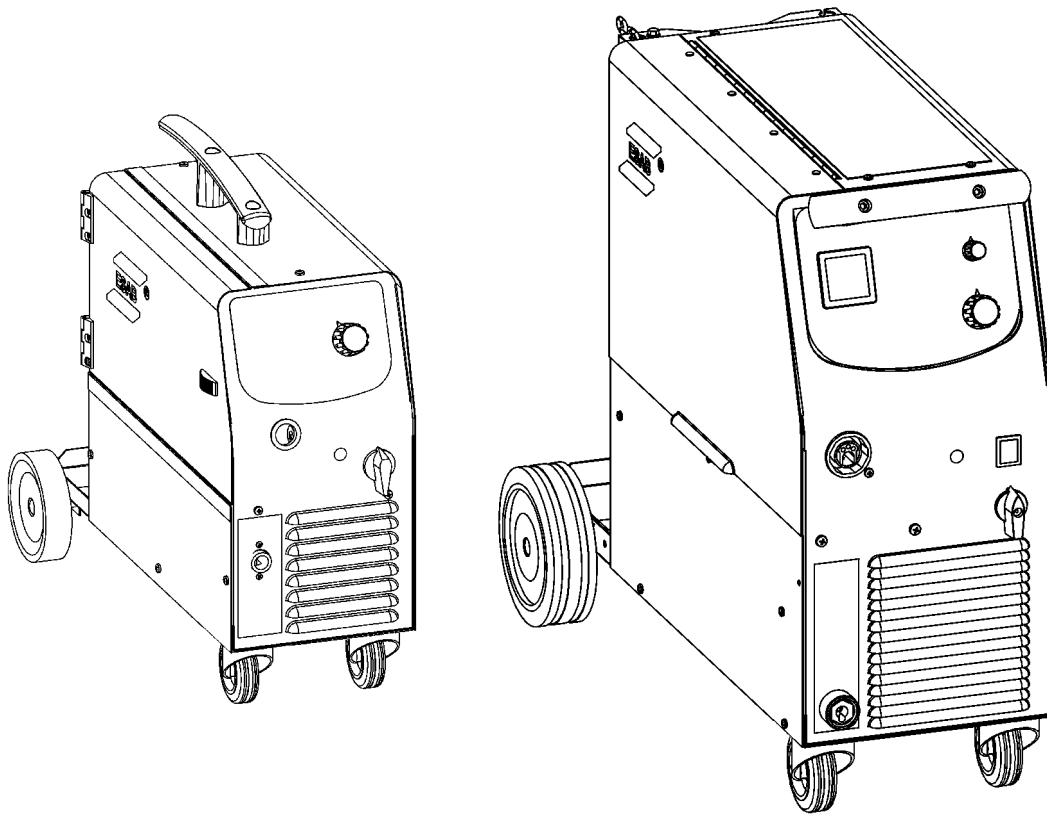


Mag C140/C150

Mag C170/C200/C250

Origo TM



Instruction manual

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1 DIRECTIVE

DECLARATION OF CONFORMITY

ESAB AB, Welding Equipment, SE-695 81 Laxå, Sweden, gives its unreserved guarantee that welding power source Origo™ Mag C140/C150/C170/C200/C250 from serial number 626 are constructed and tested in compliance with the standard EN 60974-1 and EN 60974-10 in accordance with the requirements of directive (2006/95/EC) and (2004/108/EEC).

Laxå 2007-01-17



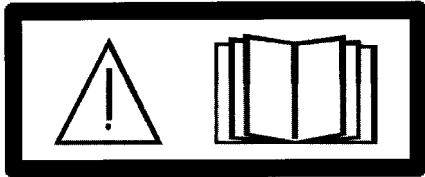
Kent Eimbrodt
Global Director
Equipment and Automation

2 SAFETY

Users of ESAB welding equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of welding equipment. The following recommendations should be observed in addition to the standard regulations that apply to the workplace.

All work must be carried out by trained personnel well-acquainted with the operation of the welding equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the welding equipment must be familiar with:
 - its operation
 - location of emergency stops
 - its function
 - relevant safety precautions
 - welding
2. The operator must ensure that:
 - no unauthorised person is stationed within the working area of the equipment when it is started up.
 - no-one is unprotected when the arc is struck
3. The workplace must:
 - be suitable for the purpose
 - be free from draughts
4. Personal safety equipment
 - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves.
 - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns.
5. General precautions
 - Make sure the return cable is connected securely.
 - Work on high voltage equipment **may only be carried out by a qualified electrician.**
 - Appropriate fire extinguishing equipment must be clearly marked and close at hand.
 - Lubrication and maintenance must **not** be carried out on the equipment during operation.



WARNING!

Read and understand the instruction manual before installing or operating.



WARNING



ARC WELDING AND CUTTING CAN BE INJURIOUS TO YOURSELF AND OTHERS. TAKE PRECAUTIONS WHEN WELDING. ASK FOR YOUR EMPLOYER'S SAFETY PRACTICES WHICH SHOULD BE BASED ON MANUFACTURERS' HAZARD DATA.

ELECTRIC SHOCK - Can kill

- Install and earth the welding unit in accordance with applicable standards.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from earth and the workpiece.
- Ensure your working stance is safe.

FUMES AND GASES - Can be dangerous to health

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to take fumes and gases away from your breathing zone and the general area.

ARC RAYS - Can injure eyes and burn skin.

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

FIRE HAZARD

- Sparks (spatter) can cause fire. Make sure therefore that there are no inflammable materials nearby.

NOISE - Excessive noise can damage hearing

- Protect your ears. Use earmuffs or other hearing protection.
- Warn bystanders of the risk.

MALFUNCTION - Call for expert assistance in the event of malfunction.

READ AND UNDERSTAND THE INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING.

PROTECT YOURSELF AND OTHERS!

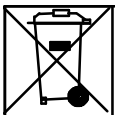


WARNING!

Do not use the power source for thawing frozen pipes.



This product is solely intended for arc welding.



Do not dispose of electrical equipment together with normal waste!

In observance of European Directive 2002/96/EC on Waste Electrical and Electronic Equipment and its implementation in accordance with national law, electrical equipment that has reached the end of its life must be collected separately and returned to an environmentally compatible recycling facility. As the owner of the equipment, you should get information on approved collection systems from our local representative.

By applying this European Directive you will improve the environment and human health!

3 INTRODUCTION

Origo™ Mag C140/C150/C170/C200/C250 are step controlled power sources in a compact design, intended for welding with solid steel, stainless steel or aluminium wire as well as tubular wire with or without shielding gas. The possibility of welding with homogeneous wire/shielding gas and welding with gasless tubular wire is obtained by switching the + and - connections on the switching terminal by the wire feed unit.

ESAB's accessories for the product can be found on page 23.

3.1 Equipment

The power source is supplied with:

- Welding gun
- Return cable with return clamp
- Shelf for gas cylinder
- Instruction manual

4 TECHNICAL DATA

	Origo™ Mag C140	Origo™ Mag C150	Origo™ Mag C170
Voltage	220-230V, 1~ 50/60Hz	220-230V, 1~ 50/60Hz	220-230V, 1~ 50/60Hz
Permissible load at 100% duty cycle	42A/16,1V	67A/17,4V	76A/17,8V
60 % duty cycle	54A/16,7V	86A/18,3V	98A/18,9V
@ % duty cycle	67A/17,4V @ 40%	95A/18,7V @ 50%	150A/21,8V @ 25%
20 % duty cycle	100A/13,0V	150A/13,8V	170A/19,3V
Setting range (DC)	35A/15,7V-67A/17,4V (100A/13,0V)	35A/15,7V-95A/18,7V (150A/13,8V)	30A/15,5V-150A/19,3 V (170A/19,3V)
Open circuit voltage	19,6-27,5V	18,5-30,5V	15,5-30,6V
Open circuit power	90W	100W	145W
Power factor at max load	0,92	0,91	0,90
Control voltage	220-230V, 50/60Hz	220-230V, 50/60Hz	42V, 50/60Hz
Wire feed speed	2,0-14m/min	2,0-14m/min	1,0-17m/min
Burnback time	-	-	0,02-0,25s
Spot welding	-	-	0,2-2,5s
Welding gun connection	fixed	fixed	EURO
Wire dimension range	0,6-0,8(Fe) 0,8(cored) 0,8(CuSi)	0,6-0,8(Fe) 0,8(cored) 0,8(CuSi)	0,6-0,8(Fe) 1,0(Al) 0,8(cored) 0,8-1,0(CuSi)
Max diameter/weight of wire bobin	200mm/5kg	200mm/5kg	300mm/15kg
Dimensions lwxhx	650x300x550	650x300x550	860x420x730
Weight	25kg	37,5kg	59kg
Operating temperature	-10 ÷ +40°C	-10 ÷ +40°C	-10 ÷ +40°C

Enclosure class	IP 23	IP 23	IP 23
Application classification	S	S	S

	Origo™ Mag C200	Origo™ Mag C250
Voltage	220-230V, 1~ 50/60Hz	220-230V, 1~ 50/60Hz
Permissible load at 100% duty cycle	90A/18,5V	110A/19,5V
60 % duty cycle	115A/19,7V	140A/21,0V
@ % duty cycle	150A/21,5V @ 35%	200A/24,0V @ 30%
20 % duty cycle	200A/18,0V	250A/21,0V
Setting range (DC)	30A/15,5V-150/21,5 (200A/18V)	40A/16,0V-200A/24,0V (250A/21,0V)
Open circuit voltage	17,5-33,0V	19,0-41,5V
Open circuit power	240W	200W
Power factor at max load	0,83	0,92
Control voltage	42V, 50/60Hz	42V, 50/60Hz
Wire feed speed	1,0-17m/min	1,9-19m/min
Burnback time	0,02-0,25s	0-0,25s
Spot welding	0,2-2,5s	0,2-2,5s
Welding gun connection	EURO	EURO
Wire dimension range	0,6-1,0(Fe) 1,0(Al) 0,8-1,0(cored) 0,8-1,0(CuSi)	0,6-1,2(Fe) 1,0-1,2(Al) 0,8-1,2(cored) 0,8-1,0(CuSi)
Max diameter/weight of wire bobin	300mm/15kg	300mm/15kg
Dimensions lxxh	860x420x730	860x420x730
Weight	68kg	94kg
Operating temperature	-10 ÷ +40°C	-10 ÷ +40°C
Enclosure class	IP 23	IP 23
Application classification	S	S

Duty cycle

The duty cycle refers to the time as a percentage of a ten-minute period that you can weld at a certain load without overloading.

