

FLEX 3000



FLEX 3000

SIMPLICITY AND STATE-OF-THE-ART TECHNOLOGY



MIGATRONIC
WELDING VALUE



FLEX² 3000 - INTELLIGENT AND USER-FRIENDLY MIG/MAG MACHINES FOR SHEET METAL WELDING AND MIG BRAZING

The auto business is one of the most innovative industries in terms of materials and joining methods. Since its first welding machine was produced in 1970, Migatronic has been a leading supplier to the auto business; a position which is strengthened by the new features and increased user-friendliness of Flex² 3000.

Flex² 3000 is the result of new giant leaps in welding technology and Migatronic's over 40 years of experience. Developed in co-operation with car makers, steel and gas suppliers and users throughout the world, the Flex² 3000, with or without water-cooling, optimises itself and allows the welder to focus on good workmanship: Switch on - press - weld.

DIGITAL INTELLIGENCE

The digital intelligence in the Flex² 3000 makes it easy to find the program relevant to the individual car make, be it MIG brazing in high-tensile steels or welding in ferritic, stainless steels. The program packages are designed for leading car makes, from Audi over GM to Ferrari's thoroughbred racer in hardenable aluminium.

PROCESS IMPROVEMENT AND LESS POST-TREATMENT

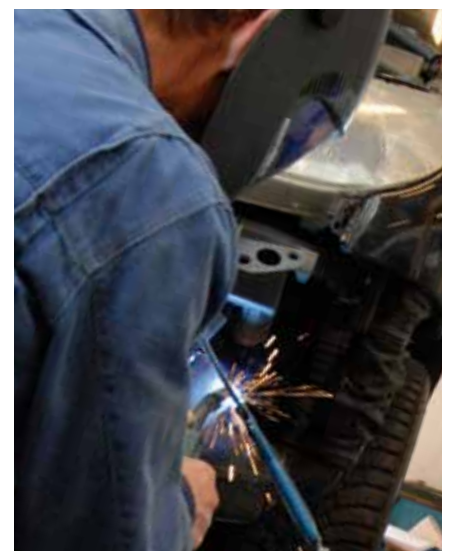
MIG brazing high-tensile steel is one of Migatronic's specialist fields. Joining of special alloy thin plates requires a gentle process. This process and much more is built into the memory of the Flex² 3000. The result speaks for itself; the corrosion and strength properties of the material are maintained and only little post-treatment is required owing to a minimum of weld spatter and heat input. And there is hardly any deformation of car body plates.

REMOTE CONTROL USING MIG-A TWIST® WELDING TORCH

Flex² 3000 comes with the MIG-A Twist torch in award-winning design – in air-cooled or water-cooled version. The unique, turnable swan neck of the MIG-A Twist allows access to hard-to-reach places. It is possible to mount different modules on top of the torch for adjustment of the most important welding parameters.

MIG brazing maintains the strength of the steel and protects the anti-corrosive zinc surface

Ergonomic torches for easy access



FLEX² 3000 - SIMPLICITY AND STATE-OF-THE-ART TECHNOLOGY

PROGRAM WIZARD™

The Migatron Program Wizard™ allows the welder to find the right welding program for an assignment without having to browse through all the programs, and there is no risk of making wrong choices. Program Wizard is a built-in guide in the control panel which finds the right program in the program packages by asking three or four simple questions, for example about type of wire and gas.

DIGITAL MEMORY WITH MIGATRONIC MJCT™

The newly developed MJCT™ Miga Job Control allows saving of up to 200 individual welding jobs and easy recall of favourite settings.

LOWER POWER CONSUMPTION - LESS EFFECT ON THE ENVIRONMENT

Flex² 3000 is green throughout owing to new welding technology and use of low-energy components – an important factor now that CO₂ emission and increasing power consumption are on the agenda.

EXTENSIVE GAS SAVINGS

Intelligent Gas Control IGC® is an optional feature in Flex² 3000; a dynamic gas control that monitors consumption and optimises gas protection. IGC® gives up to 50% gas savings with proportionally fewer replacements of gas cylinder to the benefit of economy, environment and efficiency; especially in the auto business which is characterised by many small welds and tack-welds.



MJCT™ allows saving of up to 200 individual welding jobs

Calculate your bottom-line savings on www.intelligentgascontrol.com.



IGC® is an optional feature in Flex² 3000



FLEX 3000

USER-FRIENDLY MIG/MAG MACHINES

FEATURES

- Transfer of machine software and latest features by SD card – free download
- Copy of stored settings from machine via SD card to/from pc
- Designed to meet future demands for materials and gas combinations
- Optional feature: IGC® Intelligent Gas Control
- Dedicated program packages

Flex² 3000 control panel
- switch on, press and weld



MIG welding or MIG brazing



We reserve the right to make changes

POWER SOURCE	FLEX² 3000
Mains voltage +/- 15%,V	3x400 (3 x 230-500 V *)
Fuse, A	16
Effective mains current, A	16.5 (380V)/15.7 (400V)
Mains current, max., A	19.0 (380V)/18.1 (400V)
Power factor	0.90
Efficiency	0.85
Current range MIG, A	15-300
Duty cycle 100% / 20°C, A/V	300
Duty cycle 100% / 40°C, A/V	270/30.8
Duty cycle max. 40°C, A/V	300/80/32.0
Duty cycle max. 20°C, A/V	300/100
Open circuit voltage, V	69-76
Protection class	IP 23
Norm	EN/IEC60974-1, EN/IEC60974-2, EN/IEC60974-5, EN/IEC60974-10
Dimensions (HxWxL) air, mm	906x524x925
Dimensions (HxWxL) water, mm	1051x524x925
Weight air/water, kg	58 /69

*) Configured with auto transformer

COOLING UNIT	
Cooling capacity (1 l/min) W	1100
Tank capacity, litre	3,5
Flow, bar C°-l/min.	1.2 - 60 - 1.75
Max. pressure, bar	3
Norm	EN/IEC60974-2

OPTIONAL EQUIPMENT

- Ergonomic, adjustable welding torches for easy access
- Push-pull torch for large operating range
- Wire drive rolls for all types of wire
- Dialog and sequence torch
- Auto transformer 230-500V

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AUTOMIG² i DIGITAL WELDING MACHINES FOR MODERN CAR REPAIR SHOPS

The Automig²-i range is designed for the auto business and light industries. User-friendly welding machines for MIG/MAG welding with or without double pulse and MIG brazing of galvanised steel plates; digital, synergic control panels with preset programs. DUO versions for easy switch-over between welding and brazing operations.



THREE POWER SOURCES - TWO CONTROL PANELS

THERE'S A MIGATRONIC AUTOMIG FOR EVERY GENERATION

Back in 1970, Migatronik supplied its first welding machine to the auto business. Since then, as many as seven welding machine generations have matched, each in their own way, the requirements made by the auto business and light industries. The Automig²i range is stronger than ever.

THE FULLY DIGITAL REVOLUTION - SWITCH ON, PRESS AND WELD

The Automig²i range are compact, fully digitised welding machines with synergic, preset welding programs and automated functions. The machines are designed for modern materials used in the auto business and meet the increasing demands for joining materials; from sheet metal to car body welding – with or without double pulse.

MACHINES WITH BUILT-IN ADVANTAGES

The Automig²i machines are equipped with four-roll wire feed system for precise and stable wire-feeding. The Automig² 273i features reversed polarity for welding with innershield wire (without gas).

MIG BRAZING

In addition to MIG/MAG welding, the Automig²i range features MIG brazing of galvanised steel plates. This function

ensures maintenance of the material in terms of corrosion and strength and reduces post-treatment of distortion of plates and profile tubes to a minimum. The result is cost-effective and efficient welding.

AUTOPULSTM WITH DOUBLE PULSE FOR WELDING AND BRAZING

The Automig² 273i is available with AUTOPULSTM control panel. This control panel features double pulse (DUO Plus) which is an advanced pulse function feeding the wire with a pulsatory current. The result is better control of the arc and a minimum of weld spatter which ensures preservation of strength and surface of plates and profile tubes.

BOOST FOR ALL MAINS VOLTAGES

The Automig² 273i and 273i DUO can be equipped with an electronic Boost Converter (autotransformer) for welding and brazing on all mono-phase and three-phase mains voltages.

DUO VERSIONS

The Automig²i machines are available in DUO versions with space for two wire reels: one for MIG brazing and one for other welding operations, making it easy to switch between welding jobs without having to change hoses, wires, wire drive rolls and gas.

USER ADVANTAGES

- Designed for all materials and individual welding applications
- Digital, synergic control panels
- Pulse or double pulse
- MIG brazing of galvanised steel
- AUTOPULSTM for advanced pulse welding and pulse brazing of e.g. high-tensile steel
- DUO versions for easy switch-over between welding and brazing operations
- Reversed polarity for welding with innershield wire (without gas)
- Boost versions for all mains voltages
- Software update via SD card at [migatronik.dk/MY MIGATRONIC](http://migatronik.dk/MY_MIGATRONIC)

Automig² 273i on trolley



Machine range/Panel	AUTOMIG II	AUTOPULS TM	Reversed polarity
Automig ² 183i	●		
Automig ² 183 i DUO	●		
Automig ² 233i	●		
Automig ² 233i DUO	●		
Automig ² 273i	●	●	●
Automig ² 273i Boost	●	●	●
Automig ² 273i DUO	●	●	●
Automig ² 273i DUO Boost	●	●	●

INDIVIDUAL VERSIONS FOR AUTO BUSINESS AND LIGHT INDUSTRY

MACHINE ADVANTAGES

- Compact design/low weight - user-friendly, flexible and mobile
- Standby function (15-30 W idling): energy-saving, less CO2 emission, long life of components
- Colour-coded wire drive rolls: easy to exchange
- Four-roll wire feed system for precise wire-feeding
- Digital motor control: stability under all operating conditions
- Digital fan control: optimal cooling under all operating conditions
- Lacquered PCB cards: less maintenance and longer service life



MIG-A TWIST® TORCHES

The ergonomic MIG-A Twist torch has a turnable swan neck for easy access to hard-to-reach locations. Control unit for adjustment of welding current at the torch handle is available as an optional feature.

