The **KUKA Genius V** is the award-winning vertically designed member of the KUKA Genius product family. Available as **KUKA Genius V plus**, it is a versatile single-head friction welding machine for customers with limited space and special component requirements.

**Industries & applications**
The KUKA Genius V features the latest, industry-proven technology modules and, with a forge force of 1.2 – 30 tonnes, can be used for a wide range of components in diverse industries, e.g.:

- **Automotive**
  - Piston rods
  - Drive / prop shafts
  - Axles
- **Construction industry**
  - Piston rods
  - Hydraulic cylinders
- **Metal industry**
  - Shafts
  - Heat exchangers
  - Tools

**System architecture**
The vertical system architecture enables a substantially smaller footprint of just 5.9 m² incl. control cabinet. The significantly more compact design based on the plug & play principle enables an ergonomic workspace, as well as simple transportation, optimized cabling and shorter commissioning times. The electronically controlled hydraulic system additionally saves up to 20 % energy.

**Features & functions**
- Active travel control (for minimizing length tolerances)
- Defined-angle positioning
- Automatically adjustable backstop
- Automatic operator door
- User management with EKS chip
- Weld data export
- Automation interface
- Ready for I4.0, based on OPC UA
- Data matrix code interface (for component tracking)
- KUKA RemoteService

**Control & operation**
The KUKA Genius V has a clearly designed touch panel for simple and intuitive operation. Comprehensive reporting with data analysis of all process-relevant parameters for improved quality monitoring is possible for 12 weld parameters in real time thanks to the new PCD controller. A reject is reported if the parameter limits are violated.
Basic configuration – technical data

- **Forge force**: 12 – 300 kN
- **Spindle speed***: max. 3,000 1 ⁄ min
- **Spindle drive**: 490 Nm
- **Slide advance**: max. 390 mm
- **Component length (spindle side)**,***: max. 200 mm
- **Component length (slide side)**,***: max. 800 mm
- **Noise emission**: approx. 78 dB (A)
- **Footprint with control cabinet**: approx. 5.9 m²
- **Footprint without control cabinet**: approx. 4.2 m²
- **Dimensions (L × W × H)**: approx. 1,660 × 2,520 × 4,300 mm
- **Weight**: approx. 15,000 kg

* Depending on component, forge force and process sequence
** Longer components on request

Scope of supply

- **Machine**
- **Component-specific tooling**
- **Process validation**
- **Project management**
- **Machine acceptance (CMK available)**
- **CE certificate (Declaration of Conformity)**
- **Version “based on UL standard” on request**

Wide range of options

- **Optional packages are available for the Genius V model. These significantly help to increase productivity and can be configured independently of each other.**

Cycle time reduction package

- **Integrated light curtain**

Production optimization package

- **Automatic temperature control of the headstock**
- **Monitoring of the cooling unit**
- **Start button on pedestal**

For further information please contact us at frictionwelding.industries.de@kuka.com