TMT CNC
Makina Sanayii

+90 216 397 00 72
info@tmtmakinarevizyon.com
PROKING.COM.TR

LD/LC series(with Y-axis)
Spindle bore 12"
Swing over bed 40"
Distance between centres 120"

CN series(Cylinder Liner I.D. turning)
Spindle bore 9"
Swing over bed 60"
Distance between centres 240"

KAN series(with Y-axis)
Spindle bore 9"
Swing over bed 60"
Distance between centres 240"

TMT CNC

KAN Series
Wind Turbine's Blade Connector
Spindle bore 9"
Swing over bed 124"
Distance between centres 157"(4M)

SS/SA/SB series(with Y-axis)
Spindle bore 6"
Swing over bed 31"
Distance between centres 120"

CONVENTIONAL HOLLOW SPINDLE LATHE
PA/PB/PC/TURRET series

CONVENTIONAL HOLLOW SPINDLE LATHE
PH/PKA/PKB series

PROKING
www.prokingmachinery.com

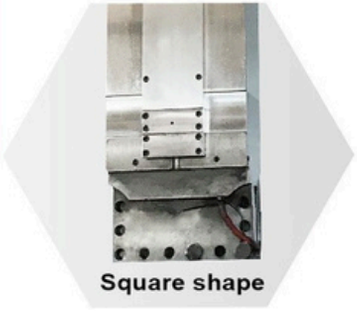
HEAVY DUTY VERTICAL TURNING CENTRE(LATHE)

CNC VTL-SERIES

VTL/VTC - ELEVATING CROSSRAIL SERIES

Designed for Rigid Machining With Unmatched Performance

Step type crossrail with 4+N steps gear type turning spindle to supply maximum torque, whilst providing excellent machining speed and efficiency.



Square shape

Octangle shape

SADDLE

For X-axis travel.

RAM

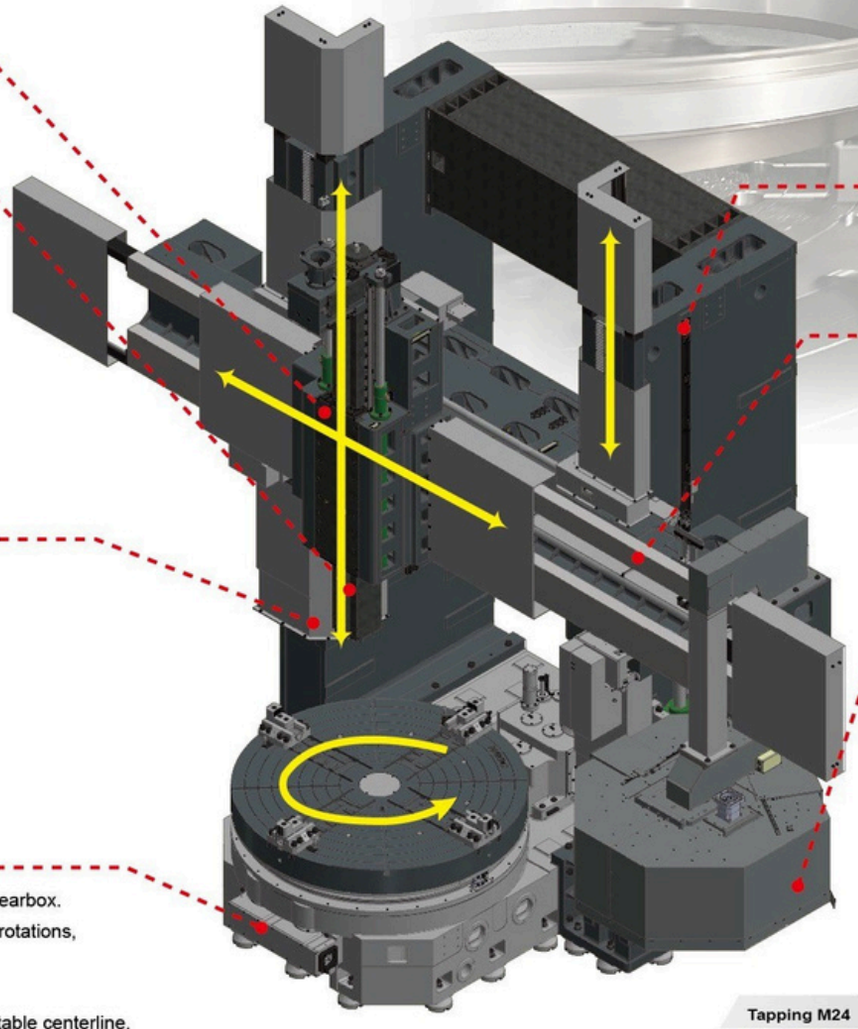
1. For Z-axis travel.
2. Designed with Square shape and Octangle shape.
3. With hydraulic counterbalance cylinder.

Second Spindle

1. Normal turning spindle and
2. Live tool spindle with gearbox transmission for high tapping torque.

CF GEARBOX

1. Dedicated CF- axis servo motor with cf gearbox.
2. Optimized for high accuracy positioning, rotations, and reversal milling.
3. Hydraulic system with braking devices.
4. Modular Angle Encoder mounted on the table centerline.
5. Position Accuracy: +/- 10 arc-sec or better. (VDI3441, JIS, ISO)



COLUMN

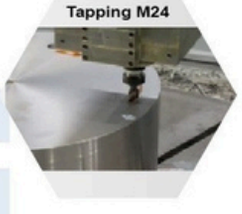
For W-axis travel

CROSSRAIL

1. Two box way with linear guideway.
2. The crossrail's wide-span dual box ways design enhances the overall structural rigidity and stability, making it especially suitable for heavy-duty cutting and high-precision machining requirements.
3. For movable crossrail it has 6 position hydraulic clamping system and positioning locking pins.

TOOL MAGAZINE

1. For mounted design, we have two types, one is ATC device move with the crossrail. The other type is ATC device that is floor standing.
2. At automatic change, the tool position is confirmed by tool sensor to prevent tool collision.
3. Independent manual tool loading area.



Tapping M24

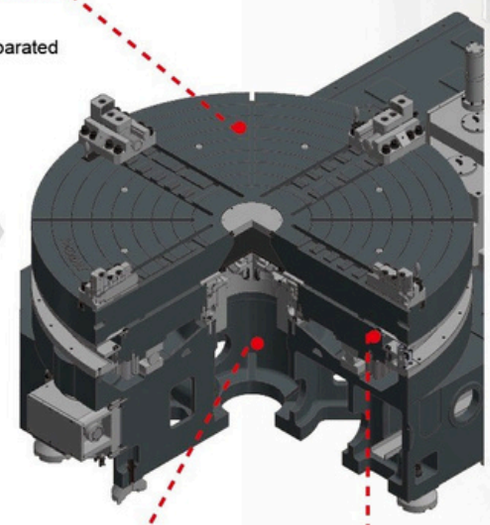
Milling

Drilling Ø50

BED AND TABLE DRIVE SYSTEM

Table

1. 4 independent box jaws.
2. Independent table can be separated with the spindle.

