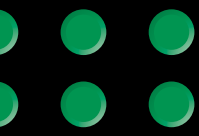


ROBOT  
INTEGRATION



FULLY DIGITAL SOLUTION  
FOR AUTOMATION OF  
WELDING PROCESSES



**MIGATRONIC**  
WELDING VALUE

# INTEGRATOR SOLUTION FOR AUTOMATED MIG, TIG AND PLASMA WELDING



Being one of Europe's leading developers and manufacturers of welding solutions, MigatroniC has been a trusted provider of equipment for automated solutions for more than four decades.

Our background and core expertise are welding and welding technology – and we know how to make welding processes function optimally via interface, hardware and well thought-out software in modern welding equipment.

## SIMPLE SOLUTIONS

Based on experience from more than 2,000 individual welding installations, we can provide straightforward and reliable standard solutions for MIG, TIG and plasma welding processes; ready for integration with new as well as old robots and automated devices.

We know from our co-operation with international system integrators that it is simply a matter of industrial competitive power, increased productivity and uniform, high-quality welding.

Welding Value is the goal – and the linking element between MigatroniC as a manufacturer, integrators and end users throughout the world.

## STRONG ROBOTIC MACHINES FOR MIG, TIG AND PLASMA

**Sigma Galaxy 400 and 500:** MIG/MAG industrial machines featuring IGC® and memory function for job and sequence. For welding of all types of material – with or without pulse.

**Pi 350 and 500:** Water-cooled TIG DC and AC/DC machines for mild and stainless steel and aluminium – with or without pulse. IGC® included.

**Pi 350 Plasma:** Plasma TIG inverter from 5 to 350 A, designed for robotic use; from sheet metal to 8 mm mild and stainless steel; Plasma-melt, Plasma-press and Plasma-keyhole – with or without pulse. IGC® included.

# Automation of Welding Processes

MIG



TIG



PLASMA



## Sigma Galaxy



- IGC® - Intelligent Gas Control
- IAC™ - Intelligent Arc Control
- MJCT™ - Miga Job Control
- Power Arc™
- Sequence Repeat™

## Pi



- TIG-A-Tack™ - tack welding function
- D.O.C.® - Dynamic Oxide Control
- Synergy PLUS™ - dynamic pulse
- IGC® - Intelligent Gas Control

## Pi Plasma



- Synergy PLUS™ - dynamic pulse
- IGC® - Intelligent Gas Control
- Plasma-melt, Plasma-press, Plasma-keyhole
- TIG-A-Tack™ - tack welding function

## Project responsibility

### Migatronic

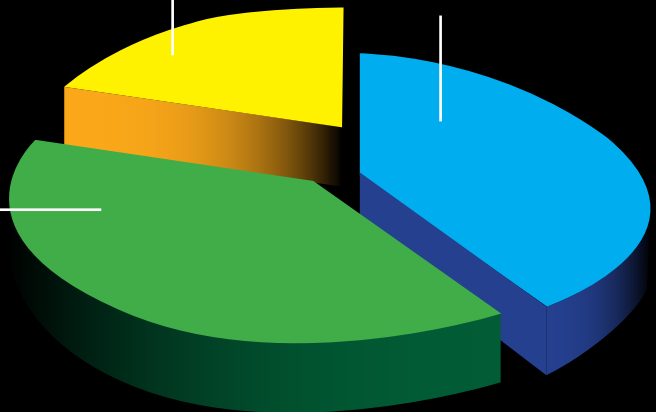
Welding machines  
Welding technology

### Integrator

Customer contact  
System integration  
Robot  
Commissioning

### End user

Approval  
Product knowhow  
Operators' knowledge



## INNOVATIVE AUTOMATED SOLUTIONS

Interdependent peripheral equipment for Migatronic robotic and automated solutions makes the technical integration uncomplicated.

We know where to make a difference, but we also know the art of moderation. Therefore, there are clear-cut boundaries between Migatronic as a provider of welding equipment and the integrator's function as a system builder and robot supplier.

The welding process is always in focus; Migatronic's core products have built-in intelligent functions and unique welding properties.

We call it Welding Intelligence.

IGC®

### (INTELLIGENT GAS CONTROL)

An efficient gas-saving function for MIG, TIG and plasma welding that monitors consumption and optimises gas shielding.



SCAN HERE TO LEARN  
MORE ABOUT IGC®





# THE FLEXIBLE

## RCI<sup>2</sup> - ROBOT CONTROL INTERFACE

Analog/digital interface for MIG,  
TIG/PLASMA welding processes

- For all types/makes of robots
- Configurable solutions for the following BUS systems:
  - EtherNet/IP
  - PROFINET
  - PROFIBUS
  - DeviceNet
  - EtherCAT
  - Migatronik CAN/Analog I/O
- Touch Sensing
- Prepared for seam tracking system

## REMOTE MIG<sup>2</sup>

Remote control unit for MIG  
welding machine

- Graphic display
- Impact-proof case with adjustable strap and suspension fittings
- 6 m shielded signal cable

## WIRE COIL HOLDER

External mounting of wire coil –  
MIG, TIG/PLASMA

- Suits wire reels ø200/300 mm
- Incl. wire hub brake



Welding torches and collision protection are not included in the standard solutions.

