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MANURHIN K'MX 816 CLEVER

Innovative technology



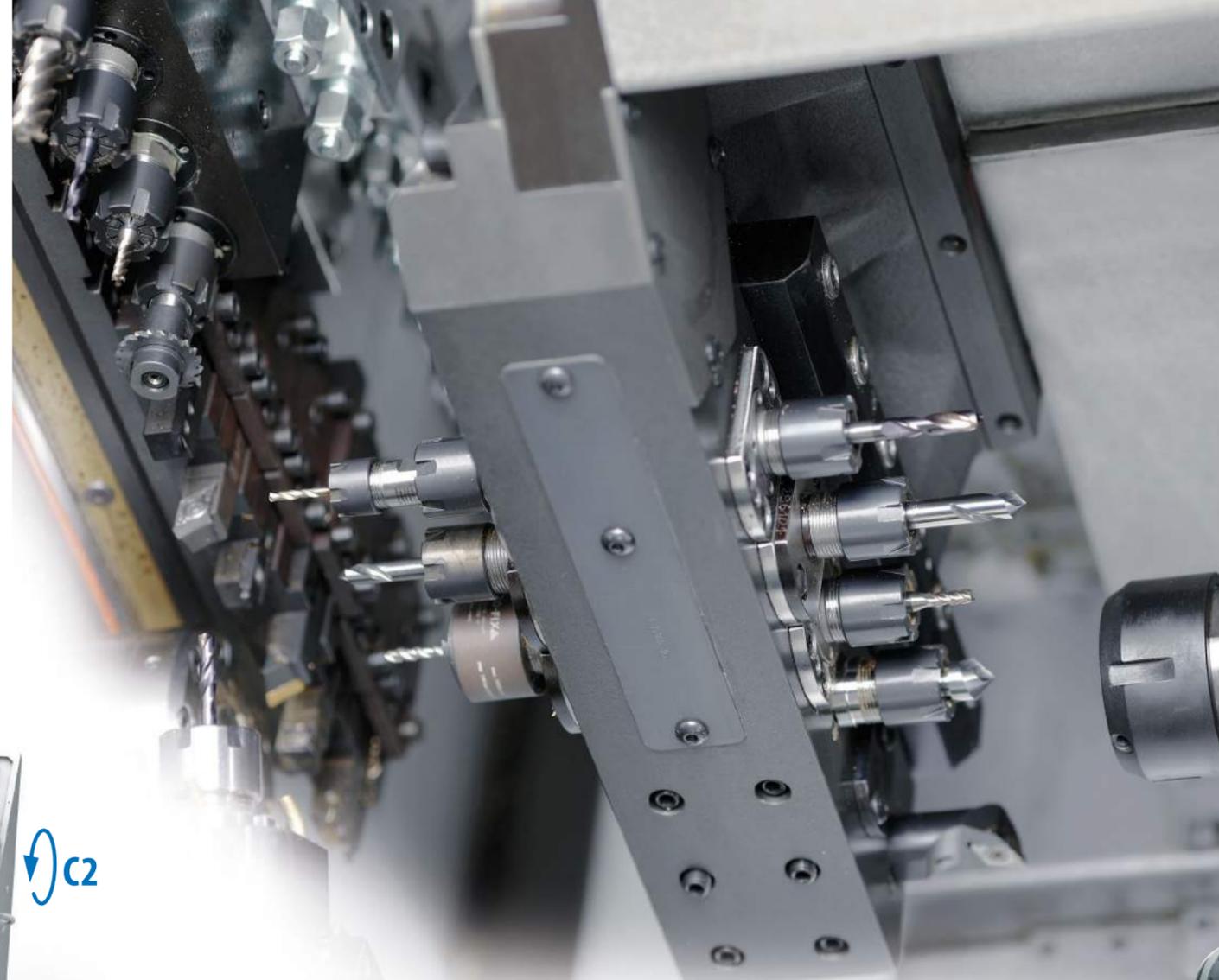
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Sliding headstock automatic lathe MANURHIN K'MX 816 CLEVER is designed for productive machining of parts from the bars of maximum diameter 16 mm (*20 mm)

Machine is equipped in standard with two electro spindles with maximum speed 12 000 rpm each and with rotary guide bush synchronized by pulleys and belts with main spindle. Eight linear CNC axes (X1, X2, Y1, Y2, Y3, Z1, Z2, Z3) and two rotary axes (C1, C2) enable to machine with high productivity the simple as well as complex parts.

