

MANURHIN K'MX 816 CLEVER

Innovative technology



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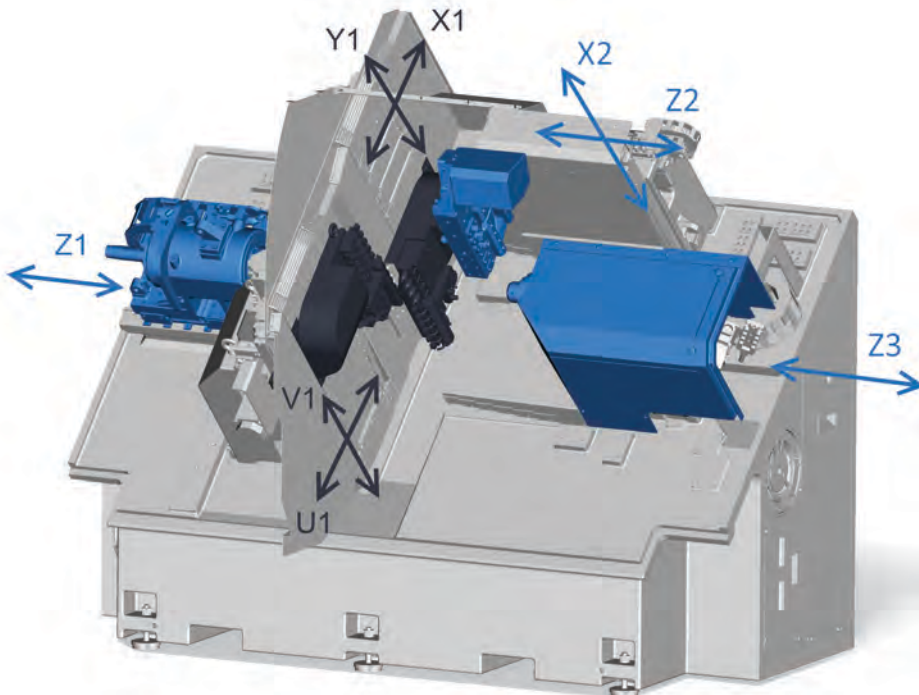
Innovative technology

Sliding headstock automatic lathe MANURHIN K'MX 816 CLEVER is designed for productive machining of parts from bars of maximum diameter \varnothing 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, Y1, U1, V1, Z1, Z3, X2, Z2) 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.

Kinematics



FANUC 31 i - Model B

The latest CNC control system from Japanese company FANUC with colour 10,4" monitor enables to operator easy programming in ISO code. All screens are possible to be switched into requested languages. Transfer of the part programs from the PC is possible to be done by USB, PCMCIA card by RS232 or ethernet.

