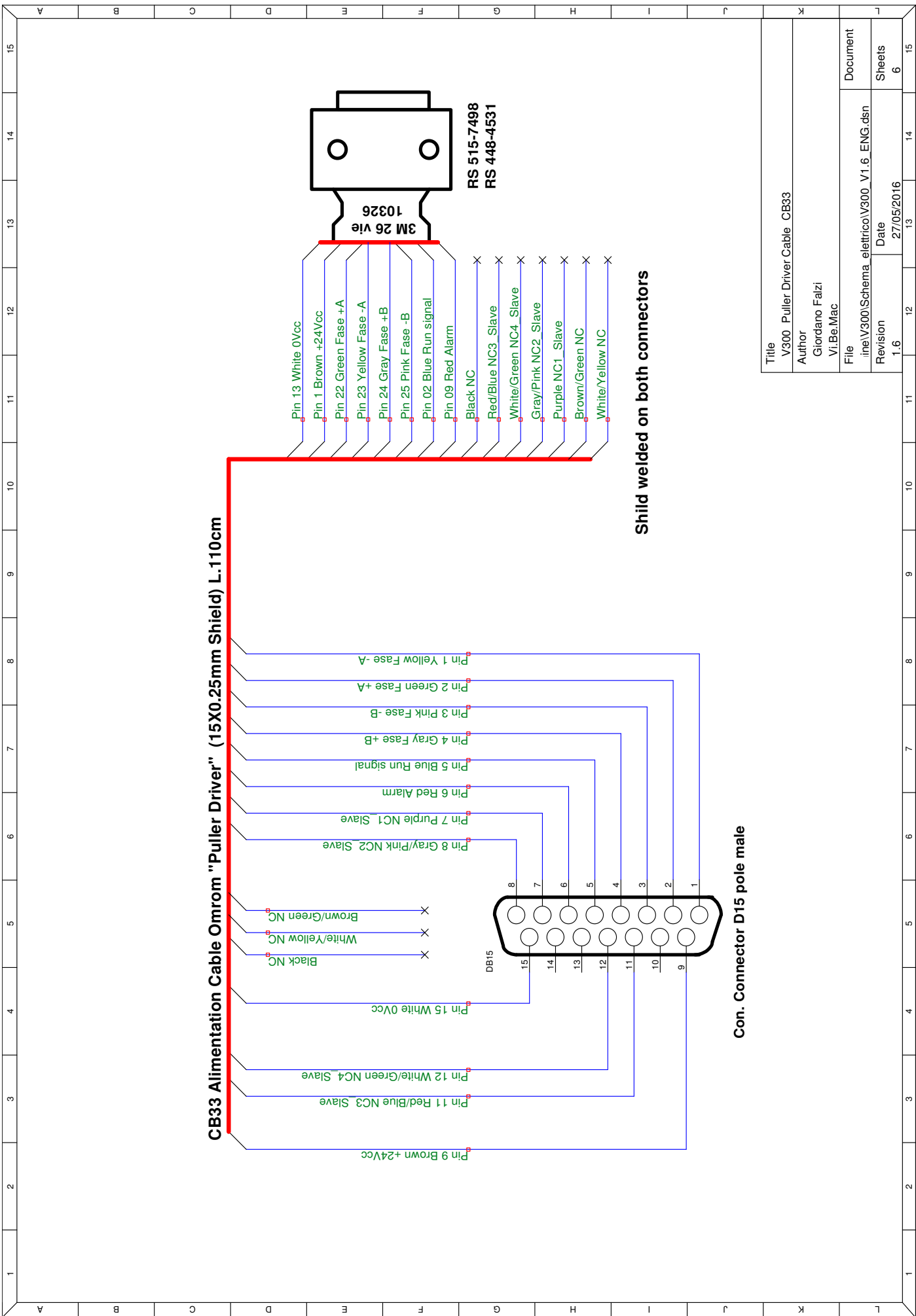
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Author	Giordano Falzi
File	ine\V300\Schema_elettrico\V300_V1.6_ENG.dsn
Revision	1.6
Date	27/05/2016
Document	Sheets 2



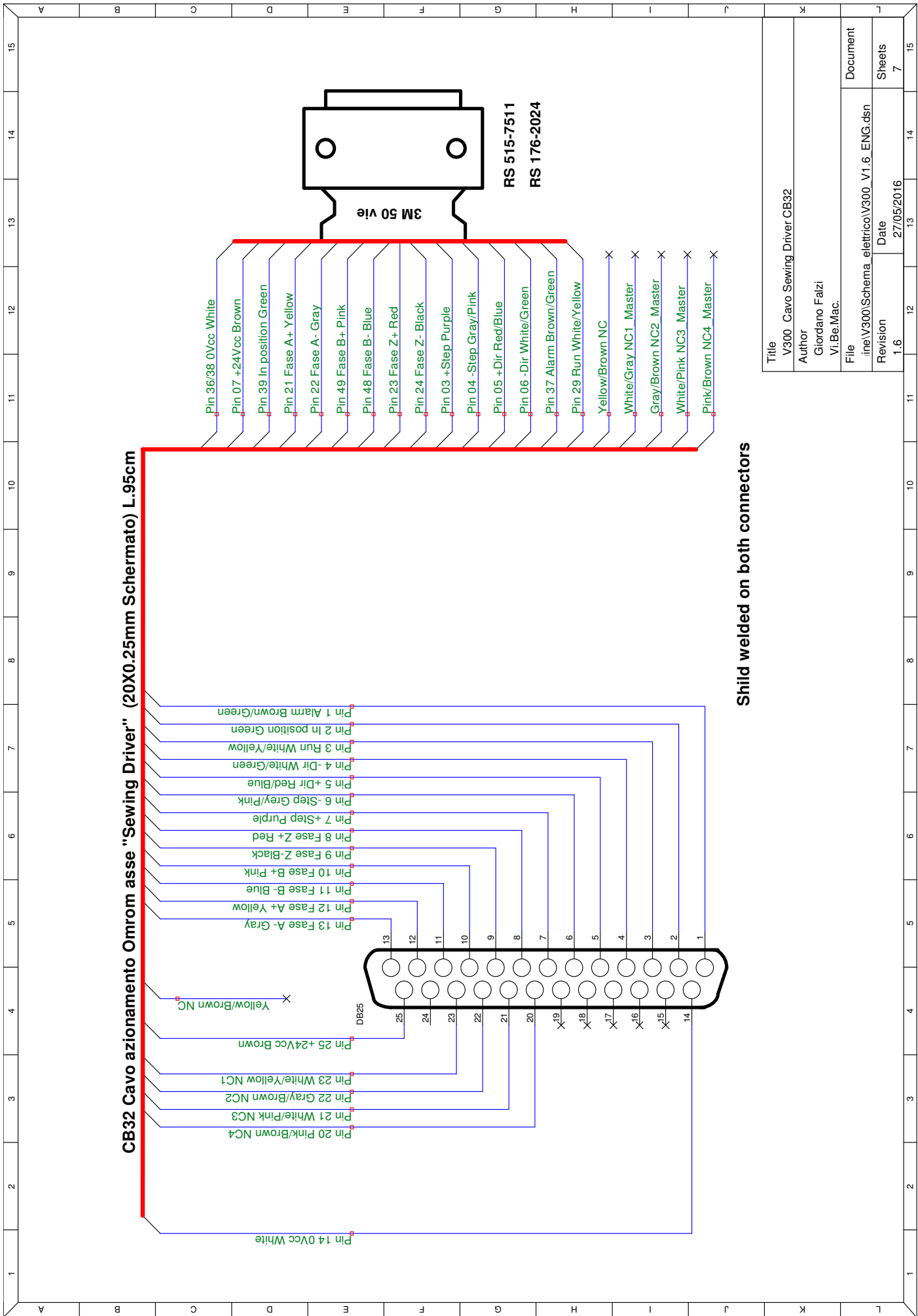
Title	V300 PLC Alimentation
Author	Giordano Falzi
File	ine\V300\Schema_elettrico\V300_V1.6_ENG.dsn
Revision	1.6
Date	27/05/2016
Document	Document
Sheets	4



