

PORTABLE WELDING CARRIAGE

# WELDYCAR

SAFETY INSTRUCTION FOR USE AND MAINTENANCE

MACHINE N° W000401719  
W000401720



EDITION : EN  
REVISION : B  
DATE : 09-2018

Instruction for use

REF : **8695 5872**

Original Instructions

**LINCOLN**<sup>®</sup>  
**ELECTRIC**

**Thank for the trust you have expressed by purchasing this equipment, which will give you full satisfaction if you follow its instructions for use and maintenance.**

**Its design, component specifications and workmanship comply with applicable European directives.**

**Please refer to the enclosed CE declaration to identify the directives applicable to it.**

**The manufacturer will not be held responsible where items not recommended by themselves are associated with this product.**

**For your safety,there follows a non-restrictive list of recommendations or requirements, many of which appear in the employment code.**

**Finally we would ask you kindly to inform your supplier of any error which you may find in this instruction manual.**

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# INFORMATIONS

## DISPLAYS AND PRESSURE GAUGE

The measuring tools or displays for voltage, intensity and speed either analog or digital, must be considered as indicators.

## REVISIONS

**REVISION B**

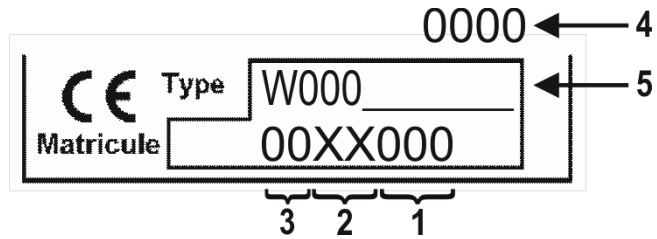
**09/18**

DESIGNATION	PAGE
- Update	C3 ; C5 ; D15 ; D17 ; D18 ; E28 ; E31 ; E32 ; E34
- To change logos	

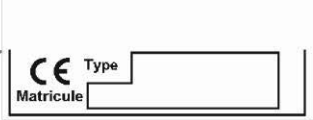
# A - IDENTIFICATION

Please enter the number of your equipment in the following box.

Quote this information in all correspondence.



1	Product n°
2	Product family code
3	Manufacturing year code
4	Year manufactured
5	Product type



# B - SAFETY INSTRUCTIONS

## ELECTROMECHANICAL EQUIPMENT USED AS THE SUBASSEMBLY OF AN INSTALLATION.

c

- This equipment can be associated with a welding installation, in which case it is covered by safety instructions described in the instructions for the welding installation.

- If this equipment is used in other cases, a minimum of instructions must be respected, in particular :

### 1 - SERVICING



- Check often that the insulation and connections of the electrical equipment and accessories are in good condition: plugs, cables, flexible cables, sheaths, connectors, extension cables, workpiece clamps, electrode holders or torches...
- Maintenance and repair work on insulating sheaths and covers should never be carried out in a makeshift manner.
- Have defective accessories repaired by a specialist or, better still, replace them,
- Periodically check that electrical connections are properly tightened and do not overheat.

### 2 - PERSONAL PROTECTION

#### RISQUES D'ATTEINTES EXTERNES.



- The operator must be properly dressed and protected for the work he is carrying out.
- Ensure that no part of the operator's body or of his assistant's body can come in contact with metal parts and workpieces which are energized or which could accidentally become energized and/or which are moving.
- Do not wrap electrical cables around your body.



**For vertical welding, the carriage is to be tied to a cable in order to prevent falls.**

**Make sure that no spray or water enters into the electrical box of the carriage.**

**→ IP235 PROTECTION**

# C - DESCRIPTION

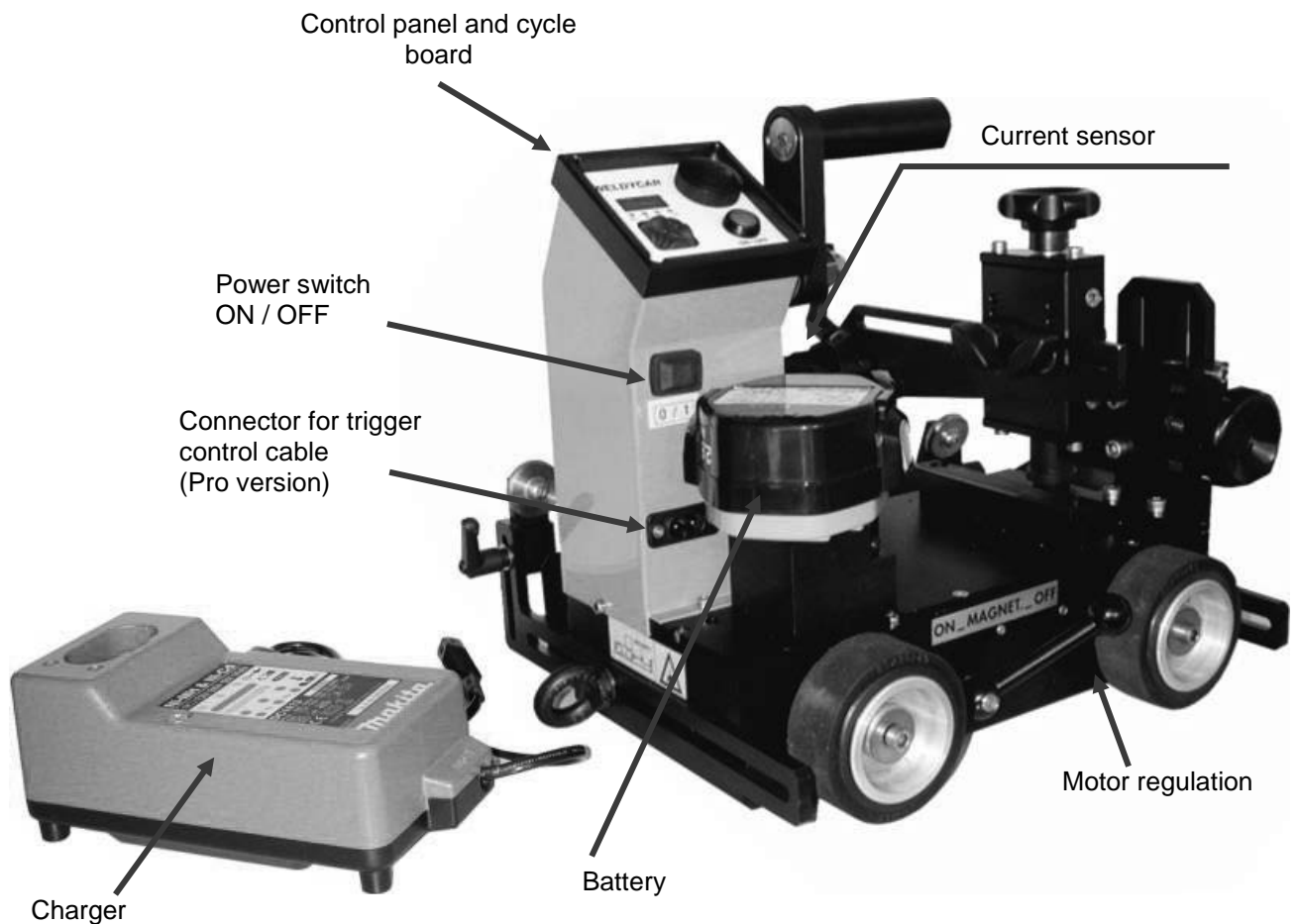
## 1 - DEFINITION

**WELDYCAR** carriages are portable independent torch carriages with four driving wheels. They are specially designed for mechanising semiautomatic welding in all positions - flat, on a sloping plane or on a vertical plane.

Light and robust, they offer the quality of automatic welding as well as easy operation and fast commissioning.

The magnetisation base of the carriage enables it to be used to make vertical welds without any tools. Activation is simply achieved by means of a tilt lever (**in that case, one of the two (M2) rings located on the side of the carriage is to be tied to a cable in order to prevent falls**).

The electronic architecture is optimised with a microcontroller, which means that the equipment is scalable. The basic version can be fitted out with a number of optional features.



## **A) MOTORIZATION**

**WELDYCAR** is driven by a 14 V DC motor.

The carriage is autonomous. The battery, rechargeable in 65 min. ensures a continuous work during 6 hours.

The four drive wheels have a rubber coating and a disengagement magnetic attraction system **Ref. M1** that can be locked in the Off position (25-kg force), offering perfect driving for vertical welding.

**In that case, one of the two M2 rings at the end of the carriage is to be tied to a cable to prevent falls.**

## **B) ELECTRIFICATION**

Indication of battery low status by a flashing display **Ref.E1**.

Pre-display of the speed by high-brightness LEDs and adjustment via numerical encoder (max. error at mid scale < +/-5%) **Ref.E5**.

The carriages are equipped with a closed-loop encoder for speed display.

Manual starting up with **pushbutton Ref.E2** or automatic starting up with arc sensor with power source function in **4 stages**.

Adjustable delay for starting up the carriage in respect of the welding job.

## **C) GUIDANCE PRINCIPAL**

The carriage takes place quickly and easily on the welded seam.

