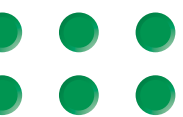


PI 200 | 250 | 350 | 500



MIGATRONIC

Migatronik Pi

- TIG welding machines from portable to heavy duty



Advanced TIG and MMA the easy way

Migatronik Pi are user-friendly welding machines, which meet every need for TIG and MMA welding. High-performance inverter machines for precision welding in mild steel, stainless steel, aluminium and other high-alloy materials.

There is a Migatronik Pi machine for any type of welding operation: repair, assembly, construction, industry and robot. Processes include TIG HP (high-frequency with pulse), TIG H (without pulse), TIG AC/DC, and MMA welding with covered electrodes.

Robust and reliable welding quality

All Pi machines are delivered with coated PCB's and carry Eurocodes calibration certificate.

Versatile range of machines: fourteen different possibilities

Power source	AC/DC	DC HP	DC H	MMA	CELL
Pi 200	•	•		•	
Pi 250	•	•		•	
Pi 350	•	•	•	•	•
Pi 500	•	•	•	•	



MMA in a V-joint

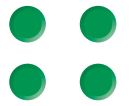


Migatronik Pi – also suitable for automation



Advanced TIG - very easy

More automation and super design – for both manual and automatic/robot welding



Migatronik's Pi range covers the entire spectrum from portable on-location versions to dedicated special and heavy duty machines with up to 500 A for automatic/robot welding.



Switch on, press and weld - advanced functions at hand



Migatronic's Pi machines combine proven inverter technology with new control and communication options. These features optimise welding performance and make the most advanced functions child's play to use.

New pulse sound with Synergy PLUS™

In addition to traditional pulse and quick pulse for TIG DC, Pi offers the Migatronic invention Synergy PLUS™; A special pulse function where the machine automatically and dynamically sets all primary pulse parameters when welding in synergy mode. The traditional sound of pulse welding has therefore been replaced by clean metallic tones thanks to Synergy PLUS™.

Welding with up to 200 A using just a 16 A fuse

Both the mono-phase Pi 200 TIG machines feature PFC – Power Factor Correction: an electronic circuit which makes it possible to weld using up to 200 A using just a 16 A fuse.

Up to 4 x 64 program settings

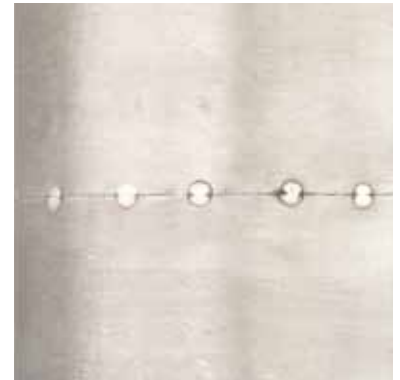
All Pi TIG versions contain 64 program settings per welding process: TIG DC, TIG AC, MMA DC and MMA AC, so that the welder can quickly and safely call up customised settings for repetitive welding jobs.

TIG LIFTIG® is standard on all machines

All Pi TIG and MMA machines are supplied as standard with TIG LIFTIG® function (ignition without HF) for TIG welding in electrically sensitive environments.

Trigger modes in the sub-menu

The user-friendly control panels of the Pi machines feature many short-cuts that make welding much easier. In the sub-menu there are various possibilities for individual setting of the welding progress.



TIG-A-Tack™ - ultimate tack-welding

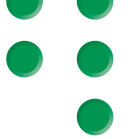
TIG-A-Tack™ is a newly developed Migatronic feature that makes quick and extremely small and precise tacks. This reduces the risk of distortion and damage to the material.

Fan reduced noise and energy consumption

Migatronic Pi was developed with respect for both environment and work environment. The infinitely variable fan operates precisely and adapts automatically to the actual load/cooling requirement of the machine. The results are reduced noise level, energy consumption and dust intake and longer life of the machine.

Gouging for thick wall material

Pi 500 features gouging function for gouging root passes or locating lack of fusion.



