

Directions

for use

ST 95



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OPERATIONS MANUAL.

The welding automat is build up around an Izumi PLC type FA3S and a LDH 160 MK III welding machine.

The welding automat is constructed for TIG welding. The welding programs are made for welding with one of the following applications:

- Orbital welding tongs
- Universal welding head
- Turntable
- Manual torch
- Cold wire system
- Clamp system

It is possible to chose between the following 4 welding arrangements:

- Orbital welding
- Welding with a manual torch
- Welding with a turntable or an universal welding head
- Fixing with turntable or universal welding head

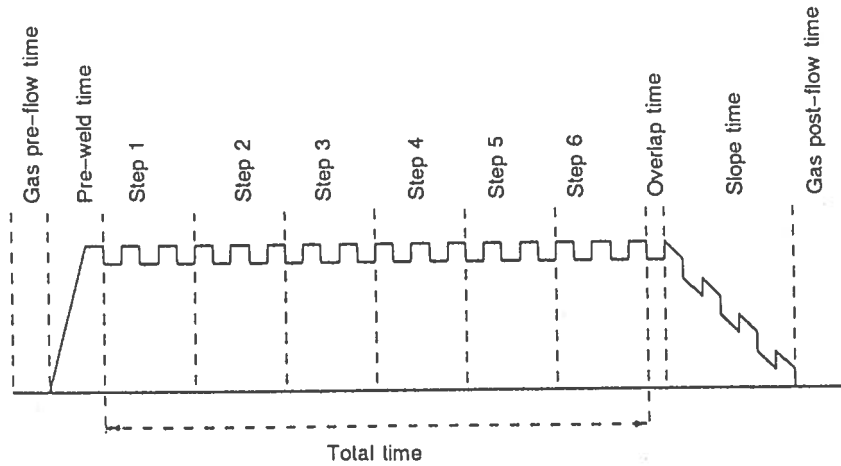
(supplement ST95-1 pos. 15)

For welding with arrangement 1 – 3 the following welding parameters are to be used:

- Gas pre-flow time
- Pre-weld time
- Pulsed-current time
- Overlap time
- Slope time
- Gas post-flow time
(supplement ST95-1 pos. 10)
- Total welding time
(starts after the pre-weld time and ends when the overlap begins)
- Welding speed
- Pulsed current amps
- Percentage base current
(supplement ST95-1 pos. 11)

Furthermore is it possible to choose between 8 welding steps. The number of steps is choosen with the "NUMBER OF STEPS" switch. If e.g. 6 welding steps is choosen, the total welding time is divided by 6, like this the time between each welding step is the same.

Example:



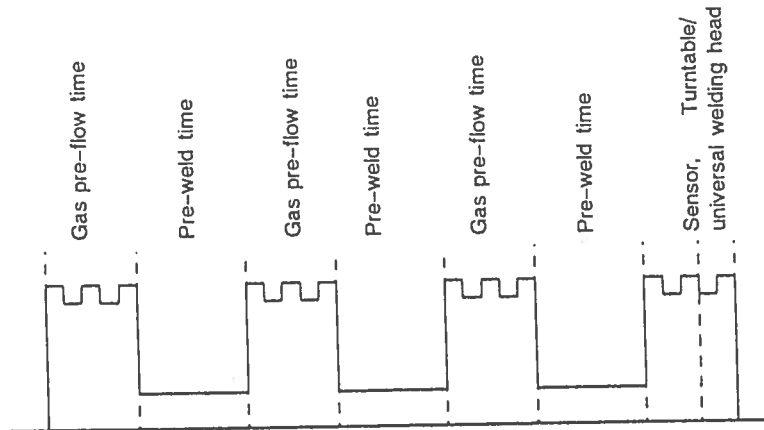
When using the fixing program the following parameters are used:

- Gas pre-flow time
- Pre-weld time
- Pulsed-current time
- Base current time
- Pulsed current amps
- Percentage base current

The gas pre-flow time is the time when the welding machine is welding with the data stored in step 1, (amps, percentage) pulsed-current time, base current time and welding speed.

The pre-weld time is the time where the motor is running faster than the welding speed and 5A from the welding machine. Shifts between these two continues until the turntable or the universal welding head has made one revolution.

Example:



If the sensor is interrupted during welding with the parameters from step 1, the welding will still continue until the selected time has passed.

