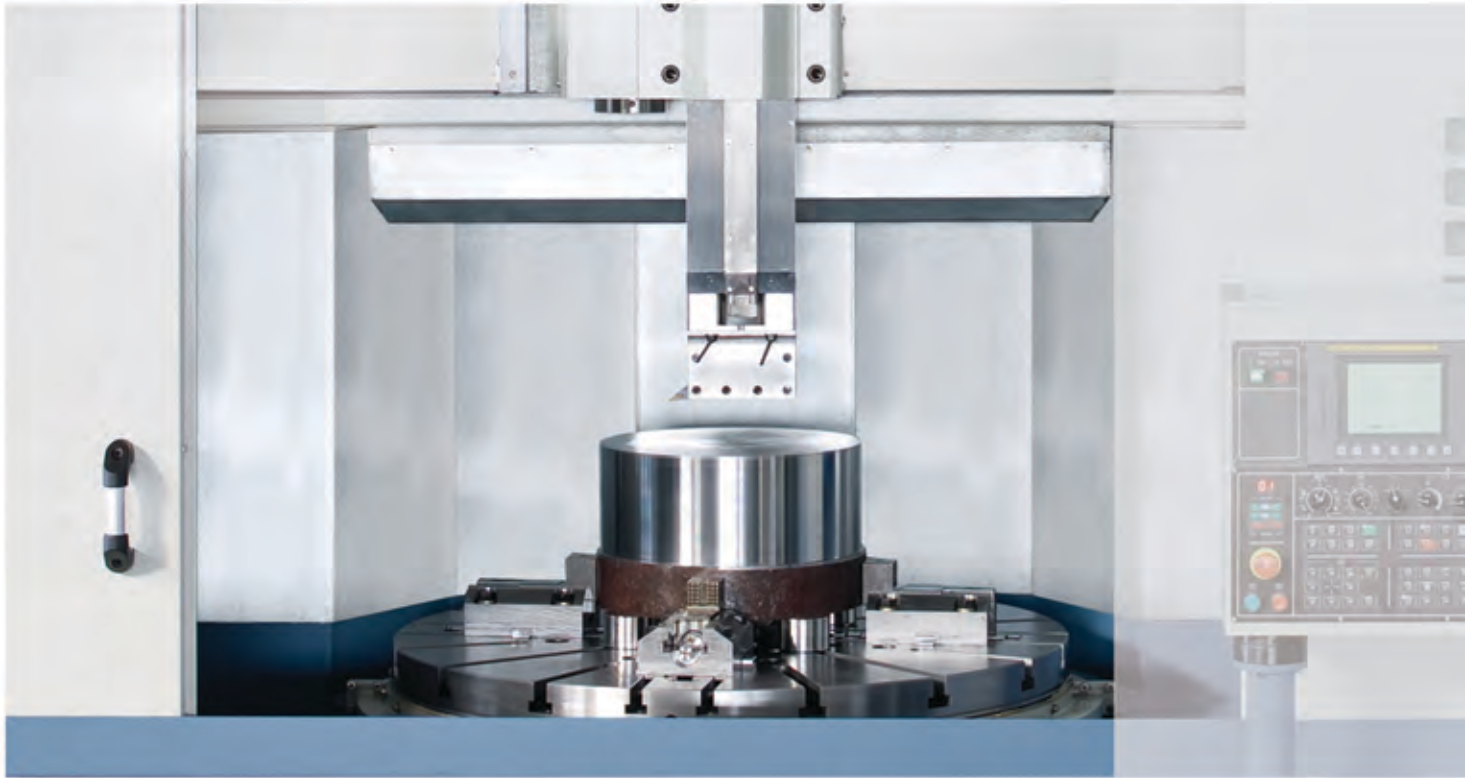


KINGSTON

Kingston Machine Tool Manufacturing, Inc.



Heavy Duty CNC Vertical Lathe

KVL-12 / KVL-16

KVL

SERIES

RUGGED MACHINE CONSTRUCTION

A GUARANTEE OF Rigidity and Stability

- The structural parts, such as base, table, columns and beam are all manufactured from high quality cast iron, stress relieved for deformation-free performance year after year.
- Oversized box ways on X, Z-axis enhance perfect stability.
- All structural parts are rib reinforced to increase structural strength and rigidity.
- All slideways are hardened, precision ground and coated with Turcite-B to ensure maximum resistance.