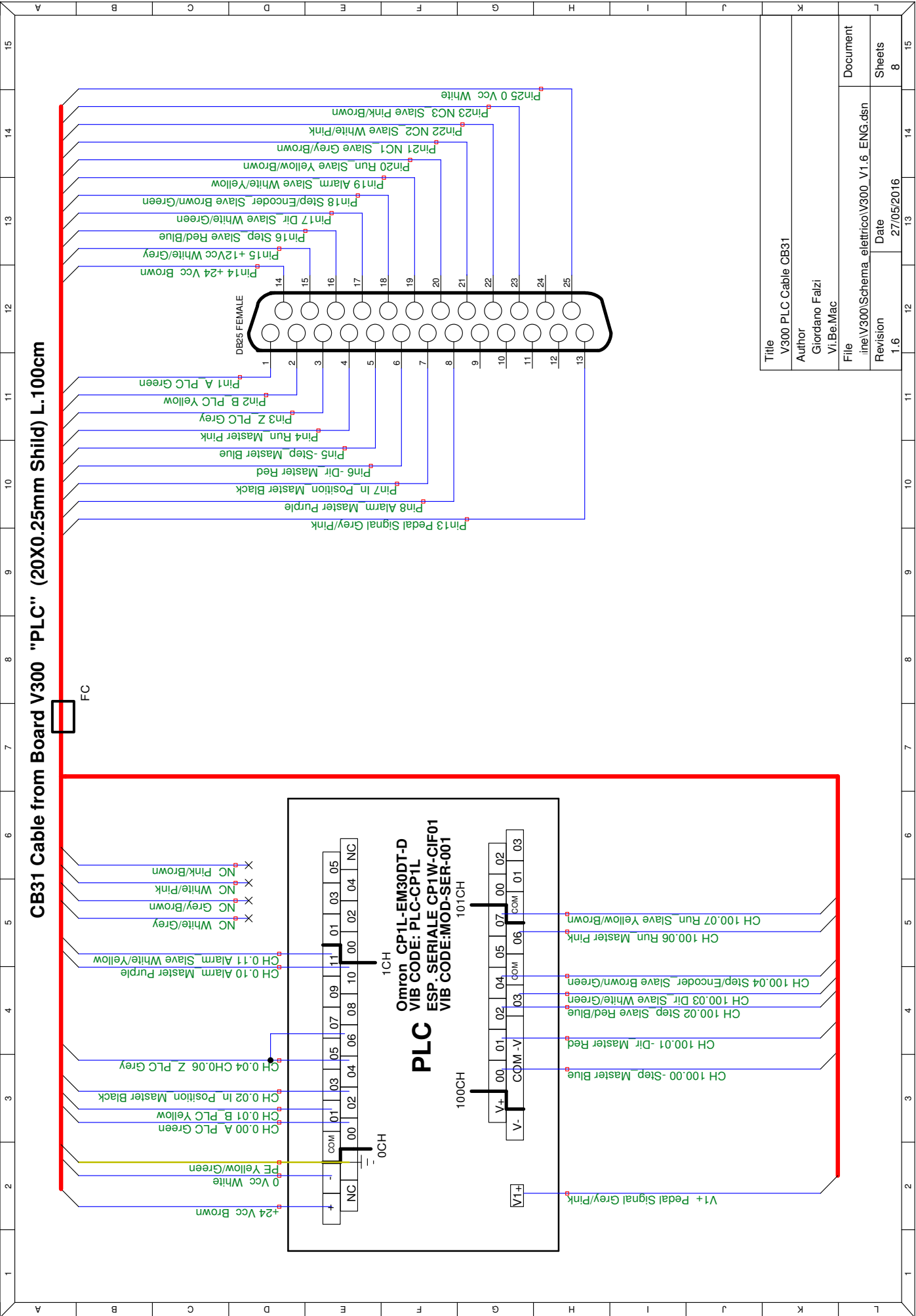
Title	V300 Display connection
Author	Giordano Falzi Vi.Be.Mac
File	ine\V300\Schema_elettrico\V300_V1.6_ENG.dsn
Revision	1.6
Date	27/05/2016
Document	Document
Sheets	5



Title	V300 Puller Driver Cable CB33
Author	Giordano Falzi Vi.Be.Mac
File	ine\V300\Schema_elettrico\V300_V1.6_ENG.dsn
Revision	1.6
Date	27/05/2016
Document	Sheets
	6



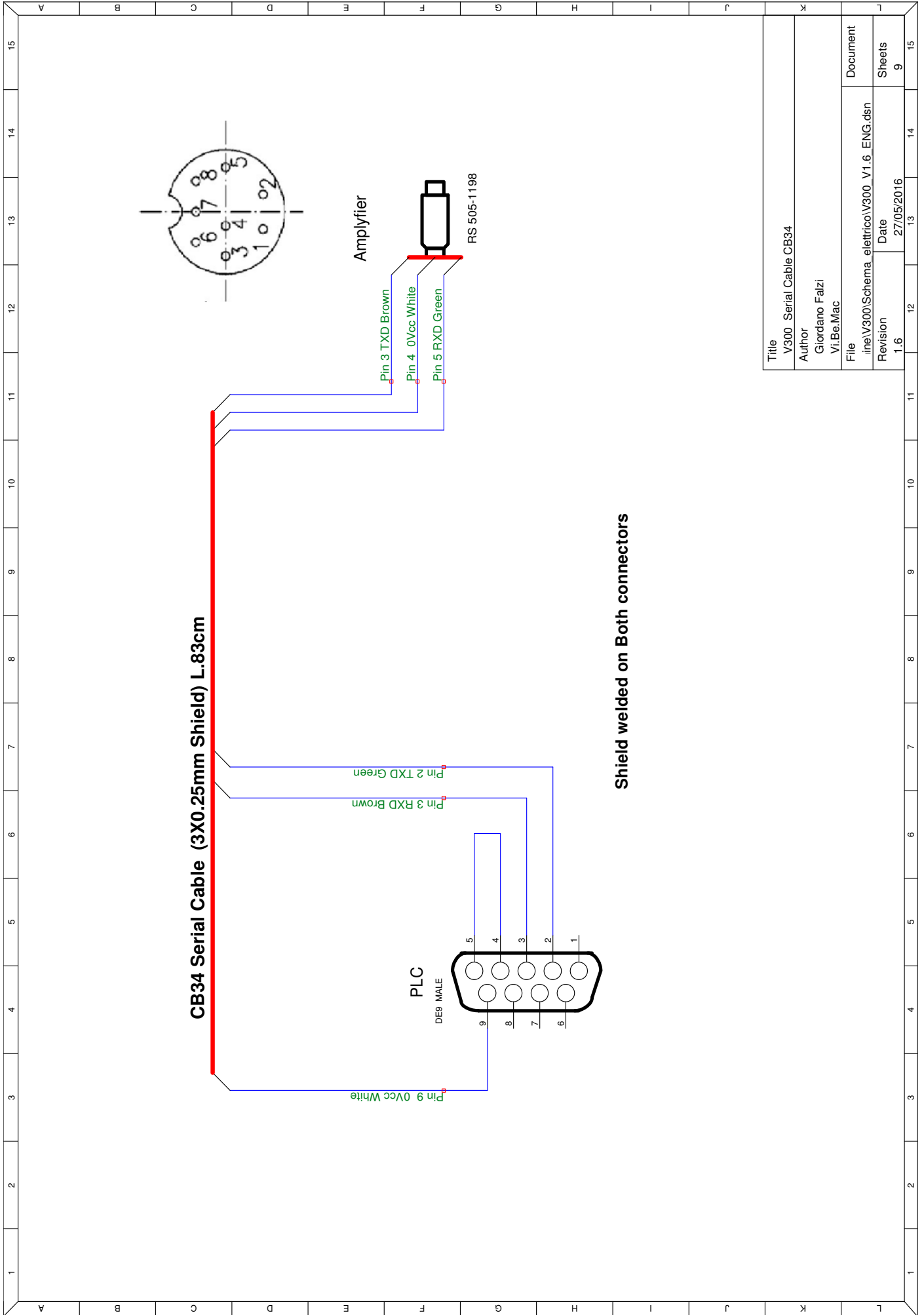
Title	V300 Cavo Sewing Driver CB32
Author	Giordano Falzi Vi.Be.Mac.
File	ine\300\Schema_elettrico\V300_V1.6_ENG.dsn
Revision	1.6
Date	27/05/2016
Document	7
Sheets	7