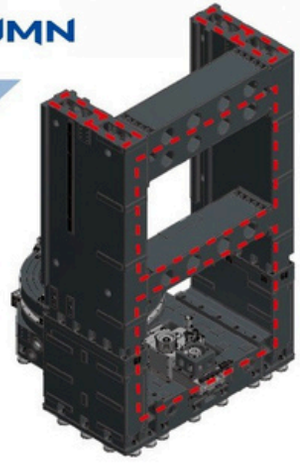


Main Spindle

1. 4+N step gear type turning spindle to supply maximum torque, whilst providing excellent machining speed and efficiency.
2. Stably supports heavy workpieces with large bore thrust bearing and large bore taper roller bearing.
3. Direct-drive main spindle motor can supply high capability power.
4. The encoder is set in the rotation center for table positioning and rotational speed.

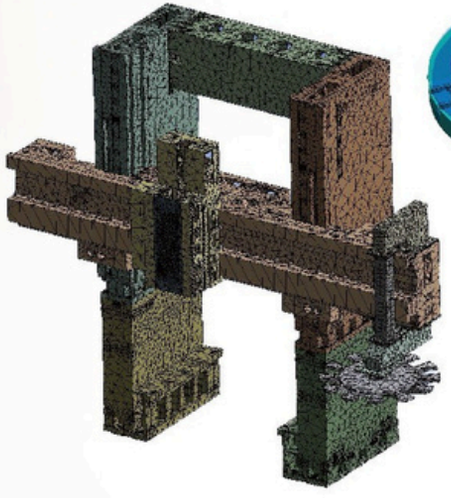
HIGH RIGIDITY DOUBLE COLUMN CONSTRUCTION

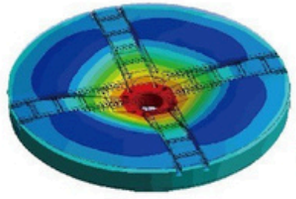
The dual-column structure features a box-type design, with both the columns and the rear beam adopting a box-in-box configuration. This design ensures high stability and rigidity of the structure.

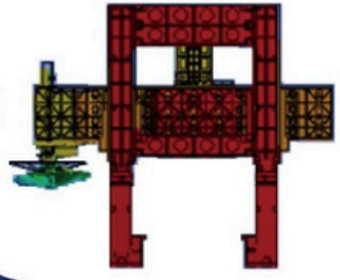


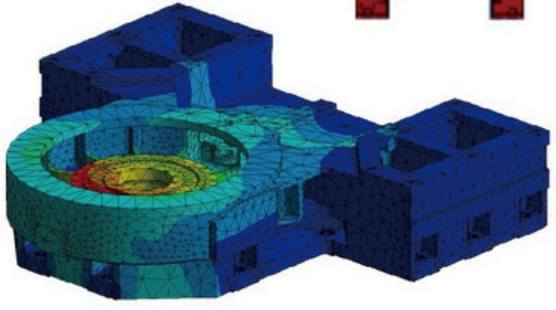
FEM CONSTRUCTION ANALYSIS

We perform structural stress and deformation analysis after assembling all components.



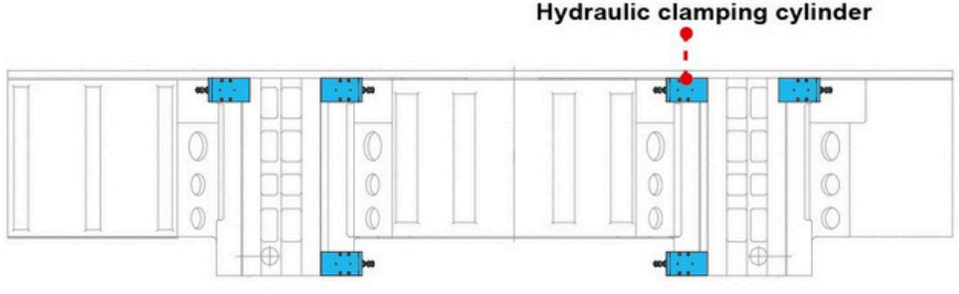






POWERFUL CROSSRAIL CLAMPING

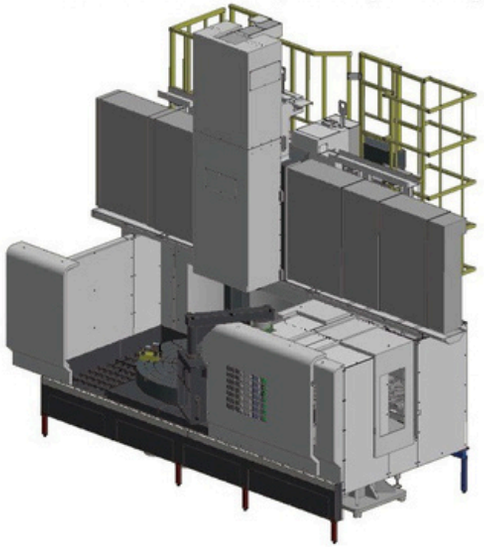
The crossrail hydraulic clamping system is equipped with six clamping force multipliers, ensuring a secure and stable hold on the crossrail. This design provides high structural rigidity and effectively absorbs cutting-induced vibrations, enhancing stability during machining operations.

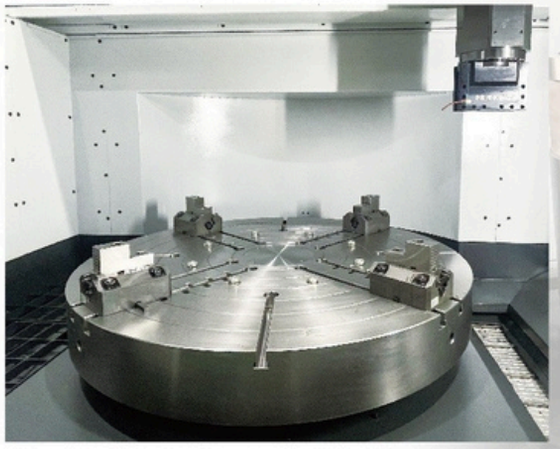


VTL/VTC FIXED CROSSRAIL SERIES

Designed for Rigid Machining with Unmatched Performance

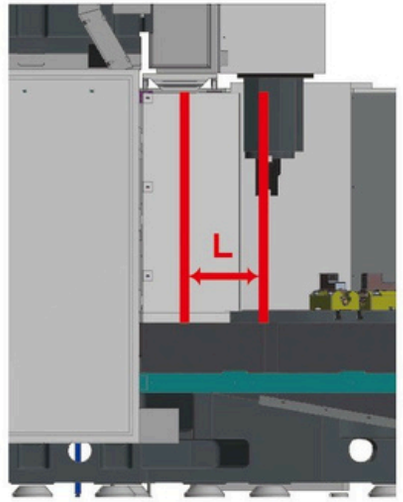
Fixed type crossrail with 4+N steps gear type turning spindle to supply maximum torque, whilst providing excellent machining speed and efficiency.





