

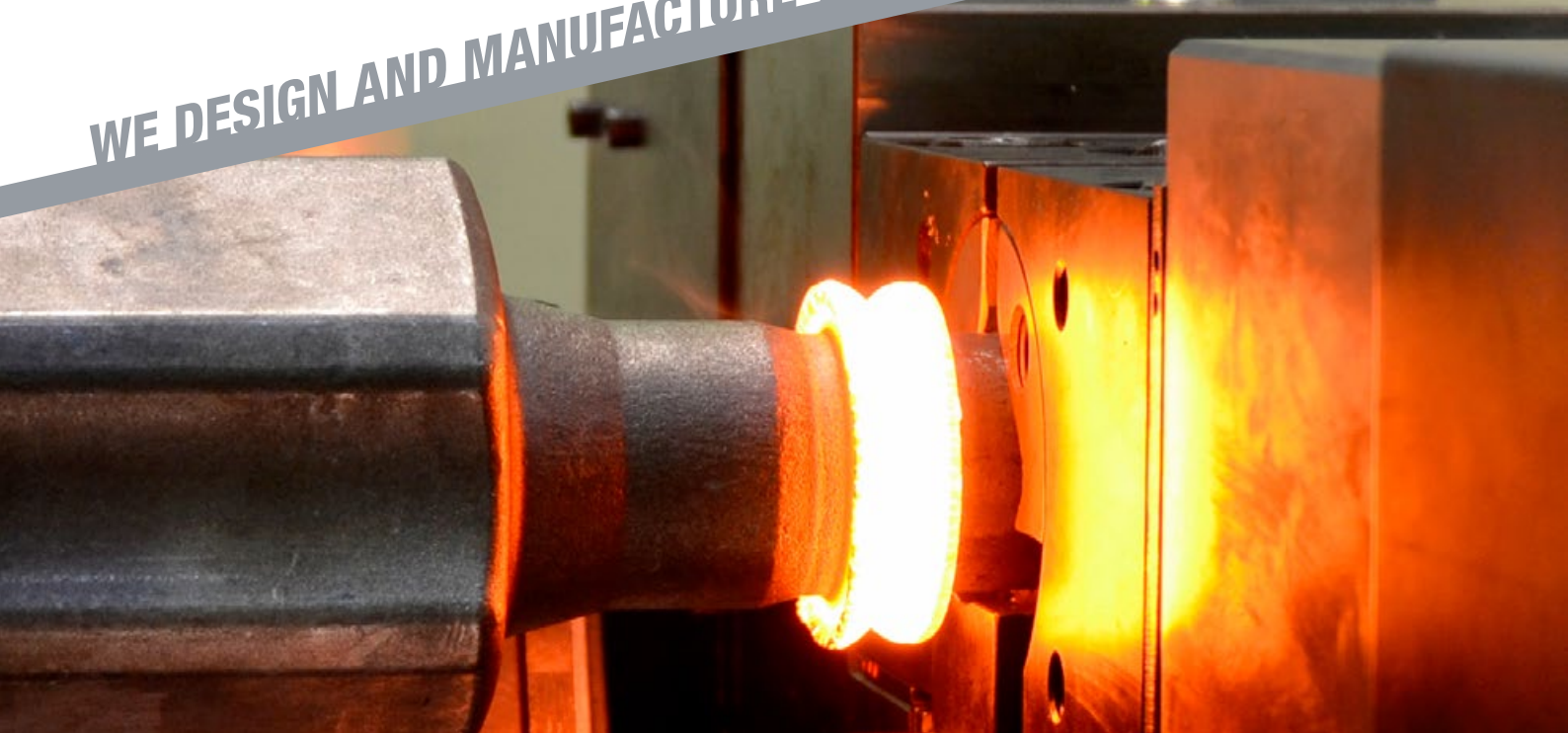


Rotary friction
welding
machines



BERKOA
S.COOP.
Machine Tools

WE DESIGN AND MANUFACTURE THE MACHINE TOOL YOU NEED





ABOUT US

Berkoa, S.Coop. is a machine-tool manufacturing company which is located in Elgoibar (Gipuzkoa), in the heart of the Basque Country, where there is a strong tradition of machine-tool manufacturing.

As a cooperative company, **the whole team is focused on a common goal: to offer tailor-made solutions to meet our customer's needs.** The satisfaction of their demands it's our commitment to keep improving. Our team is composed by professionals with years of experience in the advance manufacturing industry.