Please contact Migatronik for further information.



Power sources:  
MIG  
TIG  
Plasma



# E ROBOT SETUP



**RWF<sup>2</sup> / CWF TIG/PLASMA**

Water coupling and current coupling are equipped with screw fastening

**Remote MIG<sup>2</sup>**

**RCI<sup>2</sup> Analog/digital interface**

**Migalog™**



**RWF<sup>2</sup> ROBOT WIRE FEEDER**  
 MIG/MAG compact tacho-feeder with four-roll wire feed system

- Built-in functions, e.g. IGC®, supporting Migatronic MIG welding processes
- Built-in Air Blow system for cleaning of gas nozzle using compressed air
- Touch Sensing

**MIGALOG™**  
 Digital data collection – MIG

- Transfer from machine via SD card to a PC for storage
- For documentation, spot checks and procedures



**CWF TIG/PLASMA COLD WIRE FEEDER**  
 TIG/PLASMA feeder with four-roll wire feed system

- Built-in functions, e.g. synchronised pulse on wire that follows machine settings
- Memory for individual settings
- Up to eight feeders connected to a welding machine

**EXTRA COOLING UNIT**  
 External cooling of plasma torch

- Intended for high performance and high duty cycle

# TAILORED AUTOMATION SOLUTIONS

These MIG, TIG and Plasma automation solutions which can be tailored with mandatory and optional equipment, meet the requirements for mechanical integration and analog or digital communication with most makes of robots.

## MIG solutions



### MIG power sources

Sigma Galaxy 400 C-W

Sigma Galaxy 500 ROBO S-W

### The above MIG power sources include

RCI<sup>2</sup> analog interface prepared for digital communication incl. 6 m cable

Remote MIG<sup>2</sup> graphic display remote control incl. 6 m cable

Built-in water flow control

MigaLOG™ licence

IGC® (Intelligent Gas Control) with flow control

Triple CAN plug

### Mandatory equipment

RWF<sup>2</sup> incl. wire drive rolls

Program package: Standard, Standard Plus or Special

Rack or standard trolley

### Examples of optional equipment

IAC™ mild steel licence (only Galaxy 400)

IAC™ stainless steel licence (only Galaxy 400)

Interconnection for RWF<sup>2</sup>

Holder for separate wire coil

Fieldbus module – see page 7

Mounting plate for feeder (depending on robot)

Bracket for Remote MIG<sup>2</sup>

## TIG solutions



### TIG power sources

Pi 350 DC W

Pi 350 AC/DC W

Pi 500 ROBO DC W

Pi 500 ROBO AC/DC W

### The above TIG power sources include

RCI<sup>2</sup> analog interface prepared for digital communication incl. 6 m cable

CAN plug incl. CAN distributor box

Remote control plug incl. Arc Detect signal

IGC® (Intelligent Gas Control) with flow control

Built-in water flow control

### Mandatory equipment

Rack or standard trolley/wheels

### Examples of optional equipment

Cold Wire Feeder

Holder for CWF

Fieldbus module – see page 7

Mounting plate for feeder (depending on robot)

*Sigma Galaxy 500 ROBO and Pi 500 ROBO feature heavy-duty cooling.*



*RWF<sup>2</sup> – compact feeder for MIG with four-roll wire feed system and electronic tacho control of wire feed speed.*



*CWF - TIG/PLASMA feeder with four-roll wire feed system*



*Remote MIG<sup>2</sup> - graphic display remote control.*



Universal analog/Fieldbus interface for communication between welding equipment and robot controller.

## Plasma solutions



### Plasma power source

Pi 350 Plasma W

### The above Plasma power source includes

- IGC® (Intelligent Gas Control) with flow control
- RCI<sup>2</sup> analog interface prepared for digital communication incl. 6 m cable
- Double CAN plug incl. CAN distributor box
- Remote control plug incl. Arc Detect signal
- Built-in water flow control

### Mandatory equipment

Rack or standard trolley

### Examples of optional equipment

- Cold Wire Feeder
- Holder for CWF
- Fieldbus module
- Mounting plate for feeder (depending on robot)

Plasma welding > 80 A requires connection of an external cooling unit.

RWF <sup>2</sup>	
Protection class	21C
Torch connection	ZA
Duty cycle, 100% 40°C A/%	420/100
Duty cycle, 60% 40°C A/%	500/60
Standards	EN/IEC60974-5, EN/IEC60974-10
Wire diameter, mm	0.6-2.4
Wire feed speed, m/min	0.5-30.0
Dimensions (HxWxL), mm	194x220x350
Weight, kg	6.6
CWF	
Wire feed speed, m/min.	0,20 - 5,0
Wire diameter, mm	0,6-2,4
Dimensions (HxWxL), mm	276x211x276
Weight, kg	9,6

We reserve the right to make changes.

