

KENT CNC

Vertical Machining Centers



KVR1065
KVR1480

KVR1268
KVR1580



KentCNC | Kent Industrial USA, Inc. has a long history in the machine tools industry. From our surface grinders roots to the latest range of CNC equipments in grinding, milling, turning, and wire-cut EDM, we continue to offer quality machinery at competitive prices with superior service and support to our customers. We stock a full range of horizontal turning centers, horizontal machining centers, vertical turning centers, vertical machining centers, and many other conventional machines. Our parts department is not only well stocked with parts, but also has knowledgeable technicians so you can get the right parts for your machine the first time and every time.



KVR Series Machining Center With proven track records, and continual feedback from the most demanding customers, the KVR series improves on many of the common weakness of many machining centers on the market today, including adding extended ribbings to the already extra wide column, and support base. Using Finite Element Analysis, and latest generation of CAD system to find the optimum compact design, coupled with properly aged high grade Meehanite castings, these machines not only allow for heavier cuts, but stand up to the rigors of everyday high production use.,

If it's important to you, it's important to us. Our service department has experienced technicians that can offer you answers to your technical questions, and in many cases, solve your problem effectively over the phone. For more difficult jobs, we have on-site capability to completely rebuild your spindle or your whole machine from hand scrapping the ways to retrofitting new CNC controls. Give us a call, we'll give you the straight answer.



■ Using High-Grade Meehanite Casting Iron



■ Machined by High-Precision Machining Center



■ Experienced scrapping skill



■ Well-trained assembler

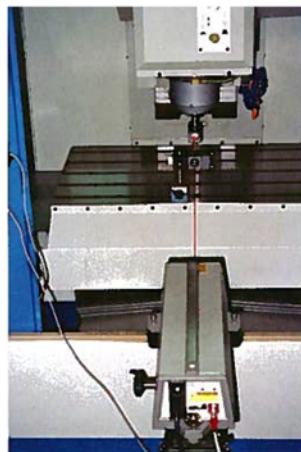


HIGH STANDARD INSPECTION QUALITY ASSURANCE

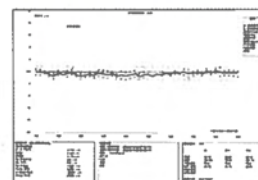


■ Dynamic accuracy and repeatability are tested by Renishaw Laser system.

■ Circularity is tested by the Renishaw Ball-bar system.



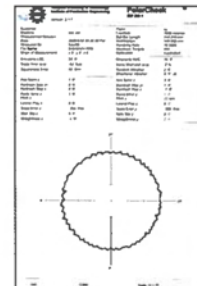
Laser Linear Inspection



Laser Linear Report



Ball-Bar Testing



Ball-Bar Test Report

SPECIAL DESIGNED FUNDAMENTAL STRUCTURE

- Main casting are high grade GA-350 Meehanite castings, properly aged, and tempered to insure precision and stability.
- Full support box ways on all three axes allows for heavier cuts without distortion.
- Hardened and ground axes ways are line with Turcite-B for longevity, and smoothest movements.
- Hardened working table means less scratches, longer use, and easier setups

"A" type column structure design

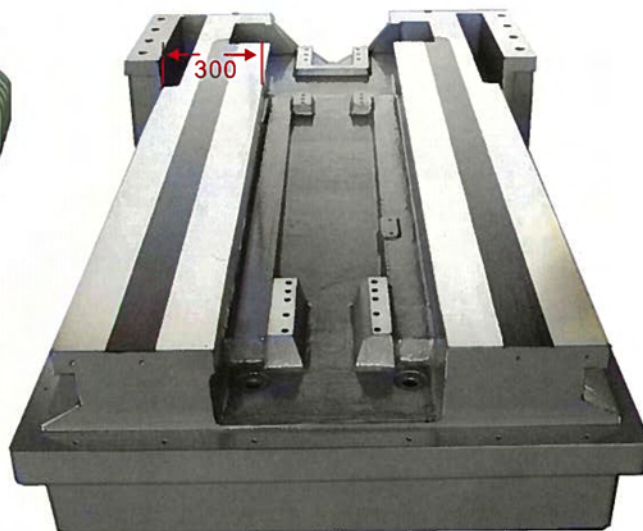
TW serials heavy duty is using "A" type design on its column. The column's bottom is wider, and stronger so it can bear high speed movement on Z-axis.



WIDER DESIGN FOR BASE'S SLIDE WAY

While most box ways of competitor's machine are only about 6.30" wide, and thus easily deforms under heavy load or cut. Our ultra wide is 11.81" super wide box ways means the TW serials can handle even the heaviest, and toughest job with ease.

The internal guide tapered gibs also insure less backlash, and Abe error, and thus affords a more precision machine.



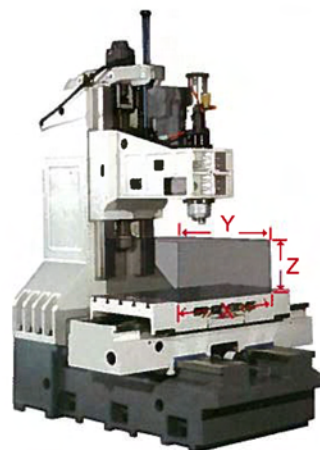
Ultra-Wide Base Slide Way Design

WIDER WORK ENVELOP

Extra deep throat, and Y axis travel means extended versatility, and capability for machining bulky, and wide work pieces

	X-Travel	Y-Travel	Z-Travel
KVR-1065	47.24	25.59	23.62
KVR-1268	59.06	26.77	24.02
KVR-1480	59.06	31.50	27.56
KVR-1580	62.99	31.50	27.56

Work Envelop for 3 axes



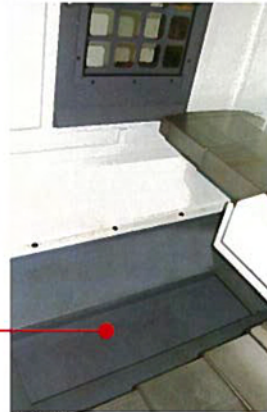
SPINDLE HEAT SINK RIB DESIGN

The head stock's design is based on the heat exchange theory, and turned into heat sink rib style. It can enhance the strength, and increase the heat radiation from the head stock.



