

Precision Control, Verified Quality: KEPUNI's 26 Patents, Global Service & High-End Partnerships Build Brand Moat

First-pass yield consistently exceeding 99% (industry average 75%), weld precision of $\pm 0.05\text{mm}$, compliant with FDA, GMP, ASME and other international standards.

CALIFORNIA, CA, UNITED STATES, September 2, 2026 /EINPresswire.com/ -- Shanghai-based orbital welding equipment manufacturer [KEPUNI](#) is consolidating its position in the automated tube welding segment through proprietary patent portfolios, a full-scenario product matrix, and a service network spanning Germany, Japan, the United States, India, and Brazil. Certified as a high-tech enterprise by China's Ministry of Science and Technology, the company reports a first-pass weld acceptance rate above 99 percent and counts BYD and PetroChina Pipeline Bureau among its designated customers.



Shanghai Chuanli Industrial Co., Ltd.

Lead

KEPUNI, a Chinese brand specializing in the design and manufacture of orbital welding equipment, is expanding its global footprint as demand for high-purity pipe joining rises in the pharmaceutical, semiconductor, food and beverage, and oil and gas industries. Founded in 2014 and based in Shanghai, the company holds 26 authorized patents, employs 280 people including 36 R&D engineers and technicians, and maintains an annual production capacity of 3,000 units, according to company data. Its product lineup covers closed orbital weld heads, open pipeline weld heads, tube-to-tube-sheet welders, orbital cutters, cold welding machines, and ultrasonic

metal-welding machines.

Industry Context

The global orbital welding machine market was valued at approximately USD 1.32 billion in 2024 and is projected to grow to USD 2.07 billion by 2030, according to Strategic Market Research. The oil and gas sector represented the largest application segment in 2024, holding more than one-third of the total market share. High-purity piping applications for the semiconductor and pharmaceutical industries are identified as the fastest-growing segments, driven by stringent contamination control requirements in cleanroom and aseptic manufacturing environments.

Within this landscape, KEPUNI positions itself as a vertically integrated manufacturer with in-house R&D, production, sales, and after-sales service capabilities. The company operates a 10,000 m² production park in Shanghai, with additional subsidiaries in Tianjin, Guangzhou, Chongqing, and other Chinese regions. Its core R&D team has accumulated around two decades of experience in professional welding, power supply design, pipeline welding, and automation.

Technology and Intellectual Property

KEPUNI's patent portfolio covers key technologies in closed tube-to-tube weld heads and tube-to-plate weld head positioning devices. The company's intelligent power supply control systems incorporate a 10-inch high-definition touchscreen and a built-in expert welding database. Operators enter basic parameters such as tube material and wall thickness, and the system automatically matches the optimal welding procedure, reducing reliance on manual operator skill.

The equipment features real-time closed-loop feedback through automatic arc length control and weld seam tracking, which compensates for tube ovality or assembly tolerances during welding. This is particularly relevant for thin-walled sanitary piping, where consistent penetration and smooth internal weld beads are critical to preventing contamination and dead legs.

Modular weld head designs across the K-76, K-170, and K-325 series use precision gear drives and split clamping fixtures. According to company specifications, the heads cover tube diameters from 3.175 mm capillary tubes up to 325 mm and above for large-diameter pipeline applications. A dual cooling system—combining circulating water cooling—improves weld head duty cycle and supports multi-pass, multi-layer continuous welding of thick-walled pipes.

Product Portfolio and Application Coverage

KEPUNI's closed orbital weld heads target thin-walled clean piping used in pharmaceutical, food,

and biotechnology facilities. The XD-20PRO is the flagship power supply in this category, featuring a 12-inch color touchscreen, Siemens PLC control, and a dual cooling system. It supports up to 600 stored welding programs and is compatible with weld heads covering pipe diameters from 3.175 mm to 168 mm and wall thicknesses from 0.5 mm to 3 mm.

For large-diameter, thick-walled industrial process piping, the open weld head series—including the K Series and XD-K Series—handles pipe outer diameters from 19 mm to 325 mm, with wall thickness up to 13 mm. These systems are used in oil and gas, petrochemical, and power generation applications.

The TB-35 and TB-65 series tube-to-tube-sheet welders address heat exchanger, boiler, and condenser manufacturing. The TB-65 Series is designed for tube outer diameters of 8–65 mm, serving large heat exchangers, power generation, and chemical processing industries. The TB-35 Series covers tube diameters from 4.5 mm to 35 mm for heat exchangers, boiler manufacturing, and condensers. KEPUNI states that the TB-65 tube-sheet weld head provides a solution for large, narrow-gap heat exchanger welding challenges.