The compact Automig² 183i



Automig² 273i DUO on trolley



AUTOMIG² i RANGE

AUTOMIG² i DATA & PROGRAMS

We reserve the right to make changes

POWER SOURCE	183i/183i DUO	233i/233i DUO	273i/273i DUO	273i BOOST/273i DUO BOOST
Current range, A	15-180	15-230	15-270	15-270
Mains voltage +/- 15%, V	3x400	3x400	3x400	3x230-400. 1x230-400
Fuse, A	10	10	10	16
Duty cycle 40°C 100%, A/V	115/19.8	165/22.3	175/22.8	107 (135)/19.4(20.8)
Duty cycle 40°C 60%, A/V	125/20.3	175/22.8	205/24.3	130 (170)/27.5(22.5)
Duty cycle 20°C 100%, A	160	220	230	150 (180)
Duty cycle 20°C 40%, A	180		245	
Protection class	IP 23S	IP 23S	IP 23	IP 23
Norm	EN/IEC 60974-1. EN/IEC60974-5. EN/IEC60974-10			
Dimensions (HxWxL), mm	660x380x790	660x380x790	550x250x640	550x250x640
Dimensions DUO (HxWxL), mm	960x600x850	960x570x870	960x570x870	960x570x870
Weight, kg	26.2 / 41.2	26.5 / 41.2	26 / 55	15-270

Automig II panel



AUTOPULS II panel



Both control panels can be updated via SD card with the latest program versions at migatronic.dk/MY MIGATRONIC.



PROGRAMS

Material	Wire Ø/mm	Welding	Brazing	Pulse	Double pulse (DUO Plus)
Fe SG 2	0.6 - 1.0	● ●		●	●
AL	0.8 - 1.2	● ●		●	●
CuAl8	0.8 - 1.0		● ●	●	●
CuSi3	0.8 - 1.0		● ●	●	●
CrNi	0.8 - 1.0	●		●	●

● AUTOMIG II panel ● AUTOPULS™ II panel

The list of programs is for guidance only

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AUTOMIG STEP-REGULATED MIG/MAG CLASSICS FOR AUTO BUSINESS, TRADE AND INDUSTRY

The Automig range is characterized by ease-of-operation and unique welding performance. The welding machines are designed with a robust cabinet with aluminium-zinc-coated plates for heavy duty applications and long service life.



AUTOMIG WELL-PROVEN MACHINES

PROFESSIONAL AND WELL-PROVEN MACHINES

The robust and reliable 3-phase Automig welding machines - now available in seventh generation - are designed for quality welding in auto business, trade and industry.

USER-FRIENDLY DESIGN

The Automig range is characterized by ease-of-operation and unique welding performance. The welding machines are designed with a robust cabinet with aluminium-zinc-coated plates for heavy duty applications and long service life as well as large swivel front wheels and wide track width in the rear. There is easy access to change of wires and wire drive rolls for optimal configuration.

All Automig versions are equipped with the ergonomic MIG-A Twist torch for easy access to hard-to-reach locations.

We reserve the right to make changes.

POWER SOURCE	AUTOMIG 183	AUTOMIG 223	AUTOMIG 273
Current range, A	20-180	20-200	20-250
Voltage steps	7	10	10
Duty cycle 35% at 40°C, A/V	110/19.5	155/21.8 (30%)	200/24.0
Open circuit voltage, V	14-30	14-30	15-34
Mains voltage*), V	3x400	3x400	3x400
Fuse, A	10	10	10
Wire dimension, mm	0.6-1.0	0.6-1.2	0.6-1.2
Wire coil, kg	5-15	5-15	5-15
Wire feed speed, m/min.	2-15	2-15	2-15
Spot time, seconds**)	0.15-2.5	0.15-2.5	0.15-2.5
Interval time, seconds**)	0.15-2.5	0.15-2.5	0.15-2.5
Burnback, seconds	0.05-0.5	0.05-0.5	0.05-0.5
Application class	S	S	S
Protection class	IP 21	IP 21	IP 21
Norm	EN/IEC60974-1, EN/IEC60974-5, EN/IEC60974-10		
Dimensions (HxWxL), mm	700x380x720	700x380x720	700x380x720
Weight, kg	57	64	66

*) Supplied as standard for 3 x 400 V but available with a special transformer for switching between 3 x 230/400 V.

**) Spot welding and interval welding

MIG/MAG welding in sheet metal



Trim of welding parameters using the Dialog torch



BUILT-IN ADVANTAGES

- Three-phase models with 180-250 amp output
- Two control panels - with/without spot/interval welding and control at the torch handle

OPTIONAL EQUIPMENT

- MIG-A Twist torch with Dialog control
- Automig 273 is available with four-roll wire feed system
- Unique wire drive rolls with V-groove or U-groove, 0.6-1.0 mm
- Anti-slip rubber mat on top

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AUTOMIG 300 PULSE



AUTOMIG 300 PULSE

FOR WELDERS IN THE AUTO BUSINESS

The Automig 300 Pulse is the welding machine for repairing cars and building up car bodies in professional workshops. It is designed to meet carmakers' standards for joining processes in thin high-tensile steel, aluminium and stainless steel.



ADVANCED, NOT COMPLICATED - SIMPLE AND VISUAL DISPLAY

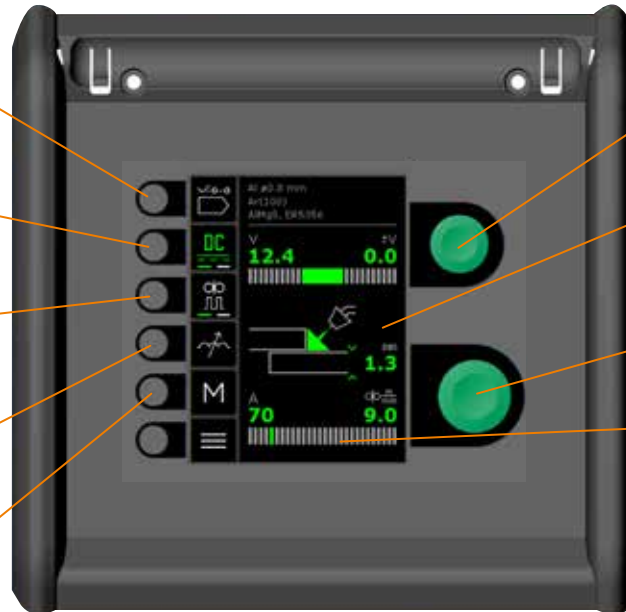
SELECT PROGRAM
Enter type of wire and gas; the program selector will find the right program.

SELECT PROCESS
Choose between welding or brazing, with or without pulse.

ACTIVATE FUNCTION
Choose between tack welding, step (weld/pause time in sequences) or double pulse.

ARC ADJUST
A function for precision adjustment between soft and hard arc.

MEMORY FUNCTION
Save up to five favourite settings by the push of a button.



FINE-ADJUSTMENT
Set the arc length.

SUPPLEMENTARY INFORMATION
See description of the chosen job/program.

MAIN PARAMETERS
Set amperage, wire feed speed and plate thickness.

CURRENT DISPLAY
Short arc, globular transfer arc and spray arc.

Soft-key control panel with colour display and intuitive icon-based menu.

DESIGNED FOR WELDING AND MIG BRAZING IN THE AUTO BUSINESS

The Automig 300 Pulse is a compact, fully digital welding machine with 36 pre-set programs. The programs meet the requirements for welding and brazing for example high-tensile steel and aluminium, which are used by the auto business. Perfect for joining sheet metals and building up car bodies.

EASY SWITCH-OVER WITH DUO OR TRIO

The Automig 300 Pulse is available in three versions: SINGLE, DUO and TRIO. The DUO version has room for two 15 kg wire coils and the TRIO version for three 5 kg wire coils, providing easy switch-over between operations without change of hose, wire, wire drive rolls and gas. The machine will automatically establish which torch/wire feed unit is active.

MIG BRAZING

In addition to sheet metal welding, the Automig 300 Pulse features MIG brazing with and without pulse of galvanised

steel plates. This function ensures maintenance of the materials in terms of corrosion and strength and reduces post-treatment of distortion of plates and profiles to a minimum. The result is cost-effective and efficient welding.

DOUBLE PULSE FOR WELDING AND BRAZING

Automig 300 Pulse features double pulse – a function required by several carmakers. Double pulse ensures precise control of the arc and minimises weld spatter.

BOOST FOR ALL MAINS MAINS VOLTAGES

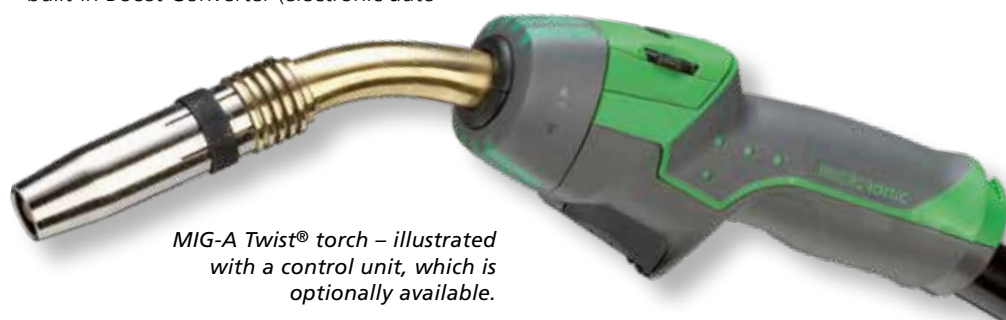
The Automig 300 Pulse is available with built-in Boost Converter (electronic auto

transformer) for welding on all mono-phase and three-phase mains voltages from 208V to 440V (50/60 Hz).