Innovation, commitment and excitement are the key elements to offer our customers **high quality services.**

INNOVATION



COMMITMENT

EXCITEMENT



WHAT DO WE DO?

Berkoa's team is specialized in **turnkey projects.** From the initial contact with the customer to the machine's setting-up and startup in their facilities.

- ▶ Knowledge of customer's needs
- ▶ Study and submission of possible solutions.
- ▶ Economic proposal for the project including estimated deadline for execution.
- ▶ Machine design.
- ▶ Manufacturing and purchase of the necessary material.
- ▶ Mechanical and electrical assembly.
- ▶ Start-up.
- ▶ Tests and submission of results to the customer.
- ▶ Reception at Berkoa.
- ▶ Delivery of the machine.
- ▶ Setting up of the machine at customer's facilities.
- ▶ Start-up, testing and reception at customer's facilities.
- ▶ Preventive maintenance.
- ▶ Technical support service

The whole process is carried out in **close contact with the customer,** who is the most familiarized with its product, and the one **who has the real "know-how"** of it.



ROTARY FRICTION WELDING MACHINES

Currently, we are the only manufacturers of rotary friction welders at the national level.

Rotary friction welding is a process of joining materials in which, by pressing and rotating one piece over another, the heat necessary to weld the pieces is generated. With this technology, joints can be made of both the same and different materials.

