

# SIGMA GALAXY | 300 | 400 | 500



**micATRONiC**

# Sigma Galaxy - simplicity and state-of-the-art technology

## Sigma Galaxy - a new MIG/MAG generation

Sigma Galaxy is the result of new giant leaps in welding technology. Developed in co-operation with universities and users throughout the world, this high-technology welding machine in a self-explanatory industrial design optimizes itself and allows the welder to focus on good workmanship. Switch on - press - weld.

## Abundance of features

The Sigma Galaxy contains all the best features from Sigma<sup>2</sup> plus even more intelligence in the digital softkey control panel; MIG/MAG welding with or without pulse, based on the latest research in arc physics; three program packages: Standard, Standard Plus and the newly developed IAC<sup>TM</sup> which includes mild steel and stainless steel. The Sigma Galaxy is also perfect for robot welding.



A powerful computer adjusting the process 50,000 times per second is incorporated in the Sigma Galaxy.



IAC root pass welded in vertical downwards position in 5 mm mild steel.



IAC root pass welded in vertical downwards position in 10 mm mild steel; filled with two Sequence Repeat passes in vertical downwards position.



## IAC<sup>TM</sup> Intelligent Arc Control - less spatter and more stability

The Sigma Galaxy breaks new ground, among other things with the IAC<sup>TM</sup> Intelligent Arc Control function, a quite new process for sheet metal welding and root passes in mild and stainless steels. The result is significantly lower heat input and less distortion, and the mechanical properties of the material are maintained. In other words, less weld spatter and less post-treatment.



The Sigma Galaxy is equipped with Migatron's flexible MIG-A Twist<sup>®</sup> welding torch.

# Intelligent welding concept - makes expert welders even better

## Digital memory with Migatron MJC<sup>TM</sup>

The newly developed MJC<sup>TM</sup> Miga Job Control allows welders to save up to 200 individual welding jobs, and for every job name saved, additionally nine sequences can be saved which means that the Galaxy can hold as much as 1,800 settings.

## Lower power consumption - less effect on the environment

The Sigma Galaxy is green throughout. Its state-of-the-art technology with unmatched performance gives a power consumption that is much lower than in welding machines with traditional technology.



The SD card is for back-up on your pc or transfer of job settings to other Galaxy machines.



The softkey control panel is self-explanatory and based on icons



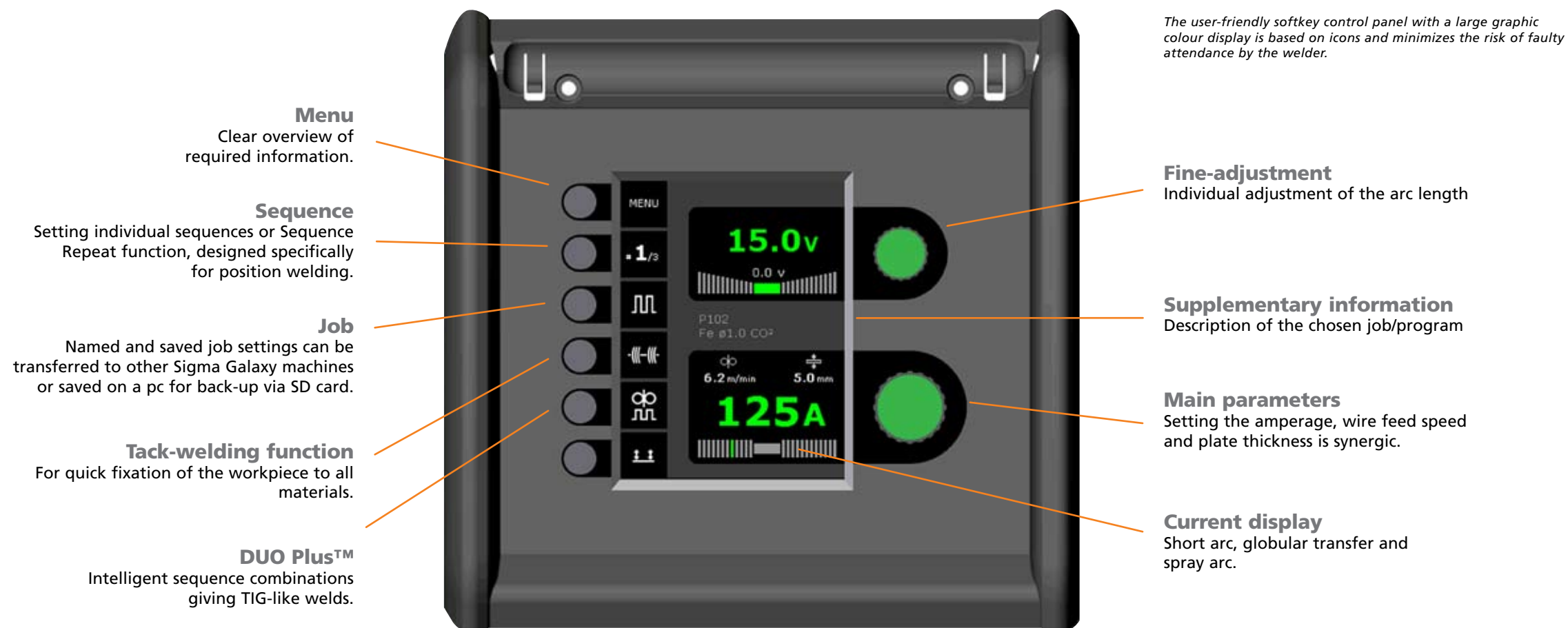
The Sigma Galaxy is available as C (compact) or S (separate wire feed unit) versions with 300 A, 400 A and 500 A power sources.





