

DURMAT® PTA WELDING EQUIPMENT



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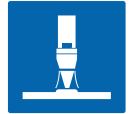
PTA Power Sources

PTA Manual Torches, Robot Torches, Special Torches

PTA Accessories

 made
in
Germany

PTA-Welding Mobile Welding Systems DURWELD



As a result of customer requests we have introduced new durable, reliable, and affordable mobile PTA machines DURWELD 250T-M PTA, DURWELD 300T-M PTA, DURWELD 400T-M PTA und DURWELD 800T-M PTA into the market.

Developed and manufactured by DURUM in Germany systems are designed for ease of automation into heavy-duty industrial environments. This mobile and cost-efficient plasma powder welding systems are PLC-controlled, equipped with a HMI-interface and a separate water cooling unit. Gas flows are controlled by manual (DURWELD 250T-MPTA) or electrical gas flow meters (DURWELD 300T-MPTA / 400T-MPTA / 800T-MPTA). The main inverter power source is primary-switched and generates a very stable arc that ensures consistent and repeatable coatings. DURWELD PTA welding systems are available in different designs with different equipment features at an additional cost. Also available as a control cabinet version as an option.

Advantages:

- Active cooling of power sources
- Built-in cooling unit
- Modular system construction
- Excellent price-performance ratio
- Mobile control unit
- Modern PLC technology



DURWELD	250T-M PTA	300T-M PTA	400T-M PTA	800T-M PTA
Pilot arc current*	2-100 A	2-100 A	2-100 A	2-100 A
Main arc current (20% DC)*/**	5-280 A	5-280 A	3-400 A	5-800 A
Main arc current (100% DC)*/**	180 A*	180 A*	3-250 A	5-500 A
Voltage supply*/**	3x400V + N±10%	3x400V + N±10%	3x400V + N±10%	3x400V + N±10%
Supply frequency*/**	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Supply fuse*/**	32A / 64A	32A / 64A	32A / 64A	32A / 64A
Degree of protection	IP 23	IP 23	IP 23	IP 23
Gas adjustment	manual flowmeter	electronic mass flow controllers		
Plasma gas adjustment	0.2-15l/min	0.2-15l/min	0.2-15l/min	0.2-15l/min
Shielding gas adjustment	0.2-15l/min	0.2-15l/min	0.2-15l/min	0.2-15l/min
Transport gas adjustment	0.2-15l/min	0.2-15l/min	0.2-15l/min	0.2-15l/min
Chiller unit	3.9 kW	3.9 kW	3.9 kW	3.9 kW

* depending on the user country electric data can differ! / ** according to default settings

Equipment

PTA Torches



DURMAT® PT 150 M / PT 150 C

Manual hand-held PTA torch

Description:

The PTA torch DURMAT® PT150M is designed for manual hard-facing on small component surfaces. The very handy torch is characterized by its small size and its low weight. The shielding gas nozzle is made from ceramic, so short circuits can be avoided. The non-melting electrodes are generally tungsten electrodes with oxide additions. A lightweight construction variant DURMAT® PT150C is optionally available.

The standard length of the tube package is 4 m. Longer tube packages are available on request. Optional a foot pedal is available to adjust welding current.



DURMAT® PT 150 M



DURMAT® PT 150 C

Technical data	
Current max.:	150 A
Powder flow rate*:	35 g/min*

*depending on powder density

DURMAT® PT 300 M

Water cooled hand-held PTA torch

Description:

The PTA torch DURMAT® PT 300M is designed for manual hard-facing with higher deposition rate up to 3kg/h. The torch is strong and handy and shows excellent properties with high lifespan under rough industrial working conditions. The shielding gas nozzle is made from ceramic, so short circuits can be avoided. The non-melting electrodes are generally tungsten electrodes with oxide additions.

The standard length of the tube package is 4 m. Longer tube packages are available on request. Optional a foot pedal is available to adjust welding current.



Technical data	
Current max.:	300 A
Powder flow rate*:	50 g/min*

*depending on powder density

Equipment

PTA Torches for Machines and Robots



DURMAT® PT 300 AUT

PTA torches for machines and robots

Description:

The PTA torch DURMAT® PT300AUT has the same construction like the hand-held torch PT300M, but is designed for semi-automatic or automatic welding with welding manipulators or robots. The powder filler material is fed by one feeding hose to the plasma nozzle (4 holes). The non-melting electrodes are generally tungsten electrodes with oxide additions. The tungsten electrode diameter being 4 mm.