Award-winning user-friendly design with functional details

AC welding: one button – four parameters

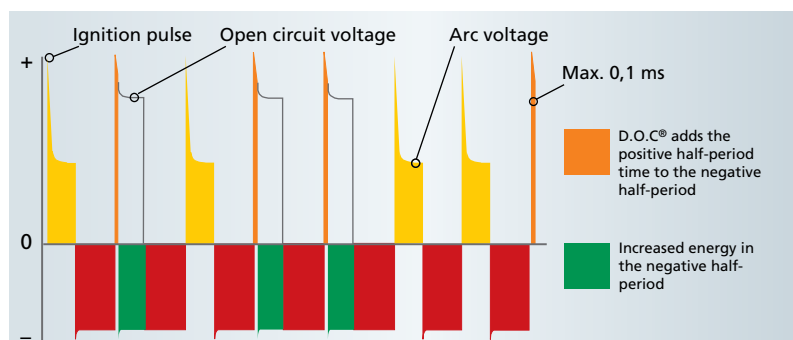
The art of simplification: On the Pi AC/DC versions, the welder can adjust four primary AC parameters using the balance button on the control panel:

- 1 Time balance**
 - overall control of cleaning effect
- 2 AC frequency**
 - arc control and control of weld pool
- 3 Electrode preheating**
 - perfect ignition and reduced electrode wear - ready for new gas types
- 4 Current balance**
 - maintains a DC-like tungsten tip - ensures arc focus



D.O.C.[®] - quicker AC welding

All Pi AC machines are equipped with D.O.C.[®] function (Dynamic Oxide Control): a Migatronik patent that ensures a controlled, narrow cleaning zone. The result is an increase in welding speed of up to 30% and a corresponding reduction in the consumption of both energy and tungsten electrodes.







Four different control panels with optimized operational comfort

Technique is for the sake of man, not the other way round. That is why the design of the control panel was an ambitious development project in itself with focus on the motto: Switch on, press, weld...! The result is a logical and icon-based control panel.

Of course, the software in the control panel meets future demands. The machines are easily adjustable according to new user-defined applications.



*Pi AC/DC with D.O.C.[®]
TIG AC/DC control panel with all relevant parameters for professional welding results in all materials*





-  4 AC balance parameters
-  TIG-A-Tack function
-  4 x 64 program settings
-  D.O.C.[®] function



*Pi DC H
TIG H special version for high frequency welding without pulse. This option is only available in combination with Pi 350*






*Pi DC HP with Synergi PLUS[™]
TIG HP control panel in all its simplicity with Synergi PLUS[™] as standard*

-  Traditional pulse with time adjustment
-  Quick pulse with frequency adjustment
-  Synergi PLUS[™]. All important parameters in one button
-  2 x 64 program settings

*Pi MMA
MMA control panel with the option of TIG process with LIFTIG[®] ignition*

*Pi MMA CELL
The same facilities as for Pi MMA plus special program for vertical upwards welding position using cellulose electrodes*



-  LIFTIG[®] - simple TIG ignition of the arc
-  Hot start - safe ignition
-  Arc Power[™] - prevents the electrode from sticking to the weld pool

Migatron Pi – it's quite simple

Quick change-over between jobs



Press one button and change over between up to 64 different fixed settings in the welding process chosen.



Activate Synergy PLUS™ and Pi automatically sets all primary pulse parameters (synergy mode).



TIG-A-Tack™: a quick and extremely precise function with ultra-small tacks.



IGC® Intelligent Gas Control (option) reduces the gas consumption by up to 50%. Gas consumption read-out on the display.



The patented D.O.C.® system is always active and ensures a controlled narrow cleaning zone along the TIG weld. Welding speed is increased by up to 30%.



Pi 350 MMA CELL - a new Migatron feature

Pi 350 MMA CELL is designed specifically for tube/pipeline welding and vertical downwards welding positions using cellulose electrodes. This means considerably increased welding speed, increased melting performance, and higher efficiency. Pi 350 MMA CELL can be used with an asynchronous generator.



