

KRORAINA SERIES

Smart Engine Lathe

Swing Dia. Ø400 Ø500 Ø610 Ø800 Ø1100mm

SMART TECHNOLOGIES Reforms The Engine Lathe





Main feature:

- Fingertip manipulation

12.1" Colorful LED industrial-grade tough screen integrated operation instructions, easy to choose turning parameters, replacing manual handle manipulations. Deliver quickly without programming experience.

Large screen real-time monitors machine tool working status, spindle speeds status, servo motor loading status and etc.

Large screen real-time shows each axis positions and travel distances, precise controlling cutting accuracy.

Metric and British system arbitrary switch, diameter and radius arbitrary switch, English or Chinese language display, alarm display, clock and date display, two axes simultaneous driving function.



- One time setting, automatic cycle cutting

Besides retaining all traditional engine lathe operation practices, Kroraina adopts electric hand wheel, it makes the machining very easily.

The machine has the function of automatic reciprocating processing, just input the parameters as cutting depth, length, times, angle into dialog box, one time start up, and automatic fulfill outer circle, end face, thread, taper machining and etc. Say goodbye to tedious CNC programming forever.



- Perfect combination of high speed and high torque, make the accurate machining into possibility.

High torque gearbox, three shifts (high, middle, low), max spindle speed 2000 r.p.m.

High power and high torque servo motor for X/Z axes feeding. Main drive adopts high power variable frequency main motor and gear box. Max cutting torque 1600N.m.

Four different spindle bores (50mm(2"), 80mm(3"), 104mm(4"), 130mm(5")) are available for choice. Optimizing spindle bearing span, adopting the structure of double row roller bearing(front) and precision angular contact ball bearing(rear), makes the powerful cutting and precise machining into possibility.

- Constant speed surface (CSS)

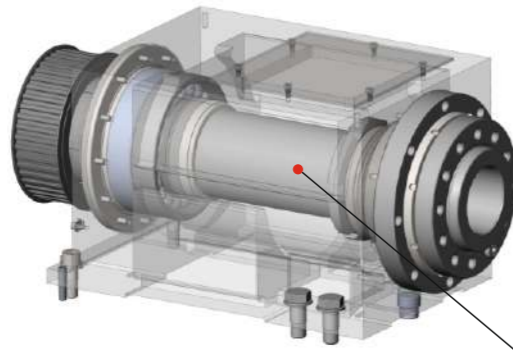
Through control speed knob, realize the spindle speed stepless change in each grade.

CSS function can be chosen while cutting the end face, and spindle speed increased or decreased correspondingly while the tooling feeding.



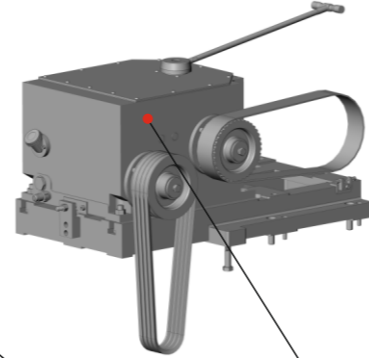
Spindle box

Single spindle structure. 4 size spindle bores : 50mm(2"), 80mm(3"), 104mm(4"), 130mm(5"). Double row roller bearing (front) and precision angular contact ball bearing(rear). Spindle equipped with magnetic grating encoder.



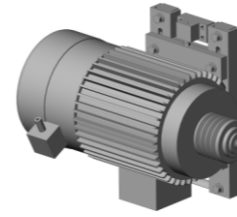
Gear box

High torque, high, middle, low, three shifts.



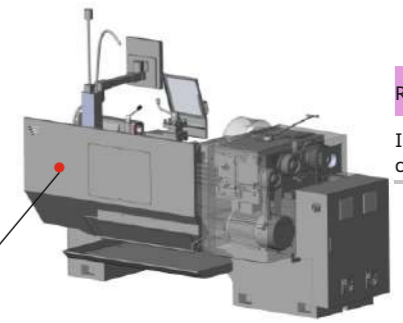
Motor

High power frequency main motor, max cutting torque is very high.



