

GRINDING



KEL-VISTA

The economical
universal CNC machine



kellenberger.com

 **KELLENBERGER**

KEL-VISTA — The economical universal CNC machine

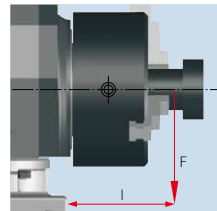
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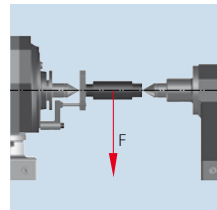
- Workhead**
- n1-1000 min-1



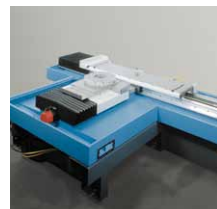
- Spindle nose**
- size 5 ISO702-1
 - morse taper 5



- Load with chucked work**
- 100 Nm



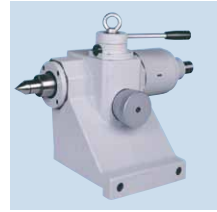
- Load between centres**
- 100 kg



- Design**
- separation of base and infrastructure
 - no external influences on machining processes



3



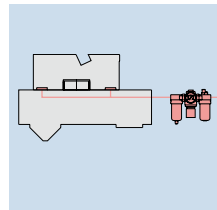
- Tailstock**
- morse taper 4
 - retraction of sleeve 48 mm



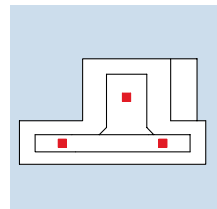
- Micro-adjustment of tailstock**
- adjustment range +/- 60 µm



- Upper table swiveling**



- Upper table with air cushioning feature**



- Three-point set-up**
- no special foundations required for installation



KEL-VISTA - The machine offering an optimal view on the grinding process, economical, innovative in set-up and operation.

Designed for use in highly demanding tool- and mouldmaking, in machine and prototype construction, in maintenance workshops, laboratories, for economical small and medium batch production, or, in other words, wherever flexibility, precision and cost-effectiveness are indispensable.

The KEL-VISTA is designed to be a cost-effective CNC-alternative to hydraulically-controlled cylindrical grinding machines. Programming knowledge is now no longer necessary, thanks to the simple, user-friendly Kellenberger menu-based programming. The KEL-VISTA has been very compactly designed with coolant tray which is separated from the machine base, an integrated transport system and swivelling upper table. The swivelling workhead is suitable for grinding between dead centres and for chucked work, is a

further example of the machine's progressive design. The thermally-optimized bearings guarantee the highest roundness and dimensional accuracy.

