

INSTRUCTION MANUAL



MIG 160 / MIG 200 / MIG 300 / MIG 300S

CONTENTS

WARNING	3.
INSTALLATION	4.
OPERATION	5.
WELDING PARAMETERS	6.
TROUBLESHOOTING	7.
WARRANTY	8.
SPARE PARTS LIST	8.
TORCH CONSUMABLE LIST	9-10.

EC DECLARATION OF CONFORMITY

Trakis Nagykoros Kft declares that the following machines:

Classic MIG 160 / 200 / 300 / 300S
Blue Brand MIG 160 / 200 / 300 /300S

correspond to the following edicts and standards:

MSZ EN 60974-1:2006 - IEC 60974-1:2005
MSZ EN 60204-1:2001 - IEC 60204-1:1997

WARNING

Fume

Welding vaporises metals, and anything that is resting on the surface. This gives rise to fume, which is condensed fine particulate material. The fume is mostly oxides of the metals, including any alloying elements, but it also contains gases produced in the arc, such as ozone or oxides of nitrogen, and decomposition products from any paints or coating which was on the metal surface. The nature and quantity of this fume depends critically upon the welding process, the materials and the welding parameters. Some is harmful to health, for instance stainless steel fume contains chromium, and welding galvanised steel produces zinc fume.

Effects can vary from a bout of 'metal fume fever' to longer term, more serious problems if suitable fume removal is not carried out. There is guidance literature that may be consulted regarding the safe levels for each constituent, and the employer needs to be aware that for some fume constituents, there may be no safe level, and a statutory exposure limit may be imposed. Nickel, cobalt and stainless steel welding fume are the subject of statutory limits in the UK. Highly efficient exhaust apparatus is available. Some health surveillance may be necessary.

Noise

Welding environments are frequently noisy as other operations such as grinding, etc. may also be taking place. Some operations, such as de-slagging may take the noise up to such a level where it will damage workers hearing. In such cases this would mean that hearing protection is almost certainly required if the noise cannot be controlled by other means. Some health surveillance may also be necessary. To protect UK workers new noise exposure limits are due to become law during 2006 and will represent a significant lowering of statutory noise action levels which are currently set at 85dB(A) and 90dB(A) respectively.

Optical Radiation

The Welding process produces a large quantity of visible light, ultraviolet and infrared. Exposure to the radiation from an arc causes burns to the skin, and damage to the eyes. For this reason, welders need to wear clothing to protect their bodies and arms, regardless of the weather conditions. They also need efficient eye protection, which is usually supplied in the form of a protective shield. The precise choice of the shade of glass filter in these shields depends on the type of welding operation, since they vary in their light output.

Welders assistants also need protective clothing and eye protection. Passers-by should be protected by placing opaque or properly filtered screens around the work area.

Burns and Mechanical Hazards

Welders need good quality gloves, preferably leather gauntlets, safety boots or shoes and good quality cap and overalls. A leather apron may also be needed. Welding produces quantities of molten droplets of metal which are scattered in all directions. It is essential that the welder wears clothing which will not burn or melt, and which is stout enough to provide adequate protection.

INSTALLATION

Electrical Connection

The migs comprise of three models, all single phase. Always ensure the machine is connected to the correct supply, with the correct size of fuses or circuit breakers as shown below. If circuit breakers are used they must be type four otherwise tripping may occur although there is no machine fault.

Model	Supply Type	Fuse
160 MIG	240 volt single phase	20 Amp
200 MIG	240 volt single phase	20 Amp
300 MIG	240 volt single phase	40 Amp
300S MIG	240 volt single phase	40 Amp

Electrical Safety

Clearly, the employer needs to establish the level of competence of the electrician who is given the task of wiring the installation, and the type of maintenance which the installation and the equipment will subsequently need. In the UK there is a requirement for periodic electrical checks to be done on power sources. The design of welding power sources themselves has gone through a number of changes, and for each, there are different standards of safety. The employer must ensure that his installation is correctly matched to the type he is using - for instance double insulated power sources should not be used with a separate earth lead to the workpiece.