OPTIMIZED CANTILEVER DESIGN

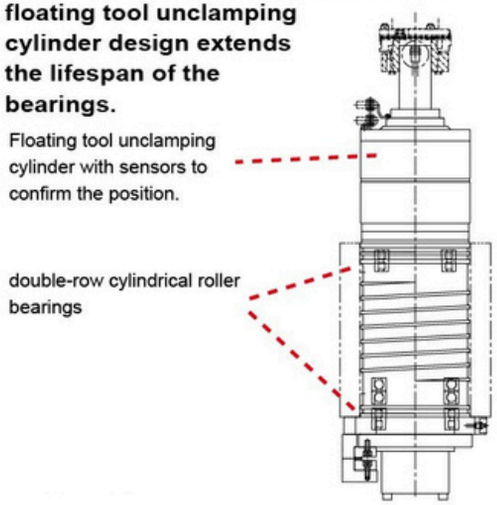
The wide-span columns, combined with an optimized crossrail structure, reduce the overhang distance of the tool holder, effectively enhancing cutting strength.



SPINDLE CONFIGURATION

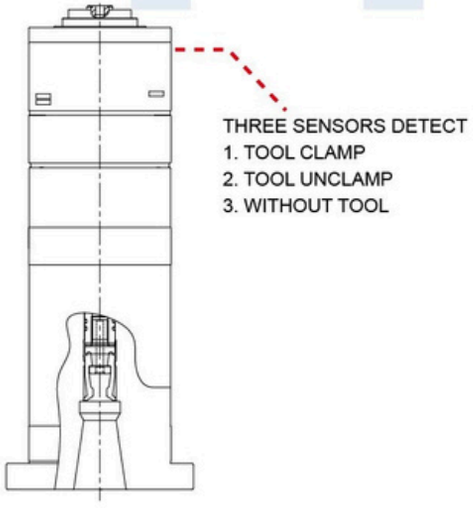
FOR TURN-MILL SPINDLE

The high-rigidity milling spindle is designed with two sets of double-row cylindrical roller bearings and one set of angular contact ball bearings. The floating tool unclamping cylinder design extends the lifespan of the bearings.



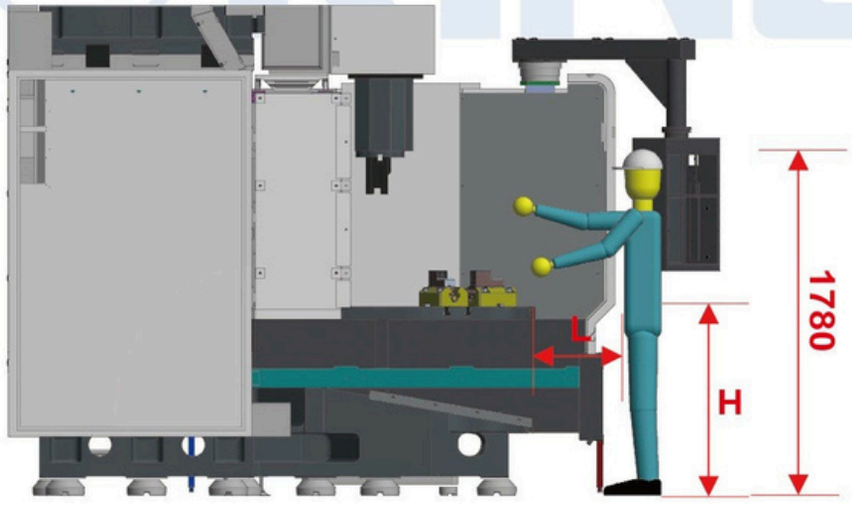
FOR TURNING SPINDLE

For a vertical lathe with simple turning functionality, the spindle is equipped with a tool-clamping spindle.



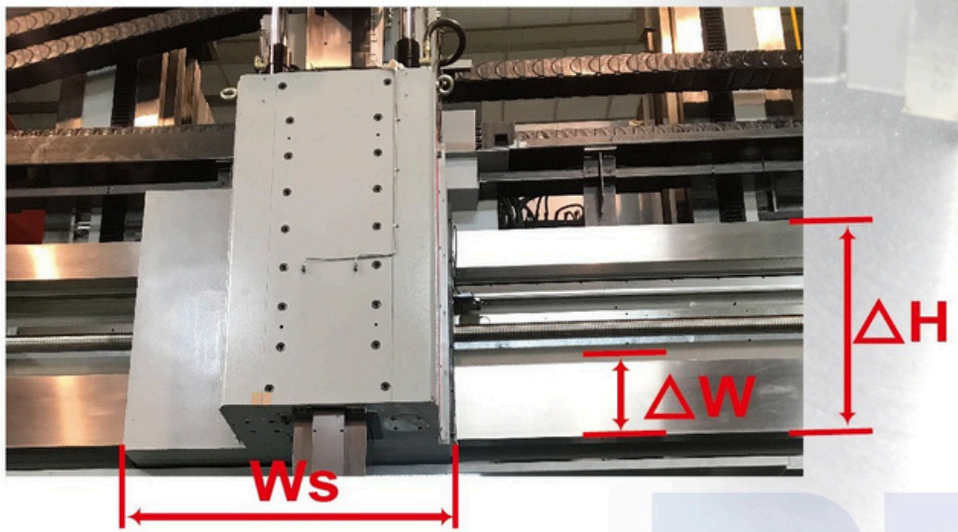
ACCESSIBILITY

The machine is designed for ease of access (L) and the table surface low height (H), allows the operator to easily approach the table for adjusting the workpiece clamps.



