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KIHEUNG
www.kiheung.com

U1250

BED TYPE MILLING CENTER

KIHEUNG MACHINERY CO., LTD
MILLING MACHINE / MACHINING CENTER / COLUMN TRAVEL

KIHEUNG ENDEAVOURS TO OFFER THE ULTIMATE TO CUSTOMERS THROUGHOUT THE WORLD.

Since founded in 1968, KIHEUNG has become one of the most advanced and leading machine tool manufacturers with an effort to supply high quality product to customers.

KIHEUNG specialized in CNC bed type milling machine, travelling column boring and milling center, Double column machining center, Simultaneous five axis machining center, Double column 5 axis and vertical turning machine, is determined to enhance the quality by respecting the customer's requirements with the philosophy of

"FULL SATISFACTION TO THE CUSTOMER AND ENDLESS SERVICE TO THE CUSTOMER"

Through the spirit of mutual co-operation, KIHEUNG is able to ensure the continuous distribution with high quality machine tools designed to satisfy customer's requirements all over the world. Thanking and trusting in your continuous support.

KIHEUNG History

1968	KIHEUNG machinery works founded
1978	Developed conventional bed type milling machine
1989	KIHEUNG foundry Co. established Start to exhibit EMO exhibition
1990	Developed CNC bed type milling machine
1995	The current plant(20,000 m^2) established in Daejeon, Korea
1996	CE certificate from TÜV, Germany
2002	KIHEUNG USA established
2003	Awarded ISO 9001 certificate
2004	Developed double column machining center, MiMAX
2005	Developed simultaneous 5 axis machining center, FTV 500
2006	Developed column travel boring and milling center, HiTRAX
2007	Developed double column 5 axis and vertical turning machine, FTU 1200
2008	KIEHUNG Germany established Developed fixed bed column travel boring and milling center, RiGiTRAX
2009	Awarded 20 million dollar export prize from Korea goverment
2010	Developed column travel boring and milling center, WiNGTRAX

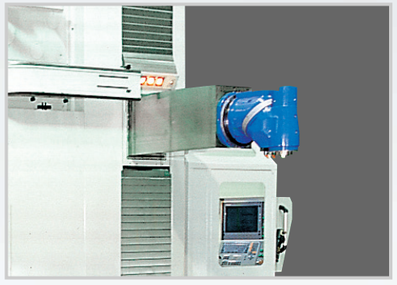
BED TYPE MILLING CENTER

U1250

Kiheung standard
: Chip conveyor output is on the left.

■ Universal Head

Universal head consisting of upper head and lower head can be turned to desired angle, which is suitable for combined angle milling.



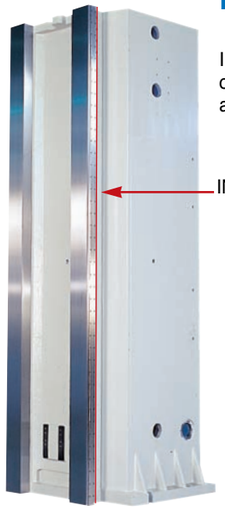
■ Flat-Ram design

Flat-Ram design can not be disturbed with “inside-works”, because all the transmission equipments (ZF gear box, Belt / Pulley) are located at the rear of the ram.

Furthermore, all the chips and coolant water can be protected perfectly and conveyed to the chip reservoir and coolant tank effectively.

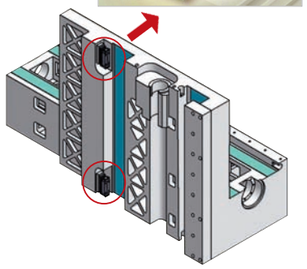
Machine Specification		U1250
TABLE	Surface	3200 / 4200 / 5200 × 1100 mm
	T-slot	No.8 × 22 mm
	Distance between T-slot	125 mm
	Max. permissible load	12000 / 14000 / 16000 kg
TRAVEL	Longitudinal travel	3000 / 4000 / 5000 mm
	Cross travel	1250 mm
	Vertical travel	1600 / 2000 mm
FEED	Axis feed rate	8000 mm / min
	Rapid feed rate	X : 16000, Y : 12000, Z : 10000 mm / min
SPINDLE	Taper	50
	Speed	4000 rpm, 2 steps (0~1000, 1001~4000)
MOTOR	Spindle drive motor	28 / 42 kw
	Feed drive motor	X 3000, 4000 : 50, X 5000 : 70, Y : 27, Z : 27 Nm
WEIGHT	Approx. machine net weight	33 / 35 / 37 ton

The contents of the catalogue are subject to chang without prior notice.