Earth Connection

A suitable earth lead is supplied with the machine. The earth clamp must be securely attached to the workpiece as a poor connection will affect the quality of the weld.

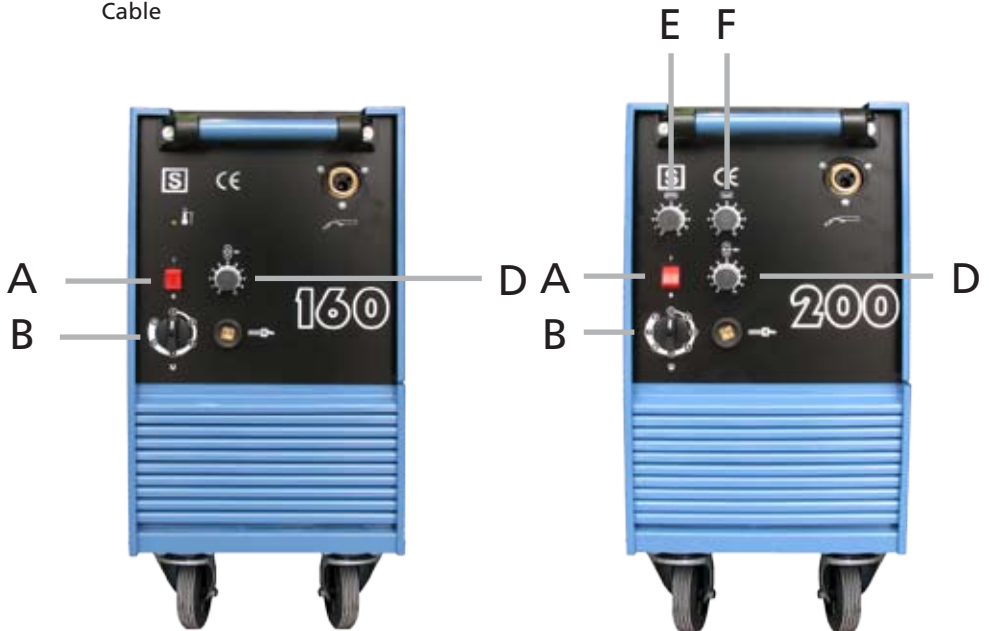
WARRANTY

The machine is covered by a twelve month warranty but the main transformer and choke are covered by a three year warranty. The warranty does not cover the torch and its consumable parts. Please note if you require a service call by an engineer under warranty and the problem is identified as operator fault or torch fault then you will be liable for the charge encountered by the engineer. Please be sure to retain your receipt as this will be required in the event of a claim.

OPERATION

Controls

- | | | |
|----------|------------------------|--|
| A | On/Off Switch | Is the illuminated rocker switch which lights up red when the machine is switched on. |
| B | Voltage Control Switch | 160 has six voltage settings 1 being the lowest. 200 has eight voltage settings 1 being the lowest. |
| C
the | Voltage Control Switch | 300 / 300S the left-hand switch has two settings which alters voltage output in large steps, the right-hand switch has eight settings which alters the voltage in small steps. Therefore 1-1 is the lowest, 1-8 is intermediate and the maximum is 2-8 this gives 16 voltage settings. |
| D | Wire Speed Control | Varies the wire speed between 2 and 20 metres per minute. |
| E | Weld Timer | On models 200 and 300 only. This determines the amount of welding time in the stitch and spot welding modes. |
| F | Pause Timer | On models 200 and 300 only. This determines the amount of no weld time in the stitch welding mode. |
| G | Fuses | |
| H | Wire Feed | Connects to 300S by lead from WF2. |
| J | Inter Connection Cable | 5m Standard, optional 10m. |



WELDING PARAMETERS

Model		MIG 160	MIG 200	MIG 300 / 300S	WF2/ 4F2
Input		230v/50-60hz	230v/50-60hz	230v/50-60hz	
Output	Min	20A	22A	27A	
	Max	140A	200A	315A	
	35%	85A	150A	250A	
	60%	65A	120A	200A	
	100%	50A	92A	150A	
Voltage Steps		6	8	16	
Wire Size		0.6 - 0.8 mm	0.6-1.0 mm	0.6 - 1.2 mm	0.6 - 1.2 mm
Weight		65 kg	70 kg	92 kg	25 kg
Dimensions (LxWxH)		86 x 46 x 71 cm	85 x 46 x 71 cm	86 x 40 x 71 cm	56 x 22 x 40 cm



