ZETA
THREE-PHASE PLASMA CUTTERS FOR EASE OF OPERATION AND OPTIMAL CUTTING ECONOMY

Zeta 60-100 are portable and user-friendly three-phase plasma cutters in robust cabinets – designed for workshop use and site repairs. The machines are applicable for cutting in all conductive metals and metal alloys.

MIGATRONIC
WELDING VALUE

ZETA 60-100
PLASMA CUTTERS

OPTIONAL EQUIPMENT
- Circle cutting device and roller guide
- Trolley (Zeta 100)
- Various nozzle sizes for high-quality cuts

A user-friendly control panel makes it easy to control the plasma cutting process. Once you have set the process and amperage according to plate thickness, the machine is ready for cutting. The Zeta plasma cutters use only compressed air as plasma gas and can be connected to your compressed air plant. The machines can be used with a generator as power source and feature power-saving standby functions for optimal cutting and operating economy. The plasma arc is ignited automatically via the pilot arc; this means longer service life of wear parts in the torch body.

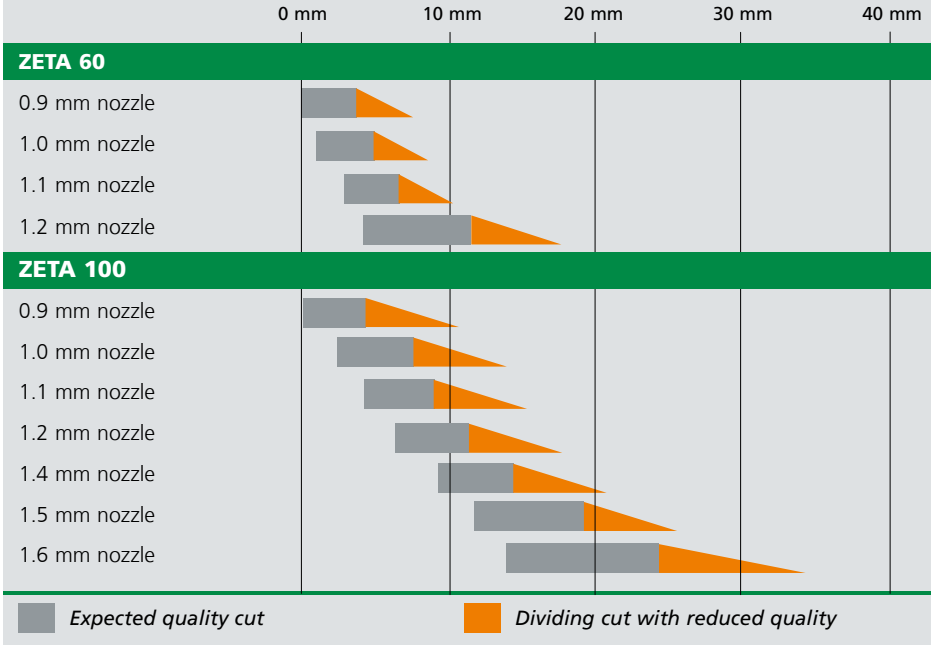
FINE GOUGING WITH ZETA 100

Zeta 100 is prepared for fine gouging; a process for detecting lack of fusion after welding.

Plate thickness decides choice of machine
The Zeta 60 and Zeta 100 perform quality cuts in up to 12 mm and 25 mm plates respectively. In case of dividing cuts where no special demands are made on the quality of cuts, the plate thickness can be increased by up to 50%. For cutting performance, please refer to the table.

CUTTING PERFORMANCE

This table recommends guidelines for choice of nozzle size compared with maximum plate thickness for cutting in mild steel. In case of cutting in other materials, the possible cutting capacity and cutting speed are reduced.



PUNCHED PLATE CUTTING IS A STANDARD FUNCTION

By simply pressing the appropriate button, the Zeta machines are ready for cutting in perforated or punched plates.

MANUAL CUTTING

The Zeta 100 for manual cutting is supplied with a torch with 6 m hose or, if a larger operating range is required, a torch with 15 m hose.

AUTOMATED CUTTING

The Zeta 100 for automated cutting is supplied with an automatic torch with 6 m hose and remote control outlet. This variant with built-in Arc Detect signal is controllable from automated machines and turntables for automation of the cutting process.

We reserve the right to make changes.

