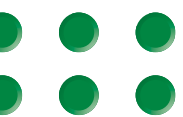


SIGMA 300 | 400 | 500



MIGATRONIC

Migatronic Sigma: Infinitely variable and advanced – it's that simple

The pulse is rising in the new generation of Migatronic Sigma

Sigma is a MIG/MAG inverter for companies that weld all types of steel - now and in the future. Manually, in a robot or automated device; with or without pulse and with infinitely variable adjustment of all parameters. Extremely user-friendly operation of advanced functions provides high welding quality. Sigma has built-in flexibility and is designed to meet future requirements: three power sources, compact or with separate wire feed unit, are combinable with four different control panels.

Migatronic Sigma is designed for construction and repair

welding using solid and flux-cored wires and covered electrodes. The machine is easy to operate because once the welder has set the most important parameters, the machine's software and technology put the finishing touches to the welding result.

Three power sources, compact or with separate wire feed unit

The maximum output of the three power sources is 300, 400 and 500 A respectively.

Sigma 300 C (Compact): this air-cooled Sigma 300 C is primarily for MIG/MAG dip-transfer/spray-transfer welding in moderate

wall thicknesses. Weighing only 58 kilograms, it is also suitable as a high performance multi-MIG/MAG repair machine for the service van.

Sigma 400 og 500 are furnished with air-cooling or water-cooling of the torch. Suitable for MIG/MAG spray-transfer/dip-transfer welding in the construction industry. When used with the most common types of electrodes, these units are also suitable for MMA welding jobs in mild or stainless steel, outdoors or in the repair shop.

Sigma 400 STB og 500 STB, with separate wire feed units, can be equipped with an additional wire feed unit and intermediary cables to avoid reconfiguration if the welder switches from a solid wire to a flux-cored wire, for instance.

Sigma 500 C is the latest "family member" and, like the 400 C, it is suitable as a power source for robots or automated units. It is a heavy-duty machine with a duty cycle in excess of 50%, accommodates wire diameters of up to 1.6 mm and can be enhanced with an (optional) integrated autotransformer.

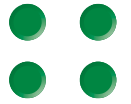
The new Sigma 500 C is especially designed for welding robots.



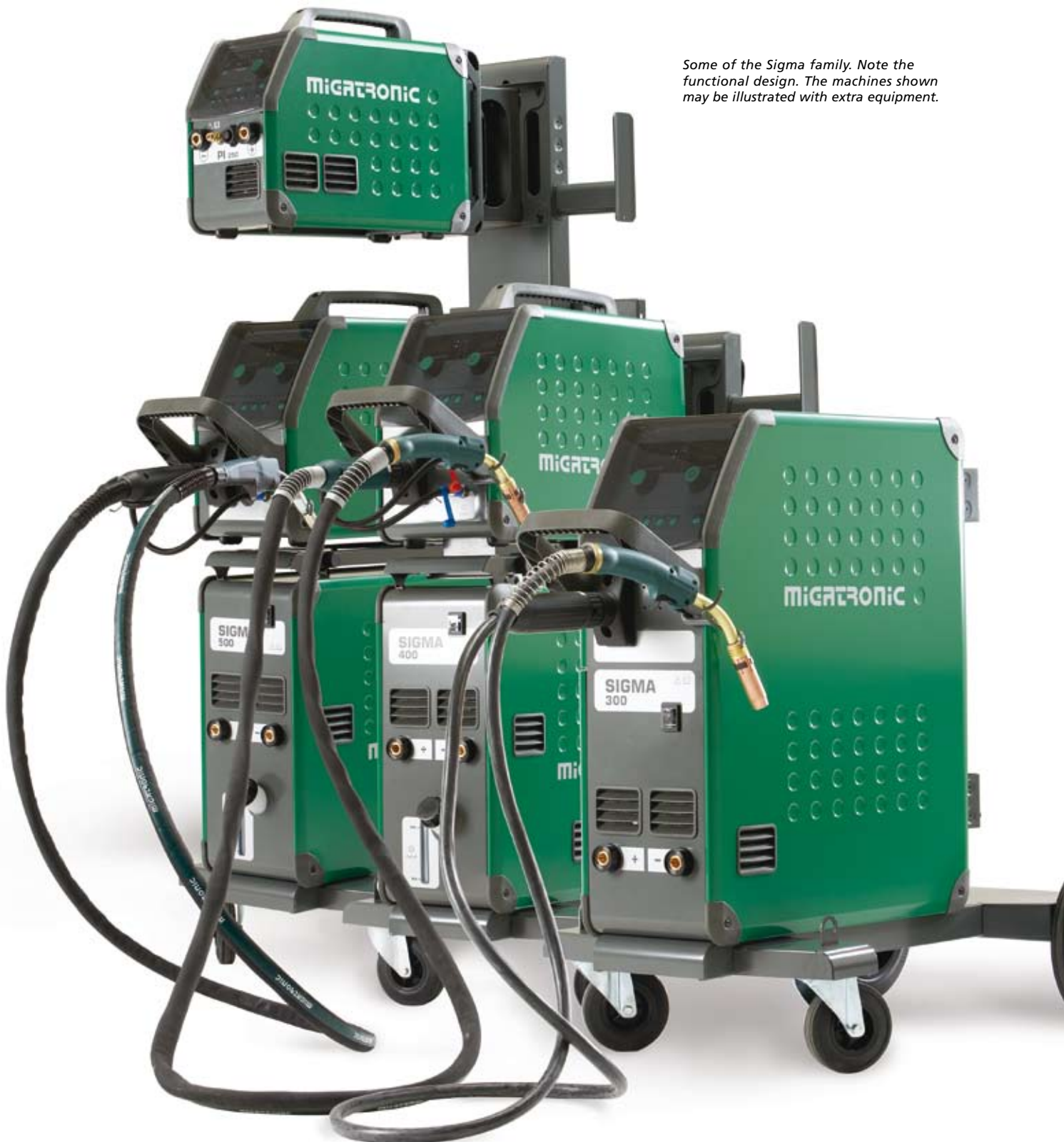
Migatronic Sigma – easy, logical operation, pure and simple.



