

# Global Robotic Friction Stir Welding Fsw Machine Market Research Report 2025(Status and Outlook)

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## Abstracts

A robotic friction stir welding (FSW) machine is a sophisticated piece of industrial equipment that combines the principles of friction stir welding with robotic automation. Friction stir welding is a solid-state joining process that uses a non-consumable rotating tool to generate frictional heat at the interface of two or more workpieces, causing them to plasticize and then forge together without melting. In a robotic FSW machine, a robotic arm is equipped with the friction stir welding tool. The robot's programming enables precise control over the movement of the tool along the joint line of the workpieces, allowing for accurate positioning, speed control, and application of the necessary force. This automation provides several advantages, including increased repeatability, consistency in weld quality, and the ability to perform complex weld geometries that may be difficult or impossible to achieve manually. The robotic FSW machine is highly versatile and can be used in various industries, such as aerospace, automotive, and shipbuilding, where high-strength, reliable welds are required for joining materials like aluminum, magnesium, and copper alloys.

The global Robotic Friction Stir Welding Fsw Machine market size was estimated at USD 138.69 million in 2024 and is projected to grow at a compound annual growth rate (CAGR) of 4.90% during the forecast period.

This report offers a comprehensive and in-depth analysis of the global Robotic Friction Stir Welding Fsw Machine market, covering all critical facets from a broad macroeconomic overview to detailed micro-level insights. It examines market size, competitive landscape, emerging development trends, niche segments, key drivers and challenges, as well as conducts SWOT and value chain analyses.

The insights provided enable readers to understand the competitive dynamics within the

industry and formulate effective strategies to enhance profitability and market positioning. Additionally, the report presents a clear framework for evaluating the current status and future outlook of business organizations operating in this sector.

A significant focus of this report lies in the competitive landscape of the global Robotic Friction Stir Welding Fsw Machine market. It offers detailed profiles of major players, including their market shares, performance metrics, product portfolios, and operational status. This enables stakeholders to identify leading competitors and gain a nuanced understanding of market rivalry and structure.

In summary, this report serves as an essential resource for industry participants, investors, researchers, consultants, and business strategists, as well as anyone planning to enter or expand their presence in the Robotic Friction Stir Welding Fsw Machine market.

## **Global Robotic Friction Stir Welding Fsw Machine Market: Market Segmentation Analysis**

This research report provides a detailed segmentation of the market by region (country), key manufacturers, product type, and application. Market segmentation divides the overall market into distinct subsets based on factors such as product categories, end-user industries, geographic locations, and other relevant criteria.

A clear understanding of these market segments enables decision-makers to tailor their product development, sales, and marketing strategies more effectively to meet the unique needs of each segment. Leveraging market segmentation insights can significantly enhance targeted approaches, optimize resource allocation, and accelerate product innovation cycles by aligning offerings with the specific demands of diverse customer groups.

### **Key Company**

Grenzebach

Stirweld

KUKA

TRA-C industrie

Ruisong Intelligent Technology

Aerospace Engineering Equipment (Suzhou) Co., Ltd

Fanuc  
ABB  
Yaskawa

### **Market Segmentation (by Type)**

Articulated - arm FSW Machines  
Gantry - type FSW Machines  
Others

### **Market Segmentation (by Application)**

Aerospace Industry  
Automotive Industry  
Electronics Industry  
Shipbuilding Industry  
Others

### **Geographic Segmentation**

North America (USA, Canada, Mexico)

Europe (Germany, UK, France, Russia, Italy, Rest of Europe)

Asia-Pacific (China, Japan, South Korea, India, Southeast Asia, Rest of Asia-Pacific)

South America (Brazil, Argentina, Columbia, Rest of South America)

The Middle East and Africa (Saudi Arabia, UAE, Egypt, Nigeria, South Africa, Rest of MEA)

### **Key Benefits of This Market Research:**

Industry drivers, restraints, and opportunities covered in the study

Neutral perspective on the market performance

Recent industry trends and developments

Competitive landscape & strategies of key players

Potential & niche segments and regions exhibiting promising growth covered

Historical, current, and projected market size, in terms of value

In-depth analysis of the Robotic Friction Stir Welding Fsw Machine Market

Overview of the regional outlook of the Robotic Friction Stir Welding Fsw Machine Market:

## **Customization of the Report**

In case of any queries or customization requirements, please connect with our sales team, who will ensure that your requirements are met.

## Chapter Outline

Chapter 1 mainly introduces the statistical scope of the report, market division standards, and market research methods.

Chapter 2 is an executive summary of different market segments (by region, product type, application, etc), including the market size of each market segment, future development potential, and so on. It offers a high-level view of the current state of the Robotic Friction Stir Welding Fsw Machine Market and its likely evolution in the short to mid-term, and long term.

Chapter 3 makes a detailed analysis of the market's competitive landscape of the market and provides the market share, capacity, output, price, latest development plan, merger, and acquisition information of the main manufacturers in the market.

Chapter 4 is the analysis of the whole market industrial chain, including the upstream and downstream of the industry, as well as Porter's five forces analysis.

Chapter 5 introduces the latest developments of the market, the driving factors and

restrictive factors of the market, the challenges and risks faced by manufacturers in the industry, and the analysis of relevant policies in the industry.

Chapter 6 provides the analysis of various market segments according to product types, covering the market size and development potential of each market segment, to help readers find the blue ocean market in different market segments.

Chapter 7 provides the analysis of various market segments according to application, covering the market size and development potential of each market segment, to help readers find the blue ocean market in different downstream markets.