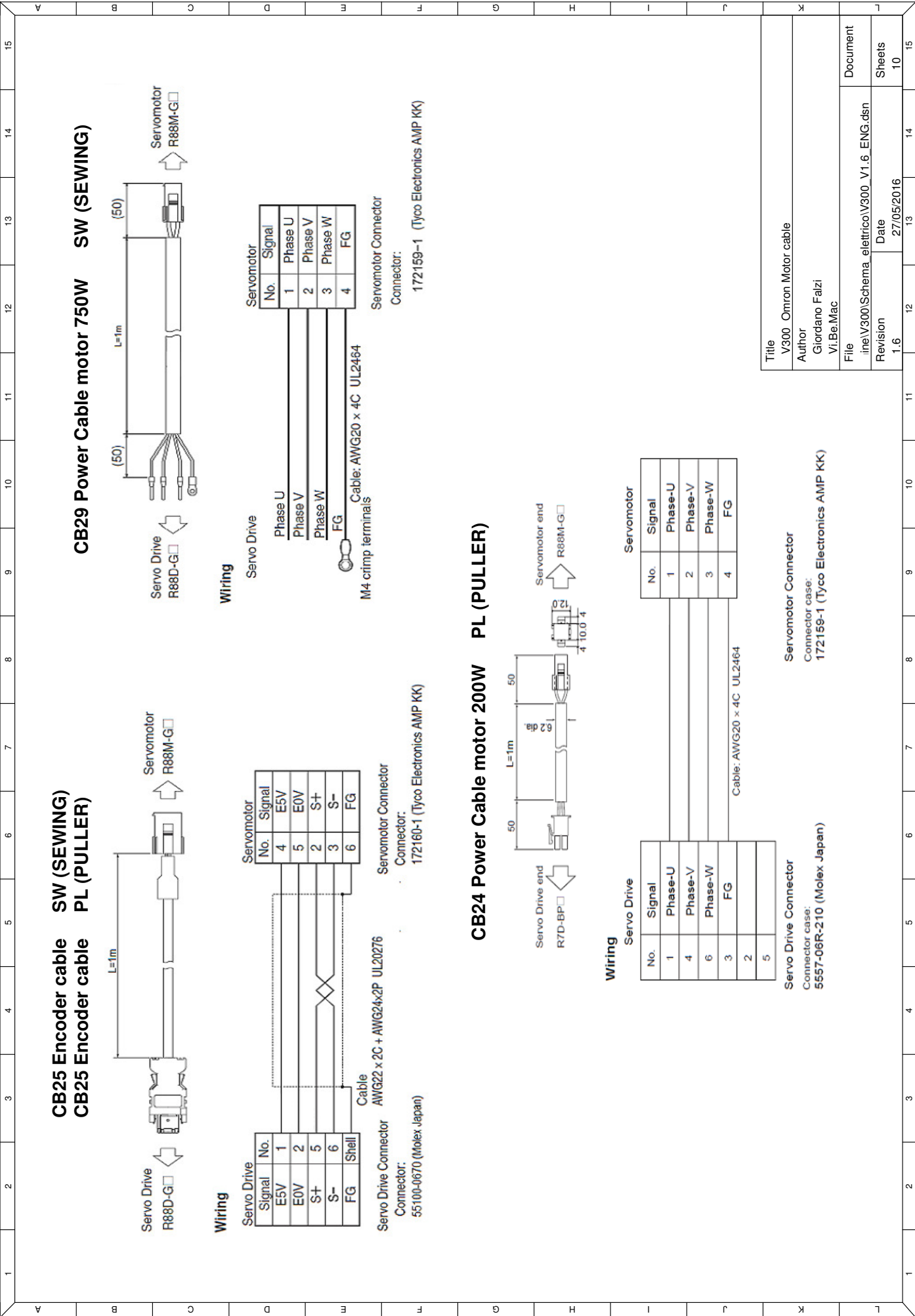
CB31 Cable from Board V300 "PLC" (20X0.25mm Shield) L.100cm

FC

Title	V300 PLC Cable CB31
Author	Giordano Falzi Vi.Be.Mac
File	ine\V300\Schema_elettrico\V300_V1.6_ENG.dsn
Revision	1.6
Date	27/05/2016
Document	8
Sheets	8



Title	V300 Serial Cable CB34
Author	Giordano Falzi Vi.Be.Mac
File	ine\V300\Schema_elettrico\V300_V1.6_ENG.dsn
Revision	1.6
Date	27/05/2016
Document	Document
Sheets	9



CB25 Encoder cable SW (SEWING)
CB25 Encoder cable PL (PULLER)



Wiring

Servo Drive	Signal	No.
E5V	1	4
E0V	2	5
S+	5	2
S-	6	3
FG	Shell	6

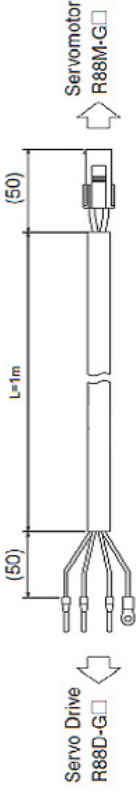
Cable: AWG22 x 2C + AWG24x2P UL20276

Servomotor Connector: 55100-0670 (Molex Japan)

Servomotor Connector: 172160-1 (Tyco Electronics AMP KK)

Connector: 172160-1 (Tyco Electronics AMP KK)

CB29 Power Cable motor 750W SW (SEWING)



Wiring

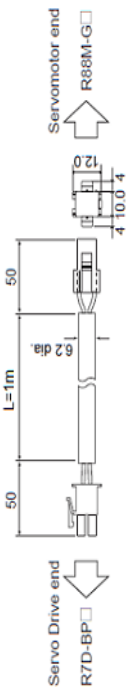
Servo Drive	Signal	No.	Servo Drive	Signal	No.
Phase U	1	1	Phase U	1	Phase U
Phase V	2	2	Phase V	2	Phase V
Phase W	3	3	Phase W	3	Phase W
FG	4	4	FG	4	FG