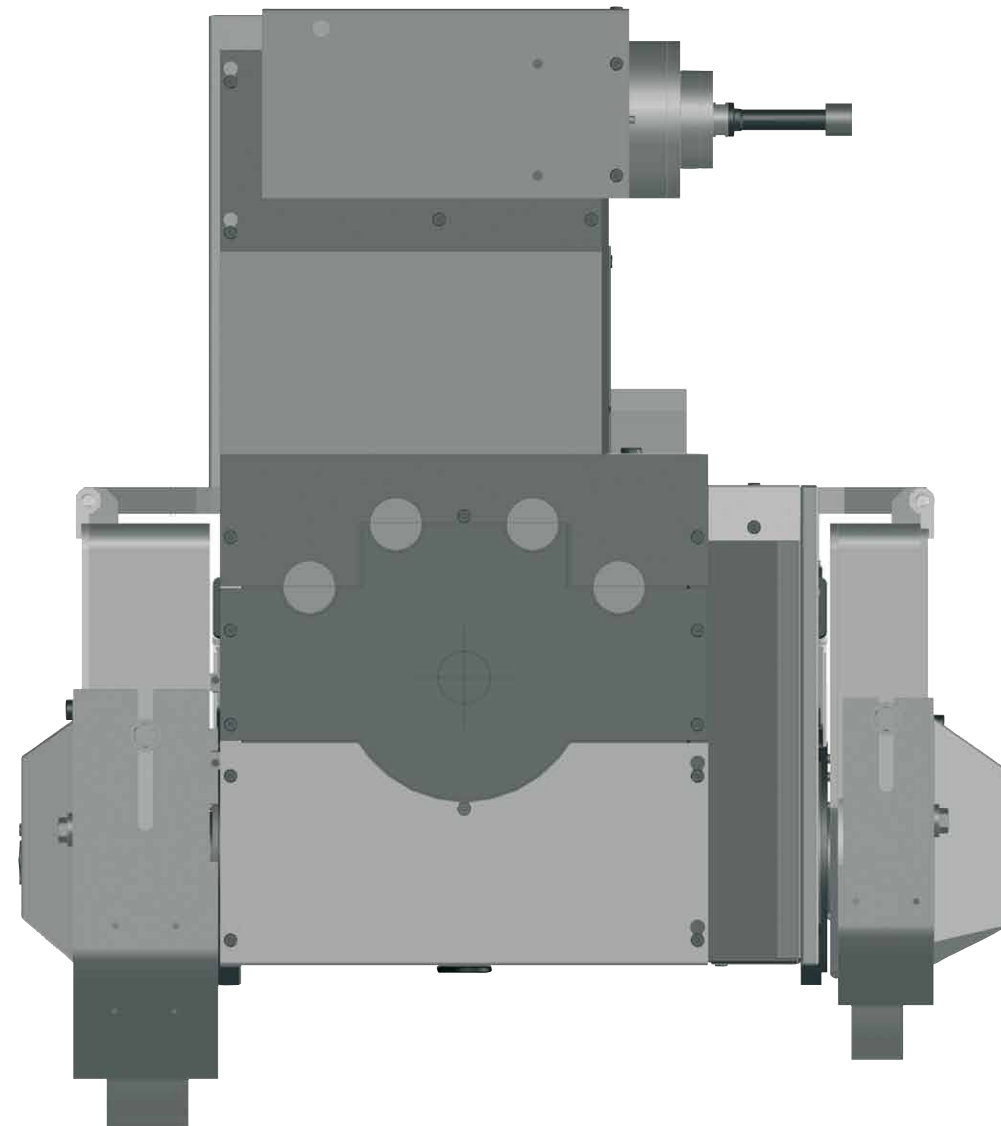
Also the wheelheads of the UR-, R- and RS-machine models exhibit thermal stability thanks to optimized spindle bearings and water-cooled motors.

The Z-axis movement uses traditional guideways, which guarantees a high degree of damping, while the X-axis move-

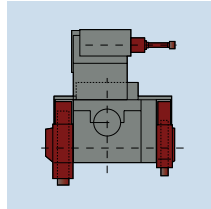
ment utilizes roller guideways, which in turn facilitates non-stick slip positioning.

The KEL-VISTA is the synonym for cost-optimized, 100% reproducible universal grinding thanks to its CNC-control system.

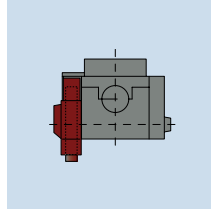




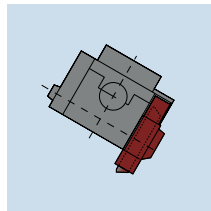
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- UR-wheelhead**
for external, internal and face grinding
- v-constant for external grinding
 - infinitely variable drive for external grinding



- R-wheelhead**
for external cylindrical grinding
- v-constant



- RS-wheelhead**
for Angular infeed grinding
- grinding lengths 400 / 800 mm
 - v-constant



- Water-cooled precision-balanced drive motors**
- use of spindle bearings



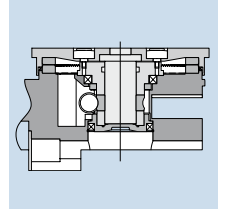
- Spindle bearings**
- high-accuracy spindle bearings, pre-stressed

5

- Internal grinding attachment**
- Belt-driven internal grinding spindle
 - 828 = max. 28000 min⁻¹
 - 842 = max. 42000 min⁻¹
 - 860 = max. 60000 min⁻¹



