

Kent Industrial USA, Inc.
Delivering Quality, Value, and Service
Since 1979



VERTICAL & HORIZONTAL MILLS

- Bed Type Vertical & Horizontal Milling Series
- Bed Type PC-Based Series
- Knee Type Milling Series





Why Kent USA Milling Machines?

- With electronic MPG automation technology, the 3 axes can be independently operated thereby reducing mistakes, saving manpower and making for easy maintenance.
- The MPG micro feed, with high precision, efficient ball screw and AC servo-motor to fully upgrade your machining.
- Ergonomic design of the interface provides easier operations when machining. The VH series provides more exact feedback control to increase feeding stability.
- The Vertical & Horizontal double-spindle features an integrated structural design. The distance of center lines are narrowly reduced by 60%, allowing multi-surface milling works can be finished in one setup without the problem of tolerance accumulation. This design has been patented.
- Spindle temperature rise protection systems, oil cooling device coupled with the structural design of the non-contact labyrinth path (dust-proof, anti-wear, anti-temperature rise, anti-oil spill) temperature control in less than $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$. (Above design has been patented, too.)
- The VH series has got three patents, work pieces from 1000 kg up to 3000 kg for 5-side simultaneous machining.
- All in one: Highest flexibility with Vertical and Horizontal machining.

BED TYPE VERTICAL & HORIZONTAL MILLING MACHINE



Bed Type Vertical & Horizontal M

VH450/480/550/650B/780



Half Cover CE (Opt.)

JY-VH450

- Table size: 1500 x 450 mm
- X-axis travel: 1100 mm
- Y-axis travel: 720 mm
- Z-axis travel: 780 mm
- Max. loading weight 1000 kgs
- Spindle speeds 45-1500 rpm (Variable)
- Spindle taper NT#50
- 10 HP Spindle motor

JY-VH480

- Table size: 1900 x 500 mm
- X-axis travel: 1300 mm
- Y-axis travel: 850 mm
- Z-axis travel: 770 mm
- Max. loading weight 1500 kgs
- Spindle speeds 45-1500 rpm (18 speeds)
- Spindle taper NT#50
- 10 HP Spindle motor

JY-VH550

- Table size: 1900 x 500 mm
- X-axis travel: 1300 mm
- Y-axis travel: 900 mm
- Z-axis travel: 800 mm
- Max. loading weight 1500 kgs
- Spindle speeds 45-1500 rpm (18 speeds)
- Vertical & horizontal spindle taper NT#50
- 10 HP spindle motor

illing Machine



JY-VH650B

- Table size: 2200 x 600 mm
- X-axis travel: 1700 mm
- Y-axis travel: 1050 mm
- Z-axis travel: 950 mm
- Max. loading weight 2000 kgs
- Spindle speeds 45-1500 rpm (18 speeds)
- Vertical & horizontal spindle taper NT#50
- 15 HP spindle motor

JY-VH780

- Table size: 2600 x 700 mm
- X-axis travel: 2000 mm
- Y-axis travel: 1050 mm
- Z-axis travel: 1000 mm
- Max. loading weight 3000 kgs
- Spindle speeds 45-1500 rpm (18 speeds)
- Vertical & horizontal spindle taper NT#50
- 15 HP spindle motor

Bed Type Vertical Milling Machine

V520/V500/V650A/V650B



JY-V520

- Table size: 1500 x 450 mm
- X-axis travel: 1100 mm
- Y-axis travel: 520 mm
- Z-axis travel: 500 mm
- Max. loading weight: 1000 kgs
- Spindle speed: 45-1500 rpm (Variable speed)
- Vertical spindle taper: NT50
- Spindle motor: 10HP

JY-V500

- Table size: 1900 x 500 mm
- X-axis travel: 1300 mm
- Y-axis travel: 500 mm
- Z-axis travel: 600 mm
- Max. loading weight: 1500 kgs
- Spindle speed: 45-1500 rpm (18 steps)
- Vertical spindle taper: NT50
- Spindle motor: 10 HP

