
Turnado Series

HORIZONTAL LATHE

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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

KNUTH Parts Service

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

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CLASSIC DESIGN WITH STURDY CONSTRUCTION

ONE-PIECE CASTED BED FOR INCREASED RIGIDITY

3-AXIS POSITION INDICATOR WITH VARIOUS TURNING FUNCTIONS

EXTENSIVE STANDARD EQUIPMENT PACKAGE

Turnado Series Conventional Horizontal Lathes

Models

Turnado 230 (1000, 1500, 2000)
Turnado 280 (1500, 2000)
Turnado 230V (1000,1500,2000)
Turnado 280V (1500, 2000)
Turnado 230 Pro (1000, 1500)
Turnado 280 Pro (1500)

- The turning machines of the Turnado series are characterized by their robust construction, powerfull motor and versatility.
- With the extensive range of standard accessories and options, these machines can be adapted to many production requirements.
- A modern position indicator is also part of the standard equipment, as is a high-quality quick-change toolholder.
- The models in this series have proven themselves many times and have been one of our best-selling conventional lathes for over 20 years.

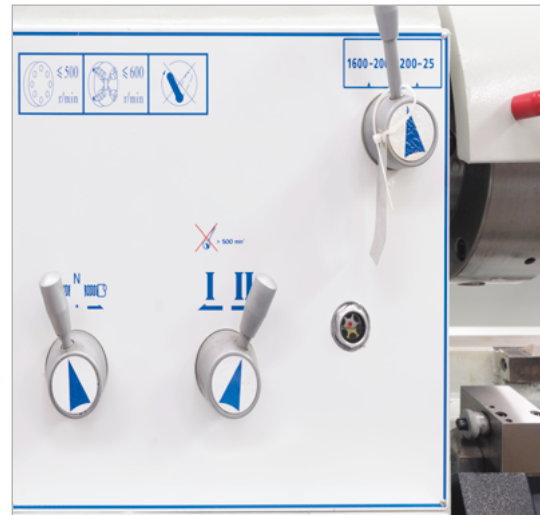
Special Features

Turnado series



- The classic design with gear transmission, extensive package of standard equipment and modern position indicator.
- Equipped standard with four adjustable cams for automatic stop of the longitudinal feed.

Turnado V series



- Equipped with a more powerful motor with inverter for infinitely variable spindle speed.
- Equipped standard with four adjustable cams for automatic stop of the longitudinal feed.

Turnado PRO Series



- Turnado PRO is the new version of the classic lathe, with a modern design and ergonomic machine enclosure.



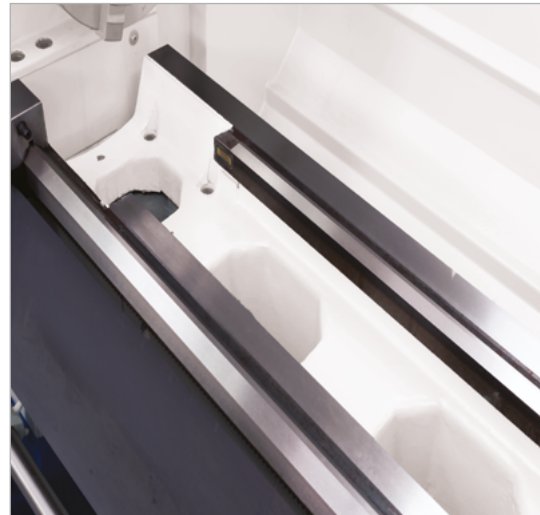
- This series includes the features of Turnado V series, and additionally, benefits from its redesigned apron which now enables rapid positioning feeds on both X and Z axis.