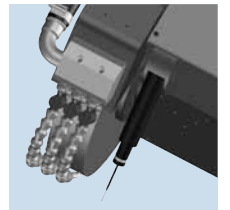
- Indexing**
- manual indexing 2.5°
 - automatic indexing 1°



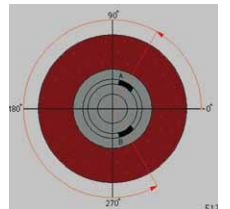
Hirth coupling



- Active flagging device KEL-POS**
- determines component position in Z-axis
 - mounted on wheelhead



- KEL-BALANCE**
- semi-automatic balancing for 1 wheel



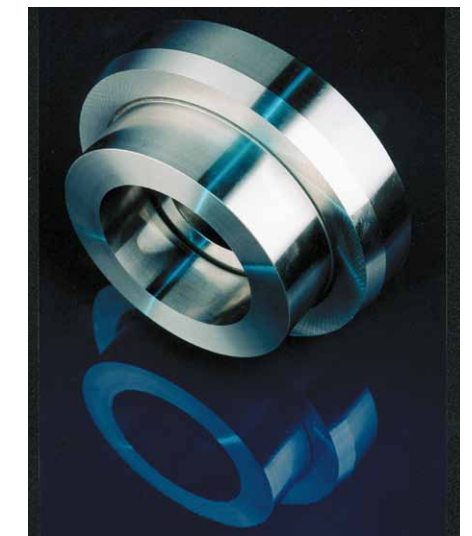
- UR-Wheelhead**
- Wheelhead for external and internal cylindrical, and for face grinding
 - Internal grinding with variable peripheral wheel speed
 - Automatic swivelling of the wheel head, 1° indexing
 - Thermal stability, thanks to optimized spindle bearings and a water-cooled motor
 - Motor output 6 kW
 - Grinding wheel dimensions
 - ø 400 x 63 x 127 mm or
 - ø 450 x 80 x 203 mm

- RS/R-Wheelhead**
- Wheelhead for external cylindrical or angular infeed grinding
 - Thermal stability, thanks to optimized spindle bearings and a water-cooled motor
 - Manual swivelling of the wheelhead, 2.5° indexing
 - Motor output 6 kW
 - Grinding wheel dimensions
 - ø 450 x 80 x 203 mm

The advantages at a glance

- Universal applications**
The cost-effective alternative to hydraulically-operated cylindrical grinding machines
- Simple operation**
No programming knowledge necessary
- FANUC 0i CNC control system**
Super simple operation thanks to menu-prompting
- Thermally stable wheelhead**
Thanks to optimized spindle bearings and a water-cooled motor

- Excellent visibility of grinding**
Due to the ideal arrangement of the viewing windows and centre height
- Optimized ergonomics**
For manual loading and unloading on account of the low machine base height
- The CNC-alternative**
At the price of a hydraulic machine
- The new definition of a universal cylindrical grinding machine
 - Very short change-over times, thanks to a travelstick and a handwheel
 - Comprehensive accessories for the most varied applications





Monitor

- 10.4" TFT
- Softkeys

- travel stick for an easy an rapid set-up

KEL-TOUCH

- Gap Control with up to 2 sensors
- Display and operating on separate panel

KEL-BALANCE

- Semi-automatic balancing of the grinding wheels
- Display and operating on separate panel

Transportation

- hook machine
- rapid commissioning of machine

KEL-EASY

- Easy of use cycle control with teach-in function

KEL-ISO

- for complete programming

MOVOMATIC/MARPOSS

- Measuring control ESZ 400 / P7ME
- Operation and display integrated in the control system

KEL-ASSIST

- SW package for the preparation of contour-grinding or profile-dressing programmes
- DXF import, threads, clearing cycles

THREAD

- thread grinding of external and internal threads
- KEL-THREAD for setting up dressing programs

