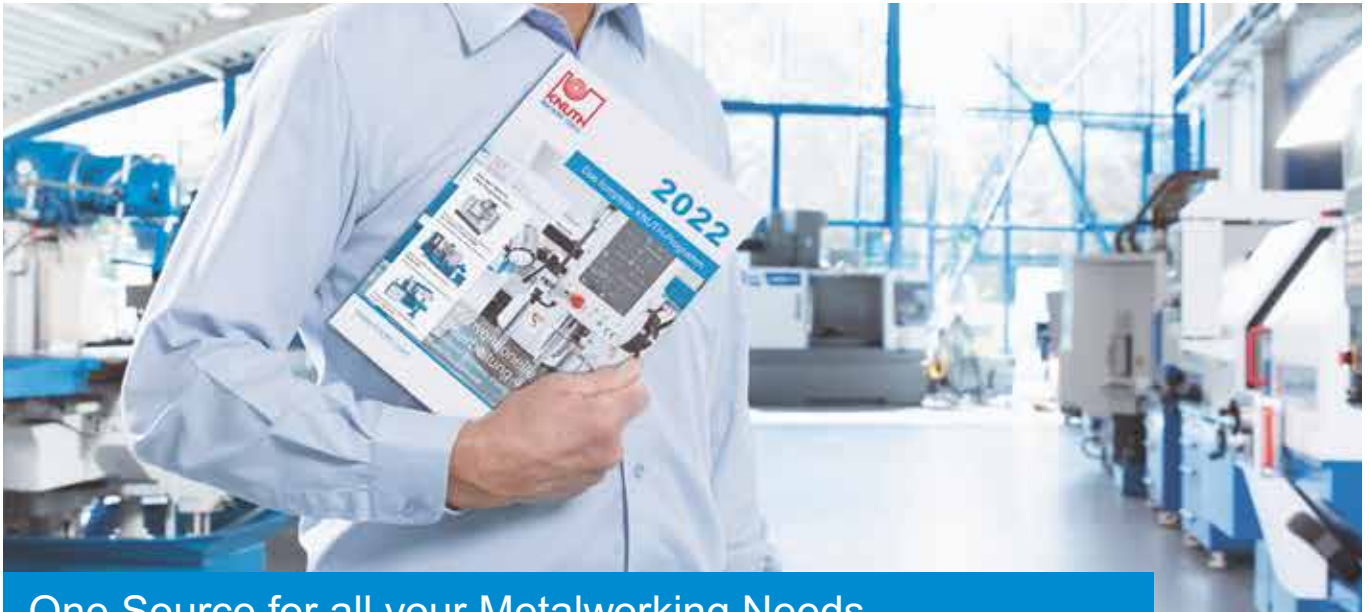


## The Complete KNUTH Portfolio



### Conventional Machining 4.0

Advanced drives, smart functions,  
increased productivity



## One Source for all your Metalworking Needs

At our headquarters in Wasbek, Germany, you will find the right machines and tools for all your metalworking needs. We keep more than 900 machines in stock, and many of these machines are ready for demos.

**Request expert consultation!** Our experienced sales consultants combine their technical expertise and in-depth industry

knowledge to help you find the perfect machine and financing option for your business.

More than 1400 machines are shipped annually from our headquarters in Wasbek, Germany. Every machine has to pass a series of comprehensive tests.

Our Quality Management System is **ISO 9001** certified and continuously reviewed and improved.



### Service without compromise

## We make sure that your production process runs smoothly

Our expert services will help you get the full potential out of your machines. From installation to maintenance, repairs and upgrades - our highly qualified technicians will take care of

everything quickly and professionally. Our well stocked warehouse at Wasbek and a global supplier network ensure prompt availability of replacement parts and consumables.

- Installation - Commissioning - Training
- Inspection and Maintenance

- Operation and Maintenance Training
- Service and Spare Parts

For complete information on our extensive service packages, see pages 302 and 303



www.knuth.com

## FOR THE BEST DECISIONS



Dear Customers:

We look forward to the beginning of each new year and the introduction of our new product line-up.

**CNC Technology:** Both the Numturn lathes and the CNC press brakes are now equipped with powerful controls. Our FlexLoader is suited perfectly for a pragmatic, cost-efficient entry into automated production. It features a simple loading system with a universal robot for lathes or milling machines, and is made in Germany. The “E.T. Box” is a compact electronic remote maintenance system and a useful add-on for any CNC machine. This module establishes a secure VPN connection between your machine and our technicians, so we can easily and quickly assist you in case of technical questions or failures.

**Service:** We continuously develop and advance our service offers. With our transparent and cost-efficient service packages you can protect your investment for the long term and keep your operating costs low. We also invested in a larger service team and in more effective software solutions, so we can guarantee maximum customer satisfaction.

**Cutting Technology:** The ACE Laser is one of KNUTH's best success stories. This fiber laser features up to 6 kW power, a shuttle table and tube cutter that has convinced many customers over the last few years. The new ACE Laser Compact R completes this line and offers all the advantages of the most advanced fiber laser technology in a small package.

**Conventional Machines:** Due to continuous innovation, some of the KNUTH machines have evolved to true classics over the years. For example, classic band saws and drill presses deliver much higher precision due to servo motors in their feeds. VT series drill presses can now be controlled intuitively via touchscreens featuring a selection of various smart functions. The Basic 170 Super PRO bench lathe is a new version of our PRO series and features an improved ergonomic design and an integrated cooling system.

We look forward to 2022 being an even more productive year.

Karsten Knuth  
Philip Knuth  
Kristian Knuth

### Reliable Source of Information

As our products become more powerful and complex, decision makers need reliable, clear data and sources of information. Our new website is our response to meet this growing demand for information.

- ✓ Overview of the complete KNUTH Machine Tool Program
- ✓ Complete Information at a Glance
- ✓ Up-to-Date News
- ✓ Additional Decision-Making Aids (Downloads, Videos)
- ✓ Clearly Structured Navigation



www.knuth.com

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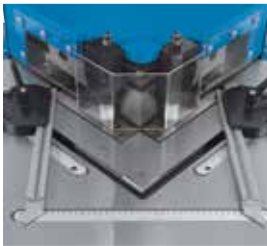
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## A Perfect Cut

Continental Engineering Services rely on high speed wire EDM by KNUTH for their 3D-printed production.



### Exact Cuts Even in Very Hard Material

“At our Technology Center, we have access to state-of-the-art manufacturing processes and can execute many different process steps in a relatively small space. This will benefit the customer in regards to quality, flexibility, and speed,” said Markus Schnell from Product Solutions at CES. Schnell works in Additive Design and Manufacturing (ADaM). They employ additive production, also called 3D-printing, to produce pipes, brake calipers, holders or frames attached to a metal plate, where the metal plate subsequently will have to be separated from the component. As an alternative to the saw that was initially utilized, the manufacturing specialists were looking for a wire electric discharge machine (EDM) that could produce smooth cut surfaces and also quickly cut very hard materials like aluminum and stainless steel. A first look at the market indicated that CES would have to make a considerable investment to find a solution for this relatively minor task.

Continental Engineering Services has nothing to do with automotive tires. CES is a wholly owned subsidiary of Continental and generates most of its sales from development services for automotive and industrial applications. In the specialty fields of automotive interiors, drivetrains and chassis applications, CES develops new solutions for technologically challenging tasks and also adapts large series productions, so customers can fulfill their special requirements. Their operation is focused on driver assistance systems, automotive electronics, electrical drive systems, and control systems for conventional drives. CES has 1,500 employees – mostly engineers and technicians – at their German headquarters in Frankfurt/Main and other sites in Europe, Asia, and America. The secret to this success lies in the transfer of automotive expertise in a wide variety of applications and industries, including consultation, development plus manufacturing possibilities, including prototype and small batch production at their close-by Continental production site in Karben, Germany.

### NeoSpark Cuts Solid Metal Plates up to 47 x 26 inches

“But then we found the KNUTH NeoSpark 500. Contrary to similar products, it could be used for many different materials and came with an unbeatable price-performance-ratio,” Schnell remembered. In 3D printing, it often is necessary



## High Speed Wire EDM NeoSpark 500

- High precision and quality plus excellent price/performance ratio
- Workpiece length × width × thickness (max.) 51 × 31 × 20 inch

### Cutting Technology for 3D Metal Printing High Speed Wire EDM

- Virtually no pressure on the component
- Delicate structures can be machined without the risk of deformation or microcracking in the cut surface
- Perfect balance between cutting accuracy and high cutting speed
- Significantly more cost-efficient than conventional wire EDM
- Long wire life = high productivity and minimal downtime



to separate solid metal plates with diameters up to 12 inches. The NeoSpark 500 cuts workpieces with lengths up to 47 inches and widths up to 26 inches and uses a molybdenum wire that enables it to cut through extremely hard material with ease. One of the reasons for the superb cutting results is the use of a custom electrolyte that increases the cutting performance and ensures quick removal of the eroded material. KNUTH convinced the skeptical CES engineers with just one sample cut and received the order.

### No Rework Necessary

Schnell added: "Operator training was super as well, and it is surprisingly easy to operate. Engineers as well as our trainees can quickly become familiar with this machine." The developers use the high speed wire EDM about four hours per day and for a much wider scope than initially thought. "The cutting results are great and no rework is required," said Schnell. "Meanwhile, we also use the NeoSpark to cut finished functional parts in small batches." At CES, the news about the NeoSpark 500's great success has spread. "For our purposes, one machine is sufficient, but other departments that work in manufacturing have also shown quite some interest," revealed Schnell.

The NeoSpark 500 cuts even high-alloyed tool steel with ease.



The workpiece geometry is programmed via Teach-In function to ensure a perfect division. This shows a machined construction platform made of stainless steel components.

**Continental Engineering Services GmbH  
Additive Design and Manufacturing (ADaM)**  
Dieselstraße 6-20, 61184 Karben, Germany  
Phone +49 6039 981541  
adam@conti-engineering.com



NeoSpark B 500 is shown



See this machine  
in action on  
YouTube



- The NeoSpark CNC Electric Discharge Machine delivers excellent cutting performance, is cost-effective, and operating cost is extremely low
- The cast-iron machine frame features a modern C-frame with T-base, multiple reinforcing ribs, precision-machined surfaces and thermal stress-relief
- Rigid linear guides and precision preloaded ballscrews on all axes ensure permanent mechanical precision
- The IPC-based control system with servo drives is fine-tuned to the manufacturing process requirements, plus, it is user-oriented and reliable
- 2-step filtration system in the dielectric tank ensures uninterrupted operation and high machining quality



The NeoSpark allows production of delicate contours with superior surface quality





In additive production (3D-Printing) the produced complex parts are attached to a metal plate, where the metal plate subsequently will have to be separated from the component (Neospark 500 B Continental Engineering Services)

## High-Speed Wire EDM Cutting Technology for 3D Metal Printing

- Compared to mechanical divisions, there is virtually no pressure on the component
- Delicate structures can be machined without the risk of deformation or microcracking in the cut surface
- Perfect balance between cutting accuracy and high cutting speed
- Significantly more cost-efficient than conventional wire EDM
- Long wire life ensures high productivity and minimal downtimes

## Standard Equipment

erosion wire 0.007", Dielectric 22 lb, electronic manual control unit, device for maintaining constant wire tension, Wire setup assistance, generator, USB port, Ethernet, standard wire guides, dielectric tank with pump, work lamp, warning beacon, AC power stabilizer, leveling plates and jacks, central lubrication, operating tools, operator manual

Specifications		NeoSpark B 300	NeoSpark B 500
<b>Working Area</b>			
Table dimensions	in	24x17	32x21
Workpiece, length x width x thickness (max.)	in	38x22x12	47x26x16
Workpiece weight (max.)	lbs	1,100	1,760
X-axis travel	in	16	24
Y axis travel	in	12	16
Travel U / V-axis	in	2,75 / 2,75	2,75 / 2,75
Z-axis travel	in	10	14
Cutting angle (with guide)		± 10° / 3"	± 10° / 3"
Cutting capacity (max.)		200	200
Generator		10	10
<b>CNC control</b>			
Display size / type		15" / LED	15" / LED
Controlled axis		4	4
Input increment (min.)	in	0.00004	0.00004
<b>Dielectric system</b>			
Dielectric, tank capacity	gal	47.5	47.5
<b>Feed</b>			
Rapid feed X / Y axis	in/min	39	39
<b>Accuracies</b>			
Positioning accuracy X / Y axis	in	0.0004	0.0004
Positioning accuracy U/V axis	in	0.0008	0.0008
Repeatability X / Y axis	in	0.0002	0.0002
Repeatability U / V axis	in	0.0004	0.0004
Best surface roughness	µm Ra	0.8	0.8
<b>Drive Capacity</b>			
Motor rating X / Y axis	Hp	0.2	0.3
Motor rating U / V axis	Hp	0.03	0.03
Motor rating Z-axis	Hp	0.03	0.03
Total power consumption	kVA	2	2
<b>Measures and Weights</b>			
Overall dimensions (length x width x height)	in	81x63x73	95x75x82
Weight	lbs	4,400	5,720
Part No.		180558	180559



ZNC 435 L is shown



Fire extinguishing system for added safety

- User-friendly CNC control assists the user in the selection of work parameters
- The machine frame design incorporates modern aspects plus many years of manufacturing experience
- X- and Y-axes are equipped with preloaded ball screws for low maintenance and high precision
- The main axis is positioned by a precision spindle, which has its own lubricant circuit - ensuring constant temperature conditions at the spindle, minimum friction and maximum precision
- The dielectric system is driven by a premium pump made by a renowned European manufacturer

- Machine operation is user-oriented and easy to learn
- Finely-incremented work parameters allow high powered material removal and finishing in one process
- Diagnostic information is very helpful

## ZNC-EDM 250

### Economical Entry-Level Electric Discharge Technology

- NC controlled Z-axis feed
- Compact design for small part machining
- Rigid machine base
- Linear scales on all axes to ensure constant precision
- Separate dielectric reservoir
- Low-maintenance and high efficiency
- DC servo-drive for precise control and system stability
- Easy-to-learn operation
- Direct parameter input and adjustment at the control panel
- Machining parameters for specific operations can be stored

### Standard Equipment

control unit, fire extinguishing system, work lamp, Filter system, scales for X- / Y-axis, chuck, operating tools, operator manual

### Options

Options	Part No.
• Planetary erosion head	250277
• Adjustable electrode holder / ZNC-EDM 250	100107
• Magnetic clamping plate	250278
• E-ZNC 760L spare parts package for 5 years for part no. 100116	259217



ZNC 250 is shown

### Specifications

		ZNC-EDM 250	ZNC 435 L	ZNC 760 L
<b>Generator</b>				
Generator power consumption	kVA	3.5	7.5	9
Removal rate (max.)	in <sup>3</sup> /min	0.62	0.78	1.24
Electrode wear, min.	%	≤ 0.2	≤ 0.2	≤ 0.2
Mean generator capacity	A	40	80	100
Generator weight	lbs	-	440	440
Roughing depth	µm Ra	< 0.3	< 0.3	< 0.3
<b>Machine</b>				
X-axis travel	in	10	18	28
Y-axis travel	in	8	14	24
Quill stroke	in	8	10	12
Table dimensions	in	18x11	28x18	28x47
Electrode holder-to-table distance	in	7.87 - 15.75	9.84 - 23.62	11.81 - 34.25
Electrode weight (max.)	lbs	66	165	440
Workpiece weight (max.)	lbs	440	1,540	4,400
Dimensions (length x width x height)	in	55x58x83	59x63x83	73x65x100
Weight	lbs	2,200	3,960	8,360
Part No.		100105	100115	100116



# CNC turning machines

**See for yourself live:** Many models are in stock or can be viewed and tried out at a user's location near you. Make a demonstration appointment! Email [info@knuth-usa.com](mailto:info@knuth-usa.com) or call #847-415-3333



## Experience our machines in action!

With our YouTube channel [KnuthMachineToolsUSA](https://www.youtube.com/channel/KnuthMachineToolsUSA), you stay up to date with all the news and developments.



Vertical turning machine

### Verturn II VDM CNC

Swing **49 - 91 in**

Machining height **39 - 55 in**

Easy handling of large workpiece weights up to 8 tons

Page 14 / 15



CNC flat bed turning machine

### TubeTurn CNC

Turning diameter **39 in**

Center width **118 in**

Large spindle bore and dual lathe chuck

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Universal turning machine  
**Forceturn 630 / 800 CNC**

Turning diameter **26 - 32 in**  
Center width **59 - 197 in**

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CNC cycle turning machine  
**Numturn**

Turning diameter **16.5 - 26 in**  
Turning length **39 - 77.6 in**

from page 20 onwards



CNC inclined bed turning machine  
**TAURUS / MERKUR / ORION**

Turning diameter **7.5 - 27.2 in**  
Turning length **15 - 89 in**

from page 24 onwards



Inclined bed turning machine  
**Roturn 400 C / 402 C**

Turning diameter **15.7 in**  
Workpiece length **17 in**

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Inclined bed turning machine  
**Roturn 400 GT**

Turning diameter **15.7 in**  
Workpiece length **15 in**

Page 34



Universal turning machine  
**Rofeeder**

Rod diameter **0.2 - 2.6 in**  
Rod length **11 - 61 in**  
(max. spindle length)

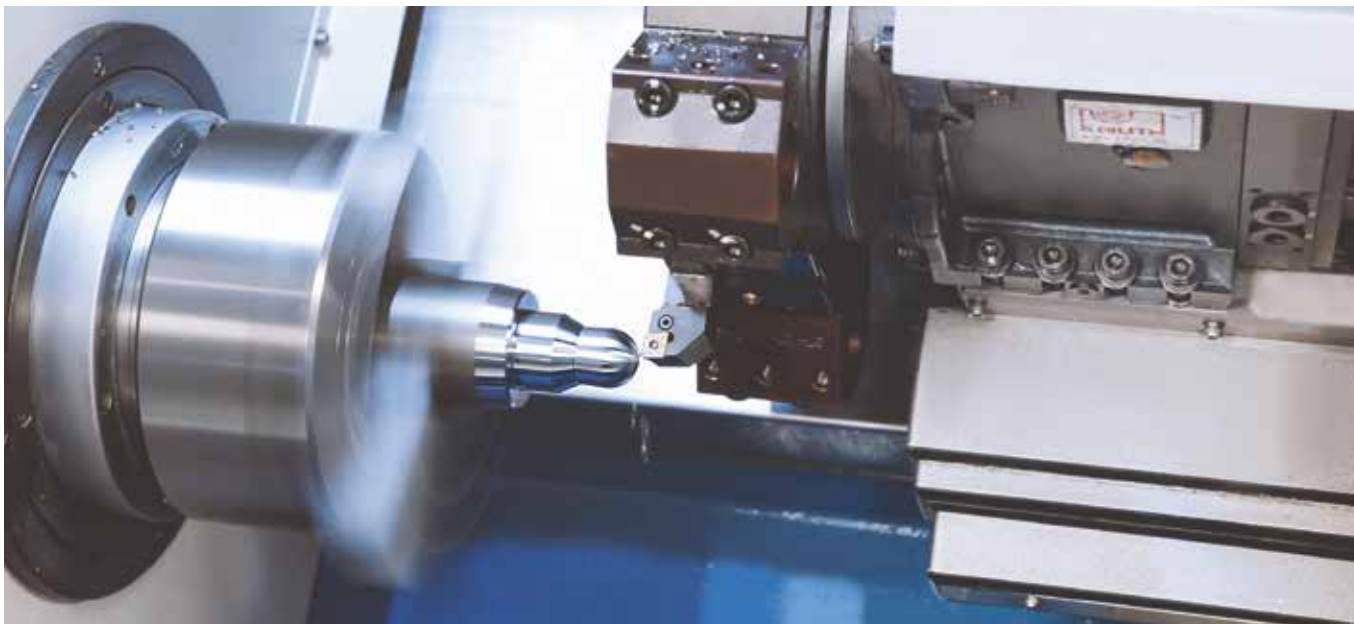
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# CNC Controls for Lathes

## Best quality and technology

KNUTH CNC machines set themselves apart with a sophisticated proven design and lasting value. We offer machines with the most advanced CNC technology - from vertical or horizontal CNC lathes to turning centers with driven tools and compact lathes for CNC training.



## Siemens 828D

SIEMENS

### Increased productivity with SINUMERIK

In the field of turning and standardized machines, the SINUMERIK 828D with its unique CNC performance sets new productivity standards. With its technology-specific system software, the SINUMERIK 828D controls can be used for a much wider range of applications, including everything from box-way lathes to turning centers with driven tools and Y-axis.

- **Robust:** A front control panel made of magnesium die-cast, the panel-based CNC design with a clearly structured interface, and IP65 protection rating make the SINUMERIK 828D a reliable partner even in very harsh environments.
- **Maintenance-free:** Thanks to NV-RAM technology no fan, hard disk or backup battery are required, making the SINUMERIK 828D completely maintenance-free.
- **User-friendly:** A full QWERTY keyboard with tactile keys and a high-resolution 10.4" TFT color display ensure easy operation of the SINUMERIK 828D. USB, CF-Card and RJ45 ports are located at the front panel allowing quick and easy transfer of CNC data.

### Easier and faster from the drawing to the finished part

**ShopTurn** is an easy and efficient programming solution that is perfectly suited for CNC milling of single parts and small batches. The software allows for quick entry into CNC technology without major programming efforts or prior CNC knowledge.



# Siemens 808D Advanced TTL



## The entry-level CNC for standard machines

The SINUMERIK 808D ADVANCED adds momentum to standard lathes and milling machines. Leading CNC technology plus a revolutionary operating concept make the SINUMERIK 808D ADVANCED the perfect entry-level machine for newcomers in the world of CNC machining.

## Perfect for Instruction and Training

### SINUMERIK 808 – Perfectly pre-configured CNC system for standard machines

The SINUMERIK 808D ADVANCED is a panel-based CNC control with an excellent price/performance ratio. This compact and user-friendly entry-level solution is ideal for simple turning applications. It is easy to operate, set up and maintain, plus high reliability make this control ideal for equipping entry-level CNC machines.

Detailed programming instructions provide the fundamentals of CNC programming.



# Fanuc Oi TF



## Simple • Efficient • Intuitive

FANUC Oi has been designed for the utmost ease of use of the machine.

- Easy programming and operation, short learning curve
- User-friendly graphics display for visual verification of parts programs
- Use of existing programs without reprogramming requirements
- High-speed machining and standard nano-interpolation
- Fixed cycles and custom macro B for simplified parts programming
- State-of-the-art functionality, like jolt reduction, nano smoothing, and AI Contour Control II - compatible with previous version series 0 and series Oi models A, B, C and D
- Series Oi Model F are the successor models of the Series 0 and Series Oi, which are the most popular CNC controls worldwide with over 700,000 installations
- With up to 4 simultaneously controlled axes, the CNC Series Oi provides the best controls for highly demanding machine tools

**Manual Guide:** all created programs are converted to G-Code in the background. Thus, any program created in an easy dialog mode can be edited anytime in G-Code mode and vice versa. Programs created with G-Code can be downloaded and processed, and programs generated via Manual Guide i can be sent to other machine tools, ensuring maximum compatibility.



## Verturn II VDM CNC

Efficiency and precision for high quality, power, and reliability



See this machine  
in action on  
YouTube



- Heat-treated machine bed made of premium HT250 cast-iron
- Large, induction-hardened and precision-ground rectangular guides with synthetic coating ensure optimum sliding and damping properties
- High-precision preloaded ball screws from renowned manufacturers on all axes
- Hydraulic clamping of cross traverse







Face plate with 4-station tool changer

## Standard Equipment

Siemens 828 D control, electronic hand-wheel, 4-jaw face chuck, automatic 4-station tool changer, coolant system, control cabinet with heat-exchanger, signal lamp, chip conveyor, hydraulic unit, oil cooler, workspace lighting, operating tools, operator manual

Options	Part No.
• Coolant Concentrate 5 Ltr.	103184
• Clamped Turning Tool Set 0.98 in	108670
• Indexable Insert Set 0.98 in, 30 pcs.	108675
• Hydraulic measuring tripod	108810
• Power Worker Metal Cutter	123040
• E-Verturn II 1250/1600/2300 VDM CNC spare parts package for 5 years	259162

- Includes the proven Siemens 828 D SL Control
- 4-step precision gears and infinitely variable 60 Hp main motor - for high torque (up to 29,500 ft/lbs) across the entire speed range
- Chip conveyor with chip carriage and automatic 4-station tool changer complete this extensive standard equipment

Specifications Verturn II VDM		1250 CNC	1600 CNC	2300 CNC
<b>Working Area</b>				
Turning diameter, vertical	in	49	63	91
Machining height (max.)	in	39	47	55
X-axis travel	in	28	36	46
Z-axis travel	in	26	31	39
Travel Z1-axis	in	26	33	41
Work piece weight (max.)	lbs	7,040	11,000	17,600
<b>Headstock</b>				
Speed range	rpm	0.5 - 250	0.5 - 200	0.5 - 100
Torque max.	ft.lb.	203,550	331,875	464,625
Lathe chuck diameter	in	39	55	79
<b>Feed</b>				
Rapid feed X- / Z-axis	in/min	157	157	157
Feed W-axis	in/min	17	17	17
<b>Tool Head</b>				
Number of tool stations	positions	4	4	4
Tool-change time tool/tool	sec	10	10	10
Tool weight max.	lbs	55	55	55
<b>Accuracies</b>				
Positioning accuracy	in	0.00118	0.00118	0.00118
Repeatability	in	0.00059	0.00059	0.00059
<b>Drive Capacity</b>				
Motor rating main drive	Hp	40.2	49.6	60.3
Motor rating feed	Hp	3	3	3
<b>Measures and Weights</b>				
Overall dimensions (length x width x height)	in	209x150x165	256x165x173	299x197x213
Weight	lbs	20,900	26,400	44,000
Part No.		180675	180676	180677

## TubeTurn CNC

CNC tube cut-off lathe with large spindle bore and dual lathe chuck



- Fanuc 0i TF-V with Manual Guide 0i
- Spindle bore up to 14 inch

- This machine was designed for use in demanding petroleum industry applications and integrates decades of experience
- The wide machine bed features large, hardened and ground guideways and high rigidity
- Machining lengths up to 118 inch - expandable to 63 inch upon request
- Massive headstock with main spindle running in tapered roller bearings, and 2 lathe chuck mounts
- Spindle bore 11 inch (standard) - Up to 25 inch through-bore upon request
- Fanuc 0i TF-V with Manual Guide 0i features advanced control technology and maximum reliability
- High-torque drives and preloaded ball screws on all axes
- Automatic 2-step gears with 2 infinitely variable speed ranges



Steady rest with large capacity

- Hardened and ground gears for effective power transmission
- Powerful main drive motor with 40 HP rating
- Heavy-duty 4-station tool holder with automatic tool changing function
- Including high-performance coolant system, and central lubrication unit



4-jaw chuck, at left side

## Standard Equipment

Fanuc 0i TF-V with Manual Guide 0i, electronic hand-wheel, two 4-jaw faceplate lathes chucks 28 inch Ø (31 inch for 3630), automatic 2-step gears, 4-station tool holder, steady rest 2" - 19", coolant system, central lubrication, Mechanical tailstock, work lamp, operating tools, operating manual and programming instructions

Options	Part No.
• E-TubeTurn 2830 CNC spare parts package for 5 years for 180630	259114
• Clamped Turning Tool Set 0.6/0.8/0.9 in, 9-pc	108780
• Indexable Insert Set 0.6/0.8/0.9 in, 30-pc	108782
• Coolant Concentrate 5 Ltr.	103184
• E-TubeTurn 3630 CNC spare parts package for 5 years for 180631	259111

## Specifications TubeTurn CNC

**2830**

**3630**

Working Area		2830	3630
Turning diameter over bed	in	39	39
Turning-Ø over support	in	26	24
Bed width	in	24	30
Center height	in	20	20
Machining length (max.)	in	118	118
X-axis travel	in	24	24
Z-axis travel	in	110	110
Headstock			
Speed range	rpm	5 - 450	3 - 315
Spindle bore	in	11	14
Feed			
Rapid feed X-/Z-axis	in/min	158 / 236 in	158 / 236 in
Tool Head			
Number of tool stations	positions	4	4
Accuracies			
Positioning accuracy X- / Z-axis	in	0.001 / 0.002	0.001 / 0.002
Repeatability X- / Z-axis	in	0.0005 / 0.001	0.0005 / 0.001
Tailstock			
Tailstock taper		MT 6	metric 80
Tailstock quill diameter	in	5	6
Tailstock quill stroke	in	10	12
Drive Capacity			
Motor rating main drive	Hp	24.8	40.2
Motor rating X- / Z-axis	Hp	3.4	3
Total power consumption	kVA	35	50
Measures and Weights			
Overall dimensions (length x width x height)	in	228x55x59	248x79x69
Weight	lbs	17,600	28,600
Part No.		180630	180631

## Forceturn 630 • 800

High-performance lathes, easy handling with center widths up to 201 inches



Forceturn 800.30 is shown

- Spindle bore 3.3 or 4.1 inches
- Spindle speeds up to 2250 rpm

- Lots of experience went into the design and construction of this machine bed featuring large guides that are hardened, ground and counter-laminated
- Powerful main drive motor handles part weights up to 3748 lb with ease
- Infinitely variable, programmable, and adjustable spindle speeds with automatic 3-step main gear
- Fagor 8055i A-TC featuring intuitive, easy to learn cycle programming, including Profile Editor, for batch and single part production of complex workpieces
- Graphical simulation for added safety
- Heavy, automatic 4-station servo-driven tool changer for programmed tool changes
- 2 electronic hand-wheels at the control panel for manual operation and for easy, quick setup of new workpieces and tools
- A high-performance coolant system and automatic central lubrication system are included



Easy handling: for positioning, the tailstock can be coupled to the support



Compact control unit with electronic hand-wheels



## Standard Equipment

Fagor 8055i FL-TC control, 2 electronic hand-wheels, 3-jaw chuck Ø 12", automatic 3-step gears, 4-station servo tool holder, coolant system, central lubrication, tailstock, work lamp, operating tools, operating manual and programming instructions

Options	Part No.
• Steady rest 11 - 16 in	250937
• Steady rest 2 - 12 in	250936
• Steady rest 5 - 14.6 in	250935
• 4-jaw lathe chuck, cast-iron, 18 in	250103
• E-Forceturn 630/800 spare parts package for 5 years	259213

For additional options for this machine, visit our website and search for Forceturn 630 • 800 (Product Search)

Option: steady rests up to 16 in diameter

Specifications Forceturn		630.15	630.30	630.50	800.15	800.30	800.50
<b>Working Area</b>							
Turning diameter over bed	in	26	26	26	32	32	32
Bed width	in	18	18	18	18	18	18
Center height	in	13	13	13	17	17	17
Turning-Ø over support	in	16	16	16	22	22	22
Workpiece length (max.)	in	63	122	201	63	122	201
X-axis travel	in	18	18	18	18	18	18
Z-axis travel	in	59	118	197	59	118	197
<b>Headstock</b>							
Speed range	rpm	27 - 2,250	27 - 2,250	27 - 2,250	20 - 1,500	20 - 1,500	20 - 1,500
Spindle mount		D1-8	D1-8	D1-8	A1-11	A1-11	A1-11
Spindle bore	in	3	3	3	4	4	4
<b>Feed</b>							
Rapid feed X- / Z-axis	in/min	197	197	197	197	197	197
<b>Tool Head</b>							
Number of tool stations	positions	4	4	4	4	4	4
<b>Accuracies</b>							
Positioning accuracy X-axis	in	0.00059	0.00059	0.00059	0.00059	0.00059	0.00059
Positioning accuracy Z-axis	in	0.00059	0.00079	0.00118	0.00059	0.00079	0.00118
Repeatability X-axis	in	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028
Repeatability Z-axis	in	0.00028	0.00039	0.00059	0.00028	0.00039	0.00059
<b>Tailstock</b>							
Tailstock quill stroke	in	7	7	7	7	7	7
Tailstock quill taper / Ø	in	MT5 / 4	MT5	MT5	MT5	MT5	MT5
<b>Drive Capacity</b>							
Main drive motor rating (cont/30 min)	Hp	15 / 22	15 / 22	15 / 22	15 / 22	15 / 22	15 / 22
Motor rating X- / Z-axis	Hp	2 / 3.6	2 / 3.6	2 / 3.6	2 / 3.6	2 / 3.6	2 / 3.6
Total power consumption		40	40	40	40	40	40
<b>Measures and Weights</b>							
Overall dimensions (length x width x height)	in	157x89 x89	217x89 x89	295x89 x96	157x89 x89	217x89 x89	295x89 x96
Weight	lbs	9,020	12,320	16,720	9,900	13,200	17,600
Part No.		100350	100351	100352	100353	100354	100355



SIEMENS

- Siemens 828D with ShopTurn
- 8-station servo tool turret
- Hydr. power chucks
- Tailstock with hydr. quill

## Highlights

- Comprehensive bandwidth of technology cycles
- Features an ergonomic control layout

## Machine Design

- Heavy ribbing of the machine frame and wide hardened V-guides for heavy-duty machining
- Headstock and main spindle are designed for constant precision and optimum temperature balance
- High-quality spindle bearings ensure error-free continuous operation

- The heavy-duty tailstock with hydraulic quill is easy to handle and features high clamping force
- The machine housing can be completely closed and is easily accessible through a wide opening sliding door

## Spindle

- Hydraulic chuck with adjustable holding force included in standard equipment

## Tool Changer

- An automatic 8-station servo-driven tool turret is part of the standard package and ensures maximum flexibility and productivity



## Standard Equipment

Siemens 828D Basic control, ShopTurn, servo-driven 8-station tool turret, 2 electronic hand-wheels, hydraulic 3-jaw chuck, automatic central lubrication, hydr. tailstock, cooling system, work lamp, operating tools, operating manual and programming instructions

## Options

Options	Part No.
• Chain-type chip conveyor f. Numturn, up to 59" workpiece length	251851
• Steady rest 0.98 - 4.92"	252145
• Steady rest 4.92 - 8.66"	252146
• Steady rest 8.66 - 12.2"	253863
• Live rest 0.79 - 3.15"	252147
• Chain-type chip conveyor (2x) for Numturn 500/2000;660/1500	251866

Both axes can be positioned via an electronic hand-wheel

## Specifications Numturn

		500/1000	500/1500	500/2000	660/1000	660/1500	660/2000
<b>Working Area</b>							
Workpiece length (max.)	in	36	57	77	36	57	77
Turning-Ø over bed (max.)	in	20	20	20	26	26	26
Turning-Ø over support	in	12	12	12	18	18	18
Turning length (max.)	in	31	50	70	31	50	70
<b>Travels</b>							
Travel X-axis	in	9.8	9.8	9.8	13.8	13.8	13.8
Travel Z-axis	in	36	56	75	36	56	75
<b>Headstock</b>							
Speed range	rpm	30 - 1,600	30 - 1,600	30 - 1,600	30 - 1,600	30 - 1,600	30 - 1,600
Spindle mount		A2-8	A2-8	A2-8	A2-8	A2-8	A2-8
Lathe chuck diameter	in	10	10	10	12	12	12
Spindle capacity with draw tube	in	3	3	3	3	3	3
<b>Rapid Feed</b>							
Rapid feed X-axis	in/min	157.48	157.48	157.48	236.22	236.22	236.22
Rapid feed Z-axis	in/min	314.96	314.96	314.96	314.96	314.96	314.96
<b>Tool Head</b>							
Number of tool stations	positions	8	8	8	8	8	8
<b>Accuracies</b>							
Positioning accuracy X-axis	in	± 0.00024	± 0.00024	± 0.00024	± 0.00024	± 0.00024	± 0.00024
Positioning accuracy Z-axis	in	± 0.00031	± 0.00031	± 0.00031	± 0.00031	± 0.00031	± 0.00031
Repeatability X-axis	in	± 0.0002	± 0.0002	± 0.0002	± 0.0002	± 0.0002	± 0.0002
Repeatability Z-axis	in	± 0.00031	± 0.00031	± 0.00031	± 0.00031	± 0.00031	± 0.00031
<b>Tailstock</b>							
Tailstock taper	MT	5	5	5	5	5	5
Tailstock quill diameter	in	3	3	3	3	3	3
Tailstock quill stroke	in	6	6	6	6	6	6
<b>Drive Capacity</b>							
Motor rating main drive	Hp	12.1	12.1	12.1	12.1	14.8	14.8
Main drive, continuous load	Hp	8.05	8.05	8.05	8.05	10.06	10.06
Torque of drive X	ft.lb.	7	7	7	7	7	7
Torque of drive Z	ft.lb.	11	11	11	11	11	11
Motor rating coolant pump	Hp	0.2	0.2	0.2	0.2	0.2	0.2
<b>Measures and Weights</b>							
Overall dimensions (length x width x height)	in	123x70 x73	144x70 x73	163x69 x73	123x78 x73	143x78 x73	163x78 x73
Weight	lbs	6,600	7,260	7,920	7,040	7,920	8,800
Part No.		182130	182131	182132	182133	182134	182135



- Siemens 808 D Advance TTL
- VDI - tool turret
- Hydraulic power chuck
- Hydraulic tailstock

- Numturn SI including hydraulic chuck (7.9") with adjustable holding force, and 8-station tool turret
- Manually transverse the X- and Z-axis via 2 electronic hand wheels
- Induction-hardened, ground guideways
- Longitudinal and transverse movements via high-quality preloaded ball screws and servo drives



VDI 30 tool turret with 8 stations



- Smart central lubrication system for low-maintenance operation
- The main spindle is driven by a high-torque servo motor
- USB port for easy data transfers

### SINUMERIK 808D ADVANCE - the perfect solution for modern standard machines

- In combination with a new generation of spindle and axis drives, the SINUMERIK 808D ADVANCE with 8.4" LCD provides an innovative ready-to-use digital CNC solution for modern standard machines
- This is topped by a guaranteed superior price/performance ratio
- CNC and drive communicate via a high-speed bus to ensure efficient positioning control plus high precision and optimum cutting performance

### Standard Equipment

Siemens 808D Advanced TTL control, hydr. tailstock, 2 electronic hand-wheels, hydr. 3-jaw chuck Ø 8", 8-station turret, automatic central lubrication, work lamp, operating tools, operating manual and programming instructions

### Specifications

### Numturn 420 SI

Working Area		
Workpiece length (max.)	in	39
Turning diameter over bed	in	17
Turning-Ø over support	in	9
Travels		
Travel X-axis	in	8.7
Travel Z-axis	in	36
Headstock		
Spindle speed	rpm	60 - 3,000
Spindle mount		A2-6
Spindle bore	in	2
Spindle bore with draw tube	in	1.9
Rapid Feed		
Rapid feed X-axis	in/min	157.48
Rapid feed Z-axis	in/min	314.96
Tool Head		
Number of tool stations	positions	8
Accuracies		
Positioning accuracy X-axis	in	0.00024
Positioning accuracy Z-axis	in	0.00031
Repeatability X-axis	in	0.0002
Repeatability Z-axis	in	0.00031
Tailstock		
Tailstock taper	MT	4
Tailstock quill diameter	in	2
Tailstock quill stroke	in	4
Drive Capacity		
Motor rating main drive	Hp	10.1
Motor rating coolant pump	Hp	0.2
Motor rating X-axis	Hp	2
Motor rating Z-axis	Hp	2.01
Measures and Weights		
Overall dimensions (length x width x height)	in	113x63x69
Weight	lbs	6,050
Part No.		182189



1.89 inch spindle bore in draw tube



Option: KNUTH-FlexLoader 10 Loading System (Part. No. 100128)

### Options

### Part No.

• KNUTH-FlexLoader 10	100128
• Coolant Concentrate 5 Ltr.	103184
• Live Center MT 4	106755
• Power Worker Metal Cutter	123040



Experience our machines in action!



**For more machines of this series, including machines with driven tools, please visit our website**



Heavy machine bed with hardened and ground guides

### Premium heavy-duty lathe for customized productivity and long machining distances

- Heavy ribbing of the 45° inclined bed with wide box ways ensures excellent vibration damping, especially during continuous cutting operations.
- This design is very spacious, featuring a large work space for tools and improved chip removal
- A wide support saddle with maximum guide length will result in significantly more stability and much less vibration
- The preloaded ball screws connect to powerful drives via a zero-loss transmission clutch, and extensive bilateral bearings ensure high axial and radial rigidity and minimize deviations caused by heating and preloading of spindle
- Excellent rigidity and minimum influence of fluctuating operating temperatures are possible due to an innovative and massive spindle head design
- The main spindle is designed for demanding loads and lasting accuracy, it includes precision dual cylinder roller bearings on both sides, plus additional angular ball bearings on both sides of the front bearings
- The rigid tailstock for shaft machining provides additional flexibility in production operations

- The design with 2 additional box ways ensures collision-free tailstock movements. Extra long guideways, superior rigidity and precision of guides result in excellent vibration damping even during heavy machining operations
- Automatic tailstock is available as an option.
- Servo-turret for quick and precise tool changes
- L models offer an additional center width for even more capacity
- Optionally, a hydraulically self-centering rest from SMW can be used, and the included tailstock allows machining of long workpieces

### Fanuc 0i TF control

- Easy programming and operation, short learning curve

## Standard Equipment

Fanuc 0i-TF control, 10.4" LCD color monitor, USB interface, RS232 interface, 12-station tool holder, programmable tailstock, hydraulic 3-jaw chuck with soft jaws, set of soft jaws, foot switch for 3-jaw chuck, chuck close/open confirm switch, hydraulic unit, coolant system, air and coolant spray wand, central lubrication, LED work lamp, 3-color signal lamp (LED), door lock, machine feet, operating tools

## Options

## Part No.

• IR Receiver 91.50 for Stahlwerk machines	251598
• Air Blower	251621
• Automatic door	251637
• Set of hard jaws for 18" chuck	251667
• Air conditioner for electric cabinet	251693
• Manual rest (Ø 12-16 inch)	251711

For additional options for this machine, visit our website.

## Specifications TAURUS

		250	300L	450L
<b>Working Area</b>				
Turning-Ø over bed (max.)	in	24	24	31
Swing-Ø over cross slide (max.)	in	19	19	25
Turning diameter (max.)	in	16	16	27
Turning length (max.)	in	43	82	89
<b>Travels</b>				
Travel X-axis	in	9.1	9.1	13.8
Travel Z-axis	in	44	84	92
Angle of slant bed	deg	45	45	45
<b>Headstock</b>				
Bar capacity (incl. chuck)	in	3	4	5
Spindle speed	rpm	3,500	3,000	2,000
Spindle mount		A2-8	A2-8	A2-11
Spindle bore	in	3	4	5
Spindle torque max. (steps)	ft.lb.	347	347	1,938
Spindle drive method		Belt	Belt	Belt
Lathe chuck diameter	in	10	12	18
<b>Rapid Feed</b>				
Rapid feed X-axis	in/min	787.4	787.4	787.4
Rapid feed Z-axis	in/min	944.88	708.66	708.66
<b>Feed</b>				
Feed force X-axis (cont./max.)	kN	15.7 / 35.3	15.7 / 35.3	18.4 / 52.1
Feed force Z-axis (cont./max.)	kN	12.5 / 28.2	10.4 / 23.5	23.9 / 81.9
<b>Tool Head</b>				
Tool change type		Servo	Servo	Servo
Number of tool stations	positions	12	12	12
Shank size	in	1x1	1x1	1x1
Boring bar mount diameter	in	2	2	2.4
Turret indexing time	sec	0.2	0.2	0.25
<b>Accuracies</b>				
Repeatability X-axis	in	± 0.0002	± 0.0002	± 0.0001
Repeatability Z-axis	in	± 0.0004	± 0.0004	± 0.0002
<b>Tailstock</b>				
Tailstock quill diameter	in	4	4	6
Tailstock quill stroke	in	4	4	6
Tailstock taper	MT	5	5	5
<b>Drive Capacity</b>				
Motor rating main drive	Hp	24.8	24.8	49.6
Main drive, continuous load	Hp	20.11	20.11	40.23
Motor rating X-axis	Hp	4	4	9.4
Motor rating Z-axis	Hp	4.02	4.02	8.05
Total power consumption	kVA	30	30	57
<b>Measures and Weights</b>				
Overall dimensions (length x width x height)	in	155x72x81	207x72x80	229x86x93
Weight	lbs	15,620	18,920	29,040
Part No.		181175	181131	181139

**Premium turning center with large center width,  
C-axis and driven tools**



Merkur 245 LMB machine is shown

- **Productive: EWS turret with driven tool stations**
- **Premium: best machine quality and high-quality components**
- **Reliable: Fanuc control technology**
- Additional options and automation solutions allow maximum customization to meet any requirements
- The rigid tailstock for shaft machining provides additional flexibility in production operations
- Selectable options for max. application versatility
- Perfectly organized layout and well-designed details ensure maximum operator comfort and a comfortable work environment



Turret with servo motor and bi-directional tool selection



Heavy ribbing of the 45° inclined bed ensures excellent vibration damping for superior surface quality

## Standard Equipment

CE, Fanuc 0i-TF control, 10.4" LCD color monitor, USB interface, RS232 interface, 12-station tool holder (incl. 2 radial and 2 axial), manual tailstock, live center, hydraulic 3-jaw chuck with soft jaws, set of soft jaws, foot switch for 3-jaw chuck, chuck close/open confirm switch, hydraulic unit, coolant system, air and coolant spray wand, central lubrication, LED work lamp, 3-color signal lamp (LED), door lock, machine feet, operating tools

Options	Part No.
• Tool measuring system Renishaw HPRA (removable)	251805
• Fanuc Manual Guide i	251658
• Chain-type chip conveyor (rear)	251685
• Chain-type chip conveyor (side)	251688
• Rod loader interface	251735
• Part catcher box version	251742

## Specifications

		Merkur 180MR	Merkur 245LMB
<b>Working Area</b>			
Turning-Ø over bed (max.)	in	19	22
Turning-Ø over support	in	14	14
Turning diameter (max.)	in	11	11
Turning length (max.)	in	15	19
<b>Travels</b>			
Travel X-axis	in	6.3	7.9
Travel Z-axis	in	15	22
<b>Headstock</b>			
Bar capacity (incl. chuck)	in	2	3
Spindle speed	rpm	6,000	3,500
Spindle mount		A2-5	A2-8
Lathe chuck diameter	in	6	10
Angular resolution, C-axis	deg	360 (0.001)	360 (0.001)
<b>Rapid Feed</b>			
Rapid feed X-axis	in/min	1,259.84	944.88
Rapid feed Z-axis	in/min	1,259.84	944.88
<b>Tool Head</b>			
Tool change type		Servo	Servo
Number of tool stations	positions	12 / BMT 45	12 / BMT 55
Speed, driven tools	rpm	5,000	5,000
<b>Accuracies</b>			
Repeatabilities	in	± 0.00012	± 0.00012
Positioning accuracies	in	± 0.0002	± 0.0003
<b>Tailstock</b>			
Tailstock quill stroke	in	3	3
Tailstock taper	MT	4	4
<b>Drive Capacity</b>			
Motor rating main drive	Hp	20.1	20.1
Main drive, continuous load	Hp	14.75	14.75
Motor rating, driven tools	Hp	5	7
<b>Measures and Weights</b>			
Overall dimensions (length x width x height)	in	95x58x65	117x65x75
Weight	lbs	6,710	9,900
Part No.		181202	181129



Actual machine may vary slightly

### Compact premium lathe series for batch productions

- Fast: Linear guides for reliable precision
- Reliable: Fanuc control technology
- Expandable: many options available
- M models feature driven tools and C- axis
- L models feature an additional 130 mm center width

### Machine bed

- The heavily ribbed 45° inclined bed frame features premium linear guides for superior thermal and structural stability

### Main spindle and headstock

- Thermal stability is achieved by strictly symmetrical builds and cooling structures that ensure consistent cooling air circulation around the entire spindle

### Tailstock

- The design with 2 additional box ways ensures collision-free tailstock movements. Extra long guideways, superior rigidity and precision of guides result in excellent vibration damping even during heavy machining operations



Servo-turret of an Orion 10 TL

### Fanuc 0i TF control

- Easy programming and operation, short learning curve

### Tool turret

- Servo-driven turret for quick and precise tool changes

## Standard Equipment

fanuc 0i-TF control, 6-station tool holder (TLM model), driven tool holder radial (TLM model), driven tool holder axial (TLM model), 10.4" LCD color monitor, USB interface, RS232 interface, manual tailstock, live center, hydraulic 3-jaw chuck with soft jaws, set of soft jaws, foot switch for 3-jaw chuck, chuck close/open confirm switch, hydraulic unit, coolant system, air and coolant spray wand, central lubrication, LED work lamp, 3-color signal lamp (LED), door lock, machine feet, operating tools

## Options

## Part No.

• Chain-type chip conveyor (side)	251688
• Air conditioner for electric cabinet	251693
• Coolant pump upgrade to 2.4 HP	251702
• Rod loader interface	251735
• Transformer for matching power supply	251748
• Tool measuring system Renishaw HPRa (removable)	251805

For additional options for this machine, visit our website.

## Specifications ORION

		6TLM	6TL	10TLM	10TL
<b>Working Area</b>					
Turning-Ø over bed (max.)	in	19	19	19	19
Swing-Ø over cross slide (max.)	in	11	11	11	11
Turning diameter (max.)	in	7	11	7	11
Turning length (max.)	in	15	20	14	19
<b>Travels</b>					
Travel X-axis	in	6.5	6.5	6.3	6.3
Travel Z-axis	in	16	20	15	19
Angle of slant bed	deg	45	45	45	45
<b>Headstock</b>					
Bar capacity (incl. chuck)	in	2	2	3	3
Spindle speed	rpm	6,000	6,000	3,500	3,500
Spindle mount		A2-5	A2-5	A2-8	A2-8
Spindle bore	in	2	2	3	3
Lathe chuck diameter	in	6	6	10	10
Angular resolution, C axis	deg	360 (0.001)	-	360 (0.001)	-
<b>Rapid Feed</b>					
Rapid Feed X-axis	in/min	1,181.1	1,181.1	1,181.1	1,181.1
Rapid Feed Z-axis	in/min	1,181.1	1,181.1	1,181.1	1,181.1
<b>Tool Head</b>					
Tool change type		Servo / VDI 30	Servo	Servo / VDI 30	Servo
Number of tool stations	positions	12	10	12	10
shank size	in	1x1	-	1x1	1x1
Boring bar mount diameter	in	1.3	1.3	1.3	1.3
Speed, driven tools	rpm	5,000	-	5,000	-
<b>Accuracies</b>					
Repeatability	in	± 0.0001	± 0.0001	± 0.0001	± 0.0001
Positioning accuracy	in	± 0.0002	± 0.0002	± 0.0002	± 0.0002
<b>Tailstock</b>					
Tailstock quill diameter	in	3	3	3	3
Tailstock quill stroke	in	3	3	3	3
Tailstock taper	MT	4	4	4	4
<b>Drive Capacity</b>					
Motor rating main drive	Hp	10.1	20.1	10.1	20.1
Main drive, continuous load	Hp	7.38	14.75	7.38	14.75
Motor rating, driven tools	Hp	4	-	4	-
Motor rating X- / Z- axis	Hp	1,6	1,8	1,6	1,8
<b>Measures and Weights</b>					
Overall dimensions (length x width x height)	in	89x66x62	89x66x62	89x66x62	89x66x62
Weight	lbs	6,710	6,600	7,480	7,480
Part No.		181111	181109	181117	181116

# Highest Performance In Hazardous Situations

Global player Minimax manufactures extinguishing and fire protection technology products with **Roturn 400 C** CNC inclined-bed lathes from KNUTH Machine Tools.



## What convinced them to turn to KNUTH?

- Machine: proven quality, high precision, excellent price/performance ratio
- Consultation: individual recording of all requirements on site, growth-oriented solution
- Service: live demo and quick availability of machine, fast provision of optional equipment
- Advantage: customer proximity and rapid response times

## From Northern Germany Around the Globe

In 1902, the company's founder, Wilhelm Graff, put the legendary conical bags on the market as handy extinguishing devices. Since then, the German company has continued to grow and build its competencies and product lines in the areas of extinguishing and fire protection technologies. Today's Minimax Viking Group has more than 8,800 employees on all continents and annual sales of over 1.6 billion euros. Minimax is the worldwide second largest fire extinguishing and fire protection equipment manufacturer and maintains its headquarters plus several R&D facilities and manufacturing plants in Bad Oldesloe, located in Germany's most northern state Schleswig/Holstein. Minimax is also building a new production line for dry sprinkler systems, with which its United States sister company Viking has already been very successful. "Dry sprinkler systems are used where temperatures are below freezing, in space or in large freezers," explains Dieter Donner, mechanical manufacturing foreman. "The extinguishing water isn't released into the system unless the air leaves the pipes."

## Roturn 400 C Turns With Consistent High Quality

The pipes for these systems are coated steel pipes that have to be threaded on both sides. When looking for a lathe that could produce them quickly and with consistent good quality, one of the companies Donner contacted was KNUTH Machine Tools. "We are already using lots of KNUTH circular saws, lathes, and a drill press and are very satisfied with the quality," says Donner.

Andreas Hendrich, responsible for KNUTH's sales in northern Germany, responded to Minimax's requirements directly on site: "We knew that we wanted to provide Minimax with an optimal production solution and at the same time





The highest precision is required when turning the thread. The steel pipes are later precisely connected to form lines for dry sprinkler systems.



The preliminary work at Minimax is done by the KHK 350 semi-automatic circular saw with pneumatic workpiece clamping, also from KNUTH. It brings the steel pipes exactly to the correct length.

with precision lathing to ensure the reliability and safety of the end customers' systems."

Hendrich recommended the Roturn 400 C CNC inclined bed lathe, whose heavy-duty frame guarantees high rigidity and good chip removal. In addition, the precise linear guides in the X- and Z-axes ensure excellent stability and accuracy even under high loads. "It guarantees high process reliability, especially for this sensitive part production," says Hendrich.

With its 20 HP main shaft motor, the Roturn 400 C is capable of high torque in all speed ranges, and the Siemens 828 D basic control meets all current control technology requirements. With the easy-to-use dialogue-oriented user controls, the machine operator can quickly and accurately adjust settings and perform maintenance.

#### Cost-Effective Solution or Multi-Shift Operation

Together with his supervisor, Donner evaluated the advantages of the machine tool at the KNUTH headquarters in Wasbek. "The spacious area is



Foreman Dieter Donner (left) here with Andreas Hendrich, KNUTH Sales

a real plus," Donner approves, "in addition to the good price-performance ratio and how quickly the machine could be made available." KNUTH quickly equipped the Roturn 400 C with a longer shaft, allowing it to cut pipes up to 47 inches long.

The Roturn 400 C is a great choice for its process reliability and high-quality output, and also as a cost-effective lathe for multi-shift operation, which is already planned for production at Minimax. Donner has only good things to say about working with the people at Wasbek: "To buy a new machine, I will always turn to KNUTH."

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 Tel. + 49 4531 803-0  
 www.minimax.com

## Roturn 400 C • 402 C

Powerful, productive and cost-effective



See this machine  
in action on  
YouTube



### Extensive standard equipment

- Heavy machine frame with inclined bed ensuring high rigidity and easy chip removal
- Precise linear guides in X and Z for high stability and accuracy even at highest loads
- The enclosed work space is easily accessible through a large sliding door
- Future-proof: the Siemens 828 D Basic control meets all requirements for advanced control technology
- The 8-station tool turret ensures a large work area and quick and precise tool changes
- A powerful 20 HP headstock motor delivers high torque across the entire speed range



**Siemens Sinumerik 828 D Basic for turning applications - a compact and user-friendly solution for lathes**

### Proven record:

- Easy, dialog-guided user interface
- Complete bandwidth of technology cycles
- High performance and precision



8-station tool turret reduces downtime

- Hydraulic 8 in (Roturn 400 C) / 10 in (Roturn 402 C) 3-jaw chuck with through-hole
- Tailstock with hydraulically operated quill with a maximum stroke of 3 in
- Automatic central lubrication system ensures reliable lubrication of guideways
- Hinged belt conveyor and high-performance coolant system included in standard equipment

### Standard Equipment

Siemens 828 D Basic control, hydr. 3-jaw lathe chuck 8 in (Roturn 400 C) / 10 in (Roturn 402 C) with through-hole, hydr. tailstock, automatic central lubrication, Chain-type chip conveyor, Heat exchanger for electric control cabinet, enclosed work space, LED work lamp, coolant system, compressed air gun, coolant gun, operating tools, operator manual

### Options

### Part No.

- |                                     |        |
|-------------------------------------|--------|
| • Portabot 2811 linear gantry robot | 253056 |
|-------------------------------------|--------|

### Specifications

		Roturn 400 C	Roturn 402 C
<b>Working Area</b>			
Workpiece length (max.)	in	17	17
Center height	in	8	8
Turning diameter over bed	in	16	16
Turning diameter over support	in	10	10
<b>Travels</b>			
Travel X-axis	in	8	8
Travel Z-axis	in	18	18
<b>Headstock</b>			
Lathe chuck diameter	in	8	10
Speed range	rpm	50 - 3,000	50 - 2,000
Spindle mount		A2-6	A2-8
Spindle bore	in	2	3
Spindle bore with draw tube	in	1.8	3
<b>Tool Head</b>			
Number of tool stations	positions	8	8
Tool shank dimensions	in	1x1	1x1
Boring bar mount diameter	in	1.6	1.6
<b>Rapid Feed</b>			
Rapid Feed X-axis	in/min	630	630
Rapid Feed Z-axis	in/min	787	787
<b>Tailstock</b>			
Tailstock taper	MT	5	5
Tailstock quill diameter	in	3	3
Tailstock quill stroke	in	3	3
<b>Drive Capacity</b>			
Main motor rating	Hp	20 / 15	15 / 11
Motor rating coolant pump	Hp	0.2	0.2
<b>Measures and Weights</b>			
Overall dimensions (length x width x height)	in	149.6x73.6x75.2	149.6x73.6x75.2
Weight	lbs	7,348	7,480
Part No.		180633	180628

# Roturn 400 GT

Inclined bed lathe with linear tool changer and driven tools



Roturn 400 GT is shown with optional accessories



See this machine  
in action on  
YouTube



Siemens Sinumerik 828 D Basic for turning applications - a compact and user-friendly solution for lathes

## Extensive standard equipment

- Linear tool changers are ideal for the serial production of smaller workpieces - shortest tool changing times and absolutely reliable features ensure increased productivity
- A hydraulic 6 in 3-jaw chuck is included in the standard equipment
- Chip conveyor and powerful coolant system are also included in the standard equipment
- Driven tool for radial and axial machining

### Options

### Part No.

- |                                |        |
|--------------------------------|--------|
| • Electric turret with 8 tools | 252743 |
| • Bar feeder RoFeeder 65 S     | 253018 |

## Specifications

## Roturn 400 GT

Workpiece length (max.)	in	15
Center height	in	8
Turning diameter over bed	in	16
Turning-Ø over support	in	6
Speed range	rpm	60 - 5,000
Spindle mount		A2-5
Number of driven tools	position	1
Main motor rating	Hp	10 / 7
Weight	lbs	5,500
Part No.		180632

## Standard Equipment

Siemens 828 D Basic control, hydraulic 3-jaw lathe chuck, Ø 6 inch with bore, Driven tools (radial), automatic central lubrication, chain-type chip conveyor, heat exchanger for electric control cabinet, enclosed work space, LED work lamp, coolant system, operating tools, operator manual

## RoFeeder 65 S

Industrial-grade short rod loader for the Roturn 400 series and CNC lathes



Flexible processing of rods with diameters up to 2.56 inches

- This automatic rod loader features a universal design and can be used on many CNC production machines
- No spindle speed limit; however, machine- and material-specific spindle reduction bushings (available upon request) will be required
- The I/O interface for all commonly used CNC lathes is very easy to set up
- All components are very robust for an almost maintenance-free operation
- The standard handheld control unit simplifies the rod loader's set-up and operation
- Assembly cost quote upon request (Part No. 270061)



The rod magazine control can be configured at the user-friendly control panel

### Specifications

### RoFeeder 65 S

#### General

Bar diameter	in	0.2 - 2.56
Rod length	in	11.02 - 61.02
Spindle height	in	33.46 - 49.21
Air supply	psi	71.1 - 99.54

#### Measures and Weights

Weight	lbs	704
Part No. (no assembly cost)		253018

### PLC control

- The PLC control features a large LCD, is user-friendly and comfortable
- The return stroke can be adjusted by the operator for custom requirements
- Self-diagnostics help minimize idle time during troubleshooting
- The remaining piece length is defined by parameters to support highly efficient material utilization

### Standard Equipment

PLC control



# CNC Drilling-milling machines

**See for yourself live:** Many models are in stock or can be viewed and tried out at a user's location near you. Make a demonstration appointment! Email [info@knuth-usa.com](mailto:info@knuth-usa.com) or call #847-415-3333



## Experience our machines in action!

With our YouTube channel [KnuthMachineToolsUSA](https://www.youtube.com/channel/UCknuthMachineToolsUSA), you stay up to date with all the news and developments.



Drilling-milling machine

## BO T 130 CNC

Boring diameter **10 in**

Traverse path of X-axis **51 - 63 in**

4 side machining with CNC working table

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CNC drilling-milling machine

## BO T 110 CNC

Boring diameter **9 in**

Traverse path of X-axis **47 - 71 in**

The rotary table features a large table center support area that can handle workpiece weights up to 5.5 tons

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CNC drilling-milling machine

## BO 90 CNC

Boring diameter **8 in**

Traverse path of X-axis **28 in**

Modern, compact and powerful with clamping table that can be indexed in 5° increments

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BO T 130 CNC shown



Wide guideways

- The large, heavily ribbed box-column base is made of premium cast-iron to ensure stability and rigidity even under very heavy machining loads
- The massive machine frame features wide guideways and is designed for table loads up to 5.5 tons
- The CNC work table indexing in 5° steps allows flexible 4-sided complete machining of the workpiece without retooling
- The powerful motor ensures constant torque across the entire infinitely variable speedrange
- The Siemens 828D CNC-ensures high productivity and precision during production
- Excellent functional interaction between hardware and software ensures high dynamics, while motors and drive technologies provide the necessary precision

- Telescoping stainless steel covers protect the guides from chips and dirt
- Precision preloaded ball screws in all axes ensure high accuracy with low wear and maintenance
- Easy maintenance due to standard central lubrication system
- Optionally the machine can be equipped with a tool changer



## Options

	Part No.
• Arm-type automatic tool changer, 24 tools, for BO T 130 (L) CNC	253427
• 1° indexing work table for BO T 130 (L) CNC	253429
• 0.001° indexing work table for BO T 130 (L) CNC	253430
• Increased Y-axis travel by 16 inches	253431

## Standard Equipment

Siemens 828D control, electronic hand-wheel, 5° indexing CNC work table, RS-232 interface, work lamp, central lubrication, coolant system, operator manual

## Specifications

		BO T 130 CNC	BO T 130 L CNC
<b>Working Area</b>			
Drilling capacity	in	1.97	1.97
Counterbore diameter (max.)	in	10	10
Table set up area	in	53x39	53x39
Table load capacity	lbs	11,000	11,000
Spindle center-to-table distance	in	0 - 47	0 - 47
Number of T-slots	positions	7	7
T-slots, width	in	0.9	0.9
T-slots, spacing	in	4.9	4.9
Table indexing	deg	5	5
<b>Travels</b>			
Travel X-axis	in	51.2	63
Travel Y-axis	in	47	47
Travel Z-axis	in	47	47
Travel W-axis	in	22	22
<b>Headstock</b>			
Speed range	rpm	(2) 12 - 1,200	(2) 12 - 1,200
Spindle diameter	in	5	5
Spindle torque (max.)	ft.lb.	13,275	13,275
Spindle mount		BT 50	BT 50
Facing slide speed	rpm	4 - 125	4 - 125
<b>Rapid Feed</b>			
Rapid feed X-axis	in/min	393.7	393.7
Rapid feed Y-axis	in/min	393.7	393.7
Rapid feed Z-axis	in/min	393.7	393.7
Rapid feed W-axis	in/min	197	197
Rapid feed B-axis	in/min	0.22	0.22
<b>Feed</b>			
Feed X-axis	in/min	0 - 79	0 - 79
Feed Y-axis	in/min	0 - 79	0 - 79
Feed Z-axis	in/min	0 - 79	0 - 79
Feed W-axis	in/min	0 - 79	0 - 79
<b>Accuracies</b>			
Positioning accuracy X-axis	in	0.00157	0.00157
Positioning accuracy Y-axis	in	0.00157	0.00157
Positioning accuracy W-axis	in	0.00157	0.00157
Positioning accuracy Z-axis	in	0.00157	0.00157
Repeatability X-axis	in	0.00079	0.00079
Repeatability Y-axis	in	0.00079	0.00079
Repeatability T-axis	in	0.00079	0.00079
Repeatability W-axis	in	0.00079	0.00079
Work table rotation accuracy	"	10	10
Work table repeatability	"	4	4
<b>Drive Capacity</b>			
Main motor rating	Hp	23 / 27	23 / 27
<b>Measures and Weights</b>			
Overall dimensions (length x width x height)	in	280x260x142	280x276x142
Weight	lbs	38,500	40,700
Part No.		100082	100083

# BO T 110 CNC

Massive drill unit for heavy-duty high-precision machining



Setup table with manual rotation and manual face slide as standard

- The state-of-the-art machine frame is constructed of premium cast-iron to ensure stability and rigidity even under very heavy machining loads
- 4-side machining is supported by a manually rotated setup table that can be locked with high precision in 4 positions
- The rotary table features a large table center support area that can handle workpiece weights up to 5.5 tons
- Spindle and facing slide speeds can be quickly adjusted via an infinitely variable rpm control
- Siemens 828D control and drives guarantee high productivity, wide functionality and maximum precision
- Excellent functional interaction between hardware and software ensure high dynamics, while motors and drive technologies provide the necessary precision

- Precision preloaded ball screws in all axes ensure high accuracy with low wear and maintenance
- The powerful motor ensures constant torque across the entire speed infinitely range
- Telescoping steel cover protects the guides from chips and dirt
- Easy maintenance due to standard central lubrication system
- Rotary table with controlled positioning are available as an option

## Options

	Part No.
• 5° indexing work table for BO T 110 (L) CNC	253423
• 1° indexing work table for BO T 110 (L) CNC	253424
• 0.001° indexing work table for BO T 110 (L) CNC	253425
• Increased Y axis travel by 16	253426

## Standard Equipment

Siemens 828D control, electronic hand-wheel, manual rotary table with 4-position indexing, RS-232 interface, work lamp, central lubrication, coolant system, operator manual

## Specifications

		BO T 110 CNC	BO T 110 L CNC
<b>Working Area</b>			
Drilling capacity	in	1.97	1.97
Counterbore diameter (max.)	in	9	9
Facing slide working diameter (max.)	in	31	31
Table set up area	in	52x40	52x40
Table load capacity	lbs	11,000	11,000
Spindle center-to-table distance	in	0 - 36	0 - 36
Number of T-slots	positions	7	7
T-slots, width	in	0.9	0.9
T-slots, spacing	in	4.9	4.9
Table rotation range		4 x 90°	4 x 90°
<b>Travels</b>			
Travel X-axis	in	47.2	70.9
Travel Y-axis	in	35	47
Travel Z-axis	in	51	51
Travel W-axis	in	22	22
Facing slide travel	in	5	5
<b>Headstock</b>			
Speed range	rpm	(2) 12 - 1,100	(2) 12 - 1,100
Spindle diameter	in	4	4
Spindle Torque (max.)	ft.lb.	9,735	9,735
Spindle mount		BT 50	BT 50
Facing slide speed	rpm	4 - 125	4 - 125
<b>Rapid Feed</b>			
Rapid Feed X-axis	in/min	393.7	393.7
Rapid Feed Y-axis	in/min	393.7	393.7
Rapid Feed Z-axis	in/min	393.7	393.7
Rapid feed W-axis	in/min	197	197
Rapid Feed U-axis	in/min	5	5
<b>Feed</b>			
Feed X-axis	in/min	1 - 39	1 - 39
Feed Y-axis	in/min	1 - 39	1 - 39
Feed Z-axis	in/min	1 - 39	1 - 39
Feed W-axis	in/min	1 - 39	1 - 39
Facing slide feed	in/min	0 - 3	0 - 3
<b>Accuracies</b>			
Positioning accuracy X-axis	in	0.00157	0.00157
Positioning accuracy Y-axis	in	0.00157	0.00157
Positioning accuracy W-axis	in	0.00157	0.00157
Positioning accuracy Z-axis	in	0.00157	0.00157
Repeatability X-axis	in	0.00079	0.00079
Repeatability Y-axis	in	0.00079	0.00079
Repeatability T-axis	in	0.00079	0.00079
Repeatability W-axis	in	0.00079	0.00079
Work table rotation accuracy	"	12	12
<b>Drive Capacity</b>			
Motor rating main drive	Hp	20.1	20.1
<b>Measures and Weights</b>			
Overall dimensions (length x width x height)	in	217x121x115	217x150x130
Weight	lbs	29,700	35,200
Part No.		100080	100081



See this machine  
in action on  
YouTube



- Heavy-duty cast-iron machine frame plus wide guideways
- Manually indexable rotary table, divisions in 5° increments
- Powerful servo-drives and preloaded ball screws with large diameters ensure precision at high travel speeds
- BT 40 spindle mount with automatic tool clamping

- Pneumatic rotary table ensures maximum angular accuracy and provides simple adjustment of angle settings
- A Siemens 828 D control with servo-driven axes meets all requirements of an advanced CNC concept in programming and handling



Work Table with hardened surface and 360° rotation

## Specifications

## BO 90 CNC

### Working Area

Drilling capacity	in	1.18
Finish bore	in	8
Milling capacity		55
Table load capacity	lbs	2,200
Table dimensions	in	25x31
Number of T-slots	positions	6
T-slots, width	in	0.7
Spindle axis-to-table surface distance	in	22.44
Table rotation range (5° units)		360

### Travels

Travel X-axis	in	28
Travel Y-axis	in	20
Travel Z-axis	in	31

### Headstock

Spindle speed	rpm	10 - 6,000
Spindle mount		BT 40

### Feed

Feed speed X-axis	in/min	0 - 79
Feed speed Y-axis	in/min	0 - 79
Feed speed Z-axis	in/min	0 - 79

### Accuracies

Positioning accuracies	in	± 0.0003
Repeatabilities	in	0.0002
Angular accuracy		± 3"

### Drive Capacity

Motor rating main drive	Hp	14.8
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### Measures and Weights

Overall dimensions (length x width x height)	in	139.8x92.5x82.7
Weight	lbs	10,560
Part No.		180027

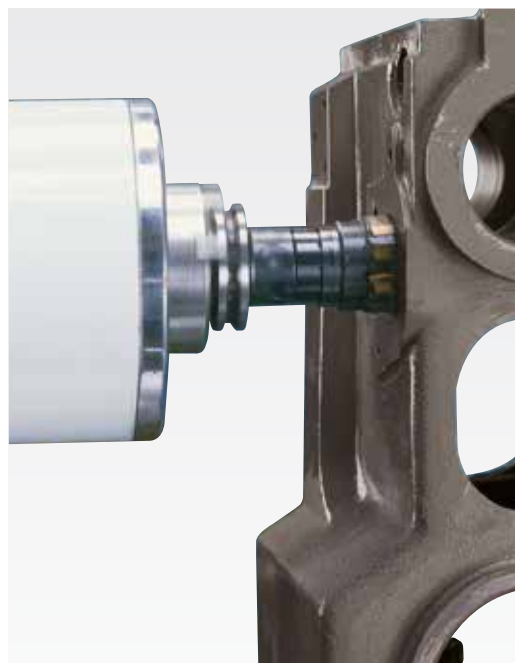


Table rotates for multi-sided machining

## Standard Equipment

Siemens 828 D Basic control, pneumatic rotary table, electronic hand-wheel, halogen lights, central lubrication, drill chuck .12 - .63 in / B18, tool-holder bits MT4 / B18, reducing sleeves MT3, MT4, MT5, foundation bolts, operating manual and programming instructions

## Options

## Part No.

• E-BO 90CNC spare parts package for 180027	259116
---	--------

## Precision Work Under Pressure

Metrol is a family-owned Polish business that uses KNUTH machine tools for its pressure component production.