Enclosure class

The **IP** code indicates the enclosure class, i. e. the degree of protection against penetration by solid objects or water. Equipment marked **IP23** is designed for indoor and outdoor use.

Application class

The symbol **S** indicates that the power source is designed for use in areas with increased electrical hazard.

5 INSTALLATION

The installation must be executed by a professional.

Note!

Connect the power source to the electricity mains with a network impedance of (C150 - 0,419, C170 - 0,286, C200 - 0,203, C250 - 0,212) ohm or lower. If the network impedance is higher, there is a risk of flicker in the illuminators.



WARNING!

This product is intended for industrial use. In a domestic environment this product may cause radio interference. It is the user's responsibility to take adequate precautions.

5.1 Placing

Position the welding power source such way that its cooling air inlets and outlets are not obstructed.

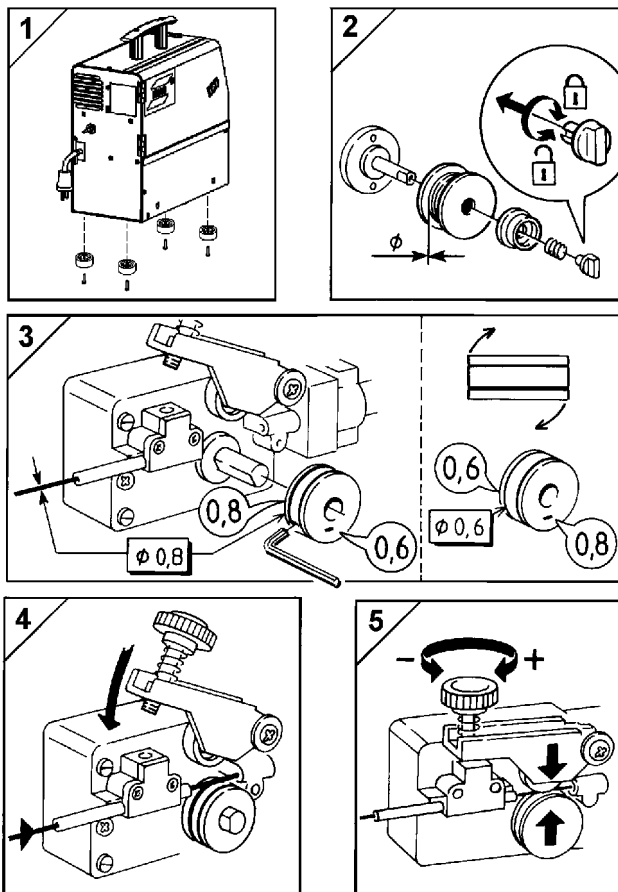
5.2 Assembly of components



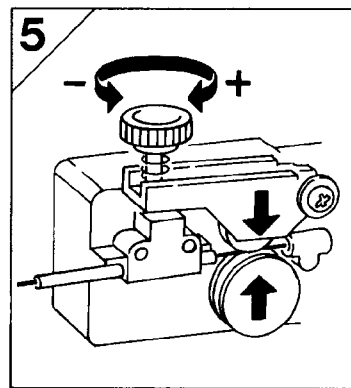
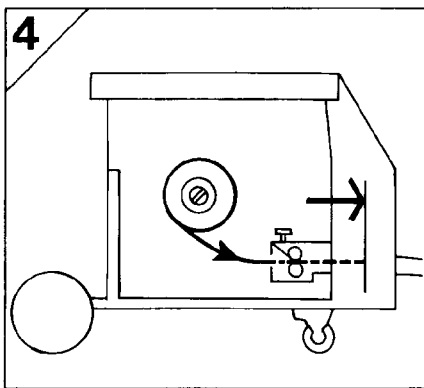
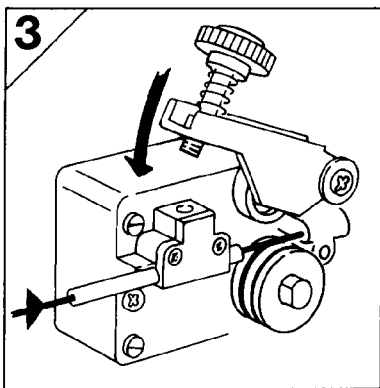
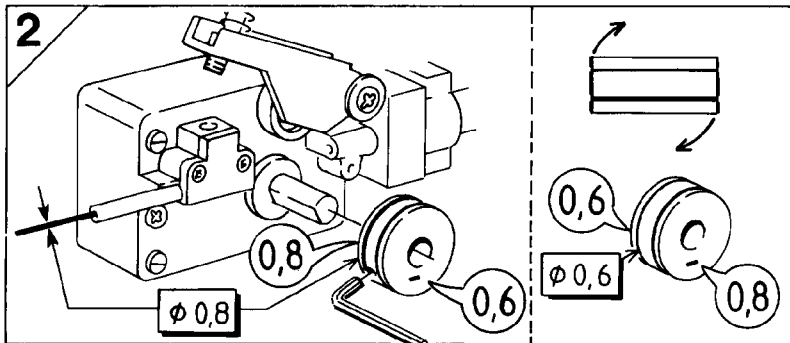
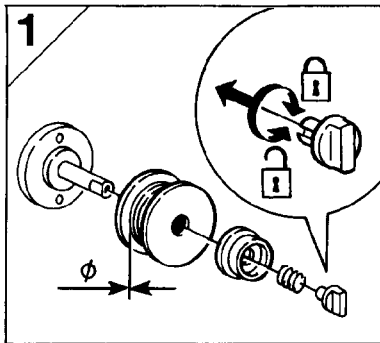
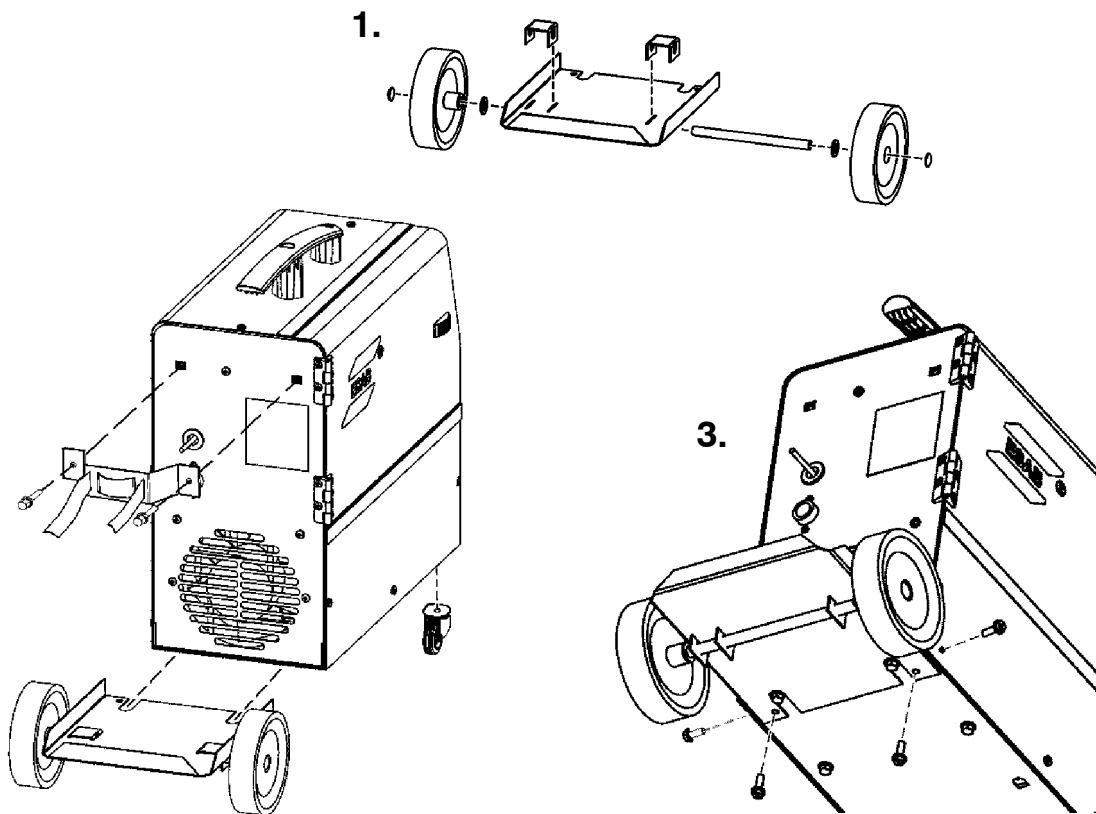
WARNING!

For packing and shipment of the machine the wheels are detached from the unit. Before use attach the wheels according to instruction.