The new Pi 350 is available with five different control panels. DC HP, DC H, AC/DC, MMA, and MMA CELL

Flexible range of accessories and welding hoses offering new advantages

Perfect TIG welding hoses for quality welding

The welding hose is the welder's auxiliary arm and quite decisive for the welding result. That is why Migatronik develops and designs its own comprehensive range of ergonomically correct welding hoses; The TIG Adjust, for example, can be turned in any direction and TIG Flex is flexible and can be shaped to a welding angle of choice.



On/off unit (80300100)

Current control - vertical (80300101)

Current control - horizontal, standard (80300130)

Three control units improve the efficiency

The Migatronik TIG Ergo welding hoses can be equipped with three optional control units for adjustment of the welding current from the torch handle. The units are easily replaceable without using any tools.

Versatile TIG Adjust provides full 360 degrees-of-freedom

TIG Adjust is designed for welding operations where repeated adjustments of the torch body are an everyday occurrence and use of standard torches is physically impossible. TIG Adjust is designed as a custom-built solution for Migatronik's TIG Ergo welding hoses and matches all TIG Ergo wear parts and control units.

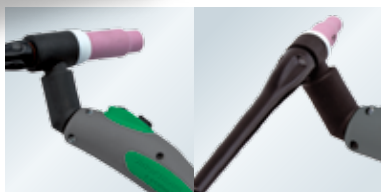
Examples of accessories for Migatronik Pi:

- IGC® Intelligent Gas Control
- Trolley with integrated cylinder console and torch holder
- Frame for mounting in rack system
- Autotransformer 230–500 V
- Cooling unit
- Foot control unit/pocket control unit
- Water control unit
- Welding hoses/cables in various lengths



TIG Flex (flexible)

TIG Adjust

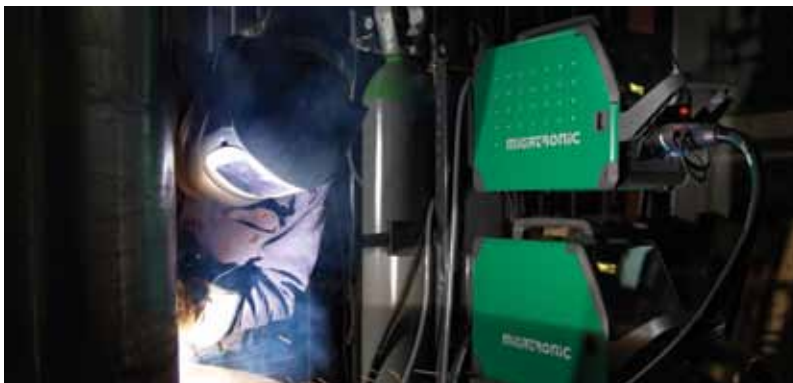


Foot control unit, 7 pole aircooled (78815016)
Foot control unit, 7 pole watercooled (78815015)
Foot control unit, 8 pole (78815010)



Intelligent Gas Control IGC®

Synergic gas flow with large-scale reduction of gas consumption



IGC® offers more advantages for the industrial machines

Synergic gas post flow, a special feature for use with IGC®, is dedicated to the large Pi machines (350 and 500). Synergic gas post flow automatically provides the required gas post flow time, and oxidized tungsten electrodes and welds are eliminated at finalizing welds.

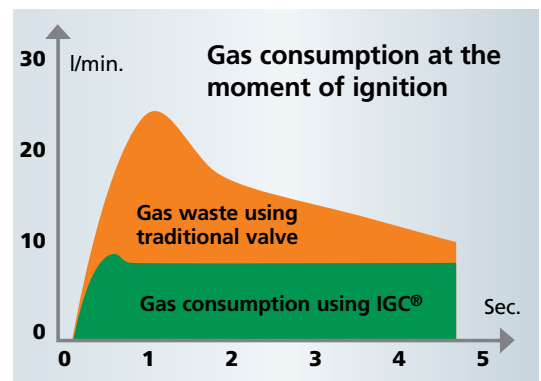
Intelligent Gas Control – Switch on, press, weld ..!

Intelligent Gas Control IGC® is a configurable option for Pi 350 and Pi 500 for TIG. An efficient gas-saver kit combined with dynamic gas control that monitors consumption and optimises gas protection in both DC and AC welding. Often, the IGC® function 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

At the start of the welding process, Migatronik IGC® prevents over-consumption of gas and gives a good start performance.

