

# MANURHIN K'MX 413

Innovative technology



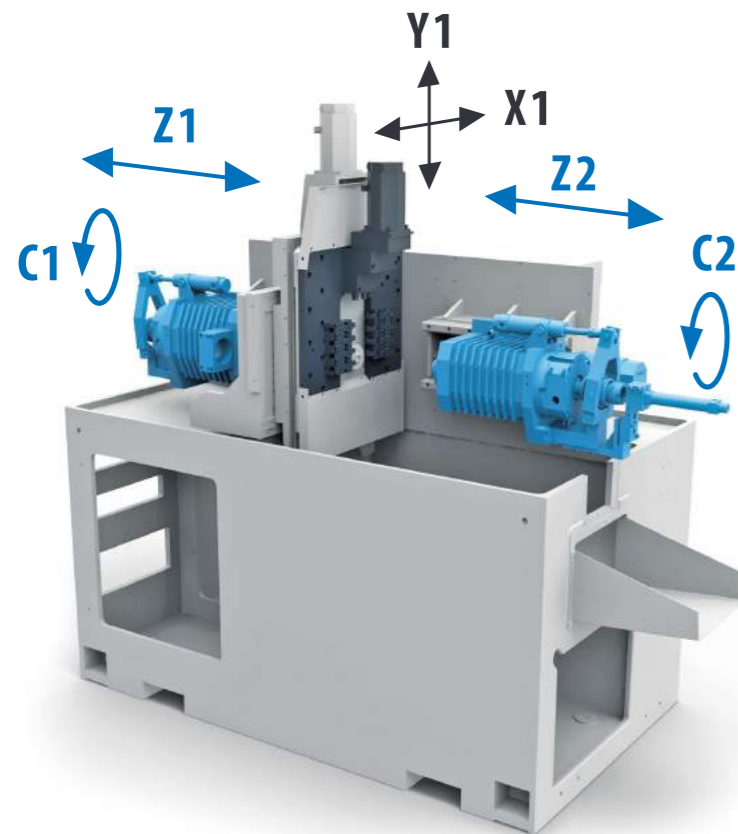
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Sliding headstock MANURHIN K'MX 413 is designed for productive machining of small parts for bars diameter up to 16 mm (for machining bigger diameter than 13 mm is necessary to modify end of the bar. Optionally it is possible to modify spindle bore to 19 mm diameter and use 16mm bars without any modification).

K'MX 413 in standard offer is supplied as fully equipped machine ready to start production.

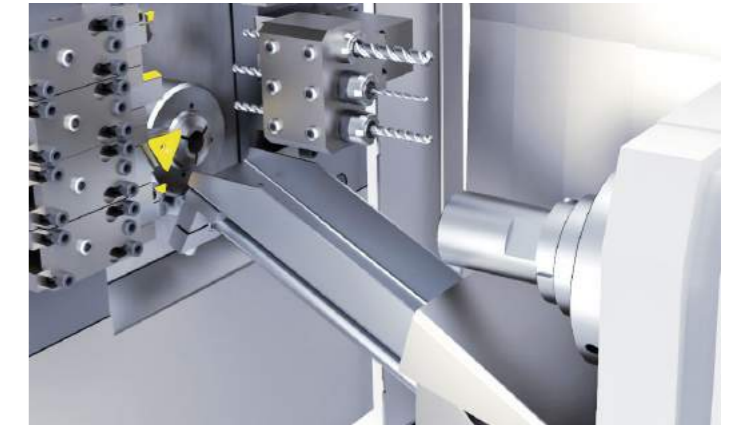
## KINEMATICS



MANURHIN K'MX®

Standard equipment includes counter spindle, live tools and bar feeder. Simple kinematics and last generation of CNC are providing easy and fast programming and set up.

With 2 electro spindles, 3 powered tools, C-axis on both spindles and up to 12 fixed tools, the K'MX 413 is also able to machine complex parts. The machine, offers an economical, reliable and simple solution.



## PART COLLECTION

A pneumatic part catcher is programmed by 'M' function. The finished part is ejected from the counter spindle or can be collected directly from guide bush after cut off. Then the part slips into a part collecting drawer on the ride side of the machine.

## TOOLS FOR INTERNAL MACHINING

The cutting tools are installed on a tool holder block with 6 stations (boring  $\varnothing$  16 mm). This block occupies two positions on rack and allows simultaneous axial operations on both spindles.



