



Operating Manual

Transmig 326S/406S/406SW



**Please ensure that this
Instruction Manual and Parts List
is made available to the user of
the equipment**



DECLARATION OF CONFORMITY

Murex Welding Products Ltd.

Declare hereby that:

Murex Transmig 326S/406S/406SW Power Source

Part No. 1416280, 1416281, 1416282

Manufactured after 1st November 2003

- conform with the requirements of Council Directive 72/23/EEC, amended by Council Directive 93/68/EEC, relating to electrical equipment designed for use within certain voltage limits.
- conform with the requirements of Council Directive 89/336/EEC, amended by Council Directive 93/68/EEC, relating to electromagnetic compatibility.
- are manufactured in accordance with EN60974-1 Safety Requirements for Arc Welding Equipment.
- are manufactured in accordance with EN50199 Electromagnetic Compatibility for Arc Welding Equipment.

On behalf of Murex Welding Products Ltd.
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Managing Director
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November 2003

Manufactured by Esab Welding Equipment AB.



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WARNING



This welding equipment has been designed, manufactured and tested to the highest standards to ensure long and trouble free life. However, regular maintenance is an essential part of keeping the machine operating in a reliable and safe manner and your attention is drawn to any maintenance instructions that are contained in this manual.

In general, all welding equipment should be thoroughly inspected, tested and serviced at least annually. More frequent checking will be required when the equipment is heavily used.

Wear and tear, particularly in electro-mechanical and moving components, are gradual processes. Caught in time, repair costs are small and the benefits in performance, reliability and safety are significant. Left alone, they can put the equipment, and you, at risk.

Have this equipment regularly inspected and maintained by an approved service centre.



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 work.
- Ensure your working position is secure.

FUMES AND GASES – Can be Dangerous to Health

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to keep fumes and gases 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.

NOISE – Excessive noise can damage hearing

- Protect your ears. Use ear defenders or other hearing protection.
- Warn bystanders of the risks.

**READ AND UNDERSTAND THE INSTRUCTION MANUAL
BEFORE INSTALLING OR OPERATING AND SEE WMA PUBLICATION 237
'The arc welder at work' AVAILABLE FROM THE MANUFACTURER.**

PROTECT YOURSELF AND OTHERS

SAFETY

In any arc welding or gouging operation, it is the responsibility of the user to observe certain safety rules to ensure his personal safety and to protect those working near him.









Read all safety articles relevant to arc welding published by the WMA. Pay particular attention to any CAUTION or WARNING Notes included in this manual. CAUTION indicates possible equipment damage. WARNING indicates possible hazard to life.

WARNING




The ON/OFF switch on this equipment does not isolate the unit from the mains electrical supply. **AC POWER IS PRESENT ON THE ON/OFF SWITCH TERMINALS.**

The On/Off lamp is an indication that the supply is switched on and does not imply that the unit is isolated from the supply. **BEFORE REMOVING THE COVERS FOR MAINTENANCE, ISOLATE THE UNIT FROM THE MAINS ELECTRICAL SUPPLY.**




1 Electrical

-  Treat electricity with respect. Even the open circuit voltage of this equipment can be dangerous. Adjustments to the torch or replacement of torch parts should be undertaken with the mains supply isolated from the unit.
- If damaged torch cables or torch components are found, the unit must be disconnected from the mains and defective parts must be replaced using only Murex spare parts.
-  Do not work on live circuits or cables. Disconnect the main power supply before checking the machine or performing any maintenance operation.
-  Be sure the case of the welding machine is properly connected to a good electrical earth.
-  Have the wiring for the welding machine installed by a qualified electrician. All connections must be made according to specifications in force and to general safety standards.
-  Do not stand in water or on damp floors while using an arc welder or cutter. Do not use in the rain.
-  Do not operate with worn or poorly connected cables. Inspect all cables frequently for insulation failure, exposed wires and loose connections.
-  Do not overload cables or continue to operate with overheating cables. Cables which are too small for the current carried will overheat, causing rapid deterioration of the insulation.
-  Pay attention that live parts of the torch do not touch any metal which is connected to the earth cable. Fix an insulated hook to hang the torch on when it is not in use.





2 Ventilation

-  Do not weld or cut on containers which have held combustible or flammable materials, or materials which give off flammable or toxic vapours when heated, without proper cleaning.
-  Locate the welding/cutting operation far enough from any vapour-type degreaser using trichlorethylene or other chlorinated hydrocarbons as solvents. The ultraviolet light from the arc can decompose these vapours into toxic gases at a considerable distance from the arc, even though the concentration of the gases is low enough to be undetectable by smell.
-  Be sure to provide adequate ventilation for removal and dilution of fume and gases. Fume exhaust facilities near the arc, or a ventilated helmet should be used when cutting in confined spaces or on toxic material.



3 Glare

-  Never look at the arc without wearing eye protection. Always use the proper protective clothing, filter glasses, and gloves. Be careful to avoid exposed skin areas. Do not use cracked or defective helmets or shields.
-  Never strike an arc when there is someone near who is not protected from the strong light of the arc.
-  Warn bystanders who are not aware of the dangers of ultra-violet light.



4 General

-  Take care when lifting the unit.
-  Ensure that cylinders are secured by chains.
-  Locate the unit so that there is adequate air flow to the ventilation louvres.
-  Always dress correctly to protect against glare, radiation and spatter.

5 Fire

-  Ensure that the correct type of fire extinguisher is available in the welding area.
-  Do not weld near flammable materials or liquids, in or near explosive atmospheres, or on pipes carrying explosive gases.

6 Vehicle Electrics

-  When working on motor vehicles, remove the battery and any circuitry which may be damaged by the arc.
-  Whilst welding be aware of the possibility of 'hidden wires' behind panels or bulkheads.

7 Moving Parts



Switch off before accessing areas which contain moving parts. Particular care should be taken when accessing the wire feed mechanism.



INTRODUCTION

Murex Transmig 326S, 406S & 406SW are industrial 3 phase flat characteristic power sources for MIG/MAG welding with solid or cored wires. They are normally used together with a Murex Transmatic wire feed unit for dip through spray transfer processes.

Transmig 406SW incorporates a MIG torch water cooling unit.

Specification Transmig 326S

Pt. No. 1416280

Standard delivery: Power source.

Mains cable 5m (fitted).

Includes: Gas cylinder shelf (fitted with 2 screws).

Mounting post for wire feed unit, work return lead and clamp.

Specification	Transmig 326S
Voltage	400-415V, 3-50/60Hz
Permissible load at	
100% duty cycle	195A/24V
60% duty cycle	250A/27V
30% duty cycle	320A/30V
Setting range (DC)	40A/16V-320A/30V
Open circuit voltage	16-40V
Open circuit power	200W
Efficiency	0.75
Power factor	0.94
Control voltage	42V, 50/60Hz
Dimensions l x w x h	940x425x830mm
Weight	111kg
Enclosure class	IP23
Application classification	<input type="checkbox"/> S

Specification Transmig 406S/406SW

Standard delivery:

Pt. No. 1416281/1416282

Power source. (TM 406SW includes inbuilt torch water-cooler).

Mains cable 5m (fitted).

Includes: Gas cylinder shelf (fitted with 2 screws).

Mounting post for wire feed unit, work return lead and clamp.