### What convinced them to turn to KNUTH?

- Machine: compact design with a very wide spectrum of machining applications, reliable series production
- Consultation: CNC with intuitive user interface and easy cycle programming ensures fast operation and minimal training requirements
- Service: machine demo at a reference customer's site in the region, service technician will be on site within 24 hours as needed

**The company is well known for its high-quality pressure components that play a major role in the efficiency and safety of industrial heat exchangers. Their products are used in applications, where strict process temperature control is required. Metrol employs about 40 people, who manufacture about 30,000 components of various types per year, which are shipped directly to large manufacturers in Poland and Germany. "Our main customers are renowned international corporations, who produce heat exchangers for the railroad or shipyard industry," explained Waldemar Klimczuk, the owner of Metrol.**

### Compact CNC Drill Unit Hits the Mark

In 2016, Klimczuk was looking for a horizontal milling/drill press combination for their steel machining requirements. It had to have a small footprint, yet be able to cover a wide spectrum of machining applications. After considering several large CNC drill presses, he quickly realized that these were not suitable for his production needs. Then he came across an image of KNUTH's compact BO 90 CNC, which immediately caught his attention. KNUTH arranged a visit at the facilities of their reference customer, Byd-

goszcz, where Klimczuk personally could check out the machine's many advantages. He never regretted his subsequent purchase decision: "We have used the BO 90 CNC now for three years five to six days per week, and not once did we have any malfunction." The Siemens 828 D control fulfills all programming and handling requirements of a state-of-the-art CNC.

Equipped for maximum precision, the drill unit features powerful servo-drives and preloaded ball screws with large diameters. The simple concept of the table rotation mechanisms ensures plenty of flexibility. It allows users to set up a new batch after 30 to 40 parts have passed, allowing very quick change-overs between components.



Work table with hardened surface and 360° rotation



**KNUTH BO 90 CNC:**

Thanks to the very easy to use, practical table rotation mechanism, users can set up a new batch after 30 to 40 parts have passed, allowing very quick change-overs between components.



**Siemens 828 D Basic:**

Simplicity and user-friendly interface are convincing factors for the customer. "With these features, even new employees with very little CNC experience require only minimal training until they can run the machine efficiently and without problems," added Klimczuk.

**High Precision, Superior Service**

In 2017, Metrol bought a second, considerably larger machine than the BO 110 CNC to fulfill their needs in machining heavier and larger steel parts. "What I really like about these KNUTH drill presses, is their functional design and the user-friendly interface of the CNC control," said Klimczuk. "The programming of cycles is very easy, which is another big advantage." Even new employees with very little CNC experience require only minimal training until they can run the machine efficiently and without problems. The BO 110 CNC is the perfect machine for working with tight tolerances - an important factor for Metrol, who works with micrometer precision. "The quality of this machine was just as convincing as the excellent service," added Klimczuk. "When needed, a service technician will be on site within 24 hours and quickly will find a good solution for the problem at hand."

**KNUTH Is The First Choice**

Their next two machine tools, Klimczuk also purchased from KNUTH. In 2018, an old conventional drill press was replaced with a new KNUTH conventional BO

110 drill press. One year later, an old milling machine suddenly failed, and Klimczuk again found a replacement in the KNUTH catalog. He selected the VFM 5, which features large travels and a heavy vertical cutter head with angular adjustment. Since the machine was in stock, it was quickly delivered to Kamieniec Ząbkowicki, where it was set up and put into operation by a KNUTH technician. Klimczuk was very pleased about the quick deliver, and also about the great price. Other, more expensive machines could have never been fully utilized in their business. Waldemar Klimczuk is convinced: "Any time, I need a new machine tool, KNUTH will always be my first choice."

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# CNC milling machines

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CNC portal machining center

### PBZ CNC

Traverse path of X-axis **79 - 165 in**  
Spindle mount **BT 50**

Portal machining center with fixed table for heavy, large-volume workpieces

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CNC portal machining center

### Portalo B CNC

Traverse path of X-axis **79 - 323 in**  
Spindle mount **BT 50**

High-portal machining center for heavy, large-volume workpieces

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CNC vertical machining center

## X.mill

Traverse path of X-axis **16 - 39 in**

Spindle mount **BT 40**

The production class of the vertical machining centers with Siemens, Fanuc or Heidenhain control system

from page 62 onwards



CNC vertical machining center

## Vector

Traverse path of X-axis **26 - 55 in**

Spindle mount **BT 40**

Premium series with extensive individually coordinated accessories

from page 56 onwards



CNC engraving and milling machine

## PFG 2513

Traverse path of X-axis **98 in**

Spindle mount **ISO 30**

Engraving with high drive power and granite machine frame

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### Extensive standard equipment

- A major advantage of this machine is the heavy construction with fixed gantry and axis-aligned work table
- The use of natural, precision-machined granite for the machine frame ensures maximum accuracy and stability
- This exclusive material provides complete resistance against corrosion, acids and alkaline solutions
- A powerful vacuum pump ensures a firm hold of the workpiece on the machining table
- The high-quality 10 HP / 12 HP HSD spindle motor (made in Europe) provides a wide rpm range and pneumatic tool clamping
- Ceramic bearings at the tool mount and a powerful air cooler provide maintenance-free, highly reliable service
- The linear 8-station tool changer is designed without complex mechanics for short travels and quick tool changes
- All three axes are provided with linear guides and preloaded ball screws for increased accuracy, high precision and excellent rigidity
- Syntec CNC controls are known for their performance and reliability and are used worldwide on premium engraving and machining centers
- Tool length measurements simplify machine configurations, save time and increase production accuracy
- A highly efficient cold-air nozzle delivers precise cooling of tools and workpiece
- The granite machine frame with fixed gantry and axis-aligned work table is precise and extremely robust



Linear 8-station tool changer



Precision-ground granite elements on all axes

## Specifications

## PFG 2513

Working Area	
X-axis travel	in 98
Y axis travel	in 51
Z-axis travel	in 8
Table set up area	in 98x51
Headstock	
Speed range	rpm 6,000 - 24,000
Spindle mount	ISO 30 (DIN 69871)
Feed	
Working speed axe X	in/min 71
Working speed axe Y	in/min 71
Rapid feed	in/min 394
Tool Head	
Number of tool stations	positions 8
Drive Capacity	
Main motor rating	Hp 7,5 / 9,0
Measures and Weights	
Overall dimensions (length x width x height)	in 126x87x79
Weight	lbs 5,500
Part No.	171960

## Standard Equipment

8-station tool changer, collet chuck ISO 30 (DIN 69871), ER collets (0.125 in / 0.16 in / 0.24 in / 0.3 in / 0.5 in), tool length measuring device, Syntec control, main spindle motor 10/12 HP, draw bolt (DIN 69872), vacuum clamping plate, vacuum pump, cold-air nozzle, operating tools, operator instructions

## Options

## Part No.

• LED Strip 44.09"	670606
• Carbide Milling Bits	108430
• ER 32 Collet Set 6 pcs.	106052
• E-PFG 2513 spare parts package for 171960	259118

# CNC Milling

## Smart solutions for your production

Whether automotive, toolmaking, mechanical engineering or medical device production - all industries rely almost exclusively on CNC technology in their production of high-precision milled parts. Our machines are equipped with controls from leading manufacturers and include first-class support.



## Siemens 828D

SIEMENS

### Increased productivity with SINUMERIK

For workshops, contract work, and high-volume production, there is a large demand for highly productive automation solutions that facilitate the move to full digitalization. From single parts to mass production, whether simple parts or complex workpieces – SINUMERIK CNCs provide the perfect solution for any requirements of machine tool operators.

Its technology-specific system software drastically expands the range of applications for the SINUMERIK 828D. It is perfectly suited for a wide spectrum of applications, from vertical and horizontal machining centers to heavy-duty milling machines and drill presses, and of course also for mold and die production.

- **Robust:** A front control panel made of magnesium die-cast, the panel-based CNC design with a clearly structured interface, and IP65 protection rating make the SINUMERIK 828D a reliable partner even in very harsh environments.
- **Maintenance-free:** Thanks to NV-RAM technology no fan, hard disk or backup battery are required, making the SINUMERIK 828D completely maintenance-free.
- **User-friendly:** A full QWERTY keyboard with tactile keys and a high-resolution 10.4" TFT color display ensure easy operation of the SINUMERIK 828D. USB, CF-Card and RJ45 ports are located at the front panel allowing quick and easy transfer of CNC data.

### Easier and faster from the drawing to the finished part

**ShopMill** is an easy and efficient programming solution that is perfectly suited for CNC milling of single parts and small batches. The software allows for quick entry into CNC technology without major programming efforts or prior CNC knowledge.



# Heidenhain TNC 620

HEIDENHAIN

## Precise and practice-oriented

The HEIDENHAIN TNC 620 is a compact and versatile contouring control. Applications range from 3-axis and 3+2-axis machining to 5-axis milling. From an everyday shopfloor perspective, the TNC 620 offers easy operation and extensive features. This makes it especially well suited for use in compact machining centers, like the X.mill or Vector series, and it guarantees superior surface quality with short machining times.

- Workshop-oriented programmability via HEIDENHAIN® plain text dialogs
- **Optimal performance** featuring optimized motion control, short block processing times, and special control strategies
- **Realistic simulations** for a precise and realistic preview of machining operations
- **Optimized Contour Milling (OCM)** for optimized roughing and reaming processes
- **Dynamic Precision** includes multiple functions that improve the contouring accuracy of machine tools, even during high feed rates and complex movements
- **Easy programming** using HEIDENHAIN plain text or G-Code
- Extensive machining and touch-probe cycle packages
- Special function for rapid 3D machining
- **Fast block processing time** (1.5 ms)



# Fanuc Oi-MF

FANUC

## Simple • Efficient • Intuitive

FANUC Oi has been designed for the utmost ease of use of the machine.

- Easy programming and operation, short learning curve
- User-friendly graphics display for visual verification of parts programs
- Use of existing programs without reprogramming requirements
- High-speed machining and standard nano-interpolation
- Fixed cycles and custom macro B for simplified parts programming
- State-of-the-art functionality, like jolt reduction, nano smoothing, and AI Contour Control II - compatible with previous version series 0 and series Oi models A, B, C and D
- Series Oi Model F are the successor models of the Series 0 and Series Oi, which are the most popular CNC controls worldwide with over 700,000 installed systems
- With up to 4 simultaneously controlled axes, the CNC Series Oi provides the best controls for highly demanding machine tools

**Manual Guide:** all created programs are converted to G-Code in the background. Thus, any program created in an easy dialog mode can be edited anytime in G-Code mode and vice versa. Programs created with G-Code can be downloaded and processed, and programs generated via Manual Guide i can be sent to other machine tools, ensuring maximum compatibility.



- Siemens 828 D control
- Large travel distances, small footprint
- High maximum workpiece weights
- High-powered drives



Compact design with large work space

- Fixed set-up table and moving gantry for machining of very large and heavy workpieces
- This design offers an excellent ratio between machining area and setup area as well as large travel ranges, but has an only slightly larger footprint
- The intrinsically rigid monoblock machine bed design ensures uniform load distribution when handling heavy workpieces
- A combination of linear guides and box ways ensure a long service life plus higher machining speeds and steadfast rigidity
- The gantry is guided on both sides on the Y-axis by two heavy 2.2" linear guides and an additional lateral box way for maximum torsional rigidity
- 2 large linear guideways and an additional stabilizing box way ensure maximum X-axis rigidity
- The combination of 2 roller linear guides and 2 rigid box ways ensures lasting Z-axis precision
- High-quality preloaded ball screws and proven Siemens servo-motors provide dynamic feed and rapid feed on all axes

**Main spindle**

- High drive power and a wide speed range ensure availability of the necessary reserves during heavy-duty machining

**Tool changer**

- The robust arm-less 20-station tool changer brings flexibility to everyday production operations

**Equipment**

- The workspace features large sliding doors in the machine enclosure for great accessibility and easy tooling
- A powerful coolant system combined with the included chip conveyor ensure excellent chip disposal
- Coolant feed through the main spindle is available as an option
- An automatic central lubrication system simplifies maintenance



## Standard Equipment

Siemens 828 D Basic control, electronic handwheel for X- and Z-axes, separate control panel, compressed air gun, automatic central lubrication, coolant system, LED work lamp, spiral chip conveyor & chain type chip conveyor, 20-station tool changer, operating tools, operating manual and programming instructions

## Options

## Part No.

• coolant through spindle for PBZ	253710
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The combination of large linear guides and flat guides ensure extraordinary stability

## Specifications PBZ CNC

		2012	2516	4016	4020
<b>Working Area</b>					
Table dimensions	in	79x39	98x55	157x55	157x71
Table load capacity (max.)	lbs	26,400	33,000	55,000	66,000
Number of T-slots	positions	9	12	16	16
T-slots, width	in	0.9	0.9	0.9	0.9
Spindle nose-to-table surface distance	in	12 - 39	8 - 39	8 - 39	8 - 47
Work piece width (max.)	in	47	63	63	79
<b>Travels</b>					
Travel X-axis	in	78.7	98.4	165.4	165.4
Travel Y-axis	in	47	63	63	79
Travel Z-axis	in	28	31	31	39
<b>Headstock</b>					
Spindle speed	rpm	6,000	6,000	6,000	6,000
Spindle mount		BT 50	BT 50	BT 50	BT 50
<b>Rapid Feed</b>					
Rapid feed	in/min	591	787	591	591
<b>Feed</b>					
Work feed	in/min	0 - 591	0 - 591	0 - 591	0 - 591
Torque	ft.lb.	71 - 106	119 - 179	119 - 179	155 - 232
<b>Tool Head</b>					
Number of tool stations	positions	20	20	20	20
Tool size Ø x L (max.)	in	5.91x9.84	5.91x9.84	5.91x11.02	5.91x11.02
Max. workpiece width x height	in	113x59	113x59	113x59	113x59
Tool weight max.	lbs	33	33	33	33
Tool-change time	sec	10	10	10	10
<b>Accuracies</b>					
Positioning accuracies	in	0.0004	0.0004	0.0004	0.0004
Repeatability	in	0.0002	0.0002	0.0002	0.0002
<b>Drive Capacity</b>					
Motor rating main drive	Hp	30.2	34.2	34.2	40.2
Main drive, continuous load	Hp	20.11	22.8	22.8	29.5
Motor rating X-axis	Hp	4.2	5.8	5.8	5.8
Motor rating for Y-axis drive	Hp	4.2	5.8	5.8	5.8
Motor rating Z-axis (brakes)	Hp	5.8	7	7	7
<b>Measures and Weights</b>					
Overall dimensions (length x width x height)	in	205x134x126	217x148x150	256x148x150	308x162x158
Weight	lbs	35,200	44,000	70,400	72,600
Part No.		170003	170004	170007	170012

## Portalo B CNC

Precise machining of heavy and large-volume workpieces with high dynamics



- Siemens 828 D control
- High gantry-type design
- High maximum workpiece weights
- High-power drives

- Cast-iron frame with high gantry design for maximum rigidity, small foot print for efficient and economical operation
- In smaller models with up to 62" wide tables the machine frame is a one-piece construction, while larger models feature separate table and column constructions
- Rigid traverses with drives on both sides - perfect synchronization of drives and dynamics
- Large linear guides in X / Y axis and 4 linear roller guides on Z axis ensure lasting precision
- A fixed table allows machining of extra-heavy workpieces
- Precision preloaded ball screws and proven Siemens servo-motors provide dynamic feed and rapid feed on all axes



Spindle mount with cutter head





20-station tool changer

- A powerful coolant system combined with the included chip conveyor ensures excellent chip disposal and optimum machining conditions
- Optional universal and angle cutter heads allow angular or lateral machining of workpieces
- Plus free 1-day training in Wasbek

### Standard Equipment

Siemens 828 D Basic control, Electronic hand-wheel for X and Z axis, separate control panel, compressed air gun, automatic central lubrication, coolant system, LED work lamp, 2 spiral chip conveyors, CE, 20-station tool changer, operating tools, operating manual and programming instructions

### For additional options

For additional options for this machine, visit our website and search for Portalo B CNC (Product Search)

Specifications	Portalo B CNC	1810	2516	3016	4025	6025	8025
<b>Working Area</b>							
X axis travel	in	79	98	126	165	244	323
Y axis travel	in	41	63	63	98	98	98
Z axis travel	in	22	31	31	47	47	47
Table dimensions	in	75x39	98x63	118x63	157x83	236x83	315x83
Table load capacity (max.)	lbs	19,800	33,000	44,000	66,000	88,000	132,000
T-slots (number x width)	in	0x1	0x1	0x1	0x1	0x1	0x1
Spindle nose-to-table surface distance	in	9 - 31	8 - 39	8 - 39	14 - 61	14 - 61	14 - 61
<b>Headstock</b>							
Spindle speed	rpm	8,000	8,000	8,000	6,000	6,000	6,000
Spindle mount		BT 50	BT 50	BT 50	BT 50	BT 50	BT 50
<b>Feed</b>							
Rapid feed	in/min	1,181	787	787	591	591	591
Work feed	in/min	0 - 591	0 - 591	0 - 591	0 - 591	0 - 591	0 - 591
Torque	ft.lb.	1,018 - 1,522	1,434 - 2,151	1,434 - 2,151	2,367 - 3,549	2,367 - 3,549	2,367 - 3,549
<b>Tool Head</b>							
Number of tool stations	positions	20	20	20	20	20	20
Tool size Ø x L (max.)	in	5.91x9.84	5.91x9.84	5.91x9.84	5.91x11.02	5.91x11.02	5.91x11.02
Max. workpiece width x height	in	51x29	79x30	79x37	113x59	113x59	113x59
Tool weight max.	lbs	33	33	33	33	33	33
Tool-change time	sec	6	6	6	6	6	6
<b>Accuracies</b>							
Positioning accuracy	in	0.00039	0.00039	0.00039	0.00039	0.00039	0.00039
Repeatability	in	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
<b>Drive Capacity</b>							
Motor rating main drive max. / const.	Hp	24 / 16	34 / 23	34 / 23	56 / 38	56 / 38	56 / 38
Motor rating X / Y axis	Hp	2.8	5.8	5.8	10.3	10.3	10.3
Motor rating Z axis (brakes)	Hp	5.8	7	7	10.3	10.3	10.3
<b>Measures and Weights</b>							
Overall dimensions (length x width x height)	in	189x125x111	217x138x134	256x138x134	296x241x158	375x241x158	453x260x158
Weight	lbs	44,000	68,200	72,600	96,800	121,000	154,000
Part No.		170043	170044	170045	170046	170047	170048

For complete information on the VECTOR M with Heidenhain TNC 620 control, please visit: [www.knuth.com](http://www.knuth.com)



- Available with Siemens or Heidenhain control
- Tapping without compensating chuck (rigid tapping)
- Extremely rigid table structure
- Powerful BT 40 spindle with speeds up to 10,000 rpm

### The compact versatile machining center with extensive reserve power

- The large VECTOR Series is perfectly equipped for large jobs and can be ordered with customized accessories to provide flexible solutions for constantly expanding requirements

### Machine Design

- The machine bed of the large VECTOR Series is significantly longer and wider than the bed of the more compact models and can handle table loads up to 3,300 lbs (VECTOR 1400)
- The extra-wide column base and large guide distances ensure the necessary rigidity for fast machining processes requiring high precision
- During the development of this series, modern FEM analysis tools were used for the simulation of countless load conditions in order to guarantee superior stability of the machine frame in real-world applications, which now exceeds all expectations for this class of machines
- All axes move on premium, fully enclosed linear roller guideways and precision ball screws and are driven by dynamic servo-motors

### Extra-rigidity at all the right places

- The VECTOR features larger guideways that are equipped with additional guide carriages for even higher load capacities, more rigidity and higher speeds during heavy-duty machining operations

### Spindle

- Clamping the tool between contact surfaces at the taper and workpiece flange ensures maximum hold of the tool in the spindle

### Tool changer

- With only 1.8 seconds tool changing time, the dual-arm gripper also is one of the fastest tool changers on the market

### Handling

- Electrical equipment is divided into separate control cabinets for high and low voltage systems, which results in a significant reduction of heat accumulation and noise
- An electronic hand-wheel simplifies machine set-up
- The automatic central lubrication system ensures proper lubrication of all lube points

### Control

- Siemens or Heidenhain controls are the perfect choice in regards to a future-proof investment in the most advanced machine tool electronics



The totally enclosed work space features a large door and side doors for easy access, safety and cleaning

## Standard Equipment

**Siemens 828D control with Shopmill**, coolant flow through spindle, 30 bar with double filter, 24-station tool changer with dual-arm, BT 40 mount, spindle oil cooler, chain-type conveyor with chip container, electronic hand-wheel, oil skimmer, automatic central lubrication, coolant gun, chip flushing system, heat exchanger for electric control cabinet, telescoping axis cover, RS-232 interface, USB port, CF card reader, totally enclosed work space, work lamp, 3-color signal lamp, coolant system, adjustable machine feet, operating tools, operator instructions

## Options

To see the available options for this machine, visit our website.

## Specifications Vector

		1300 M SI	1400 M SI
<b>Working Area</b>			
Table dimensions	in	55x28	59x28
Workpiece weight (max.)	lbs	3,080	3,300
Spindle nose-to-table surface distance	in	6 - 33	6 - 33
Number of T-slots	positions	6	6
T-slot (width x spacing)	in	0.71x3.94	0.71x3.94
<b>Travels</b>			
Travel X-axis	in	51.2	55.1
Travel Z-axis	in	28	28
<b>Headstock</b>			
Spindle speed	rpm	10,000	10,000
Spindle mount		BT 40	BT 40
<b>Rapid Feed</b>			
X-axis rapid feed	fpm	78.48	78.48
Y-axis rapid feed	fpm	78.48	78.48
Z-axis rapid feed	fpm	78.48	78.48
<b>Feed</b>			
Work feed X-axis	in/min	0.004 - 0.394	0.004 - 0.394
Work feed Y-axis	in/min	0.004 - 0.394	0.004 - 0.394
Work feed Z-axis	in/min	0.004 - 0.394	0.004 - 0.394
<b>Tool Head</b>			
Number of tool stations	positions	24	24
Tool size Ø x L (max.)	in	3.15x11.81	3.15x11.81
Tool-changing time chip/chip	sec	3.9	3.9
Tool-change time tool/tool	sec	1.8	1.8
<b>Accuracies</b>			
Positioning accuracies	in	0.0002	0.0002
Repeatability	in	0.00012	0.00012
<b>Drive Capacity</b>			
Main drive, continuous load	Hp	22.8	22.8
Motor rating X-axis	Hp	7.4	7.4
Motor rating for Y-axis drive	Hp	7.4	7.4
Motor rating Z-axis	Hp	7.38	7.38
<b>Measures and Weights</b>			
Weight	lbs	19,800	20,900
Overall dimensions (length x width x height)	in	134x103x130	150x103x130
Part No.		181342	181343

For complete information on the VECTOR M with Heidenhain TNC 620 control, please visit: [www.knuth.com](http://www.knuth.com)



- Available with Siemens or Heidenhain control
- Tapping without compensating chuck (rigid tapping)
- Quick-action tool changer
- Powerful BT 40 spindle with speeds up to 10,000 rpm



### The compact versatile machining center for large workpieces

#### Machine Design

- The innovative machine base design features a low center of gravity for excellent rigidity, allowing high-precision machining of workpieces with weights up to 2,646 lbs
- With extensive experience and modern FEM analysis tools for the simulation of countless load conditions, it was possible to guarantee superior stability of the machine frame in real-world applications
- One development goal was to achieve a space-saving, compact design
- Linear roller guides on all axes provide high load capacities, maximum rigidity and smooth motion ensuring the high dynamics needed to optimally handle high loads
- Powerful servo-drives connect directly to large preloaded ball screws providing zero-loss high torque transmission

#### Main spindle

- Main spindle runs on multiple bearings to ensure excellent absorption and dissipation of forces during machining
- The advanced design of our spindles ensure low heat accumulation under load
- Large preloaded bearings ensure radial stability during heavy-duty machining operations
- High-temperature lubricants ensure optimum lubrication at any operating temperature and a long tool life
- Clamping the tool between contact surfaces at the taper and workpiece flange ensures maximum hold of the tool in the spindle

## Tool changer

- The VECTOR is equipped with the best tool changer to allow full utilization of the machining center's capacity
- With only 1.8 seconds tool changing time, the dual-arm gripper also is one of the fastest tool changers on the market

## Handling

- The totally enclosed work space features a large door and side doors for easy access, safety and cleanliness
- Electrical equipment is divided into separate control cabinets for high and low voltage systems, which results in a significant reduction of heat accumulation and noise
- An electronic hand-wheel simplifies machine set-up
- The automatic central lubrication system ensures proper lubrication of all lube points

## Specifications

### VECTOR 1200 M SI

<b>Working Area</b>		
Table dimensions	in	51x24
Slots (number/width/spacing)	in	5x0.71x3.94
Spindle nose-to-table surface distance	in	6 - 30
Spindle center-to-stand distance	in	24
<b>Travels</b>		
Travel X-axis	in	48
Travel Y-axis	in	24
Travel Z-axis	in	24
<b>Headstock</b>		
Spindle speed	rpm	10,000
Spindle mount		BT 40
<b>Rapid Feed</b>		
X-axis rapid feed	fpm	117.72
Y-axis rapid feed	fpm	117.72
Z-axis rapid feed	fpm	117.72
<b>Feed</b>		
Work feed X-axis	in/min	0.004 - 0.394
Work feed Y-axis	in/min	0.004 - 0.394
Work feed Z-axis	in/min	0.004 - 0.394
<b>Tool Head</b>		
Number of tool stations	positions	24
Tool size Ø x L (max.)	in	3.15x11.81
Tool weight max.	lbs	15
Tool-changing time chip/chip	sec	3.9
Tool-change time tool/tool	sec	1.8
<b>Accuracies</b>		
Positioning accuracies	in	0.0002
Repeatabilities	in	0.0001
<b>Drive Capacity</b>		
Main drive, continuous load	Hp	16.09
Motor rating X-axis	Hp	4.4
Motor rating Y-axis	Hp	4.4
Motor rating Z-axis	Hp	7.38
Total power consumption	kVA	13
<b>Measures and Weights</b>		
Overall dimensions (length x width x height)	in	119x95x116
Weight	lbs	14,300
Part No.		181340



## Control

- Siemens or Heidenhain controls are the perfect choice in regards to a future-proof investment in the most advanced machine tool electronics

## Standard Equipment

**control Siemens 828D with Shopmill**, coolant flow through spindle, 30 bar with double filter, 24-station tool changer with dual-arm, BT 40 mount, spindle oil cooler, chain-type conveyor with chip container, electronic hand-wheel, oil skimmer, automatic central lubrication, coolant gun, chip flushing system, heat exchanger for electric control cabinet, telescoping axis cover, RS-232 interface, USB port, CF card reader, totally enclosed work space, work lamp, 3-color signal lamp, coolant system, adjustable machine feet, operating tools, operator instructions

## Options

To see the available options for this machine, visit our website.

For complete information on the VECTOR M with Heidenhain TNC 620 control, please visit: [www.knuth.com](http://www.knuth.com)



Actual machine may vary slightly



See this machine  
in action on  
YouTube



- Available with Siemens or Heidenhain control
- Tapping without compensating chuck (rigid tapping)
- Quick-action tool changer
- Powerful BT 40 spindle with speeds up to 10,000 rpm

**Compact All-in-One machining center  
for powerful 3-axis machining**

### Highlights

- Powerful BT 40 spindle with speeds up to 10,000 rpm
- Rigid machine structure with extra deep center of gravity and small footprint
- Siemens 828D control with ShopMill and Siemens drives guarantee maximum process reliability and efficient programming



- Dual-arm tool changer with 24 stations ensures adequate flexibility and capacity for every day production needs
- The Vector Series features linear guides on X, Y and Z to ensure high accuracy made possible by lower friction
- 435 psi internal cooling for optimum machining quality

## Standard Equipment

control Siemens 828D with Shopmill, coolant flow through spindle, 30 bar with double filter, 24-station tool changer with dual-arm, main spindle motor 12 HP, BT 40 mount, spindle oil cooler, chain-type conveyor with chip container, electronic hand-wheel, oil skimmer, automatic central lubrication, coolant gun, chip flushing system, heat exchanger for electric control cabinet, telescoping axis cover, RS-232 interface, USB port, CF card reader, totally enclosed work space, work lamp, 3-color signal lamp, coolant system, adjustable machine feet, operating tools, operator instructions

## Options

## Part No.

• Chip flush-out system	253384
• Spindle oil cooler	253440
• 10,000 rpm direct drive spindle WITH CTS	252818
• 4th axis DR-250H for VECTOR with incl. motor, amplifier, fully assembled	252886
• Arm Type BT40 upg. from 24 to 30 tools	252967

For additional options for this machine, visit our website.

## Specifications VECTOR

		650 M SI	850 M SI	1000 M SI
<b>Working Area</b>				
Table dimensions	in	31x22	39x22	43x22
Table load capacity	lbs	1,320	1,760	1,764
Spindle nose-to-table surface distance	in	6 - 28	6 - 28	6 - 28
Spindle center - column	in	20	20	20
<b>Travels</b>				
Travel X-axis	in	25.6	33.5	39.4
Travel Y-axis	in	22	22	22
Travel Z-axis	in	22	22	22
Guideway		Roller	Roller	Roller
<b>Headstock</b>				
Spindle speed	rpm	10,000	10,000	10,000
Spindle mount		BT 40	BT 40	BT 40
Torque, constant	ft.lb.	398	398	398
Spindle bearing		7012 x 4	7012 x 4	7012 x 4
Draw bolts		MAS407	MAS407	MAS407
<b>Rapid Feed</b>				
Rapid feed X-/ Y-axis	in/min	1,417	1,417	1,417
Rapid Feed Z-axis	in/min	590.55	590.55	590.55
<b>Feed</b>				
Work feed X-axis	in/min	394	394	394
Work feed Y-axis	in/min	394	394	394
Work feed Z-axis	in/min	394	394	394
<b>Tool Head</b>				
Tool change type		Twin arm	Twin arm	Twin arm
Number of tool stations	positions	24	24	24
Tool selection		Memory random	Memory random	Memory random
Tool size Ø x L (max.)	in	3.15x11.81	3.15x11.81	3.15x13.78
Tool weight max.	lbs	15	15	15
Tool-change time tool/tool	sec	1.8	1.8	1.8
Tool-changing time chip/chip	sec	3.9	3.9	3.9
<b>Accuracies</b>				
Repeatability	in	± 0.00012	± 0.00012	± 0.00012
Positioning accuracy	in	± 0.0002	± 0.0002	± 0.0002
<b>Drive Capacity</b>				
Main drive, continuous load	Hp	12.07	12.07	12.07
Total power consumption	kVA	15	15	15
Mains frequency		50	50	50
<b>Measures and Weights</b>				
Overall dimensions (length x width x height)	in	96x87x107	96x87x107	104x87x107
Weight	lbs	8,800	9,460	10,120
Part No.		181272	181271	181270



- Available with Siemens, Fanuc, or Heidenhain control
- Main motor rating up to 15 HP (Fanuc)
- Rotary swivel table with 7.9" table diameter
- BT 40 Spindle with up to 10,000 rpm

- The new X.mill series with rotary swivel table is the perfect tool for streamlined and cost-effective multi-axis machining
- A 4th and 5th machining axis brings additional competitive advantages due to shorter cycle times, better surface grades and dimensional stability
- The entire series is available with either a Siemens Fanuc or Heidenhain control, so users can select the optimum control for their needs.

### Machine Design

- The X.mill series machine frame was developed using the most advanced FEM analysis software on the market.
- All axes move on premium linear guideways and precision ball screws with rigid covers to protect them from chips and coolant splashes

### Rotary Swivel Table

- A 4th and 5th machining axis complete the assembled rotary swivel table that features 200 mm diameter and a large swivel range
- The expansion by one rotary and swivel axis saves the operator steps and opens new possibilities for the cost-effective production of complex parts
- 3+2 axis milling brings the advantage that the application of CAM software and the possible cutting strategies conform to those of 3-axis programming, resulting in simplified programming and significantly reduced training requirements
- The compact design and high rigidity of the moving axes ensure long tool life and excellent surface quality



## Spindle

- The advanced design of our spindles ensure low heat accumulation under load
- Large preloaded bearings ensure radial stability during heavy-duty machining operations

## Tool changer

- The quick tool changer with dual-arm gripper and 24 stations provides plenty of capacity for every-day production operations

## Specifications

### X.mill 5X 1000 SI

#### Working Area

Table dimensions	in	43x22
Table load capacity	lbs	1,760
Center height, vertical	in	10
Spindle axis-to-table surface distance	in	5.91 - 27.56
Spindle axis-to-table surface distance with rotating swivel table	in	1.57 - 25.2
Spindle center-to-stand distance	in	20
Number of T-slots	positions	5
T-slot (width x spacing)	in	0.71x3.94

#### Travels

Travel X-axis	in	39.4
Travel X-axis with rotating swivel table	in	8.3
Travel Y-axis	in	22
Travel Y-axis with rotating swivel table	in	21.7
Travel Z-axis	in	31
Travel Z-axis with rotating swivel table	in	23.6

#### Headstock

Spindle speed	rpm	10,000
Spindle mount		BT 40
Torque, constant	ft.lb.	33

#### Rapid Feed

Rapid feed X-, Y-, Z- axis	in/min	1,417
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#### Feed

Work feed X / Y / Z axis	fpm	33x33x33
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#### Tool Head

Number of tool stations	positions	24
Tool Ø	in	100 (130)
Tool weight max.	lbs	18
Tool-changing time chip/chip	sec	3.9
Tool-change time tool/tool	sec	1.8

#### Rotary Swivel Table

Table diameter	in	8
Overall height	in	14.76
Bore	in	1.38
Increment min.	deg	0.001
Swivel range	deg	-15 - 115
Workpiece weight -15 to 30 degrees	lbs	220
Workpiece weight 31 to 115 degrees	lbs	110

#### Drive Capacity

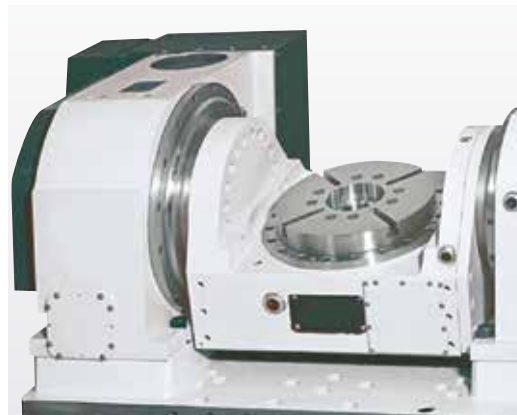
Motor rating main drive	Hp	12.1
Motor rating X-axis	Hp	3.1
Motor rating for Y-axis drive	Hp	3.1
Motor rating Z-axis	Hp	3.08

#### Measures and Weights

Overall dimensions (length x width x height)	in	104x87x107
Weight	lbs	10,120
Part No.		181405

## Equipment

- The totally enclosed workspace features a large door and side doors for easy access, safety and cleanliness
- Electrical equipment is divided into separate control cabinets for high and low voltage systems, which results in a significant reduction of heat accumulation and noise
- An electronic hand-wheel simplifies machine set-up
- The automatic central lubrication system ensures proper lubrication of all lube points



Rotary swivel table with a table diameter of 8 inches

## Standard Equipment

**Siemens 828D control**, BT40 24-station tool changer with dual-arm gripper, screw-type chip conveyor with bucket, rigid tapping, remote service for Siemens, autom. power off, manual coolant spray gun, coolant system, spindle air system, heat exchanger for electric control cabinet, fully enclosed work space (without top cover), electronic hand-wheel, RS-232 and RJ45 card interface, USB port, automatic central lubrication, work lamp, 3-color signal lamp, tool box including tools, alignment bolts and alignment plates, 4th and 5th axis Ø7.9" rotary table

## Options

### Part No.

• Upgrade Spindle Taper from BT40 to SK40	257404
• Upgrade: from BT40 spindle to HSK63 spindle	253372
• Spindle speed upgrade 10,000 to 12,000 rpm (belt type)	253609

For additional options for this machine, visit our website.

**For complete information on the X.mill 5X 1000 with FANUC Oi MF (5) and Heidenhain TNC 620 controls, please visit:**  
[www.knuth.com](http://www.knuth.com)



Vertical CNC Machining Center

## X.mill T 700 • 800 • 1000

The production-class of vertical machining centers

For complete information on the X.mill T with Fanuc Oi MF (5) and Heidenhain TNC 620 controls, please visit:  
[www.knuth.com](http://www.knuth.com)



shown with Siemens control

- Available with Siemens, Fanuc, or Heidenhain control
- Tapping without compensating chuck (rigid tapping)
- Rigid table structure with very low gravity and small footprint
- Powerful BT 40 spindle with speeds up to 10,000 rpm

- The new X.mill series is ideally suited for streamlined and cost effective series production
- The entire series is available with either a Siemens, Fanuc or Heidenhain control, so users can select the optimum control for their needs



The guides in all axes are protected by robust stainless steel covers

### Machine Design

- The X.mill series machine frame was developed using the most advanced FEM analysis software on the market
- The thorough analysis of the entire machine bed construction and wide column base resulted in a design that is optimized for all load conditions
- All axes move on premium, fully enclosed linear guideways and precision ball screws and are driven by dynamic servo-motors

## Spindle

- The main spindle is supported by multiple bearings to ensure excellent absorption and dissipation of forces during machining
- The advanced design of our spindles ensure low heat accumulation under load
- Large preloaded bearings ensure radial stability during heavy-duty machining operations
- High-temperature lubricants ensure optimum lubrication at any operating temperature and a long tool life

## Tool changer

- The robust armless 20-station tool changer brings flexibility to everyday production operations
- An optional 30-station tool changer with dual-arm gripper is also available

## Handling

- The totally enclosed workspace features a large door and side doors for easy access, safety and cleanliness
- An electronic hand-wheel simplifies machine set-up

- Electrical equipment is divided into separate control cabinets for high and low voltage systems, which results in a significant reduction of heat accumulation and noise
- The automatic central lubrication system ensures proper lubrication of all lube points

## Standard Equipment

**Siemens 828 D Basic control**, BT40-20 tool changer by Schrim, USB port, rigid tapping, heat exchanger for electric control cabinet, work lamp, automatic lubrication system, coolant system, manual coolant spray gun, autom. power-off, electronic hand-wheel, screw-type chip conveyor with bucket, remote service for Siemens, spindle air system, fully enclosed workspace (without top cover), 3-color signal lamp, tool box including tools, alignment bolts and alignment plates

## Specifications X.mill T

		700 SI	800 SI	1000 SI
<b>Working Area</b>				
Table dimensions	in	35x18	35x22	43x22
Table load capacity	lbs	1,320	1,760	1,760
Slots (number/width/spacing)	in	5x0.71x3.15	5x0.71x3.15	5x0.71x3.94
Spindle axis-to-table surface distance	in	4.33 - 25.98	4.33 - 25.98	5.91 - 27.56
Spindle center-to-stand distance	in	20	20	20
<b>Travels</b>				
Travel X-axis	in	27.6	31.5	39.4
Travel Y-axis	in	18	20	22
Travel Z-axis	in	22	22	22
<b>Headstock</b>				
Spindle speed	rpm	10,000	10,000	10,000
Spindle mount		BT 40	BT 40	BT 40
Torque, constant	ft.lb.	398	398	398
<b>Rapid Feed</b>				
Rapid feed X- / Y- / Z-axis	in/min	1,417	1,417	1,417
<b>Feed</b>				
Work feed X- / Y- / Z-axis	fpm	33	33	33
<b>Tool Head</b>				
Number of tool stations	positions	20	20	20
Tool Ø	in	100 (130)	100 (130)	100 (130)
Tool weight max.	lbs	18	18	18
Tool-change time tool/tool	sec	8	8	8
<b>Accuracies</b>				
Positioning accuracy	in	0.0002	0.0002	0.0002
Repeatability	in	0.00012	0.00012	0.00012
<b>Drive Capacity</b>				
Motor rating main drive	Hp	12.1	12.1	12.1
Motor rating for X-axis drive	Hp	3.1	3.1	3.1
Motor rating for Y-axis drive	Hp	3.1	3.1	3.1
Motor rating for Z-axis drive	Hp	4.4	4.4	4.4
Total power consumption	kVA	15 - 20	15 - 20	15 - 20
<b>Measures and Weights</b>				
Overall dimensions (length x width x height)	in	98x87x100	98x87x100	104x87x107
Weight	lbs	9,240	9,680	10,120
Part No.		181400	181401	181402

## X.mill 400

Entry-level model for CNC milling, ideal for batch production and training purposes



See this machine  
in action on  
YouTube



- BT-40 main spindle mount
- Spindle oil cooler is standard equipment
- Tapping without compensating chuck (rigid tapping)

- Reliable, compact machining center with extensive equipment for streamlined, cost-effective series productions
- Massive cast-iron machine body integrates many years of experience and state-of-the-art technology
- All axes move on premium, fully enclosed linear guideways and precision ball screws and are driven by dynamic servo-motors
- The premium spindle unit features a large tool mount and a spindle oil cooler, which are of great advantage in continuous operations
- Fast rapid feeds and rugged horizontal tool changer allow for efficient machining with minimum downtime



Rugged horizontal tool changer with 12 stations



Siemens 808D Advance control

## Specifications

### X.mill 400

Working Area			
Table dimensions	in		24x12
Table load capacity	lbs		330
Slots (number/width/spacing)	in		3x0.55x3.94
Spindle nose-to-table surface distance	in		4 - 23
Travels			
Travel X-axis	in		16
Travel Y-axis	in		9
Travel Z-axis	in		18
Headstock			
Spindle speed	rpm		8,000
Spindle mount			BT 40
Feed			
Rapid feed X-axis	in/min		472
Rapid feed Y-axis	in/min		472
Rapid feed Z-axis	in/min		394
Work feed X / Y / Z axis	in/min		0 - 394
Tool Head			
Number of tool stations	positions		12
Tool Ø	in		2.16 (4.72)
Tool length (max.)	in		8
Tool weight max.	lbs		7
Tool-change time tool/tool	sec		7
Accuracies			
Positioning accuracies	in		0.0008
Repeatabilities	in		0.0004
Drive Capacity			
Motor rating main drive	Hp		5
Motor rating for X-axis drive	Hp		1
Motor rating for Y-axis drive	Hp		1
Motor rating for Z-axis drive	Hp		1.3
Measures and Weights			
Overall dimensions (length x width x height)	in		82.7x74.8x96.5
Weight	lbs		4,840
Part No.			181359

- The totally enclosed work space features a large door and side doors for easy access, safety and cleanliness
- Siemens 808D control: cost-effective, easy to handle, superior reliability backed by worldwide service
- Electronic hand-wheel simplifies machine set-up
- The automatic central lubrication system ensures proper lubrication of all lube points

## Standard Equipment

Siemens 808D Advance control, 12-station automatic tool changer, electronic hand-wheel, coolant system, operational health status indicator, automatic central lubrication, enclosure, Level pads and bolts, work lamp, compressed air gun, operating tools, operator manual

Options	Part No.
• Shell End Milling Arbor Ø40 BT 40	103928
• Milling Chuck WELDON BT 40 / Ø 32 mm	106828
• Collet Chuck MAS BT40-ER40-80	104206
• ER 40 Collet Set 15 pcs.	106054
• Keyless Drill Chuck 1-13 mm B 16	104765
• Keyless Drill Chuck 3-16 mm B 18	104770
• Assembly Stand	108930
• HNCS 100V	104930
• Clamping Tool Set Deluxe 14/M12	105295

For additional options for this machine, visit our website and search for X.mill 400 (Product Search)



## Hands-on learning on KNUTH machines with Siemens controls for state certified and practical vocational training

Depending on requirements and training objective, KNUTH CNC machine tools can be used to implement the dual training concept that teaches theoretical content and deepens this knowledge with hands-on practical experience. This principle has been successfully used in continuous vocational training and employee training programs.

The programming instructions with the simulation software of the Siemens 808 control are ideal for CNC beginners, students and apprentices who have completed their training on conventional lathes and milling machines and have a basic knowledge of CNC machining. KNUTH machine tools have a proven track record of decades of successful use at schools and universities worldwide.

KNUTH offers an extensive portfolio for the basic turning and milling training package. The servo-conventional machines, Servoturn and Servomill, represent the new generation of conventional machining.

The Siemens SINUMERIK CNC Controls provide the perfect control solution for each of these machine designs. Compact and user-friendly, the 808D and 828D are ideally suited for basic turning and milling applications as well as standardized machine designs with high CNC performance.

## Theoretical and Practical Training - Be convinced

Take the first step and make yourself familiar with our new training concept. Don't hesitate to ask about a live meeting to learn about the machines, documentation and software.

A visit to our German headquarters in Wasbek provides you an ideal opportunity to gain insight and a complete picture of all aspects of the KNUTH Werkzeugmaschinen training initiative.

While you are there, don't miss the chance to visit the largest machine tool display in Northern Germany.

Make your appointment today - we are looking forward to your visit.

Your KNUTH sales representative

## SMARTLAB Package

- **CNC Inclined-Bed Lathe** with automatic 4-station tool turret and tailstock
- **Vertical Machining Center** with automatic 4-station tool changer
- Siemens SINUMERIK 808D
- Detailed programming instructions



### THE MACHINES - Ideal for vocational training and continuous employee training

- The mobile CNC machines provide the full range of functionality
- Include automatic tool changers for a productive real-world training environment

### THE CONTROL - SINUMERIK 808D

#### The ideal entry-level CNC System

- Easy, intuitive user guidance, ideal for basic turning and milling applications
- High performance and precision

#### LabTurn 2028 - CNC Inclined-Bed Lathe

- Turning diameter over bed 8 inches
- Z-axis travel 6 inches
- 4-station tool turret
- Machine frame features a solid cast-iron inclined-bed construction ensuring excellent rigidity and chip removal
- High-precision linear guides guarantee high rigidity and accuracy
- Central lubrication
- 4-station tool turret with 4 tools for inside and outside machining
- 3-jaw chuck (4 inch) and rigid tailstock are included

#### LabCenter 260 - CNC Milling Machine

- Travels (X / Y / Z) – 10 x 6 x 7 inch
- Main spindle drive motor 1.3 HP
- 4-station tool changer
- Carefully machined frame with premium cast-iron construction
- Dovetail guides and preloaded ball screws with servo drives on all axes
- Max. spindle speeds up to 5000 rpm
- Electronic hand-wheel for efficient, professional set-up operations

#### Siemens Sinumerik 808D

- Self-explanatory, powerful control with a small footprint
- MDynamics for perfect milling operation
- Sinumerik 808D – included with standard equipment

Compact and robust with panel-based CNC design requiring minimal interfaces, and a resistant IP65 control panel make the SINUMERIK 808D the perfect control for dirty and harsh workshop environments. Additional features of the SINUMERIK 808D are low-profile chicklet key caps for effortless operation and the familiar SINUMERIK soft-key touch and feel.

The SINUMERIK 808D is optimized for turning and milling functions and its technology-specific features make it the perfect control for lathes and machining centers. The range of applications extends from basic standardized milling machines or simple machining centers to cycle lathes and full CNC lathes. Its MDynamics motion control ensures first class turning and milling results.

Max. spindle speeds up to 5000 rpm



See this machine  
in action on  
YouTube



- Dovetail guides and preloaded ball screws with servo drives on all axes
- Electronic hand-wheel for efficient and professional set-up
- 4-station tool changer ensures flexibility and optimum productivity

### Standard Equipment

Siemens 808D Advance control, electronic hand-wheel, 4-station tool changer, mobile base, central lubrication, work lamp, operating tools, operating manual and programming instructions

### Specifications

### LabCenter 260

Table dimensions	in	16x6
Throat	in	8
Travel X-axis	in	10.2
Travel Y-axis	in	6
Travel Z-axis	in	7
Spindle speed	rpm	80 - 5,000
Spindle mount		ISO 20
Rapid feed X-axis	in/min	78.74
Rapid feed Y-axis	in/min	78.74
Rapid feed Z-axis	in/min	78.74
Work feed	in/min	20
Number of tool stations	positions	4
Motor rating main drive	Hp	1.3
Overall dimensions (length x width x height)	in	56x36x71
Weight	lbs	990
Part No.		181615



# LabTurn 2028

CNC turning with maximum precision and minimum space requirement



See this Machine  
in action on  
YouTube



Inclined bed design optimizes work space and chip removal

- Rigid cast-iron inclined bed design ensures good stability and efficient chip removal
- Precision linear guides ensure high stability and accuracy
- 8-station tool turret with 4 tools per station for inside and outside turning

## Options

Options	Part No.
• Turning Tool Set with 0.3 x 0.3 in shank dimensions	251477
• Set of indexable inserts	251478
• E-Labturn 2028 spare parts package for 181625	259122

## Specifications

Specifications		LabTurn 2028
Workpiece length (max.)	in	11
Turning diameter over bed	in	8
Turning-Ø over support	in	4
Speed range	rpm	100 - 3,000
Spindle mount		MK 3
Number of tool stations	positions	4
Motor rating main drive	Hp	1.3
Weight	lbs	792
Part No.		181625

## Standard Equipment

Siemens 808D Advance control, electronic hand-wheel, 8-station turret, mobile base, tailstock, 3-jaw chuck (4" diam.), central lubrication, work lamp, operating tools, operating manual and programming instructions



Loading system with robot

## FlexLoader 10

Reach **51 in.**

Load capacity **22 lbs.**

Let us automate your production.  
This perfectly designed system consists of  
frame, components and safety technology.

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Digitalization

## E.T. Box

4 LAN/WAN ports  
Input/Output 2xDi, 1xDo

With the E.T. Box you are always in  
control of your data!

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- Made in Germany
- Wide reach
- Grid plate as needed
- 12" Touchscreen
- TÜV certified safety



### The system comes complete with frame and safety technology.

- It features bulkheads on one side and is open on the operator side
- The enclosure can be selected as needed for left-hand or right-hand access
- The safety scanner is installed at the open side
- The system is provided with a pre-installed machine interface for various machine tools
- A pneumatic 2-finger gripper with adjustable pressure is pre-installed
- The standard version includes a grid plate. The plate size can be selected by the customer as needed for their workpiece dimensions.



2-jaw parallel gripper included in standard equipment

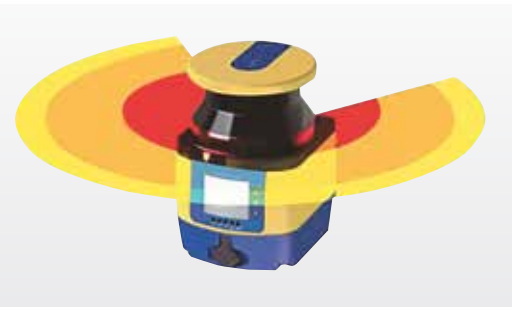


6-axis robot arm with a working radius of 4.3 ft

## Specifications

## FlexLoader 10

Working Area	
Load capacity	lbs 22
Protection class	IP54
Working radius	in 51.18
Base	
Grid plate (standard)	Work pieces 59
Max. part diameter (standard)	in 1.57
2-finger gripper	
Strokes per jaw	in 0.39
Gripping force – closing	N 885
Gripping force – opening	N 945
Closing time	sec 0.06
Opening time	sec 0.06
Assembled gripper jaw, max. intrinsic weight	lbs 3
Max. length of gripper jaws	in 6
Measures and Weights	
Footprint (length x width)	in 59.1x59.1
Weight	lbs 880
Part No.	100128



Safety laser scanner monitors work area

## Universal Robots UR10 (3rd generation)

- Load capacity: 22 lbs
- Reach: 51"
- Joint rotation: +/- 360° on all joints
- Speed: Joint: max. 120°/180°/sec ; Tool: about 1m/sec
- Repeatability: +/- 0.004"
- IP Rating: IP54
- Includes an encoder and UR Safety 3.1 (8 adjustable safety functions) - with TÜV certification
- Communication: TCP/IP - Ethernet ports; Modbus, Profinet
- TCP programming: Graphical User Interface; 12" touchscreen

## Easy and flexible programming

- Flex HMI is a technology developed by Lorenscheit Automatisierungs-Technik. It features a PC-based user interface that is customized for the respective application and makes tooling of your robot a breeze. Many SMBs use their machines for small batch productions of 1 to 100 workpieces. At these quantities, work-intensive tooling would be counterproductive - tooling has to be simple and straightforward.

## Advantages

- High efficiency, consistent product quality and increased productivity
- Simplified operation during tooling of new workpieces
- Database for loading workpieces that have been set up previously (optionally with barcode scanner)
- Modular system design for easy expansion and maximum scalability
- Plug-and-Play connectivity based on pre-configured system consisting of HMI, robot and KNUTH FlexLoader
- For the KNUTH FlexLoader an automatic door is required at the machine. We provide retrofitting solutions upon request.

## Standard Equipment

Enclosure, safety technology, 2-finger gripper, grid plate, Flex-HMI with 12" touchscreen

**Easy remote service of CNC machines is now safer and easier than ever before.**

- Secure VPN connection
- No additional software required
- No access to internal networks



The E.T. Box is a compact VPN router that can be mounted directly in the CNC machine's control cabinet. It provides external access to the machine's control via a LAN, WiFi or W4G connection.



- 4 configurable LAN/WAN ports
- Input/Output 2xDI, 1xDO
- Power supply 12-24 VDC+/-20%, LPS
- Temperature range from -77° to max. 140°F
- CE, UL, FCC, IC marks
- 36 month warranty

### Reduce down-time and cost!

- Your Advantage: If there is a problem, a KNUTH technician will remote into your machine's control within 4 hours and either solve the problem right then, or make targeted preparations for an on-site repair visit.
- This is made possible via Flexy 205® by Ewon®

### The E.T. Box will also give you new possibilities for doing more with your machine data!

- Global access to your machine's control
- Recall or display alarms
- Data management for workpieces / parts programs / offsets
- Integration in Smart Factory Systems

## Data Security

- Any access to the machine from outside must be verified by the operator via the HMI
- Secure VPN connection via internet: Talk2M Pro Server and infrastructure are hosted by internet providers with SSAE-16 and ISO 27001 certifications
- A key switch is provided to completely shut down the box, when no communication is needed
- No access to internal networks is possible, since connections are established via GSM. Optionally, connections via LAN or WIFI can be established

E.T. Box LAN Part No. 270307

E.T. Box WiFi Part No. 270308

E.T. Box W4G Part No. 270309



Compact and space-saving router can be stored in the control cabinet of the machine

## Remote Service:

- Prompt support via remote service router. Specialized CNC technicians with comprehensive knowledge about your machine are available.
- Support for questions regarding machine operation, programming or the HMI user interface - the operator will get answers and live support while working at the machine.

## Advantages:

- In preparation for a pending machine maintenance call, the KNUTH CNC technician can gather information on the current machine status and initiate measures or order replacement parts.
- Diagnostics can be run not only per e-mail or phone, but also directly in the live-switched system
- Immediate analysis together with the operator or technician upon the occurrence of alarms or alert messages



The connected machine in production



KNUTH technicians can perform diagnostics directly on live system



## Advantages of the E.T. Box versus other technologies

- No extra software is necessary
- Easy setup at the machine
- No external hardware for data transfers is necessary (i. e., no PC must be provided during operation)

# Conventional turning machines

**See for yourself live:** Many models are in stock or can be viewed and tried out at a user's location near you. Make a demonstration appointment! Email [info@knuth-usa.com](mailto:info@knuth-usa.com) or call #847-415-3333



## Experience our machines in action!

With our YouTube channel KnuthMachineToolsUSA, you stay up to date with all the news and developments.



### Heavy turning machine

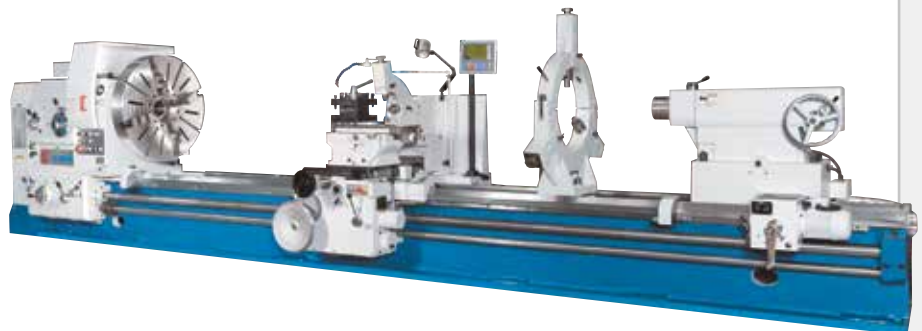
#### DL S / DL E Heavy

Turning diameter **33 - 79 in**

Center width **59 - 315 in**

High chip removal power,  
large clamping diameter  
and up to 22,046 lbs  
workpiece weight

from page 84 onwards



### Vertical turning machine

#### VDM S

Swing **31 - 102 in**

Machining height **31 - 59 in**

The optimum solution  
for heavy workpieces

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Mechanic's turning machine

## Basic

Turning diameter **12 - 14 in**  
Center width **1.26 - 1.54 in**

from page 100 onwards



Universal turning machine

## V-Turn PRO / V-Turn

Turning diameter **15 in**  
Center width **39 - 59 in**

from page 96 onwards



Servo-conventional turning machine

## Servoturn®

Turning diameter **20 - 26 in**  
Center width **37 - 76 in**

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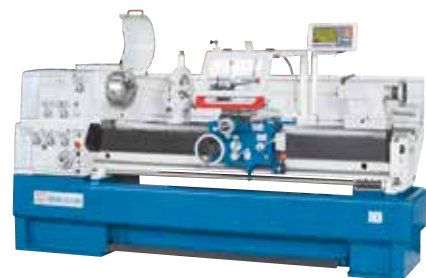


Universal turning machine

## Turnado PRO / Turnado

Turning diameter **18 - 22 in**  
Center width **39 - 79 in**

from page 92 onwards



Universal turning machine

## Sinus

Turning diameter **26 - 31 in**  
Center width **59 - 118 in**

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Flat bed turning machine

## TubeTurn

Turning diameter **25 in**  
Workpiece length **51 in**

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- Infinitely variable feed control via servo-motor
- Optimum tooling and easy access for cranes and forklift trucks
- Heavy-duty column with wide, hardened guideways
- Hydraulic clamping of cross traverse
- Rigid guide construction ensures maximum rigidity and accuracy of the vertical boom

- Spindle runs in a high-precision two-row roller bearing and is adjustable
- Reduction gear drive ensures high torque and a speed range of 10 - 315 rpm
- Servo motor technology ensures powerful, infinitely variable feed of the vertical boom



## Standard Equipment

3-axis position indicator, fully enclosed housing, chip conveyor, tool holder vertical, tool holder horizontal, Automatic central lubrication, work lamp, anchor bolts, operating tools, operator manual

## Options

## Part No.

• Coolant System	251430
------------------	--------

Vertical support includes a 5-station tool holder, side support with independent feed for inside and outside turning

## Specifications VDM

		800 S	1000 S	1250 S	1600 S	2300 S	2600 S
<b>Working Area</b>							
Rotating diameter (max.)	in	31	39	49	63	91	102
Turning diameter of upper tool holder	in	31	39	49	63	91	102
Turning diameter of side tool holder	in	28	35	39	55	79	91
Machining height (max.)	in	31	31	39	39	53	59
Swivel range of upper tool holder		± 30°	± 30°	± 30°	± 30°	± 30°	± 30°
Workpiece length (max.)	in	31	31	39	39	53	59
Work piece weight (max.)	lbs	2,640	4,400	7,040	11,000	17,600	22,000
<b>Travels</b>							
Travel X1 axis, upper support	in	22	26	28	36	45	51
Travel Z1 axis, upper support	in	24	24	26	31	39	39
Travel W-axis, traverse	in	23	23	26	26	39	43
Travel X2 axis, side support	in	20	20	25	25	25	29
Travel Z2 axis, side support	in	31	31	35	35	39	46
<b>Headstock</b>							
Speed range	rpm	(16) 10 - 315	(16) 8 - 250	(16) 6.3 - 200	(16) 5 - 160	(16) 3.2 - 100	(16) 1.4 - 45
Spindle Torque (max.)	ft.lb.	88,500	110,625	154,875	221,250	283,200	283,200
Rotary table diameter	in	28	35	39	55	79	91
<b>Feed</b>							
Velocity X / Z axis	in/min	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3
Feed speed W-axis	in/min	17	17	17	17	17	17
Rapid feed of upper / side support	in/min	71	71	71	71	71	71
Tool shank dimensions	in	1x2	1x2	1x2	1x2	1x2	1x2
Tool weight (max.)	lbs	110	110	110	110	110	110
<b>Drive capacity</b>							
Motor rating main drive	Hp	29.5	29.5	29.5	40.2	49.6	49.6
Motor rating X / Z axis	Hp	1,3 / 1,8	1,3 / 1,8	1,3 / 1,8	1,3 / 1,8	1,3 / 1,8	1,3 / 1,8
<b>Measures and weights</b>							
Overall dimensions (length x width x height)	in	192.91x137.79 x163.39	192.91x141.73 x163.39	208.66x149.61 x165.35	255.9x165.35 x173.23	299.21x196.85 x212.6	311.02x208.66 x212.6
Weight	lbs	14,300	15,620	19,800	27,500	41,800	60,627
Part No.		301390	301391	301392	301393	301394	301396



### Extensive standard equipment

- **Spindle bore from 5 to 9 inches**
- Heavy machine bed made of premium cast-iron with hardened and ground guideways
- Massive headstock with high-precision spindle running in tapered roller bearings, and 2 lathe chuck mounts on both sides
- Gears are hardened and ground
- High torque at the working spindle ensures high chip removal rates when machining parts with large diameters
- Powerful main drive motor with 10 Hp
- Central, practical controls for feeds and thread leads
- Wide spectrum of inch and metric threads
- Heavy-duty 4-station tool holder
- Coolant system is included
- Taper turning unit with 20 inch turning length



Spindle bores up to 8.9 inch



Taper turning unit is included

## Standard Equipment

3-axis position indicator, 4-station tool holder, two 3-jaw chucks 15.7" (TubeTurn 135), 3-jaw chuck Ø 19.7" (TubeTurn 200 and 225), 4-jaw face plate chuck Ø 20.5" (TubeTurn 200 and 225), taper turning unit, coolant system, operator manual

Options	Part No.
• External rest for part no. 301740	252874
• Steady rest 13"	251055
• Quick-Change Tool Holder Set WC	103196

For additional options for this machine, visit our website and search for TubeTurn (Product Search)

The rear-mounted lathe chuck ensures increased stability for long workpieces



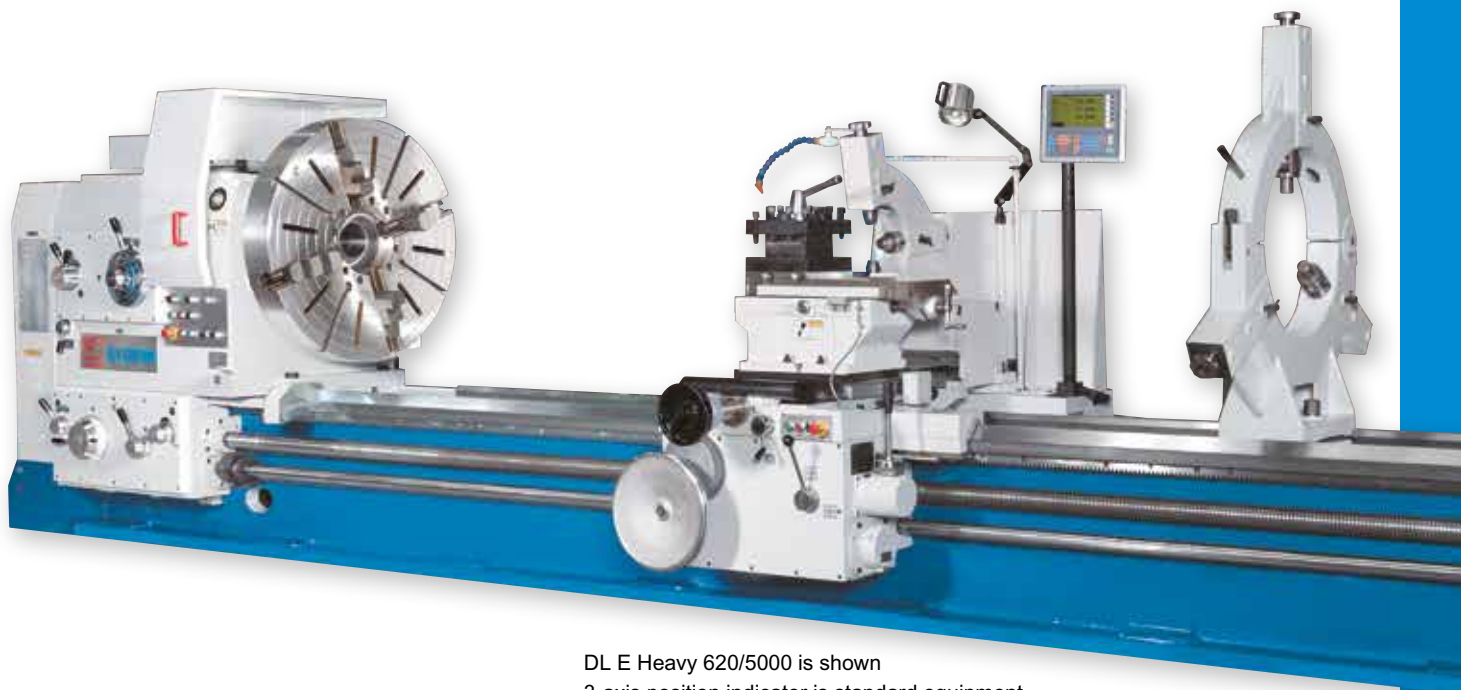
Specifications TubeTurn		135	200	225
<b>Working Area</b>				
Workpiece length (max.)	in	51	51	51
Turning diameter over bed	in	25	25	25
Turning-Ø over support	in	14	14	15
<b>Travels</b>				
Travel X-axis	in	13.4	13.4	13.4
Travel Z-axis	in	51	51	51
<b>Headstock</b>				
Speed range	rpm	14 - 496	24 - 300	24 - 300
Spindle torque (max.)	ft.lb.	1,416	1,512	1,416
Lathe chuck diameter	in	16	20	20
Spindle bore	in	5	8	9
Spindle bore in chuck	in	5.1	7.9	8.9
<b>Rapid Feed</b>				
Rapid feed X-axis	in/min	118.11	118.11	118.11
Rapid feed Z-axis	in/min	157.48	157.48	157.48
<b>Feed</b>				
Feed X-axis	in/R	(22) 0.00079 - 0.01772	(22) 0.00079 - 0.01772	(22) 0.00079 - 0.01772
Feed Z-axis	in/R	(26) 0.00276 - 5.23621	(26) 0.00276 - 5.23621	(26) 0.00276 - 5.23621
<b>Tool Head</b>				
Number of tool stations	positions	4	4	4
Tool shank dimensions	in	1.3x1.3	1.3x1.3	1.3x1.3
<b>Tapping</b>				
Tapping, metric	mm	(24) 1 - 14	(24) 1 - 14	(24) 1 - 14
Tapping, withworth	TPI	(40) 2 - 48	(40) 2 - 48	(40) 2 - 48
<b>Tailstock</b>				
Tailstock quill diameter	in	4	4	4
Tailstock taper	MT	5	5	5
Tailstock quill stroke	in	8	9	9
<b>Drive Capacity</b>				
Motor rating main drive	Hp	10.1	10.1	10.1
Total power consumption	kVA	8.5	9	9
<b>Measures and Weights</b>				
Overall dimensions (length x width x height)	in	145x58x55	145x58x55	145x58x56
Weight	lbs	9,020	9,218	9,381
Part No.		301739	301740	301741



Universal Heavy-Duty Lathe

## DL E Heavy

5" spindle bore, large turning diameter and center widths up to 315"



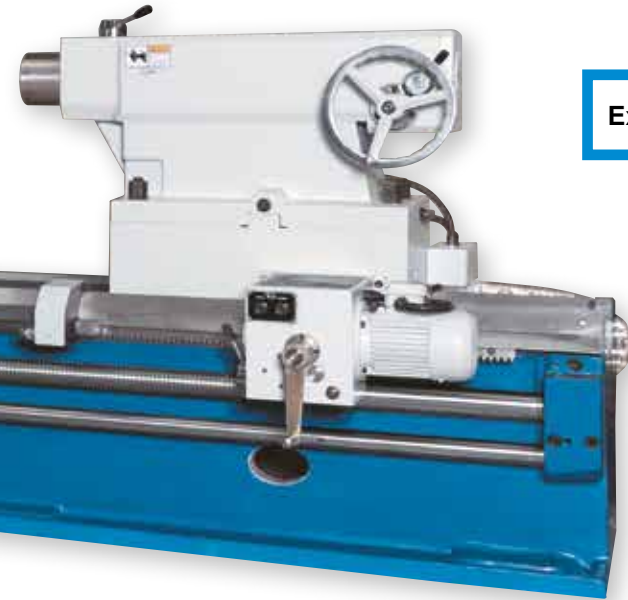
DL E Heavy 620/5000 is shown  
3-axis position indicator is standard equipment

Specifications DL E Heavy		500/1500	500/3000	500/5000	500/8000	620/1500	620/3000	620/5000	620/8000
<b>Working Area</b>									
Workpiece length (max.)	in	59	118	197	315	59	118	197	315
Turning diameter over bed	in	39	39	39	39	49	49	49	49
Turning-Ø over support	in	26	26	26	26	35	35	35	35
<b>Travels</b>									
Travel Z-axis	in	51	110	189	307	51	110	189	307
Travel Z1-axis	in	12	12	12	12	12	12	12	12
<b>Headstock</b>									
Spindle speeds (right)	rpm	(21) 3.15 - 315	(21) 3.15 - 315	(21) 3.15 - 315	(21) 3.15 - 315	(21) 3.15 - 315	(21) 3.15 - 315	(21) 3.15 - 315	(21) 3.15 - 315
Spindle bore	in	5	5	5	5	5	5	5	5
Spindle mount		A2-15	A2-15	A2-15	A2-15	A2-15	A2-15	A2-15	A2-15
<b>Rapid Feed</b>									
Rapid Feed Z-axis	in/min	147.24	147.24	147.24	147.24	147.24	147.24	147.24	147.24
<b>Feed</b>									
Feed X-axis	in/R	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47
Feed Z-axis	in/R	0.001 - 0.24	0.001 - 0.24	0.001 - 0.24	0.001 - 0.24	0.001 - 0.24	0.001 - 0.24	0.001 - 0.24	0.001 - 0.24
<b>Tapping</b>									
Tapping, metric	mm	(45) 1 - 120	(45) 1 - 120	(45) 1 - 120	(45) 1 - 120	(45) 1 - 120	(45) 1 - 120	(45) 1 - 120	(45) 1 - 120
Tapping, diametric	DP	(42) 30-1/4	(42) 30 - 1/4	(42) 30 - 1/4	(42) 30 - 1/4	(42) 30 - 1/4	(42) 30 - 1/4	(42) 30 - 1/4	(42) 30 - 1/4
Tapping, module	mm	(46) 0.5 - 60	(46) 0.5 - 60	(46) 0.5 - 60	(46) 0.5 - 60	(46) 0.5 - 60	(46) 0.5 - 60	(46) 0.5 - 60	(46) 0.5 - 60
Tapping, withworth	TPI	(48) 0.5-60	(48) 0.5-60	(48) 0.5-60	(48) 0.5-60	(48) 0.5-60	(48) 0.5-60	(48) 0.5-60	(48) 0.5-60
<b>Tailstock</b>									
Tailstock quill taper		metric 80	metric 80	metric 80	metric 80	metric 80	metric 80	metric 80	metric 80
Tailstock quill stroke	in	12	12	12	12	12	12	12	12
<b>Drive Capacity</b>									
Motor rating main drive	Hp	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
<b>Measures and Weights</b>									
Overall dimensions (length x width x height)	in	182x73x71	241x72x71	319x72x71	438x72x71	182x72x71	241x75x76	319x75x76	438x75x76
Weight	lbs	20,570	23,870	27,830	35,420	21,450	25,410	29,260	36,960
Part No.		300499	300500	300502	300504	300505	300506	300508	300510

## Options

To see the available options for this machine, visit our website.