Main Features for all models

Machine Base

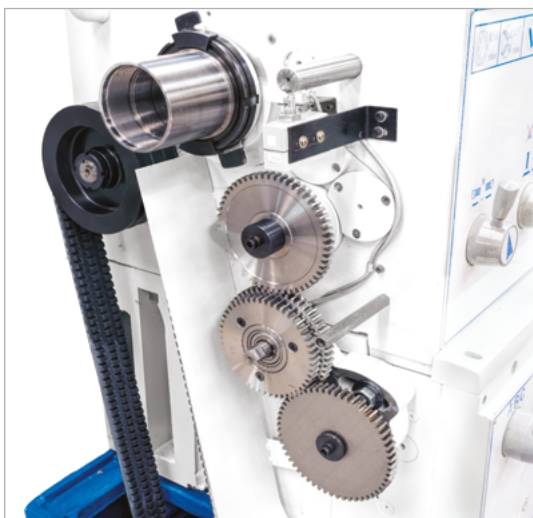


- Robust construction with one-piece casted heavy bed to ensure enough rigidity even when machining heavy parts.

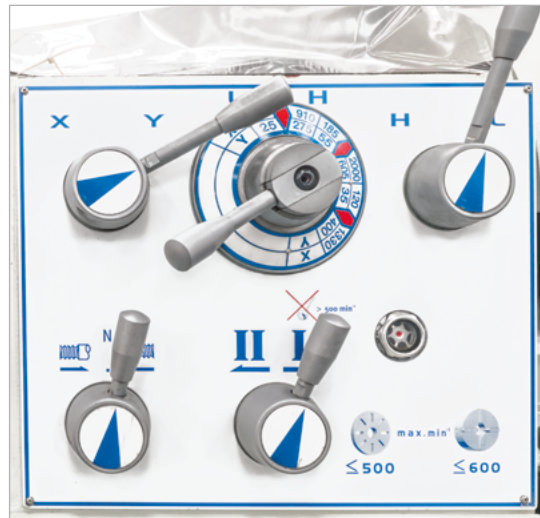


- Wide bed with ground and hardened guideways for higher accuracy machining.
- Removable gap bridge for turning larger diameter workpieces.

Headstock

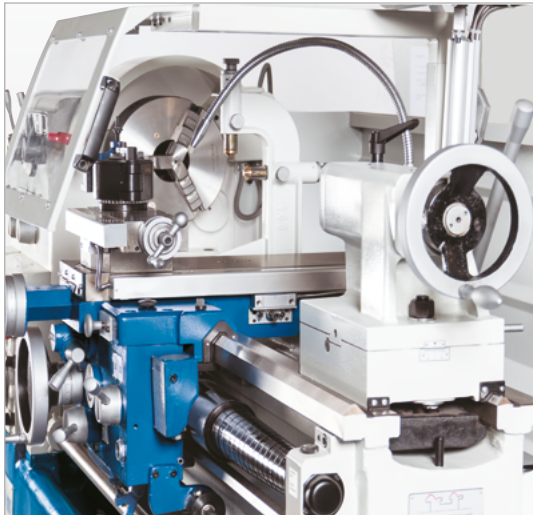


- Powerful main motor which allows spindle speeds up to 2.000 rpm (230 series) 1.600 rpm (280 series).
- Gears and shafts are hardened and ground for smooth operations.



- Practically arranged control panel with ergonomic layout of selection levers.
- Clear tables for metric and Withworth tapping with large number of thread leads.

Spindle

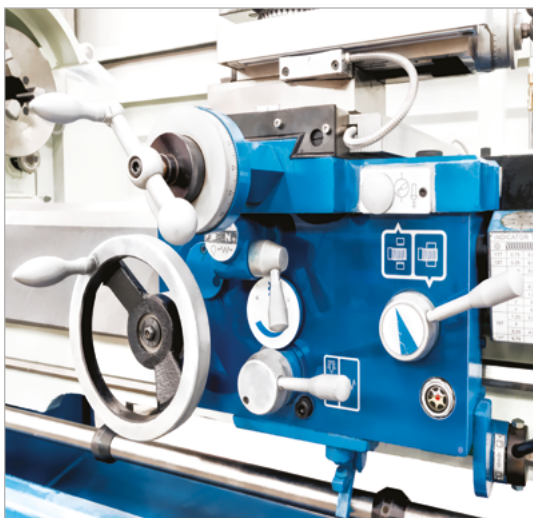


- Large spindle bore, up to Ø80 mm for Turnado 280 series, suitable for working larger parts.
- High-precision pre-loaded spindle bearings ensure superior concentricity and load capacity.