Control panel

12.1" industrial touch screen with multiplying knob, speed control knob and emergency stop button. Increasing working efficiency with reasonable and concise operation.

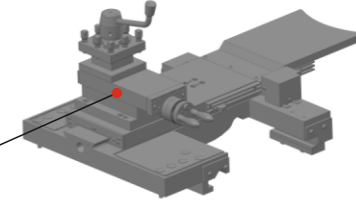


Rear protection

Integral rear protection cover.

Tool post

Standard manual 4-position turret, optional quick change post and Z1 axis DRO.



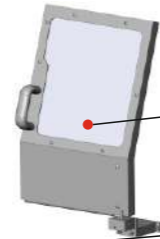
Chuck cover (optional)

Flip structure, explosion-proof material board, equipped with electrical switch interlocking.



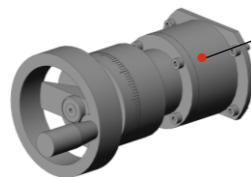
Electric cabinet

Built-in driving unit, inverter, control card, high class electrics, IP54 protection level, reasonable and compact design.



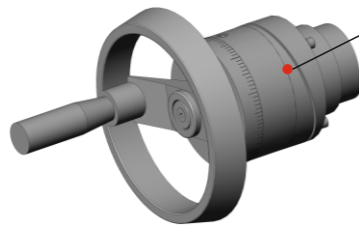
Turret cover(optional)

Spiale structure, effective blocking of coolant and chips splashing.



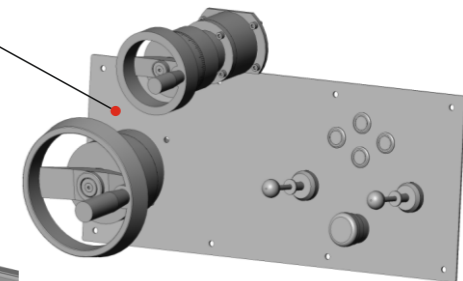
Z axis feeding

Eliminating transmission clearance, equipped with buffer limit device.Servo motor + ball screw.



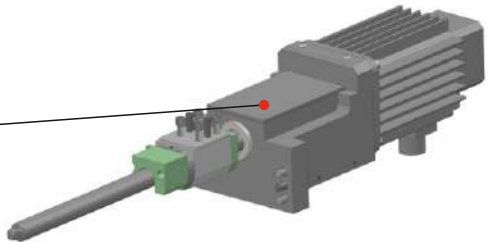
Tailstock

Scaled quill and graduated hand wheel, two size quill diameters(75mm & 80mm).



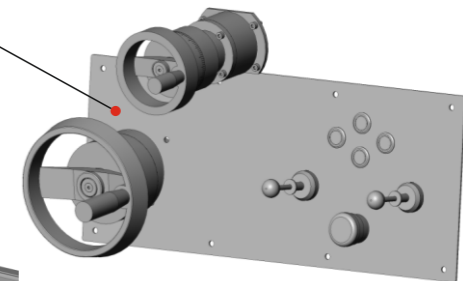
X axis feeding

X axis ball screw, eliminating transmission clearance, equipped with buffer limit device.



Operation handle and button

Fast moving button +cross feeding handle + spindle start handle+emergency stop button.



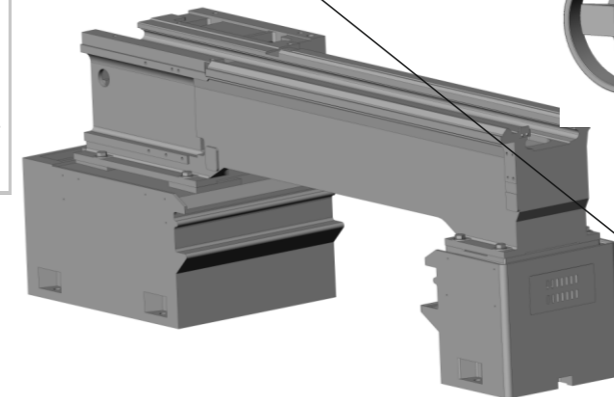
Chip tray

Push-pull chip tray.