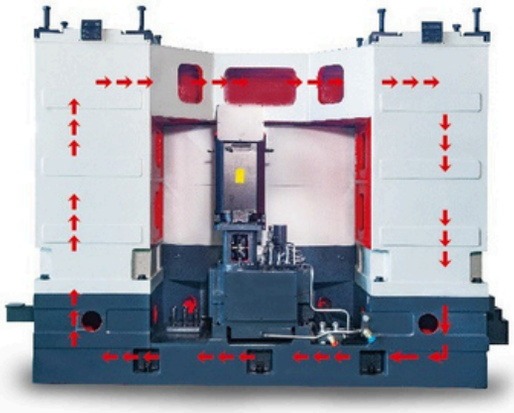
LARGE-SPAN STRUCTURES

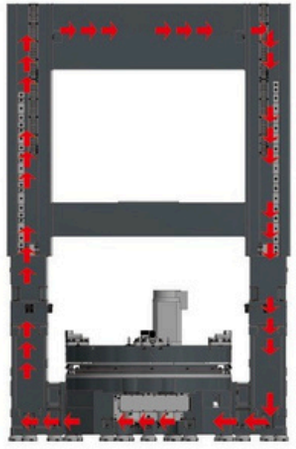
The crossrail features a large rail span (ΔH), enhancing the structural rigidity of the rail. The wide lower rail (ΔW) minimizes X-axis rail deformation, thereby improving X-axis accuracy.
The X-axis saddle has a wide support span, increasing support rigidity. Positioned at the center of the machine, the saddle reduces deformation of the crossrail.



COLUMN CONSTRUCTION

Single integrated column or dual columns, the column structure extends to cover the left side of the table. This design offers greater rigidity and stability compared to offset column structures.

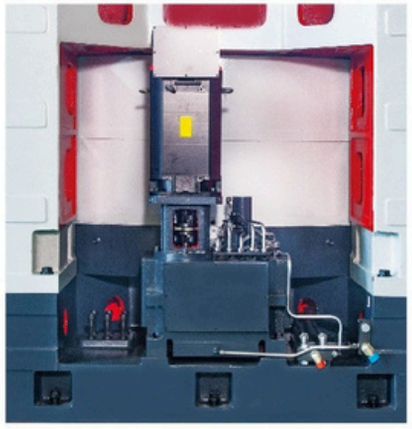




DIRECT-DRIVE SYSTEM

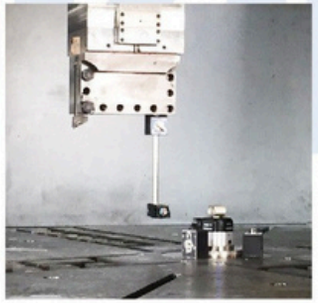
The main spindle(Table) is designed with a direct-drive system, utilizing a gearbox designed by ourselves with a four(4)-speed gear ratio, directly coupled to the spindle motor.

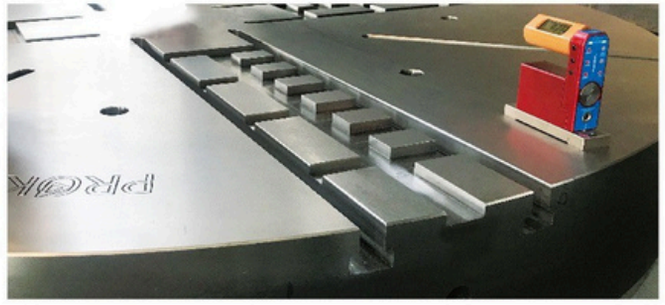
The spindle motor direct-drive system provides:
1. High response and high torque.
2. Reduced mechanical efficiency losses.
3. No need for belt adjustments.



ASSURED ACCURACY

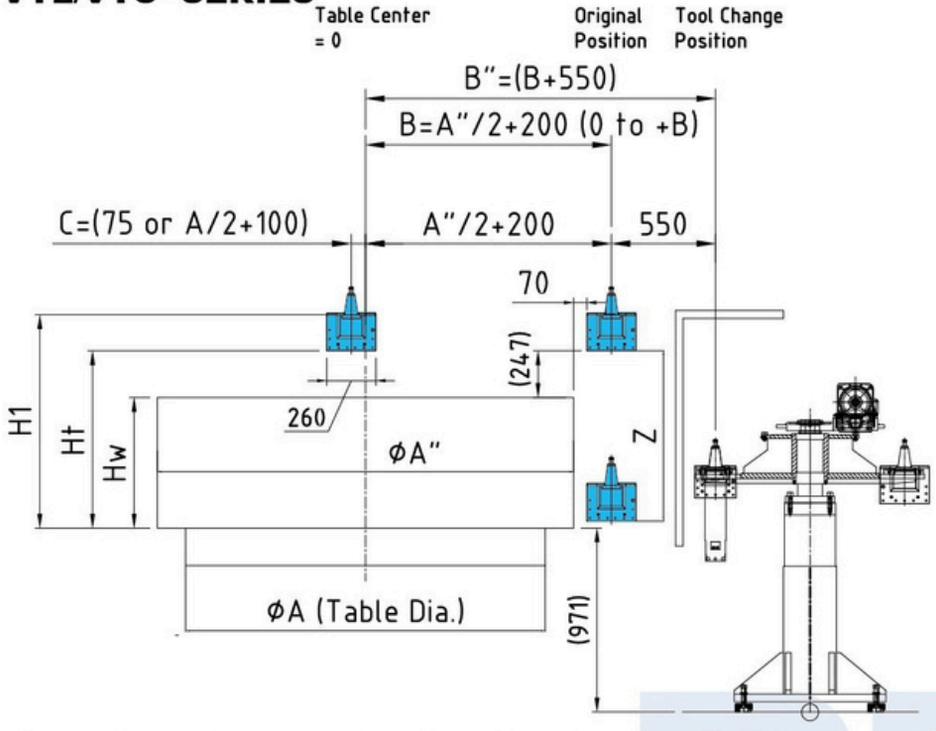
For assuring accuracy, we carry out static measurement, positioning accuracy, repeatability accuracy measurement, and final cutting test. We use the industrial standard (VDI 3441) established by the German Association of Engineers to verify machine.





MACHINE SPECIFICATIONS

VTL/VTC- SERIES

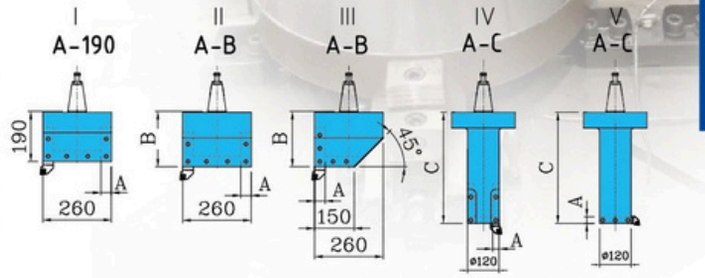


	MODEL	A	A"	B	B"	C	Z(ST)		*H1	*Ht	*Hw
Fixed	VTL1700-F	Ø1700	Ø2200	1300	1850	75	900 *[1100] *[1400]	Fixed	1110	910	690
	VTC1700-F					---					
Elevating	VTL1700	Ø1700	Ø2200	1300	1850	75		STEP-4	2310	2110	1910
	VTC1700					---		STEP-3	1910	1710	1510
								STEP-2	1510	1310	1110
								STEP-1	1110	910	710
Fixed	VTL2200-F	Ø2200	Ø2700	1550	2100	75		Fixed	1110	910	690
	VTC2200-F					---					
Elevating	VTL2200	Ø2200	Ø2700	1550	2100	75	900 *[1100] *[1400]	STEP-5	3150	2990	2900
	VTC2200					---		STEP-4	2750	2590	2500
								STEP-3	2350	2190	2100
								STEP-2	1950	1790	1700
								STEP-1	1550	1390	1300
Elevating	VTL2700	Ø2700	Ø3200	1800	2350	1450		CUSTOMIZED SPECIFICATIONS			
	VTC2700										
Elevating	VTL3200	Ø3200	Ø3700	2050	2600	1700					
	VTC3200										

