



V-Turn 410

UNIVERSAL LATHE

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Everything for metalworking under one roof

KNUTH Machine Tools is a leading supplier of conventional and CNC machine tools. KNUTH is a global company with a presence in more than 30 countries.

In an area of 16.000 m² at our headquarters in Wasbek, Germany, we keep a complete selection of machines for all areas of machining and metal working ready for demos and quick delivery.



Open for you 24/7: Take a virtual tour through our warehouses, spare parts warehouses and workshop with Google Street View.

Quality Assurance for your KNUTH Machine

Quality by KNUTH Certified Quality Assurance

More than 1400 machines are shipped annually from our headquarters in Wasbek, Germany. Every machine has to pass a series of tests in our 5-level quality assurance process that covers everything from incoming quality control to alignment testing, and from functional, technical and geometric accuracy tests to the final acceptance test. These tests are conducted by our master technicians who use a dedicated customized data processing system for this purpose.

An ISO 9001 certified quality management system ensures continuous control and improvement of all quality-relevant activities. Design, development and precision of each individual machine are documented exactly in detailed inspection protocols and acceptance test logs.

All-Encompassing KNUTH Service Worldwide Reliability

Trust our global qualified staff take care of everything from installation and maintenance to repairs and upgrades quickly and professionally.



The Process of Making
a KNUTH Machine Tool



KNUTH Machines in Action

Visit our YouTube page to experience machines in action before the real-life test on site

Subscribe to our YouTube channel - Go to KNUTH Machine Tools!

Complete Service by KNUTH

Reliable service from a single source

We provide highly qualified technicians and engineers all over the world to ensure reliable service from one central source. And our global supplier network ensures prompt availability of replacement parts and consumables at a local level.



CONSULTATION

- Sample work pieces
- Machine demos



START-UP

- Installation / Commissioning
- On-site Instruction



TRAINING

- User Training
- Maintenance Training



PREVENTIVE MAINTENANCE

- Inspection
- Maintenance



REPAIR

- Machine Repair
- Spare Parts



MACHINE WARRANTY

- Protect Insurance

KNUTH Technical Service Help Desk

Tel. +49 4321 609-273

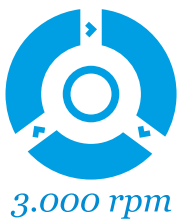
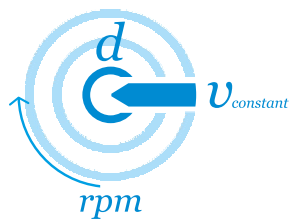
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Our Service Help Desk is available 24/7 online at: [knuth.de/servicedesk](https://www.knuth.de/servicedesk)



V-Turn 410

Precision lathe

Models
V-Turn 410/1000
V-Turn 410/1500

CONSTANT CUTTING SPEED

HIGH SPINDLE SPEED AND MOTOR POWER

EXTENSIVE STANDARD EQUIPMENT

WIDE RANGE OF APPLICATIONS

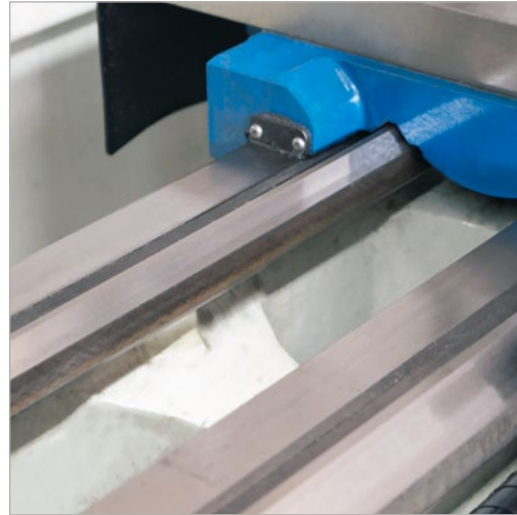
Our bestselling V-Turn is a versatile precision lathe designed to cover a wide range of workshop and production applications. Equipped with an inverter and a high power spindle motor, this lathe can easily reach 3.000 rpm. It also has a built in feature which allow you to have constant cutting speed during - the spindle speed automatically adjusts based on the turning diameter.