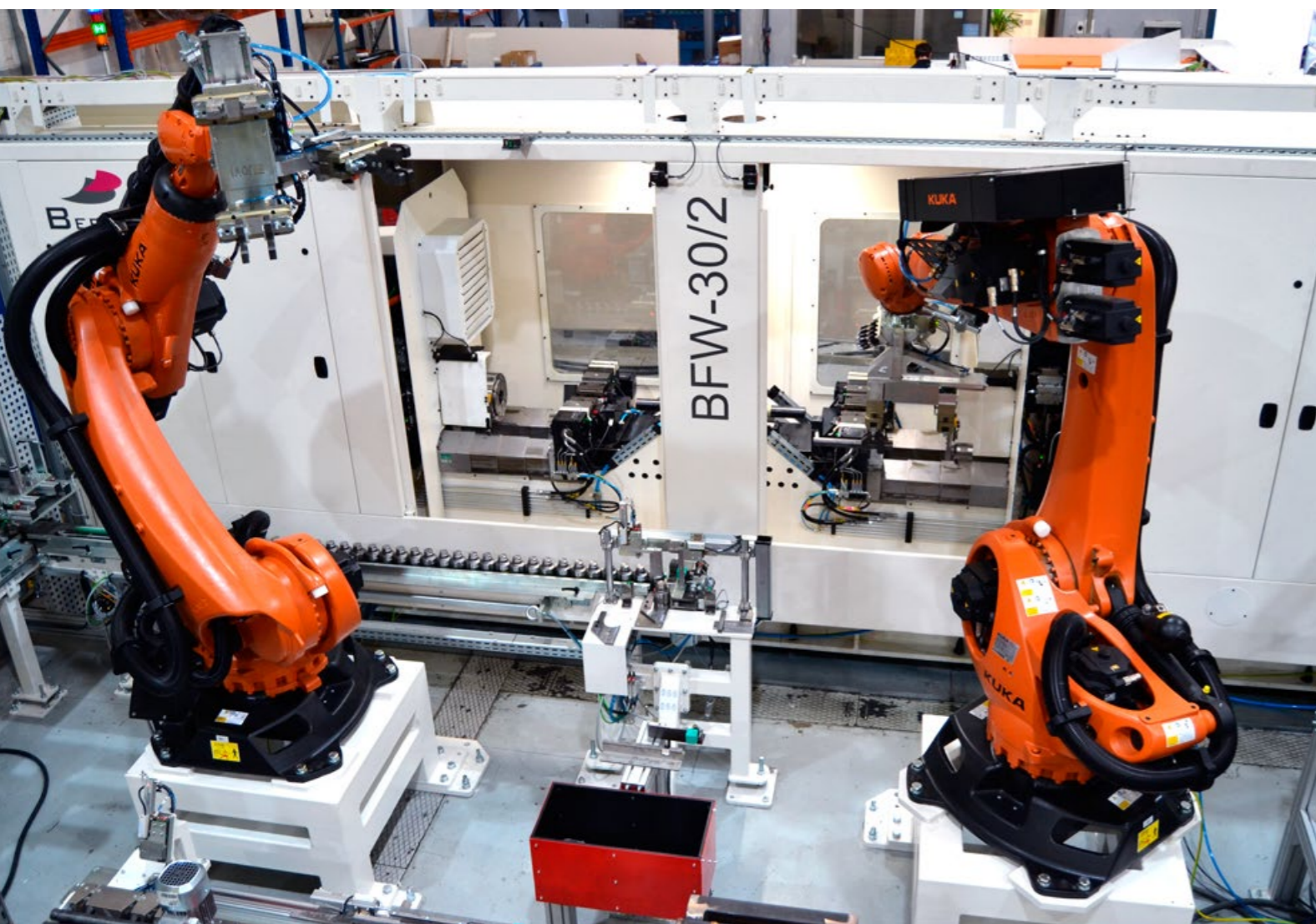
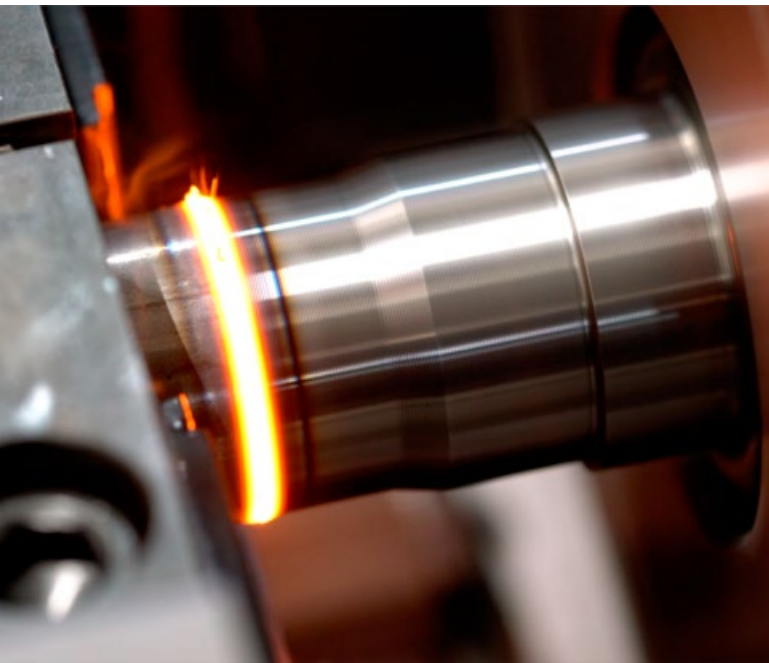
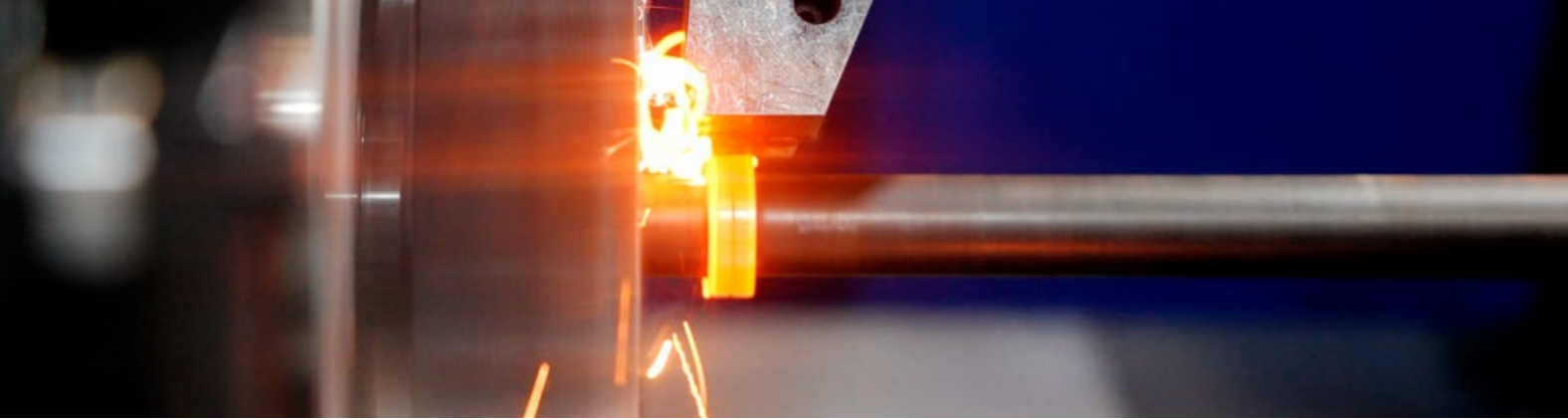
Among the most important features of these machines we find the **©BLSC 4.0 registered Controller** co-designed together with our technological partner Lortek. The controller allows the capture of data in real time, with just a margin of one millisecond. Traceability control and storage of parameters and their graphs are notable features of this controller.