You make the demands - we "tailor" the ideal welding machine

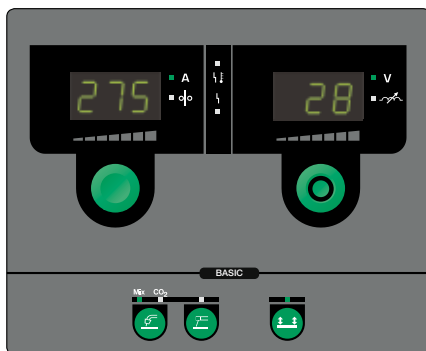


Some of the Sigma family. Note the functional design. The machines shown may be illustrated with extra equipment.

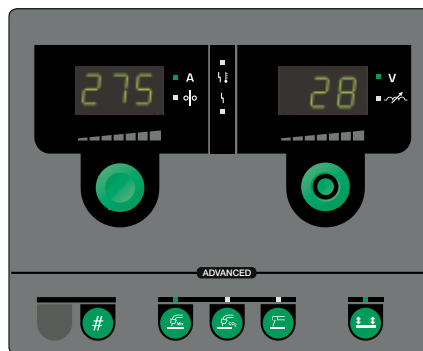


Four control panels designed to meet future requirements from "Basic" to "Pulse"








Set only wire feed speed and voltage:



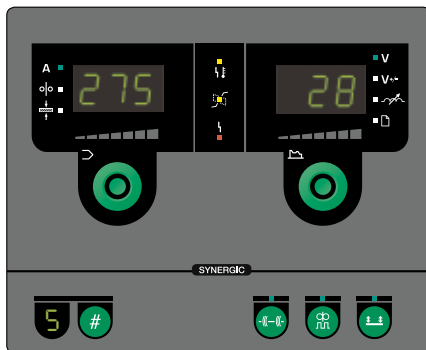
Basic with the possibility of fine adjustment of all secondary parameters, primarily for simple and routine welding jobs.



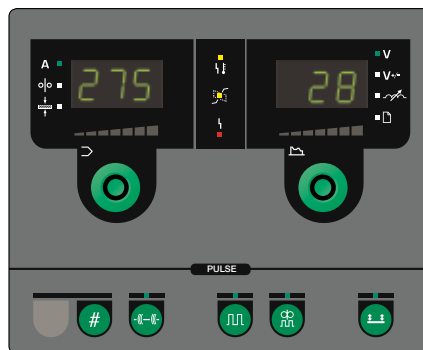
Advanced featuring DUO Plus™ and sequence spaces for user-defined parameter settings and the possibility of individualised fine-tuning.

-  MIG/MAG characteristic
-  MMA characteristic
-  Two-stroke or four-stroke
-  Sequence selection 1-9
-  DUO Plus™
-  Tack-welding function
-  Pulse

Set either welding current, wire feed speed or wall thickness:



Synergic with built-in DUO Plus™, more than 50 welding programmes and full synergy between the parameters chosen, for MIG brazing etc.