Chapter 8 provides a quantitative analysis of the market size and development potential of each region and its main countries and introduces the market development, future development prospects, market space, and capacity of each country in the world.

Chapter 9 shares the main producing countries of Robotic Friction Stir Welding Fsw Machine, their output value, profit level, regional supply, production capacity layout, etc. from the supply side.

Chapter 10 introduces the basic situation of the main companies in the market in detail, including product sales revenue, sales volume, price, gross profit margin, market share, product introduction, recent development, etc.

Chapter 11 provides a quantitative analysis of the market size and development potential of each region in the next five years.

Chapter 12 provides a quantitative analysis of the market size and development potential of each market segment in the next five years.

Chapter 13 is the main points and conclusions of the report.

### **Key Reasons to Buy this Report:**

Access to date statistics compiled by our researchers. These provide you with historical and forecast data, which is analyzed to tell you why your market is set to change

This enables you to anticipate market changes to remain ahead of your competitors

You will be able to copy data from the Excel spreadsheet straight into your marketing plans, business presentations, or other strategic documents

The concise analysis, clear graph, and table format will enable you to pinpoint the information you require quickly

Provision of market value data for each segment and sub-segment

Indicates the region and segment that is expected to witness the fastest growth as well as to dominate the market

Analysis by geography highlighting the consumption of the product/service in the region as well as indicating the factors that are affecting the market within each region

Competitive landscape which incorporates the market ranking of the major players, along with new service/product launches, partnerships, business expansions, and acquisitions in the past five years of companies profiled

Extensive company profiles comprising of company overview, company insights, product benchmarking, and SWOT analysis for the major market players

The current as well as the future market outlook of the industry concerning recent developments which involve growth opportunities and drivers as well as challenges and restraints of both emerging as well as developed regions

Includes in-depth analysis of the market from various perspectives through Porter's five forces analysis

Provides insight into the market through Value Chain

Market dynamics scenario, along with growth opportunities of the market in the years to come

6-month post-sales analyst support

## **Customization of the Report**

In case of any queries or customization requirements, please connect with our sales team, who will ensure that your requirements are met.

## Contents

### **1 RESEARCH METHODOLOGY AND STATISTICAL SCOPE**

- 1.1 Market Definition and Statistical Scope of Robotic Friction Stir Welding Fsw Machine
- 1.2 Key Market Segments
  - 1.2.1 Robotic Friction Stir Welding Fsw Machine Segment by Type
  - 1.2.2 Robotic Friction Stir Welding Fsw Machine Segment by Application
- 1.3 Methodology & Sources of Information
  - 1.3.1 Research Methodology
  - 1.3.2 Research Process
  - 1.3.3 Market Breakdown and Data Triangulation
  - 1.3.4 Base Year
  - 1.3.5 Report Assumptions & Caveats

### **2 ROBOTIC FRICTION STIR WELDING FSW MACHINE MARKET OVERVIEW**

- 2.1 Global Market Overview
  - 2.1.1 Global Robotic Friction Stir Welding Fsw Machine Market Size (M USD) Estimates and Forecasts (2020-2033)
  - 2.1.2 Global Robotic Friction Stir Welding Fsw Machine Sales Estimates and Forecasts (2020-2033)
- 2.2 Market Segment Executive Summary
- 2.3 Global Market Size by Region

### **3 ROBOTIC FRICTION STIR WELDING FSW MACHINE MARKET COMPETITIVE LANDSCAPE**

- 3.1 Company Assessment Quadrant
- 3.2 Global Robotic Friction Stir Welding Fsw Machine Product Life Cycle
- 3.3 Global Robotic Friction Stir Welding Fsw Machine Sales by Manufacturers (2020-2025)
- 3.4 Global Robotic Friction Stir Welding Fsw Machine Revenue Market Share by Manufacturers (2020-2025)
- 3.5 Robotic Friction Stir Welding Fsw Machine Market Share by Company Type (Tier 1, Tier 2, and Tier 3)
- 3.6 Global Robotic Friction Stir Welding Fsw Machine Average Price by Manufacturers (2020-2025)
- 3.7 Manufacturers? Manufacturing Sites, Areas Served, and Product Types