Specification	Transmig 406S/406SW
Voltage	400-415V, 3-50/60Hz
Permissible load at	
100% duty cycle	280A/28V
60% duty cycle	365A/32V
50% duty cycle	400A/34V
Setting range (DC)	50A/16.5V-400A/34V
Open circuit voltage	17-45V
Open circuit power	360W 800W – 406SW
Efficiency	0.71
Power factor	0.98
Control voltage	42V, 50/60Hz
Dimensions lwxwxh	812x552x925mm
Weight	144kg 158 – 406SW
Enclosure class	IP23
Application classification	S

Cooling unit	
Cooling power	2500W at 40°C temp. difference and flow 1.5 l/min
Coolant	50% water/50% glycol
Coolant quantity	5.5 l
Maximum water flow	2 l/min

TM 326S, 406S & 406SW comply with the requirements of **EN 60974-1** or **BS 638 pt 10**.

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, ie. the degree of protection against penetration by solid objects or water. Equipment marked **IP23** is designed for indoor and outdoor use.

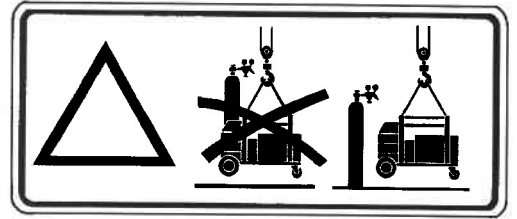
Application class

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

INSTALLATION

Lifting Instructions

The power supply should be lifted by means of its lifting eye. The handle is only intended for pulling it along the ground.



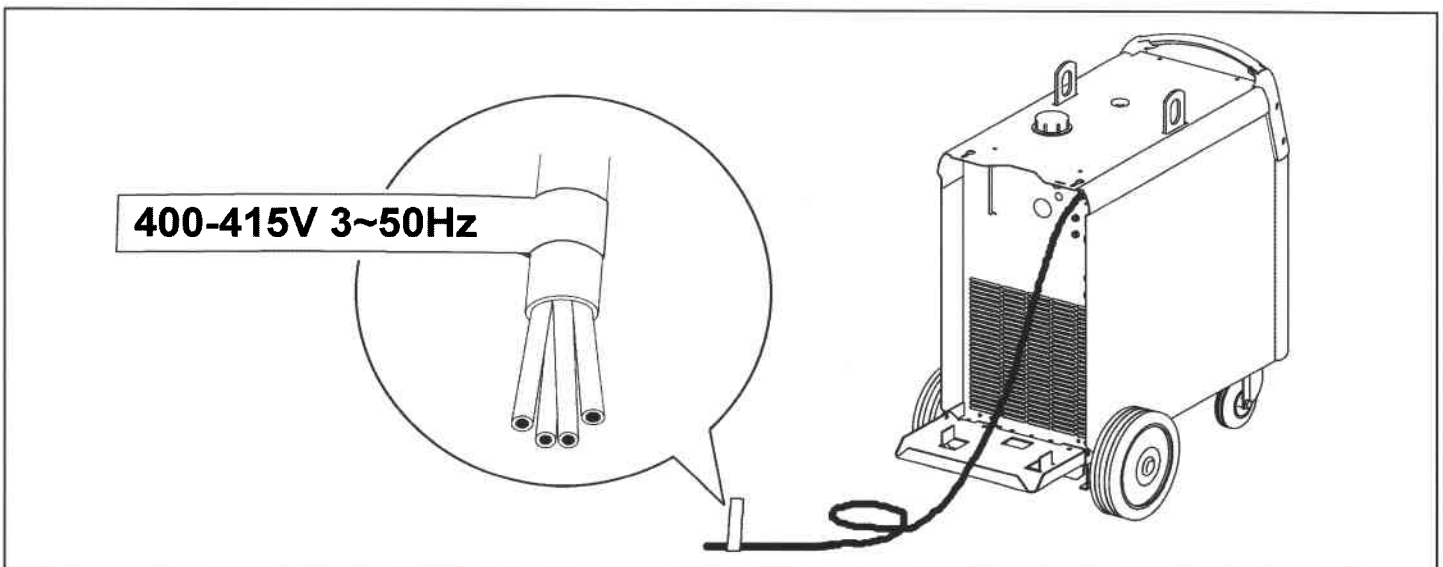
Important

- Electrical installation must be carried out by a qualified electrician.
- Site the unit so that the ventilation grilles are clear of obstructions.
- Ensure all flammable materials are removed from the area.
- Ensure the gas cylinder retaining chain is installed when mounting the gas cylinder.
- The front panel on/off switch does not isolate the mains electrical supply.

Mains supply	Transmig 326S	Transmig 406S/406SW
Voltage	400/415V	400/415V
Frequency	50/60Hz	50/60Hz
Input Current at 100% duty	9A	16A
60% duty	14A	23A
30% duty	20A	
50% duty		27A
Reconnected primary cable	4x2.5mm ²	4x2.5mm ²
Reconnected primary fuse, slow	16A	20A

Note: Transmig 333S, 403S & 403SW are supplied with a fitted 5m primary cable.