KVL-12 series Features:

- Max. swing diameter ϕ 63"
- Max. turning diameter ϕ 63"
- Max. workpiece weight 17600lbs
- Max of table torque 12,400 N. m
- Horizontal travel (X axis) -32.28" to 39.3"
- Vertical travel (Z axis) 35.4"



WEAR-RESISTANT BEAM

The slideways on the beam are fitted with alloy steel to increase wear-resistance capability.

WALL-TYPE COLUMNS

The columns are wall-type construction that dramatically upgrades the rigidity of columns.

AUTOMATIC TOOL CHANGER

- The loading capacity of the magazine is 12 tools.
- The magazine rotation is driven by a servo motor, featuring fast and high positioning accuracy.
- Tool selection method is bi-directional and random for increased efficiency.
- The tool magazine is separately mounted from the cutting area, combined with a safety door to fully prevent cutting tools from pollution by chips or coolant.

TABLE DRIVE GEARBOX

- The table rotation is transmitted through a gearbox, providing high / low speed ranges.
- A forced circulated lubrication system is used for lubricating gears.



Z-AXIS SLIDING PARTS

Turcite B is fitted on all sliding parts of Z-axis. Forced lubrication system is provided for X & Z axis. Lubrication to each part is performed by timer cycle (30 min) after power on.

HYDRAULIC-DRIVE BEAM ELEVATION

The beam elevation is driven by two hydraulic cylinders.



BEAM POSITIONING RACKS

- The beam positions on two rails with 2 steps(3 positions) on each rail, and is clamped securely by hydraulic power.
- Accurate perpendicularity between two clamping head is achieved through additional stops.

Machine Features:



LINEAR SCALE (OPTIONAL)

The X, Z-axes are available to be equipped with a linear scale, providing closed loop feedback control.



Air Conditioner for Electric Cabinet

The electric cabinet is equipped with an air conditioner to achieve best possible heat dissipation and stable working temperature; therefore, the electric components have extended lifetime.



DEPENDABLE CONTROL PERFORMANCE

- The control circuit consists of quality electronic parts.
- The control circuit is well-planned for easy maintenance.
- Dust and coolant-proof.



HYDRAULIC POWER UNIT

- The hydraulic power unit delivers high pressure to two hydraulic cylinders controlling beam elevation.
- The hydraulic power unit consists of high quality hydraulic parts, providing stable motion control and long service life.

OIL / FLUID SEPARATION DEVICE (OPTIONAL)

The coolant tank is available to equip with an oil/fluid separation device that prevents coolant deterioration and odor.



CHIP CONVEYOR

OIL LEVEL READOUT (OPT.)