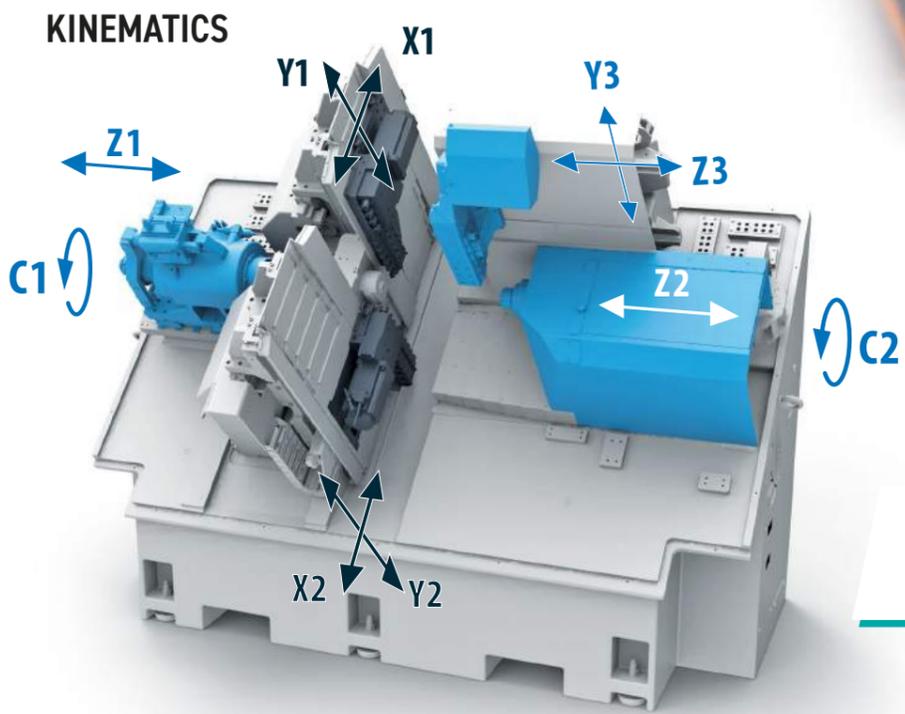
Machine is equipped with powered tools on both independent cross slides beside the guide bush, it means that parallel surfaces can be simultaneously milled or the holes against each other can be radially drilled. Axial tool rack is also equipped with powered tools, allowing for example eccentric drilling. Spindle stroke allows turning up to 220 mm long parts on one clamping.



