



**Transmig 253/353/353W
Welding Power Sources**

Note:

For Transmig 253 refer to LAX320

For Transmig 353/353W refer to LAX380

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READ THIS FIRST

Maintenance and repair work should be performed by an experienced person, and electrical work only by a trained electrician. Use only recommended replacement parts.

This service manual is intended for use by technicians with electrical/electronic training for help in connection with fault-tracing and repair.

All component names in the connection diagram are listed in the component description.

This manual contains details of all design changes that have been made up to and including September 2001.

The LAX 320 and LAX 380 are designed and tested in accordance with international and European standard IEC/EN 60974-1 and EN 50199. On completion of service or repair work, it is the responsibility of the person(s) etc. performing the work to ensure that the product does not depart from the requirements of the above standard.



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 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.

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 ear defenders 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!

TECHNICAL DATA

	LAX 320 400 - 415 V	LAX 320 230 - 500 V	LAX 380 400 - 415 V	LAX 380 230 - 500 V
Mains voltage	400-415V 3~ 50/60Hz	230/400-415/500V 3~50Hz 230/440-460V 3~60Hz	400-415V 3~ 50/60Hz	230/400-415/500V 3~50Hz 230/440-460V 3~60Hz
Permissible load				
100% duty cycle	195 A/24 V	195 A/24 V	280 A/28 V	280 A/28 V
60 % duty cycle	250 A/27 V	250 A/27 V	350 A/32 V	350 A/32 V
50 % duty cycle			380 A/33 V	380 A/33 V
30% duty cycle	320 A/30 V	320 A/30 V		
Operating range	40A/17V-320A/30V	40A/17V-320A/30V	50A/17V-380A/33V	50A/17V-380A/33V
Open-circuit voltage	16-40 V	16-40 V	17-45 V	17-45 V
Open-circuit power	50 W	50 W	130 W (340 W, LAX 380W)	130 W (340 W, LAX 380W)
Efficiency	0.71	0.71	0.75	0.75
Power factor	0.97	0.97	0.96	0.96
Control voltage	42 V, 50/60 Hz	42 V, 50/60 Hz	42 V, 50/60 Hz	42 V, 50/60 Hz
Dimensions, lxbxh	770x560x640	770x560x640	800x640x835	800x640x835
Weight	110 kg	110 kg	143 kg (157 kg, LAX 380W)	143 kg (157 kg, LAX 380W)
Enclosure class	IP 23	IP 23	IP 23	IP 23
Application class	S	S	S	S

LAX 320 and LAX 380/380W comply with welding machine standard IEC/EN 60974-1 and 50199.

The duty cycle refers to the time in per cent of a ten-minute period that you can weld at a certain load without overloading the welding power source.

The enclosure class indicates the degree of protection against penetration of solid objects and water. Class IP 23 equipment is designed for indoor and outdoor use.

The **S** symbol means that the power unit is designed for use in areas of elevated electrical hazard.

Standard arrangement, LAX 320

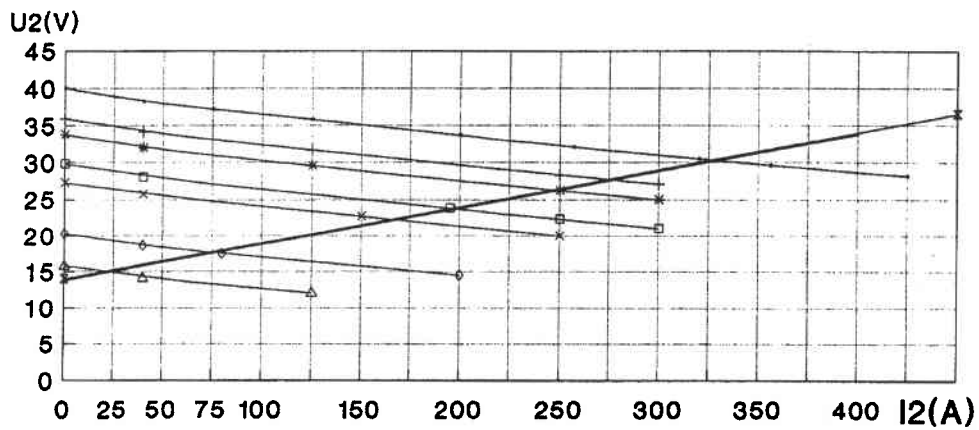
Power source with gas cylinder shelf and a post for wire feed unit. 4.5 m return current cable with return current connector clamp. 5 m mains cable and gas hose.