- Powerful 29-HP motor ensures very high chip removal capacity
- Heavy, large cast-iron body and machine bed with strong ribbing to reduce vibrations to a minimum
- Induction hardened and ground guideways
- Sturdy multi-disk clutch for headstock drive
- Separate rapid feed motor for feed in X and Z-axis
- Joystick control for X and Z feeds is mounted directly to support
- Motorized positioning of tailstock (all models with a minimum center width of 118 inch)



### Extensive standard equipment

#### Standard Equipment:

3-axis position indicator, 4-jaw independent chuck (DL E 500 and 620 series  $\varnothing = 39$  inch, DL E 800 series  $\varnothing = 55$  inch, DL E 1000 series  $\varnothing = 63$  inch), coolant system, steady rest (DL E 500 series 2 - 18 inch, DL E 620 series 2 - 23 inch, DL E 800 and 1000 series 9 - 25 inch), follow rest 2 - 9 inch (except DL E 800 and 1000 series), motorized tailstock (all models with a minimum center width of 118 inch), LED work lamp, centers, reducing sleeves, foundation bolts, central lubrication, operating tools, operator manual

Specifications DL E Heavy		800/3000	800/5000	800/8000	1000/2000	1000/3000	1000/5000	1000/8000
<b>Working Area</b>								
Workpiece length (max.)	in	118	197	315	79	118	197	315
Turning diameter over bed	in	63	63	63	79	79	79	79
Turning- $\varnothing$ over support	in	50	50	50	63	63	63	63
<b>Travels</b>								
Travel Z-axis	in	110	189	307	71	110	189	307
Travel Z1-axis	in	8	8	8	8	8	8	8
<b>Headstock</b>								
Spindle speeds (right)	rpm	(21) 2.5 - 250	(21) 2.5 - 250	(21) 2.5 - 250	(21) 2 - 200	(21) 2 - 200	(21) 2 - 200	(21) 2 - 200
Spindle bore	in	5	5	5	5	5	5	5
Spindle mount		A2-15	A2-15	A2-15	A2-15	A2-15	A2-15	A2-15
<b>Rapid Feed</b>								
Rapid Feed Z-axis	in/min	147.24	147.24	147.24	147.24	147.24	147.24	147.24
<b>Feed</b>								
Feed X-axis	in/R	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47
Feed Z-axis	in/R	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47	0.003 - 0.47
<b>Tapping</b>								
Tapping, metric	mm	(45) 1 - 120	(45) 1 - 120	(45) 1 - 120	(45) 1 - 120	(45) 1 - 120	(45) 1 - 120	(45) 1 - 120
Tapping, diametric	DP	(42) 30 - 1/4	(42) 30 - 1/4	(42) 30 - 1/4	(42) 30 - 1/4	(42) 30 - 1/4	(42) 30 - 1/4	(42) 30 - 1/4
Tapping, module	mm	(46) 0.5 - 60	(46) 0.5 - 60	(46) 0.5 - 60	(46) 0.5 - 60	(46) 0.5 - 60	(46) 0.5 - 60	(46) 0.5 - 60
Tapping, withworth	TPI	(48) 0.5-60	(48) 0.5 - 60	(48) 0.5-60	(48) 0.5-60	(48) 0.5-60	(48) 0.5-60	(48) 0.5-60
<b>Tailstock</b>								
Tailstock quill taper		metric 80	metric 80	metric 80	metric 80	metric 80	metric 80	metric 80
Tailstock quill stroke	in	12	12	12	12	12	12	12
<b>Drive Capacity</b>								
Motor rating main drive	Hp	29.5	29.5	29.5	40.2	40.2	40.2	40.2
<b>Measures and Weights</b>								
Overall dimensions (length x width x height)	in	238x82x88	317x82x88	435x82x88	205x87x95	241x87x95	319x87x95	509x94x99
Weight	lbs	28,380	35,640	46,244	28,600	40,700	51,040	66,176
Part No.		300512	300514	300516	300518	300519	300520	300522



**Extensive standard equipment**

Specifications DL S		425/1500	425/3000	425/4000	425/5000	515/1500	515/3000	515/4000	515/5000
<b>Working Area</b>									
Workpiece length (max.)	in	59	118	157	197	59	118	157	197
Turning diameter over bed	in	33	33	33	33	39	39	39	39
Turning-Ø over support	in	20	20	20	20	28	28	28	28
Turning diameter over gap bridge	in	45	45	45	45	53	53	53	53
Work piece weight (max.)	lbs	8,800	8,800	8,800	8,800	8,800	8,800	8,800	8,800
Gap bridge length	in	19	19	19	19	19	19	19	19
Bed width	in	24	24	24	24	24	24	24	24
<b>Travels</b>									
Travel X-axis	in	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7
Travel Z-axis	in	54	110	150	189	54	110	150	189
Travel Z1-axis	in	10	10	10	10	10	10	10	10
Swing range of top slide		90°	90°	90°	90°	90°	90°	90°	90°
<b>Headstock</b>									
Spindle speed	rpm	5 - 630	5 - 630	5 - 630	5 - 630	5 - 630	5 - 630	5 - 630	5 - 630
Spindle bore	in	4	4	4	4	4	4	4	4
Spindle mount		A2-11	A2-11	A2-11	A2-11	A2-11	A2-11	A2-11	A2-11
<b>Rapid Feed</b>									
Rapid Feed X-axis	in/min	70.87	70.87	70.87	70.87	70.87	70.87	70.87	70.87
Rapid Feed Z-axis	in/min	143.31	143.31	143.31	143.31	143.31	143.31	143.31	143.31
<b>Feed</b>									
Feed speed X-axis	in/min	(64) 0.0016 - 0.189							
Feed speed Z-axis	in/min	(64) 0.0031 - 0.378							
Feed speed Z1-axis	in/min	(64) 0.0008 - 0.0945							



- Extra heavy, wide machine bed with heavy ribbing and one-piece mono-block construction
- Induction-hardened and ground guide slots ensure long-term accuracy and minimum wear
- Massive headstock with high-precision main spindle on a tapered roller bearing with 4 inch spindle bore for excellent stability under heavy loads
- Very quiet operation at maximum spindle speed
- Large gears, hardened and ground

- Joystick control for X and Z feeds is mounted directly to support
- Manually shifted 4-step gearbox with high-quality frequency control combined with a powerful main spindle motor with up to 25 Hp power allow exact tuning of rpm and high torque to provide maximum power even under heaviest loads
- For quick positioning and reduced down-time, the support is equipped with a rapid feed on X and Z-axes
- Adjustable overload clutch in apron protects the feed mechanics from damages and failures



## Standard Equipment

3-axis position indicator, 4-jaw independent chuck (Ø 31 in, DL S 425 / Ø 39 in, DL S 515), 4-station tool holder, steady rest 1.5"-14" (except 425/1500 S and 515/1500 S), follow rest 1.2"-4.7" (except 525/1500 S and 515/1500 S), dead centers, reducing sleeve, chuck guard, protective shield for support, coolant system, foundation bolts, work lamp, operating tools, operator instructions

## Options

## Part No.

• 3-jaw chuck (20 inch)	251158
• Motorized tailstock movement	251157
• Rest (4 - 20 inch)	251156
• Rest (12 - 28 inch)	251160
• Motorized tailstock movement	251161
• 3-jaw chuck (20 inch)	251162
• Coolant Concentrate 5 Ltr.	103184
• E-DL 425/515-1500/3000/4000/5000 S spare parts package for 5 years	259207

## Specifications DL S

		425/1500	425/3000	425/4000	425/5000	515/1500	515/3000	515/4000	515/5000
<b>Tooling</b>									
Tool shank dimensions	in	1.3x1.3	1.3x1.3	1.3x1.3	1.3x1.3	1.3x1.3	1.3x1.3	1.3x1.3	1.3x1.3
<b>Tapping</b>									
Tapping, metric	mm	(56) 1-120	(56) 1-120	(56) 1-120	(56) 1-120	(56) 1-120	(56) 1-120	(56) 1-120	(56) 1-120
Tapping - inch		(56) 30 - 1/4	(56) 30 - 1/4	(56) 30 - 1/4	(56) 30 - 1/4	(56) 30 - 1/4	(56) 30 - 1/4	(56) 30 - 1/4	(56) 30 - 1/4
Tapping, diametric	DP	(56) 60-0,5	(56) 60-0,5	(56) 60-0,5	(56) 60-0,5	(56) 60-0,5	(56) 60-0,5	(56) 60-0,5	(56) 60-0,5
Tapping, module	in	(56) 0.02 - 2.36	(56) 0.02 - 2.36	(56) 0.02 - 2.36	(56) 0.02 - 2.36	(56) 0.02 - 2.36	(56) 0.02 - 2.36	(56) 0.02 - 2.36	(56) 0.02 - 2.36
<b>Tailstock</b>									
Tailstock quill diameter	in	5	5	5	5	5	5	5	5
Tailstock taper	MT	6	6	6	6	6	6	6	6
Tailstock quill stroke	in	10	10	10	10	10	10	10	10
<b>Drive Capacity</b>									
Motor rating main drive	Hp	20.1	20.1	20.1	20.1	24.8	24.8	24.8	24.8
Motor rating coolant pump	Hp	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Motor rating feed	Hp	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Total power consumption	kVA	20	20	20	20	23	23	23	23
Supply voltage		400	400	400	400	400	400	400	400
<b>Measures and Weights</b>									
Overall dimensions	in	144x60x60	203x60x60	243x60x60	282x60x60	144x60x63	203x60x63	243x60x63	282x60x63
Weight	lbs	12,320	12,980	14,960	18,260	12,320	14,960	18,480	20,900
Part No.		301510	301511	301512	301513	301514	301515	301516	301517



- Preloaded ball screws on all axes
- Servo-motor instead of feed gears
- Electronic hand-wheels
- V-constant cutting speed

- The combination of a tried and tested machine base with the most advanced feed technology makes the change to a servo-conventional lathe even more attractive and cost-effective

**Intuitive operation as we know it from conventional machines - only much better:**

- Feed and thread leads can be selected via rotary switch - what a brilliant concept.
- Stops can be set electronically with the push of a button
- Feeds are infinitely variable between 50 and 100% via override potentiometer - finally available on a conventional lathe
- Axes are powered by high-quality servo drives that translate your hand movements with the precision and dynamics of modern CNC machines
- Infinitely variable speed adjustment and constant cutting speed of headstock
- Constant cutting speed: during face turning, the spindle speed automatically adapts to the changing workpiece diameter – the constant cutting speed at the cutting edge of the turning tool ensures superior turning results with quality comparable to CNC lathes

**Machine Frame**

- Heavy ribbed machine bed with wide, hardened bed guides and V-blocks allow for heavy-duty machining
- Headstock and main spindle are designed for optimum rigidity, vibration damping and temperature balance
- This entire series also features large spindle bores
- A quick-action tool changer is included in the standard package and ensures maximum flexibility and productivity

**Feed**

- Ball screws on the X- and Z-axes ensure considerably fewer errors due to looseness (backlash), resulting in significantly higher precision

**Equipment**

- The low-maintenance machine is equipped with a central lubrication system
- The heavy-duty tailstock is easy to handle and features high clamping force
- Incl. 3-axis position indicator with integrated spindle speed display, fully assembled



## Standard Equipment

3-axis position indicator, 3-jaw chuck, work lamp, operating tools, operator instructions, steady rest, coolant system, protective shield for support, quick change tool holder, follow rest, electronic hand-wheels, fixed splash guard (wall)

Options	Part No.
• Power Worker Metal Cutter	123040
• Oscillation Element LK 3	103330

For additional options for this machine, visit our website.

Operation via electronic handwheels in the  $\mu$  range - in feel and position as with a conventional machine

## Specifications Servoturn®

		500/1000	500/1500	500/2000	660/1500	660/2000
<b>Working Area</b>						
Center width	in	37.4	57.09	76.77	57.87	77.56
Turning diameter over bed	in	20	20	20	26	26
Turning- $\varnothing$ over support	in	12	12	12	18	18
Bed width	in	16	16	16	16	16
<b>Travels</b>						
Travel X-axis	in	9.8	9.8	9.8	14.6	14.6
Travel Z-axis	in	35	54	74	56	75
Travel Z1-axis	in	4	4	4	4	4
<b>Headstock</b>						
Spindle speed	rpm	30 - 1600	30 - 1600	30 - 1600	30 - 1600	30 - 1600
Spindle bore	in	3	3	3	3	3
Spindle mount		A2-8	A2-8	A2-8	A2-8	A2-8
Lathe chuck diameter	in	10	10	10	12	12
<b>Rapid Feed</b>						
X-axis rapid feed	fpm	13.08	13.08	13.08	13.08	13.08
Z-axis rapid feed	fpm	13.08	13.08	13.08	13.08	13.08
<b>Feed</b>						
Feed X-axis	in/R	0.00039 - 0.07874	0.00039 - 0.07874	0.00039 - 0.07874	0.00039 - 0.07874	0.00039 - 0.07874
Feed Z-axis	in/R	0.00039 - 0.07874	0.00039 - 0.07874	0.00039 - 0.07874	0.00039 - 0.07874	0.00039 - 0.07874
<b>Tapping</b>						
Tapping, metric	mm	0,35 - 14	0,35 - 14	0,35 - 14	0,35 - 14	0,35 - 14
Tapping, withworth	TPI	48-4	48-4	48-4	48-4	48-4
<b>Tailstock</b>						
Tailstock quill diameter	in	3	3	3	3	3
Tailstock taper	MT	5	5	5	5	5
Tailstock quill stroke	in	6	6	6	6	6
<b>Drive Capacity</b>						
Motor rating main drive	Hp	8 - 12.1	8 - 12.1	8 - 12.1	10.1 - 14.8	10.1 - 14.8
Motor rating X-axis	Hp	2	2	2	2	2
Motor rating Z-axis	Hp	3.08	3.08	3.08	3.08	3.89
<b>Measures and Weights</b>						
Overall dimensions (length x width x height)	in	126x51x65	148x51x65	168x51x65	148x63x65	167x63x69
Weight	lbs	6,270	6,930	7,590	7,590	8,470
Part No.		300831	300832	300833	300834	300835



Sinus D 330/2000 shown

- Extensive standard equipment
- Total price includes 3-axis position indicator (assembled)



Experience our machines in action!



- Removable bridge for machining of large parts
- High accuracy and low-noise operation even at high cutting power
- Heavy and large bed
- Hardened guide ways (>HB 400)
- 4 inch spindle capacity for machining of large parts
- Manual central lubrication
- Automatic lubrication of headstock and main drive
- Protected lead screw
- Overload protection for feed shaft and lead screw
- Support moves in linear and cross directions via rapid feed



Rests ensure maximum precision when machining long workpieces



Taper turning unit is included

## Standard Equipment

3-axis position indicator, 3-jaw chuck Ø 12.6 inch, 4-jaw chuck (15" diam.), face plate Ø 20 in (Sinus 400), face plate Ø 17.7 in (Sinus 330), dog plate, quick tool changer head, quick change tool holder, fixed splash guard (wall), coolant system, steady and follow rests, taper turning unit, chuck guard, LED work lamp, reducing sleeves, dead center, operating tools, operator manual

## Options

For available options for this machine, visit our website and search for Sinus D (Product Search)

Specifications Sinus D		330/1500	330/2000	330/3000	400/1500	400/2000	400/3000
<b>Working Area</b>							
Workpiece length (max.)	in	59	79	118	59	79	118
Turning diameter over bed	in	26	26	26	31	31	31
Turning-Ø over support	in	17	17	17	22	22	22
Turning diameter without gap bridge	in	35	35	35	41	41	41
Gap bridge length	in	13	13	13	13	13	13
Bed width	in	16	16	16	16	16	16
<b>Travels</b>							
Travel X-axis	in	14	14	14	17	17	17
Travel Z1-axis	in	9	9	9	9	9	9
Swing range of top slide		45°	45°	45°	70°	70°	70°
<b>Headstock</b>							
Spindle speed	rpm	(16) 25 - 1,600	(16) 25 - 1,600	(16) 25 - 1,600	(16) 25 - 1,600	(16) 25 - 1,600	(16) 25 - 1,600
Spindle bore	in	4	4	4	4	4	4
Spindle mount		D1-8	D1-8	D1-8	D1-8	D1-8	D1-8
Spindle taper	MT	5	5	5	5	5	5
<b>Feed</b>							
Feed X-axis (25)	in/R	0.0009 - 0.029	0.0009 - 0.029	0.0009 - 0.029	0.0009 - 0.029	0.0009 - 0.029	0.0009 - 0.029
Feed Z-axis (25)	in/R	0.0017 - 0.0583	0.0017 - 0.0583	0.0017 - 0.0583	0.0017 - 0.0583	0.0017 - 0.0583	0.0017 - 0.0583
<b>Tapping</b>							
Tapping, metric	mm	(54) 0.45 - 120	(54) 0.45 - 120	(54) 0.45 - 120	(54) 0.45 - 120	(54) 0.45 - 120	(54) 0.45 - 120
Tapping, diametric	DP	(42) 0.88 - 160	(42) 0.88 - 160	(42) 0.88 - 160	(42) 0.88 - 160	(42) 0.88 - 160	(42) 0.88 - 160
Tapping, module	mm	(46) 0.25 - 60	(46) 0.25 - 60	(46) 0.25 - 60	(46) 0.25 - 60	(46) 0.25 - 60	(46) 0.25 - 60
Tapping, withworth	TPI	(54) 7/16 - 80	(54) 7/16 - 80	(54) 7/16 - 80	(54) 7/16 - 80	(54) 7/16 - 80	(54) 7/16 - 80
<b>Rapid Feed</b>							
Rapid Feed X-axis	in/min	79	79	79	79	79	79
Rapid Feed Z-axis	in/min	157	157	157	157	157	157
<b>Tailstock</b>							
Tailstock taper	MT	5	5	5	5	5	5
Tailstock quill diameter	in	4	4	4	4	4	4
Tailstock quill stroke	in	9	9	9	9	9	9
Tailstock traverse adjustment	in	±0.5	± 0.5	± 12.5	± 11	± 0.4	± 11
<b>Drive Capacity</b>							
Motor rating main drive	Hp	10.1	10.1	10.1	10.1	10.1	10.1
<b>Measures and Weights</b>							
Overall dimensions (length x width x height)	in	126.4x48.4x63	146.1x48.4x63	185.4x48.4x63	127.6x44.9x44.9	147.2x44.9x75.2	186.6x44.9x75.2
Weight	lbs	6,160	6,380	7,260	7,084	7,700	8,514
Part No.		300010	300011	300012	300015	300013	300014



Turnado 230/1000 with 3-axis position indicator is shown



See this machine  
in action on  
YouTube



**For more machines of this series with  
infinitely variable speed adjustment, visit our  
website**

- Cost-effective, lasting value
- Practically arranged control panel with ergonomic layout of selection levers
- Camlock spindle mount D1-6 and D1-8
- Wide bed, ground and hardened
- Offset tailstock for taper turning
- Large number of thread leads
- Removable gap bridge for machining of large parts
- Stop spindle with adjustable travel stops



Turnado V: Constant cutting speed for flawless surfaces

**Online: Turnado V models with infinitely variable speed control up to 3000 rpm ([www.knuth.com](http://www.knuth.com))**

- Back gearing, first-class control technology and a powerful headstock motor allow a wide range of speeds and high torque for powerful machining
- The extensive features of the X.Pos position indicator are complemented by a speed display and vconst (constant speed) function; during face turning, the spindle speed automatically adapts to the changing workpiece diameter - the constant cutting speed at the cutting edge of the turning tool ensures superior turning results with quality comparable to CNC lathes



## Standard Equipment

3-axis position indicator, 3-jaw chuck Ø 10 inch (Turnado 230), 3-jaw chuck Ø 12 inch (Turnado 280), 4-jaw face plate chuck Ø 14 inch (Turnado 230), face plate Ø 17.7 inch (Turnado 280), quick tool changer head, quick change tool holder, coolant system, follow and steady rests, spindle, fixed splash guard (wall), chuck guard, foot brake pedal, LED work lamp, reducing sleeve, dead center, thread gauge, operating tools, operator instructions

## Options

## Part No.

• Quick-Set Spindle Bore Stop Size 9 3.1-3.6 inch	103025
• Oscillation element LK 6	103332
• 4-Jaw Lathe Chuck Steel 12 inch	146483

For additional options for this machine, visit our website and search for Turnado.

Large steady and follow rests are included

## Specifications Turnado

230/1000

230/1500

230/2000

280/1500

280/2000

### Working Area

Workpiece length (max.)	in	39	59	79	56	76
Turning diameter over bed	in	18	18	18	22	22
Turning-Ø over support	in	9	9	9	14	14
Turning diameter over gap bridge	in	27	27	27	31	31
Gap bridge length	in	6	6	6	7	7
Bed width	in	12	12	12	14	14

### Travels

Travel X-axis	in	11.2	11.2	11.2	12.4	12.4
Travel Z1-axis	in	5	5	5	5	5
Swing range of top slide		± 52°	± 52°	± 52°	± 52°	± 52°

### Headstock

Spindle speed	rpm	(12) 25 - 2,000	(12) 25 - 2,000	(12) 25 - 2,000	(12) 25 - 1,600	(12) 25 - 1,600
Spindle bore	in	2	2	2	3	3
Spindle mount		Camlock D1-6	Camlock D1-6	Camlock D1-6	Camlock D1-8	Camlock D1-8
Spindle taper	MT	6	6	6	7	7

### Feed

Feed X-axis	in/R	0.00055 - 0.03087	0.00055 - 0.03087	0.00055 - 0.03087	0.00079 - 0.02256	0.00079 - 0.02256
Feed Z-axis	in/R	0.00122 - 0.06693	0.00122 - 0.06693	0.00122 - 0.06693	0.00232 - 0.0648	0.00232 - 0.0648

### Tapping

Tapping, metric	in	(47) 0.004 - 0.55	(47) 0.004 - 0.55	(47) 0.004 - 0.55	(47) 0.008 - 0.55	(47) 0.008 - 0.55
Tapping, diametric	DP	(50) 4-112	(50) 4-112	(50) 4-112	(50) 4-112	(50) 4-112
Tapping, module	in	(39) 0.004 - 0.28	(39) 0.004 - 0.28	(39) 0.004 - 0.28	(39) 0.004 - 0.28	(39) 0.004 - 0.28
Tapping, withworth	TPI	(60) 2-112	(60) 2-112	(60) 2-112	(60) 2-112	(60) 2-112

### Tailstock

Tailstock quill diameter	in	2	2	2	3	3
Tailstock taper	MT	4	4	4	5	5
Tailstock quill stroke	in	5	5	5	7	7
Tailstock traverse adjustment	in	± 0.51	± 0.51	± 0.51	± 0.47	± 0.47

### Drive Capacity

Motor rating main drive	Hp	7.4	7.4	7.4	7.4	7.4
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### Measures and Weights

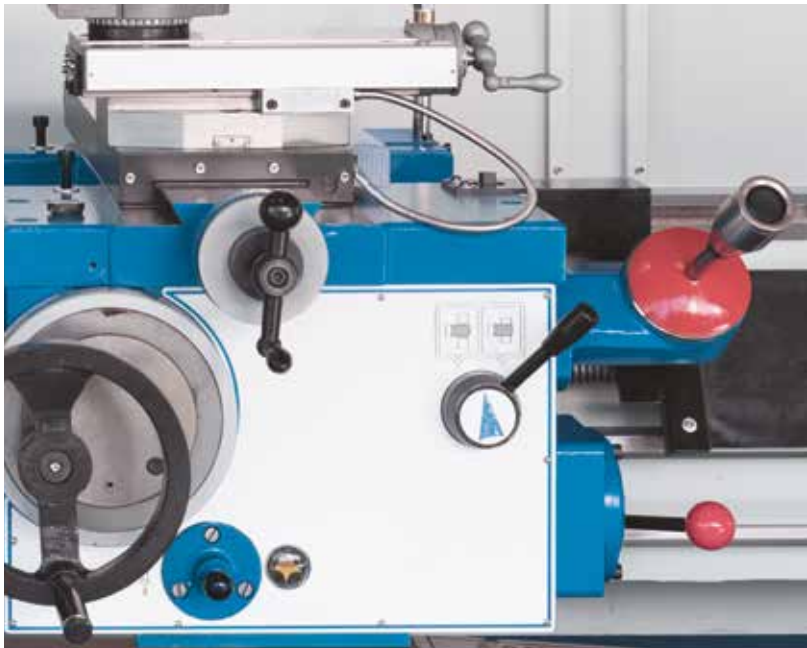
Overall dimensions (length x width x height)	in	87x43x53	109x43x53	128x43x53	112x46x53	132x46x58
Weight	lbs	3,784	4,334	4,620	5,214	5,984
Part No.		320555	320558	320557	320559	320560



- **Infinitely variable speed range**
- **Support with rapid feed motor**
- **Extensive standard equipment**
- **Constant cutting speed**

- With a new support, rapid feed and a modern ergonomic machine frame, the Turnado Lathe PRO series continues its success story
- A heavily ribbed machine bed, rigid headstock and a massive one-piece cast-iron stand form a solid machine base
- Removable bridge allows machining of short workpieces with large diameters
- Back-gearing and an advanced electronic control technology of the powerful main spindle drive ensure high torque and a wide range of speeds
- High-precision pre-loaded spindle bearings ensure superior concentricity and load capacity
- All guides are adjustable
- Gears, transmission shafts, and guideways are hardened and ground to guarantee quiet operation and long tool life
- The apron runs in an oil bath for low maintenance and high reliability
- A central lubrication system inside the support supplies all guideways with lubrication and simplifies maintenance
- Micrometer bed stop ensures high repeatability on the Z-axis
- The tailstock can be adjusted sideways for taper turning
- The extensive features of the X.Pos Position Indicator are complemented here with a digital speed indicator and an easy to program auxiliary function
- Constant cutting speed: during face turning, the spindle speed automatically adapts to the changing workpiece diameter – the constant cutting speed at the cutting edge of the turning tool ensures superior turning results with quality comparable to CNC lathes





## Standard Equipment

3-axis position indicator, 3-jaw chuck, 4-jaw face chuck, face plate, quick tool changer head, quick change tool holder, coolant system, steady and follow rests, Rapid feed, fixed splash guard (wall), chuck guard, foot brake pedal, LED work lamp, reducing sleeve, dead center, Micrometer bed stop, operating tools, operator instructions

## Options

## Part No.

• 4-Jaw Lathe Chuck Steel 12 inch	146483
• Quick-Set Spindle Bore Stop Size 9 3.1-3.6 inch	103025
• Oscillation element LK 6	103332

For additional options for this machine, visit our website.

Support moves in linear and cross direction via motorized rapid feed for reduced down-time


## Specifications Turnado PRO

		230/1000	230/1500	280/1500
<b>Working Area</b>				
Center width	in	39.37	59.06	59.06
Center height	in	9	9	11
In-gap diameter over bed	in	18	18	22
Turning diameter over gap bridge	in	27	27	31
Turning-Ø over support	in	9	9	14
Gap bridge length	in	6	6	7
Bed width	in	12	12	14
<b>Travels</b>				
Travel X-axis	in	11.2	11.2	12.4
Travel Z1-axis	in	5	5	5
Swing range of top slide		± 52°	± 52°	± 52°
<b>Headstock</b>				
Speed range, low	rpm	30 - 600	30 - 600	25 - 200
Speed range, high	rpm	600 - 3,000	600 - 3,000	200 - 1,600
Spindle bore	in	2	2	3
Spindle mount		Camlock D1-6	Camlock D1-6	Camlock D1-8
<b>Feed</b>				
Feed X-axis	in/R	0.00098 - 0.05449	0.00098 - 0.05449	0.00079 - 0.02256
Feed Z-axis	in/R	0.00217 - 0.12051	0.00217 - 0.12051	0.00232 - 0.0648
<b>Tapping</b>				
Tapping, metric	mm	(41) 0.1 - 14	(41) 0.1 - 14	(41) 0.2 - 14
Tapping, diametric	DP	(50) 4-112	(50) 4-112	(50) 4-112
Tapping, module	mm	(34) 0.1 - 7	(34) 0.1 - 7	(34) 0.1 - 7
Tapping, withworth	TPI	(60) 2-112	(60) 2-112	(60) 2-112
<b>Tailstock</b>				
Tailstock quill diameter	in	2	2	3
Tailstock taper		MK 4	MK 4	MK 5
Tailstock quill stroke	in	5	5	7
Tailstock traverse adjustment	in	± 0.51	± 0.51	± 0.47
<b>Drive Capacity</b>				
Motor rating main drive	Hp	10.1	10.1	10.1
<b>Measures and Weights</b>				
Overall dimensions (length x width x height)	in	109x43x53	109x43x53	112x46x58
Weight	lbs	3,784	4,334	5,214
Part No.		320562	320563	320564

## V-Turn 410

Precision complemented by extensive accessories and constant cutting speed



See this machine  
in action on  
YouTube 



Shown with optional equipment

- Extensive standard equipment
- Speeds up to 3000 rpm
- Constant cutting speed

- **Constant cutting speed:** during face turning, the spindle speed automatically adapts to the changing workpiece diameter – the constant cutting speed at the cutting edge of the turning tool ensures superior turning results with quality comparable to CNC lathes
- A heavy ribbed machine bed and a massive one-piece cast-iron frame provide the solid basis for this machine
- Wide, hardened and ground guideways ensure superior turning results and long life
- Headstock gears and shafts are hardened and ground for quiet operation und constant speed



Steady and follow rests are included

- 7 Hp headstock motor ensures powerful machining
- Spindle speeds are infinitely variable from 30 to 550 and 550 to 3000 rpm
- Micrometer and turret stop are included
- Integrated central lubrication at the support for low maintenance
- Incl. 3-axis position indicator with integrated spindle speed display, fully assembled



## Standard Equipment

3-axis position indicator, 4-jaw face plate chuck Ø 10 inch, face plate, change gears, quick-change tool holder head WB, quick change tool holder, coolant system, steady and follow rests, turret stop, micrometer stop, chip tray, fixed splash guard (wall), protective shield for support, chuck guard, foot brake pedal, LED work lamp, thread gauge, operating tools, operator instructions

## Options

## Part No.

• 3-Jaw Lathe Chuck Steel 7.9 in	146372
• Tool Holder WBD 32x140	103294
• Turning Tool Set 8 pcs., 0.78 in	108700

For additional options for this machine, visit our website.

Quick-change tool holder

## Specifications

## V-Turn 410/1000

## V-Turn 410/1500

Working Area		V-Turn 410/1000	V-Turn 410/1500
Center width	in	39.37	59.06
Center height	in	8	8
Turning diameter over bed	in	15	15
Turning diameter over gap bridge	in	23	23
Turning-Ø over support	in	10	10
Gap bridge length	in	10	7
Bed width	in	10	10
Travels			
Travel X-axis	in	8.3	8.3
Travel Z1-axis	in	6	6
Swing range of top slide		± 45°	± 45°
Headstock			
Speed range, high	rpm	550 - 3,000	550 - 3,000
Speed range, low	rpm	30 - 550	30 - 550
Spindle bore	in	2	2
Spindle mount		Camlock D1-6	Camlock D1-6
Spindle taper	MT	6	6
Feed			
Feed X-axis	in/R	0.00098 - 0.03346	0.00098 - 0.03346
Feed Z-axis	in/R	0.00197 - 0.06693	0.00197 - 0.06693
Tapping			
Tapping, metric		(39) 0.2-14	(39) 0.2-14
Tapping, diametric	DP	(21) 8-44	(21) 8-44
Tapping, module	mm	(18) 0.3 - 3.5	(18) 0.3 - 3.5
Tapping, withworth	TPI	(45) 2-72	(45) 2-72
Tailstock			
Tailstock quill diameter	in	2	2
Tailstock taper	MT	4	4
Tailstock quill stroke	in	5	5
Tailstock traverse adjustment	in	± 0.5	± 0.5
Drive Capacity			
Motor rating main drive	Hp	7.4	7.4
Measures and Weights			
Overall dimensions (length x width x height)	in	77x40x52	97x40x52
Weight	lbs	2,640	3,960
Part No.		300820	300821



See this machine  
in action on  
YouTube



## Extensive standard equipment

- Incl. 3-axis position indicator with integrated spindle speed display, fully assembled
- The redesigned machine enclosure and added safety features make this machine even more ergonomic, complementing functionality and design
- Constant speed: during face turning, the spindle speed automatically adapts to the changing workpiece diameter – the constant cutting speed at the cutting edge of the turning tool ensures superior turning results with quality comparable to CNC lathes
- A heavily ribbed machine bed, rigid headstock and a massive one-piece cast-iron stand form a solid machine base
- Wide, induction-hardened guideways ensure superior turning results and long life
- Facing and top slides feature adjustable guideways and spindle nuts
- High-precision pre-loaded spindle bearings ensure superior concentricity and load capacity
- A powerful 7.4 HP main spindle motor ensures rapid acceleration and powerful chip removal across the entire speed range



Extensive accessories, including quick-change tool holder system



Central lubrication is integrated into the support for easy maintenance and handling

## Specifications V-Turn 410 PRO

<b>Working Area</b>		
Center width	in	39.37
Center height	in	8
Turning diameter over bed	in	15
Turning diameter over gap bridge	in	23
Turning-Ø over support	in	10
Gap bridge length	in	10
Bed width	in	10
<b>Travels</b>		
Travel X-axis	in	8
Travel Z1-axis	in	6
Swing range of top slide		± 45°
<b>Headstock</b>		
Speed range, high	rpm	550 - 3,000
Speed range, low	rpm	30 - 550
Spindle bore	in	2
Spindle mount		Camlock D1-6
Spindle taper	MT	6
<b>Feed</b>		
Feed X-axis	in/R	0.00051 - 0.01772
Feed Z-axis	in/R	0.00102 - 0.03543
<b>Tapping</b>		
Tapping, metric	mm	(39) 0.2-14
Tapping, diametric	DP	(21) 8-44
Tapping, module	in	(18) 0.01 - 0.14
Tapping, withworth	TPI	(45) 2-72
<b>Tailstock</b>		
Tailstock quill diameter	in	2
Tailstock taper	MT	4
Tailstock quill stroke	in	5
Tailstock traverse adjustment	in	± 13
<b>Drive Capacity</b>		
Motor rating main drive	Hp	7.4
<b>Measures and Weights</b>		
Overall dimensions (length x width x height)	in	76.4x39.4x59.1
Weight	lbs	2,662
Part No.		300822

- Back-gearing ensures high torque for highly efficient machining
- The extensive features of the X.Pos Position Indicator are complemented here with a digital speed indicator and an easy to program auxiliary function

## Standard Equipment

3-axis position indicator, 4-jaw face plate chuck Ø 10", face plate (13" diam.), change gears, quick-change tool holder head WB, quick change tool holder WBD 25120, coolant system, steady and follow rest, chip tray, includes fixed splash guard (wall), protective shield for support, alignment elements, operating tools, operator manual

Options	Part No.
• 3-Jaw Lathe Chuck Steel 7.9 in	146372
• Quick-Set Spindle Bore Stop Size 6 1.8-2.3 in	103020
• Coolant Concentrate 5 Ltr.	103184
• Live Center MT 4	106755
• Oscillation Element LK 3	103330
• Accessory-Set MT 4 8-pc.	104594
• Power Worker Metal Cutter	123040
• Live Centers, assortment MT 4	106790
• Measuring Tool Set M5	108344

**Extensive standard equipment**



See this machine  
in action on  
YouTube



### Basic 180 V

- Speeds up to 3000 rpm
- Constant cutting speed

- Cast-iron bed, heavily ribbed
- All box ways are induction-hardened and precision-ground
- Headstock with D1-4' mount, bore diam. 1,5", run in 2 adjustable tapered roller bearings
- All gears are made of Cr-Ni steel, hardened, precision-ground, with oil-bath lubrication
- Tailstock can be moved  $\pm 0.4$  in for taper turning
- Guides are adjustable via tapered gibs
- Test certificate in accordance with DIN
- Including 3-axis position indicator, fully assembled

### Basic 180 V

#### with infinitely variable speed

- Position indicator with speed display
- Infinitely variable spindle speed on 2 gear levels
- Speed up to 3000 rpm
- Constant cutting speed: speed adapts to the part radius - constant speed ensures uniform quality finish at any diameter.
- Main motor rating 5.5 Hp

## Standard Equipment

3-axis position indicator, 4-jaw face plate chuck Ø 8", face plate Ø 12", change gears, quick change tool holder head WE, quick change tool holder WED 20100, coolant system, steady and follow rests, chip tray, fixed splash guard (wall), chuck guard, foot brake pedal, base, LED work lamp, micrometer longitudinal stop, reducing sleeves, dead center, thread gauge, operating tools, operator instructions

## Options

## Part No.

• 4-Jaw Lathe Chuck Steel 8 in	116601
• Live Center MT 3	106750
• Oscillation Element LK 3	103330

For additional options for this machine, visit our website.



Basic 180 Super

## Specifications

## Basic 180 Super

## Basic 180 V

Specifications		Basic 180 Super	Basic 180 V
<b>Working Area</b>			
Center width	in	39.37	39.37
Turning diameter over bed	in	14	14
Turning-Ø over support	in	9	9
Turning diameter over gap bridge	in	20	20
Gap bridge length	in	8	8
Bed width	in	8	8
<b>Travels</b>			
Travel X-axis	in	7	7
Travel Z1-axis	in	4	4
Swing range of top slide		± 50°	± 50°
<b>Headstock</b>			
Spindle speed	rpm	(16) 45 - 1,800	30 - 3,000
Spindle bore	in	1	1
Spindle mount		Camlock D1-4	Camlock D1-4
Spindle taper	MT	5	5
<b>Feed</b>			
Feed X-axis	in/R	0.00059 - 0.00866	0.00059 - 0.00866
Feed Z-axis	in/R	0.00169 - 0.02571	0.00169 - 0.02571
<b>Tapping</b>			
Tapping, metric		(37) 0.02-0.3	(37) 0.02-0.3
Tapping, withworth	TPI	(28) 4-56	(28) 4-56
<b>Tailstock</b>			
Tailstock quill diameter	in	2	2
Tailstock taper	MT	3	3
Tailstock quill stroke	in	5	5
Tailstock traverse adjustment	in	± 0.5	± 0.5
<b>Drive Capacity</b>			
Motor rating main drive	Hp	3.2	5.4
Main drive, continuous load	Hp	2.01	-
<b>Measures and Weights</b>			
Overall dimensions (length x width x height)	in	77x32x48	77x32x48
Weight	lbs	1,936	1,936
Part No.		300805	300807



- **Advanced ergonomic design**
- **Large spindle capacity**
- **Extensive standard equipment**
- **Position indicator included**

- The fully equipped Basic PRO with its modern ergonomic design meets all requirements for universal applications in the areas of repairs, training and production
- The lathe bed is made of high-quality cast-iron for maximum stability and rigidity
- All gears, transmission shafts, and guideways are hardened and ground to guarantee very quiet operation and long tool life
- Wide guideways are hardened and ground to reduce wear and allow readjustments for long-term accuracy
- Readjustable spindle bearings ensure high precision and low wear for a long service life





Position indicator on X-, Z- and Z1-axis

## Specifications

		Basic 170 Super Pro	
<b>Working Area</b>			
Center width	in		39.37
Center height	in		7
In-gap diameter over bed	in		14
Turning-Ø over support	in		9
Bed width	in		7
<b>Travels</b>			
Travel X-axis	in		7.3
Travel Z1-axis	in		4
<b>Headstock</b>			
Spindle speed	rpm	(8)	70 - 2,000
Spindle bore	in		2
Spindle mount			Camlock D1-5
Spindle taper	MT		6
<b>Feed</b>			
Feed X-axis	in/R	(24)	0.00115 - 0.08012
Feed Z-axis	in/R	(24)	0.0016 - 0.11189
<b>Tapping</b>			
Tapping, metric	mm	(48)	0.2 - 14
Tapping, withworth	TPI	(56)	2 - 56
Tapping, diametric	DP	(32)	8 - 56
Tapping, module		(34)	0.2 - 3.5
<b>Tailstock</b>			
Tailstock quill diameter	in		2
Tailstock taper	MT		3
Tailstock quill stroke	in		5
<b>Drive Capacity</b>			
Motor rating main drive	Hp		2
<b>Measures and Weights</b>			
Overall dimensions (length x width x height)	in		75x30x60
Weight	lbs		1,430
Part No.			300814

- Gears and apron run in an enclosed oil bath for low maintenance
- Safety interlock to prevent simultaneous operation of lead screw and feed shaft feed
- Stainless steel covers on lead screw and feed shaft ensure safety without the usual restrictions, while also preventing contamination and early wear
- The tailstock can easily be positioned on the machine bed and moved sideways for taper turning
- High-performance coolant system is included
- The machine base features ample storage space for accessories and tools, including a chip tray that can be removed at front
- The X.Pos position indicator provides easy to program auxiliary functions

## Standard Equipment

3-axis position indicator, 3-jaw chuck Ø 6", quick change tool holder, coolant system, steady and follow rests, fixed splash guard (wall), chuck guard, foot brake pedal, LED work lamp, reducing sleeve, dead center, operating tools, operator instructions

## Options

	Part No.
• Quick-Set Spindle Bore Stop Size 6 1.8-2.3 in	103020
• Coolant Concentrate 5 Ltr.	103184
• Oscillation Element LK 3	103330
• Live Centers, assortment MT 3	106785
• Mechanical Clamping (Clamping: 3 in 1)	108796
• Analog Dial Gauge	129020

# Basic 170 Super

Solid precision bench lathe with large center width



Micrometer bed stop ensures repeatability



The thread gauge allows for resuming the thread

- Extensive standard equipment
- Max. spindle speed 2000 rpm

- Hardened and ground headstocks gears
- Adjustable headstock bearing
- Cast-iron bed, double v-guide, hardened and ground
- Oil-bath lubricated main drive and feed gear
- Double-walled apron box with oil-bath lubrication

Options	Part No.
• Quick-Set Spindle Bore Stop Size 4 1.2-1.5 inch	103016
• Oscillation Element LK 3	103330
• Live Centers, assortment MT 3	106785

For additional options for this machine, visit our website and search for Basic 170 Super (Product Search)


## Specifications

	Basic 170 Super	
Center width	in	39.37
Turning diameter over bed	in	13
Turning-Ø over support	in	8
Spindle speed	rpm	(8) 70 - 2,000
Spindle mount		Camlock D1-4
Motor rating main drive	Hp	2
Weight	lbs	1,144
Part No.		300815

## Standard Equipment

3-axis position indicator, 3-jaw chuck Ø 6", 4-jaw face plate chuck Ø 8", face plate Ø 11", quick change tool holder head WE, quick change tool holder WED 20100, steady and follow rests, fixed splash guard (wall), chuck guard, foot brake pedal, base, work lamp, dead center, operating tools, operator instructions



See this machine in action on YouTube 



Positioning indicator on X, Z and Z1 axis



Steady and follow rests are included



**Extensive standard equipment**

- Hardened and ground headstock gears
- Headstock with Camlock D1-4" mount, bore diam. 1.5 in, run in 2 adjustable tapered roller bearings
- Adjustable headstock bearing
- Tailstock can be moved  $\pm 0.4$  in for taper turning
- Reversing gear reversing gearbox for changing the feed direction

Options	Part No.
• Quick-Set Spindle Bore Stop Size 4 1.2-1.5 inch	103016
• Oscillation Element LK 3	103330
• 4-Jaw Lathe Chuck Steel 6 inch	116600

For additional options for this machine, visit our website and search for Basic Plus (Product Search)

### Specifications

		Basic Plus
Center width	in	31.89
Turning diameter over bed	in	12
Turning- $\varnothing$ over support	in	7
Spindle speed	rpm	(9) 60 - 1,550
Spindle mount		Camlock D1-4
Motor rating main drive	Hp	1.5
Weight	lbs	1,144
Part No.		300809

### Standard Equipment

3-axis position indicator, 3-jaw chuck  $\varnothing 6"$ , 4-jaw face plate chuck  $\varnothing 8"$ , face plate  $\varnothing 10"$ , quick change tool holder WAD 1675, quick change tool holder head WA, steady and follow rests, chip tray, fixed splash guard (wall), chuck guard, base, change gears, reducing sleeves, dead center, thread gauge, operating tools, operator instructions

# Conventional milling machines

**See for yourself live:** Many models are in stock or can be viewed and tried out at a user's location near you. Make a demonstration appointment! Email [info@knuth-usa.com](mailto:info@knuth-usa.com) or call #847-415-3333



## Experience our machines in action!

With our YouTube channel KnuthMachineToolsUSA, you stay up to date with all the news and developments.



Servo-conventional milling machine

### Servomill®

Traverse path of X-axis **27 - 55 in**  
Spindle mount **ISO 40 - ISO 50**

The latest feed technology  
with CNC precision

from page 108 onwards



Tool milling machine

### FPK

Traverse path of X-axis **20 - 24 in**  
Spindle mount **ISO 40**

Indispensable in tool, mold,  
model and jig making

Page 114 / 115



Universal milling machine

## VHF

Traverse path of X-axis **21 - 39 in**

Spindle mount **ISO 40**

Drilling and milling machining with large traverse paths  
from page 126 onwards



Universal milling machine with universal milling head

## UWF

Traverse path of X-axis **24 - 39 in**

Spindle mount **ISO 40 - ISO 50**

Mill in vertical, horizontal and in nearly all  
spindle angles

from page 120 onwards



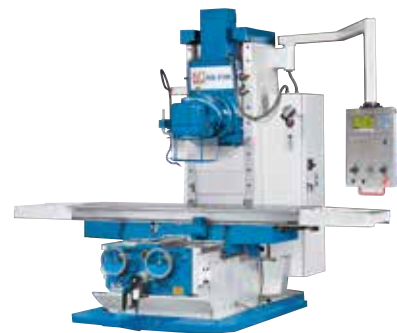
Bed milling machine

## KB

Traverse path of X-axis **37 - 59 in**

Spindle mount **ISO 50**

Large drive power and traverse paths  
from page 116 onwards



Multi-purpose milling machine

## MF

Traverse path of X-axis **26 - 31 in**

Spindle mount **ISO 30 - ISO 40**

The successful multi-purpose milling machine  
- sturdier and more powerful

from page 130 onwards



Drilling-milling machine

## Mark Super / SBF

Traverse path of X-axis **17 - 22 in**

Spindle mount **MT 4**

Compact workshop machines for drilling  
and milling work

from page 132 onwards



# KNUTH SERVO-CONVENTIONAL

## Easier to use, more precise and efficient due to integrated electronics

Are you using conventional lathes and milling machines in your workshop for flexible production of single parts and small batches? Are you considering modernizing your equipment to optimize the quality of the finished parts? Do you want to increase productivity, while reducing costs and maintenance and make work simpler and more comfortable? Our range of servo-conventional machine tools provide the right solution.

### Servomill® Highlights

- Control developed and built in Germany
- Positioning control for traveling pre-selected paths on all axes
- Constant cutting speed, whereby the feed speed is based on the spindle speed
- Zero-backlash preloaded ball screws
- Servo motors on all axes, infinitely variable feed, rapid feed, and speed control
- Electronic spindle load indicator
- Electronic hand-wheels on all axes
- X-, Y- and Z-axes can be controlled via joystick
- Integrated position indicator with glass scale

### Your Advantages

- **Simple:** Intuitive operation - practical layout of control elements and streamlined function
- **Faster:** Rapid feed on all axes reduces down-time
- **More precise:** Operated via electronic hand-wheels - axes are powered by high-quality servo drives that translate your hand movements with the precision and dynamics of modern CNC machines
- **More reliable:** Drives, spindles, and measuring systems are totally enclosed or mounted in protective enclosures and virtually maintenance-free
- **More capacity:** This machine only uses premium drive components that are designed for continuous operation
- **Maintenance-free:** No regular maintenance needed for the entire feed drive

### Advanced Feed Technology

- Electronic hand-wheels: smoother and more precise than conventional machines
- Operation via joystick: easy handling, perfect for processing of work sequences
- Electronic fixed stops: set 2 limit stops at 3 positions on each axis by the push of a button
- High repeatability and more positions than on conventional machines
- Constant cutting speed: in a selectable feed-per-spindle revolution ratio in the range of 0.0004" to 0.04" /rev – ensures increased efficiency and benefit



Elektronische Endanschläge



Pocketing



Face milling

### Milling Machines

The following servo-conventional mills are available:

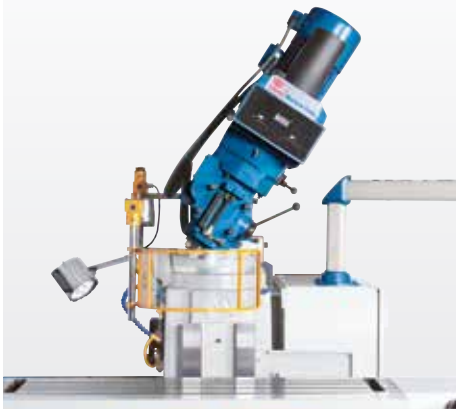
Servomill® 700	Page 109
Servomill® UFM 8V	Page 110
Servomill® UWF 5	Page 111
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All servo-conventional KNUTH machines can be found at [www.knuth.com](http://www.knuth.com)

# Servomill® 700

The bestseller in the servo-conventional class for workshop applications and single parts production

- Advanced feed technology
- Infinitely variable servo-motors
- Electronic hand-wheels
- Electronic fixed stops



Cutter head swivels



- The Servomill represents a new generation of advanced milling machines that are operated like a conventional machine
- Rigid machine base in a proven design, and meticulous workmanship
- Variability via swiveling and moving top beam
- Perfectly adjustable dovetail guide on the X-axis, and wide square guides in Y and Z direction

### Options

### Part No.

• Coolant Concentrate 5 Ltr.	103184
• Oscillation Element LK 5	103331
• Universal Facing / Lathe Bore Head ADA / SK40	103404

### Specifications

### Servomill® 700

Table set up area	in	54x12
Travel X-axis	in	26.8
Travel Y-axis	in	14
Travel Z-axis	in	15
Speed range (infinitely variable, back gear ranges)	rpm	50 - 4,000
Spindle mount		ISO 40
Rapid feed X-axis	in/min	196.85
Rapid feed Y-axis	in/min	118.11
Rapid feed Z-axis	in/min	78.74
Motor rating main drive	Hp	5
Weight	lbs	3,960
Part No.		301250

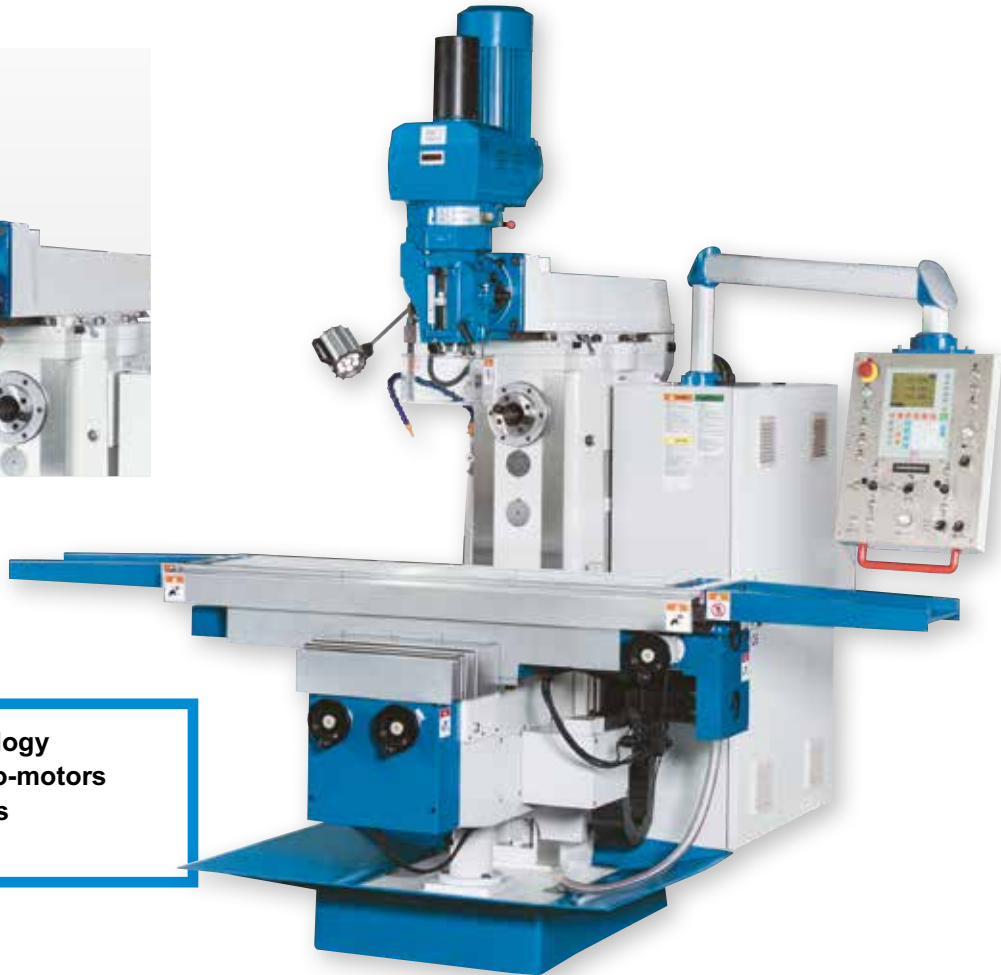
For additional options for this machine, visit our website and search for Servomill® 700 (Product Search)

### Standard Equipment

3-axis position indicator, electronic hand-wheels, pneumatic tool clamping, chip tray, LED work lamp, coolant system, central lubrication, horizontal guideway cover, operating tools, operator instructions



Cutter head swivels 45°



- **Advanced feed technology**
- **Infinitely variable servo-motors**
- **Electronic hand-wheels**
- **Electronic fixed stops**

- Rigid frame design with wide guideways and travels
- All gears and guideways are hardened and ground
- Swivelling vertical cutter head, pneumatic tool clamping and powerful 7 HP motor
- 2 gear steps for a wide speed range, infinitely variable up to 5000 rpm, and high torque at the spindle
- Horizontal spindle motor with 10 HP

Options	Part No.
• Oscillation Element LK 5	103331
• Deluxe Clamping Tool Set 16/M14	105300
• Milling Chuck Set ISO 40	106044

For additional options for this machine, visit our website and search for Servomill® UFM 8 V (Product Search)

### Specifications

		Servomill® UFM 8 V
Table dimensions	in	63x13
Travel X-axis	in	51.2
Travel Y-axis	in	11
Travel Z-axis	in	18
Spindle speed (vertical)	rpm	80-650 / 650-5000
Spindle mount (vertical)		ISO 40 / DIN2080
Rapid feed X-axis	in/min	196.85
Rapid feed Y-axis	in/min	118.11
Rapid feed Z-axis	in/min	59.06
Spindle speed (horizontal)	rpm	60-360 / 360-1800
Spindle mount (horizontal)		ISO 50 / DIN 2080
Motor rating horizontal spindle	Hp	10.1
Motor rating vertical spindle	Hp	7.4
Weight	lbs	5,280
Part No.		301255

### Standard Equipment

3-axis position indicator, electronic hand-wheels, pneumatic tool clamping, coolant system, work lamp, chip tray, draw bar, long milling arbor 1 in, long cutter arbor Ø 1.25", operating tools, operator instructions



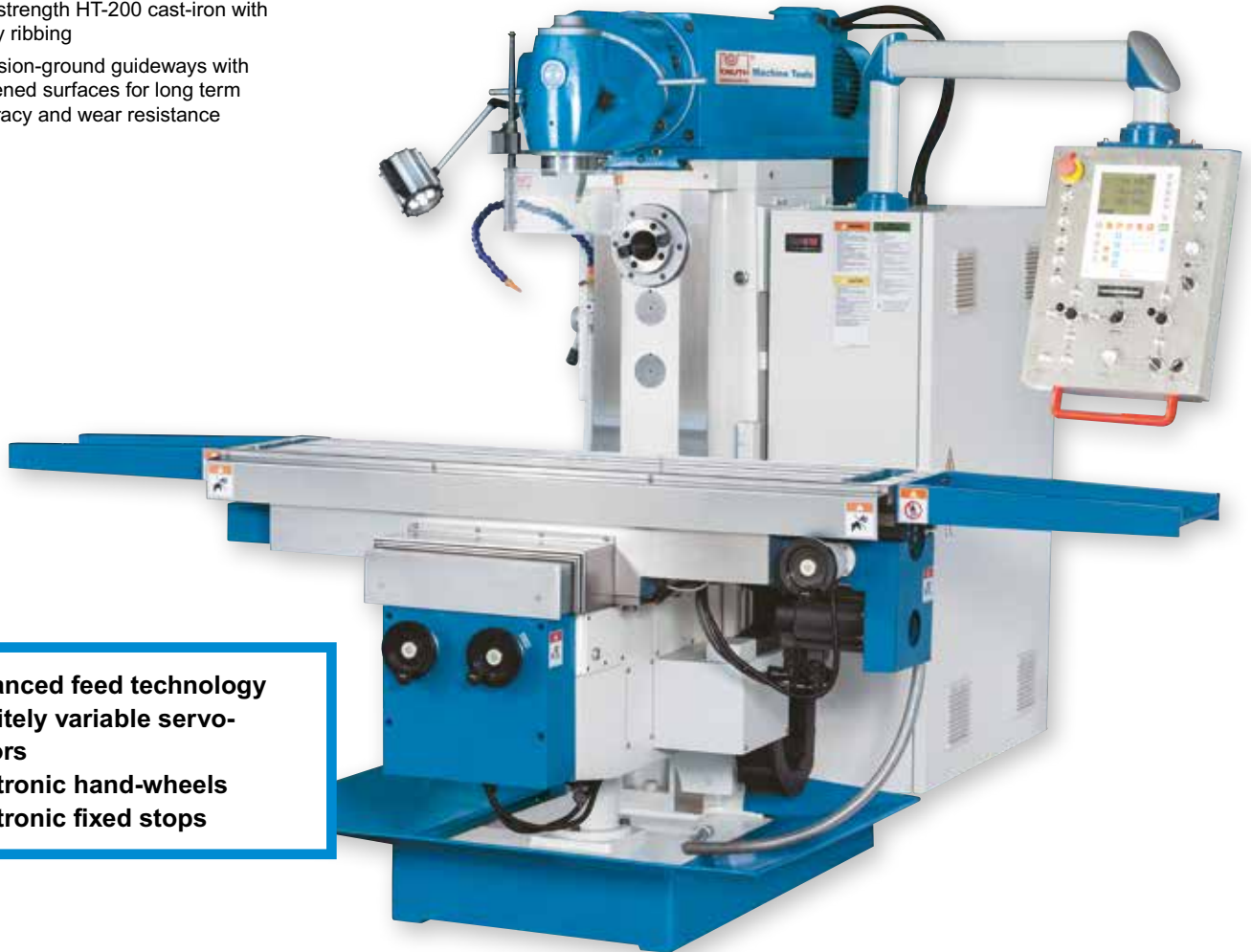


Universal Milling Machine

## Servomill® UWF 5

Servo-conventional knee-and-column milling machine with universal swivel head

- Extremely rigid machine bed made of high-strength HT-200 cast-iron with heavy ribbing
- Precision-ground guideways with hardened surfaces for long term accuracy and wear resistance



- Advanced feed technology
- Infinitely variable servo-motors
- Electronic hand-wheels
- Electronic fixed stops

- Precision spindle gears feature hardened and ground gears, and quiet operation
- Powerful 10 HP horizontal spindle, heavy top beam, and outer arbor ensure excellent machining results when using long cutter arbors

Options	Part No.
• Oscillation Element LK 5	103331
• Deluxe Clamping Tool Set 18/M16	105305
• Divider ST 130	110960

For additional options for this machine, visit our website and search for Servomill® UWF 5 (Product Search)

### Specifications

Specifications		Servomill® UWF 5	
Table dimensions	in	63x13	
Travel X-axis	in	51.2	
Travel Y-axis	in	11	
Travel Z-axis	in	18	
Speed range (2)	rpm	60-360 / 360-1800	
Spindle mount		ISO 50	
Rapid feed X-axis	in/min	196.85	
Rapid feed Y-axis	in/min	118.11	
Rapid feed Z-axis	in/min	59.06	
Motor rating main drive	Hp	10.1	
Weight	lbs	6,160	
Part No.		301254	

### Standard Equipment

3-axis position indicator, electronic hand-wheels, reducing sleeve (ISO 50 / MT4), milling arbors (1 in, 1.23 in), ISO 50 collet chucks incl. collets up to 0.6 inch (8 pieces), coolant system, work lamp, chip tray, draw bar, operating tools, operator instructions



Servomill® UWF 12

- **Advanced feed technology**
- **Infinitely variable servo-motors**
- **Electronic hand-wheels**
- **Electronic fixed stops**



Powerful headstock drive with auxiliary gearbox (Servomill® UWF 12)

- Rigid, torsion-proof construction with dovetail guide on X-axis, and wide square guides on Y and Z
- Large work table and long travels on all axes
- All guides are hardened, ground, and supplied with oil by a central lubrication unit
- Universal swivel head swings easily to a horizontal position

- Infinitely variable feed speeds and rapid feeds can be synchronized to spindle speed by the push of a button
- Preloaded ball screw for easy and precise Feeds, and zero backlash
- Robust transmission with hardened and ground gears
- **X.pos Plus - You will gain productivity, quality and comfort**



## Standard Equipment

3-axis position indicator, collet chuck with collets (0.16", 0.2", 0.24", 0.31", 0.39", 0.47", 0.55", 0.63" diam.), electronic hand-wheels, LED work lamp, central lubrication, coolant system, operating tools, operator manual

Options	Part No.
• ER 40 Collet Set 15 pcs.	106075
• Milling Chuck WELDON ISO 50 / Ø 0.24 in	106811
• Milling Chuck WELDON ISO 50 / Ø 1.26 in	106818
• HS 150 Hydraulic Machine Vise	125028
• Rotary Table RT 250	125840
• Tailstock / RT 200/250	125820
• E-Servomill UWF series spare parts package	259214

For additional options for this machine, visit our website.

Universal swivel head swings easily to a horizontal position

## Specifications

		UWF 10	UWF 12	UWF 15
<b>Working Area</b>				
Table dimensions	in	49x18	63x20	79x20
Table load capacity	lbs	1,760	2,200	2,200
Number of T-slots	positions	5	5	5
T-slots, width	in	0.7	0.7	0.7
T-slots, spacing	in	3.1	3.1	3.1
<b>Travels</b>				
Travel X-axis	in	35.4	47.2	55.1
Travel Y-axis	in	26	28	28
Travel Z-axis	in	18	20	20
<b>Milling Head</b>				
Speed range (2)	rpm	30-390 / 390-2050	30-390 / 390-2050	30-390 / 390-2050
Spindle mount		ISO 40 / DIN 2080	ISO 50 / DIN 2080	ISO 50 / DIN 2080
Swivel angle		360°	360°	360°
Spindle center-to-table distance	in	1 - 19	2 - 22	2 - 22
<b>Rapid Feed</b>				
Rapid feed X-axis	in/min	86.61	86.61	86.61
Rapid feed Y-axis	in/min	86.61	86.61	86.61
Rapid feed Z-axis	in/min	43.31	43.31	43.31
<b>Feed</b>				
Feed speed X-axis	in/min	0.3937 - 39.37	0.3937 - 39.37	0.3937 - 39.37
Feed speed Y-axis	in/min	0 - 39	0 - 39	0 - 39
Feed speed Z-axis	in/min	0.1969 - 19.685	0.1969 - 19.685	0.1969 - 19.685
<b>Drive Capacity</b>				
Motor rating main drive	Hp	10.1	14.8	14.8
<b>Measures and Weights</b>				
Overall dimensions (length x width x height)	in	79x99x79	87x99x83	103x99x83
Weight	lbs	8,800	9,900	11,000
Part No.		301256	301257	301258



See this machine  
in action on  
YouTube



- Ball screws and servo motors on all axes
- Infinitely variable spindle speed
- Electronic handwheels
- Extensive standard equipment

- The Machine column made of premium cast-iron, ensures maximum dynamic rigidity and constant precision
- Precise preloaded ball screws on all axes
- Ergonomically arranged controls and a swivelling control panel plus standard digital position indicator for maximum operator comfort
- Both machines feature rigid outer arbor supports for horizontal milling
- Large work tables and long travels of this compact machine allow a wide range of applications

- Automatic feed on all axes, infinitely variable, and with fast rapid feed
- The vertical cutter head swivels, and the quill can be moved manually
- The infinitely variable main spindle drive with counter gear offers a wide speed range with high torque
- Extensive accessory package included
- Central lubrication system is standard equipment
- The price includes a fully assembled 3-axis position indicator



The FPK 4.3 is constructed in the same stable way as the larger model

## Standard Equipment

electronic hand-wheels, 3-axis position indicator, central lubrication, reducing sleeves MT1, MT2, MT3, collet chuck with collets 0.08, 0.12, 0.16, 0.12, 0.24, 0.31, 0.4, 0.48 in, horizontal milling arbor 0.63 in, horizontal milling arbor 0.87 in, cutter arbor, long, 1.06 inch, horizontal milling arbor 1.26 in, Counterholder for horizontal milling, chip tray, coolant system, work lamp, pull rod (M16) for horizontal / vertical spindle, level pads and bolts, operating tools, operator manual

## Options

### Part No.

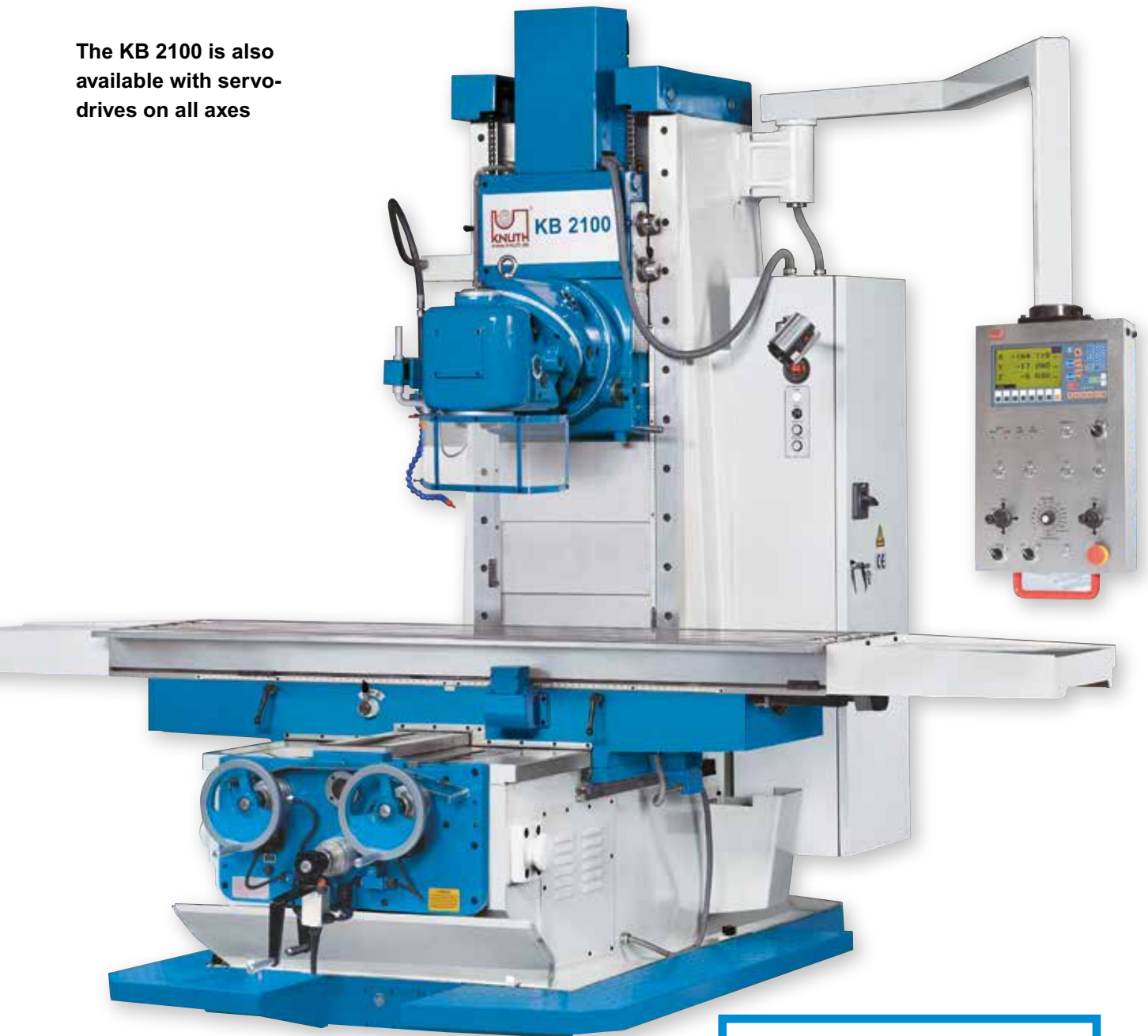
• Universal swivel table for FPK 6.3	253722
• Coolant Concentrate 5 Ltr.	103184
• Shell End Milling Arbor Ø32 SK 40	103910
• HS 125 Hydraulic Machine Vise	125024

For additional options for this machine, visit our website.

## Specifications

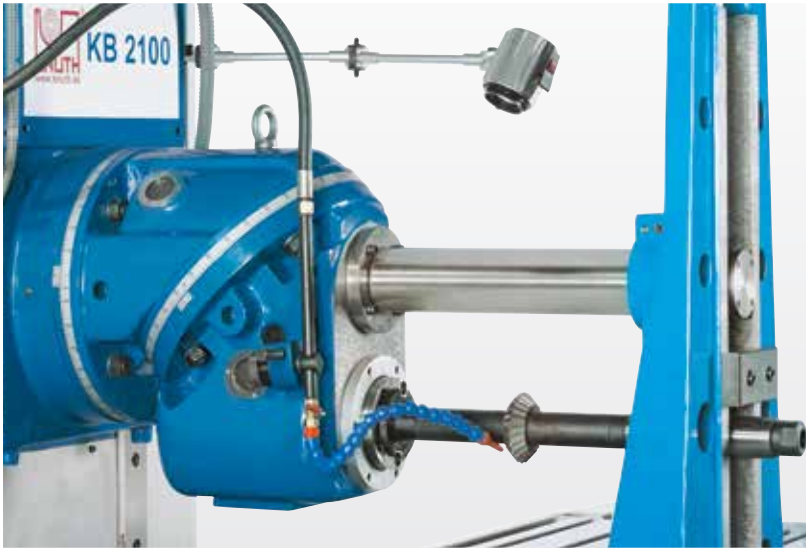
		FPK 4.3	FPK 6.3
<b>Working Area</b>			
Table dimensions	in	16x31	18x33
Vertical table	in	9x40	10x47
Table load capacity (max.)	lbs	440	660
Slots (number/width/spacing)	in	6x0.55x2.48	7x0.55x2.48
T-slots, vertical table (number x width x spacing)	in	3x0.55x2.48	3x0.55x2.48
<b>Travels</b>			
Travel X-axis	in	19.7	23.6
Travel Y-axis	in	16	18
Travel Z-axis	in	16	18
<b>Vertical Milling Spindle</b>			
Travel pinole	in	2	4
Spindle center - column (min.)	in	6	6
Spindle center - column (max.)	in	26	26
<b>Vertical Milling Head</b>			
Angular adjustment of vertical head		± 90°	± 90°
<b>Rapid Feed</b>			
Rapid feed X-axis	in/min	47.24	47.24
Rapid feed Y-axis	in/min	47.24	47.24
Rapid feed Z-axis	in/min	47.24	47.24
<b>Feed</b>			
Work feed X-axis	in/min	0 - 39	0 - 39
Work feed Y-axis	in/min	0 - 39	0 - 39
Work feed Z-axis	in/min	0 - 39	0 - 39
<b>Horizontal Milling Spindle / Vertical Milling Spindle</b>			
Speed range	rpm	(2) 40 - 2,000	(2) 40 - 2,000
Spindle mount		ISO 40	ISO 40
<b>Drive Capacity</b>			
Motor rating main drive	Hp	4.3	7.4
Motor rating coolant pump	Hp	0.1	0.1
<b>Measures and Weights</b>			
Overall dimensions (length x width x height)	in	60x67x71	63x71x79
Weight	lbs	3,410	3,850
Part No.		302340	302341

The KB 2100 is also available with servo-drives on all axes



### Extensive standard equipment

- An extremely rigid, large-sized box-column design, made of premium cast-iron, provides a solid base for optimum work results
- Extra wide box ways ensure maximum stability and precision at high loads
- Extra long table travel distance and large table set-up area allow machining of large single parts or interactive machining of several parts - to give you a leading edge over your competition
- Wide spindle speed ranges from 40 to 1600 rpm
- Infinitely variable linear and cross feeds
- Control panel on a long extending arm that can be ideally positioned by the operator



Rigid outer arbor system for long milling arbors

- This universal cutter head features maximum rigidity and quiet operation. The angle can be set manually on an infinitely adjustable scale from 90° to 45°. This allows an exact adjustment of the headstock in user-defined spatial angles and easy movement to a horizontal position.
- The KB 2100 includes a horizontal cutter arbor holder with excellent rigidity, allowing the user to fully utilize the advantages of a bed-type milling machine design for machining with long cutter arbors.