EASY CLEAN-UP OIL TRAY DESIGN

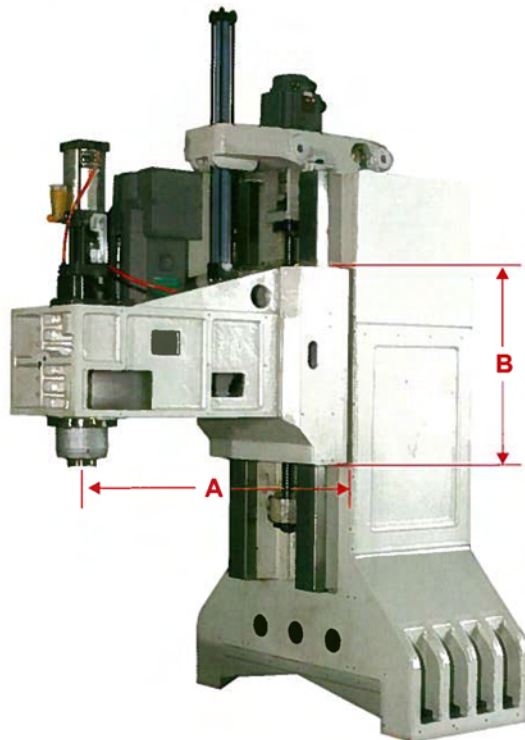
The enlarged chip outlets, and high titling angle can be cleaned up easily, and keep the work environment clean.



EXTRA LARGE CHIP OUTLET

SUPER WIDE SAFETY DOOR DESIGN

The super wide safety door is using the enhanced glass to insure the worker's safety, besides, then the door is full opened, it can reach 1100 mm. The work pieces can be loaded, and unloaded very easily, and fast.



ENHANCED BOX-TYPE HEAD STOCK DESIGN

Optimum boxed shaped spindle housing with extra deep throat (A), and extended contact surface (B) means the most rigid, ideal design that resist distortion and allows for machining wider work pieces.

	A (Throat)	B (Contact Surface)
KVR-1065	47.24	25.59
KVR-1268	59.06	26.77
KVR-1480	59.06	31.50
KVR-1580	62.99	31.50

User friendly environment

Operational and programming consistency are critical to maximize machine productivity, providing time to learn and adopt CNC enhancements. Operators that already have experience with FANUC controls will be comfortable with the Series Oi in no time at all, without additional training. Existing part programs will run without modification. Each operator can select their preferred language quickly from any one of the 16 supported by the Oi, enhancing their comfort level and effectiveness.

High-speed Ethernet

The 100-MBit Ethernet interface allows the CNC to be integrated into a network for high-speed part program transfers and the collection of process related data. It also supports remote troubleshooting from the maintenance department or a machine tool builder anywhere around the world. Because the Ethernet port does not use a public operating system, it is practically "hacker-free" and virus immune.

CNC screens guide the operator to view part programs stored in an ftp server directory and download selected files to the machine. Alternatively, the Program Transfer Tool provides drag-n-drop downloads to the machine from a remote office.



Large part program capacity

High-capacity, nonvolatile internal memory is provided for part program storage. Slots are provided for an additional 2GB of part program storage using economic ATA or Compact Flash memory cards. The Fast Data Server can also be installed in the CNC, providing up to 4 GB of flash memory and an 100-MBit Ethernet/FTP connection.

Part programs stored in external memory cards or in the Fast Data Server can be edited and executed just like internal memory, providing practically unlimited capacity.

Advanced interpolation modes

In addition to Linear and Circular Interpolation, the Series Oi features Polar Coordinate Interpolation for direct input of part features that are specified by angle and length, Helical Interpolation for high-speed, high quality pocketing, and Cylindrical Interpolation for cylindrical groove cutting.



Easy Learn Operation Panel

- The easy learning operation panel provides the user friendly Human/ machine interface.
- The built-in operation console can be turned to 90 degrees. The user can operate machine from any view point. When it is turned back, it can save space, and looked good.



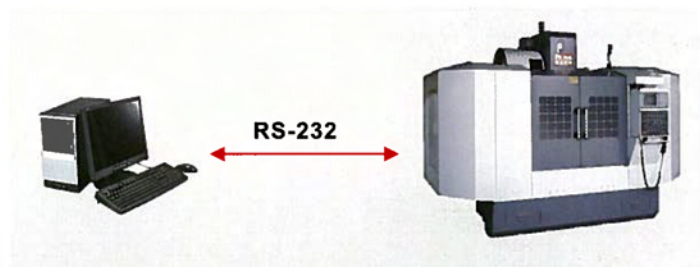
External MPG

The External MPG can make the user easier to set the work coordination, and tool setting.