## Software



### Fieldbus module – MIG/TIG/PLASMA interface/robot communication

- PROFIBUS
- DeviceNet
- EtherNet/IP
- PROFINET
- EtherCAT
- Hardwire multi – digital/analog I/O

## INTERFACE

The RCI<sup>2</sup> is connected to the welding machine via CAN-bus and allows you to choose between hard-wired transfer of both digital and analog I/O signals or Fieldbus-based transfer of signals between robot controller and welding machine.

The RCI<sup>2</sup> is supplied in analog version by default, connecting analog/digital I/O signals via 37-pole amphenol plug.

Purchase of a Fieldbus module allows you to convert the interface into a Fieldbus interface. Using this interface, with inside display and mini-keypad, the system is easily configured as desired.

## FREE DOWNLOAD OF SOFTWARE

At [www.migatronic.com](http://www.migatronic.com) under "My Migatronic", Migatronic customers have free access to download of software for update of welding machines.

## FREE WPS'S – EN 1090

Migatronic provides free download of approved standard welding procedures according to EN 15612 (Construction Product Directive 89/106/EEC/Construction Product Regulation 305/2011) for welding with CMn solid wires. This extra loyalty service is free for customers who also do manual MIG/MAG welding or partly mechanised automated welding.

SCAN HERE  
TO SEE MORE  
ABOUT EN 1090



# MIGATRONIC DATA

We reserve the right to make changes.

	MIG		TIG		PLASMA
MACHINE TYPE	GALAXY 400 C-W	GALAXY 500 ROBO S-W	PI 350 DC W / PI 350 AC/DC W	PI 500 ROBO DC W / PI 500 ROBO AC/DC W	PI 350 PLASMA
Mains voltage +/- 15 %, V	3x400	3x400	3x400	3x400	3x400
Fuse, A	20	32	25	32	32
Mains current, effective, A	16,5	29,3 (380V)/27,8 (400V)	18,0 / 17,3	26,1 / 27,2	26,1
Mains current, max, A	28,2	36,8 (380V)/35,0 (400V)	23,1 / 22,7	33,7 / 35,1	23,3
Open circuit voltage, V	80	78-95	95	95	95
Current range, A	15-400	15-500	5-350	5-500	5-350
Efficiency	0,82	0,90	0,80 / 0,88	0,91 / 0,87	0,91
Application class	S/CE	S/CE	S/CE/CCC	S/CE/CCC	S/CE
Protection class	IP 23	IP 23S	IP 23	IP 23	IP 23
Standards	EN/IEC60974-1, EN/IEC60974-2, EN/IEC60974-5, EN/IEC60974-10		EN/IEC60974-1, EN/IEC60974-2, EN/IEC60974-3, EN/IEC60974-10		
Dimensions (HxWxL), mm	1051x524x925	1092 x 614 x 410	820x250x640 / 980x545x1090	980x545x1090	980x545x1090
Weight, kg	71	71	48 / 72	68 / 77	85

DUTY CYCLE					
100% 20°C MIG, A	310	475	-	-	-
100% 20°C TIG, A	-	-	340	475	475
100% 20°C PLASMA, A/V	-	-	-	-	350
60% 20°C MIG, A	400	-	-	-	-
60% 20°C TIG, A	-	-	350	500	-
Maks 20°C MIG, A/%	400/60	500/80	-	-	-
Maks 20°C TIG, A/%	-	-	350/95	500/80	500/80
Maks 20°C PLASMA, A/%	-	-	-	-	350/100
100% 40°C MIG, A/V	280/31,2	420/36,8	-	-	-
100% 40°C TIG, A/V	-	-	300/22,0 / 290/21,6	420/26,8	420/26,8
100% 40°C PLASMA, A/V	-	-	-	-	350/39,0
60% 40°C MIG, A/V	350/34,0	450/38,0	-	-	-
60% 40°C TIG, A/V	-	-	350/24,0	500/30,0	500/30,0
Max 40°C MIG, A/%/V	400/40/36,0	500/55/40,0	-	-	-
Max 40°C TIG, A/%/V	-	-	350/60/24,0	500/60/30,0	500/60/30,0
Max 40°C PLASMA, A/%	-	-	-	-	350/100/39

COOLING UNIT	GALAXY 400 C-W	GALAXY 500 ROBO S-W	PI 350 DC W / PI 350 AC/DC W	PI 500 ROBO DC W / PI 500 ROBO AC/DC W	PI 350 PLASMA / EXTERNAL
Cooling capacity (1 l/min.), W	1100	1650	1100	1650	1200 / 1650
Tank capacity, l	3,5	3,5	3,5	3,5	3,5 / 6,5
Flow, bar - °C - l/min.	1,2 - 60 - 1,75	3,0 - 60 - 1,5	1,2 - 60 - 1,75	3,0 - 60 - 1,5	1,2 - 60 - 1,75 / 1,2 - 60 - 1,75
Max. pressure, bar	3	4,5	3	4,5	1,2 / 7,0
Standards	EN/IEC60974-2	EN/IEC60974-2	EN/IEC60974-2	EN/IEC60974-2	EN/IEC60974-2

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**MIGATRONIC**  
WELDING VALUE