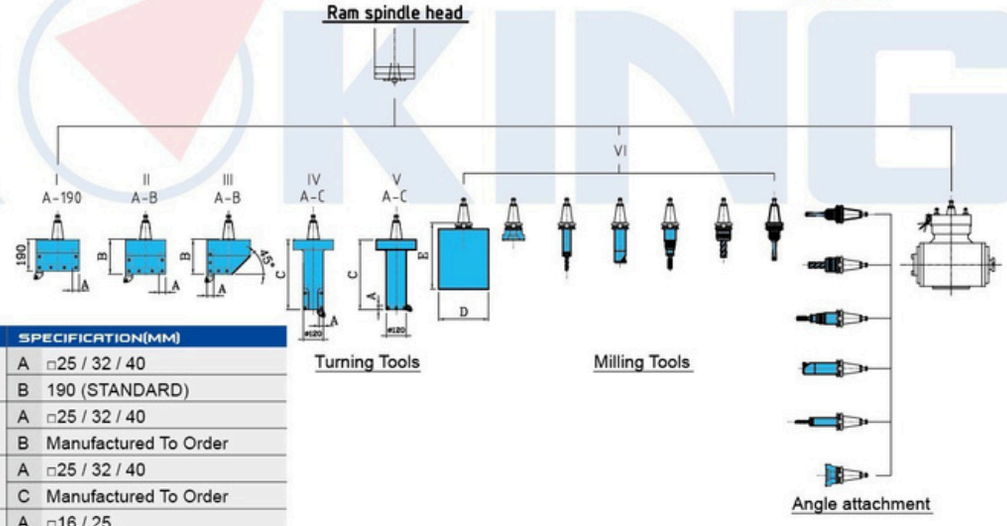
NOTICE :
1. Marked * means customized specification.
2. Please note that the dimensions provided in the table above are for reference only, as machine specifications are subject to annual updates and adjustments.

TURNING TOOLS(OPT.)

TYPE	SPECIFICATION(MM)	
I	A	□25 / 32 / 40
	B	190 (STANDARD)
II	A	□25 / 32 / 40
	B	Manufactured To Order
III	A	□25 / 32 / 40
	C	Manufactured To Order
IV	A	□16 / 25
	B	350 or Manufactured To Order
V	A	□16 / 25
	B	350 or Manufactured To Order

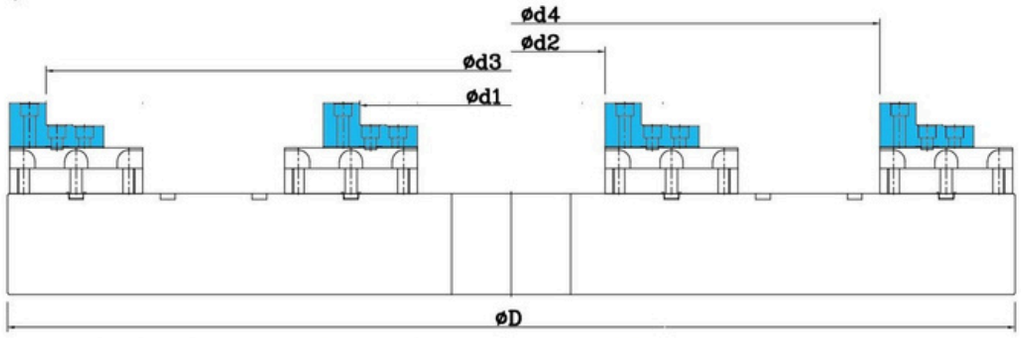


VARIOUS MILLING TOOLS AND TURNING TOOLS(OPT.)



TYPE	SPECIFICATION(MM)	
I	A	□25 / 32 / 40
	B	190 (STANDARD)
II	A	□25 / 32 / 40
	B	Manufactured To Order
III	A	□25 / 32 / 40
	C	Manufactured To Order
IV	A	□16 / 25
	B	350 or Manufactured To Order
V	A	□16 / 25
	B	350 or Manufactured To Order
VI	D	MAX. Ø250
	E	MAX. 400

WORKHOLDING DIMENSION RANGE



MODEL	D	d1	d2	d3	d4
*VTL-1600	Ø1600	Ø690	Ø310	Ø1490	Ø1110
VTL-1700	Ø1700	Ø690	Ø310	Ø1540	Ø1160
*VTL-1900	Ø1900	Ø690	Ø310	Ø1810	Ø1430
VTL-2200	Ø2200	Ø665	Ø410	Ø2030	Ø1600

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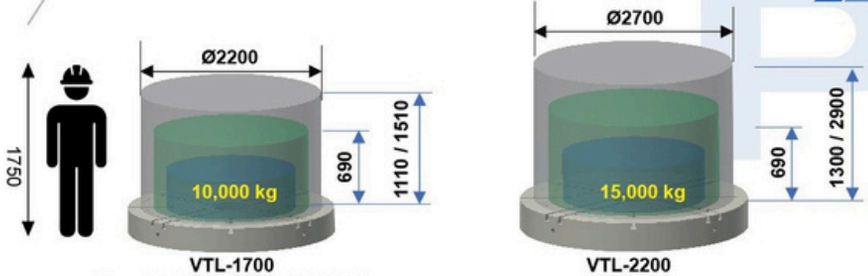
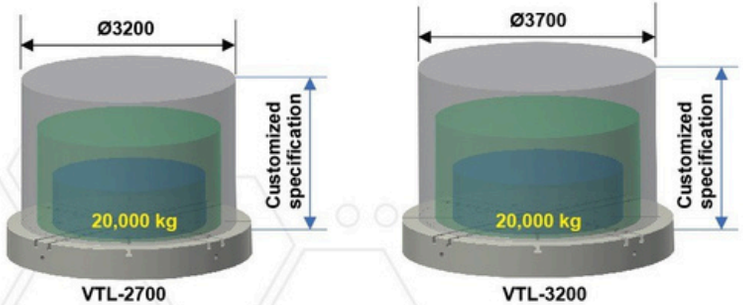
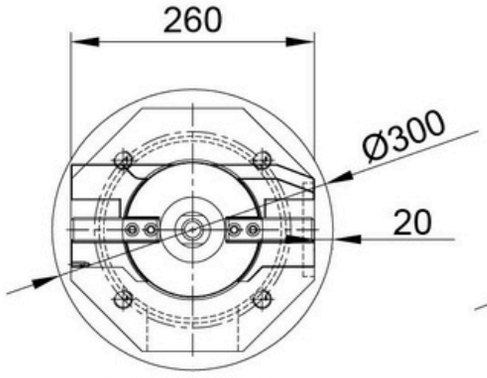
PRODUCT EXTENSIONS AND APPLICABLE WORKPIECES

