

NXT
NEXT WELDING TOOLS



AMIG500PR
LOW SPATTER/ PULSE SOLUTION
FOR MANUAL & ROBOTIC WELDING

AMIG500PR: Pulse Mig / Mag Welding Machine

AMIG500PR is a high efficiency and high quality MIG welding equipment. It controls metal transfer precisely through high speed DSP signal processing, so as to realize spatter-free welding, reduce manual cleaning cost and improve deposition rate. It is the best choice for the application industries of carbon steel and stainless steel.

- MCU+DSP full digital control system brings precise control of welding process and realizes low spatter welding.
- **Multi-process:** PULSE /DOUBLE PULSE /CV MIG.
- Working with manual welding, or robot like KUKA, ABB, FANUC, YASKAWA, KAWASAKI, COMAU, IGM etc.
- Low spatter, beautiful seam formation.
 - Save and recall (100 sets), one-key to switch welding process.
 - 4 Rolls drive and the full digital twin closed loops grating feedback wire feeding system provide a more precise and stable wire feeding
 - Plenty kinds of digital communication interfaces [CAN,CAN OPEN,DEVICENET,ETHERNETIP,ETHERCAT,-PROFINET,485].
 - and standard analog control interface, comprehensive robot communication solution.
 - Lots of configuration solutions of robot peripherals ensure worry-free connection with robot.



AMIG500PR: Power Source And Accessories

- **Multi-process:** PULSE /DOUBLE PULSE /CV MIG.
- **Welding materials:** CS /SS /Al /Cu.
- Built-in expert database program enables it welding carbon steel, stainless steel, aluminum and other materials, and the solid wire and flux-cored gas shielded wire can be applied.
- Gas pre-flow time, gas post-flow time, burn-back time, slow wire feeding speed and spot welding time are adjustable; twin-pulse parameters can be adjusted.
- 2T/ Spot welding operation mode.
- Intelligent fan control technology; Eco design.
- Full-bridge inverter soft switch control technology, double IGBT modules, fast recovery diode module; long-life polypropylene filter capacitor.
- PCB is processed with three-proofing lacquer; the drive board is processed with rubber for protection.
- It enjoys IP23 class protection and H class insulation.
- Multiple protections overheat, over-current, over-voltage and output short circuiting; error code display



PRODUCT SPECIFICATIONS

| | |
|------------------------------------|----------------------------|
| Model | AMIG500PR |
| Rated input voltage/frequency (Hz) | 3 phase, 440V±10%, 50/60Hz |
| Rated input capacity (KVA) | 24 |
| Rated input current (A) | 32.8 |
| Duty cycle (40°C) | 100% |
| OCV (V) | 84 |
| Output current range (A) | 60-500 |
| Output voltage range (V) | 14-50 |
| Double pulse frequency (Hz) | 0.5-50 |
| Protection class | IP23 |
| Insulation class | H |
| Weight (Kg) | 55 |
| Dimension (mm ³) | 660x320x560 |

Wire Feeder

- Closed type wire feeding mechanism provides a more effective safety protection and reduces the occurrence of short circuit.
- 4WD + encoder wire feeding motor and digital motor control provide a more precise and more stable wire feeding speed.
- Light and handy wire feeding mechanism design makes it easy to connect and be installed with a robot.
- Tweco welding torch connector

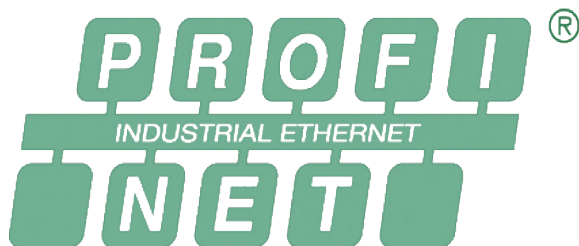


PRODUCT SPECIFICATIONS

| | |
|----------------------------|-----------------------------|
| Model | ESQ500GRF |
| Motor | Magnet motor (with encoder) |
| Motor voltage (V) | DC 24 |
| Rated current (A) | 3 |
| Wire feeding speed (m/min) | 2.5-22 |
| Rated welding current (A) | 500 |
| Duty cycle (%) | 60 |
| Wire diameter (mm) | Φ0.8, Φ1.0, Φ1.2, Φ1.6 |
| Gas flow (L/min) | 15~20 |
| Dimension (mm3) | 686×284×406 |
| Weight (Kg) | 10 |

Digital Communication Controller

- Abundant digital interface.
- Standard communication protocol provides a easier communication because robot and welding machine.
- Light and handy structure design offers a easy installation and connection with welding machine.
- Standard interface design, easy to install and use.



