

KCI Series

HEAVY DUTY VERTICAL TURNING LATHES



BASIC TECHNICAL SPECIFICATIONS

Maximum turning diameter:	8,000 mm
Maximum height of turning:	5,000 mm
Maximum table load:	150 × 10 kN





The KCI Series Heavy-duty Double-column Vertical Turning Lathes are intended for turning and boring of cylindrical, conic and curved surfaces, as well as complex shaped large-size workpieces.

The railhead can be equipped with a tool spindle, making it possible to perform also drilling and milling operations.

The use of the latest Siemens SINUMERIK 840D CNC and digital drive technology guarantees maximum performance and the complete compatibility of all drive and control components.

The KDC Series Vertical Turning Lathes along with a wide array of optional equipment are customized to meet the Customer's individual requirements.

The machine tool body system consists of base with table, two columns and connecting beam all mechanically connected what forms a rigid and stable frame structure. The machine tool major members as base, table, columns, cross-rail and railhead are made as high grade iron castings. This ensures both high geometrical stability and excellent vibration damping, better than those of the fabricated structures.

MAIN FEATURES

- Compact design tailored to stringent machining requirements
- High rigidity and accuracies of machining
- · Complex machining of workpieces with one or two railheads
- Railhead(s) for turning, optionally for milling and drilling operations
- Feed drives of X and Z axes through precise ball-screw transmissions
- Tool / toolhead magazines option
- · Direct measurement of CNC axes position by means of Heidenhein high-resolution linear scales
- Twin main drive and C-axis drive
- Hydrostatic guide ways for railhead and ram travel option
- Available with table travel drive (Y axis) option
- ISO/BT, CAPTO, KM or any other tooling system
- Measurement of cutting tools option
- Measurement of machining workpiece option
- Grinding attachement option
- Cooling system for cutting tools option
 Max. working pressure: up to 350 Bar



TECHNICAL SPECIFICATIONS

MODEL Code:		KCI 250 N Series B-1		KCI 320 N Series B-2		
Table						
Table diameter	mm	Ø 2,270	Ø 2,500	Ø 3,200	Ø 3,600	Ø 4.000
Maximum turning diameter	mm	Ø 3,000		Ø 8,000		
Maximum weight of workpiece	× 10 kN	30		50		
Maximum rotation rate of table: Cast iron table: Rolling / Hydrostatic bearing Rolling bearing	rpm rpm	170 / 140 250	150 / 140 190	120 / 80 160	110 / 80 150	95 / 80 140
Range of C-axis rotation rates	rpm			0.001 – 2		
Power of main drive motors	kW			2 × 81		
Cross-rail						
Maximum height of turning	mm	4,000				
Cross-rail travel rate	mm/min	700				
Railhead						
Ram travel – Z axis	mm	1,500 / 1,800 ⁽¹⁾ / 2,100 ⁽¹⁾ / 3,000 ⁽¹⁾				
Ram cross-section	mm	320 × 320 / 350 × 350 ⁽¹⁾				
Range of feed rates – X and Z axes	mm/min	0.1 – 2,000				
Rapid travel rates - X and Z axes	mm/min	7,000 / 10,000 ⁽¹⁾				
Maximum rotation rate of tool spindle • Ram live tool spindle (1)	rpm rpm	3,000 3,000				
Power of tool spindle drive motor • Ram live tool spindle drive motor (1)	kW kW	20.5 / 31 ⁽¹⁾ / 44 ⁽¹⁾ 35 / 60				
Machine tool accuracies						
X - axis positioning accuracy M _{ar} (L = 1,000 mm)	mm			0.010		
Z - axis positioning accuracy M _{ar} (L = 1,000 mm)	mm			0.008		
C - axis positioning accuracy	0			± 0.003		
X - axis positioning repeatability $RP_{max.}$ (L = 1,000 mm)	mm	0.007				
Z - axis positioning repeatability $RP_{max.}$ (L = 1,000 mm)	mm			0.007		
C - axis positioning accuracy ⁽¹⁾	0			± 0.002		
(1) Optional execution						

Some of the above data can be altered to meet the customer requirements.

Above data is subject to changes due to product development, without prior notice.



TECHNICAL SPECIFICATIONS

MODEL Code:		KCI 500 N Series B-3				
Table						
Table diameter	mm	Ø 4,500	Ø 5,000	Ø 6,000		
Maximum turning diameter	mm		Ø 8,000			
Maximum weight of workpiece	× 10 kN	150				
Maximum rotation rate of table: Cast iron table; Rolling / Hydrostatic bearing	rpm	63	63 / 55 60 / 55			
Range of C-axis rotation rates	rpm		0.001 – 2			
Power of main drive motors	kW	2 × 81 / 2 × 125 ⁽¹⁾				
Cross-rail						
Maximum height of turning	mm		5,000			
Cross-rail travel rate	mm/min	700				
Railhead						
Ram travel – z axis	mm	1,500 / 1,800 (1) / 2,100 (1) / 3,000 (1)				
Ram cross-section	mm	320 × 320 / 350 × 350 ⁽¹⁾				
Range of feed rates – X and Z axes	mm/min		0.1 – 2,000			
Rapid travel rates - X and Z axes	mm/min		7,000 / 10,000 (1)			
Maximum rotation rate of tool spindle Ram live tool spindle (1)	rpm rpm	3,000 3,000				
Power of tool spindle drive motor Ram live tool spindle drive motor (1)	kW kW	20.5 / 31 ⁽¹⁾ / 44 ⁽¹⁾ / 60 ⁽¹⁾ 35 / 60				
Machining accuracies						
X - axis positioning accuracy M _{ar} (L = 1,000 mm)	mm		0.010			
Z - axis positioning accuracy M _{ar} (L = 1,000 mm)	mm		0.008			
C - axis positioning accuracy	deg		± 0.003			
X - axis positioning repeatability RP _{max.} (L = 1,000 mm)	mm	0.007				
Z - axis positioning repeatability RP _{max.} (L = 1,000 mm)	mm		0.007			
C - axis positioning accuracy ⁽¹⁾	deg		± 0.002			
(1) Optional execution						

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