



Basic Series

SOLID PRECISION BENCH LATHES

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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

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KNUTH Parts Service

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



Mechanics Lathe
Basic Series
Solid Precision Bench Lathes



ROBUSTNESS AND PRECISION

COMPACT DESIGN WITH SMALL FOOTPRINT

3-AXIS POSITION INDUCATOR WITH TURNING FUNCTIONS

QUICK CHANGE TOOL HOLDER

EXTENSIVE STANDARD EQUIPMENT FOR A WIDE RANGE OF APPLICATIONS

Basic Series
Solid Precision Bench Lathe

Models

- Basic Plus - 300809
- Basic 170 Super - 300815
- Basic 170 Super Pro - 300814
- Basic 180 Super - 300805
- Basic 180 V - 300807

For many years the Basic series has been the reliable mechanic's lathes, that have been used in countless workshops and training centers all over the world.

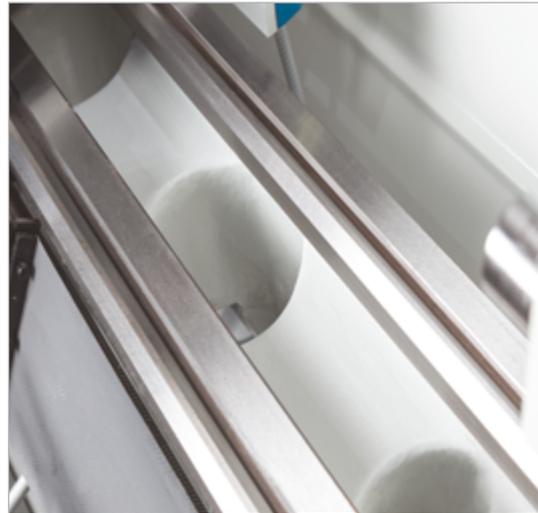
Equipped with position indicator, quick change tool holder and many other standard accessories, this series has been one of our best-selling conventional lathes for more than 20 years.

Main Features for all models

Machine construction



- Wide cast-iron bed with large distance between centers



- The smooth movement of the saddle is done on double v-guides, hardened and ground
- All guideways are adjustable

Headstock



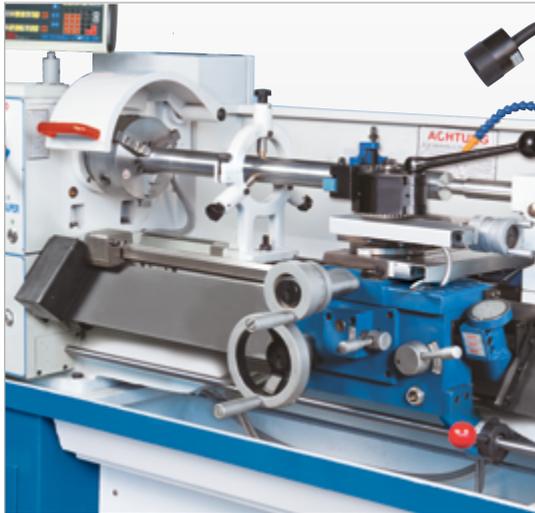
- The headstock gears and shaft are hardened and ground for smooth and quiet operation
- The main drive and feed gears are lubricated in oil-bath to ensure long life even when working with high spindle speeds
- The headstock bearings are adjustable