Standard arrangement, LAX 380

Power source with gas cylinder shelf and a post for wire feed unit. The power source, can be supplied with or without water cooling unit. 5 m return current cable with return current connector clamp. 5 m mains cable and gas hose.

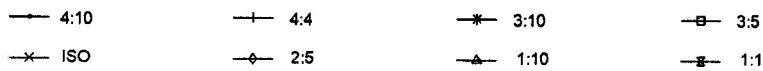
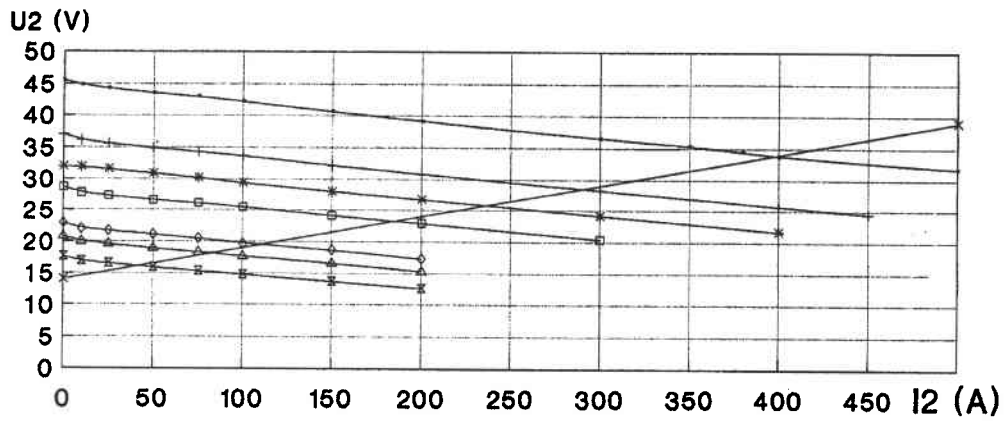
LOAD CHARACTERISTIC

LAX 320



clkb0p21

LAX 380



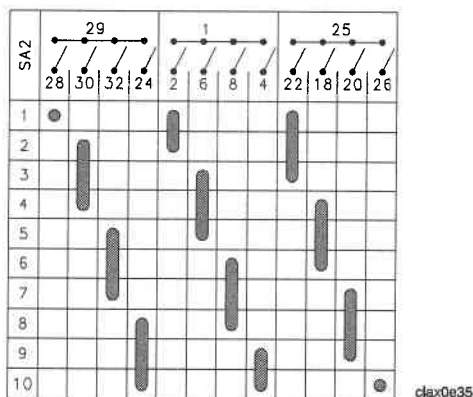
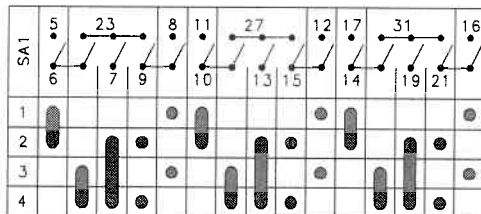
clax0p20

LAX 320, 400 - 415 V

Component description

C1	Capacitor	SA2	10-way switch, for selecting welding voltage
C2	Capacitor	ST1	Thermal overload cutout, opens at 120 °C (110 °C before serial no. 005-xxx-xxxx). Mounted on the cooling fins of the diode bridge.
EV1	Fan	ST2	Thermal overload cutout, opens at 130 °C. Mounted in the winding of transformer TM1. From serial no. xxx-640-xxxx
FU1	Circuit breaker 10 A / 250 VAC	TC1	Control power supply transformer
HL1	Lamp, white, On/Off	TC2	Transformer for CO ₂ heater, accessory
HL2	Lamp, orange. Indication thermal overload cutout	TC3	Transformer for digital instrument, accessory
KM1	Contactors	TM1	Main transformer
L1	Inductor	V1-V6	Diode bridge, see service information on page 20.
P1	Digital instrument, accessory. Description on page 18.	XS1-3	Machine contact
QF1	Switch, On/Off	XS6-10	Sleeve contact
R1	Resistor	XT1-2	Terminal block
R2	Varistor		
RS1	Shunt, accessory		
SA1	4-way switch, for selecting welding voltage		

Selector switches



Switch positions for switch SA1 and SA2