JY-V650A

- Table size: 1900 x 500 mm
- X-axis travel: 1500 mm
- Y-axis travel: 650 mm
- Z-axis travel: 700 mm
- Max. loading weight: 2000 kgs
- Spindle speed: 45-1500 rpm (18 steps)
- Vertical spindle taper: NT50
- Spindle motor: 15HP

JY-V650B

- Table size: 2200 x 600 mm
- X-axis travel: 1700 mm
- Y-axis travel: 650 mm
- Z-axis travel: 700 mm
- Max. loading weight: 2000 kgs
- Spindle speed: 45-1500 rpm (18 steps)
- Vertical spindle taper: NT50
- Spindle motor: 15HP

Bed Type Vertical Turret Head Milling Machine

VT550/VT630



JY-VT550 Photo

JY-VT550

- Table size: 1500 x 450 mm
- X-axis travel: 1100 mm
- Y-axis travel: 520 mm
- Z-axis travel: 600 mm
- Max. loading weight: 1000 kgs
- Spindle speed: 75-3600 rpm (16 steps) STD.
80-3800 rpm (Variable speed) OPT.
- Vertical spindle taper: NT50
- Spindle motor: 5HP Pole change motor

JY-VT630

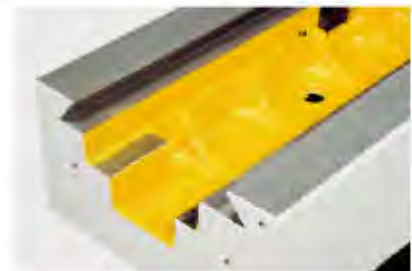
- Table size: 1900 x 500 mm
- X-axis travel: 1300 mm
- Y-axis travel: 550 mm
- Z-axis travel: 650 mm
- Max. loading weight: 1500 kgs
- Spindle speed: 75-3600 rpm (16 steps) STD.
80-3800 rpm (Variable speed) OPT.
- Vertical spindle taper: NT50
- Spindle motor: 5HP Pole change motor



VERTICAL AND HORIZONTAL MILLING HEAD



45-1500 RPM 18 SPEED CHANGE



RUGGED SADDLE



SPINDLE LUBRICATION SYSTEM



PRACTICAL TELESCOPIC COVER



INTEGRATED AUTO LUBRICATING SYSTEM FOR ALL SLIDEWAYS



The Y, Z axis slideways are secured by compressed air, max. pressure of 1500 kg/cm² (Air pressure for 5kg/cm²), to avoid table movement while heavy cutting, thereby ensuring workpiece accuracy.



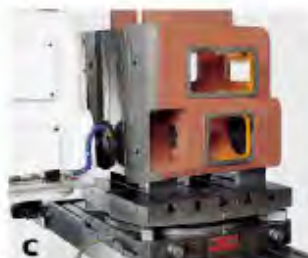
Air power draw bar (Vertical and horizontal spindle, 450, 550, 650, 780)



ELECTRO-PERMANENT MAGNETIC INDEX TABLE

5-SIDE Machining is Available

This machine can be fitted with a rotary table for easy and time saving 5-side machining.



FEATURES:

- Equipped with automatic lubrication system.
- Equipped with cooling system.
- Limit switches are provided on all traverses for safety.
- The ways are hardened, precision ground, then coated with Turcite-B.
- The table is fully supported in full traverse without overhang problems.
- Simultaneous rapid traverse for 3 axes is available (except VH450 series).
- All castings are FC 30 high quality material, anneal treated to relieve internal stress.
- All slideways are protected by telescopic covers to prevent scratching.
- Oversized column ensures maximum rigidity and stability. Widely spaced base structure.
- Y, Z-axes are pneumatically locked for fast and accurate positioning.
- Centralized control panel minimizes operation fatigue while permitting efficient operation.
- Short distance between vertical and horizontal spindles provide increased capacity especially for multiple face machining.