Main Features

Machine construction

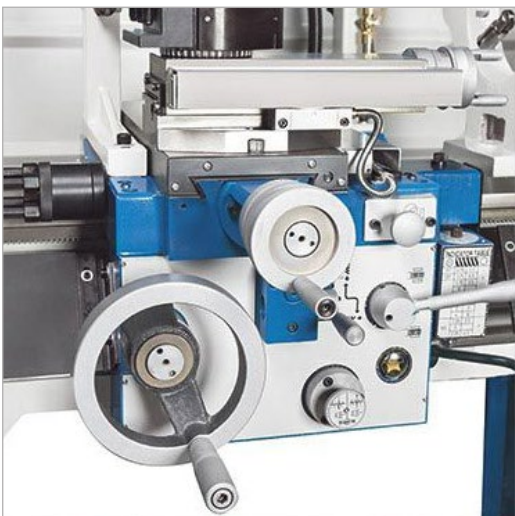


- A heavy ribbed machine bed and a massive one-piece cast-iron frame provide the solid basis for this machine

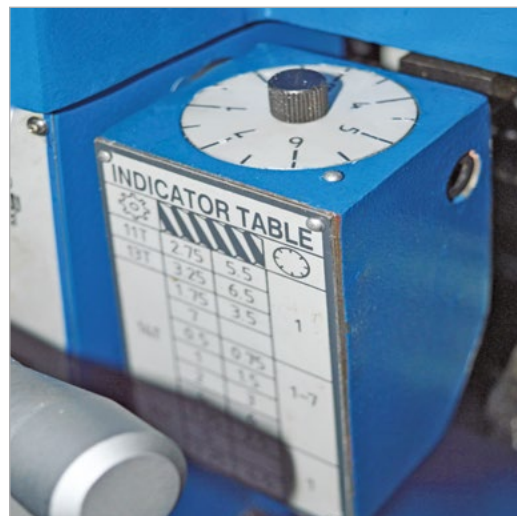


- The bed gap offers the possibility to turn larger workpiece diameters
- The wide, hardened and ground guideways ensure superior turning results even after many years of operation

Carriage



- The carriage features clearly arranged, user friendly feed hand-wheels and levers
- Feed gears are lubricated in oil-bath to ensure a smooth operation and minimum wear
- Machine is equipped with micrometer and turret stops



- On the right side of the apron a thread dial indicator is installed which is used during thread cutting to engage with the leadscrew

Main Features

Headstock



- Headstock gears and shafts are hardened and ground for smooth and quiet operation
- The high-power motor (among the highest from its class) ensures a powerful machining



- This series is equipped with an inverter, reducing the number of speeds to two, with infinitely variable speed adjustment

Spindle



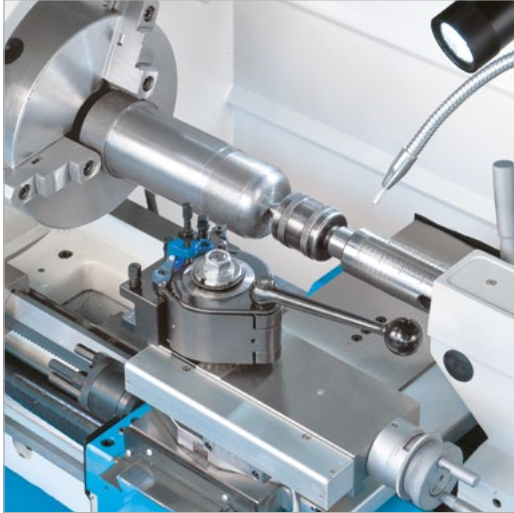
- The large spindle bearings ensure excellent concentricity
- Additionally, a spindle cover is provided to protect the operator. It integrates an interlock system, stopping the spindle when the cover is lifted



