

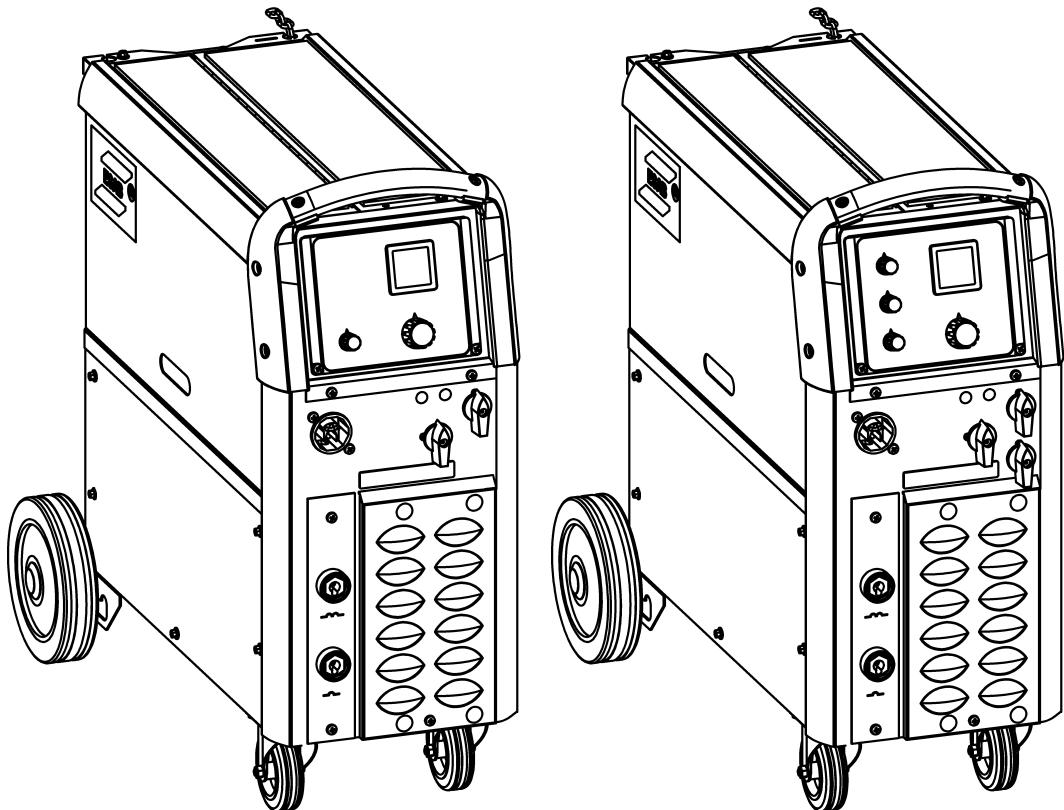
GB



Origo™

Mig C280 PRO

Mig C340 PRO



Instruction manual



DECLARATION OF CONFORMITY

In Accordance with

The Low Voltage Directive 2006/95/EC of 12 December 2006, entering into force 16 January 2007

The EMC Directive 2004/108/EC of 15 December 2004, entering into force 20 July 2007

Type of equipment

Welding power sources for MIG/MAG welding

Brand name or trade mark

ESAB

Type designation etc.

Origo™ Mig C280 PRO	Valid from serial number 627-xxx-xxxx (2006 w.27), 119-xxx-xxxx (2011 w.19)
Origo™ Mig C340 PRO	Valid from serial number 627-xxx-xxxx (2006 w.27), 119-xxx-xxxx (2011 w.19)

Manufacturer or his authorised representative established within the EEA

Name, address, telephone No, telefax No:

OZAS-ESAB Sp. z o.o.

ul.A.Struga 10 , 45-073 Opole , Poland

Phone: +48 77 4019200, Fax: +48 77 4019201

The following harmonised standard in force within the EEA has been used in the design:

EN 60974-1, Arc welding equipment – Part 1: Welding power sources

EN 60974-5, Arc welding equipment – Part 5: Wire feeders

EN 60974-10, Arc welding equipment – Part 10: Electromagnetic compatibility (EMC) requirements

Additional information: Restrictive use, Class A equipment, intended for use in locations other than residential

By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorised representative established within the EEA, that the equipment in question complies with the safety requirements stated above.

Place and Date
Opole , 2011-05-31

Signature

Dariusz Brudkiewicz
Clarification

Position
Managing Director
OZAS-ESAB Sp. z o.o.

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1 SAFETY

Users of ESAB 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 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 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 equipment must be familiar with:
 - its operation
 - location of emergency stops
 - its function
 - relevant safety precautions
 - welding and cutting
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 drafts
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

Do not use the power source for thawing frozen pipes.



WARNING



Arc welding and cutting can be injurious to yourself and others. Take precautions when welding and cutting. Ask for your employer's safety practices which should be based on manufacturers' hazard data.

ELECTRIC SHOCK - Can kill

- Install and earth the 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.

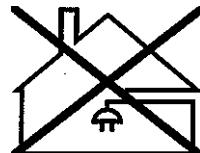
Read and understand the instruction manual before installing or operating.

PROTECT YOURSELF AND OTHERS!



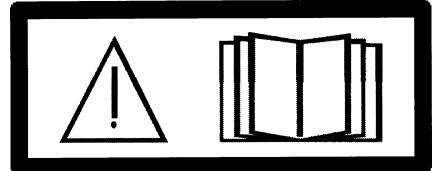
CAUTION

Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. There may be potential difficulties in ensuring electromagnetic compatibility of class A equipment in those locations, due to conducted as well as radiated disturbances.



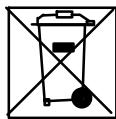
CAUTION

Read and understand the instruction manual before installing or operating.



CAUTION

This product is solely intended for arc welding.



Dispose of electronic equipment at the recycling facility!

In observance of European Directive 2002/96/EC on Waste Electrical and Electronic Equipment and its implementation in accordance with national law, electrical and/or electronic equipment that has reached the end of its life must be disposed of at a recycling facility.

As the person responsible for the equipment, it is your responsibility to obtain information on approved collection stations.

For further information contact the nearest ESAB dealer.

ESAB can provide you with all necessary welding protection and accessories.

2 INTRODUCTION

The **Mig C280 PRO** and **Mig C340 PRO** are step controlled power sources in a compact design, intended for welding with solid steel, stainless steel or aluminium wire as well as cored wire with or without shielding gas.

The possibility of welding with homogeneous wire/shielding gas and welding with gasless cored wire is obtained by switching the + and - connections on the switching terminal above the wire feed unit.

The power sources comes in different variants, see page 25

ESAB's accessories for the product can be found on page 29.

2.1 Equipment

The power source Mig C280 PRO is supplied with:

- Welding gun PSF 250 - 3m (Mig C280 PRO 4WD - 4,5m)
- Return cable 3.5m with return clamp (Mig C280 PRO 4WD - 5m)
- Shelf for gas cylinder
- Instruction manual

The power source Mig C340 PRO is supplied with:

- Welding gun PSF 305 - 3m (Mig C340 PRO 4WD - 4,5m)
- Return cable 3.5m with return clamp (Mig C340 PRO 4WD - 5m)
- Shelf for gas cylinder
- Instruction manual

3 TECHNICAL DATA

Mig C280 PRO		
Voltage	400-415 V, 3~50/60 Hz 380V, 3~50/60 Hz	230/400-415/500V, 3~50Hz 230/440-460V, 3~60Hz
Permissible load at 100% duty cycle	150 A/22 V	150 A/22 V
60 % duty cycle	190 A/24 V	190 A/24 V
30 % duty cycle	280 A/28 V	280 A/28 V
Setting range (DC)	30A/15V-280A/28V	30A/15V-280A/28V
Open circuit voltage	15-38 V	15-38 V
Open circuit power	190 W	190 W
Efficiency	69%	69%
Power factor	0.97	0.97
Control voltage	42 V, 50/60 Hz	42 V, 50/60 Hz
Wire feed speed	1,9 - 19m/min	1,9 - 19m/min
Burnback time	0 - 0,25s	0 - 0,25s
Spot welding	0,2 - 2,5s	0,2 - 2,5s
Welding gun connection	EURO	EURO
Dimensions LxWxH	840x425x830	840x425x830
Weight	91 kg	91 kg
Operating temperature	-10 to +40°C	-10 to +40°C
Transportation temperature	-20 to +55°C	-20 to +55°C
Enclosure class	IP 23	IP 23
Application classification	S	S

Mig C340 PRO		
Voltage	400-415 V, 3~50/60 Hz 380V, 3~50/60 Hz	230/400-415/500V, 3~50Hz 230/440-460V, 3~60Hz
Permissible load at 100% duty cycle	195 A/24 V	195 A/24 V
60 % duty cycle	250 A/27 V	250 A/27 V
30 % duty cycle	340 A/31 V	340 A/31 V
Setting range (DC)	40A/16V-340A/31V	40A/16V-340A/31V
Open circuit voltage	16-40 V	16-40 V
Open circuit power	240 W	240 W
Efficiency	77%	77%
Power factor	0.95	0.95
Control voltage	42 V, 50/60 Hz	42 V, 50/60 Hz
Wire feed speed	1,9 - 20m/min	1,9 - 20m/min
Burnback time	0 - 0,5s	0 - 0,5s
Creep start	OFF / ON	OFF / ON

Mig C340 PRO		
2/4 stroke	2 / 4	2 / 4
Welding gun connection	EURO	EURO
Dimensions LxWxH	840x425x830	840x425x830
Weight	114 kg	114 kg
Operating temperature	-10 to +40°C	-10 to +40°C
Transportation temperature	-20 to +55°C	-20 to +55°C
Enclosure class	IP 23	IP 23
Application classification	S	S

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.

Duty cycle

The duty cycle refers to the time as a percentage of a ten-minute period that you can weld or cut at a certain load without overloading. The duty cycle is valid for 40° C.

Application class

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

4 INSTALLATION

The installation must be carried out by a professional.