POWER SOURCE	ZETA 60	ZETA 100 // ZETA 100 AUTOMAT
Mains voltage, V	3x400	3x400
Mains voltage auto transformer, +/- 15 %, V	3x230-500	3x230. 3x400. 3x440. 3x500
Fuse, A	10	20
Current range, A/V-A/V	20/88-60/104	20/88-100/120
Duty cycle 100%/40°C, A/V	40/96	75/110
Duty cycle 60%/40°C, A/V	50/100	85/114
Duty cycle max./40°C, A/%/V	60/40/104	100/40/120
Efficiency rate	0.9	0.8
Open circuit voltage, V	241	248
Quality cut, mm	<12	<25
Dividing cut, max., mm	<18	<35
Protection class	IP 23	IP 23
Norm	EN/IEC60974-1. EN/IEC60974-10	
Dimensions (H x W x L), mm	360x220x570	405x345x675
Weight, kg	27	36 (6 m)/39 (15 m)

Svejsemaskinefabrikken Migatronic A/S
Aggersundvej 33
DK-9690 Fjerritslev, Denmark
Tel: (+45) 96 500 600
Telefax: (+45) 96 500 601
migatronic.com

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WELDING VALUE

PI 350 PLASMA
WELDING AUTOMATION WITH OR WITHOUT PULSE

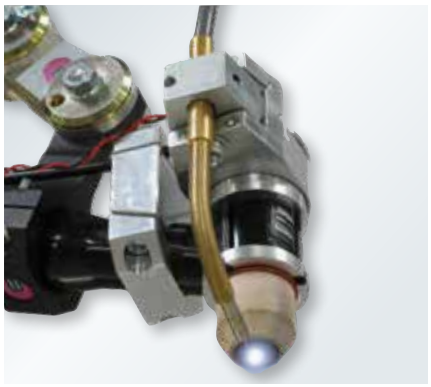
The Pi 350 Plasma is a high-performance water-cooled welding inverter dedicated to plasma welding in automated welding processes in the current range 5-350 A.

MIGATRONIC
WELDING VALUE

WELDING AUTOMATION
WITH OR WITHOUT PULSE

The Pi 350 Plasma is a high-performance water-cooled welding inverter dedicated to plasma welding in automated welding processes in the current range 5-350 A. The Pi 350 Plasma welds sheet metals in up to 8 mm mild steel and 10 mm stainless steel. The machine welds with three optional pulse functions: traditional pulse, quick pulse, Synergy PLUS™ – or without pulse - using all plasma processes: plasma-melt, plasma-press and plasma-keyhole welding. In TIG welding, the output is up to 500 A.
Features of the digital Pi 350 plasma inverter:

- Electronic control of gas flow and water flow in the torch
- Built-in gas-saver kit
- CAN-BUS communication
- 100% duty cycle in plasma welding
- Remote control kit
- Diffusion-safe gas hose
- Pilot arc – safe ignition



Protected tungsten electrodes – longer life

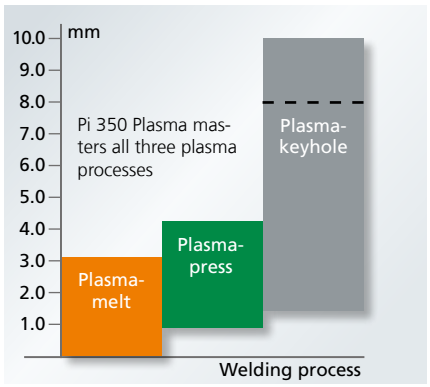
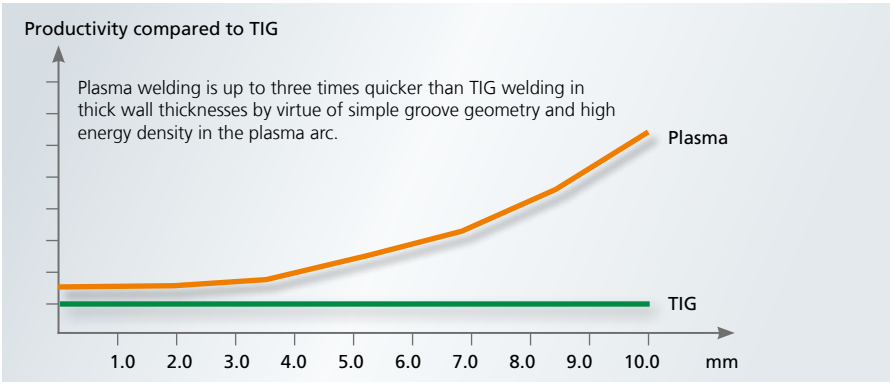


Plate thickness decides which process to use



Plasma welding is superior to TIG welding in all plate thicknesses

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

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.