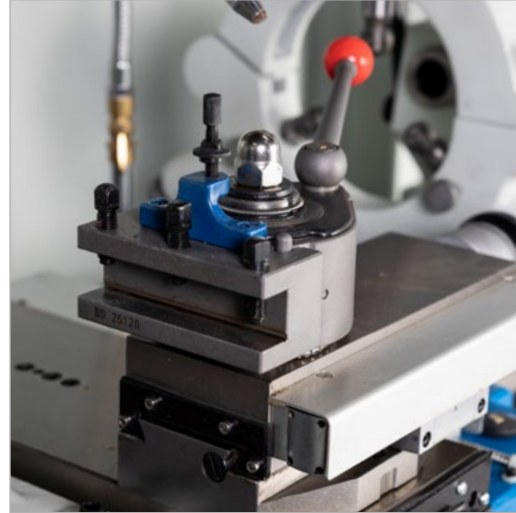
- This model is delivered standard with a independent 4-jaw chuck (1.270 rpm max.). Other type of chucks can be provided on demand

Main Features

Top slide and Toolpost



- The top slide can be swiveled for easy taper turning.
- For extra protection against chips and coolant splashes, a large liftable cover is installed over the toolpost which travels together with the carriage
- Work light is provided through very rugged halogen lamp with protection against water, oil and dust



- This model is equipped as standard with high quality German type quick change tool post to easily switch the tools with repeat accuracy of 0,01 mm
- Additionally, it can be swiveled with angle scale offering a larger range of working possibilities
- Lathe tool shanks knives are clamped using thumb screws

Tailstock



- This model features a robust tailstock with MT4 taper and long quill travel, excellent for deep drilling and boring
- It has also a traverse adjustment to facilitate taper turning



- The quill can be positioned with ease using a handwheel with precision scale

Main Features

3 Axis Digital Read Out - X.pos 3.2 VC



- Integrating multiple functions, this new generation of 3 axis digital readouts significantly offer a much better control over the machining processes, greatly decreasing down-times and error rates
- The new generation of displays uses system-on-chip technology to integrate all functions on one chip for a more compact and reliable design. Additionally, the CPU power was increased and the display was extended to 7" for instant and clear view of all functions and values
- It features a totally sealed enclosure made of high quality polyester film which protects it against hazardous environments in shop floors, such as dust or fumes and offers excellent chemical resistance to most commonly used industry solvents
- It can be easily installed and doesn't require maintenance. Is a very popular choice for retrofitting older machines

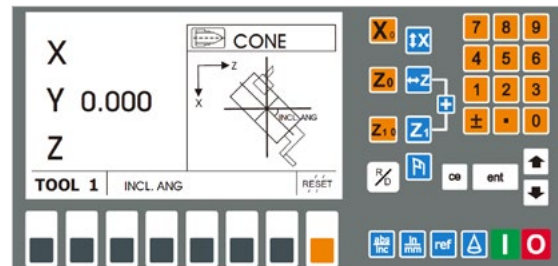
Basic Functions

- » Resolution of 0,005 mm
- » Spindle control ON/OFF
- » Unit measurement conversion Inch / Metric
- » Setting / Resetting current position
- » Coordinate display switching ABS / INC
- » Radius / Diameter display
- » Z1/Z2 Axes summing
- » Pocket calculator functions

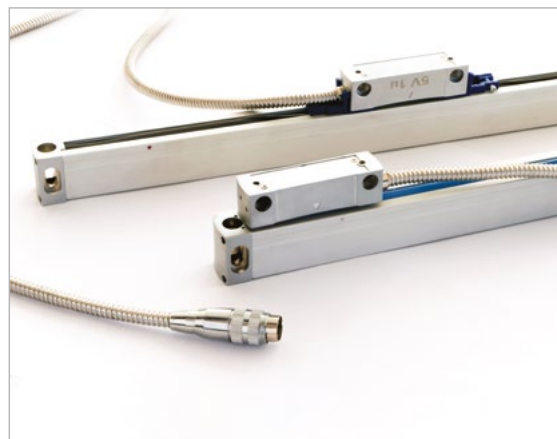
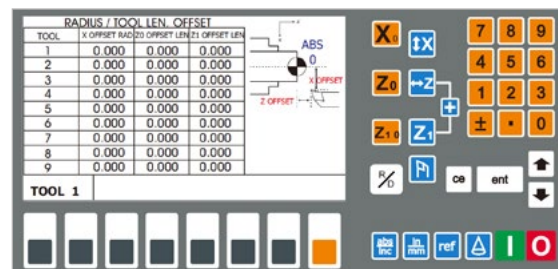
Extended Functions