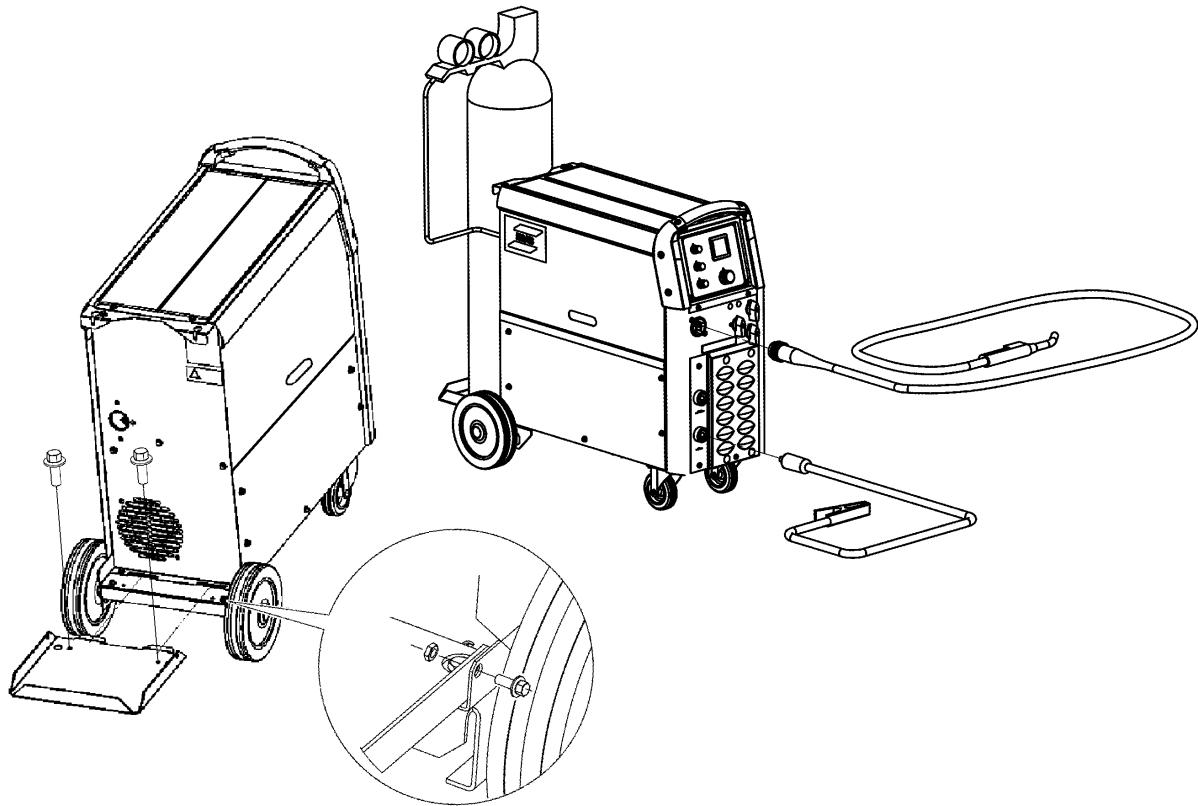
**CAUTION**

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.

4.1 Location

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

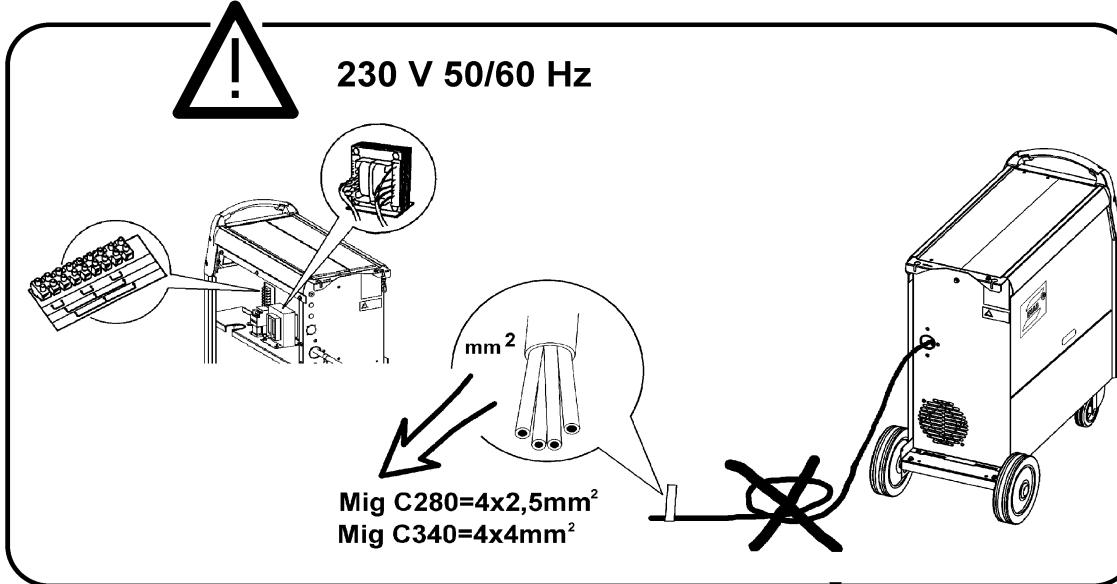
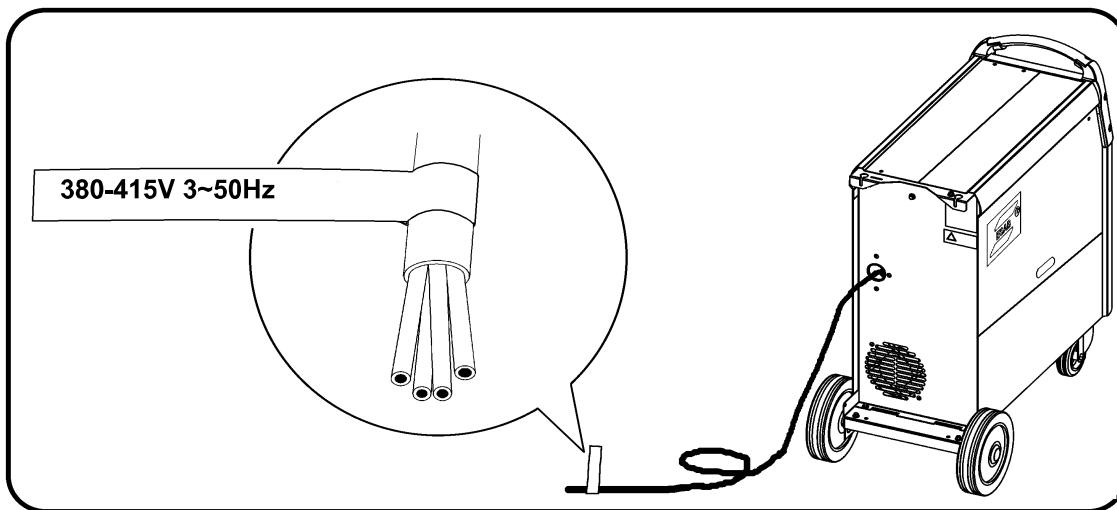
4.2 Assembly of components



WARNING

During transport, the rear wheels of the power source are in their forward position. Before use, place the wheels in their rear position.

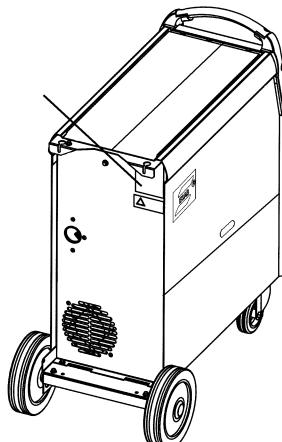
4.3 Electrical installation



4.4 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.

Rating plate with supply connection data



Recommended fuse sizes and minimum cable areas

Mig C280 PRO	3~50 Hz	3~50 Hz	3~50/60 Hz	3~50 Hz	3~60 Hz	3~60 Hz
Voltage V	230	380	400-415	500	230	440-460
Current A						
at 100% duty cycle	13	8	7	5	11	7
at 60% duty cycle	18	11	10	8	18	10
at 30% duty cycle	32	19	18	15	32	17
at 30% duty cycle	4 x 2.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 2.5	4 x 1.5
Fuse slow A	20	16	16	16	20	16

Mig C340 PRO	3~50 Hz	3~50 Hz	3~50/60 Hz	3~50 Hz	3~60 Hz	3~60 Hz
Voltage V	230	380	400-415	500	230	440-460
Current A						
at 100% duty cycle	16	10	9	7	16	8
at 60% duty cycle	24	15	14	11	23	12
at 30% duty cycle	37	20	21	17	36	19
at 30% duty cycle	4 x 4	4 x 2.5	4 x 2.5	4 x 2.5	4 x 4	4 x 2.5
Fuse slow A	20	16	16	16	20	16

NOTE: 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.

5 OPERATION

General safety regulations for handling the equipment can be found on page 4. Read through before you start using the equipment!



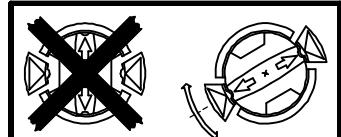
WARNING

Rotating parts can cause injury, take great care.



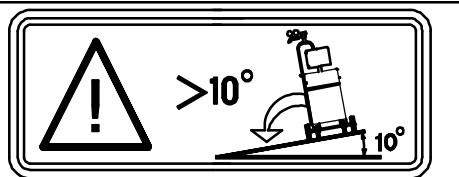
WARNING

To prevent the reel from 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.