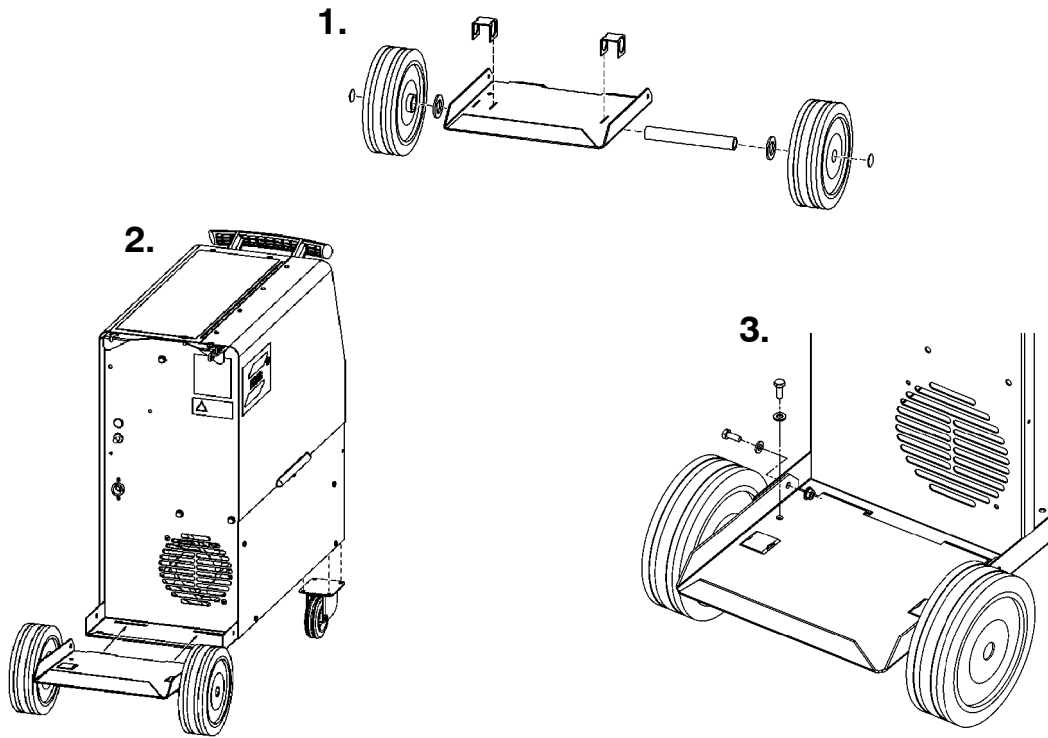
5.2.1 Origo™ Mag C140



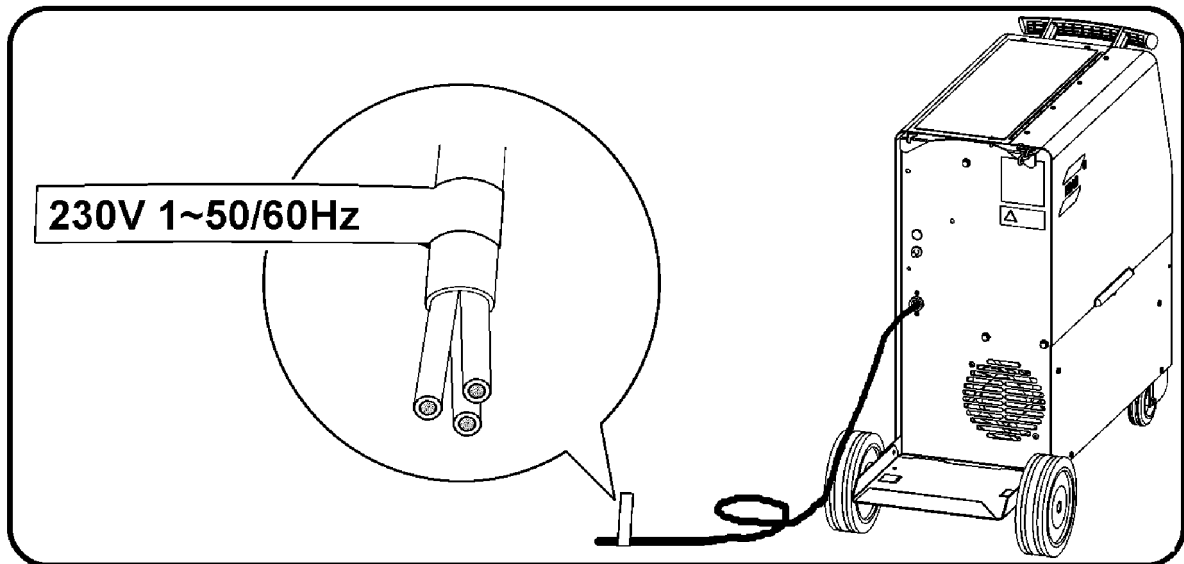
5.2.2 Origo™ Mag C150



5.2.3 Origo™ Mag C170/C200/C250

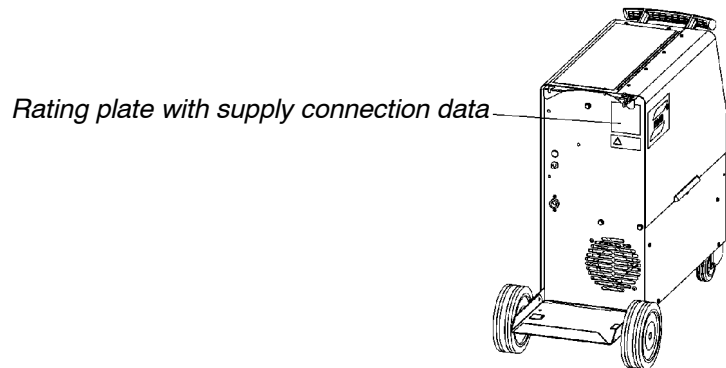


5.3 Electrical installation



5.4 Mains power supply

Check that the unit is connected to the correct mains power supply voltage, and that it is protected by the correct fuse size. A protective earth connection must be made, in accordance with regulations.




	Origo™ Mag C140	Origo™ Mag C150	Origo™ Mag C170	Origo™ Mag C200	Origo™ Mag C250
Voltage V	220–230V, 1~ 50/60Hz	220–230V, 1~ 50/60Hz	220–230V, 1~ 50/60Hz	220–230V, 1~ 50/60Hz	220–230V, 1~ 50/60Hz
Current A at 100% duty cycle	5,4	9,6	10,4	14,3	16,6
at 60% duty cycle	7,6	12,9	15,0	17,6	23,4
at @% duty cycle	10,2A @40%	15,2 @ 50%	26,5 @ 25%	26,2 @ 35%	38,7 @ 30%
at 20% duty cycle	13,8	22,6	29	32,5	47,5
Cable area mm²	3 x 1.5	3 x 1.5	3 x 1.5	3 x 2.5	3 x 4,0
Fuse slow A	10	10	16	16	35

NB: The mains cable areas and fuse sizes as shown above are in accordance with Swedish regulations. They may not be applicable in other countries: make sure that the cable area and fuse sizes comply with the relevant national regulations.


6 OPERATION


General safety regulations for the handling of the equipment can be found on page 3. Read through before you start using the equipment!



WARNING!

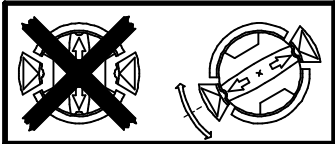
Rotating parts can cause injury, take great care.





WARNING!

To prevent the reel sliding off the hub: Lock the reel in place by turning the red knob as shown on the warning label attached next to the hub.



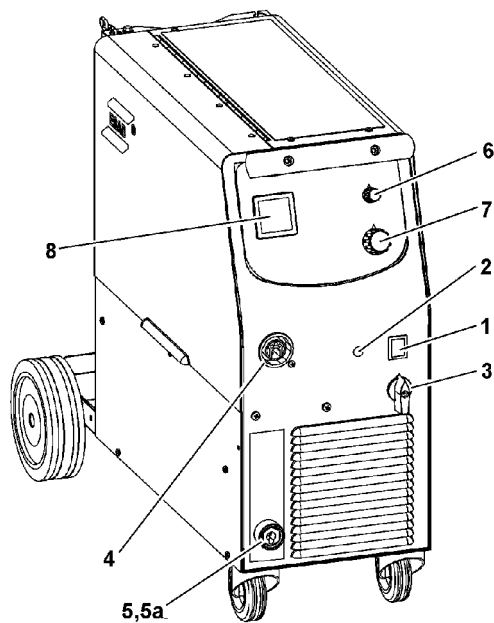
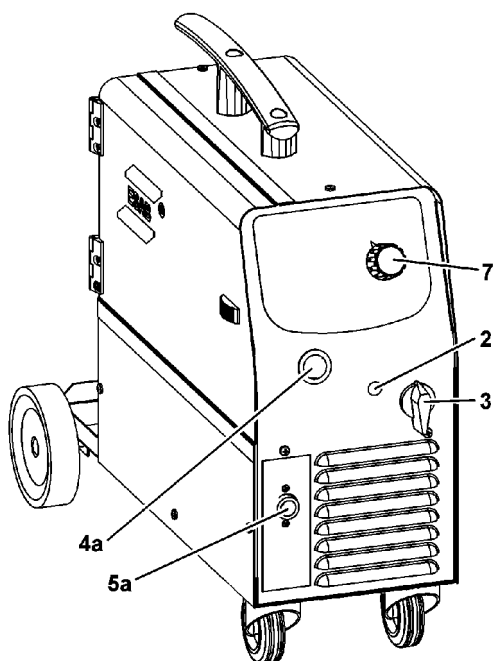


WARNING - TIPPING RISK!