TROUBLESHOOTING

FAULT	REASON	REMEDY
Set is dead	1. On/Off switch is off	Turn it on
	2. Fuse in mains supply blown	Replace fuse
Nothing happens when torch trigger is pressed	1. Torch switch defective 2. Torch central connector pins not making proper contact in the machine adaptor	Check for torch fault by shorting the switch pin sockets on the central adaptor and listening for the main contactor coming in
	3. Auxiliary circuit fuse blown	Replace fuse
Wire is not conveyed when feed roll is turning	1. The friction brake in the hub is tightened too hard	Loosen
	2. Insufficient pressure on drive roll	Tighten
	3. Wire is not running in the feed roll groove	Re-align wire
	4. Dirt in liner and/or contact tip	Blow with compressed air, replace contact tip
Wire feeding in jerks/erratic	1. Contact tip worn/burnt	Replace
	2. Dirt in feed roll groove	Clean and re-align wire
	3. Groove of feed roll worn	Replace
No arc	1. Bad contact between earth clamp and workpiece	Tighten earth clamp and check connections
	2. Short circuit between contact tip and shroud	Clean replace tip/shroud as necessary
Porous weld	1. Failure of Gas Shield	Replace gas shroud check cylinder contents
	2. Wrong distance and/or wrong inclination of torch	The length of stick out wire from tip of workpiece must be between 5-10mm inclination not less than 60° in relation to the workpiece
	3. Too small qty. gas	Increase gas flow
	4. Draught	Screen the weld area
	5. Humid workpiece	Dry workpiece
	6. Heavily rusted workpiece	Clean workpiece
	7. Gas Solenoid defect	Clean/Replace
Set suddenly stops	1. Machine overheated due to exceeding duty cycle	Do not switch off, leave to cool down. Machine will reset

Should any of these suggestions not remedy your fault contact your distributor in order to facilitate service repair.

SPARE PARTS LIST

TRAKIS PART NUMBER	DESCRIPTION	MACHINE
W 9391	Potentiometer 10 KA	300 / 4F2
W 9392	Potentiometer 10 KB	160 / 200
W 9393	Potentiometer 470 KA	300 / 4F2
W 9394	ON/OFF switch	160 / 200 / 300 / 300S
W 9395	Reel Hub Assembly TRAKIS	160 / 200 / 300 / 4F2
W 9396	Hub Nut TRAKIS	160 / 200 / 300/ 4F2
W 9397	Gas Solenoid Valve	160 / 200 / 300 / 4F2
W 9398	Main Contactor DIL-K 410	160 / 200
W 9399	Main Contactor DIL-K 710	300 / 300S
W 9400	Wire Feeder Motor 24v 25w	160
W 9401	Wire Feeder Motor 24v 35w	200
W 9402	Wire Feeder Motor 24v 40w	300 / 4F2
W 9403	Printed Circuit Boards EB 102	160 / 200
W 9404	Printed Circuit Boards W-10	300 / 300S
W 9405	Feed Roll Ring 0.6-0.8 V	300
W 9406	Feed Roll Ring 1.0-1.2 V	300
W 9506	Feed Roll Ring 1.2-1.6 V	300
W 9507	Feed Roll Ring 0.6-0.8 V	160 / 200
W 9407	Feed Roll Ring 0.8-1.0 V	160 / 200
W 9408	Feed Roll Retainer Knob	160 / 200 / 300
W 9409	Capillary Tube 1.2 x 80	160 / 200
W 9410	Capillary Tube 2.0 x 97	300 / 4F2
W 9411	Combined Wire Feeder TRAKIS	160 / 200
W 9412	Fuse 5 x 20 1A	160
W 9413	Fuse 5 x 20 3.15A	160 / 200
W 9414	Fuse 5 x 20 6.3A	300 / 300S
W 9415	Fuse 6.3 x 32 1.6A	200 / 300 / 300S
W 9416	Cooling Fan	160 / 200
W 9417	Cooling Fan	300 / 300S
W 9418	Knob for Selector Switch	160 / 200 / 300 / 4F2
W 9419	Knob for Potentiometer	160 / 200 / 300 / 4F2
W 9505	Feed Roll Ring 0.6-0.8 V	4F2
W 9509	Feed Roll Ring 1.0-1.2 V	4F2
W 9510	Feed Roll Ring 1.2-1.6 V	4F2
W 9512	Feed Roll Retainer Knob	4F2
9381	Interconnecting Cable 5 mt.	4F2/ 300S
9382	Interconnecting Cable 10 mt.	4F2/ 300S


