

# MIG-500Z Industrial Pulse MIG Welder – Engineered for Shipyards Worldwide



**Wenzhou, Zhejiang Apr 14, 2026 ([IssueWire.com](http://www.IssueWire.com)) - 100% Duty Cycle @500A | Customizable Aluminum Welding | Global Service Network**

With 700,000 units annual production capacity and CE, ISO, BSCI, FCCA certification, KEYGREE delivers industrial-grade welding solutions trusted by shipyards across Asia, Europe, the Americas, Africa, and Oceania.

The MIG-500Z — proven in Southeast Asian shipyards — is now ready to serve the global maritime industry, from aluminum high-speed craft to VLCC supertankers.

## [MIG-500Z](#) – The Shipyard Choice Worldwide

The **MIG-500Z** is specifically engineered for the demanding environment of shipbuilding and ship repair. Its combination of **true 100% duty cycle** for continuous operation and **customizable aluminum welding capability** makes it the ideal choice for shipyards constructing everything from aluminum high-speed craft to VLCC supertankers.

## Key Technical Specifications— Engineered for Shipyard Demands

Parameter

Specification

## Shipyard Value

Rated Output Current

500A @ 100% duty cycle @ 40 °C

Continuous operation in tropical climates — no cooling breaks

Output Current Range

40A – 500A

Versatile for thin plate to heavy section welding

Aluminum Welding

Customizable pulse parameters

Optimized for marine-grade alloys (5083, 6061, etc.)

Wire Diameter

1.0 / 1.2 / 1.6 mm

Covers flux-cored and solid wire applications

Welding Modes

Pulse MIG, Synergic MIG, Standard MIG, MMA, Lift TIG

One machine for hull, pipe, and repair welding

Material Compatibility

Aluminum, carbon steel, stainless steel

Full shipyard material coverage

Input Voltage

3-phase 380V ( $\pm 15\%$  tolerance)

Stable operation despite grid fluctuations

Protection Features

Over-current, over-heat, over/under-voltage, phase loss

Minimizes downtime from electrical issues

Cooling Method

Intelligent forced-air

Maintains 100% duty cycle in 40°C ambient

### **Global Service Capability – Wherever Your Shipyard Is**

WENZHOU KEYGREE ELECTRIC CO.,LTD. understands that shipyards operate 24/7 across all time zones. Our global service network ensures you receive support when and where you need it.

#### **Service**

##### **Coverage**

Warranty

1-year comprehensive warranty on the complete machine

Spare Parts

Shipped within 48 hours to major ports worldwide

Technical Support

Remote assistance in English, Spanish, Arabic, Russian, and major Asian languages

On-site Training

Available for shipyard welding supervisors and operators

Documentation

Technical manuals available in multiple languages

### **Global Case Studies – MIG-500Z in Shipyards Around the World**

We have structured our case studies around the "**Customer + Challenge + Solution + Result**" framework to demonstrate how MIG-500Z performs in real shipyard conditions across different continents.

#### **Southeast Asia: Vietnam – Aluminum High-Speed Vessel Construction**

**Customer:** Major shipyard in Hai Phong, Vietnam, specializing in aluminum patrol boats and passenger ferries

#### **Challenge:**

- Constructing aluminum vessels required consistent, high-quality aluminum welds
- Wire feeding instability during aluminum welding caused defects

- Limited experienced aluminum welders in the local workforce

#### **Solution with MIG-500Z:**

- **100% duty cycle @40°C** enabled continuous production without cooling breaks
- **Synergic mode** simplified setup – select the wire type, and the machine automatically sets the parameters
- **Digital parameter control** allowed fine-tuning of arc characteristics

#### **Result:**

- **40% reduction** in aluminum weld rework
- **30% increase** in production throughput
- New welders reached production quality in **half the usual training time**
- Successfully delivered multiple aluminum vessels with **100% classification society approval**

#### **Middle East: UAE – Offshore Structure Fabrication**

**Customer:** Offshore fabrication yard in Dubai, UAE, serving the Arabian Gulf oil and gas industry

#### **Challenge:**

- Fabricating offshore platforms required welding in **high ambient temperatures (up to 50°C)**
- Stainless steel and duplex steel welding demanded precise heat input control
- Stringent quality requirements from ADNOC and international operators

#### **Solution with MIG-500Z:**

- **Engineered for 40°C ambient operation** with an intelligent cooling system
- **Pulse MIG capability** delivered controlled heat input, minimizing oxide formation on stainless steel
- **Adjustable Arc Start/End Arc**-enabled precise control for root passes
- **Parameter memory** locked approved WPS settings for repeatability

#### **Result:**

- Achieved **98% first-pass acceptance** on critical offshore welds
- Maintained **full productivity** during summer months when other equipment overheated
- Successfully qualified for **ISO 3834 certification**
- Expanded client base to include major oil and gas operators

#### **Northern Europe: Poland – Ship Repair & Conversion**

**Customer:** Ship repair yard in Gdańsk, Poland, servicing vessels in the Baltic Sea

#### **Challenge:**

- Repairing diverse vessels required welding various materials and thicknesses
- Tight turnaround schedules demanded **reliable equipment with minimal downtime**
- Winter conditions required equipment that performs in **low temperatures**

### Solution with MIG-500Z:

- **Robust construction** withstands both shipyard workshop conditions and outdoor repair work
- **Multi-process capability**(MIG/MMA/TIG) covered all repair applications
- **100% duty cycle** enabled continuous welding during critical repair windows
- **Digital parameter memory** stores programs for common repair scenarios