MIG-A TWIST®

The ergonomic MIG-A Twist® torch has a turnable swan neck for easy access to hard-to-reach locations.

MIG-A Twist® is available in different lengths and with different swan necks. It is configurable with different control units for adjustment of welding current at the torch handle. The control unit is easy to exchange as required – without the use of tools.



MIG-A Twist® torch – illustrated with a control unit, which is optionally available.

APPROVED BY THE BEST WHAT MORE COULD YOU POSSIBLY WANT?

IGC® - FOR OPTIMAL SHIELDING OF WELD POOL

IGC® (Intelligent Gas Control) ensures optimal shielding of the weld pool and maintains the strength in the joint in the best way possible. The result is large-scale gas savings and a minimum of weld spatter. IGC® is a synergic gas regulation monitoring the consumption automatically. IGC® is available as optional equipment.



FOUR-ROLL WIRE FEED SYSTEM FOR STABLE WIRE FEEDING

The Automig 300 Pulse is equipped with four-roll wire feed system in the wire feed unit and Tacho control of wire motor for ultra precise wire feeding.

LIGHT IN THE WIRE CONSOLE

The Automig 300 Pulse is equipped with LED light in the wire console for easy change of wire and wire rolls in low light environment.



Migatronic.com offers free software update via SD card.

Automig 300 Pulse is available in SINGLE, DUO and TRIO versions.



AUTOMIG 300 PULSE - LOTS OF OPTIONALLY AVAILABLE EQUIPMENT

OPTIONALLY AVAILABLE EQUIPMENT

- Wide range of torches/swan necks
- Control unit for torch handle
- Torch holder
- Elevated torch holder for 3 torches
- Adapter for 5 kg wire spools
- Tool tray
- IGC® Intelligent Gas Control
- Calibration certificate
- MigaLOG software for data collection
- CEE plug



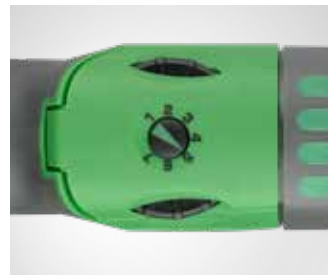
Device for easy coil-up of long cables.

Torch holder. Fitted as standard equipment as illustrated. Optionally available for fitting in the left hand side of the welding machine (item number 78861557)

Elevated torch holder for three torches (item number 70617031)

Control unit for adjustment of welding current at the torch handle (item number 80100402)

Miga Log™ for storage and display of welding data on an SD card; applicable for documentation of compliance with repair procedures.



We reserve the right to make changes.

AUTOMIG 300 PULSE	SINGLE // DUO // TRIO	BOOST SINGLE // BOOST DUO // BOOST TRIO			
Current range, A	15-300	15-200		15-300	
Mains voltage +/- 15%, (50-60Hz) V	3x400				
Mains voltage +/- 10%, (50-60Hz) V		380-440	208-380	380-440	208-380
Phases		1	1	3	3
Fuse, A	10/16	10/16/20	20	10/16/20	20
Minimum generator size, kVA	16	10	9	16	16
Duty cycle 100% /40°, A%/V	200 / 100 / 24.0	150/100/21.5		200/30/24.0	
Duty cycle 60% /40°, A%/V	230 / 60 / 25.5	160/60/22.0		210/60/24.5	
Duty cycle max. /40°, A%/V	300 / 20 / 29.0	200/30/24.0		300/20/29.0	
Open circuit voltage, V	50-60	50-60			
Protection class *)	IP 23S	IP 23S			
Norm	IEC60974-1. IEC60974-5. IEC60974-10 Cl. A	IEC60974-1. IEC60974-5. IEC60974-10 Cl. A			
Dimensions (H x W X L), mm	838x443x1003 // 1104x597x1003 // 1104x597x1003	838x443x1003 // 1104x597x1003 // 1104x597x1003			
Weight, kg	49 // 63 // 67	52 // 66 // 70			

For further data please refer to manual. *) For outdoor use





OMEGA TARGETED AT ALL WELDING ENVIRONMENTS

The Omega range is targeted at manual and manufacturing industries; easily operated, infinitely variable and fully digital welding machines.



SUPER-SIMPLE MIG/MAG INVERTERS RANGING FROM 300 A TO 550 A

The Omega range includes three sizes of power sources: 300 A, 400 A and 550 A. The Omega 300 is available as an air-cooled C version (compact). The Omega 400 and 550 are available as air-cooled or water-cooled in C or S version with separate MWF 27 wire feed unit and replaceable interconnecting cables with quick-release fittings. IGC (Intelligent Gas Control) is an optional feature in all models, ensuring large-scale gas savings and optimal gas shielding in all current ranges.

EASE OF OPERATION

The Omega range is available with three different control panels: Basic, Classic and Advanced. Basic and Classic are manual control panels by means of which you can operate the machine almost like a step-regulated welding machine, but they have all the advantages of an infinitely variable inverter. The Advanced control panel is synergic and features more than 70 versatile welding programs.

FROM MIG/MAG TO MMA OR GOUGING

With the Advanced control panel, the Omega is easy to change over from synergic MIG/MAG programs to MMA welding. Gouging is a standard feature in the Omega 550 with Advanced panel.

POWERARC™ FOR THICK-WALLED PLATES

The program package for Omega 400 and Omega 550 with Advanced panel also includes PowerArc™ programs.

OMEGA BOOST OR AUTOTRANSFORMER

The Omega 300 is available with electronic Boost Converter (autotransformer) for welding on all mono-phase and three-phase mains voltages. The Omega 400 and Omega 550 are available with a conventional autotransformer.

REVERSED POLARITY

All Omega versions feature reversed polarity for welding with innershield wire (without gas).

The MWF 27 wire feed unit is turnable and detachable and equipped with four-roll wire feed system. Made of weather-proof reinforced aluminium, the wire feed unit is ideal for heavy-duty applications, and its control panel makes it easy to operate the welding machine on the welding site.

The incorporated cooling system keeps the operating temperature in the torch low, irrespective of current load. This ensures trouble-free wire feeding and long life of wearing parts. The Omega 550S features double cooling and if combined with the FKS type of the MIG-A Twist torch with a double cooling chamber, optimal comfort is provided under all operating conditions.



PowerArc™ ensures full penetration in fillet welds and butt welds and increased welding speed using mild and stainless steels.



Basic panel for manual setting of welding jobs

Classic panel for manual control of the welding machine – including the advantages of the infinitely variable inverter

Advanced panel featuring e.g. PowerArc™ and DUO Plus™. DUO Plus provides a TIG-like weld appearance and better control of the weld pool. The panel contains programs for MIG brazing and welding using flux-cored or solid wires in mild and stainless steels and aluminium.

The welding machines may be shown with optional equipment.



Welding in mild steel.



A program reader is incorporated in the Omega machines for easy software update via the SD card; the welding machines are designed to meet new requirements for materials and shielding gases.

SOFTWARE UPDATES

At migatron.com you can download software for update of the Omega machines via the SD card.



MIG-A TWIST® - THE NEW GENERATION OF TORCHES

The ergonomic MIG-A Twist torch has a turnable swan neck for easy access to hard-to-reach locations. Control unit for adjustment of welding current at the torch handle is available as optional equipment.

Omega 400 S-W with relief arm.



Omega 300 C Classic air-cooled and Omega 550 C Advanced water-cooled - both on trolleys.



OMEGA DATA

We reserve the right to make changes.

POWER SOURCE	Omega 300 C	Omega 400 C/S	Omega 550 C/S
Current range, A	15-300	15-400	15-550
Mains voltage +/- 15%, V	3x400	3x400	3x400
Mains voltage +/- 10%, V (Boost version)	3x230-400. 1x230-400		
Mains voltage +/- 15%, V (Auto transformer)		3x230-500	3x230-500
Fuse, A	10	20	35
Duty cycle 100%/40°C, A/V	175/22.8	300/29.0	430/35.5
Duty cycle 60%/40°C, A/V	195/23.8	370/32.5	510/39.5
Duty cycle max./40°C, A	300/24/29.0	400/50/34.0	550/50/41.5
Duty cycle 100%/20°C, A	230/25.5	335	475/37.8
Duty cycle 60%/20°C, A	245/26.3	400	550
Open circuit voltage, V	52	70	80
Protection class	IP 23	IP 23	IP 23
Norm	EN/IEC60974-1, EN/IEC60974-5, EN/IEC60974-10		
Dimensions C (H x W x L), mm	550x250x640	530x250x650 (C) / 1400x510x1020 (S)	630x250x650
Dimensions S (H x W x L), mm			1400x510x1020
Weight C/S, kg	26	36.5 (C) / 84 (S)	37.5 (C) / 85 (S)

WIRE FEED UNIT	MWF 27
Wire feed speed, m/min.	1.5-27.0
Wire spool diameter, mm	300
Duty cycle 100%/40°C, A/%	420/100
Duty cycle 60%/40°C, A/%	500/50
Torch connection	EURO
Protection class	IP 23
Norm	IEC60974-5. IEC60974-10 CL. A
Dimensions (H x W x L), mm	470x210x690
Weight, kg	13

COOLING UNIT	
Cooling capacity (1 l/min.), W	1100
Tank capacity, liter	3.5
Flow, bar - °C – l/min.	1.2 - 60 - 1.75
Max. pressure, bar	3
Norm	EN/IEC60974-2

Dealer's stamp:

EXAMPLES OF EQUIPMENT:

- IGC® Intelligent Gas Control
- Relief arm for S version
- Current control unit
- Push Pull kit (Omega 400/550)
- Wheels and lifting bracket for MWF 27 (Omega 400S/550S)
- Trolley for C version
- Efficient cooling with or without flow control
- Boost Converter (Omega 300)
- Autotransformer 230-500 V (Omega 400/550)
- CEE mains plug
- Protective frame (Omega 300)
- Gouging torch (Omega 550)

READ MORE AT MIGATRONIC.COM

- IGC® Intelligent Gas Control



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migatronik.com

52173038 (18.09.19)



SIGMA SELECT



SIGMA SELECT -
TOUGH, VERSATILE,
BUILT TO MEET THE
FUTURE



MIGATRONIC
WELDING VALUE



A TRULY CUSTOMISED WELDING SOLUTION

Modular-based three-phase MIG/MAG and MMA inverter. From basic, manually operated welding machines to advanced 550 amps high-performance pulse welding machines.