## MACHINE PARAMETERS

Max. machining length on one feeding	130 mm	Maximum speed on 1 stations	2 600 rpm
Spindle bore	Ø 18 (19) mm	Counter spindle stroke	150 mm
Bar capacity	Ø 13 (16) mm	Rapid speed	25 m/min
Maximum bar capacity	Ø 16 mm	Bar capacity	Ø 13 (16) mm
Power of electrospindle motor (100% / 30 min)	3,7 / 5,5 kW	Maximum bar capacity	Ø 16 mm
Maximum speed of main spindle	12 000 rpm	Maximum speed of counter spindle	12 000 rpm
Spindle direction	Left and right	Power of electro spindle motor (100% / 30 min)	2,3 / 3,7 kW
Main spindle stroke	130 mm	Maximum length of part inside the spindle	95 mm
Rapid feed of mine spindle	25 m/min	Maximum length of part for frontal ejection	130 mm
Horizontal stroke of slide X1	2 x 30 mm	Evacuation of parts through the counter spindle	Optional
Rapid feed of horizontal stroke	25 m/min	Air pressure required	6 bar
Vertical stroke of slide Y1	135 mm	Air connection by "Banjo" coupling	Ø 10 mm
Rapid feed of vertical stroke	25 m/min	Coolant tank capacity	120 l
Number of external tool stations	(max.) 8	Flowrate	63 l/min
Tools shank size OD operations	12 x 12 mm	Coolant pump pressure	3 bar
Number of internal tool stations	(max.) 3	Voltage	3 x 400 V - 50 Hz
Boring for ID tool shank	Ø 16 mm	Power input	26 Kva
Number of powered tools	3	CNC control system	FANUC
Collet size	ER 11 / ET 1 - 12	MACHINE DIMENSIONS	2 350 x 1 050 x 1 784 mm
Maximum speed on 2 stations	8 000 rpm	MACHINE WEIGHT	2 000 kg

## COLLETS AND GUIDE BUSHES

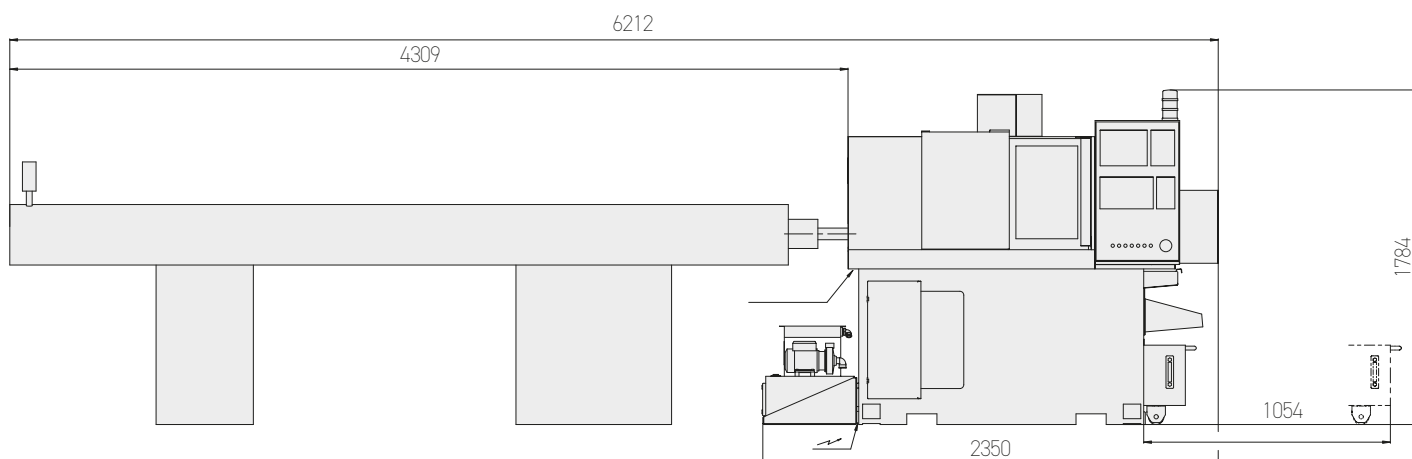


On MANURHIN K'MX 413 we use for both main and counter spindle the collets of type 136E (F20) and we recommend steel ultra-precision collets from well-established collets manufacturers. Usually are used grooved collets or smooth collets or collets with longer nose (LN)



On MANURHIN K'MX 413 we use the guide bushes of type I 354 (J7A) denomination. We recommend the guide bushes with hard metal insert from renowned manufacturers.

## MACHINE DIMENSIONS



## CONTACT

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