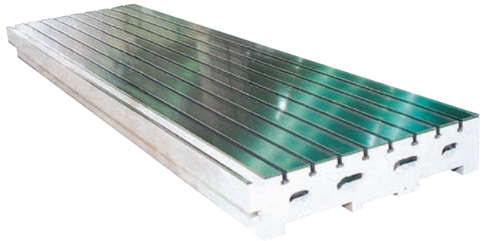
■ INA Roller shoes and INA Steel way : Only for KNC-U1250

INA Roller shoes on the saddle and INA Steel way on the column guarantee the long life geometric accuracy



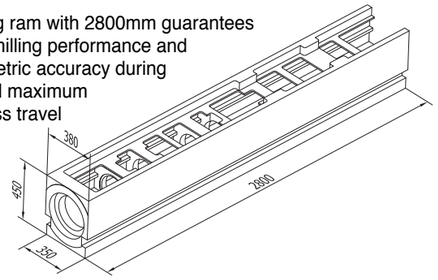
■ Table

Strong and long table with table surface 3200/4200/5200 X 1100mm, 8 T-slots



■ Ram

Strong ram with 2800mm guarantees high milling performance and geometric accuracy during critical maximum Y cross travel



■ Hydraulic Balance

Hydraulic balance with Nitogen gas accumulator guarantees smooth movement and high accuracy of vertical Z axis

■ Hand Scrapping

The accuracy of is guaranteed by the craft man's art of scrapping measured in micron

■ M Head (Manual positioning)

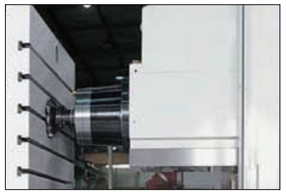
- ISO50, DIN69871 / DIN 2080
- 4000 spindle rpm with cooling the head (2 step: 0~1000, 1001~4000)

■ Vertical Head (Manual positioning)

- ISO50, DIN69871
- 4000 spindle rpm with cooling the head (2 step: 0~1000, 1001~4000)

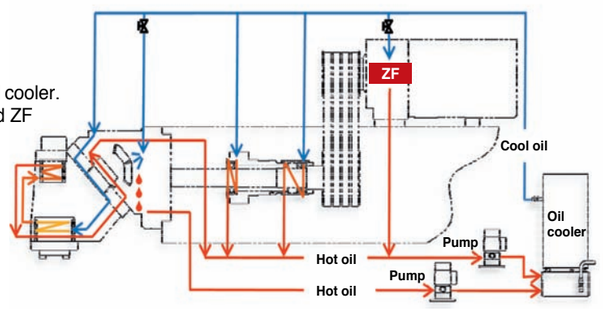
■ Horizontal Head

- ISO50, DIN69871
- 6000 spindle rpm with cooling the head (2 step: 0~1500, 1501~6000)



■ Head cooling

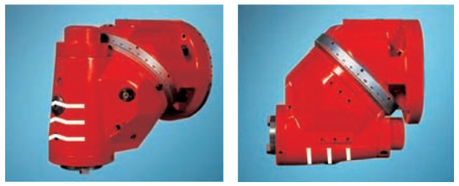
Head and ZF gear box is cooled by oil cooler. Hot oil inside the upper head (90°) and ZF gear box is delivered quickly to the oil cooler through 2 (two) pumps on the ram.