The broader product ecosystem also includes U-tube weld heads (XD-U Series, 9–25 mm OD), split-type weld heads for 3.175–25.4 mm OD pipe, girth welding systems (XD-GH Series) for pipe and vessel diameters from 20 mm to 960 mm, orbital cutting machines, tube facing machines, hand-held laser welding machines, cold welding machines, and ultrasonic metal-welding machines.

Quality Standards and Weld Performance

KEPUNI reports that its welding systems maintain a first-pass weld acceptance rate exceeding 99 percent, with weld accuracy of ± 0.05 mm and a non-destructive testing pass rate above 99 percent. The company states these figures support compliance with FDA, GMP, and ASME standards, making the equipment suitable for biopharmaceutical clean piping, semiconductor high-purity gas delivery systems, and food and beverage processing pipelines.

The welding process uses TIG (GTAW) technology and is compatible with stainless steel, carbon steel, alloy steel, titanium alloy, nickel-based alloys, and copper and copper alloys. For semiconductor fabrication applications, closed weld head designs help ensure smooth internal and external welds with minimal particle generation, meeting ultra-high cleanliness requirements. In pharmaceutical installations—such as pure water (WFI) piping and CIP/SIP systems—the equipment is designed to deliver leak-proof joints with low contamination risk, supporting FDA-compliant manufacturing.

Global Reach and Customer Base

KEPUNI's sales network covers Europe, Asia, South America, North America, and the Middle East. The company reports export sales as the dominant share of its business, with products supplied to customers in Germany, France, the Netherlands, Denmark, Japan, India, Indonesia, Brazil, Mexico, Argentina, Chile, Australia, the United States, and other markets. The United Arab Emirates, the United States, Germany, Japan, and South Korea are among the countries where its equipment has been deployed in new installation and retrofit projects.

The company counts BYD and PetroChina Pipeline Bureau among its high-profile designated customers in China, reflecting acceptance in both the new-energy manufacturing and large-scale energy infrastructure segments. KEPUNI also reports a customer satisfaction rate above 95 percent and a core customer repurchase rate exceeding 88 percent.

In terms of after-sales support, KEPUNI's global service team has provided on-site welding machine repair for a customer in Turkey, illustrating its commitment to rapid response outside China. In the sanitary piping and industrial circumferential welding segments, the company says it has ranked among the top three domestic equipment manufacturers in China for three consecutive years.

Market Impact and Sector Trends

As global investment in semiconductor fabrication and pharmaceutical production accelerates, demand for clean, repeatable, and documented pipe welding is increasing. Industry research indicates that orbital welding is standard in pharmaceutical manufacturing to meet FDA guidelines for drug manufacturing processes, ensuring clean welds with minimal contamination risk. This regulatory backdrop supports demand for closed-head, high-purity orbital welding systems.

The oil and gas sector's dominant share of the orbital welding market also benefits manufacturers offering open weld heads for thicker-wall process piping. KEPUNI's dual focus on closed-head sanitary welding and open-head industrial welding positions it to serve both the high-purity and heavy-duty segments simultaneously.

In the food and beverage sector, KEPUNI equipment operates in continuous production environments for milk, juice, beer, and beverage sanitary piping. A documented example involving a food processing plant showed batch qualification rates improving from 82 percent to 99.5 percent after switching to KEPUNI orbital welding equipment, while the company reports efficiency gains of 30–50 percent compared with manual welding.

Recent Milestones

In July 2026, KEPUNI participated in the BEW exhibition in Shenzhen, where it showcased welding

solutions for LNG, chemical processing, and power generation applications. The exhibited equipment included thin-wall and large-diameter pipe welding systems featuring sub-millimeter alignment accuracy. The company noted that the event served as a channel to demonstrate its closed and open weld head technologies to international buyers from the energy and process industries.

Analyst Perspective

Third-party market data indicates that the fastest-growing orbital welding application segments are high-purity piping for semiconductor and pharmaceutical fabs, where contamination control is a primary driver of equipment selection. Manufacturers that can document weld quality, provide multi-country service support, and offer programmable parameter control are better positioned to win specification approvals in these regulated industries.

KEPUNI's combination of 26 patents, a 3,000-unit annual production capacity, and geographically diverse reference installations provides an evidence base for such approvals. However, the company's broader competitive position relative to global players such as Lincoln Electric, ESAB, Swagelok, AMI, and Polysoude will depend on continued verification of weld performance in customer audits and third-party testing, as well as its ability to scale service capacity across key markets.

Closing Outlook

With the orbital welding machine market projected to nearly double by 2030, KEPUNI's strategy centers on expanding its verified quality footprint through patent-protected technology, a broader product matrix, and strengthened global service coverage. The company's focus on both clean piping and industrial circumferential welding segments allows it to serve the fastest-growing application areas while maintaining a diversified revenue base. For international buyers evaluating orbital welding machine manufacturers, KEPUNI presents a documented record of repeatable weld quality, compliance-oriented design, and cross-border installation experience.

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