- Constant cutting speed** - the spindle speed automatically adjusts based on the turning diameter

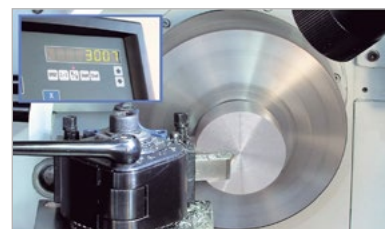
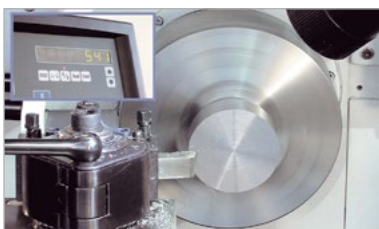
- Taper turning function** - angle display for accurate positioning of the upper slide during taper turning



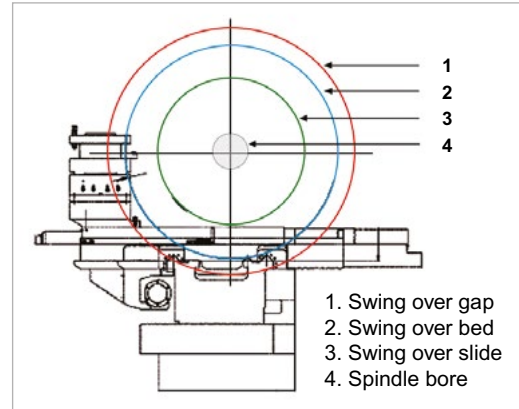
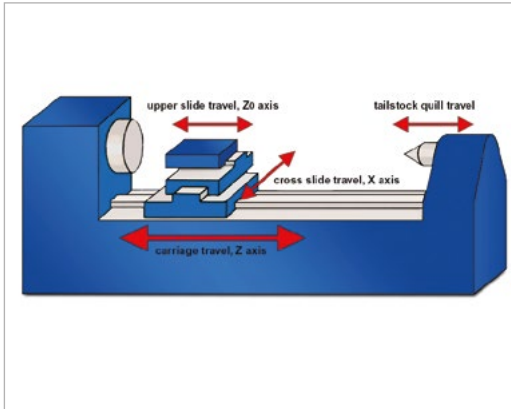
- Tool offset subdatum function** - provides a total of 9 tools offset memory



- Optical Scales:** 5 micron resolution (0.005 mm) with outside cover from aluminum for protection against oil, coolant and chips



Technical Data



Technical Data	V-Turn 410/1000	V-Turn 410/1500
Working area		
Center width	mm 1.000	1.500
Center height	mm 205	205
Turning diameter over bed	mm 380	380
Turning diameter over gap bridge	mm 580	580
Turning diameter over support	mm 255	255
Gap bridge length	mm 250	190
Bed width	mm 250	250
Swing range of top slide	° ± 45 °	± 45 °
Travels		
Travel X / Z1 axes	mm 210 / 140	210 / 140
Headstock		
Speed range low / high	rpm 30 - 550 / 550 - 3.000	30 - 550 / 550 - 3.000
Spindle bore	mm 52	52
Spindle mount / taper	Camlock D1-6 / MT 6	Camlock D1-6 / MT 6
Feed		
Feed X-axis	mm/R 0,025 - 0,85	0,025 - 0,85
Feed Z-axis	mm/R 0,05 - 1,7	0,05 - 1,7
Tapping		
Tapping, metric	mm (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, whitworth	TPI (45) 2-72	(45) 2-72
Tailstock		
Tailstock quill diameter / taper	mm 50 mm / MT4	50 mm / MT4
Tailstock quill stroke	mm 120	120
Tailstock traverse adjustment	mm ± 13 / ± 0.5"	± 13 / ± 0.5"
Drive capacity		
Motor rating main drive	kW 5,5 (400 V)	5,5 (400 V)
Measures and weights		
Overall dimensions (length x width x height)	m 1,94x1,06x1,36	2.44x1,0x1,32
Weight	kg 1.550	1.800
Part No.	300820	300821