Common tests to carry out to evaluate the quality of friction welded joints:

- ▶ Visual inspection
- ▶ Geometric and dimensional checks
- ▶ Metallographic examination (macro-micro)
- ▶ Micro-hardness analysis
- ▶ Mechanical tests: Tensile, bending (depending on the type of part: diameter, solid or tube, etc.)



Want to know more?
Link to Youtube channel



**Forging and steel
Automotive**



**F114 and HSS
Tools**



**Aluminium and copper
Electrical wiring**





©BLSC 4.0 CONTROLLER

The Berkoa Lortek System Control 4.0 controller marks a technological milestone in the field of rotary friction welding.

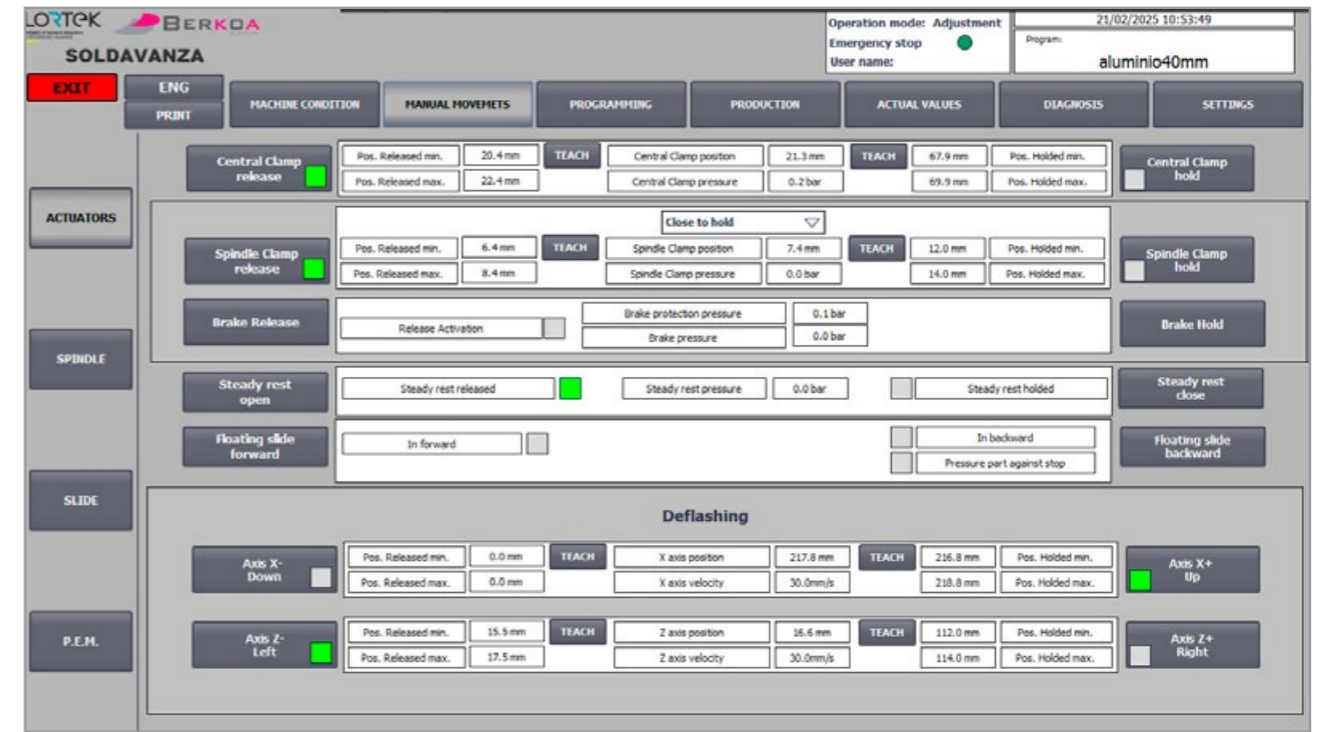
Designed to optimize process setup, ensure traceability, and offer customized solutions, this system combines precision, connectivity, and ease of use, helping companies improve their competitiveness in an increasingly demanding market.