### 3.8 Robotic Friction Stir Welding Fsw Machine Market Competitive Situation and Trends

#### 3.8.1 Robotic Friction Stir Welding Fsw Machine Market Concentration Rate

#### 3.8.2 Global 5 and 10 Largest Robotic Friction Stir Welding Fsw Machine Players

#### Market Share by Revenue

#### 3.8.3 Mergers & Acquisitions, Expansion

## **4 ROBOTIC FRICTION STIR WELDING FSW MACHINE INDUSTRY CHAIN ANALYSIS**

### 4.1 Robotic Friction Stir Welding Fsw Machine Industry Chain Analysis

### 4.2 Market Overview of Key Raw Materials

### 4.3 Midstream Market Analysis

### 4.4 Downstream Customer Analysis

## **5 THE DEVELOPMENT AND DYNAMICS OF ROBOTIC FRICTION STIR WELDING FSW MACHINE MARKET**

### 5.1 Key Development Trends

### 5.2 Driving Factors

### 5.3 Market Challenges

### 5.4 Industry News

#### 5.4.1 New Product Developments

#### 5.4.2 Mergers & Acquisitions

#### 5.4.3 Expansions

#### 5.4.4 Collaboration/Supply Contracts

### 5.5 PEST Analysis

#### 5.5.1 Industry Policies Analysis

#### 5.5.2 Economic Environment Analysis

#### 5.5.3 Social Environment Analysis

#### 5.5.4 Technological Environment Analysis

### 5.6 Global Robotic Friction Stir Welding Fsw Machine Market Porter's Five Forces Analysis

#### 5.6.1 Global Trade Frictions

#### 5.6.2 U.S. Tariff Policy ? April 2025

#### 5.6.3 Global Trade Frictions and Their Impacts to Robotic Friction Stir Welding Fsw Machine Market

### 5.7 ESG Ratings of Leading Companies

## **6 ROBOTIC FRICTION STIR WELDING FSW MACHINE MARKET SEGMENTATION**

## **BY TYPE**

- 6.1 Evaluation Matrix of Segment Market Development Potential (Type)
- 6.2 Global Robotic Friction Stir Welding Fsw Machine Sales Market Share by Type (2020-2025)
- 6.3 Global Robotic Friction Stir Welding Fsw Machine Market Size Market Share by Type (2020-2025)
- 6.4 Global Robotic Friction Stir Welding Fsw Machine Price by Type (2020-2025)

## **7 ROBOTIC FRICTION STIR WELDING FSW MACHINE MARKET SEGMENTATION BY APPLICATION**

- 7.1 Evaluation Matrix of Segment Market Development Potential (Application)
- 7.2 Global Robotic Friction Stir Welding Fsw Machine Market Sales by Application (2020-2025)
- 7.3 Global Robotic Friction Stir Welding Fsw Machine Market Size (M USD) by Application (2020-2025)
- 7.4 Global Robotic Friction Stir Welding Fsw Machine Sales Growth Rate by Application (2020-2025)

## **8 ROBOTIC FRICTION STIR WELDING FSW MACHINE MARKET SALES BY REGION**

- 8.1 Global Robotic Friction Stir Welding Fsw Machine Sales by Region
  - 8.1.1 Global Robotic Friction Stir Welding Fsw Machine Sales by Region
  - 8.1.2 Global Robotic Friction Stir Welding Fsw Machine Sales Market Share by Region
- 8.2 Global Robotic Friction Stir Welding Fsw Machine Market Size by Region
  - 8.2.1 Global Robotic Friction Stir Welding Fsw Machine Market Size by Region
  - 8.2.2 Global Robotic Friction Stir Welding Fsw Machine Market Size Market Share by Region
- 8.3 North America
  - 8.3.1 North America Robotic Friction Stir Welding Fsw Machine Sales by Country
  - 8.3.2 North America Robotic Friction Stir Welding Fsw Machine Market Size by Country
  - 8.3.3 U.S. Market Overview
  - 8.3.4 Canada Market Overview
  - 8.3.5 Mexico Market Overview
- 8.4 Europe
  - 8.4.1 Europe Robotic Friction Stir Welding Fsw Machine Sales by Country

- 8.4.2 Europe Robotic Friction Stir Welding Fsw Machine Market Size by Country
- 8.4.3 Germany Market Overview
- 8.4.4 France Market Overview
- 8.4.5 U.K. Market Overview
- 8.4.6 Italy Market Overview
- 8.4.7 Spain Market Overview
- 8.5 Asia Pacific
  - 8.5.1 Asia Pacific Robotic Friction Stir Welding Fsw Machine Sales by Region
  - 8.5.2 Asia Pacific Robotic Friction Stir Welding Fsw Machine Market Size by Region
  - 8.5.3 China Market Overview
  - 8.5.4 Japan Market Overview
  - 8.5.5 South Korea Market Overview
  - 8.5.6 India Market Overview
  - 8.5.7 Southeast Asia Market Overview
- 8.6 South America
  - 8.6.1 South America Robotic Friction Stir Welding Fsw Machine Sales by Country
  - 8.6.2 South America Robotic Friction Stir Welding Fsw Machine Market Size by Country
  - 8.6.3 Brazil Market Overview
  - 8.6.4 Argentina Market Overview
  - 8.6.5 Columbia Market Overview
- 8.7 Middle East and Africa
  - 8.7.1 Middle East and Africa Robotic Friction Stir Welding Fsw Machine Sales by Region
  - 8.7.2 Middle East and Africa Robotic Friction Stir Welding Fsw Machine Market Size by Region
  - 8.7.3 Saudi Arabia Market Overview
  - 8.7.4 UAE Market Overview
  - 8.7.5 Egypt Market Overview
  - 8.7.6 Nigeria Market Overview
  - 8.7.7 South Africa Market Overview

## **9 ROBOTIC FRICTION STIR WELDING FSW MACHINE MARKET PRODUCTION BY REGION**

- 9.1 Global Production of Robotic Friction Stir Welding Fsw Machine by Region(2020-2025)
- 9.2 Global Robotic Friction Stir Welding Fsw Machine Revenue Market Share by Region (2020-2025)

