

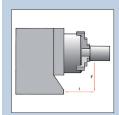


KELLENBERGER 10



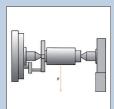
UNIVERSAL WORKHEAD

- Applications Live and Dead centers spindle
- Rotating speed I-1000 rpm
- Roundness accuracy $\leq 0.4 \ \mu m$ (optional $\leq 0.2 \ \mu m$)
- Fine angle adjustment with correction range 1.5'
- Positioned spindle stop for thread grinding



LOAD WITH CHUCKED WORK

• 100 Nm



LOAD BETWEEN CENTERS

• 100 kg



TAILSTOCK 100

- Workpiece weight up to 100 kg
- Morse taper 4
- Retraction of sleeve 49 mm
- Micro-adjustment ± 30 µm / Ø
- Pneumatic lifting





PERFECTION AT A GLANCE

- · High process reliability
- Wide range of parts
- Easy setup
- No external influences on the machining process
- · High productivity and flexibility
- Fast startup
- Short delivery period
- High availability and trustworthiness
- Reduced maintenance costs
- Excellent price-performance ratio

BASIS

- FEM-optimized cast bed for the highest quality and the longest durability
- Mechanical separation of machine and periphery for thermal stability and minimization of vibration influences

TABLE/SLIDE

- Linear guide on X-axis tested I,000 times for low maintenance and high precision
- Low-wear slideway on Z-axis
- 50 Nm glass scales on Xand Z-axes
- High dynamic through speed up to 20 m/min in Z- and 10 m/min in X-axis

CYLINDRICAL GRINDING MACHINE



CONTROLLER CNC FANUC Oi PLUS

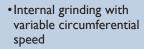
- 19" LCD color monitor with touch-screen function
- BLUE Solution teach-programming with OBJECT Guide for guided and simple program creation on workpiece
- IPC operating system Windows 10 IoT
- Hand-held panel with axis and speed selector switches

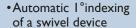
ERGONOMICS

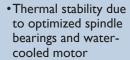
- Visually and ergonomically advanced design
- Good overview of the grinding process
- Centrally arranged and easily accessible Interfaces for table superstructures
- Swiveling control panel for optimized operating comfort
- Intelligent accessibility for costeffective maintenance and service

UR WHEELHEAD

 A grinding head for external cylindrical, internal cylindrical and face grinding



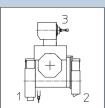


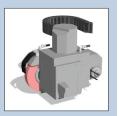


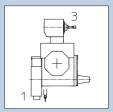


• Max. wheel diameter of ø 500 x 80 x 203mm









SWIVEL DEVICE

Automatic indexing I°



OPTIONAL CONFIGURATIONS



DRESSING DEVICE

- Static diamonds
- Rotating



STEADY REST

Support for long workpieces



MEASUREMENT CONTROL

• In-process gage system



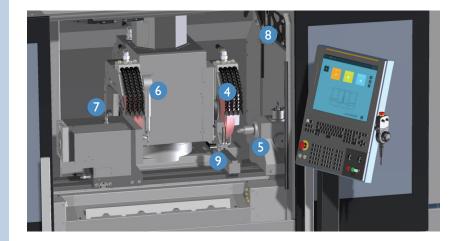
INTEGRATED LIFTING SYSTEM

• Ergonomic lifting system for table assemblies and grinding wheels



TRANSPORT
• Efficient commissioning due to different lifting options





ACCESSORIES

- Mist-extraction unit
- 2 Automatic sliding doors
- 3 Coolant-based filter system
- 4 External grinding wheel T2
- Tailstock
- Active flagging device
- Gap control and balancing sensors
- 8 Integrated lifting system
- 9 Wide range of table superstructures
 - Dressing devices
 - Steady rest
 - In-process measurement