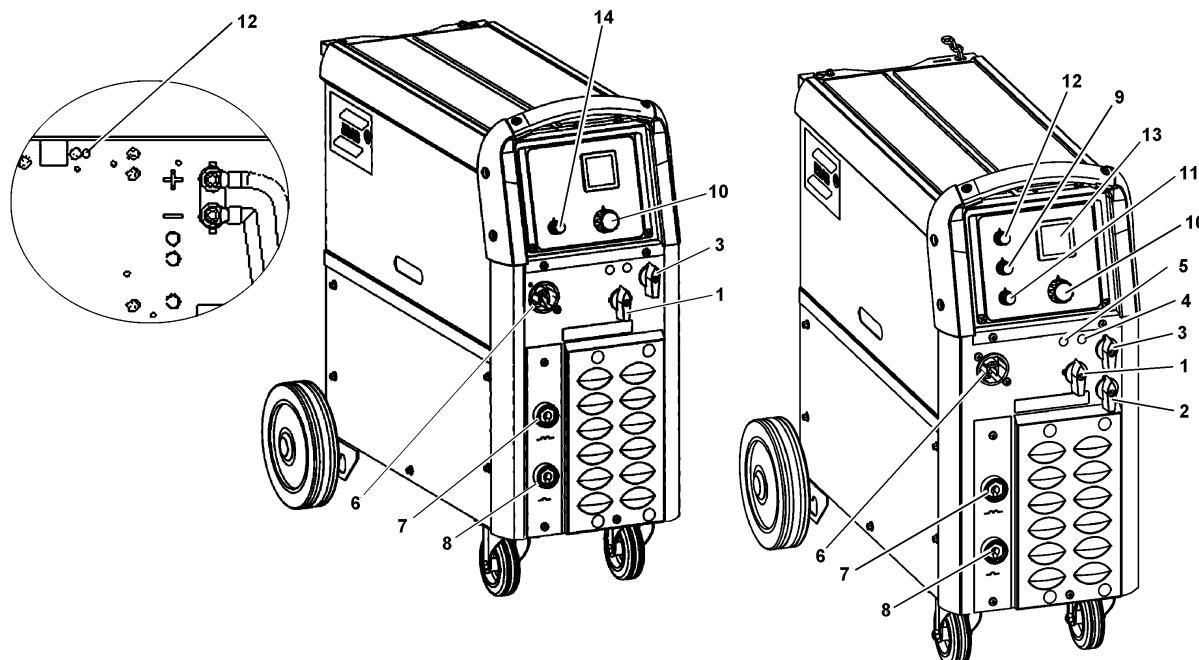
WARNING

Secure the equipment - particularly if the ground is uneven or sloping.



5.1 Connection and control devices

- | | | | |
|---|--|----|---|
| 1 | Mains supply switch | 8 | Connection for return cable (-), low inductance |
| 2 | Switch, coarse control | 9 | Knob for selecting - creep start - ON/OFF |
| 3 | Switch, precise control | 10 | Knob for wire speed setting |
| 4 | Indicating lamp, power supply ON | 11 | Knob for selecting 2/4-stroke control mode |
| 5 | Orange indicator lamp, overheating | 12 | Knob for burn-back time setting |
| 6 | EURO - connector (for welding gun) | 13 | Digital instrument - V / A |
| 7 | Connection for return cable (-), high inductance | 14 | Knob for spot welding - ON/OFF and time setting |



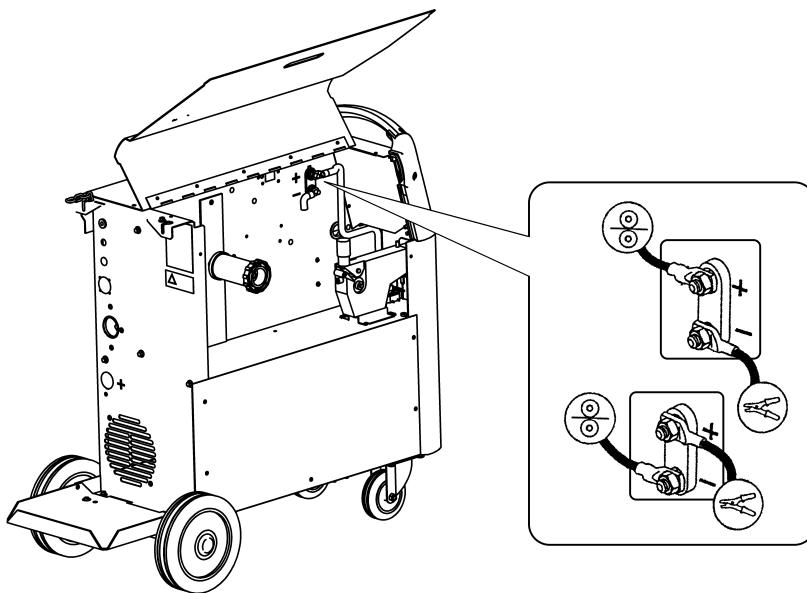
5.2 Overheating protection

A thermal overload cutout protects against overheating. The cutout resets automatically when the unit has cooled.

5.3 Inductance connection

Higher inductance produces a more flowing weld and fewer spatters. Lower inductance produces a harsher sound and a stable, concentrated arc.

5.4 Polarity change



The power source is delivered with the welding wire connected to the plus pole. Some wires, e.g self shielded cored wires, are recommended for welding with negative polarity. Negative polarity means that the wire is connected to the minus pole and the return cable to the plus pole.

Check the recommended polarity for the welding wire you want to use.

5.5 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.

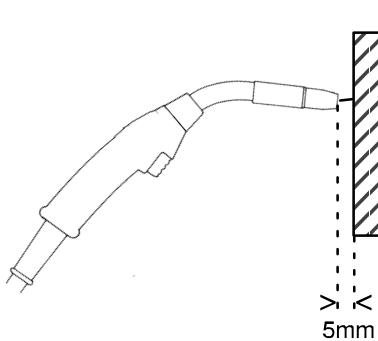


Fig 1
cmek0p10

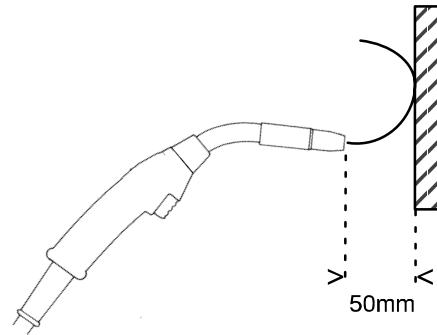


Fig 2

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).

5.6 Replacing and inserting wire

- Open the side panel.
- Disconnect the pressure sensor by folding it backwards, the pressure rollers slide up.
- Straighten out 10-20 cm of new wire. File off any 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 MAINTENANCE

Regular maintenance is important for safe, reliable operation.



CAUTION

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

6.1 Inspection and cleaning

Power source

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. This should be done more frequently in dirty environments.

Otherwise the air inlet/outlet may become blocked and cause overheating. To avoid this you can use an airfilter.

The airfilter is an accessory. Order number can be found on page 29.

Welding gun

- The welding gun's wear parts should be cleaned and replaced 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

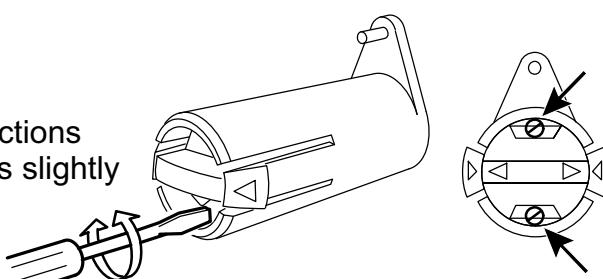
The hub is adjusted when delivered, if readjustment is required, follow the instructions below. Adjust the brake hub so that wire is slightly slack when wire feed stops.

- **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 counter-clockwise to increase the braking torque. **NB:** Turn both springs the same amount.



7 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 filters 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

8 ORDERING OF SPARE PARTS

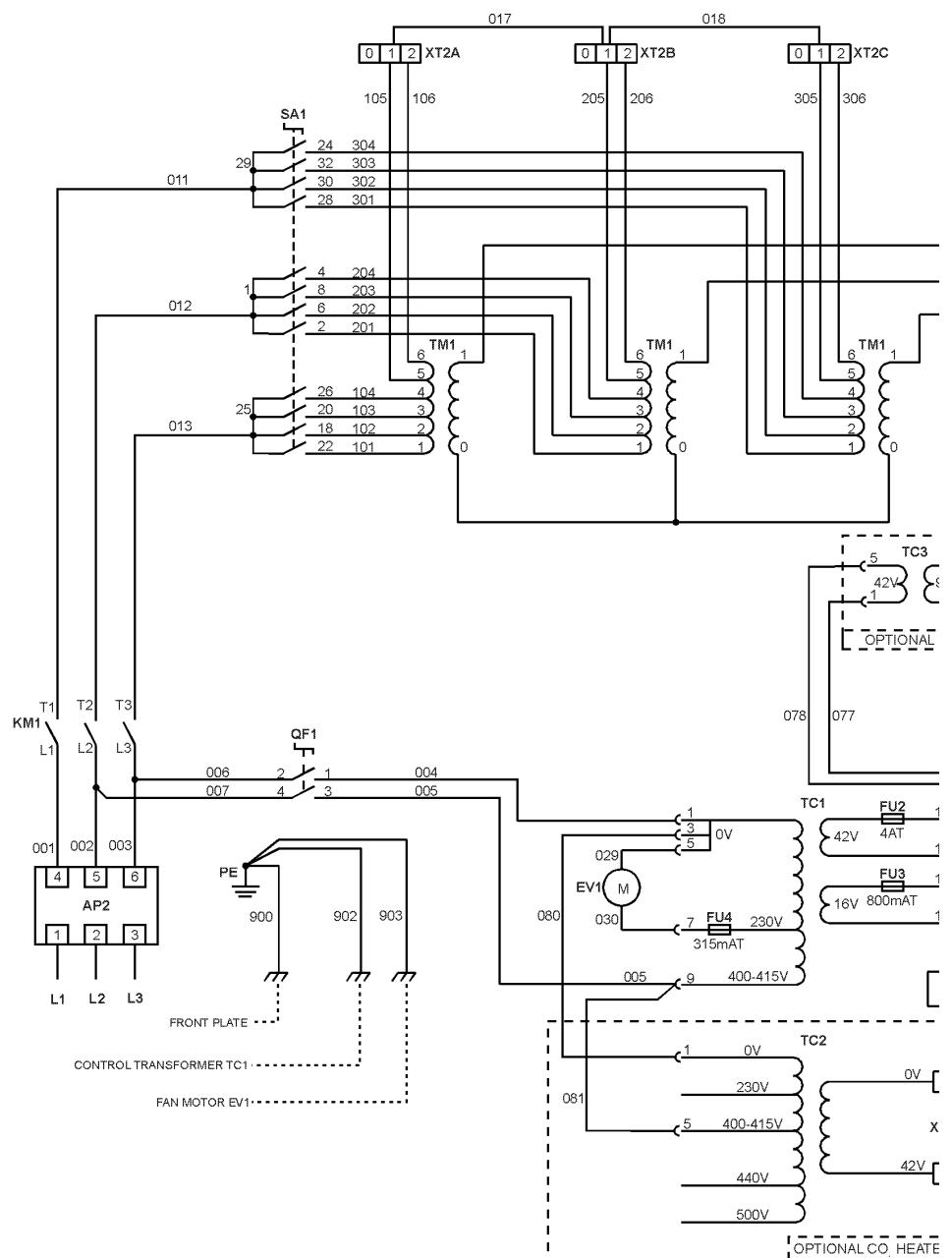
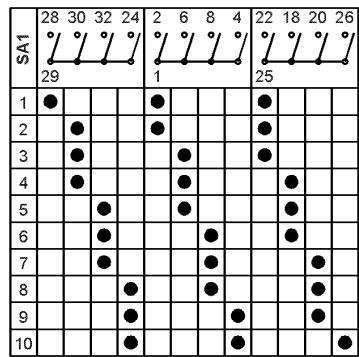
Repair and electrical work should be performed by an authorised ESAB service technician. Use only ESAB original spare and wear parts.