NOVELTY: Pulse featuring more than 50 welding programmes and a user-friendly control panel for advanced pulse machines.

Programme package	Synergic-mode		Pulse-mode	
	Welding	Brazing	Welding	Brazing
Material				
Fe	•		•	
ER 316 LSi	•		•	
ER 347 Si	•		•	
Duplex	•		•	
AlMg	•		•	
AlSi	•		•	
FCW Fe R/B/M/CrNi	•		•	
CuAl8	•	•	•	•
CuSn				•
CuSi		•		•
Inconel	•		•	

In our machines, the welding job defines the control panel

- Switch on, press, weld...



MWF 41



Wire feed unit with four-spool wire feeding and colour-coding - simple and logical.



MIG welding

Sequence options, time-saving and with an extra power level

Using the "Advanced", "Synergic" and "Pulse" control panels, sequence is a standard Sigma function. Welding parameters for repetitive welding jobs can be stored in the machine's internal memory which is big enough to hold nine special programme settings. This saves time and reduces the risk of wrong settings.

The built-in sequence function can be used for inserting one or more extra power levels, such as for dip transfer in position welding using 120 A in "sequence 1" or spatter-free spray transfer using 280 A in "sequence 2".

If a "Pulse" or "Synergic" control panel is chosen, the control panel will automatically indicate in synergic mode without pulse if the welder moves into the globular transfer area with a risk of weld spatter.

New portable wire feed unit makes it easy to change and adjust the wire

For the Sigma range, Migatronic has developed the MWF 41, a compact, portable wire feed unit, that combines the limited dimensions of the open type with the good protection of the closed model.

MWF 41 features industrial wire feeding with a four-spool wire feed system and built-in user-friendliness: wire-spool brackets are held in place when inserting a new wire, no tools required for configuring wire-spool type, and Migatronic's unique colour-coding of wire feed spools and capillary tubes.

Migatronic DUO Plus™

Migatronic DUO Plus™ function, featuring automatic changeover between two sequences, is an automatic enhancement of traditional MIG/MAG.

The choice of control panel is designed to meet future requirements, enabling further development at all times. By selecting the "Pulse" control panel, the welder gets all the facilities of the "Synergic" control panel in addition to the pulse function. It's that simple, all the way from "Basic" and up. Logical and simple: "switch on, press and weld".

Functional advantages incorporated into the design and the concept



MIG Manager®

New FKS flexible swan neck (dialog/sequence)

Choose the torch you need. Including MIG Manager® and the new FKS flexible swan neck

A universal outlet makes it possible to weld using a wide variety of torch types – including the new flexible water-cooled FKS swan neck, which ensures optimal welding positions.

All control panels – except for “Basic” – can use the MIG Manager® torch, providing remote control and digital output of parameters such as power, voltage and choice of sequence at the torch handle.

Prizewinning design with user advantages and a “backbone” that can carry a little extra

Sigma is characterised throughout by Migatronik’s new design which received the “iF Product Design Award 2006”. Functionality, user-friendliness and ergonomics down to the last detail.

The special Sigma trolley is an important element of the entire set-up. The separate wire feed unit of the Sigma STB versions is vertically suspended on the trolley’s multi-functional “backbone” which can also be used for a double version with two wire feed units or a triple version with Migatronik Pi (TIG welding machine) or Zeta (plasma cutter).



The multi-functional trolley column handles every combination

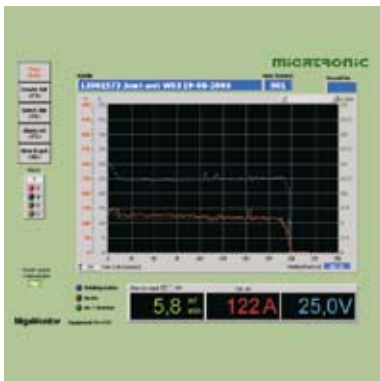


RWF Multifeeders



Autotransformer – integrated in the “chassis”

Manual or robot welding - Sigma communicates at all levels



Data collection and documentation using MigaMONITOR™



Remote control



Robot interface



Relief arm

RWF Multifeeder for robot welding or manual welding in difficult-to-access places

Migatronik has developed the RWF Multifeeder, a new Robot Wire Feeder, applicable when Sigma 400/500 functions as a robot power source or is used for manual welding. The RWF Multifeeder wire console is fed with wire from a drum by means of an intermediary cable. If combined with the built-in remote control of the MIG Manager® torch, the Multifeeder allows welding at a considerable distance from the power source.