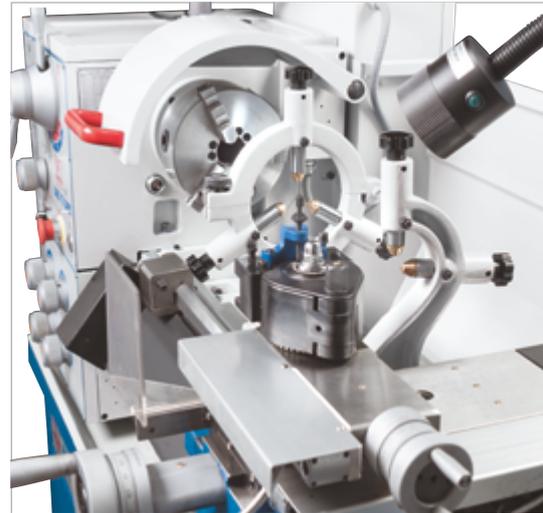
- All buttons and handles are ergonomically arranged, easily understandable and accessible
- The values for metric and whitworth tapping are clearly displayed in large tables
- Includes an interlocking feature that prevents simultaneous advance of leadscrew and feed shaft

Main Features for all models

Apron and top slide



- The double walled apron box with oil lubrication protects the feed gears and ensures long life use.
- The lead screw is protected against chips, cooling liquids and prevents injury to the operator



- The wide dovetail lead way and the high quality leadscrew offers a good machining precision.
- The high quality quick change tool post easily change tools and greatly reducing the downtimes.
- The toolholders can be easily exchanged in a few seconds and the knives are clamped using thumb screws.

Tailstock



- The tailstock can be repositioning for conical turning.
- The quill has a long stroke, useful for deep drilling, tapping or reaming operations.

Special Features

BASIC Plus and BASIC 170 Super



- The thick wall welded base features cabinets for storing tools and documents.

BASIC 170 Super Pro



- Built-in cooling system.
- Modern design with top cover, splash guard with access doors, traveling tool post safeguard, and storage drawers.
- One of the biggest spindle bore ($\varnothing 52$ mm) in the market for this machine segment.

BASIC 180 Super



- Built-in cooling system.
- Gap bed for turning larger diameter workpieces.
- One of the rigidest machine in the market for this machine segment (with 15% wider bed and 40% heavier than similar models).

BASIC 180 V



- Built-in cooling system.
- Gap bed for turning larger diameter workpieces.
- One of the rigidest machine in the market for this machine segment (with 15% wider bed and 40% heavier than similar models).
- This model is equipped with an inverter, with 2 speeds steps and infinitely variable adjustment.

Control panel

3 Axis Digital Read Out - X.pos 3.2



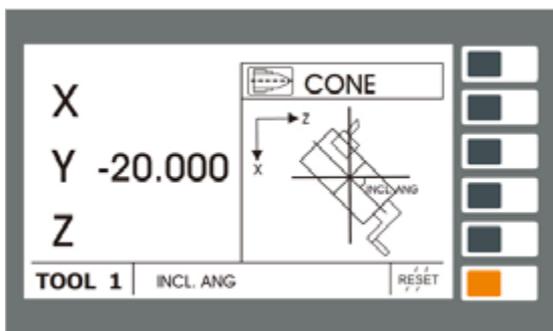
- Integrating multiple functions, this new generation of 3 Axis readouts significantly offer a much better control over the machining processes greatly decreasing down-times and error rates.
- It can be easily installed and doesn't require a lot of maintenance. Is a very popular choice for retrofitting older machines.

Basic Functions

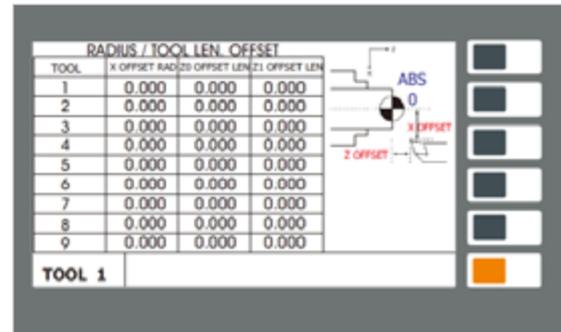
- Resolution of 0,005 mm
- Spindle control ON/OFF
- Unit measurement conversion Inch / Metric
- Setting / Resetting current position
- Coordinate display switching ABS / INC
- Radius / Diameter display
- Z1/Z2 Axes summing
- Pocket calculator functions