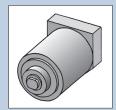
AUTOMATIC SLIDING DOORS

- Relief for the operator
- Faster workpiece changover times



INTERNAL GRINDING ATTACHMENT

- Grease-lubricated HF internal grinding spindle 6'000 - 40'000 min-I 10'000 - 60'000 min-I
- Inexpensive and compact



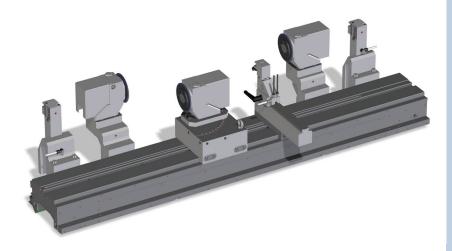
GAP CONTROL

• Optimized process time



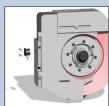
VARIOUS DRESSING OPTIONS

Fixed dressing unit on table superstructures in the standard accessories with fixed and rotating dressing devices.



SEMI-AUTOMATIC BALANCING

- Faster setup
- Monitoring of the balance quality



ACTIVE FLAGGING DEVICE

- Active measurement in external machining
- Calibration of a workpiece position in Z-position
- Mounted on the grinding head



FANUC CONTROL SYSTEM 0i-F PLUS WITH KELLENBERGER HMI

The BLUE Solution user interface from KELLENBERGER has the central focus on simple and intuitive operation. All interactions are carried out by gestures on the 19" touch display. The latest generation of a reliable FANUC 0i-F Plus control runs in the background.

BLUE SOLUTION

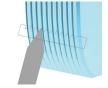


The user interface was developed explicitly for grinding by our specialists in cooperation with customers. BLUE Solution supports users regardless of their level of experience in all important steps from setup to production.



BLACK CAM SOLUTION

With the additional BLACK CAM Solution software, NC programs for grinding and dressing of profiles and threads can be generated, simulated and analyzed.



The CAD-CAM software supports the structured creation, processing and management of all documents belonging to a workpiece.

CAD DATA IMPORT	FAST PROGRAM CREATION	HIGH PRODUCTIVITY
3D PROGRAM ANIMATION	VIRTUAL PROGRAM CONTROL	MINIMIZED RISK OF ERRORS
PROJECT MANAGEMENT	MANAGEMENT OF ALL PARAMETERS	FAST REPRODUCTION

INDUSTRY 4.0

The Security Interface ensures communication according to the highest IT security standard between the machine and the production network.

The optional Remote Diagnostic module simplifies efficient diagnosis in case of service and thus reduces downtimes.

The machine is prepared for Industry 4.0. With the ComGateway, which has a standard OPC-UA server, extensive information on process and machine status can be exchanged.

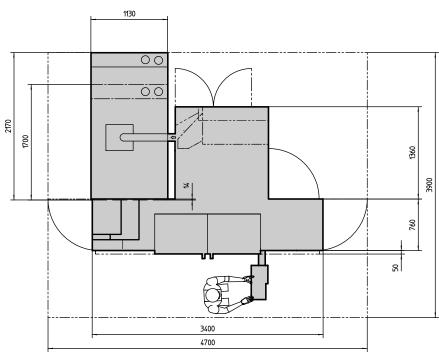
REMOTE DIAGNOSTIC	\rangle	FASTER ERROR DIAGNOSIS	\sum_{i}	BEST MACHINE UPTIME	\rangle
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TECHNICAL DATA