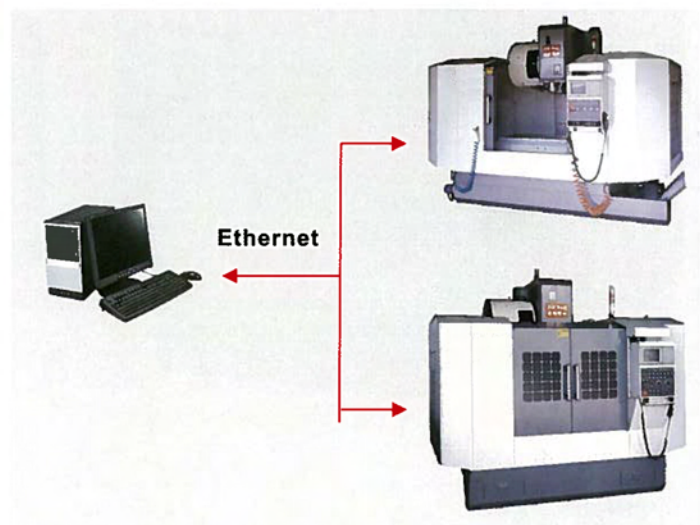
RS232 DATA CABLE (Standard)

- The program can be sent by the RS-232 Data cable under 38,400 bpm baud rate, and execute the program under DNC mode.



Ethernet network / Network Hard Disk (Ethernet / ATAIC Card are Optional)

- The CAM program can be sent by the network by the Ethernet network card. The transaction speed is 10 Mb which is 250 times fast than the RS-232 transaction.
- The program is executed from the Network hard disk. It can eliminate the effect of outside interference. It can stabilize the machine, and reduce the working hour.
- Through the network system, one PC computer can connect to many machines. It can save money of PC, and share the program with others.

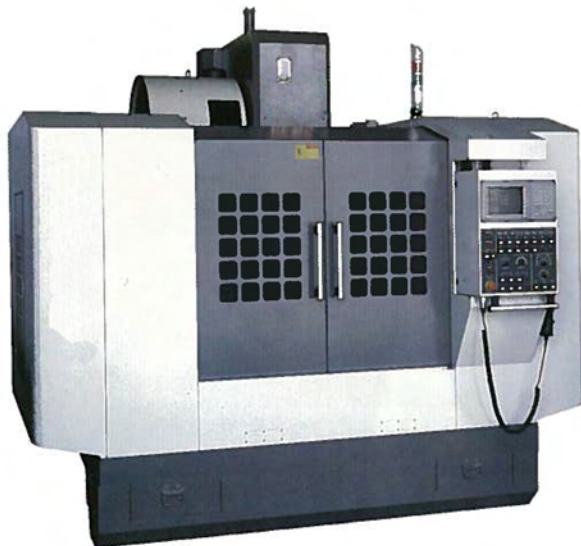


STANDARD ACCESSORIES

1. Meehanite Casting Iron (Meehanite : GA-350)
2. 10、15、20HP AC Spindle motor
3. Nitrogen Balanced System for Z-axis
4. BT-40# 6000RPM Spindle
5. Rigid Taping
6. AC Servo motors for X, Y, Z Axes
7. Telescope Guards for X, Y, Z Axes Slide Way
8. Hi-Precision C3 Grade Double nut Ball Screws
9. Auto Lubrication System
10. Coolant System with Coolant Tank
11. MPG
12. Beacon Light
13. Halogen Work Light
14. Heat Exchanger for Electro-Box
15. RS232 Data Cable
16. Full Enclosure Sheet Metals
17. M code Air Blow (M08)
18. Auto Power OFF system (M30)
19. Carousel type A.T.C.

KVR-1065

X, Y, Z axes travel: 39.37" x 25.59" x 23.62"
Table Size: 47.24" x 23.62"
Spindle Taper: CAT 40
Spindle HP: 10 HP



KVR-1268

X, Y, Z axes travel: 47.24" x 26.77" x 24.02"
Table Size: 47.24" x 23.62"
Spindle Taper: CAT 40
Spindle HP: 15 HP



OPTIONAL SPECIFICATION

1. Arm type A.T.C. (24 tools)
2. 8000/10,000/12,000RPM Hi-Speed Spindle
3. Spindle Chiller
4. Coolant Through Spindle Device
5. Chip Conveyor
6. Hi-Pressure Coolant Gun
7. Oil-Water Separation Device
8. Auto Tool Measurement
9. 4th Axis Rotary Table
10. Auger type Chip Conveyor
11. Chain type Chip Conveyor
12. Transformer (220V-380V-415V-440V)
13. BT#50 Spindle 20HP 4500/6000rpm
14. CAT#50 Spindle 20HP 4500/6000rpm
15. CNC Control :
 - MITSUBISHI 64S/65S
 - FANUC 0i/18i
 - ANILAM 6300M
 - SIMENSE 810D/840D
 - FAGOR 8055MC
 - INTEK M350/M450
 - SELCA 4045DH

KVR-1480

X, Y, Z axes travel: 55.11" x 31.49" x 27.56"
Table Size: 59.06" x 27.56"
Spindle Taper: CAT 40
Spindle HP: 20 HP



KVR-1580

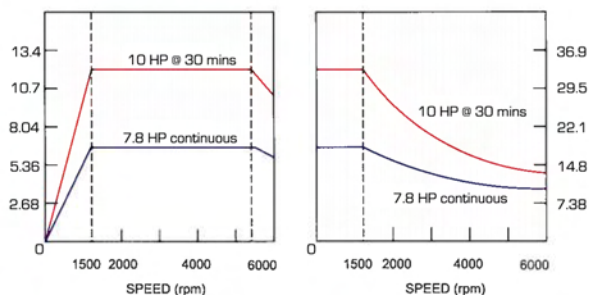
X, Y, Z axes travel: 59.06" x 31.49" x 27.56"
Table Size: 62.99" x 27.56"
Spindle Taper: CAT 40
Spindle HP: 20 HP



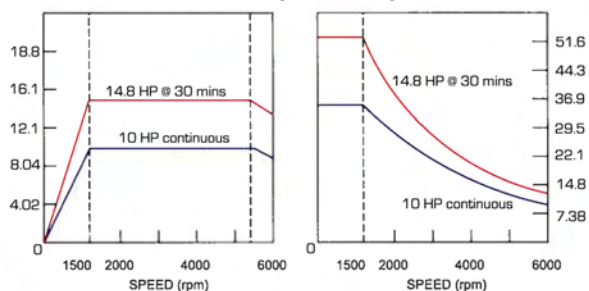
A HI-SPEED HI-PERFORM AC SPINDLE MOTOR

The spindle motor is high perform servo drive device with 64 bit high speed CNC control. The torque is well-perform under low speed, and high efficiency output. The noise, and vibration is low when high speed working.