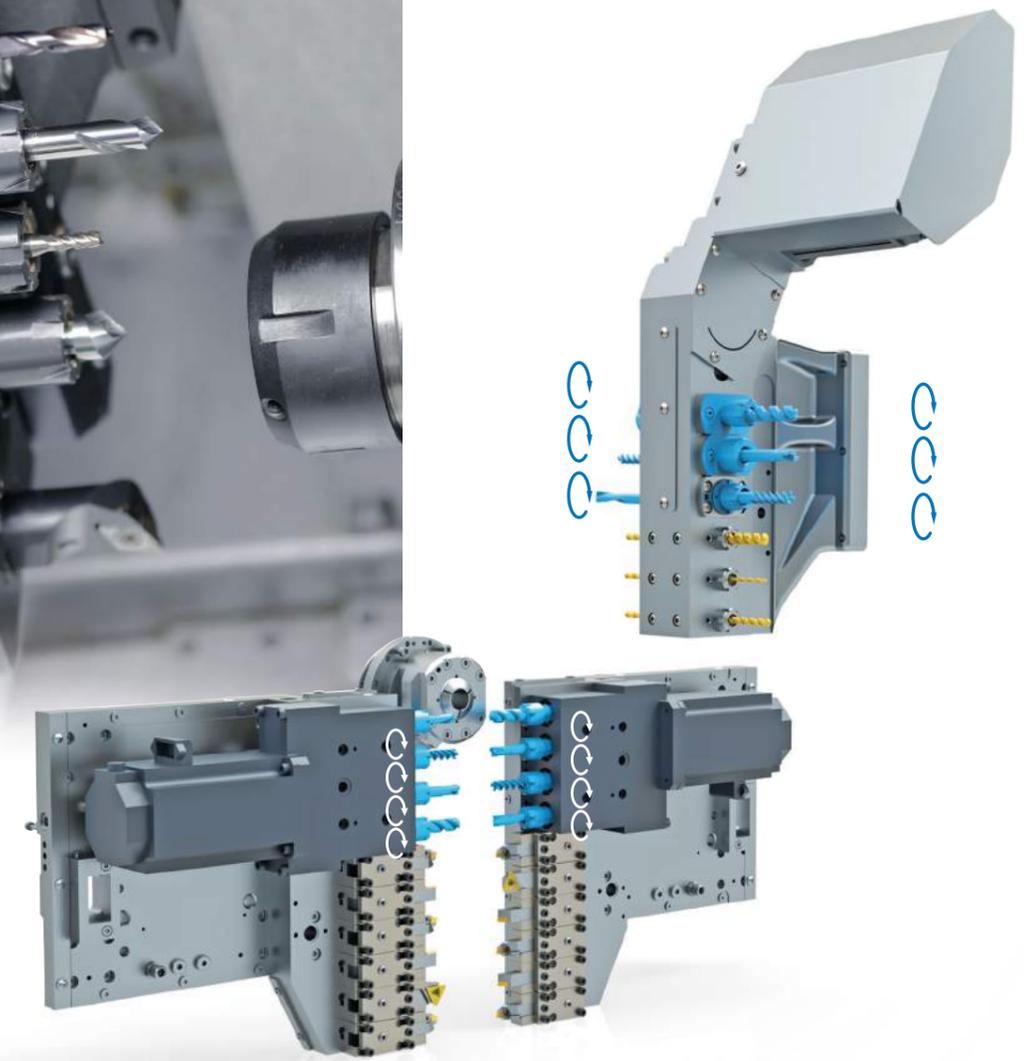
MANURHINKMX®

Machine is typically delivered with automatic bar feeder with encoder and magazine for 3 m bars. The parts over 160 mm long are possible to be evacuated from the machine only through the counter spindle. The maximum length of the part is limited theoretically only by the length of the bar.

The easy setup of tools on tool rack enables the successful use of this machine for the batches starting by hundreds of pieces.



4 TOOLS IN CUT
in one time!



POWERED TOOLS

MANURHIN K'MX 816 CLEVER can be equipped on all tool racks with powered tools. Two tool racks next to guide bush are equipped with gearboxes with 4+4 powered positions for collet ER16 with maximum speed 8 500 rpm (all positions).

Axial cross slide can be equipped optionally with 3 powered tools for main spindle and 3 powered tools for counter spindle. The collets ER16 are used and the maximum speed is 12 000 rpm. Both electro spindles can be equipped optionally with C-axis.