Cable: AWG20 x 4C UL2464

Servomotor Connector: 172159-1 (Tyco Electronics AMP KK)

Connector: 172159-1 (Tyco Electronics AMP KK)

CB24 Power Cable motor 200W PL (PULLER)



Wiring

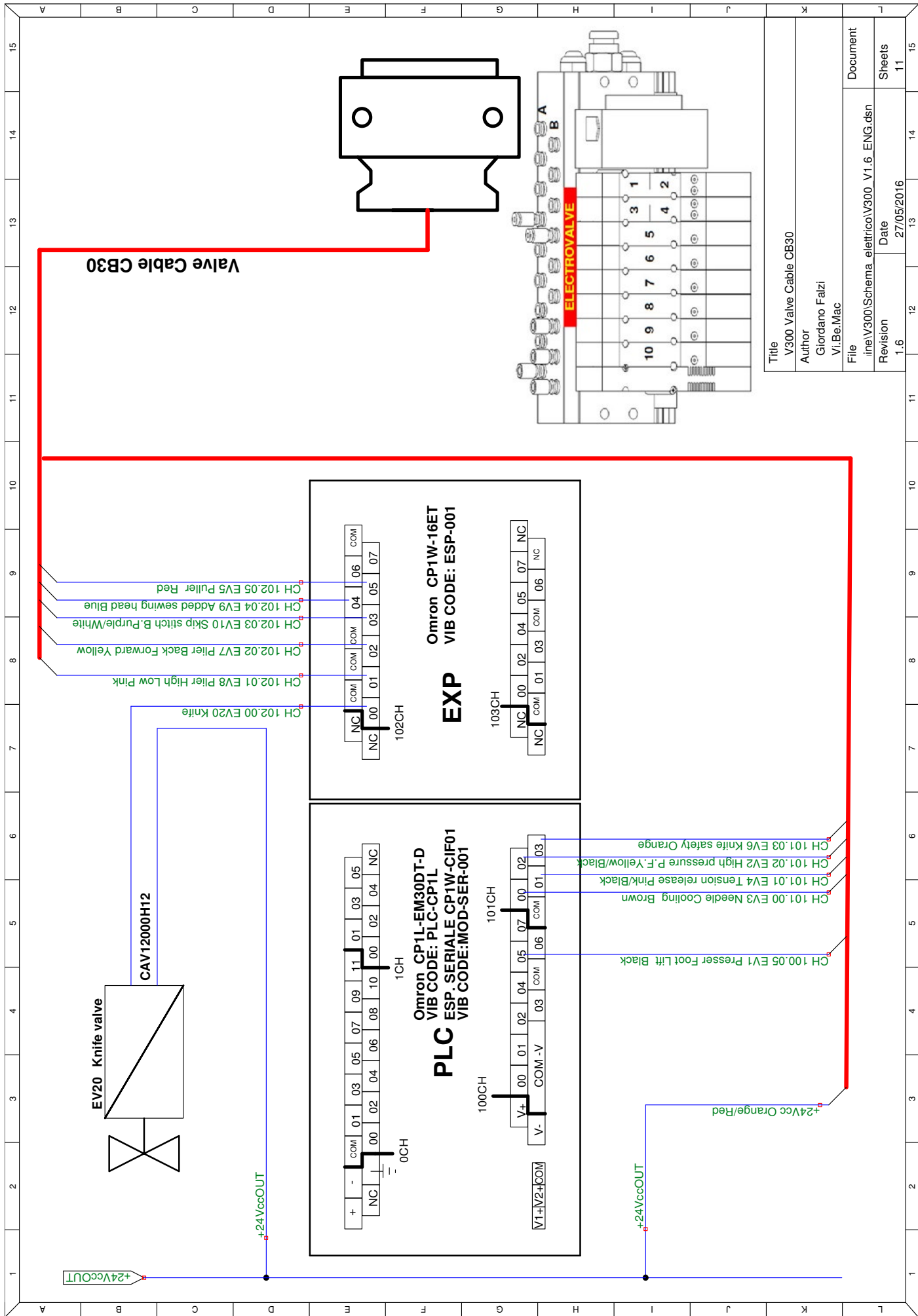
Servo Drive	Signal	No.	Servo Drive	Signal	No.
Phase-U	1	1	Phase-U	1	Phase-U
Phase-V	4	2	Phase-V	2	Phase-V
Phase-W	6	3	Phase-W	3	Phase-W
FG	3	4	FG	4	FG
	2				
	5				

Cable: AWG20 x 4C UL2464

Servomotor Connector: 172159-1 (Tyco Electronics AMP KK)

Connector case: 5557-06R-210 (Molex Japan)

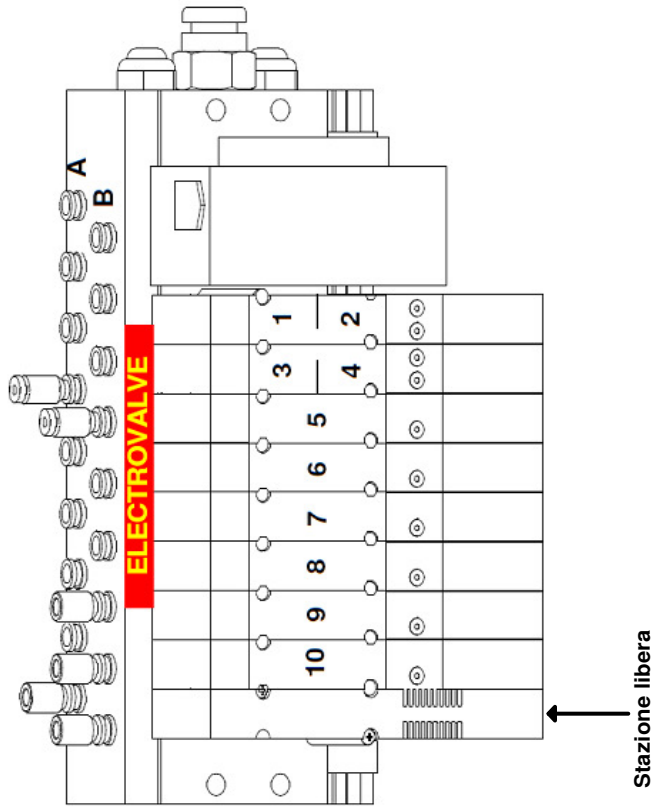
Title	V300 Omron Motor cable
Author	Giordano Falzi
File	ine\V300\Schema_elettrico\V300_V1.6_ENG.dsn
Revision	1.6
Date	27/05/2016
Document	10
Sheets	10



Title	V300 Valve Cable CB30
Author	Giordano Falzi Vi.Be.Mac
File	ine\V300\Schema_elettrico\V300_V1.6_ENG.dsn
Revision	1.6
Date	27/05/2016
Document	Sheets 11