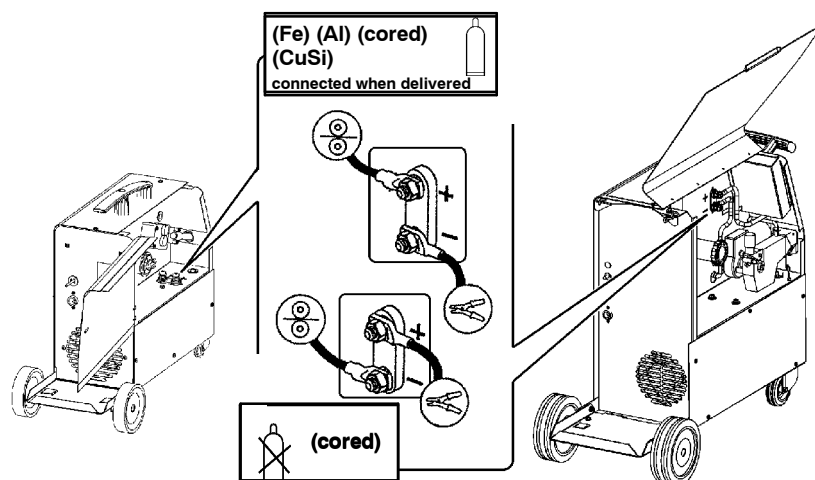
There is a risk of tipping while transportation and operation, if the welding machine leans more than 10°. In that case appropriate securing has to be provided !

6.1 Connection and control devices

- | | |
|---|--|
| <p>1 Mains supply switch with indicating lamp, only in C170/C200/C250</p> <p>2 Orange indicating lamp, overheating</p> <p>3 Welding voltage switch
C140: OFF + 4 steps (mains ON/OFF)
C150: OFF + 7 7 steps (mains ON/OFF)
C170: 8 steps
C200: 12 steps
C250: 12 steps</p> <p>4 EURO - connector for welding gun, only in C170/C200/C250</p> <p>4a Welding gun, fixed, only in C140/C150</p> <p>5 Connection for return cable (-), only in C250</p> | <p>5a Return cable with clamp, fixed, only in C140/C150/C170/C200</p> <p>6 Knob for spot welding - ON/OFF and time setting</p> <p>7 Knob for wire speed setting</p> <p>8 Digital instrument - V / A, only in C170/C200/C250 (option, see page 23)</p> <p>9 Knob for burn-back time setting. In C250 located in wire feeder compartment, in C170/C200 located on control board.</p> |
|---|--|

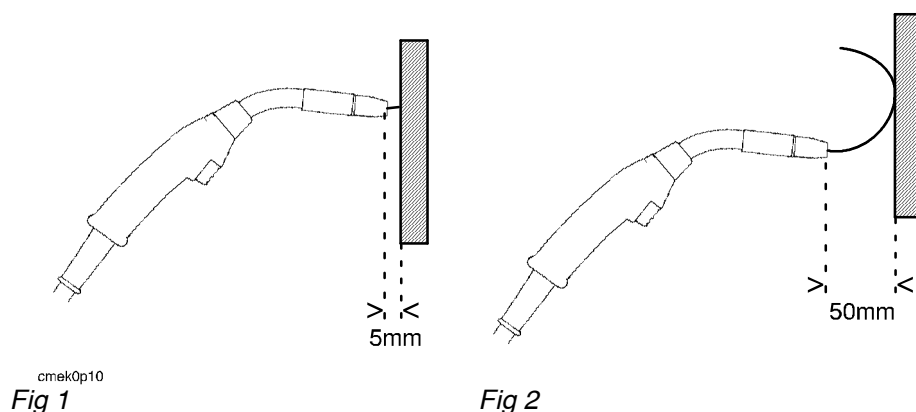


6.2 Welding without gas



6.3 Wire feed pressure

Start by making sure that the wire moves smoothly through the wire guide. Then set the pressure of the wire feeder's pressure rollers. It is important that the pressure is not too great.



To check that the feed pressure is set correctly, you can feed out the wire against an insulated object, e.g. a piece of wood.

When you hold the gun approx. 5 mm from the piece of wood (fig. 1) the feed rollers should slip.

If you hold the gun approx. 50 mm from the piece of wood, the wire should be fed out and bend (fig. 2).

6.4 Replacing and inserting wire

- Open the side panel.
- Disconnect the pressure sensor by folding it backwards, the pressure rollers slide up.
- Straighten out the new wire 10–20 cm. File away burrs and sharp edges from the end of the wire before inserting it into the wire feed unit.
- Make sure that the wire goes properly into the feed roller track and into the outlet nozzle and the wire guide.

- Secure the pressure sensor.
- Close the side panel.

6.5 Overheating protection

When the machine is switched on with the mains switch [1] or [3] depending on machine model, indicating lamp [1] is on and lamp [2] off – the machine is ready to operate. If the internal temperature becomes too high, the welding is interrupted and disabled. This state is indicated by lighting of the orange indicating lamp [2] on the front of the machine. It resets automatically when the temperature has fallen.

7 MAINTENANCE

Regular maintenance is important for safe, reliable operation.

Note!

All guarantee undertakings from the supplier cease to apply if the customer himself attempts any work in the product during the guarantee period in order to rectify any faults.

7.1 Inspection and cleaning

Check regularly that the power source is free from dirt.

The power source should be regularly blown clean using dry compressed air at reduced pressure. More frequently in dirty environments. Otherwise the air inlet/outlet may become blocked and cause overheating.

Welding gun

- Cleaning and replacement of the welding gun's wear parts should take place at regular intervals in order to achieve trouble-free wire feed. Blow the wire guide clean regularly and clean the contact tip.

The brake hub

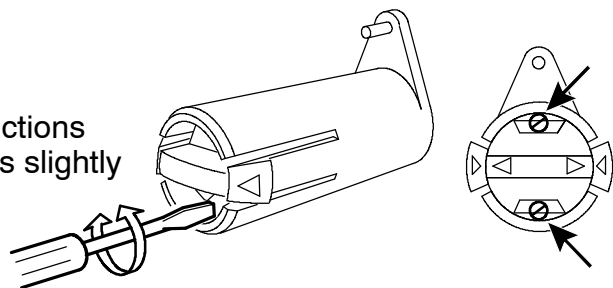
The hub is adjusted when delivered, if readjustment is required, follow the instructions below. Adjust the brake hub so that wire is slightly slack when wire feed stops.

- **Adjusting the braking torque:**

- Turn the red handle to the locked position.
- Insert a screwdriver into the springs in the hub.

Turn the springs clockwise to reduce the braking torque

Turn the springs anticlockwise to increase the braking torque. **NB:** Turn both springs through the same amount.



8 FAULT TRACING

Try these recommended checks and inspections before sending for an authorised service technician.

Type of fault	Actions
No arc	<ul style="list-style-type: none"> • Check that the mains power supply switch is turned on. • Check that the welding current supply and return cables are correctly connected. • Check that correct current value is set.
Welding current is interrupted during welding	<ul style="list-style-type: none"> • Check whether the thermal overload trip has operated (indicated by the orange lamp on the front). • Check the main power supply fuses.
Thermal overload trips operate frequently	<ul style="list-style-type: none"> • Check to see whether the air inlets/outlets are clogged. • Make sure that you are not exceeding the rated data for the power source (i.e. that the unit is not being overloaded).
Poor welding performance	<ul style="list-style-type: none"> • Check that the welding current supply and return cables are correctly connected. • Check that the correct current value is set. • Check that the correct welding wires are being used. • Check the main power supply fuses. • Check the wire feed unit – if proper rolls are applied and properly set the pressure of the wire feeder’s pressure rollers