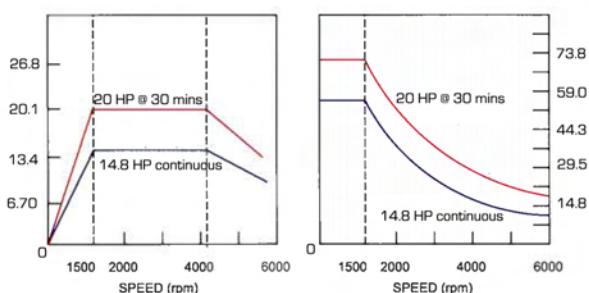
KVR-1065 (6000 RPM)



KVR-1268 (6000 RPM)



KVR-1065 (6000 RPM)



E HI-PRECISION HI-RIGIDITY SPINDLE DESIGN

- 6 pairs of P4 class oversized spindle bearings means increased rigidity, and accuracy.
- All spindles individually tested, and run in over 24 hours, and match with individual test certificates before installing on machine.
- All spindles dynamically balanced, and tested under full power.



B SPECIAL FLOATING TOOL UNCLAMPING SYSTEM

Floating head power draw bar system means less chance of damage to spindle bearings during tool change.

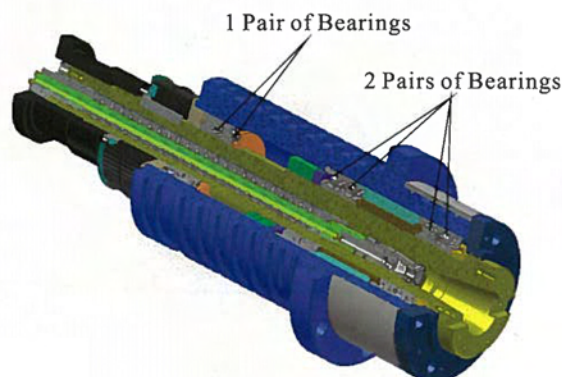
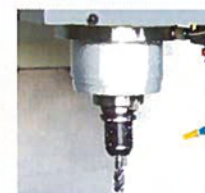
C Auto Tool Change System (Carousel Type)

Reliable, and cost effective Bi-directional carousel type ATC for less demanding application.



D RIGID TAPING

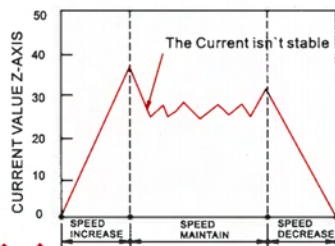
The rigid taping function can improve the performance of taping procedure.



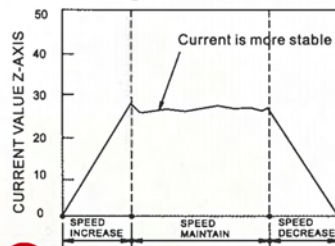
F NITROGEN BALANCED SYSTEM

The traditional counter-weight will cause the vibration, and shaking problem under high speed contouring. It will lead the scratch on work piece surface or the finish problem. The TW serial using the advanced Nitrogen balanced system. It can eliminate the vibration problem, and improve the surface of the work piece under high speed movement on Z-axis.

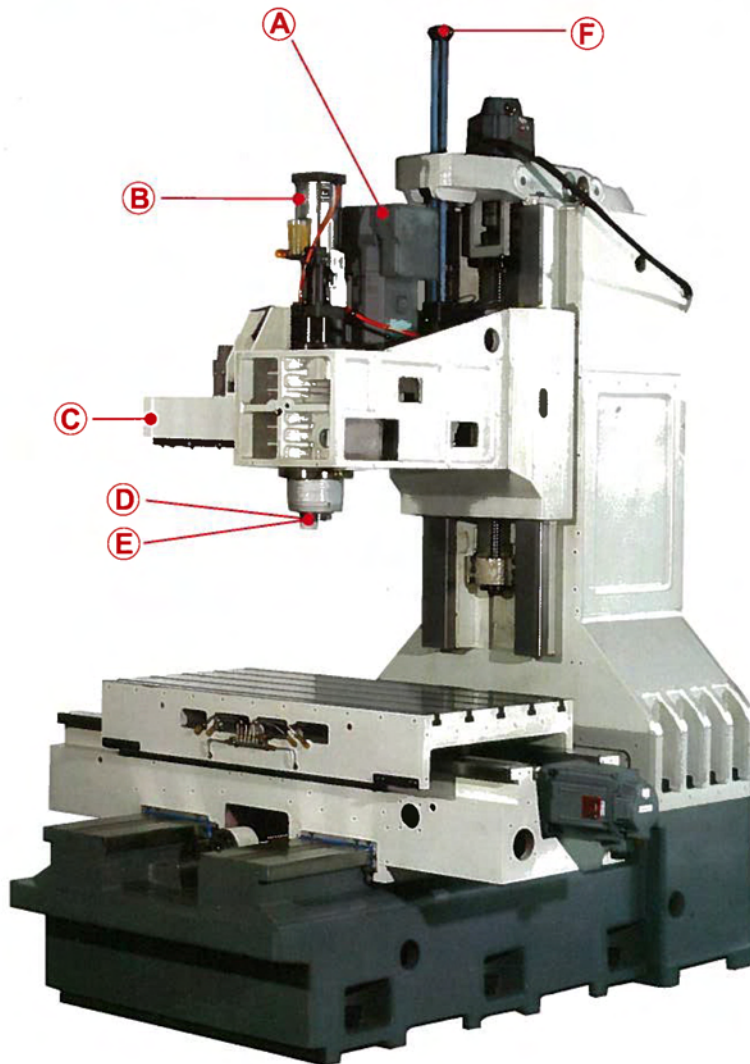
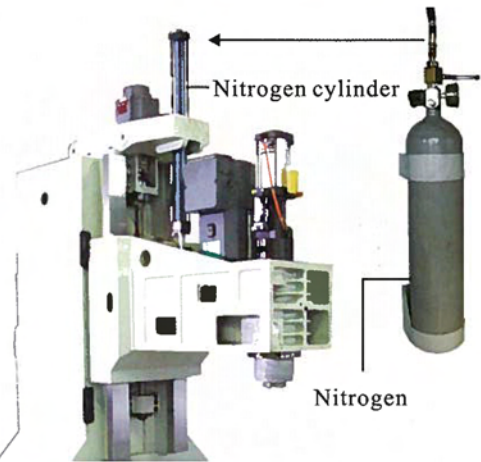
The comparison of Nitrogen Balanced System and conventional counter-weight