Its flexibility and capacity for custom integration make it a key tool for businesses seeking to make the leap toward digitalization as well as for those already operating in highly automated environments.

©BLSC 4.0 main features:

- ▶ **PLC Siemens S7 1500:** Guarantees a cycle time of 1 ms, providing fast and precise control along with advanced and secure programming.
- ▶ **HMI SIMATIC WinCC:** An intuitive interface that facilitates user interaction, enabling efficient management and diagnosis of the machine's electrical, hydraulic, and lubrication systems. Parameterization and monitoring of actuators and automatic cycles are possible. Advanced user management with a hierarchy of permissions allows editing, management, and backup of production recipes.

Provides a complete **alarm history**, with detailed diagnostics on the machine, communications, actuator status, automatic cycle alarms, and non-conforming parts (NC), facilitating rapid problem identification and resolution.



Smart connectivity and simplified maintenance:

Connection via PROFINET for robust and efficient communication between all system components.

IO-Link sensors significantly improve maintenance thanks to their ability to quickly replace faulty sensors without the need for manual parameterization.

- ▶ **Web-based platform for parameter recording. Graphical process visualization:** Records key process data such as pressure, shortening, torque, and speed. These data are accessible from the local network via a web browser, ensuring complete traceability and secure storage for the technical office. Graphical representation of the welding process using curves for precise control. Generates customized batch reports by reference and date.
- ▶ **Flexible configuration:** Adjust critical parameters from the touchscreen with direct storage in the system and exportable backup options.
- ▶ **Industry 4.0 connectivity:** Ability to integrate production data with external platforms for complete plant management (OPC UA, MQTT)

SoldAvanza

Rotary friction welding machine



- ▶ Two working ranges:
20 tons of pushing force and 3,000 rpm.
60 tons of pushing force and 1,500 rpm.

BFW-30/2

2 stations rotary friction welding machine



- ▶ Turning option for deburring.

BFW-40/2000

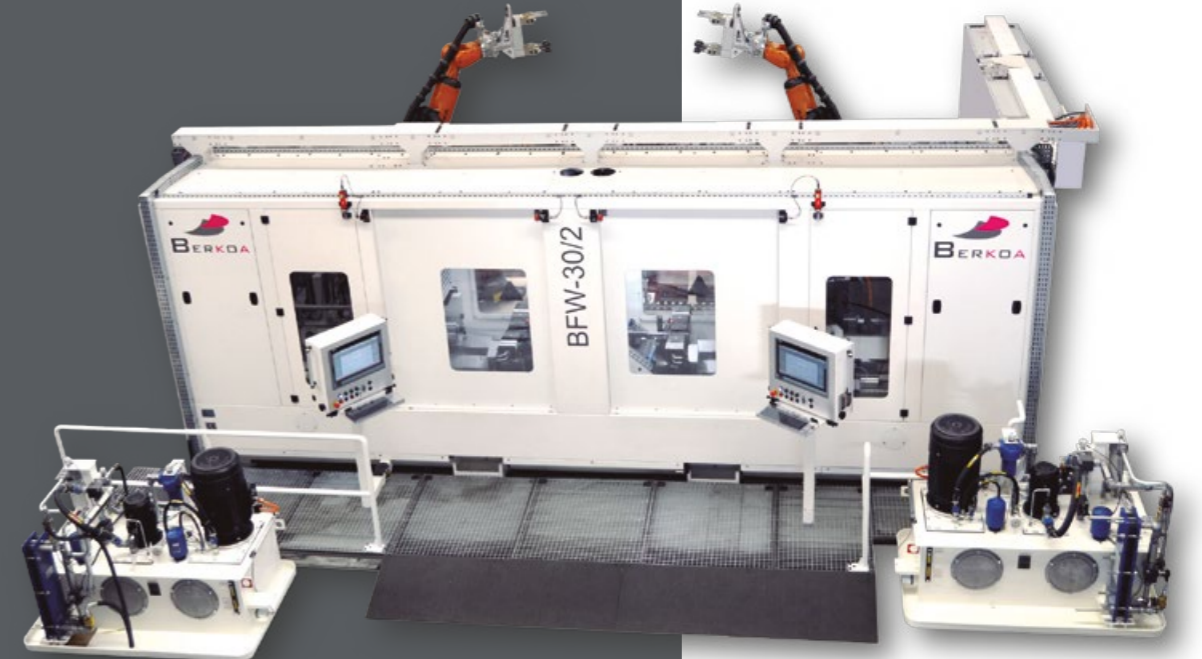
Rotary friction welding machine



- ▶ 40 tons pushing force and 2,000 rpm.
- ▶ Capital goods.

