

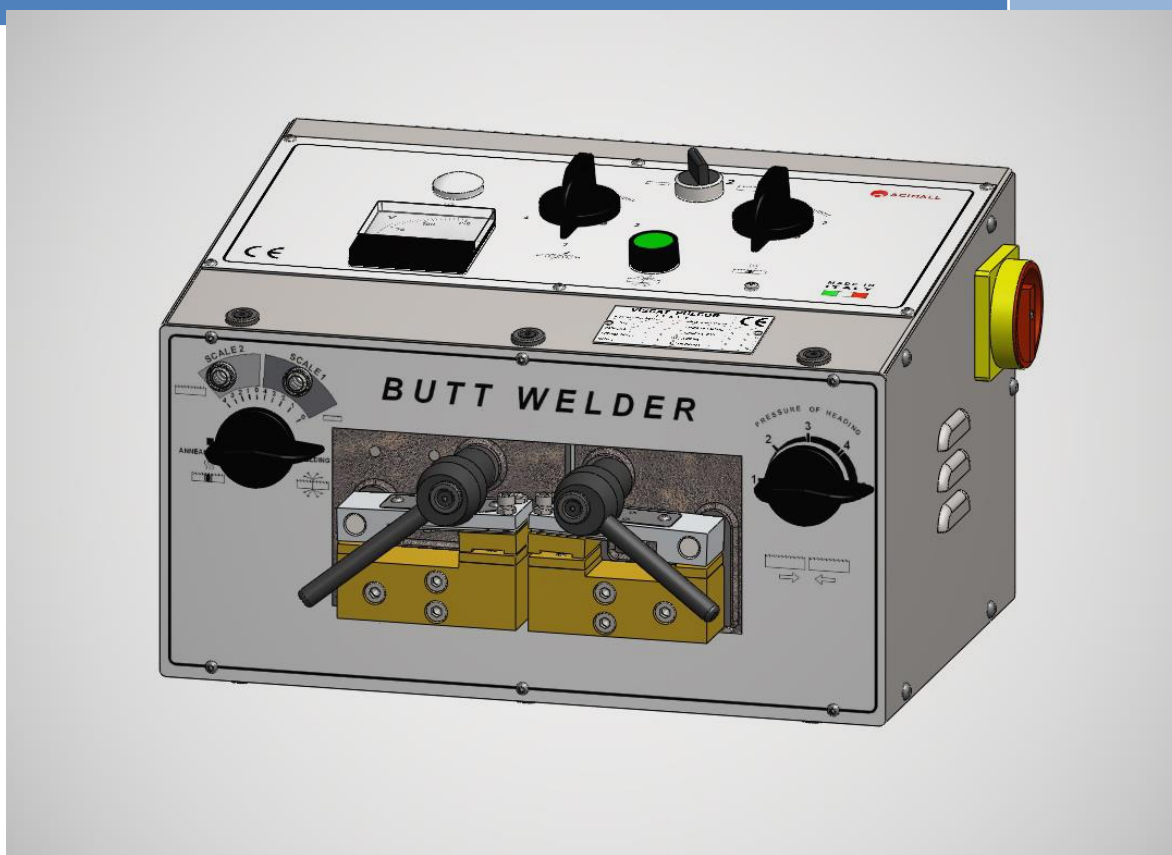
VISCAT FULGOR® srl



MADE IN ITALY

ENG

USER MANUAL



■ VC - 3

■ VC - 4

■ VC - 6

BUTT WELDING
MACHINE

Rev. 1.0 December 2012

VISCAT FULGOR: for over 50 years at our customers' disposal, constantly looking towards the future and with the only aim to help you build your success.

Thank you for choosing VISCAT FULGOR. We are sure the proper use of this machine will give you great satisfaction.

For any further information, explanation or simple operating instruction you may require for the machine operation do not hesitate to contact us. We invite you to periodically visit our website: www.viscatfulgor.com or to contact us via e-mail at info@viscatfulgor.com

Contents

1. Contents and use of this manual	3
2. Safety rules and conformity	3
3. Handling and unpacking	4
4. Main parts of the machine	5
5. Wiring	6
6. Blade cutting	8
7. Welding setup	9
8. Welding parameters	11
9. Welding	12
10. Annealing	14
11. Alignment of the upper plates	16
12. Maintenance	18
13. Problems and solutions	19
14. Warranty	20
15. Technical characteristics of the machine	20
16. Wiring diagram	21
17. Exploded diagram	24
18. Part list	26

1. CONTENTS AND USE OF THIS MANUAL

IMPORTANT! This user manual is addressed to the owner, the machine user, the cleaning personnel, the maintenance personnel, the staff responsible for repair services and whoever has access to the machine. Read the whole manual before using the machine.

- Usefulness of the manual

The manual provides the necessary instructions for the machine transport and handling, installation, use according to the design specifications, cleaning and maintenance; moreover, it aims to train people, make order of spare parts easier and to indicate the residual risks.

- Limits of use of the manual

The machine hereunder described is intended for professional use only; this user manual cannot therefore substitute the operator's adequate experience.

- Importance and retention of the manual

This manual is an integral part of the machine and shall be retained up to the machine complete dismantling. Moreover, it shall always be readily available to the operator.

- Request for a new manual

In case of loss and/or damage of the manual, the user may request a new copy of it by indicating the following characteristics of the machine: type, model, serial number and year of construction.

- Manual update

The manufacturer reserves the right to modify the specifications indicated in this manual and/or the characteristics of each machine. Some figures in this manual may show some partly or totally different details than those assembled on the machines. Technical drawings and data may be modified without notice.

- Further information and clarification

The manufacturer may be contacted to ask for further information and clarification on the correct use of the machine and on maintenance and repair at any time.

- Relief from responsibility

The manufacturer considers himself relieved of any responsibility in case of:

- improper use of the machine;
- use of the machine by non-trained personnel;
- lack of maintenance foreseen;
- non-authorized interventions or modifications;
- use of non-original spare parts and/or non-specific for the model;
- partial or total non-observance of the instructions.

2. SAFETY RULES AND CONFORMITY

The non-observance of the following safety rules may cause damage to people, animals and properties. The installation and maintenance of the machines in hand in this manual shall be made by skilled people only, who know the machine functioning as well as the European regulations on the installation of industrial machines. The welding machines herein described shall be used for the blade welding. Any other use is therefore forbidden.

Declaration of Conformity of the welding machines:

VC-3 – VC-4 – VC-6

The "EC" mark on the machines indicates their conformity with other European Community Directives and namely:

- LOW VOLTAGE DIRECTIVE 2006/95/EC AND FOLLOWING AMENDMENTS
- ELECTROMAGNETIC COMPATIBILITY DIRECTIVE 2006/42/EC AND FOLLOWING AMENDMENTS



These warnings do not involve all possible risks resulting from an improper use of the machine. Therefore, the operator shall work with the greatest circumspection and observe the rules.



DANGER: HIGH POWER-LINE VOLTAGE!

The machine shall be installed, maintained and used by skilled people in compliance with regulations concerning the electrical machinery in force in the country of use.



SAFETY SHOES ARE COMPULSORY



EYE PROTECTION IS COMPULSORY

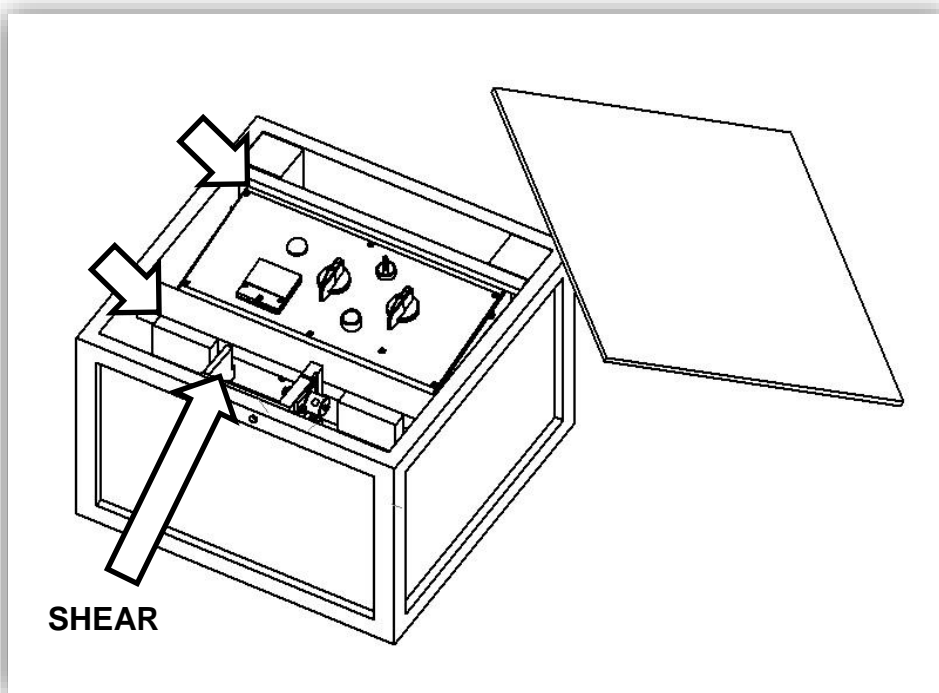


PROTECTIVE GLOVES ARE MANDATORY

3. HANDLING AND UNPACKING



Machines are transported in wooden crates as shown in the figures below.



**REMOVE THE
SECURING
WOODEN PIECES**

Figure A

To unpack the machine, first remove the top panel and take out the shear. Then remove the wooden securing pieces shown in figure A and finally pull out the machine.