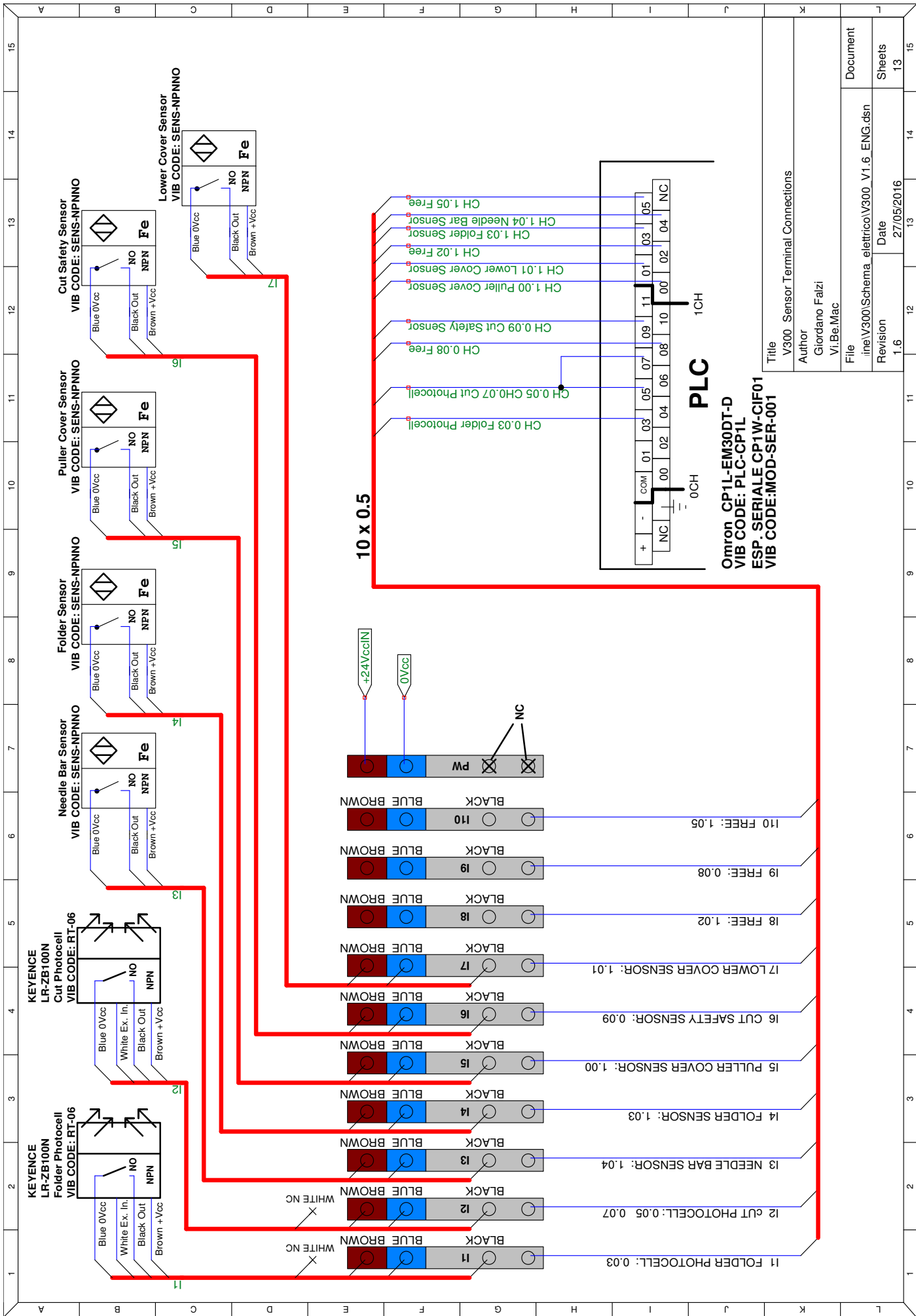
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	B	C	D	E	F	G	H	I	J	K	L			
											Title		V300 Valve group	
											Author		Giordano Falzi Vi.Be.Mac	
											File		.ine\300\Schema_elettrico\V300_V1.6_ENG.dsn	
											Revision		Date	
											1.6		27/05/2016	
											Document		Document	
											Revision		12	
											Date		12	
											1.6		27/05/2016	
											Date		27/05/2016	
											1.6		27/05/2016	