INTERFACES FOR ALL TYPES OF ROBOTS

The RCI (Robot Communication Interface) integrates the Pi Plasma machine with most types of robots and controllers.The RCI² 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

Robotinterface

interface into a Fieldbus interface. Using this interface, with inside display and mini-keypad, the system is easily configured as desired.

EFFICIENT WELDING WITH
FULL PENETRATION IN STEEL AND STAINLESS

INCREASED WELDING SPEED – LESS POST-TREATMENT

Pi 350 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 CO_2-emission
- Shielding during welding: better personal safety
- A minimum of welding fumes: better working environment:

SIMPLE OPERATION OF ADVANCED WELDING PROCESSES

The control panel is logical and easy to use with direct choice of processes. Up to 64 programs can be stored in Plasma and TIG. The machine has a port for remote control and Arc Detect, and 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

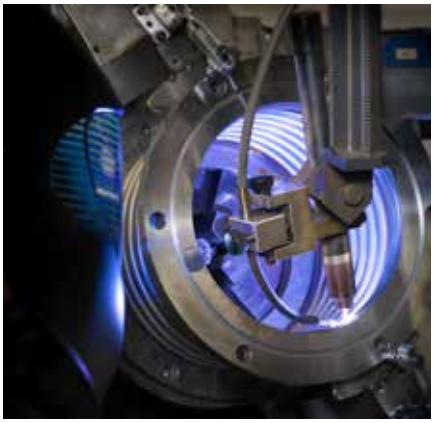
CWF Multi is a separate wire feed unit designed specifically for setups with automatic devices. As a curiosity, CWF Multi can also be used for manual TIG/plasma welding using handheld torches.

CWF Multi and Pi 350 Plasma can be operated separately or synchronously with interaction between welding current and wire-feeding. Yet another example of Migatronic's idea of user-friendliness, just switch on, press and weld.

Synchronised pulsating wire; Pi 350 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

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.

In plasma welding, virtually no welding fumes are generated.

PI 350 PLASMA

Please note that the plasma process requires increased cooling capacity to avoid thermal
breakdown of the plasma torch. The capacity of the standard cooling unit is adequate for TIG welding.

Optional feature: for plasma welding using constant amperages over 80 A, Migatronic offers an external cooling unit to ensure sufficient cooling of the plasma torch.

Please contact Migatronic for more information.

Conical pipe TIG welded onto plate. Note the thin throat thickness.

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

We reserve the right to make changes

POWER SOURCE	PI 350 PLASMA
Mains voltage ±15%, V	3x400
Fuse, A	32
Mains current, effective, A	26.1
Power, 100%, kVA	18.1
Power, max., kVA	23.3
Power, open circuit, W	40
Current range, Plasma, A	5-350
Current range, TIG/MMA, A	5-500
Open circuit voltage, V	95
Duty cycle, 100% at 20°C (TIG), A/V	475
Duty cycle, 100% at 20°C (PLASMA), A/V	350
Duty cycle, 100% at 40°C (TIG), A/V	420/26,8
Duty cycle, 100% at 40°C (PLASMA), A/V	350/39.0
Duty cycle, 60% at 40°C (TIG)	500/30,0
Protection class	IP 23
Standards	EN/IEC60974-1. EN/IEC60974-2. EN/IEC60974-3. EN/IEC60974-10.
Dimensions (HxWxL), mm	980x545x1090
Weight, kg	85
COLD WIRE FEEDER	**CWF MULTI**
Wire feed speed, m/min.	0.20 - 5.0
Wire diameter, mm	0.6 - 2.4
Dimensions (HxWxL), mm	276x211x276
Weight, kg.	9.6

OPTIONAL EQUIPMENT

- 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

Svejsemaskinefabrikken Migatronic A/S
Aggersundvej 33
DK-9690 Fjerritslev, Denmark
Tel: (+45) 96 500 600
Telefax: (+45) 96 500 601
migatronic.com

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