Mig C280 PRO, Mig C340 PRO is designed and tested in accordance with the international and European standards 60974-1, 60974-5 and 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.

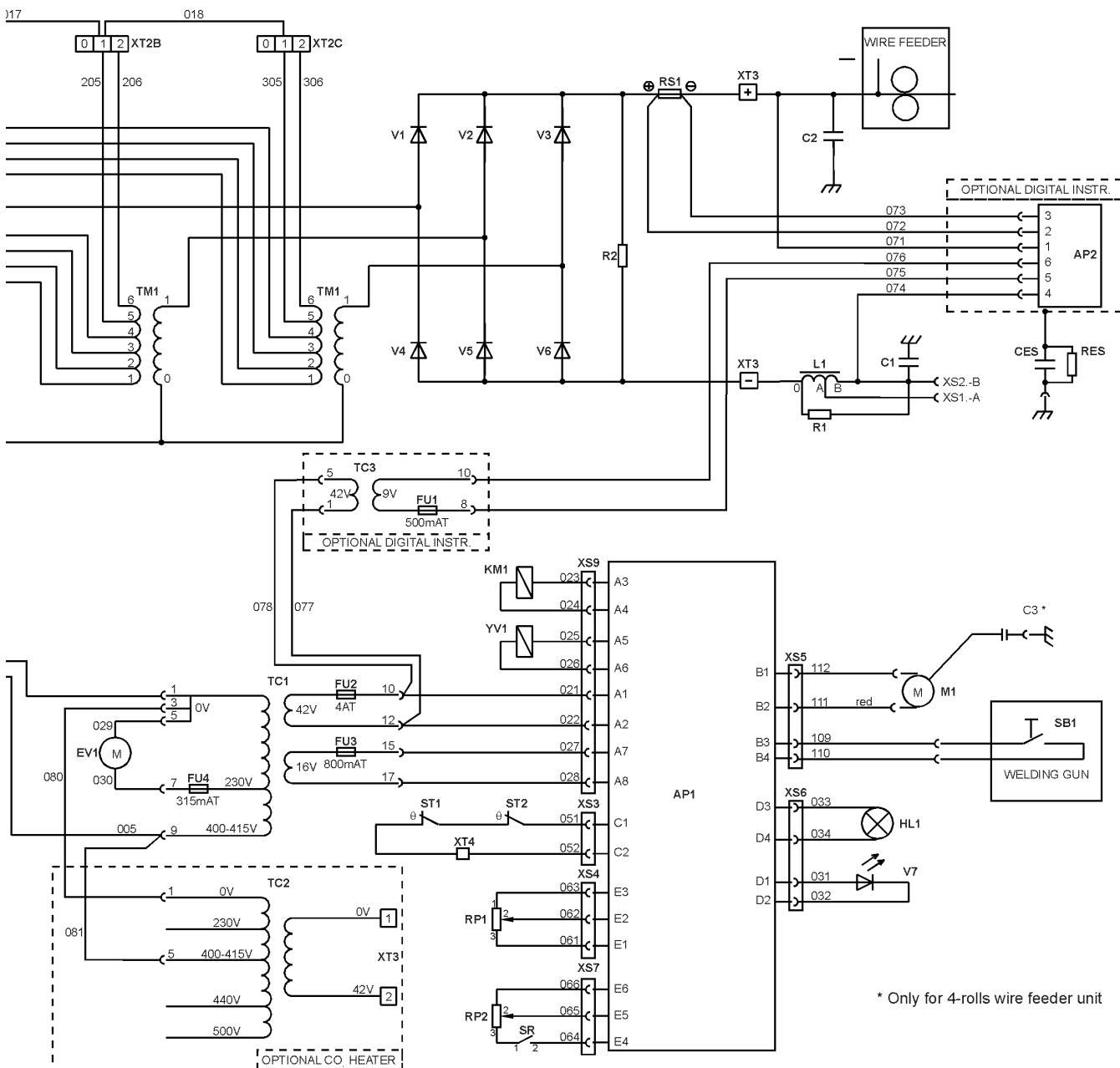
Spare parts may be ordered through your nearest ESAB dealer, see the last page of this publication.

Diagram

Mig C280, 380-415V

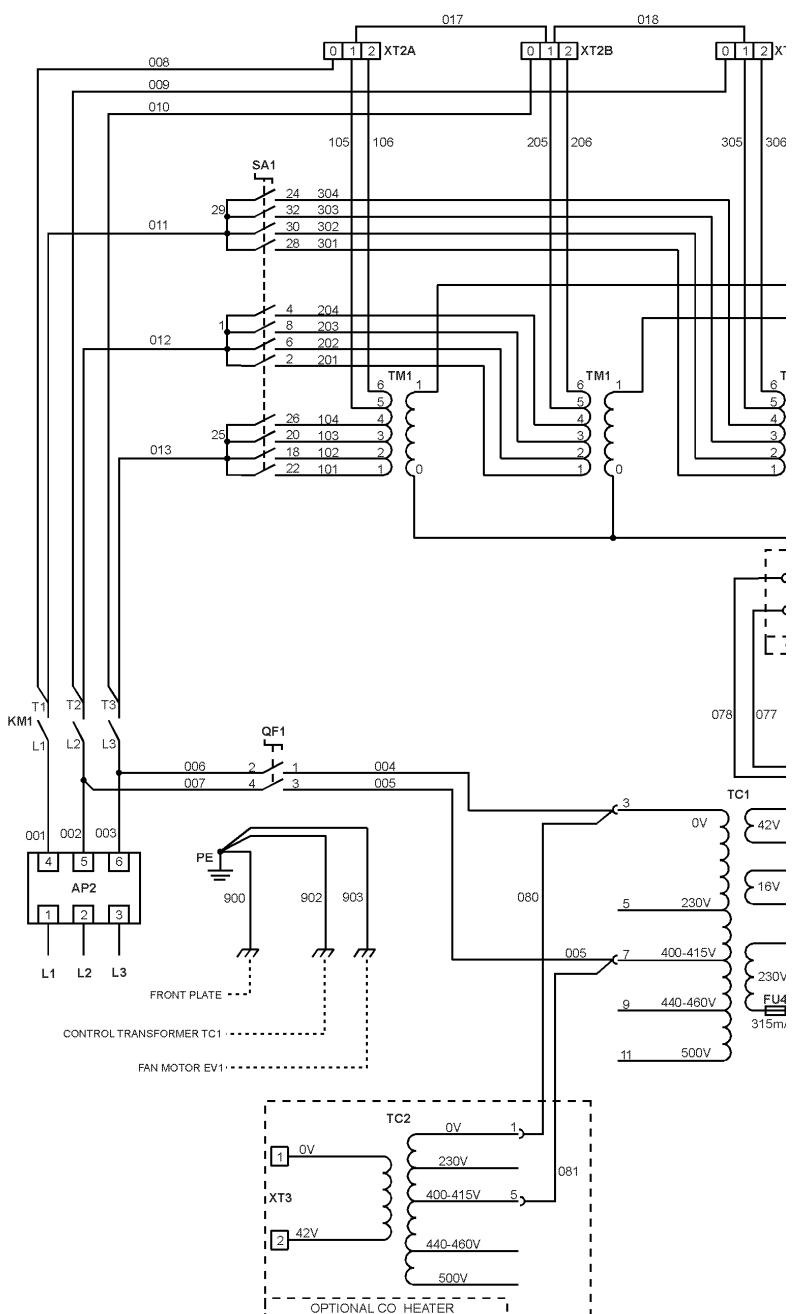
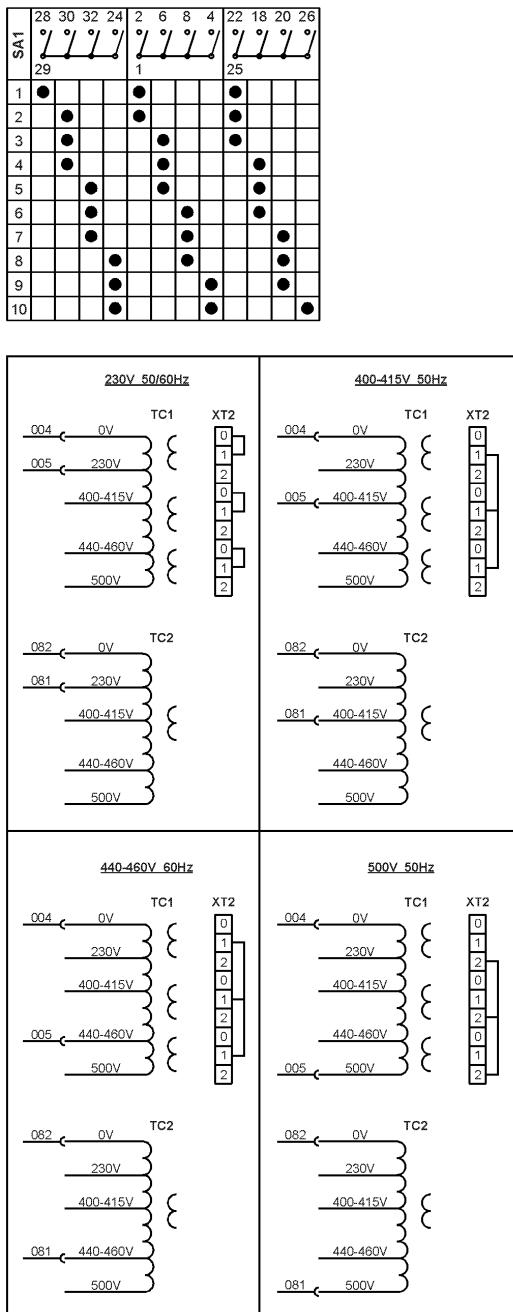