4. MAIN PARTS OF THE MACHINE

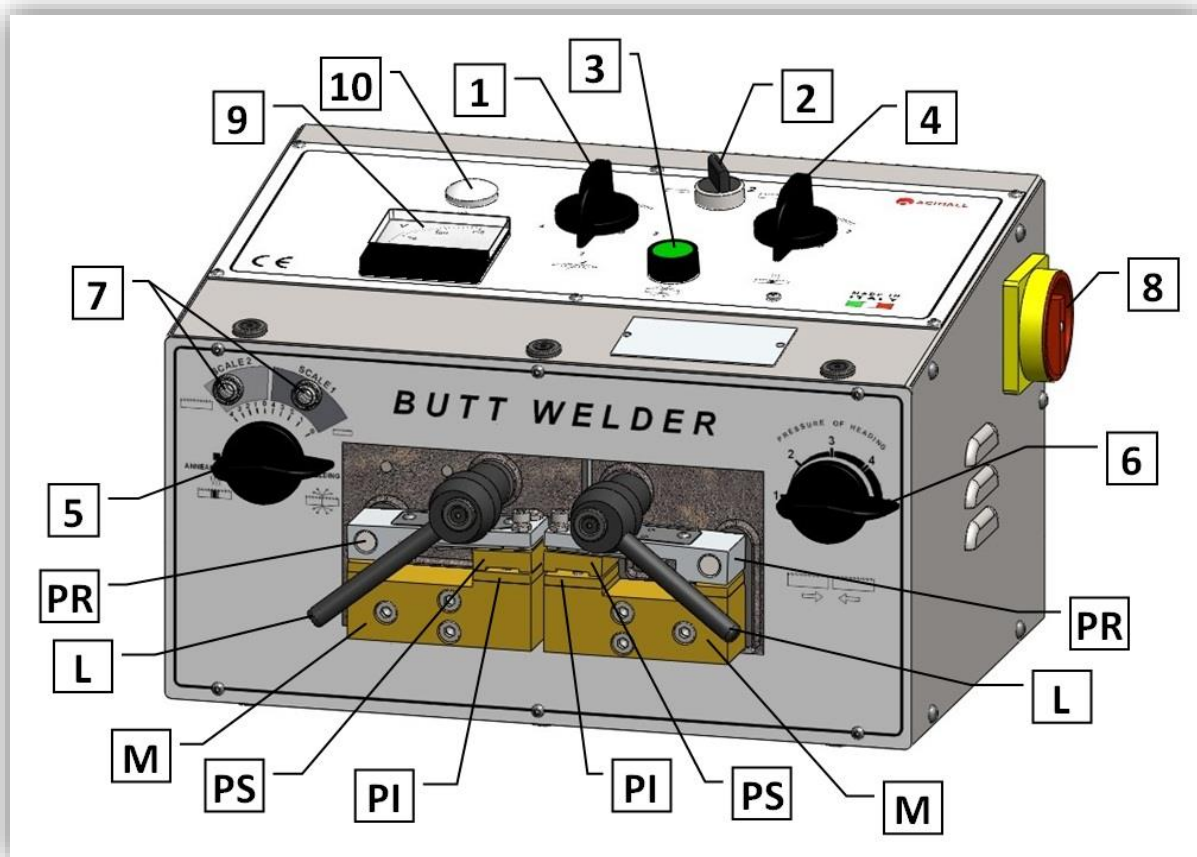


Figure 1

Part description:

1	ROTARY KNOB TO SET THE WELDING CURRENT INTENSITY	ADJUSTMENTS
2	WELDING SCALE SELECTOR SWITCH: POSITION 1 or 2	
4	ROTARY KNOB TO SET THE ANNEALING CURRENT INTENSITY	
5	HEADING PATH ROTARY KNOB	
6	HEADING PRESSURE ROTARY KNOB	
3	WELDING PUSH BUTTON	
8	MAIN POWER SWITCH	SAFETY
10	INDICATOR LIGHTS INDICATING POWER IS ON	
7	WELDING SCALE INDICATOR LIGHTS: SCALE 1 OR 2	INDICATORS
9	VOLTMETER	
M	CLAMP GROUP	MECHANICAL COMPONENTS
L	PRESSER LEVERS	
PS	UPPER PLATES	
PI	LOWER PLATES	
PR	PRESSERS	

5. WIRING



Wiring shall be carried out by skilled people only. Connect the welding machine to **only two phases of the three-phase electrical distribution grid** through a switchboard provided with residual current device and a magnetothermal circuit breaker (at least 32 A), and however compliant with regulations in force in the country where the machine is installed. For technical data refer to the label positioned on the back of the machine.

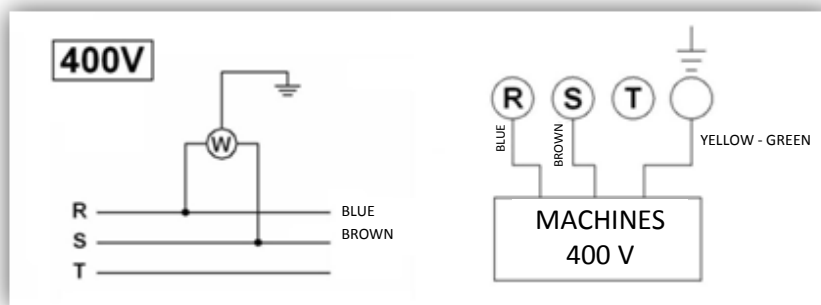


Figure 2

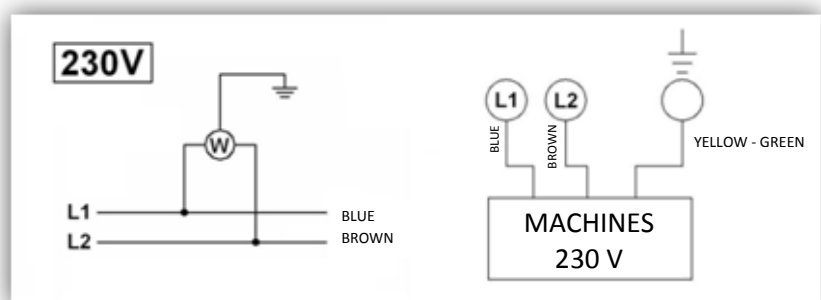


Figure 3

VISCAT FULGOR does not assume any responsibility in case of wrong electrical connection non compliant with regulations in force and which may cause a bad performance of the machine and damage to people, animals and properties.

To switch the welding machine on turn the main power switch clockwise (Switch 8, Figure 1).

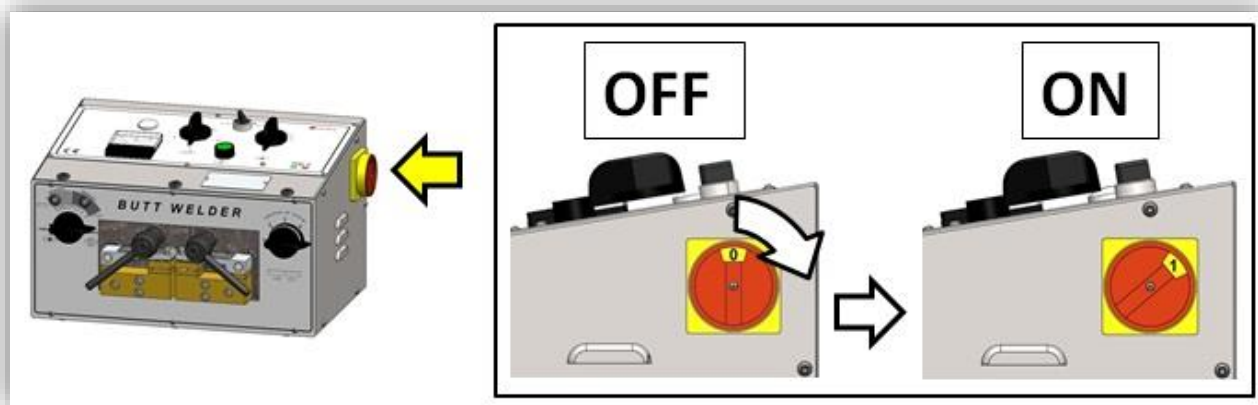


Figure 4

Make sure the machine is on checking if the power on/off indicator light on the control panel (indicator light **10**, Figure 1) is on.

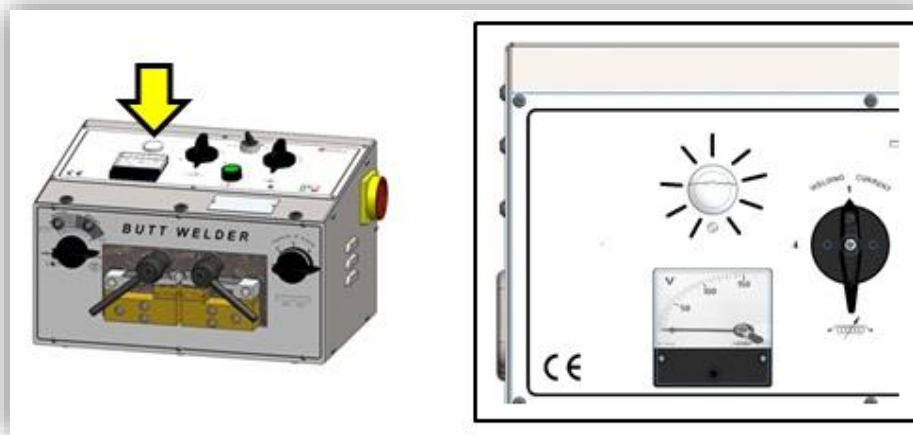


Figure 5

6. BLADE CUTTING



Be careful when handling the band saw and positioning it into the machine; wear safety gloves to avoid getting hurt during contact with it.

Before welding, cut the two ends of the band saw to be welded using the shear supplied with the machine. The cutting shall be right-angled (90°) in relation to the band saw profile so that the two ends to be welded match up perfectly. To cut the blade put it into the shear as shown in Figure 6. Then adjust the alignment by means of the screw indicated by arrow 1. Then raise the shear lever to cut the blade. Check the cutting has been carried out properly. Otherwise, repeat the operation.