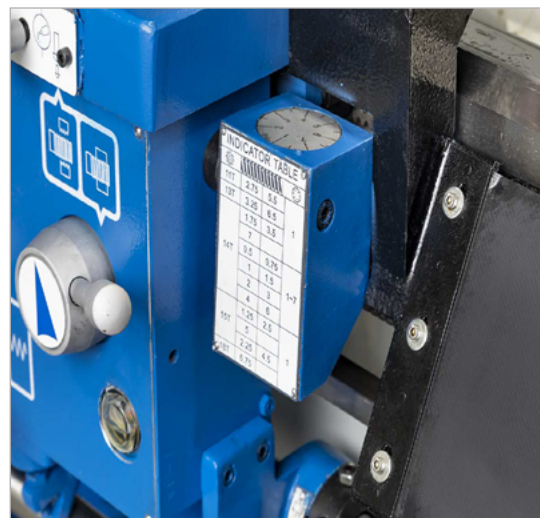


- Chuck protective cover with switch. The lathe starts only when the protective cover is closed.
- Main motor features cut-off device and solenoid contactor to avoid overloaded breakdown of motor.

Apron

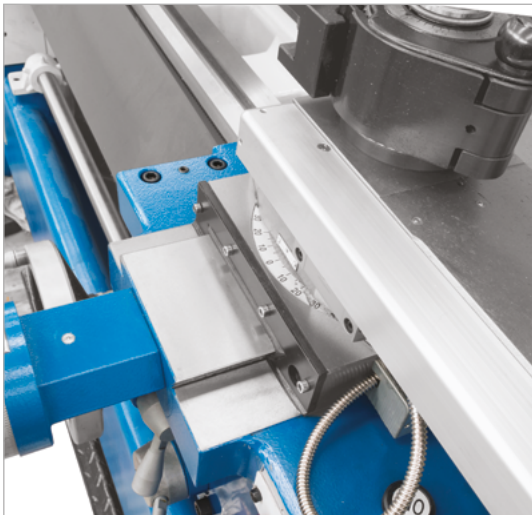


- The apron runs in an oil bath for low maintenance and high reliability.
- Gears, transmission shafts, and guideways are hardened and ground to guarantee quiet operation and long tool life.

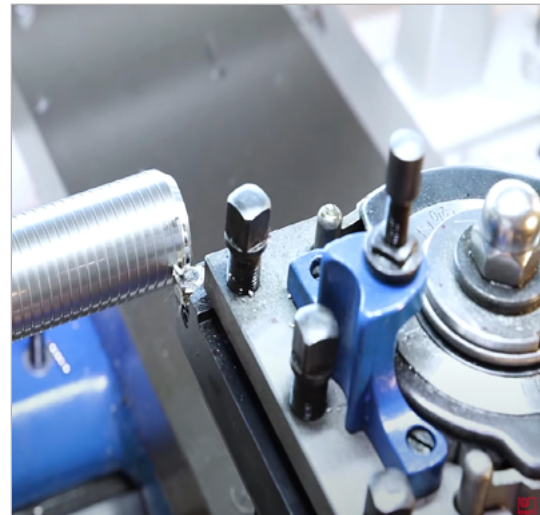


- Equipped standard with thread dial indicator.
- Installed on the right side of the apron, it serves for thread cutting to engage with the lead screw.