FRONT VIEW VALVE GROUP

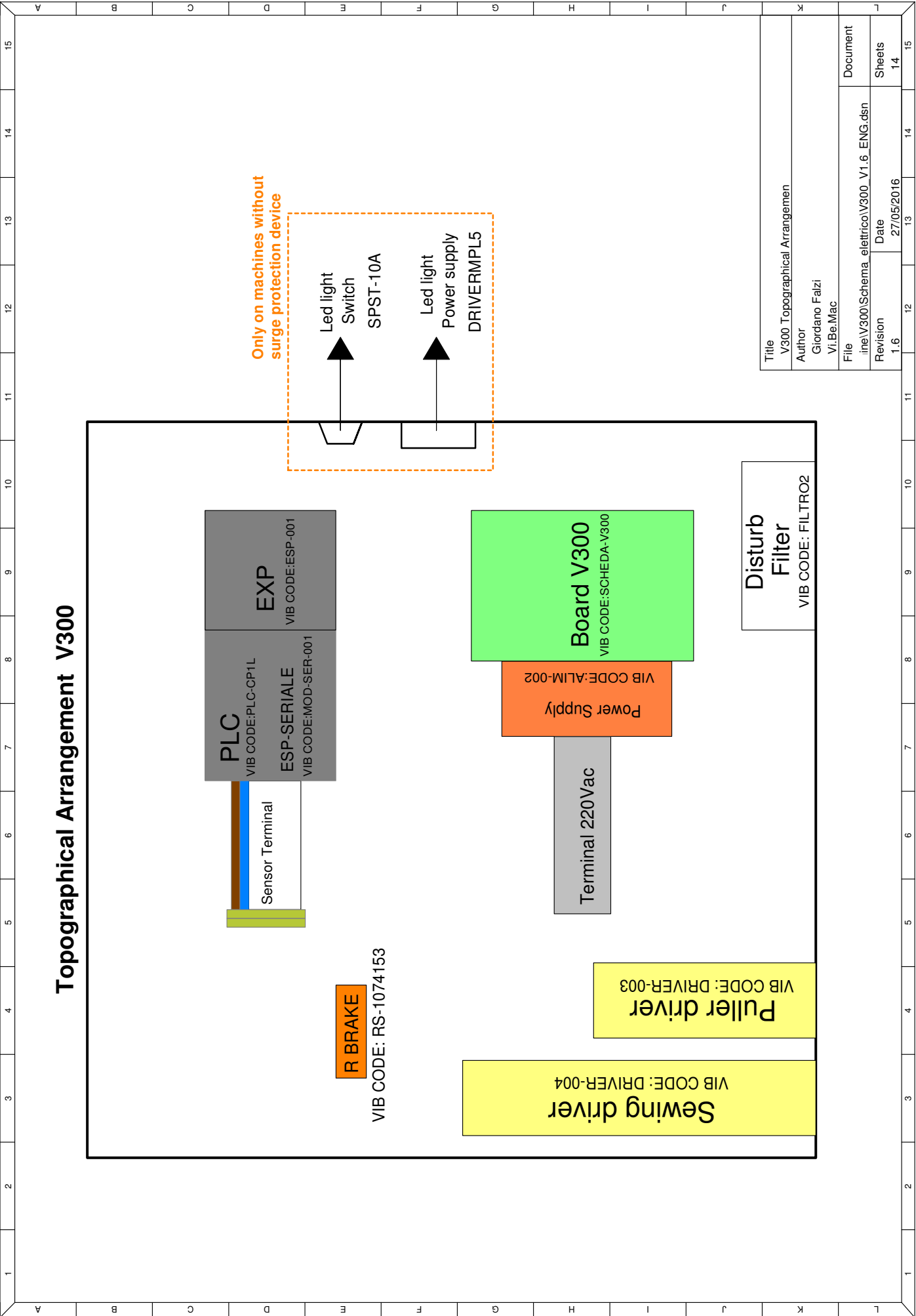


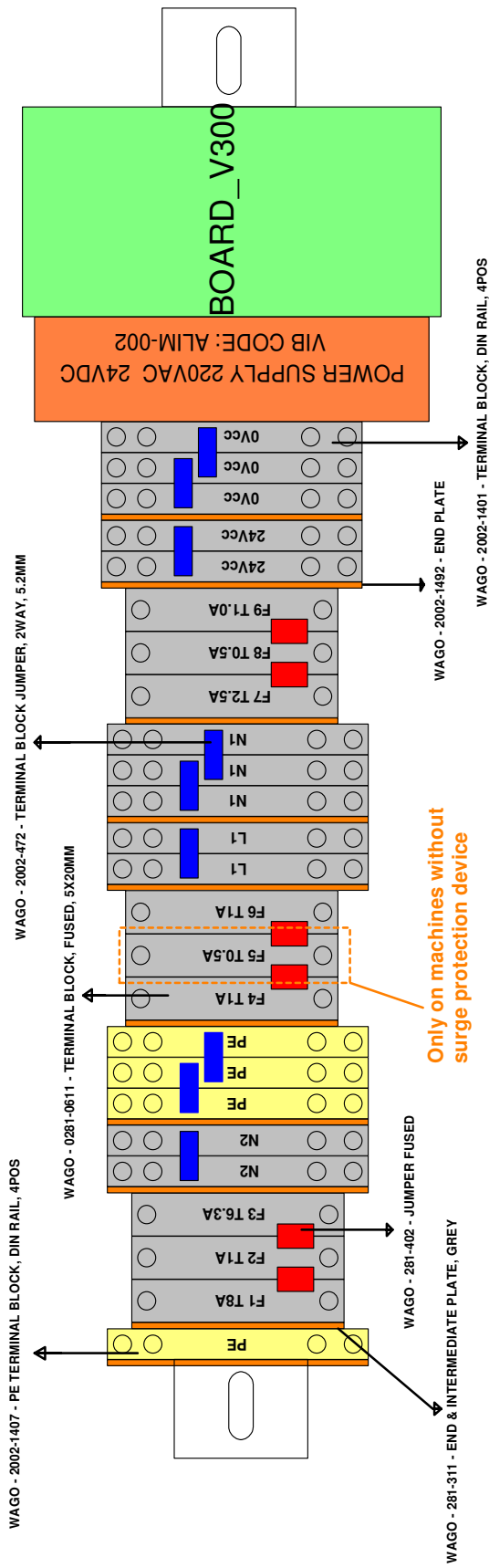
VALVE GROUP DESCRIPTION

- EV1 Presser Foot lift Test: Button A Led:Red
- EV2 High pressure P.F Test: Button B Led:Green
- EV3 Needle Cooling Test: Button A Led:Red
- EV4 Tension release Test: Button B Led:Verde
- EV5 Puller Test: Button A Led:Red
- EV6 Knife safety Test: Button A Led:Red
- EV7 Plier Back Forward Test: Button A Led:Red
- EV8 Plier High Low Test: Button A Led:Red
- EV9 Added sewing head Test: Button A Led:Red (option)
- EV10 Skip stitch B. Test: Button A Led:Red (optional)



Title	V300 Sensor Terminal Connections
Author	Giordano Falzi
File	Vi.Be.Mac
Revision	1.6
Date	27/05/2016
Document	
Sheets	13