VH.V.VT

SERIES

Bed Type Vertical & Horizontal

VH450/480/550/650B/780

V520/V500/V650A/V650B, VT550/VT630

VERTICAL AND HORIZONTAL
MILLING HEAD





New Generation Milling

**VH450/480/550/650B/780
V500/V520/V650A/V650B,**

INTEGRATED CONTROL PANEL

With new generation Syntec 10B/Hust PC Base (Std), or Mitsubishi/Fanuc controller (Opt.) AC servo motor/Ball screw on 3 axes and RS 232 interface (Std). Increase user's machining to be more accurate are effective.



Syntec PC-Based Controller

Series 10

Based on high end IPC and embedded designed, Series 10 offers front panel plug and play CF card and USB reader with WinCE OS and Ethernet interface. Also provides customized HMI screen design, maximum 8 axes control, suitable purpose for machine centers and 5-axes machines.



PC-Based / CNC

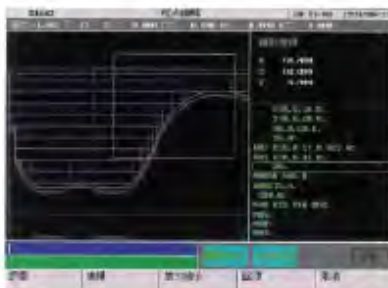
VT550/VT630



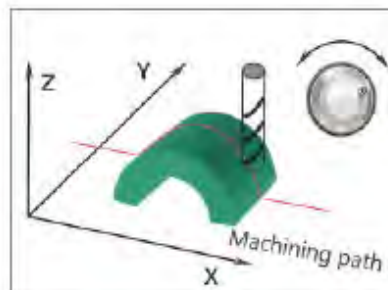
User Friendly Interface

Easy to use, user can learn to operate the machine easily, at the first time.

Conversational Canned Cycle
Full series conversational canned cycle screen. Customized canned cycles are also available.



Program Simulation Drawing
Simulate program machining path before machining and also simulate the machining path on-line to check the status.



Hand Wheel Simulation
Use hand wheel to simulate machining. Control the machining position and feedrate by hand wheel rotation.



Work Sheet
Record machining information to manage workpiece and machining time.

SPECIFICATIONS

MODEL	VT550 / VT630	V520	VH450
Table	Table size	1500 x 450 / 1900 x 500	1500 x 450
	X & Y axes travel	1100 x 520 / 1300 x 550	1100 x 520
	Z axis travel	600 / 650	780
	T-slot (size x number x distance)	18 x 5 x 80	18 x 5 x 80
	3 axes rapid feed rate	25~1500 / 30~2800 (30~6000 PC-Based)	25~1500 (30~6000 PC-Based)
	3 axes cutting feed rate	1500 / 2800 (30~6000 PC-Based)	1500 (30~6000 PC-Based)
Cutting Range Reference	Cutting length	1100 / 1300	1100
	Cutting width	520 / 600	420
	Cutting height	600 / 650	500
	Loading weight	1000 / 1500	1000
Vertical Spindle	Spindle speed (60HZ)	75-3600 rpm 16 Steps (ST) 80-3800 rpm Variable (OP)	45-1500 rpm Variable
	Spindle taper	NT40	NT50
	Spindle nose to table surface distance	100-700 / 100-750	0-617
	Spindle center to slide way surface distance	550 / 630	450
	Quill feedrate	0.035 / 0.007 / 0.14	NA
	Turret head swivel angle	45°	NA
	Quill travel	140	NA
Horizon	Spindle speed (60HZ)	NA	45-1500 rpm Variable
	Spindle taper	NA	NT50
	Spindle center to table surface distance	NA	0-780
	Spindle nose to table edge distance	NA	190
Motor	Spindle motor	5HP ³ Pole change motor	10HP x 4P AC
	X axis feeding motor	1HP x 4 P / 2HP	0.75 KW
	Y axis feeding motor	1HP x 4 P / 2HP	0.75 KW
	Z axis feeding motor	1HP x 4 P / 2HP	0.75 KW
Dimensions	Net weight	3400 / 5000	4200
	Gross weight	4100 / 5800	5000

* All specifications and designs are subject to change without prior notice.