Tool Post

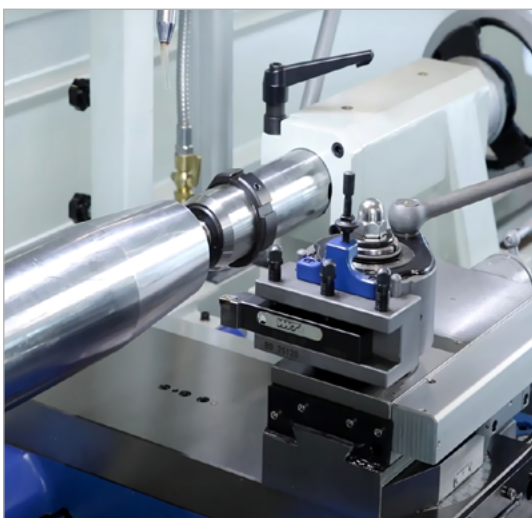


- Swiveling top slide for easy taper turning.
- Safety guard to protect the operator against chips and coolant splashing.



- This model is equipped as standard with quick type quick change tool post to easily switch the tools with repeat accuracy of 0,01 mm.

Tailstock



- Strong tailstock with long quill travel for advanced operations.
- Hand wheel quill travel adjustment with 0,02 mm division per graduation.



- Possibility to offset the tailstock for taper turning.
- Position switch at the end of the lathe bed to prevent the tailstock from unintentional moving of the lathe bed.

Control Panel

3 Axis Digital Read Out - X.pos 3.2 - Turnado



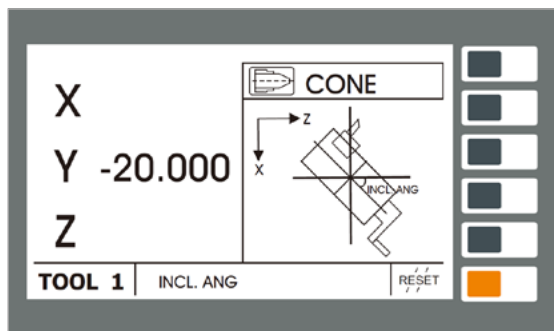
- Integrating multiple functions, this new generation of 3 Axis readouts significantly offer a much better control over the machining processes greatly decreasing down-times and error rates.
- It can be easily installed and doesn't require a lot of maintenance. Is a very popular choice for retrofitting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

Basic Functions

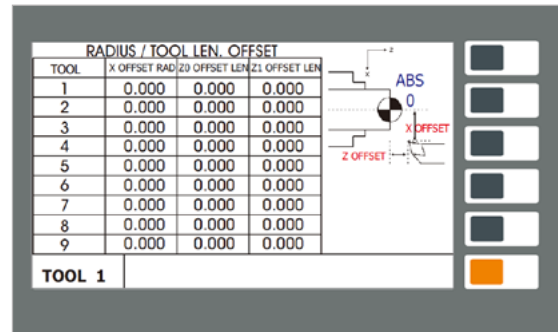
- Resolution of 0,005 mm
- Spindle control ON/OFF
- Unit measurement conversion Inch / Metric
- Setting / Resetting current position
- Coordinate display switching ABS / INC
- Radius / Diameter display
- Z1/Z2 Axes summing
- Pocket calculator functions

Extended Functions

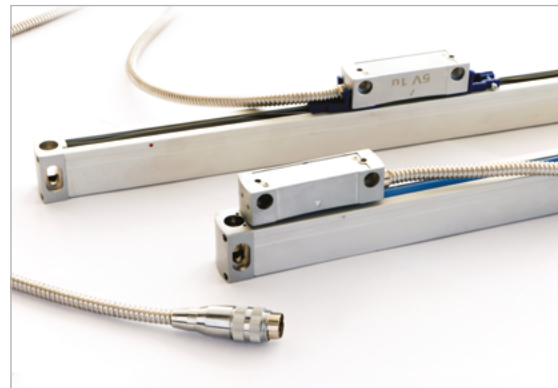
Taper turning function - angle display for accurate positioning of the upper slide during taper turning.