Chip flushing pump (OPT.)
3 bar coolant pump

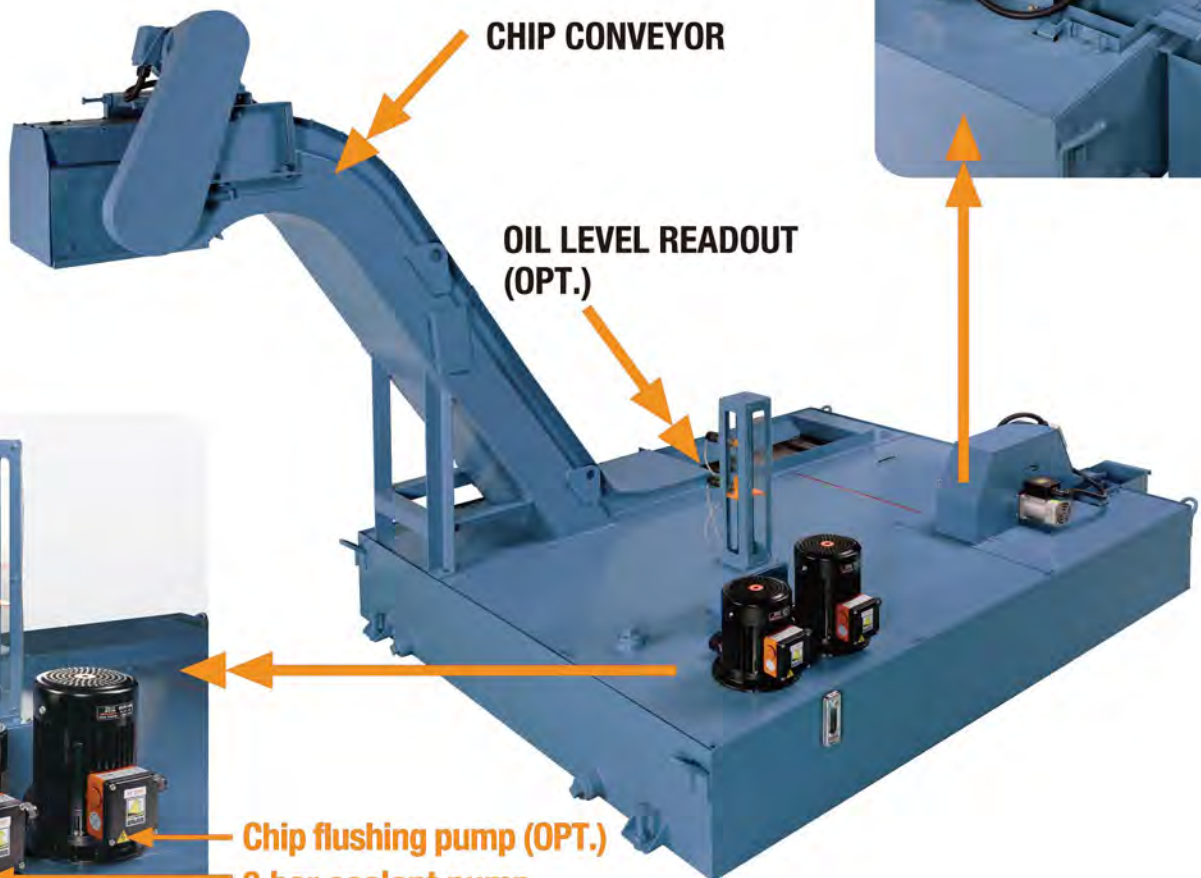


TABLE MANUAL FOUR JAW CHUCK

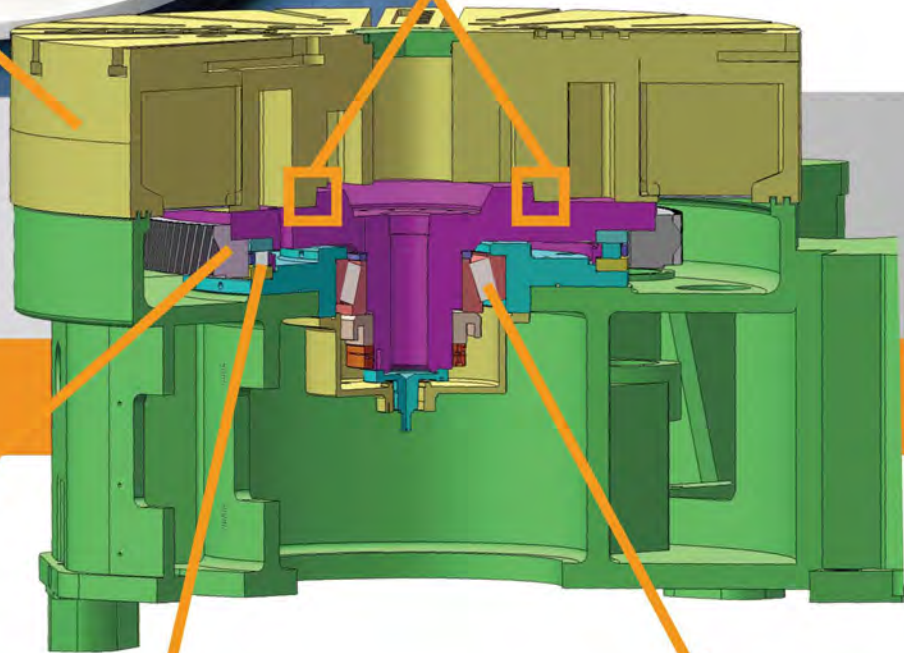


SHORTED TAPER MOUNTED

The chuck is mounted into a short-nose spindle for added stability and high centering accuracy.