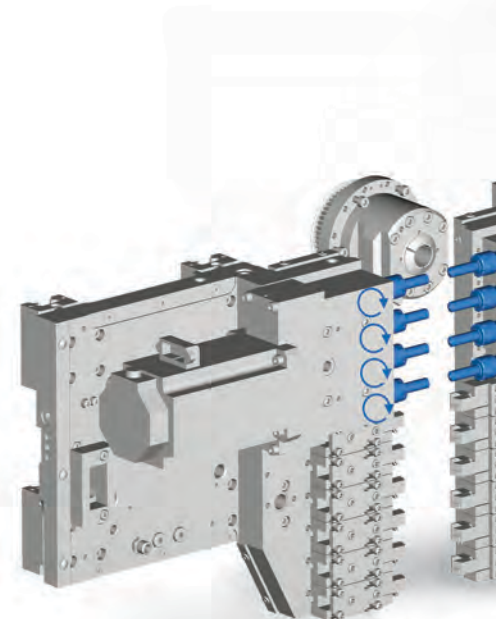


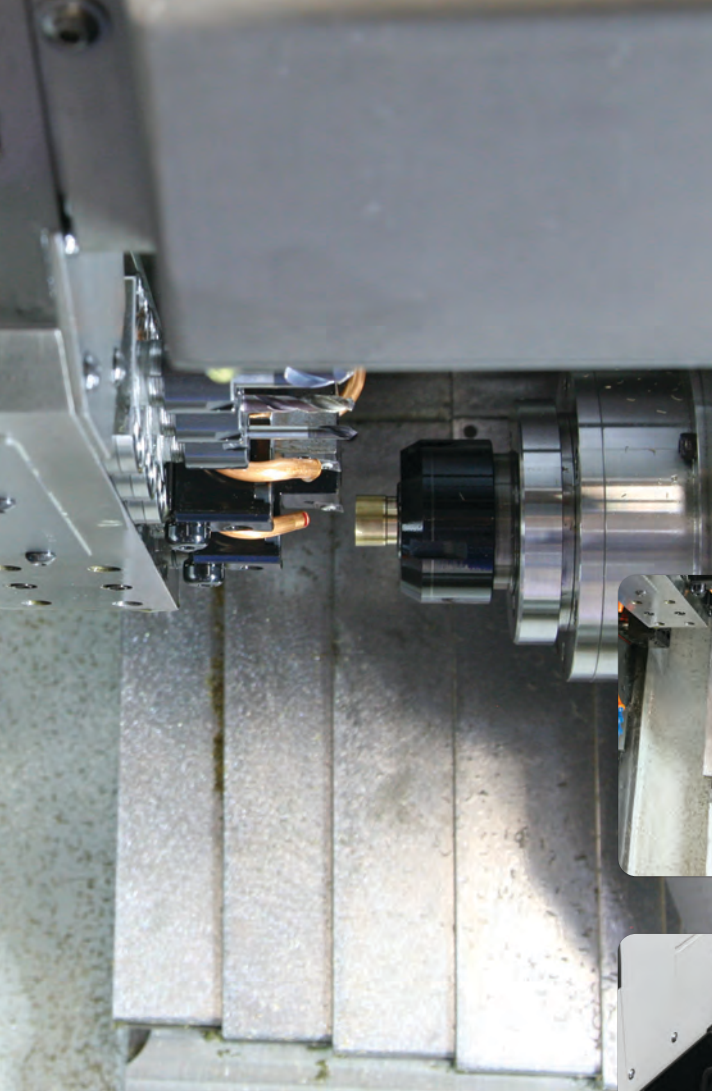
Pressured air

Manurhin KMX 816 CLEVER requires the pressure of 6 bars and the on-off flow of 330l/min for the function of secondary spindle collet air blowing. Pressured air is required also for clamping, parts catching or bar feeding.

Lubrication

Linear guide ways are lubricated automatically by dispenser. Easy maintenance is guaranteed by free access of lubrication tank in open space on the side part of the machine, with good access for operator.





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

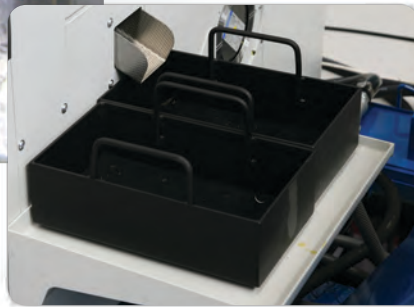
The easy setup of tools on tool rack enables the successful use of this machine for the batches starting by hundreds of pieces.

* necessary to modify end of the bars



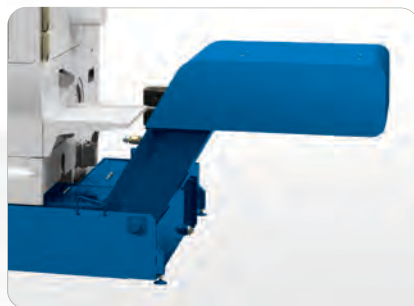
Parts Catcher

Pneumatically controlled arm with bucket is operated by M-function. The arm is easy to set up and enables the parts catching from both main and sub spindle, just as needed by operator. The bucket fits for the parts up to 160 mm. Longer parts are possible to be evacuated through the sub spindle. Bucket can be modified according to shape of part.



Chip conveyor

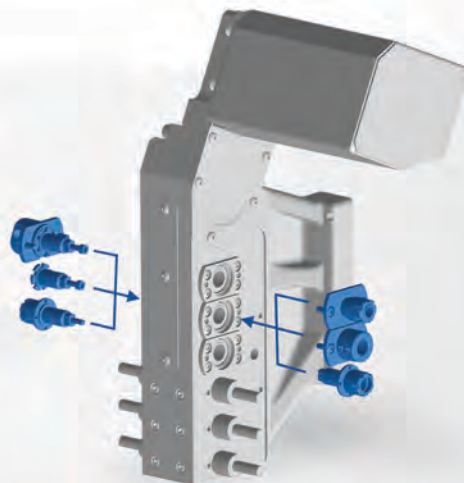
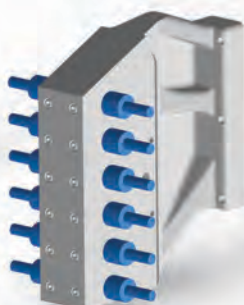
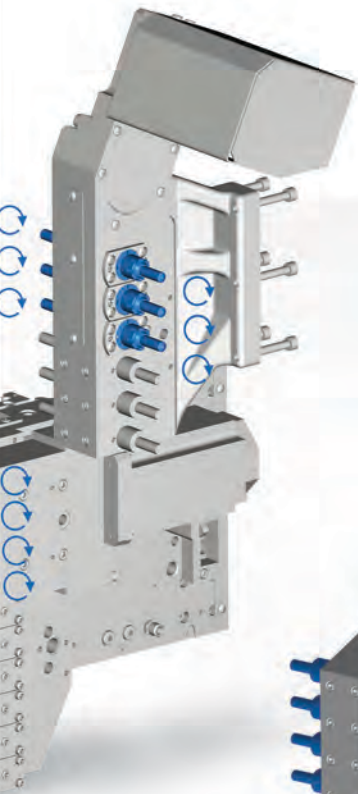
We offer universal belt conveyor for common metallic chips, eventually can be used shovel type for small chips like from brass. Proper choice of chip conveyor can simplify the operation and maintenance of the machine. Chip conveyor consists of coolant tank and coolant pump.