Option

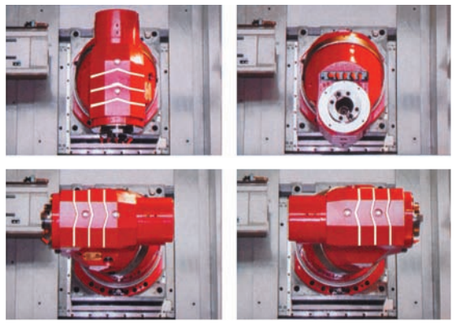
■ A2 Head (Automatic 2 positioning, Vertical / Horizontal)

- ISO50 DIN69871
- 4000 spindle rpm with cooling the head (2 step : 0~1000, 1001~4000)



■ A4 Head (Automatic 2.5˚ × 2.5˚ , 2.5˚ × 1˚)

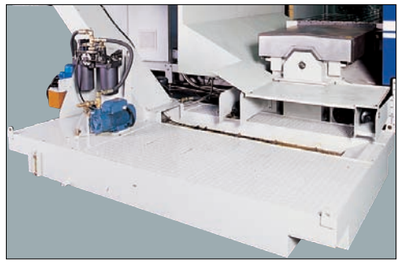
- ISO50 DIN69871
- 4000 spindle rpm with cooling the head (2 step : 0~1000, 1001~4000)

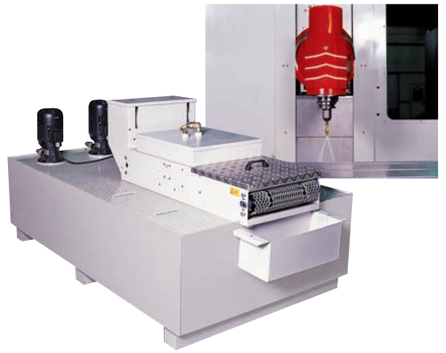


■ Coolant through Spindle + Air through Spindle

1. Dual cartridge filter

- 16 bar (20ℓ /min) coolant through spindle (Adjustable 5~16 bar)
- 9 bar coolant through nozzle (Adjustable 0~16 bar)
- 2 tank (400ℓ + 700ℓ)
- Dual cartridge filter (20㎛) to switch over when one filter is dirty.



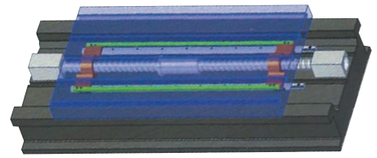


2. Paper filter

- 16, 30 bar (20ℓ /min, 25ℓ /min) coolant through spindle (Adjustable 5~16 bar)
- 9 bar coolant through nozzle (Adjustable 0~16 bar)
- 2 tank (400ℓ + 700ℓ or 1000ℓ)
- Paper band filtering (20㎛) system with drive and paper transport unit

■ LM-Ball screw support system for X4000 and 5000mm

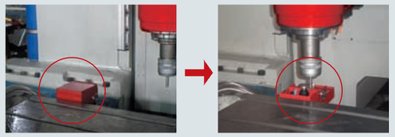
LM Ball screw support system reduces ball screw vibration and enables smooth movement of table and heavy work piece without stick-slip



Option

Tool touch probe HEIDENHAIN TT140

with cable connection for tool length and radius compensation with stationary or rotating spindle



Work piece touch probe HEIDENHAIN TS220

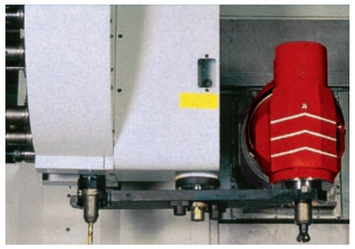
for releasing a trigger signal to the iTNC 530 control through cable

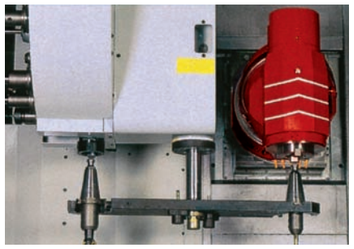
Work piece touch probe HEIDENHAIN TS640

for releasing a trigger signal to the iTNC 530 control as an infrared light signal