Mig C280, 380-415V

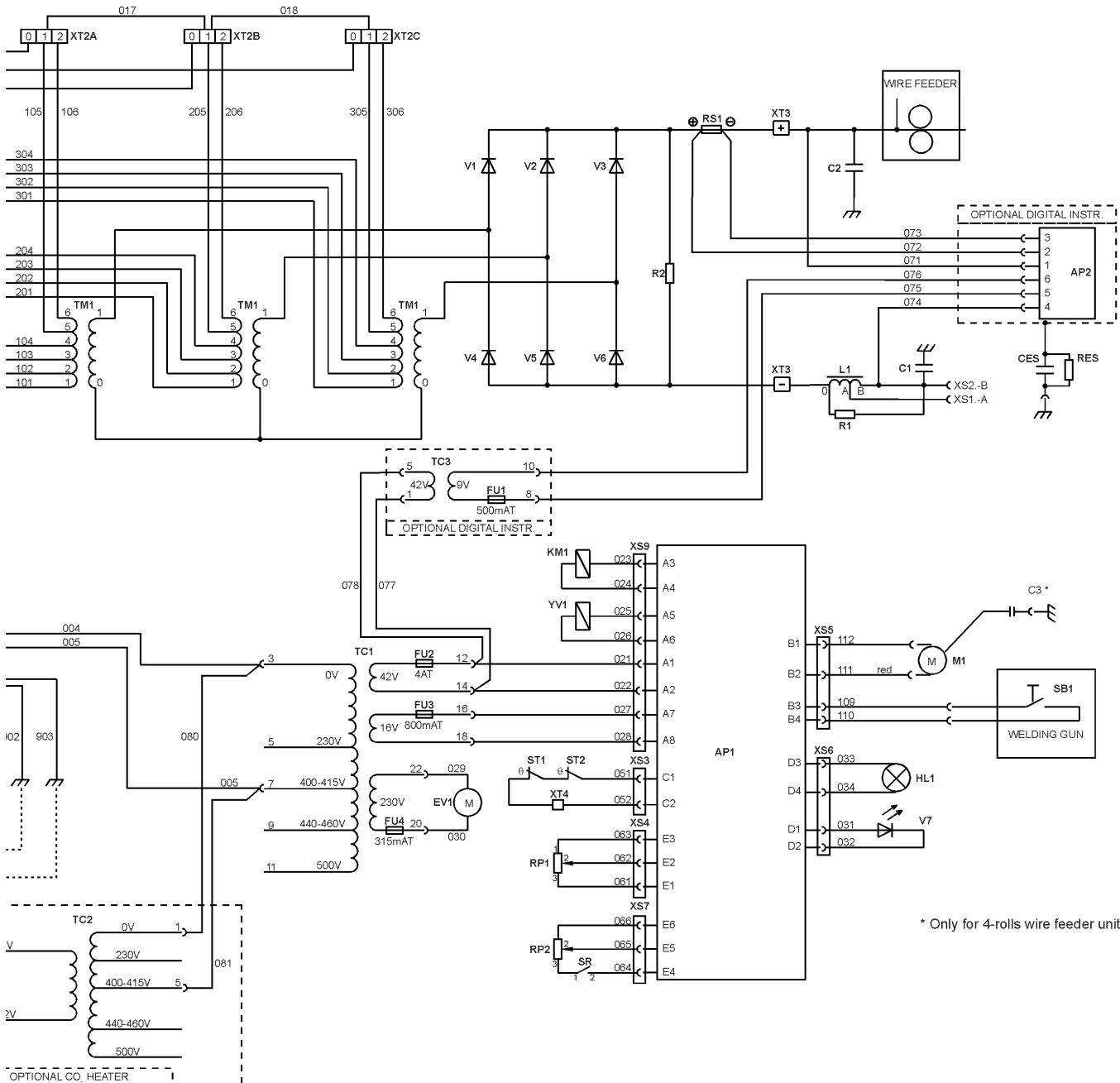


* Only for 4-rolls wire feeder unit

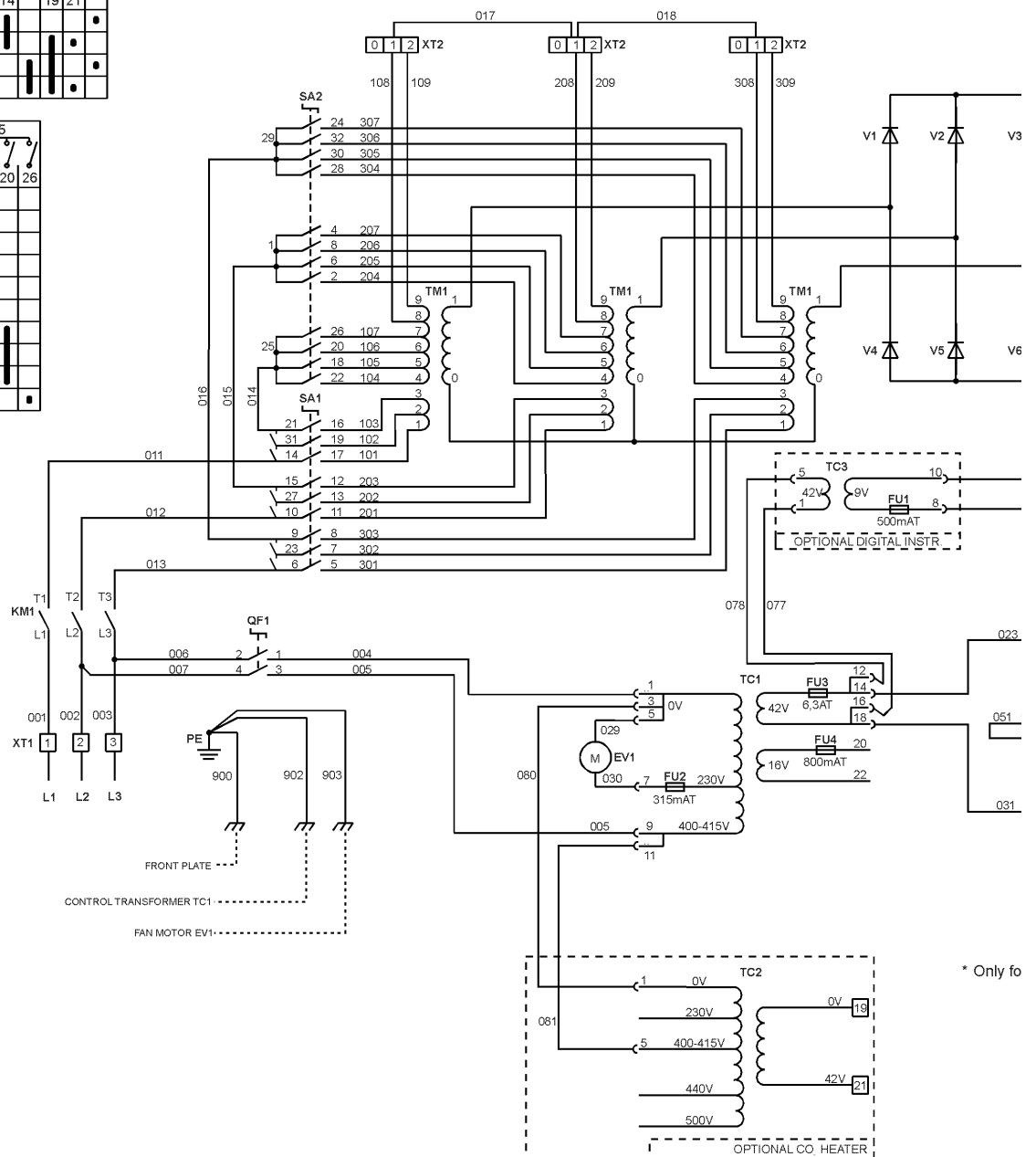
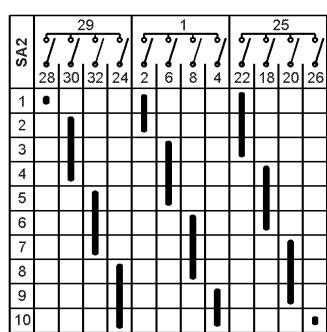
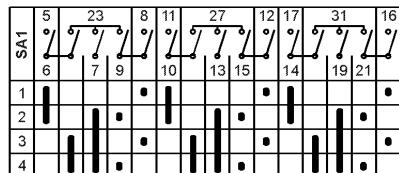
Mig C280, 230-500V