Powered tools

MANURHIN KMX 816 CLEVER can be equipped on both supports with powered tools. Two tool racks next to guide bush are equipped with gearboxes with 4+4 powered positions for collet ER 16 with maximum speed 7000 rpm (all positions).

Axial cross slide can be equipped optionally with 3 powered tools for main spindle and 3 powered tools for secondary spindle. The collets ER 16 are used and the maximum speed is 10.000 rpm. Both electro spindles can be equipped optionally with C- axis.



Machine parameters

Maximal bar diameter - main spindle	Ø 16 mm (*Ø 20)	Sub spindle stroke	345 mm
Maximum length of turning on one stroke	220 mm	Rapid feed	30 m/min
Spindle bore main spindle	Ø 21 mm (*Ø 23)	Maximal bar diameter	Ø 16 mm (*Ø 20)
Power of electrospindle motor	3,7 / 5,5 kW	Maxima length of part inside the secondary spindle for frontal ejection	160 mm
Maximum spindle speed	12000 rpm	Maximal length of part for frontal ejection	160 mm
Spindle direction	left and right	Spindle bore sub spindle	Ø 21 mm (*Ø 23)
Main spindle stroke	220 mm	Maximum subspindle speed	12000 giri/min
Rapid feed	30 m/min	Power of electrospindle motor	3,7 / 5,5 kW
Number of tool racks	2	Evacuation of part through sub spindle	opzione
Tool rack- horizontal stroke X1	90 mm	Air pressure required	6 bar
Rapid feed	30 m/min	Air connection	Ø 10 mm
Tool rack- vertical stroke Y1	319 mm	Coolant tank	200 l
Rapid feed	30 m/min	Flow	100 l / min
Tool racks horizontal U1	30 mm	Coolant pump pressure	7 bar
Rapid feed	30 m/min	Voltage	3 x 400 V - 50 Hz
Tool racks vertical V1	319 mm	Power input	31 kVA
Rapid feed	30 m/min	Cable section	16 mm ²
Tool rack axial- horizontal stroke Z2	225 mm	Fuses for circuit	63 A
Rapid feed	30 m/min		
Tool rack axial- vertical stroke X2	305 mm	MACHINE DIMENSIONS	2000x1280x1740 mm
Rapid feed	30 m/min	MACHINE WEIGHT	3200 Kg
Tool positions (turning)	(2 x 10) +(2 x 6)		
Tool shank	12 x 12 mm		

* optional on request

Collets and Guide bushes

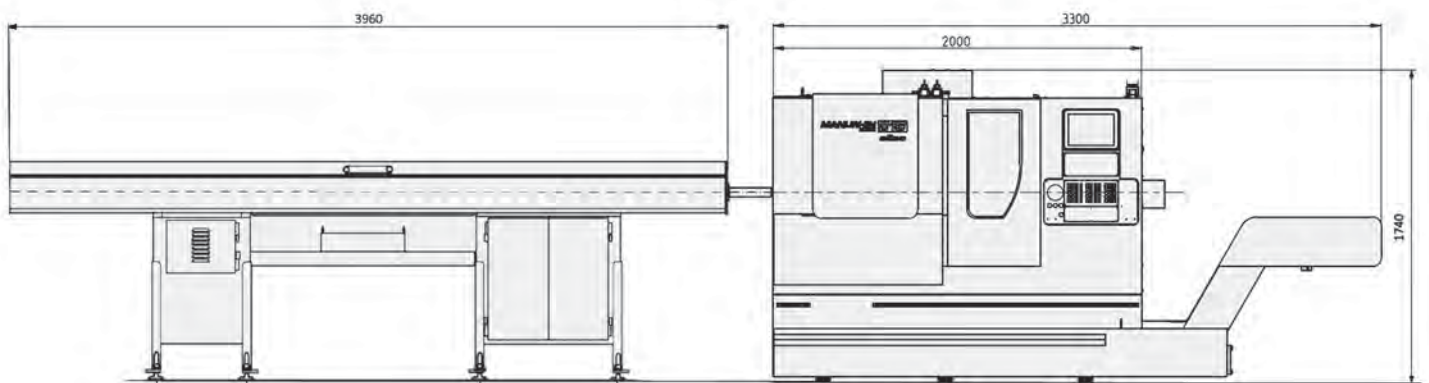


On Manurhin KMX 816 CLEVER we use for both main and sub spindle the collets of type 145E (F25) and we recommend steel ultra-precision collets from well-established collet manufacturers. Usually are used grooved collets or smooth collets or collets with longer nose (LN).



On Manurhin KMX 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



Contact



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Specification and illustrations may not always correspond with the machine latest version.