The standard length of the tube package is 4 m. Longer tube packages are available on request.



Technical data	
Current max.:	280 A
Powder flow rate*:	75 g/min*

*depending on powder density

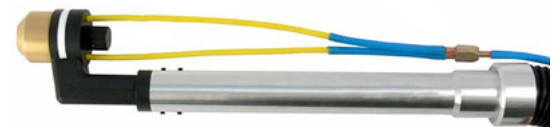
DURMAT® PT 400 AUT

PTA torches for machines and robots

Description:

The plasma-powder-welding torch DURMAT® PT400AUT is designed for semi-automatic or automatic welding with welding manipulators or robots. The powder filler material is fed by two feeding hoses to the plasma nozzle (6 holes). The separately feeding of matrix powder and carbides is possible by using two separate powder feeders. Compared to the PT300 the deposition rate is much higher. The non-melting electrodes are generally tungsten electrodes with oxide additions. The tungsten electrode diameter being 4 mm.

The standard length of the tube package is 4 m. Longer tube packages are available on request.



Technical data	
Current max.:	300 A
Powder flow rate*:	100 g/min*

*depending on powder density

Equipment

Special PTA Torches



DURMAT® PT 200 SAUT

Special PTA torch

Description:

The PTA torch DURMAT® PT200SAUT is designed to use special anodes, which allow hard-facing in poorly accessible welding areas, e.g., glass moulds. The non-melting electrodes are generally tungsten electrodes with oxide additions. The tungsten electrode diameter being 2.4 or 4 mm..

Depending on application and torch construction, the torches can be positioned by automats (AUT torches) or by robots (ROB torches). The standard length of the tube package is 5 m. Longer tube packages are available on request.



Technical data	
Current max.:	200 A
Powder flow rate*:	60 g/min*

*depending on powder density



DURMAT® PT 400 ROB

Robot torch

Description:

The plasma-powder-welding torch DURMAT® PT400ROB is specially designed for continuous PTA hard-facing with high deposition rate. Based on the integrated fast coupling system the torch must be dismantled or changed for maintenance fast and easily. Depending on application and torch construction, the torches can be positioned by automats (AUT torches) or by robots (ROB torches).

The DURMAT® PT400ROB torch must be connected ONLY to special robot tube package which is optionally available.



Technical data	
Current max.:	300 A
Powder flow rate*:	100 g/min*

*depending on powder density

Equipment

ID Torches for PTA-Welding



As a result of more than 30 years of experience in manufacturing of PTA equipment and apply of powders, we are introducing our NEW durable, reliable and affordable PTA-welding torch for internal hard-facing into the market.

DURMAT® PT 180i – 45 ID

ID-Torch for internal hard-facing of pipes

Description:

Developed and manufactured by DURUM in Germany, the PTA torch DURMAT® PT180i-45ID is specially designed for ID deposition for inner diameter >45mm. The torch has to be positioned by accurate automats or robots. The torch is available with a 5 m tube package with single connectors or optional with robot fast connector including robot tube package. The standard shaft lengths are 200 mm, 400 mm and 600 mm. Based on a high-performance integrated cooling system the torch can be used in preheated bores up to 300 °C and the max. current load is 180 amps.



Technical data	
Current max.:	180 A
Powder flow rate*:	40 g/min*

*depending on powder density

DURMAT® PT 150i – 65 ID

ID-Torch for internal hard-facing of pipes

Description:

The PTA torch DURMAT® PT150i-65ID is specially designed to use special anodes. Those anodes are allowed to hardface pipes with a minimum inner diameter > 65 mm. The standard tungsten electrode diameter being 4 mm.

Depending on application and torch construction, the torches can be positioned by automats or by robots. The standard shaft length is 850 mm. Other lengths are available on request. The torch is available with a 5 m tube package with single connectors or optional with robot fast connector and robot tube package, see data sheet SK-ROB.