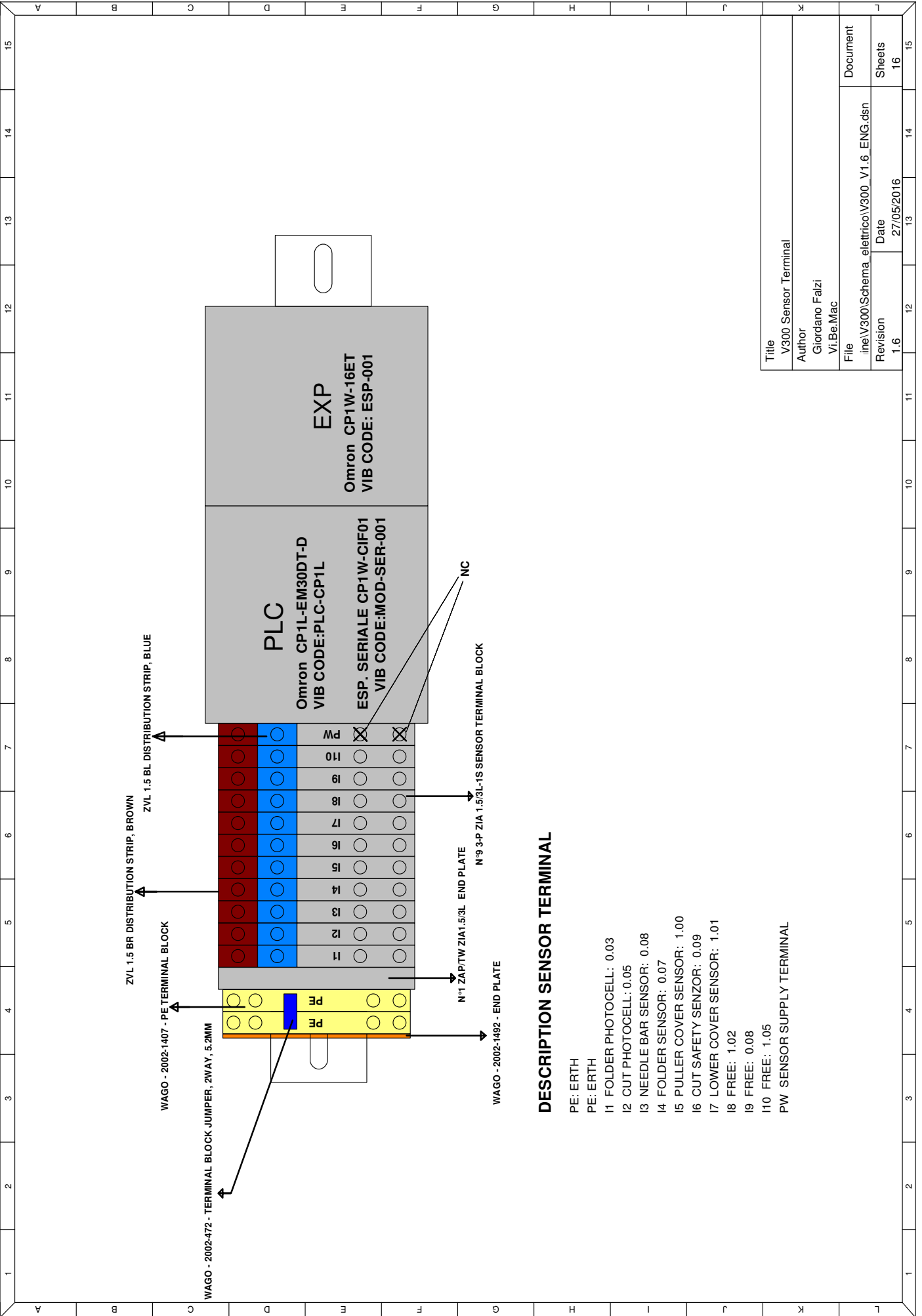




TERMINAL DESCRIPTION 220V

- PE: EARTH
 F1: FUSE 220V POWER CIRCUIT SEWING MOTOR 8AT 5X20
 F2: FUSE 220V CONTROL CIRCUIT SEWING MOTOR 1AT 5X20
 F3: FUSE 220V PULLER MOTOR 6.3AT 5X20
 N2: NEUTRAL AMPLIFYER SUPPLY
 N2: NEUTRAL AMPLIFYER SUPPLY
 PE: EARTH
 PE: EARTH
 PE: EARTH
 F4: FUSE 220V POWER SUPPLY 24DC 1AT 5X20
 F5: FUSE 220V POWER SUPPLY LED LIGHT 0.5AT 5X20
 F6: FUSE 220V BOBBIN WINDER 1AT 5X20
 L1: MAIN PHASE FROM CUT OUT SWITCH
 L1: MAIN PHASE FROM CUT OUT SWITCH
 N1: MAIN NEUTRAL FROM CUT OUT SWITCH
 N1: MAIN NEUTRAL FROM CUT OUT SWITCH
 N1: MAIN NEUTRAL FROM CUT OUT SWITCH
 F7: FUSE +24V 2.5AT 5X20
 F8: FUSE +24V SENSOR TERMINAL 0.5AT 5X20
 F9: FUSE +24Vcc OUT 1.0AT 5X20
 24Vcc: 24V FROM POWER SUPPLY
 24Vcc: 24V FROM POWER SUPPLY
 0Vcc: 0V FROM POWER SUPPLY
 0Vcc: 0V FROM POWER SUPPLY
 0Vcc: 0V FROM POWER SUPPLY

Title	V300 220V Terminal
Author	Giordano Falzi
Vi.Be.Mac	
File	ine\V300\Schema_elettrico\V300_V1.6_ENG.dsn
Revision	1.6
Date	27/05/2016
Document	
Sheets	15

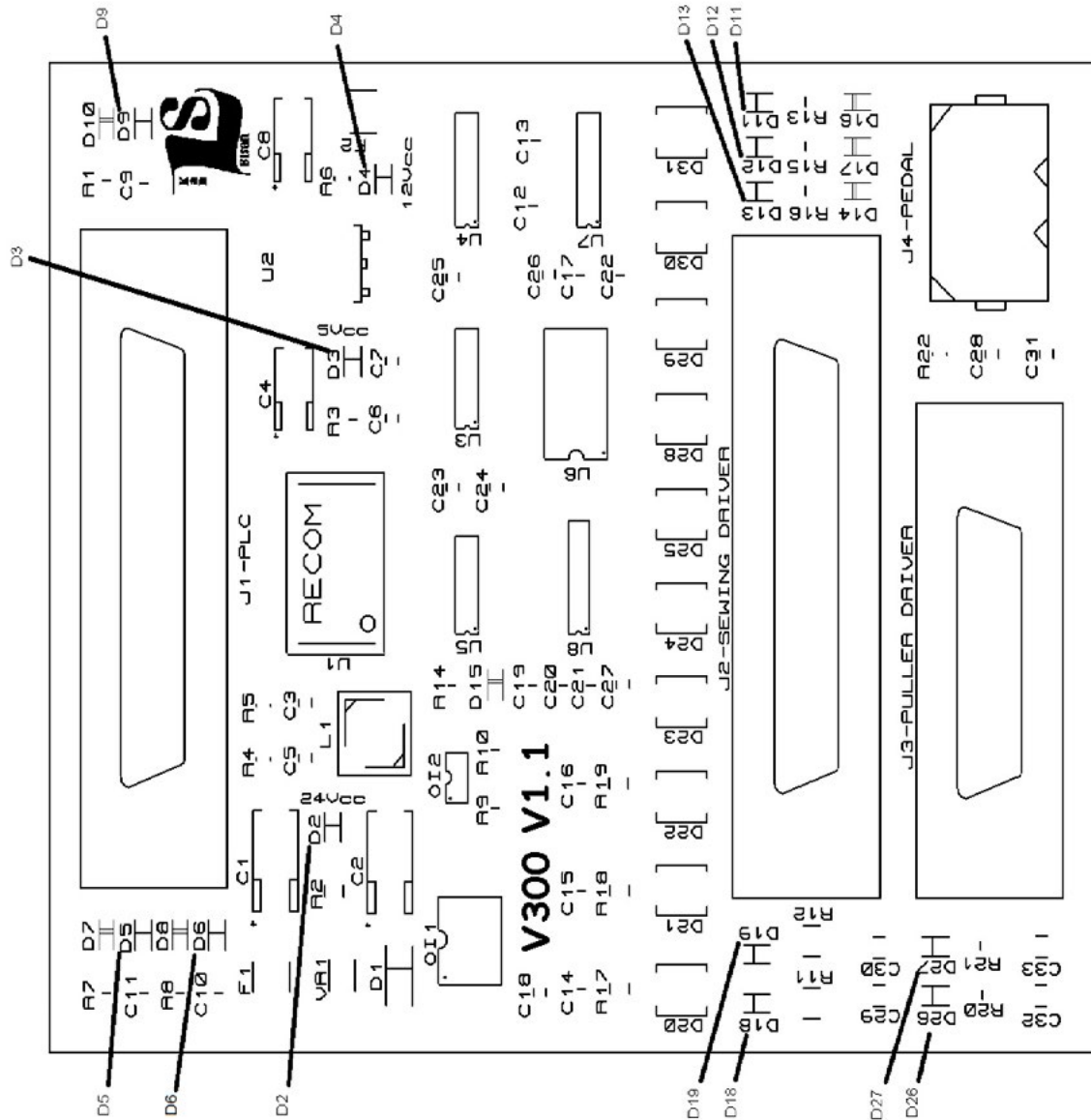


DESCRIPTION SENSOR TERMINAL

- PE: ERTH
- PE: ERTH
- 11 FOLDER PHOTOCELL: 0.03
- 12 CUT PHOTOCELL: 0.05
- 13 NEEDLE BAR SENSOR: 0.08
- 14 FOLDER SENSOR: 0.07
- 15 PULLER COVER SENSOR: 1.00
- 16 CUT SAFETY SENSOR: 0.09
- 17 LOWER COVER SENSOR: 1.01
- 18 FREE: 1.02
- 19 FREE: 0.08
- 110 FREE: 1.05
- PW SENSOR SUPPLY TERMINAL

Title	V300 Sensor Terminal
Author	Giordano Falzi
File	ine\V300\Schema_elettrico\V300_V1.6_ENG.dsn
Revision	1.6
Date	27/05/2016
Document	Document
Sheets	16