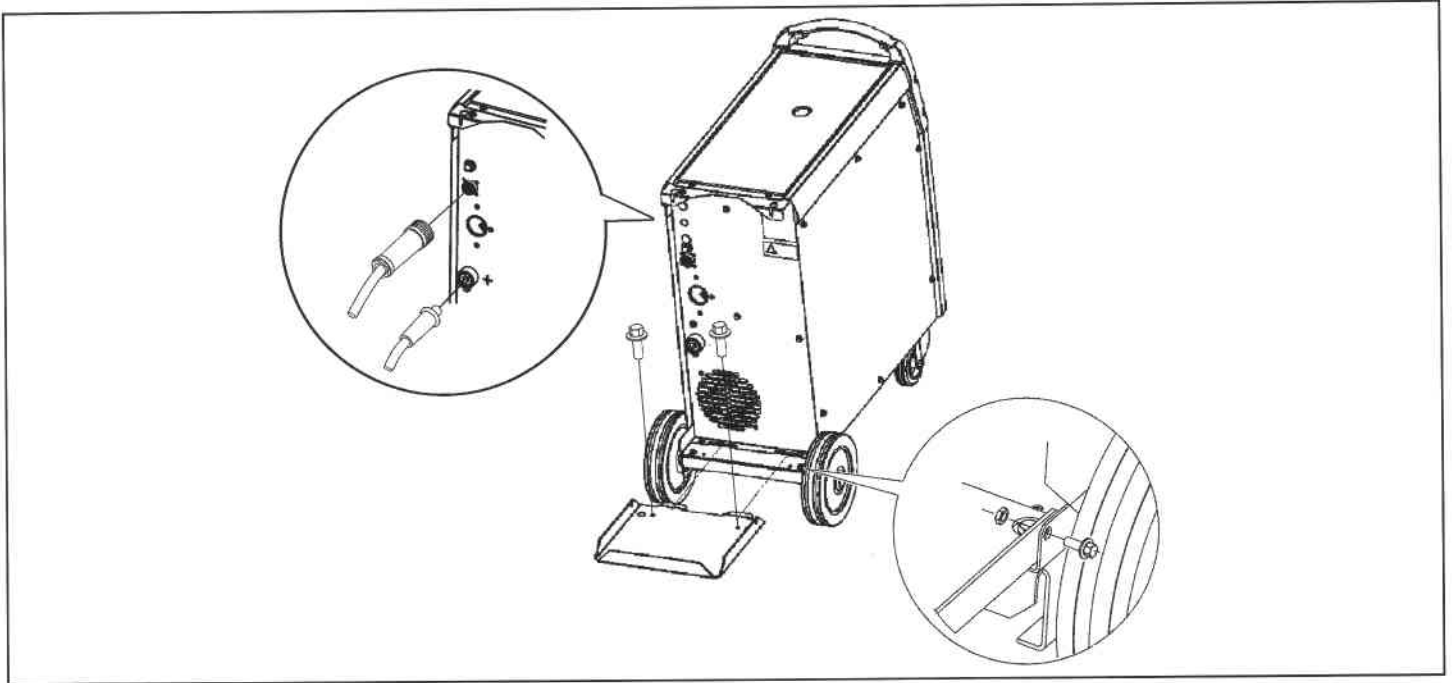
Primary connection



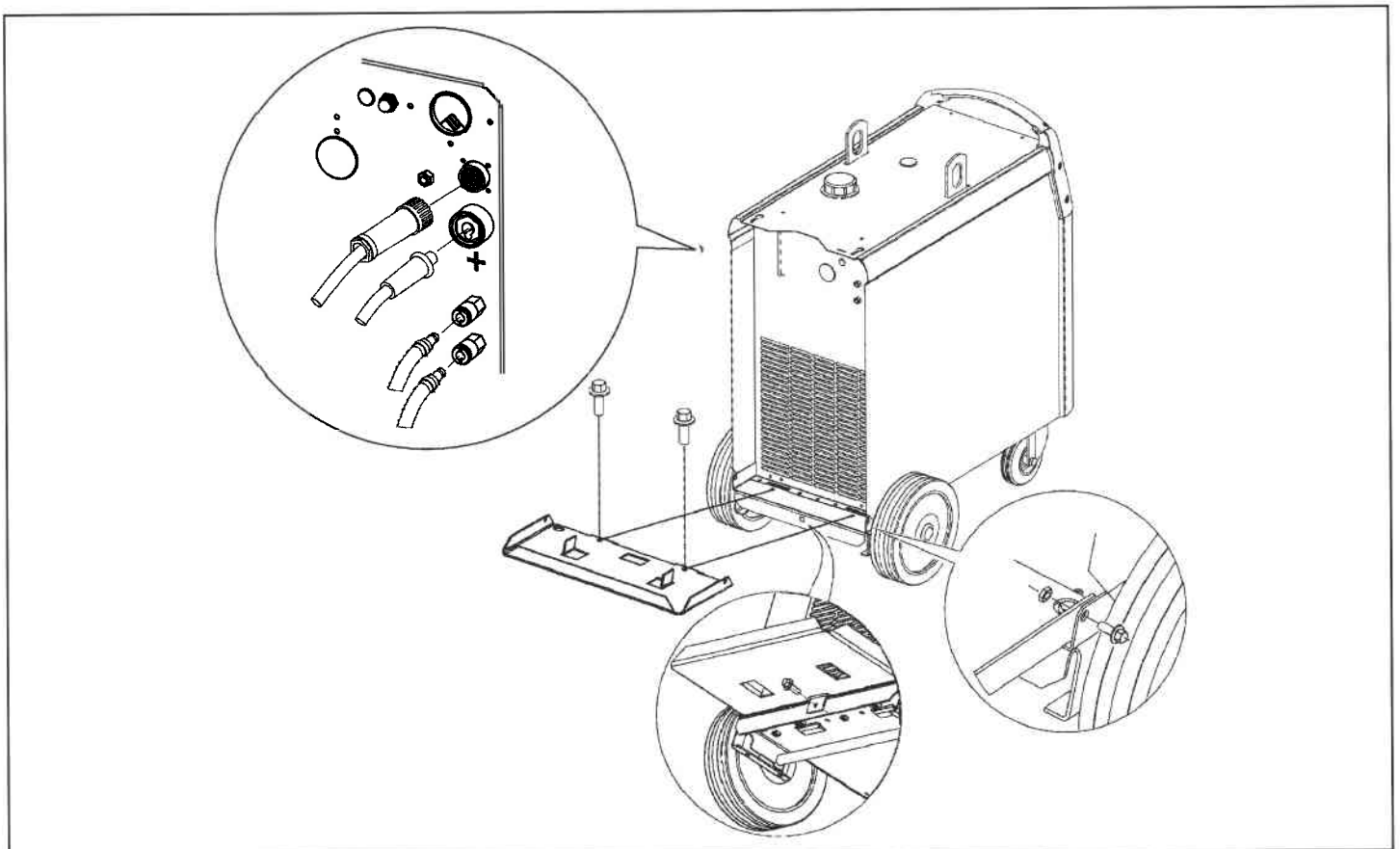
Placing

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

Assembly of components Transmig 326S



Assembly of components Transmig 406S & 406SW



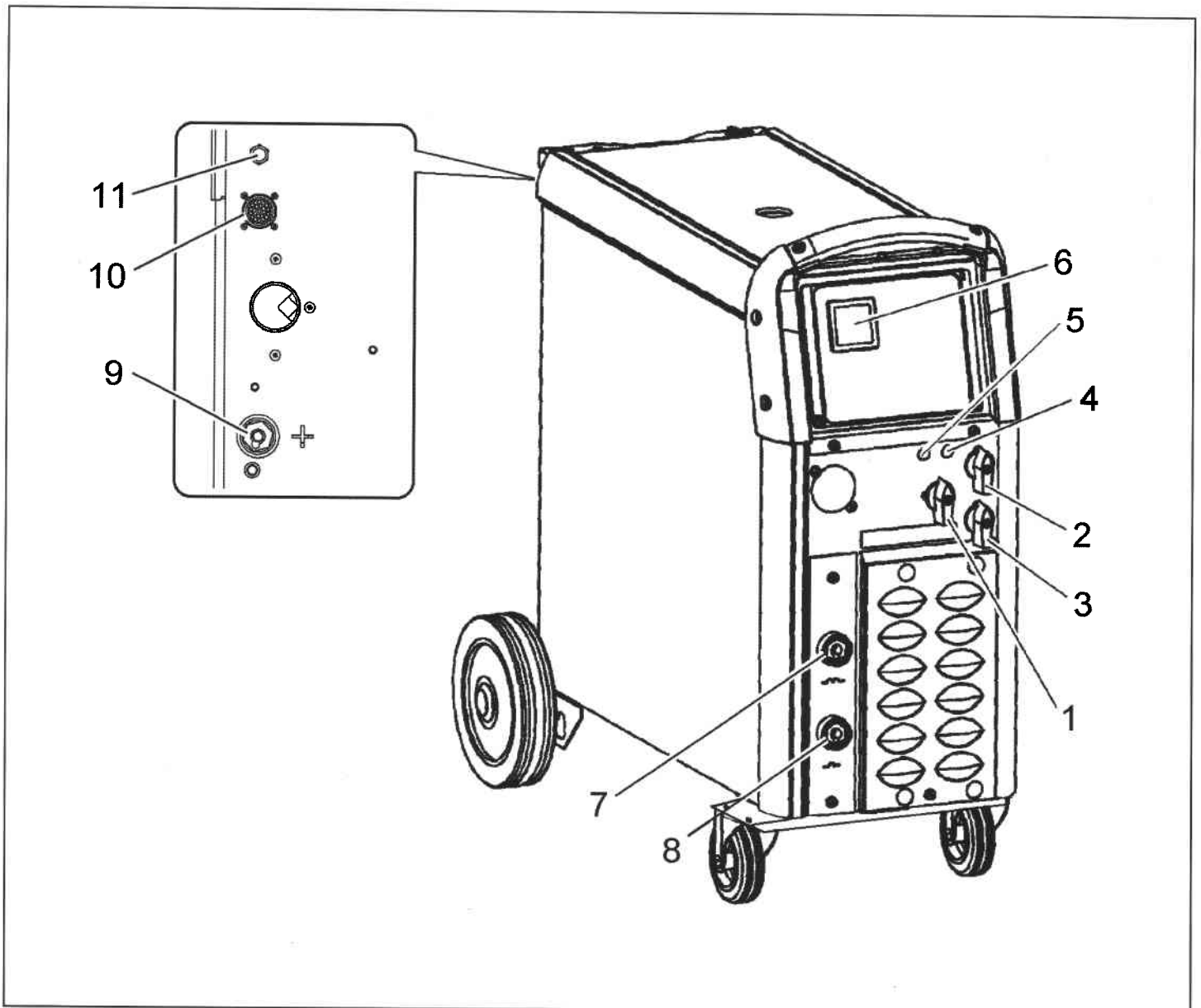
OPERATION

Transmig 326S, 406S & 406SW utilise “switched” primary control providing 40 (4x10) welding voltage selections. In addition 2 different inductance levels can be selected at the - ve welding outlets (normally the work connection) on the lower left front panel.