Extended Functions

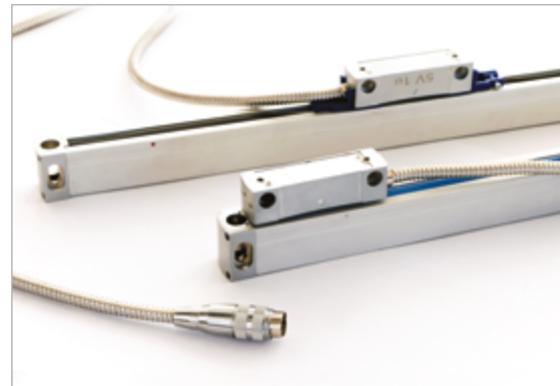
Taper turning function - angle display for accurate positioning of the upper slide during taper turning.



- Tool offset subdatum function** - provided 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



X.pos 3.2 VC for BASIC 180 V

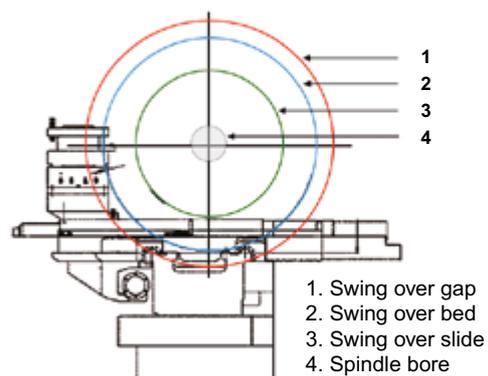
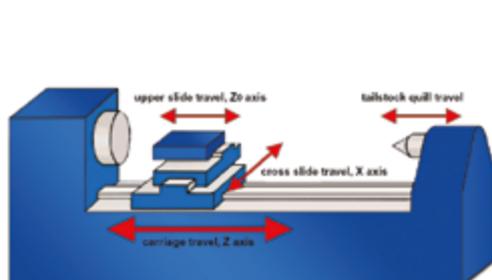


- Constant cutting speed** - the spindle speed automatically adjusts bases on the turning diameter.