Recommended Configuration



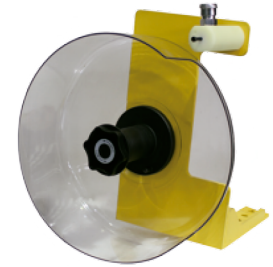
Welding power source:
AMIG500PR



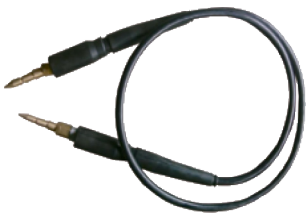
Wire feeder:
ESQ-500GRF



Robot body



Spool holder components



Guide wire hose
components



Analog communication
cable



Digital communication
controller

Recommended Configuration - Robot

| Item | Model | Qty | Remarks |
|----------------------------------|-----------------------|-----|--|
| Power source | AMIG500PR | 1 | |
| Water cooler | WCS-500MBR | 1 | |
| Wire feeder | ESQ-500GRF | 1 | |
| Wire feeder cable | 70mm ² *5m | 1 | |
| Ground cable | 70mm ² *3m | 1 | |
| Spool holder | | 1 | For robot analog interface |
| Analog communication cable | | 1 | |
| Guide wire hose | | 1 | optional |
| Digital communication controller | | 1 | Optional (485,CAN, Ethernet, Ether CAT, DeviceNet) |

INDUSTRIAL APPLICATION

The Special Welding Production Line For Dump Body

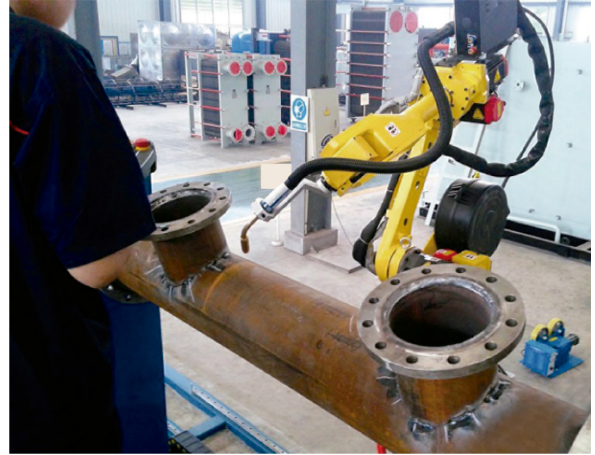


THE SPECIAL WELDING PRODUCTION LINE FOR DUMP BODY

Aluminium template welding



Intersecting line welding



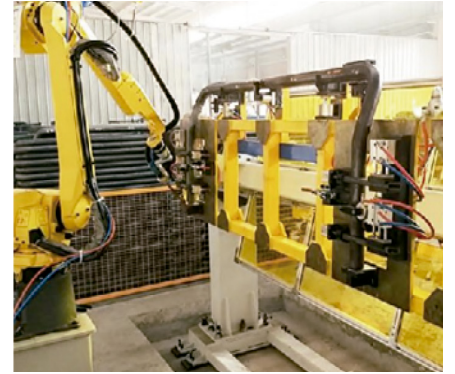
Cast aluminum tank welding



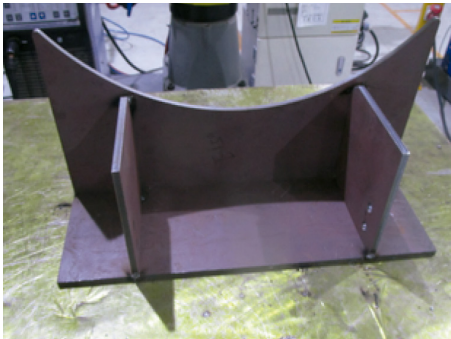
HEAVY VEHICLE



SEMITRAILERS WELDING PRODUCTION LINE



PIPE SUPPORT



Welding process

| | | | |
|---------------------|------|---------------------------|--------------------------|
| Starting current | 220A | / | AMIG500PR |
| Starting arc-length | 0 | Welding process | CV MIG |
| Transition time | 0.2s | Welding wire and diameter | Carbon steel/ Φ 1.2 |
| Welding curren | 200A | Shielding gas | 80%Ar+20%CO2 |
| Welding arc-length | 0 | / | / |