It moves on its two contact rollers (**Ref.M5**) fitted on an adjustable arm: (**Ref.M4**).

- ➔ either directly on the stiffener for angle welds.
- ➔ or along a rapid fixing rail for the other welding positions.

The crabbing is obtained by setting back front roller from the back roller.

## **D) TORCH SETTING**

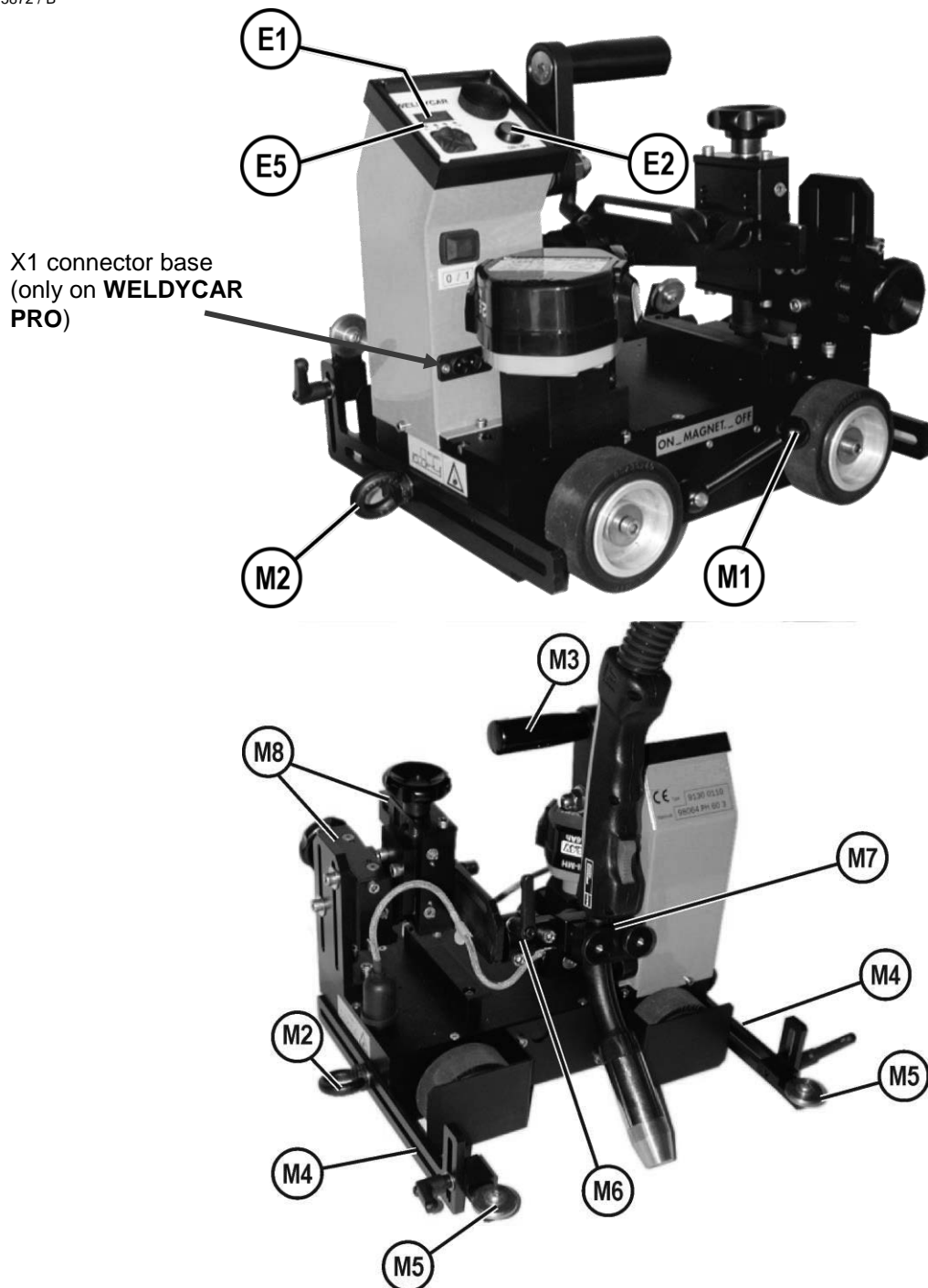
The adjustment of the torch position is very easy and precise with 2 crossed slides (**Rep M8**) 40mm which have different fixation steps.

A ball joint (**Rep M6**), coupled to an indexed handle, allows to set the torch holder very precisely (**Rep M7**). The torch holder enables an easy and quick setting, and can be changed by a specific tool.

## **E) CARRYING**

Lightweight (12 kg) and handy (**Rep M3**), **WELDYCAR** can be held easily by an operator for a fast commissioning.





### **WELDYCAR PRO VERSION**

- **intermittent welding** facility.
- simplified programming with four keys (**scrolling menu**)
- **actual pre-selection** of lengths from 0mm - 999cm, possibility to run a single welded length to the selected dimension.
- **crater return** check: 0mm - 30mm.
- carriage starting delay as compared to the starting of welding: 0.1 - 3.0s.
- welding stopping delay as compared to carriage stopping: 0.1 - 3.0s.

#### Supplied equipment:

- Connector base X1 for trigger cable (not available on **WELDYCAR**)
- GE116 trigger cable (not available on **WELDYCAR**)

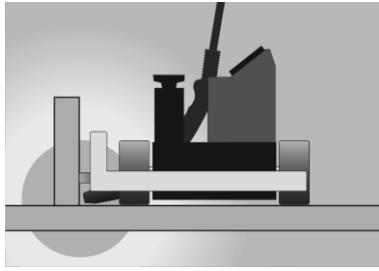
## 2 - CARRIAGE TECHNICAL CHARACTERISTICS

	<b>WELDYCAR W000401719</b>	<b>WELDYCAR PRO W000401720</b>
Weight	12kg	
Supply	Battery 14 V	
Autonomy without oscillation	6 hours continuous work	
with oscillator	4 hours continuous work	
4-wheels drive	Ø 75mm l=30mm	
Glissière verticale	travel 40 mm	
Glissière horizontale	travel 40 mm	
Vitesse d'avance	5 to 140 cm/mn	
Discontinuous welding*	No	No
Magnetic power	25 kg	
Protection index	IP 235	
Trigger control	1 contact	1T/1A
Operating temperature	-5°C to +50°C	
Storage temperature	-10°C to +70°C	
Relative humidity	<90%	
Overall dimensions (mm)		
Length	250	
Width	300	
Height	260	

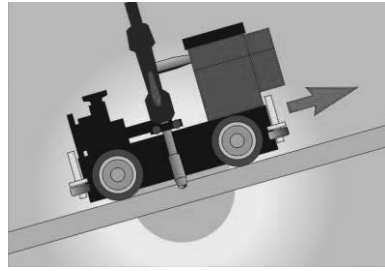
\* : The **WELDYCAR PRO** carriage is equipped with a Programming Eprom allowing operation in continuous or discontinuous welding mode.

### 3 - MULTI-SURFACE WELDING

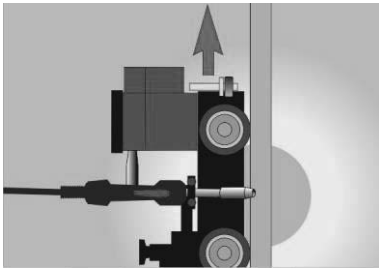
Flat welding



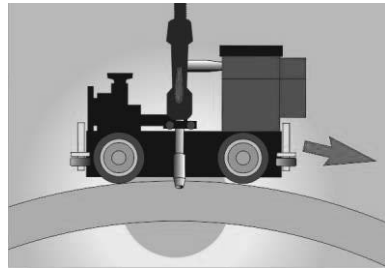
Inclined plane



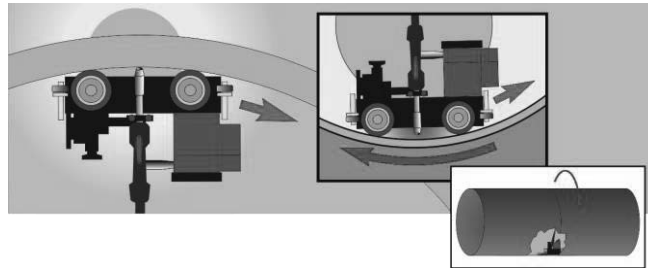
Vertical welding



Shell exterior with minimum diameter of 2000 mm



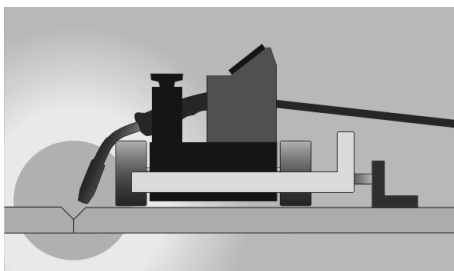
Shell interior with minimum diameter of 3000 mm



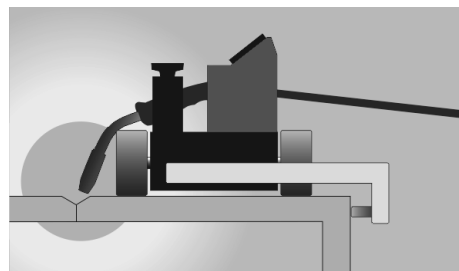
### 4 - GUIDANCE PRINCIPLES AND APPLICATIONS