Lubrication

Centralized lubrication for saddle, standard with manual lubrication pump, optional for automatic lubrication pump.



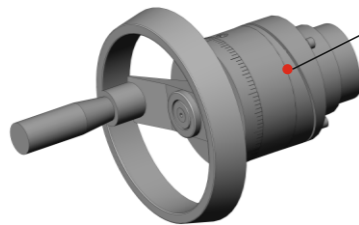
Foot brake(optional accessory)

Direct control main motor to realize braking stop .



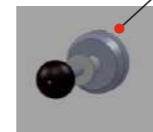
Z axis and X axis hand wheel.

Traditional hand wheel appearance with adjustable damping structure, achieving the conventional hand wheel loading effect. Internal connected with encoder, moving distance real-time displayed on the screen.



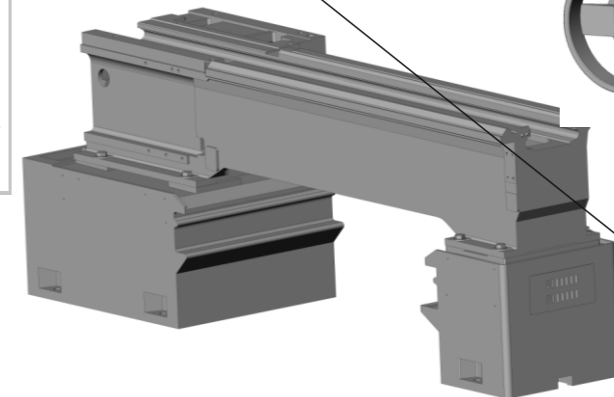
Spindle start/stop handle

Three positions for forward rotation, stop and reverse rotation. Forward and reverse rotation driven by main motor, stop accomplished by main motor braking.



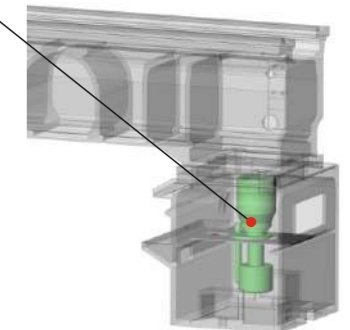
Bed

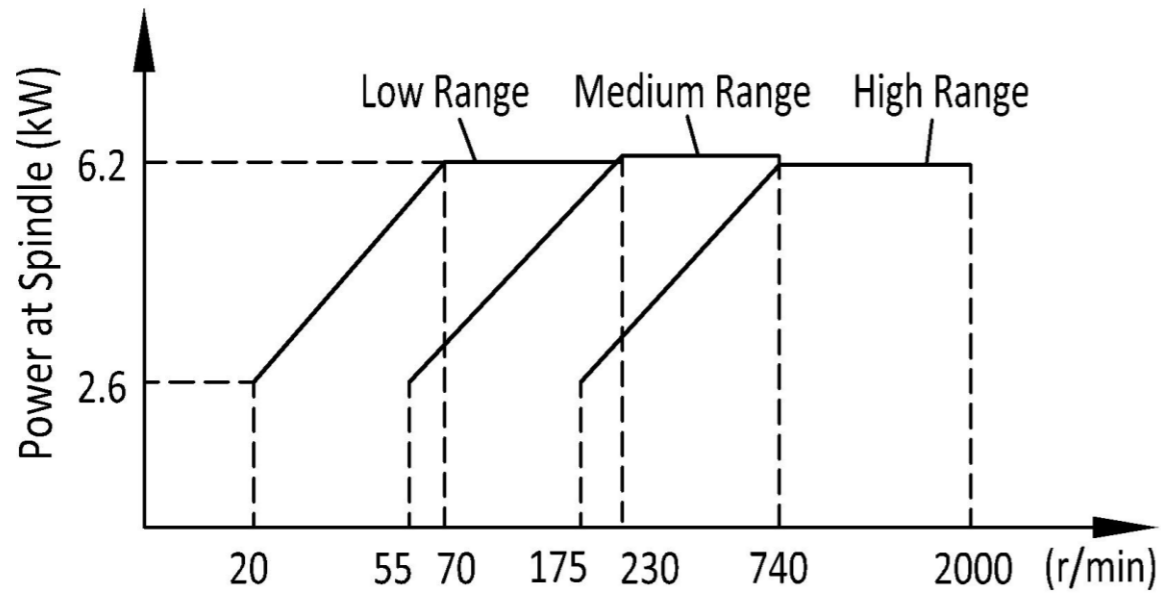
Accuracy finite element analysis, reasonable internal ribs layout, easy to remove chips, aging treatment, ensures high rigidity.