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



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



X.pos 3.2 VC - Turnado V, Turnado Pro



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

Technical data

Turnado 230 and 280

Technical Data		Turnado 230/1000	Turnado 230/1500	Turnado 230/2000	Turnado 280/1500	Turnado 280/2000
Working Area						
Workpiece lenght (max.)	mm	1.000	1.500	2.000	1.428	1.928
In-gap diameter over bed	mm	460	460	460	560	560
Turning-Ø over support	mm	224	224	224	355	355
Turning diameter over gap bridge	mm	690	690	690	785	785
Gap bridge length	mm	155	155	155	170	170
Bed width	mm	300	300	300	350	350
Center height	mm	230	230	230	280	280
Travels						
Travel X-axis	mm	285	285	285	316	316
Travel Z1-axis	mm	128	128	128	130	130
Swing range of top slide		± 52°	± 52°	± 52°	± 52°	± 52°
Headstock						
Spindle speeds	1/min	(12) 25 - 2,000	(12) 25 - 2,000	(12) 25 - 2,000	(12) 25 - 1,600	(12) 25 - 1,600
Spindle bore	mm	58	58	58	80	80
Spindle mount		Camlock D1-6			Camlock D1-8	
Spindle taper		6 MT	6 MT	6 MT	7 MT	7 MT
Feed						
Feed X-axis	mm/R	0,014 - 0,784	0,014 - 0,784	0,014 - 0,784	0,02 - 0,573	0,02 - 0,573
Feed Z-axis	mm/R	0,031 - 1,7	0,031 - 1,7	0,031 - 1,7	0,059 - 1,646	0,059 - 1,646
Threading						
Threading, metric	mm	0,1 - 14	0,1 - 14	0,1 - 14	0,2 - 14	0,2 - 14
Threading, diametric		(50) 4-112 DP	(50) 4-112 DP	(50) 4-112	(50) 4-112	(50) 4-112
Threading, module	mm	0,1 - 7	0,1 - 7	0,1 - 7	0,1 - 7	0,1 - 7
Threading, whitworth	TPI	(60) 2-112	(60) 2-112	(60) 2-112	(60) 2-112	(60) 2-112
Tailstock						
Tailstock quill diameter	mm	60	60	60	75	75
Tailstock taper		4 MT	4 MT	4 MT	5 MT	5 MT
Tailstock quill stroke	mm	120	120	120	180	180
Tailstock traverse adjustment	mm	± 13	± 13	± 13	± 12	± 12
Drive Capacity						
Motor rating main drive	kW	5,5	5,5	5,5	5,5	5,5
Measures and Weights						
Length	m	2,2	2,75	3,25	2,84	3,34
Width	m	1,08	1,08	1,08	1,15	1,15
Height	m	1,34	1,34	1,34	1,34	1,46
Weight	kg	1720	1970	2100	2370	2720
Part No.		320555	320558	320557	320559	320560