The machines are fan cooled, 2 speed thermostatic on the 406S & 406SW models, and incorporate thermal overload protection. If the machine is overheated the orange warning light will illuminate and welding output will stop. In this event leave the machine switched on with the fan running, resetting is automatic when the unit has cooled.

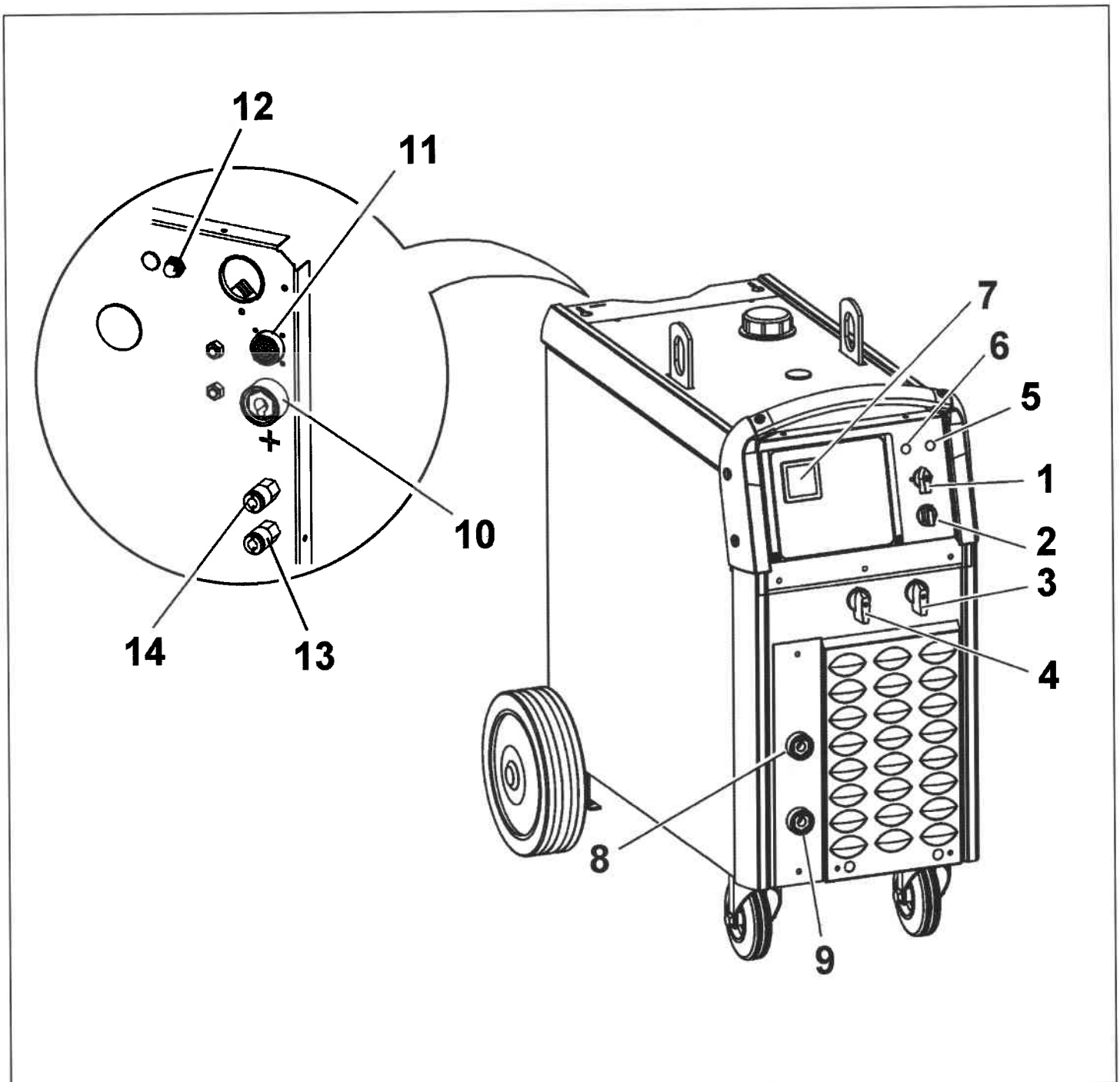
Transmig 326S

- | | |
|---------------------------------------|--|
| 1 Mains supply switch | 7 Connection for return cable (-), high inductance |
| 2 Fine voltage switch | 8 Connection for return cable (-), low inductance |
| 3 Coarse voltage switch | 9 Connection for welding current cable (+) |
| 4 Indicating lamp, power supply ON | 10 Connection for control cable for wire feeder |
| 5 Orange indicating lamp, overheating | 11 Circuit Breaker |
| 6 Digital meters | |



