

PI 400 PLASMA



MiCATRONiC

Pi 400 Plasma

– welding automation with or without pulse

New Pi 400 Plasma increases productivity

Pi 400 Plasma, a three-phase, water-cooled welding inverter dedicated to plasma welding in the current range 5-400 A, is the obvious power source in any imaginable automatic setup.

Pi 400 Plasma masters everything from sheet metals up to 8 mm mild steel and 10 mm stainless steel. The machine has three optional pulse functions: traditional pulse, quick pulse, Synergy PLUS™ pulse – or without pulse – using three different plasma processes: plasma-melt, plasma-press and plasma-keyhole welding. Also suitable for TIG welding.

Features of the digital Pi 400 plasma inverter:

- Electronic control of gas flow and water flow in the torch
- Built-in gas-saver kit
- CANBUS communication interface
- Remote control kit
- Diffusion-safe gas hose
- Pilot arc – safe ignition



Protected tungsten electrodes – longer life

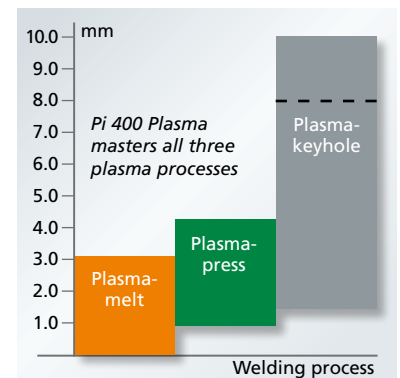
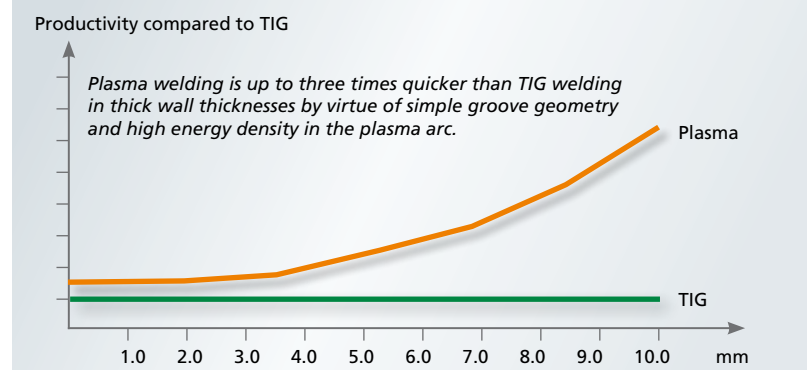


Plate thickness decides which process to use



Plasma welding is superior to TIG welding in all plate thicknesses

Protected tungsten electrodes – longer life

The plasma torch protects the tungsten electrode against weld spatter and prevents it from sticking to the weld pool. Interruption of operations for grinding the electrodes is minimized and life is considerably longer than in TIG welding.

Facts about plasma welding

Full penetration:
Mild steel up to 8 mm
Stainless steel up to 10 mm

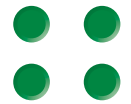
Protected tungsten electrodes:
Longer life, fewer interruptions of operations

Low heat input:
Minimal deformation of work piece/material

Safe ignition with Pilot arc
- always ready for next welding cycle

Welding consumables:
No waste – wire from spool via CWF Multi

Efficient welding with full penetration in steel and stainless



Increased welding speed – less post-treatment

Pi 400 Plasma in automated setup is the optimal solution to rationalisation of welding processes in modern production.

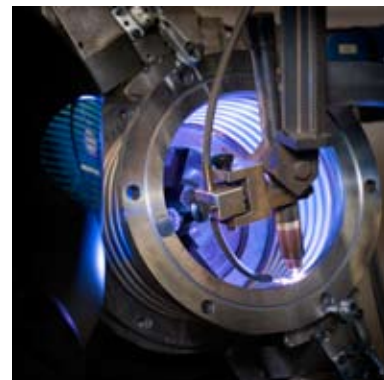
- Reduced tact time per work piece
- Longer life and reduced tungsten consumption
- Simple groove geometry and less preprocessing
- Lower welding current – less deformation and post-treatment – better finish
- Lower current consumption and CO₂-emission
- Shielding during welding: better personal safety
- A minimum of welding fumes: better working environment:



Synchronised pulsating wire; Pi 400 Plasma can support up to eight CWF Multi units



Plasma welding of stainless material in a long-seam automated device



Welding of stainless steel - vibration damper for exhaust gas system



Simple operation of even advanced functions

Simple operation of advanced welding processes

The control panel is logical and easy to use with direct choice of processes. Up to 20 customised plasma settings and 10 TIG settings can be stored in the memory and called up for repetitive welding jobs. The machine has a port for remote control and Arc

Detect – and as a special solution it can be equipped with an extra control panel with identical functions and facilities for the welder at the automatic device.

Complete setup

CWF Multi is a separate wire feed unit designed specifically for setups with automatic devices. As a curiosity, CWF Multi can also be used for manual TIG/plasma welding using handheld torches.

CWF Multi and Pi 400 Plasma can be operated separately or synchronously with interaction between welding current and wire-feeding. Yet another example of Migatronik's idea of user-friendliness, just switch on, press and weld.

PI 400 PLASMA

MACHINE TYPE	PI 400 Plasma
Mains voltage +/- 15%	3 x 400 V
Fuse	25 A
Eff. mains current	17.3 A
Output, 100%	12.0 kVA
Max. output	19.3 kVA
Open circuit power	40 W
Current range	5-400 A
Open circuit voltage	95 V
Application class	5
Protection class	IP 23
Norm	EN60974-1, 2, 3, 10
Dimensions H x W x L, cm	98 x 54.5 x 109
Weight, kg	67

COLD WIRE FEEDER	CBF Multi
Wire feed speed m/min.	0.2 - 5
Wire diameter, mm	0.6 - 1.6
Dimensions, H x W x L, cm	27.6 x 21.1 x 27.6
Weight, kg	9.6

Accessories for Pi 400 Plasma:

- CWF Multi Cold Wire Feeder
- Frame for mounting in rack system
- Remote control kit – extra control panel
- Foot control unit/pocket control unit
- Autotransformer
- Welding hoses/cables in various lengths

Facts about the plasma process

Basically, the plasma welding process can be described as a further development of the TIG welding process.

Plasma is a condition in which the gas becomes electrically conductive (ionised) at extreme temperatures. The plasma arc is thereby an active part of the fusion process with an energy density that is up to ten times larger than the TIG arc.

These extreme energies, up to 30,000°C, result in the concentrated heat zone and quick heating of the parent material – and faster establishment of the weld pool than in TIG welding.



Galvanized mild steel – Plasma-melt in 0.5 mm wall thickness



Stainless steel – Plasma-keyhole welding in 6 mm wall thickness



Copper – plasma-melt in 0.6 mm wall thickness



Conical pipe on plate – plasma-press. Note the thin throat thickness.

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