Bed Type Milling

STANDARD ACCESSORIES

- Automatic lubricating system
- Cooling system
- Tool box
- Spindle draw bar screw
- Leveling pads
- Leveling screws
- Air operated Y, Z axis lock (480, 550, 650, 780)
- Transformer (Export only)
- D.R.O. (X, Y, Z)
- VT550/V520/VH450 (Opt.)

OPTIONAL ACCESSORIES

- Ball screw (X, Y)
- Air power draw bar (Vertical and horizontal)
- Rotary table (15, 45, 90)
- Electric magnet (400 x 800, 500 x 1000)
- Spindle braking equipment (Vertical and horizontal spindle)
- Vice (16", 20")
- Free vice (4")
- End milling collet chuck set
- Universal clamping set
- Coolant tray
- Chip guard
- Half cover

V500 / VH480 / VH550	V650A / V650B	VH650B	VH780
1900 x 500	1900 x 500 / 2200 x 600	2200 x 600	2600 x 700
1300 x 500 / 1300 x 850 / 1500 x 900	1500 x 650 / 1700 x 650	1700 x 1050	2000 x 1200
600 / 780 / 800	700	950	1000
18 x 5 x 80	18 x 5 x 80 / 20 x 5 x 125	20 x 5 x 125	20 x 5 x 125
30~2800 (30~6000 PC-Based)	30~2800 (30~6000 PC-Based)	30~2800 (30~6000 PC-Based)	30~2800 (30~6000 PC-Based)
2800 (30~6000 PC-Based)	2800 (30~6000 PC-Based)	2800 (30~6000 PC-Based)	2800 (30~6000 PC-Based)
1300	1500 / 1700	1700	2000
470 / 450 / 520	650	620	750
500 / 500 / 520	700	640	750
1500	2000	2000	3000
45-1500 rpm 18 Steps	45-1500 rpm 18 Steps	45-1500 rpm 18 Steps	45-1500 rpm 18 Steps
NT50	NT50	NT50	NT50
50-650 / 0-583 / 0-603	50-750	0-753	0-803
500 / 480 / 550	650	650	780
NA	NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA
45-1500 rpm 18 steps (VH480, VH550)	NA	45-1500 rpm 18 Steps	45-1500 rpm 18 Steps
NT50 (VH480, VH550)	NA	NT50 (VH480, VH550)	NT50
0-780 (VH480) / 0-800 (VH550)	NA	0-950	0-1000
260 (VH480) / 290 (VH550)	NA	290	200
10HP x 4P AC	10HP x 4P AC / 15HP x 4P AC	15HP x 4P AC	15HP x 4P AC
2.5 KW	2.5 KW / 3 KW	3 KW	3 KW
2.5 KW	2.5 KW / 3 KW	3 KW	3 KW
2.5 KW	2.5 KW / 3 KW	3 KW	3 KW
5200 / 5500 / 6000	7000 / 7500	7500	15000
6000 / 6500 / 7000	8000 / 8500	8500	16500