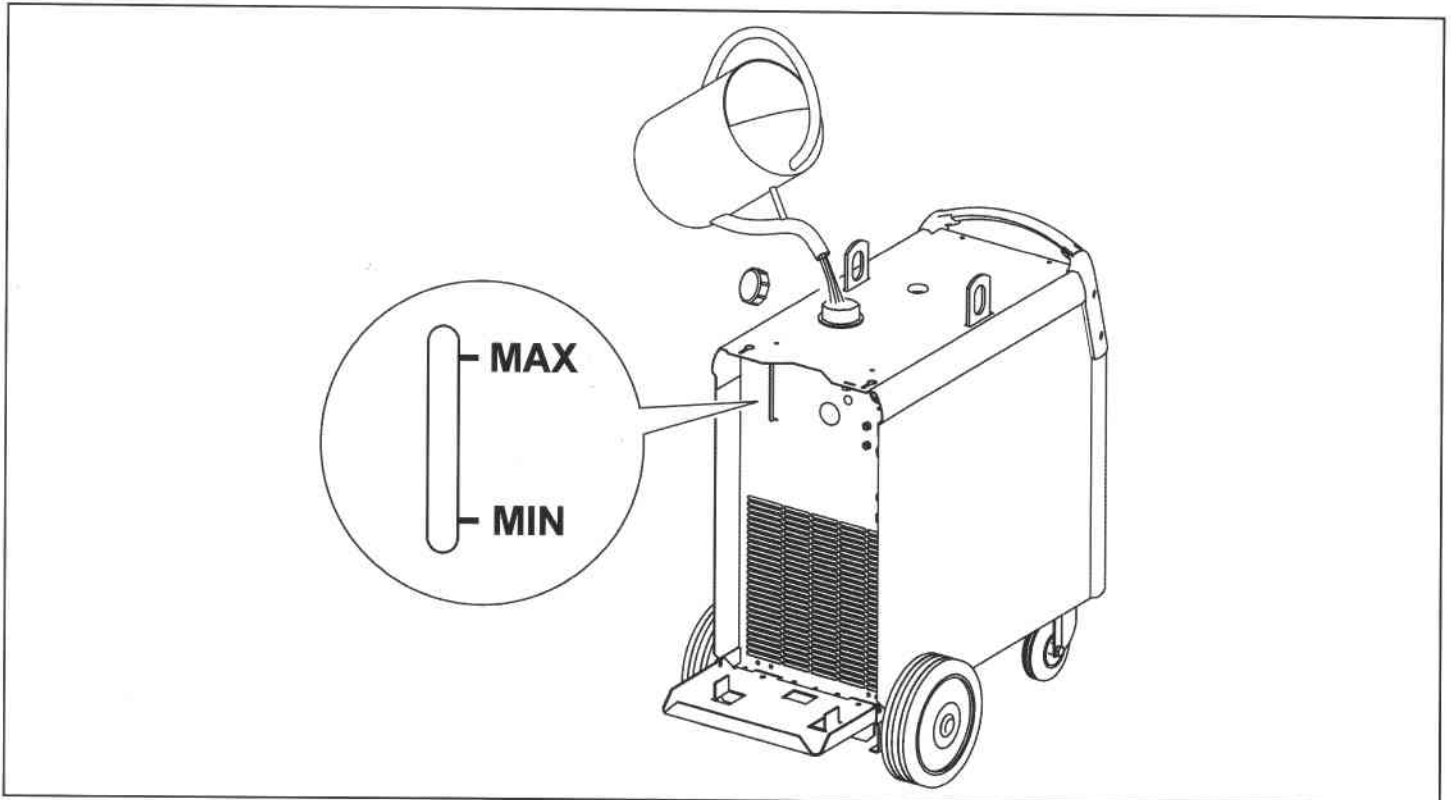
Transmig 406S & 406SW

- | | |
|---|--|
| 1 Mains supply switch | 9 Connection for return cable (-),
low inductance |
| 2 Main supply switch for cooling unit (ELP**) | 10 Connection for welding current cable (+) |
| 3 Fine voltage switch | 11 Connection for control cable for wire
feeder |
| 4 Coarse voltage switch | 12 Circuit Breaker |
| 5 Indicating lamp, power supply ON | 13 Connection RED for cooling water from
the wire feed unit |
| 6 Orange indicating lamp, overheating | 14 Connection BLUE for cooling water to the
wire feed unit |
| 7 Digital meter | |
| 8 Connection for return cable (-),
high inductance | |



MAINTENANCE

- Regular maintenance is important for reliable and safe operation.
- **Daily**
 - Check all welding and electrical connections and cables for signs of deterioration
 - Check the gas supply, hoses and connectors
 - Check the water-cooling unit (406SW only) and top-up if necessary
 - Check the fan is operating normally
- **At least annually**
 - Disconnect the machine from the mains electrical supply
 - Remove the top and side covers
 - Blow out the inside of the unit with clean, dry compressed air at low pressure
 - Check the security of all wiring, connections and components
 - Refit the covers
- **Annually**
 - Have an insulation and earth continuity test carried out by an approved service agent.
- **Topping up the coolant Transmig 406SW**
 - We recommend a 50/50% mixture of water and ethylene glycol.

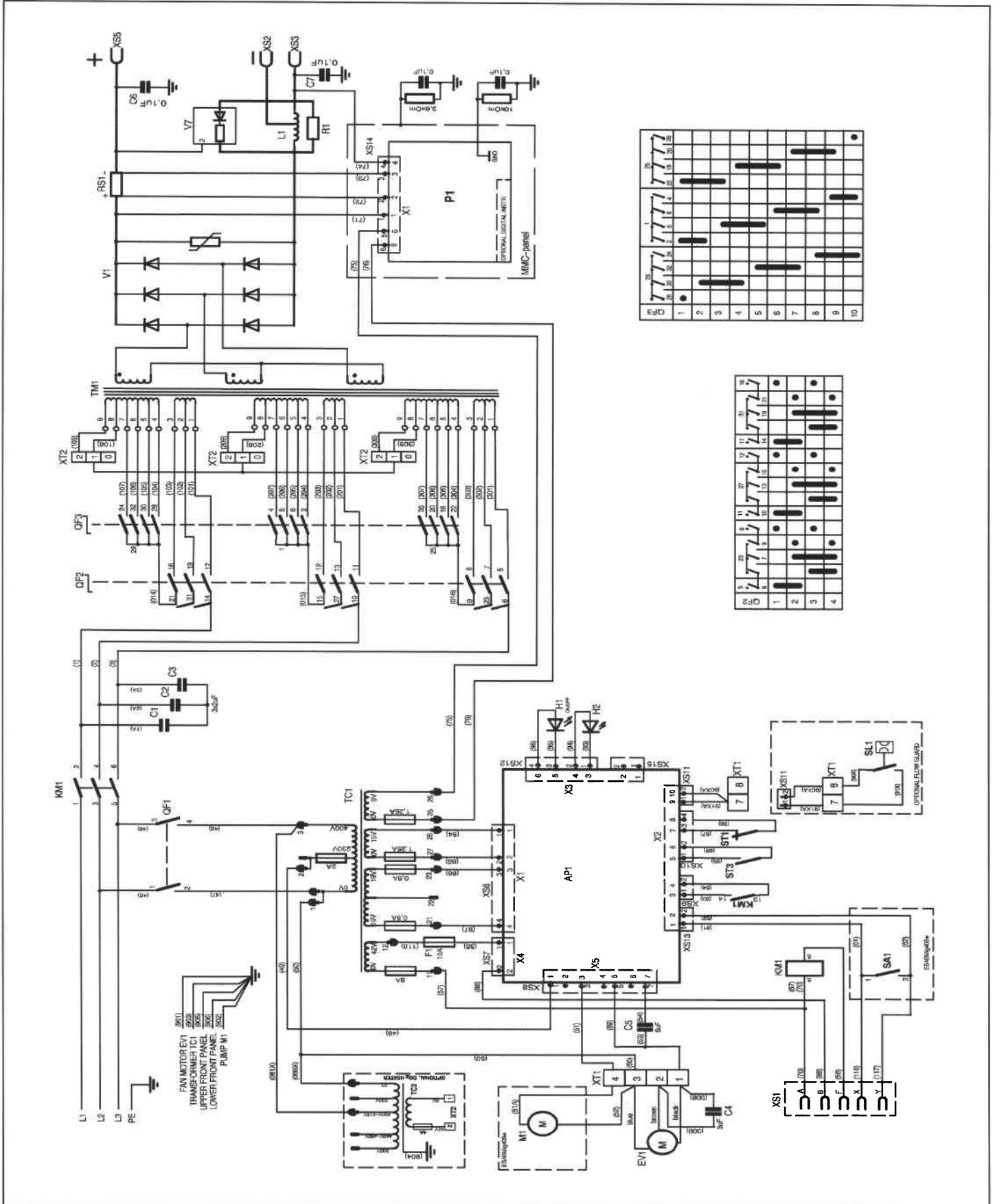


ACCESSORIES

1415285	5m Interconnection to Transmatic feeder	1380438	CCC DINZ Plug 50/70
1415286	10m Interconnection to Transmatic feeder	1414015	Water hose 6,6 m (2 required for 406SW)
1415287	15m Interconnection to Transmatic feeder	368541-005	Burndy plug 23 way (excl.pins)
1409320	3,5m Work return lead & clamp (50 mm ²)	323945-004	Burndy pin (3 required)

CIRCUIT DIAGRAM

Transmig 406S/406SW (400-415V)