X The conventional counter-weight will make the current unstable, and the finish will not be good when contouring.

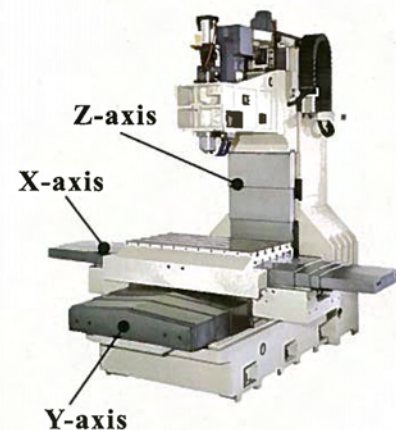


O The TW serials use Nitrogen Balanced System to prevent the vibration of Z-axis, and make the finish better.



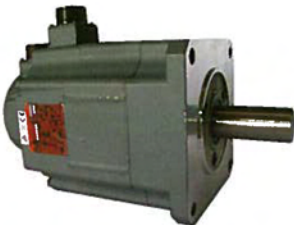
TELESCOPE GUARDS FOR 3 AXES

The metal telescope guards can totally protect the slide way, and avoid of the chip coming in to damage the slide way.



1. AC SERVO MOTOR

3 axes are using the high response drivers. The motor can run full power no matter in low speed or high speed.



2. HIGH TORQUE COUPLING

The axis motor is connected to The precision ball screws by high Precision /High torque coupling.

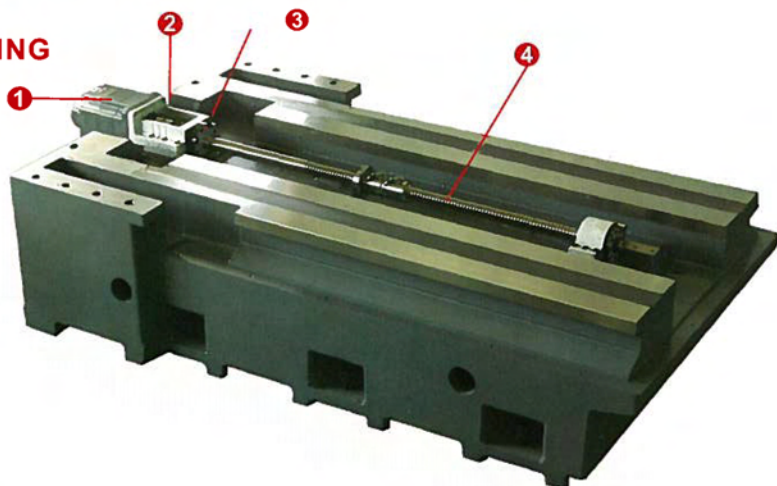


4. C3 CLASS DOUBLE NUTS BALL SCREW

With high precision C3 Class double nuts ball screw, and applying on suitable pre-tension, the ball screws backlash can be reduced and the accuracy can be ensured.

3. P4 CLASS PRECISION BEARING

With P4 class precision bearings on each axis, and applying on suitable pre-load, The accuracy, and rigidity will be maintained.



5. AUTO LUBRICATION

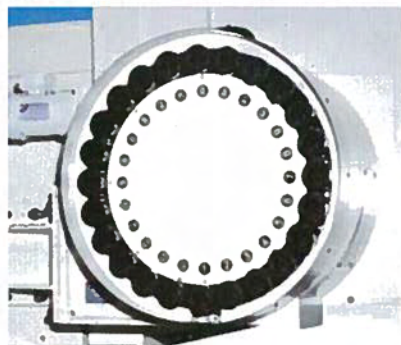
Equipped with micro-computer control auto lubrication system, the slide way always keep wet, and extend the life of machine.



6. COOLANT SYSTEM

The TW serials use the high Pressure coolant pump (3.5 bar) It can totally wipe out the chip on chip tray.