TORCH CONSUMABLE LIST



SWP 15 MIG TORCH

CODE	DESCRIPTION
6000	SWP 15 x 3 mtr Mig Torch - 002.0449
6001	SWP 15 x 4 mtr Mig Torch - 002.0450
SWAN NECKS	
6033	Swan Neck - 002.0009
CONTACT TIPS	
6567	0.6 mm Contact Tip - M6 Thread - 140.0008
6020	0.8 mm Contact Tip - M6 Thread - 140.0059
NOZZLES	
6007	Conical Nozzle - 145.0075
6009	Tapered Nozzle - 145.0123
LINERS	
6029	Steel Liner x 3 mtr 0.6 - 0.8 mm Wire - Blue - 124.0011
6030	Steel Liner x 4 mtr 0.6 - 0.8 mm Wire - Blue - 124.0012
6650	Teflon Liner x 3 mtr 0.6 - 0.8 mm - Blue - 124.0005
6651	Teflon Liner x 4 mtr 0.6 - 0.8 mm - Blue - 124.0008

TORCH CONSUMABLE LIST (CONTINUED)

SWP 25 MIG TORCH & ACCESSORIES	
	
SWP 25 MIG TORCH	
CODE	DESCRIPTION
6002	SWP 25 x 3 mtr Mig Torch - 004.0312
6003	SWP 25 x 4 mtr Mig Torch - 004.0313
6598	SWP 25 x 5 mtr Mig Torch - 004.0314
SWAN NECKS	
6034	Swan Neck - 004.0012
TIP ADAPTORS	
6023	Tip Adaptor for M6 Contact Tips - 142.0001
CONTACT TIPS	
6568	0.6 mm Contact Tip - M6 Thread - 140.0005
6569	0.8 mm Contact Tip - M6 Thread - 140.0051
6021	1.0 mm Contact Tip - M6 Thread - 140.0242
6570	1.2 mm Contact Tip - M6 Thread - 140.0379
NOZZLES	
6010	Conical Nozzle - 145.0076
6011	Cylindrical Nozzle - 145.0042
6012	Tapered Nozzle - 145.0124
LINERS	
6029	Steel Liner x 3 mtr 0.6 - 0.8 mm Wire - Blue - 124.0011
6030	Steel Liner x 4 mtr 0.6 - 0.8 mm Wire - Blue - 124.0012
6657	Steel Liner x 5 mtr 0.6 - 0.8 mm Wire - Blue - 124.0015
6031	Steel Liner x 3 mtr 1.0 - 1.2 mm Wire - Red - 124.0026
6032	Steel Liner x 4 mtr 1.0 - 1.2 mm Wire - Red - 124.0031
6655	Steel Liner x 5 mtr 1.0 - 1.2 mm Wire - Red - 124.0035
6650	Teflon Liner x 3 mtr 0.6 - 0.8 mm Wire - Blue - 24A62
6651	Teflon Liner x 4 mtr 0.6 - 0.8 mm Wire - Blue - 126.008
6652	Teflon Liner x 3 mtr 1.0 - 1.2 mm Wire - Red - 126.0021
6653	Teflon Liner x 4 mtr 1.0 - 1.2 mm Wire - Red - 126.0026
6654	Teflon Liner x 5 mtr 1.0 - 1.2 mm Wire - Red - 126.0028



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