HAVE IT ALL IN ONE MACHINE

With the new Sigma Select you will have one welding machine, that you can instantly adapt to match your current production needs – without deselecting functions you may need in the future. Sigma Select is the new generation of welding solutions, which make it possible for you to adjust your setup whenever you need to.

MAKE A SMART INVESTMENT

With Sigma Select you don't have to worry about the future. Once you buy the machine, you won't have to invest in another machine for a long time. You can simply upgrade your Sigma Select with the new functions you need for less than the cost of a new welding machine. Upgrade your welding set-up by adding programs or functions if new customers make new demands on your welding production.



THE MOST VERSATILE CONTROL PANEL WITH MULTIPLE OPTIONS

BASIC CONTROL PANEL

For basic welding. No unnecessary gadgets. Use the control knobs to adjust your welding parameters.

GRAPHIC CONTROL PANEL

Built to meet the future. Choose Synergic or Pulse and upgrade if your needs change. The digital soft key control panel is prepared for multiple add-ons including automatic functions for easier welding. Pick it up and take it with you.



Basic control panel (78815041)



Graphic control panel (78815040)

DESIGNED FOR INTELLIGENT WELDING BEYOND THE ORDINARY

EXTENDED WARRANTY - UP TO FIVE YEARS

Register newly purchased welding machines no later than 30 days from the date of purchase and get up to 3 or 5 years' warranty on selected components.

After registration, you will receive a warranty certificate.

We will contact you when it is time for the annual check-up.



CHOOSE YOUR LEVEL WHEN IT COMES TO CONTROL

BASIC

The Basic level of the control panel is designed for MIG/MAG and MMA welding and manual setting of welding parameters.

SYNERGIC

In the Synergic level, all primary welding parameters are linked and work together. Synergic includes a standard package of more than 50 welding programs.

PULSE

The Pulse level is perfect for stainless steel and aluminium because it provides spatter-free welding. Pulse includes Synergic and more than 50 welding programs.



The digital soft key control panel is prepared for multiple add-ons. Pick it up and take it with you.

The modular-based welding machine can transform to fit any production need. Add only welding programs and functions.



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



SIGMA SELECT FUNCTIONS AND PROGRAMS



DUO PLUS

For a perfect finish

Get stunning TIG-like welds with a MIG/MAG welding machine. DUO Plus technology automatically ensures a perfect final touch. It works in all materials, for all welding positions and all welders can do it. It's quite simple.



SEQUENCE

Tab your way to the perfect settings

The Sequence function makes it possible for you to save up to 9 personal sequences in each welding program. Switch between them with just a tap on the welding torch. Use Sequence for mounting and assembly, for instance where welders carry out many different welds during their workday.



SEQUENCE REPEAT

Invent your own arc

The Sequence Repeat technology provides maximum freedom to construct the ideal arc for your specific welding tasks.

Link together individual sequences and customise welding cycles.



HOW TO CONFIGURE THE MACHINE

SIGMA SELECT C

SIGMA SELECT S

HARDWARE CONFIGURATION						
POWER SOURCE	300 A	400 A	550 A	300 A	400 A	550A
Optional water-cooling						
Optional IGC ¹⁾						
Graphic control panel						
BASIC control panel						

¹⁾ Intelligent Gas Control (IGC) saves gas, optimises gas protection and improves welding quality.



POWER ARC

Secure maximum weld penetration

With PowerArc technology, you build strong and solid structures in mild and stainless steel. Achieve maximum weld penetration in thick plates when welding fillet welds and butt welds with PowerArc.



MIGA JOB CONTROL

A clever digital memory

Take advantage of a digital memory in your welding machine - save your favourite welding settings and recall them anytime you want. Transfer settings to other Select machines. Miga Job Control makes it easy to find your routine settings and start welding right away.



MIGALOG

Register every weld

Keep track of your welding data with MigaLog software. Analyse and document your work. Use MigaLog to extract conclusive evidence for verification in accordance with EN and ISO welding standards.



HOW TO CONFIGURE FUNCTIONS & PROGRAMS

				FUNCTIONS							PROGRAM PACKAGES						
	Manual setting	Synergic DC	Synergic DC / Pulse	DUO Plus™	Sequence	Sequence Repeat 1)	Power Arc™	Intelligent Arc Control 2)	Miga Job Control™	Miga LOG™	Key Lock Card	Standard	Mild steel	Stainless steel	Aluminium	All programs	Single program
CONTROL																	
Graphic control panel	Standard	Optional	Optional	-	Optional	Optional	-	Optional	Optional	Optional	Optional	-	-	-	-	-	-
Graphic control panel SYNERGIC	Standard	Standard	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Standard	Optional	Optional	Optional	Optional	Optional
Graphic control panel PULSE	Standard	Standard	Standard	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Standard	Optional	Optional	Optional	Optional	Optional
BASIC control panel	Standard	-	-	-	-	-	-	-	-	-	Optional	-	-	-	-	-	-
Function package 3)		-	-									-	-	-	-	-	-

1) Requires Sequence

2) Intelligent Arc Control (IAC) for root passes. Power source must be prepared for IAC when purchased

3) DUO Plus function is not active until Synergy or Pulse function has been selected



IAC™ INTELLIGENT ARC CONTROL AUTOMATICALLY ADJUSTS THE ARC 50,000 TIMES PER SECOND...

SIMPLIFY COMPLEX WELDS

Intelligent Arc Control (IAC) makes difficult downward welding of root passes easy, even for less experienced welders. With a 100% stable and focused short arc, you achieve complete fusion in root passes. This increases the quality of each weld and your product.

WELD A SOLID FOUNDATION

Use Intelligent Arc Control to make the first joint, the root pass. Intelligent Arc Control makes sure that fusion in this first joint is perfect. It makes up a solid groundwork with a flat weld appearance and you can proceed with the rest of your weld.

BENEFITS

- Not sensitive to a varying stickout in a weld pass = easier to carry out root passes
- Easy process: makes good welders even better - easier for less experienced welders to carry out complex welds
- Significantly increases welding speed in downward welding of root passes compared to traditional upward welding
- Weld faster = produce more
- Less heat input = less deformation of the welded material but still with sufficient penetration
- No weld spatter = less time spent on post-treatment
- Lower production costs for each workpiece

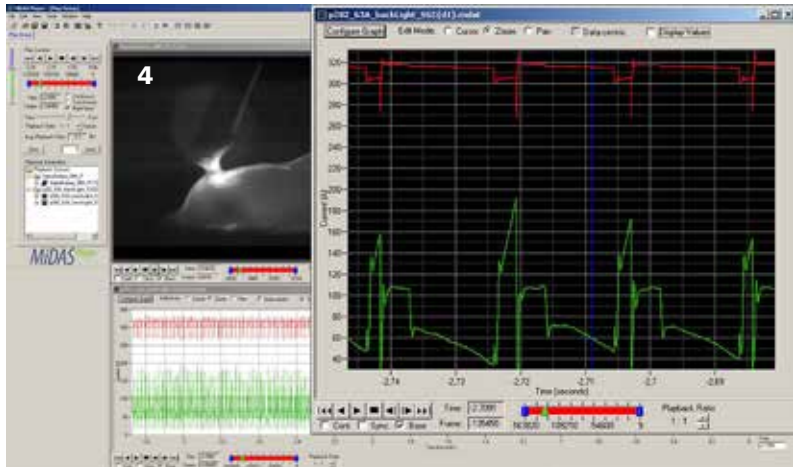
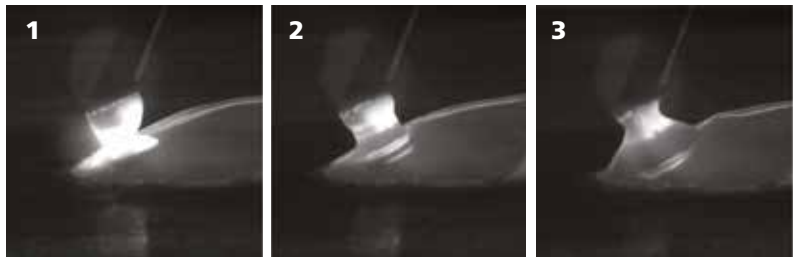
IAC IS IDEAL FOR

- Root passes
- Pipes, tubes and tanks
- Butt welds
- Mild and stainless steel
- All plate thicknesses
- Manual and automated welding
- Standard welding procedures according to EN 1090/15612

IAC



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



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

INTELLIGENT GAS CONTROL IGC® -

- SYNERGIC GAS FLOW WITH LARGE-SCALE REDUCTION OF GAS CONSUMPTION

SAVE UP TO 50% WITH AUTOMATIC GAS CONTROL

IGC® Intelligent Gas Control technology prevents over-consumption of gas and gives you long term savings.