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

Turnado V

Technical Data		Turnado 230/1000 V	Turnado 230/1500 V	Turnado 230/2000 V	Turnado 280/1500 V	Turnado 280/2000 V
Working Area						
Center height	mm	230	230	230	280	280
Workpiece length (max.)	mm	1.000	1.500	2.000	1.428	1.928
In-gap diameter over bed	mm	460	460	460	560	560
Turning-Ø over support	mm	224	224	224	355	355
Turning diameter over gap bridge	mm	690	690	690	785	785
Gap bridge length	mm	155	155	155	170	170
Bed width	mm	300	300	300	350	350
Travels						
Travel X-axis	mm	285	285	285	316	316
Travel Z1-axis	mm	128	128	128	130	130
Swing range of top slide		±52°	±52°	±52°	±52°	±52°
Headstock						
Spindle speeds	1/min	L 30 - 600 / H 600 - 3.000			L 25 - 200 / H 200 - 1.600	
Spindle bore	mm	58	58	58	80	8
Spindle mount		Camlock D1-6			Camlock D1-8	
Spindle taper		6 MT	6 MT	6 MT	7 MT	7 MT
Feed						
Feed X-axis	mm/R	0,014 - 0,784	0,014 - 0,784	0,014 - 0,784	0,02 - 0,573	0,2 - 0,573
Feed Z-axis	mm/R	0,031 - 1,7	0,031 - 1,7	0,031 - 1,7	0,059 - 1,646	0,059 - 1,646
Threading						
Threading, metric	mm	0,1 - 14	0,1 - 14	0,1 - 14	0,2 - 14	0,2 - 14
Threading, diametric	DP	(50) 4-112	(50) 4-112	(50) 4-112	(50) 4-112	(50) 4-112
Threading, module	mm	0,1 - 7	0,1 - 7	0,1 - 7	0,1 - 7	0,1 - 7
Threading, whitworth	TPI	(60) 2-112	(60) 2-112	(60) 2-112	(60) 2-112	(60) 2-112
Tailstock						
Tailstock quill diameter	mm	60	60	60	75	75
Tailstock taper	MT	4 MT	4 MT	4 MT	5 MT	5 MT
Tailstock quill stroke	mm	120	120	120	180	180
Tailstock traverse adjustment	mm	± 13	± 13	± 13	± 12	± 12
Drive Capacity						
Motor rating main drive	kW	7,5	7,5	7,5	7,5	7,5
Measures and Weights						
Length	m	2,2	2,75	3,25	2,84	3,34
Wigth	m	1,08	1,08	1,08	1,15	1,15
Height	m	1,34	1,34	1,34	1,46	1,46
Weight	kg	1.720	1.970	2.100	2.370	2.720
Part No.		320570	320571	320575	320572	320573

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

Turnado PRO

Technical Data		Turnado 230/1000 PRO	Turnado 230/1500 PRO	Turnado 280/1500 PRO
Working Area				
Center width	mm	1.000	1.500	1.500
Center height	mm	230	230	280
In-gap diameter over bed	mm	460	460	560
Turning diameter over gag bridge	mm	690	690	785
Turning-Ø over support	mm	224	224	355
Gap bridge length	mm	155	155	170
Bed width	mm	300	300	350
Travels				
Travel X-axis	mm	285	285	316
Travel Z1-axis	mm	128	128	130
Swing range of top slide		± 52°	± 52°	± 52°
Headstock				
Speed range, low	1/min	30 - 600	30 - 600	25 - 200
Speed range, high	1/min	600 - 3.000	600 - 3.000	200 - 1.600
Spindle bore	mm	58	58	80
Spindle mount		Camlock D1-6	Camlock D1-6	Camlock D1-8
Spindle taper		6 MT	6 MT	7 MT
Feed				
Feed X-axis	mm/R	0,025 - 1,384	0,025 - 1,384	0,02 - 0,573
Feed Z-axis	mm/R	0,055 - 3,061	0,055 - 3,061	0,059 - 1,646
Threading				
Threading, metric	mm	0,1 - 14	0,1 - 14	0,2 - 14
Threading, diametric	DP	(50) 4-112	(50) 4-112	(50) 4-112
Threading, module	mm	0,1 - 7	0,1 - 7	0,1 - 7
Threading, whitworth	TPI	(60) 2-112	(60) 2-112	(60) 2-112
Tailstock				
Tailstock quill diameter	mm	60	60	75
Tailstock taper		MK 4	MK 4	MK 5
Tailstock quill stroke	mm	120	120	180
Tailstock traverse adjustment	mm	± 13	± 13	± 12
Drive capacity				
Motor rating main drive	kW	7,5	7,5	7,5
Measures and Weights				
Length	m	2,2	2,75	2,84
Width	m	1,08	1,08	1,15
Height	m	1,57	1,57	1,46
Weight	kg	1.720	1.970	2.370
Part No.		320562	320563	320564