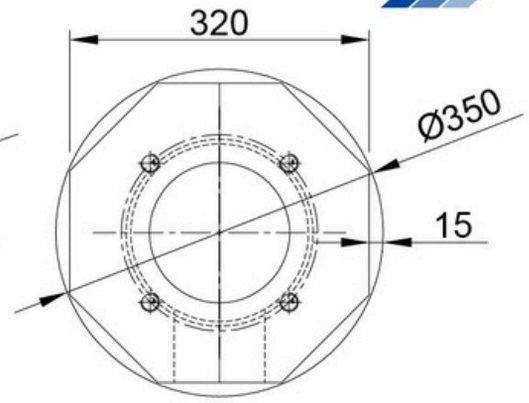




MIN. BORING DIAMETER



VTL-1700/2200
(Special Model:VTL-1600/1900)



VTL-2700 / 3200

TOOL MAGAZINE

There are two types of turret drives: cam drive and servo motor drive. Turning or turn-milling lathes are equipped with a 12-tool turret. There are two choices of design of turret placement, one is ATC equipment moves with crossrail; The other option is ATC equipment is floor standing.

Floor-standing

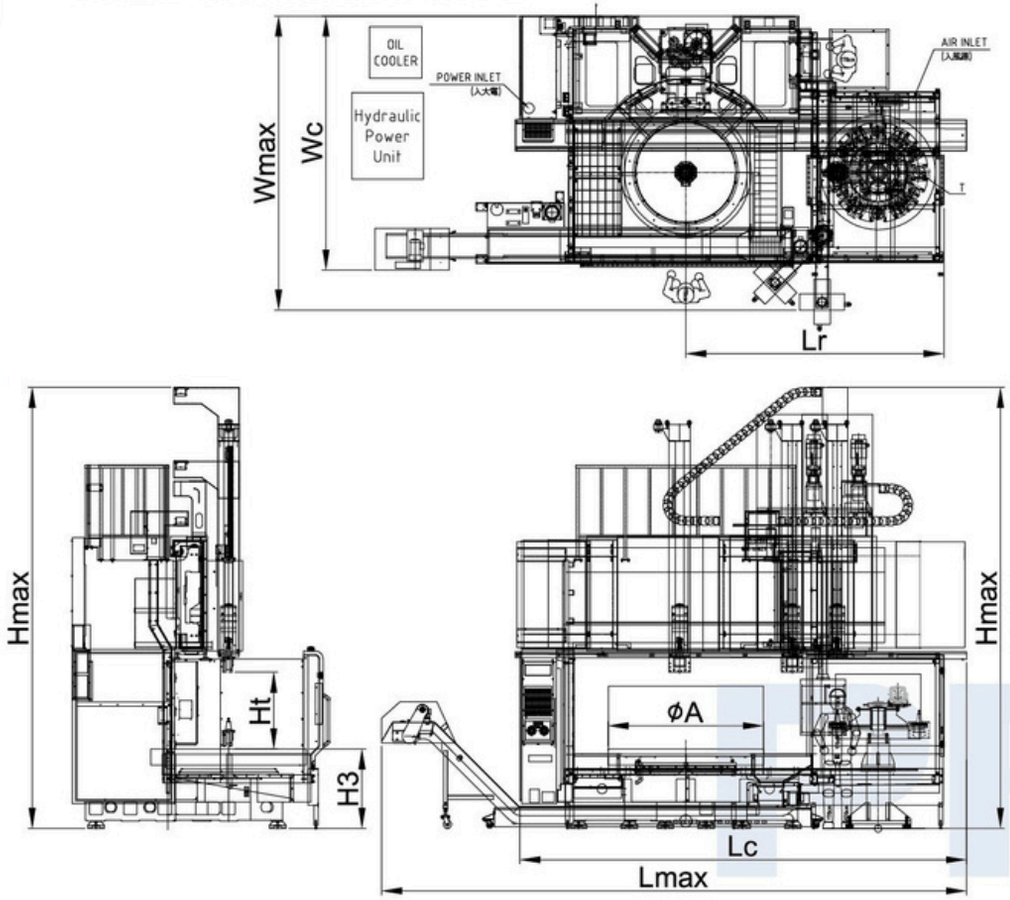
Overhead-mounted

CHIP CONVEYOR TYPES AND APPLICATIONS

Name	Hinge	Scraper	Magnetic Scraper	Hinge+Scraper(drum filter)
Shape				
Features	Used for the conveying of short, long, spiral, and bundled chips over 75mm.	Used for the conveying of short chips and fine or powder chips ranging from 2mm to 75mm.	Short and fine chips under 75mm containing magnetic metals.	Short, flat, fine, and powder metal chips.
Application	For metal / cast iron	For cast iron	For cast iron	For metal, cast iron, nonferrous metal

MACHINE DIMENSION

FIXED CROSSRAIL TYPE



Crossrail Type	Model	A	Lmax	Lc	Hmax	H3	Ht	Wmax	Wc	Lr	T
Fixed	*VTL 1600-F *VTC 1600-F	Ø1600	7225	5460	5400	970	910 *[1110]	3600	3110	3160	12T
Fixed	VTL 1700-F VTC 1700-F	Ø1700	7225	5460	5400	970	910 *[1110]	3600	3110	3160	12T
Fixed	*VTL 1900-F *VTC 1900-F	Ø1900	7225	5460	5400	970	910 *[1110]	3600	3110	3160	12T
Fixed	VTL 2200-F VTC 2200-F	Ø2200	7825	6060	5400 *[5900]	*1270	910 *[1110] *[1410]	3900	3410	3460	12T

NOTICE :