9.3 Global Robotic Friction Stir Welding Fsw Machine Production, Revenue, Price and Gross Margin (2020-2025)

9.4 North America Robotic Friction Stir Welding Fsw Machine Production

9.4.1 North America Robotic Friction Stir Welding Fsw Machine Production Growth Rate (2020-2025)

9.4.2 North America Robotic Friction Stir Welding Fsw Machine Production, Revenue, Price and Gross Margin (2020-2025)

9.5 Europe Robotic Friction Stir Welding Fsw Machine Production

9.5.1 Europe Robotic Friction Stir Welding Fsw Machine Production Growth Rate (2020-2025)

9.5.2 Europe Robotic Friction Stir Welding Fsw Machine Production, Revenue, Price and Gross Margin (2020-2025)

9.6 Japan Robotic Friction Stir Welding Fsw Machine Production (2020-2025)

9.6.1 Japan Robotic Friction Stir Welding Fsw Machine Production Growth Rate (2020-2025)

9.6.2 Japan Robotic Friction Stir Welding Fsw Machine Production, Revenue, Price and Gross Margin (2020-2025)

9.7 China Robotic Friction Stir Welding Fsw Machine Production (2020-2025)

9.7.1 China Robotic Friction Stir Welding Fsw Machine Production Growth Rate (2020-2025)

9.7.2 China Robotic Friction Stir Welding Fsw Machine Production, Revenue, Price and Gross Margin (2020-2025)

## **10 KEY COMPANIES PROFILE**

10.1 Grenzebach

10.1.1 Grenzebach Basic Information

10.1.2 Grenzebach Robotic Friction Stir Welding Fsw Machine Product Overview

10.1.3 Grenzebach Robotic Friction Stir Welding Fsw Machine Product Market Performance

10.1.4 Grenzebach Business Overview

10.1.5 Grenzebach SWOT Analysis

10.1.6 Grenzebach Recent Developments

10.2 Stirweld

10.2.1 Stirweld Basic Information

10.2.2 Stirweld Robotic Friction Stir Welding Fsw Machine Product Overview

10.2.3 Stirweld Robotic Friction Stir Welding Fsw Machine Product Market Performance

10.2.4 Stirweld Business Overview

- 10.2.5 Stirweld SWOT Analysis
- 10.2.6 Stirweld Recent Developments
- 10.3 KUKA
  - 10.3.1 KUKA Basic Information
  - 10.3.2 KUKA Robotic Friction Stir Welding Fsw Machine Product Overview
  - 10.3.3 KUKA Robotic Friction Stir Welding Fsw Machine Product Market Performance
  - 10.3.4 KUKA Business Overview
  - 10.3.5 KUKA SWOT Analysis
  - 10.3.6 KUKA Recent Developments
- 10.4 TRA-C industrie
  - 10.4.1 TRA-C industrie Basic Information
  - 10.4.2 TRA-C industrie Robotic Friction Stir Welding Fsw Machine Product Overview
  - 10.4.3 TRA-C industrie Robotic Friction Stir Welding Fsw Machine Product Market Performance
  - 10.4.4 TRA-C industrie Business Overview
  - 10.4.5 TRA-C industrie Recent Developments
- 10.5 Ruisong Intelligent Technology
  - 10.5.1 Ruisong Intelligent Technology Basic Information
  - 10.5.2 Ruisong Intelligent Technology Robotic Friction Stir Welding Fsw Machine Product Overview
  - 10.5.3 Ruisong Intelligent Technology Robotic Friction Stir Welding Fsw Machine Product Market Performance
  - 10.5.4 Ruisong Intelligent Technology Business Overview
  - 10.5.5 Ruisong Intelligent Technology Recent Developments
- 10.6 Aerospace Engineering Equipment (Suzhou) Co., Ltd
  - 10.6.1 Aerospace Engineering Equipment (Suzhou) Co., Ltd Basic Information
  - 10.6.2 Aerospace Engineering Equipment (Suzhou) Co., Ltd Robotic Friction Stir Welding Fsw Machine Product Overview
  - 10.6.3 Aerospace Engineering Equipment (Suzhou) Co., Ltd Robotic Friction Stir Welding Fsw Machine Product Market Performance
  - 10.6.4 Aerospace Engineering Equipment (Suzhou) Co., Ltd Business Overview
  - 10.6.5 Aerospace Engineering Equipment (Suzhou) Co., Ltd Recent Developments
- 10.7 Fanuc
  - 10.7.1 Fanuc Basic Information
  - 10.7.2 Fanuc Robotic Friction Stir Welding Fsw Machine Product Overview
  - 10.7.3 Fanuc Robotic Friction Stir Welding Fsw Machine Product Market Performance
  - 10.7.4 Fanuc Business Overview
  - 10.7.5 Fanuc Recent Developments
- 10.8 ABB

- 10.8.1 ABB Basic Information
- 10.8.2 ABB Robotic Friction Stir Welding Fsw Machine Product Overview
- 10.8.3 ABB Robotic Friction Stir Welding Fsw Machine Product Market Performance
- 10.8.4 ABB Business Overview
- 10.8.5 ABB Recent Developments
- 10.9 Yaskawa
  - 10.9.1 Yaskawa Basic Information
  - 10.9.2 Yaskawa Robotic Friction Stir Welding Fsw Machine Product Overview
  - 10.9.3 Yaskawa Robotic Friction Stir Welding Fsw Machine Product Market Performance
  - 10.9.4 Yaskawa Business Overview
  - 10.9.5 Yaskawa Recent Developments

## **11 ROBOTIC FRICTION STIR WELDING FSW MACHINE MARKET FORECAST BY REGION**

- 11.1 Global Robotic Friction Stir Welding Fsw Machine Market Size Forecast
- 11.2 Global Robotic Friction Stir Welding Fsw Machine Market Forecast by Region
  - 11.2.1 North America Market Size Forecast by Country
  - 11.2.2 Europe Robotic Friction Stir Welding Fsw Machine Market Size Forecast by Country
  - 11.2.3 Asia Pacific Robotic Friction Stir Welding Fsw Machine Market Size Forecast by Region
  - 11.2.4 South America Robotic Friction Stir Welding Fsw Machine Market Size Forecast by Country
  - 11.2.5 Middle East and Africa Forecasted Sales of Robotic Friction Stir Welding Fsw Machine by Country