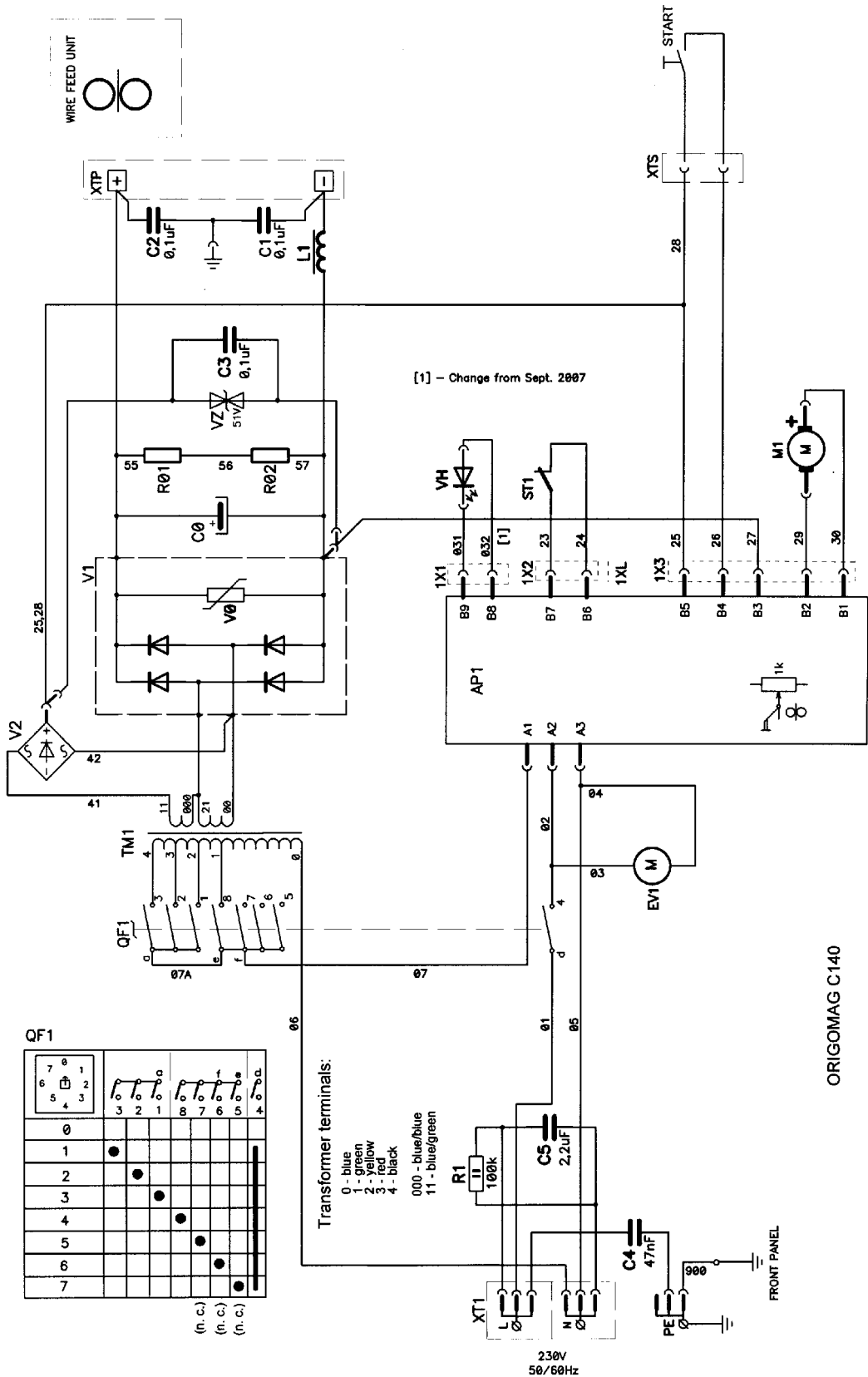
9 ORDERING OF SPARE PARTS

Origo™ Mag C140/C150/C170/C200/C250 is designed and tested in accordance with the international and European standards IEC/EN 60974-1 and EN 60974-10. It is the obligation of the service unit which has carried out the service or repair work to make sure that the product still conforms to the said standard.

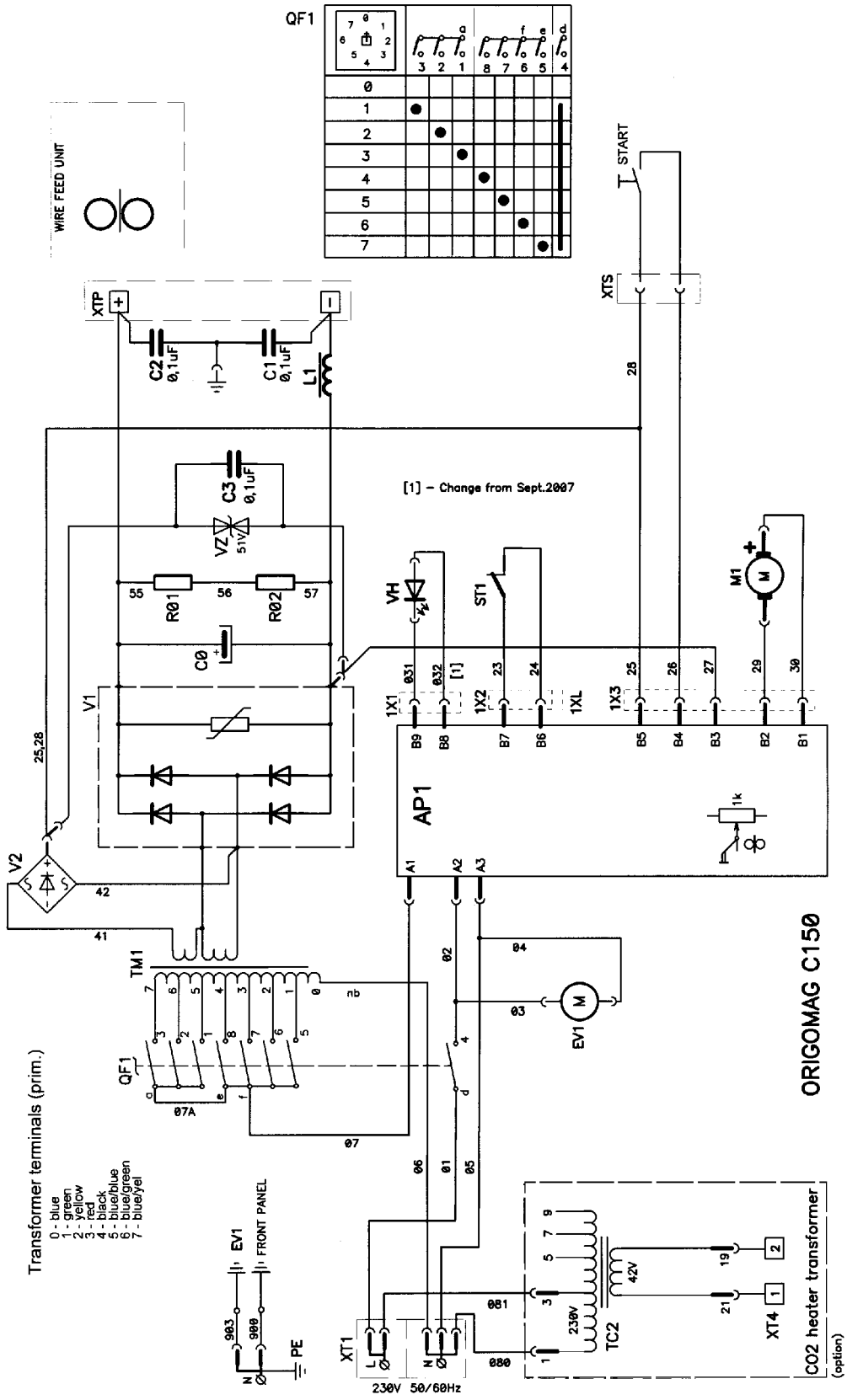
Spare parts may be ordered through your nearest ESAB dealer, see the last page of this publication.