2 swivel directions allowing to set virtually any angle

## Specifications

## KB 2100

### Working Area

Table set up area	in	83x20
Table load capacity (max.)	lbs	4,400
Number of T-slots	positions	4
T-slots, spacing	in	0.8

### Travels

Travel X-axis	in	59.1
Travel Y-axis	in	26
Travel Z-axis	in	0 - 26

### Vertical Milling Head

Spindle speed (vertical)	rpm	(12) 40 - 1,600
Spindle mount		ISO 50
Throat	in	24
Vertical spindle-to-table surface distance	in	0 - 26.38
Milling head swivel range	deg	360

### Rapid Feed

Rapid feed X-axis	in/min	137.8
Rapid feed Y-axis	in/min	137.8
Rapid feed Z-axis	in/min	68.9

### Feed

Feed speed X-axis (infinitely variable)	in/min	1 - 71
Feed speed Y-axis (infinitely variable)	in/min	1 - 71

### Drive Capacity

Motor rating main drive	Hp	10.1
Motor rating feed	Hp	2.7
Motor rating coolant pump	Hp	0.7

### Measures and Weights

Overall dimensions (length x width x height)	in	130x94x109
Weight	lbs	16,060
Part No.		301285

## Standard Equipment

3-axis position indicator, universal swivel head, coolant system, draw bar, 1 milling chuck set ISO 50 (8-piece set: 0.1, 0.2, 0.3, 0.5, 0.6, 0.7, 0.9, 1 inch), cutter arbor ISO 50 Ø 1.5", horizontal arbor holder, horizontal arbor Ø 1.25", work lamp, operating tools, foundation bolts M12 x 19.5", operator manual


## Options

## Part No.

• Universal Indexing Head 7.9 in / KB 2100	253647
• Optional Accessory Set / ST 155	110971
• Tailstock / RT 320	125825
• E-KB2100 spare parts package for 5 years for part no. 301285	259197

For additional options for this machine, visit our website and search for KB 2100 (Product Search)



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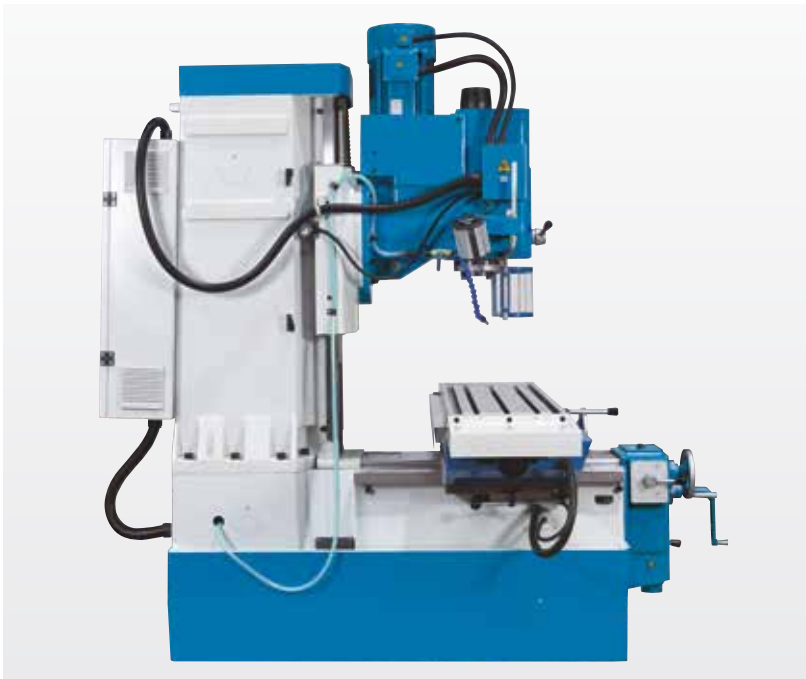
- **Infinitely variable speed control**
- **Extensive standard equipment**

- Only the cutter head - not the machine table - moves on the Z-axis. This results in improved stability, less vibration, and ultimately increases precision and extremely high table load capacity! This effect is emphasized even more by the large, heavy cast-iron frame and extremely wide box ways.
- Infinitely variable speed adjustment provided through frequency drive
- Rigid rectangular guideways for long-lasting accuracy
- Meehanite cast-iron frame
- Cutter head swivels  $\pm 45^\circ$
- Standard 3-axis position indicator



The very rigid cutter head can be precisely swiveled and aligned





Heavy-duty design with large throat and generous work space



Face milling with measuring head

## Specifications

## KB 1400

### Working Area

Spindle axis-to-table surface distance	in	5.91 - 25.59
Number of T-slots	positions	3
Table set up area	in	55x16
T-slots, width	in	0.7
T-slots, spacing	in	3.9
Speed height-adjustment (max.)	in/min	65.75

### Travels

Travel X-axis	in	37.4
Travel Y-axis	in	16
Travel Z-axis	in	20

### Vertical Milling Head

Spindle mount		ISO 50
Throat	in	20
Spindle speed (vertical)	rpm	30 - 1,800
Quill stroke	in	4
Head swivel range		± 45°

### Rapid Feed

Rapid feed X-axis	in/min	65.75
Rapid feed Y-axis	in/min	65.75
Rapid feed Z-axis	in/min	65.75

### Feed

Feed speed X-axis	in/min	(9) 0.7087 - 24.685
Feed speed Y-axis	in/min	(9) 1 - 25
Feed speed Z-axis	in/min	0.7087 - 24.685

### Drive Capacity

Motor rating main drive	Hp	10.1
Motor rating feed	Hp	1
Motor rating Z-axis	Hp	1.01
Motor rating coolant pump	Hp	0.1

### Measures and Weights

Flow rate, coolant pump	gal/min	3
Overall dimensions (length x width x height)	in	91x70x84
Weight	lbs	8,052
Part No.		301320

### 3-axis position indicator

- More accuracy
- Lower error rate
- Increased productivity
- Resulting in valuable time savings
- For increased productivity
- Easy to read display
- Operator-specific features
- Resolution: 0.0004 / 0.0002"
- Default coordinates
- Axis position is maintained when display is turned off
- Hole circle pattern calculation
- Calculator function
- Storage for 10 tools
- Radius / diameter toggle
- Mm/inch conversion

### Standard Equipment

3-axis position indicator, collet chuck with collets (0.16", 0.2", 0.24", 0.31", 0.39", 0.47", 0.55", 0.63" diam.), reducing sleeves MT4, MT3, MT2, cutter arbor Ø 1.5", coolant system, work lamp, central lubrication, operating tools, operator instructions

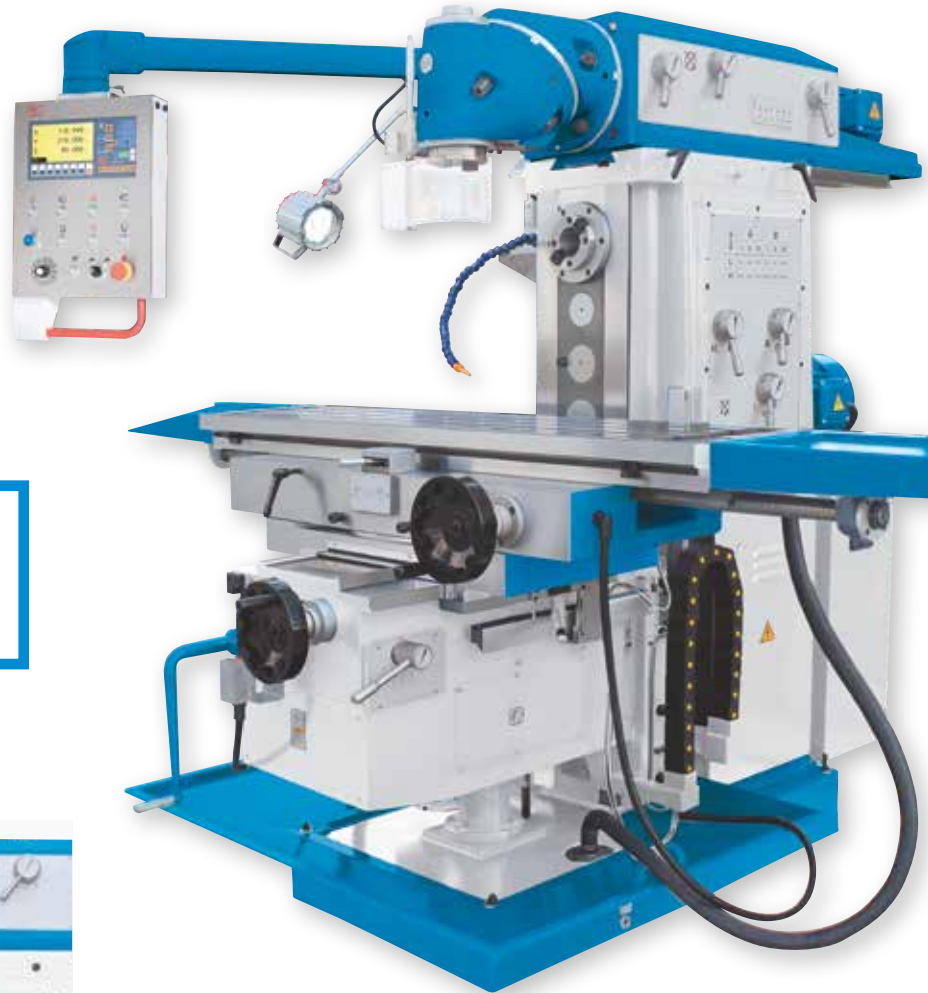
### Options

### Part No.

• Milling Chuck WELDON ISO 50 / Ø 1 in	106817
• E-KB1400 spare parts package for part no. 301320	259007
• HS 150 Hydraulic Machine Vise	125028

For additional options for this machine, visit our website.

- The milling table features a large setup area, long X-axis travel, and it can be horizontally swiveled up to 45°
- The universal cutter head swivels on 2 planes, allowing virtually any spatial angle setting
- Standard outer arbor support with bronze plain bearings accommodates long milling arbors in the horizontal spindle
- Powerful axis servo-motors allow infinite adjustment of feeds on all 3 axes



- Universal cutter head
- Servo motor feed
- Horizontal spindle
- Table swivels



Large work area, cutter head swivels on 2 planes

### Options

### Part No.

• Coolant Concentrate 5 Ltr.	103184
• Oscillation Element LK 5	103331
• Rotary Table RT 200	125835

### Specifications

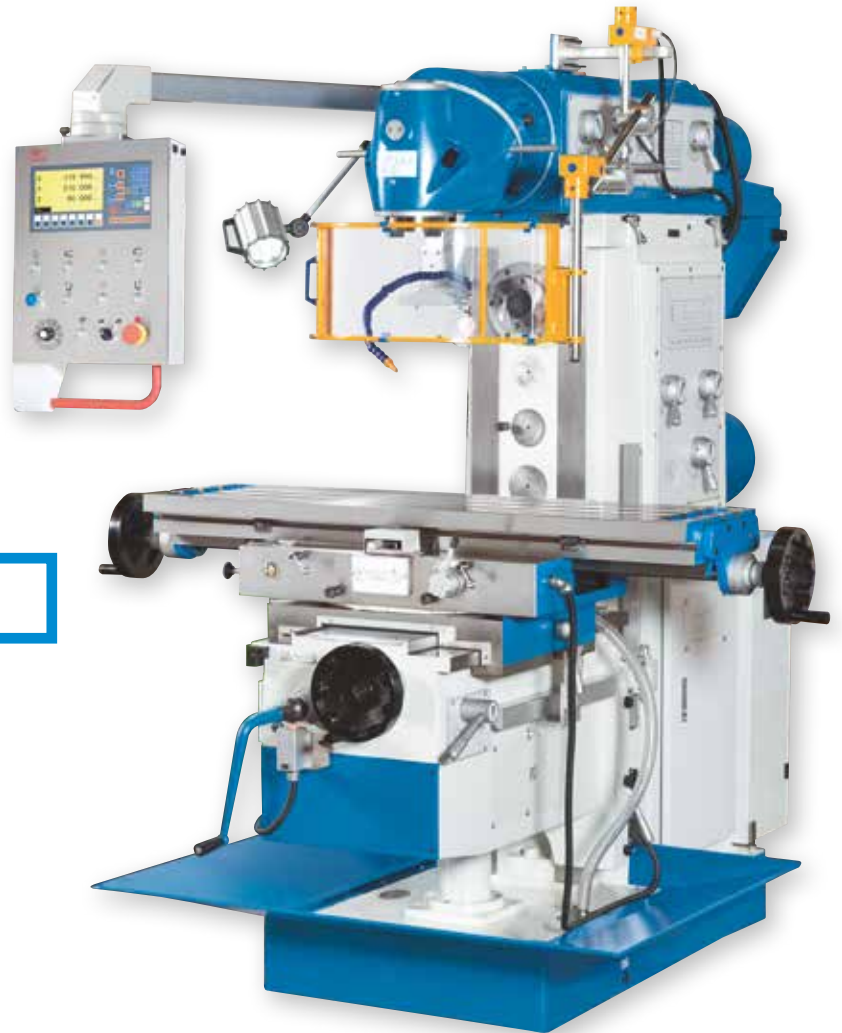
### UWF 6

Table dimensions	in	63x14
Speed range	rpm	(12) 60 - 1,750
Spindle mount		ISO 50
Spindle speed (horizontal)	rpm	(12) 60 - 1,800
Spindle mount		ISO 50
Motor rating horizontal spindle	Hp	7.4
Motor rating vertical spindle	Hp	5.4
Weight	lbs	6,490
Part No.		362751

### Standard Equipment

3-axis position indicator, reducing sleeve ISO 50 / MT4, milling arbor Ø 1.25", Milling arbor, 1.57" diam., outer arbor support for horizontal milling, chip tray, coolant system, work lamp, manual central lubrication, draw bar, operating tools, operator instructions

- Extremely rigid machine bed made of high-strength HT-200 cast-iron with heavy ribbing
- Quiet, precision-made headstock gears with hardened and ground gears
- Universal cutter head swivels on 2 planes - quick change-over from horizontal to vertical machining
- Powerful axis servo-motors allow infinite adjustment of feeds on all 3 axes
- Control panel swings out to either side and features an integrated position indicator



**Extensive standard equipment**



Universal cutter head, swivels on 2 planes

**Options**

Options	Part No.
• Coolant Concentrate 5 Ltr.	103184
• Oscillation Element LK 5	103331
• Rotary table RT 200	125835

For additional options for this machine, visit our website and search for UWF 5 (Product Search)


**Specifications**

		<b>UWF 5</b>
Table dimensions	in	52x14
Spindle mount (horizontal)		50
Spindle speed (vertical)	rpm	(12) 60 - 1,750
Spindle mount (vertical)		50
Spindle speed (horizontal)	rpm	(12) 60 - 1,800
Motor rating horizontal spindle	Hp	7.4
Motor rating vertical spindle	Hp	5.4
Weight	lbs	6,283
Part No.		362750

**Standard Equipment**

3-axis position indicator, reducing sleeve ISO 50 / MT4, milling arbors (1 in, 1.23 in), outer arbor support for horizontal milling, ISO 50 collet chucks incl. collets up to 0.6 inch (8 pieces), coolant system, work lamp, chip tray, draw bar, operating tools, operator instructions



See this machine  
in action on  
YouTube 

- Extremely rigid machine bed made of high-strength HT-200 cast-iron with heavy ribbing
- Large rectangular guideways ensure precision and quiet operation within permissible high loads
- Precision-ground guideways with hardened surfaces for long term accuracy and wear resistance
- The milling table features a large setup area and can be rotated in linear direction

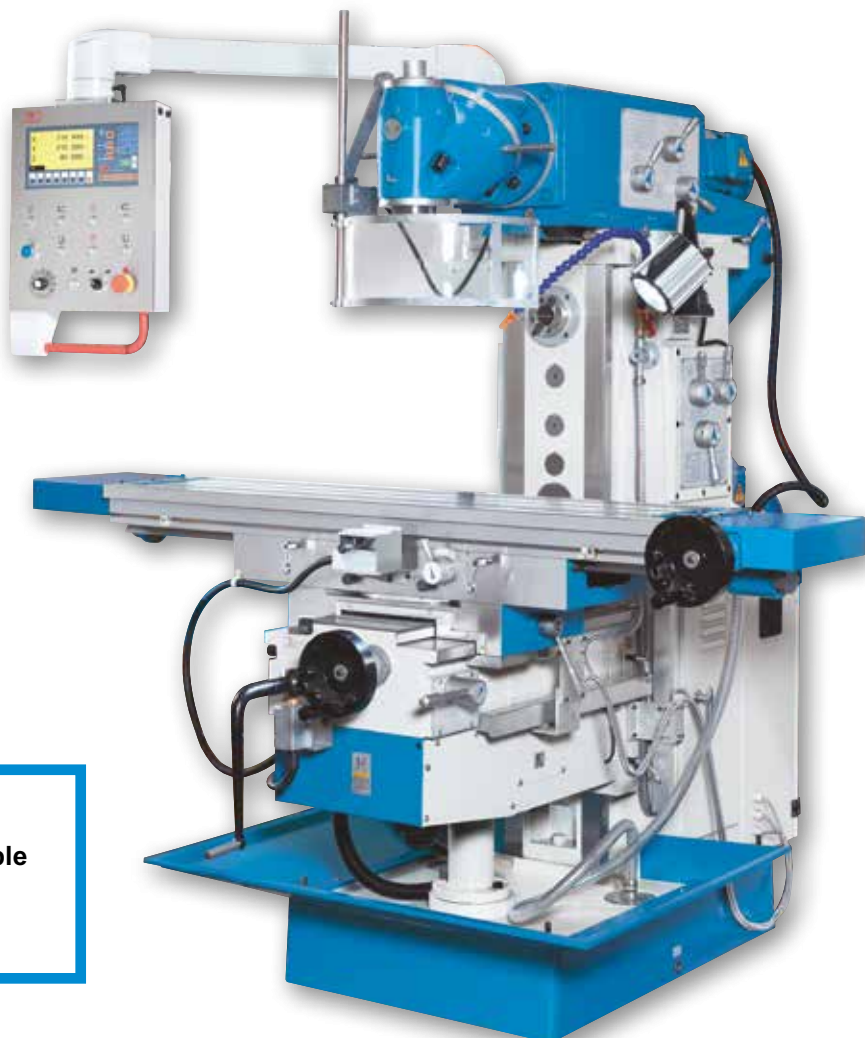
- **Universal vertical cutter head design**
- **Servo-motor drive for infinitely variable feed**
- **Work table swivels in linear direction**

- Precision-ground guideways with hardened surfaces for long term accuracy and wear resistance
- The milling table features a large setup area and can be rotated in linear direction

### Options

### Part No.

• Oscillation Element LK 5	103331
• Shell End Milling Arbor Ø22 SK 40	103900
• Accessory-Set ISO 40 5-pc.	104596
• Clamping Tool Set Deluxe 14/M12	105295
• ER 40 Collet Set 15 pcs.	106075
• HS 125 Hydraulic Machine Vise	125024



### Specifications


### UWF 3.2

Table set up area	in	54x13
Travel X-axis	in	39.4
Travel Y-axis	in	14
Travel Z-axis	in	16
Spindle speed (vertical)	rpm	(11) 45 - 1,660
Spindle mount		DIN 2080 / ISO 40
Rapid feed X-/ Y-axis	in/min	53
Rapid feed Z-axis	in/min	39.37
Spindle speed (horizontal)	rpm	(12) 35 - 1,500
Spindle mount		ISO 40
Motor rating horizontal spindle	Hp	4
Motor rating vertical spindle	Hp	4
Weight	lbs	4,290
Part No.		362695

### Standard Equipment

3-axis position indicator, collet chuck with collets (0.16", 0.2", 0.24", 0.31", 0.39", 0.47", 0.55", 0.63" diam.), horizontal arbor Ø 1", outer arbor support for horizontal milling, chip tray, coolant system, central lubrication, M16 draw bar, LED work lamp, operating tools, operator instructions



See this machine  
in action on  
YouTube 



Rigid outer arbor support for long milling arbors

- Universal vertical cutter head design
- Vertical and horizontal spindle with separate drives

- Sturdy, zero-backlash rectangular guideways
- Universal cutter head with 2 levels can be adjusted to virtually any angle (HURON System)
- Rapid feeds on all axes allow quick positioning
- Control panel swivels for comfortable operation

### Options

### Part No.

• Oscillation Element LK 5	103331
• Adapter SK 40 / MT 4	103740
• Reduction Sleeve SK 40 / SK 30	103750

For additional options for this machine, visit our website and search for UWF 3 (Product Search)



### Specifications

### UWF 3

Table set up area	in	52x13
Travel X-axis	in	39.4
Travel Y-axis	in	10
Travel Z-axis	in	18
Spindle speed (horizontal)	rpm	(12) 40 - 1,300
Spindle mount		ISO 40
Spindle speed (vertical)	rpm	(11) 45 - 1,660
Spindle mount		ISO 40
Rapid Feed X-axis	in/min	47.24
Rapid Feed Y-axis	in/min	47.24
Rapid Feed Z-axis	in/min	15.75
Motor rating horizontal spindle	Hp	4
Motor rating vertical spindle	Hp	4
Weight	lbs	4,400
Part No.		370297

### Standard Equipment

3-axis position indicator, central lubrication, coolant system, work lamp, collet chuck with collets (0.16", 0.2", 0.24", 0.31", 0.39", 0.47", 0.55", 0.63" diam.), horizontal arbor Ø 1" and Ø 1.5", outer arbor support for horizontal milling, short milling arbor 1.25", operating tools, operator manual

- Extremely rigid machine bed made of high-strength HT-200 cast-iron with heavy ribbing
- Large rectangular guideways ensure precision and quiet operation within permissible high loads
- Universal cutter head swivels on 2 planes - quick change-over from horizontal to vertical machining
- By combining both swivel levels, almost any angle can be set



- HURON-type cutter head - rigid and universal
- Servo-motor drive for infinitely variable feed
- Outer arbor support for long milling arbors
- Swiveling work table



Large throat and long travels

See this machine in action on YouTube 

### Options

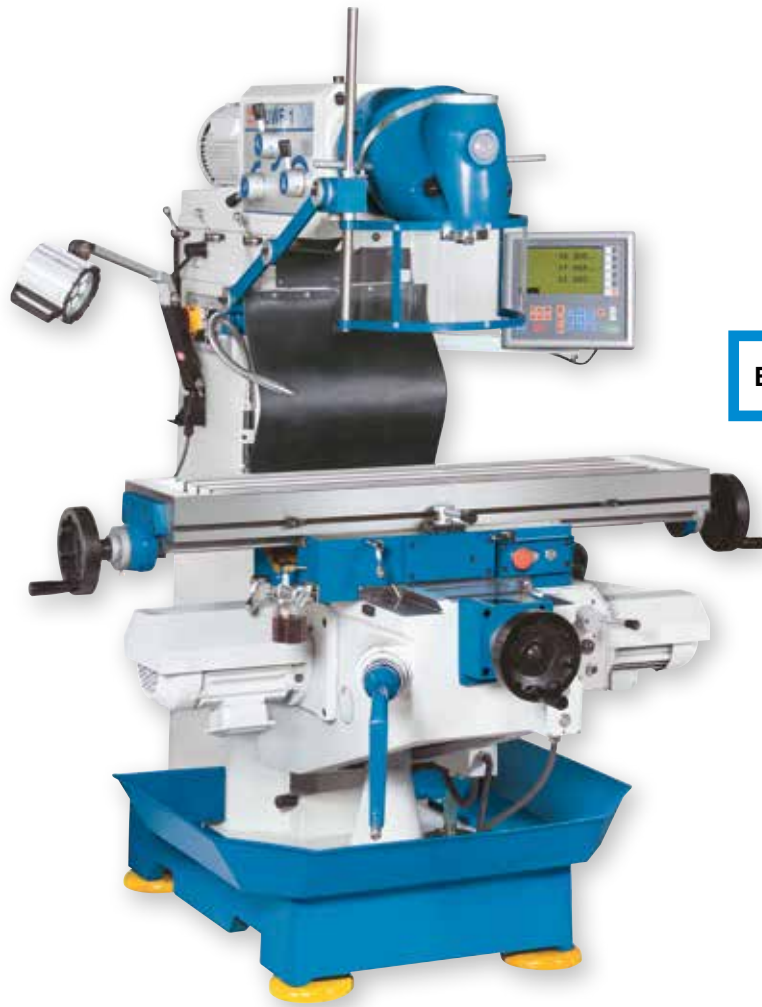
Options	Part No.
• Oscillation Element LK 5	103331
• Shell End Milling Arbor Ø22 SK 40	103900
• Accessory-Set ISO 40 5-pc.	104596
• Clamping Tool Set Deluxe 14/M12	105295
• ER 40 Collet Set 15 pcs.	106075
• HS 125 Hydraulic Machine Vise	125024

### Specifications

		UWF 1.2
Table set up area	in	54x12
Travel X-axis	in	39.4
Travel Y-axis	in	14
Travel Z-axis	in	16
Speed range	rpm	(11) 45 - 1,660
Spindle mount		DIN 2080 / ISO 40
Rapid feed X-/ Y-axis	in/min	53
Rapid feed Z-axis	in/min	39.37
Motor rating main drive	Hp	4
Weight	lbs	3,850
Part No.		362694

### Standard Equipment

chip tray, coolant system, central lubrication, 3-axis position indicator, operator instructions, M16 draw bar, operating tools, outer arbor support for horizontal milling



- Heavy machine frame with wide, adjustable dovetail guides in all axes
- Rigid universal cutter head, can be moved to virtually any spatial angle on two levels
- Automatic table feed on X- and Y-axes, including rapid feed
- Motorized height adjustment in Z direction

**Extensive standard equipment**



Automatic feed

### Standard Equipment

3-axis position indicator, outer arbor support for horizontal milling, milling chuck with collets 0.61", 0.2", 0.24", 0.31", 0.39", 0.47", 0.55", 0.63", long cutter arbor Ø 1.25", coolant system, LED work lamp, operator instructions

### Options


Options	Part No.
• Oscillation Element LK 5	103331
• Clamping Tool Set Deluxe 14/M12	105295
• Rotary Table RT 200	125835

For additional options for this machine, visit our website and search for UWF 1.1 (Product Search)

### Specifications

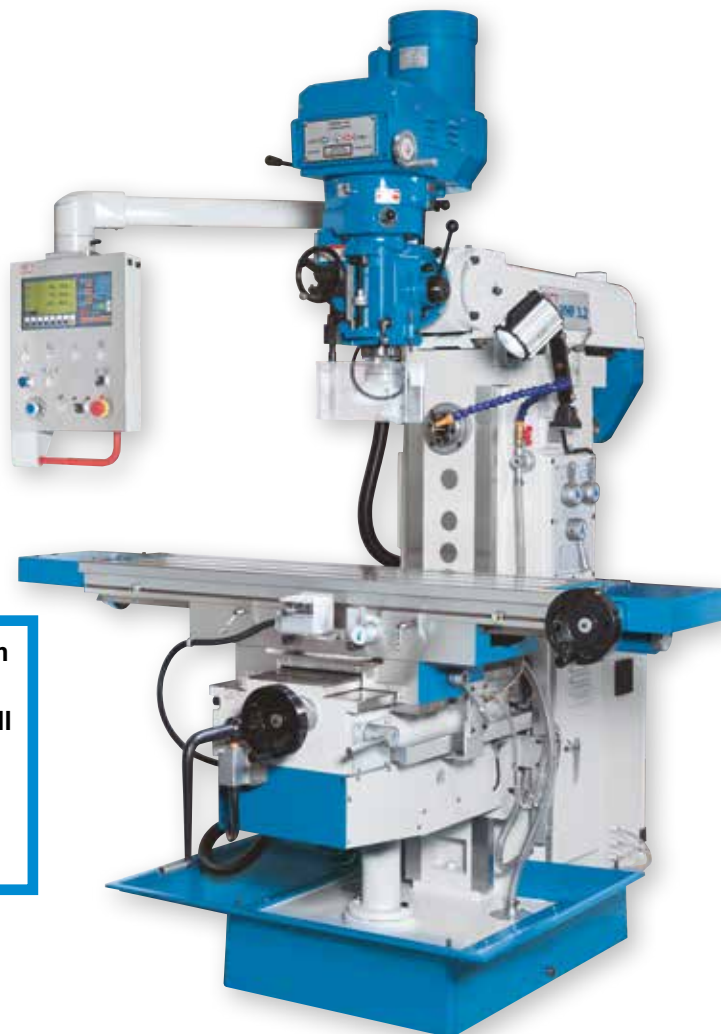
		UWF 1.1
Table set up area	in	44x10
X-axis travel	in	24
Y axis travel	in	9
Z-axis travel	in	15
Spindle speed (vertical)	rpm	45 - 1,660
Spindle mount		DIN 2080 / ISO 40
Rapid feed Z-axis	in/min	16.61
Motor rating main drive	Hp	3
Overall dimensions (length x width x height)	in	66x60x69
Weight	lbs	3,256
Part No.		362693



See this machine  
in action on  
YouTube 

- Extremely rigid machine bed made of high-strength HT-200 cast-iron with heavy ribbing
- The milling table features a large setup area and can be rotated in linear direction
- Spindle speed of vertical cutter head is infinitely variable over a wide speed range; an auxiliary gearbox ensures powerful torque
- Powerful axis servo-motors allow infinite adjustment of feeds on all 3 axes

- Vertical spindle is infinitely variable up to 3750 rpm
- Cutter head can be rotated and tilted
- Servo-motor drive for infinitely variable feed in all axes
- Horizontal spindle with outer arbor support for long milling arbors
- Milling table swivels in linear direction



The milling table features a large setup area and can be rotated in linear direction

### Options

### Part No.

• Oscillation Element LK 5	103331
• Shell End Milling Arbor Ø22 SK 40	103900
• Accessory-Set ISO 40 5-pc.	104596
• Clamping Tool Set Deluxe 14/M12	105295
• ER 40 Collet Set 15 pcs.	106075
• HS 125 Hydraulic Machine Vise	125024

### Specifications

### VHF 3.2

Table set up area	in	54x13
Travel X-axis	in	39.4
Travel Y-axis	in	14
Travel Z-axis	in	16
Spindle speed (vertical)	rpm	50 - 3,750
Spindle mount (vertical)		ISO 40
Rapid feed X-/ Y-axis	in/min	53
Rapid feed Z-axis	in/min	39.37
Spindle speed (horizontal)	rpm	(12) 35 - 1,500
Spindle mount (horizontal)		ISO 40
Main drive motor rating (vertical)	Hp	5
Main drive motor rating (horizontal)	Hp	4
Weight	lbs	4,290
Part No.		301411

### Standard Equipment


chip tray, coolant system, central lubrication, 3-axis position indicator, operator instructions, M16 draw bar, operating tools, cutter arbor Ø 1"



# VHF 3

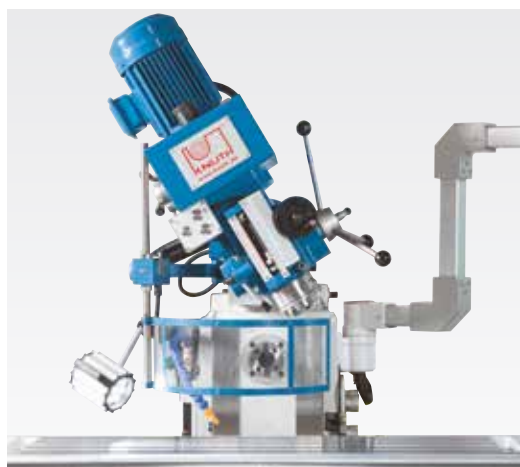
Solid universal milling machine for drilling and milling work requiring long travel distances



See this machine  
in action on  
YouTube 

- All 3 axis with automatic feed and rapid feeds
- Spindle speeds for horizontal and vertical spindle controlled by separate switch gears with oil-bath lubrication
- Capstan-controlled quill feed for drilling, manual micro-feed for milling
- For horizontal spindle operations, the top beam including head can be completely rotated on the stand

### Extensive standard equipment



Cutter head swivels  $\pm 45^\circ$

### Options

Options	Part No.
• Coolant Concentrate 5 Ltr.	103184
• Adapter SK 40 / MT 3	103730
• Machine vise with pull-down system NZM 125	104918

### Specifications

		VHF 3
Table set up area	in	52x13
Travel X-axis	in	39
Travel Y-axis	in	10
Travel Z-axis	in	17
Spindle mount		ISO 40
Spindle speeds	rpm	(8) 90 - 2,000
Rapid Feed X-axis	in/min	40.31
Rapid Feed Y-axis	in/min	40.31
Rapid Feed Z-axis	in/min	26.38
Motor rating horizontal spindle	Hp	3
Motor rating vertical spindle	Hp	3
Overall dimensions (length x width x height)	in	68x68x92
Weight	lbs	4,189
Part No.		301410

For additional options for this machine, visit our website and search for VHF 3 (Product Search)

### Standard Equipment

3-axis position indicator, drill chuck 5/8", cutter arbor  $\varnothing$  1", cutter arbor  $\varnothing$  1.5", collet chuck -ISO 40- with collets (0.16", 0.2", 0.24", 0.31", 0.39", 0.47", 0.55", 0.63" diam.), reducing sleeve ISO 40 / MT3 and ISO 40 / MT2, coolant system, chip tray, work lamp, operating tools, operator instructions

- the milling table features a large setup area
- Vertical and horizontal spindles each have a separate drive with gearbox for maximum machining power
- The vertical head swivels to both sides ( $\pm 45^\circ$ ), quill feed through capstan or with fine feed hand wheel
- Feed system with manual gearbox on X-axis and infinitely variable feed unit on the Y-axis
- Height adjustment of the work table via automatic feed - precision feed via smooth hand rank

- Swiveling cutter head
- Automatic feed on X- and Y-axes
- Horizontal spindle with outer arbor support for long milling arbors
- Extensive accessory package



Swiveling control panel with integrated position indicator for maximum operator comfort

### Options

### Part No.

• Oscillation Element LK 3	103330
• Universal Facing / Lathe Bore Head ADA / SK40	103404
• Adapter SK 40 / MT 2	103720

For additional options for this machine, visit our website.

### Specifications

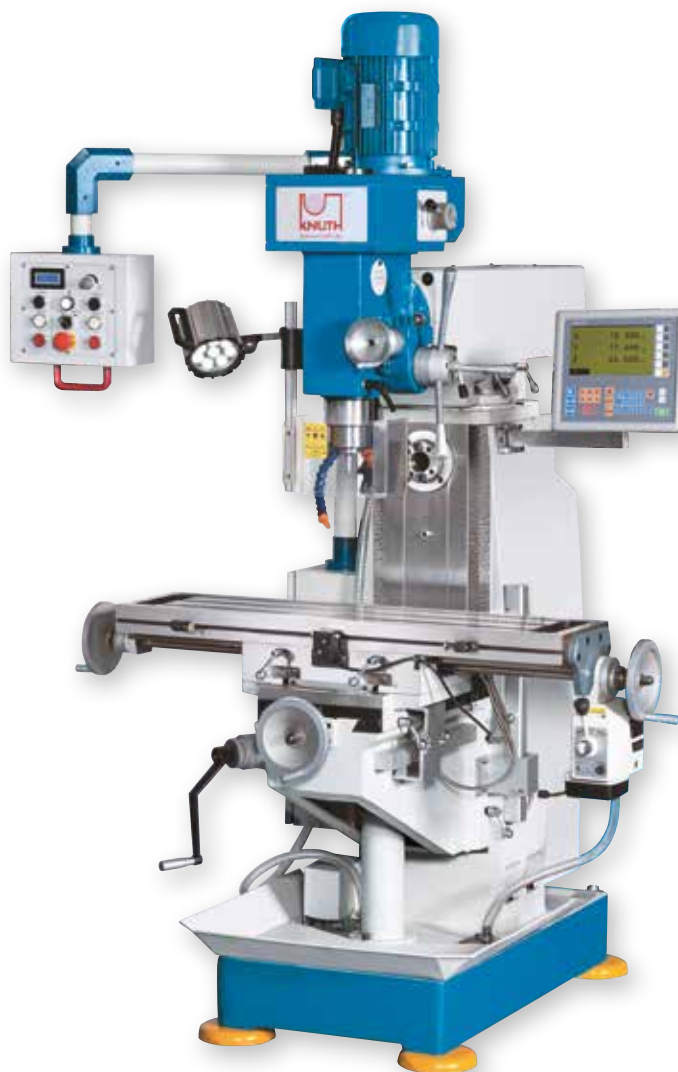
### VHF 2.2

Table set up area	in	50x11
Table load capacity (max.)	lbs	330
Travel X-axis	in	27.6
Travel Y-axis	in	13
Travel Z-axis	in	14
Spindle speed (vertical)	rpm	(8) 115 - 1,750
Spindle mount		ISO 40
Spindle speed (horizontal)	rpm	(12) 40 - 1,300
Motor rating horizontal spindle	Hp	3
Motor rating vertical spindle	Hp	1.1 - 2
Weight	lbs	3,080
Part No.		362651

### Standard Equipment

3-axis position indicator, coolant system, work lamp, operating tools, operator instructions, M16 draw bar, outer arbor support for horizontal milling, chip tray, cutter arbor  $\varnothing 1"$

- Compact, easy to handle universal milling machine with rigid frame made of vibration-dampening cast iron
- Easy to shift back-gearing via 2-step gears integrated into the vertical cutter head, plus variable frequency for high torque at the main spindle
- Entire cutter head swivels  $\pm 45^\circ$ , quill movement via capstan handle, or quill micro-feed via hand-wheel
- Horizontal spindle features a quiet, low-maintenance v-belt drive



- Extensive standard equipment
- Vertical and horizontal spindle
- Automatic feed on X axis
- Infinitely variable vertical spindle speed



Solid top beam with outer arbor supports long milling arbors

### Options

Options	Part No.
• Oscillation Element LK 3	103330
• Accessory-Set ISO 40 5-pc.	104596
• MS 125 Machine Vise	104955

For additional options for this machine, visit our website and search for VHF 1.1 (Product Search)

### Specifications

		VHF 1.1
Table set up area	in	39x9
Travel X-axis	in	21.1
Travel Y-axis	in	6
Travel Z-axis	in	13
Spindle speed (vertical)	rpm	100 - 2,000
Spindle mount		ISO 40
Spindle speed (horizontal)	rpm	(9) 60 - 1,350
Motor rating horizontal spindle	Hp	3
Motor rating vertical spindle	Hp	2
Weight	lbs	2,200
Part No.		362665

### Standard Equipment

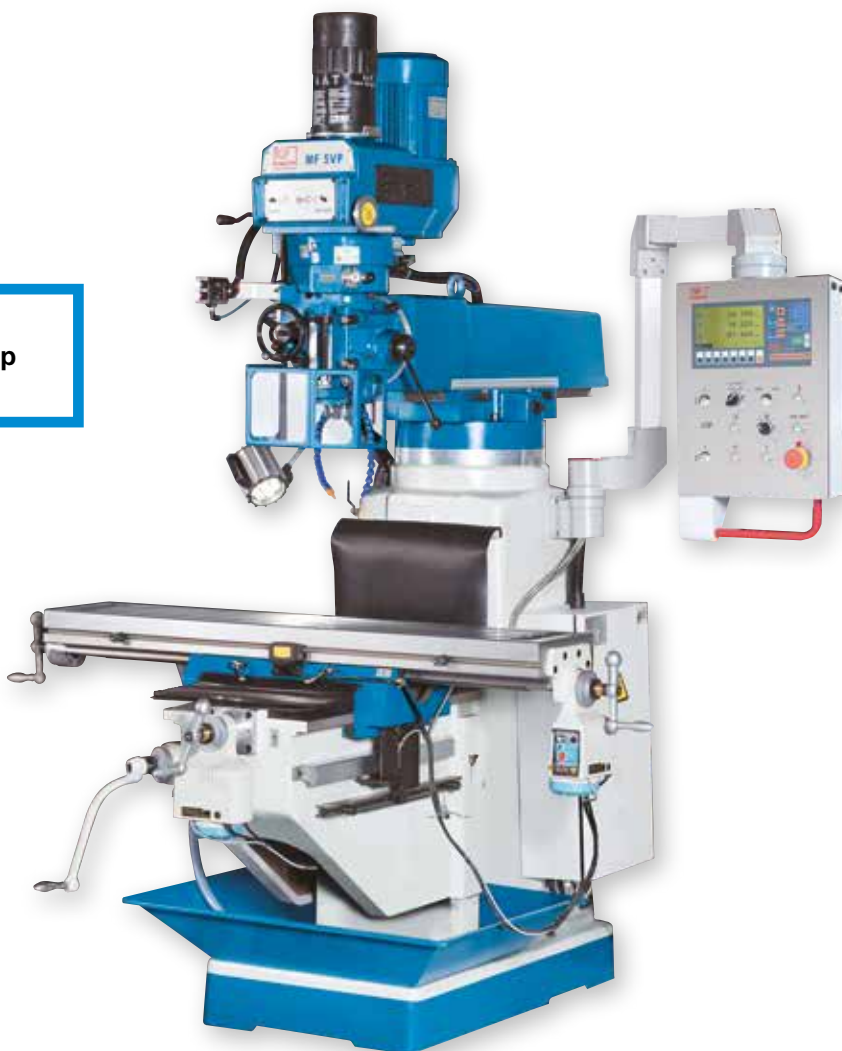
3-axis position indicator, 2 long cutter arbors ( $\varnothing 7/8"$ ,  $\varnothing 1"$ ), drill chuck 5/8", reducing sleeve ISO 40 / MT3 and ISO 40 / MT2, coolant system, work lamp, operating tools

# MF 5 VP

The all-time favorite knee mill - now even more rigid and powerful

- 3 automatic drill feeds
- Manual coarse feed for quill, with change-over for manual fine feed
- Quill with micrometer depth stop
- Reversing switch for forward reverse rotation

- **Extensive standard equipment**
- **Infinitely variable spindle speeds up to 3600 rpm**



Variable throat widths and machining angles

Options	Part No.
• Accessory-Set ISO 40 5-pc.	104596
• Divider ST 130	110960
• HS 125 Hydraulic Machine Vise	125024

### Specifications

		MF 5 VP
Table set up area	in	54x10
Travel X-axis	in	31.5
Travel Y-axis	in	15
Travel Z-axis	in	15
Speed range	rpm	70 - 3,600
Spindle mount		ISO 40
Motor rating main drive	Hp	5
Weight	lbs	3,498
Part No.		301217

For additional options for this machine, visit our website and search for MF 5 (Product Search)

### Standard Equipment

3-axis position indicator, table feed TV 1000 on X- and Y-axis, pneumatic tool clamping, chip tray, coolant system, central lubrication, horizontal guideway cover, operating tools, operator manual

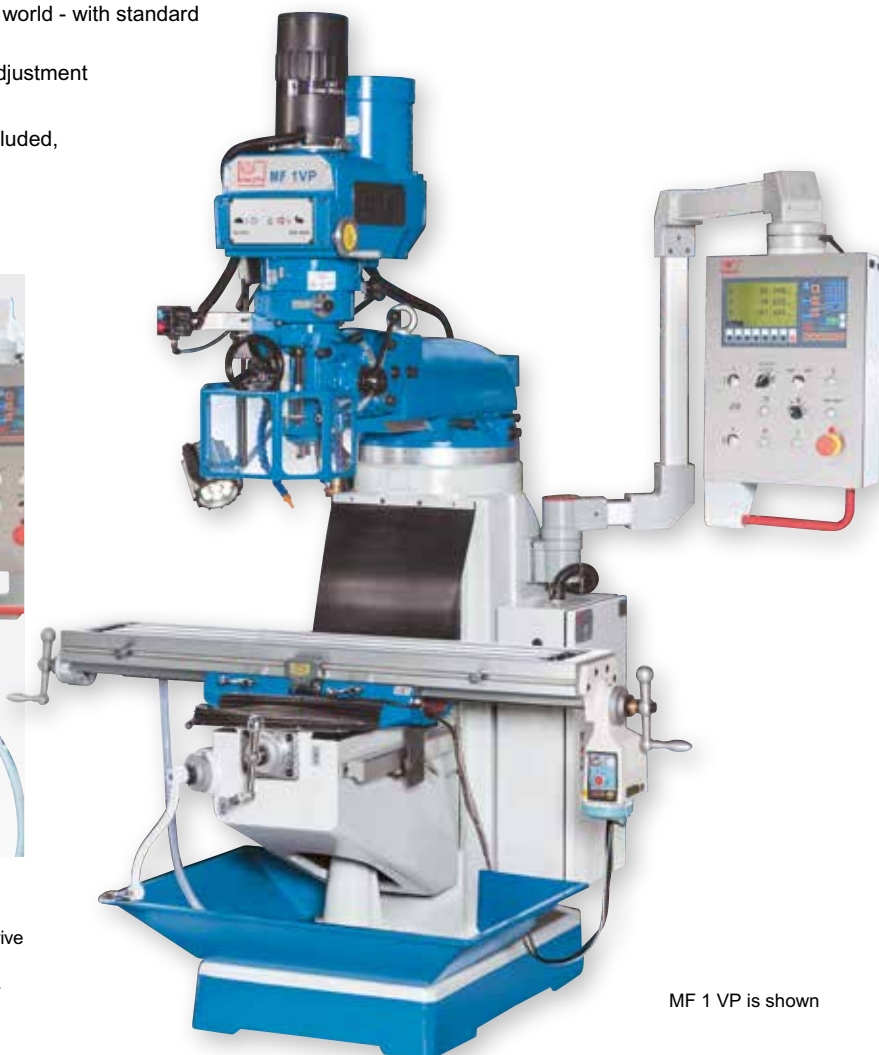
## MF 1 VP

- The most widely used milling machine type in the world - with standard pneumatic tool clamping
- Infinitely variable spindle speed via hand wheel adjustment
- Larger table with larger travel on X-axis
- TV 1000 automatic table advance on X-axis is included, retrofitting of Y-axis available



## MF 1 P

- Speed is changed by shifting the 2-step drive motor transmission, or by selecting the desired gear ratio at the drive belt (4 speeds per gear)
- Automatic table feed, type TV 1000 on X and Y, can easily be retrofitted



MF 1 VP is shown

## Specifications

		MF 1 P	MF 1 VP
Table set up area	in	42x9	49x9
Travel X-axis	in	26.4	29.9
Travel Y-axis	in	11	11
Travel Z-axis	in	15	15
Spindle speeds	rpm	(16) 80 - 4,500	(2) 60 - 4,200
Spindle mount		ISO 30	ISO 30
Motor rating main drive	Hp	3	3
Weight	lbs	2,420	2,090
Part No.		301219	301215

## Standard Equipment

3-axis position indicator, automatic table feed in X direction (TV 1000) (MF 1 VP), pneumatic tool clamping, coolant system, central lubrication, vertical guideway cover, LED work lamp, operating tools, operator manual



Drill Press / Milling Machine

## Mark Super S • SV

Increased comfort for this compact, versatile powerhouse

- Motorized cutter head movement and hand-wheel for exact positioning of head
- Digital depth indicator for quill travel
- Tapping unit with adjustable rotation reversal for thread cutting
- Hardened gear racks and shafts for quiet operation and long life
- **Mark Super SV - more power and variable speed control for a wider range of applications**

- **Extensive standard equipment**
- **Automatic quill feed**
- **Large travel with TV 1000 table feed**
- **Multi-function position indicator**

### Standard Equipment

3-axis position indicator, automatic quill feed, base, table feed TV 1000, drill chuck 1/2", tool-holder bits, operator manual

### Options

### Part No.

• Clamping Tool Set Deluxe 14/M12	105295
• Mounting Shaft MT 4	108641
• Electronic Edge Tracer	129055

For additional options for this machine, visit our website and search for Mark Super S (Product Search)



Head swivels  $\pm 45^\circ$



See this machine  
in action on  
YouTube



### Specifications

		Mark Super S	Mark Super SV
Table dimensions	in	31x9	31x9
Drilling capacity in steel	in	1	1
Travel X-axis manual / autom.	in	19 / 22	19 / 22
Travel Y-axis	in	7	7
Spindle mount		MT 4	MT 4
Speed	rpm	(12) 75-3200	(2) 75-438 / 438-2500
Main motor rating	Hp	2 / 1.5	2
Weight	lbs	836	1,056
Part No.		301498	301490

## SBF 40

Universal machine for milling and drilling

- Large compound sliding table with automatic infinitely variable feed on X-axis for coordinate drilling and light milling work
- Manual drill feed can be switched to high-precision feed via a hand-wheel
- Controllable automatic feed with 3 gear steps
- Adjustable height of gear head and table



Infinitely variable milling table feed



Automatic quill feed with 3-step gears

### Options

### Part No.

- |                            |        |
|----------------------------|--------|
| • Accessory-Set MT 4 8-pc. | 104594 |
| • ER 32 Collet Set 6 pcs.  | 106052 |
| • Mounting Shaft MT 4      | 108641 |

For additional options for this machine, visit our website and search for SBF (Product Search)



### Specifications

### SBF 40

Table set up area	in	29x8
Quill stroke	in	5
Spindle nose-to-table surface distance	in	24
Spindle nose-to-foot distance	in	46
Drilling capacity in steel / ST37	in	2
Speed range	rpm	(12) 75 - 3,200
Spindle mount	MT	4
Main motor rating	Hp	1,5 / 1,1
Overall dimensions (length x width x height)	in	33x30x73
Weight	lbs	858
Part No.		101573

### Standard Equipment

tapping unit, table feed TV 1000, draw bar, drill chuck, tool-holder bits, coolant system, operator manual

# Drilling machines

**See for yourself live:** Many models are in stock or can be viewed and tried out at a user's location near you. Make a demonstration appointment! Email [info@knuth-usa.com](mailto:info@knuth-usa.com) or call #847-415-3333



## Experience our machines in action!

With our YouTube channel KnuthMachineToolsUSA, you stay up to date with all the news and developments.




**Drilling-milling machine**  
**BO**

Facing slide travel **7 - 10 in**  
Traverse path of X-axis **28 - 63 in**

Table load up to 10 tons and motorised swivelling clamping table

Page 136 / 137

## Radial drilling machine

**R / R V T**

Drilling capacity **1.3 - 4 in**  
Spindle mount **MT 4 - MT 6**

Large throat and drilling capacity with easy handling

from page 138 onwards





Quick radial drilling machine

## KSR / KSR VT

Drilling capacity **1,7 - 2 in**

Spindle mount **MT 4**

Easy handling thanks to linear guides

from page 147 onwards



Column drilling machine

## SSB

Drilling capacity **1.3 - 2.4 in**

Spindle mount **MT 4 - MT 5**

With variable speed adjustment  
and thread cutting device

from page 151 onwards



Frame-type column drilling machine

## KSB

Drilling capacity **1.3 - 2.5 in**

Spindle mount **MT 4 - MT 5**

Superior stability due to heavy  
column design

Page 150

Table drilling machine

## TSB / KB

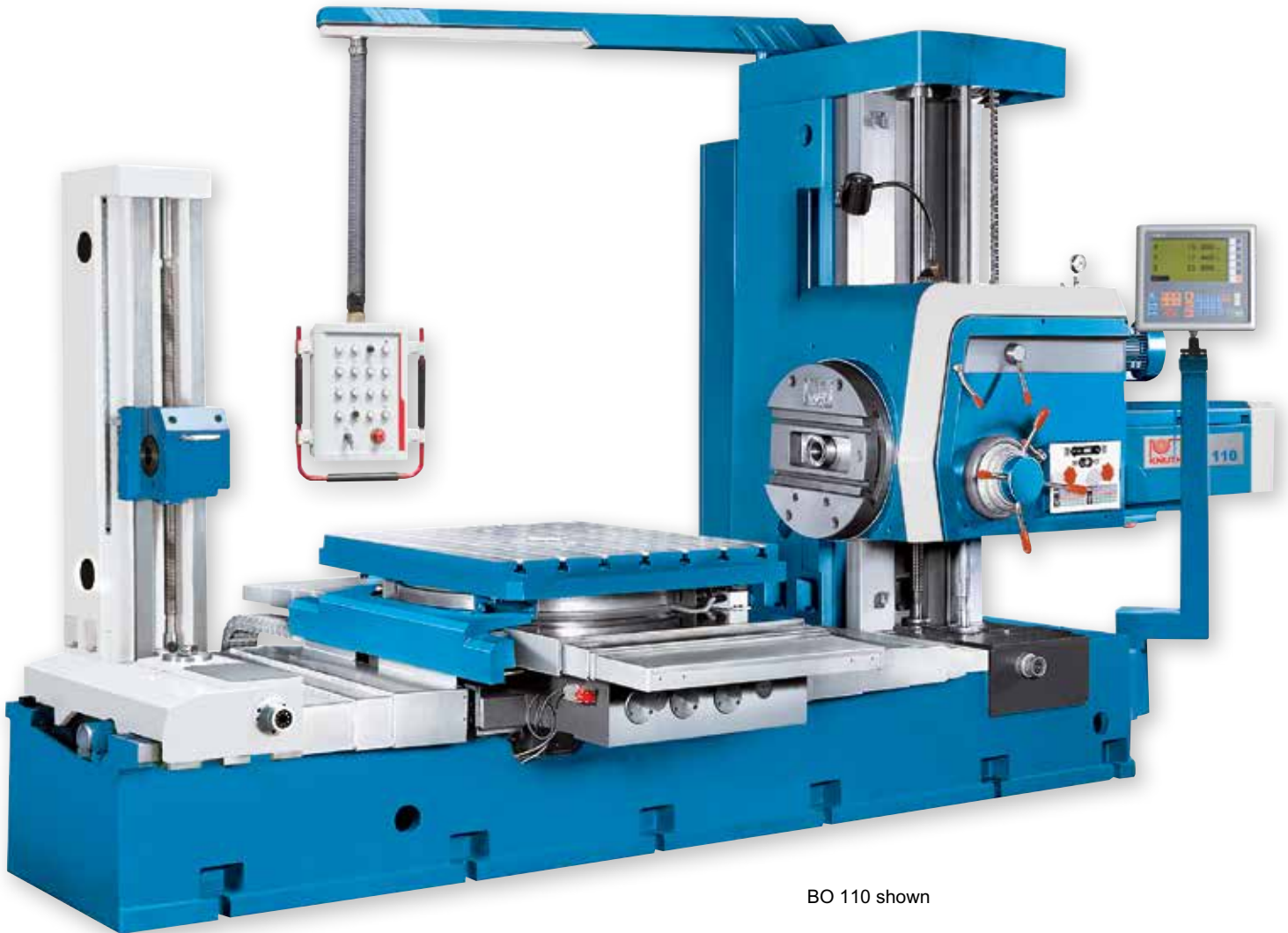
Drilling capacity **0.8 - 1.4 in**

Spindle mount **MT 2 - MT 4**

High-quality table drilling machine for  
industrial applications

from page 154 onwards





BO 110 shown

- Rigid, hardened and precision-ground square guides ensure many years of accurate operation
- Mechanical functions that cannot be run simultaneously are provided with interlocks
- Headstock and feed gears are equipped with an overload clutch
- Lever-operated shift gears for positioning of the wheels in the desired position
- Faceplate and drill spindle with different task-specific speed ranges according to the various functions

- Table rotates 360°
- Telescoping steel cover protects the guides from chips and dirt
- BO 110 incl. tailstock (optional on BO 130)

### Standard Equipment

3-axis position indicator, alignment wedges, central lubrication, work lamp, foundation bolts, operating tools, operator manual



Options	Part No.
• Drilling tool holder for faceplate for BO 130	250606
• Milling cutter holder for faceplate for BO 130	250607
• Boring head	250609
• Optional position indicator at rotary table (angle indicator) for part no. 399022	252721

For additional options for this machine, visit our website and search for BO 110 or BO 130 (Product Search)

Swivelling set-up table with motorized feed and hydraulic clamping

Specifications		BO 110	BO 130
<b>Working Area</b>			
Drilling capacity	in	1.97	2.36
Table set up area	in	43x38	63x71
Table load capacity	lbs	5,500	22,000
Spindle axis-to-table surface distance	in	0 - 35.43	0 - 70.87
Rotation speed of rotary table	rpm	1	1.2
<b>Travels</b>			
Travel X	in	35.4	78.7
Travel Y	in	35	71
Travel Z	in	35	59
Travel W	in	24	35
Facing slide travel	in	7	10
<b>Headstock</b>			
Speed range	rpm	(22) 8 - 1,000	(24) 4 - 800
Spindle diameter	in	4	5
Spindle torque (max.)	ft.lb.	10,841	27,754
Spindle mount		Taper 50	Taper 50
Facing slide speed	rpm	(18) 4 - 200	(18) 2.5 - 125
Feed force, axial (max.)		12	31
Facing slide torque (max.)	ft.lb.	17,346	43,365
<b>Rapid Feed</b>			
Rapid feed X-axis	in/min	98.43	98.43
Rapid feed Y-axis	in/min	98.43	98.43
Rapid feed W-axis	in/min	98	98
<b>Feed</b>			
Feed X-axis	in/R	(36) 0.00039 - 0.23622	(36) 0.00039 - 0.23622
Feed Y-axis	in/R	(36) 0.00039 - 0.23622	(36) 0.00039 - 0.23622
Feed Z-axis	in/R	(36) 0.00039 - 0.23622	(36) 0.00039 - 0.23622
Feed W-axis	in/R	(36) 0.00039 - 0.23622	(36) 0.00039 - 0.23622
Facing slide feed	in/min	(18) 0.003 - 0.472	(18) 0.003 - 0.472
<b>Accuracies</b>			
Read-out accuracy (optic)	in	0.0004	0.0002
Counter-bore accuracy	µm	H7 Ra-1.6	H7 Ra-1,6
<b>Drive Capacity</b>			
Motor rating main drive	Hp	10.1	20.1
Motor rating, rapid reed	Hp	4	-
Motor rating servo drive	Hp	-	7.4
Motor rating hydraulic pump	Hp	0.5	0.5
<b>Measures and Weights</b>			
Overall dimensions (length x width x height)	in	193x97x109	277x184x150
Weight	lbs	25,300	64,460
Part No.		301499	399022



R 100 is shown

- **A large throat and high boring capacities are supported by a very rigid structural design, without compromising the ease of handling and smoothness of operation**
- The drill head features a rigid design with motorized or manual movement
- Spindle speeds and feed velocity are hydraulically controlled for easy and safe operation
- The drill spindle is driven via multi-disk reversing clutch to avoid excessive load peaks and for easy operation
- Base, column, boom and gear head are made of premium high-quality cast
- Boom height adjustment via a powerful motorized drive and vertical spindle
- The boom lifting gears run in an oil-bath for maximum reliability and minimum wear
- Advanced column swivel design with optimized clamping features maximum rigidity and minimum clamping offset
- Swivel axis and travel axis feature extremely smooth operation to make the operator's everyday production work easier
- The gears feature hardened and precision-ground chrome-nickel steel for smooth and low-noise operation



Powerful machining with automatic feed



Depth stop with vernier scale

- All gear parts are lubricated reliably via oil pump
- The main spindle runs on precision bearings and features an automatic spindle brake
- Quill teeth are precision-ground for a smooth feed and minimum wear
- The drill head moves on hardened and ground guideways
- Features adjustable overload clutches in the feeds
- Adjustable boring depth stop with large, easy to read scale

- All operator controls are placed within reach for convenient and practical handling and quick learning
- Powerful coolant system with coolant reservoir integrated into the machine foot
- Independent hydraulic clamping of head, column and boom
- Drill head and column can be clamped/released together or separately; confirmation of operation via push button
- Boom and column are oiled through a reliable central lubrication system

## Specifications

**R 100**

Working Area	
Drilling capacity	in 3.94
Tapping capacity, cast-iron	M 80
Tapping capacity, steel	M 70
Drilling depth (max.)	in 20
Machine table dimensions	in 174x64x12
Cube table dimensions	in 49x31x25
Throat	in 22 - 124
Spindle nose-to-table surface distance	in 30 - 98
Arm stroke (vertical)	in 39
Column diameter	in 28
Travels	
Drill head travel (horizontal)	in 102
Headstock	
Speed range	rpm (22) 8 - 1,000
Spindle mount	MT 6
Feed	
Feeds	in/R 0 - 0.13
Drive Capacity	
Motor rating main drive	Hp 20.1
Stroke motor	Hp 4
Measures and Weights	
Overall dimensions (length x width x height)	in 189x65x186
Weight	lbs 44,000
Part No.	101659

## Standard Equipment

coolant system, cube table, LED work lamp, operator instructions

## Options

**Part No.**

• Coolant Concentrate 5 Ltr.	103184
• Compound Sliding Tables 33.7x11.6	106017
• HSS Form Countersing Set round 0.08 - 0.47 in	107615
• HSS Form Countersing Set round 0.24 - 0.79 in	107617
• Power Worker Metal Cutter	123040
• Drill Press quick-action machine vise with V-guides PBS 200	125007
• UMS 200 Universal Machine Vise	125032
• Swivel table ST 380	129345

## Touchscreen

Electronics take conventional machines to a new level



- easy operation saves time
- improved support providing more information for the user
- intuitive access to all functions (tablet feel)
- simplified troubleshooting via diagnostic functions

Conventional machine tools are still a preferred versatile choice, especially for customization and repair of components or flexible production of single parts. Today, these machines are brought to a new level with a growing portfolio of electronic solutions for their drives and gauging systems. Conventional machines are increasingly upgraded with touchscreens for their HMIs. This type of human/machine interface opens the door to many new possibil-

ities, which we would like to demonstrate to you by presenting a few examples from the current KNUTH machine tool program.

### More precise and more efficient due to integrated electronics

KNUTH machine tools have a proven record in workshops and production facilities throughout the world, and this new technology will provide the continuation of our success story. Operators can apply their skills without adapting to a new machine or learning new programming techniques. Smart solutions bring increased efficiency and productivity, and the use of advanced components ensure maximum precision and quality. Many components are produced using large-scale series production

technology guaranteeing their ruggedness and availability. These modern machines require significantly less maintenance than mechanical solutions, which results in reduced operating costs.

These new control panels or user interfaces are used mainly on machines that feature semi-automated functions like surface grinders and automatic band saws.

Easy control of complex functions



On the HFS NC series surface grinders, all functions are displayed clearly organized for easy selection on the touchscreen.

This technology also provides many advantages for machines that have to be highly versatile and still easy to operate.



Good examples of standard machines that are constantly becoming smarter are the series VT radial drill presses, high-speed radial drill presses, and column drill presses.

These models not only display all functions on a large 12.1" color touchscreen, but also provide an additional feature that helps the user select the optimum drilling parameters for the task.

The "Technology Value" function allows the user to select drill diameters and materials on the display. The system-recommended values for rpm and feed speed can be accepted automatically in a quick and secure way.

The boring depth stop is set electronically, and at greater boring depths an easy to program

chip breaking function increases process safety by avoiding chip congestion and preventing winding of chips around the tool.

Spindle speed and feed rate are infinitely variable. The values are also displayed graphically, and all operational and alarm messages are shown on the screen, so the operator can monitor everything at a glance.

### Rediscover conventional machines:

Smart HMI technology and robust electronics make conventional machines better and more efficient.



See this machine  
in action on  
YouTube



- Unique operating concept
- Servomotor-driven quill feed
- Large touchscreen
- Rigid design and powerful performance





All functions are shown on the touchscreen's graphic display

- **Electronically controlled servo quill feed with large touchscreen display**
- Drilling depth is electronically set and the input value is checked by the system
- Measuring units for input and display can be selected by the operator (mm or inch)
- The high-performance coolant system enabled at the touchscreen and will be turned on and off as a function of the main spindle
- The machine has 2 gear steps, and the rpm can be infinitely varied and displayed at the monitor
- A servo motor provides infinitely variable control of the quill feed - upon reaching the preselected drilling depth, the quill automatically returns to the starting position
- Thread cutting is, however, completely manual, i. e., the operator changes the quill's rotational direction upon reaching the drilling depth
- The operator sets the boom height by touching the respective icon, whereupon the system automatically releases and fixates the hydraulic clamps, turns off the lift motor, and considers all set limit stops

## Specifications

## R 60 VT

Working Area	
Drilling capacity	in 2.36
Tapping capacity, cast-iron	M 50
Tapping capacity, steel	M 45
Drilling depth (max.)	in 12
Throat	in 14 - 63
Spindle nose-to-table surface distance	in 14 - 49
Drill head travel (horizontal)	in 49
Headstock	
Speed range	rpm (2) 38 - 2,000
Spindle mount	MT 5
Feed	
Feeds	in/min 0 - 11.81
Drive Capacity	
Motor rating main drive	Hp 5.4
Stroke motor	Hp 2
Measures and Weights	
Overall dimensions (length x width x height)	in 99x42x110
Weight	lbs 8,360
Part No.	101656

- Base, column, boom and gear head are made of premium high-quality cast
- Major design features include a large column and a highly torsion-resistant boom
- Boom height adjustment via a powerful motorized drive and vertical spindle
- The boom lifting gears run in an oil-bath for maximum reliability and minimum wear
- Swivel axis and travel axis feature extremely smooth operation to make the operator's everyday production work easier
- A central lubrication system ensures reliable lubrication of the column

- Drill head and column can be clamped/released together or separately
- Boom can be moved vertically without losing the spindle-to-bore alignment
- The control software also provides recommendations for rpm and feed in relation to the desired drill size
- Various alarm screens warn the operator in case of operational errors and display information on the operational state

## Standard Equipment

coolant system, cube table, LED work lamp, operator manual

## Options

## Part No.

• Extension Sleeve MT 4/5	104670
• Taper Drift MT 4/5	104695
• Tapping Attachment M8 - M20 (MT3 + MT4)	106037
• Mounting Shaft MT 4	108641
• Drill Press quick-action machine vise with V-guides PBS 200	125007



- **Infinitely variable speed control**
- **Large work area**

R 60 V

- Major design features include a large column and a highly torsion-resistant boom
- Advanced column swivel design with optimized clamping features maximum rigidity and minimum clamping offset
- The gears feature hardened and precision-ground chrome-nickel steel for smooth and low-noise operation
- The main spindle runs on precision bearings and features an automatic spindle brake
- Quill teeth are precision-ground for a smooth feed and minimum wear
- The drill head moves on hardened and ground guideways
- All models feature adjustable overload clutches in the feeds
- Adjustable boring depth stop with large, easy to read scale
- All operator controls are placed within reach for convenient and practical handling and quick learning
- Powerful coolant system with coolant reservoir integrated into the machine foot

**R 60 V • R 80 V**

- Infinitely variable spindle speed and easy to read digital display
- The quills of the R 60 V and R 80 V feature guided counterweights for easy handling and increased safety
- Manually shiftable feed gears with 8 steps
- Independent hydraulic clamping: boom can be moved vertically without losing the spindle-to-bore alignment
- Drill head and column can be clamped/released together or separately with the push of a button



R 40 V

## R 40 V

- 1.8 in. boring capacity, large throat and optimum
- 4-step feed gears
- Infinitely variable speed control with back gearing for high torque across the entire speed range
- The boom can be moved vertically, while column and head remain clamped and fixed in their positions
- The drill head can be moved radially and positioned with high precision via a centrally located hand-wheel
- A clamping lever at the drill head allows the operator to pre-select, if the boom should be released for swiveling, whereby both axes will be simultaneously fixed in the requested position above the drill head clamping lever
- Manual central lubrication

## Options

## Part No.

• E-R60V spare parts package for 5 years for part no. 101649	259127
• Lathe Bore Head with Boring Bar Set 3 in 12 pcs.	108633
• Tapping Attachment M8 - M20 (MT3 + MT4)	106037
• Universal Facing / Lathe Bore Head ADA / MT 4	103402
• E-R40 V spare parts package for 5 years for part no. 101556	259069
• Reduction Sleeve MT 4/3	103830
• E-R80 V spare parts package for 5 years for part no. 101558	259070

## Standard Equipment

coolant system, cube table, LED work lamp, operator instructions

## Specifications

		R 40 V	R 60 V	R 80 V
<b>Working Area</b>				
Drilling capacity	in	1.57	2.44	3.15
Tapping capacity, cast-iron		M 40	M 52	M 60
Tapping capacity, steel		M 32	M 46	M 52
Drilling depth (max.)	in	10	12	16
Machine table dimensions	in	81x36x7	94x39x8	133x48x11
Cube table dimensions	in	24x18x18	30x20x20	23x33x20
Throat	in	12 - 51	14 - 63	18 - 100
Spindle nose-to-table surface distance	in	12 - 47	14 - 49	16 - 62
Arm stroke (vertical)	in	25	23	31
Column diameter	in	11	14	18
<b>Travels</b>				
Drill head travel (horizontal)	in	39	49	83
<b>Headstock</b>				
Speed range	rpm	54 - 2,150	38 - 2,000	30 - 1,400
Spindle mount		MK 4	MT 5	MT 6
<b>Feed</b>				
Feeds	in/R	0 - 0.02	0 - 0.04	0 - 0.05
<b>Drive Capacity</b>				
Motor rating main drive	Hp	3	5.4	10.1
Stroke motor	Hp	1.5	2	3
<b>Measures and Weights</b>				
Overall dimensions (length x width x height)	in	82x34x96	99x42x110	142x50x139
Weight	lbs	5,060	8,360	16,280
Part No.		101557	101649	101558

- Machine frame made of high-quality fine-grain cast-iron with heavy ribbing to ensure maximum reduction of vibrations
- Precision-ground gears for quiet operation
- Practical layout of electrical and mechanical controls at the headstock for easy operation
- Motorized arm height adjustment



Rigid column base with central main switch



Swiveling boom for large throat widths



See this machine  
in action on  
YouTube



## Options

## Part No.

• Universal Facing / Lathe Bore Head ADA / MT 4	103402
• Reduction Sleeve MT 4/1	103820
• Accessory-Set MT 4 8-pc.	104594

For additional options for this machine, visit our website and search for R 32 (Product Search)

## Specifications

## R 32 Basic

Drilling capacity	in	1.26
Spindle nose-to-table surface distance	in	13 - 34
Machine table dimensions	in	54x28x6
Quill stroke	in	9
Spindle mount		MT 4
Speed range	rpm	(6) 75 - 1,220
Motor rating main drive	Hp	2
Overall dimensions (length x width x height)	in	56x29x75
Weight	lbs	2,601
Part No.		101522

## Standard Equipment


coolant system, cube table, halogen lights

## KSR 40 Advance

Linear guides for easy handling and stability

- Powerful machine for drilling, tapping, countersinking and boring
- Large travel ranges and many different machining stations provide maximum setup and machining possibilities
- Extremely sturdy construction ensures high accuracy and reliability
- Quick and precise tool positioning: hydraulic clamping is released by the push of a button, head easily swivels forward, backward and horizontally



See this machine in action on YouTube 



- Infinitely variable spindle speed
- Digital drilling depth indicator



Additional setup areas meets all your requirements

### Options

	Part No.
• Coolant Concentrate 5 Ltr.	103184
• Universal Facing / Lathe Bore Head ADA / MT 4	103402
• De Luxe Clamping Tool Set 18/M16	105305

For additional options for this machine, visit our website and search for KSR 40 (Product Search)

### Specifications

	KSR 40 Advance	
Drilling capacity	in	1.57
Spindle nose-to-table surface distance	in	31
Quill stroke	in	8
Table set up area	in	47x20
Spindle mount	MT	4
Spindle speed (infinitely variable)	rpm	50 - 2,000
Motor rating main drive	Hp	3
Overall dimensions (length x width x height)	in	68x48x89
Weight	lbs	6,028
Part No.		162363

### Standard Equipment

digital speed indicator, additional setup areas at the side and rear, cube table, swiveling horizontal table, digital boring depth indicator, work lamp, coolant system, tapping unit, drill chuck with tool-holder bits, reducing sleeves, operating tools, operator manual

## KSR 50 VT

The first servo-conventional high-speed radial drill press



See this machine  
in action on  
YouTube



- Unique operating concept
- Servomotor-driven quill feed
- Large touchscreen
- Rigid design and powerful performance

- Table, column, male die and gear head are made of thick-walled high-grade cast-iron and the entire machine structure features high-quality components and precision machined surfaces
- The large work area can be expanded by mounting optional swivel and angle tables for a wide variety of clamping and machining options



The high-resolution touchscreen features a scratch-resistant surface. Matching rpm and feed speeds for each drill can be recalled from a database and automatically applied.