With weld pools always perfectly protected, you increase the quality of each weld.

Make sure that all your welding machines are equipped with IGC® Intelligent Gas Control and save money every day.

Your investment will quickly pay for itself.

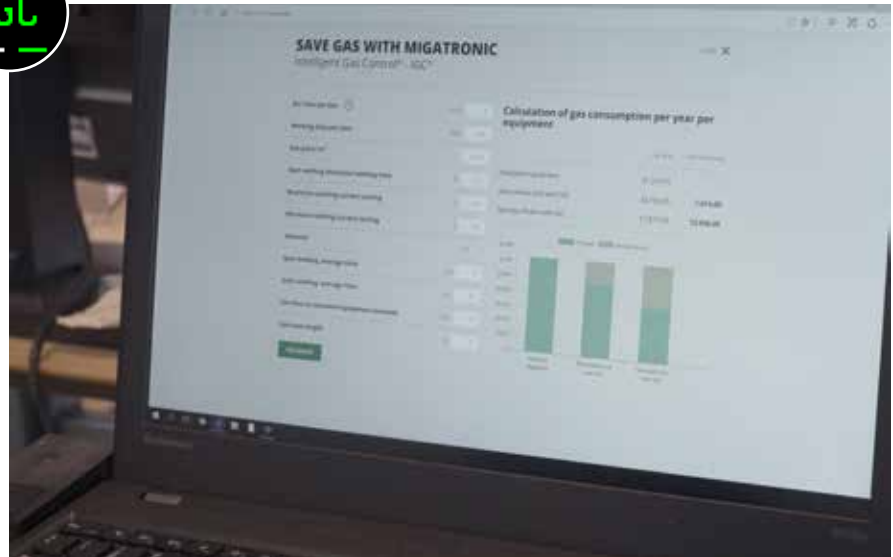
BENEFITS

- Always optimum gas protection = no holes, pores or impure welds. Less failures created by insufficient gas flow or gas turbulence
- No unnecessary loss of gas, so-called gas puff at ignition = no over-consumption of gas
- No change in working procedures = easy for welders

- Fewer replacements of gas cylinders = save money and time
- Gas synergy lines are pre-adjusted for MIG and TIG welding – for gas and type of wire

IGC® IS IDEAL FOR:

- All welding processes
- All materials
- All kinds of welds
- Manual and automated welding



MIGAJOB CONTROL - A CLEVER DIGITAL MEMORY

Save your favourite welding settings and recall them anytime you want. Transfer settings to other Select machines. Miga Job Control makes it easy to find your routine settings and start welding right away.

BENEFITS

- Avoid spending time on finding the perfect settings for specific welding jobs.
- Save a large number of welding programs using individual welding job names.
- If welders share welding machines, they can save their own unique settings and quickly recall them again.



- It is easy to scroll through your saved welding jobs on the user-friendly graphic control panel.
- Copy settings to other welding machines via SD card.

MIGA JOB CONTROL IS IDEAL FOR:

- Workshops with a large number of welding machines and where welders share welding machines.
- Avoiding failures in your settings.



SIGMA SELECT DATA

We reserve the right to make changes.

POWER SOURCE	SELECT 300 / 300 IAC	SELECT 400 / 400 IAC	SELECT 550
Current range (MIG). A	15-300	15-400	15-550
Mains voltage +/- 15% (50-60Hz). V	3x400	3x400	3x400
Fuse. A	16	20	35
Mains current. effective. A	11,0 // 16.0	17,5	27,2
Mains current. max. A	15,4	26,0	39,2
Power. 100%. kVA	9,0	12,1	18,9
Power. max.. kVA	10,7	18,0	27,1
Open circuit voltage. V	50-60// 65-70	65-70	75-80
Efficiency	0,85	0,85	0,90
Power factor	0,90	0,90	0,90
Duty cycle 100% /20°C (MIG). A/%V	290/28,5 // 300/100/29,0	345/100/31,5 // 310/100/29,5	475/100/37,8
Duty cycle max. /20°C (MIG). A/%V		400/60/34,0 // 400/60/34,0	550/60/41,5
Duty cycle 100% /40°C (MIG). A/%V	220/25 // 270/100/27,5	300/100/29,0 // 280/100/28,0	430/100/35,5
Duty cycle 60% /40°C (MIG). A/%V	240/26	370/60/32,5 // 350/60/31,5	510/60/39,5
Duty cycle max. /40°C (MIG). A/%V	300/25/29,0 // 300/80/29,0	400/50/34,0 // 400/40/34,0	550/50/41,5
Application class	S/CE	S/CE	S/CE
Protection class	IP 23S // IP 23	IP 23	IP 23
Standards		IEC60974-1. IEC60974-10 Cl. A	
Dimensions C (H x W x L. mm)	700x260x735	700x260x735	700x260x735
Dimensions S (H x W x L. mm)	454x260x735	454x260x735	454x260x735
Weight C. kg	36,9 // 53	52 // 53	53
Weight S. kg	26 // 36	35 // 36-	36

WIRE FEED UNIT	MWF 30 (INTERNAL)
Wire feed speed. m/min.	0,5-30,0
Wire diameter mm	300
Duty cycle 100% /40°C. A/%	430/100
Torch connection	EURO
Protection class	IP 23
Standards	IEC60974-5. IEC60974-10 CL. A
Dimensions (HxWxL). mm	413x310x750
Weight. kg	11,6

COOLING UNIT	MCU 1300
Cooling capacity (1 l/min.), W	1300
Tank capacity, l	5
Max. pressure, bar	5
Max. temperature, °C	70
Standards	IEC60974-2. IEC60974-10 CL.A
Dimensions (HxWxL), mm	207x260x680
Weight, kg	20

Dealer stamp:

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 Aggersundvej 33
 DK-9690 Fjerritslev, Denmark
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 Telefax: (+45) 96 500 601
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52173054



MICATRONIC
WELDING VALUE

MICATRONIC
AUTOMATION

BUILT IN SAFETY
SYSTEM
CE APPROVED

SMALL
AND SMART

**CALL ME
COWELDER**

A COLLABORATIVE WELDING ROBOT

CoWelder is a complete welding robot solution, all parts supplied, ready to install in an existing production. It makes the production of workpieces more efficient no matter the quantity and frequency. This is an affordable step into welding automation.

WHY COWELDER?

- Reduced arc time per weld
- Increased production capacity
- Optimum welding quality
- Gas savings
- Operators need no welding skills
- Safe, flexible, compact solution
- Easy programming and verification

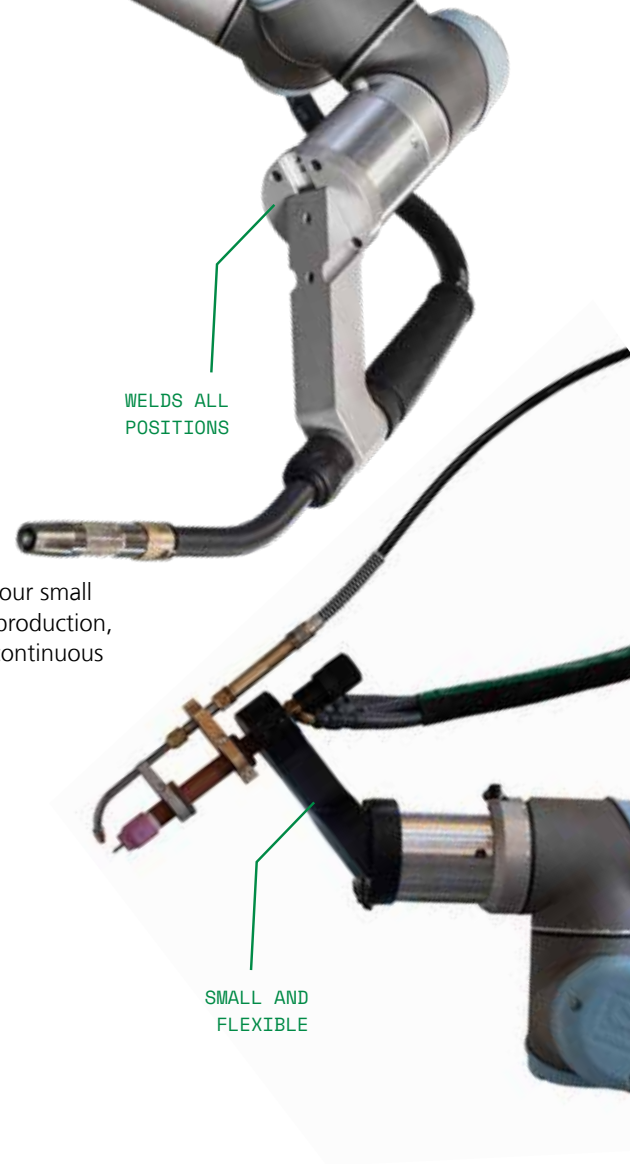


A NEW WELDING ASSISTANT

The CoWelder is possibly the smartest and smallest automated welding solution on the market. It joins the family of cobots: collaborative robots working together with humans in a shared workspace.

With this flexible and easy-to-program cobot you can increase work efficiency, releasing skilled welders for other tasks, therefore saving time and costs.