ARM TYPE A.T.C. (24 TOOLS)

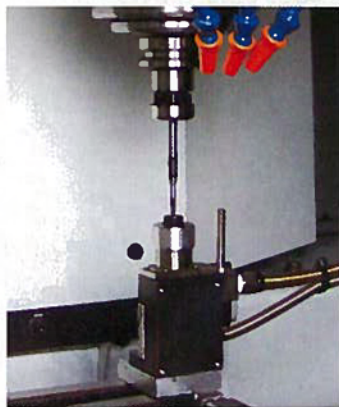


It is using the random memory method, to memorize the tool.

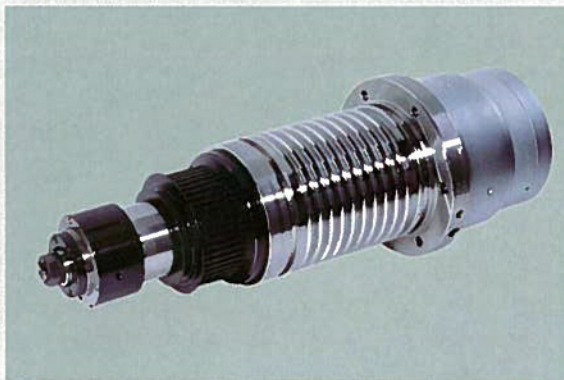
The tool change time is only 2.8 Sec. (T to T)



AUTO TOOL MEASURE DEVICE



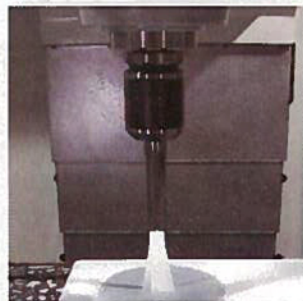
HIGH SPEED SPINDLE (8,000 / 10,000 / 12,000RPM, AND ABOVE)



SPINDLE CHILLER



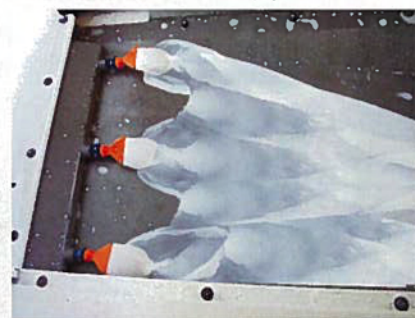
COOLANT THRU SPINDLE



HIGH PRESSURE COOLANT GUN



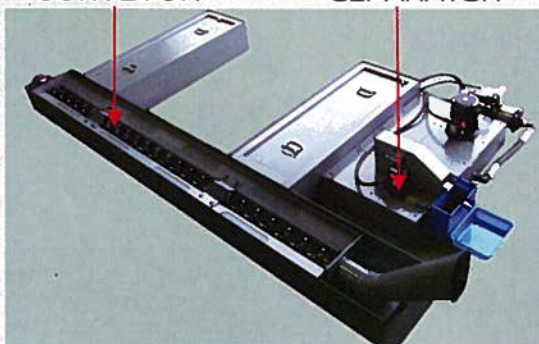
CHIP FLUSHING SYSTEM



CHAIN TYPE CONVEYOR

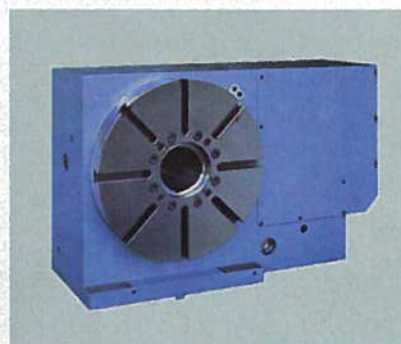


AUGER TYPE CHIP CONVEYOR



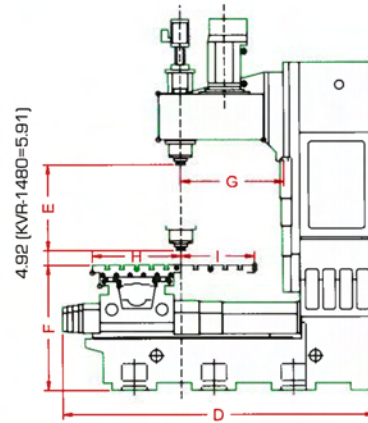
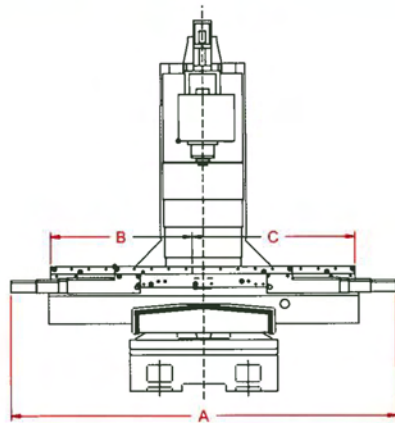
OIL COOLANT SEPARATOR

4TH AXIS ROTARY TABLE



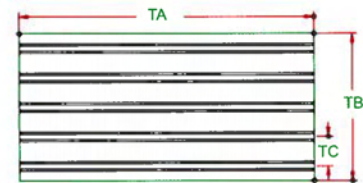
SPECIFICATIONS for KVR-1065/1268/1480/1580

KENTCNC

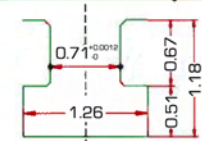


	A	B	C	D	E	F	G	H	I
KVR-1065	112.68	41.34	47.24	83.07	23.62	33.39	26.97	23.62	25.59
KVR-1268	125.98	47.24	53.15	83.07	24.02	33.39	28.35	23.62	26.77
KVR-1480	158.27	55.12	59.06	104.33	27.56	35.43	32.28	27.56	31.50
KVR-1580	163.39	59.06	62.99	104.33	27.56	35.43	32.28	27.56	31.50