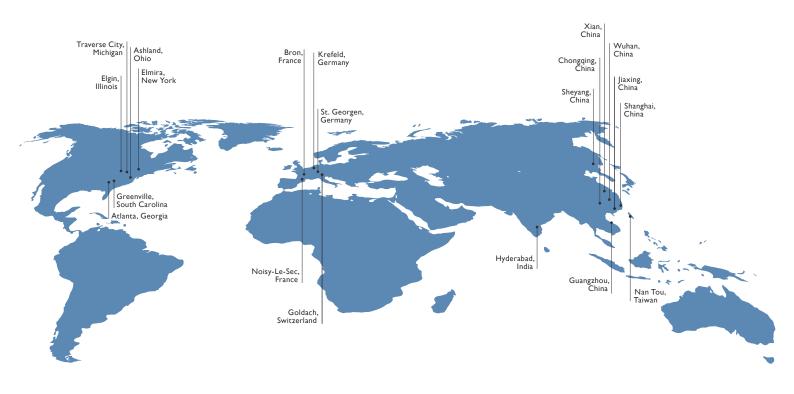
Distance between centers mm 1.000 Center height mm 200 Weight of workplece between centers kg up to 100 Load on chucked work Nm up to 100 Mains voltage required Y 400 / 460 Power consumption depending on equipment A up to 40 Space required (length x width) m 2.7 x 2.2 / 3.5 x 2.2 Total weight kg 450 Table/Sited Sauts wg 450 Travel mm 1.150 Resolution mm 0.00001 Resolution mm 0.00001 Wheelstide X-axis Travel mm 365 Rapid traverse speed mm 0.00001 Wheelstide X-axis Travel mm 0.00001 Wheelstide X-axis Travel mm 0.00001 Wheelstide X-axis Travel mm 0.00001 Wheelstide X-axis	Characteristics		
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Retraction of sleeve mm 49	Tailstock		
	Internal taper		MT4
Micro-adjustment μm ± 30	Retraction of sleeve	mm	49
	Micro-adjustment	μm	± 30

All specifications and designs are subject to alterations without notice

SETUP PLAN



HARDINGE WORLDWIDE





Hardinge is a leading international provider of advanced metal-cutting solutions. We provide a full spectrum of highly reliable CNC turning, milling, grinding, and honing machines as well as technologically advanced workholding accessories.

The diverse products we offer enable us to support a variety of market applications in industries including aerospace, agricultural, automotive, construction, consumer products, defense, energy, medical, technology, transportation and more.

We've developed a strong global presence with manufacturing operations in North America, Europe, and Asia. Hardinge applies its engineering and applications expertise to provide your company with the right machine tool solution and supaport every time.

AMERICAS

GEORGIA Hardinge Corporate 79 W Paces Ferry Rd, 2F Atlanta, GA 30305 P. +800.843.8801

ILLINOIS Hardinge 1755 Brittania Dr Unit IA Elgin, IL 60124 P. +800.843.8801

MICHIGAN Forkardt 2155 Traversefield Dr Traverse City, MI 49686 P. +800.544.3823 E. tcsales@forkardt.com

NEW YORK Hardinge I Hardinge Drive Elmira, NY 14903 P. +800.843.8801 E. info@hardinge.com

OHIO
Ohio Tool Works
1374 Enterprise Parkway (TR 743)
Ashland, OH 44805
P. +419.281.3700
E. sales@ohiotoolworks.com

EUROPE

SCHWEIZ Hardinge Kellenberger AG Thannäckerstrasse 22 CH-9403 Goldach P. +41 71 2429111 E. info@kellenberger.net

DEUTSCHLAND Hardinge GmbH Fichtenhain A 13c 47807 Krefeld P. +49 2151 496490 E. info@hardinge-gmbh.de

J.G. Weisser Söhne GmbH Johann-Georg-Weisser-Straße I 78112 St. Georgen P. +49 7724 881-0 E. info@weisser-web.com

FRANKREICH Jones & Shipman SARL 8 Allee des Ginkgos BP 112-69672 Bron Cedex, France P. +33 472 812660

ASIA

CHINA Hardinge Machine (Shanghai) Co. Ltd. 1388 East Kangqiao Road Pudong , Shanghai 201319 P. +86 21 3810 8686

TAIWAN
Hardinge Machine Tools
B.V., Taiwan Branch
No.11,Tzu Li 3rd Rd.,
Nantou City, 540 Taiwan
P. +886 49 2260 536
E. cs@hardinge.com.tw