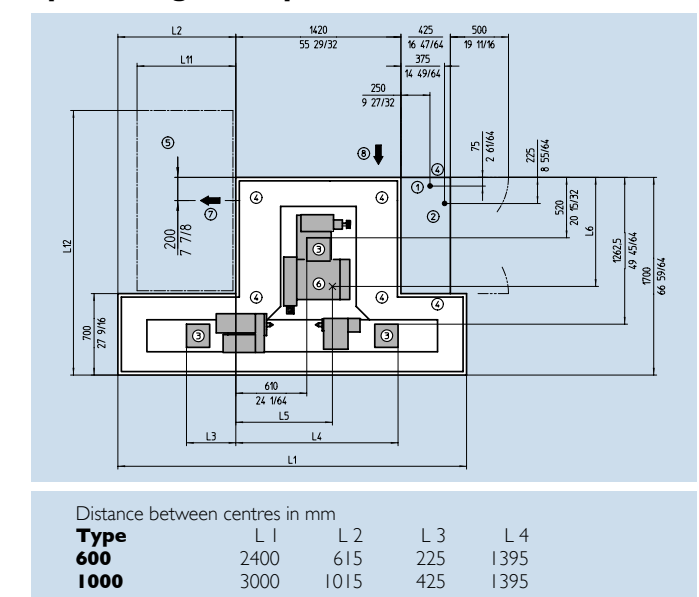
Technical Data

Machine type			
Main specifications			
Distance between centres	mm	800	1000
Grinding length	mm	600	1000
Centre height	mm		175
Weight of workpiece between centres	kg		100
Load on chucked work	Nm		100
Mains voltage required		3 x 400V / 50 Hz / 3 x 460V / 60 Hz	
Power consumption depending on equipment	A		32
Space required / length x width	mm	2400 x 1700	3000 x 1700
Longitudinal / slide: Z-axis			
Travel	mm	750	1150
Rapid traverse speed	m/min		12
Resolution	µm		0.1
Swivelling range of upper table	degree		9
Wheelslide: X-axis			
Travel	mm		350
Rapid traverse speed	m/min		6
Resolution	µm		0.1
Swivel devices			
Autom. indexing / 1° Hirth coupling			option
Man. indexing / 2.5° Hirth coupling			yes
Swivelling range	degree		220
Wheelhead general			
Drive motor water-cooled	kW		6
Peripheral grinding wheel speed	m/s		35 / 40

Wheelhead R / UR		
Grinding wheel dimensions, lefthand side	mm	400 x 63 x 127
	option mm	450 x 80 x 203
Grinding wheel dimensions, righthand side	option mm	300 x 40 x 127
Wheelhead RS		
Grinding wheel dimensions, righthand side	mm	450 x 80 x 203
Internal grinding attachment only for UR		
Bore for spindles up to	mm	120
Rotational speed of spindle, motor infinitely variable	min-1	6'000 - 21'000
Motor output	kW	3
Workhead		
Rotational spindle speed	min-1	1 - 1000
Driving torque spindle	Nm	15
Internal taper / Spindle nose		MT5 / ISO702-1
Swivelling range	option degree	110
Tailstock		
Internal taper		MT4
Retraction of sleeve	mm	48
Micro-adjustment	option µm	+ / -60
CNC control system		
FANUC		Oi
Measuring systems		
Gap Control		KEL-TOUCH
Active longitudinal positioning		Movomatic
Passive longitudinal positioning		Movomatic / Marposs
In-process gauging		Movomatic / Marposs

All specifications and designs are subject to alterations without notice

Space-assignment plan



Competence and a world-wide partnership



Over the years the Hardinge Group has constantly evolved its range of products and areas of activity. As globally active and diversified company, the Hardinge Group has production sites in North America, Europe and Asia.

In addition to the development and construction of turning machines and work-holding fixtures, with Bridgeport the Hardinge Group also has a manufacturer of machining centers.

The Hardinge Group is a major global provider of customer-specific solutions for grinding applications. The Hardinge Grinding Group encompasses all activities in the areas of cylindrical, surface and jig grinding, and includes the well known brands of Kellenberger, Hauser, Tschudin, Jones & Shipman and Usach.

The Hardinge Grinding Group has a global network of partners with trained staff in sales, service and application engineering. This guarantees competent advice and support for evaluation, purchase, and use of the grinding systems.

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