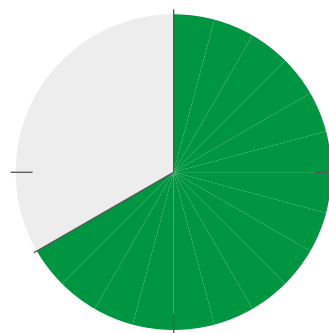
The CoWelder can improve your small and large batch component production, delivering uniform welds of continuous high quality.



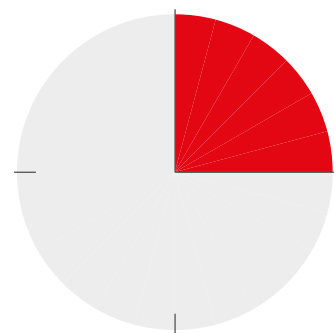
FLEXIBILITY IS THE KEY

A high-performance Migatronic welding machine and the CoWelder are a perfect match. With the CoWelder, you can optimise your welding production of workpieces no matter the quantity and frequency. This automated welding solution is so flexible that it pays off, no matter if you weld one workpiece or a thousand at a time.

The six axes robot arm moves quickly between various welding positions. In this way, it can weld workpieces faster than you can do manually. The speed of rotating joints is up to 180° per second with a repetitive accuracy of +/-0.1 mm.



*CoWelder™
39 minutes of arc time per hour*



*Manual production
15 minutes of arc time per hour*

LEARNING BY DOING

EASY INSTALLATION AND PROGRAMMING

It takes little time to install the CoWelder in your existing production and you can start welding on the first day. Mount the CoWelder on your welding table, turn on your welding assistant and start programming.

Programming the CoWelder is simple and intuitive. Staff with no programming experience can easily learn how to operate the cobot. Build up a catalogue of workpieces each with an attached program and switch between them as required during a workday.

USING MIGATRONIC TEMPLATES

Teach the cobot and it will remember your movements and repeat them. Press the free drive button and move the robot arm to demonstrate the welding path from start to stop. Use the teach pendant with a 12" touch screen and the unique, user-friendly MigatroniC templates for further programming and adjustment. Depending on the complexity, it takes only about half an hour to program a new workpiece.



The CoWelder is easy to program by means of the robot arm and teach pendant with 12" touch screen.



It used to take at least twice the amount of time for the same volume of production. For some components, we are able to reduce delivery time from two weeks to one.

Torsten Lezius, CEO,
L&S Technischer Handel GmbH, Germany



CHOOSE YOUR FAVOURITE COWELDER

The CoWelder product packages match customers' requirements for optimum welding performance; from simple welding to highly sophisticated pulse MIG or TIG welding (with or without cold wire feeding). Choose between UR5 and UR10 robot - depending on the requested maximum working radius.

- 01 Balancing holder
- 02 Rear protective cover
- 03 Power Source
- 04 Start/stop unit with 5m cable
- 05 Teach pendant
- 06 Mobile table mount, auto-balancing system
- 07 Free drive button
- 08 UR robot arm



COWELDER™ UR5	POWER SOURCES	OPTIONS	PACKAGES	
		Omega 300 air-cooled ¹⁾	Analog — No option	79115001 CoWelder UR5 Omega ² CoWelder 300 Advanced
		Sigma Select 400 air-cooled ^{**)}	Digital — Synergic	79115002 CoWelder UR5 Select 400 Synergic
			Digital — Pulse	79115004 CoWelder UR5 Select 400 Pulse
			Digital — IAC Sync	79115006 CoWelder UR5 Select IAC 400 Synergic
		Sigma Select 400 water-cooled ^{**)}	Digital — Synergic	79115003 CoWelder UR5 Select 400 W Synergic
			Digital — Pulse	79115005 CoWelder UR5 Select 400 W Pulse
			Digital — IAC Sync	79115007 CoWelder UR5 Select IAC 400 W Synergic
		Pi 350 AC/DC water-cooled ^{***)}	Digital — No option	79115050 CoWelder UR5 PI 350 AC/DC W
			Digital — Cold wire feeder	79115051 CoWelder UR5 PI 350 AC/DC W + CWF






^{*)} MIG/MAG Power source. Features DC welding and various Migatronic technologies such as IGC® (Intelligent Gas Control) for gas savings, DUO Plus for TIG-like welds and synergic programs.

^{**)} MIG/MAG Power Source. Features pulse welding and various Migatronic technologies, such as IGC® (Intelligent Gas Control) for gas savings, Miga Job Control for creation of individual jobs, DUO Plus for TIG-like welds and MigaLog for logging welding data.

^{***)} TIG Power Source. Features pulse welding and Migatronic technologies, such as IGC® (Intelligent Gas Control) for gas savings, TIG-A-Tack for fixation without root protection gas and D.O.C.® (Dynamic Oxide Control) for a controlled cleaning zone.

IN THE SUPPLY OF THE PRODUCT PACKAGES THE FOLLOWING IS INCLUDED:

- UR robot
- Free drive button on the 6th joint of the robot arm for easy programming of the robot
- Robot controller incl. teach pendant with E-stop and 5 m cable
- ARC safety control. Ensuring the robot will only process/weld when a welding arc is present.
- ROBOT motion safety control. Ensuring welding process and arc ignition are not initiated until the robot is in the right execution mode.
- Start/stop unit with 5 m cable
- Robot welding torch, 4 m length
- Standard robot torch holder
- Mobile table mount, autobalancing system
- Migatronic programming templates
- IGC® Intelligent Gas Control
- Calibration certificate
- CE-marking
- Instruction manual

COWELDER™ UR10	POWER SOURCES	OPTIONS	PACKAGES	
		Omega 300 air-cooled ^{*)}	Analog — No option 79115011 CoWelder UR10 Omega ² CoWelder 300 Advanced	
		Sigma Select 400 air-cooled ^{**)}	Digital — Synergic	79115012 CoWelder UR10 Select 400 Synergic
			Digital — Pulse	79115014 CoWelder UR10 Select 400 Pulse
			Digital — IAC Sync	79115016 CoWelder UR10 Select IAC 400 Synergic
		Sigma Select 400 water-cooled ^{**)}	Digital — Synergic	79115013 CoWelder UR10 Select 400 W Synergic
			Digital — Pulse	79115015 CoWelder UR10 Select 400 W Pulse
			Digital — IAC Sync	79115017 CoWelder UR10 Select IAC 400 W Synergic
		Pi 350 AC/DC water-cooled ^{***)}	Digital — No option	79115060 CoWelder UR10 PI 350 AC/DC W
			Digital — Cold wire feeder	79115061 CoWelder UR10 PI 350 AC/DC W + CWF

^{*)} MIG/MAG Power source. Features DC welding and various Migatronic technologies such as IGC® (Intelligent Gas Control) for gas savings, DUO Plus for TIG-like welds and synergic programs.

^{**)} MIG/MAG Power Source. Features pulse welding and various Migatronic technologies, such as IGC® (Intelligent Gas Control) for gas savings, Miga Job Control for creation of individual jobs, DUO Plus for TIG-like welds and MigaLog for logging welding data.

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MAXIMUM
... FLEXIBILITY



Our time saved per workpiece is about 50 %.
We produce from 10 to 1000 workpieces at a time.
Our efficiency gains are 30-40 % owing to the
easy switching between programs and welded
workpiece. And this is just the beginning ...

Jens Christian Lægsgaard, General Manager,
MVI Maskinfabrik, Denmark



EASY AND INEXPENSIVE VERIFICATION OF PROGRAMS

On the CoWelder, as opposed to traditional robots, program verification is easy and inexpensive.

Arc control is a unique function, which enables program verification without welding, so you avoid spending money on expensive samples.

The built-in counter function makes it easy to measure the welding cycle time and verify whether new optimisation ideas can be realised, for example by changing the robot arm position before start.

MOBILE AT ANYTIME

The CoWelder solution is easy to move around as required, using a forklift. You can place it in an existing manual welding booth or make a dedicated CoWelder working place.

SAFETY IS ALL-IMPORTANT

The CoWelder is designed with focus on safety. No physical safety fence is required, as the CoWelder has a built-in virtual safety fence that limits the three-dimensional working range.

The built-in ARC safety control ensures that the robot will only process/weld when a welding arc is present.

The ROBOT motion safety control ensures that welding process and arc ignition are not initiated until the robot is in the right execution mode.

A resistance sensor automatically stops the cobot at a resistance of 8 kg m/s. As an extra safety precaution, the emergency button is next to the on/off button, enabling the operator to stop the process at any time.

CE APPROVED PACKAGE

All robot installations require CE marking according to European legislation (The Machinery Directive 2006/42/EC) with the purpose of ensuring the safety of the user. The CoWelder package includes a CE marking, so no complicated approval process is required. Just follow the instructions and get ready to use the CoWelder from day one.



On each side of the component, the axle bushings are welded with two circular fillet welds. Semi-automatic production with CoWelder has clearly improved both production speed and welding quality.

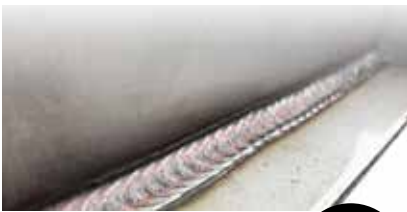
MIG/MAG POWER SOURCES

OMEGA 300 COWELDER

The Omega 300 CoWelder, a compact air-cooled MIG/MAG inverter, is perfect for welding in mild steel. The machine features more than 70 synergic welding programs.

The Omega 300 CoWelder package is ideal for simple MIG/MAG welding tasks.

Omega 300 CoWelder includes IGC® (Intelligent Gas Control). IGC saves gas, optimises gas protection and improves welding quality.