It is also possible to work with two RWF Multifeeders and two wire drums connected to one Sigma machine. Along with the machine's own wire feed unit, this gives a total of three simultaneous and different wires, which saves time in complex production processes.

When used for robot welding, the Multifeeder is placed on the robotic arm, minimising the length of welding hose.

Interface for robot and MigaMONITOR™ for data collection

Sigma 400/500 can be set up for interface, so the power sources can communicate with a robot or automatic device.

MigaMONITOR™ (data collection programme) can be used with all Sigma configurations. MigaMONITOR™ features digital collection of data and documentation of welds and meets the requirements for monitoring. It is simple, user-friendly and competitively priced. The documentation can be presented on a computer screen along with the current job number and be printed or saved for later use.

Sigma's wide range of accessories includes:

- Relief arm
- Dialog and sequence torch (page 6)
- MIG Manager® (page 6)
- Flow control
- Autotransformer 230-500 V (page 6)
- Sliding bracket and set of wheels for wire feed unit
- MMA kit for wire feed units
- Push-pull kit
- Remote control
- Electrode cable
- CEE mains plug
- Wire drive spools for all types of wire (page 4)
- MigaMONITOR™
- RWF Multifeeder (page 6)
- Robot interface



SIGMA 300 | 400 | 500

MACHINE TYPE	Sigma 300 C	Sigma 400 C	Sigma 400 STB	Sigma 500 C	Sigma 500 STB
Mains voltage +/- 15% (50-60Hz)	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V
Fuse	16 A	20 A	20 A	32 A	32 A
Effective mains current	15.7 A	17.3 A	17.3 A	25.8 A	25.8 A
Power, 100%	10.9 kVA	12 kVA	12 kVA	17.9 kVA	17.9 kVA
Power, max.	12.5 kVA	19.3 kVA	19.3 kVA	31 kVA	31 kVA
Open circuit power	40 W	40 W	40 W	40 W	40 W
Efficiency	0.85	0.85	0.85	0.85	0.85
Efficiency factor	0.90	0.90	0.90	0.90	0.90
Current range	15-300 A	15-400 A	15-400 A	15-500 A	15-500 A
Duty cycle 40°C (MIG/MAG)	270 A/100%	290 A/100%	290 A/100%	420 A/100%	420 A/100%
Duty cycle 40°C (MIG/MAG)	300 A/80%	350 A/60%	350 A/60%	450 A/60%	450 A/60%
Duty cycle 40°C (MIG/MAG)	-	400 A/40%	400 A/40%	500 A/55%	500 A/55%
Duty cycle 20°C (MIG/MAG)	300 A/100%	330 A/100%	330 A/100%	475 A/100%	475 A/100%
Duty cycle 20°C (MIG/MAG)	-	400 A/70%	400 A/70%	500 A/80%	500 A/80%
Open circuit voltage	83 V	83 V	83 V	83 V	83 V
Application class	S	S	S	S	S
Protection class	IP23	IP23	IP23	IP23	IP23
Norm	EN60974-1 EN60974-5 EN60974-10	EN60974-1 EN60974-5 EN60974-10	EN60974-1 EN60974-10	EN60974-1 EN60974-5 EN60974-10	EN60974-1 EN60974-10
Dimensions H x W x L, cm ¹⁾	92.5 x 54.5 x 109	105 x 54.5 x 109	120 x 54.5 x 119	92.5 x 54.5 x 109	120 x 54.5 x 119
Weight, kg	58 ²⁾	69 ²⁾	85 ³⁾	71 ²⁾	86 ³⁾

COOLING UNIT ⁴⁾	
Power	1.2 kW
Flow 1.2 bar – 60°C	1.75 l/min
Tank capacity	3.5 l
Pressure, max.	3 bar
Norm	EN60974-2

WIRE FEED UNIT	MWF41	RWF Multifeeder
Wire feed speed, m/min	0.5-24	0.5-24
Wire spool diameter, mm	300	-
Torch connection	Euro	Euro
Duty cycle 40°C	420 A/100%	420 A/100%
Duty cycle 20°C	500 A/60%	500 A/60%
Dimensions H x W x L, cm	44 x 24.5 x 78	27 x 21 x 27
Protection class	IP23	IP23
Weight, kg	19	9
Norm	EN60974-5	EN 60974-5

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 Telefax: (+45) 96 500 601
 Homepage: www.migatronik.com

1) Including trolley.
 2) Does not include welding hose, cables, wire spool or any cooling liquid.
 3) Includes wire feed unit and intermediary cable, but does not include welding hose, cables or wire spool.
 4) Integrated cooling unit is optional for Sigma 400-500 A.