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Standard Equipment

Equipment	Turnado 230	Turnado 230 V	Turnado 230 PRO	Turnado 280	Turnado 280 V	Turnado 280 PRO
3-axis position indicator	X.Pos 3.2	X.Pos 3.2 VC		X.Pos 3.2	X.Pos 3.2 VC	
Main motor with inverter	not available	included		not available	included	
Quick change tool post	WB			WC		
Qucik change tool holder	(D) 25×120 mm			(D) 32×150 mm		
Rapid feed on X and Z axes	not available		included	not available		included
Adjustable feed stoppers	included		not available	included		not available
3-jaw chuck	Ø250 mm			Ø315 mm		
4-jaw face plate chuck	Ø300 mm			Ø350 mm		
Face plate	Ø350 mm			Ø450 mm		
Steady Rest	Ø140 mm					
Follow Rest	Ø110 mm					
Micrometer stop	included					
Thread gauge	included					
Reduction sleeve	included					
Dead centers	included					
Full length splash guard	standard type		with top cover and access doors	standard type		with top cover and access doors
Chuck guard with interlock	included					
Leadscrew cover	included					
Foot break pedal	included					
Cooling system	included					
Work light	included					
Operating tool	included					
Operator manual	included					

Standard Equipment

3-axis position indicator X.Pos 3.2



- New generation digital read-out with integrated functions
- For series:
 - Turnado 230
 - Turnado 280

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
- For series:
 - Turnado 230V & PRO
 - Turnado 280V & PRO

Quick change tool post with tool holder



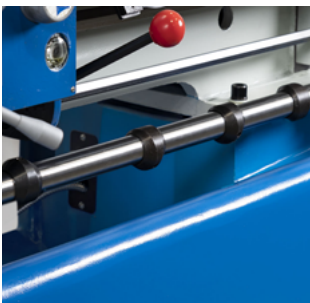
- All models are equipped with high quality quick change tool holder
- One piece tool holder is delivered as standard

Rapid feed on X and Z axes



- Joystick control for X and Z feeds is mounted directly on the support
- For series:
 - Turnado 230 PRO
 - Turnado 280 PRO

Adjustable feed stoppers



- Four adjustable cams for automatic stop of the longitudinal feed
- For series:
 - Turnado 230
 - Turnado 280
 - Turnado 230 V
 - Turnado 280 V

3-jaw chuck



- All models are delivered with a self-centering cast iron 3 jaw chuck
- includes one set of hard jaws

4-jawface 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



- All models are delivered with a reliable cooling system rest and integrated pump

Micrometer stop



- All models are equipped as standard with a micrometer stop

Thread gauge



- All models feature the thread gauge

Reduction sleeve and dead centers



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

Operating tools



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

Chuck guard



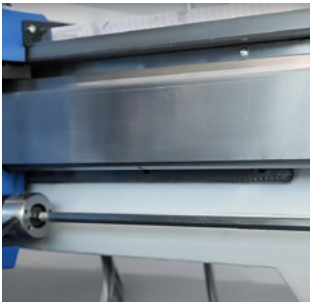
- All models feature chuck guard with interlock system, spindle, spindle will stop if the guard is lifted during operation.

Foot brake pedal



- All models are equipped as standard with a foot brake pedal.

Leadscrew cover



- Included as standard for all series.

Splash guard



- For series:
 - Turnado 230
 - Turnado 280
 - Turnado 230 V
 - Turnado 280 V

Splash guard



- Only for Turnado 230 PRO and Turnado 280 PRO series

Toolpost cover with integrated light



- For series:
 - Turnado 230
 - Turnado 280
 - Turnado 230 V
 - Turnado 280 V

Traveling cover for the toolpost with integrated light



- Only for Turnado 230 PRO and Turnado 280 PRO series

Operator manual



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



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