DUO PLUS

For a perfect finish

Get stunning TIG-like welds with a MIG/MAG welding machine. DUO Plus technology automatically ensures a perfect final touch. It works in all materials, for all welding positions and all welders can do it. It's quite simple.



ADVANCED CONTROL PANEL

Advanced, yet simple. Add all the functions you want for Omega to match your exact needs. Features MIG brazing and automatic functions for easier welding.

Advanced panel featuring DUO Plus. DUO Plus provides a TIG-like weld appearance and better control of the weld pool. The panel contains programs for MIG brazing and welding using flux-cored or solid wires in mild and stainless steels and aluminium.



SIGMA SELECT 400

The Sigma Select 400, a compact MIG/MAG welding machine, is ideal for complicated welding task. It is tough, versatile and built to meet the future.

You will find a wide selection of CoWelder packages to choose from. The machine comes with a well-assorted standard program package, which can be extended with various sophisticated programs at any time.

Sigma Select 400 includes IGC® (Intelligent Gas Control). IGC saves gas, optimises gas protection and improves welding quality.

WATER COOLING (OPTIONAL)

The Sigma Select can be equipped with a water-cooling unit for cooling of the robot torch. The built-in water flow control with temperature sensor automatically stops the process in case of insufficient cooling, e.g. if the cooling liquid level is too low.



Sigma Select 400 Graphic Control panel

GRAPHIC CONTROL PANEL

Built to meet the future

Choose Synergic or Pulse with or without IAC*) and upgrade if your needs change. The digital soft-key control panel is prepared for multiple add-ons including automatic functions for easier welding. Pick it up and take it with you.

Synergic

In the Synergic level, all primary welding parameters are linked and work together. Synergic includes a standard package of more than 50 welding programs.

Pulse (optional)

The Pulse level is perfect for stainless steel and aluminium because it provides spatter-free welding. Pulse includes Synergic and more than 50 welding programs.



*) Power source must be prepared for IAC when purchased.

SIGMA SELECT FUNCTIONS



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Tab your way to the perfect settings

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Register every weld

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IGC® - Intelligent Gas Control

Less gas for every weld

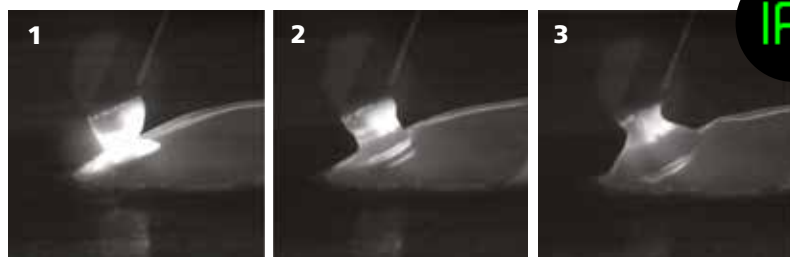
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IAC INTELLIGENT ARC CONTROL AUTOMATICALLY ADJUSTS THE ARC 50,000 TIMES PER SECOND...

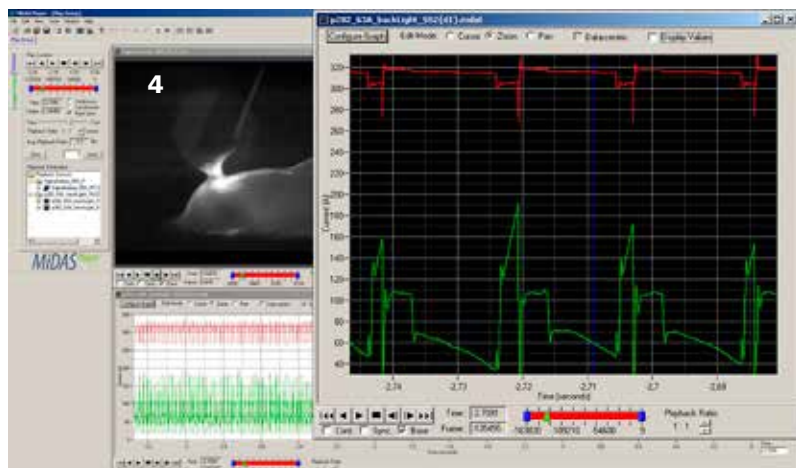
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WELD A SOLID FOUNDATION

Use IAC to make the first joint, the root pass. IAC makes sure that fusion in this first joint is perfect. It makes up a solid groundwork with a flat weld appearance and you can proceed with the rest of your weld.



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

BENEFITS

- Not sensitive to a varying stickout in a weld pass = easier to carry out root passes
- Significantly increases welding speed in downward welding of root passes compared to traditional upward welding
- Weld faster = produce more
- Less heat input = less deformation of the welded material but still with sufficient penetration
- No weld spatter = less time spent on post-treatment
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IAC - Vertical downward welding of a root pass in a district heating pipe. Welding speed is significantly increased compared to traditional upward welding.

IAC IS IDEAL FOR

- Root passes
- Pipes, tubes and tanks
- Butt welds
- Mild and stainless steel
- All plate thicknesses
- Manual and automated welding
- Standard welding procedures according to EN 1090/15612

MAXIMUM
...
FLEXIBILITY

MIGATRONIC

MIGATRONIC
CoWelder



When we heard of the CoWelder with TIG from Migatronik we started considering how the welding concept could benefit our company and, in the end, we decided to invest. So far, we have found a number of products where the welding robot can increase our productivity.

Lars Ryefalk,
market director at AB Furhoffs Rostfria, Sweden



TIG POWER SOURCES

PI 350 AC/DC

Pi 350 AC/DC water-cooled is a high-performance inverter TIG machine for precision welding in mild steel, stainless steel, aluminium and other high-alloy materials.

Pi 350 includes IGC® (Intelligent Gas Control). IGC saves gas, optimises gas protection and improves welding quality.

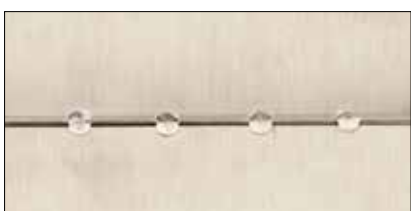


PULSE CONTROL PANEL

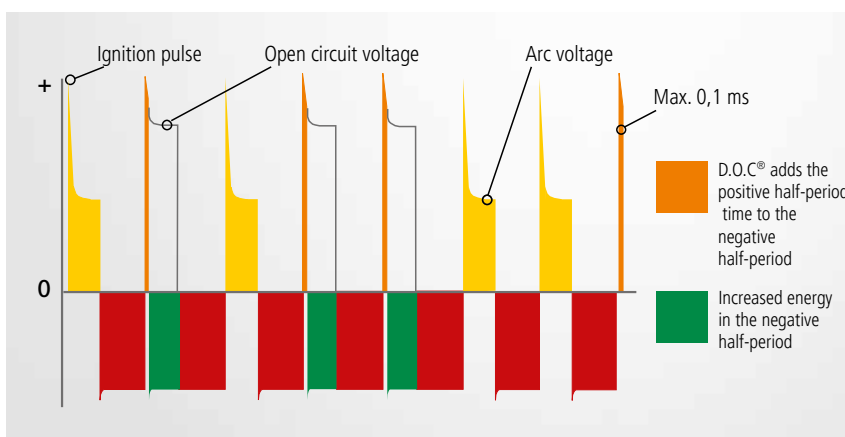
Sub-menus in the user-friendly control panel enable individual setting of the welding operation.

SYNERGY PLUS

Synergy Plus is a special pulse function for TIG DC welding which dynamically sets all primary pulse parameters.



TIG-A-Tack is designed for use in austenitic stainless steel.



TIG-A TACK

The ultimate fixation

Make extremely small and precise TIG-A-Tack fixations without root protection gas in austenitic stainless steel. The fixations are invisible in the final weld seam. Use TIG-A-Tack for quick tack welding of tubes, pipes or plates of austenitic stainless steel.

D.O.C.® (DYNAMIC OXIDE CONTROL)

Quicker AC welding

Pi 350 AC/DC is equipped with the D.O.C.® function, which increases welding speed by 30 % and reduces your consumption of both energy and tungsten electrodes. D.O.C.® ensures a controlled, narrow cleaning zone when welding aluminium.



TIG WELDING NON-STOP

CWF MULTI (OPTIONAL)

CWF Multi (Cold Wire Feeder) with four-roll wire feed system is a separate wire feed unit designed specifically for setups with automatic devices.

The CWF Multi control panel allows you to switch between programs and features automatic wire feeding synchronously with the machine's pulse function.

Twenty individual wire programs allow you to control the wire feeding process from start to stop.

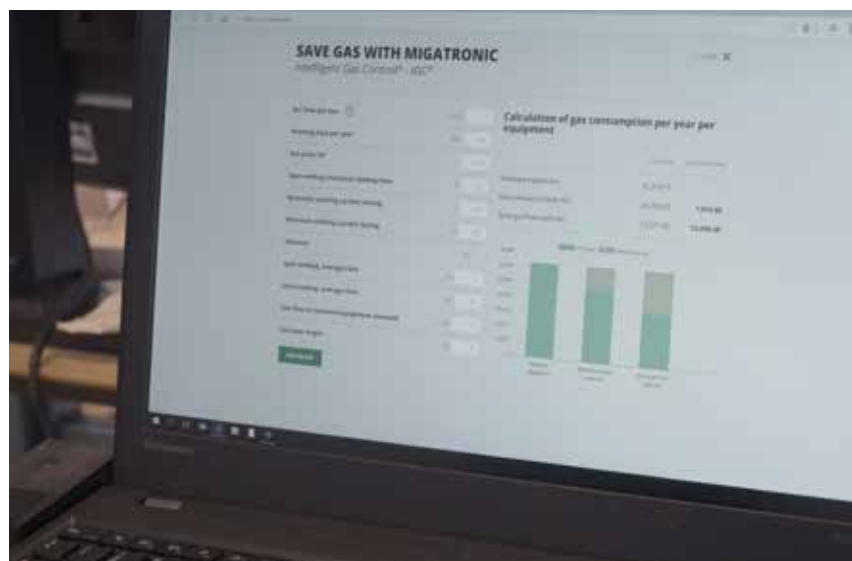


INTELLIGENT GAS CONTROL IGC® - SYNERGIC GAS FLOW WITH LARGE-SCALE REDUCTION OF GAS CONSUMPTION

SAVE UP TO 50% WITH AUTOMATIC GAS CONTROL

IGC (Intelligent Gas Control) technology prevents over-consumption of gas and gives you long-term savings.