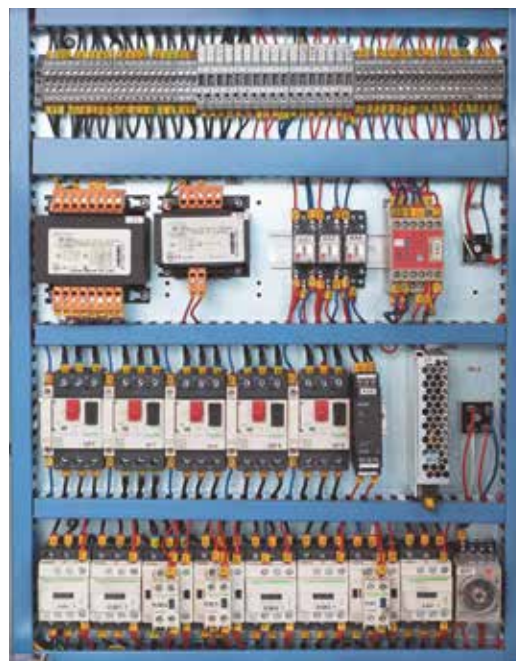
- The male die features a low-maintenance, very rigid design and runs smoothly in two large linear roller guideways, allowing exact positioning with minimal effort
- The entire machine is extremely smooth running for effortless operation in a production environment
- Column and male die are equipped with hydraulic clamping fixtures
- Main spindle drive with 2 gear steps, infinitely variable speed in each gear step
- For angular bores, the drill head can be rotated 45° in either direction
- A central lubrication system simplifies maintenance

### Electronically controlled servo quill feed

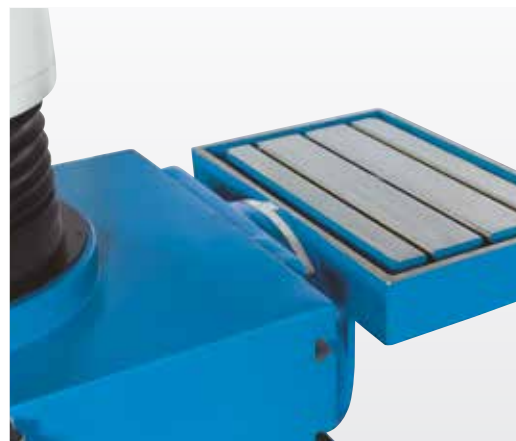
- A servo-motor provides infinitely variable control of the quill feed
- The depth stop is set electronically with a positioning accuracy of +/- 0.004"

### Improved functionality and improved layout of the large touchscreen display

- All machine functions are controlled and displayed on the touchscreen
- Measuring units for input and display can be selected by the operator (mm or inch)
- In Thread Cutting Mode, the quill will automatically reverse direction upon reaching the selected thread depth
- Various alarm screens warn the operator in case of operational errors and display information on the operational state
- The control software also provides recommendations for rpm and feed in relation to the desired drill size
- The high-performance coolant system is activated at the touchscreen



Premium electric components



Swivel and angle tables for a wide variety of clamping options

## Specifications

## KSR 50 VT

### Working Area

Drilling capacity	in	1.97
Tapping capacity, steel		M 32
Throat	in	25
Spindle nose-to-table surface distance	in	30
Head swivel range		± 90°
Column diameter	in	9
Table set up area	in	47x20
Column stroke	in	16
Quill stroke	in	8

### Travels

Upper beam travel	in	23
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### Headstock

Spindle mount	MT	4
Spindle speed (infinitely variable)	rpm	50 - 2,000

### Feed

Feeds	in/min	(6) 0.04 - 118.11
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### Drive Capacity

Motor rating main drive	Hp	4
Motor rating height adjustment	Hp	2
Motor rating feed	Hp	1.7
Motor rating hydraulic pump	Hp	0.5
Motor rating coolant pump	Hp	0.1

### Measures and Weights

Overall dimensions (length x width x height)	in	68x48x89
Weight	lbs	6,028
Part No.		162365

## Standard Equipment

touch screen monitor, additional setup areas at the side and rear, cube table, swiveling horizontal table, work lamp, coolant system, tapping unit, reducing sleeves, operating tools, operator manual

## Options

## Part No.

• Set of collets Ø0.2-0.6"	253672
• Compound Sliding Tables 25" x 8"	253673

For additional options for this machine, visit our website and search for KSR 50 VT (Product Search)

- Box-column design provides high load capacity, and is torsion-proof and rigid
- Table and drill head can be moved individually for an optimum machining height
- 9-step feed and speed gears, with oil-bath lubrication
- High torque across the entire speed range

**Standard Equipment**

coolant system, tapping unit, LED work lamp, operating tools, operator instructions



KSB 63 B is shown



KSB 40 B is shown with optional accessories

**Options**

**Part No.**

• Direct indexing head S 200	110966
• Rotary Table RT 250	125840
• Swivel table ST 380	129345

For available options for this machine, visit our website and search for KSB (Product Search)

**Specifications**

		<b>KSB 32A</b>	<b>KSB 40B</b>	<b>KSB 50C</b>	<b>KSB 63B</b>
Drilling capacity	in	1.26	1.57	1.97	2.48
Throat	in	11	13	13	15
Quill stroke	in	8	10	10	10
Spindle nose-to-table distance (max.)	in	27	26	29	34
Table set up area	in	16x22	19x22	19x22	26x22
Spindle mount		MT 4	MT 4	MT 5	MT 5
Spindle speed	rpm	(9) 50 - 2,000	(12) 31.5 - 1,400	(9) 45 - 850	(9) 40 - 570
Motor rating main drive	Hp	3	4	5.4	7.4
Overall dimensions (length x width x height)	in	38x34x93	41x36x100	41x36x100	39x58x110
Weight	lbs	2,090	2,750	2,750	5,500
Part No.		101692	101693	101694	101695



## SSB 60 F Super VT

Servo-conventional column drill press

- Ideal for drilling, countersinking, reaming and tapping
- Heavy construction with thick-walled column
- Large drill press table with circumferential coolant groove and  $\pm 45^\circ$  swivel range
- Table height adjustment via a powerful motorized drive
- Auxiliary gears of main spindle drive run in an oil-bath
- Thread-cutting feature is standard

### Electronically controlled servo quill feed with large touchscreen display

- The 12.1" color touchscreen conveniently displays all functions and features a rugged, resistant touch panel
- The infinitely variable spindle speed can be controlled at the display and is easy to read
- The system recommends cutting parameters based on bore diameter and material, which also may be accepted automatically
- The depth stop is set electronically at the display
- Drilling depth positioning accuracy is about 0.004"
- Easy to program chip breaking function increases process safety

- High drilling capacity and rigidity
- Unique operating concept
- Servo motor driven quill feed
- Rugged touchscreen with high resolution
- Motorized table adjustment



### Standard Equipment

10,000 rpm, direct drive option CTS (Si), tapping unit, protective shield, coolant system, LED work lamp, operating tools, operator instructions

### Options

Options	Part No.
• Coolant Concentrate 5 Ltr.	103184
• Reduction Sleeve MT 5/3	103840
• Reduction Sleeve MT 5/4	103845
• Drill Press quick-action machine vise with V-guides PBS 200	125007


### Specifications

Specifications	SSB 60 F Super VT
Drilling capacity	in 2.36
Table set up area	in 24x20
Quill stroke	in 10
Spindle nose-to-foot distance	in 44
Spindle nose-to-table surface distance	in 23
Speed range	rpm 50 - 316,316 - 2000
Spindle mount	MT 5
Motor rating main drive	Hp 5.4
Overall dimensions (length x width x height)	in 41x24x90
Weight	lbs 2,090
Part No.	101672

# SSB 40 F Super • 50 F Super VT

Large drilling capacity and easy handling



See this machine  
in action on  
YouTube 

- Ideal for drilling, countersinking, reaming and tapping
- Heavy construction with thick-walled column
- Large drill press table with circumferential coolant groove, height adjustment, and  $\pm 45^\circ$  swivel range
- Table height adjustment via a powerful motorized drive
- 4 automatic drill feeds with electromagnetic clutch control and automatic shut-off when reaching the limit stop

## SSB 50 F Super VT

- Modern operating concept with rugged touchscreen display
- The control system assists the operator with the selection of the correct rpm and feed speed
- The depth stop is set electronically at the display

## Standard Equipment

Touchscreen control panel, tapping unit, protective shield, LED work lamp, coolant system, operating tools, operator manual

- motorized table height adjustment
- thread cutting function
- automatic quill feed
- infinitely variable speed



## Specifications

		SSB 40 F Super	SSB 50 F Super VT
Drilling capacity	in	1.57	1.97
Table set up area	in	21x17	23x18
Quill stroke	in	7	8
Spindle nose-to-table surface distance	in	26	23
Spindle nose-to-foot distance	in	47	46
Speed range	rpm	60 - 2,600	50 - 2,200
Spindle mount		MT 4	MT 4
Motor rating main drive	Hp	2.7	3
Overall dimensions (length x width x height)	in	40x26x88	46x27x93
Weight	lbs	1,100	1,430
Part No.		162335	101673



See this machine  
in action on  
YouTube



- Heavy cast-iron construction with thick-walled column
- Tapping feature
- Automatic drill feeds controlled by an electromagnetic clutch
- Includes coolant system and work lamp
- Table rotates and swivels  $\pm 45^\circ$

### Standard Equipment

tapping unit, protective shield, LED work lamp, coolant system, operating tools, operator manual

### Options

#### Part No.

• Accessory-Set MT 4 8-pc.	104594
• Vise PB 120	104845
• Clamping Tool Set Deluxe 14/M12	105295

For additional options for this machine, visit our website and search for SSB 32 or 40 Xn (Product Search)

### SSB 32 Xn

- Head swivels  $50^\circ$ , adjustable height
- Digital rpm display



### Specifications

#### SSB 32 Xn

#### SSB 40 Xn

Drilling capacity	in	1.26	1.57
Table set up area	in	20x17	21x17
Quill stroke	in	6	7
Spindle nose-to-table distance (max.)	in	25	24
Spindle mount		MT 4	MT 4
Spindle speed	rpm	(12) 125 - 3,030	(12) 75 - 2,020
Quill feeds	in/R	0.004; 0.008; 0.12	0.005; 0.01; 0.02
Motor rating main drive	Hp	1.6	2
Overall dimensions (length x width x height)	in	34x20x78	38x25x88
Weight	lbs	1,188	1,210
Part No.		162332	162339

- Rigid cast-iron construction
- Rectangular table with T-slots and circumferential coolant groove
- Automatic quill feed
- Head swivels  $\pm 45^\circ$  (TSB 35)



See this machine in action on YouTube 



Universal machine base with storage room Part No. 123952



TSB 35 is shown with digital rpm display

### Options

### Part No.

• Oscillation Element LK 3	103330
• Accessory-Set MT 4 8-pc.	104594
• Clamping Tool Set Deluxe 14/M12	105295

For additional options for this machine, visit our website and search for TSB (Product Search)

### Standard Equipment

base, protective shield, tapping unit, LED work lamp, coolant system, drill chuck, operating tools, operator instructions

### Specifications

		TSB 25	TSB 35
Drilling capacity	in	0.98	1.38
Tapping capacity, steel		M 16	M 22
Foot set up area (length x width)	in	12x13	15x14
Spindle nose-to-foot distance	in	26	25
Spindle speed	rpm	(6) 125 - 2,825	(12) 125 - 3,030
Spindle mount	MT	3	4
Quill stroke	in	4	6
Quill feeds	in/R	-	(3) 0.1; 0.2; 0.3
Motor rating main drive	Hp	1	1.6
Overall dimensions (length x width x height)	in	28x17x62	32x20x66
Weight	lbs	484	748
Part No.		162340	162345



Infinately variable feed motor

Heavy, precision-ground work table features diagonal T-slots

- Modern design, high-quality cast-iron, and excellent workmanship combined with superior rigidity, function and appearance
- Large base plate with ground setup area and parallel T-slots
- Spindle shank and spindle are hardened and ground
- High-performance coolant system integrated in the machine base

### Electronically Controlled Quill Feed

- The color touchscreen conveniently displays all functions and features a rugged, resistant touch panel
- The spindle speed can be controlled infinitely variable at the display and is easy to read
- The automatic quill feed can also be infinitely adjusted and read at the display
- The depth stop for automatic feed is set mechanically via a robust clamping mechanism

### Standard Equipment

Touchscreen control panel, automatic quill feed, LED work lamp, coolant system, drill chuck, tool-holder bits, drill press vise, tapping unit, operating tools, operator manual



- Automatic feed
- Thread cutting unit
- Integrated coolant system

### Specifications

### KB 32 SFV Pro

Drilling capacity	in	1.26
Tapping capacity, steel		M24
Table set up area	in	13x13
Quill stroke	in	1
Spindle nose-to-foot distance	in	5
Spindle nose-to-table surface distance	in	32
Speed range	rpm	140 - 2,250
Spindle mount		MT 3
Quill feed	in/R	0.94 - 9.53
Motor rating main drive	Hp	2
Overall dimensions (length x width x height)	in	36x24x75
Weight	lbs	682
Part No.		170464



Touchscreen with comfortable selection of functions, like drilling, thread-cutting, and setup operations (SV and SFV)



KB 20 SV is shown



See this machine in action on YouTube 



KB 32 SFV is shown

- Modern design, high-quality cast-iron, and excellent workmanship combined with superior rigidity, function and appearance
- Heavy, precision-ground work table with diagonal T-slots
- Very smooth height adjustment of drill table, even under high loads
- Large base plate with ground setup area and parallel T-slots
- Forward and reverse, plus automatic reversal of direction for thread cutting
- Spindle shank and spindle are hardened and ground

- Robust belt drive and quiet, powerful motor
- Integrated LED work lamp is standard
- S-series models with digital speed indicator

#### V models:

- Infinitely variable speed adjustment via potentiometer
- Touchscreen with comfortable selection of functions, like drilling, thread-cutting, and setup operations
- The control unit allows querying of all limit switches and shows all functionalities, like coolant system, rpm and work lamp



(S and SV)



KB 20 S is shown



KB 32 SF is shown

#### Standard Equipment

LED work lamp, coolant system (KB 32), drill chuck, tool-holder bits, drill press vise, tapping unit, operating tools, operator manual

#### Options

for this machine, visit our website and search for KB 20 S or KB 32 SF (Product Search)



Universal machine base with storage room for the KB 20 S / KB 20 SV (Part No. 123952)

#### Specifications

		KB 20 SV	KB 20 S	KB 32 SF	KB 32 SFV
<b>Working Area</b>					
Drilling capacity	in	0.79	0.79	1.26	1.26
Tapping capacity (max.)		M 16	M 20	M 24	M 24
Table set up area	in	10x10	10x10	13x13	13x13
Spindle nose-to-table dist.	in	14	14	32	32
Spindle nose-to-foot distance	in	27	27	49	49
Throat	in	9	9	10	10
Column diameter	in	3	3	4	4
<b>Headstock</b>					
Speed range	rpm	205 - 2,045	(5) 320 - 1,820	(8) 320 - 1,820	(2) 140 - 2,250
Spindle mount		MT2	MT 2	MT 3	MT3
Quill stroke	in	5	5	6	6
<b>Drive Capacity</b>					
Motor rating	Hp/V	1.1	1.1	1.5	1.5
<b>Measures and Weights</b>					
Overall dimensions (length x width x height)	in	39.4x22x55.1	37x19.3x54.7	39.4x23.6x82.7	35.4x23.6x74.8
Weight	lbs	394	374	759	682
Part No.		170462	170460	170461	170463

# Sawing machines

**See for yourself live:** Many models are in stock or can be viewed and tried out at a user's location near you. Make a demonstration appointment! Email [info@knuth-usa.com](mailto:info@knuth-usa.com) or call #847-415-3333



## Experience our machines in action!

With our YouTube channel KnuthMachineToolsUSA, you stay up to date with all the news and developments.



### Fully automatic horizontal bandsaw **ABS**

Cutting capacity, round **11 - 24 in**

Economically reliable in series saws  
from page 160 onwards



### Horizontal bandsaw **HB**

Cutting capacity, round **6 - 40 in**

Wide range of reliable bandsaws  
in various designs

from page 178 onwards





### Horizontal bandsaw

#### SBS

Cutting capacity, round **9 - 14 in**

High cutting performance, compact design and quick-action angle adjustment

Page 184



### Workshop bandsaws

#### B

Cutting capacity, round **8 in**

The economic alternative to bow and circular saws

Page 186



### Cold circular saws

#### KKS

Cutting capacity, round **2 - 5 in**  
Saw blade diameter **10 - 14 in**

A classic for the workshop - robust and durable

Page 189



### Vertical bandsaw

#### VB

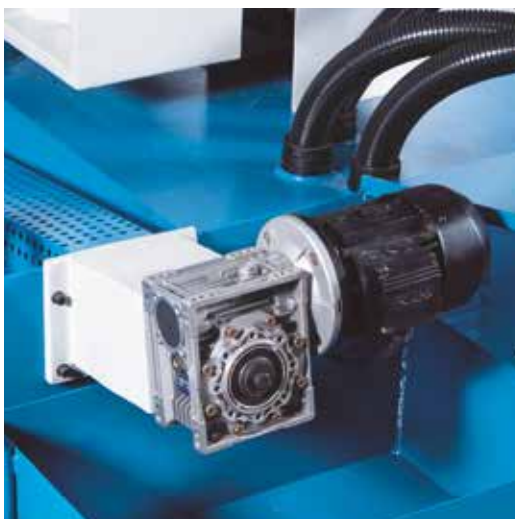
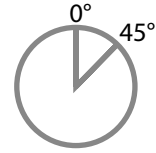
Cutting capacity **12 - 23 in**

Particularly sturdy design with integrated saw band welding device

Page 188

# ABS 600 TNC

Advanced technology for high cutting capacity and increased productivity



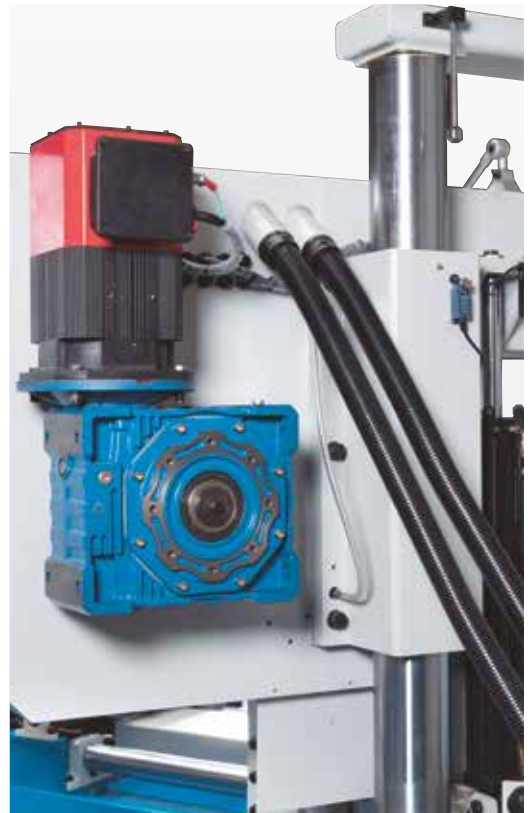
Spiral chip conveyor included in standard equipment

- PLC control
- Cut angle adjustment at 0°, 15°, 30° and 45°
- Large touchscreen display
- Fully automated workpiece feed

- For efficient severing cuts of large diameters this heavy machine provides NC-controlled material feeds
- The robust touchscreen is mounted to a rotating control panel for quick programming and safe handling of the machine
- The machine frame is a torsion-resistant dual-column construction that ensures superior stability and torsional strength



Manual saw frame angle adjustment with hydraulic drive (15°. 30° and 45°)



Infinitely variable high-torque servo-motor

- The hydraulically controlled saw frame feed can be infinitely adjusted as needed by the operator
- The hydraulically controlled vise positions the workpiece in the programmed position, while a second vise secures the workpiece precisely in front of the saw blade
- The linear measuring system is mounted at the feed system to ensure precise workpiece dimensions and exact repeatability
- An infinitely variable high-torque servo-motor allows adjustments based on cutting speed



Control panel with graphic touchscreen display

## Specifications

## ABS 600 TNC

### Cutting Capacities

Parameter	Unit	Value
Cutting speed	fpm	0 - 327
Feed per scale division X-axis	in	23.62
Cutting capacity 0° (round)	in	24
Cutting capacity 0° (square)	in	24
Cutting capacity 0° (flat)	in	33x24
Cutting capacity 45° (round)	in	16
Cutting capacity 45° (square)	in	16
Cutting capacity 45° (flat)	in	16x24

### Drive Capacity

Parameter	Unit	Value
Motor rating main drive	Hp	7.4
Motor rating hydraulic pump	Hp	2
Motor rating coolant pump	Hp	0.1

### Measures and Weights

Parameter	Unit	Value
Blade dimensions	in	263.19x2.13x0.06
Overall dimensions (length x width x height)	in	123x134x93
Weight	lbs	8,679
Part No.		152825

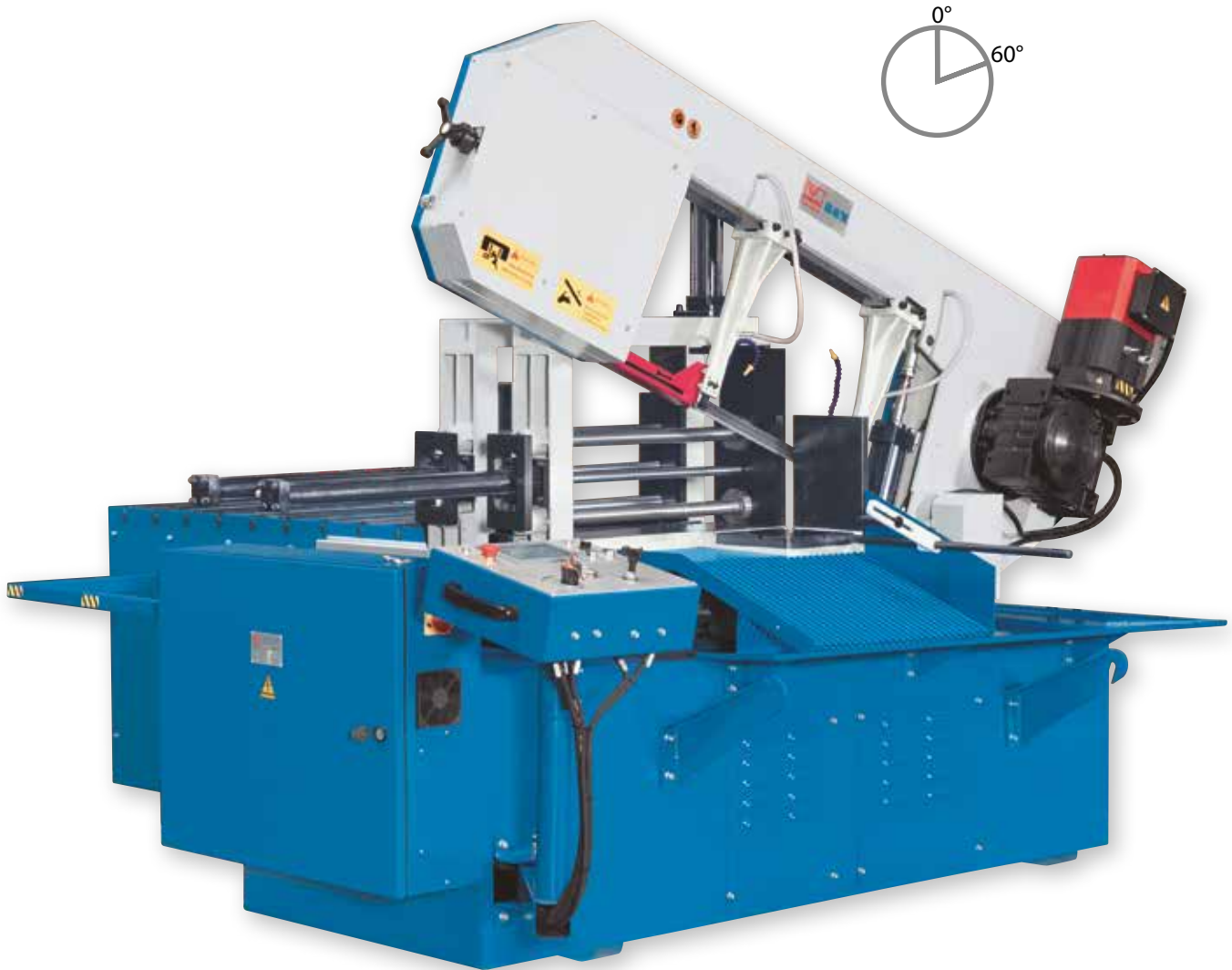
## Standard Equipment

PLC control, chip removal brush, hydraulic vise, bi-metallic band saw blade, touch screen monitor, work lamp, chip conveyor, coolant system, material support stand, operating tools, operator manual

## Options

## Part No.

• Bimetallic Bandsaw Blade for ABS 600 TNC (3/4 T)	119228
• Bimetallic Bandsaw Blade (4/6 T)	119229



- PLC control
- Cut angle adjustment at 0°, 30°, 45° and 60°
- Large touchscreen display
- Fully automated workpiece feed

- The saw frame can be moved hydraulically by the user for various cutting angles (0°, 30°, 45° and 60°)
- Robust touch screen control panel for easy programming of the cutting task
- Automatic workpiece feed features a precision linear measuring system
- Hydraulic saw frame feed, infinitely variable



Control panel swivels and features an intuitive layout



Dual hydraulic gantry vise ensures maximum stability, even during machining of bundles



Infinitely variable belt speed, servo motor driven

## Specifications

## ABS 460 TNC

### Cutting Capacities

Cutting speed	fpm	75.21 - 310.65
Feed per scale division X-axis	in	25.59
Working height	in	33
Cutting capacity 0° (round)	in	18
Cutting capacity 0° (square)	in	14
Cutting capacity 0° (flat)	in	26x14
Cutting capacity 30° (round)	in	18
Cutting capacity 30° (square)	in	14
Cutting capacity 30° (flat)	in	23x14
Cutting capacity 45° (round)	in	18
Cutting capacity 45° (square)	in	14
Cutting capacity 45° (flat)	in	18x14
Cutting capacity 60° (round)	in	12
Cutting capacity 60° (square)	in	12
Cutting capacity 60° (flat)	in	12x14

### Drive Capacity

Motor rating main drive	Hp	7.4
Motor rating hydraulic pump	Hp	2
Motor rating coolant pump	Hp	0.1

### Measures and Weights

Blade dimensions	in	205.51x1.61x0.05
Overall dimensions (length x width x height)	in	128x108x70
Weight	lbs	5,346
Part No.		152824

- Servo-motor drive provides infinitely variable saw blade cutting speeds and high torque across the entire speed range
- Band speed indicator on the display
- Precise and stable saw band guides ensure high angular accuracy

## Standard Equipment

NC Control, hydraulic vise, hydraulic feed vise, bi-metallic band saw blade, touch screen monitor, coolant system, chip removal brush, material support base with roller, operating tools, operator manual

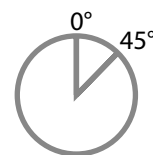
## Options

## Part No.

• Bimetallic Bandsaw Blade ABS 460 TNC (3/4 T)	119226
• Bimetallic Bandsaw Blade ABS 460 TNC (4/6 T)	119227



See this machine  
in action on  
YouTube



- **Siemens SIMATIC PLC**
- **Autom. cutting angle adjustment**
- **Large touchscreen display**
- **Fully automated workpiece feed**

- Cutting angle settings 0° - 45°
- Robust touch screen control panel
- Automatic workpiece feed
- Torsion-resistant dual-column construction
- Hydraulic saw frame feed via chrome-plated column guide
- Slightly inclined saw frame improves cutting performance and increases the service-life

- Dual hydraulic workpiece clamping
- Infinitely variable cutting speed
- Programmable automatic angle positioner can be set in 1° increments from 0° to 45°
- Precise and stable saw band guides ensure high angular accuracy
- Automatic band breakage control
- Infinitely variable saw blade speed with settings shown on the display



Both vises are designed as hydraulic bundle vises (standard equipment)



In Auto Mode, feed distance, cut angle, and number of cuts can be programmed within the respective configurations

## Standard Equipment

Siemens PLC control, autom. cleaning brush, feed roller table (6.5 feet), 1 saw blade, touch screen monitor, automatic parts counter, bundle vise, chip conveyor, coolant system, operating tools, operator manual

Options	Part No.
• E-ABS300NC spare parts package for 152880	259005
• 118 in roller table for ABS 300 NC	252714
• 79 in roller table for ABS 300 NC	251909
• Bi-Metallic Bandsaw Blade / ABS 300 NC (5/8 Z")	119212
• Bi-Metallic Bandsaw Blade / ABS 300 NC (4/6 Z")	119211
• Bi-Metallic Bandsaw Blade / ABS 300 NC (3/4 Z")	119210
• Coolant Concentrate 5 Ltr.	103184
• Bi-Metallic Band Saw Blade / ABS 400 L (3-4 Z/Z)	119246
• Bi-Metallic Band Saw Blade / ABS 400 L (4-6 Z/Z)	119247
• Bi-Metallic Band Saw Blade / ABS 400 L (5-8 Z/Z)	119248
• 79" roller table for ABS 400 NC	253365

For more information on band saw blades, please visit our website and look for ABS 300 NC and ABS 400 NC (Product Search)

## Specifications

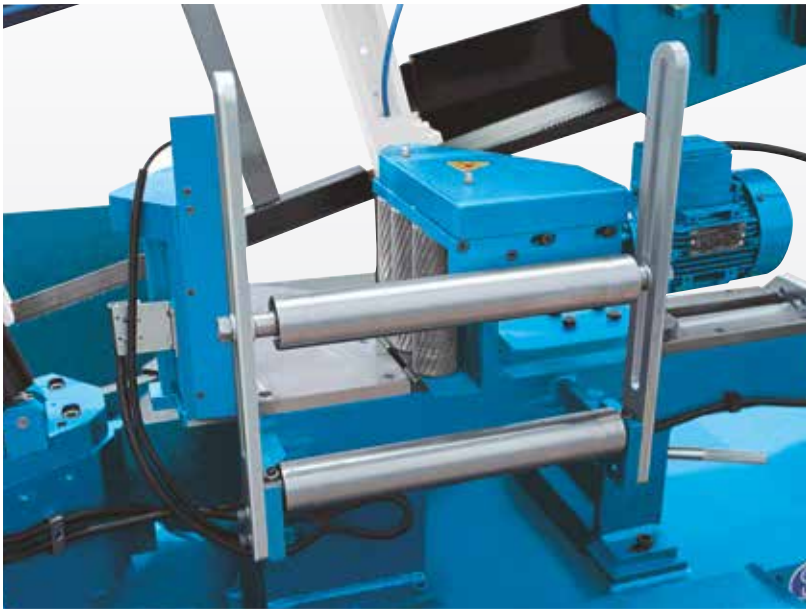
		ABS 300 NC	ABS 400 NC
<b>Cutting capacities</b>			
Feed per scale division X-axis	in	15.75	15.75
Cutting speed	ftm	66 - 295	66 - 262
Cutting capacity 0° - circular / square	in	12	16
Cutting capacity 0° (flat)	in	14x12	20x16
Cutting capacity 30° - circular / square	in	12	16
Cutting capacity 30° (flat)	in	12x12	16x16
Cutting capacity 45° - flat	in	9x12	14x16
Cutting capacity 45° - circular / square	in	9	14
<b>Drive Capacity</b>			
Motor rating main drive	Hp	4	5.4
Motor rating hydraulic pump	Hp	1	1
Motor rating coolant pump	Hp	0.1	0.1
<b>Measures and Weights</b>			
Belt dimensions	in	174.41x1.34x0.04	220.08x1.61x0.04
Overall dimensions (length x width x height)	in	86.6x78.7x66.9	94.5x90.6x78.7
Weight	lbs	4,180	6,380
Part No.		152880	152883



- Cutting angle adjustment 0° - 45°
- Hydraulic workpiece clamping
- Fully automated workpiece feed
- Touchscreen control panel

- The ABS 350 C is a fully automated horizontal miter band saw for series production of solid materials, tubes and profiles
- In the vise integrated rollers feed the material
- This efficient and cost-effective solution has a proven record, is very robust and provides precise cuts
- The saw frame features excellent stability and vibration-damping characteristics, and can be rotated manually up to 45°
- Very rigid adjustable carbide saw blade guide ensures high vertical angle accuracy





Workpiece bundles can also be processed



The touchscreen allows for easy and convenient programming for fully automated operation

- Saw blade stroke and workpiece clamping are hydraulically driven
- Saw blade feed via micro-adjustable hydraulic valve
- Switches and controls are conveniently arranged on a stand-alone control panel
- A motor with infinitely variable speeds transmits power via a continuous-operation idler gear to the blade drive wheel
- The correct saw blade tension can be checked at the pressure gauge display
- An automatic band breakage control, a high-performance coolant system, and an effective chip brush complement the standard equipment package
- An additional roller conveyor and a Minimal Quantity Lubrication (MQL) system are available as options

### Standard Equipment

automatic band break control, bundle vise, coolant system, hydraulic part clamping, operating tools, saw-band, chip wiper, feed roller table 47", operator instructions

### Specifications

### ABS 350 C

Cutting Capacities		
Cutting capacity 0° (round)	in	14
Cutting capacity 0° (flat)	in	16x14
Cutting capacity 0° (square)	in	14
Cutting capacity 30° (round)	in	13
Cutting capacity 30° (flat)	in	16x14
Cutting capacity 30° (square)	in	13
Cutting capacity 45° (round)	in	13
Cutting capacity 45° (flat)	in	11x12
Cutting capacity 45° (square)	in	11
Cutting speed	fpm	65.4 - 327
Drive Capacity		
Motor rating main drive	Hp	3
Motor rating hydraulic pump	Hp	0.5
Motor rating coolant pump	Hp	0.2
Motor rating feed	Hp	0.3
Measures and Weights		
Blade dimensions	in	163.78x1.34x0.04
Overall dimensions (length x width x height)	in	97x37x80
Weight	lbs	2,310
Part No.		152758

### Options

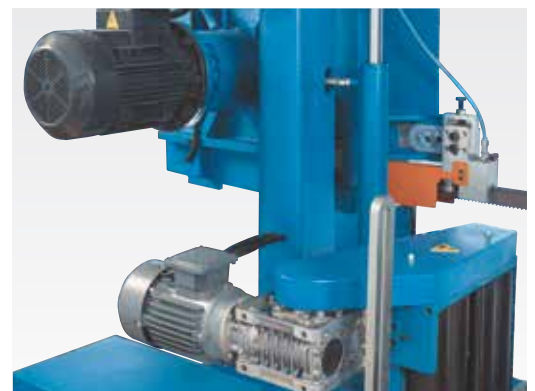
### Part No.

• 10 ft roller table for ABS 350 C	253853
• Minimum quantity cooling	253718
• Bi-Metallic Band Saw Blade 3/4 T/"	119950
• Bi-Metallic Band Saw Blade 4/6 T/"	119951
• Bi-Metallic Band Saw Blade 5/8 T/"	119952



ABS 460 L is shown

- Torsionally rigid machine frame made of a robust steel construction with high-quality linear guides
- Proven material feed system with hardened workpiece guide rollers and hydraulic workpiece clamping
- Shorter machining times are made possible by an advanced hydraulic saw frame feed design, including a new pressure control system to master any sawing tasks - infinitely variable setting of feed speed and cutting pressure
- All required settings are accessible and clearly labeled at the second control valve for easy adjustments
- Optical registration of the workpiece height allows empty runs in rapid feed mode for an optimum change-over to work feed and limiting of the vertical saw frame travel - everything is automated to reduce operator work load



Powerful saw blade/feed motors and heavy-duty gears can handle demanding applications and high loads with quiet operation and minimal space requirement.



Driven feedrate rolls stop automatically when the material



Solid feed roller table and material guide for workpiece bundles

### Standard Equipment

saw-band, parts counter, band break control, coolant system, hydraulic clamping, mechanical saw blade tensioning with hydraulic pressure gauge, feed roller table 47", linear stop, operator instructions

### Options

Options	Part No.
• 3 meter roller table for ABS 460 L	251873
• 3 meter roller table for ABS 380 L	251869
• 3 meter roller table for ABS 330 L	253849
• 3 meter roller table for ABS 560 L	251877

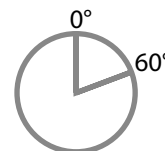
### Bi-Metallic Band Saw Blades

For model	Dimensions	Teeth/inch
<b>ABS 325 L</b>	164 x 1.3 x 0.04"	3/4, 4/6, 5/8
<b>ABS 380 L</b>	189 x 1.3 x 0.04"	3/4, 4/6, 5/8
<b>ABS 460 L</b>	205 x 1.6 x 0.05"	3/4, 4/6, 5/8
<b>ABS 560 L</b>	236 x 1.6 x 0.05"	3/4, 4/6, 5/8

For more information on band saw blades, please visit our website and look for ABS L (product search)

### Specifications

		ABS 330 L	ABS 380 L	ABS 460 L	ABS 560 L
<b>Cutting Capacities</b>					
Cutting capacity 0° (flat)	in	14x13	17x15	19x18	22x22
Cutting capacity 0° (round)	in	13	15	18	22
Cutting capacity 0° (square)	in	13	15	18	22
Cutting speed infinitely variable	fpm	65 - 327	65 - 327	65 - 327	65 - 327
Accuracy of the feeding	in	0.02	0.02	0.02	0.02
<b>Drive Capacity</b>					
Motor rating main drive	Hp	4	4	5.4	5.4
Motor rating hydraulic pump	Hp	0.7	0.7	0.7	1.5
Motor rating feed	Hp	0.3	0.3	0.3	0.7
<b>Measures and Weights</b>					
Overall dimensions (length x width x height)	in	109x36x67	115x38x66	123x40x71	138x42x81
Weight	lbs	3,080	2,750	3,300	4,620
Part No.		152763	152761	152766	152771

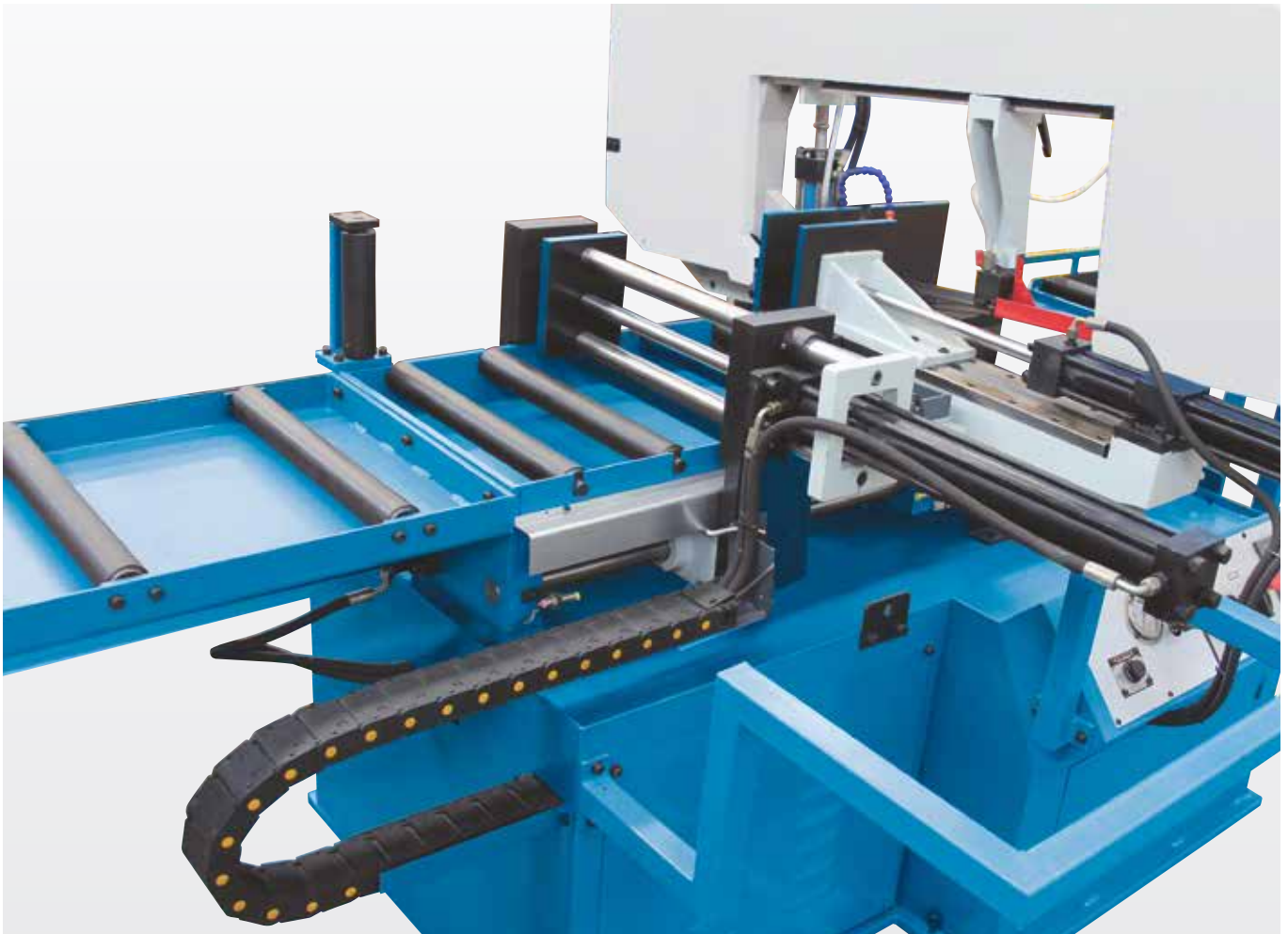


- PLC with graphic touchscreen display
- Manual cut angle adjustment from 0° - 60°
- Fully automated workpiece feed

- Automatic workpiece feed and cutting cycle can be programmed via PLC
- Programming is easy via a user-friendly graphic touchscreen interface
- Input can be in metric or imperial units
- 2-step drive motor for easy saw blade speed adjustments
- Rigid, adjustable saw blade guides can easily be adjusted for different workpiece diameters



PLC with graphic touchscreen



Feed and workpiece clamping via powerful hydraulic vises

## Specifications

## ABS 330 TNC

### Cutting Capacities

Parameter	Unit	Value
Cutting speed	fpm	131/262
Feed per scale division X-axis	in	19.69
Working height	in	33
Cutting capacity 0° (round)	in	13
Cutting capacity 0° (square)	in	10
Cutting capacity 0° (flat)	in	18x10
Cutting capacity 30° (round)	in	12
Cutting capacity 30° (square)	in	10
Cutting capacity 30° (flat)	in	15x10
Cutting capacity 45° (round)	in	12
Cutting capacity 45° (square)	in	10
Cutting capacity 45° (flat)	in	12x10
Cutting capacity 60° (round)	in	8
Cutting capacity 60° (square)	in	8
Cutting capacity 60° (flat)	in	8x10

### Drive Capacity

Parameter	Unit	Value
Main motor rating	Hp	2/3
Motor rating hydraulic pump	Hp	1
Motor rating coolant pump	Hp	0.1

### Measures and Weights

Parameter	Unit	Value
Blade dimensions	in	155.91x1.34x0.04
Overall dimensions (length x width x height)	in	255x89x56
Weight	lbs	3,344
Part No.		152820

- Safety during automatic operation is ensured by secure workspace enclosures
- Linear and transverse feed/discharge roller tracks are part of the standard equipment

## Standard Equipment

PLC control, chip removal brush, Feed roller table (118"), Hydraulic workpiece feed, bi-metallic band saw blade, touch screen monitor, coolant system, operating tools, operator manual

## Options

## Part No.

- |   |        |
|---|--------|
| • Bi-Metallic Bandsaw Blade for ABS 330 TNC (3/4 T) | 119230 |
| • Bi-Metallic Bandsaw Blade for ABS 330 TNC (4/6 T) | 119231 |
| • Bi-Metallic Bandsaw Blade for ABS 330 TNC (5/8 T) | 119232 |

Fully Automatic Band Saw

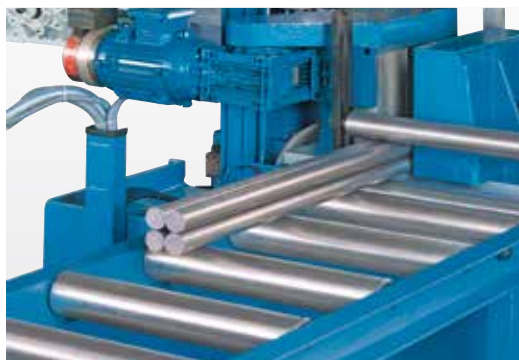
## ABS 320 B

Fully automated for continuous operation - proven reliability, convincing price and performance



### Cutting capacity

- **Circular:** 13 in Ø
- **Square:** 12 in
- **Rectangular:** 12.5 to 7.8 in



Bundle vise is provided for cutting entire material packs to length

- Saw frame and machine bed are made of premium cast-iron for torsion-free performance even under maximum loads
- New helical gears ensure above-average service life and low maintenance
- Saw frame feed and cutting speed are infinitely variable
- Reliable roller feed system with hydraulic workpiece clamping

### Options

Options	Part No.
• Coolant Concentrate 5 Ltr.	103184
• Bi-Metallic Bandsaw Blade ABS 320 BS (3/4 T")	119815
• Bi-Metallic Bandsaw Blade ABS 320 BS (5/8 T")	119816

### Specifications

		ABS 320 B
Cutting capacity - circular	in	13
Cutting capacity - square	in	12
Cutting capacity - rectangular	in	13x8
Cutting speed	fpm	65.4 - 327
Motor rating main drive	Hp	3
Blade dimensions	in	144.09x1.06x0.04
Weight	lbs	1,452
Part No.		152755

For more information on band saw blades, please visit our website and look for ABS 320 B (Product Search)

### Standard Equipment

automatic band break control, bundle vise, coolant system, operating tools, saw-band, chip wiper, feed roller table 47", operator instructions

# ABS 280 T

Fully automated dual-column band saw with bundle clamping fixture



- Hydraulic workpiece clamping,
- Fully automated workpiece feed



Automatic workpiece feed and traversing vise with manually adjustable stroke limit stop

- The machine frame is designed as torsion-proof dual-column construction to allow powerful, precise machining with minimal vibration
- The remove cabinet-mounted control panel is user-friendly and provides optimum visibility of the workpiece during machining
- A second non-traversing vise secures the positioned workpiece automatically at the cut line
- Feed and tensioning of the vises are hydraulically controlled

### Options

Options	Part No.
• Bimetallic Bandsaw Blade ABS/HB 280 T (3/4 T)	119233
• Bimetallic Bandsaw Blade ABS/HB 280 T (4/6 T)	119234
• Bimetallic Bandsaw Blade ABS/HB 280 T (5/8 T)	119235

### Specifications

		ABS 280 T
Cutting speed	fpm	89,148,226
Cutting capacity 0° (round)	in	11
Cutting capacity 0° (square)	in	11
Cutting capacity 0° (flat)	in	11x11
Motor rating main drive	Hp	4
Blade dimensions	in	137.99x1.06x0.04
Weight	lbs	2,222
Part No.		152828

### Standard Equipment

1 saw blade, bundle vise, coolant system, work lamp, material support block, operating tools, operator manual



- **Siemens SIMATIC PLC**
- **Fully automated workpiece feed**
- **Cut angle adjustments 0° - 60°**
- **Infinitely variable cutting speed**

- The ABS H NC is a fully automated horizontal band saw series with parallel guiding system, which is ideally suited for series productions with miter cuts in solid materials, tubes, and profiles
- The torsionally rigid guideway frame provides excellent stability and vibration-damping characteristics
- The combination of linear guides and box ways results in low maintenance, long tool life and extreme ruggedness under heavy production conditions
- The saw frame, including guide frame, can be rotated manually up to 60° and fixated in the selected position via a hydraulic clamping device
- The fully automated mode allows miter cut angles up to 45°, and the semi-automatic mode up to 60°.

- The exact miter cut angle can easily be read on a digital display
- A light 3° inclination of the saw frame on the cutting axis will increase cutting capacity and saw blade life
- Rigid high-precision carbide saw blade guides ensure high vertical angular accuracy
- The reliable hydraulic unit provides the drive power for the automatic workpiece feed, and also the controlled clamping force for workpiece clamping
- Hydraulically controlled saw frame micro-feed
- All switches and controls are conveniently arranged on a stand-alone control panel
- The reliable Siemens Simatic KP 400 PLC allows for easy and convenient programming for a fully automated operation





All switches and controls are clearly arranged on a separate control panel

- Unnecessary downtime is reduced by an optically controlled change-over from rapid feed to work feed
- A motor with infinitely variable speeds transmits power via a continuous-operation idler gear to the machine drive wheel
- The correct saw blade tension can be read and checked directly and the pressure gauge display
- An automatic band breakage control, a high-performance coolant system, and a chip brush complement the standard equipment package
- Available options for this series include Minimal Quantity Lubrication (MQL) and hydraulic bundle clamping

## Standard Equipment

Siemens Simatic KP 400 SPS-control, automatic workpiece feed (hydraulic), hydraulic part clamping, hydraulic clamping of cutting angle, digital angle display, optical height adjustment, saw-band, mechanical saw blade tensioning with hydraulic pressure gauge, saw blade cleaner brush, coolant system, operating tools, operator manual

## Options

## Part No.

• 10 ft roller table for ABS S 360/440 NC / ABS H 360/440 NC	253825
• 10 ft roller table for ABS S 325 NC / ABS H 325 NC	253752
• 10 ft roller table for ABS S 540 NC / ABS H 540 NC	253826
• Bi-Metallic Bandsaw Blade ABS450B/HB450/HB560/ABS560C (3/4 T)	119810
• Bi-Metallic Bandsaw Blade ABS450B/HB450/HB560/ABS560C (4/6 T)	119811

For more information on band saw blades, please visit our website and look for ABS H NC (Product Search)

## Specifications ABS H NC

## 325

## 360

## 440

## 540

### Cutting Capacities

Feed per scale division X-axis	in	19.69	19.69	19.69	19.69
Cutting speed	fpm	65.4 - 327	65.4 - 327	65.4 - 327	65.4 - 327
Cutting capacity 0° (round)	in	13	14	18	21
Cutting capacity 0° (flat)	in	16x12	24x14	24x17	26x21
Cutting capacity 0° (square)	in	12	14	17	21
Cutting capacity 30° (round)	in	13	14	18	21
Cutting capacity 30° (flat)	in	15x12	23x14	22x17	26x21
Cutting capacity 30° (square)	in	12	14	17	21
Cutting capacity 45° (round)	in	12	14	17	20
Cutting capacity 45° (flat)	in	12x12	18x14	17x17	18x21
Cutting capacity 45° (square)	in	12	14	17	18

### Cutting capacity in semi-automatic mode

Cutting capacity 60° (round)	in	8	13	13	11
Cutting capacity 60° (flat)	in	8x12	11x14	10x17	10x21
Cutting capacity 60° (square)	in	8	11	11	10

### Drive Capacity

Motor rating main drive	Hp	3	4	5.4	5.4
Motor rating hydraulic pump	Hp	2	2	3	1.5
Motor rating coolant pump	Hp	0.2	0.2	0.2	0.2

### Measures and Weights

Blade dimensions	in	172x1.34x0.04	205x1.34x0.04	213x1.61x0.05	236x1.61x0.05
Overall dimensions (length x width x height)	in	84x85x65	113x83x72	113x83x77	123x93x85
Weight	lbs	4,092	5,280	5,456	8,470
Part No.		152833	152834	152835	152836

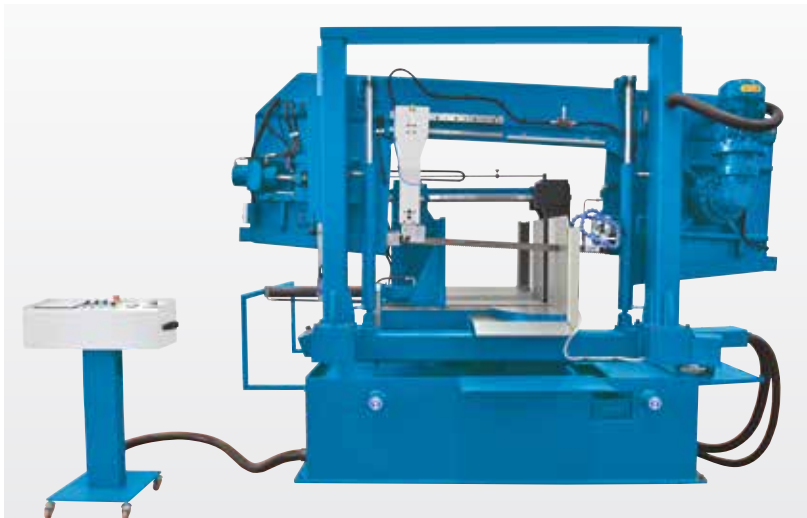


ABS 540 S NC - shown with option

- **Omron control with touchscreen**
- **Workpiece feed with preloaded ball screws and servo motor**
- **Cut angle adjustments 0° - 60°**
- **Infinitely adjustable cutting speed**

- The ABS S NC is a fully automated horizontal band saw series with parallel guiding system, which is ideally suited for series production with miter cuts in solid materials, tubes, and profiles
- The workpiece feed with servo motor drive and preloaded ball screws deliver maximum precision
- The combination of linear guides and box ways result in low maintenance, long tool life and extreme ruggedness under heavy production conditions
- The saw frame, including guide frame, can be rotated manually up to 60° and fixed in the selected position via a hydraulic clamping device
- The fully automated mode allows miter cut angles up to 45°, and the semi-automatic mode up to 60°

- The exact saw frame angle can easily be checked by the operator on a digital display
- A slight 3° inclination of the saw frame on the cutting axis will increase cutting capacity and saw blade life
- Rigid saw blade guides ensure vertical angular accuracy
- the reliable hydraulic unit provides the controlled clamping force for workpiece clamping
- Hydraulically controlled saw frame micro-feed
- The reliable Omron control with touchscreen allows for easy and convenient programming for a fully automated operation
- Unnecessary downtime is reduced by an optically controlled change-over from rapid feed to work feed
- A motor with infinitely variable speeds transmits power via a continuous-operation idler gear to the machine drive wheel
- The correct saw blade tension can be verified directly at the pressure gauge display



The torsionally rigid guideway frame provides excellent stability and vibration-damping characteristics

- An automatic band breakage control, a high-performance coolant system, and a chip brush complement the standard equipment package
- Available options for this series include Minimal Quantity Lubrication (MQL) and hydraulic bundle clamping

### Standard Equipment

Automatic workpiece feed (servo), Pronest Nesting Software, hydraulic part clamping, hydraulic clamping of cutting angle, digital angle display, optical height adjustment, saw-band, mechanical saw blade tensioning with hydraulic pressure gauge, saw blade cleaner brush, coolant system, operating tools, operator manual



All switches and controls are conveniently arranged on a stand-alone control panel

Options	Part No.
• 10 ft roller table for ABS S 360/440 NC / ABS H 360/440 NC	253825
• 10 ft roller table for ABS S 325 NC / ABS H 325 NC	253752
• 10 ft roller table for ABS S 540 NC / ABS H 540 NC	253826
• Hydraulic bundle clamping	253717
• Clamping force controlled at operator panel	253808
• Saw blade progress monitor	253809

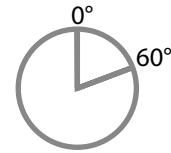
For additional options for this machine, visit our website.

Specifications ABS S NC		325	360	440	540
<b>Cutting Capacities</b>					
Feed per scale division X-axis	in	27.56	27.56	27.56	27.56
Cutting speed	fpm	65.4 - 327	65.4 - 327	65.4 - 327	65.4 - 327
Cutting capacity 0° (round)	in	13	14	18	21
Cutting capacity 0° (flat)	in	16x12	24x14	24x17	26x21
Cutting capacity 0° (square)	in	12	14	17	21
Cutting capacity 30° (round)	in	13	14	18	21
Cutting capacity 30° (flat)	in	15x12	23x14	22x17	26x21
Cutting capacity 30° (square)	in	12	14	17	21
Cutting capacity 45° (round)	in	12	14	17	20
Cutting capacity 45° (flat)	in	12x12	18x14	17x17	18x21
Cutting capacity 45° (square)	in	12	14	17	18
<b>Cutting capacity in semi-automatic mode</b>					
Cutting capacity 60° (round)	in	8	13	13	11
Cutting capacity 60° (flat)	in	8x12	11x14	10x17	10x21
Cutting capacity 60° (square)	in	8	11	11	10
<b>Drive Capacity</b>					
Motor rating main drive	Hp	3	4	5.4	5.4
Motor rating hydraulic pump	Hp	1.5	1.5	1.5	3
Motor rating coolant pump	Hp	0.2	0.2	0.2	0.2
<b>Measures and Weights</b>					
Blade dimensions	in	172.44x1.34x0.04	204.72x1.34x0.04	212.6x1.61x0.05	236.22x1.61x0.05
Overall dimensions (length x width x height)	in	84x85x65	113x89x74	113x93x79	119x96x89
Weight	lbs	4,092	5,280	5,456	9,218
Part No.		152840	152841	152842	152843

- Saw frame swivels allowing universal angle setting - no need to rotate the work piece!
- Including feed roller table, 47" long
- automatic lifting of the bandsaw with switching device for variable workpiece sizes



HB 320 BS with swiveling sawframe (60°) and feed roller table



The cutting angle is precisely adjustable and can be easily read

### Options

Options	Part No.
• 3 meter roller table for HB 320 BS	251893
• 3 m Feed Roller Table with linear stop and digital display for HB 320 BS	257413
• 6m Feed Roller Table with linear stop and digital display for HB 320 BS	257414
• Saw Blade / HB 320 BS (6/10 T")	119803
• Bi-Metallic Band Saw Blade 3/4 T"	119950
• hydraulic top clamping for HB 320 BS	251891
• Micro cooling system for HB 320 BS	251892

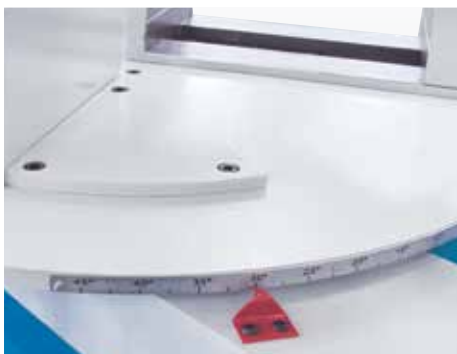
For more information on saw blades, visit our website

### Specifications

	HB 320 BS
Cutting capacity 0° (round)	in 13
Cutting capacity 0° (square)	in 13
Cutting capacity 0° (flat)	in 24x13
Cutting capacity 45° (round)	in 13
Cutting capacity 45° (square)	in 13
Cutting capacity 45° (flat)	in 14x13
Cutting capacity 60° (round)	in 260
Cutting capacity 60° (square)	in 225
Cutting capacity 60° (flat)	in 280x200
Cutting speed infinitely variable	fpm 65 - 327
Motor rating main drive	Hp 3
Blade dimensions	in 163.78x1.34x0.04
Weight	lbs 2,200
Part No.	152798

### Standard Equipment

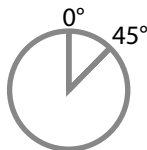
part clamping, coolant system, linear stop, feed roller table 47", roller table, operator manual



Precise positioning of the saw blade at any desired angle from 0° to 45°, using an easy-to-read scale.



Rotating saw frame with dual-column guide



- Cutting angle adjustment 0° - 45°
- Hydraulic workpiece clamping

- The machine frame is designed as a torsion-resistant dual-column construction for maximum stability and accuracy
- A user-friendly control panel with intuitive user controls is integrated into the control cabinet
- Hydraulically controlled saw blade feed allows exact feed adjustments
- At the end of each sawing cycle, the saw blade frame will return to the home position

### Options

Options	Part No.
• Bi-Metallic Bandsaw Blade (3/4 T)	119236
• Bi-Metallic Bandsaw Blade (4/6 T)	119237
• Bi-Metallic Bandsaw Blade (5/8 T)	119238

### Specifications

		HB 280 TG
Cutting speed	fpm	1063,1772,2717
Cutting capacity 0° (round)	in	11
Cutting capacity 0° (square)	in	11
Cutting capacity 0° (flat)	in	13x11
Cutting capacity 30° (round)	in	10
Cutting capacity 30° (square)	in	10
Cutting capacity 30° (flat)	in	10x11
Cutting capacity 45° - round	in	7
Cutting capacity 45° - square	in	7
Cutting capacity 45° - flat	in	7x11
Motor rating main drive	Hp	4
Blade dimensions	in	142.72x0.04x1.06
Weight	lbs	1,804
Part No.		152827

### Standard Equipment

bimetallic band saw blade, hydraulic vise, work lamp, coolant system, material support base with roller, operating tools, operator manual



**With linear guide technology!**

- Torsion-proof steel construction with dual-column guide – rigid and vibration absorbing
- The saw frame features a mono-frame design for travel across large linear guides
- Advanced hydraulic saw frame feed with new pressure regulating system (PAS) allows optimum adjustment for every sawing task: infinitely variable feed speed and cutting power control provide a wide spectrum of machining possibilities with just one saw blade type
- Hydraulic saw blade tensioning (HB 810 L and 1020 L)
- You can find an optional roller conveyor on our website

### Standard Equipment

feed roller table 1 m, bimetallic band saw blade, hydraulic part clamping, hydraulic workpiece clamping (HB 810 L / 1020 L), input / output rollers, automatic stroke height adjustment, automatic stroke height adjustment, coolant system, infinitely variable cutting speed, operator instructions

### Specifications

		HB 380 L	HB 460 L	HB 560 L	HB 810 L	HB 1020 L
Cutting capacity 0° (round)	in	15	18	22	32	40
Cutting capacity 0° (square)	in	15	18	22	32	40
Cutting capacity 0° (flat)	in	20x15	26x18	30x22	32x33	40x40
Cutting capacity 45° (round)	in	12	15	16	32	27
Cutting capacity 45° (square)	in	12	15	16	32	27
Cutting capacity 45° (flat)	in	12x15	15x18	16x22	19x33	27x40
Cutting speed	fpm	65.4 - 327	65.4 - 327	65.4 - 327	65.4 - 327	65.4 - 327
Motor rating main drive	Hp	4	5.4	5.4	5.4	10.1
Blade dimensions	in	188.98x1.34x0.04	204.72x1.61x0.05	236.22x1.61x0.05	322.83x1.61x0.05	374.02x2.13x0.06
Weight	lbs	2,530	3,102	3,850	5,060	12,892
Part No.		152802	152806	152811	152816	152808

# HB 300 PLC

Band saw with touchscreen and hydraulic workpiece clamping



- Large touchscreen display
- Hydraulic workpiece clamping



Roller support for easy material advancement

- Rigid saw frame and rugged column guide ensure high precision and angular accuracy
- User-friendly control panel with rugged touchscreen
- Hydraulically controlled saw frame feed via generously spaced column guide
- Hydraulic vise ensures secure hold during cutting cycle

### Options

	Part No.
• Bimetallic Bandsaw Blade for HB 300 PLC (3/4 T)	119223
• Bimetallic Bandsaw Blade for HB 300 PLC (4/6 T)	119224
• Bimetallic Bandsaw Blade for HB 300 PLC (5/8 T)	119225

### Specifications

		HB 300 PLC
Cutting speed	fpm	98, 164, 246, 295
Cutting capacity 0° (round)	in	12
Cutting capacity 0° (square)	in	12
Cutting capacity 0° (flat)	in	20x12
Motor rating main drive	Hp	4
Blade dimensions	in	164.57x1.34x0.04
Weight	lbs	2,387
Part No.		152823

### Standard Equipment

bimetallic band saw blade, touch screen monitor, hydraulic vise, coolant system, work lamp, material support base with roller, operating tools, operator manual



Material support base, only for HB 280 T

- The torsion-resistant dual-column construction and rigid, heavy cast-iron frame ensure minimal vibration
- Hydraulically controlled saw frame feed
- At the end of the cutting cycle, the machine automatically shuts off and the saw blade returns to its adjustable home position
- Coolant system and material support base are part of the standard equipment



HB 280 T is shown

• Hydraulic workpiece clamping,  
• Dual-column construction

### Standard Equipment

bimetallic band saw blade, Support block (HB 280 T), support rollers (HB 400 T), coolant system, work lamp, operating tools, operator manual

Options	Part No.
• Bimetallic Bandsaw Blade HB 400 T (3/4 T)	119239
• Bimetallic Bandsaw Blade HB 400 T (4/6 T)	119240

For more information on saw blades, visit our website

### Specifications

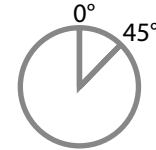
		HB 280 T	HB 400 T
Cutting speed	fpm	27, 45, 69	36, 56
Cutting capacity 0° (round)	in	11	16
Cutting capacity 0° (square)	in	11	16
Cutting capacity 0° (flat)	in	11x11	16x16
Main motor rating	Hp	4	4/6
Blade dimensions	in	137.99x1.06x0.04	196.85x1.61x0.05
Weight	lbs	1,529	2,915
Part No.		152826	152821



# HB 280 B

Highly reliable Horizontal Band Saws with easy miter adjustment

- Infinitely variable hydraulic saw advance ensures optimum cutting results and minimized tool wear
- Automatic shut-off upon completion of saw process
- Band break sensor activates automatic shut-off upon band break



Easily accessible cooling tank with large chip protection screen

### Standard Equipment

part clamping, coolant system, linear stop, roller table, operator manual

### Options

	Part No.
• 3 meter roller table for HB 280 B	251881
• 3 m Feed Roller Table with linear stop and digital display for HB 280 B	257411
• 6m Feed Roller Table with linear stop and digital display for HB 280 B	257412
• Saw Blade / HB/ABS 280 B (6 T/')	109350
• Saw Blade / HB/ABS 280 B (10 T/')	109352
• Saw Blade / HB/ABS 280 B (14 T/')	109354

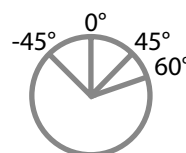
### Specifications

		HB 280 B
Cutting capacity 0° (round)	in	11
Cutting capacity 0° (square)	in	11
Cutting capacity 0° (flat)	in	14x8
Cutting capacity 45° (round)	in	9
Cutting capacity 45° (square)	in	8
Cutting capacity 45° (flat)	in	9x7
Cutting speed infinitely variable	fpm	65 - 327
Motor rating main drive	Hp	2
Blade dimensions	in	133.86x1.06x0.04
Weight	lbs	1,166
Part No.		152797

For more information on saw blades, visit our website



SBS 255 is shown




SBS 355 is shown


### SBS 235 / 255

- 2 saw blade speeds, selectable at the drive motor
- Mechanical quick-action clamping allows for quick release and fixation of workpieces via hand-lever; ideal for small batches
- The SBS 255 features a round setup table, which pivots in synchrony with the saw frame

### Standard Equipment

1 saw blade, coolant system, base, pressure gauge for saw blade tension, hydraulic cylinder for saw frame, inverter for infinitely variable saw blade speed (SBS 355), hydraulic workpiece clamping (SBS 355), operator instructions



**See this machine in action on YouTube** 

### Options

	Part No.
• Bi-Metal Bandsaw blade (3/0.1 T/")	119155
• Bi-Metal Bandsaw blade (4/0.2 T/")	119156
• Bi-Metal Bandsaw blade (5/0.3 T/")	119157

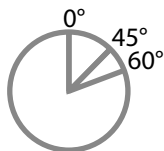
For more information on saw blades, visit our website

### SBS 355

- Hydraulic quick-action clamping fixture with proven performance in series production ensures constant tension to the last cut
- Infinitely variable saw blade speed for optimum machining of a wide range of materials and profiles
- Easy handling - at the end of the cut, the integrated hydraulics lift the saw frame to the home position

### Specifications

		SBS 235	SBS 255	SBS 355
Cutting capacity 0° (round)	in	9	10	14
Cutting capacity 0° (flat)	in	6x10	12x9	12x21
Cutting capacity 45° (flat) L	in	6x7	6x6	11x11
Cutting capacity 45° (flat) R	in	5x5	8x9	11x14
Cutting capacity 60° R (flat)	in	4x5	5x6	7x9
Cutting speed	fpm	148 / 295	147 / 295	66 / 262 (infinitely variable)
Motor rating main drive	Hp	1.5	2	3
Weight	lbs	649	836	1,771
Part No.		152778	152786	152788



HB 210 A



HB 150



HB 250 A

Specifications HB		150	210 A	250 A
<b>Cutting Capacities</b>				
Cutting capacity 0° (round)	in	6	7	9
Cutting capacity 0° (flat)	in	5x8	6x8	10x7
Cutting capacity 45° (flat)	in	4x5	4x5	8x6
Cutting capacity 45° (round)	in	5	5	6
Belt speed	fpm	131 / 262	131 / 262	131 / 295
Cutting capacity 60° round	in	-	-	4
<b>Drive Capacity</b>				
Main motor rating	Hp	0.8 / 1.1	1	1,48
<b>Measures and Weights</b>				
Overall dimensions	in	46x28x32	52x23x35	54x23x36
Weight	lbs	298	334	407
Part No.		152822	152850	152796

- Cast-iron saw frame, one-piece construction
- For miter cuts, the operator moves the saw frame - not the material
- Hydraulic cylinder provides for infinitely variable support pressure and saw frame feed (HB 210 A / HB 250 A)
- Vise with quick-action clamping feature

### Standard Equipment

1 saw blade, coolant system, base, quick-action vise, hydraulic cylinder for saw frame (HB 210 A / HB 250 A), operator manual

### Bimetallic saw blades

for model	Dimensions in mm	Teeth/inch
<b>HB 150</b>	81 x 0.8 x 0.04	4/6, 5/8
<b>HB 210 A</b>	81 x 0.8 x 0.04	5/8, 10/14
<b>HB 250 A</b>	98 x 1 x 0.04	5/8, 8/12

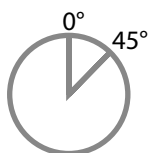
For more information on band saw blades, please visit our website and look for HB 150, HB 210 A or HB 250 A (Product Search)



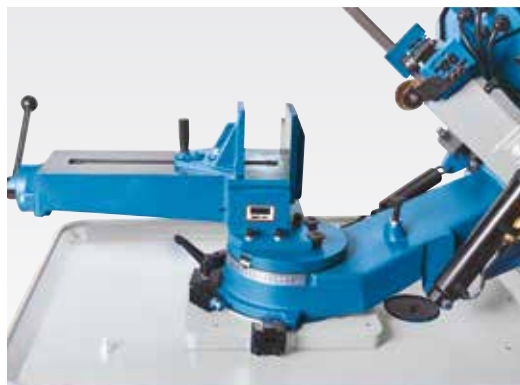
Miter Band Saw

## B 200 S

An economic alternative to frame and circular saws



- Saw frame swivels - allowing angular cuts to 45°
- Coolant system is included
- Thin saw blade for reduced material removal
- Exact cuts - rigid construction prevents belt track deviations
- Quiet, low-vibration operation
- A hydraulic cylinder controls the support pressure infinitely from 0 to maximum pressure



Minimum downtime: allows precise adjustment of angular stops, including quick-action clamps at the vise

### Options

### Part No.

- |  |        |
|--|--------|
| • Bi-Metallic Bandsaw Blade (4/6 T")   | 119150 |
| • Bi-Metallic Bandsaw Blade (5/8 T")   | 119774 |
| • Bi-Metallic Bandsaw Blade (10/14 T") | 119775 |

For more information on band saw blades, please visit our website and look for B 200 S (Product Search)

### Specifications

### B 200 S

#### Cutting Capacities

Cutting capacity 0° (round)	in	8
Cutting capacity 0° (square)	in	8
Cutting capacity 0° (flat)	in	8x8
Cutting capacity 45° (square) L	in	5
Cutting capacity 45° (round) L	in	5
Cutting capacity 45° (flat) L	in	8x5
Belt speed	fpm	79 / 135 / 200 / 269

#### Drive Capacity

Motor rating main drive	Hp	1.5
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#### Measures and Weights

Blade dimensions	in	92.91x0.79x0.04
Overall dimensions (length x width x height)	in	49x26x52
Weight	lbs	418
Part No.		102752

### Standard Equipment

coolant system, quick-action vise, mobile base, saw-band, operator instructions

# Roller Conveyor

Accessories for band saws series HB-A / SBS



- Steel frame made of U-profiles, bolted cross travels
- Steel support rollers with bearings for smooth movement
- The U-profile is designed to ensure friction-free, smooth material flow, even with lateral projections
- Material discharge roller track with adjustable linear stop
- Sturdy supports with wide adjustment range
- Mounting plate, standard



Easy to read scales for exact cut length settings

Specifications		Infeed 3 ft	Outfeed 3 ft	Infeed 6 ft	Outfeed 6 ft	Infeed 9 ft	Outfeed 9 ft
<b>Working Area</b>							
Roller width	in	14.18	14.18	14.18	14.18	14.18	14.18
Distance between rollers	in	11.82	11.82	11.03	11.03	10.44	10.44
Max. load capacity	lbs	1,320	1,320	2,640	2,640	3,960	3,960
Number of supports	positions	4	4	4	4	6	6
Adjustable height	in	24.41 - 40.56	24.41 - 40.56	24.41 - 40.56	24.41 - 40.56	24.41 - 40.56	24.41 - 40.56
<b>Measures and Weights</b>							
Overall dimensions (length x width x height)	in	39.4x17.7 x40.6	51.2x18.3 x40.6	78.7x17.7 x40.6	90.6x18.3 x40.6	118.1x17.7 x40.6	129.9x18.3 x40.6
Weight	lbs	88	95	121	132	154	167
Part No.		170360	170363	170361	170364	170362	170365



VB 300A

- The machine frame features a torsionally rigid steel construction for a robust and sturdy design
- Functional and practical design, plus easy handling are common features of this entire series
- The support table swivels to the right and left for angled cuts
- The saw blade speed is controlled electronically and shown on a large digital display

### Specifications

		VB 300 A	VB 400 A	VB 500 A	VB 585 A
Table dimensions	in	20x16x35	24x22x38	28x26x39	28x26x39
Table with angle adjustment (l/r)	deg	15/45	15/45	15/30	15/30
Cutting capacity height x throat	in	7x12	11x16	12x20	13x23
Cutting speed	fpm	0 - 621.3	0 - 840.39	0 - 1,075.83	0 - 1,111.8
Motor rating main drive	Hp	0.7	2	2	2
Overall dimensions (length x width x height)	in	36x33x63	42x37x72	50x41x78	53x42x84
Weight	lbs	605	693	902	1,221
Part No.		102640	102641	102642	102643



The particularly stable guidance of the deflection wheel guarantees its permanent precise alignment and thus increases the cutting performance and service life of the band saw blades

### Standard Equipment

saw blade welder assembly, saw blade shears, work lamp, saw-band, coolant system, adjustable table stop, operator instructions

### Options

### Part No.

• Saw blade VB 585 A (10 T")	119706
• Saw blade VB 585 A (14 T")	119707
• Saw blade VB 585 A (24 T")	119708

For more information on saw blades, visit our website



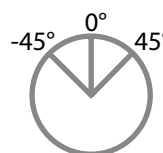
Circular Cold Saw

**KKS T 250 • 275 • 315 • 350**

Proven classic model for workshops- rugged and lasting

- Easy operation, rugged design, and precise angular cuts make this circular cold saw a "must-have" basic for any workshop
- The models KKS 250 and 275 T provide a rigid vise with quick-action clamping feature and are ideal for small batch productions
- KKS 315 T / KKS 350 T feature a self-centering dual vise that hold the workpiece firmly on both sides of the saw blade
- The miter can be adjusted up to +/- 45 degrees by rotating the gear head
- All models have high-torque motors, and the KKS 315 and 350 T also have reversible poles and 2 speeds
- An integrated coolant system is part of the standard equipment

KKS 315 T is shown



Dual vise (KKS 315 / 350 T)

**Standard Equipment**

Self-centering vise (KKS 315 / 350 T), quick-action vise (KKS 250 / 275 T), base, coolant system, 1 saw blade, linear stop

**Options**

**Part No.**

• Circular Saw Blade / KKS 250 (pitch 6)	109802
• Circular Saw Blade / KKS 315 (pitch 6)	109808
• Circular Saw Blade / KKS 350 (pitch 5)	109809
• Circular Saw Blade / KKS 275 (pitch 6)	109810

**Specifications**

		KKS 250 T	KKS 275 T	KKS 315 T	KKS 350 T
<b>Working Area</b>					
Max. saw blade diameter	in	10	11	12	14
Shaft diameter	in	1.3	1.3	1.6	1.3
Speed	rpm	42	42	18/36	18/36
Width of vise	in	4	4	6	6
Working height	in	38	38	38	38
<b>Cutting capacities</b>					
Cutting capacity 0° round	in	2	3	4	5
Cutting capacity 0° - square	in	2	3	4	4
Cutting capacity 0° - flat	in	3x2	4x2	6x4	6x4
Cutting capacity 45° (round) L	in	2	3	4	4
Cutting capacity 45° (square) L	in	2	2	4	4
Cutting capacity 45° (flat) L	in	2x2	3x2	4x4	4x4
Cutting capacity 45° (round) R	in	2	3	4	4
Cutting capacity 45° (square) R	in	2	2	4	4
Cutting capacity 45° (flat) R	in	2x2	3x2	4x4	4x4
<b>Drive Capacity</b>					
Main motor rating	Hp	1,1	1,1	0,75 / 1,3	1 / 1,7
Supply voltage		400	400	400	400
<b>Measures and Weights</b>					
Overall dimensions (length x width x height)	in	36.2x18.9x67.3	36.2x18.9x70.1	36.2x22x70.1	38.2x22x72
Weight	lbs	315	326	499	519
Part No.		102119	102118	102120	102121

# Grinding machines

**See for yourself live:** Many models are in stock or can be viewed and tried out at a user's location near you. Make a demonstration appointment! Email [info@knuth-usa.com](mailto:info@knuth-usa.com) or call #847-415-3333



## Experience our machines in action!

With our YouTube channel KnuthMachineToolsUSA, you stay up to date with all the news and developments.