## **12 FORECAST MARKET BY TYPE AND BY APPLICATION (2026-2033)**

- 12.1 Global Robotic Friction Stir Welding Fsw Machine Market Forecast by Type (2026-2033)
  - 12.1.1 Global Forecasted Sales of Robotic Friction Stir Welding Fsw Machine by Type (2026-2033)
  - 12.1.2 Global Robotic Friction Stir Welding Fsw Machine Market Size Forecast by Type (2026-2033)
  - 12.1.3 Global Forecasted Price of Robotic Friction Stir Welding Fsw Machine by Type (2026-2033)
- 12.2 Global Robotic Friction Stir Welding Fsw Machine Market Forecast by Application

(2026-2033)

12.2.1 Global Robotic Friction Stir Welding Fsw Machine Sales (K Units) Forecast by Application

12.2.2 Global Robotic Friction Stir Welding Fsw Machine Market Size (M USD) Forecast by Application (2026-2033)

## **13 CONCLUSION AND KEY FINDINGS**

## List Of Tables

### LIST OF TABLES

Table 1. Introduction of the Type

Table 2. Introduction of the Application

Table 3. Market Size (M USD) Segment Executive Summary

Table 4. Robotic Friction Stir Welding Fsw Machine Market Size Comparison by Region (M USD)

Table 5. Global Robotic Friction Stir Welding Fsw Machine Sales (K Units) by Manufacturers (2020-2025)

Table 6. Global Robotic Friction Stir Welding Fsw Machine Sales Market Share by Manufacturers (2020-2025)

Table 7. Global Robotic Friction Stir Welding Fsw Machine Revenue (M USD) by Manufacturers (2020-2025)

Table 8. Global Robotic Friction Stir Welding Fsw Machine Revenue Share by Manufacturers (2020-2025)

Table 9. Company Type (Tier 1, Tier 2, and Tier 3) & (based on the Revenue in Robotic Friction Stir Welding Fsw Machine as of 2024)

Table 10. Global Market Robotic Friction Stir Welding Fsw Machine Average Price (USD/Unit) of Key Manufacturers (2020-2025)

Table 11. Manufacturers? Manufacturing Sites, Areas Served

Table 12. Manufacturers? Product Type

Table 13. Global Robotic Friction Stir Welding Fsw Machine Manufacturers Market Concentration Ratio (CR5 and HHI)

Table 14. Mergers & Acquisitions, Expansion Plans

Table 15. Market Overview of Key Raw Materials

Table 16. Midstream Market Analysis

Table 17. Downstream Customer Analysis

Table 18. Key Development Trends

Table 19. Driving Factors

Table 20. Robotic Friction Stir Welding Fsw Machine Market Challenges

Table 21. Goldman Sachs' forecast real GDP growth rate for 2024-2026

Table 22. S&P Global ' Forecast Real GDP Growth Rate For 2024-2027

Table 23. World Bank ' Forecast Real GDP Growth Rate For 2024-2026

Table 24. The Tariff Rates Imposed by the United States on Major Commodity Trading Countries

Table 25. Global Robotic Friction Stir Welding Fsw Machine Sales by Type (K Units)

Table 26. Global Robotic Friction Stir Welding Fsw Machine Market Size by Type (M

USD)

Table 27. Global Robotic Friction Stir Welding Fsw Machine Sales (K Units) by Type (2020-2025)

Table 28. Global Robotic Friction Stir Welding Fsw Machine Sales Market Share by Type (2020-2025)

Table 29. Global Robotic Friction Stir Welding Fsw Machine Market Size (M USD) by Type (2020-2025)

Table 30. Global Robotic Friction Stir Welding Fsw Machine Market Size Share by Type (2020-2025)

Table 31. Global Robotic Friction Stir Welding Fsw Machine Price (USD/Unit) by Type (2020-2025)

Table 32. Global Robotic Friction Stir Welding Fsw Machine Sales (K Units) by Application

Table 33. Global Robotic Friction Stir Welding Fsw Machine Market Size by Application

Table 34. Global Robotic Friction Stir Welding Fsw Machine Sales by Application (2020-2025) & (K Units)

Table 35. Global Robotic Friction Stir Welding Fsw Machine Sales Market Share by Application (2020-2025)

Table 36. Global Robotic Friction Stir Welding Fsw Machine Market Size by Application (2020-2025) & (M USD)

Table 37. Global Robotic Friction Stir Welding Fsw Machine Market Share by Application (2020-2025)

Table 38. Global Robotic Friction Stir Welding Fsw Machine Sales Growth Rate by Application (2020-2025)

Table 39. Global Robotic Friction Stir Welding Fsw Machine Sales by Region (2020-2025) & (K Units)

Table 40. Global Robotic Friction Stir Welding Fsw Machine Sales Market Share by Region (2020-2025)

Table 41. Global Robotic Friction Stir Welding Fsw Machine Market Size by Region (2020-2025) & (M USD)

Table 42. Global Robotic Friction Stir Welding Fsw Machine Market Size Market Share by Region (2020-2025)

Table 43. North America Robotic Friction Stir Welding Fsw Machine Sales by Country (2020-2025) & (K Units)

Table 44. North America Robotic Friction Stir Welding Fsw Machine Market Size by Country (2020-2025) & (M USD)

Table 45. Europe Robotic Friction Stir Welding Fsw Machine Sales by Country (2020-2025) & (K Units)

Table 46. Europe Robotic Friction Stir Welding Fsw Machine Market Size by Country