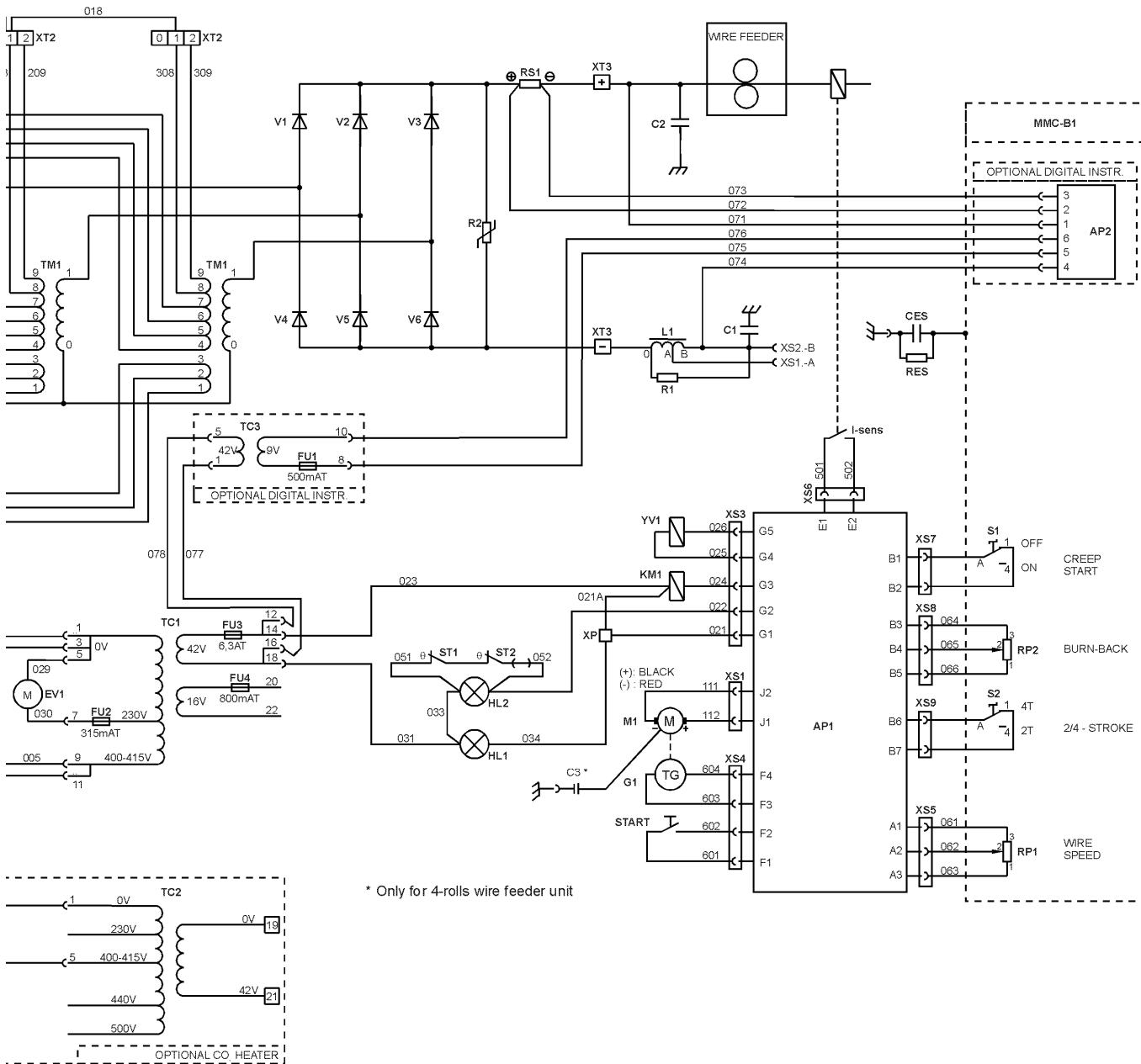
Mig C280, 230-500V



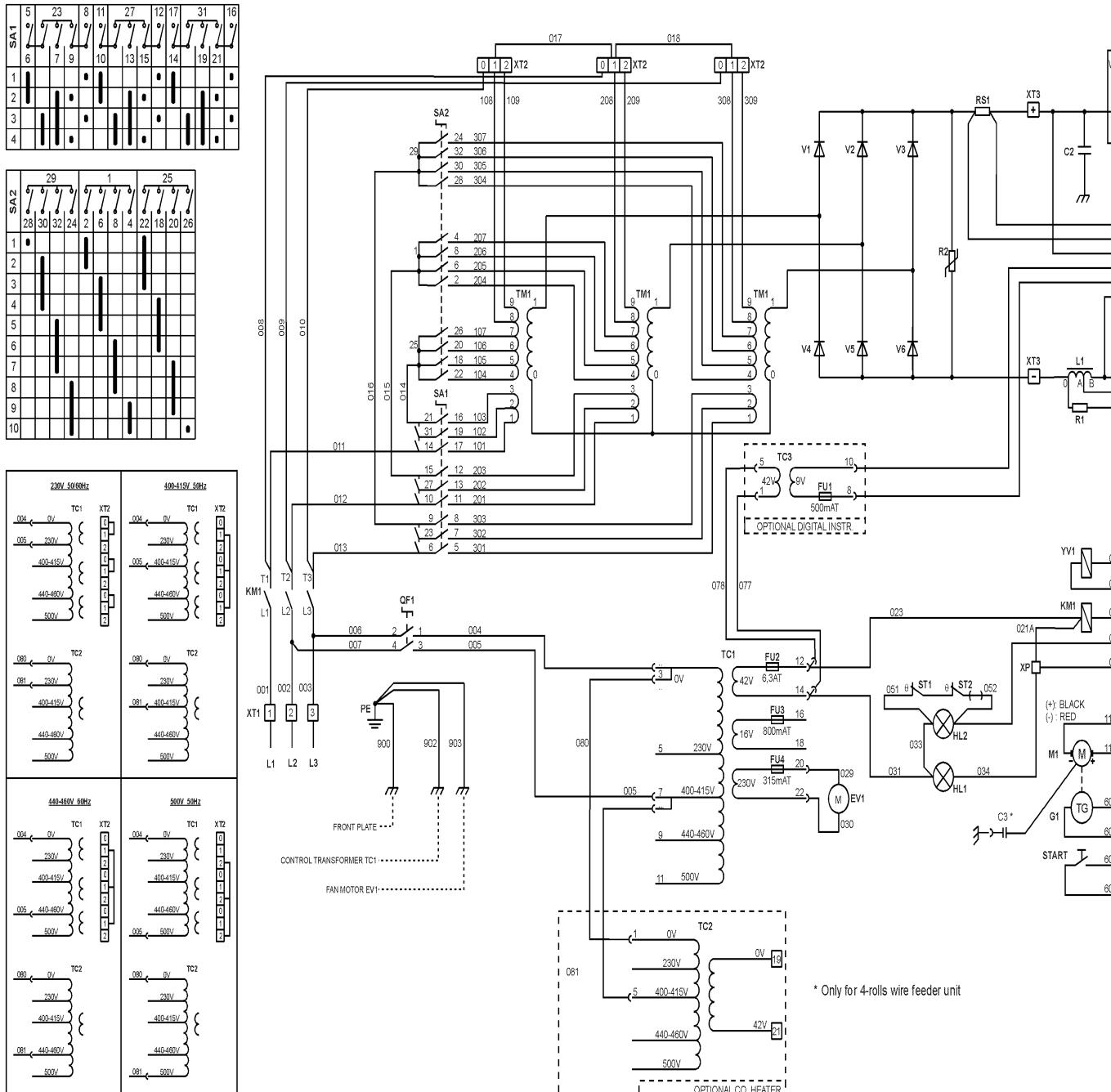
Mig C340, 380-415V



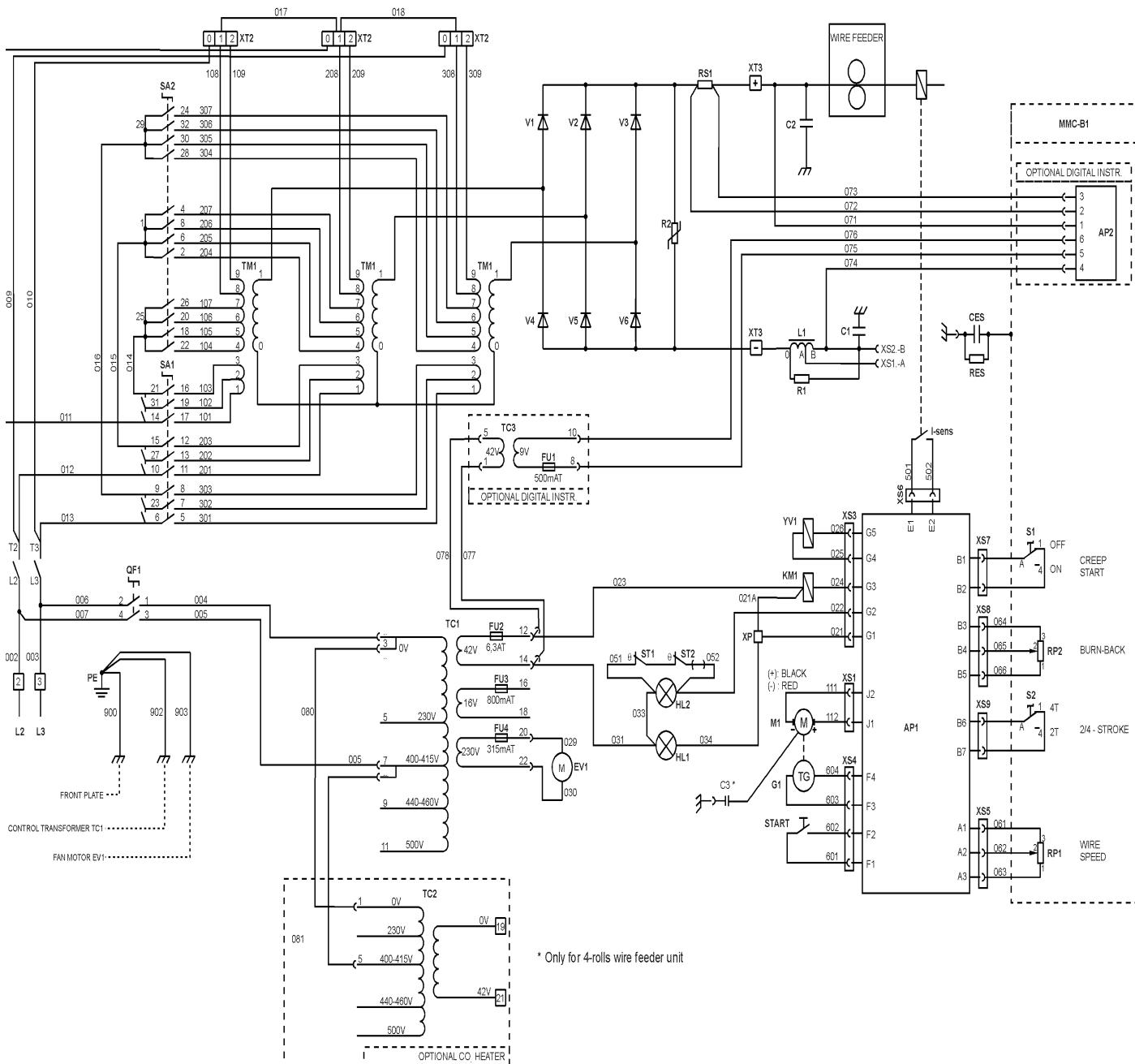
Mig C340, 380-415V



Mig C340, 230-500V

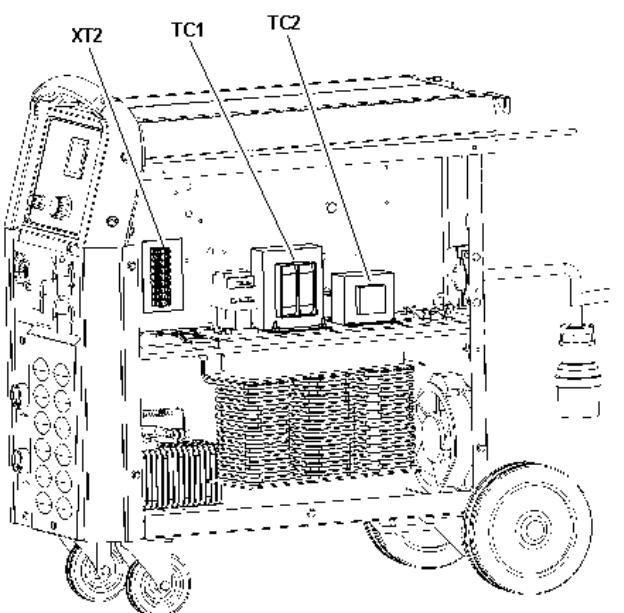
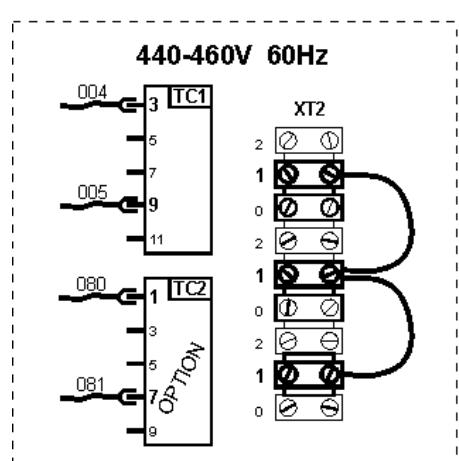
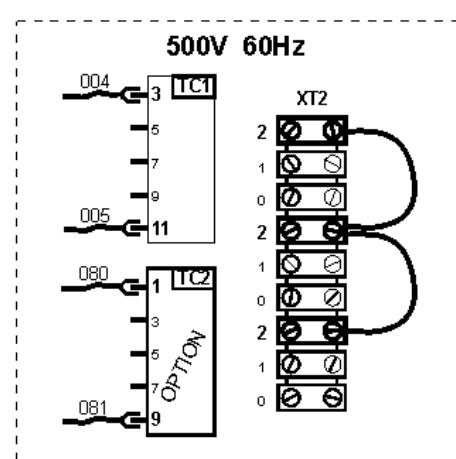
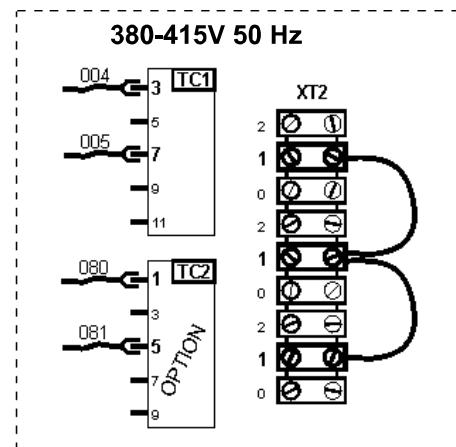
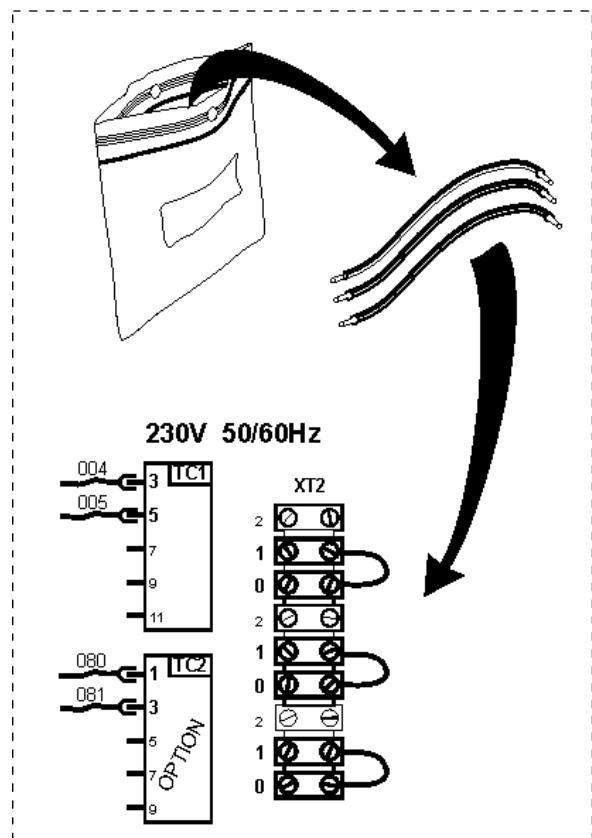


Mig C340, 230-500V



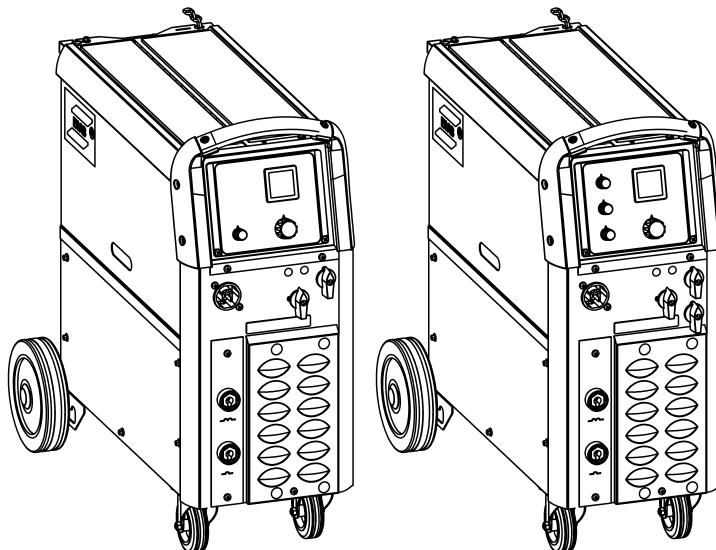
Connection instruction

230V / 380-415V / 440-460V / 500V



Mig C280 PRO, Mig C340 PRO

Order number



Ordering no.	Type	Notes
0349 312 510	Origo™ Mig C280 PRO	380/400-415 V, 3~50 Hz, , with digital instrument
0319 312 540	Origo™ Mig C280 PRO	230/400-415/415/500V , 3~50 Hz; 230/440-460V , 3~60 Hz, with digital instrument
0349 312 520	Origo™ Mig C280 PRO 4 WD	380/400-415 V, 3~50 Hz, with digital instrument