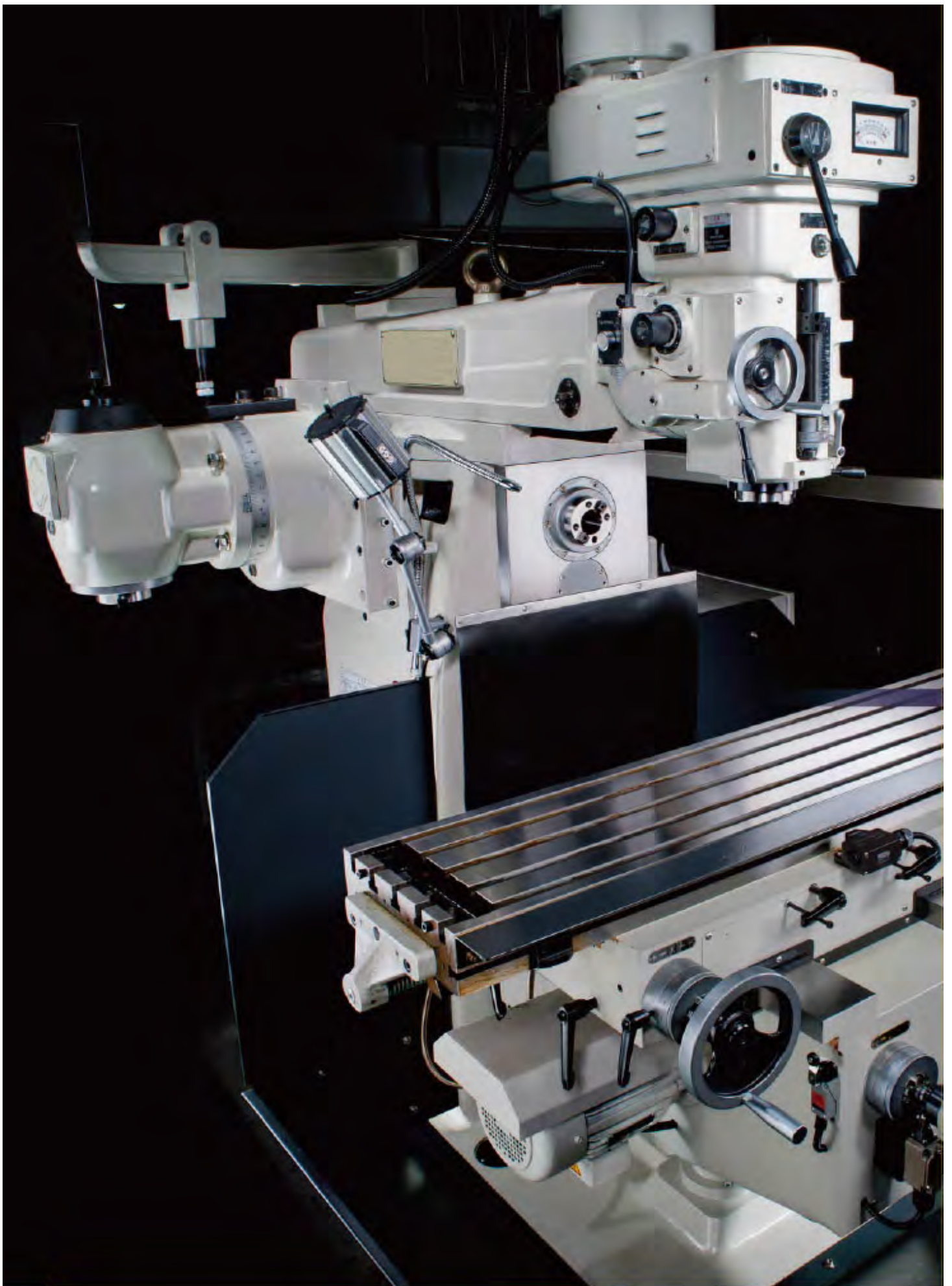
Bed Type Milling PC-Based

STANDARD ACCESSORIES

- Syntec 108 controller
- 3 axes ball screw
- Coolant tray & chip guard
- Vertical air power draw bar
- Horizontal air power draw bar
- Auto lubrication system
- Cooling system
- Telescopic
- Levelling pad
- Levelling screws
- Working condition light
- RS232 interface
- Transformer (Export only)