### Result:

- Eliminated **equipment downtime** during critical repair projects
- Completed emergency repairs **25% faster** with reliable, continuous operation
- Reduced equipment inventory by consolidating multiple machines into one unit
- Achieved **higher customer satisfaction** with faster vessel turnaround

### South America: Brazil – Heavy Plate Shipbuilding

**Customer:** Shipyard in Rio de Janeiro, Brazil, constructing offshore support vessels and tugboats

### Challenge:

- Hull construction required welding thick steel plates (up to 50mm) with deep penetration
- Maintaining consistent quality across multiple shifts and different welders
- Power grid fluctuations affected equipment performance

### Solution with MIG-500Z:

- **500A output** delivered the power needed for deep penetration on heavy plate
- **100% duty cycle** enabled continuous multi-pass welding without interruption
- **Wide voltage tolerance ( $\pm 15\%$ )** handled regional power variations
- **Parameter memory** locked WPS settings for consistency across shifts

### Result:

- **Increased hull assembly speed by 35%**
- **Reduced weld rework by 50%** through consistent parameter control
- Passed classification society audits with **zero major non-conformances**
- Expanded construction capability to larger vessel classes

### West Africa: Nigeria – Shipbreaking & Recycling

**Customer:** Ship recycling facility in Lagos, Nigeria, processing end-of-life vessels

### Challenge:

- Shipbreaking operations required heavy-duty gouging and cutting
- Equipment needed to withstand a harsh coastal environment
- High duty cycle for continuous daily operation
- Simple, reliable operation with minimal maintenance requirements

### Solution with MIG-500Z:

- **500A output** provided ample power for gouging and heavy cutting
- **100% duty cycle** enabled continuous operation throughout the workday
- **MMA mode** with Arc-Force control ensured stable arc for gouging electrodes
- **Robust construction** withstood demanding yard conditions

**Result:**

- Increased **processing speed by 30%** with more powerful, reliable equipment
- Reduced **downtime by 60%** compared to previous equipment
- Lowered **operating costs** through improved efficiency
- Expanded recycling capacity to handle larger vessels

**East Asia: South Korea – Shipbuilding Subcontractor**

**Customer:** Welding subcontractor serving major Korean shipyards in Ulsan and Geoje

**Challenge:**

- Meeting production targets for world's largest shipbuilders
- Maintaining consistent quality across high-volume production
- Training new welders quickly to meet demand

**Solution with MIG-500Z:**

- **Synergic mode** simplified operation for new welders
- **100% duty cycle** enabled continuous production without cooling breaks
- **Digital parameter control** ensured consistent quality across all shifts
- **Memory channels** stored approved parameters for different joint types

**Result:**

- Increased **productivity by 30%** per welder
- Reduced **training time for new welders by 50%**
- Achieved **zero defects** on critical production lines
- Expanded contracts with major Korean shipbuilders

**Certifications – Quality You Can Trust**

WENZHOU KEYGREE ELECTRIC CO.,LTD. is committed to the highest quality standards. Our MIG-500Z and all KEYGREE products are manufactured under strict quality control systems.

Certification

Status

Relevance

CE

Certified

Compliance with European health, safety, and environmental standards

ISO

Certified

International quality management system certification

BSCI

Certified

Business Social Compliance Initiative – ethical supply chain commitment

FCCA

Certified

Foreign Corrupt Practices Act compliance for international trade

CNAS

In Planning

China National Accreditation Service – enhancing global recognition

## **Why WENZHOU KEYGREE ELECTRIC CO.,LTD.?1. Massive Production Capacity – 700,000 Sets Annually**

Our **700,000 units per year** production capacity ensures:

- **Stable supply** for shipyards worldwide
- **Competitive pricing** through economies of scale
- **Fast delivery** to any global port
- **Consistent quality** across all production batches

## **2. Shipyard-Focused Engineering**

The MIG-500Z was designed specifically for shipyard applications:

- **100% duty cycle @40°C** – continuous operation in tropical and temperate climates
- **Customizable aluminum welding** – optimized parameters for different alloys

- **Robust construction**– built to withstand demanding shipyard environments
- **Multi-process capability**– one machine for all shipyard welding needs

### 3. Global Certification Pathway

Our commitment to quality is demonstrated by our certification journey:

- **Current:**CE, ISO, BSCI, FCCA certified
- **In progress:**CNAS accreditation for enhanced global recognition
- **Future:**Pursuing additional classification society approvals based on customer demand

### 4. Customer-Centric Approach

We don't just sell machines – we provide solutions:

- **Customizable parameters**for specific applications
- **Technical support**in multiple languages
- **Spare parts**shipped within 48 hours to major ports
- **Training**available for shipyard welding personnel

### Ready to Equip Your Shipyard?

Whether your shipyard operates in Asia, Europe, the Americas, Africa, or Oceania — the MIG-500Z is ready to support your welding operations.

Take the next step:

- Request a shipyard-specific technical datasheet
- Schedule a virtual demo with our maritime welding specialists
- Inquire about classification society approval support
- Website:[keygree.com](http://keygree.com)

Contact KEYGREE: [www.keygree.com](http://www.keygree.com) | Response within 24 hours

\*Specifications subject to change without notice. Certifications may vary by model and destination. For shipyard-specific application requirements, please consult KEYGREE technical support.\*

### Media Contact

Keygree Group Co., Ltd.

\*\*\*\*\*@keygree.com

<https://www.keygree.com/>

Source : Keygree Group Co., Ltd.

[See on IssueWire](#)