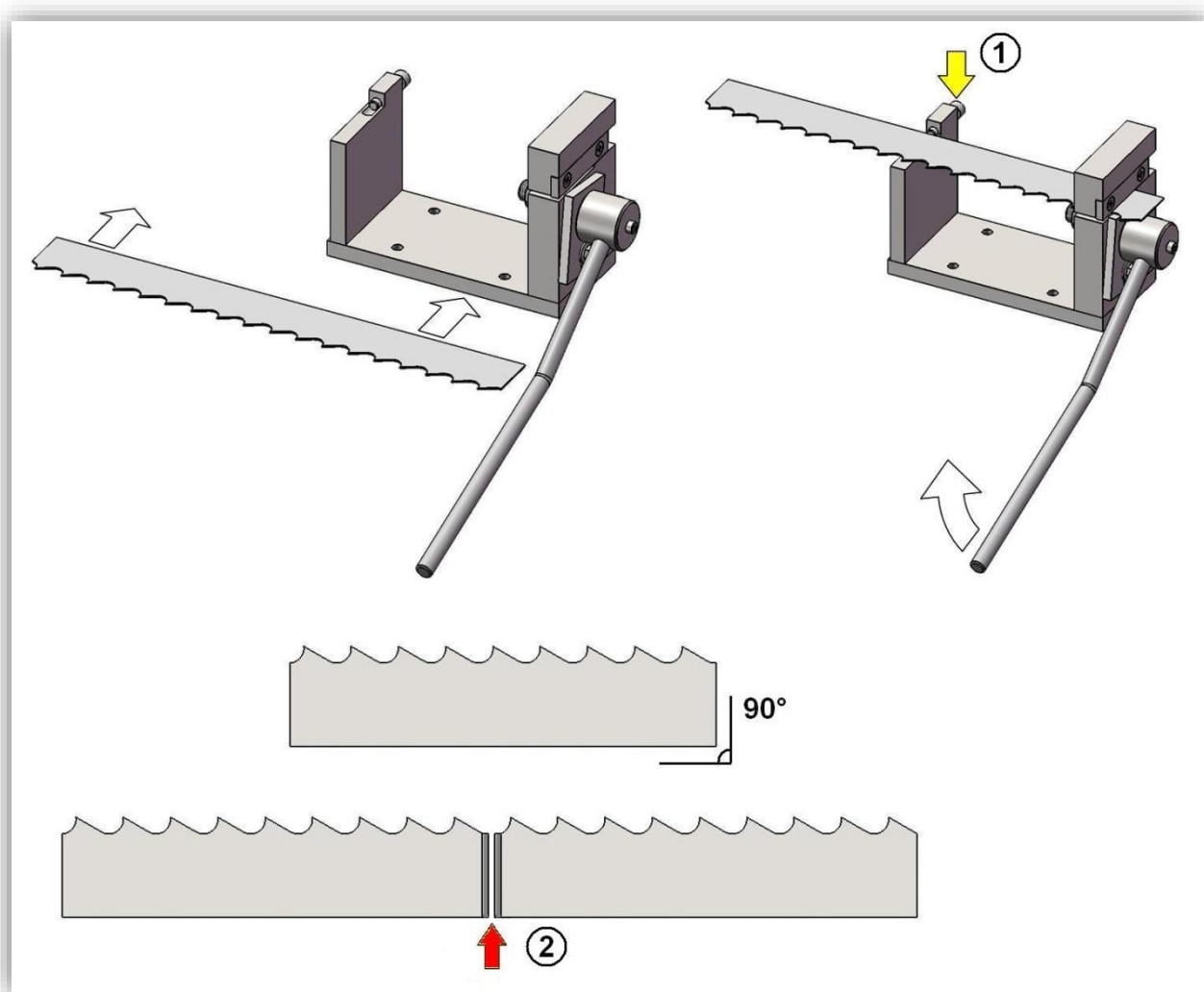


Figure 6

NOTE To keep the original tooth pitch when cutting the band saw consider that during the welding operation the machine consumes a little material (indicated by arrow 2 in Figure 6). The material 'burnt' may be a few to some millimetres wide depending on the heading path, on the current and on the heading pressure which have been set.

7. WELDING SETUP

According to the width and thickness of the band saw, welding parameters, i.e. current intensity, heading pressure and heading path, shall be adjusted on the machine. Each blade has its own set of parameters; general information is given on the table below the setting operation description.

NOTE: Values in the table have been empirically obtained. Parameters strongly depend on the type of blade to be welded and mainly on its chemical composition and dimensions.

- i) **Select the welding scale using the scale selectors switch: 1 or 2 (selector switch 2, Figure 1)**

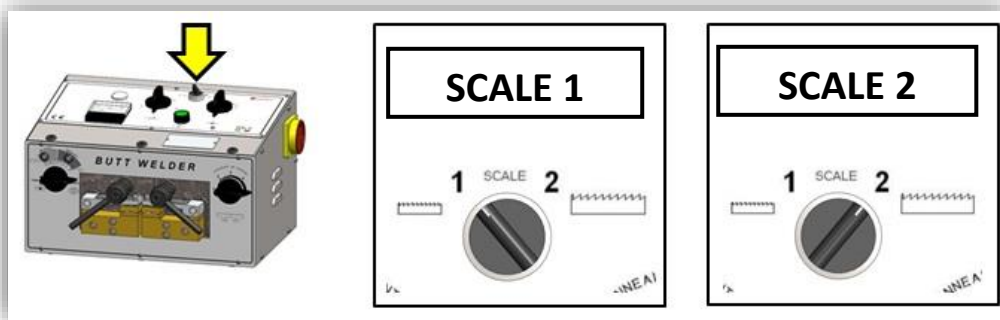


Figure 7

Check your choice by observing which of the lights over the heading paths is on (indicator lights 7, Figure 1). Select scale 1 for thin and narrow blades; select scale 2 for bigger blades.

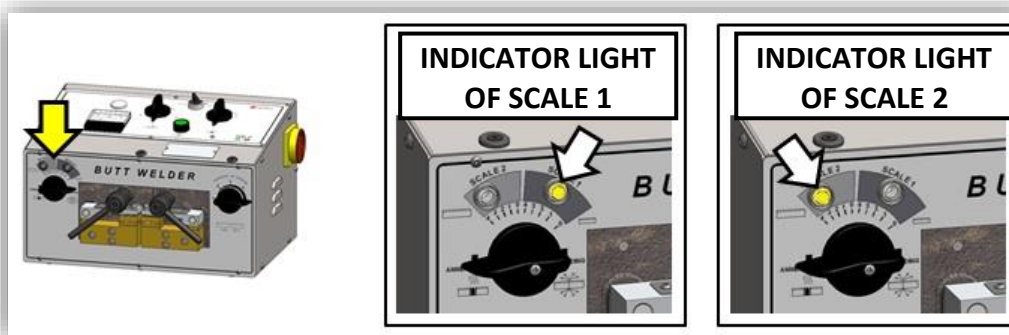


Figure 8

WARNING: before starting make sure the indicator light above the selected scale is on (Figure 8).

- ii) **Set the heading pressure from within the range 1 to 5 (rotary knob 6, Figure 1)**

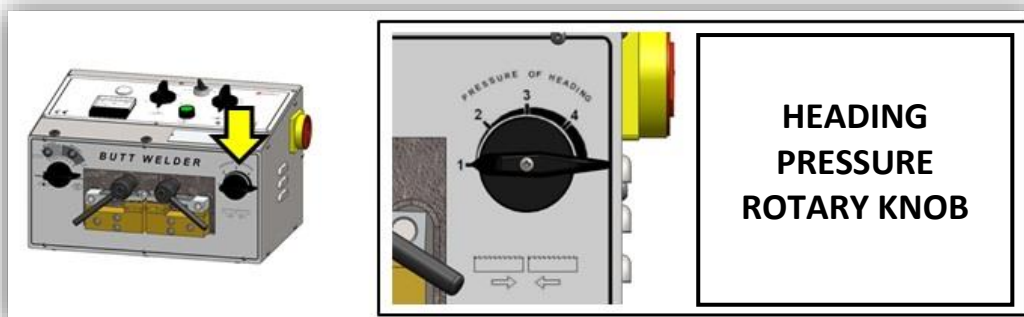


Figure 9

The heading pressure depends on the blade thickness; the thicker the blade is, the higher the heading pressure shall be (see table at Section 8).

iii) **Adjust the heading path** (rotary knob 5, Figure 1)

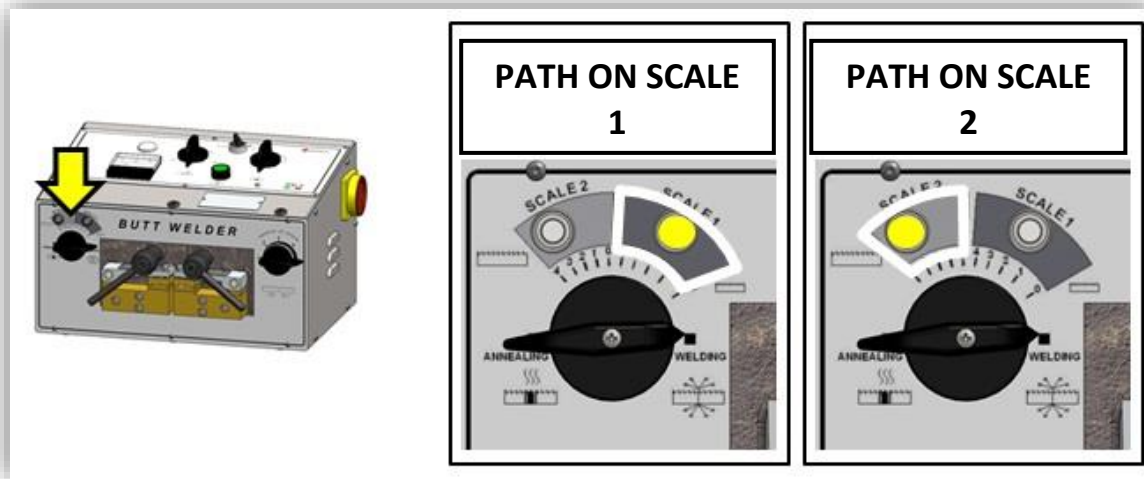


Figure 10

Select scale 1 or 2 according to the choices previously made; starting from the WELDING position, turn the rotary knob in an anticlockwise direction to the desired value within the selected scale (see above Figure 10).

iv) **Set the welding current from within the range 1 to 4** (rotary knob 1 Figure 1)

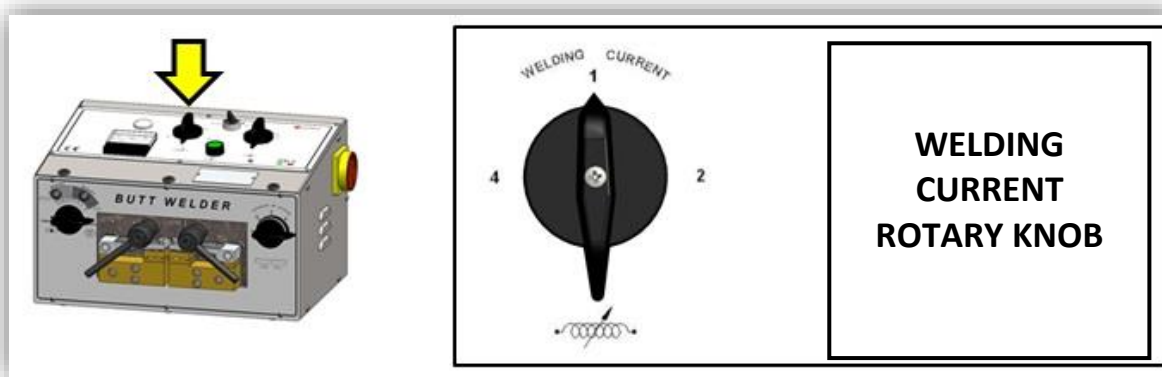


Figure 11

The welding current intensity depends on the blade width and thickness. For small and thin blades set lower values (typically 1, 2); for bigger and thicker blades set higher values (3 or 4).