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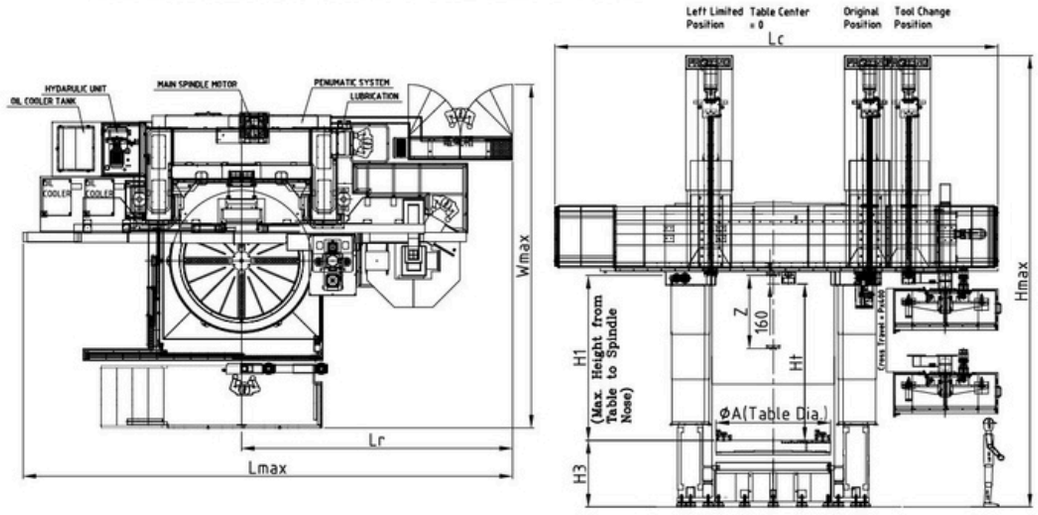
MACHINE DIMENSION

ELEVATING CROSSRAIL TYPE



	Model	A	Lc	Lr	Z	Lmax	Wmax	Hmax	P	H1	Ht	H3	W1
Elevating	VTL 1700 VTC 1700	Ø1700	7910	4900	900 *1110 *1400	7300	6300	6600	3	2310/*2510/*2810	2090/*2290/*2590	970	2760
								6200	2	1910/*2110/*2410	1690/*1890/*2190		
								5800	1	1510/*1710/*2010	1290/*1490/*1790		
								5400	0	1110/*1310/*1610	890/*1090/*1390		
Elevating	VTL 2200 VTC 2200	Ø2200	8510	5200	900 *1110 *1400	9400	6600	8700	4	2650/*2850/*3150	2490/*2690/*2990	*1270	4850
								8300	3	2250/*2450/*2750	2090/*2290/*2590		
								7900	2	1850/*2050/*2350	1690/*1890/*2190		
								7500	1	1450/*1650/*1950	1290/*1490/*1790		
								7100	0	1050/*1250/*1550	890/*1090/*1390		
Elevating	VTL 2700 VTC 2700	Ø2700	9010	5500	900 *1110 *1400	9900	6900	8700	4	2490/*2690/*2990 2650/*2850/*3150	2490/*2690/*2990	5930	5350
Elevating	VTL 3200 VTC 3200	Ø3200	9510	5800	900 *1110 *1400	10400	7200	8700	4	2490/*2690/*2990 2650/*2850/*3150	2490/*2690/*2990	5930	5850

NOTICE :

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2. Please note that the dimensions provided in the table above are for reference only, as machine specifications are subject to annual updates and adjustments.

Model			VTL1700-F	VTC1700-F	VTC1700	VTL2200-F	VTC2200	VTC2700	VTC3200
Capacity	Max. swing diameter	mm(in)	2100 (82.67)	2100 (82.67)		2700 (106.299)	2700 (106.299)	3200 (125.98)	3500 (137.79)
	Max. turning diameter	mm(in)	2100 (82.67)	2100 (82.67)		2700 (106.299)	2700 (106.299)	3200 (125.98)	3400 (133.85)
	Distance from gage line to table	mm(in)	1110 (43.7)	1110 (43.7)	1110 / 1510 / 1910 / 2310 (43.7 / 59.44 / 75.19 / 90.94)	1110 (43.7)	[1550/1950/2350/2750/3150] ([61.02/76.77/92.51/124.01])		
	Distance from Table Top to Tool Holder End	mm(in)	910 (35.82)	910 (35.82)	910 / 1310 / 1710 / 2110 (35.82 / 51.57 / 67.32 / 83.07)	910 (35.82)	[1390/1790/2190/2590/2990] ([54.72/70.47/86.22/101.96/117.71])		
	Max. workpiece weight	kg	10,000	10,000		15,000	15,000	20,000	20,000
Main Spindle (TABLE)	Table diameter	mm (in)	Ø1700 (Ø62.99)	Ø1700 (Ø62.99)		Ø2200 (Ø86.61)	Ø2200 (Ø86.61)	Ø2700 (Ø106.29)	Ø3200 (Ø125.98)
	Range of table speed	rpm	1~250	1~250		1~200	1~200	1~120	1~100
	Gear box		4 steps	4 steps		4 steps	4 steps	4 steps	4 steps
	Torque	N.m (kgf.m)	52000 (5300)	52000 (5300)		61800 (6300)	61800 (6300)	NA	NA
Second Spindle (Live Tool)	Live tool spindle speed	rpm	---	1~1500 [opt.2500]		---	1~1500 [opt.2500]	1~1500 [opt.2500]	1~1500 [opt.2500]
	Tool Holder		BT50	BT50		BT50	BT50	BT50	BT50
	Torque	N.m (kgf.m)		335 (34.14)			335 (34.14)	335 (34.14)	335 (34.14)
Travel	Veritcal travel (Z axis)	mm(in)				900 / [1100] / [1400] (35.43 / [43.3] / [55.11])			900 / [over 1500] (35.43 / [over 59.05])
	Horizontal Travel (X-Axis)	mm(in)	-75 ~ +1850 (-2.95 ~ +72.83)	-900 ~ +1850 (-35.43 ~ +72.83)		-75 ~ +2100 (-2.95 ~ +82.67)	-1200 ~ +2100 (-47.24 ~ +82.67)	-1450 ~ +2350 (-57.08 ~ +92.51)	-1500 ~ +2500 (-59.05 ~ +98.42)
	Cross-rail travel	mm(in)	---	---	1600=400(mm/pitch)x4(steps) (62.99 =15.74(in/pitch)x4(steps))	---	1600=400(mm/pitch)x4(steps) (62.99 = 15.74(in/pitch)x4(steps))		
Guideway	X-axis Type		Linear Guide + Boxway						
	Z-axis Type		Boxway						
Feed	X-axis Ballscrew Diameter	mm(in)	80 (3.14)						
	Z-axis Ballscrew Diameter	mm(in)	80 (3.14)						
	Rapid rate (X-Axis)	m/min(Ft/min)	6 (19.68)						
	Rapid rate (Z-Axis)	m/min(Ft/min)	6 (19.68)						
	Cutting feed rate	mm/min(in/min)	1~2000 (0.039~78.74)						
	Manual feed rate	mm/min(in/min)	1~2000 (0.039~157.48)						
Motor	Main Spindle motor (Cont./30min)	kW	37/45	37/45		60/75			
	X Axis Servo Motor	kW	7						
	Z Axis Servo Motor	kW	7						
	W Motor								
	C Axis Servo Motor		---	7		---	7		
	Live Spindle Motor	kW	---	22/26		---	22/26		
	Coolant Pump Motor	kW(HP)	1.05 (1.4)						
ATC	TOOL SHANK		7/24, BT-50						
	ATC (Automatic tool changer)		Turning: 12 /16 / 20 pcs	Turning+Milling: 12 pcs / 16 / 20		Turning: 12 /16 / 20 pcs	Turning+Milling: 12 pcs / 16 / 20		
	Tool size	mm	□ 40, □ 32, □ 25						
	Max. weight of toolset		50 kg						
	Cross-section of ram	mm (in)	260x260 (10.23x10.23)				320x320 (12.59x12.59)		
Controller	Control system		FANUC 0i-T Series (STD); FANUC 31i series, FAGOR, SIEMENS, or other required (OPT.)						