OPTIONAL ACCESSORIES

- Magnetic chuck
- Rotary table
- Half cover
- Fanuc, Mitsubishi control
- CE Norm





FEATURES

- The machine column is manufactured from high quality cast iron FC-30, tempered for long term accuracy.
- FC-30 cast iron table is tempered, hardened and precision ground.
- The spindle is precision machined from SCM-21 alloy steel, tempered and carbon treated, ensuring maximum stability for heavy duty cutting.
- X and Y axes are driven by an AC servo motor for smooth traverse.
- X and Y axis slideways are precision ground, and coated with Turcite-B wear resistant media.
- The knee is power elevated and has rapid traverse function.
- X and Y axes employ precision ball screws.
- The drive gears in the powerful vertical head are hardened and precision ground for maximum wear resistance and low noise running.
- Equipped with an automatic lubricator for lubrication to 3-axis slideways, feed screws, gears and bearings, ensuring high working efficiency and long service life of parts.
- The coolant tray effectively prevents cutting fluid leakage.
- Employs high pressure coolant pump for efficient chip removing.
- Halogen work light.

KNEE TYPE MILLING MACHINE



Knee Type Milling Machine

JY-2VH/2T/2HT/2VHT, KT-200S

Kent USA knee type milling machines are quality constructed to give extraordinary milling efficiency, quality, maximum rigidity, smooth operation and long term accuracy.



JY-2VH

VERTICAL & HORIZONTAL MILLING MACHINE

- Powerful vertical and horizontal head configuration
- Table area 1300 x 300 mm
- X-axis travel 1000 mm
- Y-axis travel 360 mm
- Z-axis travel 450 mm
- Spindle taper NST#40

JY-2T

VERTICAL TURRET MILLING MACHINE

- Vertical turret head configuration
- Table area 1300 x 300 mm
- X-axis travel 1000 mm
- Y-axis travel 360 mm
- Z-axis travel 450 mm
- 16 step speeds, 75-3600 rpm (standard),
Variable speed 80-3800 rpm (optional)
- Spindle taper NST#40





JY-2HT **HORIZONTAL VERTICAL TURRET** **MILLING MACHINE**

- Horizontal and turret head configuration
- Table area 1300 x 300 mm
- X-axis travel 1000 mm
- Y-axis travel 360 mm
- Z-axis travel 450 mm
- 16 step speeds, 75-3600 rpm (standard), Variable speed 80-3800 rpm (optional)
- Spindle taper NST#40

JY-2VHT **HORIZONTAL VERTICAL TURRET** **MILLING MACHINE**

- Powerful vertical, horizontal and turret head configuration
- Table area 1300 x 300 mm
- X-axis travel 1000 mm
- Y-axis travel 360 mm
- Z-axis travel 450 mm
- Turret type head with 16 step speeds, 75-3600 rpm (standard), Variable speed 80-3800 rpm (optional)
- Spindle taper NST#40



KT-200S **KNEE TYPE TURRET MILLING MACHINE**

- Vertical turret head configuration
- Table area 1300 x 300 mm
- X-axis travel 700 mm
- Y-axis travel 360 mm
- Z-axis travel 380 mm
- 16 step speeds, 75-3600 rpm (standard), Variable speed 80-3800 rpm (optional)
- Spindle taper NST#40





HORIZONTAL SPINDLE & TRANSMISSION MECHANISM

The NST#40 spindle is precision machined from SCM-21 alloy steel, tempered and carbon treated to minimize strain. The spindle runs on precision bearings for long term high speed running, heavy duty cutting and maximum stability.



INTEGRATED AUTOMATIC LUBRICATOR

The powerful automatic lubricator delivers oil to all slideways to ensure smooth travel at all times.



POWER FEED UNIT (KT-200S OPTIONAL)

The automatic feed unit allows automatic feed for the table. Additionally, it provides more convenient operation and increases efficiency. The unit also features high torque output.