8. TABLE OF OPERATING CHARACTERISTICS

BUTT WELDING MACHINES model VC3 5 mm to 30 mm

Blade width (mm)	Scale	Welding Current	Heading Pressure	Heading Path
5	1	1	1	2
10	1	2	1	2
20	2	3	2	3
30	2	4	3	4

BUTT WELDING MACHINES model VC4 10 mm to 40 mm

Blade width (mm)	Scale	Welding Current	Heading Pressure	Heading Path
10	1	1	1	2
20	1	1	1	3
30	2	3	2	3
40	2	4	3	4

BUTT WELDING MACHINES model VC6 20 mm to 60 mm

Blade width (mm)	Scale	Welding Current	Heading Pressure	Heading Path
20	1	1	1	3
35	2	3	2	3
45	2	4	3	4
60	2	4	4	4




REMARK

Remember that values given in the tables are empiric, hence merely approximate. The thickness, chemical composition and technological process used in the band saw production will greatly influence the parameters you have to set for the welding operation.

You are advised to carry out some tests on your band saws starting from the values shown in the table. If results are not satisfactory make the suitable adjustments. Compare your test results with those in the table and, if necessary, replace values indicated with the results obtained from your tests.

Remember that nothing and nobody can compare to one's personal experience.

9. WELDING

   Wear safety goggles and protective gloves. During welding beware of sparks.

Open the clamps by lifting levers **L** (Figure 1). Then insert the two band ends under pressers **PR** (Figure 1) with the teeth turned towards the machine, as shown in the picture below.

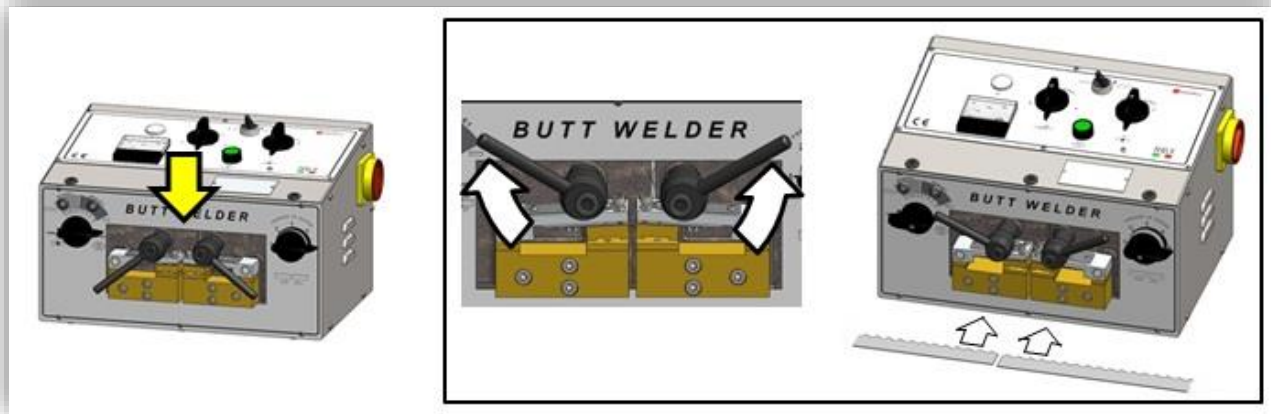


Figure 12

Align the bands longitudinally against the back plate and match the two band ends midway. The band ends shall match perfectly. Block them using clamping levers **L** (Figure 1).

ALIGN THE TWO BAND SAW ENDS MIDWAY AND CLOSE THE PRESSERS

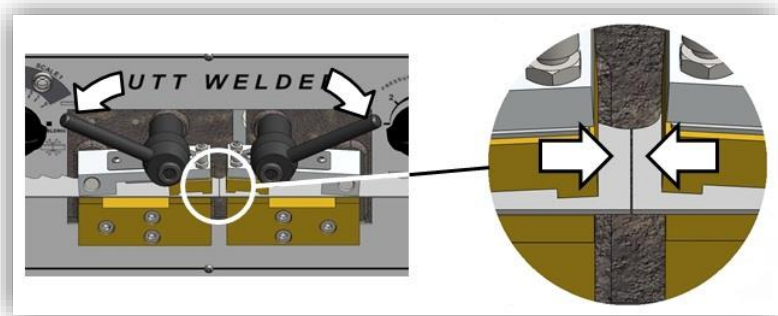


Figure 13

Turn the heading path rotary knob (rotary knob 5, Figure 1) back to the 'WELDING' position.

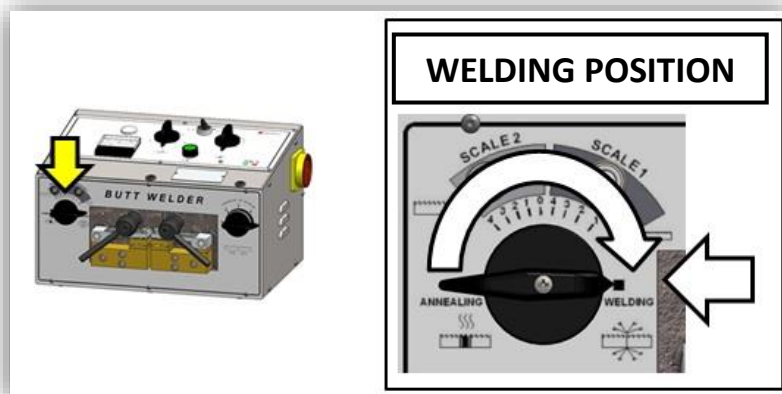


Figure 14

CAUTION!!!

TURN THE HEADING PATH ROTARY KNOB BACK TO THE 'WELDING' POSITION

WARNING!!!

IF THIS OPERATION IS NOT CARRIED OUT THE MACHINE CANNOT WELD

Press the welding push button (push button **3**, Figure 1) bewareing of the sparks and **keep it pressed** until the machine stops automatically (see Figure 15 below).

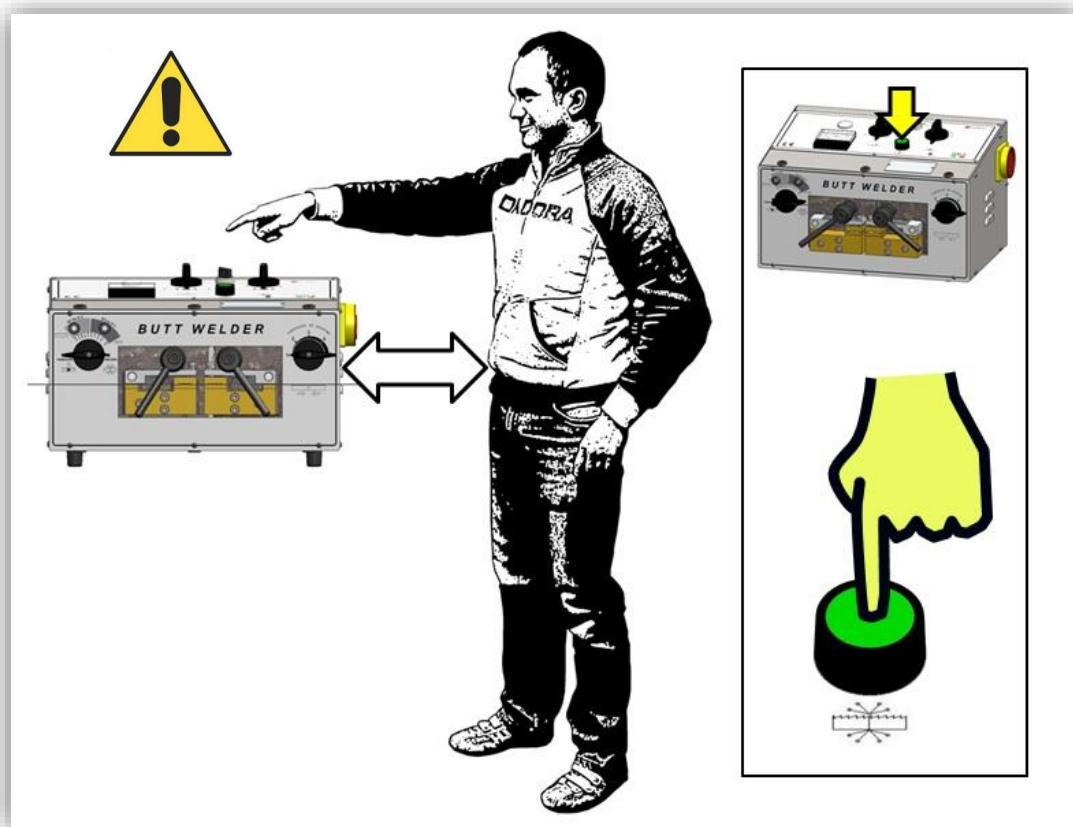


Figure 15

BEWARE OF SPARKS! KEEP AWAY FROM THE CLAMPS!

PRESS AND KEEP PRESSED!

Upon completion of the welding cycle, loosen levers **L** (Figure 1) of pressers **PR** (Figure 1) and remove the blade. Carefully clean the support plates of the blade, i.e. the internal part of clamp group **M** (Figure 13), using compressed air or, failing that, a rough cloth (see Figure 16).

**CLEAN AFTER
EACH WELDING**

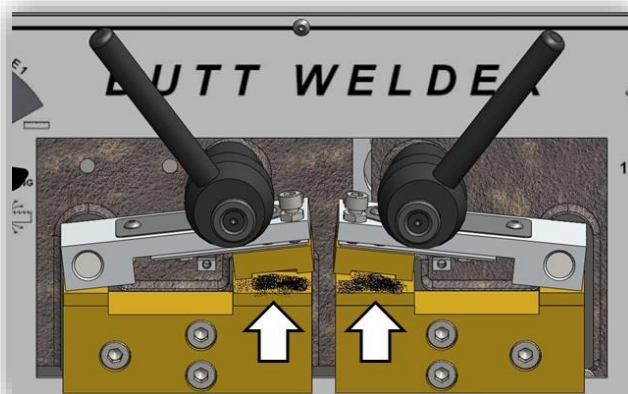


Figure 16

We would like to draw your attention to the importance of this cleaning operation which, if carried out properly and on a regular basis will ensure the long life of the machine and good performance.