Technical data	
Current max.:	150 A
Powder flow rate*:	40 g/min*

*depending on powder density

DURMAT® PT 200i – 80 ID

ID-Torch for internal hard-facing of pipes

Description:

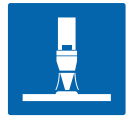
The PTA torch DURMAT® PT200i-80ID is specially designed for ID deposition welding. The minimum diameter which can be coated is 80 mm. Based on a separate air cooling of the torch shaft the torch can be used in preheated bores up to 300 °C. Depending on application and torch construction, the torches can be positioned by automats or by robots. The standard shaft length is 850 mm. Other lengths are available on request. The torch is available with a 5 m tube package with single connectors or optional with robot fast connector and robot tube package, see product SK-ROB.



Technical data	
Current max.:	200 A
Powder flow rate*:	50 g/min*

*depending on powder density

Equipment Accessories



DURMAT® PFU 4

The powder feeder PFU 4 is available with one or two powder feeding outlets. The maximum feeding rate is 200 g/min*. Two powder feeders PFU 4 can be driven in parallel (only by power sources with the optional second motor control card) for applications that require feeding of different powders in the weld pool, e.g. matrix and carbides.

Model:	PDU 4	PFU 35
Carrier gas:	Ar, Ar-He, ArH ₂	Ar, Ar-He, ArH ₂
Carrier gas flow rate:	0 - 6 l/min	0 - 6 l/min
Powder reservoir:	2.3 l	7 l
Powder feed rate*:	2 - 200 g/min*	2 - 200 g/min*
Gas pressure (max.):	1 bar	1 bar
Weight:	7.5 kg	14.8 kg
Dimensions (LxWxH)	310x170x470 mm	240x260x670 mm

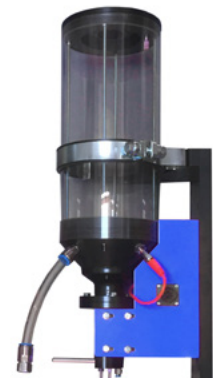
*Depending on feeding wheel configuration, torch, anode and powder density

DURMAT® PFU 35

The powder feeder PFU 35 is designed for continuous hard-facing process and is available with one or two powder feeding outlets. The maximum powder feeding rate is 200 g/min*. The maximum powder capacity is 35 kg. The powder container has an integrated sensor to monitor the minimum filling level (1 kg).



DURMAT® PFU 4

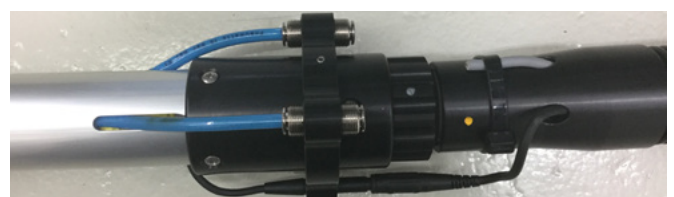


DURMAT® PFU 35

DURMAT® SK-ROB

The quick coupling system SK-ROB and the torch holder PTH45 were developed for the PTA torches DURMAT® PT-series. It can be used for all automatic or semi-automatic welding systems. Water cooling and welding gases (plasma gas, shielding gas) are led to the welding head via the central coupling plug. The plug for the powder feed and the pilot current are outside of the central coupling. The whole PTA welding torch combined with the quick coupling system SK-ROB and the torch holder PTH45 can be exchanged or removed from the machine for maintenance easily without disassembling the hose package.

Technical data	
Main current:	10 - 300 A
Pilot current:	10 - 20 A
Tube package:	10 m





- Tungsten Carbide FCAW wires
- Tungsten Carbide Rods for Oxy-acetylene Welding
- Stellite* - Flux-Cored Wires
- Nickel-, and Iron-based Flux-Cored Wires
- Tungsten Carbides, Complex Carbides and Chromium Carbides for Manual Arc Welding (stick electrodes)
- PTA Welding Powders, Fe-Ni-Co based Powders and special blends
- PTA machines, torches and powder feeders
- Powders and Wires for Laser Cladding
- Powders for Oxy-acetylene Welding and Spraying
- Fused Crushed and Spherical Fused Tungsten Carbides
- Pre-manufactured replacement wear parts
- Tungsten Carbide Wear Plates
- Wear Plates with Chromium Carbides and Complex Carbides
- Thermal Spray Powders (conforming to DIN EN 1274)
- Thermal Spray Wires (conforming to DIN EN 14919)
- Thermische Spritzdrahte (gema DIN EN 14919)

* Stellite ist ein eingetragenes Markenzeichen von Kennametal Stellite

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