Technical Data

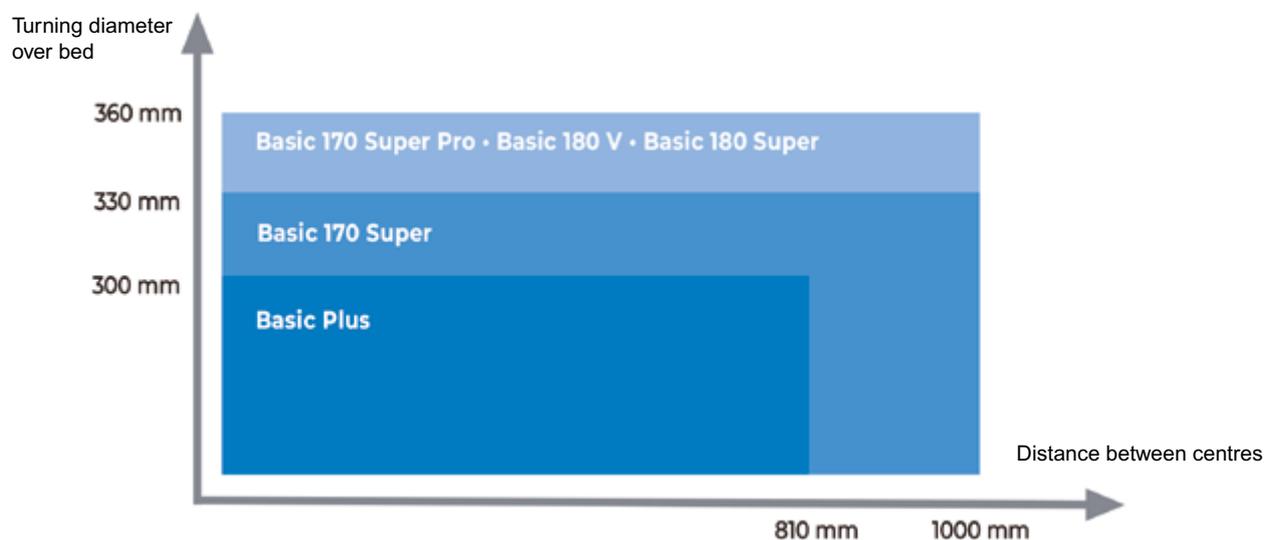
Technical Data		Basic Plus	Basic 170 Super	Basic 170 Super Pro	Basic 180 Super	Basic 180 V
SKU		300809	300815	300814	300805	300807
Working area						
Center width	mm	810	1000	1000	1000	1000
Turning diameter over bed	mm	300	330	360	356	356
Turning-Ø over support	mm	178	198	223	220	220
Turning diameter over gap bridge	mm	-	-	-	506	506
Gap bridge length	mm	-	-	-	206	206
Bed width	mm	180	187	187	206	206
Travels						
Travel X-axis	mm	155	170	185	178	178
Travel Z1-axis	mm	95	95	95	92	92
Swing range of top slide	°	± 60	± 60	± 60	± 50	± 50
Headstock						
Number of spindle speeds		9	8	8	16	2
Spindle speed	1/min	60 - 1.550	70 - 2.000	70 - 2.000	45 - 1.800	30 - 3.000
Spindle bore	mm	38	38	52	38	38
Spindle mount		Camlock D1-4	Camlock D1-4	Camlock D1-5	Camlock D1-4	Camlock D1-4
Spindle taper		5 MT	5 MT	6 MT	5 MT	5 MT
Feed						
Feed X-axis	mm/R	0,014-0,38	0,014-0,38	0,0291-2,035	0,015-0,22	0,014-0,206
Feed Z-axis	mm/R	0,052 - 1,392	0,052 - 1,392	0,406-2,842	0,043-0,653	0,043-0,653
THREADING						
Threading, metric	mm	(26) 0,4-7	(26) 0,4-7	(48) 0,2-14	(37) 0,4-7	(37) 0,4-7
Threading, whitworth	TPI	(34) 4-56	(34) 4-56	(56) 2-56	(28) 4-56	(28) 4-56
TAILSTOCK						
Tailstock quill diameter	mm	32	33	42	45	45
Tailstock taper		3 MT	3 MT	3 MT	3 MT	3 MT
Tailstock quill stroke	mm	100	100	120	120	120
Tailstock traverse adjustment	mm	± 10	± 10	± 10	± 10	± 10
DRIVE CAPACITY						
Motor rating main drive	kW	1,1	1,5	1,5	1,5	4
MEASURES AND WEIGHTS						
Weight	kg	520	520	650	880	880
Overall dimensions (L x W x H)	m	1,6x0,75x1,27	1,83x0,68x1,32	1,9x0,76x1,6	1,95x0,75x1,55	1,95x0,75x1,55

* Due to the process of constant improvement, products and product's data can change without notice.