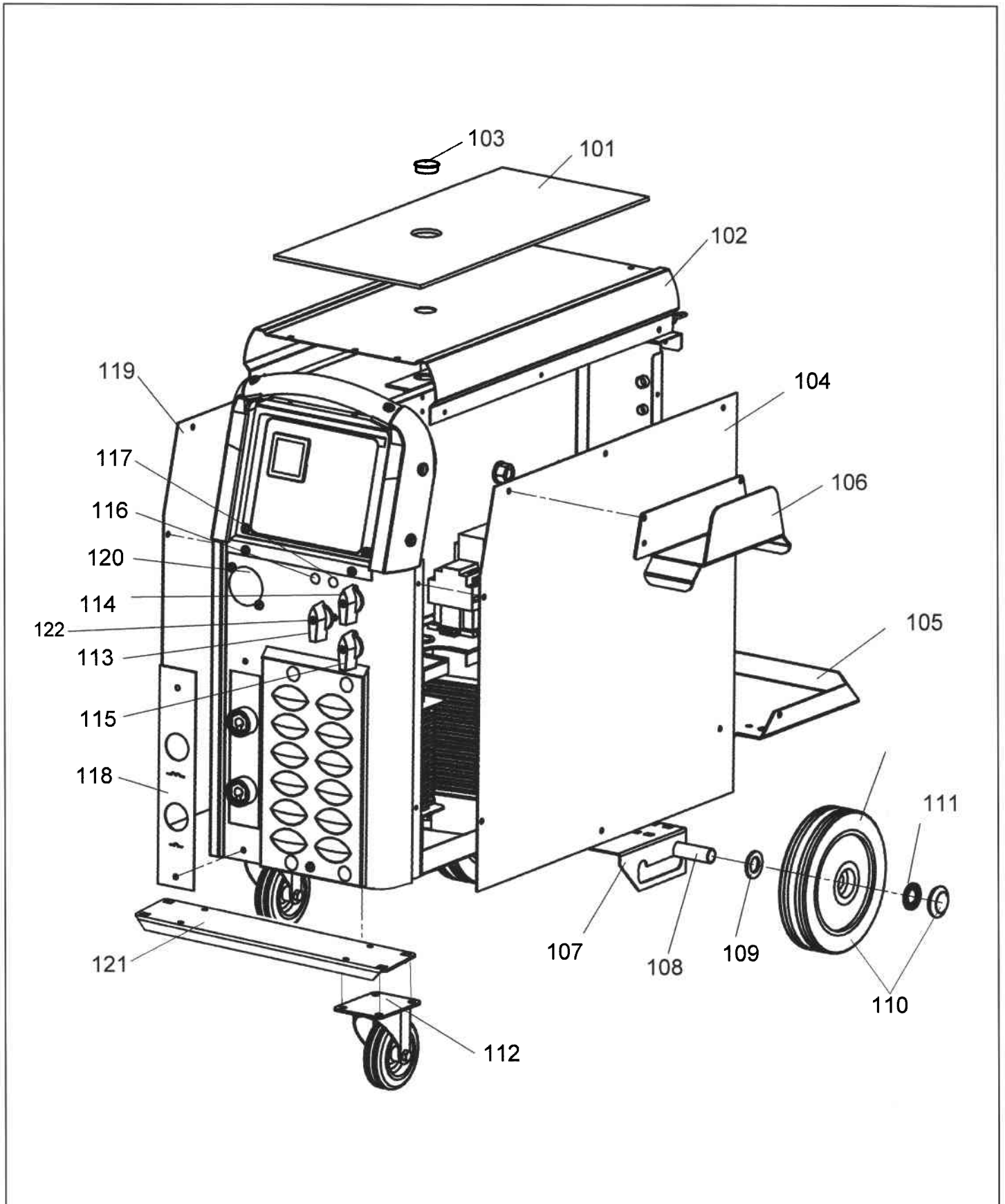
SPARE PARTS LISTS

Transmig 326S

(A) = accessory
C = component designation in the circuit diagram

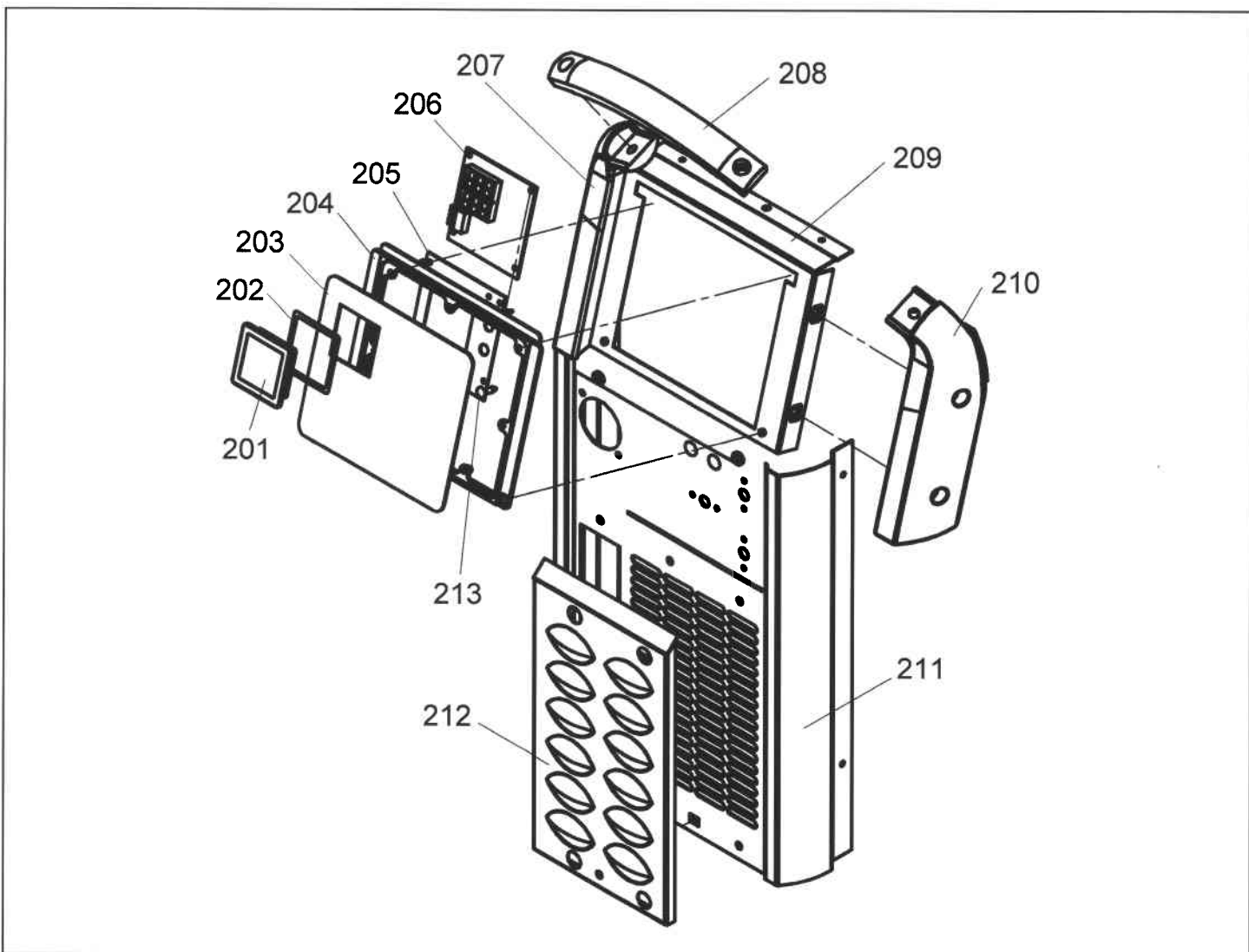
Item	Qty	Ordering no.	Denomination	Notes	C
101	1	0349 302 700	Rubber mat		
102	1	0349 302 696	Cover		
103	1		Blind plug	Ø31	
104	1		Side panel with text	Right	
105	1	0349 302 453	Shelf		
106			Holder (A)		
107	1	0349 302 318	Clamp		
108	1	0349 480 311	Shaft		
109	2	0349 481 044	Washer	Ø21	
110	2	0455 457 001	Wheel	Ø200	
111	2	0192 859 126	Locking washer	Ø200	
112	2	0349 483 461	Link wheel	Ø100	
113	1	0349 302 305	Switch		QF1
114	1	0193 945 001	Switch	10 step	SA1
115	1	0193 942 001	Switch	4 step	SA2
116	1	0369 733 002	Signal lamp	orange	HL2
117	1	0369 733 007	Signal lamp	white	HL1
118	1		OKC plate		
119	1		Side panel with text	Left	
120	1		Blind plug	Ø50	
121	1	0349 303 310	Support		
122	1	0349 302 253	Knob		