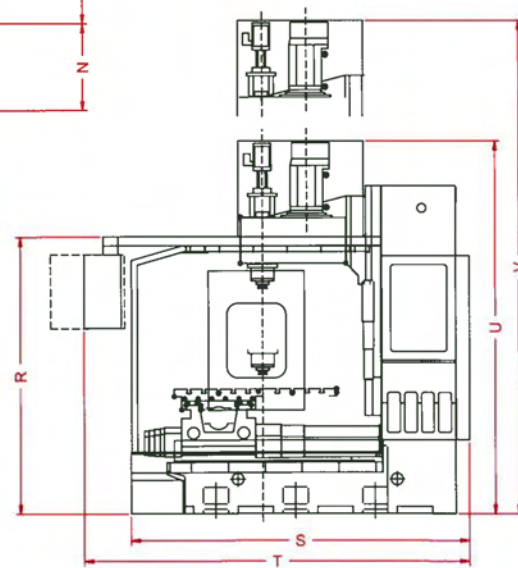
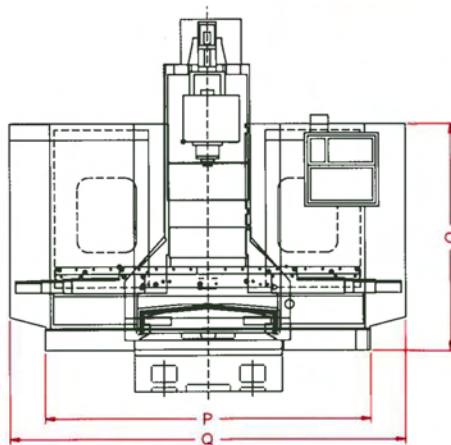
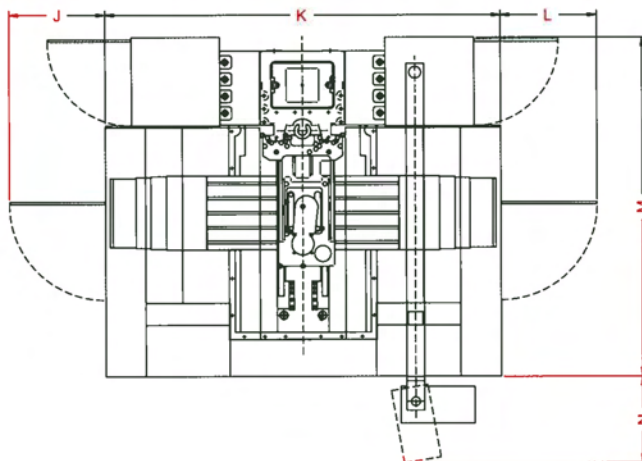
TABLE SIZE