0349 312 530	Origo™ Mig C280 PRO 4 WD	230/400-415/415/500V , 3~50 Hz; 230/440-460V , 3~60 Hz, with digital instrument
0349 312 550	Origo™ Mig C340 PRO	380/400-415 V, 3~50 Hz, with digital instrument
0349 312 560	Origo™ Mig C340 PRO	230/400-415/415/500V , 3~50 Hz; 230/440-460V , 3~60 Hz, with digital instrument
0349 310 830	Origo™ Mig C340 PRO 4 WD	380/400-415 V, 3~50 Hz, with digital instrument
0349 312 570	Origo™ Mig C340 PRO 4 WD	230/400-415/415/500V , 3~50 Hz; 230/440-460V , 3~60 Hz, with digital instrument
0349 300 531	Origo™ Mig C280 PRO / Origo™ Mig C340 PRO	Spare parts list

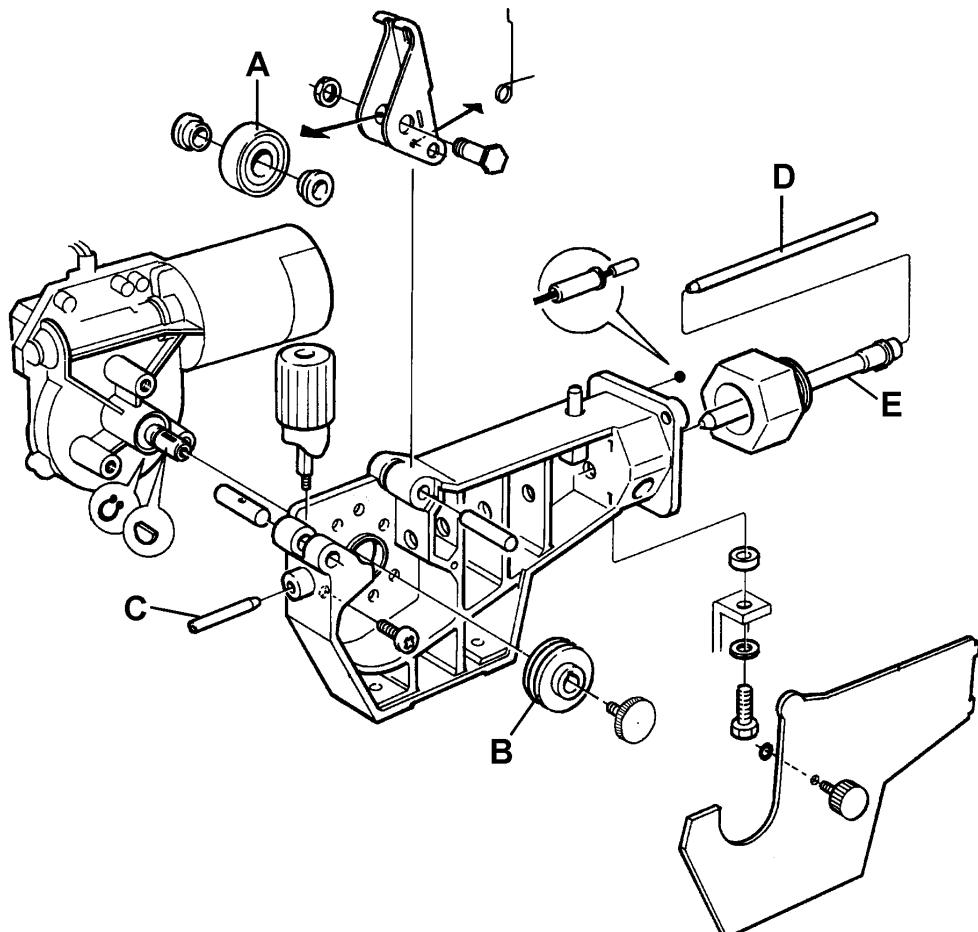
Technical documentation is available on the Internet at www.esab.com

Wear parts

(W. F. Mechanism 0455 890 888)

Item	Denomination	Ordering no.	Notes
A	Pressure roller	0455 907 001	
		0367 556 001	Ø 0.6-0.8mm Fe, Ss, cored wire.
B	Feed roller	0367 556 002	Ø 0.8-1.0mm Fe, Ss, cored wire.
		0367 556 006	Ø 1.0-1.2mm 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.