MACHINE PARAMETERS

Maximum bar diameter – main spindle	∅ 16 (*∅ 20) mm	Tools shank size OD operations	12 x 12 mm
Maximum length of turning on one stroke	220 mm	Counter spindle stroke	345 mm
Main spindle bore	∅ 21 (*∅ 23) mm	Rapid feed of counter spindle	30 m/min
Power of main electro spindle (100% / 25%)	3,7 / 5,5 kW	Maximum bar diameter – counter spindle	∅ 16 (*∅ 20) mm
Maximum speed of main spindle	12 000 rpm	Maximum length of part inside the counter spindle for frontal ejection	160 mm
Spindle direction	Left and right	Maximum length of part for frontal ejection	160 mm
Main spindle stroke	220 mm	Counter spindle bore	∅ 21 (*∅ 23) mm
Rapid feed of main spindle	30 m/min	Maximum speed of counter spindle	12 000 rpm
Number of tool racks	2	Power of counter electro spindle (100% / 30 min)	3,7 / 5,5 kW
Tool rack main – horizontal stroke X1	90 mm	Evacuation of parts through the counter spindle	Optional
Rapid feed of horizontal stroke X1	30 m/min	Air pressure required	6 bar
Tool rack main – vertical stroke Y1	319 mm	Air connection by "Banjo" coupling	∅ 10 mm
Rapid feed of vertical stroke Y1	30 m/min	Coolant tank capacity	200 l
Tool rack main –stroke X2	30 mm	Flowrate	80 l/min
Rapid feed of horizontal horizontal stroke X2	30 m/min	Coolant pump pressure	3 bar
Tool rack main – vertical stroke Y2	319 mm	Voltage	3 x 400 V – 50 Hz
Rapid feed of vertical stroke Y2	30 m/min	Power input	31 kVA
Tool rack axial – horizontal stroke Z3	225 mm	Cable section	16 mm ²
Rapid feed of axial tool rack – horizontal stroke Z3	30 m/min	CNC control system	FANUC 31i – Model B
Tool rack axial – vertical stroke Y3	305 mm	MACHINE DIMENSIONS	2 000 x 1 280 x 1 740 mm
Rapid feed of axial tool rack – vertical stroke Y3	30 m/min	MACHINE WEIGHT	3 500 kg
Tool positions (turning)	(2 x 10) + (2 x 6)	* optional on request	

COLLETS AND GUIDE BUSHES

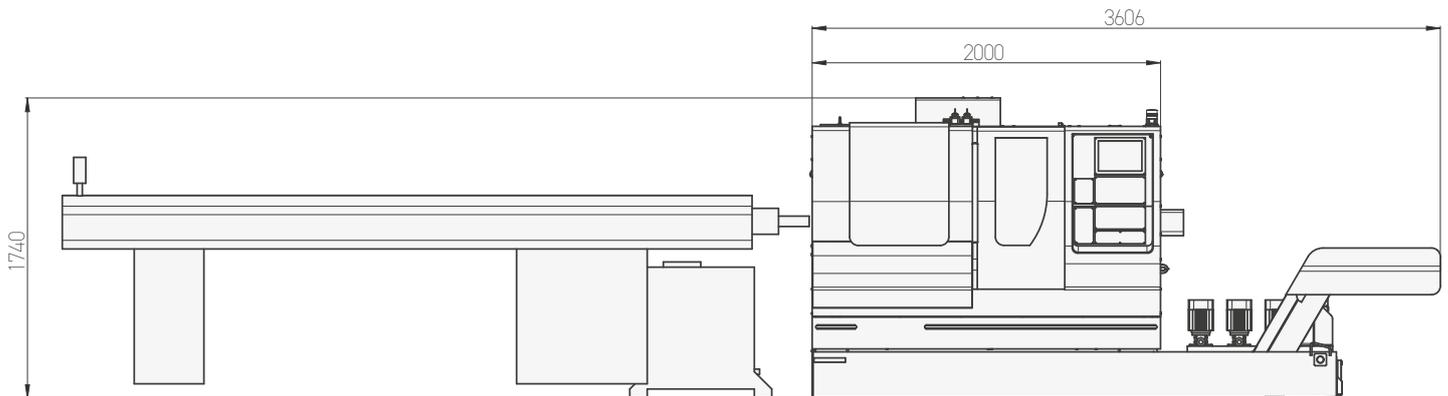


On MANURHIN K'MX 816 CLEVER we use for both main and counter spindle the collets of type 145E (F25) and we recommend steel ultra-precision collets from well-established collets manufacturers. Usually are used grooved collets or smooth collets or collets with longer nose (LN).



On MANURHIN K'MX 816 CLEVER we use the guide bushes of type B260 denomination. We recommend the guide bushes with hard metal insert from renowned manufacturers.

MACHINE DIMENSIONS



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