TABLE DRIVING GEAR

The table rotation is transmitted through a heavy helical gear. It is precision machined from nickel-chrome molybdenum alloy steel, hardened and precision ground for maximum wear resistance and high accuracy.



TAPER ROLLER BEARING

Taper roller bearings enable table runs stably and resist cutting force.

TABLE BEARINGS

Thrust roller bearings provide excellent loading capacity for workpiece and table and greater cutting force resistance.



Specification:

MODEL	Unit	KVL-12	KVL-16
Capacity	Max. swing diameter	inch Φ 63	Φ 78.7
	Max. turning diameter	inch Φ 63	Φ 78.7
	Distance from bite holder end to table surface	inch 0 ~ 47.44	0 ~ 64.17
	Max. turning height	inch 47	63
	Max. workpiece weight	lb 17,600	22,000
Spindle	Table diameter (Manual chuck)	inch Φ 49.2	Φ 63
	Range of table speed	rpm 1 ~ 103	1 ~ 85
	Change gear speed	2 step	2 step
	Max of Table torque	N.m 12,400	18,400
ATC	ATC (Automatic Tool Change)	1 set (12 pocket)	1 set (12 pocket)
	Number of position	ea 12 position / Random	12 position / Random
	Tool size	inch ☐ 1 ☐ 1.25 ☐ 1.5	☐ 1 ☐ 1.25 ☐ 1.5
	Cross-section of ram	inch 7.87 x 7.87	9.44 x 9.44
Feed	Rapid rate (X-Axis)	inch/min 393	393
	Rapid rate (Z-Axis)	inch/min 393	393
	Horizontal travel (X-Axis)	inch -32.28" to 39.3" (Ref. point)	-40.15" to 48" (Ref. point)
	Vertical travel (Z-Axis)	inch 35.4	39.3
	Cutting feed rate	inch/rev 0.0001" ~ 2"	0.0001" ~ 2"
	Feed override	% 0-150	0-150
	Cross-rail travel	inch 19.68", 2 steps (3 positions)	29.52", 3 steps (4 positions)
Motors	Table main motor(cont./30 min.)	hp AC 49.3 / 60 HP	AC 60 / 73.3 HP
	Feed servo motor(X/Z axis)	hp AC 9.3 HP	AC 9.3 HP
	Power requirement	hp 100	120
Machine size	Floor space (LxW)	inch 245" x 192"	273" x 216"
	Max . Height (H)	inch 199"	218.5"
Weight	Net. Weight	lb 48,400	61,600

● All specification, design and characteristics shown on this catalogue are subject to change without prior notice.

Standard Accessories

1. Complete splash guard and safety door
2. Hydraulic unit
3. Table manual 4-jaw chuck
4. Automatic lubrication system
5. Work light
6. Three color warning light (R/Y/G)
7. Workpiece counter (FANUC)
8. Coolant through tool holder
9. Heat exchanger for electrical cabinet
10. Gear / bearing lubrication and oil cooler control
11. Service tool box & tool kits
12. Leveling adjustable block and seat pads (without J type bolts)
13. Chip conveyor
14. Chip trolley
15. Moveable vertical crossrail and mechanism
16. Coolant system with tank (3Bar)

Optional Accessories

1. Air conditioner for electrical cabinet
2. Transformer for power source 220V,380V,440V
3. Oil Separator for coolant
4. Tool holder (ATC device)
5. Special bite holder
6. Tool measuring device
7. Linear scale for X & Z axis (closed loop control system)
8. High pressure coolant pump (6Bar)
9. Conversational screen display language
10. Jig & fixer model design
11. APC (2pallet/2station)
12. APC (2pallet/3station)
13. Splash guard of auto door
14. Oil level readout
15. Flushing chip system
16. FANUC 18iTB/32iTA controller

KINGSTON

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