10. ANNEALING

After each welding the welded zone must be annealed to give the material part of the elasticity lost back. Turn the heading path rotary knob (rotary knob 5, Figure 1) to the ANNEALING position (see Figure 17).

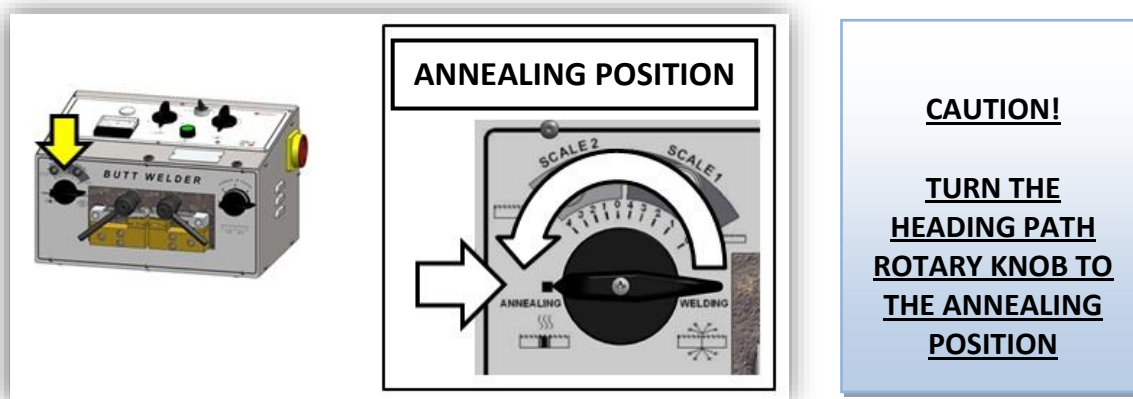


Figure 17

Lock the blade under the clamps making sure the weld bead is well centred between the clamps (see Figure 18).

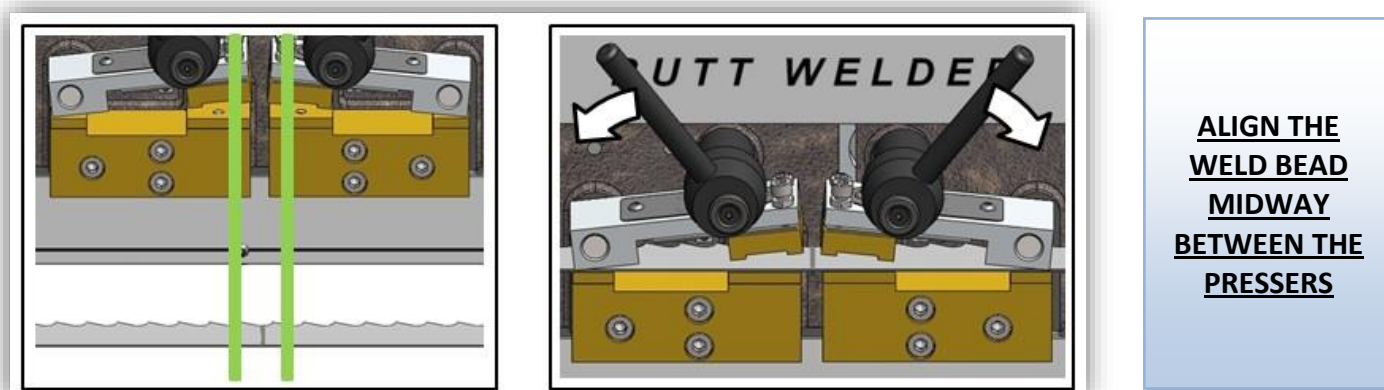


Figure 18

Turn the annealing current rotary knob (rotary knob 4, Figure 1) intermittently between position 1 (or position 2) and the rest position; during this operation look at the band weld bead.

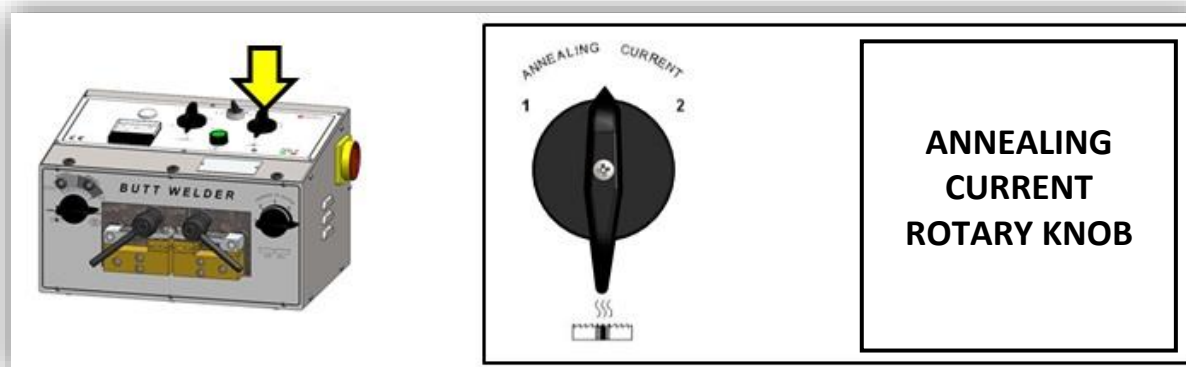


Figure 19

Mainly use value 1 (value 2 is only needed for very big and thick bands). Keep doing it until the blade turns to a colour between bluish and dark red.

THE ANNEALING TEMPERATURE, HENCE THE BLADE COLOUR DURING ITS CARRYING OUT, DEPENDS ON THE CHEMICAL COMPOSITION OF THE BLADE

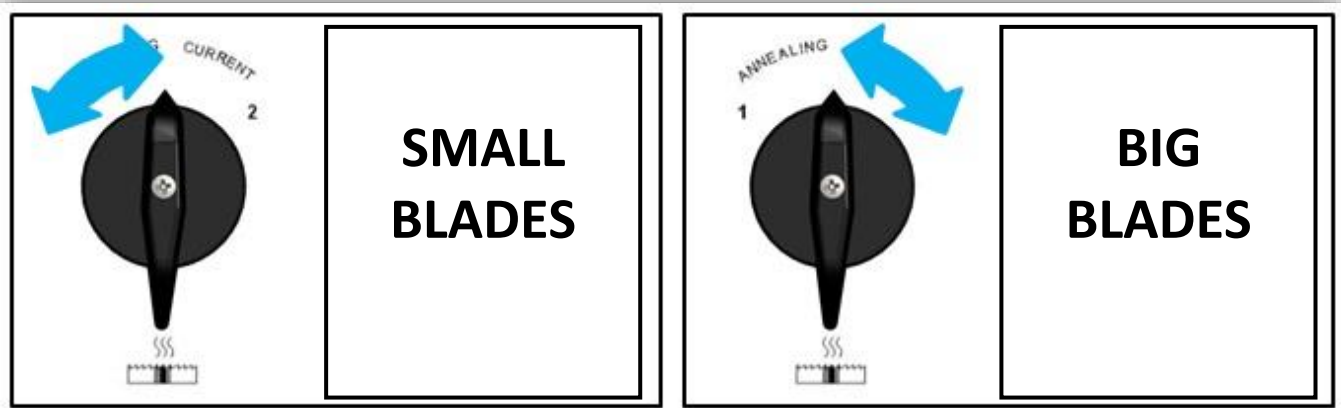


Figure 20

CHECK THE COLOUR CHANGE ON THE BLADE TAKES PLACE IN A UNIFORM WAY, STARTING FROM THE WELD BEAD TO THE PRESSERS

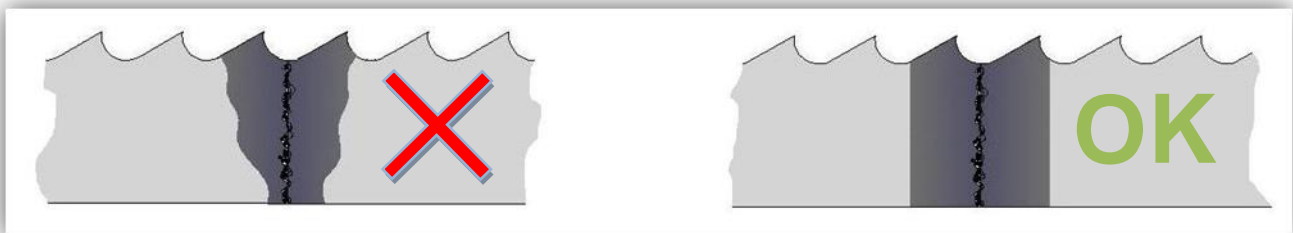


Figure 21

WARNING: If the colour change is not uniform see section: 'PROBLEMS AND SOLUTIONS'. It is worth keeping in mind that annealing is a very delicate operation and that its result depends on the condition of plates and pressers, on the pressure exerted on the blade and on the chemical composition of the blade.

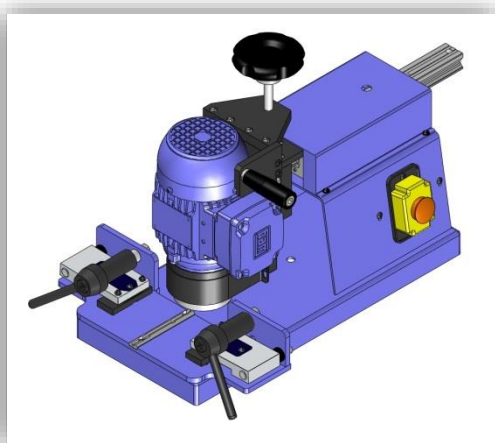


Figura 22

Now simply remove the weld bead using Viscat Fulgor's special deburring machine LV-60 (Figura 22).

11. ALIGNMENT OF THE UPPER PLATES

Proceed as follows: turn rotary knob 5 (Figure 1) to the 'ANNEALING' position.