Standard Equipment

Equipment Basic	Basic Plus	Basic 170 Super	Basic 170 Super Pro	Basic 180 Super	Basic 180 V
3-axis position indicator	X.pos 3.2	X.pos 3.2	X.pos 3.2	X.pos 3.2	X.pos 3.2 VC
Quick change tool post	WA	WE	WE	WE	WE
Quick change tool holder	(D) 16x75mm	(D) 20x100mm	(D) 20x100 mm	(D) 20x100 mm	(D) 20x100 mm
3-jaw chuck	Ø160 mm	Ø160 mm	Ø178 mm	Ø160 mm	optional
4-jaw face plate chuck	Ø200 mm	Ø200 mm	Ø200 mm	Ø200 mm	Ø200 mm
Face plate	Ø250 mm	Ø280 mm	Ø280 mm	Ø320 mm	Ø320 mm
Steady Rest	Ø50 mm	Ø70 mm	Ø70 mm	Ø90 mm	Ø90 mm
Follow Rest	Ø30 mm	Ø60 mm	Ø60 mm	Ø70 mm	Ø70 mm
Cooling system	optional	optional	standard	standard	standard
Micrometer stop	standard	standard	standard	standard	standard
Thread gauge	standard	standard	not available	standard	standard
Reduction sleeve	standard	standard	standard	standard	standard
Operating tools	standard	standard	standard	standard	standard
Dead centers	standard	standard	standard	standard	standard
Work light	standard	standard	standard	standard	standard
Full length splash guard	standard type	standaard type	with top cover and access doors	full length	full length
Chuck guard with interlock	standard	standard	standard	standard	standard
Leadscrew cover	standard type	standard type	stainless steel type	standard type	standard type
Foot brake pedal	not available	standard	standard	standard	standard
Chip tray	fixed	retractable	retractable	retractable	retractable
Operator manual	included	included	included	included	included



Standard Equipment

3-axis position indicator X.Pos 3.2



- New generation digital read-out with integrated functions
- For models:
 - Basic Plus
 - Basic 170 Super / Pro
 - Basic 180 Super

3-axis position indicator X.pos 3.2 VC



- New generation digital read-out with integrated functions
- With Spindle speed display
- With Constant Cutting Speed function
- Only for model Basic 180 V

Quick change tool post with tool holder



- All models are equipped with high quality quick change tool holder
- One piece tool holder is delivered as standard

3-jaw face plate chuck



- Self-centering cast iron 3 jaw chuck
- Includes one set of hard jaws
- For models:
 - Basic Plus
 - Basic 170 Super
 - Basic 170 Super Pro
 - Basic 180 Super

4-jaw face plate chuck



- All models are delivered standard with independent 4 jaw chuck
- Made of cast iron
- Includes one set of hard jaws

Face plate



- All models feature a face plate for special applications

Steady Rest and Follow Rest



- All models are equipped with steady rest and follow rest

Cooling system



- Reliable cooling system with integrated pump
- For models:
 - Basic 170 Super Pro
 - Basic 180 Super
 - Basic 180 V

Micrometer stop



- All models are equipped as standard with a micrometer stop

Thread gauge



- For models:
 - Basic Plus
 - Basic 170 Super
 - Basic 170 Super Pro
 - Basic 180 Super
 - Basic 180 V

Reduction sleeve and dead centers



- All machines are delivered with a reduction sleeve and dead centres.

Operating tools



- All models are equipped with tools for set-up and maintenance.

Standard Equipment

Chuck guard



- All models feature chuck guard with interlock system, spindle will stop if the eguard is lifted during operation

Foot brake pedal



- For models:
 - Basic 170 Super
 - Basic 170 Super Pro
 - Basic 180 Super
 - Basic 180 V

Leadscrew cover



- For models:
 - Basic Plus
 - Basic 170 Super
 - Basic 180 Super
 - Basic 180 V

Stainless steel leadscrew cover



- Only for model Basic 170 Super Pro

Splash guard



- For models:
 - Basic Plus
 - Basic 170 Super
 - Basic 180 Super
 - Basic 180 V



- Only for model Basic 170 Super Pro



- For models:
 - Basic Plus
 - Basic 170 Super
 - Basic 180 Super
 - Basic 180 V

Traveling cover for the tool-post with light



- Only for model Basic 170 Super Pro

Chip tray



- For models:
 - Basic Plus - fixed type
 - Basic 170 Super - retractable
 - Basic 180 Super - retractable
 - Basic 180 V - retractable

Bedienungsanleitung



- Installationsanleitung
- Betriebsanleitung
- Wartungspläne
- Schaltpläne
- Ersatzteillisten



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Subject to change without notice. Errors and omissions excepted.

