

Swiss grinding machine specialist Kellenberger presents the new KELLENBERGER 100 machine concept

In its anniversary year 2017 the innovative strength of Kellenberger and, by extension, of the Hardinge Grinding Group as a whole, is on full display. The task presented to the engineers in St. Gallen, Switzerland, was to develop a platform solution on which diverse machine concepts could be realized with a strong customer focus.

With the completely newly developed KELLENBERGER 100 platform solution the high-performance, economical grinder segment in the group is being modernized to make it fit for the future. Kellenberger's Vista and Vita machine model ranges, the Tschudin T25, and the Jones & Shipman Ultramat CNC and Ultragrind 1000 were integrated in the **KELLENBERGER 100** platform concept.

In terms of functionality the new platform concept goes far beyond the possibilities of the machines named above and delivers the most diverse of configuration options for the widest range of grinding operations. Because of the modular solution on one common platform and the new assembly concept designed to reduce throughput time, it was possible to optimize production costs for the machine and ensure an excellent price/performance ratio. Numerous standard options put the finishing touch on the machine variety.

The user-friendly and ergonomic design of the KELLENBERGER 100 machines will feature a new, simple operator guidance system on an intuitive touchscreen panel. The machines are equipped with the latest Fanuc 31i CNC controls with 19" touchscreen, optionally also with newly designed cycle programming or workpiece-related graphic programming.

The Fanuc 31i controls:

Replacement for KEL-EASY, with intuitive touchscreen operation

Consistent support for the operator throughout, in newly designed user interface

Expanded range of functionality

Integrated automated technology calculation

Context-sensitive help images

Online operation and maintenance instructions

No ISO programming skills necessary

Optionally also available with familiar Fanuc 31i applications



Three important features distinguish the new KELLENBERGER 100 machine series:

Innovative, collision-free, compact wheelhead solution:

New tandem wheelhead in compact construction with motor spindle. Reinforced casing for larger grinding wheel diameters for internal grinding.

Choice of 10 wheelhead variations for optimum layout of the machine based on the components to be processed

Enhancement of performance parameters:

Higher grinding wheel drive power → increased productivity

Newly designed Z guideway → higher profile precision

C axis with direct drive → higher precision for non-circular grinding

Service-friendly machine concept:

The service department was involved in the optimization of the machine concept. This means that faster maintenance and service operations and optimum accessibility of maintenance-intensive components are assured.

A machine in construction length 1000 will be showcased at EMO in Hannover.

KELLENBERGER 100 Brief overview of technical highlights:

Innovative compact wheelhead (10 variants, 11.5 kW drive power, 500 mm wheel, up to 63 m/s, HF spindles for internal grinding)

Collision-free universal head with 3 tool and one measuring position, and excellent space features over generous X path

Replacement of belt-driven internal grinding spindles by lower-cost motor spindle

New arrangement of measuring sensor without pivoting mechanism, for more measuring accuracy

Specially coated guideway for wear-free use and perfect contour accuracy

New dressing concept with optimized, generous travel features



Open system for automation, automatic door operation

Large holder capacity with 200 mm height of centers and 150 kg workpiece weight

Diverse equipment options and accessories

Compact construction with optimum use of space

Integrated lifting system for grinding wheel change and tailstock mounting

High temperature stability, thanks to integrated cooling circulation system

KELLENBERGER 100 Basic technical specifications:

Distance between centers: 1000 / 600 mm

Travel, Z axis: 1150 / 750 mm

Travel, X axis: 365 mm

Height of centers: 200 mm

High-precision B axis

Max. workpiece load: 150 kg

2 workheads with base and integrated fine adjustment available to choose from

Standard workhead, up to 100 kg

High-torque workhead for non-circular grinding, up to 150 kg

2 tailstocks available to choose from: a standard tailstock up to 100 kg, and a reinforced tailstock version up to 150 kg

Synchronous tailstock and automatic fine adjustment possible

C axis with direct position measurement system and high-torque motor possible

10 wheelhead variations including diagonal and tandem arrangement with 500 mm wheel diameter

Maximum speed 800 – 3800 min⁻¹, nominal power 11.5 kW

Internal grinding spindle, high-frequency operation, optionally grease-lubricated or oil-air-lubricated

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