Diagram

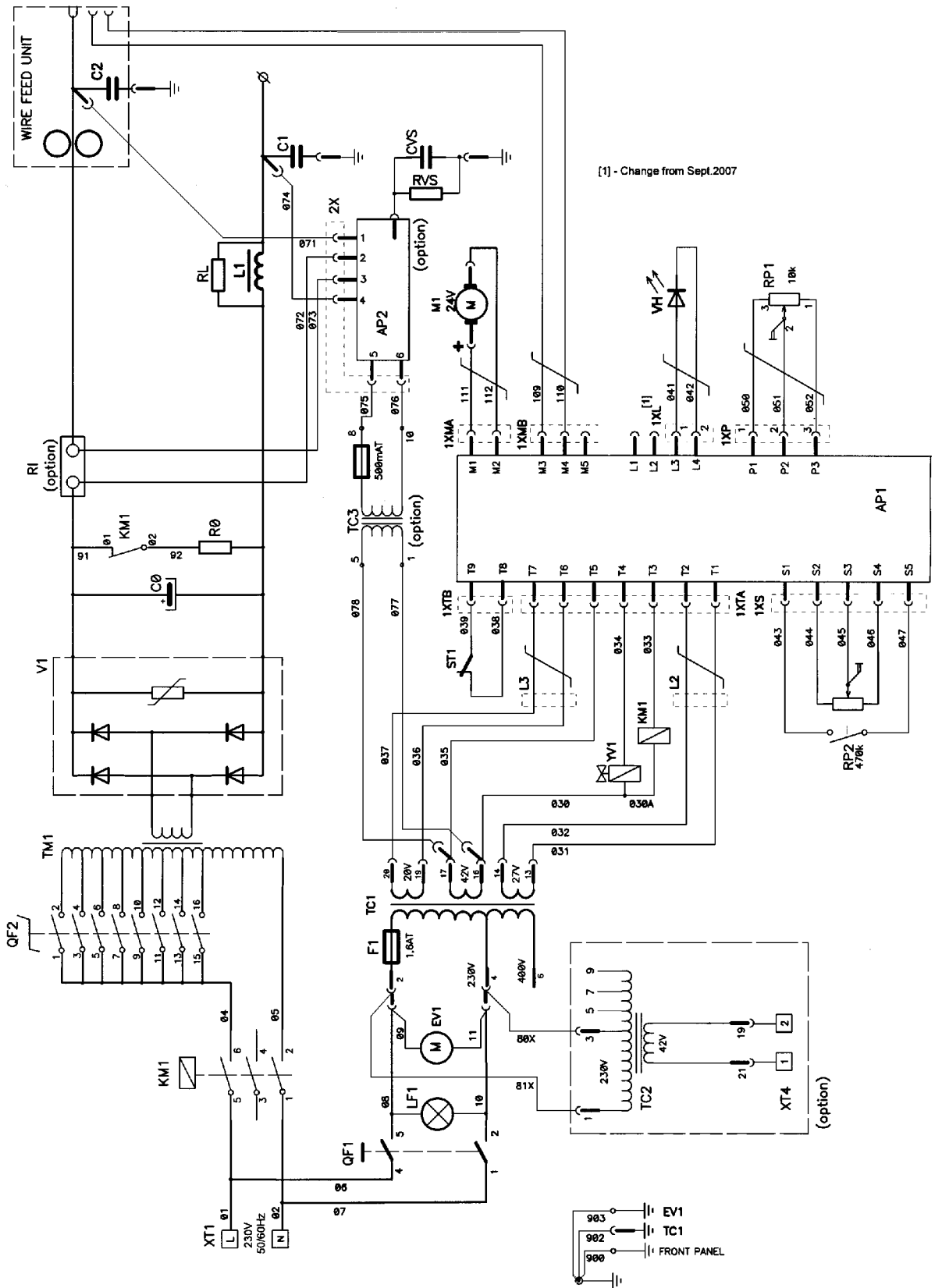
Origo™ Mig C140, 230V



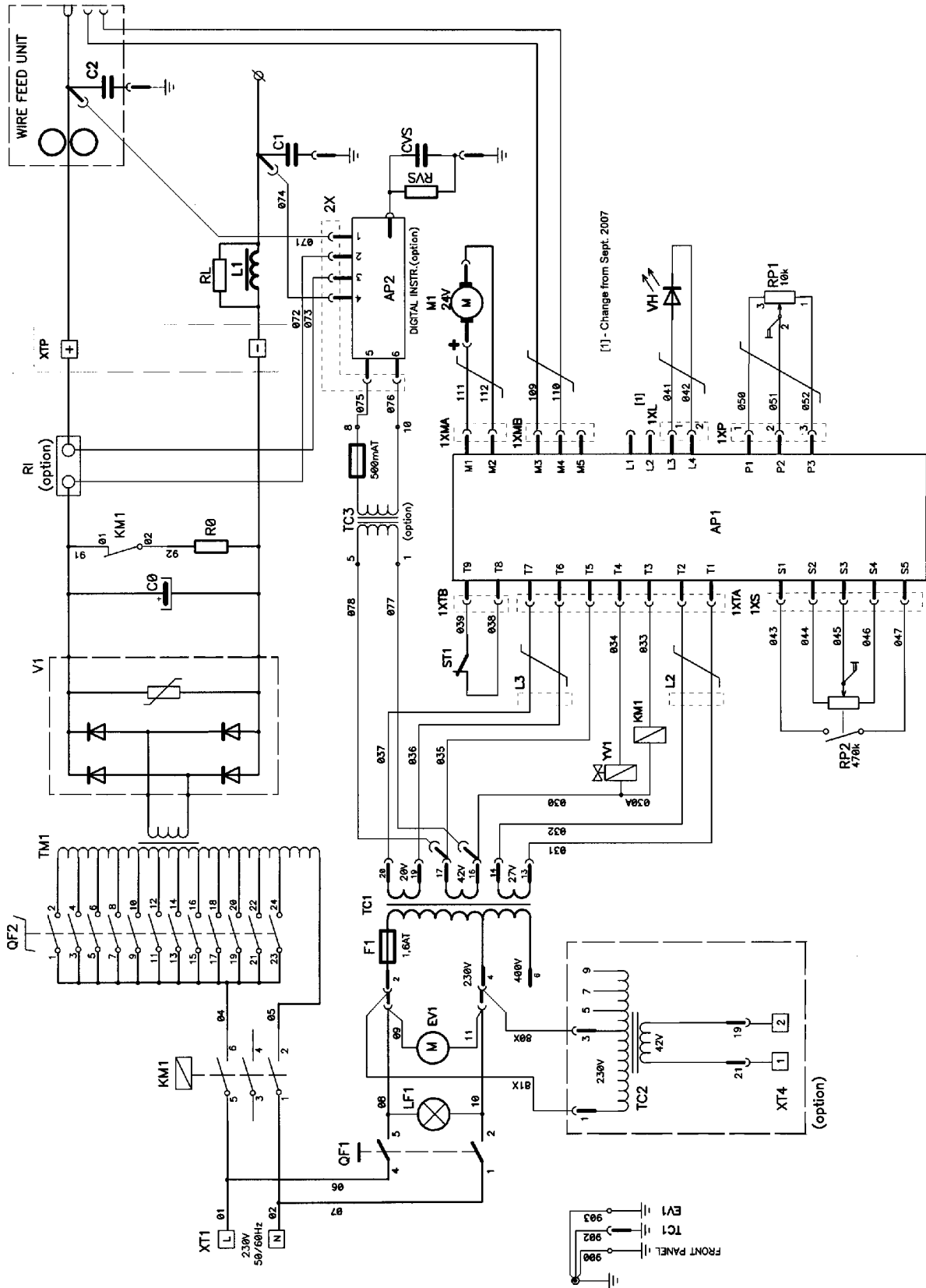
Origo™ Mig C150, 230V



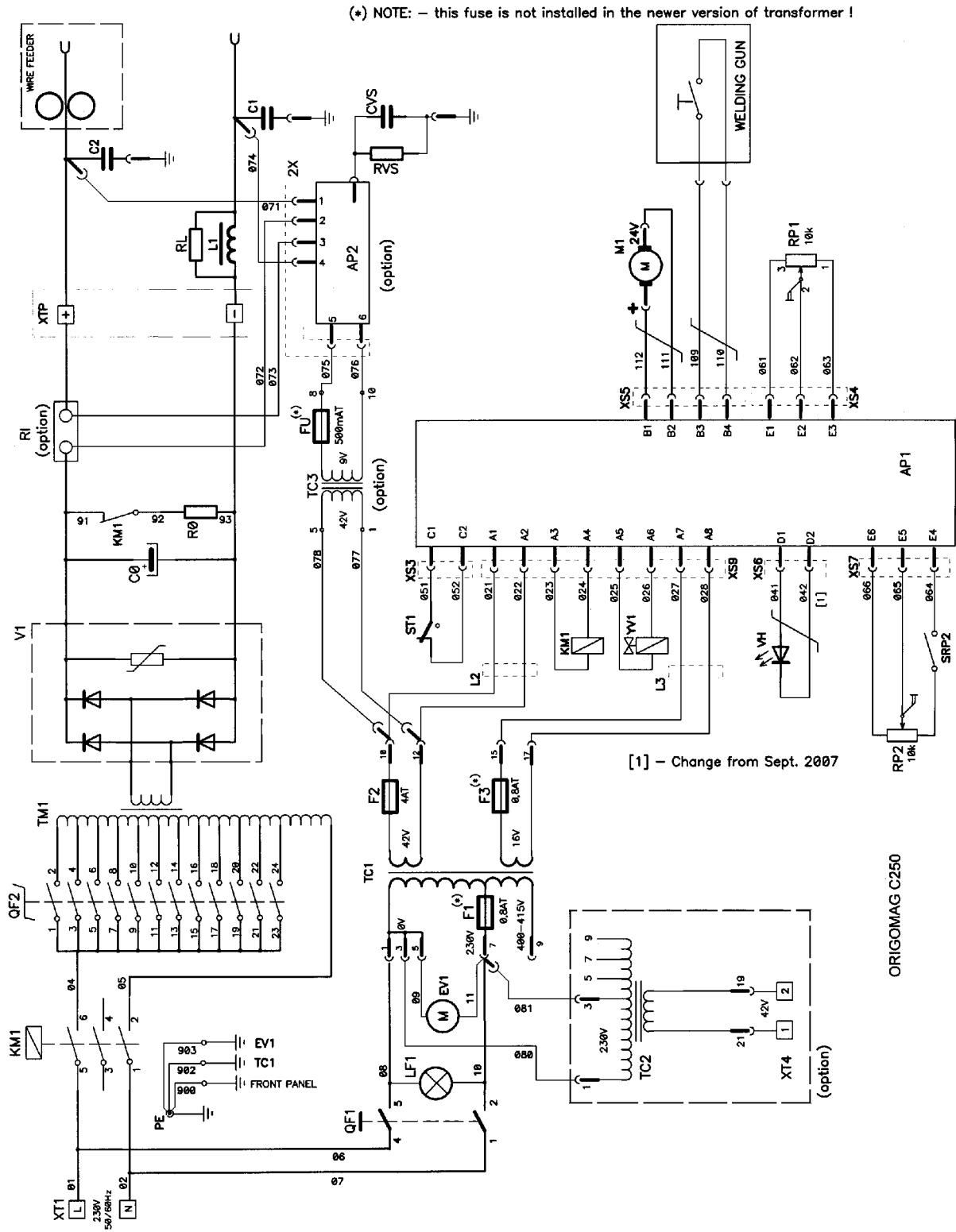
Origo™ Mig C170, 230V



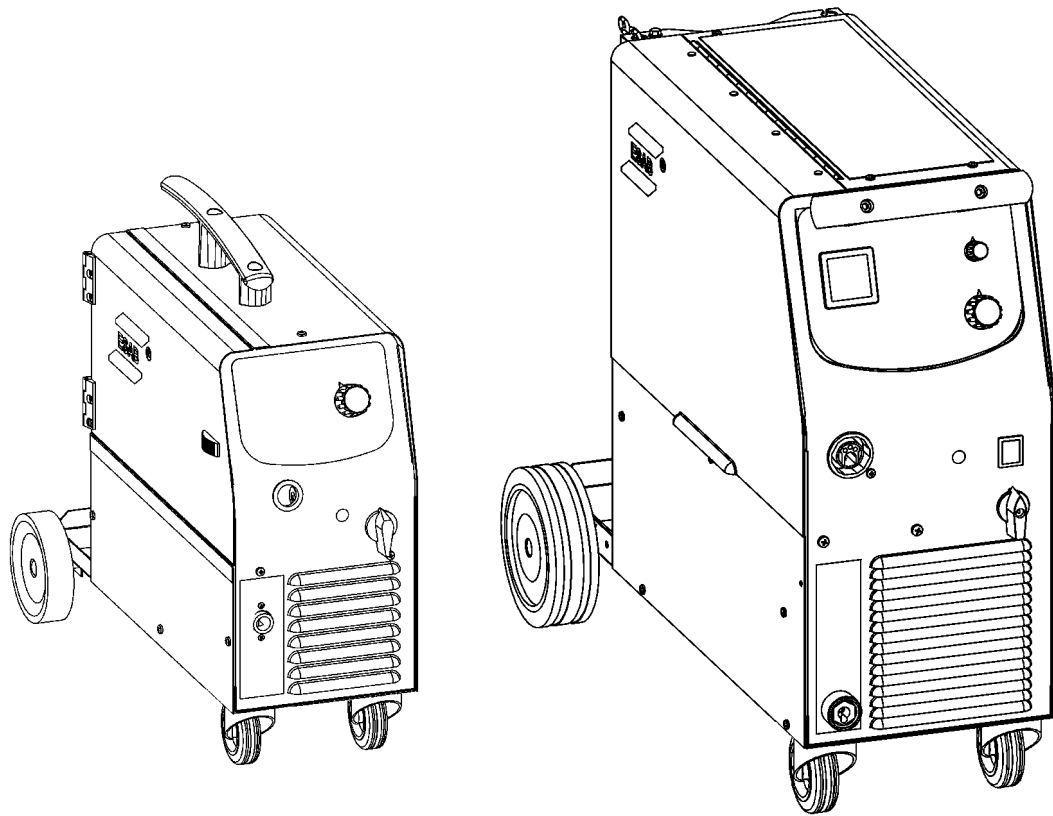
Origo™ Mig C200, 230V



Origo™ Mig C250, 230V



Origo™ Mag C140/C150/C170/C200/C250



Valid for serial no. 626-XXX-XXXX

Ordering numbers

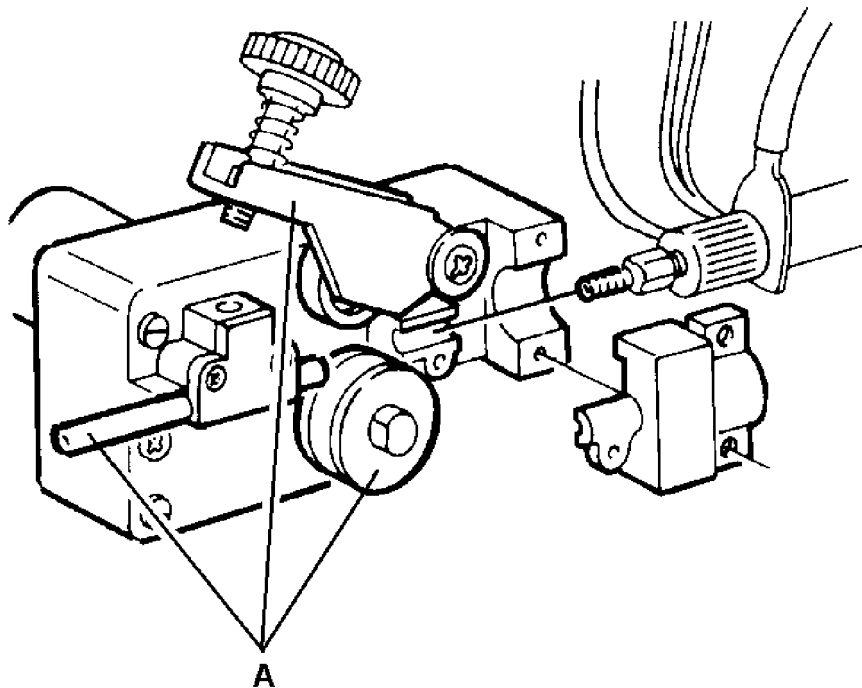
0349 306 220	Origo™ Mig C140	230V 1~50/60Hz
0349 306 532	Origo™ Mig C150	230V 1~50/60Hz
0349 305 236	Origo™ Mig C170	230V 1~50/60Hz
0349 306 560	Origo™ Mig C200	230V 1~50/60Hz
0349 305 238	Origo™ Mig C250	230V 1~50/60Hz

Wear components

(W. F. Mechanism 0469 475 880)

Item	Denomination	Ordering no.	Notes
A	Feed roller kit	0469 517 880	Ø 0.6-0.8mm Fe, cored wire.

The rollers are marked with wire dimension in mm, some are also marked with inch.

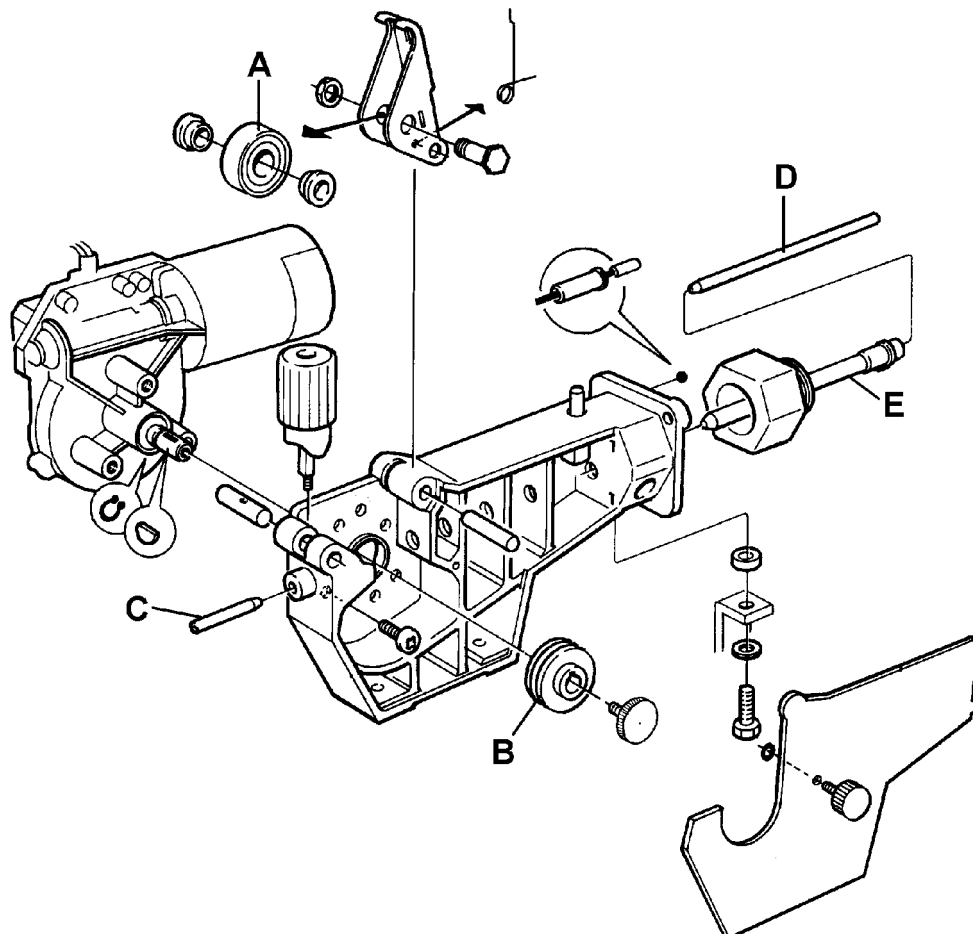


Wear components

(W. F. Mechanism 0455 890 890 / 0455 890 882)

Item	Denomination	Ordering no.	Notes
A	Pressure roller	0455 907 001	
B	Feed roller	0367 556 001	Ø 0.6–0.8mm Fe, Ss, cored wire.