Butt assembly

Guidance on angle or rail

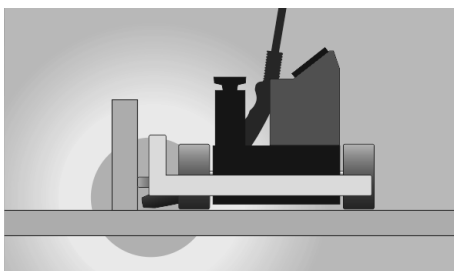


Guidance on vertical surface

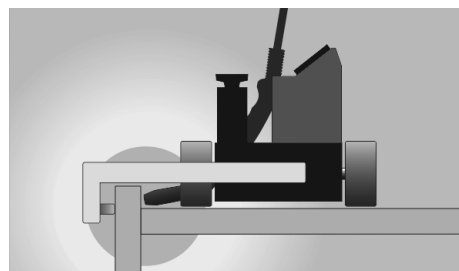


Angle assembly

Guidance on vertical surface



Guidance on exterior of vertical surface



## 5 - OPTIONS

### ➤ Option Arc protection: Z91300108

Kit composed of :

- Ocular protection against arc light.
- Tube for connection to welding fume suction device.



### ➤ Option Pendular oscillator : W000315474

Ensures torch oscillation at adjustable speed and amplitude. Powered by the carriage's 14V battery (carriage autonomy reduced to 4 hours of continuous operation),

- Oscillation frequency: 0 to 100 strokes/min.
- Weight 2 kg.



### ➤ Option 4 Aluminum wheel: W000401721

For pre-heated surfaces, the rubber is recommended. Some aluminium wheels should be mounted on the **WELDYCAR**.

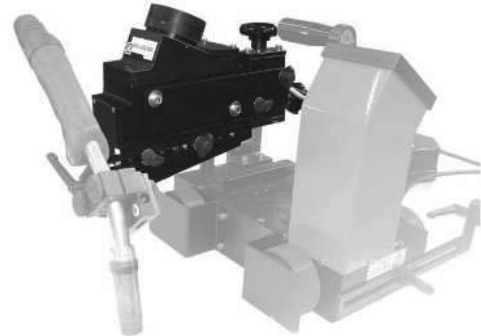
- For 1 **WELDYCAR**, 4 wheels are needed.



➤ **Option Linear oscillator OSCI-WELDY : W000276068**

This function is now available on all carriages **WELDYCAR**, without any particular adaptation. Thanks to its design, the oscillator allows a movement with a precision of 0.1mm. (carriage autonomy reduced to 2 hours of continuous operation)

- Oscillation amplitude 56mm
- Weight 2,7 kg.



➤ **Option Crossed slides for tracking PROXI-WELDY : W000401726**

This option allows to track the joint laterally and vertically. With the design of **OSCI-WELDY**, an electrical slide is added vertically.

The lateral slide is controlled by a joystick or a proximity sensor

The vertical slide is controlled by a joystick or a proximity sensor.

Thanks to its design, the crossed slides allow a movement with a precision of 0.1mm. (carriage autonomy reduced to 2 hours of continuous operation)

- Lateral slide amplitude 56 mm
- Vertical slide 56mm
- Weight 3.5 kg

Joint tracking with proximity sensor :

**PROXI-WELDY**



➤ **Option Crossed slides for tracking TRACK-WELDY : W000401725**

This option allows to track the joint laterally and vertically. With the design of OSCI-WELDY, an electrical slide is added vertically.

The lateral slide is controlled by a joystick or used as Oscillator

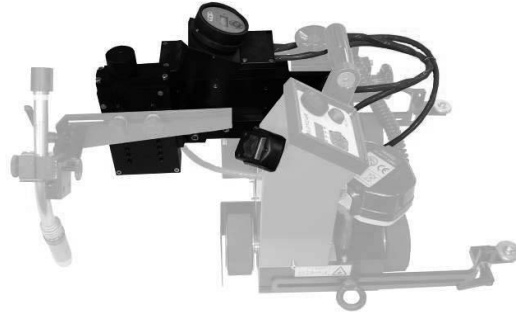
The vertical slide is controlled by a joystick or an intensity detector.

Thanks to its design, the crossed slides allow a movement with a precision of 0.1mm. (carriage autonomy reduced to 2 hours of continuous operation)

- Lateral slide amplitude 56 mm
- Vertical slide 56mm
- Weight 3.5 kg

Joint tracking with intensity sensor :

**TRACK-WELDY**



The arc probing is only possible on butt joint assembly (please consult us)

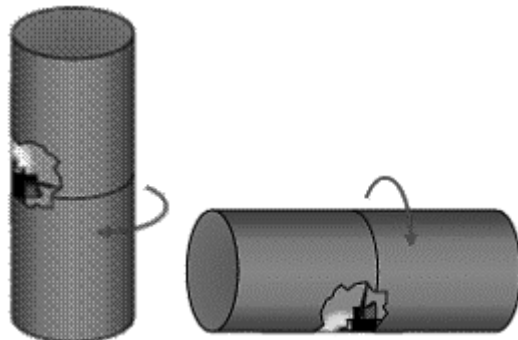
➤ **Option Magnetic railway:**

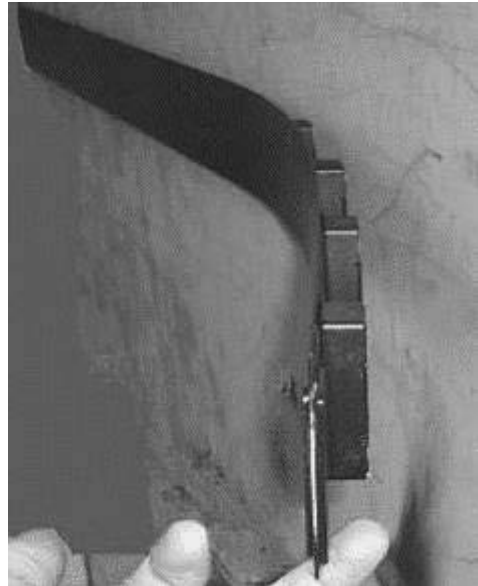
**1 railway of 1.5m + supports : W000401722**

**1 additional railway of 1.5m : W000401723**

The magnetic railway, made in toughened steel (1500x80), is a device which allows to follow a welding joint. This railway, mounted on 11x2 magnetic grips, can be fixed on tank or on steel plate, and thanks to arm support, the **WELDYCAR** follows the magnetic railway.

We propose 1 first section of 1.5m with arm support, and additional sections of 1.5m

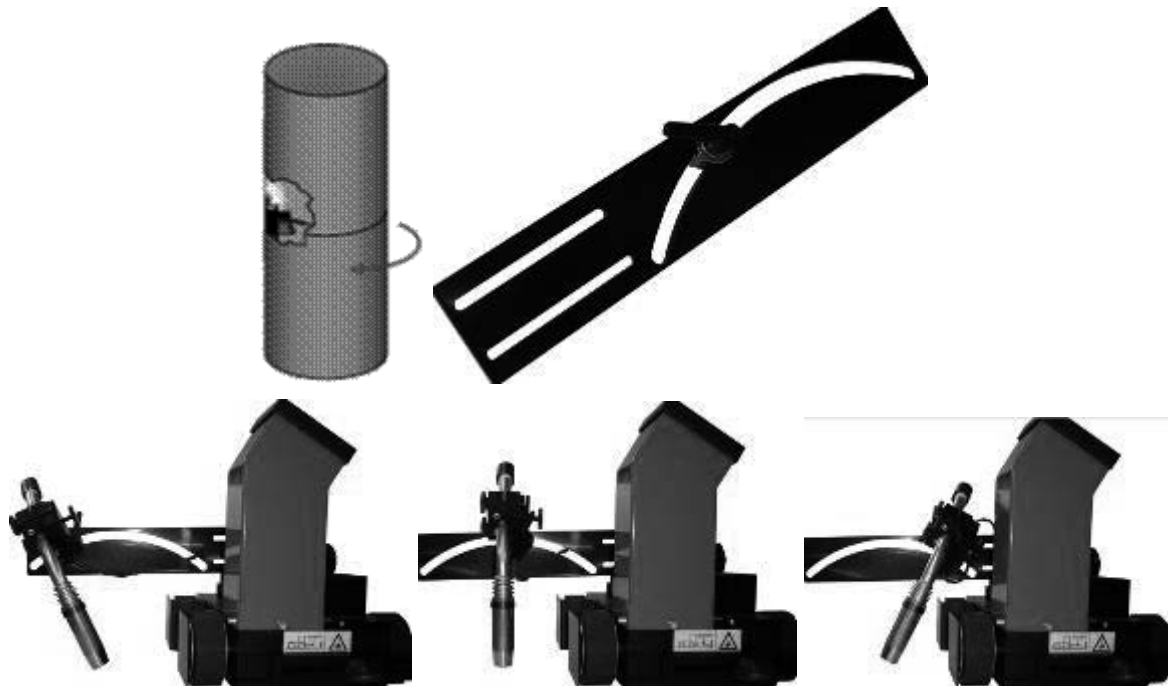


**Support arm :****Magnetic rail :****11 x 2 magnets per rail of 1.5m :**

➤ **Option tilting torch support : W000401724**

When we weld on in cornice position, it can be interesting to tilt the torch. This option allows the positioning of the torch compared to the joint to weld.