With weld pools always perfectly protected, you increase the quality of each weld. Make sure that all your welding machines are equipped with IGC and save money every day. Your investment will quickly pay for itself.



BENEFITS

- Always optimum gas protection = no holes, pores or impure welds. Less failures created by insufficient gas flow or gas turbulence
- No unnecessary loss of gas, so-called gas puff at ignition = no over-consumption of gas
- No change in working procedures = easy for welders
- Fewer replacements of gas cylinders = save money and time
- Gas synergy lines are pre-adjusted for MIG and TIG welding – for gas and type of wire

IGC® IS IDEAL FOR:

- All welding processes
- All materials
- All kinds of welds
- Manual and automated welding

TECHNICAL DATA UR5 // UR10

COWELDER 6-JOINTED ROBOT ARM	UR5	UR10
Power consumption, watts	Approx. 200 (using a typical program)	Approx. 300 (using a typical program)
Power supply	100-240 VAC, 50-60 Hz	
Ambient temperature	The robot can work in the 0-40° range	
Collaborative operation	15 advanced safety functions tested according to EN ISO 13849:2008 PL d EN ISO 10218-1:2011, 5.4.3	
Programming	Graphical user interface on 12" touchscreen	
Repetitive accuracy, mm	+/- 0.1	
Speed of rotating joints	Up to 180° per second	
Rotation of joints	+/- 360°	
Degree of freedom	6 rotating joints	
Minimum size of welding table (LxW)	2000x1200	3000x1700
Working radius, mm	850	1300
Payload ability, kg	5	10
Weight, kg	18.4*)	28.9**)
*) Total weight of CoWelder UR5 solution excl. welding machine: 105 kg		
**) Total weight of CoWelder UR10 solution excl. welding machine: 115,5 kg		

EXAMPLES OF ACCESSORIES:

- Teach pendant safety cover incl. protection glass
- Teach pendant holder
- Wear parts starter kit
- TCP calibration pins
- Alu-kit holder for CWF
- Protective cover for robot
- Forklift transportation kit



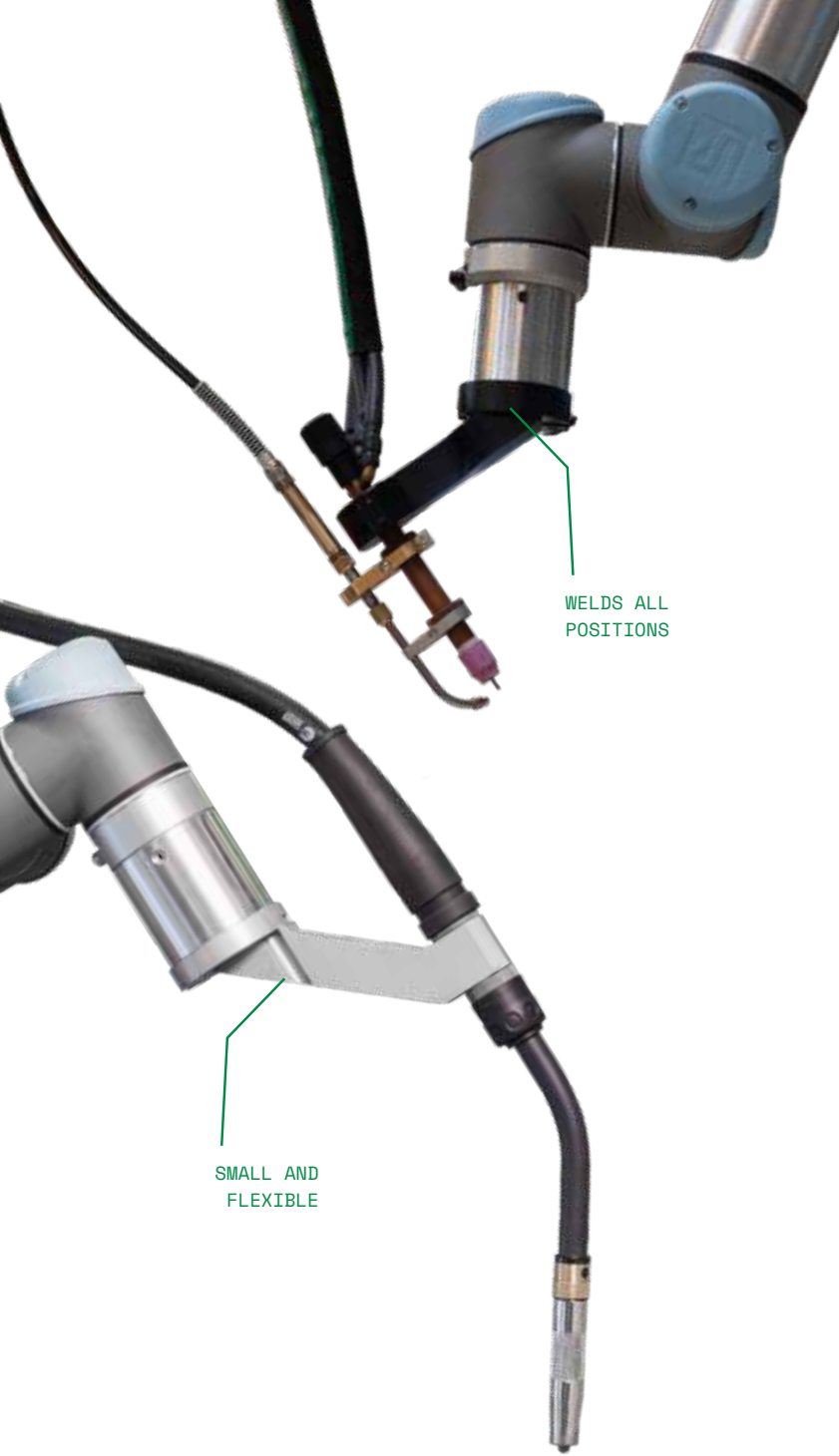
TECHNICAL DATA WELDING MACHINES



COWELDER PACKAGE SOLUTIONS

	MIG						TIG
	OMEGA ² COWELDER 300 AIR-COOLED	SIGMA SELECT 400 SYNERGIC AIR-COOLED	SIGMA SELECT 400 PULSE AIR-COOLED	SIGMA SELECT IAC 400 SYNERGIC AIR-COOLED	SIGMA SELECT 400 SYNERGIC WATER-COOLED	SIGMA SELECT 400 PULSE WATER-COOLED	PI 350 AC/DC WATER-COOLED
Current range, A	15-300	15-400	15-400	15-400	15-400	15-400	5-350
Mains voltage +/- 15%, V	3x400	3x400	3x400	3x400	3x400	3x400	3x400
Fuse, A	10	20	20	20	20	20	25
Duty cycle 100%/40°C, A/V	175/22.8	300/100/32.0	280/100/28.0	300/100/29.0	280/100/28.0	290/21.6	290/21.6
Duty cycle 60%/40°C, A/V	195/23.8	370/60/32.5	350/60/31.5	370/60/32.5	350/60/31.5	350/24.0	350/24.0
Duty cycle max./40°C, A/%V	300/24/29.0	400/50/34.0	400/40/34.0	400/50/34.0	400/40/34.0	350/60/24.0	350/60/24.0
Duty cycle 100%/20°C, A/V	230/25.5	345/100/31.5	310/100/29.5	345/100/31.5	310/100/29.5	340	340
Duty cycle 60%/20°C, A/V	245/26.3					350	350
Open circuit voltage, V	52	65-70	65-70	65-70	65-70	95	95
Protection class	IP23S	IP23	IP23	IP23	IP23	IP23	IP23
Norm	EN/IEC60974-1. EN/IEC60974-5. EN/IEC60974-10	IEC60974-1. IEC60974-5. IEC60974-10 Cl. A		IEC60974-1. IEC60974-5. IEC60974-10 Cl. A		EN/IEC60974-1. EN/IEC60974-2. EN/IEC60974-3. EN/IEC60974-10	
Dimensions (H x W x L), mm	550x250x640	700x260x735		700x260x735		980x545x1090	
Weight, kg	26	52		52		72	
COOLING UNIT					MCU 1300		MCU^{*)}
Cooling capacity (1 l/min.), W	-				1300		1200
Tank capacity, l	-				5		3.5
Max. pressure, bar	-				5		3
Max. temperature, °C	-				70		-
Dimensions (HxWxL), mm	-				207x260x680		-
Weight, kg	-				20		-

*) Integrated cooling unit



—
... MAXIMUM
... FLEXIBILITY
—

WELDS ALL
POSITIONS

SMALL AND
FLEXIBLE

52179203

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We reserve the right to make correction in the event of a misprint.

MIGATRONIC
WELDING VALUE