Conventional circular grinding machine

### RSM C

Grinding length **30 - 79 in**  
Grinding disc dimension **16 - 20 in**

External and internal grinding with automatic infeed

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Conventional circular grinding machine

### RSM A

Grinding length **20 - 31 in**  
Grinding disc dimensions **16 x 2 x 8 in**

For external and internal grinding of cylindrical and conical workpieces

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Circular and tool grinding machine

### Multi-Grind - Universal grinding machine

Grinding length **20 in**  
Grinding disc dimensions **8 x 0.8 x 3 in**

Ideal for tool and mold design, mechanical manufacturing, development, laboratory and training

Page 204 / 205







NC flat grinding machine

### HFS NC

Grinding length **20 - 67 in**  
Grinding disc dimension **10 - 16 in**

Automatic and semi-automatic grinding with dressing cycle

Page 198 / 199

NC flat grinding machine

### HFS F NC

Grinding length **39 - 118 in**  
Grinding disc dimension **14 - 20 in**

Easily programmable grinding precision for large and heavy workpieces

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NC flat grinding machine

### HFS F Advance

Grinding length **22 - 45 in**  
Grinding disc dimension **8 - 14 in**

Compact series with NC control

Page 200 / 201



Manual flat grinding machine

### FSM 480

Grinding length **19 in**  
Grinding disc dimensions **8 x 0.5 x 1.3 in**

Compact manual workshop flat grinding machine

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## Grinding devices and edge millers

Stylus grinding machines, edge milling devices, bench grinders and belt-disc grinders

from page 206 onwards



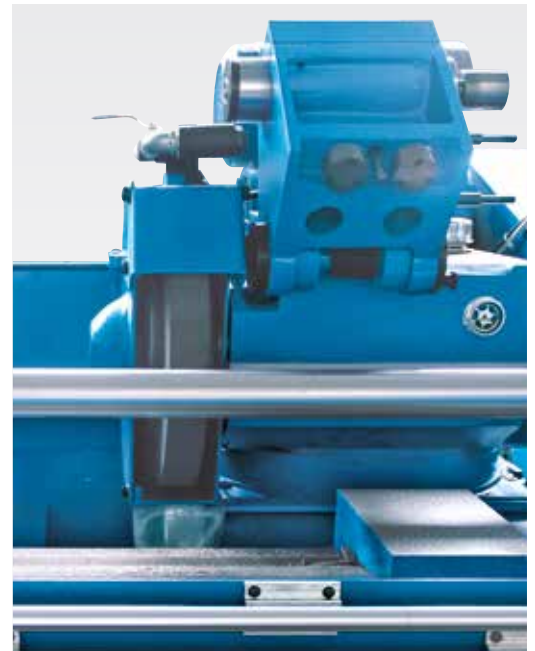


See this machine  
in action on  
YouTube 



RSM 1000 C incl. position indicator is shown

- Extra heavy, wide machine bed with heavy ribbing and one-piece mono-block construction
- Induction-hardened and ground guide slots ensure long-term accuracy and minimum wear
- Massive headstock with high-precision main spindle on a tapered roller bearing with 4 inch spindle bore for excellent stability under heavy loads
- Very quiet operation at maximum spindle speed
- Large gears, hardened and ground
- Joystick control for X and Z feeds is mounted directly to support
- Manually shifted 4-step gearbox with high-quality frequency control combined with a powerful main spindle motor with up to 10 Hp power allow exact tuning of rpm and high torque to provide maximum power even under heaviest loads
- For quick positioning and reduced down-time, the support is equipped with a rapid feed on X and Z-axes
- Adjustable overload clutch in apron protects the feed mechanics from damages and failures



RSM Series Grinding Spindle

## Standard Equipment

2-axis position indicator, internal grinding equipment, open rest, closed rest, 3-jaw chuck, Ø 7.87", coolant system, grinding wheel dresser, balancing station, balancing mandrel, grinding wheel flange, center point, front and rear splatter guard, drivers, operating tools, operator manual



Specifications RSM		750 C	1000 C	1500 C	2000 C
<b>Working Area</b>					
Center height	in	5	7	7	7
Grinding diameter	in	0.3 - 7.9	0.3 - 12.6	0.3 - 12.6	0.6 - 12.6
With steady rest	in	0 - 2	2	2	6
Grinding length	in	30	39	59	79
Inside grinding diameter with rest	in	1.4 - 3.9	1.4 - 3.9	1.4 - 3.9	1.4 - 3.9
Inside grinding diameter without rest	in	1 - 3.9	1.2 - 3.9	1.2 - 3.9	1.2 - 3.9
Inside grinding depth	in	4.9	4.9	4.9	4.9
Work piece weight between centers (max.)	lbs	176	330	330	330
Grinding wheel feed (min.)	in	0.0001	0.0001	0.0001	0.0001
Chuck diameter	in	8	8	8	8
Table swivel range (max.)		-2° / +6°	-3° / +7°	-3° / +6°	-3° / +5°
Wheel speeds	in/s	1,365	1,365	1,365	1,333.8
Work spindle speeds	rpm	50 Hz: 25-380	50 Hz: 25-220	50 Hz: 25-220	50 Hz: 25-220
<b>Travels</b>					
Grinding head travel	in	8	10	10	10
<b>Feed</b>					
Table feed, infinitely variable	in/min	3.9 - 156	3.9 - 156	3.9 - 156	3.9 - 156
Feed per hand-wheel rotation X-axis	in	0.0197	0.0394	0.0394	0.0394
Feed per scale division X-axis	in	0.000098	0.000098	0.000098	0.000098
<b>Accuracies</b>					
Run-out deviation	in	0	0	0	0
Cylindrical deviation	in	0.00031	0.00039	0.00039	0.00039
Roughness	µm Ra	<=0,32	<=0,32	<=0,32	<=0,32
<b>Headstock</b>					
Working headstock swivel range	deg	0 - 45	0 - 45	0 - 45	0 - 45
Working spindle taper	MT	4	4	4	4
<b>Grinding headstock</b>					
Grinding spindle speed	rpm	0 - 1,670	0 - 1,670	0 - 1,670	0 - 1,305.6
Grinding headstock swivel range (r+l)		30°	30°	30°	30°
Inside grinding spindle speed	rpm	10,000	10,000	10,000	10,000
<b>Tailstock</b>					
Tailstock taper	MT	4	4	4	4
Tailstock quill stroke	in	1	1	1	1
<b>Drive Capacity</b>					
Motor rating - grinding spindle / hydraulic pump	Hp	5,36 / 1	7.4 / 1	4 / 0.6	10 / 1
Motor rating inside grinding	Hp	1.5	1.5	1.5	1.5
Motor rating - headstock / coolant pump	Hp	0,75 / 0,13	2 / 0.17	1 / 0.1	2 / 0.2
<b>Measures and Weights</b>					
Grinding wheels dimensions	in	16x2x8	16x2x8	16x2x8	20x2x8
Grindstone dimensions, inside grinding (max.)	in	2x1.6x0.6	2x1x0.5	2x1x0.5	2x1x0.5
Grindstone dimensions, inside grinding (min.)	in	1.8x1.4x0.4	0.7x0.8x0.2	0.7x0.8x0.2	0.7x0.8x0.2
Overall dimensions (length x width x height)	in	118.1x70.9x65	142.1x71.3x59.8	181.5x71.3x59.8	220.9x71.3x59.8
Weight	lbs	7,700	8,140	9,460	14,520
Part No.		302444	302445	302446	302447



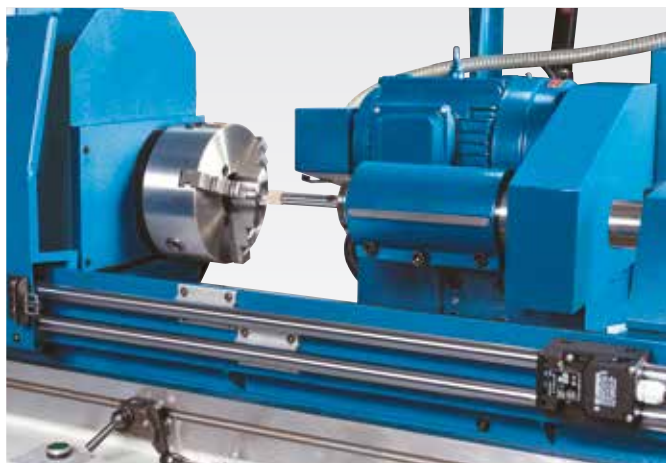
See this machine  
in action on  
YouTube



RSM 800 is shown

### Extensive standard equipment

- Proven and extremely rigid machine frame made of premium cast-iron - this machine's high intrinsic weight, diligent design and production create optimum conditions for excellent grinding and sanding results
- Infinitely variable hydraulic linear feed



Grinding headstock can be rotated 180° to change from inside to outside grinding

- High-precision guideways of linear and transverse movement consisting of combined V-guides and box ways
- Hydraulic adjustment of the grinding headstock simplifies set-up, workpiece exchanges and reduces downtime
- Grinding spindle with segmented high-precision bearing, adjustable and low maintenance
- Work spindle speeds are infinitely variable and can be easily adjusted and optimized during the machining process
- Machine table swivels for taper grinding
- Hydraulic tailstock with foot switch



RSM 500 A is shown


## Standard Equipment

2-axis position indicator, internal grinding equipment, 3-jaw chuck, Ø 7.87", chuck flange, balancing station, balancing mandrel, truing feature, center point, grinding wheel flange, coolant system, open rest, closed rest, drivers, work lamp, operating tools, operator instructions

## Specifications

		RSM 500 A	RSM 800
<b>Working Area</b>			
Center height	in	5	5
Workpiece length (max.)	in	26	37
Grinding length	in	20	31
Grinding diameter	in	0.3 - 7.9	0.3 - 7.9
Inside grinding diameter without rest	in	0.4 - 3.9	0.5 - 3.9
Work piece weight between centers (max.)	lbs	110	110
Inside grinding depth	in	4.9	4.9
Table swivel range (max.)	R / L	-3° / +9°	-3° / +8°
Wheel speeds	in/s	1,482	1,482
<b>Feed</b>			
Table feed, infinitely variable	fpm	0.33 - 13.08	0.33 - 13.08
Feed per scale division X-axis	in	0.000197	0.000197
<b>Headstock</b>			
Work spindle speeds	rpm	25 - 220	25 - 380
Working headstock swivel range		0-45°	0-45°
Spindle taper	MT	4	4
<b>Grinding headstock</b>			
Inside grinding spindle speed	rpm	16,000	16,000
Grinding headstock swivel range (r+l)		± 30°	± 30°
<b>Drive Capacity</b>			
Total power consumption	kVA	5.63	5.63
<b>Measures and Weights</b>			
Grinding wheels dimensions	in	16x2x8	16x2x8
Grindstone dimensions, inside grinding (max.)	in	2x1x0.5	2x1x0.5
Grindstone dimensions, inside grinding (min.)	in	0.7x0.8x0.2	0.7x0.8x0.2
Overall dimensions (length x width x height)	in	99x63x60	119x63x60
Weight	lbs	5,500	6,600
Part No.		302430	370150



See this machine  
in action on  
YouTube 



- **SIEMENS touchscreen**
- **easy programming**
- **hydraulic table feed**
- **extensive standard equipment**

Fig. incl. optional accessories

- The massive, heavily ribbed cross-bed machine frame with traversing column and horizontal spindle is extremely rigid even under heaviest workpiece loads
- The large work area allows machining of single workpieces with large surface areas or machining of several workpieces in one setup
- The workspace is protected by an easily accessible enclosure
- A high-performance cooling system is included in the standard equipment of this series

### Control

- Grinding cycles for automatic face and groove grinding are accessible and editable via touchscreen
- Preloaded ball screws and powerful servo-motors on Y and X ensure high precision and repeatability during grinding wheel feeds

- An electronic hand-wheel for Y- and Z-axis simplifies setup and manual positioning of the grinding spindle
- If set to Auto mode, the user-defined roughing and finishing parameters, number of spark-out strokes, and return to zero are automatically processed

### Grinding spindle

- Large grinding spindle, dynamically balanced, completely sealed with permanent lubrication
- Preloaded precision-bearings ensure maximum grinding performance and high reliability over many production hours



The workspace is protected by an easily accessible enclosure

## Magnetic clamping plate

- Large magnetic chucks for torsion-free clamping across the entire work surface are included in the standard equipment
- The modern control also ensures reliable operation with firm holding forces and high-grade degaussing

## Standard Equipment

2-axis position indicator, electronic hand-wheel Y- / Z-axis, grinding wheel flange, workspace enclosure, coolant system, grinding wheel dresser (without dressing diamond), balancing station, balancing shaft, LED work lamp, magnetic clamping plate, adjustment screws, operating tools, operator manual, Siemens PLC with touchscreen, grinding wheel

## Options

Options	Part No.
• Coolant system with magnetic separator and paper filter	253467
• Parallel grinding wheel dresser for HFS F NC	253468
• Magnetic separator without reservoir for HFS F NC	253469

## Hydraulics

- Superior quiet operation and low heat build-up ensure optimum work results in continuous operations
- The hydraulic linear table feed is infinitely variable, maintains a constant speed with smooth travel direction reversals
- The external hydraulics unit with oil cooler ensures perfect temperature stability

Specifications HFS F NC		50100	50160	60160	60200	80160	80220	80300
<b>Working Area</b>								
Table dimensions	in	20x39	20x63	24x63	24x87	31x63	31x87	31x118
Spindle center-table surface distance	in	24	24	24	24	36	35	35
Table load capacity (max.)	lbs	1,540	1,980	2,860	3,718	4,400	5,280	7,700
Magnetic chuck height	in	4	4	4	4	4	4	4
<b>Travels</b>								
Travel X-axis	in	39.4	63	63	86.6	63	86.6	118.1
Travel Y-axis	in	20	20	25	25	32	32	32
<b>Feed</b>								
Hydr. feed X-axis	fpm	16.35 - 81.75	16.35 - 81.75	16.35 - 81.75	16.35 - 81.75	16.35 - 81.75	16.35 - 81.75	16.35 - 81.75
Feed Y-axis	in/min	2 - 20	2 - 20	2 - 20	2 - 20	2 - 79	2 - 79	2 - 79
Feed depth, Y-axis	in	0.0002 - 0.002	0.0002 - 0.002	0.0002 - 0.002	0.0002 - 0.002	0.0002 - 0.002	0.0002 - 0.002	0.0002 - 0.002
Feed Z-axis	in/min	2 - 24	2 - 24	2 - 24	2 - 24	2 - 79	2 - 79	2 - 79
Automatic Z-axis feed	in/min	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1
<b>Grinding wheel</b>								
Grinding wheels dimensions	in	14x2x5	14x2x5	14x2x5	14x2x5	20x3x12	20x3x12	20x3x12
Speed	rpm	1,450	1,450	1,450	1,450	960	960	960
<b>Drive Capacity</b>								
Motor rating main drive	Hp	10.1	10.1	10.1	10.1	24.8	24.8	24.8
Hydraulic motor rating	Hp	4	4	7.4	7.4	10.1	10.1	10.1
Y-axis servo motor	Hp	1	1	1	1	4	4	4
Z-axis servo motor	Hp	3	3	3	3	4	4	4
<b>Measures and Weights</b>								
Overall dimensions	in	178x105	236x99	217x109	256x109	189x158	237x158	323x158
(length x width x height)	w	x107	x107	x107	x107	x103	x103	x103
Weight	lbs	12,100	13,200	15,400	17,600	23,100	27,500	30,800
Part No.		124934	124935	124936	124937	124938	124939	124940



- This machine is designed for continuous operation at high machining speeds and features quiet operation, maximum accuracy and minimal heat-buildup for guaranteed optimum work results
- Dual guides for linear table motion
- Grinding spindle head and Z-axis run in precision linear guides on preloaded ball screws
- Servo drives on Y- and Z-axis and hydraulic linear table movement can be adjusted via an infinitely variable electronic proportional valve for precise and consistent feed
- 3-step electronic hand-wheel allows for precise positioning of the Y- and Z-axis

External hydraulic unit and oil cooler ensure thermal stability during continuous operation



## NC Control

- Intuitive dialog-guided programming for automatic and semi-automatic grinding and dressing of grinding wheels, optimized for surface grinding
- Programming of grinding cycles per touchscreen
- Easy adjustment of important parameters and feed rate during machining
- Automatic fault and performance monitoring, display shows error message

## Standard Equipment

magnetic clamping plate, coolant system with magnetic separator, central lubrication, hydraulic oil cooler, grinding wheel flange, diamond dresser with holder, balancing station, setup feet, tool box, operator manual

## Options

- Cooling and filter system with magnetic separator for HFS NC

## Part No.

251573

## Specifications HFS NC

		52	73	104	160
<b>Working Area</b>					
Grinding area (max.)	in	20x8	28x12	40x16	67x16
Workpiece weights incl. magnetic clamping plate (max.)	lbs	462	880	1,496	1,870
Spindle axis-to-table surface distance	in	18.5	25.2	25.2	25.2
Dimensions magnetic clamping plate	in	20x8	28x12	39x16	63x16
T-slots, width	in	0.6	0.6	0.6	0.6
Number of T-slots	positions	1	1	3	3
Division (electronic hand-wheel) Y-axis	in	0.00004 / 0.0002 / 0.0004	0.00004 / 0.0002 / 0.0004	0.00004 / 0.0002 / 0.0004	0.00004 / 0.0002 / 0.0004
Division (electronic hand-wheel) Z-axis	in	0.0004 / 0.002 / 0.004	0.0004 / 0.002 / 0.004	0.0004 / 0.002 / 0.004	0.0004 / 0.002 / 0.004
<b>Travels</b>					
Travel X-axis	in	22	31.5	44.1	70.1
Travel Z-axis	in	9	13	17	17
<b>Headstock</b>					
Spindle speed	rpm	500 - 3,500	500 - 2,300	500 - 2,300	500 - 2,300
<b>Rapid Feed</b>					
Rapid feed Y-Z-axis	in/min	(10) 0 - 47	(10) 0 - 47	(10) 0 - 47	(10) 0 - 47
<b>Feed</b>					
Feed per rotation (electronic hand-wheel) - Y-axis	in	0.004 / 0.02 / 0.04	0.004 / 0.02 / 0.04	0.004 / 0.02 / 0.04	0.004 / 0.02 / 0.04
Feed per rotation (electronic hand-wheel) - Z-axis	in	0.04 / 0.2 / 0.4	0.04 / 0.2 / 0.4	0.04 / 0.2 / 0.4	0.04 / 0.2 / 0.4
Feed speed - X-axis (hydraulic)	fpm	min. 3 / max. 25	min. 118 / max. 984	min. 118 / max. 984	min. 118 / max. 984
Feed speed Z-axis	in/min	0 - 47	0 - 47	0 - 47	0 - 47
Autom. feed - Micro-feed Y-axis	in	0.000004 - 0.0004	0.000004 - 0.0004	0.000004 - 0.0004	0.000004 - 0.0004
Autom. feed - Coarse feed Y-axis	in	0.0002 - 0.002	0.0002 - 0.002	0.0002 - 0.002	0.0002 - 0.002
Automatic Z-axis feed	in	0.004 - 0.6	0.004 - 0.6	0.004 - 0.6	0.004 - 0.6
<b>Drive Capacity</b>					
Motor rating main drive	Hp	5	5	7.4	7.4
Motor rating hydraulic pump	Hp	2	2	3	3
Motor rating coolant pump	Hp	0.1	0.2	0.2	0.2
Z- and Y-axis servo motor	Hp	0.7 / 0.7	0.7 / 0.7	0.7 / 0.7	0.07 / 1.3
<b>Measures and Weights</b>					
Grinding wheel dimensions	in	10x2x1	15.75x5x1.57	15.75x5x1.57	15.75x5x1.57
Overall dimensions (length x width x height)	in	95x69x95	115x75x99	150x79x99	256x119x99
Weight	lbs	4,510	5,500	6,710	11,880
Part No.		122415	122420	122425	122430



Dressing mode for grinding wheels with automatic dimension and speed (rpm) compensation ensures constant grinding rate and can be entered while in auto mode



- **SIEMENS touchscreen**
- **easy programming**
- **hydraulic table feed**
- **extensive standard equipment**

- The cast-iron machine frame features superior rigidity and torsional strength, precision guideways and excellent machining quality
- All guideways are lubricated reliably via a central lubrication system
- The workspace is protected by an easily accessible enclosure
- A powerful coolant pump is combined with a vacuum exhaust unit to clear grinding dust and aerosol during machining operations

### Grinding spindle

- Large grinding spindle, dynamically balanced, completely sealed with permanent lubrication
- Preloaded precision-bearings ensure maximum grinding performance and high reliability over many production hours

### Hydraulics

- Superior quiet operation and low heat build-up ensure optimum work results in continuous operations
- Hydraulically operated linear table movement, infinitely variable, high consistency, and soft reversal of direction
- The external hydraulics unit with oil cooler ensures perfect temperature stability

### Magnetic clamping plate

- Large magnetic chuck allows for torsion-free clamping and is included in standard equipment
- The control unit is integrated into the electric system to simplify operation, allowing quick clamping and degaussing for maximum production efficiency



If set to Auto mode, the user-defined roughing and finishing parameters, number of spark-out strokes, and return to zero are automatically processed



## Programming

- The high-quality preloaded ball screw and a powerful servo-motor ensure high precision and repeatability of positioning on the Y-axis
- The machine features an electronic hand-wheel for configuration tasks and manual movement of the grinding spindle
- If set to Auto mode, the user-defined roughing and finishing parameters, number of spark-out strokes, and return to zero are automatically processed

## Standard Equipment

2-axis position indicator, electronic hand-wheel, grinding wheel flange, automatic central lubrication, workspace enclosure, coolant system and vacuum system, grinding wheel dresser, balancing station, balancing shaft, LED work lamp, magnetic clamping plate, adjustment screws, operating tools, degausser, Siemens PLC with touchscreen, operator manual

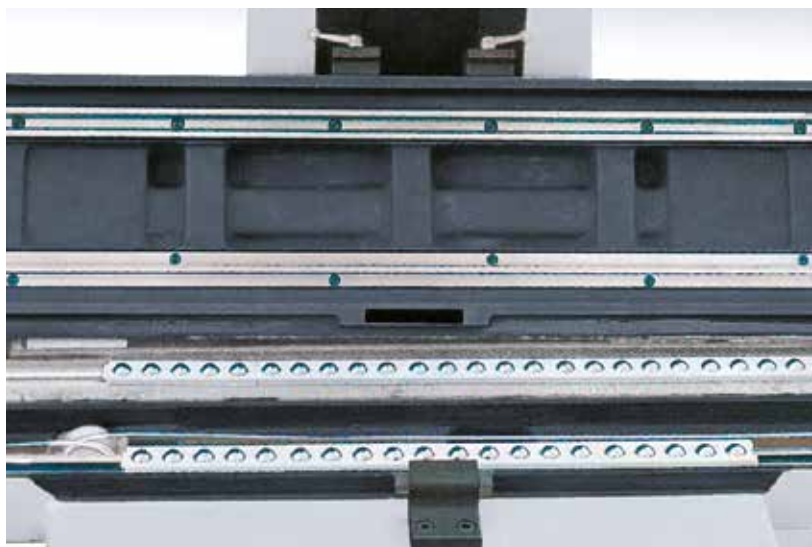
Specifications HFS Advance		2550 F	3063 F	4080 F	30100 F	40100 F
<b>Working Area</b>						
Work piece weight (max.)	lbs	396	594	1,100	880	1,320
Spindle nose-to-table surface distance	in	18	23	23	23	23
Table dimensions	in	20x10	25x12	32x16	40x12	40x16
Dimensions magnetic clamping plate	in	20x10	24x12	31x16	39x12	39x16
Scale ring division Y-axis	in	0.0002	0.0002	0.0002	0.0002	0.0002
Scale ring division Z-axis	in	0.00079	0.00079	0.00079	0.00079	0.00079
Auto. transverse feed Z-axis	in	0 - 0.31	0 - 0.31	0 - 0.31	0 - 0.31	0 - 0.31
Speed	rpm	2,850	1,450	1,450	1,450	1,450
Auto. vertical feed	in	0.0002 - 0.00197	0.0002 - 0.00197	0.0002 - 0.00197	0.0002 - 0.00197	0.0002 - 0.00197
<b>Travels</b>						
Travel X-axis	in	22	30.1	35.8	44.5	44.5
Travel Y-axis	in	11	13	18	13	18
<b>Feed</b>						
Hydr. feed X-axis	in/min	273 - 897	273 - 897	273 - 897	273 - 897	273 - 897
Rapid feed Y-axis	in/min	19	19	19	19	19
Rapid feed Z-axis	in/min	39	39	39	39	39
<b>Drive Capacity</b>						
Motor rating main drive	Hp	3	5.4	5.4	5.4	5.4
<b>Measures and Weights</b>						
Grinding wheels dimensions	in	8x1x1	14x2x5	14x2x5	14x2x5	14x2x5
Overall dimensions (length x width x height)	in	91x63x66	114x87x75	142x94x75	173x87x75	173x94x75
Weight	lbs	3,960	6,160	7,480	7,040	8,140
Part No.		124931	124932	124933	124941	124930



- Spindle resists high loads; mounted in pre-loaded angular deep-groove ball bearings ensures low-vibration operation, high accuracy, increased lifetime and low maintenance
- Completely leak-proof and balanced spindle motor with high load capacity
- Solid, vibration-absorbing construction
- V- and flat guides in X and Y directions for consistently high accuracy
- Longitudinal table movement over linear ball guide; linear roller guideway
- Adjustable hand wheel scales for vertical and transverse adjustments allows zeroing at any position
- Central lubrication
- Grinding parallelism 0.0002" / 12"



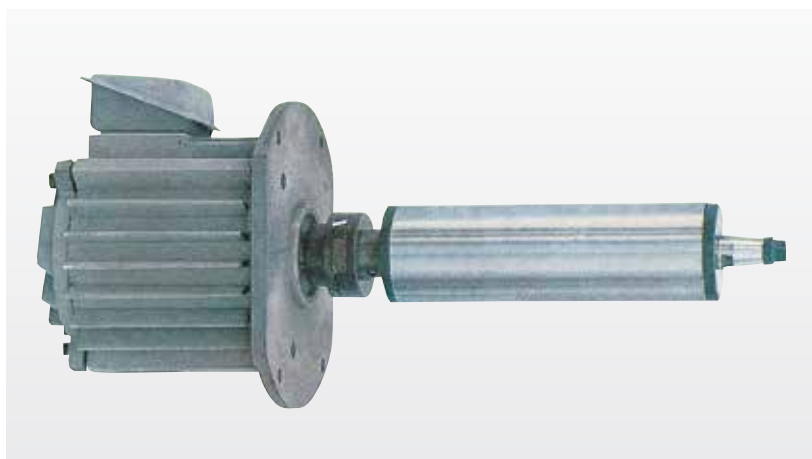
Permanent magnetic clamping plates with micro pole pitch - ideal for high-precision grinding work



Linear ball guide for guide for smooth table travel



Angle-adjustable grinding vise (standard equipment)



Main spindle drive with advanced precision bearing



PSG 50 is shown (optional)

## Specifications

### FSM 480

Working Area		
Table dimensions	in	8x18
Spindle axis-to-table surface distance	in	17.72
Travels		
Travel X-axis	in	18.9
Travel Y-axis	in	9
Travel distance per hand-wheel rotation, X-axis	in	0.2
Travel distance per hand-wheel rotation, Y-axis	in	0.2
Travel distance per hand-wheel rotation, Z-axis	in	0.04
Feed		
Scale ring division X-axis	in	0.00079
Scale ring division Y-axis	in	0.00079
Scale ring division Z-axis	in	0.0002
Accuracies		
Roughness	µm Ra	>= 0,63
Drive Capacity		
Motor rating main drive	Hp	2
Measures and Weights		
Grinding wheel dimensions	in	7.87x0.51x1.26
Weight	lbs	1,606
Part No.		122802

## Standard Equipment


exhaust vacuum, work lamp, magnetic clamping plate 5"x11.75", diamond dresser, balancing shaft, balancing station, angle - adjustable grinding vise, grinding wheel dresser holder, operating tools, operator manual

## Options

### Part No.

• Coolant Concentrate 5 Ltr.	103184
• PSG 50	128826
• Parallel Gauge-Block Set, 83 pc.	129000
• Measuring Tool Set M5	108344
• Precision Angle V-Blocks	128930
• Magnetic V-Block I	108880
• Hydraulic measuring tripod	108810



See this machine  
in action on  
YouTube 



**Ideal for tool and die construction,  
mechanical production, design  
processes, laboratories and training**

- **The functionality of the Multi-Grind ranges from external and internal cylindrical grinding to taper grinding. The Multi-Grind also allows easy tool grinding (sharpening of cutters, reamers and turning tools) and is suitable for light surface grinding jobs.**
- **Feed Drives**  
Hydraulic table feed (longitudinal) with automatic change of direction. An additional manually operated longitudinal feed with hydraulic support allows feed speeds up to 275"/min.
- **Grinding Headstock**  
Special grinding headstock design allows simultaneous setup of 2 different grinding wheels. The grinding headstock can be moved in transverse direction and also vertically; and it can be rotated around the vertical axis.
- **Speeds**  
The headstock operates at 3 different speeds (110, 200, 300 rpm) which are set through an easy to operate gear shift lever.



Surface grinding with angle-adjustable vise

## Standard Equipment

coolant system, exhaust vacuum, tool mount / indexing head MT 4, internal grinding unit including 2 die grinders, 3-jaw chuck (4" diam.), left tailstock, right tailstock MT 2, center point, half center points, balancing station, spindle extension, vise for surface grinding (3-D angle adjustment), spring stop, 5 drivers, various splash guards, grinding wheel guard (2x), automatic central lubrication, operator manual, test certificate

## Options

	Part No.
• Live Center MT 2	106745
• Milling tool mount 0.6 inch for MultiGrind 102781	421085

To see the available options for this machine, visit our website.

## Specifications

## Multi Grind

### Working Area

Grinding diameter	in	7.9
Workpiece length (max.)	in	20
Outside grinding measure, maximum	in	Ø 0.2-2. x 15.8
Inside grinding measures, optimal	in	Ø 0.4-2 x 3
Tool grinding measure	in	8x20
Work piece length surface grinding	in	8
Work piece width surface grinding	in	2
Workpiece weight (max.)	lbs	22
Table swivel range (max.)		+45° / -30°

### Travels

Travel Z-axis	in	19
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### Feed

Feed per hand-wheel rotation X-axis, fine	in	0.0394
Feed per hand-wheel rotation X-axis, rough	in	0.1575
Feed per scale division X-axis, fine	in	0.0002
Feed per scale division, X-axis, rough	in	0.00079
Scale division of height adjustment	in	0.00039
Longitudinal feed speed (hydraulic)	fpm	0 - 20
Manual, hydraulic assist	fpm	23

### Headstock

Working headstock swivel range		± 90°
Working spindle speed	rpm	(3) 110 - 300
Working spindle taper	MT	2
Chuck diameter	in	4

### Grinding headstock

Grinding spindle speed	rpm	2,500
Inside grinding spindle speed	rpm	13,500
Grinding headstock swivel range		± 90
Grinding headstock - vertical / - transverse	in	8

### Tailstock

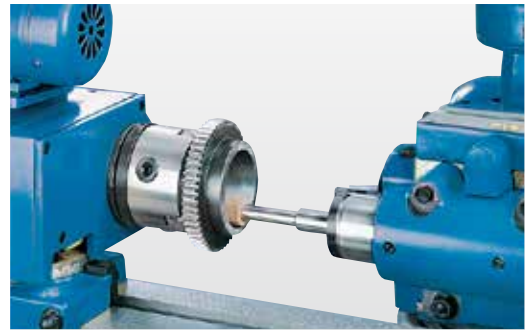
Height adjustment per handwheel rotation	in	0.04
Tailstock taper	MT	2
Tailstock quill stroke	in	1

### Drive Capacity

Machine drive capacity	Hp	3.4
Motor rating main drive	Hp	1.5

### Measures and Weights

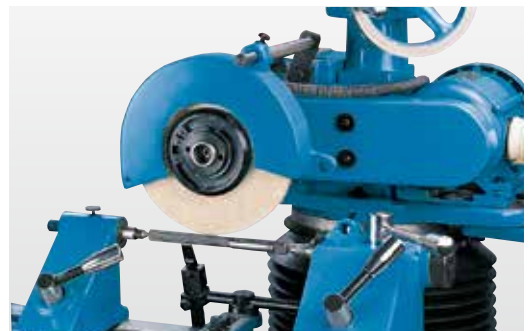
Grinding wheel dimensions	in	7.87x0.79x2.95
Grindstone dimensions, inside grinding (min.)	in	0.4x0.4x0.1
Grindstone dimensions, inside grinding (max.)	in	1x0.8x0.2
Overall dimensions (length x width x height)	in	60x54x56
Weight	lbs	2,860
Part No.		102781



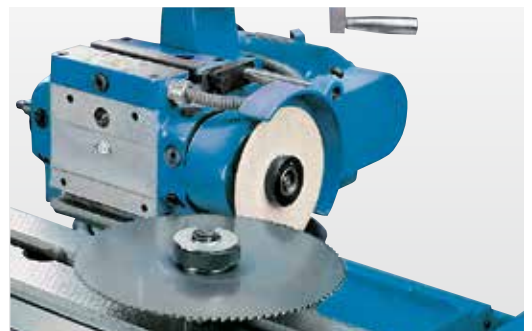
High-speed inside cylindrical grinding



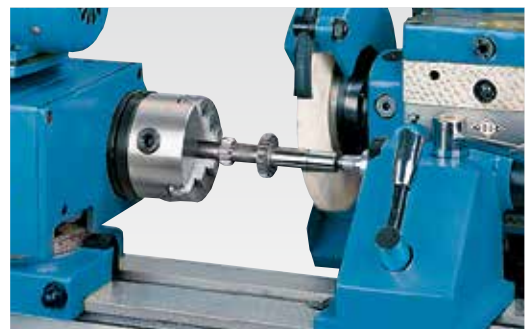
Rigid angle-adjustable workpiece mounts



Swiveling headstock and extensive accessories



Saw blade sharpening



Outside cylindrical grinding for lengths up to 15.75 in.



Belt and Disk Sander Combination

## KS 100 B

Small footprint - ideal for workshop operations

- incl. support table and workpiece stop for surface and edge grinding
- Sanding belt swivels to vertical position

### Standard Equipment

support table, stop, sanding belt, grinding wheel, operator instructions

Specifications	KS 100 B	
<b>Working Area</b>		
Table dimensions	in	6x9
Belt speed	in/s	312
Angular adj. of table		45° (max.)
<b>Drive Capacity</b>		
Motor rating main drive	Hp	0.5
Supply voltage		230
<b>Measures and Weights</b>		
Sanding pad diameter	in	6
Blade dimensions	in	3.94x36.02
Overall dimensions	in	23x11x12
Weight	lbs	37
Part No.		102815



KS 100 B is shown

### Options

	Part No.
• Grinding Wheels K 180 / KS 100	102824
• Sanding Belt K 40 / KS 100	102735
• Sanding Belt K 180 / KS 100	102830
• Grinding Wheels K 40 / KS 100	102734

For additional options for this machine, visit our website.



Belt and Disk Sander Combination

## KS 150 B

Compact combo grinding machine including machine base

- Large sanding surface for smoothing, beveling and deburring
- Belt sander can be used horizontally and vertically
- Disk sander is ideally suited for contours, small surfaces and edges
- Support table swivels up to 45° and can be used for belt and disk sanding
- The included miter stop can be adjusted from 0° - 90°
- Powerful motors and low vibrations ensure optimum sanding results

### Standard Equipment

adjustable stop, support table, base, grinding wheel, sanding belt, operator instructions

Specifications	KS 150 B	
<b>Working Area</b>		
Angular adj. of table		45°
Belt speed	in/s	215
Belt sander with adjustable angle		90°
Sanding pad diameter	in	9
Speed (disc)	in/s	908.7
<b>Measures and Weights</b>		
Blade dimensions	in	5.91x48.03
Height	in	36
Weight	lbs	110
Part No.		102816

KS 150 B is shown, Base is included



### Options

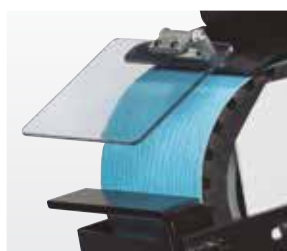
	Part No.
• Grinding Wheels K 40 / KS 150/BDS 9B	102721
• Grinding Wheels K 180 / KS 150/BDS 9B	102804
• Sanding Belt K 40 / KS 150/BTM 250/BKM/BDS 9B/BDS 12A	102725
• Sanding Belt K 180 / KS 150/BTM 250/BKM/BDS 9B/BDS 12A	102810

For additional options for this machine, visit our website.





Fig. B 150 D with integrated suction



B 150 is shown

- Excellent grinding results due to minimal vibration during sanding belt operation and rigid design of all components
- The wide contact roll is ideal for grinding edges, points and radii
- Adjustable grinding support with adjustable eye protection for maximum accuracy and safety
- One cover encloses the longitudinal grinding surface while it is not in use
- Grinding belts can be changed within seconds via a quick-change vise, no tools required

- Chip collectors help keep the work environment clean
- The B150 D Belt Sander features a base with integrated vacuum exhaust

### Specifications

		B 150 D	B 150
<b>Working Area</b>			
Contact wheel	in	8x6	8x6
Belt dimensions	in	6x79	6x79
Sanding area	in	21x6	21x6
Belt speed	in/s	1,287	1,287
Speed	rpm	2,800	2,800
<b>Drive Capacity</b>			
Motor rating main drive	Hp	5.4	5.4
<b>Measures and Weights</b>			
Driving roller (dimensions)	in	9x6	9x6
Overall dim. (length x width x height)	in	42x25x50	42x25x50
Weight	lbs	297	282
Part No.		102887	102886

### Standard Equipment B 150 D

base, 1 sanding belt, vacuum exhaust, safety observation shield, operator instructions

### Standard Equipment for B 150

machine base, 1 sanding belt, safety observation shield, support table, operator manual

### Options

Options	Part No.
• Sanding Belt K 40 / B 150 / BS 150 / BSM 150	112860
• Sanding Belt K 60 / B 150 / BS 150 / BSM 150	112861
• Sanding Belt K 80 / B 150 / BS 150 / BSM 150	112862

For additional options for this machine, visit our website.



Vertical grinding surface with support table

**Rigid steel base included**

### Standard Equipment

base, dust suction connector, stops, sanding belt, grinding wheel

- Support table for disk and belt grinding
- Easy belt change with quick-lock mechanism
- Belt sander can be used horizontally and vertically
- Dust suction connector at disk and belt sander unit
- Balanced sander disk for vibration-free operation

### Options

	Part No.
• Grinding Wheels K 80 / BTM 250	112707
• Grinding Wheels K 240 / BTM 250	112711
• Sanding Belt K 80 / KS 150/BTM 250/BKM/BDS 9B/BDS 12A	102807
• Sanding Belt K 240 / KS 150/BTM 250/BKM/BDS 9B/BDS 12A	102811

For additional options for this machine, visit our website.

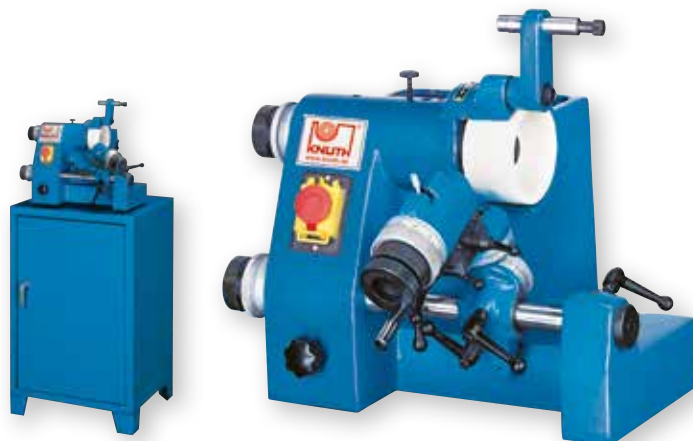
### Specifications

		BTM 250
<b>Working Area</b>		
Belt speed	in/s	328
Speed	rpm	1,600
Table area, belt-grinding	in	6x11
Table area, disc-grinding	in	7x13
Angular adj. of table		45°
<b>Drive Capacity</b>		
Motor rating main drive	Hp	1.5
<b>Measures and Weights</b>		
Sanding pad diameter	in	10
Blade dimensions	in	5.91x48.03
Overall dimensions (length x width x height)	in	24x26x62
Weight	lbs	172
Part No.		112700

### Specifications

### SM

Grinding diameter	in	1
Speed	rpm	5,200
Collet chuck diameter	in	0.7
Taper grinding		0° ~ 180°
Rear angle	deg	0 ~ 45
Hand-wheel rotation, spindle	in	0.3
Hand-wheel rotation, tool holder	in	0.7
Travel tool holder	in	6
Motor rating main drive	Hp	0.2
Grinding wheels dimensions	in	4x2x1
Overall dimensions (length x width x height)	in	18x16x14
Machine weight	lbs	123
Base weight	lbs	37
Part No.		102880



Shown with standard equipment

### Standard Equipment

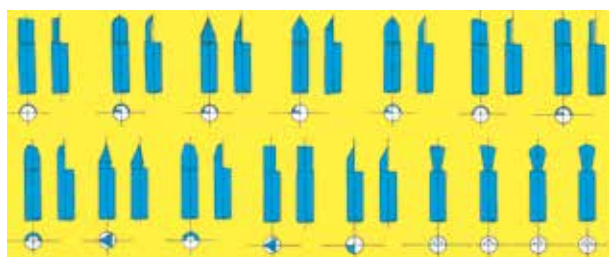
base, wheel mount, grinding wheel, spare parts list, collets 3, 0.16", 0.24", 0.31", 0.39", operating tools, operator manual, test certificate

### Options

### Part No.

• Diamond Wheel / SM	102861
• Collet 0.098 in / SM	102864
• Grinding Wheel Flange / SM	102874

For additional options for this machine, visit our website (Product Search)



- Max. bevel width 0.12"
- Excellent surface quality
- Quicker and more uniform results
- Very long service life due to reversible tool tips (usable on 4 sides)

### Options

### Part No.

• Replacement Tool Bits / KF 500	101354
----------------------------------	--------

### Specifications

### KF 500

Angle adjustment		15 - 45°
Speed (max.)	rpm	3,400
Motor rating main drive	Hp	1
Supply voltage		230
Table length	in	19.69
Weight	lbs	64
Part No.		101355



Dual pedestal grinders

## DSB D

Rigid Dual Pedestal Grinders for industrial and commercial operations

- Heavy-duty design with rigid cast-iron body and maintenance-free motor
- Balanced rotor and premium bearings ensure quiet operation and optimum results
- Safety always comes first: emergency stop switch and safety observation shield
- Premium components for long tool life and endurance under rough workshop conditions



DSB 300 D is shown



Rigid, wide material support ensures operator safety

### Standard Equipment

base, safety observation shield, 2 universal corundum wheels

Options	Part No.
• Roughing Disk	112145
• Finishing Disk	112146

Specifications DSB		200 D	250 D	300 D
Speed	rpm	2,950	2,950	1,450
Motor rating main drive	Hp	1.2	1.2	3
Grinding wheels dimensions	in	8x1x1	10x1x1	12x2x3
Weight	lbs	62	70	185
Part No.		112151	112152	112150



Support Grinding Device

## SUS 210 • SUS 190

For external cylindrical grinding

Specifications		SUS 190	SUS 210
Speed	rpm	3,850	3,320
Motor rating main drive	Hp	0.5	1
Grinding wheel dimensions	in	6.89x0.79x1.26	7.87x0.79x1.26
Overall dimensions (length x width x height)	in	19x13x16	23x13x16
Weight	lbs	57	73
Part No.		112795	112796

- Grinding attachment can be clamped to the tool holder bolt (SUS 210 Ø 1.6 inch, and SUS 190 Ø 35 mm)

Options	Part No.
• Standard Cordundum Grinding Wheels / SUS 210	112797
• Silicon Carbide Grinding Wheels / SUS 210	112798



SUS 210 is shown



Drill bit grinding machine

## KSM 13

For HSS and carbide drills with diameters from 0.16 to 0.51 inch



- Chamfering of relief angle (rear of drill bit), chamfering of point angle
- Point grinding (KSM 13 S)

Specifications		KSM 13	KSM 13 S
Grinding diameter	in	0.2 - 0.5	0.2 - 0.5
Grinding wheel material		CBN	CBN
Motor rating main drive	Hp	0.2	0.2
Overall dims. (length x width x height)	in	16x9x12	16x9x12
Weight	lbs	48	48
Supply voltage		220	220
Part No.		112820	112825

Options	Part No.
• Grinding wheel for KSM 13	112821
• Grinding wheel for KSM 13 S	112829

End mill grinder

## FSM 14 S



Specifications		FSM 14 S
Grinding diameter	in	0.2 - 0.6
Grinding wheel material		CBN
Motor rating main drive	Hp	0.2
Overall dimensions (length x width x height)	in	25x10x12
Weight	lbs	48
Part No.		112805

Options	Part No.
• Face cutter grinding wheel for FSM 14 S	112801
• Diagonal cutter grinding wheel for FSM 14 S	112802

Tap grinding machine

## GSM 20



Specifications		GSM 20
Grinding area		M5 - M20
Point angle	deg	5 - 30
Speed	rpm	5,300
Motor rating main drive	Hp	0.2
Overall dimensions (length x width x height)	in	14x10x11
Weight	lbs	26
Part No.		112810

Options	Part No.
• Diamond cutting wheel for GSM 20	112811



# Cutting systems

**See for yourself live:** Many models are in stock or can be viewed and tried out at a user's location near you. Make a demonstration appointment! Email [info@knuth-usa.com](mailto:info@knuth-usa.com) or call #847-415-3333



## Experience our machines in action!

With our YouTube channel [KnuthMachineToolsUSA](https://www.youtube.com/channel/UCknuthMachineToolsUSA), you stay up to date with all the news and developments.



Laser cutting system

## ACE Laser MAX

Table length **118 - 157 inch**  
CW beam power **1,000 - 4,000 W**

The latest cutting technology with shuttle table system

from page 214 onwards



Laser cutting system

## ACE Laser Compact

Table size **51 x 51 inch**  
Fiber laser **1000 - 2000 W**

ACE Laser Compact R models are equipped with powerful Raycus laser sources

from page 220 / 221 onwards



Plasma cutting system

## Plasma-Jet

Table length **118 - 157 inch**  
Cutting current **105 - 400 A**

Top class plasma cutting systems with Hypertherm technology

from page 224 onwards



Waterjet cutting system

## Water-Jet

Table length **79 - 315 inch**  
Motor power of high pressure pump **50 hp**  
(More by request)

For solving cutting tasks in almost any material, even with 5-axis technology

from page 232 onwards



# Precision Cuts for Mega yachts

Laurenat Isoliertechnik cuts polished stainless steel using the ACE Laser 3015 1.5 by KNUTH.



## What convinced them to turn to KNUTH?

- Test cuts: Live demo with 1:1 customer orders
- Consultation: cost-effective solution featuring high precision and long service life
- Service: quick support and response to user inquiries
- Customer-oriented: When machine deliveries were delayed due to the pandemic, KNUTH handled their customers' cutting jobs in-house

In 2001, the brothers, André and Ralf Laurenat, started their business in Schönkirchen, Germany, offering a wide variety of insulation technology services. Today, the business has seven employees and is one of the leading insulation specialists for ship exhaust systems. "Since we specialize on the repair and customization of mega yachts, we mainly process polished stainless steel in thicknesses of 0.024 inch to 0.059 inch," explained André Laurenat. The resulting exhaust gases reach temperatures up to 1,100 deg F. Laurenat uses special insulation materials in order to keep the pipe surface temperature at just 140 deg F. The high temperatures present a real challenge in regards to materials and processing. Therefore, maximum accuracy and precision are of utmost importance when cutting stainless steel. With these strict requirements and difficult materials, the existing machine had reached its limits. André Laurenat started researching laser cutting systems and turned to KNUTH Machine Tools for advice. "Within a few days after their inquiry, one of our Application Engineers and I drove to Schönkirchen to look at their current process," said Christoph Ziebarth, Sales Manager for KNUTH Northern Germany.

## A high-precision and cost-effective solution

Ziebarth invited the brothers Laurenat to visit the KNUTH Cutting Center, where they could watch a demo of suitable machines and also try them out by cutting sample workpieces. "For the sample cuts, André Laurenat had sent us a 1:1 drawing of a customer order and he brought the respective stainless steel plate with him. This way, they could see and experience a direct comparison to their previous work and quality," said Ziebarth. He recommended the ACE Laser 3015 1.5. This machine could easily fulfill the strict requirements in regards to precision, while still being a cost-effective solution. "We don't use the cutter every day, but now we save a lot of time by handling any laser cutting in-house, and we have





To find the perfect solution for complex cutting tasks, the current state must be analyzed first, then the required state can be defined.



ACE LASER are known for their extremely low operating cost and very user-friendly design.



An automatic changer table system minimizes down-times.

much more flexibility in regards to the cut parts. Mega yachts always need unique custom parts, and any repairs must be completed quickly,” explained Laurenat. The ACE Laser 3015 1.5 with its bilateral drives and a work area of 120” x 60” can handle all common plate formats and is available with 1,34 Hp to 8 Hp Laser power. The automatic laser cutter head features auto focus (motorized focus positioning), automatic level control and collision guard to ensure a consistently high cutting quality.

### Perfect teamwork: Sales, Technology and Customer

When the Corona pandemic delayed the promised May 2020 delivery date to August, Laurenat and KNUTH found a practical and flexible solution. “We were able to have our most urgent orders cut directly at KNUTH’s Wasbek facilities. That was perfect teamwork between KNUTH Sales and Technology and us, the customer,” said André Laurenat. At Schönkirchen, the company had their workshop enlarged and the necessary high voltage connections installed for the new system. Ziebarth recounts: “After our on-site visit with the

electrician and the KNUTH Set-Up Team, the actual set-up of the machine went smoothly as expected.” Immediately after the set-up, the operator training started. After a two-day introductory training, the operators could become more familiar and experienced with the machine, before another two-day training session was conducted to answer more in-depth questions. André Laurenat expressed his satisfaction in his pragmatic way: “The machine does what it is supposed to do, and if we are unsure about anything, we just call KNUTH and we will get a quick and clear answer.

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 Tel. +49 (0) 4348 9192 24  
[www.laurenat-isoliertechnik.de](http://www.laurenat-isoliertechnik.de)



ACE Laser 3015 MAX is shown

- This state-of-the-art laser cutting system features a gantry-style construction with drives on both sides and a large working area of 118 x 59 inch or 157 inch x 79 inch that can accommodate most of the common plate sizes
- The Y axis portal features an aluminum die-cast construction with low weight and high rigidity for excellent dynamics
- Thermal treatment of the meticulously welded machine frame and all structural parts reliably eliminates production-related material stresses – ensuring long-lasting, precise alignment of all components. This ensures long-term and reproducible cutting edge accuracy and long machine life
- The precision linear guides require minimal maintenance and are designed for long-lasting precision and high cutting speeds.
- High-precision rack-and-pinion gears on the Z and Y axis ensure superior and reliable positioning accuracy
- Powerful servo-motors on all axes ensure high reliability and dynamics of the cutter system
- For the safety of people and the environment, the cutting system is equipped with a machine housing and filter extraction system. Special protective glass windows make it possible to observe the cutting process
- An automatic shuttle table system minimizes production downtimes, since the table can be loaded and unloaded during the cutting process
- Perpendicularity or squareness tolerance for laser cutting acc. to DIN EN ISO 9013-1

For more machines of this series, visit our website



See this machine in action on YouTube



Option: For tube diameters up to 3.9 inch and tube lengths up to 118 inch

## Control

- Easy operation with user-friendly optimized interface
- Technology database includes cutting parameters and pre-set cycles for various metals
- The efficient processing of all cutting jobs is further supported by user-friendly software for the selection of process parameters
- Solenoid and proportional valves regulate the gas pressures (set in the control) during the cutting process

## Cutter head

- High-quality cutter head made by Precitec with motorized focus position adjustment, integrated collision guard, and level control
- Maintenance-free beam guide is provided by a flexible fiberoptic cable and ensures a long tool life

## Laser sources

- The ytterbium fiber laser provides 1000 to 6000 W beam power, is made by the renowned manufacturer, Maxphotonics, and ensures maximum cut quality and productivity
- The maintenance-free laser source reduces maintenance and operating cost
- **Laser cutting systems with more laser power upon request**



ACE Laser 3015 is shown

<b>Specifications ACE Laser MAX</b>		<b>3015 1.0</b>	<b>3015 1.5</b>	<b>3015 2.0</b>	<b>3015 3.0</b>	<b>3015 4.0</b>	<b>3015 6.0</b>
<b>Working Area</b>							
Table dimensions	in	118x59	118x59	118x59	118x59	118x59	118x59
Workpiece weight (max.)	lbs	2,200	2,200	2,200	2,200	2,200	2,200
Axis acceleration X / Y axis		10	10	10	10	10	10
Axis acceleration Z axis		5	5	5	5	5	5
<b>Travels</b>							
Travel X-axis	in	59.8	59.8	59.8	59.8	59.8	59.8
Travel Y-axis	in	120	120	120	120	120	120
Travel Z-axis	in	4	4	4	4	4	4
<b>Rapid Feed</b>							
X-axis rapid feed	fpm	327	327	327	327	327	327
Y-axis rapid feed	fpm	327	327	327	327	327	327
Change time at cutting table	sec	10 - 15	10 - 15	10 - 15	10 - 15	10 - 15	10 - 15
<b>Accuracies</b>							
Positioning accuracy	inch/m	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012
Repeatability	inch/m	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
<b>Laser</b>							
Fiber laser		1,000	1,500	2,000	3,000	4,000	6,000
Shaft length	µm	1,08 ± 10%	1,08 ± 10%	1,08 ± 10%	1,08 ± 10%	1,08 ± 10%	1,08 ± 10%
Beam power max.		1,000	1,500	2,000	3,000	4,000	6,000
Power consumption	Hp	4.69	7.11	8.72	16.09	21.46	26.82
Supply voltage		AC 380V ± 10%, 50/60Hz, 3xL+N					
Cutting capacity in structural steel	in	0.31	0.47	0.55	0.71	0.79	0.79
Cutting capacity in stainless steel	in	0.12	0.16	0.2	0.24	0.31	0.47
Cutting capacity in aluminum	in	0.079	0.118	0.157	0.197	0.315	0.472
<b>Drive Capacity</b>							
Machine drive capacity X-axis	Hp	1.3	1.3	1.3	1.3	1.3	1.3
Machine drive capacity Y-axis	Hp	2	2	2	2	2	2
Machine drive capacity Z-axis	Hp	0.5	0.5	0.5	0.5	0.5	0.5
<b>Measures and Weights</b>							
Overall dims. (length x width x height)	in	386x146x85	386x146x85	386x146x85	386x146x85	386x146x85	386x146x85
Weight	lbs	17,600	17,600	17,600	17,600	17,600	17,600
Part No.		141040	141041	141042	141043	141044	141056



## Standard Equipment

complete system with CNC-control (CypCut), Ytterbium Faserlaser MAXPHOTONICS, fiberoptic cable, high-pressure cutter head, Precitec, automatic focus position adjustment, laser protection booth, automatic changing table system, filter exhaust system, automatic gas console, central lubrication, coolant regeneration, CAD/CAM software (CypCut), operating manual and programming instructions

Options	Part No.
• Tube cutter 118inch (1.3-5.4 HP)	253238
• Structural Steel Ace Laser Starter Set	253342
• Stainless Steel/Aluminum Ace Laser Starter Set	253343
• COMPAC - 2200 Air Dryer	253629

Specifications ACE Laser MAX		4020 1.0	4020 1.5	4020 2.0	4020 3.0	4020 4.0	4020 6.0
<b>Working Area</b>							
Table dimensions	in	157x79	157x79	157x79	157x79	157x79	157x79
Workpiece weight (max.)	lbs	3,300	3,300	3,300	3,300	3,300	3,300
Axis acceleration X / Y axis		10	10	10	10	10	10
Axis acceleration Z axis		5	5	5	5	5	5
<b>Travels</b>							
Travel X-axis	in	79.5	79.5	79.5	79.5	79.5	79.5
Travel Y-axis	in	159	159	159	159	159	159
Travel Z-axis	in	4	4	4	4	4	4
<b>Rapid Feed</b>							
X-axis rapid feed	fpm	327	327	327	327	327	327
Y-axis rapid feed	fpm	327	327	327	327	327	327
Change time at cutting table	sec	12 - 17	12 - 17	12 - 17	12 - 17	12 - 17	12 - 17
<b>Accuracies</b>							
Positioning accuracy	inch/m	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012
Repeatability	inch/m	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
<b>Laser</b>							
Fiber laser		1,000	1,500	2,000	3,000	4,000	6,000
Shaft length	µm	1,08 ± 10%	1,08 ± 10%	1,08 ± 10%	1,08 ± 10%	1,08 ± 10%	1,08 ± 10%
Beam power max.		1,000	1,500	2,000	3,000	4,000	6,000
Power consumption	Hp	4.69	7.11	8.72	16.09	21.46	26.82
Supply voltage		AC 380V ± 10%, 50/60Hz, 3xL+N					
Cutting capacity in structural steel	in	0.31	0.47	0.55	0.71	0.79	0.79
Cutting capacity in stainless steel	in	0.12	0.16	0.2	0.24	0.31	0.47
Cutting capacity in aluminum	in	0.079	0.118	0.157	0.197	0.315	0.472
<b>Drive Capacity</b>							
Machine drive capacity X-axis	Hp	1.3	1.3	1.3	1.3	1.3	1.3
Machine drive capacity Y-axis	Hp	2	2	2	2	2	2
Machine drive capacity Z-axis	Hp	0.5	0.5	0.5	0.5	0.5	0.5
<b>Measures and Weights</b>							
Overall dims. (length x width x height)	in	408x169x87	408x169x87	408x169x87	408x169x87	408x169x87	408x169x87
Weight	lbs	19,800	19,800	19,800	19,800	19,800	19,800
Part No.		141045	141046	141047	141048	141049	141057



Laser Cutting System

## ACE Laser Compact R

All the advantages of advanced fiber laser technology in a small package

The ACE Laser Compact series is not available in the United States.



- Rapid feed speed up to 131 ft/min
- Laser power up to 2000 W
- Large work area
- Nesting software included

- The machine frame is made of a rigid steel weldment, ensuring production-related stress on the material is eliminated
- The gantry is an aluminum die-cast construction with low weight, high rigidity, and servo-drives on both sides for excellent dynamics
- The linear guides on all axes require minimal maintenance and are designed for long-lasting precision and high cutting speeds

- High-quality preloaded ball drives on all axes ensure above-average positioning accuracy
- A central lubrication system supplies lubricant to all guide components, simplifying maintenance and extending tool life
- The cutting system is fully enclosed to protect operators and the environment
- A safety glass window in the door allows direct monitoring of the cutting process

## Control

- The powerful PC-based control is easy to operate via an application-specific user interface
- A technology database includes cutting parameters and pre-set cycles for various metals
- The efficient processing of all cutting jobs is further supported by user-friendly software for the selection of process parameters
- Solenoid and proportional valves regulate the gas pressures (set in the control) during the cutting process

## Nesting Software

- The Cypcut software provides all functions needed for the machining of cutting contours, and displays the current operating status
- Automatic nesting saves much time, allows custom adjustments and ensures minimal material waste
- The software includes predefined nesting patterns that cover a wide variety of practical applications

## Cutting head

- The proven RAYTOOLS cutting head features an integrated collision guard, automatic focus positioning, and height control
- Focus lenses can automatically change the position in the range of 0.98" (+/- 0.394") with an adjustment accuracy of 0.002".
- The laser beam focus continuously adjusts itself based on material conditions during program execution
- The drawer-type lens holder allows for quick and easy replacement of protective lenses

## Laser Sources

- ACE Laser Compact R models are equipped with powerful Raycus laser sources
- Raycus laser sources are known for their high reliability, electro-optical conversion efficiency at high energy density and wide modulation frequency
- Low-maintenance beam guide is provided by a flexible fiberoptic cable and ensures long tool life

## Standard Equipment

complete system with CNC-control (CypCut), Ytterbium fiber laser by Raycus, fiberoptic cable, high-pressure cutting head by Raytools, automatic focus position adjustment, laser protection booth, automatic gas console, central lubrication, coolant regeneration, CAD/CAM software (CypCut), operating manual and programming instructions

## Options

## Part No.

- | Options                              | Part No. |
|--------------------------------------|----------|
| • Vacuum and filter system by Kemper | 253848   |

## Specifications ACE Laser Compact


### 1313 1.0 R

### 1313 1.5 R

### 1313 2.0 R

		1313 1.0 R	1313 1.5 R	1313 2.0 R
<b>Working Area</b>				
Table size	in	51x51	51x51	51x51
Maximum workpiece weight	lbs	550	550	550
Axis acceleration X- / Y-axis	ft/s <sup>2</sup>	16.4	16.4	16.4
<b>Travels</b>				
Travel X-axis	in	52	52	52
Travel Y-axis	in	52	52	52
Travel Z-axis	in	3	3	3
<b>Rapid Feed</b>				
X-axis rapid feed	fpm	130.8	130.8	130.8
Y-axis rapid feed	fpm	130.8	130.8	130.8
<b>Accuracies</b>				
Positioning accuracy X- / Y-axis	in	± 0.0012	± 0.0012	± 0.0012
Repeatability X- / Y-axis	in	± 0.0008	± 0.0008	± 0.0008
<b>Laser</b>				
Fiber laser		1,000	1,500	2,000
Laser source		Raycus	Raycus	Raycus
Shaft length	µm	1.08 ± 10%	1.08 ± 10%	1.08 ± 10%
Power consumption	kVA	3.6	6	7
Cutting capacity in structural steel	in	0.31	0.39	0.47
Cutting capacity in stainless steel	in	0.16	0.2	0.24
Cutting capacity in aluminum	in	0.08	0.16	0.2
<b>Measures and Weights</b>				
Overall dimensions (length x width x height)	in	100x86x75	100x86x75	100x86x75
Weight	lbs	4,488	4,488	4,488
Part No.		141100	141101	141102



See this machine  
in action on  
YouTube 



### Wide variety of equipment packages featuring up to 5-axis cutters

- Stand-alone cutter table features rigid steel construction for high load capacity
- Stand-alone table eliminates thermal and mechanical influences on the plasma cutter system
- the structure of the machine and the selection of components are designed to enable multi-shift operation
- Dual-drive bridge
- High-quality linear guides on all axes
- Dynamic AC servo drives on all axes with maintenance-free, zero-backlash planetary gears
- Low-wear and low-maintenance helical gears are designed for continuous operation
- Automatic torch height control
- quick-coupling for cutter head allows quick head exchanges for reduced tooling time
- Available with 5-axis cutter head, tube cutter, and many more options
- Optimum bed speed even for fine contours and tight radii
- Use the existing cutting parameters stored in the control to find the optimum cut





Shown with additional „Messer“ oxy-fuel cutter head (optional)



Eckelmann CNC unit with 19" touchscreen for TrueCut K models



### Options

### Part No.

• Maxpro 200 plasma source	253406
• XPR 170 Core plasma source	253407
• XPR 170 VWI plasma source	253408
• XPR 170 Optimix plasma source	253409
• XPR 300 Core plasma source	253410
• XPR 300 VWI plasma source	253411
• XPR 300 Optimix plasma source	253412

### Standard Equipment Hypertherm®

Table is prepared for filter system (automatic closure control), Panasonic servo-motors and drives, Automatic torch height control with Hypertherm THC sensor, Cutter torch with magnetic coupling and crash sensor, Hypertherm Edge Connect CNC Unit, 19" touchscreen by ELO, Ethercat-E, Laser pointer, ProNest Nesting Software

### Specifications TrueCut

		1530 H	2040 H	3060 H
<b>Working Area</b>				
Cutting Width	in	59	79	118
Cutting length	in	118	157	236
Table height	in	28	28	28
Table load capacity	lbs/ft <sup>2</sup>	106	106	106
Rapid feed	in/min	709	709	709
Weight (without plasma source)	lbs	6,820	9,020	20,900
Plasma source		Hypertherm	Hypertherm	Hypertherm
Part No.		144014	144015	144016

# Plasma-Jet Increases Process-Efficiency

Wahlers Forsttechnik is one of Germany's leading suppliers of forestry machinery. After their purchase of a KNUTH Plasma-Jet Compact, this supplier can now cut all their steel parts in-house.



## What convinced them to turn to KNUTH?

- Specialist consultation: specialist consultants provide advice at the customer's site
- Dialog-guided user interface: cutting software and drawing program provide an intuitive user-friendly interface
- Operator training: intensive 2-day introduction to plasma-cutting
- Excellent cutting results: effective, cost-efficient cutting processes without any need for rework

Wahlers is a general importer for Ponsse, the worldwide leading forest machinery manufacturer, and delivers yearly 80 machines for harvesting and transporting trees to their customers in Germany, Austria, Switzerland and the Netherlands. "We retrofit every other forest machine with additional equipment, like cable winches, clambunks, grapples or stanchions," explained Fabian Haarhaus, Master Mechanic at Wahlers. Since February 2020, the company uses a KNUTH Plasma-Jet Compact H 1530 with Hypertherm cutting technology for steel sheet cutting needs. This saves them outsourcing cost and, most importantly, time.

## Specialist Consultation

"In the past, we outsourced about 60% of our cutting tasks. The remaining 40% were cut and deburred manually, which was a labor-intensive process. With our outdated guillotine shears, it took one to two hours to finish one workpiece," said Haarhaus. In 2019 he started looking for a plasma cutter that could provide clean cuts in up to 32 mm thick structural steel

and would provide an intuitive user interface for easy operation. KNUTH associate, Andreas Hendrich, had the perfect offer. He brought their Cutting Specialist, Faruk Saglam, along to the customer's site to provide in-depth consultation. "The Plasma-Jet fully meets our expectations, and the Hypertherm cutting technology ensures great cutting results," explained Haarhaus. The machine features a MaxPro 200 plasma source and a table for cutting widths up to 59 in. and cutting lengths up to 118 in. Since the cutting process generates fumes and dust, the machine has been prepared for the connection of a filtered exhaust system with automatic shutter control. Wahlers opted for a high-efficiency dust collector and filtration unit with 4,000 m<sup>3</sup>/h capac-



One finished part welded from a variety of cut parts that were produced with a KNUTH Plasma-Jet



A leap forward in respect to quality: The left component has been cut with a manual plasma cutter prior to this purchase. The center part with precision cut edges was cut with the KNUTH Plasma-Jet.

ity. The cutting system was also equipped with a refrigeration dryer to adapt it to the existing compressed air system.

## Intelligent Software Solution, Faster Production

Six shop employees attended a 2-day training course led by Faruk Saglam to become familiar with the special requirements of plasma cutting and efficient operation of the Plasma-Jet cutter. The Libellula Wizard PRO software allows the user to choose from a selection of standard shapes and merely adjust the measurements. The software also suggests parameter settings that will provide the best cutting results based on the respective material. Two employees were trained in the Libellula.CAD 2D drawing program that allows them to create and store their own shapes. "The Plasma-Jet definitely speeds up our processes and we can complete all cutting tasks in-house," said Haarhus. The system is in use one or two hours every morning to cut parts for frames, cable winches, reinforcement plates for cranes and aggregates,



The component is tested and then manufacturing details are discussed

which then will be welded together in the afternoon. "Now, we can work with much more flexibility than before," stated Wahlers' Shop Manager. "And there is no need for rework as before with the manual cuts, since the cut edges are of good quality." In order to ensure long-term uninterrupted productivity, Wahlers also entered a Maintenance Agreement with KNUTH, and they added a multi-user license to cover programming of the entire in-house network.