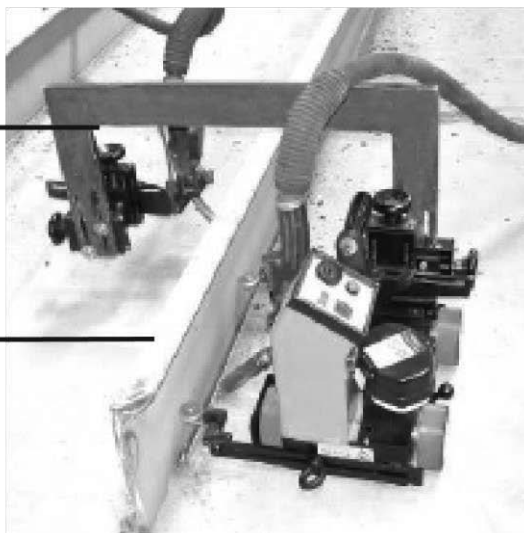
- This option includes the plate and the support of the torch.



➤ **Option double torches MIG : W000384545**

This option allows to weld with 2 MIG torches simultaneously. That consists to add an additional support on which we put 2 crossed slides and an angular device.

Height under  
support  
around 200mm



NOTA : In Special, it's possible to have a **WELDYCAR PRO** version with 2 starts connectors : Consult us.





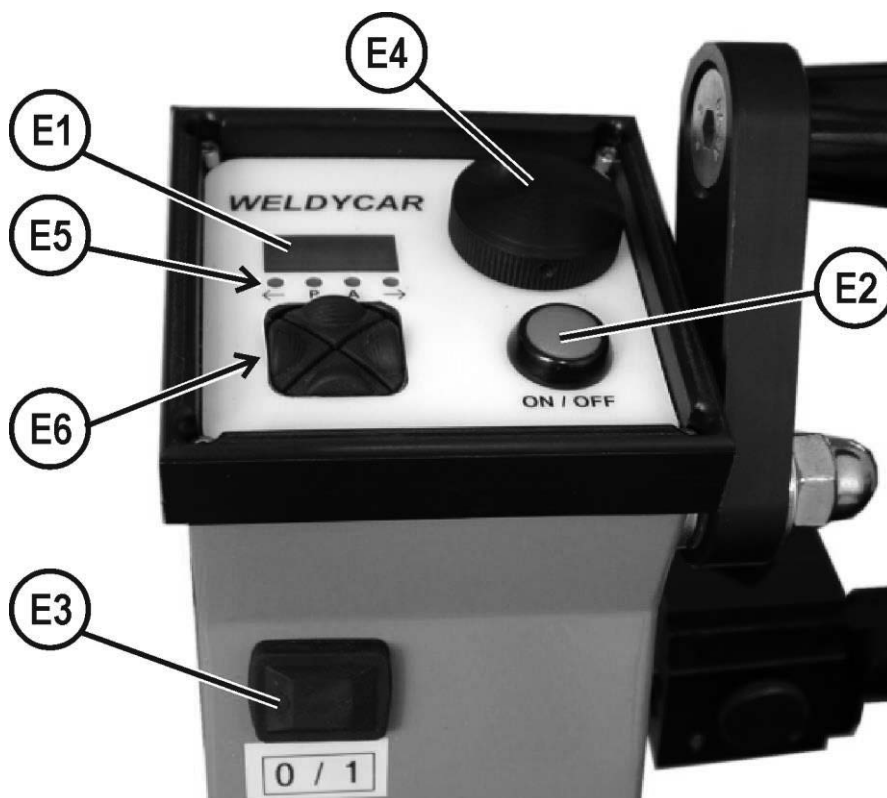
## D - INSTRUCTIONS FOR USE



When used on sloping or vertical walls, the carriage is to be tied to a cable with one of the two eyes (M2) in order to prevent falls.

**REMARK** : the battery is delivered flat. The battery must be charged before the first use (cf paragraph c).

### 1 - BASIC VERSION



## A) CONTROL BOX

The basic control box is used for the following functions :

<b>E1</b>	Display.
<b>E2</b>	Cycle start/stop.
<b>E3</b>	Starting up.
<b>E4</b>	Numerical incrementing/decrementing potentiometer.
<b>E5</b>	4 leds :
	- ← selection of the displacement direction (left)
	- → selection of the displacement direction (right)
	- <b>A</b> standard mode (automatic start by the arc sensor via the 4T welding torch trigger or with independent start).
	- <b>P</b> programmable mode (only with <b>WELDYCAR PRO</b> ) (pushbutton start) (start of carriage and automatic starting of 2T welding torch)
<b>E6</b>	4 keys for access to parameters and validation.

## B) MAGNETISATION BASE

The magnetisation base is used for welding on inclined or vertical plane, without any further equipment.

To activate magnetisation, switch the lateral lever (**Item M1**) to ON.



### **C) BATTERY (Z91300106) - CHARGER (Z91300107).**

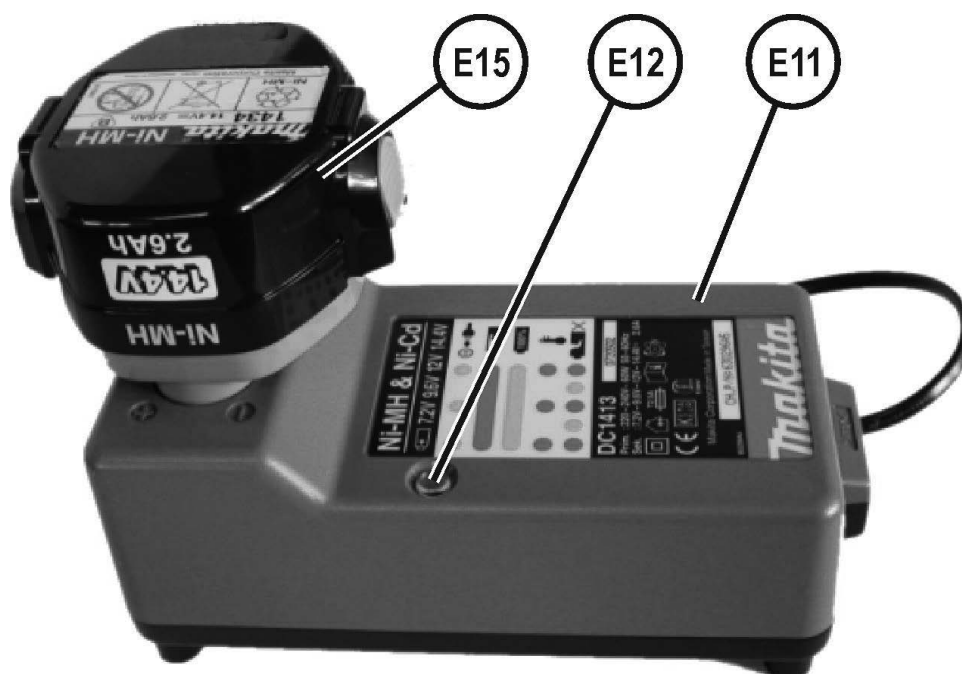
The battery autonomy is 6 hours in continuous work.

The display flashes to indicate that the battery charge level is too low to power the carriage and its optional features.

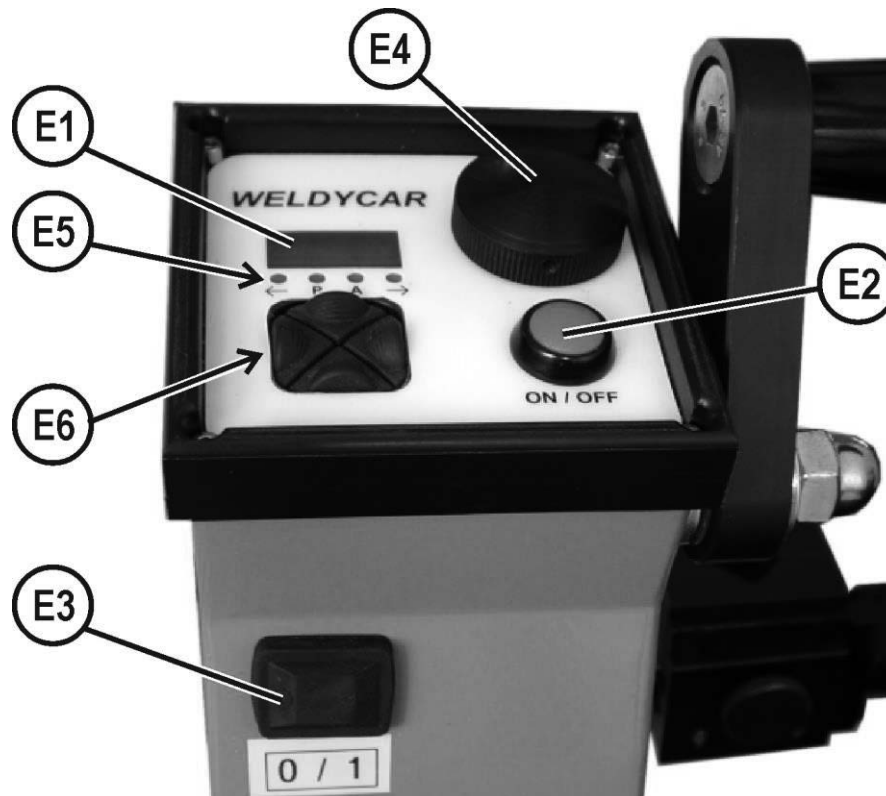
Connect the charger to a main connector 220-240V / 50-60 Hz.