Transmig 326S



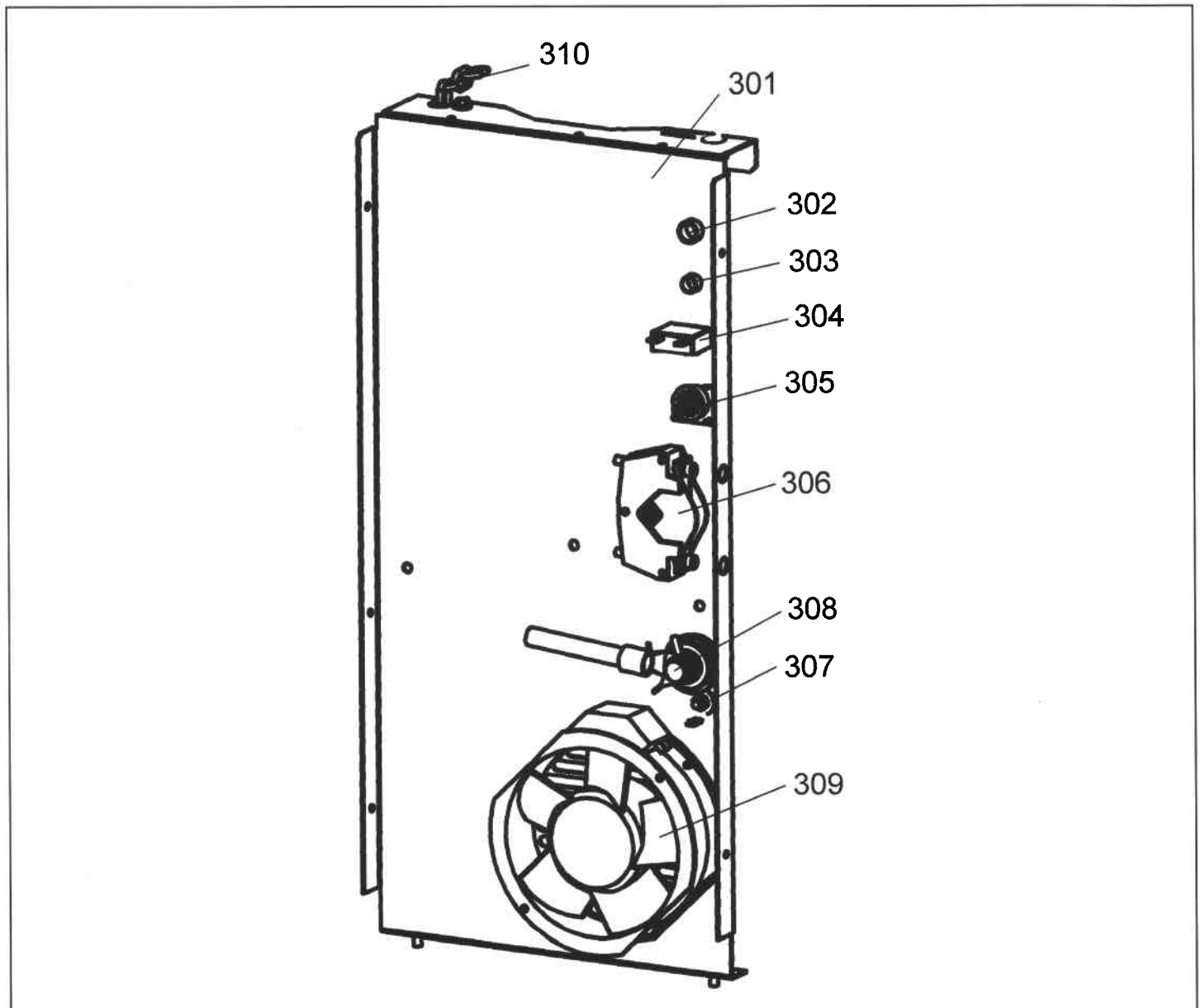
(A) = accessory
 C = component designation in the circuit diagram

Item	Qty	Ordering no.	Denomination	Notes	C
201	1	0455 172 001	Glass		AP2
202	1	0455 174 001	Seal		
203	1	0349 302 286	Panel		
204	1	0459 118 002	Protection frame		
205	1	0349 302 287	Plate		
206	1		Circuit-board (A)		
207	1	0349 302 283	Right corner		
208	1	0349 302 327	Handle		
209	1	0349 302 325	Upper front panel		
210	1	0349 302 282	Left corner		
211	1		Lower front plate		
212	1	0349 302 326	Grill		
213	3	0455 226 004	Spacer		



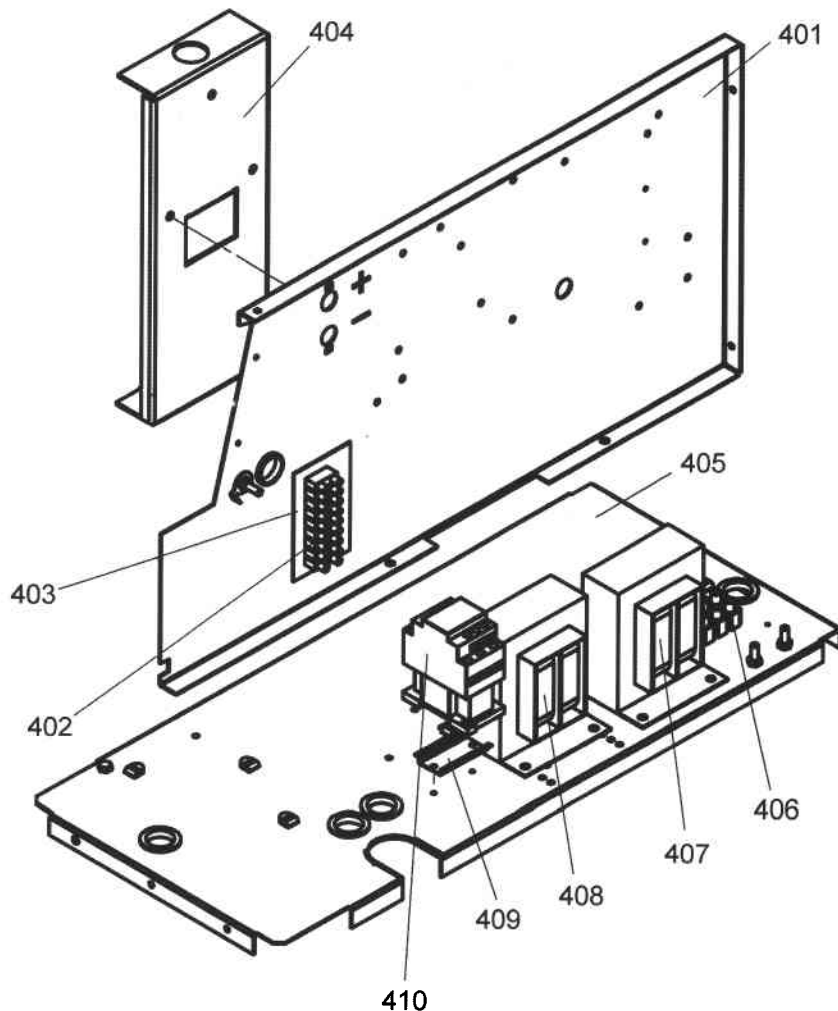
(A) = accessory
 C = component designation in the circuit diagram