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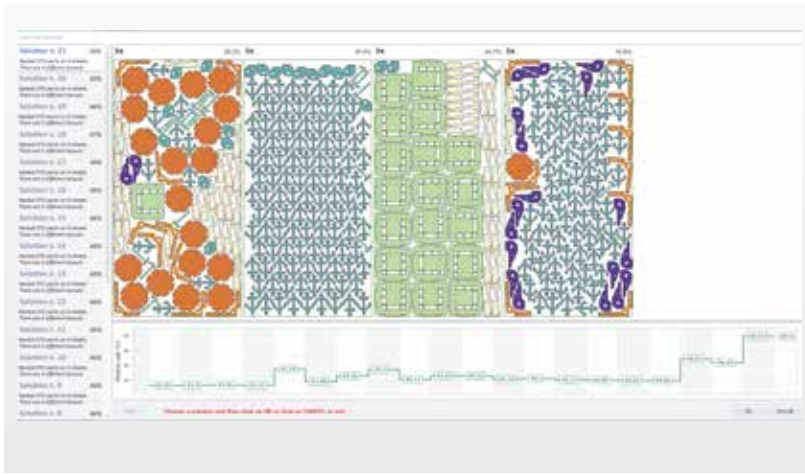
[www.wahlersforsttechnik.de](http://www.wahlersforsttechnik.de)

## Plasma-Jet Compact

The compact cutting machine of Hypertherm



- The Plasma-Jet Compact Series set themselves apart from the Plasma-Jet TrueCut series by a fully integrated machine frame that is connected to the table via a bottom plate, so the machine can be transported in one piece and requires minimum space
- If small plasma sources (e.g. Powermax) are used, they also are stored on a shelf inside the frame
- The standard equipment includes the same high-quality components as the larger series: dual-drive bridge, high-quality linear guides, dynamic AC servo-drives, helical gears, automatic torch height control, magnetic cutter head holder serving as collision guard, optimum cutting data preset in the control.
- These machines provide the same excellent cutting performance as the Plasma-Jet TrueCut series



Advanced nesting options with Libellula.CUT



Panasonic servo motors and EtherCAT network type drives



Optimum track speed even for fine contours and tight radii

### Standard Equipment Hypertherm®

Table is prepared for filter system (automatic closure control), Panasonic servo-motors and drives, Automatic torch height control with Hypertherm THC sensor, Cutter torch with magnetic coupling and crash sensor, Hypertherm Edge Connect CNC Unit, 19" touchscreen by ELO, Ethercat-E, Laser pointer, Eckelmann IBE Software cncCUT Nest, Eckelmann IBE Software cncCUT Epost

Options	Part No.
• Powermax 105 plasma source	253405
• Maxpro 200 plasma source	253406
• XPR 170 Core plasma source	253407
• XPR 170 VWI plasma source	253408
• XPR 170 Optimix plasma source	253409
• XPR 300 Core plasma source	253410
• XPR 300 VWI plasma source	253411
• XPR 300 Optimix plasma source	253412

Specifications Compact		1530 H	2040 H	3060 H
<b>Working Area</b>				
Cutting Width	in	59	79	118
Cutting length	in	118	157	236
Table height	in	24	24	24
Table load capacity	lbs/ft <sup>2</sup>	84	84	84
Rapid feed	in/min	709	709	709
Weight (without plasma source)	lbs	4,950	7,810	17,600
Plasma source		Hypertherm	Hypertherm	Hypertherm
Part No.		144031	144032	144033



See this machine  
in action on  
YouTube



- Compact design with guides integrated into the table frame
- Plasma cutting system for personal use providing high value at a lost cost
- Careful selection of the optimum components ensures that the same cutting functionality is available as in large plasma cutting systems
- Machine can be moved and transported in its fully assembled state
- The drives on both sides of the machine bridge and the drive of the X-slide along the machine bridge are carried out in a permanently precise manner by helical rack and pinion.
- The machine has a segment-wise suction of the working surface, whereby the respective suction flap is opened mechanically by the machine bridge passing.
- The distance between plasma cutting nozzle and plate surface is maintained by the Z axis height control; height control is regulated by an electric arc
- Plasma cutter head with collision guard



In plasma cutting, the electric arc between electrode and workpiece is constricted by a cutting nozzle so that a plasma beam of high energy density is generated as an effective cutting tool for metals.

### Standard Equipment Hypertherm®

Table is prepared for filter system (mechan. closure control), Panasonic servo-motors and drives, Automatic torch height control with Hypertherm THC sensor, Cutter torch with magnetic coupling and crash sensor, Hypertherm Edge Connect CNC Unit, 19" touchscreen, Ethercat-E, Laser pointer, Eckelmann IBE Software cncCUT Nest, Eckelmann IBE Software cncCUT Epos

### Options

- Powermax 105 plasma source

### Part No.

253405

For additional options for this machine, visit our website



New software feature, improved hardware, and integrated Hypertherm® cutting technology

### Specifications AirPro

### 1530 H

#### Working Area

Cutting Width	in	61
Cutting length	in	120
Table height	in	24
Table load capacity	lbs/ft <sup>2</sup>	71
Rapid feed	in/min	591
Weight (without plasma source)	lbs	3,740
Plasma source		Hypertherm
Part No.		144030

## Hypertherm® Plasma Source

These plasma sources fulfill all the needs of a powerful, heavy-duty plasma cutting system - they are simple, reliable and unbelievably productive

- Superior cut quality and durability
- Maximized productivity
- Minimized operating cost
- Unsurpassed process flexibility



### XPR300™

Unmatched performance and low operating cost

The new XPR300™ is known for its superior X-Definition™ cutting quality in plain carbon steel, steel alloys, and aluminum. Its much higher cutting speed leads to drastically increased productivity, while operating cost are reduced by more than 50%.

#### 3 Gas Console Designs:

- Core™ Console
- Vented Water Injection™ (VWI) Console
- OptiMix™ Console  
(incl. patent-pending Vented Water Injection™ (VWI) technology)

Plasma Source		105	MaxPro200	XPR 170	XPR300™*
<b>Cutting capacity in plain carbon steel</b>					
Virtually burr-free	inch	-/-	0.8	-	-
Hole cutting capacity in production	inch	0.6/0.9	1.2	1.6	1.8
Cut-off (edge-start)	inch	1/1.5	2	2.4	3
<b>Cutting capacity in steel alloy</b>					
Hole cutting capacity in production	inch	-/-	1	0.9	1.5
Cut-off (edge-start)	inch	-/-	2	1.5	2.9

\* with OptiMix™ Console



### EDGE® Connect CNC System

- The optimum control for any requirements
- CNC Software Phoenix® Version 10
- New software functions, improved hardware, and integrated Hypertherm® cutting expertise  
Easy to operate, absolutely reliable and powerful
- With the CutPro Wizard, even new users can cut high-quality parts in less than five minutes without training.



# Only available in Europe !



## Plasma cutting from 0.04 to 4 in

The Smart Focus series features a compact design and requires only a few settings to achieve excellent cutting results – even under the most demanding conditions.

All systems of the Smart Focus series feature the tried-and-tested Contour Cut technology for structural steel cutting.

Small contours, narrow lands and holes with a diameter/material thickness ratio of 1:1 can be cut with superior quality. Using Contour Cut Speed, contours can be cut up to 50% faster.

## Advantages

- Superior cutting quality (even in stainless steel)
- Tight perpendicularity tolerance
- User-friendly and low maintenance
- Low cutting costs
- Automatic gas console

## Water-Jet B

Cutting solution for virtually any type of material



- Very rigid dual-drive machine bridge
- Rigid frame construction (sides are made of stress-free annealed and milled monoblocks, which are fastened with pins during machine setup)
- High-quality linear guides on all axes
- Ground and hardened helical gears on Y and X axes, plus high-quality preloaded ball screws on Z axis
- Servo-motor drive on X / Y / Z axis
- Electronically monitored central lubrication system
- Stand-alone cutting table with high load capacity
- Exchangeable support grid with galvanized (standard) or stainless steel (option) slats
- The standard laser pointer simplifies workpiece alignment on the support table for optimized sheet metal utilization
- The abrasive sand is held in a 551 lbs storage container and transferred automatically via air pressure to a dosing unit



Cutting head and abrasive system are optimally matched to the respective system BFT high pressure pumps with ALLFI cutting head and abrasive system



Totally enclosed moving units to protect against ingress of water and dust

## Standard Equipment

separate cutting table, support grid with galvanized slats, CONTRONEST CNC Control, laser pointer, abrasive tank 551 lbs, swiveling control panel attached to the machine, electronic hand-wheel, operating manual and programming instructions

## Options

## Part No.

• BFT High pressure pump Ecotron 40.37, 3800 bars, 50HP	253564
• BFT High pressure pump Servotron 40.37	253364

For additional options for this machine, visit our website.

## Control BECKHOFF CX5130

- The CX5130 has an Intel Atom® multicore processor with 1.75 GHz, real multi-core technology in the segment of compact embedded PCs
- Two independent, Gigabit-capable Ethernet interfaces as well as four USB 2.0 and one DVI-I interfaces are available
- The CX5130 is characterized by low power consumption and no fan
- Powerful Contronest drives round out the powerful and reliable control package

## CAM-Software ControNest

- Easy to operate CAM software
- ControNest was specially developed for cutting machines
- The software includes an embedded CAM module, with which CAD drawings, nesting and material databases can be imported, which means no expensive additional CAM software is required

Specifications Water-Jet B		2010	2040	2060	3015	3020	3040	3060	3080
<b>Working Area</b>									
Cutting range	in	81x41	81x159	81x238	120x61	120x81	120x159	120x238	120x317
Table load capacity	lbs/ft <sup>2</sup>	307	307	307	307	307	307	307	307
<b>Travels</b>									
Travel Z-axis	in	8	8	8	8	8	8	8	8
<b>Rapid Feed</b>									
Rapid feed X-, Y-, Z- axis	in/min	787	787	787	787	787	787	787	787
<b>Feed</b>									
Work feed	in/min	0 - 787	0 - 787	0 - 787	0 - 787	0 - 787	0 - 787	0 - 787	0 - 787
<b>Accuracies</b>									
Positioning accuracy	in	+/- 0.002	+/- 0.002	+/- 0.002	+/- 0.002	+/- 0.002	+/- 0.002	+/- 0.002	+/- 0.002
Repeatability	in	+/- 0.002	+/- 0.002	+/- 0.002	+/- 0.002	+/- 0.002	+/- 0.002	+/- 0.002	+/- 0.002
<b>Measures and Weights</b>									
Overall dimensions (length x width x height)	in	136x79 x95	136x197 x95	136x276 x95	176x99 x95	176x119 x95	176x197 x95	176x276 x95	176x355 x95
Weight without water	lbs	5,324	10,912	14,564	7,414	8,646	13,090	18,282	23,100
Part No.		166740	166743	166744	166741	166742	166745	166746	166747



- Very rigid dual-drive machine bridge
- Rigid frame construction (sides are made of stress-free annealed and milled monoblocks, which are fastened with pins during machine setup)
- High-quality linear guides on all axes
- Ground and hardened helical gears on Y and X axes, plus high-quality preloaded ball screws on Z axis
- Servomotoren und Präzisionsgetriebe stellen die ausgezeichnete Positionier- und Wiederholgenauigkeit sicher
- Totally enclosed moving units to protect against ingress of water and dust
- Electronically monitored central lubrication system
- Stand-alone cutting table with high load capacity
- Exchangeable support grid with galvanized (standard) or stainless steel (option) slats
- The standard laser pointer simplifies workpiece alignment on the support table for optimized sheet metal utilization
- The abrasive sand is held in a 551 lbs storage container and transferred automatically via air pressure to a dosing unit

### 5-axis cutting system

- Chamfering up to 60°
- TaperControl - cutting angle correction feature
- 5-axis cutting kinematics with high dynamics and precision
- Endless Rotating = no contour disruption and no repeat plunge-cut required = time and cost savings



Powerful CNC with ergonomic design

## FAGOR CNC 8065

- **CNC CONTROL UNIT AND CAD/CAM-SOFTWARE**
- Powerful CNC with ergonomic design
- New series with touchscreen monitor, integrated mouse and USB port
- Rugged design with component technology that meets IP65 (NEMA12) standards
- Higher precision: Pre-programmed travel direction reversals are analyzed up front in order to adjust machining conditions according to the machine dynamics

Specifications Water-Jet 5X		2040	2060	3015	3020	3040	3060	3080
<b>Working Area</b>								
Cutting capacity (2D)	in	79x 157	79x 236	118x 59	118x 78	118x 157	118x 236	118x 315
Cutting capacity 5 axes	in	61x 138	61x2 19	100x 41	100 61	100x 140	100x 219	100x 297
Table load capacity	lbs/ft <sup>2</sup>	307	307	307	307	307	307	307
<b>Travels</b>								
Travel Z-axis	in	6	6	6	6	6	6	6
<b>Rapid Feed</b>								
Rapid feed X-, Y-, Z- axis	in/min	787	787	787	787	787	787	787
<b>Feed</b>								
Work feed	in/min	0 - 787	0 - 787	0 - 787	0 - 787	0 - 787	0 - 787	0 - 787
<b>Accuracies</b>								
Positioning accuracy	in	± 0,0008	± 0,0008	± 0,0008	± 0,0008	± 0,0008	± 0,0008	± 0,0008
Repeatability	in	± 0,0004	± 0,0004	± 0,0004	± 0,0004	± 0,0004	± 0,0004	± 0,0004
<b>Measures and Weights</b>								
Overall dimensions (length x width x height)	in	136x197 x95	136x276 x95	176x99 x95	176x119 x95	176x197 x95	176x276 x95	176x355 x95
Weight without water	lbs	10,912	14,564	7,414	8,646	13,090	18,282	23,100
Part No.		166753	166754	166751	166752	166755	166756	166757

## Standard Equipment

5-axis cutter system, IGEMS Software package, Network connection for Fagor CNC, separate cutting table, support grid with galvanized slats, FAGOR 8065 CNC, laser pointer, abrasive tank 250 kg, swiveling control panel attached to the machine, electronic hand-wheel, operating manual and programming instructions

## Options

Options	Part No.
• BFT High pressure pump Ecotron 40.37, 3800 bars, 50HP	253564
• BFT High pressure pump Servotron 40.37	253364
• Starter set BFT 40.30/40.37	166213

For additional options for this machine, visit our website.

## Software

- The IGEMS Software package allows you to create and import 2D and 3D drawings, define tool paths, and arrange nesting layouts

# Laser - Waterjet - Plasma

## Only 5 Steps to Find the Perfect Cutting System

Which cutting process is right for my requirements? What size unit would I need? A guide for the selection of your cutting system - and how the KNUTH Metalworking Center supports your decision making.



Please answer the following 5 questions and move one step closer to deciding on your ideal cutting system.

### 1. What internal requirements does the system have to fulfill?

The KNUTH Consultant Team works together with you to clarify all aspects of your processes:

For what tasks would you use a cutting system?

Are there other machining processes in your company for which a cutting system would be the better alternative? Where are possibilities for process optimization?

How do you assess the development of cutting tasks in terms of technical requirements and utilization?

### 2. Which process is right for my requirements?

Very important criteria in the selection process are expert consultation as well as technical preparation and assistance. The right process, the right dimension and precise alignment with your needs. This involves a systematic comparison of cutting technologies. We compare requirements like material and thickness of the original material, geometry of cutting contours and the amount of pieces to be processed.

### 3. Will the new machine increase the competitiveness of my company?

The main focus is not the purchase price, but to strike the right balance between productivity, availability, operation and maintenance costs. An objective evaluation of the cost-effectiveness will show that the targeted part production cost often does not meet the minimum requirement even when using the smallest possible cutting system. More wear and tear and slower production speeds result from the use of such a small system that continuously is stretched to its limits. Ultimately, the part production cost will be much higher than it would be with a more generously sized system.

We offer you trial machining of a sample so you can get solid data for your planning. The right price and customized financing ensure that your investment pays off and you remain competitive.



**ACE Laser:**  
Complete solutions for your cutting tasks



**Plasma-Jet Options:** Tube cutting systems, cutting heads for bevels and oxy-fuel cutting



**Water-Jet 2D and 5-axis machines,**  
cutting solutions for any material

We will find the perfect cutting technology, cutting machine size and technical equipment for you.

#### 4. When can I start seeing the benefits of the new technology?

To realize the full potential of production systems and deliver a quick return on investment, a smooth launch is absolutely vital. With the Startup package, our team guarantees speedy commissioning, instruction and training. Even after production starts, we always will be there to assist you by sharing knowledge and experience, either in person or remotely.

#### 5. Do I have the right service partner?

Characteristics of the right service partner are high availability and increased reliability. You are in production for the long run. That is why you should make sure when buying, that the right support will be available for the long run. KNUTH will service your cutting system over its entire life cycle.

When it comes to **laser cutting systems**, KNUTH recommends the use of fiber lasers with their superior cutting power and unsurpassed energy efficiency compared to CO2 laser systems. The fiber laser's wavelength is suitable for cutting reflective metals, like copper, aluminum or brass.

With **water-jet cutting systems** virtually all materials can be cut, and there are no thermal effects on the material. Additionally, it can cut through thick-

nesses that would be impossible to sever with laser or plasma cutting systems, and a much higher accuracy is possible in very thick materials.

**Plasma cutting systems** are ideal for cutting metals like stainless steel, aluminum and copper in various thicknesses. Plasma is faster in thicker materials and more cost-efficient than laser processes.

The KNUTH Consultant Team consists of expert sales consultants and engineers with extensive experience in the metalworking industry that can help you find the perfect process for your business. Consultation appointments include sample pieces and live machining of samples.

# Shearing

**See for yourself live:** Many models are in stock or can be viewed and tried out at a user's location near you. Make a demonstration appointment! Email [info@knuth-usa.com](mailto:info@knuth-usa.com) or call #847-415-3333



## Experience our machines in action!

With our YouTube channel KnuthMachineToolsUSA, you stay up to date with all the news and developments.



Hydraulic guillotine shears

**KHT**

Cutting length **118 - 236 in**

Cutting capacity **0.24 - 0.6 in**

Powerful for large, narrow, thick and thin sheets  
thanks to variable cutting angle

from page 240 onwards





## Motorized guillotine shears

### KMT

Cutting length **49 - 120 in**  
Cutting capacity **0.08 - 0.16 in**

The economic and powerful guillotine shears series for every workshop

from page 244 onwards



## Ironworker

### HPS H

Pressure capacity **45 - 175 t**  
Measuring length **13 - 24 in**

Universal machining at 5 work stations: punching, cutting, notching

Page 248 / 249



## Notching machine

### KAM

Cutting length **10 in**  
Cutting thickness **0.3 in**

Little space required, automatic cutting gap adjustment and clean cuts

Page 250

## Manual Shears

### KHS E

Cutting length **41 in**  
Cutting thickness **0.06 in**

Robust manual shear for easy and precise cutting of steelplate sheets up to 0.06 in

Page 251





KHT H 3010 CNC with optional accessories is shown

**These guided hydraulic plate shears with CNC-controlled back gauge, kerf and cutting angle combine high quality and reliability with a user-friendly design**

### Machine Frame

- The very rigid and heavy machine frame has been welded to tight tolerances and annealed
- All components subject to tensile loads have been carefully constructed and designed with large radii to permanently eliminate the risk of cracking
- The table features a bottom cutter mount and cutter bar and has been designed for minimal torsion and optimum load distribution
- All components were treated in a modern paint and drying system and feature two coats of paint, each coat with a minimum thickness of 60 micron

### Material Support

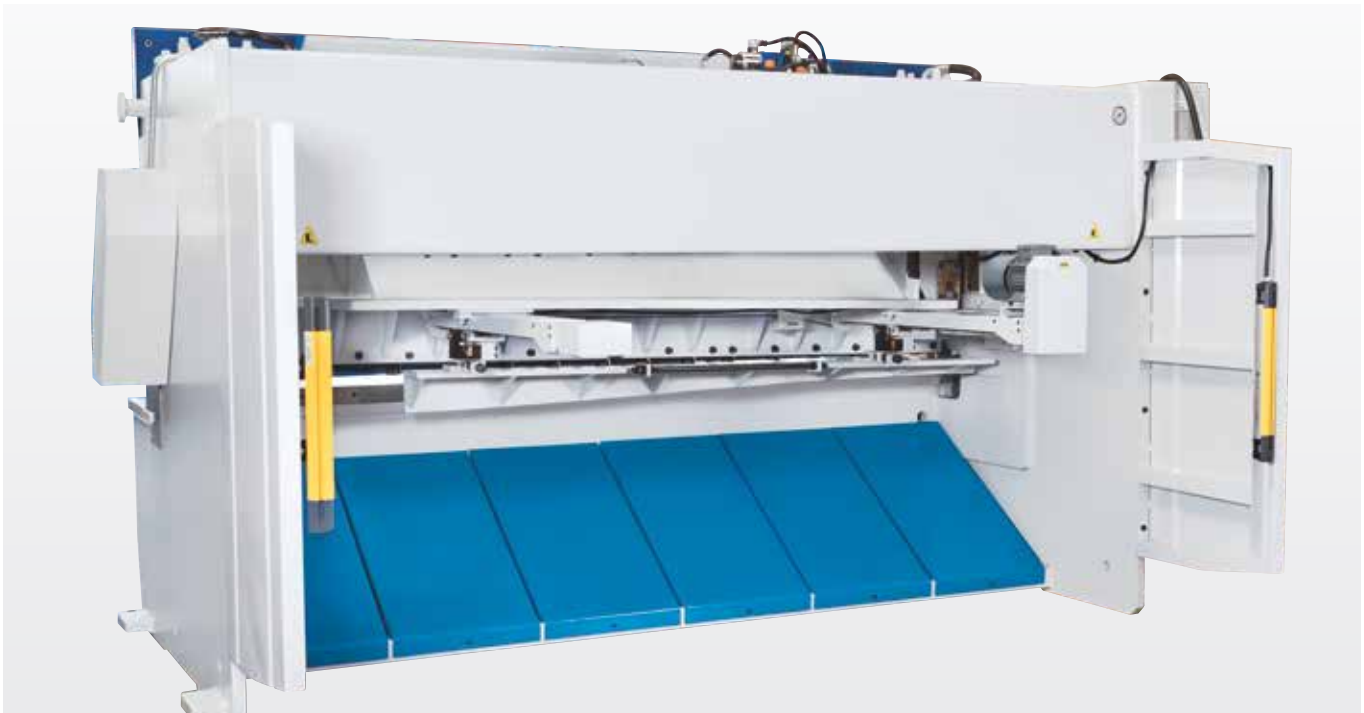
- The large work table features roller balls and a rigid lateral angular stop for easy handling and safe plate alignment
- Long, sturdy support arms safely hold large plates

### Hydraulics

- Polished pistons on both hydraulic cylinders feature superior 2 micron surface grades, ensuring a long seal life
- Cylinder bodies are forged from high-strength SAE 1040 material
- The entire hydraulic system is reliable, low-maintenance and easy to service
- During the cut, hydraulically regulated hold-downs ensure steady fixation of the sheet metal plate close to the cut-line

### Back Gauge and Control

- Length, thickness, and strength of the plate material can easily be entered by the user into the programmable control unit, which then automatically will select the appropriate positions for kerf, cutting angle and cutting length
- The back gauge system is very robust and perfectly suited for rough production environments
- Linear guides and preloaded ball screws are mounted in a protective enclosure



KHT H 3010 CNC is shown

## Equipment

- Electric components made by renowned manufacturers ensure problem-free operation and high availability
- Upper and lower knives suitable for stainless steel
- The machine is operated via a foot pedal with emergency stop switch, and the pedal can be located wherever it is most convenient

## Safety

- Safety concept based on the latest CE standards
- The rear-mounted light barrier system protects the work area

## Standard Equipment

Cybelec Touch 8 controller, CNC-controlled kerf adjustment, CNC-controlled cutting length adjustment, CNC controlled cutting angle adjustment, hand safety guard, cut-line lighting, material support table with rollers, motorized rear stop 39 inch, side stop with scale and T-slot plus tilt stop (L = 39 inch), 2 support arms, safety system for work area, back gauging, foot pedal with E-stop switch, standard upper and lower knives, operator manual

Specifications KHT H CNC		3006	3010	3013	3016	4006	4010	4013	4016
<b>Working Area</b>									
Plate thickness (max.)	in	0.24	0.39	0.51	0.63	0.24	0.39	0.51	0.63
Working length	in	121	121	121	121	161	161	161	161
Throat	in	6	6	6	6	6	6	6	6
Cutting angle	deg	0.3 - 2	0.3 - 2	0.3 - 2.3	0.3 - 2.5	0.3 - 2	0.3 - 2	0.3 - 2.3	0.3 - 2.5
Strokes per minute		20	19	19	14	17	18	16	13
Hold-down	positions	13	16	16	18	20	20	19	20
<b>Back Gauge</b>									
Rear stop	in	39	39	39	39	39	39	39	39
Feed speed X-axis	in/min	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
<b>Front Support Arms</b>									
Number of support arms	positions	3	3	3	3	4	4	4	4
Length of support arms	in	35	35	35	35	35	35	35	35
<b>Drive Capacity</b>									
Motor rating main drive	Hp	14.8	29.5	40.2	49.6	14.8	29.5	40.2	49.6
Hydraulic tank volume	gal	40	66	66	92	40	66	66	92
<b>Measures and Weights</b>									
Overall dimensions (length x width x height)	in	154x82 x77	155x84 x84	156x85 x89	158x87 x96	195x83 x82	196x86 x91	197x87 x94	197x89 x10 4
Weight	lbs	15,400	20,900	25,300	33,660	21,340	30,250	36,080	50,160
Part No.		183260	183261	183262	183263	183264	183265	183266	183267



See this machine  
in action on  
YouTube



**The new KHT H NC series features high machining quality and reliability, is easy to handle and provides superior cutting performance.**

### Machine Frame

- The machine frame is made of a high-precision, stress-relieved steel weldment and features rigid sliding block guides
- Motorized adjustments of kerf and knife angle allow for ideal settings optimized for the sheet metal plate to be processed
- All components were treated in a modern paint and drying system and feature two coats of paint, each coat with a minimum thickness of 60 micron

### Material Support

- The large work table features roller balls and a rigid lateral angular stop for easy handling and safe plate alignment
- Long, sturdy support arms safely hold large plates

### Hydraulics

- Polished pistons on both hydraulic cylinders feature superior 2 micron surface grades, ensuring a long seal life

- Cylinder bodies are forged from high-strength SAE 1040 material
- During the cut, hydraulically regulated hold-downs ensure steady fixation of the sheet metal plate close to the cut-line

### Back Gauge and Control

- Linear guides and preloaded ball screws are mounted in a protective enclosure
- The user-friendly NC positions the back gauge precisely for single cuts or for program runs

### Equipment

- Upper and lower knives suitable for stainless steel
- The machine is operated via a foot pedal with emergency stop switch, and the pedal can be located wherever it is most convenient

### Safety

- Safety concept based on the latest CE standards

## Options

	Part No.
• Angular stop adjusts from 0 to 180 °	253283
• Hydraulic oil pre-warmer	253276
• Hydraulic oil cooler	253277
• Manual central lubrication system	253278
• Automatic central lubrication system	253279
• Support arm with L=59" for KHT H NC	253280
• Support arm with L=79" for KHT H NC	253281
• Support arm with L=118" for KHT H NC	253282
• Fixed sheet hold-up device KHT H NC 4013	253501
• Pneumatic sheet hold-up device KHT H NC 4013	253500

## Standard Equipment

operator instructions, foot pedal, standard upper and lower knife, motorized kerf adjustment, motorized back gauge, Motorized cut angle adjustment, foldable finger guard, Shadow graph display of cut line, support arms, BRL 401.2 NC control unit

## Specifications KHT H NC

		2006	2506	3006	3008
<b>Working Area</b>					
Plate thickness (max.)	in	0.24	0.24	0.24	0.31
Working length	in	82	102	121	121
Cutting angle	deg	0.3 - 2	0.3 - 2	0.3 - 2	0.3 - 2
Hold-down	positions	10	12	13	16
Hold-down capacity	t	16.5	16.5	17.6	22
<b>Back Gauge</b>					
Rear stop	in	39	39	39	39
Feed speed X-axis	in/min	3.9	3.9	3.9	3.9
<b>Front Support Arms</b>					
Number of support arms	positions	2	3	3	3
Length of support arms	in	35	35	35	35
<b>Drive Capacity</b>					
Motor rating main drive	Hp	14.8	14.8	14.8	29.5
Hydraulic tank volume	gal	42	42	42	92
<b>Measures and Weights</b>					
Overall dimensions (length x width x height)	in	110x111x73	130x111x74	151x111x78	152x111x84
Weight	lbs	10,780	12,540	15,400	18,590
Part No.		184200	184201	184202	184203

## Specifications KHT H NC

		3010	3013	4006	4010	4013
<b>Working Area</b>						
Plate thickness (max.)	in	0.39	0.51	0.24	0.39	0.51
Working length	in	121	121	161	161	161
Cutting angle	deg	0.3 - 2	0.3 - 2.3	0.3 - 2	0.3 - 2	0.3 - 2.3
Hold-down	positions	16	16	20	20	19
Hold-down capacity	t	22	41.8	27.5	27.5	49.5
<b>Back Gauge</b>						
Rear stop	in	39	39	39	39	39
Feed speed X-axis	in/min	3.9	3.9	3.9	3.9	3.9
<b>Front Support Arms</b>						
Number of support arms	positions	3	3	4	4	4
Length of support arms	in	35	35	35	35	35
<b>Drive Capacity</b>						
Motor rating main drive	Hp	29.5	40.2	14.8	29.5	40.2
Hydraulic tank volume	gal	92	92	42	92	92
<b>Measures and Weights</b>						
Overall dimensions (length x width x height)	in	152x115x85	156x116x89	195x111x82	196x115x91	197x115x94
Weight	lbs	20,240	25,300	21,340	30,250	36,080
Part No.		184204	184205	184206	184207	184208



KMT B 1254

- Manual back gauge
- High cutting power



Manual back gauge with counter

- The machine frame is made of a rigid, solid steel weldment
- A rubber-coated hold-down automatically fixates the plate
- A small knife angle ensures cut accuracy
- The rigid side angle stop simplifies alignment of the plate to the cut line

**Standard Equipment**

foot pedal, Side angle stop, support arms, Automatic hold-down, cut-line lighting, manual rear stop, operator instructions

**Specifications**

		<b>KMT B 1253</b>	<b>KMT B 1254</b>	<b>KMT B 2052</b>	<b>KMT B 2053</b>
Structural steel plate thickness	in	0.03 - 0.12	0.03 - 0.16	0.03 - 0.08	0.03 - 0.12
Working length	in	49	49	81	81
Cutting angle	deg	2	2.4	2	2
Strokes per minute (automatic mode)		30	30	30	30
Work table height	in	33	33	33	33
Number of support arms	positions	2	2	3	3
Rear stop	in	25	25	25	25
Motor rating main drive	Hp	4	5.4	4	5.4
Overall dimensions (length x width x height)	in	67x59x44	68x63x47	99x66x44	99x63x47
Weight	lbs	1,870	2,607	2,860	3,344
Part No.		133640	133642	133643	133641



KMT B 2552 NC is shown

- **Controlled back gauge**
- **4.3" touchscreen**
- **Reversible upper and lower knife**



The rugged back gauge stands up to every day production challenges

- The rigid side angle stop simplifies alignment of the plate to the cut line
- The PLC back-gauge control with 4.3" touchscreen features a user-friendly graphic interface for quick and easy programming
- The backgauge is driven by a servo motor, which significantly improves positioning and repeatability accuracy
- A plate hold-up fixture prevents any overhang of the plate in front of the back gauge to ensure maximum accuracy and quality of every cut, even in thin plates

### Standard Equipment

PLC control, work lamp, safety guard with power off after open door, Back gauge with 4.3" touchscreen, foot pedal, cut-line lighting, lateral stop, Support arms with material support rollers, powered rear stop, hold-down, pneumatic sheet hold-up device, Safety cover for work area near back gauge, operator instructions

### Specifications

		KMT B 1304 NC	KMT B 2552 NC	KMT B 2554 NC
Structural steel plate thickness	in	0.03 - 0.16	0.03 - 0.08	0.03 - 0.16
Working length	in	51	100	100
Cutting angle	deg	2.4	1.6	1.8
Strokes per minute (automatic mode)		30	30	30
Work table height	in	33	33	33
Number of support arms	positions	5	5	5
Rear stop	in	25	25	25
Motor rating main drive	Hp	5.4	5.4	10.1
Overall dimensions (length x width x height)	in	69x72x47	119x71x49	121x74x50
Weight	lbs	2,981	4,180	5,500
Part No.		133652	133653	133650



- The machine frame is made of a very rigid, solid steel weldment
- The upper knives are reversible for use of both sides, and the lower knives feature 4 cutting edges
- A rigid, continuous hold-down fixes the sheet metal plate right in front of the cut line
- The rigid side angle stop simplifies alignment of the plate to the cut line
- The mobile foot switch gives the operator added flexibility and both hands are free for handling the workpiece
- The back gauge can be positioned precisely via a hand-wheel

### Standard Equipment

foot pedal, cut-line lighting, lateral stop, support arms with T-slots and tilting stop, manual 29.5 in. backgauge, ball bearing front table, light curtain, top blade with 2 sides, foldable finger guard, operator instructions

### Specifications KMT S

		1353	1553	2053	2552	3052
Structural steel plate thickness	in	0.004 - 0.118	0.004 - 0.118	0.004 - 0.118	0.004 - 0.098	0.004 - 0.079
Plate thickness stainless steel	in	0.059	0.059	0.059	0.049	0.039
Working length	in	53	61	81	100	120
Cutting angle	deg	2.32	2.05	1.58	1.3	1.3
Work table height	in	33	33	33	33	33
Work table depth	in	15	15	15	15	15
Number of support arms	positions	2	2	3	3	4
Support arms	in	37	37	37	37	37
Strokes per minute		34	34	34	34	34
Rear stop	in	30	30	30	30	30
Motor rating main drive	Hp	4	4	5.4	5.4	5.4
Overall dimensions (length x width x height)	in	76x85x52	85x85x52	107x85x52	126x85x52	146x85x52
Weight	lbs	2,750	3,410	3,850	4,290	4,840
Part No.		133610	133611	133612	133613	133614





Material support rollers are recessed in the table for easy workpiece handling

- The machine frame is made of a very rigid, solid steel weldment
- The upper knives are reversible for use of both sides, and the lower knives feature 4 cutting edges
- A rigid, continuous hold-down fixes the sheet metal plate right in front of the cut line
- The rigid side angle stop simplifies alignment of the plate to the cut line
- The mobile foot switch gives the operator added flexibility and both hands are free for handling the workpiece
- The motorized back gauge ensures precise positioning in automatic, semi-automatic and manual modes


### Standard Equipment

BRL NC controller, motorized rear stop (29 inch), manual blade gap adjustment, foot pedal, cut-line lighting, light curtain, lateral stop, support arms with T-slots and tilting stop, ball bearing front table, top blade with 2 sides, foldable finger guard, operator instructions

### Specifications KMT S

		2054 NC	2554 NC	3054 NC
Structural steel plate thickness	in	0.004 - 0.157	0.004 - 0.157	0.004 - 0.157
Plate thickness stainless steel	in	0.079	0.079	0.079
Working length	in	81	100	120
Cutting angle	deg	1.3	1.3	1.3
Work table height	in	32	32	32
Work table depth	in	18	18	18
Number of support arms	positions	3	3	4
Support arms	in	37	37	37
Strokes per minute		29	29	29
Rear stop	in	30	30	30
Motor rating main drive	Hp	10.1	10.1	10.1
Overall dimensions (length x width x height)	in	107x85x58	126x85x58	146x85x58
Weight	lbs	6,600	7,700	8,800
Part No.		132210	132211	132212



See this machine  
in action on  
YouTube 

HPS 65 H is shown

### Flat Steel Cutters

- For strip steel, flat steel, wide flat steel
- Table with angular and linear stops
- Adjustable hold-down
- Lower knife provides 4 cutting edges

### Angular Profile Steel Cutters

- For angle steel sections
- Cut angle 90° and 45°
- Adjustable material guide plate

### Rod Steel Station

- For round and square steel
- Robust material guide plate

### Back Gauge

- Including swivel boom
- For use on Flat Steel, Angular Steel and Rod Steel Stations
- The HPS H 45 and HPS H 60 come with a manual back gauge
- Electric back gauges for automatic cut activation are provided on the HPS 65 H, HPS 85 H, HPS 115 H, HPS 175 H

### Hole Punch Station

- For punching round holes and slots in sheet metals, flat steel and U-section steel
- Table with adjustable angular stops
- Infinitely variable stroke adjustment
- Premium Kingsland tools
- Hydraulic overload protection

### Notching Station

- Rigid support table with adjustable stops

### Standard Equipment

easy replaceable punch holder, stamps and dies, angle cutting blade, flat bar cutting blade, notching blade, solid bar cutting blade, electric back gauge with automatic cutting (39 in), foot pedal with emergency stop button, hook spanner wrench, work lamp



Back gauge with automatic cut activation



Notching station with safeguard



- Models HPS 45H and HPS 60 H feature a powerful hydraulic cylinder
- Models HPS 65 H, HPS 85 H, HPS 115 H and HPS 175 feature 2 hydraulic cylinders allowing simultaneous operation at 2 stations



Hole punch station featuring large support table



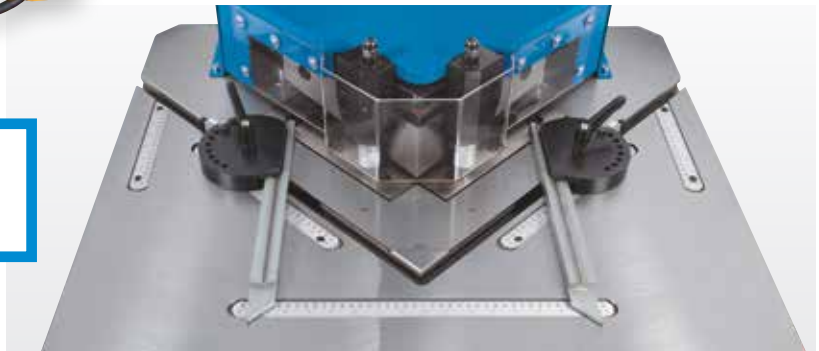
Compact design and excellent rigidity

## Specifications HPS

		45 H	60 H	65 H	85 H	115 H	175 H
<b>Working Area</b>							
Number of hydraulic cylinders	positions	1	1	2	2	2	2
<b>Punch press</b>							
Pressure force	t	49.5	66	71.5	93.5	126.5	192.5
Punch capacity (max.)	in	0.87x0.59	1.1x0.59	1.02x0.79	1.3x0.79	1.34x1.02	1.57x1.26
Diameter x thickness	in	1.5x0.3	1.5x0.4	2.2x0.4	2.2x0.5	2.2x0.6	2.2x0.9
Throat	in	7	9	12	14	16	25
Stroke	in	1.4	2	2.2	3.1	3.1	3.1
Stroke number (at 20 mm stroke)		20	25	25	25	25	22
Working height	in	37	37	40	42	42	44
<b>Steel cutter</b>							
Cutting capacity flat (max. width)	in	11.8x0.5	11.8x0.6	14.8x0.6	18.9x0.6	23.6x0.6	23.6x0.8
Cutting capacity flat (max. thickness)	in	8x1	8x1	12x1	15x1	15x1	15x1
Knife length	in	13	13	15	19	24	24
Cutting capacity round	in	1	2	2	2	2	3
Cutting capacity square	in	1	1	2	2	2	2
Steel cutter working height	in	37	37	35	37	36	36
<b>Profile cutter</b>							
Cutting capacity 90°	in	3.9x3.9x0.4	4.7x4.7x0.5	5.1x5.1x0.5	5.9x5.9x0.6	6.3x6.3x0.6	7.9x7.9x0.8
Cutting capacity 45°	in	2.4x0.2	2.8x0.3	2.8x0.3	3.1x0.3	3.1x0.3	3.1x0.3
Profile cutter working height	in	44.68	44.49	44.49	46.85	46.85	45.67
<b>Notcher</b>							
Plate thickness (max.)	in	0.31	0.39	0.39	0.51	0.51	0.63
Width	in	1	2	2	2	2	3
Depth	in	4	4	4	4	4	4
<b>Drive Capacity</b>							
Motor rating hydraulic pump	Hp	5.4	5.4	7.4	10.1	14.8	14.8
<b>Measures and Weights</b>							
Overall dimensions (length x width x height)	in	53x31 x58	58x31 x63	67x31 x70	74x31 x75	81x31 x80	111x43 x88
Weight	lbs	2,640	3,080	3,740	4,950	6,930	12,650
Part No.		131180	131181	131182	131183	131184	131185



- Cutting capacity up to 0.3 in
- Automatic kerf adjustment
- Large work table



Adjustable clamping lever simplifies safe handling of stops

- The KAM 250 fixed-angle notcher features a compact design and long cutting length
- The powerful hydraulic drive and heavy, rigid construction allow machining of up to 0.3 in thick plates
- Automatic kerf adjustment simplifies machining operations and minimizes down-times
- The large work table features a 90° slot that runs parallel to the cut line, which can accommodate two indexable angular stops

### Standard Equipment

foot pedal with e-stop switch, angle stop, operator manual

### Specifications

### KAM 250

#### Working Area

Cutting angle	deg	90
Max cut length	in	10
Max cut thickness	in	0.3
Strokes per minute	positions	24
Table size	in	32x30
Motor rating	Hp	5.4
Operating pressure	psi	1,740

#### Measures and Weights

Oil tank capacity	gal	9.24
Overall dimensions (length x width x height)	in	39.8x33.5x55.1
Weight	lbs	1,386
Part No.		130610



Manual Shears

## KHS E 1000

Robust manual shear for easy and precise cutting of steelplate sheets up to 0.06 in



- Large dimensions steelplates sheets can be pushed through
- Large steel plates can be pushed through
- Simple and solid cast-iron construction
- Adjustable cutting stop

### Specifications KHS E 1000

Plate thickness (max.)	in	0.06
Working length	in	41
Rear stop	in	0 - 23
Table dimensions	in	24x43
Overall dimens. (length x width x height)	in	52x40x60
Weight	lbs	1,012
Part No.		132036



Folding Machine

## SBS 1020/2,5 • 1270/2,0

Heavy manual folding machine with segmented upper tool



- For formed component bending
- Compression spring for top counterbalance
- Cam lock and rebound spring for bending beam counterbalance
- Bow handle for bending beam rotation
- Adjustable bending angle stop with scale up to 135°
- Segmented top beam tools
- Segment size: 1", 1.2", 1.375", 1.5", 1.75", 2", 3", 4", 6", 8", 10.5"

### Specifications SBS 1020/2,5 1270/2,0

		1020/2,5	1270/2,0
Working length	in	40	50
Plate thickness (max.)	in	0.1	0.08
Bending bar angle (range)		135°	135°
Overall dimensions	in	54x34x47	63x36x47
Weight	lbs	627	726
Part No.		131364	131363

# Bending and forming machines

**See for yourself live:** Many models are in stock or can be viewed and tried out at a user's location near you. Make a demonstration appointment! Email [info@knuth-usa.com](mailto:info@knuth-usa.com) or call #847-415-3333



## Experience our machines in action!

With our YouTube channel KnuthMachineToolsUSA, you stay up to date with all the news and developments.



Press brake

**AHK**

Folding length **59 - 240 in**

Pressure capacity **66 - 440 to**

Simple operation and programming, variety of tools,  
high bending capacity and flexibility

from page 254  
onwards



### Hydraulic folding machine

#### HBM

Folding length **80 - 122 in**  
Bending capacity **0.2 - 0.3 in**

Perfect dimensionally stable  
bending that is gentle on the surface

Page 260 / 261



### Manual folding machine

#### SBS

Working length **40 - 119 in**  
Plate thickness (max.) **0.05 - 0.08 in**

Compact folding machine  
with segmented upper die

Page 251, 262



### Plate rolling machines

#### KRM / RBM

Rolling length **41 - 161 in**  
Sheet thickness **0.06 - 1.8 in**

Very solid bending machine with excellent  
machining quality

from page 263 onwards



### Pipe and profile bending machine

#### KPB

Shaft diameter **1.2 - 4 in**  
Roller diameter **5 - 12 in**

Simple and economical tubes and profiles  
bend into arches or rings

from page 268 onwards



# CNC Press Brake ensures more predictability and shorter production times

Quality and Reliability: KOPA Forstmaschinen uses a KNUTH AHK H 30220 CNC 4x Press Brake in their forest machinery operation.



## KNUTH was convincing

- Fast: On-site appointment with KNUTH representative within 72 hours after customer's initial inquiry
- Provided expert advise on future-oriented machine performance, flexible use, short tooling times
- Service: Referred retired machine to a used machinery dealer
- Reliability: On-time delivery and minimal down-time for machine exchange

"We use forest machinery and cranes with special modifications and retro-fittings to handle lumber from forests, logging and transportation to the saw mills, and from there to building supply and home improvement stores", explained their Managing Director, Bernd Lachman. KOPA Forstmaschinen was founded 1964 in Kuddewörde in the German state of Schleswig-Holstein. Today they are the oldest highly specialized forest machinery supplier in Germany with three related businesses operated by the Koop family. "We distribute forestry machines made by the Swedish manufacturer, ROTTNE, and we are specialized in building customized Palfinger crane substructures as well as hook loaders and skip loaders. In addition, we are a service representative for IVECO utility vehicles and offer individual solutions for custom vehicles", added Bernd Lachmann. The company employs 30 people and currently works on more than 20 investment projects.

## Flexible press brake for custom bending

Since July 2020, KOPA uses a KNUTH AHK H 30220 CNC 4x press brake in their workshop, which is mainly used to bend 0.315" to 0.472" thick steel plates. "Since the machine is used by about ten employees of all three businesses, it had to offer a wide spectrum of machining capacities and allow quick retrofitting, easy operation and maximum reliability", said Lachmann. The company was well aware of KNUTH, who has been known for over 30 years as a reliable machine tool supplier with excellent service and local presence. Within 72 hours of the custo-





Custom crane substructure for a Rottne F15D forestry machine – a power package for high loads and long forwarders



KNUTH Sales Manager, Christoph Ziebarth, and KOPA Managing Director, Bernd Lachmann



Machined component with radius for a guard cover on a timber transporter fuel tank

mer's inquiry, Christoph Ziebarth, Sales Manager for KNUTH Northern Germany, was on site to become familiar with the work processes, space requirements and specific requirements for the new machine. Lachmann gladly accepted the initiation to KNUTH's site in Wasbek, where he and three of his employees checked out the quality and the performance spectrum of the AHK H 30220. Their old machine was referred by KNUTH to a network of used machine dealers, and the replacement of the machine was completed with minimal down-time.

### Reliable Quality and Excellent Service


KOPA was very happy with their investment in the new CNC press brake. With this increased capacity, they were well equipped for machining even thicker plates and well prepared for future challenges and competition from larger companies. Lachmann's employees were shown the operation of the new machine in a one-day training session. Just as their customers trust in them, KOPA also puts their trust in the proven quality of a long-established

family business that will keep the promised delivery dates. If a vehicle arrives, a speedy process is of the essence. Each steel plate for substructures will be manufactured individually. Thanks to the Delem DA69T 3D software recommended by KNUTH, the plates can be machined circular and/or with a radius using the respective male and female dies. "The new press brake resulted in increased speed and reliability of our work processes, plus we enjoy more predictability and shorter production times", commented Bernd Lachmann.

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 Tel. +49 (0) 4154 3069  
[www.kopa-forstmaschinen.de/](http://www.kopa-forstmaschinen.de/)

For more machines of this series,  
visit our website



See this machine  
in action on  
YouTube 



Shown with optional equipment

## Machine Frame and Male Die

- The machine frame is made of a high-precision, stress-relieved steel weldment
- All components subject to tensile loads have been carefully constructed and designed with large radii to eliminate the risk of welding cracks
- All components were treated in a modern paint and drying system and feature two coats of paint, each coat with a minimum thickness of 60 micron

## Work Area

- A large throat, long stroke, and narrow table ensure plenty of free space to accommodate complex bending sequences

## Crowning

- All machines include a manual crowning system inside the table; a motorized crowning version is available as an option

## Hydraulics

- Cylinder bodies are forged from solid SAE 1040 material
- Perfectly matched hydraulic components and measuring systems ensure exact synchronization of work cylinders

## Back Gauge

- Linear guides and large preloaded ball screws are mounted in a protective enclosure to ensure smooth operation even under the most difficult environmental conditions
- Exact adjustment of back gauge finger height

## Front Support Arms

- Rigid linear guide and ball bearings for boom ensure maximum stability and easy positioning

## Bending Tools

- Promecam (European) tool mounts accommodate an extensive selection of bending tools
- All tools are hardened and ground, and allow precise setup
- Manual quick-action clamping system for tool mount shortens tool changing times

## Standard Equipment

Delem 53 T 2D Steuerung, X-axis back gauge with servo motor, manual lower table crowning, quick-action clamping of male die, manual akas laser safety LC II M FMSC safety system, light barrier, european type male die H = 3 inch, 2 front support arms, foot pedal with E-stop button, european type female die 4V H: 2 x 2 inch, 2 height-adjustable back-gauge fingers, European tool mount, operator instructions

## Safety and Productivity

- Safety concept based on the latest CE standards
- **Quick-action clamping male die (only on models with up to 353t force)**

## Options

To see the available options for this machine, visit our website.

Specifications AHK H CNC		15060	20080	26100	30100	30135	30175	30220	30270
<b>Working Area</b>									
Pressure force	t	66	88	110	110	148.5	192.5	242	297
Brake length	in	59	83	102	122	122	122	122	122
Distance between columns	in	51	67	87	102	102	102	102	102
Throat	in	16	16	16	16	16	16	16	16
Stroke	in	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
Clear opening	in	19.09	19.09	19.09	19.09	19.09	19.09	19.09	19.09
Table width	in	4	4	4	4	4	4	4	4
<b>Travels</b>									
Travel in X-axis	in	20	20	20	28	28	28	28	28
<b>Feed</b>									
Bending speed	in/s	0.35	0.35	0.39	0.39	0.35	0.39	0.39	0.35
Rapid feed	in/s	6	6	5	5	5	5	6	5
Return speed	in/s	4.33	4.53	4.33	4.33	3.74	4.72	4.33	3.74
<b>Drive Capacity</b>									
Motor rating main drive	Hp	10.1	10.1	14.8	14.8	20.1	24.8	29.5	29.5
<b>Measures and Weights</b>									
Hydraulic tank volume	gal	26.4	26.4	26.4	26.4	66	66	66	92.4
Overall dimensions (length x width x height)	in	95x69 x101	121x71 x106	136x75 x107	156x75 x109	156x77x111	156x78 x113	158x79 x115	158x79 x117
Weight	lbs	9,460	12,540	14,740	17,600	19,800	24,200	26,840	28,600
Part No.		182620	182621	182622	182624	182625	182626	182627	182636

Specifications AHK H CNC		30320	37220	40175	40220	40270	40320	40400	60320	60400
<b>Working Area</b>										
Pressure force	t	352	242	192.5	242	297	352	440	352	440
Brake length	in	122	146	161	161	161	161	161	240	240
Distance between columns	in	102	126	142	142	142	142	134	201	201
Throat	in	20	16	16	16	16	20	20	20	20
Stroke	in	14.4	10.4	10.4	10.4	10.4	14.4	14.4	14.4	14.4
Clear opening	in	23.03	19.09	19.09	19.09	19.09	23.03	23.82	23.03	23.82
Table width	in	6	4	4	4	4	6	6	6	6
<b>Travels</b>										
Travel in X-axis	in	28	28	28	28	28	28	28	28	28
<b>Feed</b>										
Bending speed	in/s	0.28	0.39	0.39	0.35	0.35	0.28	0.31	0.31	0.33
Rapid feed	in/s	4	6	5	6	5	4	3	4	3
Return speed	in/s	3.74	4.33	4.72	4.33	3.74	3.74	3.35	3.15	2.56
<b>Drive Capacity</b>										
Motor rating main drive	Hp	40.2	29.5	24.8	29.5	29.5	40.2	49.6	40.2	49.6
<b>Measures and Weights</b>										
Hydraulic tank volume	gal	92.4	66	66	66	92.4	92.4	92.4	92.4	132
Overall dimensions (length x width x height)	in	160x83 x123	180x79 x119	195x79 x117	195x79 x119	195x79 x119	197x89 x128	197x89 x136	276x89 x140	278x89 x147
Weight	lbs	30,800	30,580	28,600	33,000	38,500	45,100	54,340	61,600	77,000
Part No.		182628	182629	182630	182631	182637	182632	182633	182634	182635



See this machine  
in action on  
YouTube



## Machine Frame and Male Die

- The machine frame is made of a high-precision, stress-relieved steel weldment and features a rigid bending bar and hydraulic cylinders on both sides
- A large throat and narrow table ensure plenty of free space to accommodate complex bending sequences

## Hydraulics

- The hydraulic unit with reservoir is placed in the top part of the machine frame to save space and add to the rigidity of the construction
- Precise upper beam positioning is ensured by a torsion shaft that connects the depth stops of both cylinders

## Front Support Arms

- Each support arm can be adjusted in height and is extremely sturdy
- A stop ridge on the supporting surface helps with workpiece alignment

## Bending Tools

- Promecam tool mounts to accommodate an extensive selection of bending tools
- Manual quick-action clamping system for tool mount shortens tool changing times
- With 4 bending dies the die can handle a wide spectrum of workpieces

## Safety and Productivity

- Safety concept based on the latest CE standards
- Light curtains around the work area provide reliable protection



## Back Gauge

- The excellent stability of the NC-controlled back gauge is an important factor for achieving excellent machining precision
- Linear guides and large preloaded ball screws are low maintenance and extremely sturdy
- The motorized R-axis simplifies the precise stop-height set-up
- Lateral positioning of back gauge fingers on dual, smooth-running linear guides

## Standard Equipment

Weintek 7" NC-control, motorized backgauge X-axis, motorized backgauge R-axis, Upper tool H European style H = 2.6" (segmented), european type bottom tool 4V, Front support arms (2 ea), light curtain, foot pedal with E-stop button, operator instructions

## Control

- All functions are input and retrieved directly at the touchscreen
- In manual mode, all axes can be positioned via motorized motion and the set values are shown on the display
- In semi-automatic mode, the values entered by the user are directly selected
- In auto. mode, the programmed bending sequence is positioned automatically
- Each storage area holds 500 data sets, and programs can be stored externally and re-imported
- The axis position is maintained when the display is turned off
- In addition to a USB port, the machine also features a network port at the control panel

## Options

Options	Part No.
• Motorized crowning for AHK M NC	253726
• extended backgauge for X-axis (1540 NC / 2160 NC)	253659
• additional backgauge finger (pc) (1540 NC / 2160 NC)	253660

## Specifications AHK M

		1230 NC	1540 NC	2160 NC
<b>Working Area</b>				
Pressure force	t	33	44	66
Brake length	in	49	61	83
Distance between columns	in	40	50	67
Throat	in	10	13	13
Stroke	in	5.9	6.3	6.3
<b>Travels</b>				
Travel in X-axis	in	20	24	24
<b>Feed</b>				
Bending speed	in/s	0.39	0.39	0.39
Rapid feed	in/s	3	4	4
<b>Drive Capacity</b>				
Motor rating main drive	Hp	4	7.4	10.1
Motor rating X-axis	Hp	0.7	1	1
Motor rating R-axis	Hp	0.3	0.3	0.3
<b>Measures and Weights</b>				
Overall dimensions (length x width x height)	in	70x55x85	67x63x88	93x63x88
Weight	lbs	3,740	7,590	9,548
Part No.		182640	182641	182642



- Rigid machine frame and powerful hydraulics ensure superior production quality, accuracy and reliability
- Design and equipment allow high machining speed with short tooling time and minimum down time
- Powerful drives feature, low-maintenance hydraulics
- Hydraulic upper die adjustment with clamping pressure control and display at the control panel
- Fine adjustment of the clamping gap to avoid damages to the workpiece surface
- Lower beam with manual adjustment and crowning
- Manually adjustable rear stop (23.6 in), and angular positioning control M15S with LED-Display are standard equipment
- Bending angles up to 135°
- Segmented upper die with segment divisions of 3 in (7 each), 4 in (3 each), 5 in (7 each) and 6 in (2 each) (HBM 2045)
- Flexible operation with mobile triple foot switch

**Standard Equipment**

positioning control M15S, Manual rear stop, Segmented upper die 3" - 6", Mobile foot switch, operating tools, operator manual



Adjustable upper die clamping pressure



Rear view of the machine - manual rear stop



Standard upper die with segmentations of 3, 4, 5 and 6 in



Exact folding angle adjustment via positioning control (standard)


## Specifications HBM

		2045	2065	2545	2565	3145	3165
<b>Working Area</b>							
Working length	in	80	80	100	100	122	122
Bending capacity, structural steel	in	0.18	0.26	0.18	0.26	0.18	0.26
Bending capacity, stainless steel	in	0.12	0.18	0.12	0.18	0.12	0.18
Bending bar angle (range)		0-135°	0-135°	0-135°	0-135°	0-135°	0-135°
Top beam travel	in	4	4	4	4	4	4
Adj. lower bending beam	in	1	1	1	1	1	1
<b>Drive Capacity</b>							
Motor rating main drive	Hp	7.4	10.1	7.4	10.1	7.4	10.1
<b>Measures and Weights</b>							
Hydraulic tank volume	gal	24	24	24	24	24	24
Overall dimensions (length x width x height)	in	129.9x61 x74.8	129.9x61 x74.8	153.5x66.9 x74.8	153.5x68.9 x80.7	177.2x68.9 x76.8	177.2x68.9 x80.7
Weight	lbs	7,040	9,522	11,220	13,640	12,100	15,620
Part No.		131402	131404	131408	131410	131414	131416



SBS E 2540/1,5 is shown



See this machine  
in action on  
YouTube 

- The series has a rugged, very robust design and is impressively easy to handle while delivering maximum accuracy.
- All models of this series have a hardened, segmented male die.
- Segments can be removed individually, so all sides of the basin can be bent
- Adjustable angular stop for the production of angular small batches
- A manually adjustable rear gauge is available as an option

## Options

For additional options for this machine, visit our website and search for SBS E (Product Search)



Exact bending angle across the entire work length

## Specifications SBS E

		2020/2,0	2540/1,5	3020/1,2
<b>Working Area</b>				
Working length	in	80	100	119
Plate thickness (max.)	in	0.08	0.06	0.05
Working height	in	36	36	36
<b>Male Die</b>				
Stroke	in	4.7	4.7	4.7
<b>Bending Die</b>				
Bending angle (max.)	deg	135	135	135
Adjustment range for A axis	in	1	1	1
<b>Measures and Weights</b>				
Overall dimensions (length x width x height)	in	110.2x33.5x51.2	130.7x28.3x59.1	149.6x28.3x59.1
Weight	lbs	2,255	2,750	3,047
Part No.		131367	131371	131372



## Motorized 3-roller roll bending machine

# KRM-A

Motorized drive with foot pedal control and safety switch



KRM-A 20/1,5 is shown

- Asymmetrical 3-Roll Bending Machine
- Hardened rollers, suitable for stainless steel
- Adjustable bottom and rear roller
- Standard series wire core groove
- Top roller swings out with eccentric closure
- Foot switch
- Manual feed or rear roller
- Brake motor
- Supplied with conical bending feature

### Specifications KRM-A

		10/3,0	12/2,5	15/2,2	20/1,5
<b>Working Area</b>					
Working length	in	41	49	61	81
Plate thickness (max.)	in	0.13	0.12	0.1	0.08
Max. plate thickness for bending	in	0.12	0.1	0.09	0.07
Bending diameter (min.)	in	5	5	5	5
Roll diameter	in	4	4	4	4
Roller speed	fpm	19.62	19.62	19.62	19.62
<b>Drive Capacity</b>					
Motor rating main drive	Hp	1.5	1.5	1.5	1.5
<b>Measures and Weights</b>					
Overall dimensions (length x width x height)	in	83x32x45	93x32x45	103x32x45	120x32x45
Weight	lbs	1,100	1,254	1,254	1,397
Part No.		131881	131882	131883	131884

## Manual roll bender

# KR

Rigid cast-iron construction with manually driven rollers



KR 10/3,0 is shown

- Hardened rollers, suitable for stainless steel
- Top roller swings out
- Easy adjustment of rear and bottom roller via hand wheel
- Bottom and rear roller with wire insertion groove
- Back gear
- Supplied with conical bending feature

### Specifications KR

		10/1,0	10/1,5	10/3,0	12/1,5	15/2,0	20/1,5
<b>Working Area</b>							
Working length	in	41	41	41	49	61	81
Plate thickness (max.)	in	0.04	0.06	0.12	0.06	0.09	0.07
Roll diameter	in	2	3	4	3	4	4
<b>Measures and Weights</b>							
Overall dimensions (length x width x height)	in	52x28x44	52x28x44	83x32x45	79x32x45	103x32x44	120x32x45
Weight	lbs	528	704	1,100	1,122	1,254	1,397
Part No.		131885	131886	131887	131888	131889	131890



See this machine in action on YouTube 



KRM 10/4.0 shown including optional equipment (motorized rear roll adjustment)

- Hardened rollers, suitable for stainless steel
- Motor driven left/right direction, operated with foot switch
- Hand wheel for rear roll feed
- Quick adjusting rolls (motor-driven, option)
- Standard series wire core groove
- Top roll swings out across cam lock
- Supplied with conical bending feature

### Standard Equipment

hardened rollers, conical bending feature

Options	Part No.
• Motorized Rear Roll Adjustment for KRM (131967)	133965
• Digital display KRM (131962/131963/131964/131966)	133967

Specifications KRM		10/4.0	10/5.0	12/3.5	12/4.0	12/5.0	15/3.0	15/4.0	20/3.0	20/4.0
<b>Working Area</b>										
Working length	in	41	41	49	49	49	61	61	81	81
Plate thickness (max.)	in	0.2	0.22	0.16	0.18	0.22	0.14	0.18	0.16	0.18
Max. plate thickness for bending	in	0.16	0.2	0.14	0.16	0.2	0.12	0.16	0.12	0.16
Bending diameter (min.)	in	6	7	6	7	8	6	7	7	8
Roll diameter	in	4	5	4	5	6	4	5	5	6
<b>Drive Capacity</b>										
Motor rating main drive	Hp	3	3	3	3	3	3	3	3	3
<b>Measures and Weights</b>										
Overall dimensions (length x width x height)	in	72x34 x46	72x36 x48	92x34 x46	80x34 x46	80x36 x48	104x34 x46	92x36 x48	130x36 x48	128x36 x48
Weight	lbs	2,376	2,684	2,530	2,750	3,003	2,684	2,992	3,256	3,366
Part No.		131960	131961	131962	131963	131964	131965	131966	131967	131968

# KRM ST

Modern design, user-friendly machine with asymmetrical mounted rolls



Upper roller can be swiveled out

- Hardened rollers, suitable for stainless steel
- Taper bending fixture
- Motorized rear roller adjustment
- Rigid steel construction
- High quality steel rollers
- 2 driven rolls
- Top roller swings out
- Lower roll with manual feed, motorized feed available as an option
- Optionally available with extended roll ends for profile bending rolls

## Options

### Part No.

• extended roll shafts	253701
• section bending rolls	253706
• digital readout for backroll	253707

## Standard Equipment

hardened rollers, conical bending feature, back roll with motor, automatic central lubrication, operator manual

## Specifications KRM ST

		15/8	20/6	20/7	25/5	25/6	30/4	30/5
Working length	in	61	81	81	100	100	120	120
Plate thickness (max.)	in	0.31	0.24	0.28	0.2	0.24	0.16	0.2
Max. plate thickness for bending	in	0.28	0.2	0.24	0.16	0.2	0.12	0.16
Bending diameter (min.)	in	10	10	11	11	11	11	12
Roll diameter	in	7	7	7	7	7	7	8
Motor rating main drive	Hp	5.4	5.4	5.4	5.4	5.4	5.4	5.4
Overall dimensions (length x width x height)	in	132x29 x42	152x29 x42	166x38 x52	172x38 x52	186x38 x52	205x38 x52	205x38 x52
Weight	lbs	4,070	4,620	6,820	6,710	7,495	8,250	8,800
Part No.		130780	130781	130782	130783	130784	130785	130786



RBM 25/20 is shown

Specifications		20/06	20/20	25/08	25/16	25/25
<b>Working Area</b>						
Working length	in	83	83	102	102	102
Plate thickness (max.)	in	0.24	0.79	0.31	0.63	0.98
Max. plate thickness for bending	in	0.16	0.63	0.24	0.51	0.79
Upper roll diameter	in	6	12	8	12	14
Lower roll diameter	in	6	11	7	11	13
Side roll diameter	in	5	8	7	8	10
<b>Drive Capacity</b>						
Motor rating hydraulic pump	Hp	3	20.1	10.1	14.8	24.8
<b>Measures and Weights</b>						
Overall dimensions (length x width x height)	in	163x45 x41	179x69 x59	183x55 x52	199x69 x59	199x75 x67
Weight	lbs	5,104	15,400	10,120	17,842	25,960
Part No.		131900	131903	131906	131909	131912

**For more 4-roller roll bending machines with NC teach-in, visit our website**



- Massive machine frame, based on an advanced design and many years of experience
- Hydraulic safety chuck for easy removal of the part
- Roller feed and adjustment of parallelism and taper at the control panel
- All rollers are hardened and equipped with precision bearings
- Hydraulically driven top and bottom rollers
- Hydraulic components from Parker / Bosch
- Electric components from Siemens and Telemanique
- Minimum bending diameter =  
5 times the diameter of the top roller (RBM 30/70)  
3 times the diameter of the top roller (except RBM 30/70)

### Standard Equipment

hardened rollers, conical bending feature, digital display, control panel, operator manual

Options	Part No.
• Material Feed Table	133934
• Side Support	133935
• Center Support	133936
• Infinitely Variable Rotation Speed	133903

For additional options for this machine, visit our website.

Specifications RBM		25/45	30/13	30/20	30/50	40/08	40/16
<b>Working Area</b>							
Working length	in	102	122	122	122	161	161
Plate thickness (max.)	in	1.77	0.51	0.79	1.97	0.31	0.63
Max. plate thickness for bending	in	1.38	0.39	0.63	1.57	0.24	0.51
Upper roll diameter	in	18	12	14	21	12	15
Under roll diameter	in	17	11	13	20	11	14
Side roll diameter	in	14	8	10	17	8	12
<b>Drive Capacity</b>							
Motor rating hydraulic pump	Hp	40.2	14.8	20.1	73.8	10.1	20.1
<b>Measures and Weights</b>							
Overall dimensions (length x width x height)	in	236x91 x102	218x69 x59	219x75 x67	263x119 x116	258x69 x59	286x83 x78
Weight	lbs	66,000	19,360	29,040	88,000	21,846	45,760
Part No.		131915	131921	131924	131927	131933	131936



Motorized Ring and Profile Bender

## KPB 50 • KPB 30

Cost-Effective Ring and Profile Benders for universal trade applications



KPB 50 shown



KPB 30 shown

- Millimeter scale for roller adjustment
- Ground drive shafts with double support provided by cone bearings at both ends
- One-piece gliding central block mounted on hardened crosshead
- Mechanical feed, 2 driving rollers, horizontal and vertical applications

Example	KPB 30			KPB 50		
Profiles	Dimens.	Bending Ø*	Rollers	Dimens.	Bending Ø*	Rollers
	2x3/8	32	A	2x1/2	32	A
	3x5/8	28	A	4-3/4x5/8	30	A
	1-1/8x1-1/8	28	A	1-3/8 / 3/4	48 / 16	A
	Ø 1-1/8	28	B	Ø 1-3/8	32	B
	1-1/2x3/16	16	A	2x3/16	34	A
	1-1/2x3/16	20	A	2x3/16	48	A
	50x6	32	A	2	26	A
	2	34	A	2	36	A
	UNP50	16	B	UNP60	22	A
	UNP50	20	B	UNP60	28	A
	1-1/2	36	B	1-1/4x1/8	14	B
	Ø2-3/8x1/8	48	B	Ø 70x2	48	B
	1-1/2x1/8		B	2-3/8x1/8		B
	2x1-1/8x1/8		B	2x1-1/2x1/8		B

\* min. Bending Ø

**A** Standard Rollers  
**B** Special Rollers

### Standard Equipment

standard rollers, foot pedal, control panel, operating tools, operator instructions

Specifications	KPB	30	50
<b>Working Area</b>			
Shaft Ø	in	1.2 / 1.4	2
Roll Ø	in	5 / 5	6
Bending speed	fpm	7	14
<b>Drive Capacity</b>			
Motor rating main drive	Hp	1	2
<b>Measures and Weights</b>			
Weight	lbs	407	880
Length	in	26.38	28.74
Width	in	21	33
Height including base	in	53	53
Part No.		130158	131151

## KPB 45

- Incl. a modular roller system for optimum adaptation to desired profile
- Manually adjustable leveling rolls
- Hardened and ground shafts
- Allows horizontal or vertical machining
- Hydraulic components made by leading manufactures
- Hydraulic movement of upper roll
- Separate control panel

### Standard Equipment for KPB 45:

- Control panel, standard rollers, operating tools, operator manual



KPB 45 shown

## KPB 61, 81, 101

- Optimum adaptation to a large variety of profiles using the modular roller system
- 3 hydraulic-driven rollers
- Hardened and ground shafts
- Overload slip-clutch
- Hydraulic feed of bottom rollers with digital display
- Hydraulically adjustable straightening rollers; optional
- Allows horizontal or vertical machining
- Hydraulic components made by leading manufactures

### Standard Equipment for KPB 61, 81, 101:

- Digital display, control panel, standard rollers, operating tools, operator manual



KPB 61 shown

KPB 81 shown incl. optional accessories hydraulically controlled straightening rollers

## Specifications

		KPB 45	KPB 61	KPB 81	KPB 101
<b>Working Area</b>					
Shaft Ø	in	2 / 1.6	2	3	4
Roll Ø	in	6 / 6	7	10	12
Bending speed	fpm	11	21	14	18
Driven roll	positions	3	3	3	3
<b>Drive Capacity</b>					
Motor rating hydraulic pump	Hp	2	5.4	7.4	14.8
Supply voltage		400	400	400	400
<b>Measures and Weights</b>					
Overall dimensions (length x width x height)	in	31x38x65	50x38x55	55x41x61	57x49x67
Weight	lbs	1,100	2,376	3,520	7,700
Part No.		131150	131194	131200	131206

# Pressing

**See for yourself live:** Many models are in stock or can be viewed and tried out at a user's location near you. Make a demonstration appointment! Email [info@knuth-usa.com](mailto:info@knuth-usa.com) or call #847-415-3333



## Experience our machines in action!

With our YouTube channel KnuthMachineToolsUSA, you stay up to date with all the news and developments.