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



The more ignitions - the greater the gas savings



“Gas monitoring” – another IGC® feature

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

Large-scale reduction of gas consumption

Savings depend on the company's welding profile, arc time and number of welding machines. Calculate your savings and see what you can save on the bottom line. Visit www.intelligentgascontrol.com

CFW Multi ensures uniform quality and high welding speed

TIG welding non-stop

CFW Multi (Cold Wire Feeder) is a separate wire feed unit designed specifically for setups with automatic devices and for optimization of manual TIG welding. CFW Multi has automatic wire-feeding from reels – with or without pulse on the wire.

The CFW Multi control panel allows the welder to switch between programs and features automatic wire-feeding synchronously with the machine's pulse function (Pi 350-500). The CFW Multi is also compatible with Pi 200 and 250 where start/stop signals start wire-feeding along with the other wire parameters which are controlled separately from the CFW Multi.

Automatic wire-feeding

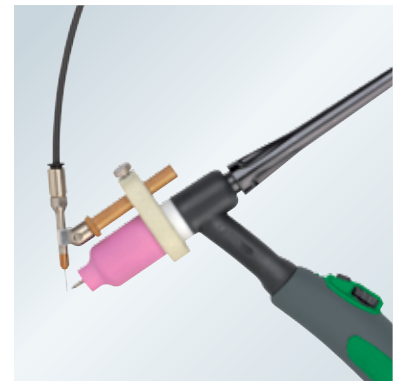
For optimization of welding quality and speed, the TIG welding hoses can be fitted with special equipment for automatic wire feeding.

All Pi machines can via CFW Multi feed the correct quantity of wire into the weld pool; with or without pulse on the wire. The result is a considerable increase of welding speed and there is no risk of non-uniform welds and undesirable contact with the tungsten electrode.

The CFW Multi can be used as a special solution for old Migatronik TIG machines and other makes of TIG machines.



Cold wire guide with pen. Supplied with start/stop and wire speed adjustment at the handle.



Cold wire guide mounted on welding hose



CFW Multi features infinitely variable adjustment of wire feed speed from 0.2 to 5.0 m/min.

The Pi can be customised to any welding situation - including automated devices and robots



Automated TIG welding

The two largest TIG inverters, the Pi 350 and 500, are obvious power sources for automatic devices/robots and prepared for communication with a robot or automatic device in a setup with the CWF Multi.



Extra identical control panel



RWF - Robot Wire Feeder.



Robotinterface.

Interfaces for all types of robots

The newly developed RCI (Robot Communication Interface) integrates the large Pi machines with most types of robots and controllers. RCI is also used for "Retrofit" - upgrade to state-of-the-art technology of old types of robots. All RCI's are supplied to order by Migatronik in the required configuration.

The operating comfort follows the operator

All Pi machines for automated welding processes can be equipped with an extra identical control panel at the robot cell where the robot operator gets the same functions and facilities for setting the welding parameters.



Pi 350 and 500 are suitable power sources for automated welding processes.