(2020-2025) & (M USD)

Table 47. Asia Pacific Robotic Friction Stir Welding Fsw Machine Sales by Region (2020-2025) & (K Units)

Table 48. Asia Pacific Robotic Friction Stir Welding Fsw Machine Market Size by Region (2020-2025) & (M USD)

Table 49. South America Robotic Friction Stir Welding Fsw Machine Sales by Country (2020-2025) & (K Units)

Table 50. South America Robotic Friction Stir Welding Fsw Machine Market Size by Country (2020-2025) & (M USD)

Table 51. Middle East and Africa Robotic Friction Stir Welding Fsw Machine Sales by Region (2020-2025) & (K Units)

Table 52. Middle East and Africa Robotic Friction Stir Welding Fsw Machine Market Size by Region (2020-2025) & (M USD)

Table 53. Global Robotic Friction Stir Welding Fsw Machine Production (K Units) by Region(2020-2025)

Table 54. Global Robotic Friction Stir Welding Fsw Machine Revenue (US\$ Million) by Region (2020-2025)

Table 55. Global Robotic Friction Stir Welding Fsw Machine Revenue Market Share by Region (2020-2025)

Table 56. Global Robotic Friction Stir Welding Fsw Machine Production (K Units), Revenue (US\$ Million), Price (USD/Unit) and Gross Margin (2020-2025)

Table 57. North America Robotic Friction Stir Welding Fsw Machine Production (K Units), Revenue (US\$ Million), Price (USD/Unit) and Gross Margin (2020-2025)

Table 58. Europe Robotic Friction Stir Welding Fsw Machine Production (K Units), Revenue (US\$ Million), Price (USD/Unit) and Gross Margin (2020-2025)

Table 59. Japan Robotic Friction Stir Welding Fsw Machine Production (K Units), Revenue (US\$ Million), Price (USD/Unit) and Gross Margin (2020-2025)

Table 60. China Robotic Friction Stir Welding Fsw Machine Production (K Units), Revenue (US\$ Million), Price (USD/Unit) and Gross Margin (2020-2025)

Table 61. Grenzebach Basic Information

Table 62. Grenzebach Robotic Friction Stir Welding Fsw Machine Product Overview

Table 63. Grenzebach Robotic Friction Stir Welding Fsw Machine Sales (K Units), Revenue (M USD), Price (USD/Unit) and Gross Margin (2020-2025)

Table 64. Grenzebach Business Overview

Table 65. Grenzebach SWOT Analysis

Table 66. Grenzebach Recent Developments

Table 67. Stirweld Basic Information

Table 68. Stirweld Robotic Friction Stir Welding Fsw Machine Product Overview

Table 69. Stirweld Robotic Friction Stir Welding Fsw Machine Sales (K Units), Revenue

(M USD), Price (USD/Unit) and Gross Margin (2020-2025)

Table 70. Stirweld Business Overview

Table 71. Stirweld SWOT Analysis

Table 72. Stirweld Recent Developments

Table 73. KUKA Basic Information

Table 74. KUKA Robotic Friction Stir Welding Fsw Machine Product Overview

Table 75. KUKA Robotic Friction Stir Welding Fsw Machine Sales (K Units), Revenue (M USD), Price (USD/Unit) and Gross Margin (2020-2025)

Table 76. KUKA Business Overview

Table 77. KUKA SWOT Analysis

Table 78. KUKA Recent Developments

Table 79. TRA-C industrie Basic Information

Table 80. TRA-C industrie Robotic Friction Stir Welding Fsw Machine Product Overview

Table 81. TRA-C industrie Robotic Friction Stir Welding Fsw Machine Sales (K Units), Revenue (M USD), Price (USD/Unit) and Gross Margin (2020-2025)

Table 82. TRA-C industrie Business Overview

Table 83. TRA-C industrie Recent Developments

Table 84. Ruisong Intelligent Technology Basic Information

Table 85. Ruisong Intelligent Technology Robotic Friction Stir Welding Fsw Machine Product Overview

Table 86. Ruisong Intelligent Technology Robotic Friction Stir Welding Fsw Machine Sales (K Units), Revenue (M USD), Price (USD/Unit) and Gross Margin (2020-2025)

Table 87. Ruisong Intelligent Technology Business Overview

Table 88. Ruisong Intelligent Technology Recent Developments

Table 89. Aerospace Engineering Equipment (Suzhou) Co., Ltd Basic Information

Table 90. Aerospace Engineering Equipment (Suzhou) Co., Ltd Robotic Friction Stir Welding Fsw Machine Product Overview

Table 91. Aerospace Engineering Equipment (Suzhou) Co., Ltd Robotic Friction Stir Welding Fsw Machine Sales (K Units), Revenue (M USD), Price (USD/Unit) and Gross Margin (2020-2025)

Table 92. Aerospace Engineering Equipment (Suzhou) Co., Ltd Business Overview

Table 93. Aerospace Engineering Equipment (Suzhou) Co., Ltd Recent Developments

Table 94. Fanuc Basic Information

Table 95. Fanuc Robotic Friction Stir Welding Fsw Machine Product Overview

Table 96. Fanuc Robotic Friction Stir Welding Fsw Machine Sales (K Units), Revenue (M USD), Price (USD/Unit) and Gross Margin (2020-2025)