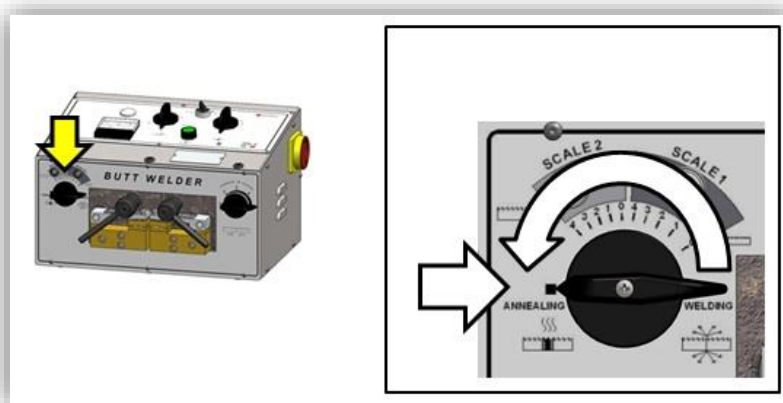


Figure 23

Insert a piece of band between the two clamps and close the pressers. Carry out annealing (see Section 10, ANNEALING). Check the blade heats up in a uniform way.



Figure 24

Align the plates using the adjustment screws, if necessary starting from screws adjusting the cam (see Section 11.1) and then those on the upper plates.

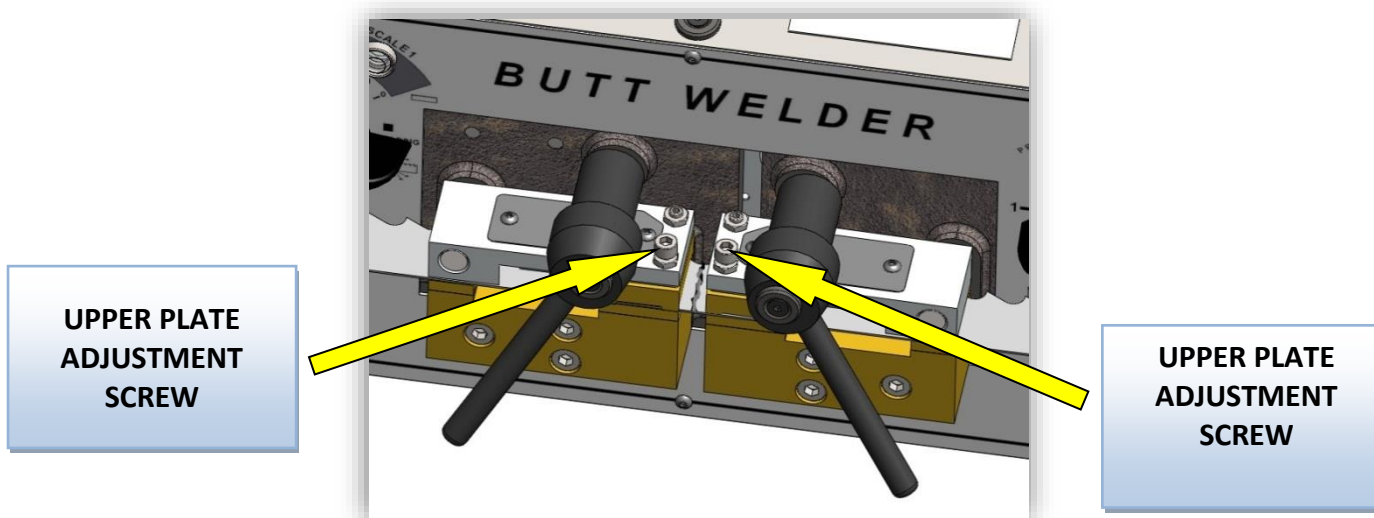


Figure 25

Repeat the operation until you achieve acceptable results.

11.1 CLAMP CLOSURE ADJUSTMENT

After grinding the plates always remember to adjust the clamp closure using the adjustment screws indicated in Figure 26.

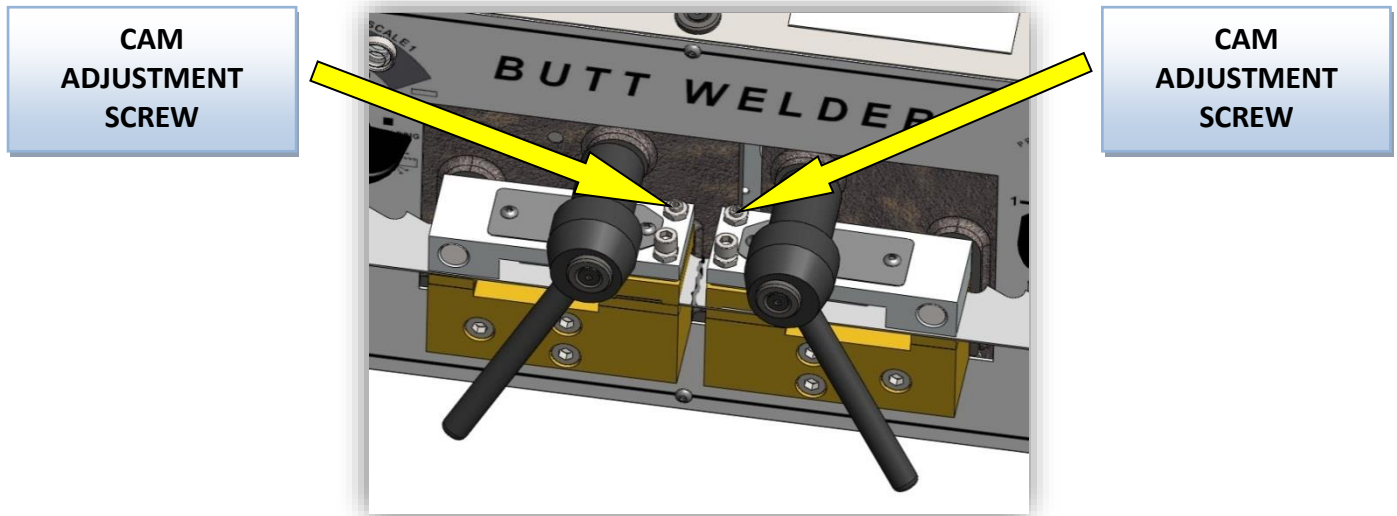


Figure 26

Carry out the adjustment so that the two levers L tighten the clamp without spinning freely. If so, screws shall be tightened; otherwise if they have a short stroke, they shall be unscrewed.

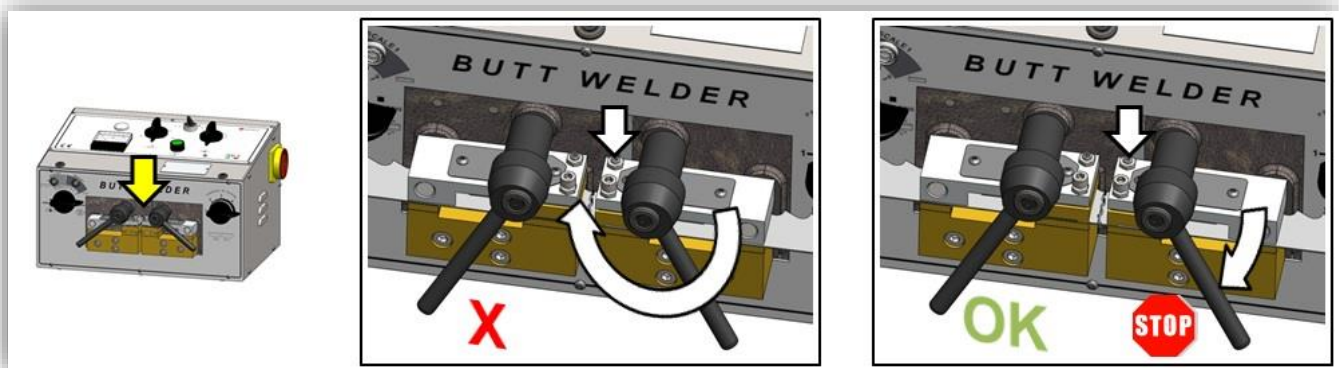


Figure 27

12. MAINTENANCE



Experimental tests have shown our machines do not need any maintenance in the traditional sense of the word. However, it is suggested to carry out periodical and accurate cleaning of the brass plates located on the clamps. Clean after each welding using compressed air or a rough cloth. Moreover, in case of damage, replace the damaged plates with new ones.

PERIODIC CHECKS		
TYPE OF CHECK	ACTION	WHEN
PLATE CLEANING	CAREFULLY CLEAN THE BRASS PLATE SURFACE (PI AND PS) USING A ROUGH CLOTH OR COMPRESSED AIR.	AFTER EACH WELDING.
PLATE GRINDING	DISASSEMBLE LOWER PLATES PI AND GRIND THEM BOTH MAKING SURE THEY HAVE THE SAME THICKNESS. CARRY OUT THE SAME OPERATION ON UPPER PLATES PS. ONCE THE PLATES HAVE BEEN GROUND ASSEMBLE THEM BACK INTO THE MACHINE.	WHEN THE PLATE SURFACE LOOKS PARTICULARLY RUINED.
PLATE THICKNESS CHECK	CHECK THE PLATES ARE NOT LESS THAN 5 mm THICK USING A THICKNESS GAUGE.	AFTER A NUMBER OF WELDING AND AFTER EACH GRINDING OPERATION.
PLATE REPLACEMENT	DISASSEMBLE THE WORN OUT PLATES AND REPLACE THEM WITH NEW ONES. ALWAYS REMOVE BOTH PLATES TOGETHER.	WHEN PLATES ARE IRREDEMIABLY RUINED OR THEIR THICKNESS IS LESS THEN THE MINIMUM REQUIRED ONE.
CARRIAGE SLIDING	CHECK THE MOVABLE CLAMP (THE LEFT ONE) DOES NOT MOVE JERKILY DURING THE OPENING AND CLOSURE AND STOP AGAINST THE FIXED CARRIAGE.	ON A PERIODICAL BASIS