When the battery is well connected, according to the polarities, green warning light goes red and the charge begins. The light remains red during all the charging time **(Item E12)**.

When the charge is over, the light turns green.



## 2 - OPERATING OF WELDYCAR



<u>In Auto mode</u>	<u>In Standard mode</u> (mode A only)
Connect the current sensor. The carriage starts automatically with the arc presence feedback.	The carriage is independent of welding (to disable automatic starting, please disconnect the sensor).
<p>Start up with <b>E3</b>.</p> <ul style="list-style-type: none"> <li>- The carriage will undergo initialisation for 2 to 3 seconds. After that, the welding speed will be shown in cm/min. To modify the speed, turn potentiometer <b>E4</b>.</li> <li>- select the welding direction on <b>E6</b> with the left and right keys.</li> </ul>	
<ul style="list-style-type: none"> <li>- press the torch trigger (power source in 4T mode) to start welding and therefore the carriage.</li> <li>- press the torch trigger once again (power source in 4T mode) to stop welding and therefore the carriage.</li> </ul>	<ul style="list-style-type: none"> <li>- Press the torch trigger (power source in 4T mode) to start welding</li> <li>- press <b>E2</b> → the carriage starts.</li> <li>- Press the torch trigger once again to stop welding.</li> <li>- to stop, press E2 once again to stop the carriage.</li> </ul>

### 3 - OPERATING OF WELDYCAR PRO

1) Mode A is selected by default.

- Operating is identical to **WELDYCAR** → see previous page.

2) To select mode P → press key **E6**



The LED will go on.

The P mode makes it possible to weld predefined continuous or discontinuous lengths. In P mode, connect the trigger cable to the torch and connect the torch to the X1 connector.

To change the parameters of mode P → see following page.

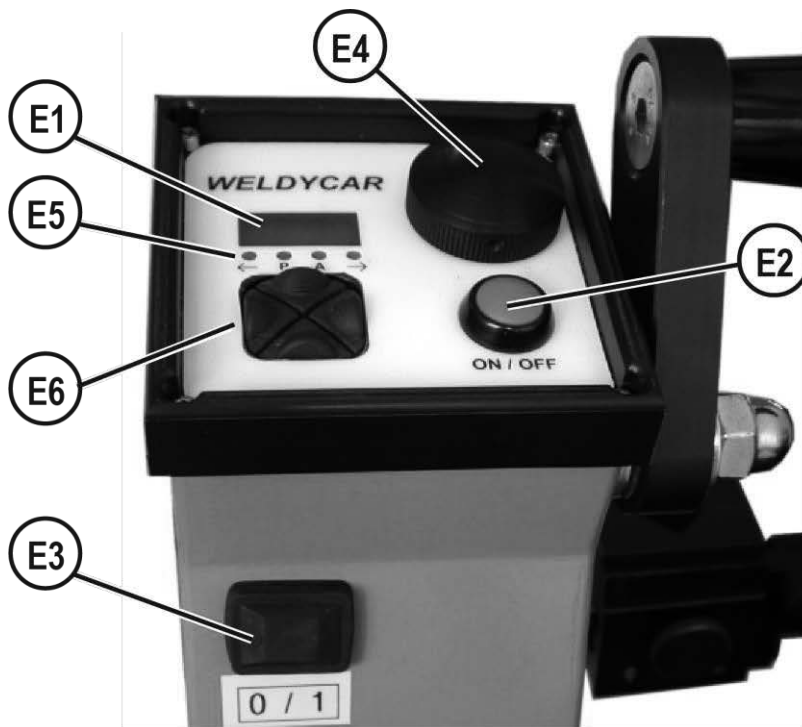
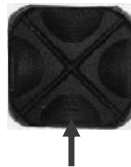
- select the welding direction on **E6** with the left and right keys.

Move to 2-stroke mode on the power source.

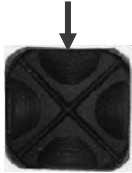
- press **E2** → the carriage and welding start up and complete a cycle.

- press **E2** once again to stop.

Switch back to mode A by pressing key



PARAMETERS	DISPLAY	MIN. VALUE	MAX. VALUE
PRE WELDING DELAY	<b>PRE</b>	00.1s	3.0s
CHOICE OF UNIT OF LENGTH	<b>PAR</b>	millimeter ( <b>0</b> )	Centimeter ( <b>1</b> )
LENGTH/WELD	<b>S</b>	000mm	999cm
LENGTH/OFF WELD	<b>HS</b>	000mm	999cm
CRATER RETURN	<b>RC</b>	00.0 mm	30.0mm
POST WELDING DELAY	<b>POS</b>	00.1s	3.0s

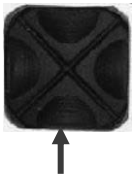


To **access the parameters** in the menu, press the same key for **3 seconds** and release it.

To **scroll and validate** the parameters, press the same key.



To **adjust** a parameter, turn the **potentiometer knob**.



To exit the menu, press the key.

### EXAMPLE OF CYCLE :

- Programme a value in **S** and **0** in **HS** → carriage in welding speed, with automatic **stopping** at the right length.
- Programme a value in **S** and a value in **HS** → carriage in spot mode with no automatic **stopping**.



- Programme **0** in **S** and **0** in **HS** → carriage in welding speed without automatic **stopping** at the right length.

**FOR ALL VERSIONS OF WELDYCAR**

PARAMETERS		MIN. VALUE	MAX. VALUE
COUNTER	Hours	000	999 hours



The counter operates when the carriage moves.



To **view** the counter status, press the key for **3 seconds and release it**.



To **reset the counter**, press key **→** and simultaneously key **←** for three seconds and release.



# E - MAINTENANCE

## 1 - SERVICING

- So that the machine continues to provide good service for as long as possible, a certain minimum of care and maintenance is necessary
- The frequency of this maintenance work is given on the basis of the production of one work station per day. Maintenance should be more frequent if production is greater.

Your maintenance department may photocopy these pages so that it can follow up maintenance dates and operations (tick as appropriate)

### Daily



Remove regularly welding projection on protection lenses of the photo cell, protection casing and support roller.

### Weekly

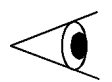
Date of maintenance :    /    /



Every 100 hours, grease manoeuvre screw.

### Annually or after every 500 hours

Date of maintenance :    /    /



- check up the transmission system
- adjust the clearance of guiding shims on the slides
- adjust the clearance of the geared motor on the large sprocket wheel