When welding with the turntable or the universal welding head, the parameters will be calibrated when the start button is pressed, also when the sensor is not activated. When the parameters are calibrated the welding can be started again.

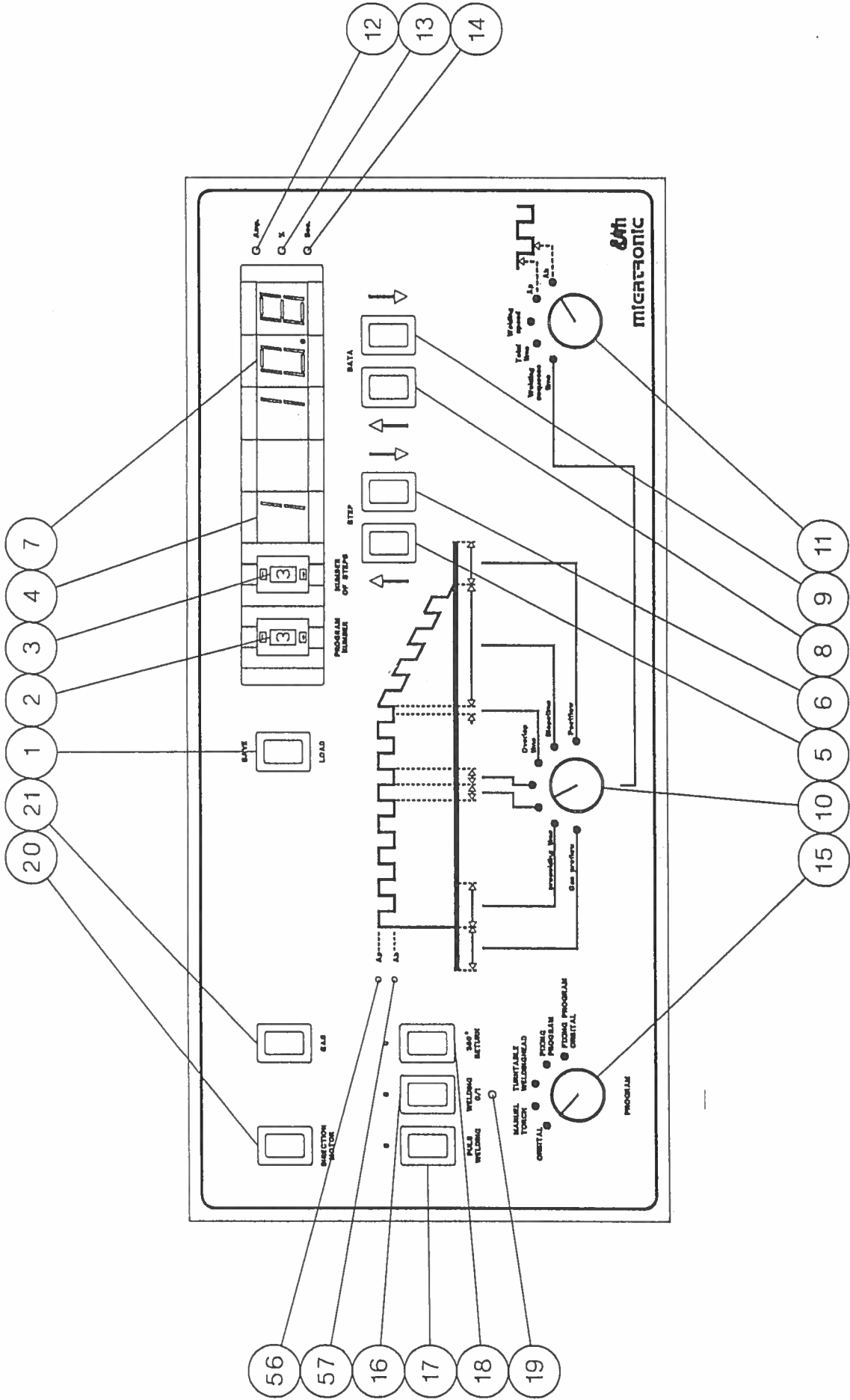
The following item numbers are referring to supplement ST95-1, ST95-2 and ST95-3:

- Item 1: SAVE/LOAD. This button is used to store (save) or load programs. (notice also item 2.
- Item 2: PROGRAM NUMBER. Here the program number, to be stored or loaded, is chosen. This is done with item 1. It is possible to store 10 programs (0-9).
- Item 3: NUMBER OF STEPS. Here the number of welding steps to be used are chosen. This is only relevant for the pulsed current. From 1 – 8 welding steps can be chosen.
- Item 4: Display, showing which welding step is being programmed. Changes between the welding steps is done with item 5 and 6.
During the welding cycle the active welding steps are shown.
- Item 5: Counting the welding steps.
- Item 6: Counting down the welding steps.
- Item 7: Display for reading out the data. All parameters for item 10 and 11 is shown here, depending on the item 10 and 11 positions.
- Item 8: Counting the welding data.
- Item 9: Counting down the welding data.
- Item 10: With this switch the following data can be changed:
- | | | |
|---|---------------------|-----------------|
| - | Gas pre-flow time | 0,0 – 20,0 sec. |
| - | Pre-weld time | 0,0 – 10,0 sec. |
| - | Pulsed-current time | 0,0 – 5,0 sec. |
| - | Base current time | 0,0 – 5,0 sec. |
| - | Overlap time | 0,0 – 10,0 sec. |
| - | Slope time | 0,0 – 20,0 sec. |
| - | Gas post-flow time | 0,0 – 10,0 sec. |
- Item 11: With this switch the following data can be changed:
- | | | |
|---|-------------------------|--------------|
| - | Total welding time | 0 – 900 sec. |
| - | Welding speed | 0 – 100 % |
| - | Pulsed current amps | 0 – 160 Amp. |
| - | Percentage base current | 0 – 100 % |
- Item 12: Diode for amps.
- Item 13: Diode for %.
- Item 14: Diode for sec.
- Item 15: Switch for welding arrangement:
- Orbital welding tong
 - Manual torch
 - Turntable/welding head
 - Fixing programme
 - Fixing programme orbital

- Item 16: Switch for welding I/O.
- Item 17: Switch for pulsed welding.
- Item 18: Switch for 360° backwards.
- Item 19: Diode for activated welding.
- Item 20: Switch for welding direction.
- Item 21: Switch for gas flow.
- Item 22: Manometer for protection gas. 0,0 – 12,5 l/min.
- Item 23: Manometer for backing gas. 0,0 – 12,5 l/min.
- Item 24: Manometer for distortion 0 – 10 bar
- Item 25: Reductionvalve for distortion 0 – 10 bar
- Item 26: Quick-clutch for mandrel.
- Item 27: Quick-clutch for backing gas.
- Item 28: Plug for remotecontrol.
- Item 29: Plug for hand held torch.
- Item 30: Plug for turntable.
- Item 31: Center connection for the orbital welding tongs and the universal welding head.
- Item 32: Automat fuse for the orbital motor.
- Item 33: Automat fuse for wire motor.
- Item 34: Main switch.
- Item 35: Dinse coupling socket.
- Item 36: Quick-clutch for water.
- Item 37: Quick-clutch for water.
- Item 38: Quick-clutch for water.
- Item 39: Quick-clutch for water.
- Item 40: Emergency stop.
- Item 41: Change of steps for wire speed.
- Item 42: Correction up.
- Item 43: Correction down.
- Item 44: Switch to change between current and welding speed. Item 43 and 43 corrects either current or welding speed, depending on which position item 44 is in.

