

KUKA



Joining Solutions_KUKA Genius



Compact, modular friction welding machine for the implementation of Industrie 4.0

In friction welding, the heat generated by friction is used to join materials together. KUKA Industries established this special form of solid-state welding as an industrial joining process more than 50 years ago and developed it further by means of innovations such as short-cycle welding and defined-angle friction welding. With the new KUKA Genius, the joining specialist now offers a flexible solution for joining a wide range of components.

Convincing benefits

Simple installation...

Thanks to its plug&play design the KUKA Genius can be easily sited and subsequently relocated with minimum effort. Due to the optimal flow of forces in the machine bed, there is no need to anchor the machine frame. Furthermore, free access from above enables simple integration of the machine into modern automation systems.

...in tight spaces

With a footprint of just 12 m² (14.35 sq yd), the KUKA Genius is one of the most compact machines in its performance class. Best use of the available floor space is ensured by a design optimized for transportation, integrated control cabinets and the options of side or rear swarf removal.

Bespoke solution

Outstanding performance data make the KUKA Genius a flexible all-rounder, to suit customer needs for simple or complex applications. KUKA Industries offers a wide range of drive solutions in various performance classes together with suitable equipment packages for automation and flash removal. Thanks to the sophisticated hydraulic system and the very large speed/load range, the KUKA Genius is suitable for a wide spectrum of welding applications.

In addition, KUKA Industries provides support right from the product development phase, helping the customer to select the appropriate component design and joining process as well as test the process.

Industrie 4.0

Numerous sensors monitor the condition of machine components and the entire welding process. Thanks to unified interfaces, data can be easily exported for evaluation purposes. This is the basis for the implementation of Industrie 4.0 and leads to a substantial increase in productivity and data transparency.



Maximum accuracy

In order to achieve maximum joining precision, the KUKA Genius incorporates precise bearing technology, pretensioned roller guides and a stress-optimized machine bed. In conjunction with the option of pre-heating the headstock to operating temperature before commencing production, this results in an extremely high degree of precision and welding quality.

Ease of servicing and minimal maintenance

The best kind of maintenance is no maintenance at all. The KUKA Genius boasts robust components with a virtually wear-free direct drive and long lubrication intervals. Generously dimensioned operator and maintenance doors enable optimal access from above and at the front of the machine.

Simple and ergonomic operator control

In the development of the KUKA Genius, KUKA Industries was guided by the latest ergonomic requirements. The result is a machine with improved access, light doors and a large working area. Operator control is carried out intuitively via a touch panel with a modern graphical user interface that can be operated while wearing safety gloves.



Further information
www.kuka-genius.com



What's supplied

- The tested KUKA Genius production machine is tailored to specific customer requirements and available in the variants
 - KUKA Genius Eco®
 - KUKA Genius Plus®
 - KUKA Genius Power®
- Quality management
- Process monitoring
- Process reliability
- High precision
- User-friendly
- Easy maintenance
- Maximum availability

Equipment packages

- Automatic length adjustment (via adjustable backstop)
- Double-slide system for long components
- Defined-angle positioning
- Automatic compensation of length tolerances (via active travel control)
- Virtual inertia welding
- Cycle time reduction by means of light curtain and automatic doors
- Swarf conveyor
- Tool changer for turning and flash removal
- User administration via identification chip (EKS)

Functions

- Control and monitoring of all parameters of the welding process in the millisecond range
- Graphical setpoint specifications via envelope curves for monitoring
- Management of up to 1,000 welding programs
- Display of actual values and parameters
- Graphical representation of current and archived parameter profiles
- Display of active messages in plain text
- Documentation of the welding results by means of database, printer or PDF export
- Input and backup of data via USB interface



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Together with our affiliated companies, KUKA Robotics and KUKA Systems, we can be found locally all over the world:

Argentina	Malaysia
Australia	Mexico
Austria	New Zealand
Belgium	Norway
Brazil	Poland
Canada	Portugal
Chile	Russia
China	Sweden
Czech Republic	Switzerland
Germany	Singapore
Hungary	Slovakia
France	Spain
Great Britain	South Africa
India	Taiwan
Italy	Thailand
Japan	Turkey
Korea	USA

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