NOTE:

1. Marked [ ] means option or customized specification.
2. Specifications are subject to change without prior notice.

OPTIONAL ACCESSORIES

X/Z LINEAR ENCODER

Linear encoder

LIVE TOOLS

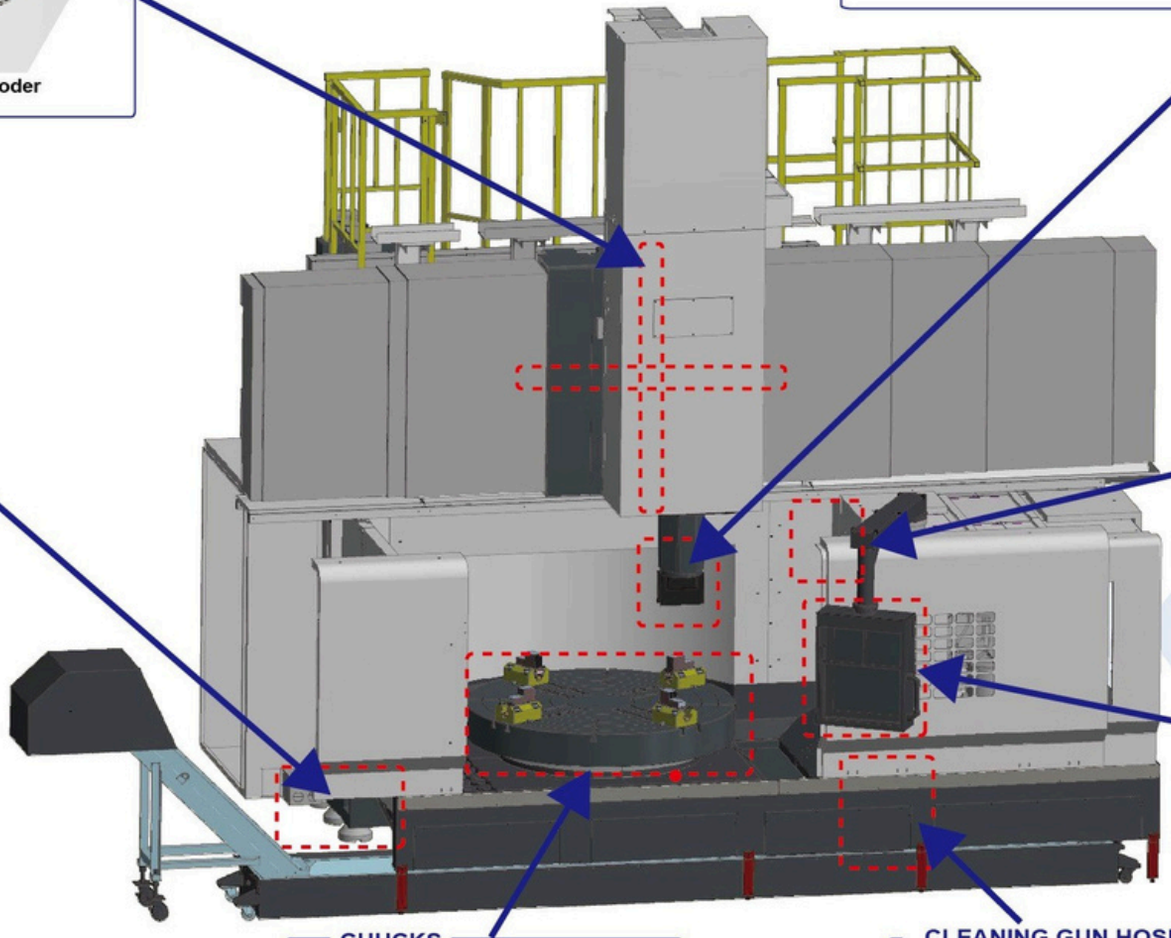
Angular Attachment

Universal Angular Attachment

Grinding Attachment

MEASURING DEVICE

Workpiece Measuring Device



OIL SKIMMER

Disc type Oil skimmer

Mint type Oil skimmer

Magnetic separator and paper filter

MEASURING DEVICE

Tool Length Measuring Device

CONTROLLER

FANUC

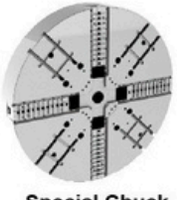
FAGOR AUTOMATION

SIEMENS

Others

CHUCKS

Power Chuck



Special Chuck

CLEANING GUN HOSE

Hose/Cord Reel

Coiled Hose

TMT *CNC*
Makina Sanayii

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PROKING.COM.TR

LD/LC series(with Y-axis)
Spindle bore 12"
Swing over bed 40"
Distance between centres 120"

CN series(Cylinder Liner I.D. turning)
Spindle bore 9"
Swing over bed 60"
Distance between centres 240"

KAN series(with Y-axis)
Spindle bore 9"
Swing over bed 60"
Distance between centres 240"

KAN Series
Wind Turbine's Blade Connector
Spindle bore 9"
Swing over bed 124"
Distance between centres 157"(4M)

SS/SA/SB series(with Y-axis)
Spindle bore 6"
Swing over bed 31"
Distance between centres 120"

CONVENTIONAL HOLLOW SPINDLE LATHE
PA/PB/PC/TURRET series

CONVENTIONAL HOLLOW SPINDLE LATHE
PH/PKA/PKB series