T-SLOTS

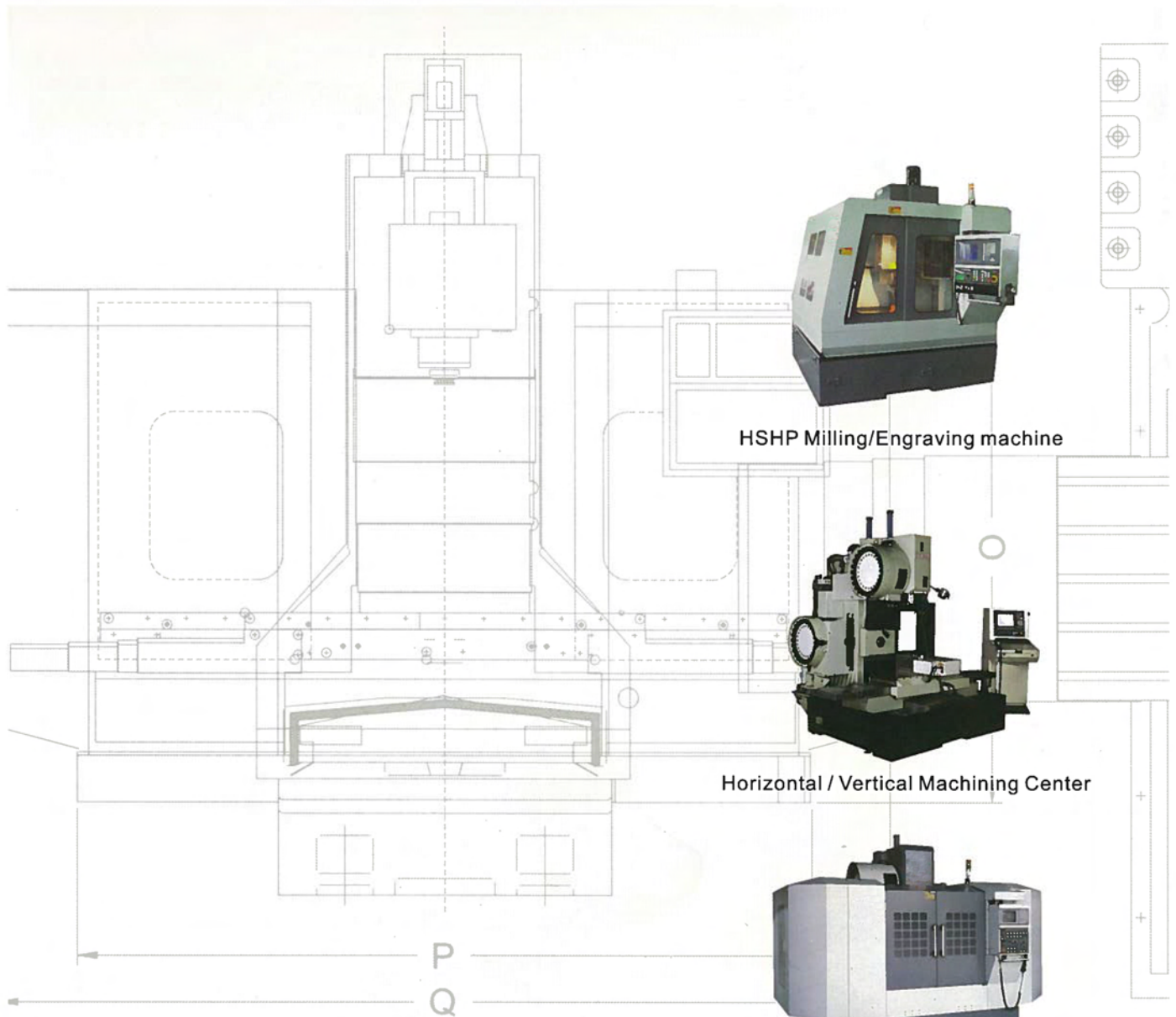


	TA	TB	TC
KVR-1065	47.24	23.62	4.92
KVR-1268	59.06	23.62	4.92
KVR-1480	59.06	27.56	5.31
KVR-1580	62.99	27.56	5.31

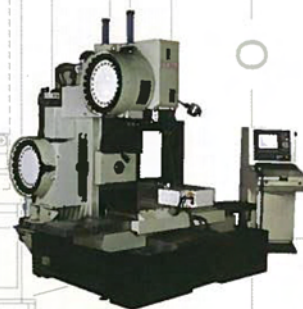


	J	K	L	M	N	O	P	Q	R	S	T	U	V
KVR-1065	25.59	111.81	25.59	90.55	23.62	79.53	86.61	111.81	79.53	90.55	102.36	97.64	106.30
KVR-1268	25.59	133.86	25.59	94.49	23.62	79.53	86.61	133.86	79.53	94.49	106.30	97.64	110.24
KVR-1480	25.59	183.86	25.59	129.92	31.50	86.61	86.61	165.35	83.46	129.92	141.73	114.17	125.98
KVR-1580	25.59	183.86	25.59	129.92	31.50	86.61	86.61	165.35	83.46	129.92	141.73	114.17	125.98

MODEL	KVR-1065	KVR-1268	KVR-1480	KVR-1580
TRAVEL				
X-AXIS	40	48	55.1	59
Y-AXIS	25.5	26.3	31.5	31.5
Z-AXIS	23.6	24	27.5	27.5
Spindle nose to table surface	5-28.5	5 - 28.9	6 - 33.5	6 - 33.5
Spindle center to column surface	27	28.3	32.3	32.3
TABLE				
Table dimension	23.6 x 47.2	23.6 x 59	27.5 x 59	27.5 x 63
T-Slots	0.7 x 4.92	0.7 x 4.93	0.7 x 4.94	0.7 x 4.95
Table heigh from the floor	33.8	33.8	34.6	34.6
Table load capacity	1760 lbs	2640 lbs	4400 lbs	4620 lbs
HEAD STOCK				
Spindle nose	BT40 / BT 50	BT40 / BT 51	BT40 / BT 52	BT40 / BT 53
Spindle RPM BT40	6000 / 8000 (opt)	6001 / 8000 (opt)	6002 / 8000 (opt)	6003 / 8000 (opt)
Spindle RPM BT50	4500 / 6000 (opt)	4501 / 6000 (opt)	4502 / 6000 (opt)	4503 / 6000 (opt)
FEED RATE				
Rapid traverse for X, Y, Z	591 ipm			
Cutting feed for X, Y, Z	0.04 - 197 ipm			
MOTORS				
Main motor BT40 (cont. / 30 min)	7.8HP / 10 HP	10 HP / 14.8 HP	14.8 HP / 20 HP	14.8 HP / 20 HP
Main motor BT50 (cont. / 30 min)	10 HP / 14.8 HP	14.8 HP / 20 HP	20 HP / 26.8 HP	21 HP / 26.8 HP
AC servo motor for each axis	2.7 HP - 10.3 FtLb (Opt. 14.7 HP - 16.3 FtLb)		14.7 HP - 16.3 FtLb	14.7 HP - 16.3 FtLb
Coolant system	580 W			
Lubrication system	25 W			
Spindle chiller system	850 W for spindle 8000RPM			
AUTO TOOL CHANGER				
Magazine for carousel type	16 (Standard) / 20 (Optional)			
Magazine for arm type	24 (Standard) / 32 / 40 (Optional)			
Max. tool diameter	BT40: (3 / 5) BT50: (5 / 7)			
Max. tool length	BT40: 11.8 BT50: 13.8			
Max. tool weight	BT40:15lbs BT50: 33lbs			
ACCURACY				
Positioning	± 0.0012			
Repeatability	± 0.001			
GENERAL INFORMATION				
Air Pressure	71.12 PSI over			
Machine Weight	12760 lbs	14300 lbs	26400 lbs	26400 lbs
Floor Space	126 x 110 x 106	126 x 130 x 110	154 x 165 x 126	154 x 165 x 126
CNC Controller	Fanuc Oi / 18Mi Anilam 6300 Fagor 8040-MC / 8055-MCD Mitsubishi Meldas 64S / 65S Siemens 810 / 840 Intek M350 / M450 Selca 4045DH			



HSHP Milling/Engraving machine



Horizontal / Vertical Machining Center



Vertical Machining Center

KENTCNC

Kent CNC | Kent Industrial USA, Inc.
1231 Edinger Ave
Tustin, CA 92780
USA
Tel: 714-258-8526
Fax: 714-258-8530

www.kentcnc.com
info@kentcnc.com



Heavy-duty Machining Center