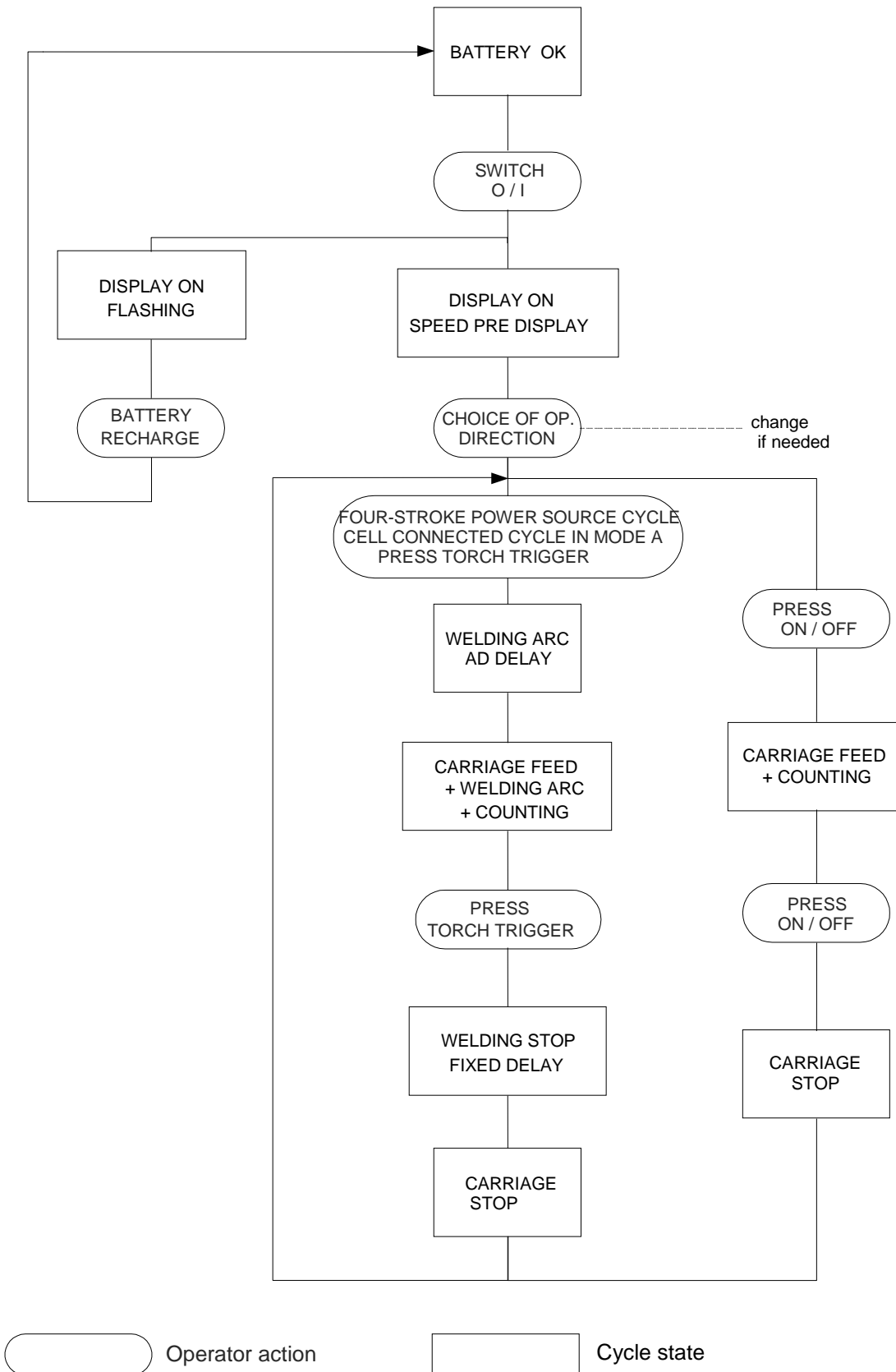


- wash and grease the wheels



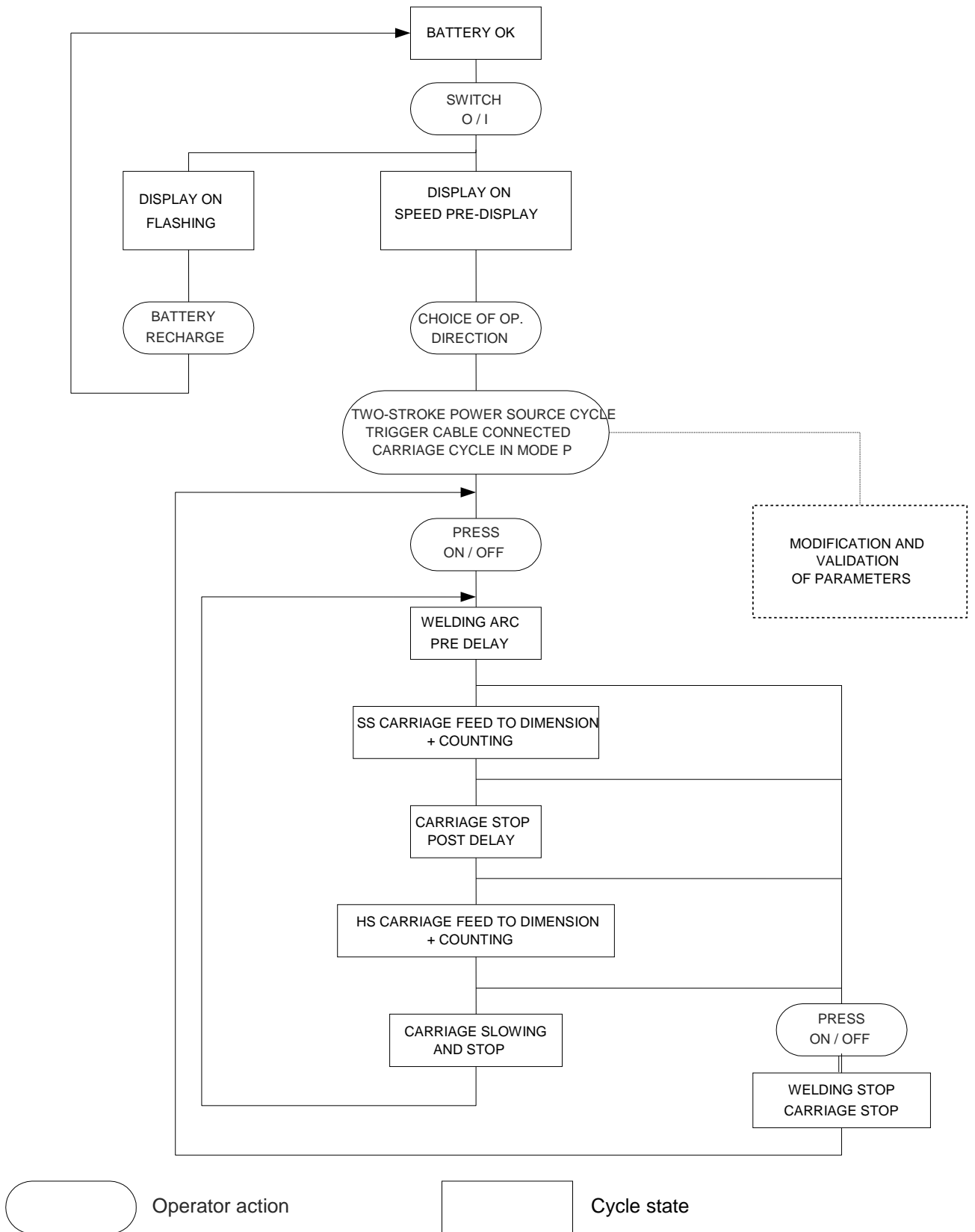
- blow very carefully the electronic card, speed regulator, electric rack

**2 - OPERATING CHART OF WELDYCAR AND WELDYCAR PRO CARRIAGES**



**PR time-out** : carriage start delayed in relation to arcing (time-out adjusted internally on the control circuit).

### 3 - OPERATING CHART OF WELDYCAR PRO IN INTERMITTENT MODE



**Tempo PR** : carriage starts later than arc establishment

**Tempo PG** : welding stops later than carriage stop

**Tempo GV** : high speed carriage starts later than welding stop



# 4 - SPARE PARTS

## How to order

The photos or sketches identify nearly every part in a machine or an installation

The descriptive tables include 3 kinds of items:

- those normally held in stock: ✓
- articles not held in stock: ✗
- those available on request: no marks

(For these, we recommend that you send us a copy of the page with the list of parts duly completed. Please specify in the Order column the number of parts desired and indicate the type and the serial number of your equipment.)

For items noted on the photos or sketches but not in the tables, send a copy of the page concerned, highlighting the particular mark.

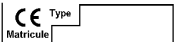
For example:









Item	Ref.	Stock	Order	Designation
E1	W000XXXXXX	✓		Machine interface board
G2	W000XXXXXX	✗		Flowmeter
A3	9357 XXXX			Silk-screen printed front panel

✓	normally in stock
✗	not in stock
	on request

- For parts order, give the quantity required and put the number of your machine in the box below.

	TYPE:
	Number:

	GM001		GM020		GM038
	GM002		GM021		GM039
	GM003		GM022		GM040
	GM004		GM023		GM043
	GM005		GM024		GM049
	GM008		GM025		GM050
	GM011		GM027		GM054
	GM012		GM028		GM056
	GM013		GM030		GM060
	GM014		GM031		GM061
	GM016+ GM033		GM032		GM062
	GM017		GM034		
	GM018		GM036		
	GM019		GM037		