Item	Qty	Ordering no.	Denomination	Notes	C
301	1	0349 302 321	Rear panel		
302	1		Blind plug	Ø16	
303	1		Blind plug	Ø13	
304	1	0193 586 102	Circuit breaker 1	0A	FU3
305	1	0368 544 005	Sleeve socket		XS1
306	1	0469 950 880	Cable inlet		
307	1	0349 303 303	Capacitor		C2
308	1	0160 362 881	Current terminal	1 pol	XS4
309	1	0349 483 510	Fan		EV1
310	1	0321 173 001	Securing chain		



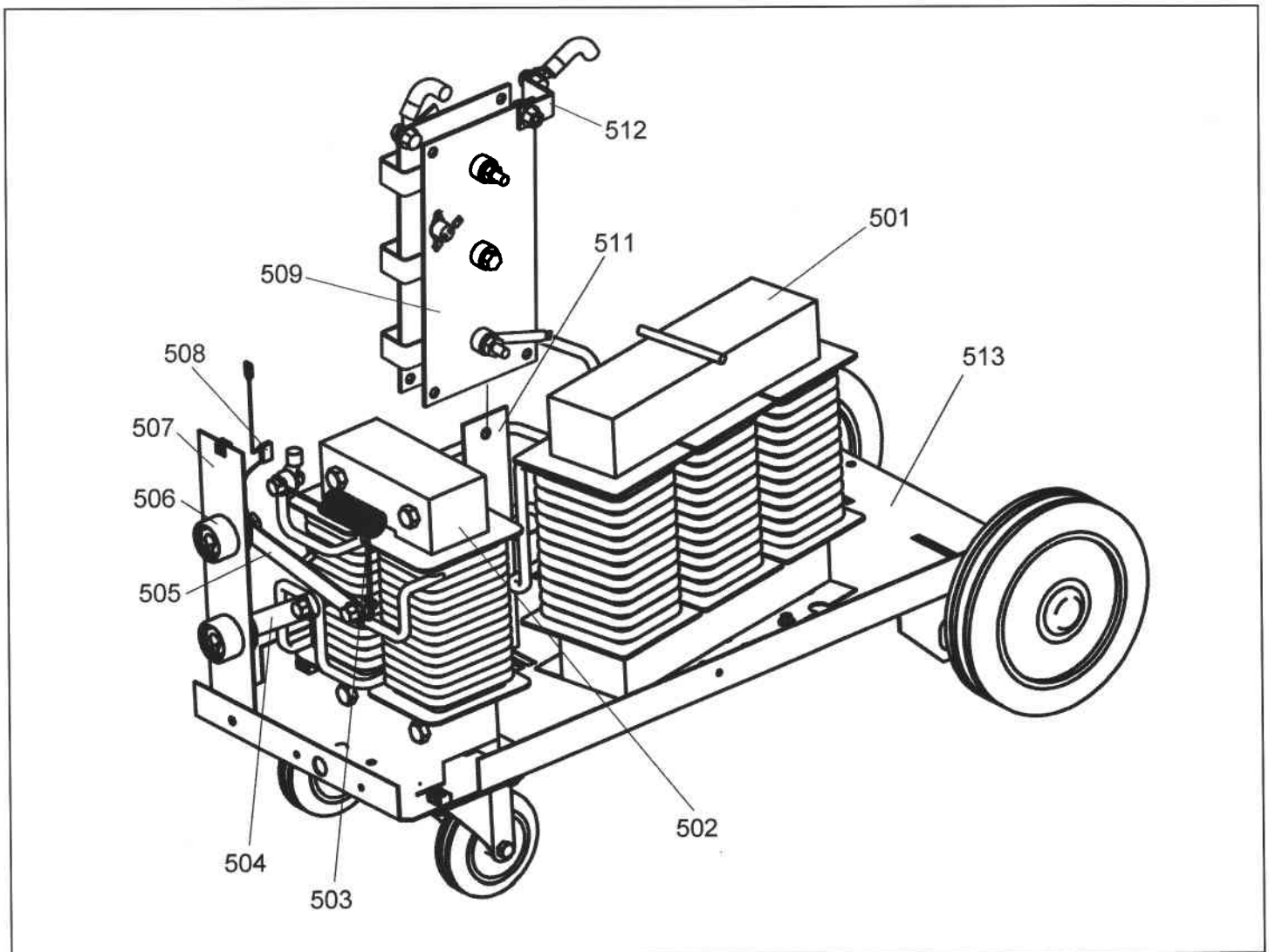
(A) = accessory
C = component designation in the circuit diagram

Item	Qty 400-415V	Qty 203-500V	Ordering no.	Denomination	Notes	C
401	1	1	0349 302 366	Intermediate plate		
402	1	1	0162 781 011	Terminal	$\frac{3}{4}$	XT2
403	1	-	0349 491 160	Plate		
	-	1	0349 491 163	Plate		
404	1	1	0349 302 705	Support		
405	1	1	0349 302 338	Intermediate plate		
406	1	1	0162 781 002	Terminal	$\frac{1}{4}$	XT3
407	1	1		Transformer (A)		TC2
408	1	-	0455 633 001	Transformer		TC1
	-	1	0455 634 001	Transformer		TC1
409	1	1	0349 491 596	Rail		
410	1	-	0193 297 103	Contacteur		KM1
	-	1	0193 502 101	Contacteur		KM1



(A) = accessory
 C = component designation in the circuit diagram

Item	Qty	Ordering no.	Denomination	Notes	C
501	1	0349 302 344	Transformer		TM1
502	1	0455 328 880	Inductor		L1
503	1	0349 302 349	Resistor		R1
504	1	0349 492 823	Rail		
505	1	0349 492 824	Rail		
506	2	0160 362 881	Current terminal		XS2 XS3
507	1	0349 302 348	Plate		
508	1	0349 302 352	Capacitor C1		
509	1	0349 302 346	Diode bridge V1-V6		
511	1	0349 302 354	Bracket		
512	1	0455 495 001	Rail		
513	1	0349 302 317	Bottom plate		



SPARE PARTS LISTS

Transmig 406S & 406SW

(A) = accessory
C = component designation in the circuit diagram

Item	Ordering no.	Denomination	Notes	C
101	0349 302 564	Rubber mat		
102	0349 302 547	Cover		
103		Blind plug	Ø31	
104	0321 173 001	Securing chain	L=700	
105		Blind plug	Ø66	
106		Side panel with text	right	
107		Side panel with text	left	
108		Holder (A)		
109	0349 302 524	Clamp		
110	0349 490 746	Shaft		
111	0215 100 037	Washer	Ø36/21x3mm	
112	0469 872 001	Wheel	Ø250	
113	0192 859 126	Locking washer		
114	0469 873 001	Castor wheel	Ø125mm; h=150mm	
115	0349 302 558	Shelf		
116		OKC plate		
118	0468 797 001	Seal		
119	0468 796 001	Support plate		
120	0349 480 394	Roll pin		
121	0369 733 005	Signal lamp	orange	H2
122	0349 302 712	Signal lamp	white	H1
123	0349 303 552	Switch		QF1
124	0349 303 553	Knob		
125	0349 302 305	Switch	only in machine with water cooling	SA1
126	0349 302 253	Knob	only in machine with water cooling	
127	0193 942 001	Switch		QF2
129	0349 302 306	Knob		
130	0193 945 001	Switch		QF3