## Softkey control panel for ease of operation ...

## The Galaxy remembers your personal settings - just switch on - press - weld



### Switch on - press - weld!

MJC™ Miga Job Control is an easy-to-use job control function for recall of your favourite settings for repetitive welding operations. The clear digital colour display makes it easy to choose settings.



Choice of torch in the main menu; The Galaxy supports all MIG-A Twist torch functionalities.



MJC™ Miga Job Control; Easy recall of favourite settings.



IGC® Intelligent Gas Control: Synergic gas control with correct flow and large-scale gas savings.



IACT™ Intelligent Arc Control: Automatic prediction of the next milliseconds of the welding process.



Robot welding: Sigma Galaxy can be connected to robots and automatic machines via interface.

# IAC™ Intelligent Arc Control automatically adjusts the arc 50,000 times per second...

**Sublime welds - quite automatically**

IAC™ Intelligent Arc Control is a brand-new intelligent and adaptive control of the short arc process for Sigma Galaxy 300 and 400 which automatically handles all changes in the weld pool during the welding process.

The result is a 100% stable and focused short arc, colder welding, lower heat input, less distortion and lower power consumption. IAC™ Intelligent Arc Control increases welding speed in vertical downwards welding of root passes.

**IAC™ Intelligent Arc Control - less spatter and more stability**

IAC™ Intelligent Arc Control registers every single welding cycle and adjusts the arc 50,000 times per second. The powerful computer in the Sigma Galaxy continuously predicts the next milliseconds of the welding process which allows the IAC™ Intelligent Arc Control to supply the required energy.

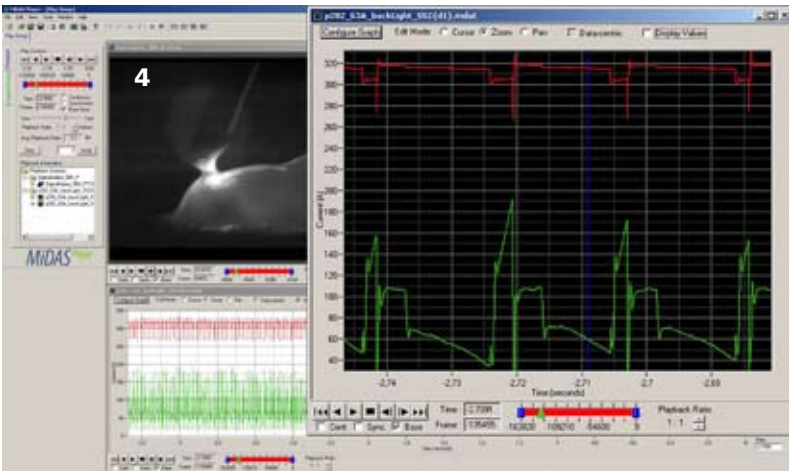
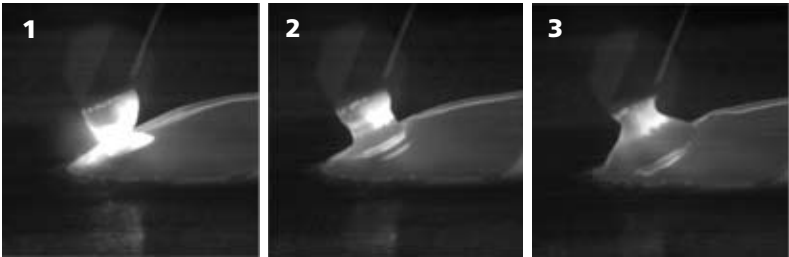
IAC™ Intelligent Arc Control software packages include mild steel and stainless steel.



Austenitic stainless 1.0 mm sheet metal, welded with IAC.



IAC™ - Vertical downwards welding of a root pass in a district heating pipe. Welding speed is significantly increased compared to traditional upwards welding.



Real time laboratory records showing full control of the IAC process, also during droplet pinch-off.

# IGC® Intelligent Gas Control - synergic gas flow with large-scale reduction of gas consumption



**Intelligent Gas Control - Switch on, press, weld..!**

IGC® Intelligent Gas Control is a standard feature in the Sigma Galaxy; a dynamic gas control that monitors consumption and optimises gas protection.

IGC® may give gas savings in excess of 50% with proportionally fewer replacements of gas cylinder to the benefit of economy, environment and efficiency.