Table 97. Fanuc Business Overview

Table 98. Fanuc Recent Developments

Table 99. ABB Basic Information

- Table 100. ABB Robotic Friction Stir Welding Fsw Machine Product Overview
- Table 101. ABB Robotic Friction Stir Welding Fsw Machine Sales (K Units), Revenue (M USD), Price (USD/Unit) and Gross Margin (2020-2025)
- Table 102. ABB Business Overview
- Table 103. ABB Recent Developments
- Table 104. Yaskawa Basic Information
- Table 105. Yaskawa Robotic Friction Stir Welding Fsw Machine Product Overview
- Table 106. Yaskawa Robotic Friction Stir Welding Fsw Machine Sales (K Units), Revenue (M USD), Price (USD/Unit) and Gross Margin (2020-2025)
- Table 107. Yaskawa Business Overview
- Table 108. Yaskawa Recent Developments
- Table 109. Global Robotic Friction Stir Welding Fsw Machine Sales Forecast by Region (2026-2033) & (K Units)
- Table 110. Global Robotic Friction Stir Welding Fsw Machine Market Size Forecast by Region (2026-2033) & (M USD)
- Table 111. North America Robotic Friction Stir Welding Fsw Machine Sales Forecast by Country (2026-2033) & (K Units)
- Table 112. North America Robotic Friction Stir Welding Fsw Machine Market Size Forecast by Country (2026-2033) & (M USD)
- Table 113. Europe Robotic Friction Stir Welding Fsw Machine Sales Forecast by Country (2026-2033) & (K Units)
- Table 114. Europe Robotic Friction Stir Welding Fsw Machine Market Size Forecast by Country (2026-2033) & (M USD)
- Table 115. Asia Pacific Robotic Friction Stir Welding Fsw Machine Sales Forecast by Region (2026-2033) & (K Units)
- Table 116. Asia Pacific Robotic Friction Stir Welding Fsw Machine Market Size Forecast by Region (2026-2033) & (M USD)
- Table 117. South America Robotic Friction Stir Welding Fsw Machine Sales Forecast by Country (2026-2033) & (K Units)
- Table 118. South America Robotic Friction Stir Welding Fsw Machine Market Size Forecast by Country (2026-2033) & (M USD)
- Table 119. Middle East and Africa Robotic Friction Stir Welding Fsw Machine Sales Forecast by Country (2026-2033) & (Units)
- Table 120. Middle East and Africa Robotic Friction Stir Welding Fsw Machine Market Size Forecast by Country (2026-2033) & (M USD)
- Table 121. Global Robotic Friction Stir Welding Fsw Machine Sales Forecast by Type (2026-2033) & (K Units)
- Table 122. Global Robotic Friction Stir Welding Fsw Machine Market Size Forecast by Type (2026-2033) & (M USD)

Table 123. Global Robotic Friction Stir Welding Fsw Machine Price Forecast by Type (2026-2033) & (USD/Unit)

Table 124. Global Robotic Friction Stir Welding Fsw Machine Sales (K Units) Forecast by Application (2026-2033)

Table 125. Global Robotic Friction Stir Welding Fsw Machine Market Size Forecast by Application (2026-2033) & (M USD)

## List Of Figures

### LIST OF FIGURES

- Figure 1. Product Picture of Robotic Friction Stir Welding Fsw Machine
- Figure 2. Data Triangulation
- Figure 3. Key Caveats
- Figure 4. Global Robotic Friction Stir Welding Fsw Machine Market Size (M USD), 2024-2033
- Figure 5. Global Robotic Friction Stir Welding Fsw Machine Market Size (M USD) (2020-2033)
- Figure 6. Global Robotic Friction Stir Welding Fsw Machine Sales (K Units) & (2020-2033)
- Figure 7. Evaluation Matrix of Segment Market Development Potential (Type)
- Figure 8. Evaluation Matrix of Segment Market Development Potential (Application)
- Figure 9. Evaluation Matrix of Regional Market Development Potential
- Figure 10. Robotic Friction Stir Welding Fsw Machine Market Size by Country (M USD)
- Figure 11. Company Assessment Quadrant
- Figure 12. Global Robotic Friction Stir Welding Fsw Machine Product Life Cycle
- Figure 13. Robotic Friction Stir Welding Fsw Machine Sales Share by Manufacturers in 2024
- Figure 14. Global Robotic Friction Stir Welding Fsw Machine Revenue Share by Manufacturers in 2024
- Figure 15. Robotic Friction Stir Welding Fsw Machine Market Share by Company Type (Tier 1, Tier 2 and Tier 3): 2024
- Figure 16. Global Market Robotic Friction Stir Welding Fsw Machine Average Price (USD/Unit) of Key Manufacturers in 2024
- Figure 17. The Global 5 and 10 Largest Players: Market Share by Robotic Friction Stir Welding Fsw Machine Revenue in 2024
- Figure 18. Industry Chain Map of Robotic Friction Stir Welding Fsw Machine
- Figure 19. Global Robotic Friction Stir Welding Fsw Machine Market PEST Analysis
- Figure 20. Global Robotic Friction Stir Welding Fsw Machine Market Porter's Five Forces Analysis
- Figure 21. Global Merchandise Trade as a Percentage Of GDP
- Figure 22. US - Imports of Goods by Country
- Figure 23. China Exports by Country
- Figure 24. ESG Rating Distribution of The Leading Company Compared With Its Peers
- Figure 25. Evaluation Matrix of Segment Market Development Potential (Type)
- Figure 26. Global Robotic Friction Stir Welding Fsw Machine Market Share by Type

Figure 27. Sales Market Share of Robotic Friction Stir Welding Fsw Machine by Type (2020-2025)