Standard Equipment

3 axis position indicator



- X.Pos 3.2 VC - new generation
- Integrated functions
- Spindle speed display
- Constant cutting speed

4-jaw face plate chuck



- Cast-iron 4-jaw chuck
- Ø250 mm chuck diameter

Face plate



- Face plate diam. Ø350 mm

Change Gears



- Change gears for thread cutting

Quick change tool post



- Quick change tool post WB

Quick change tool holder



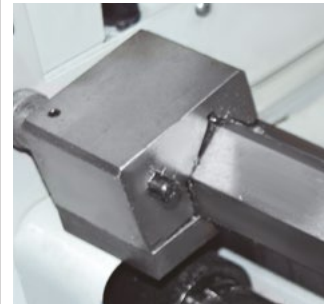
- Quick change tool holder WBD 25120 (25x120 mm)

Turret stop



- Turret stop with 4 positions which are used as spacers when paired with a micrometer stop

Micrometric stop



- Increases the precision of operations and reduces down-times spent for part measuring

Steady rest



- Large steady rest with three adjustable jaws and rollers
- Indispensable when working with long and thin workpieces
- Max. working diameter Ø130 mm

Follow rest



- The follow rest is fixed on the saddle and minimizes deflections during the turning of long workpieces
- Max. working diameter Ø70 mm

Thread gauge



- Facilitates the thread cutting process

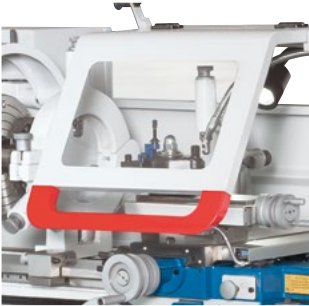
Coolant system



- The coolant system increases the life of the tools
- The coolant tank is integrated in the base of the machine to maintain a small floor space

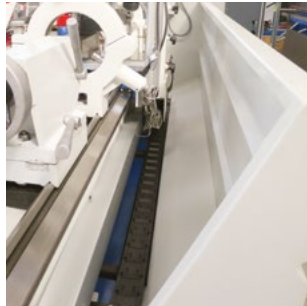
Standard Equipment

Toolspost guard



- Large cover to protect the operator against chips and coolant splashes

Fixed splash guard (wall)



- Large, fixed splash guard
- Covers full working length

Chuck guard



- Chuck guard with integrated interlock system

Foot brake pedal



- Emergency foot brake pedal

LED work lamp



- Very rugged LED light lamp
- Protected against water, oil and dust

Dead Center



- Used to support the workpiece when turning between centers
- It is delivered with reduction sleeve for main spindle

Operating tools



- Tool box with tools for operating the lathe and maintenance

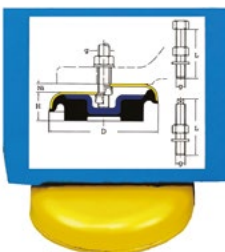
Operator instructions



- Installation instructions
- Operation manual
- Maintenance plans
- Electrical diagrams
- Spare parts lists

Optional Equipment

Pivoted mounts LK 33



- Absorb shock for a vibration-free machine operation
- The screw set allows easy machine alignment

Accessory set for MT4



- Reducing sleeves: MT4/MT3, MT4/MT2, MT4/MT1
- Extension Sleeve: MT4/MT5
- Tool holder bit: MT4/B18, MT4/B16
- Keyless drill chuck: 3-16 mm / B 18
- Keyless drill chuck: 1-13 mm / B 16

3-jaw chuck steel



- High quality steel 3 jaw chuck suitable for high speeds

Live center for MT4



- Live center for MT4, hardened and ground point 60°



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