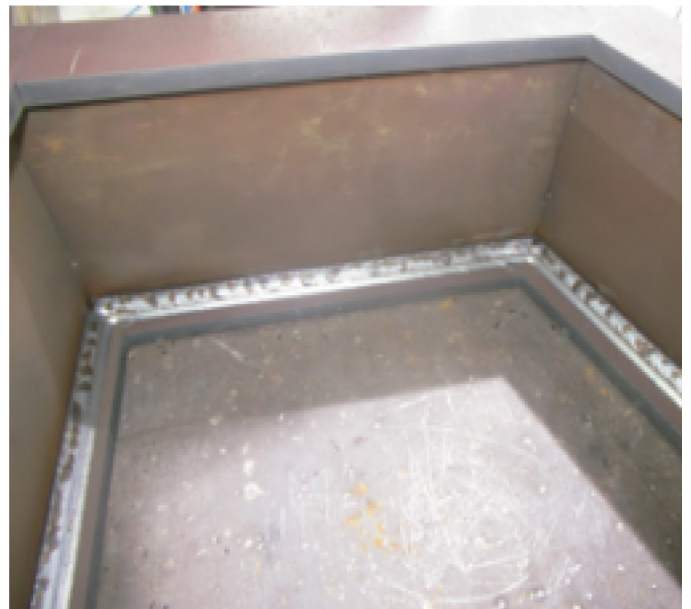
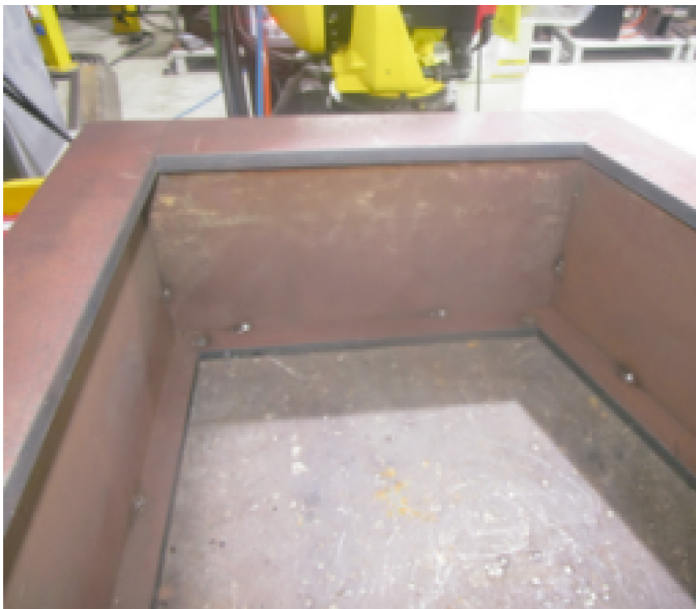
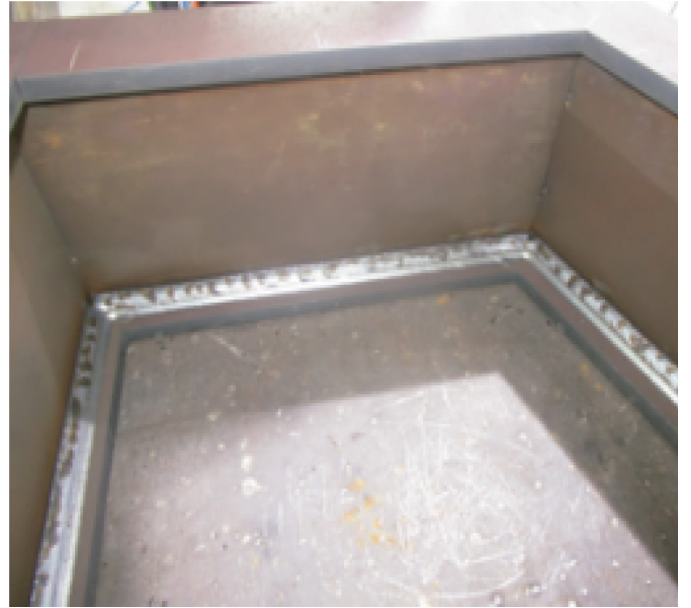
CBE TUNNEL PROJECT



Welding process

| | | | |
|---------------------|-------------|---------------------------|--------------------------|
| Starting current | 175A | / | AMIG500PR |
| Starting arc-length | 0.2s | Welding process | Pulse MIG |
| Transition time | 0.3 | Welding wire and diameter | Carbon steel/ Φ 1.2 |
| Welding curren | 36-40cm/min | Shielding gas | 80%Ar+20%CO2 |
| Welding arc-length | 15mm | / | / |

PIPE SUPPORT



Welding process

| | | | |
|---------------------|----------|---------------------------|--------------------------|
| Starting current | 180A | / | AMIG500PR |
| Starting arc-length | 0.5 | Welding process | CV MIG |
| Transition time | 05s | Welding wire and diameter | Carbon steel/ Φ 1.2 |
| Welding curren | 180A | Shielding gas | 80%Ar+20%CO2 |
| Welding arc-length | 0.5 | / | Sin |
| Welding speed | 36cm/min | / | / |



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