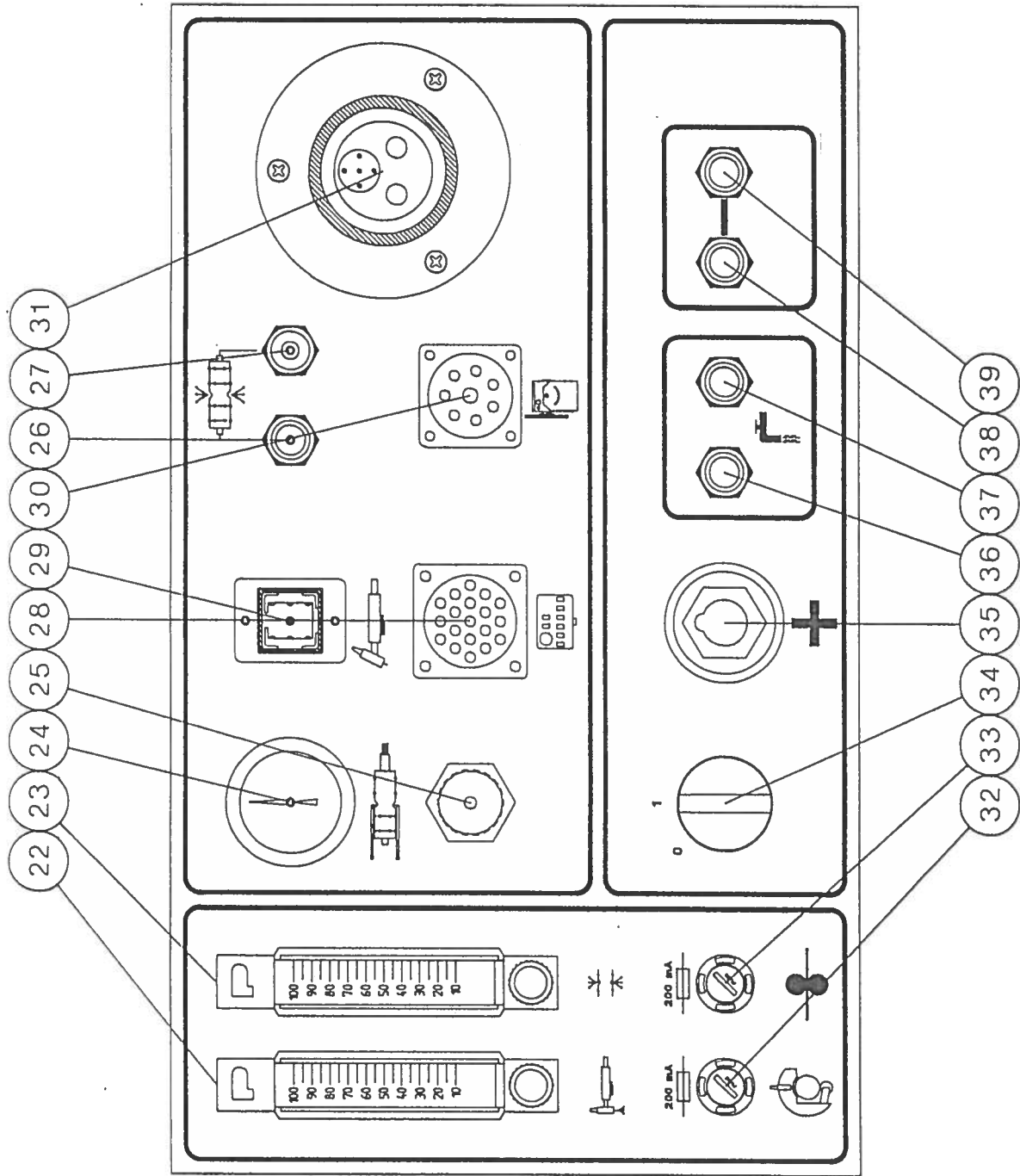
- Item 45: Motor right/left. Manual operation with motor.
- Item 46: Wire forward/backwards. Manual operation with wire motor.
- Item 47: Puls-, constant- or no wire feeding.
- Item 48: SLOPE. When the cyclus is started is it possible to start slope by pressing this switch.
- This switch can together with item 45 be used for programming of the total welding time. As long as they are pressed down, and the item 11 switch is in the "TOTAL TIME" position, the time vil be counted in the display (item 7)
- Item 49: Diode for distortion.
- Item 50: Switch for distortion.
- Item 51: Plug for remotecontrol.
- Item 52: Diode for voltage.
- Item 53: Switch for voltage.
- Item 54: Diode for start. Lights up when the cyclus is activated. Flashes during calibration.
- Item 55: Start switch.

SPARE PARTS LIST/OPERATING MANUAL



MIGATRONIC		Migatronik Automat Division A/S DK-9440 Aabybro Tlf.98-244233 Fax.98-244427	
	Dato	Matr.	
	940118	Forbrug	
	Antal	Tekst	Operatin manual/Spare parts list
Ændring	Bemærkning	Tegn	SA
		Konst	SA
		Maalforhold	
		Del nr.	st95-1edwg

OPERATING MANUAL/SPARE PARTS LIST



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