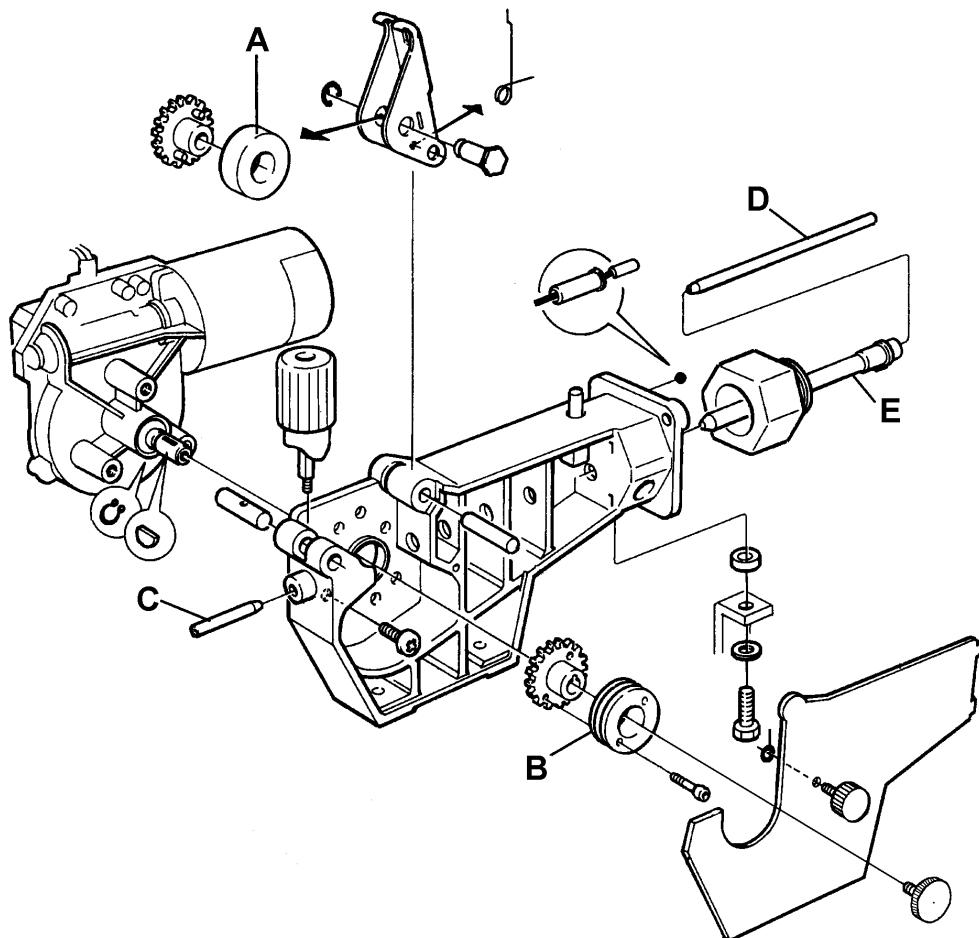
In order to weld with aluminium wires, proper rollers, nozzles and liners for aluminium wires MUST be used. It is recommended to use 3m long welding gun for aluminium wires, equipped with appropriate wear parts.

Mig C340 PRO

(W. F. Mechanism 0455 890 881)

Item	Denomination	Ordering no.	Notes
A	Pressure roller	0369 728 001 0466 262 001	Knurled
B	Feed roller	0369 557 001 0369 557 002 0369 557 003 0369 557 004 0369 557 006	Ø 0.6-0.8mm Fe, Ss, cored wire. Ø 0.8-1.0mm Fe, Ss, cored wire. Ø 1.0-1.2mm Fe, Ss, cored wire. Ø 1.0-1.2mm cored wire, knurled. Ø 1.0-1.2mm Al wire.
C	Inlet nozzle	0466 074 001	
D	Insert tube	0455 894 001 0455 889 001	Plastic, must be used together with item 0455 885 001, for welding with Al wire. Steel, must be used together with item 0455 886 001.
E	Outlet nozzle	0455 885 001 0455 886 001	Must be used together with item 0455 894 001, for welding with Al wire. 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.

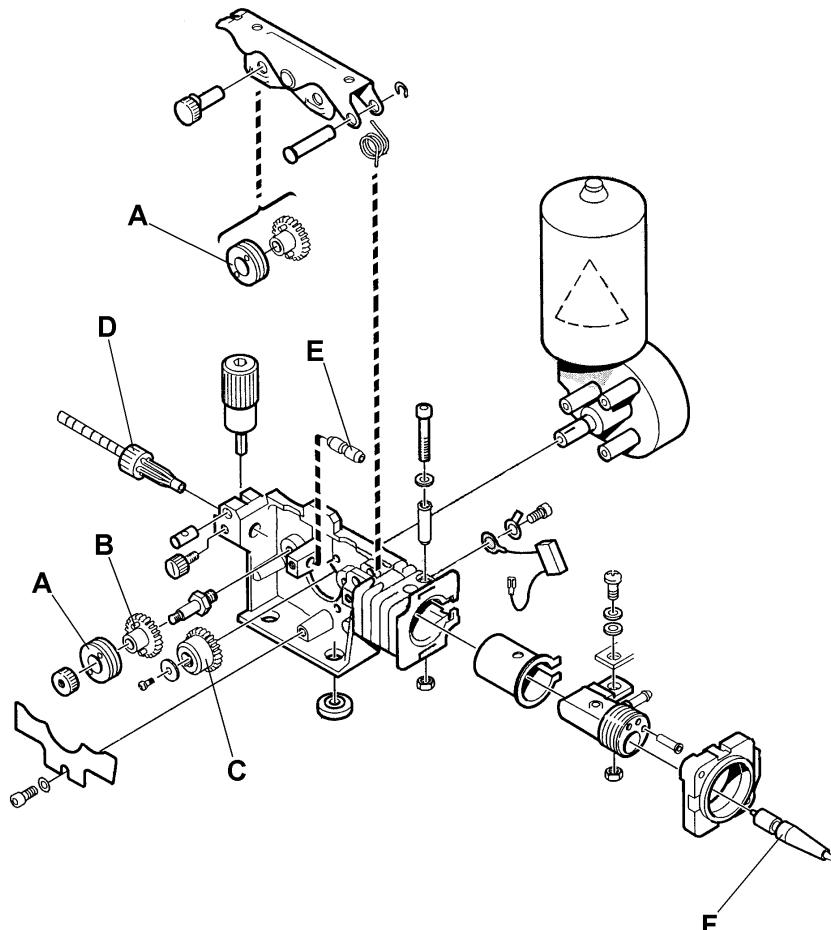
In order to weld with aluminium wires, proper rollers, nozzles and liners for aluminium wires MUST be used. It is recommended to use 3m long welding gun for aluminium wires, equipped with appropriate wear parts.

Mig C280 PRO, Mig C340 PRO

(W. F. Mechanism 0459 000 884 & 0459 000 883)

Item	Denomination	Ordering no.	Notes
A	Feed / Pressure roller	0459 052 002	Ø 0.8-1.0 mm Fe, Ss & cored wire; V-groove
		0459 052 003	Ø 1.0-1.2mm Fe, Ss & cored wire; V-groove
		0458 825 001	V-groove, knurled.
		0458 825 002	Ø 1.2-1.4mm V-groove, knurled.
		0458 824 001	Ø 0.8-1.0mm Al wire, U-groove.
		0458 824 002	Ø 1.0-1.2mm Al wire, U-groove.
		0458 824 003	Ø 1.2-1.6mm Al wire, U-groove.
B	Gear adapter	0455 053 880	
C	Drive gear	0455 052 001	
D	Inlet nozzle	0455 049 001 0332 318 001	Ø 3.0mm plastic for 0.6-1.6mm Fe, Ss, AL, cored wire. Ø 2.4mm steel.
E	Intermediate nozzle	0455 072 002 0456 615 001	Al wire.
F	Outlet nozzle	0469 837 880 0469 837 881	Ø 2.0mm steel for 0.6-1.6mm wire. Ø 2.0mm plastic for 0.8-1.6mm Al wire.

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

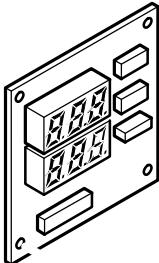
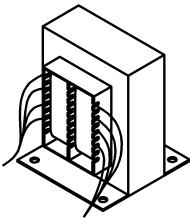
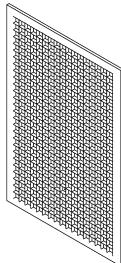
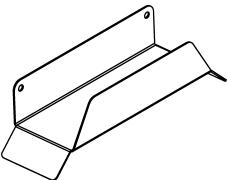


Welding with aluminium wires.

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.

Mig C280 PRO, Mig C340 PRO

Accessories

	Digital meter	0349 302 598
	Transformer kit for CO₂ heater	0349 302 250
	Filter	0349 302 599
	Cable holder	0349 303 362
	Push - Pull KIT for Mig C340	0349 308 980

NOTES

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