Work piece touch probe RENISHAW RMP 60

with radio signal transmission





24 Tools Vertical ATC

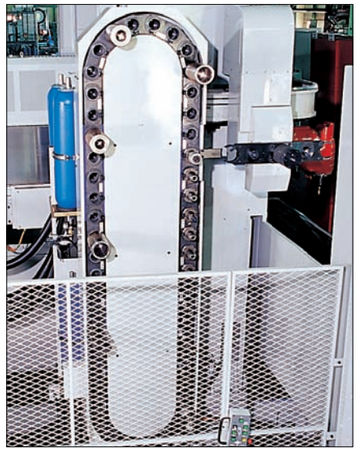
Cam and cam follower automatic tool changer driven by geared motor

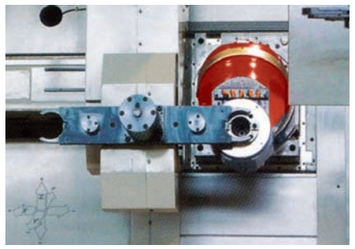
Max. tool weight	kg	20
Max. tool length	mm	350
Max. tool diameter Ø		
- when adjacent tool present	mm	110
- when adjacent tool absent	mm	200

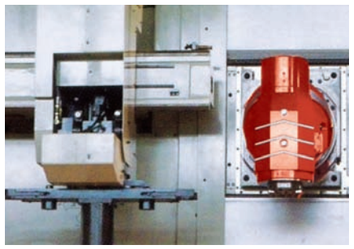
30 / 40 / 50 / 60 Tools Horizontal, Vertical / Horizontal ATC

Chain type tool magazine driven by servo motor.
Carriage and gripper is operated by hydraulic system.

Max. tool weight	kg	25
Max. tool length	mm	350
Max. tool diameter Ø		
- when adjacent tool present	mm	125
- when adjacent tool absent	mm	250

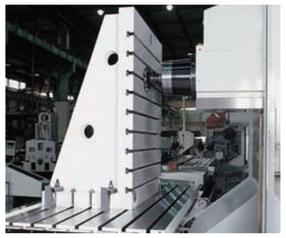






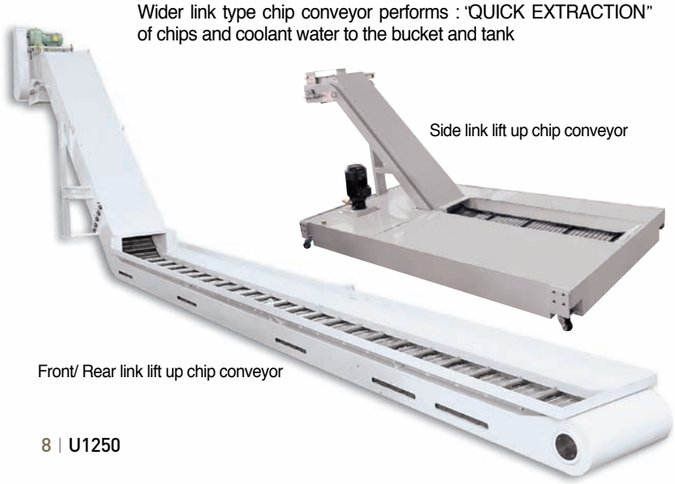
Sub. Angle Table

1300(H) ×1100(W)mm



Chip Coneyor

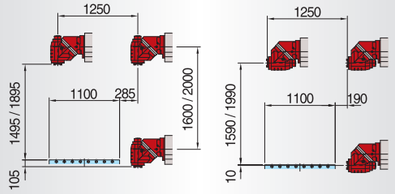
Wider link type chip conveyor performs : 'QUICK EXTRACTION" of chips and coolant water to the bucket and tank