12.1 CARRIAGE CLEANING

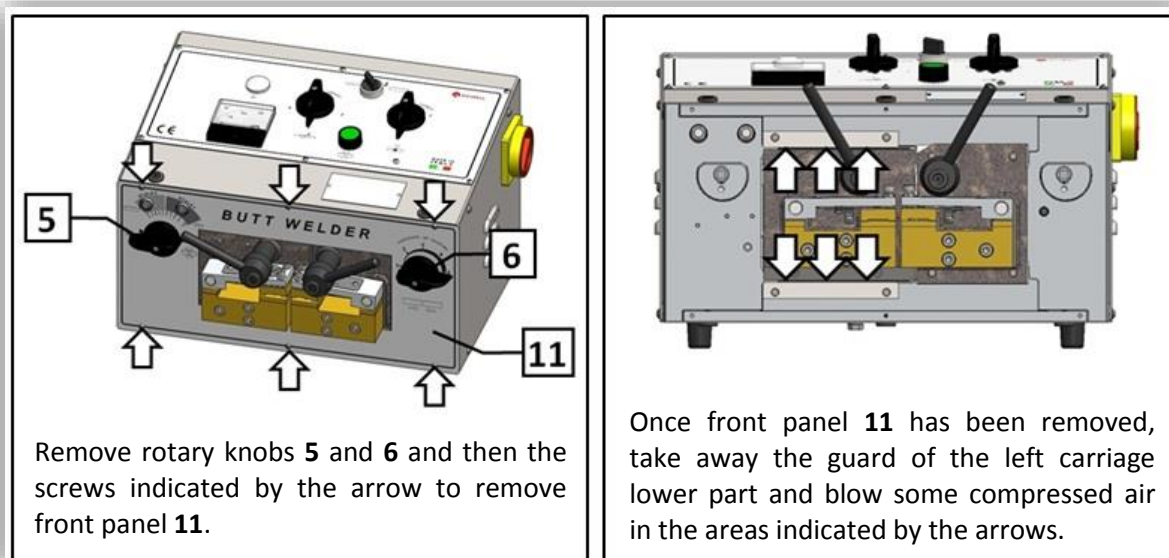



Figure 28

13. PROBLEMS AND SOLUTIONS

P R O B L E M S A N D S O L U T I O N S			
PROBLEM	CAUSE	SOLUTION	
THE MACHINE DOES NOT SWITCH ON	LINE VOLTAGE ABSENT	CHECK THE CONNECTION TO THE POWER SUPPLY	
	DISCONNECTING SWITCH FAILURE	- CHECK THE DISCONNECTING SWITCH OPERATION	
	AUXILIARY TRANSFORMER FAILURE	- CHECK THE AUXILIARY TRANSFORMER FUSE IS NOT BURNT - CHECK THE AUXILIARY TRANSFORMER FUNCTIONING	
THE WELD BREAKS UP EASILY	PLATES ARE DIRTY	CLEAN AND/OR REPLACE THE PLATES	
	PLATES ARE IMPROPERLY ALIGNED	ADJUST THE ALIGNMENT	SEE PAGE 16
	WELDING AND/OR ANNEALING PARAMETERS ARE WRONG	CHECK PARAMETERS	SEE PAGE 11
THE TWO ENDS OVERLAP DURING WELDING	THE WELDING CURRENT IS TOO LOW AND/OR THE HEADING PRESSURE IS TO HIGH	CHECK PARAMETERS	SEE PAGE 11
PRESENCE OF HOLES IN THE WELD	THE WELDING CURRENT IS TOO HIGH AND/OR THE HEADING PRESSURE IS TOO LOW	CHECK PARAMETERS	SEE PAGE 11
THE CLAMP LEVERS SPIN FREELY	UPPER PLATES ARE IMPROPERLY ADJUSTED	REPLACE THE UPPER PLATES	SEE PAGE 16
	CAMS ARE WORN OUT	REPLACE THE CAMS	
	TEMPERED SHEETS ARE WORN OUT	REPLACE THE SHEETS	
THE CARRIAGE DOES NOT SLIDE FLUENTLY	THE CARRIAGE IS DIRTY	CLEAN THE CARRIAGE	SEE PAGE 18
THE MACHINE DOES NOT WELD	WELDING PUSH BUTTON FAILURE (PUSH BUTTON 3 Figure 1)	CHECK AND/OR REPLACE THE WELDING PUSH BUTTON	
	FAILURE OF THE SELECTOR SWITCH OF THE WELDING CURRENT INTENSITY (ROTARY KNOB 1 Figure 1)	REPLACE THE SELECTOR SWITCH	
	FAILURE OF THE POWER TRANSPORTER	REPLACE THE POWER TRANSFORMER	
	FAILURE OF THE WELDING CONTACTOR	REPLACE THE WELDING CONTACTOR	
THE MACHINE DOES NOT ANNEAL	FAILURE OF THE POWER TRANSFORMER	REPLACE THE POWER TRANSFORMER	
	FAILURE OF THE ANNEALING SELECTOR SWITCH	REPLACE THE ANNEALING SELECTOR SWITCH	

- If during welding the two ends of the blade overlap, this means the welding current is too low and the heading pressure is too high (see Figure 29);



Figure 29

BAD WELD: THE TWO ENDS HAVE OVERLAPPED

- Solution: increase the current intensity and/or decrease the heading pressure;

- If during welding the two edges find it difficult to join and tend to reject, this means the current intensity is too high and the heading pressure is too low (see Figure 30);



Figure 30

BAD WELD: THE WELD BEAD SHOWS SOME HOLES

- solution: increase current intensity and/or decrease the heading pressure;

For any other problem do not hesitate to contact us through our site www.viscatfulgor.com or to send us an email at info@viscatfulgor.it

14. WARRANTY

Our machines are guaranteed against any manufacturing defects under normal operating and maintenance conditions. This warranty is valid 12 months from the date of purchase and provides for the replacement of any faulty pieces.

This warranty is not valid if the machine has been tampered with by non-authorized people or companies, or if it has been used for different purposes than those specified in this user manual. Consumables are not covered by this warranty (e.g. plates).

15. TECHNICAL CHARACTERISTICS OF THE MACHINE

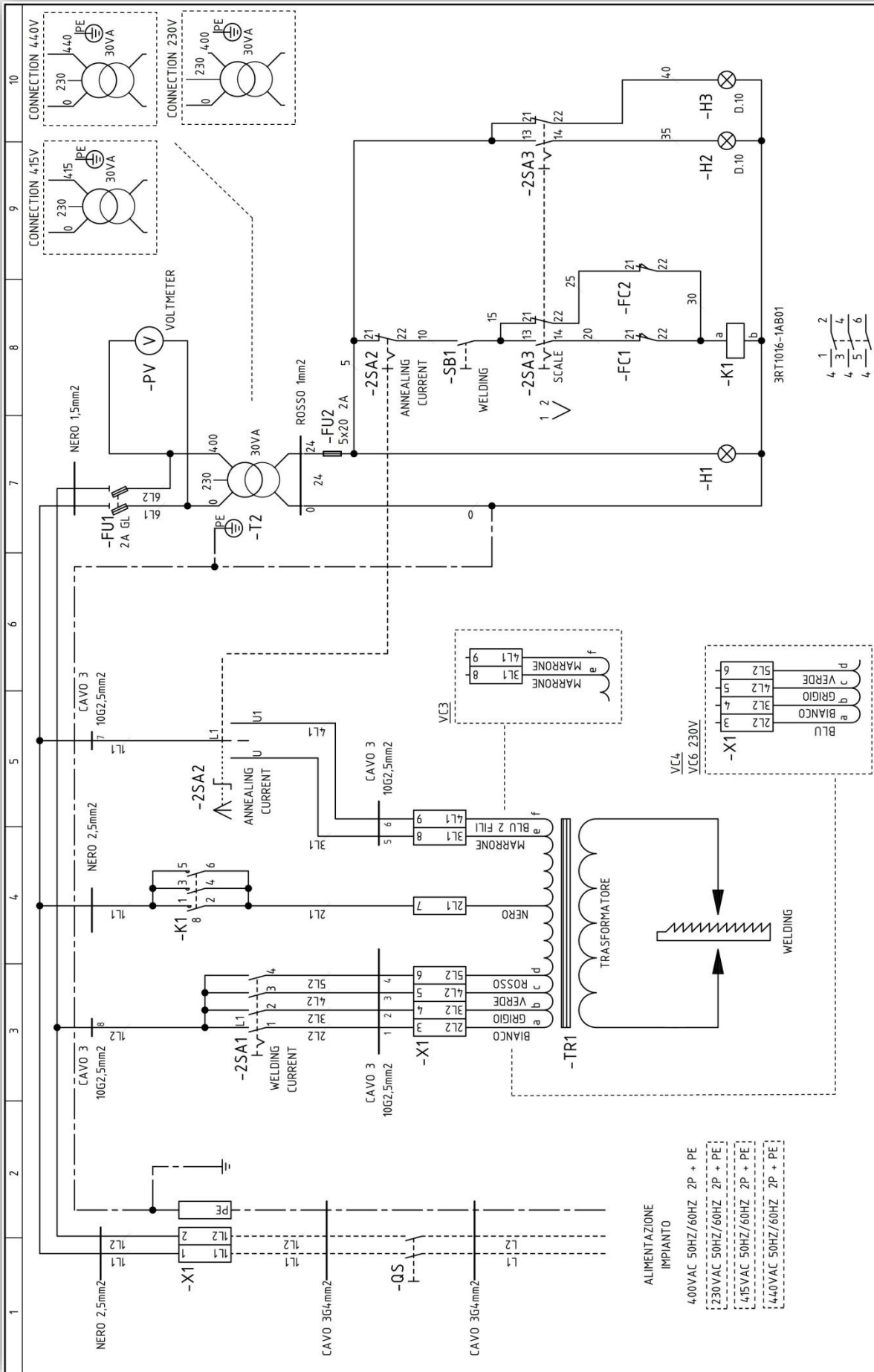
For information on the technical characteristics of the machine, see the plate on it.