Hydraulic C-frame press

### HPK A

Pressure capacity **40 - 300 t**  
Stroke **19.7 in**

Large slide plates and working tables  
for large tools

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H-frame hydraulic press

## KP A

Pressure capacity **40 - 400 t**

Piston stroke **19.7 in**

For bending, punching

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Hydraulic straightening and compression press

## KHP

Pressure capacity **28 - 40 t**

Piston stroke **7 - 9.8 in**

Bending and straightening - strong and compact

from page 280 onwards

Portal hydraulic press

## PWP

Pressure capacity **100 - 150 t**

Piston stroke **15 - 16 in**

Presses with a press that can be positioned manually

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Motorized workshop press

## KNWP

Pressure capacity **15 - 200 t**

Piston stroke **6.3 - 15.8 in**

Motorized and manual presses for every workshop

from page 278 onwards





- **Siemens PLC**
- **2-hand operation**
- **Automatic operation**

- **Made in Europe** - perfectly welded frame steel construction for high rigidity, designed for maximum machine force
- Hydraulic presses are extremely versatile due to their distance/time flexibility of the stroke
- A large hydraulic cylinder moves the thick ram plate, stabilized by heavy-duty self-lubricating circular guides
- Work table and ram plate feature T-slots for tool clamping
- A mobile control panel provides flexibility, while additional controls are easily accessible integrated in the control cabinet



Shown with large capacity of 35 - 59"



Work example is shown

- The hydraulic system is designed as stand-alone unit for low maintenance and optimum thermal balance
- 2-step hydraulic pump for fast rapid feeds and optimum stroke speeds
- Precision-machined cylinder surfaces and high-quality seals ensure low wear and long lasting reliability
- All components are made according to strict standards, and the entire construction meets European safety guidelines

### Standard Equipment

two-hand control panel, adjustable limit stops, pressure gauge, ram plate with 2 guides and t-slots, automatic operation, automatic return stroke, Siemens PLC, 2-step hydraulic pump with automatic change-over, pressure switch, operating time timer, operator manual

### Options

### Part No.

• Upgrade from 2 to 4 guideways for HPK / KP 40-100 t	253857
• Upgrade from 2 to 4 guideways for HPK / KP 150-200 t	253858
• Light curtain L = 39.4"	253855
• Upgrade to Siemens KTP 700 Basic digital control	253856
• Preparation for Industry 4.0	253859
• Press stroke counter	253860
• Oil cooler with decompression valve	253861
• Decompression valve	253862

### Specifications KP

		40 A	70 A	100 A	150 A	200 A	300 A	400 A
<b>Working Area</b>								
Pressure force	t	44	77	110	165	220	330	440
Table dimensions	in	31x20	31x20	35x24	47x28	47x28	55x39	55x39
Stroke	in	19.7	19.7	19.7	19.7	19.7	19.7	19.7
Ram-plate size	in	28x14	28x14	28x14	39x16	39x16	43x31	47x35
Throat width	in	35	35	41	49	49	59	59
Stroke speed	in/s	0.35	0.2	0.16	0.12	0.08	0.08	0.08
<b>Rapid Feed</b>								
Rapid feed	in/s	1	1	1	1	1	1	1
<b>Drive Capacity</b>								
Motor rating	Hp	5.4	5.4	5.4	5.4	7.4	10.1	10.1
<b>Measures and Weights</b>								
Overall dimensions (length x width x height)	in	63x28 x87	73x41 x89	82x42 x89	93x60 x99	93x63 x99	99x65 x105	99x67 x111
Weight	lbs	2,310	3,190	5,060	10,780	12,760	15,840	18,700
Part No.		131500	131501	131502	131503	131504	131505	131506



Diagonally aligned slots for easy centered tool clamping

- **Siemens PLC**
- **2-hand operation**
- **Automatic operation**

- **Made in Europe** - perfectly welded C-frame steel construction for high rigidity, designed for maximum machine force
- Large ram plates and work tables to ensure large tools or multiple setups
- Hydraulic press brakes are extremely versatile due to their distance/time flexibility of the stroke
- A powerful hydraulic cylinder and two self-lubricating circular guides ensure precise and uniform feed of the ram plate during press operations
- Precision-machined cylinder surfaces and high-quality seals ensure low wear and long lasting reliability



Two circular guides ensure maximum ram plate parallelism during stroke movement

Space saving hydraulic system located accessibly inside the frame

- Rapid adjustment of stroke length via easy to set stops
- 2-step hydraulic pump for fast rapid feeds and optimum stroke speeds
- Ram plate and work table with t-slots for tool clamping
- A mobile control panel provides flexibility, while additional controls are easily accessible integrated in the control cabinet
- All components are made according to strict standards, and the entire construction meets European safety guidelines

Options	Part No.
• Upgrade from 2 to 4 guideways for HPK / KP 150-200 t	253858
• Light curtain L = 39.4"	253855
• Upgrade to Siemens KTP 700 Basic digital control	253856
• Upgrade from 2 to 4 guideways for HPK / KP 40-100 t	253857
• Preparation for Industry 4.0	253859
• Press stroke counter	253860
• Oil cooler with decompression valve	253861
• Decompression valve	253862

### Standard Equipment

two-hand control panel, adjustable limit stops, pressure gauge, ram plate with 2 guides and t-slots, automatic operation, automatic return stroke, Siemens PLC, 2-step hydraulic pump with automatic change-over, pressure switch, operating time timer, operator manual

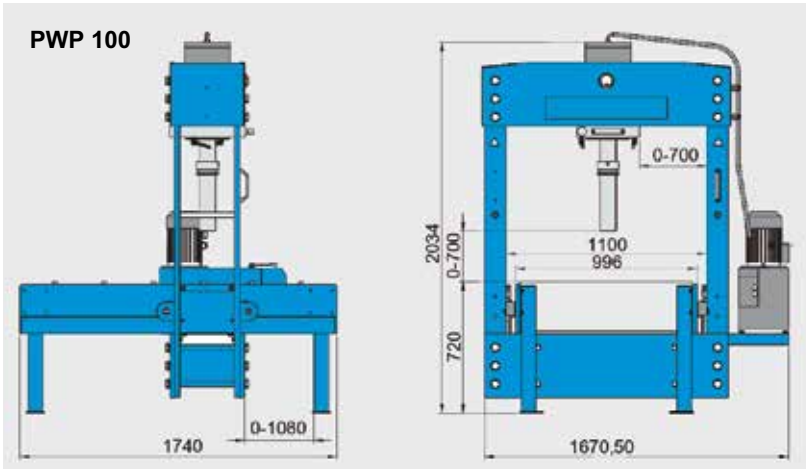
Specifications HPK		40 A	70 A	100 A	150 A	200 A	300 A
<b>Working Area</b>							
Pressure force	t	44	77	110	165	220	330
Table dimensions	in	28x20	28x20	31x24	35x24	39x24	47x31
Stroke	in	19.7	19.7	19.7	19.7	19.7	19.7
Ram-plate size	in	28x14	28x14	28x14	31x16	34x20	39x20
Throat	in	10	10	12	12	12	16
Stroke speed	in/s	0.35	0.2	0.16	0.12	0.12	0.08
<b>Rapid Feed</b>							
Rapid feed	in/s	1	1	1	1	1	1
<b>Drive Capacity</b>							
Motor rating	Hp	5.4	5.4	5.4	5.4	10.1	10.1
<b>Measures and Weights</b>							
Overall dimensions (length x width x height)	in	60x40x99	60x40x99	75x48x103	87x60x119	91x60x119	91x60x123
Weight	lbs	3,300	4,620	7,480	12,100	18,040	24,640
Part No.		131507	131508	131509	131510	131511	131512



- This press with its manually movable gantry is manufactured exclusively in Europe and made of high-grade quality steel
- The large setup table makes it perfect for straightening large sheet metal plates and structures
- This machine is perfectly suited for performing stress tests, welding sample testing, and material testing
- Repairs, assembly work, straightening of axles, beams, shafts as well as press-fitting or removing bearings and bushings can easily be performed on this machine
- With a manually movable gantry and a laterally positioned cylinder, the entire table surface can be utilized for machining.
- The hydraulic system is powerful and reliable; the hydraulic cylinder can be moved via a motor or manually (via hand-pump)



Piston unit can be moved laterally



Gantry can be moved across the entire table surface

## Specifications

		PWP 100	PWP 150
<b>Working Area</b>			
Gantry width	in	43	43
Table dimensions	in	69x39	69x39
Table height	in	28	30
Distance piston/ table surface max.	in	28	28
Pressure force		981	1,570
Operating pressure (max.)	psi	3,741	3,697.5
Stroke	in	15	15.7
Forward motion speed	in/s	0.3	0.29
Press speed	in/s	0.1	0.09
Return speed	in/s	0.36	0.37
<b>Drive Capacity</b>			
Motor rating hydraulic pump	Hp	3	4
<b>Measures and Weights</b>			
Hydraulic tank volume	gal	8	8
Overall dimensions (length x width x height)	in	68.5x65.7 x79.9	68.5x68.1 x82.7
Weight	lb	3,075	4,817
Part No.		131546	131548

- The press features an integrated pressure gauge
- The motorized hydraulic unit is operated via joystick and features 2-step hydraulics - with change-over switch for changing between quick-stroke and work stroke, shut-off during high-speed operation, and pressure regulator
- The manual pumping feature allows high-precision press operation

## Standard Equipment

operator manual, pressure gauge, hydraulic unit

## KNWP HM

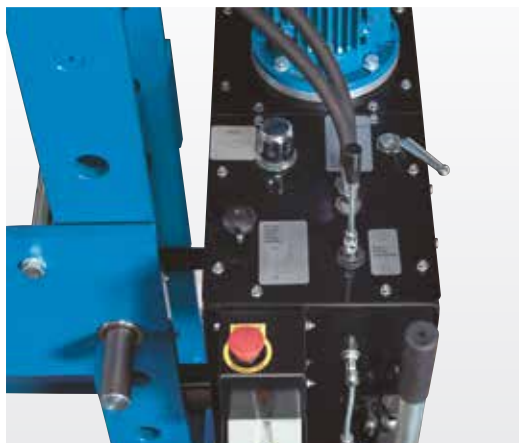
Hydraulic shop press with double-acting cylinder

- Multiple sizes available from 60 - 200 tons
- Ideal for repair and assembly work
- Truing of axles, supports, shafts and much more
- For removal and press fitting bearings and bushings
- 2-step hydraulic unit
- Work cylinder with smooth horizontal adjustment

### Options

### Part No.

- |                           |        |
|---------------------------|--------|
| • V-Block for KNWP 200 HM | 251056 |
|---------------------------|--------|



The press is operated via joystick



KNWP 100 HM is shown

### Specifications KNWP HM

		60	100 L	100	160 L	160	200
Pressure force	t	66	110	110	176	176	220
Operating pressure (max.)	psi	3,755.5	3,741	3,741	3,697.5	3,697.5	3,523.5
Stroke	in	15	15	15	15.7	15.7	15.7
Forward motion speed	in/s	0.34	0.3	0.3	0.29	0.29	0.23
Press speed	in/s	0.08	0.1	0.1	0.09	0.09	0.07
Return speed	in/s	0.42	0.36	0.36	0.37	0.37	0.28
Throat width	in	30	59	43	59	43	51
Motor rating hydraulic pump	Hp	2	3	3	4	4	4
Hydraulic tank volume	gal	10.82	12.14	12.14	15.05	15.05	16.9
Weight	lbs	1,188	2,519	2,134	3,146	2,629	3,718
Part No.		131744	131765	131745	131766	131746	131747





V-shaped support set



Foot control (KNWP 30 / 50 M) only



KNWP 30 M is shown

**For any repair and installation work, e.g.:**

- Removal and installation of press-fit bearings, bolts and bushings
- Straightening beams, shafts, axles and sections
- Pressing and crimping
- Load tests and weld sample testing
- Straightening of workpieces
- Material testing



See this machine  
in action on  
YouTube



Specifications KNWP M		15	30	50
Pressure force	t	16.5	33	55
Operating pressure (max.)	psi	5,541.9	5,431.7	5,792.75
Total piston stroke	in	6.3	6.3	6.3
Throat width	in	22	22	30
Hydraulic tank volume	gal	0.44	0.44	0.44
Weight	lbs	257	330	550
Overall dimensions (length x width x height)	in	33x24 x76	33x26 x81	44x30 x84
Part No.		131742	131741	131743

- Rigid machine frame featuring a carefully machined weldment structure
- 2-step hydraulics - with change-over switch for changing between quick-stroke and work stroke
- Hydraulic pump can be operated by hand or foot control (KNWP 30 / 50 M)
- Automatic reset of piston, controllable by user via a throttle valve and spring
- The support table features a rigid design, but is easy to handle with adjustable height
- Includes multi-function die for straightening flat material and corrugation
- Table lifting system (KNWP 50 M)
- Hydraulic cylinder with side adjustments (KNWP 30/50 M)

## KHP 28 NC

Bending and straightening - powerful and compact



**Made in Europe**



Manual side stop for batch production



Angle lines are engraved in the work table for easy orientation

- The horizontal bending and straightening press features a stamp and a 4-channel die for machining up to 8 inch wide material
- The hydraulic system can be regulated via pressure and flow valves, allowing the user to control the pressing force and work speed according to requirements
- Practically arranged control panel, and easy to read LED display showing the work cylinder positions
- The operator can choose between manual or automatic control, and up to 4 different programs can be stored

### Specifications

		<b>KHP 28 NC</b>
Pressure force	t	30.8
Hydraulic pressure max.	psi	2,900
Y-axis stroke	in	7
Piston diam.	in	5
Motor rating main drive	Hp	5.4
Overall dimensions (length x width x height)	in	46x30x44
Weight	lbs	1,430
Part No.		131547

### Standard Equipment

stamps and dies, material stop, operator instructions

# KHP 40 NC

Cost-effective bending and straightening of flat steel



Compact hydraulic unit located accessibly inside the base



Long, supporting, hardened bending die guideways with central lubrication system

- The horizontal bending and straightening press features a powerful hydraulic drive plus a stamp and a die for machining up to 6.3" wide flat material
- The large, very rigid support table provides superior structural strength
- The large mount for the bending v-block is anchored to the table for maximum rigidity
- An adjustable side stop simplifies workpiece positioning

### Specifications

		<b>KHP 40 NC</b>
Pressure force	t	44
Hydraulic pressure max.	psi	3,770
Y-axis stroke	in	10
Piston diam.	in	2
Motor rating main drive	Hp	2
Overall dimensions (length x width x height)	in	62x32x54
Weight	lbs	1,496
Part No.		130611

### Standard Equipment

upper tool 60°, 6.3 x 3.46", bending die, 3.15" opening width, central lubrication, touchscreen operator panel with foot switch, side gauge 21.65", operator instructions

## Machine accessories

3-axis position displays, turning, milling and drilling protection shields, collet chucks, collet set, pull studs, thread cutting unit, and accessory set for drilling machines

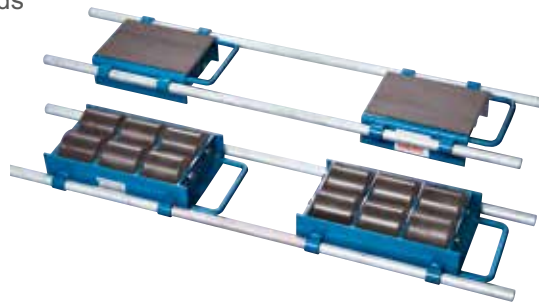
from page 286, 301 onwards



## Workshop equipment

Load steering, load rollers, vibrating elements and LED work lights

from page 284 onwards



## Clamping systems and accessories

Dividing attachment, dividing head, rotary tables, cross tables, vices, lathe chuck, quick-change tool holder, clamping tool assortment, stud bolts and T-slot nuts assortment, step block assortment and lever clamps

from page 291 onwards



## Measuring equipment

Dial gauge, precision dial gauge, precision magnet measuring tripods and micrometer gauges

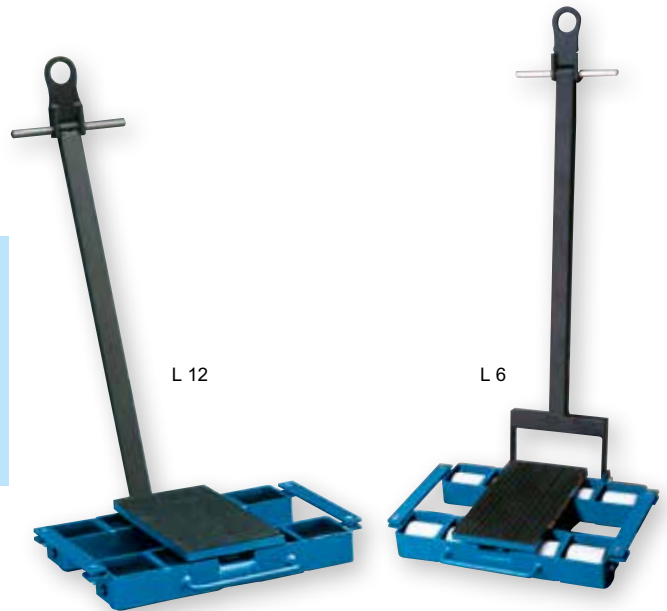
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## Load Guidance L 6 • L 12

Load Guidance		L 6	L 12
Load capacity	t	6.5	13
Number of rollers	pcs.	8	8
Roller material		plastic	steel
Dimensions		25 x 16 x 5"	25 x 16 x 4"
Intrinsic weight	lbs.	110	146
Part No.		140 206	140 212

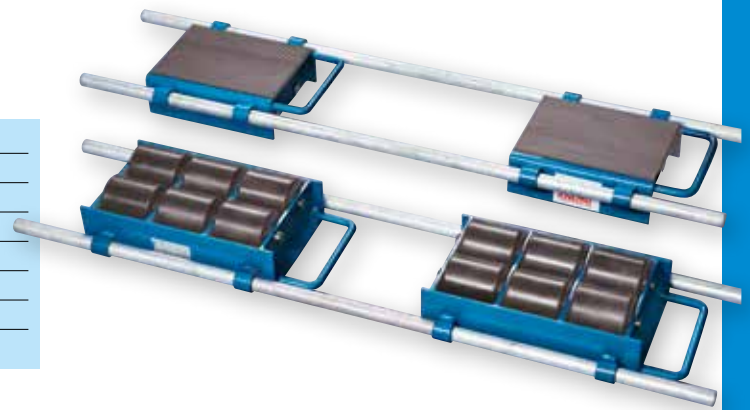


Load Rollers, adjustable

## R 6 • R 12

For machine transportation, at least one load control and one adjustable load roller will be required. For example: L6 and R6 (total load capacity 13 t)

Adjustable Load Rollers		R 6	R 12
Load capacity	t	6.5	13
Number of rollers	pcs.	8	12
Roller material		plastic	plastic
Dimensions		9.8 x 8 x 5"	14 x 8 x 5"
Intrinsic weight	lbs.	66	84
Part No.		140 106	140 112



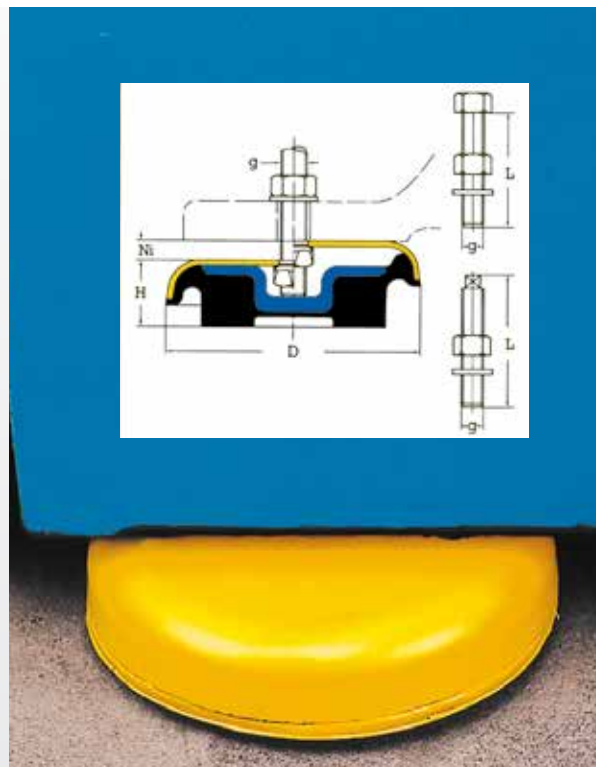
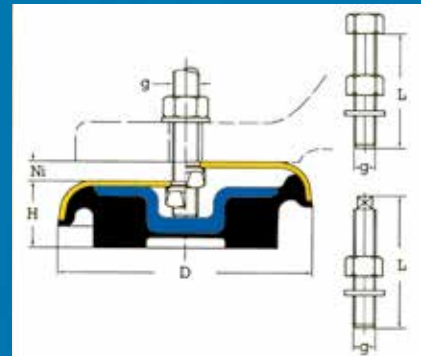
Pivoted Mounts

## LK

- Damper elements absorb shock and vibration
- Vibration-free machine operation
- Set screws allow for easy machine alignment

	NI	D	H	L	g
LK 3	0.5"	4.75"	1.25"	4"	M 12
LK 5	0.5"	6.25"	1.25"	4.75"	M 16
LK 6	0.5"	7.08"	1.5"	6.25"	M 20

Maximum load per element (lbs)	LK 3	LK 5	LK 6
Lathes	595	838	1,984
Milling machines	816	1,102	3,527
Surface grinders	1,102	1,984	5,291
Punch press / strokes 100	926	1,764	4,409
Punch press / strokes 150	573	881	2,205
Punch press / strokes 200	394	441	992
Part No.	103 321	103 322	103 323



**Excellent illumination with low energy consumption and long service life**

- A true advancement in lighting technology – perfect for any production situation, where good lighting is needed
- The high-power LED module generates light with a color temperature corresponding to natural light; it is vibration and shock resistant and provides a mean service life of 50,000 hours – ideal for harsh operating conditions
- LED lights provide virtually the same light intensity as conventional halogen lights, but they save energy and cost
- The lamp enclosures are very rugged and protected against ingress of water, oil and dust (IP 65)



**LED - Strip Lights and Ring Lights**

- Strong magnets on the back ensure quick mounting and reliable hold even in areas that are difficult to access, like angles and corners
- 12 / 24 Volt supply directly from the control cabinet via included mains transformer and cable

Specifications		LED rings			LED strips			
Dimensions	in	3.35	3.94	7.87	10.63	22.44	34.25	44.09
Part No.		670 600	670 601	670 602	670 603	670 604	670 605	670 606



Specifications		LED flex	LED 100	LED 280	LED 400
Arm length	in	19.69	-	12.60 + 11.02	12.60 + 15.75
Light source		HI POWER LED 3 W / 3 bulbs	HI POWER LED 1 W / 8 bulbs	HI POWER LED 1 W / 8 bulbs	HI POWER LED 1 W / 8 bulbs
Service life	hours	50000	50000	50000	50000
Light angle		30°	70°	70°	70°
Color temperature	K	6000-7000	6000-7000	6000-7000	6000-7000
Light intensity		>43.31 LUX (700)	>43.31 LUX (700)	>43.31 LUX (700)	>43.31 LUX (700)
Surface temperature		<50°	<50°	<50°	<50°
Voltage	V	AC/DC24	AC/DC24	AC/DC24	AC/DC24
Current	mA	700	700	700	700
Power	W	9	8	8	8
IP		IP 65	IP 65	IP 65	IP 65
Cable length	ft	3.94	3.94	3.94	3.94
Part No.		110 030	110 031	110 032	110 033



## Lathe headstock

- Incl. chrome-plated fastening rod and safety micro-switches
- Easy mounting via screws at the headstock

Inside Ø	Part No.
16 - 24 inch	103 030
24 - 27 inch	103 031
31 - 35 inch	103 032



## Lathe support

- Incl. safety micro-switch
- Rigid steel construction, swivels to both sides
- Polycarbonate viewing window

Dimensions (HXW)	Part No.
59 x 6 inch	103 033
59 x 8 inch	103 034



## Lead screw and feed shaft guards

- Resistant against oil, heat and acid, meets safety class M2
- High-strength aramide belt with strong polyurethane connection for high loads
- Individually mountable at machine

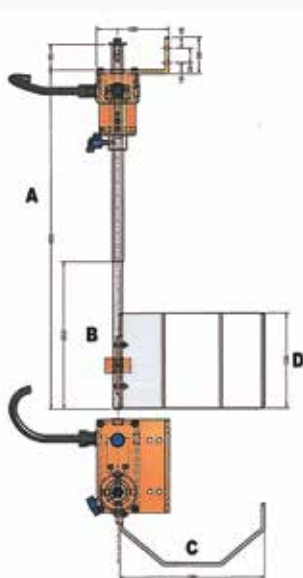
Dimensions (LxH)	Part No.
59 x 6 inch	103 035
59 x 8 inch	103 036
79 x 8 inch	103 037
118 x 10 inch	103 038



## Drill Press Quill

- Incl. safety micro-switch
- Adjustable to boring depth
- Polycarbonate viewing window

Model	Part No.
BP 1	103 043
BP 2	103 044



A	18 inch
B	8 inch
C	200 (BP 1) / 12 inch (BP 2)
D	130 (BP 1) / 8 inch (BP 2)



## Milling machine - cutter spindle

- Strong construction with robust connectors
- Individually adjustable arms
- Easy mounting via screws
- 2 electric safety switches
- Can be mounted left or right

Disk diameter	Part No. right side	Part No. left side
16 inch	103 039	103 041
20 inch	103 040	103 042



III.  
Part no. 108 770

- 5 turning tools for steel working
- 5 forms (left, right, centered)

III.  
Part no. 108 680

III. Part no. 108 670

**Clamped Turning Tool Set:** Part no. 108 670  
P25 indexable insert for forged, rolled and tempered steel. All tools with indexable inserts, 1 indexable insert set (s.above), tools, specifications, shank height 25 mm

**Indexable insert set:** 30 pc. Part no. 108 675

**Clamped turning tool set:** Part no. 108 778  
Shank height 20 and 25 mm, shanks 20 mm, 9 tools

**Indexable insert set:** 30 pc. Part no. 108 779

**Clamped turning tool set:** Part no. 108 780  
5 tools cutting height 16 mm, shanks 20 mm  
3 tools cutting height 20 mm, shanks 20 mm  
1 tool cutting height 24 mm, shanks 20 mm

**Indexable insert set:** 30 pc. Part no. 108 782

## Clamped Turning Tool Set

Shank	Part No.	5 replacem.
10 mm	108 770	108 774
12 mm	108 771	108 775
16 mm	108 772	108 775
20 mm	108 773	108 775

## Turning Tool Set

**With soldered-on carbide plates for steel, 8 pieces**

Shank 12 mm, Part no. 108 680

Shank 16 mm, Part no. 108 690

Shank 20 mm, Part no. 108 700

## Knurl Holder

- Shank H20, B14, total 140 mm
- Incl. 2 knurl sets, angled 1 mm

Part no. 108 520

## Knurl set, angles

Part no. 108 521



## Clamped Turning Tool Set

Includes 8 different clamped turning tools, listed in the sequence shown (Part no. 108 670):

### 1. Necking turning tool, clamping system C, workpiece Ø 60 mm

Size	Cutting point height	V	f	a
25x25x140 mm	-	100 m/min.	0,4-0,5 mm	4 mm

### 2. Tapping turning tool 60°, clamping system C

Size	Cutting point height	V	f	a
18x18x180 mm	25 mm	-	-	-

### 3. Stepped, right-hand turning tool, plate form S, clamping system M, cutting length 16 mm, incl. chip chute

Size	Cutting point height	V	f	a
25x20x125 mm	-	80 m/min.	0,6-0,7 mm	6 mm

### 4. Curved, right-hand turning tool, plate form S, clamping system M, cutting length 16 mm, incl. chip chute

Size	Cutting point height	V	f	a
25x20x125 mm	-	80 m/min.	0,4-0,5 mm	4 mm

### 5. Stepped, right-hand inside turning tool, clamping system C

Size	Cutting point height	V	f	a
18x18x180 mm	14 mm	60 m/min.	0,2 mm	4 mm

### 6. Curved, right-hand turning tool, plate form S, clamping system C, cutting length 16 mm, incl. chip chute

Size	Cutting point height	V	f	a
18x18x180 mm	14 mm	60 m/min.	0,2 mm	4 mm

### 7. Stepped, right-hand turning tool, plate form S, clamping system M, cutting length 20 mm, incl. chip chute

Size	Cutting point height	V	f	a
20x20x125 mm	-	100 m/min.	0,4-0,5 mm	4 mm

### 8. Female thread turning tool, clamping system C

Size	Cutting point height	V	f	a
18x18x180 mm	25 mm	-	-	-

Model	D	D1	L1	Part No.
BT30-ER25	42	31,75	70	104 200
BT30-ER32	50	31,75	70	104 201
BT40-ER32	50	44,45	100	104 202
BT40-ER40	63	44,45	80	104 206
BT50-ER32	50	69,85	100	104 204
BT50-ER40	63	69,85	100	104 205



### ER Collet Set

DIN 6499

Form B

		Part No.
ER 25, 16-pieces	1 - 16 mm	106 050
ER 32, 6-pieces	6, 8, 10, 12, 16, 20 mm	106 052
ER 40, 15-pieces	3, 4, 5, 6, 8, 10, 12, 14, 15, 16, 18, 20, 22, 24, 25 mm	106 075

For other chucks for MT 3 / MT 4, visit [www.knuth.com](http://www.knuth.com)



### ER Collet Chucks

ER 32				
Mount	MT 3	MT 4	ISO 30	ISO 40
Part No.	106 057	106 058	106 055	106 056
ER 40				
Part No.	106 063	106 064	106 061	106 062

### Pull Stud DIN 69872

Model	Part No.	
	A	B
SK 30 (A) (B)	103 600	103 604
SK 40 (A) (B)	103 601	103 605
SK 50 (A) (B)	103 603	103 607





- Integrated quick-return acts promptly upon feed direction change
- Slip coupling torque adjustable to 4 levels
- Including MT 2 and MT 3 shank or MT 3 and MT 4 shank
- For thread cutter

- M 2 - M 7 (MT 2 + MT 3)  
Part No. 106 033

- M 5 - M 12 (MT 3 + MT 4)  
Part No. 106 035

- M 8 - M 20 (MT 3 + MT 4)  
Part No. 106 037

### Thread-Cutting Chuck

Compact design featuring high stability and safety features

- Wide setup range - in addition to metric, British, and US standards, it also accommodates custom sizes
- Applications: Thread cutters, drill presses, high-speed lathes, and CNC machining centers



Specifications GSF		M2-13/B16	M5-20/B18	M6-24/MK4
Diameter	in	1.9	2.1	2.4
Length	in	2.9	3.3	8.1
Part No.		104 710	104 712	104 713

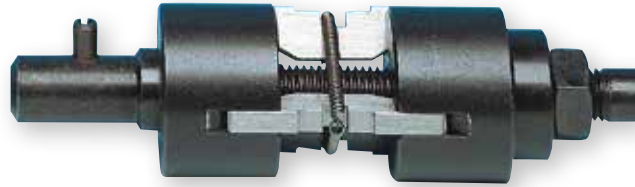
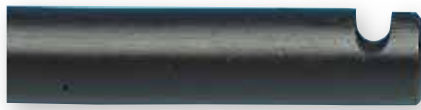
### Accessories for Drill Presses

- Includes quick-action drill chuck and bits
- Packed in a wooden case



Contents / Set:	MT 2 (6-piece)	MT 3 (7-piece)	MT 4 (8-piece)	ISO 30 (4-piece)	ISO 40 (5-piece)
Reducing Sleeve	MT 2 / MT 1	MT 3 / MT 2	MT 4 / MT 3	ISO 30 / MT 2	ISO 40 / MT 2
Reducing Sleeve	-	MT 3 / MT 1	MT 4 / MT 2	ISO 30 / MT 3	ISO 40 / MT 3
Reducing Sleeve	-	-	MT 4 / MT 1	-	ISO 40 / MT 4
Extension Sleeve	MT 2 / MT 3	MT 3 / MT 4	MT 4 / MT 5	-	-
Tool-Holder Bits	MT 2 / B 16	MT 3 / B 18	MT 4 / B 18	ISO 30 / B 18	ISO 40 / B 18
Tool-Holder Bits	MT 2 / B 18	MT 3 / B 16	MT 4 / B 16	-	-
Quick-action Chuck	0.12 - 0.63 in / B 18	0.12 - 0.63 in / B 18	0.12 - 0.63 in / B 18	0.12 - 0.63 in / B 18	0.12 - 0.63 in / B 18
Quick-action Chuck	0.04 - 0.51 in / 16	0.04 - 0.51 in / 16	0.04 - 0.51 in / 16	-	-
Part No.	104 592	104 593	104 594	104 595	104 596

## Quick-Set Spindle Bore Stop



- For lathes
- Quick and easy adjustment to any hollow-spindle point
- Easy adjustment - just tightening with a safety wrench

Size	Range	Wrench length	Part No.
1	0.75-0.91"	21.25"	103 010
2	0.85-1"	21.25"	103 012
3	0.98-1.2"	21.25"	103 014
4	1-1.5"	25"	103 016
5	1.5-1.9"	25"	103 018
6	1.8-2.3"	29"	103 020
7	2.2-2.6"	29"	103 022
8	2.5-3.2"	37"	103 024
9	3-3.6"	37"	103 025
10	3.5-4.3"	37"	103 026
11	4.3-5.2"	37"	103 027



## Radius Cutting Head

Clamps into the turning tool just like a tool-holder.

- For inside and outside machining of convex and concave forms.
- For turning of 90°, 180° radius. Radius from 0 to 25 mm.
- Machining depth up to 7 mm in ST50.

Part no. 103 350

## Live centers

- Precision needle bearings
- Center is hardened and ground, 60°



Morse taper	Center Ø	Body	Length	Part No.
MT 2	22	38	125	106 745
MT 3	26	50	165	106 750
MT 4	30	59	200	106 755
MT 5	45	70	240	106 760

# ST 130 • 155

- Gear ratio 1:90, disengages for direct division, manual 360° rotation of chuck
- Hand wheel with scale ring
- Nonius division 10"
- 6 masks for direct division of 2, 3, 4, 6, 8, 12, 24 parts
- Hardened and ground teeth with 3-jaw chuck, 6.5" or 7.75"



**Optional accessory set for ST 130 & ST 155:**

Dividing plate A: 26, 28, 30, 32, 34, 37, 38, 39, 41, 43, 44, 46, 47, 49, 51, 53, 57, 59

Dividing plate B: 61, 63, 67, 69, 71, 73, 77, 79, 81, 83, 87, 89, 91, 93, 97, 99

**Tailstock**

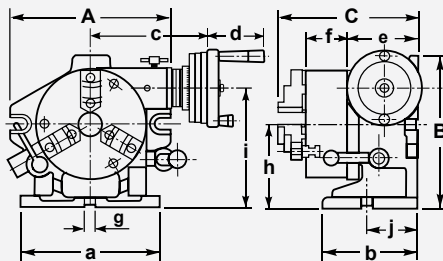
**ST 130** Part No. 110 970

**ST 155** Part No. 110 971



**ST 130** Part No. 110 960

**ST 155** Part No. 110 965



Typ	A	B	C	a	b
ST 130	250	235	221	220	150
ST 155	310	285	243	225	160
Typ	c	d	e	f	g
ST 130	184	82	112	66	16
ST 155	201	82	125	75	16
Typ	h	i	j	Weight	
ST 130	130	186	80	106 lb	
ST 155	155	232	90	167 lb	

Direct indexing head

## S 200

The **S 200 Direct Indexing Head** can be used in a **horizontal** or **vertical** setup. The indexing unit is enclosed in the resistant cast-iron body of the divider, where it is protected from contamination to ensure precise and constant divisions of 2, 3, 4, 6, 8, 12, and 24. An easy-to-read circumferentially mounted Nonius scale provides exact divisions up to 360°. A sturdy clamping lever is provided for the torsion-proof fixture of the chuck at any set position.

Specifications	S 200	
Center height	in	6
Manual 3-jaw-chuck diameter	in	8.27
Divisions		2, 3, 4, 6, 8, 12, 24
Spindle concentricity radial	in	0
Indexing accuracy	"	25
Weight	lbs	130
Part No.		110966

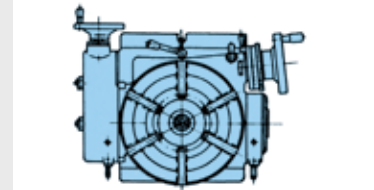
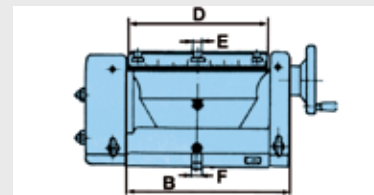
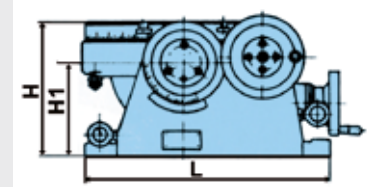


**Standard Equipment**

5 indexing masks, chuck, operating tools

## Swivelable Rotary Table

# RTS 250 • 320



### Options

Options	Part No.
• INDEX-feature / RT 160-320	125805
• Tailstock / RT 200/250	125820

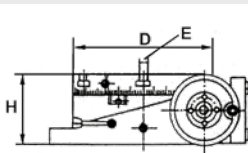
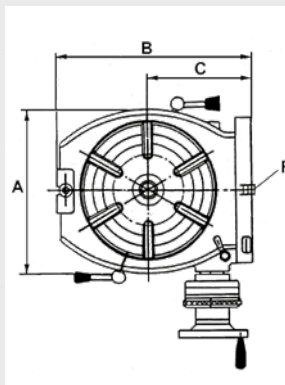
Type	D	H	H1	B	L	F	E	d	MT	Ratio	Weight	Part No.
RTS 250	10"	8"	5.5"	10"	12.25"	0.6"	0.5"	1.2"	Nr.3	1:90	175 lbs	125 810
RTS 320	12.5"	10"	6.75"	12.7"	15"	0.7"	0.6"	1.5"	Nr.4	1:90	295 lbs	125 815

## Rotary Table

# RT 100 • 160 • 200 • 250 • 320

### Options

Options	Part No.
• INDEX-feature / RT 160-320	125805
• Tailstock / RT 320	125825
• 3-jaw-chuck 10 inch with flange for RT 320	125846



Type	D	H	A	B	C	E	F	MT	d	Ratio	Weight	Setup	Part No.
RT 100	4.25"	3.3"	4.5"	5.9"	3.54"	0.4"	0.4"	2	1"	1:90	16 lbs	hor. + vert.	125 800
RT 160	6.25"	3"	7.7"	10.2"	5"	0.4"	0.5"	2	1"	1:90	57 lbs	horizontal	125 830
RT 200	7.75"	4"	9.25"	11"	6"	0.5"	0.5"	3	1.2"	1:90	68 lbs	hor. + vert.	125 835
RT 250	9.75"	4.25"	11.25"	13"	6.5"	0.5"	0.5"	3	1.2"	1:90	97 lbs	hor. + vert.	125 840
RT 320	12.5"	4.7"	14"	16"	8.25"	0.5"	0.7"	4	1.5"	1:90	165 lbs	hor. + vert.	125 845

## Swivel Table

# ST

For precise machining or corner bores, angular cutting, angular grinding, etc.



- 1 scale gradation direct read-out at the table
- Cast-iron frame, ground table surface and guide ways

Specifications	ST 250	ST 300	ST 380
Number of T-slots	3	3	3
T-slot spacing	2"	2.25"	3.5"
T-slot width	0.5"	0.5"	0.6"
Swivel angle	± 50°	± 50°	± 50°
Weight	lbs 44	82	100
Dimensions (LxWxH)	10 x 7 x 5"	12 x 9 x 6"	15 x 10 x 6"
Part No.	129 335	129 340	129 345



## Swivelable Rotary Table

For small cutting operations on the bench or floor drill press

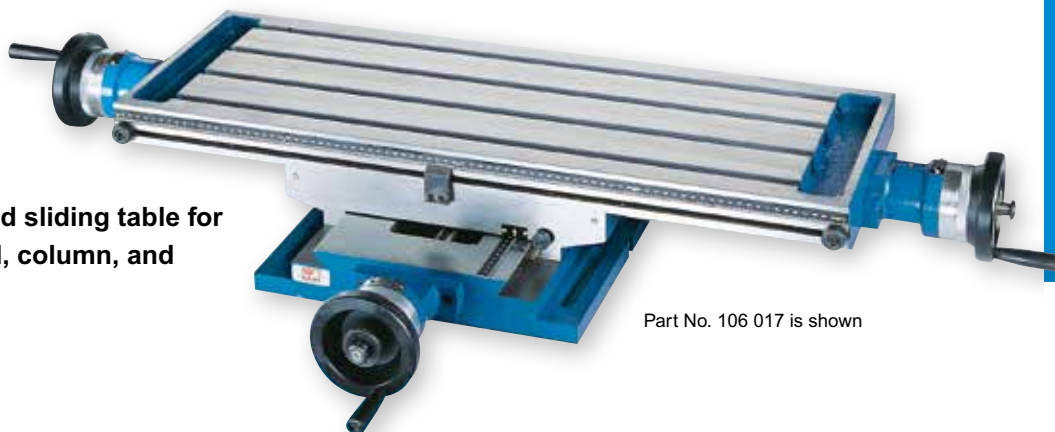
- Dovetail guide ways
- Cast-iron construction

Table size	9.3x5.75"	12.5x5.75"	20x9.25"
Height	6"	6"	7.75"
Cross travel	4.75"	4.75"	7.5"
longitud. travel	6.25"	10.25"	13.75"
T-slots	0.4"	0.4"	0.5"
Max. table load capacity	lbs 185	220	305
Swivel range	360°	360°	360°
Handwheel incr.	mm 0,025	0,025	0,05
Weight	lbs 55	66	190
Part No.	106 001	106 003	106 006

## Swivelable Rotary Table

Rigid and precise compound sliding table for coordinate drilling on radial, column, and bench drill presses

- Cast-iron construction
- T-slot, coolant groove
- Dovetail guides, adjustable



Part No. 106 017 is shown

Specifications			
Table setup area	in	28.7 x 8.3	33.7 x 11.6
Table height	in	7.7	6.3
X / Y axis travel	in	19.7 x 8.3	24.4 x 9.4
T-slot width	in	0.6	0.5 x 0.9

Hand-wheel scale divisions	in	0.002	0.002
Dimensions	in	42 x 25	50 x 24
Weight	lb	216	287
Part No.		106 009	106 017



## Hydraulic Machine Vise

# HNCS

High-grade machine vise for hydraulic clamping of parts

- Hardened and ground surfaces ensure high-precision clamping, even when working with in-series connected vises
- 4 work surfaces
- Pull-down system for maximum secure clamping
- Spindle safety guard protects from chips
- Face parallelism 0.0008"



HNCS	100V	130V	160V	200V
Jaw width	4"	5"	6"	8"
Clear opening	0-5"	0-7"	0-9.25"	0-11"
Jaw height	2"	2"	2.25"	2.5"
Overall height	5.25"	6"	6.5"	7"
Clamping force lbs	8100	10400	12600	16000
Weight lbs	55	85	130	175
Part No.	104 930	104 932	104 934	104 936



### Optional Equipment:

Dial for HNCS	100V	130V	160V	200V
Dial diam.	9.75"	11.5"	12.25"	14.75"
Dial height	1"	1"	1.25"	1.75"
Part No.	104 931	104 933	104 935	104 937

## Hydraulic Machine Vise

# HS

- Hardened and precision-ground jaws and body
- Clamping pressure is up to ten times as high as with conventional machine vises



HS 100 is shown

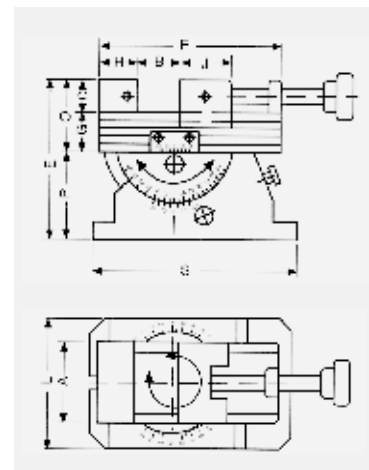
Specifications	HS 100	HS 125	HS 150	HS 200
Jaw width	4"	5.25"	6"	8.3"
Jaw height	1.25"	1.75"	2"	2.5"
Opening cap.	6.5"	8.5"	11.5"	11.75"
Weight lbs	58	95	165	275
Part No.	105 096	125 024	125 028	125 029

- Swivel-base mounted vise body, 360° swivel
- Constant clamping pressure, unaffected by vibration and shock
- Hydraulic power booster

## Precision Grinding and Control Vise

# PSS 70

- Swivels on 2 levels, 360° horizontal, ± 45° vertical
- Scale for precise minute readout
- Screw for upward and downward swing
- For grinding, boring, milling, eroding
- Weight: 26 lbs



	A	B	C	E	F	G	H	J	L	O	P	S	N.W.	Part No.
PSS 70	2.8"	3.2"	1.2"	5.25"	6.25"	1.25"	1.3"	1.75"	4.25"	2.25"	3"	7"	27 lbs	128 815

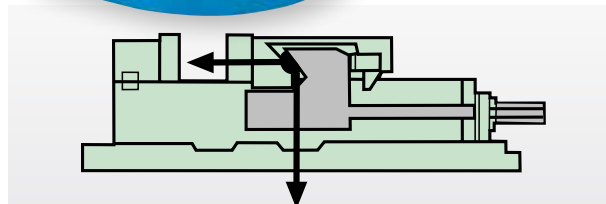


## Machine vise with pull-down system

### NZM

Made of high-quality cast-iron

- Pull-down system: absolutely secure work piece hold even during cutting of heavy parts
- Hardened and precision-ground steel jaws
- Dial turns 360° and has 1° scale division
- parallelism  $\pm 0,03$  mm / 100 mm
- Precise, hardened jaw guides



Specifications	NZM100	NZM125	NZM160	NZM200
Jaw width	4"	5"	6"	8"
Jaw height	1.25"	1.5"	1.75"	2"
Opening capacity	4"	5"	6.7"	9"
Height	4.5"	5.25"	6"	7"
Dial diameter	6"	7.25"	9"	10.5"
Weight	lbs 36	53	75	125
Part No.	104 916	104 918	104 920	104 922

## Precision Machine Vise

### PMS

- Swivels on 2 axis
- High precision vise for accurate and exact precision mechanics work (also suitable for watch making, jewellery industries)
- Swivels from horizontal (180°) to vertical (90°)
- Turns 360° on a dial
- Jaws are made of hardened and precision-ground tool steel



III. PMS 50

Specifications	PMS 50	PMS 75	PMS 100
Jaw width	2"	3"	4"
Jaw height	2"	3"	1.7"
Opening cap.	2"	3"	4"
Weight	lbs 9	22	38
Part No.	125 010	125 011	125 012

## Universal Machine Vice

### UMS

- Solid vise, ideal for drill presses
- Deep hole bores for flexible clamping
- Low height for cost-effective use of machine

Specifications	UMS 100	UMS 140	UMS 200
Jaw width	3.9"	5.6"	8"
Opening	4.1"	5.8"	8.7"
Jaw depth	1.7"	2.0"	2.5"
Assembly width	6.7"	7.4"	9.8"
Height	2.8"	3.5"	4.5"
Length	18.1"	24"	31"
Deep hole Dim.	3.5 x 0.5"	4 x 0.6"	6.4 x 0.6"
Weight	lb 29	40	70
Part No.	125 030	125 031	125 032



III. UMS 100

- Manually operated lathe chucks with spiral ring and centric clamping action for DIN 55029 spindle heads with Camlock stud bolts
- Lathe chucks are available with diameters up to 500 mm and short tapers up to size 11
- Precision-machined lathe chuck bodies are available in cast-iron and steel



### 3-Jaw Lathe Chuck



#### 3-jaw chuck / steel

Ø	Camlock mount	Speed rpm	Bore	Weight lbs	Part No.
6"	D1-4	4500	1.65"	20	146 378
8"	D1-4	4000	2.17"	42	116 501
8"	D1-6	4000	2.17"	42	146 372
10"	D1-6	3500	2.99"	70	146 377
10"	D1-8	3500	2.99"	70	146 373
12.5"	D1-6	2800	4.06"	112	146 374
12.5"	D1-8	2800	4.06"	112	146 383
12.5"	D1-11	2800	4.06"	112	116 505
13.5"	D1-8	2000	5.35"	330	116 506
13.5"	D1-11	2000	7.48"	330	116 507

#### Soft Jaw Pads for 3-jaw chuck (cast-iron / steel)

Ø	Length	Width	Height	Part No.
6"	3.07"	0.98"	1.63"	116 550
8"	3.54"	1.06"	1.69"	116 551
10"	4.06"	1.28"	2.08"	116 552
12.5"	4.72"	1.46"	2.17"	116 553
13.5"	5.5"	1.65"	2.54"	116 554
19.75"	5.5"	1.65"	2.93"	116 555

### 4-Jaw Lathe Chuck



#### 4-jaw chuck / steel

Ø	Camlock mount	Speed rpm	Bore	Weight lbs	Part No.
6"	D1-4	4500	1.61"	20	116 600
8"	D1-4	4000	2.17"	42	116 601
8"	D1-6	4000	2.17"	42	146 472
10"	D1-6	3500	2.99"	70	146 477
10"	D1-8	3500	2.99"	70	146 473
12.5"	D1-6	2800	4.06"	112	116 604
12.5"	D1-8	2800	4.06"	112	146 483
12.5"	D1-11	2800	4.06"	112	116 605
13.5"	D1-8	2000	5.35"	222	116 606
13.5"	D1-11	2000	5.35"	222	116 607

#### Soft Jaw Pads for 4-jaw chuck (cast-iron / steel)

Ø	Length	Width	Height	Part No.
6"	3.07"	0.98"	1.63"	116 650
8"	3.54"	1.06"	1.57"	116 651
10"	4.06"	1.28"	2.08"	116 652
12.5"	4.72"	1.46"	2.17"	116 653
13.5"	5.5"	1.65"	2.54"	116 654
19.75"	5.5"	2.36"	3.23"	116 655



## Quick-Change Tool Holder

Sets, 5-tlg.

### Set WA:

1 ea head A  
3 ea WAD 20x90  
1 ea WAH 20x90  
Part No. 103 193

### Set WB:

1 ea head B  
3 ea WBD 25x120  
1 ea WBH 32x120  
Part No. 103 195

### Set WD1:

1 ea head D1  
3 ea WD1D 63x180  
1 ea WD1H 63x180  
Part No. 103 197

### Set WE:

1 ea head E  
3 ea WED 20x100  
1 ea WEH 30x100  
Part No. 103 194

### Set WC:

1 ea head C  
3 ea WCD 32x150  
1 ea. WCH 40x160  
Part No. 103 196

### Set WD2:

1 ea head D2  
3 ea WD2D 63x220  
1 ea. WD2H 70x220  
Part No. 103 198



- Fits all standard german quick-change tool holder
- Tool holder head and tool holder feature profile-ground gearing
- Tool holders are clamped against the central body's gears by means of 2 chuck halves and an eccentric bolt
- Repeat accuracy 0,01 mm
- Tool holders can be adjusted to 40 different angles on the central body
- Angle scale provided on head
- Holder height adjustment with a thumb screw

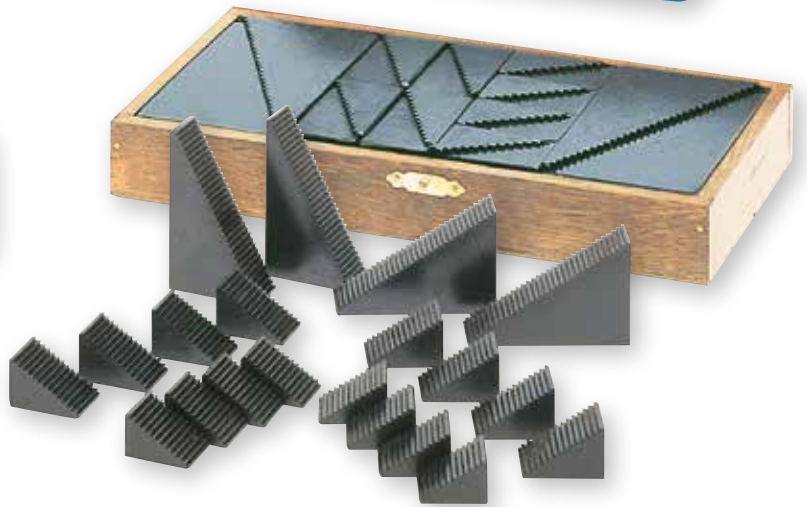
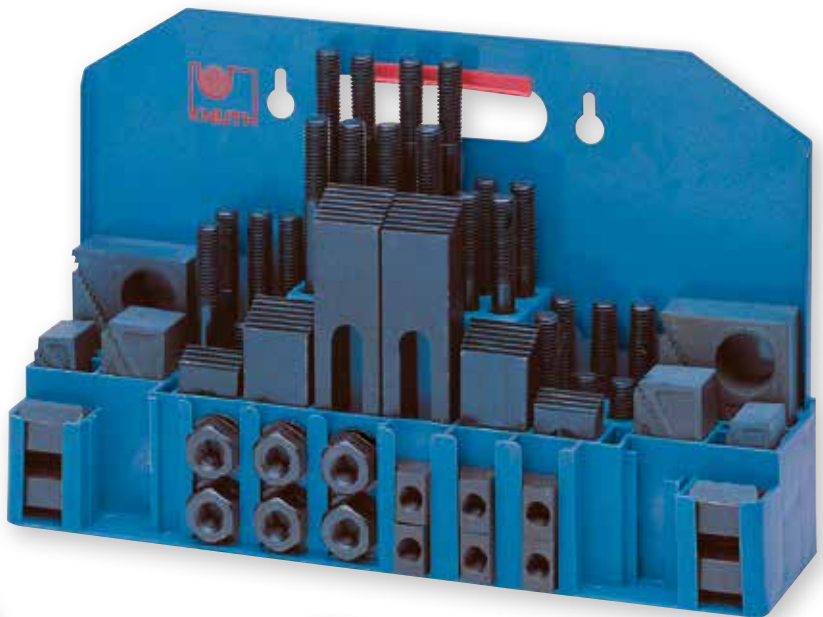
fits onto machine (Part No. 270 021)

### Selection of tool holder head according to the respective table

Size	W	A	E	B	C	D1	D2
Tool changer size	D	16 20	20 25	25 32	32 40	45 63	50 63
Machine:							
- Drive power, max.	Hp	3.0	6.0	9.0	18.0	27	38
- Turning diameter	in	5.9-11.8	7.9-15.7	11.8-19.7	15.7-27.6	19.7-39.4	23.6-43.3
Slide width, max.	Z in	3.9	4.7	5.9	7.1	7.9	
Cutting edge height							
- Min.	X in	H + Y	H + Y	H + Y	H + Y	H + Y	H + Y
- Max.	in	X + HV	X + HV	X + HV	X + HV	X + HV	X + HV
Height adjustability	HV in	0.43	0.67 0.59 0.79 0.43	1.6 1.4	1.2 1.4	1.2 0.79	0.79 1.2
Tool support	Y in	0.35	0.39 0.43 0.49 0.55	0.59 0.63	0.67 0.79	0.79 0.98	0.79 0.98
Height of tool							
Max.	H in	0.63 0.79	0.79 0.98 0.98 1.3	1.3 1.6	1.8 1.6	1.96 2.5	1.96 2.5
Overall width, max.	V in	3.9	4.9	5.9	7.6 8.0	8.0 9.1	9.2 9.5 10.8 11.1
Overall height	S in	2.1	2.7	3.0	4.1	4.8	5.3
Throat, max.	U in	1.9	4.2	2.8	3.6 4.0	4.0 4.4	4.6 4.9 5.5 5.8
Bore, max.	T in	1.2	1.2	2.0	2.8	1.6	3.1



Set	Head	Tool Holder	Part No.	Set	Head	Tool Holder	Part No.				
WA 103 189	WAD a	16 l	75 103 271	WAH d	20 l	85 103 275	WAJ d	30 l	80 103 276	WAA-AO	103 277
		16 90 103 272									
		20 75 103 273									
		20 90 103 274									
WE 103 190	WED	20 100 103 281	WEH	30 100 103 283	WEJ	30 100 103 284	WEA-A2a	103 286			
		25 100 103 282				40 100 103 285					
WB 103 191	WBD	25 120 103 291	WBH	34 130 103 295	WBJ	40 120 103 296	WBA-A2a	103 297			
		25 140 103 292									
		32 120 103 293									
		32 140 103 294									
WC 103 192	WCD	32 150 103 301	WCH	40 160 103 306	WCJ	40 160 103 308	WCA-A3a	103 310			
		32 170 103 302				50 160 103 309					
		40 150 103 303									
		40 170 103 304									
		45 170 103 305									
WD1 103 360	WD1D	40 180 103 364	WD1H	63 180 103 362	WD1J	63 180 103 363					
		50 180 103 365									
		65 180 103 361									



**De Luxe Clamping Tool Set**


- In a convenient, sturdy steel magazine, 52 parts
- 24 stud bolts, 4 each in the lengths 3, 4, 5, 6, 6.75, 7.75"
- 4 extension nuts, 6 stepped clamps (3 pair), 6 T-slot nuts, 6 hexagon nuts flanged, step blocks


**Stud Bolt Set, and T-Slot Nuts**

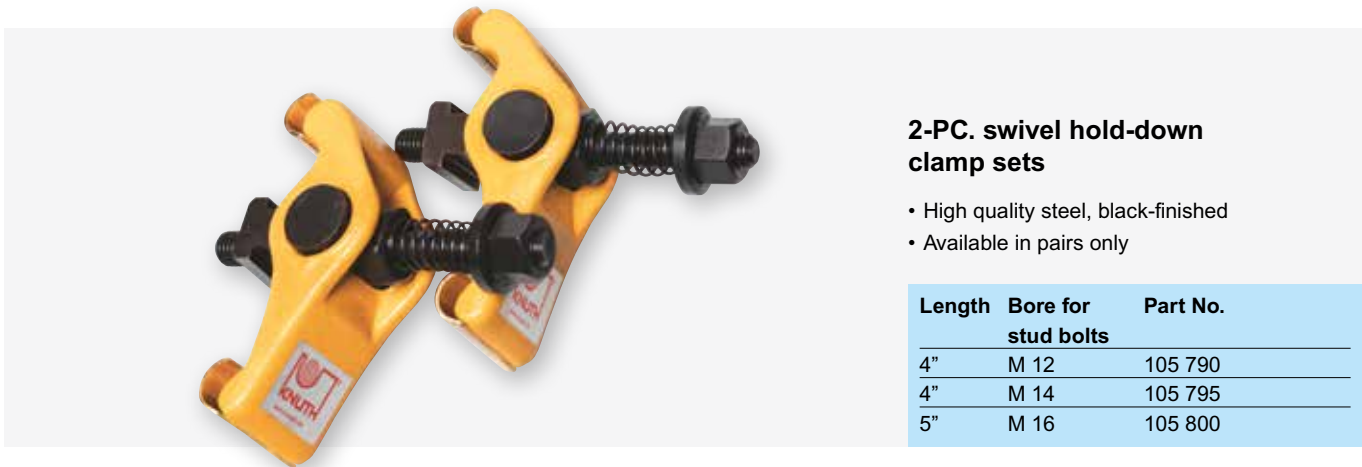
- 38 parts
- 24 stud bolts, 4 ea in the lengths 3, 4, 5, 6, 6.75, 7.75"
- 6 T-slot nuts
- 4 extension nuts
- Hexagon nuts flanged

**Set of Step Blocks**

- 20 each (10 pairs) in wooden box
- Black-finished steel
- Part No. 105 340

	Thread	Part No.
12	M 10	105 290
14	M 12	105 295
16	M 14	105 300
18	M 16	105 305

	Thread	Part No.
14	M 12	105 355
16	M 14	105 360



**2-PC. swivel hold-down clamp sets**

- High quality steel, black-finished
- Available in pairs only

Length	Bore for stud bolts	Part No.
4"	M 12	105 790
4"	M 14	105 795
5"	M 16	105 800



### Dial Gauge

- Accuracy acc. to DIN 878
  - Matte-finish chrome-plated metal encl.
  - Clamping shaft 8mm h6
  - Outer race with 2 adjustable tolerance markers
  - Gradation 0.01 mm
  - Measuring range 10 mm
- Part No. 129 020



### Precision Dial

- Accuracy and design acc. to industry standard
  - Measuring range 0 - 1.27 mm
  - Clamping shaft 8 mm
  - Smallest increment 0.002 mm
- Part No. 129 022



### Precision Dial Gauge

- Accuracy acc. to DIN 2270
  - Automatically reversing tracer arm
  - Rotating outer race for zeroing
  - Stainless steel precision bearing for friction-free adjustment of tracing point
  - Gradation 0.01 mm
  - Measuring range 0.8 mm (0-40-0)
  - Including wooden case
- Part No. 129 065

## Magnetic micrometer Holders

### 3-in-1 Clamping

- Just turn the clamping knob for a quick and secure fixation of all 3 motion points
- Foot dimensions 15.75 x 2 x2" holding power 130 lbs
- Part No. 108 796



Shown with optional equipment

### Hydraulic high-precision magnetic measuring tripod

- Central clamping with 1 rotating knob
  - High clamping force via hydraulics
  - Foot dim. 2.6x2x2"
  - Holding power 110
- Part No. 108 810



### Individual clamping

- Measuring column 0.5" Ø x 7"
  - Transverse arm 0.4" Ø x 6"
  - Foot dimensions 2.5 x 2 x 2"
  - Holding power 130 lbs
  - Plus fine adjustments
- Part No. 108 800



## External Micrometer Set

### 6-pcs. 150 - 300 mm

- Measuring range 25 mm each
- Accuracy in acc. with DIN 863
- Readout 0.01 mm
- Satin chrome-plated scales
- Micrometer screw diam. 8 mm
- C-frame with hand protection
- Thimble diam. 17 mm
- Including ratchet
- Spindle pitch 0.5 mm
- With adjustment gauge
- Including wooden case
- Measuring range 150-175, 175-200, 200-225, 225-250, 250-275, 275-300 mm



Part No. 129 012

## External Micrometer Set 6 pcs. 0 - 150 mm

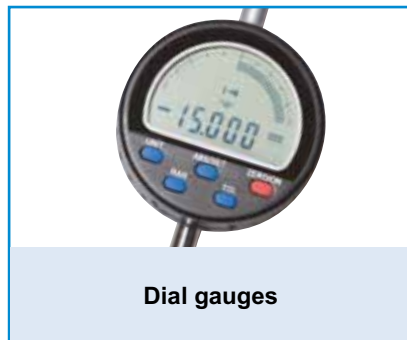
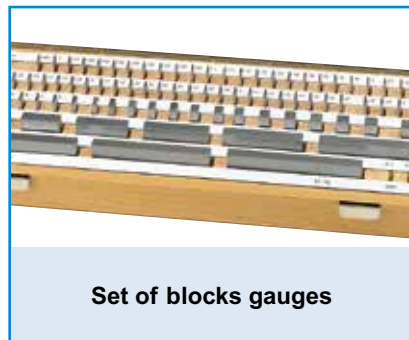
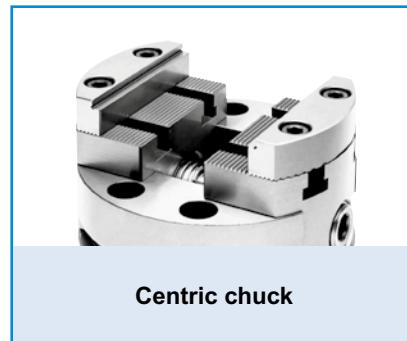
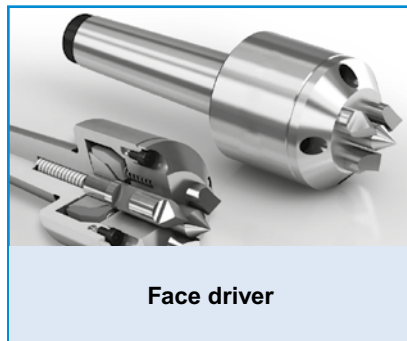
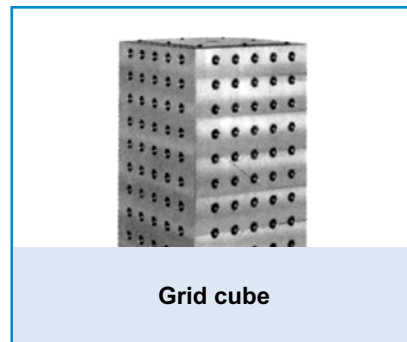
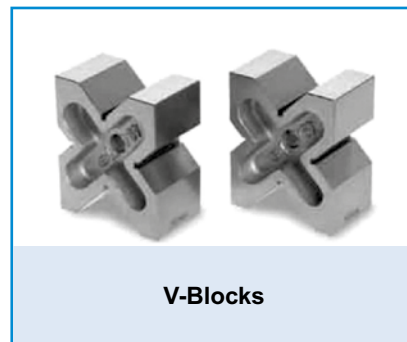
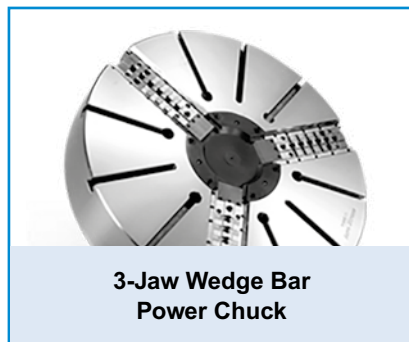
- Accuracy acc. to DIN 863
- Readout 0.01 mm
- Satin chrome-plated scales
- Micrometer screw diam. 6.35 mm
- Tungsten carbide tipped measuring surfaces
- C-frame with hand protection
- Thimble diam. 17 mm
- Including ratchet
- Spindle pitch 0.5 mm
- Measuring range 25 mm a. up with adjustm. gauge
- Including wooden box
- Measuring range 0-25, 25-50, 50-75, 75-100, 100-125, 125-150 mm



Part No. 129 010

# Clamping tools

Quick and easy online orders



## X.Pos 3.2

Position Indicators - an absolute necessity for all machine tools



- As new addition or for retrofitting machine tools like milling machines and lathes, including measuring machines
- The new generation of displays is more powerful, robust, and reliable
- High-resolution 7" color display and powerful CPU for instant display of all functions and values
- The new generation of displays uses system-on-chip technology to integrate all functions on a chip for a more compact and reliable design
- Easy mounting and maintenance-free operation
- Increased accuracy
- Reduced error rate
- Higher operator safety
- Significant time savings
- Increased productivity
- User-specific functions
- Resolution 0.005 mm
- Default coordinates
- Pocket calculator function
- Conversion mm/inch

### Lathe Functions:

- Display of top slide (Z0) and bed slide (Z1) either individually or as differentiation/summation circuit for lathes
- Storage for 9 tools
- Taper function
- Radius / diameter toggle
- Fully compatible with older X.pos scales - upgrade now! X.pos - Increase your productivity, quality, and comfort, available in many languages (English, German, Spanish, Italian, French, Czech, Portuguese, Russian, Turkish, Swedish, Romanian, Japanese, Korean, Arabic, Hindi, and many more)

Art.-Nr. 123461

### Milling Machine Functions:

- Calculation of hole circle pattern
- Calculation of hole line pattern
- Coordinate storage
- Skew coordinate function
- Arc coordinate function
- Radius machining function, simple

### Mini precision gauges (including metal jacket)

Measuring length*	Part No.
4 inch	111 501
6 inch	111 502
8 inch	111 503
10 inch	111 504
12 inch	111 505
14 inch	111 506
16 inch	111 507
18 inch	111 508
20 inch	111 509
22 inch	111 510
24 inch	111 511
26 inch	111 512
27 inch	111 513
29 inch	111 514
31 inch	111 515
33 inch	111 516
35 inch	111 517
37 inch	111 518
39 inch	111 519
43 inch	111 521
47 inch	111 523
51 inch	111 525
55 inch	111 527
59 inch	111 529
63 inch	111 531
67 inch	111 533
71 inch	111 535
75 inch	111 537
79 inch	111 539
118 inch	111 559

\* Minimum length = max. mechanical travel  
Longer measuring lengths upon request

**We set up your new machine, make all adjustments and perform a test run on site.**

Individualized customer care at your site, which includes instructing the operator in the use of all standard functions of the new machine, is the quickest and safest way to implement new technology into your production.

**Your advantages at a glance**

- Professional assembly and installation
- Set up and final acceptance test
- Geometric adjustments on site
- Function test and operator instruction

Our StartUp packages are customized to meet the technology requirements of the respective machine and can be tailored for any system size. We offer this service for all KNUTH machines.

**Set up and initial start up of a cutting system**

- After transporting the machine to its final location and after all required energy/utility connections have been provided by the customer
- Support provided to our technicians by the buyer's personnel and devices (forklift/crane)
- Instruction/training of operators in the use of the cutting system by our technicians on site for about 1 to 2 days

**StartUp cutting system**

**Part No. 270300**

**Set up and initial start up of a CNC-controlled or conventional machine tool**

- Removal of transportation locks
- Assembly of machine components
- Alignment of machine tool
- Fill up operating fluids
- Check operation of all machine components
- Turn on machine
- Test run
- Training on how to use the machine functions
- Training on how to maintain the machine

**StartUp conventional machine tool**

**Part No. 270100**

**StartUp for CNC Machine Tool**

**Part No. 270200**



**Operator training for CNC machine tool**

- Set-up and operating your CNC machine
- Programming your machine using a sample workpiece

**CNC machine tool training  
Part No. 270202**





Machine Insurance

## KNUTH-Protect

Financial security in case of unforeseeable events

Production machines are exposed to a wide variety of risks every day. Despite advanced technology, careful handling and proper maintenance, expensive damages are possible in the long term - just the time and the extent are unknown factors. With the KNUTH-Protect Machine Insurance, the damage risk can be reduced to a predictable dimension.

In general, this warranty covers machine damages that are caused by human error, technical defects and force majeure / natural hazards. The machine is warranted for 24 months or 3,600 operating hours from the date of delivery.

### KNUTH Protect Machine Insurance

up to € 75,000

Part No. 270500

up to € 150,000

Part No. 270501

up to € 250,000

Part No. 270502



Maintenance

## KNUTH-Maintenance

Regular maintenance will pay for itself

A deciding factor and important goal for the success of production businesses is the reliability of their machine fleet. Regular maintenance is an important building block to achieve this goal.

In addition to completing all required routine maintenance tasks, like oil changes or readjustments, the KNUTH service technician will also provide you with a report on the current condition and state of your machine. Our expertise can help you take the correct measures in time, so your machine will continue to be a reliable component of your production facility or workshop.

In our 380 sqm large spare parts warehouse, we keep up to 35,000 original replacement parts in stock to guarantee high availability.

### Customized maintenance package for cutting systems

- Testing of machine function
- Testing of peripherals
- Testing of safety features
- Monitoring and adjustment of all machine components
- All work according to maintenance plan
- Report/log of performed work

### Maintenance package for cutting system\*

Part No. 270303

### For CNC and conventional machine tools we offer:

- Testing of machine function
- Testing of safety features
- Checking machine geometry
- Monitoring and adjustment of all machine components
- All work according to maintenance plan
- Report/log on performed work

### Maintenance packages for CNC machine tool\*

Part No. 270203

### Maintenance package conv. machine tool\*

Part No. 270103

\* Prerequisites: Operational and accessible machine. Package price plus travel expenses, materials not included



## KNUTH Live Demo

Don't miss this opportunity to check out machines at our headquarters in Germany!



Nothing is more convincing than your own experience!

Visit us at our company headquarters in Wasbek or at one of our branches for an individual demonstration of our machines, and talk to our technicians and engineers.

Take a look behind the scenes! Learn more about our expertise and services and meet the employees that make it possible!

Let these machines convince you of their superior quality and performance.

**Make an appointment for a personal demonstration!**

We are looking forward to your visit.

## Just like live

If you cannot visit in person, KNUTH provides videos which show machining operations on test pieces. In these videos you see and hear how the workpiece is machined. These videos provide you with a good basic understanding, and you can clarify the smallest details with our technician. Talk to one of our sales experts.





## Everything for metalworking under one roof

In 172,000 ft<sup>2</sup> of exhibition area at our company head office in Wasbek, Germany, customers will find machines and technologies from all areas of machining and sheet metal working ready for demonstration and available for delivery at short notice.



**Open for you 24/7:** Take a virtual tour through our warehouses, spare parts warehouses and workshops with Google Street View.

### Service Commitment

**The industry's leading customer and support guarantee**

#### Quality Control

All of our machines are inspected, tested, and shop ready prior to shipment. We are proud to have the quickest set up time - guaranteed.

#### Technical Phone Support

We have developed a system that assures a call back during regular business hours from one of our service engineers within 30 minutes, provided at no charge for the lifetime of your machine - guaranteed.

### KNUTH Machine Tools USA, Inc.

590 Bond Street • Lincolnshire, IL 60069

**Phone +1-847-415-3333**

**info@knuth-usa.com**

**www.knuth.com**

### Technical On-Site Support

Our service engineers participate in a rigorous training program and are subject to high quality standards. If you need assistance with your machine we are happy to come on site and solve the problem - guaranteed.

#### Besides on-site troubleshooting, our service team also offers the following services:

- Machine installation and set-up / machinery relocation support
- Preventative maintenance programs
- Operator and maintenance training, either at the customer's facility or at KNUTH USA
- Application based problem solutions

### Spare Parts

At our centrally located facility near Chicago, IL we offer more than 6,000 parts that can be shipped the same day. Additionally, our internal global KNUTH spare parts network allows us to access more than 35,000 parts that are ready to ship within 48 hours - guaranteed.

# The KNUTH Fabricating Center

## Cutting and Forming Expertise

Machines for all areas of fabrication from a single source!

We offer comprehensive consultation.

The complete portfolio starts on page 214.



**Plasma-Jet Options:** Tube cutting systems, cutting heads for bevels, oxy-fuel cutting



**Water-Jet 2D and 5-axis machines,** cutting solutions for all materials



**ACE Laser:** Complete solutions for your cutting tasks

# Your application is the deciding factor

Productive bending machines for customized solutions starting on p. 254



[www.knuth.com](http://www.knuth.com)

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