**GM030**

**GM040**

**GM022**

**GM013**

**GM001**

**GM027**

**GM034**

**GM028**

**GM012**

**GM011**

**GM036**

**GM014**



**GM024**

**GM032**

**GM021**

**GM062**

**GM031**

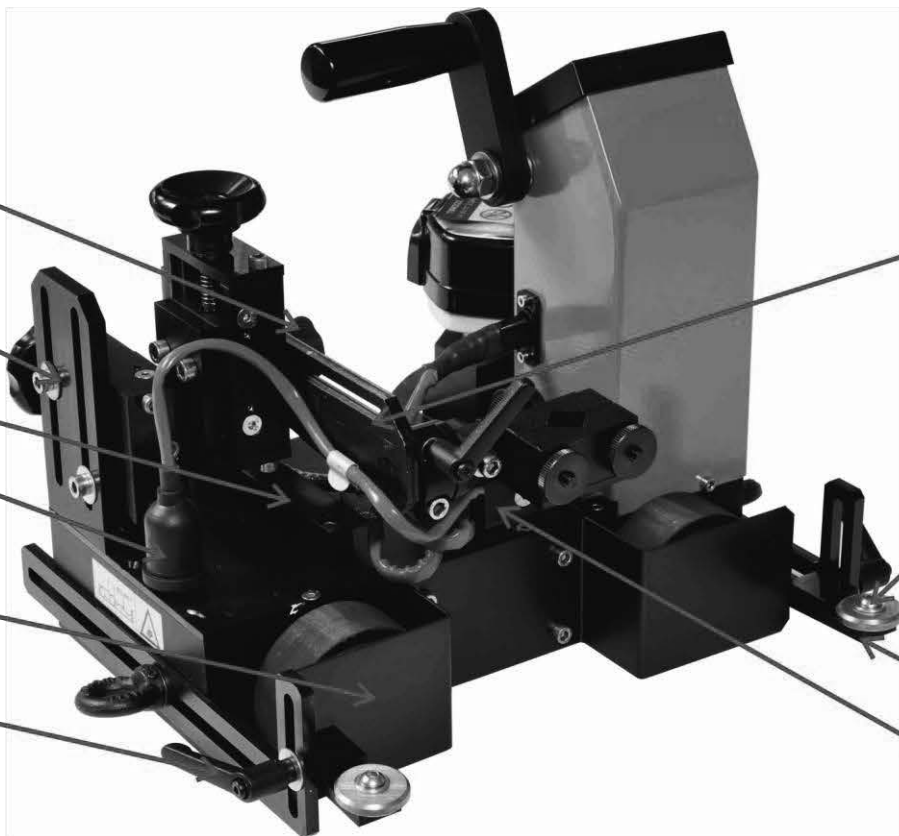
**GM025**

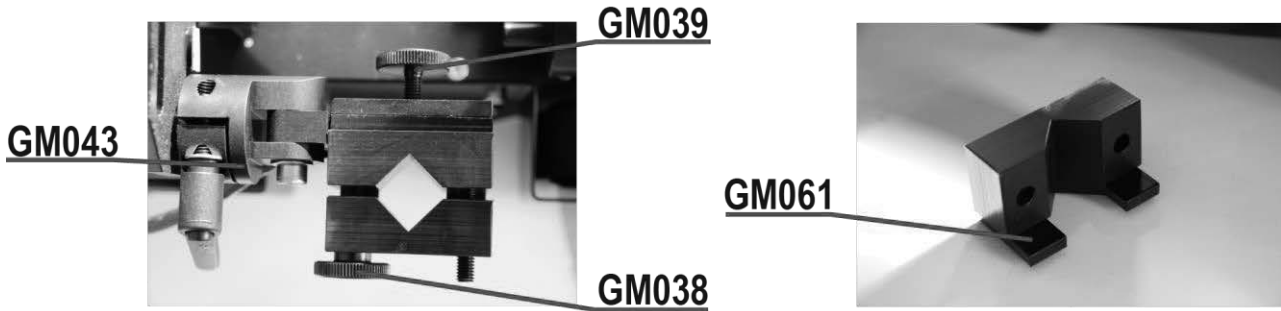
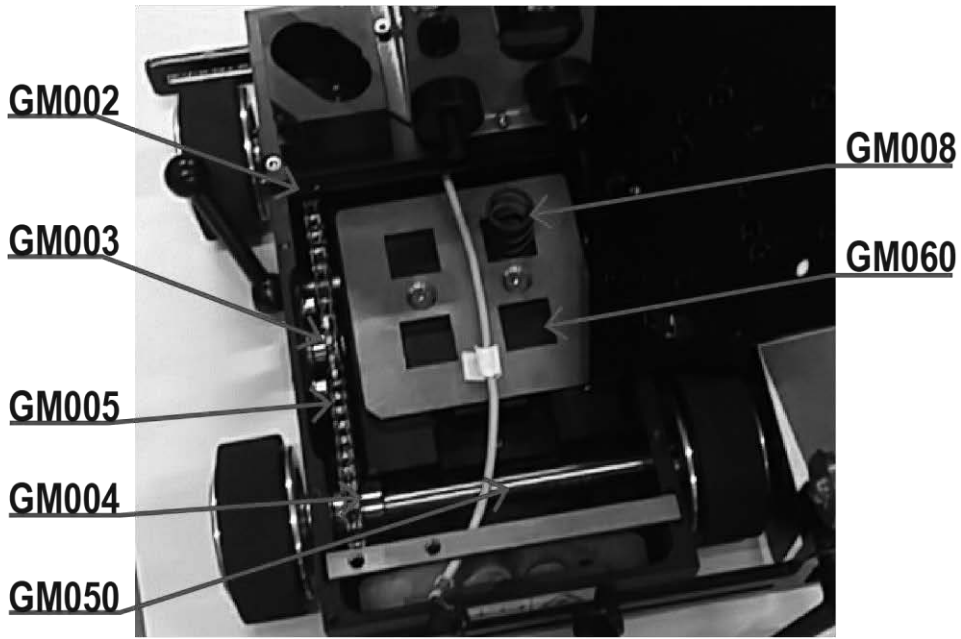
**GM017**

**GM056**

**GM016+GM033**

**GM018**








✓	normally in stock
✗	not in stock
	on request

Item	Ref.	Stock	Cde	Designation
GM001	Z91300120	✓		Rubber wheel
GM002	W000401713	✗		Conical frame
GM003	W000401732	✗		Chain wheel plate 10 tooth
GM004	W000401733	✗		16 tooth gear
GM005	Z91300121	✓		Stainless steel chain
GM008	W000401734	✗		Magnetisation return spring
GM011	W000401735	✗		Slide attachment bracket
GM012	W000401736	✗		Complete fitted adjustment cross carriage
GM013	W000401737	✗		Battery support in Ertalon
GM014	Z91300122	✓		Crabbing arm i l=260
GM016	W000401738	✗		Support roller
GM016 + GM033	Z91300123	✓		Support roller (copper) with support
GM017	W000401739	✗		Plate with opening for adjusting torch support
GM018	W000401740	✗		Intermediate unit for angular adjustment of torch support
GM019	W000401741	✗		Ertalon torch support with complete hinge fitted on a Tee
GM020	Z91300108	✓		Stainless steel cover for arc protection and fumes extraction
GM021	W000401742	✗		Linear guide for arc protection
GM022	W000401743	✗		Guide for arc protection
GM023	Z91300125	✗		Rubber for arc protection
GM024	Z91300128	✓		Set of two butterfly screws
GM025	Z91300127	✓		2 handles 25 mm zamac
GM027	W000051009	✓		Magnetisation desactivation lever
GM028	W000401744	✗		Slide hand wheel
GM030	W000401745	✗		Carry handle

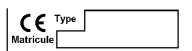
➤ For parts order, give the quantity required and put the number of your machine in the box below.




















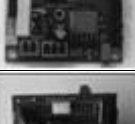





	TYPE :
	Number :

✓	normally in stock
✗	not in stock
	on request

Item	Ref.	Stock	Order	Designation
GM031	W000051014	✗		Stainless steel cover for wheels protection
GM032	W000401746	✗		Crossed slides support
GM034	W000401747	✗		Magnetization ball lever
GM036	Z91300129	✓		Guide rule fixing rings (2)
GM037	Z91300124	✓		Complete Ertalon torch support fitted on Tee.
GM038	W000275072	✓		Set of 2 serrated nut for standard torch block
GM039	W000275073	✓		Set of 2 serrated screw for standard torch block
GM040	W000401748	✗		Rod support handle with stainless steel screw and nut
GM043	W000401749	✗		Angular adjusting nut with lever
GM049	W000401750	✗		Stainless steel butterfly screw
GM050	W000401751	✗		Wheel axis
GM054	W000401752	✗		Slide cotter
GM056	W000401753	✗		Set of 10 internal rings for roller support
GM060	W000401754	✗		Magnet
GM061	W000401755	✗		Tangent plate for looping field
GM062	W000401756	✗		Aluminum support tube connector to arc captor

➤ For parts order, give the quantity required and put the number of your machine in the box below.

	TYPE :
	Number :

	<b>GE108</b>	Fu1		<b>GE302A</b>	CDE		<b>GE310AP</b>	
	<b>GE111</b>	A1		<b>GE302AP</b>	CDE-1		<b>GE314</b>	
	<b>GE112</b>			<b>GE303</b>	S1		<b>GE315A</b>	
	<b>GE116</b>	X1		<b>GE304</b>			<b>GE318A</b>	Fu0
	<b>GE126</b>			<b>GE305</b>			<b>GE319</b>	J0
	<b>GE127</b>	A0		<b>GE306</b>			<b>GM335</b>	
	<b>GE128</b>			<b>GE307A</b>	CPU		<b>GE118A</b>	
	<b>GE301A</b>	CT1		<b>GE307AP</b>	CPU-1		<b>GE317A</b>	
				<b>GE310A</b>				