VISCAT FULGOR ITALY <small>http://www.viscatfulgor.com e-mail: info@viscatfulgor.com</small>			
TIPO :	<input style="width: 100%;" type="text"/>	ANNO DI FABBRIC. :	<input style="width: 100%;" type="text"/>
MATRICOLA :	<input style="width: 100%;" type="text"/>	CORRENTE NOM. :	<input style="width: 100%;" type="text"/> A
POTENZA NOM. :	<input style="width: 50%;" type="text"/> kW	TENSIONE :	<input style="width: 50%;" type="text"/> V
MASSA :	<input style="width: 50%;" type="text"/> kg	FREQUENZA :	<input style="width: 50%;" type="text"/> Hz

16. WIRING DIAGRAM

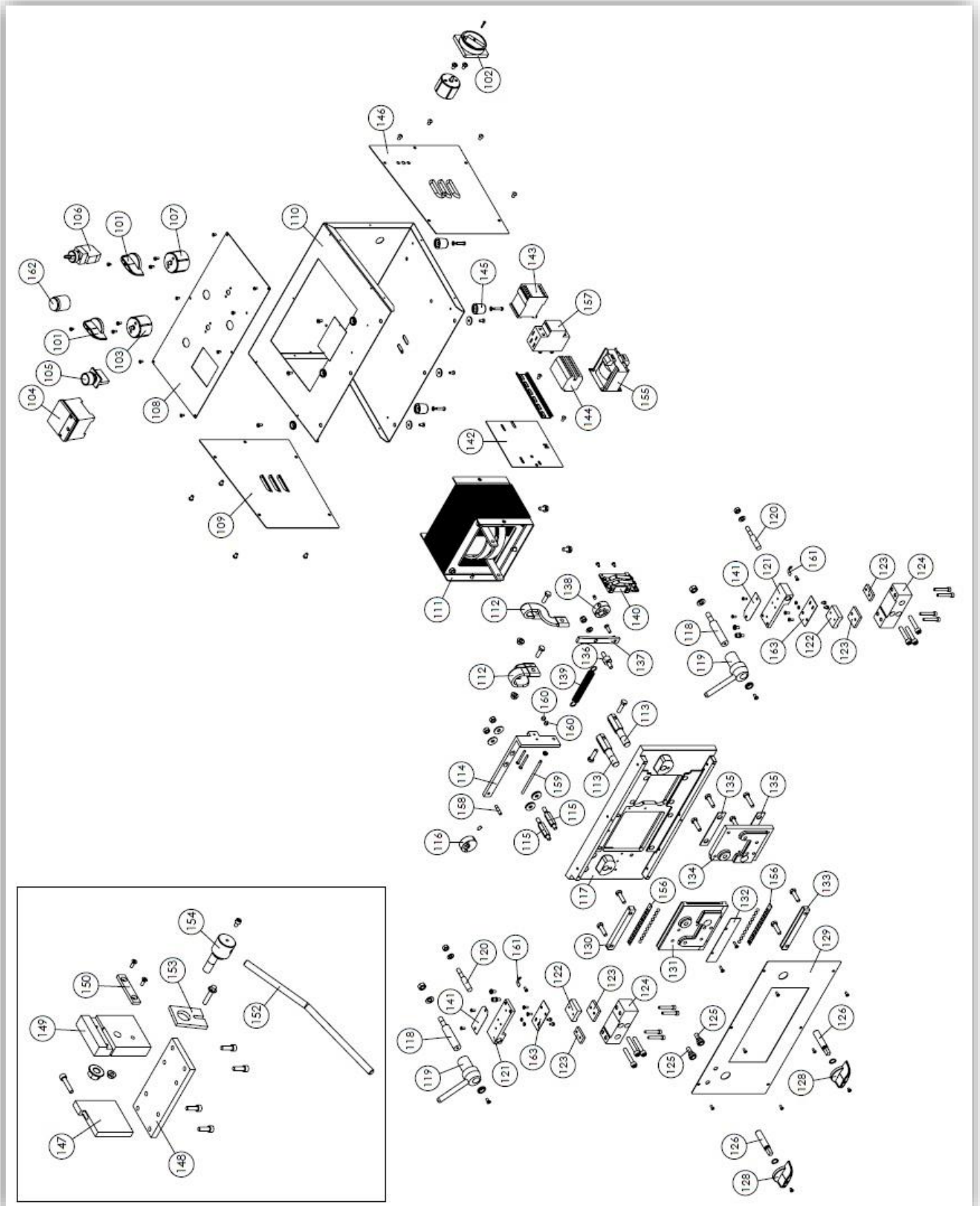
<p>SCHEMA NUMERO : 11-00003</p>		<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>VC 3 VC 4 VC 6</p> </div>
<p>SCHEMA ELETTRICO ELECTRICAL DIAGRAM</p>		
<p>Cliente : Nr. disegno cliente : VC 3 VC4 VC6 Armadio elettrico :</p>		
<p>1° Livello : QUADRO 2° Livello : SALDATRICE</p>		
<p>Grado di protezione : IP40</p>		
<p>Tensione Nominale impianto : 400V</p>	<p>230V 415V 440V</p>	<p>024V 024V 024V</p>
<p>Tensione Circuiti di comando : 024V</p>	<p>024V</p>	<p>024V 024V</p>
<p>Tensione Circuiti di segnale : 024V</p>	<p>024V</p>	<p>024V 024V</p>
<p>Potenza Totale Impianto</p>	<p>VC 3 : 4KW VC 4 : 4,5KW VC 6 : 6,5KW</p>	<p>4KW 4,5KW 6,5KW 4,5KW 6,5KW</p>
<p>Corrente Pieno Carico</p>	<p>VC 3 : 11A VC 4 : 13A VC 6 : 19A</p>	<p>20A 23A 33A 11A 13A 18A 11A 17A</p>
<p>Corrente Carico Maggiore</p>	<p>VC 3 : 11A VC 4 : 13A VC 6 : 19A</p>	<p>20A 23A 33A 11A 13A 18A 11A 17A</p>
<p>Potere di Interruzione</p>	<p></p>	<p></p>

<p>Disegnato con ELCAD (R)</p>	<p>Stampato il : 01.12.2011 alle ore : 13:58:54</p>	<p>11-00003</p>
<p>c</p>	<p>14/09/2011</p>	<p>QUADRO SCHEMA ELETTRICO</p>
<p>b</p>	<p>PR</p>	<p></p>
<p>a</p>	<p>PR</p>	<p></p>
<p></p>	<p></p>	<p>3</p>
<p></p>	<p></p>	<p>1</p>



Revisione	Data	Nome Norma	Sostituito da:	Disegnato:	11-00003	QUADRO-SALDATRICE	Foglio 2
							3 Fg.

17. EXPLODED DIAGRAM



18. PART LIST

VC 101	ROTARY KNOB
VC 102	DISCONNECTING SWITCH
VC 103	WELDING RHEOSTAT
VC 104	VOLTMETER
VC 105	PUSH BUTTON
VC 106	WELDING SCALE SELECTOR SWITCH
VC 107	ANNEALING RHEOSTAT
VC 108	UPPER PANEL
VC 109	LEFT PANEL
VC 110	FRAME
VC 111/3	TRANSFORMER VC-3
VC 111/4	TRANSFORMER VC-4
VC 111/6	TRANSFORMER VC-6
VC 112/3	COPPER BRAIDS VC-3 (PAIR)
VC 112/4	COPPER BRAIDS VC-4 (PAIR)
VC 112/6	COPPER BRAIDS VC-6 (PAIR)
VC 113	PINS (PAIR)
VC 114	BRACKET
VC 115	HEXAGONAL PIN
VC 116	PATH CAMS
VC 117	PLATE
VC 118/3	CAM PIVOT VC-3
VC 118/4	CAM PIVOT VC-4
VC 118/6	CAM PIVOT VC-6
VC 119/3	CAMS VC-3 (PAIR)
VC 119/4	CAMS VC-4 (PAIR)
VC 119/6	CAMS VC-6 (PAIR)
VC 120/3	PRESSER PIVOT VC-3 (PAIR)
VC 120/4	PRESSER PIVOT VC-4 (PAIR)
VC 120/6	PRESSER PIVOT VC-6 (PAIR)
VC 121/3	PRESSER VC-3 (PAIR)
VC 121/4	PRESSER VC-4 (PAIR)
VC 121/6	PRESSER VC-6 (PAIR)
VC 122/3	UPPER PLATES VC-3
VC 122/4	UPPER PLATES VC-4
VC 122/6	No. 12 UPPER BLOCKS VC-6
VC 123/3	SERIES OF LOWER PLATES
VC 123/4	SERIES OF LOWER PLATES
VC 123/6	SERIES OF LOWER PLATES
VC 124/3	BRASS BLOCKS VC-3
VC 124/4	BRASS BLOCKS VC-4
VC 124/6	BRASS BLOCKS VC-6
VC 125	LAMP (2 PIECES)
VC 126	PATH CAM PIN
VC 127 VC 128	ROTARY KNOB
VC 129	FRONT PANEL
VC 130	UPPER SLIDE RAIL
VC 131	MOVABLE CARRIAGE
VC 132	GUARD
VC 133	LOWER SLIDE RAIL
VC 134	FIXED CARRIAGE

VC 135	GASKETS (PAIR)
VC 136	PIN
VC 137	SPRING TENSIONER
VC 138	HEADING PRESSURE CAMS
VC 139	SPRING
VC 140	END STROKE SWITCH
VC 141/3 VC 163/3	SET OF TEMPERED SHEETS FOR PRESSER VC-3
VC 141/4 VC 163/4	SET OF TEMPERED SHEETS FOR PRESSER VC-4
VC 141/6 VC 163/6	SET OF TEMPERED SHEETS AND SPRINGS FOR PRESSER. VC-6
VC 142	CONTACTOR SUPPORT PLATE
VC 143	CONTACTOR
VC 144	TERMINAL STRIP
VC 145	FOOT (4 PIECES)
VC 146	RIGHT PANEL
VC 147	SHEAR SIDE
VC 148	BASE
VC 149/3	SHEAR BODY VC-3
VC 149/4	SHEAR BODY VC-4
VC 149/6	SHEAR BODY VC-6
VC 150/3 VC 153/3	PAIR OF BLADES VC-3
VC 150/4 VC 153/4	PAIR OF BLADES VC-4
VC 150/6 VC 153/6	PAIR OF BLADES VC-6
VC 152	SHEAR LEVER
VC 154/3	SHEAR CAM PIVOT VC-3
VC 154/4	SHEAR CAM PIVOT VC-4
VC 154/6	SHEAR CAM PIVOT VC-6
VC 155	TRANSFORMER 24V
VC 156	CARRIAGE SLIDING BALLS + FRAME
VC 157	FUSE
VC 158	PIVOT
VC 159	THREADED PIVOT
VC 160	NYLON NUTS (PAIR)
VC 161/3	ELASTIC BAND VC-3 (PAIR)
VC 161/4	ELASTIC BAND VC-4 (PAIR)
VC 161/6	ELASTIC BAND VC-6 (PAIR)
VC 162	POWER INDICATOR LIGHT