MACHINE TYPE	200 E DC	200 HP DC	200 AC/DC	250 E/HP DC	250 AC/DC	350 E DC	350 H DC/HP DC	350 E CELL DC	350 AC/DC	500 E DC	500 HP DC-AC/DC
Mains voltage +/- 15%	3x400 V	1x230 V	1x230 V	3x400 V	3x400 V	3x400 V	3x400 V	3x400 V	3x400 V	3x400 V	3x400 V
Fuse	10 A			10 A	10 A	25 A	25 A	16 A	25 A	32 A	32 A
Fuse PFC		16 A	16 A								
Mains current, eff. (PFC)	6.7 A	24 A (17.5)	25 A (18.6)	7.1 A	7.3 A	17.1 A	18.0 A	15.4 A	17.3 A	26 A	26.1/27.2 A
Power 100% (PFC)	4.6 kVA	5.5 kVA (4.0)	5.8 kVA (4.3)	4.9 kVA	5 kVA	11.9 kVA	12.5 kVA	10.7 kVA	12.0 kVA	18.1 kVA	18.1/18.8 kVA
Power max. (PFC)	6.7 kVA	9.4 kVA (5.6)	9.7 kVA (6.0)	9.0 kVA	9.0 kVA	16.0 kVA	16.0 kVA	13.2 kVA	15.7 kVA	33 kVA	23.3/24.2 kVA
Open circuit voltage	35 W	35 W	35 W	35 W	35 W	40 W	40 W	40 W	40 W	40 W	40 W
Current range	5-200 A	5-200 A	5-200 A	5-250 A	5-250 A	5-350 A	5-350 A	5-300 A	5-350 A	5-500 A	5-500 A
Open circuit voltage	95 V	95 V	95 V	95 V	95 V	95 V	95 V	95 V	95 V	95 V	95V
Application class	[S]	[S]	[S]	[S]	[S]	[S]	[S]	[S]	[S]	[S]	[S]
Protection class	IP 23	IP 23	IP 23	IP 23	IP 23	IP 23	IP 23	IP 23	IP 23	IP 23	IP 23
EN60974-1, 2, 3, 10	x	x	x	x	x	x	x	x	x	x	x
H x W x L, cm	36x22x52	36x22x52	36x22x52	36x22x52	36x22x52	55x25x64	55x25x64	55x25x64	98x54.5x109	55x25x64	98x54.5x109
Weight, kg	20	22	24	23	25	30	31	31	72	33	68/77

DUTY CYCLE	200 E DC	200 HP DC	200 AC/DC	250 E/HP DC	250 AC/DC	350 E DC	350 H DC/HP DC	350 E CELL DC	350 AC/DC	500 E DC	500 HP DC-AC/DC
100% at 20°C TIG		170 A	160 A	170 A	170 A	340 A	340 A	-	340 A	400 A	475 A
100% at 20°C MMA	160 A	150 A	150 A	170 A	170 A	340 A	330 A	300 A	330 A	400 A	475 A
Max at 20°C TIG		200/40%	200/40%	210/60%	200/60%	-	350/95%	-	350/95%	500/60%	500/80%
Max at 20°C MMA	200/60%	170/40%	170/40%	210/60%	200/60%	-	350/60%	-	350/90%	500/60%	400/65%
100% at 40°C TIG		150 A	140 A	150 A	150 A	280 A	300 A	-	290 A	330 A	420 A
100% at 40°C MMA	140 A	130 A	130 A	150 A	150 A	280 A	290 A	250 A	290 A	330 A	420 A
60% at 40°C TIG		170 A	170 A	190 A	180 A	325 A	350 A	-	350 A	400 A	500 A
60% at 40°C MMA	180 A	150 A	150 A	190 A	170 A	325 A	340 A	275 A	350 A	400 A	450 A
Max at 40°C TIG		200/40%	200/40%	250/35%	250/35%	350/40%	350/60%	300/35%	350/60%	500/35%	500/60%
Max at 40°C MMA	200/40%	170/40%	170/40%	250/35%	250/35%	350/40%	350/50%	300/35%	350/60%	500/35%	500/55%

COOLING UNIT	MCU 1000 *	MCU 1100 **	MCU ***	COLD WIRE FEEDER	CWF Multi†
Cooling output 1 l/min.	0.9 kW	0.9 kW	1.2 kW	Wire feed speed m/min.	0.20 – 5
Tank capacity	2.0 l	3.5 l	3.5 l	Wire diameter mm	0.6 – 1.6
Pressure, max.	3 bar	3 bar	3 bar	Dimensions H x W x L, cm	27.6 x 21.1 x 27.6
Flow 1.2 bar – 60°C	1.75 l/min.	1.75 l/min.	1.75 l/min.	Weight, kg	9.6
Dimensions, H x W x L, cm	29 x 22 x 57	27 x 24 x 56	*		
Weight, kg	15		*		

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

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

Headoffice:
Svejsemaskinefabrikken Migatronic A/S
Aggersundvej 33, Postboks 206
DK-9690 Fjerritslev, Danmark
Tel: (+45) 96 500 600
Telefax: (+45) 96 500 601
Homepage: www.migatronic.com