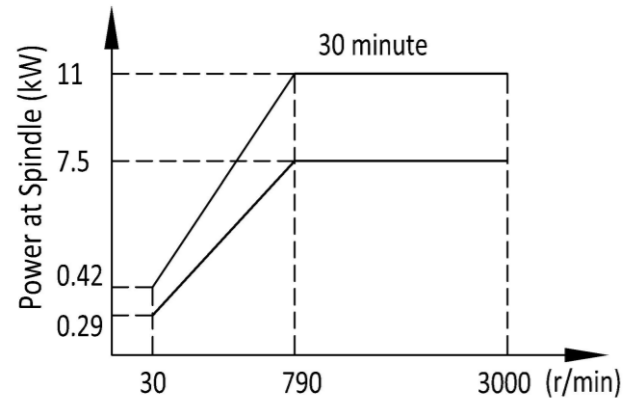
Cooling

External cooling, water tank and cooling pump inside the machine rear leg.

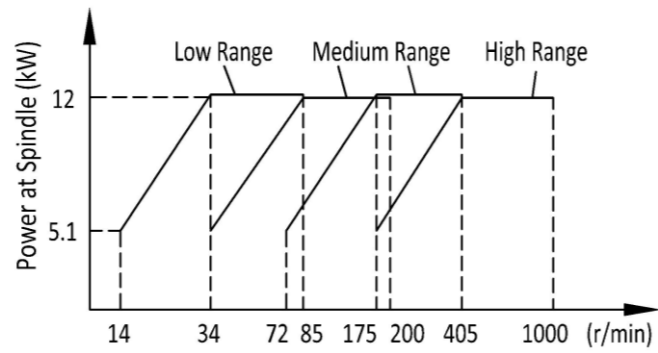




T5 & T6 spindle power drawing



T4 spindle power drawing



T8 & T11 spindle power drawing



Standby time decrease 80%



Cutting torque increase 150%



Total cutting efficiency increase 400%

Item	Model	Unit	T4	T5	T6	T8	T11
Capacity	Swing over bed	mm	400	500	610	800	1100
	Swing over cross slide	mm	210	300	370	480	800
	Max. workpiece length	mm	1000	1000/1500/2000	1500/2000/3000	1500/3000/4000/5000	1500/3000/4000/5000
	Width of bed	mm	400	400	400	600	600
Spindle	Chuck size	mm	200	250	315	315	380
	Spindle steps		Stepless	3 steps, stepless in each step	3 steps, stepless in each step	4 steps, stepless in each step	4 steps, stepless in each step
	Spindle speed range	rpm	30-2500	20-2000	20-2000	14-1000	12-880
	Spindle bore dia.	mm	50	80/105	80/105	105/130	
	Spindle taper		MT6	Metric 90/Metric 120	Metric 90/Metric 120	Metric 120	Metric 120
Carriage	Tool post travel	mm	140	140	140	200	200
	X-axis travel	mm	200	250	420	470	470
Tool post	Tool station No.		4	4	4	4	4
	Tool size	mm	25x25	25x25	25x25	32x32	32x32
Tailstock	Travel type		Manual	Manual	Manual	Manual	Manual
	Quill stroke	mm	150	150/180	150/180	250	250
	Quill dia.	mm	75	75	80	100	100
Feed	Quill taper		MT5	MT5	MT5	Mt5	Mt5
	Longitudinal feed range(Metric)	mm/rev	0.05-6.4	0.05-6.4	0.05-6.4	0.06-24.3	0.06-24.3
	Cross feed range(Metric)	mm/rev	0.025-3.2	0.025-3.2	0.025-3.2	0.003-12.15	0.003-12.15
	Longitudinal feed range(Inch)	inch/rev	0.002-0.242	0.002-0.242	0.002-0.242	0.00187-0.928	0.00187-0.928
	Cross feed range(Inch)	inch/rev	0.001-0.121	0.001-0.121	0.001-0.121	0.000935-0.464	0.000935-0.464
	X/Y axis rapid speed	m/min	2/4	2/4	2/4	2/4	2/4