Knee Type



QUALITY FEATURES ASSURE G



HORIZONTAL HEAD

- Gear drive milling head. The gears are hardened and precision ground.
- 9 spindle speeds.
- 5 HP spindle motor.
- Spindle taper NST#40.



POWERFUL VERTICAL HEAD

- The gears are hardened and precision ground on the gear drive milling head.
- 9 spindle speeds.
- 5 HP spindle motor.
- Milling head tilts 45° right and left.
- Spindle taper NST#40.



TURRET TYPE HEAD

- Belt drive milling head.
- 16-step speeds 75-3600 rpm (standard), Variable speeds 80-3800 rpm (optional).
- 5 HP spindle motor.
- Milling head tilts 45° right and left.
- Spindle taper NST#40.



SERVO MOTOR DRIVE FOR TWO AXES

The X and Y axes are driven by an AC servo motor, providing fast motion. Rapid traverse speed up to 2500 mm/min.



POWER ELEVATION OF KNEE

The knee elevation is driven by an individual motor for convenient operation. The knee also has a rapid traverse function.



PRECISION BALL SCREWS ON X AND Y AXES

The X and Y axes are transmitted by precision ball screws, combined with preloaded double nuts for extremely smooth and high precision working, with minimum backlash.



JY-2VH/2T/2HT/2VHT GREAT MILLING PERFORMANCE



TURRET TYPE HEAD (16-step Speeds) (Standard)

- Belt drive milling head.
- 16-step speeds 75~3,600 rpm.



TURRET TYPE HEAD (Infinite variable speeds) (Optional)

- Variable speeds 80~3,800 rpm.
- 5 HP spindle motor.
- Milling head tilts 90° right and left.
- Spindle taper NT40.



INTEGRATED CONTROL PANEL

All control buttons are integrated on a control panel which is located at the front for easy access. It eliminates the troublesome speed change through gear box.

Vertical Turret Head / Powerful Vertical head / Horizontal Head

KT-200S
1300 x 300
750 手動Manual, 700 自動Auto
380 手動Manual, 360 自動Auto
380
16 x 3 x 63
-
-
1400
16段, 75-3600(標準) / 16 steps, 75-3600(standard) 無段, 80-3800(選購) / variable, 80-3800(optional)
140
0.035, 0.07, 0.14
NT 40
45°
360°
600
20-540
200-800
/
/
/
/
/
/
/
/
/
0.75 (1HP) AC馬達 AC motor
80w
3.5w
KT-200S
2060 x 1870 x 2487
2150 / 2450 kgs

JY-2VH/2T/2HT/2VHT

STANDARD ACCESSORIES

- Automatic lubricator
- Ball screw (X,Y)
- Complete cooling system
- Tool kits
- Tool box
- Milling arbor with spacer
(For Horizontal spindle only)
- Draw bar
- Splash guard
- Chip guard
- Halogen work light
- Transformer (Export only)

OPTIONAL ACCESSORIES

- Air power draw bar
- 3 axes linear scale
- CE Norm
- Dividing head
- Rotary table
- Swivel milling vise
- Face milling cutter
- Face cutter arbor
- End mill collets & chuck

KT-200S

STANDARD ACCESSORIES

- Tool Kits
- Tool Box
- Halogen Work Light
- Auto Lubricating System
- Cooling System
- Transformer (Export only)

OPTIONAL ACCESSORIES

- Spindle Elevation Measurement
- X Axis Power Feed
- Y Axis Power Feed
- Coolant Tray
- Simple Spindle Tapping System
- Digital Readout
- Variable Speed Head

The background of the entire page is a photograph of industrial machinery, likely a metalworking or manufacturing machine. It features various metal components, including a large vertical plate with circular patterns on the left and a more complex assembly with rectangular openings on the right. The lighting is dramatic, with a strong yellowish-green glow at the top and darker, more shadowed areas below.

KENT USA

Bed Type / Bed Type PC-Based / Knee Type

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