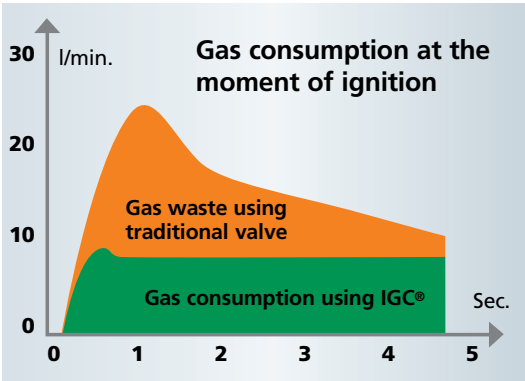
**Better welding, better finish**

From the start of the welding process, the IGC® function prevents over-consumption of gas and gives a good initial performance.

IGC® takes control once the weld pool is established and ensures extensive savings thanks to the controlled gas consumption that is always optimised according to current needs.

**"Gas monitoring" - another IGC® feature**

IGC® also functions as an efficient "gas monitor" that automatically stops the process in case of insufficient gas protection.



The more ignitions – the larger gas savings



**Large-scale reduction of gas consumption**

Savings depend on the company's welding profile, arc time and number of welding machines.

Calculate your bottom-line savings on [www.intelligentgascontrol.com](http://www.intelligentgascontrol.com).

# SIGMA GALAXY | 300 | 400 | 500

MACHINE TYPE	GALAXY 300	GALAXY 400	GALAXY 500
Mains voltage +/- 15% (50-60Hz)	3 x 400 V	3 x 400 V	3 x 400 V
Fuse	16 A	20 A	32 A
Effective mains current	16.0 A	27.8 A	16.5 A
Mains current, max.	18.3 A	28.2 A	35.0 A
Efficiency, 100%	11.1 kVA	19.3 kVA	11.4 kVA
Efficiency, max.	12.7 kVA	24.2 kVA	19.5 kVA
Open circuit consumption	40 VA	40 VA	40 VA
Efficiency rate	0.84	0.90	0.82
Efficiency factor	0.90	0.90	0.90
Current range	15 - 300 A	15 - 400 A	15 - 500 A
Duty cycle 20°C (MIG/MAG)	300 A/100%	310 A/100%	475 A/100%
Duty cycle 20°C (MIG/MAG)	-	400 A/60%	500 A/80%
Duty cycle 40°C (MIG/MAG)	270 A/100%	280 A/100%	420 A/100%
Duty cycle 40°C (MIG/MAG)	300 A/80%	350 A/60%	450 A/60%
Duty cycle 40°C (MIG/MAG)	-	400 A/40%	500 A/55%
Open circuit voltage	80 V	80 V	78 - 95 V
<sup>1</sup> Application class	S	S	S
<sup>2</sup> Protection class	IP23	IP23	IP23
Norm	IEC60974 -1, - 2, - 5 EN/IEC60974 -10 (Class A)	IEC60974 -1, - 2, - 5 EN/IEC60974 -10 (Class A)	IEC60974 -1, - 2, - 5 EN/IEC60974 -10 (Class A)
Dimensions C (H x W x L)	92.5 x 54.5 x 109 cm	105 x 54.5 x 109 cm	105 x 54.5 x 109 cm
Dimensions S (H x W x L)	-	120 x 54.5 x 119 cm	120 x 54.5 x 119 cm
Weight , C	58 kg	69 kg	71 kg
Weight , S	74 kg	85 kg	86 kg

Wire feed unit MWF 41/internal	
Wire feed speed	0.5 - 30 m/min.
Torch connection	Euro connection
Wire reel diameter	300 mm
Duty cycle 40°C	420 A/100%
Duty cycle 40°C	500 A/60%
<sup>2</sup> Protection class	IP 23
Wire diameter	0.6 - 2.4 mm
Max. gas pressure	0.5 MPa (5.0 bar)
Dimensions (H x W x L)	44 x 24.5 x 78 cm
Weight	19 kg
Norm	EN/IEC60974 - 1, - 5 EN/IEC60974 - 10 (Class A)

Cooling unit	
Output (at 1.5 l. flow)	1.7 kW (1.5 l/min.)
Tank capacity	3.5 litre
Flow 1.2 bar - 60°C	1.75 l/min.
Max. pressure	3 bar
Norm	EN/IEC60974-2

C = Compact, S = Separate wire feed unit

<sup>1)</sup> The machine meets the requirements for use in areas with increased risk of electric shock.

<sup>2)</sup> The machine is designed for both indoor and outdoor use.

We reserve the right to make changes.

**United Kingdom**  
Migatronik Welding Equipment Ltd.  
21, Jubilee Drive, Belton Park,  
Loughborough  
Leicestershire LE11 5XS - UK  
Tel: (+44) 01509/267499  
Fax: (+44) 01509/231959

**India**  
Migatronik India Pvt. Ltd.  
No. 22, Sowri Street, Alandur,  
Chennai 600 016  
Tel: (+91 44) 223 00074  
Fax: (+91 44) 223 00064

**Headoffice:**  
Svejsmaskinefabrikken Migatronik A/S  
Aggersundvej 33, Postboks 206  
DK-9690 Fjerritslev, Danmark  
Tel: (+45) 96 500 600, Telefax: (+45) 96 500 601  
Homepage: [www.migatronik.com](http://www.migatronik.com)

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