Thread Pitch	Metric(31 kinds)	mm	0.25-80	0.25-80	0.25-80	1-240(50 kinds)	1-240(50 kinds)
	Inch(57 kinds)	T.P.I.	3/8-80	3/8-80	3/8-80	1-14(26 kinds)	1-14(26 kinds)
	Modules(28 kinds)	M.P.	0.2-26	0.2-26	0.2-26	0.5-120(53 kind)	0.5-120(53 kind)
	Diametral (32 kinds)	D.P.	1-80	1-80	1-80	1-28(24 kinds)	1-28(24 kinds)
Motors	X/Z axis ball screw dia.	mm	Ø25x5/Ø40x6	Ø25x5/Ø40x6	Ø25x5/Ø40x6	Ø32x5/Ø63x10	Ø32x5/Ø63x10
	Main motor power	kW	5.5(Servo)	7.5(Inverter)	7.5(Inverter)	11(Inverter)	11(Inverter)
	Coolant motor power	kW	0.125	0.125	0.125	0.9	0.9
	X/Z axis servo motor power	kW	1.5/1.5	1.5/2.3	2.3/3.0	2.3/4.3	2.3/4.3
Torque	Spindle torque	N·m	143	1085	1600	3280	3280
	X/Z axis torque	N·m	10/10	10/15	15/19	15/27	15/27
Others	Overall dimension	mm	2658x1157x1317	2658x1157x1362 3158x1157x1362 3658x1157x1362	3208x1250x1397 3708x1250x1397 4708x1250x1397	3650x1997x1850 5285x1997x1850 6320x1997x1850 7500x1997x1850	3650x1997x2150 5285x1997x2150 6320x1997x2150 7500x1997x2150
	Machine weight	kg	2080	2100/2300/2650	2480/2830/3530	5000/5950/6700/7450	5600/6550/7300/8050

Standard Accessories:

3-jaw chuck 200mm(T4) 250mm(T5) 315(T6&T8) 380(T11)
Industrial colorful touch screen 12.1"
Ball screw for X/Z axis
Main servo motor(T4) Main inverter motor(T5&T6&T8&T11)
Servo motor for X/Z axis
Auto cycle turning OD/ID/threading/taper
CSS cutting function
4-position turret
Chip collect plate
Coolant device
Manual lubrication
LED working light
3-color alarm light
Center
CE electrics
Wooden case packing

Optional Accessories:

Chuck cover
Turret cover
Rear protection cover
Steady rest
Follow rest
D type spindle
4-jaw chuck
Rapid tool post
Z1-axis DRO
Foot brake
Auto lubrication
Gap type bed
Face plate
Live center
UL/CSA electrics
Adjustable pads