**GE310A**  
**GE310AP**

**GE111**

**GE116**



**GM335**

**GE126**

**GE128**

**GE319**

**GE301A**



**GE314**

**GE305**

**GE303**

**GE306**

## ELECTRICAL COMPONENTS

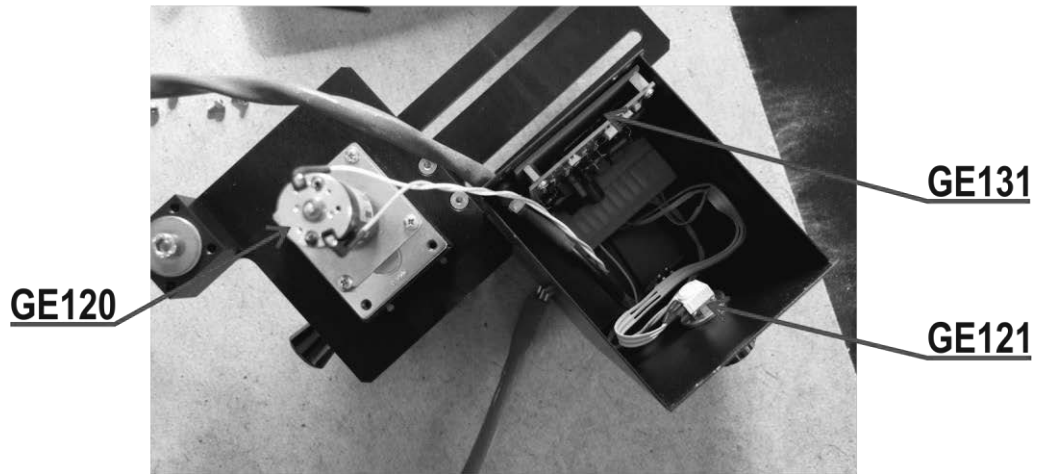
✓	normally in stock
✗	not in stock
	on request

Item	Ref.	Stock	Order	Designation
<b>GE108</b>	W000275071	<b>✗</b>		Set of 10 fuses T2A
<b>GE111</b>	Z91300106	<b>✓</b>		Battery 14 V
<b>GE112</b>	Z91300107	<b>✓</b>		Battery charger
<b>GE116</b>	W000401758	<b>✗</b>		Trigger cable
<b>GE126</b>	W000120694	<b>✓</b>		Fitted arc detector
<b>GE127</b>	W000401759	<b>✗</b>		Set of 2 retractable gold contact stubs
<b>GE128</b>	W000401760	<b>✗</b>		Rubber sleeve to protect probe connector
<b>GE301A</b>	W000401761	<b>✗</b>		General on/off button
<b>GE302A</b>	W000401778	<b>✓</b>		Control board
<b>GE302AP</b>	W000401779	<b>✓</b>		Control board PRO version
<b>GE303</b>	W000401763	<b>✗</b>		Red on/off push button
<b>GE304</b>	W000401764	<b>✗</b>		Digital potentiometer only
<b>GE305</b>	W000401765	<b>✗</b>		Black aluminium button
<b>GE306</b>	W000401766	<b>✗</b>		Waterproof cap for multicontrol button
<b>GE307A</b>	W000401780	<b>✓</b>		Cycle board
<b>GE307AP</b>	W000401781	<b>✓</b>		Cycle board, PRO version
<b>GE310A</b>	W000401782	<b>✗</b>		Complete control panel with lexan
<b>GE310AP</b>	W000401783	<b>✗</b>		Complete control panel with lexan , PRO version
<b>GE314</b>	W000401769	<b>✗</b>		Lexan only
<b>GE315A</b>	W000401784	<b>✗</b>		Battery harness
<b>GE318A</b>	W000401785	<b>✗</b>		Line fuses 3.15A
<b>GE319</b>	W000401772	<b>✗</b>		Arc connector base
<b>GM335</b>	W000401757	<b>✗</b>		Control board drill plate
<b>GE118A</b>	W000401786	<b>✗</b>		Motoreducer 1.4m/min with encoder
<b>GE317A</b>	W000401787	<b>✗</b>	↑	General link harness + motor

➤ For parts order, give the quantity required and put the number of your machine in the box below.

CE Type <input style="width: 50px;" type="text"/> Matricule <input style="width: 50px;" type="text"/>	→ →	TYPE : <hr/> Number :
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## PENDULAR OSCILLATOR OPTION



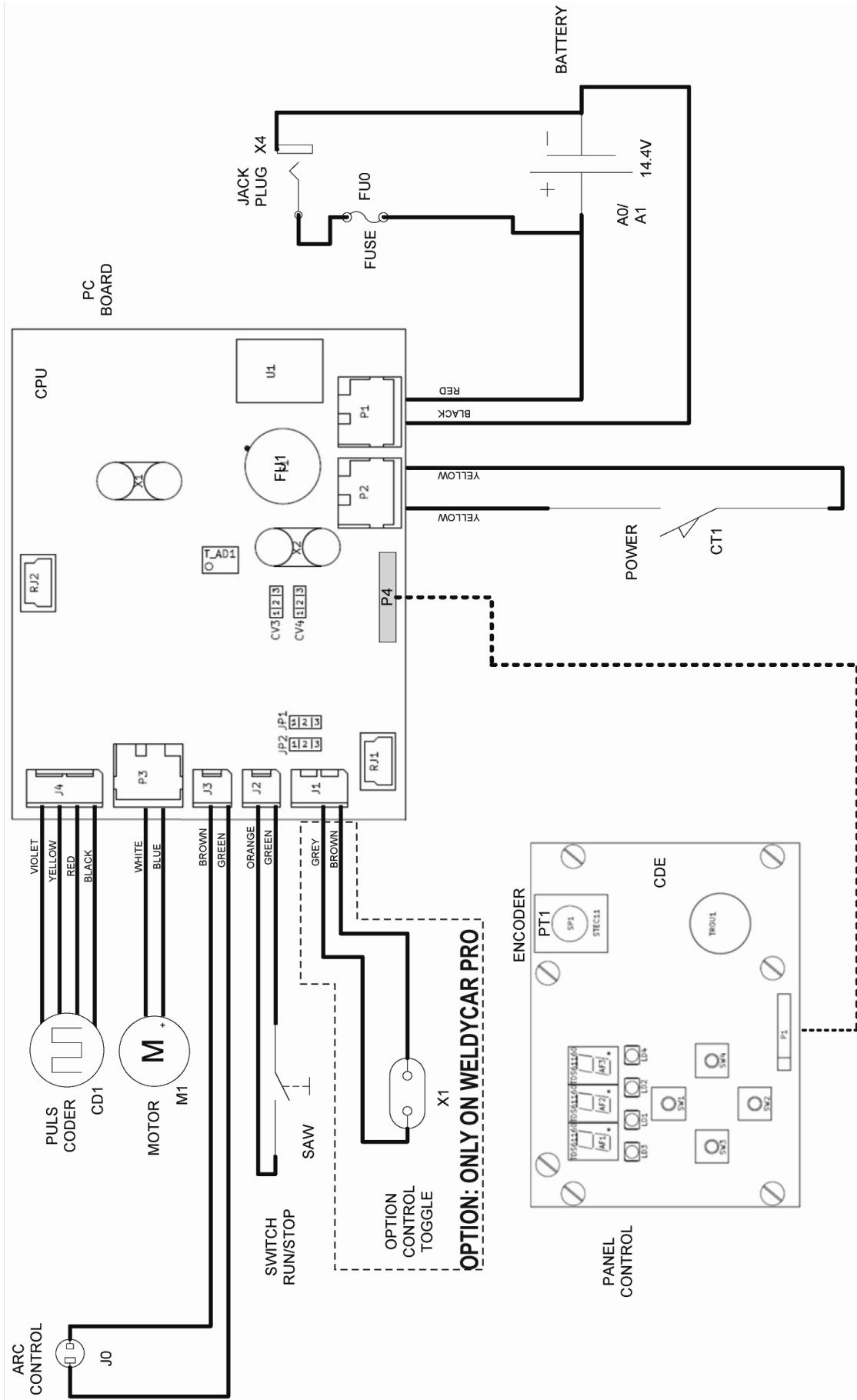
✓	normally in stock
✗	not in stock
	on request

Item	Ref.	Stock	Order	Designation
GE120	Z91300136	✓		Motor
GE121	W000401886	✗		Potentiometer
GE131	W000120693	✓		Oscillator regulation board
GE106	W000401887	✗		Potentiometer button
GE146	W000401888	✗		On/off button
GE132	W000401889	✗		Oscillator supply harness
GB016	W000401890	✗		Amplitude setting button

➤ For parts order, give the quantity required and put the number of your machine in the box below.

CE Type <input type="text"/> Matricule <input type="text"/>	TYPE :
	Number :

# 5 - WIRING DIAGRAM



## 6 - ELECTRICAL MAINTENANCE

<b>Switch SAW</b>	J2= 1/GND 2/contact NO	<b>Sensor ILS</b>	J3= 1/+5V 2/contact NO	<b>alim+bus I2C</b>	P4= 1/GND 2/+5V 3/SCL 4/SDA 5/ICD 6/SCD
<b>encoder</b>	J4= 1/GND 2/+5V 3/VA 4/VB	<b>Switch ON/OFF</b>	P2= 1/GND 2/-BAT	<b>battery</b>	P1= 1/+BAT 2/-BAT
<b>Control toggle</b>	J1= 1/ 2/gachette NO 3/gachette NO	<b>CPU</b>	AD1= timer for run carriage	<b>CPU</b>	two led for microcontroleur twinkling is ok no twinkling is fault
<b>Control panel CDE</b>	If control panel is black out , see control the fuse FU1	<b>Motor</b>	P3=1/+v 2/ -v		