V300 BOARD



POWER CHECK

- D2 +24Vcc RED
- D3 +5Vcc GREEN
- D4 +12Vcc YELLOW

IN PULLER

- D5 STEP_SLAVE RED
- D6 DIR_SLAVE YELLOW
- D9 STEP/ENC_SLAVE GREEN

PLC OUT ENCODER SEWING

- D11 Z_PLC GREEN
- D12 B_PLC YELLOW
- D13 A_PLC RED

OUT SEWING

- D18 +STEP_MASTER GREEN
- D19 +DIR_MASTER YELLOW

OUT PULLER

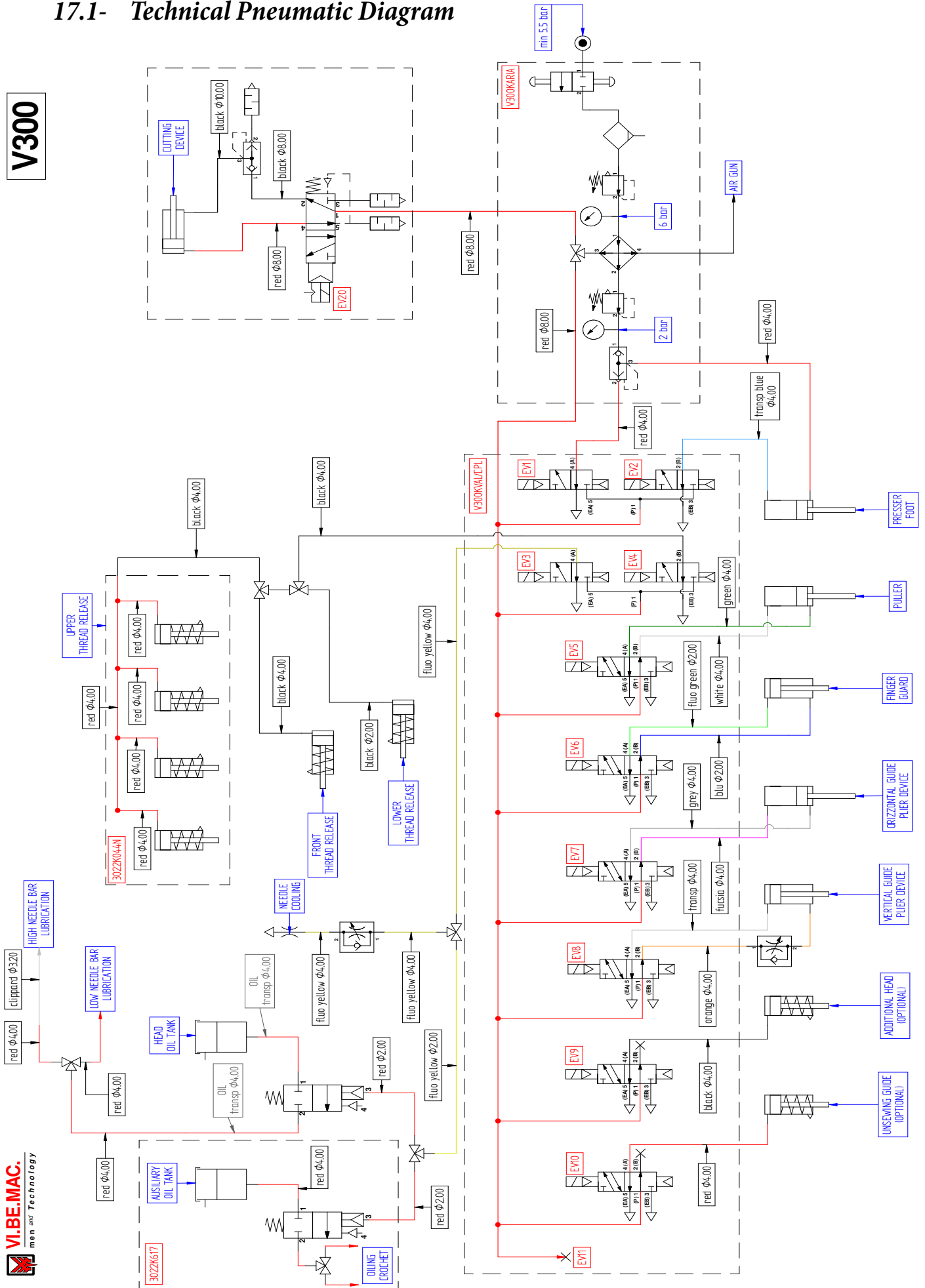
- D26 A_OUT_SLAVE RED
- D27 B_OUT_SLAVE YELLOW

Title	V300 Board
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Document	Document
Sheets	17

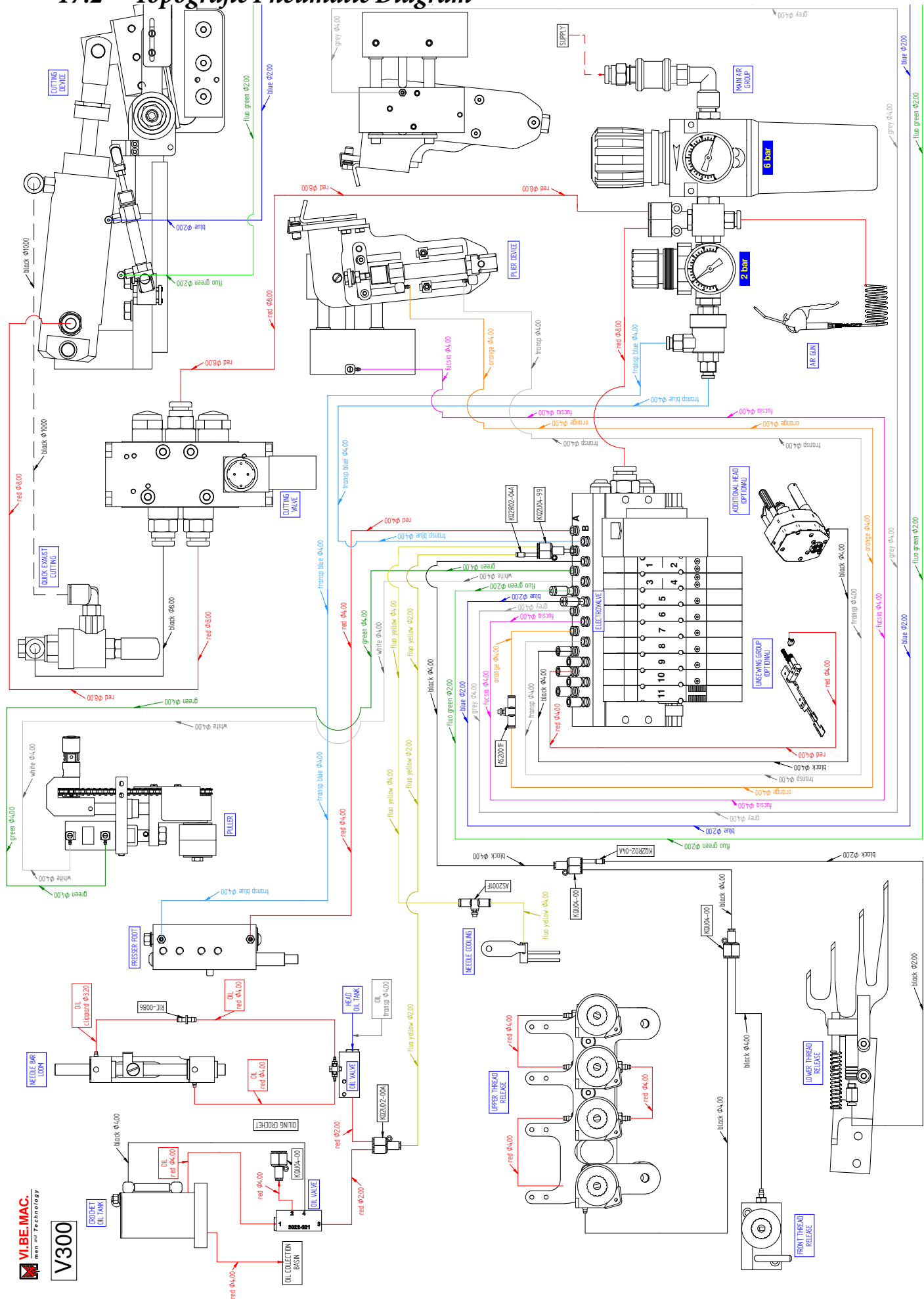
17. PNEUMATIC DIAGRAM

17.1- Technical Pneumatic Diagram

V300



17.2- Topographic Pneumatic Diagram



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