		0367 556 002	Ø 0.8–1.0mm Fe, Ss, cored wire.
		0367 556 003	Ø 1.0–1.2mm Fe, Ss, cored wire.
		0367 556 004	Ø 1.0–1.2mm Al wire.
C	Inlet nozzle	0466 074 001	
D	Insert tube	0455 894 001	Plastic, must be used together with item 0455 885 001, for welding with Al wire.
		0455 889 001	Steel, must be used together with item 0455 886 001.
E	Outlet nozzle	0455 885 001	Must be used together with item 0455 894 001, for welding with Al wire.
		0455 886 001	Must be used together with item 0455 889 001.

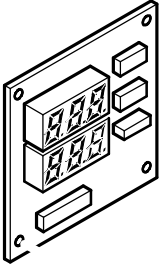
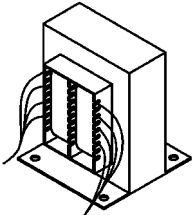
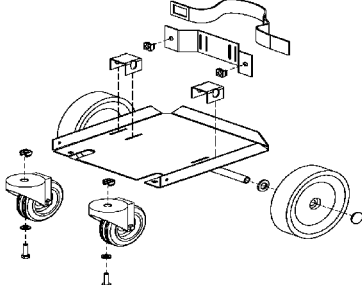
The rollers are marked with wire dimension in mm, some are also marked with inch.

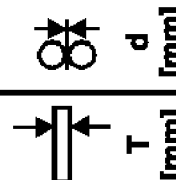








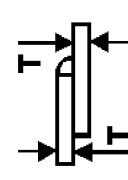













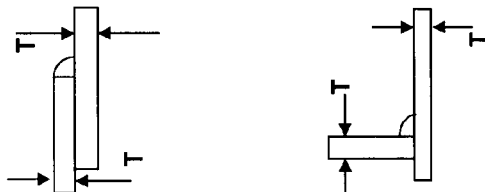
Welding with aluminium wires.

In order to weld with aluminium wires, proper rollers, nozzles and liners for aluminium wires **MUST** be used. It is recommended to use 3m long welding gun for aluminium wires, equipped with appropriate wear parts.