Figure 28. Sales Market Share of Robotic Friction Stir Welding Fsw Machine by Type in 2024

Figure 29. Market Size Share of Robotic Friction Stir Welding Fsw Machine by Type (2020-2025)

Figure 30. Market Size Share of Robotic Friction Stir Welding Fsw Machine by Type in 2024

Figure 31. Evaluation Matrix of Segment Market Development Potential (Application)

Figure 32. Global Robotic Friction Stir Welding Fsw Machine Market Share by Application

Figure 33. Global Robotic Friction Stir Welding Fsw Machine Sales Market Share by Application (2020-2025)

Figure 34. Global Robotic Friction Stir Welding Fsw Machine Sales Market Share by Application in 2024

Figure 35. Global Robotic Friction Stir Welding Fsw Machine Market Share by Application (2020-2025)

Figure 36. Global Robotic Friction Stir Welding Fsw Machine Market Share by Application in 2024

Figure 37. Global Robotic Friction Stir Welding Fsw Machine Sales Growth Rate by Application (2020-2025)

Figure 38. Global Robotic Friction Stir Welding Fsw Machine Sales Market Share by Region (2020-2025)

Figure 39. Global Robotic Friction Stir Welding Fsw Machine Market Size Market Share by Region (2020-2025)

Figure 40. North America Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 41. North America Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 42. North America Robotic Friction Stir Welding Fsw Machine Sales Market Share by Country in 2024

Figure 43. North America Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 44. North America Robotic Friction Stir Welding Fsw Machine Market Size Market Share by Country in 2024

Figure 45. U.S. Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 46. U.S. Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 47. Canada Robotic Friction Stir Welding Fsw Machine Sales (K Units) and Growth Rate (2020-2025)

Figure 48. Canada Robotic Friction Stir Welding Fsw Machine Market Size (M USD) and Growth Rate (2020-2025)

Figure 49. Mexico Robotic Friction Stir Welding Fsw Machine Sales (Units) and Growth Rate (2020-2025)

Figure 50. Mexico Robotic Friction Stir Welding Fsw Machine Market Size (Units) and Growth Rate (2020-2025)

Figure 51. Europe Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 52. Europe Robotic Friction Stir Welding Fsw Machine Sales Market Share by Country in 2024

Figure 53. Europe Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 54. Europe Robotic Friction Stir Welding Fsw Machine Market Size Market Share by Country in 2024

Figure 55. Germany Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 56. Germany Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 57. France Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 58. France Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 59. U.K. Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 60. U.K. Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 61. Italy Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 62. Italy Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 63. Spain Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 64. Spain Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 65. Asia Pacific Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (K Units)

Figure 66. Asia Pacific Robotic Friction Stir Welding Fsw Machine Sales Market Share

by Region in 2024

Figure 67. Asia Pacific Robotic Friction Stir Welding Fsw Machine Market Size Market Share by Region in 2024

Figure 68. China Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 69. China Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 70. Japan Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 71. Japan Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 72. South Korea Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 73. South Korea Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 74. India Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 75. India Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 76. Southeast Asia Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 77. Southeast Asia Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 78. South America Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (K Units)

Figure 79. South America Robotic Friction Stir Welding Fsw Machine Sales Market Share by Country in 2024

Figure 80. South America Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (M USD)

Figure 81. South America Robotic Friction Stir Welding Fsw Machine Market Size Market Share by Country in 2024

Figure 82. Brazil Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 83. Brazil Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 84. Argentina Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 85. Argentina Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 86. Columbia Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 87. Columbia Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 88. Middle East and Africa Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (K Units)

Figure 89. Middle East and Africa Robotic Friction Stir Welding Fsw Machine Sales Market Share by Region in 2024

Figure 90. Middle East and Africa Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (M USD)

Figure 91. Middle East and Africa Robotic Friction Stir Welding Fsw Machine Market Size Market Share by Region in 2024

Figure 92. Saudi Arabia Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 93. Saudi Arabia Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 94. UAE Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 95. UAE Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 96. Egypt Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 97. Egypt Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 98. Nigeria Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 99. Nigeria Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 100. South Africa Robotic Friction Stir Welding Fsw Machine Sales and Growth Rate (2020-2025) & (K Units)

Figure 101. South Africa Robotic Friction Stir Welding Fsw Machine Market Size and Growth Rate (2020-2025) & (M USD)

Figure 102. Global Robotic Friction Stir Welding Fsw Machine Production Market Share by Region (2020-2025)

Figure 103. North America Robotic Friction Stir Welding Fsw Machine Production (K Units) Growth Rate (2020-2025)

Figure 104. Europe Robotic Friction Stir Welding Fsw Machine Production (K Units) Growth Rate (2020-2025)

Figure 105. Japan Robotic Friction Stir Welding Fsw Machine Production (K Units)

Growth Rate (2020-2025)

Figure 106. China Robotic Friction Stir Welding Fsw Machine Production (K Units)

Growth Rate (2020-2025)

Figure 107. Global Robotic Friction Stir Welding Fsw Machine Sales Forecast by Volume (2020-2033) & (K Units)

Figure 108. Global Robotic Friction Stir Welding Fsw Machine Market Size Forecast by Value (2020-2033) & (M USD)

Figure 109. Global Robotic Friction Stir Welding Fsw Machine Sales Market Share Forecast by Type (2026-2033)

Figure 110. Global Robotic Friction Stir Welding Fsw Machine Market Share Forecast by Type (2026-2033)

Figure 111. Global Robotic Friction Stir Welding Fsw Machine Sales Forecast by Application (2026-2033)

Figure 112. Global Robotic Friction Stir Welding Fsw Machine Market Share Forecast by Application (2026-2033)

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