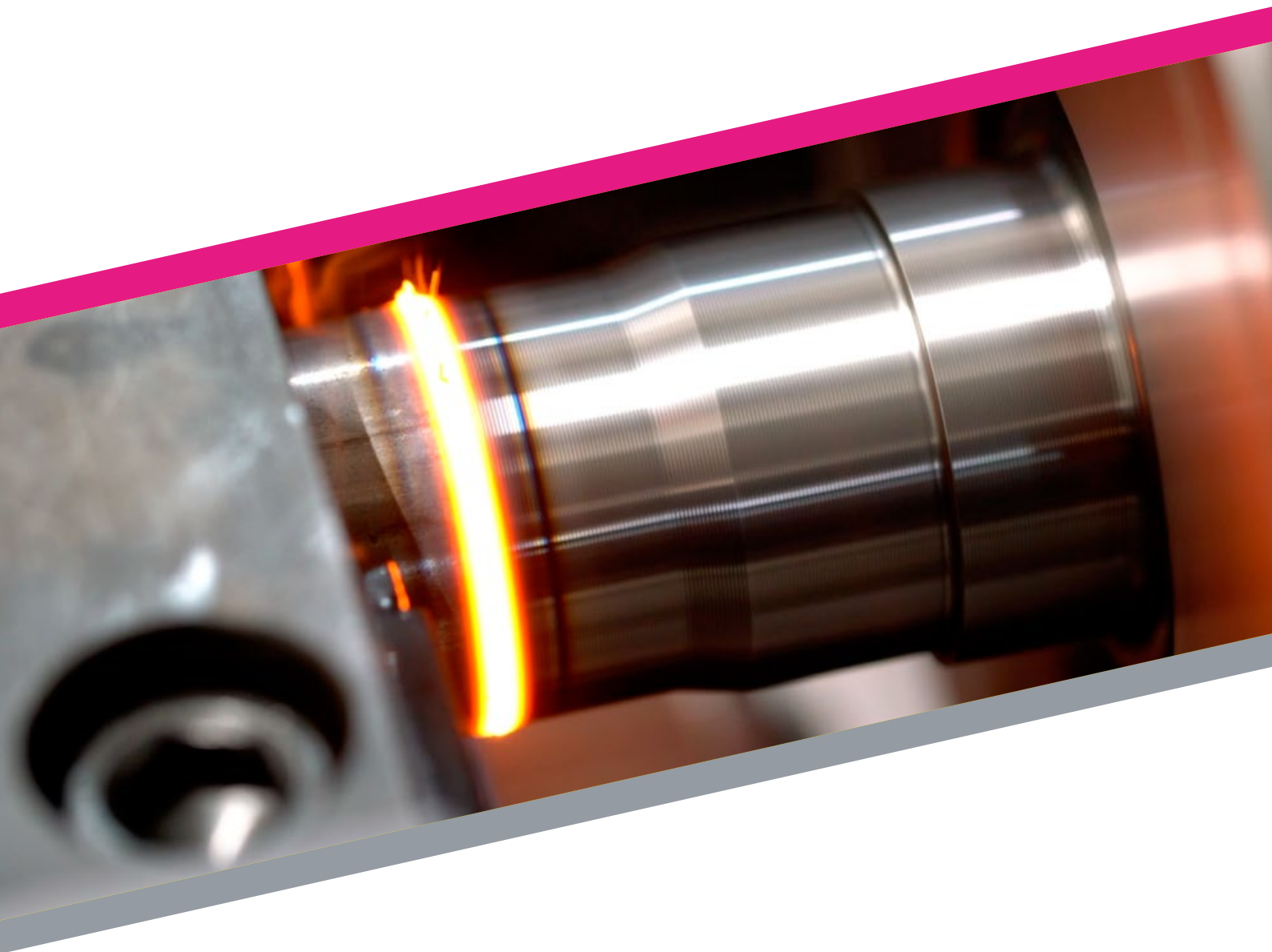
BFW-30/2

2 stations rotary friction welding machine



- ▶ Automatic rotary friction welding cell.





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