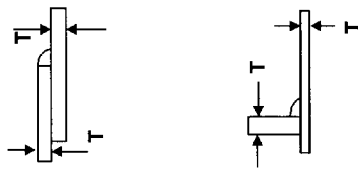
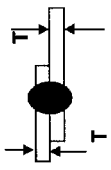
Accessories

	<p>Digital meter 0349 302 598</p>
	<p>Transformer kit for CO₂ heater (42V) 0349 302 250</p>
	<p>Traction KIT 0349 309 073 (for C141)</p>

C140	 T [mm] d [mm]	Fe Ar + 18% CO ₂		Fe CO ₂		SS Ar + 2% CO ₂		tubular gasless wire (TUBROD OK.14.16) REVERSE POLARITY	
		 1-10	 1-4	 1-10	 1-4	 1-10	 1-4	 1-10	 1-4
		4,5	1	3,5	1	7	1	1,5	
 T [mm] d [mm]	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6
	0,8	0,8	1	4	2	7,5	2	1,5	1
		0,8	2	2	2	5	2	2	2
	1,0	0,8	2	2	2	8,5	1	2	2
		1,0	3	6	3	3	3	3	3
	1,5	0,8	3	3,5	3	5,5	2	3	3
		1,5	4	7,5	4	9	4	4	4
	2,0	0,8	4	4	4	7	3	4	4
		2,0	6	4	4	9	4	4	4
		0,6	4	5	4	7,5	4	6	4
		0,8	4	5	4	7,5	4	6	4

C150	T [mm]		Fe Ar+18%CO2		Fe CO2		SS Ar+2%CO2		AlMg5 Ar 100%		tubular gasless wire (TUBROD OK. 14.16)		
		d [mm]											
			1-10	1-7	1-10	1-7	1-10	1-7	1-10	1-7	1-10	1-7	
	0,6	0,6	5	1	4	3	6,5	2	6,5	2	2,1	1	
		0,8	3	2	2	2	5	1	5	1			
		1,0											
	0,8	0,6	2	6,6	2	6,5	4	7	3	7	3		
		0,8	3	5,5	3	3	3	5	2	5	2	2,5	1
		1,0											
	1,0	0,6	3	7,1	3	7	4	8	4	8	4		
		0,8	4	6,5	4	5,5	4	7	3	7	3	4	2
		1,0								10	1		
	1,5	0,6	4	8	4	7,5	5	8,5	5	8,5	5		
		0,8	5	7,5	5	6	5	7,5	4	7,5	4	6	3
		1,0											
2,0	0,6	5	9,4	5	8	6	9	6	9	6			
	0,8	6	7,4	6	7	6	8	5	8	5	7	4	
	1,0												
3,0	0,6	7	10	7	8,5	7	10	7	10	7			
	0,8	7	8	7	7	7	9	7	9	7	8	7	
	1,0												
	1,2												

GIN: 0349 307 036

C200	T [mm]	 d [mm]	Fe Ar+18%CO2		Fe CO2		SS Ar+2%CO2		AlMg5 Ar100%		tubular gasless wire (TUBROD OK. 14.16)	
			REVERSE POLARITY		REVERSE POLARITY		REVERSE POLARITY		REVERSE POLARITY		REVERSE POLARITY	
			1-10	1-12	1-10	1-12	1-10	1-12	1-10	1-12	1-10	1-12
	0,6	0,6	3	2	3,2	3	3,8	3				
	0,8	0,8	2,5	2	2,4	4	3,2	3			2,6	1
		0,6	3,5	3	3,5	4	3,9	4				
	1,0	0,8	2,8	3	2,6	5	3,5	4			3,1	2
		1,0	2,6	4			2,9	3			2,5	1
	1,5	0,6	4,3	4	4	5	4,7	5				
		0,8	3	4	2,9	6	3,7	5			3,1	3
	2,0	1,0	2,8	5	2,5	6	3	4	4,7	1	2,6	2
		0,6	5	5	4,5	6	5,5	6			3,4	4
	3,0	0,8	3,5	5	3,2	7	4,3	6			2,9	3
		1,0	3	6	2,6	7	3,2	5	5,5	3		
	4,0	0,6	6,5	8	5	7	6,5	8				
0,8		3,8	6	4	9	5,1	8			3,6	5	
5,0	1,0	3,6	8	3	8	4,1	7	6,2	6	3	5	
	0,6	8	10	5,5	9	10	12					
0,6	0,8	4,9	9	4,5	10	6,2	10			4,2	7	
	1,0	4,4	10	3,5	10	5	9	7,8	9	3,5	8	
0,8	0,6	6	11	5	11	7,5	11			4,5	8	
	1,0	4,9	11	3,9	11	5,1	10	7,1	11	4,5	10	
0,8	0,6	7	12	5,7	12	8,4	12					
	1,0	5,2	12	4,4	12	6,2	12	7,5	12	5,2	12	
 GIN: 0349 307 038	0,6	0,6	6,5	8	4	5	7	6				
	0,8	0,8	3,7	6	5	3,6	8	5			3,5	6
		1,0	3	9	4,5	10	4				3,5	8
	0,8	0,6	6,5	8	5	6	10	6				
		0,8	4,9	9	5	4	9	5			4,5	8
	1,0	1,0	3,5	10	5	3,5	10	5			4,5	10
		0,6	8	10	6	6,5	11	6				
	1,0	0,8	5,5	11	5	5	11	5,5			4,5	8
		1,0	5	12	5	4	11	5			5	12
	1,5	0,6			4,4	12	9					
		0,8	6,5	12	6	6	12	9			7	12
		1,0										8

C250	T [mm]	d [mm]	Fe Ar+18%/CO2		Fe CO2		SS Ar+2%/CO2		ArMg5 Ar 100%		tubular gasless wire (TUBROD OK 14.16) REVERSE POLARITY			
			1.-10	1.-12	1.-10	1.-12	1.-10	1.-12	1.-10	1.-12	1.-10	1.-12		
	0,6	3,0	1	3,5	3	3,5	1	3,5	1	1-10	1-10	1-10		
		2,0	1	2,1	3	2,1	3	2,1	3	2,1	3	2,1	3	
		0,8	2	4,0	4	4,0	4	4,0	4	4,0	4	4,0	4	
	0,8	2,6	2	2,5	4	2,5	4	2,5	4	2,5	4	2,5	4	
		1,0	2,0	1	2,0	3	2,0	1	2,0	3	2,0	1	2,0	3
		1,2	1,8	2	1,2	1,8	2	1,2	1,8	2	1,2	1,8	2	
	1,0	4,5	3	4,5	5	4,5	5	4,5	5	4,5	5	4,5	5	
		3,5	3	2,7	5	2,7	5	2,7	5	2,7	5	2,7	5	
		1,0	2,5	2	2,2	4	2,2	4	2,2	4	2,2	4	2,2	4
	1,5	2,0	3	1,8	4	1,8	4	1,8	4	1,8	4	1,8	4	
		0,6	5,0	4	5,0	6	5,0	4	5,0	6	5,0	4	5,0	6
		0,8	4,0	4	3,5	6	3,5	6	3,5	6	3,5	6	3,5	6
2,0	2,5	3	2,5	5	2,5	5	2,5	5	2,5	5	2,5	5		
	1,2	2,4	4	2,0	2	2,2	2	2,2	2	2,2	2	2,2	2	
	0,6	5,5	5	5,5	7	5,5	5	5,5	7	5,5	5	5,5	7	
3,0	3,0	4	3,0	6	3,0	6	3,0	6	3,0	6	3,0	6		
	1,0	3,0	4	3,0	6	3,0	6	3,0	6	3,0	6	3,0	6	
	1,2	3,0	5	2,5	6	2,5	6	2,5	6	2,5	6	2,5	6	
4,0	8,0	10	7,5	10	7,5	10	7,5	10	7,5	10	7,5	10		
	5,5	7	5,0	9	5,0	9	5,0	9	5,0	9	5,0	9		
	4,0	6	4,0	9	4,0	9	4,0	9	4,0	9	4,0	9		
5,0	4,0	8	3,0	8	3,0	8	3,0	8	3,0	8	3,0	8		
	6,5	9	6,0	10	6,0	10	6,0	10	6,0	10	6,0	10		
	4,0	8	4,8	10	4,8	10	4,8	10	4,8	10	4,8	10		
6,0	7,5	11	6,5	11	6,5	11	6,5	11	6,5	11	6,5	11		
	5,5	10	5,0	11	5,0	11	5,0	11	5,0	11	5,0	11		
	4,5	11	4,0	11	4,0	11	4,0	11	4,0	11	4,0	11		
1,5	7,0	12	7,0	12	7,0	12	7,0	12	7,0	12	7,0	12		
	6,5	12	6,0	12	6,0	12	6,0	12	6,0	12	6,0	12		
	4,5	12	5,0	12	5,0	12	5,0	12	5,0	12	5,0	12		
	0,6	5,0	4	5,5	7	5,5	7	5,5	7	5,5	7	5,5	7	
		5,5	4	4,5	8	4,5	8	4,5	8	4,5	8	4,5	8	
		3,5	8	4,0	9	4,0	9	4,0	9	4,0	9	4,0	9	
	0,8	3,5	9	4	3,0	9	3,0	9	3,0	9	3,0	9	3,0	9
		5,0	6	7,5	10	7,5	10	7,5	10	7,5	10	7,5	10	
		5,5	9	5,0	9	5,0	9	5,0	9	5,0	9	5,0	9	
	1,0	4,5	10	4,5	10	4,5	10	4,5	10	4,5	10	4,5	10	
		3,5	10	4	3,5	10	4	3,5	10	4	3,5	10	4	
		8,0	9	7,5	10	7,5	10	7,5	10	7,5	10	7,5	10	
	1,5	7,0	11	5	7,0	12	5	7,0	12	5	7,0	12	5	
		5,0	11	5	5,0	11	4	5,0	11	4	5,0	11	4	
		4,0	11	4,0	11	4,0	11	4,0	11	4,0	11	4,0	11	
GIN: 0349 307 225	7,5	12	7,0	12	7,0	12	7,0	12	7,0	12	7,0	12		
	6,0	12	6,0	12	6,0	12	6,0	12	6,0	12	6,0	12		
	4,5	12	4,5	12	4,5	12	4,5	12	4,5	12	4,5	12		

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