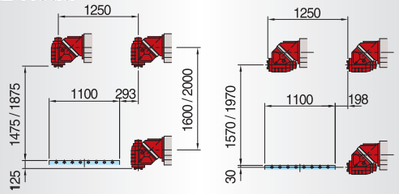
Side link lift up chip conveyor

Front/ Rear link lift up chip conveyor

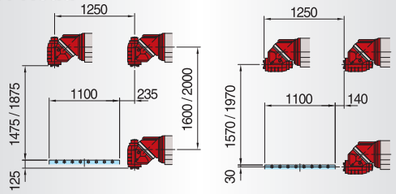
M Head



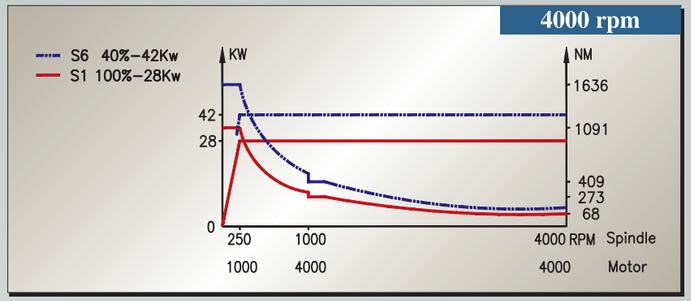
A2 Head



A4 Head

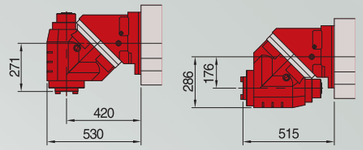


Spindle Motor



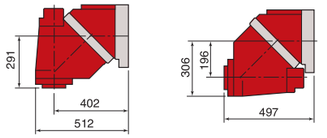
Standard

- Heidenhain iTNC530, HSCI Software option 1
- Heidenhain linear scale
- Heidenhain HR410 electronic handwheel
- Preparation of Heidenhain TS220
- 4000 (2step:0~1000, 1001~4000) spindle rpm
- Ram with ZF gear box
- Spindle orientation for rigid tapping
- Oil cooler
- Flood coolant system with tank and 2.5 bar coolant pump
- Axes with Siemens / Heidenhain digital servo motor
- Automatic power off with M function
- Air blow
- Spindle air blast during automatic tool change
- Link lift up chip conveyor at the rear of the bed
- Heidenhain DA300
- M Head
  Manual positioning
  Spindle nose DIN 2080 / DIN 69871

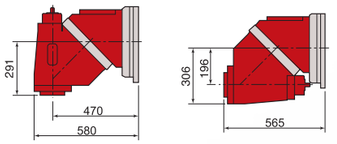


Option

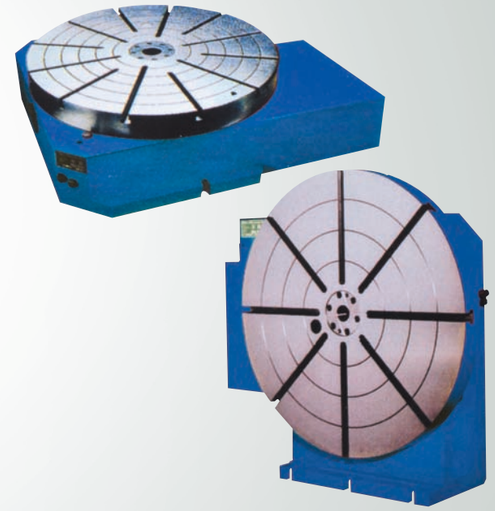
- Other CNC
- Vertical travel 2000mm
- One T-slot 22H7 in front of the table
- Sub. Angle table 1300(H) x 1100 x 625mm
- High pressure Coolant through tool
- CTS (Coolant through spindle) + ATS (Air through spindle)
- Coolant washing gun with separate pump
- Vertical tool changer, 24 tools
- Horizontal tool changer, 30 / 40 / 50 / 60 tools
- Vertical/Horizontal tool changer, 30 / 40 / 50 / 60 tools
- Link lift up chip conveyor in front of the bed
- Side link lift up chip conveyor
- A2 Head (Automatic 2 positioning, Vertical/Horizontal)



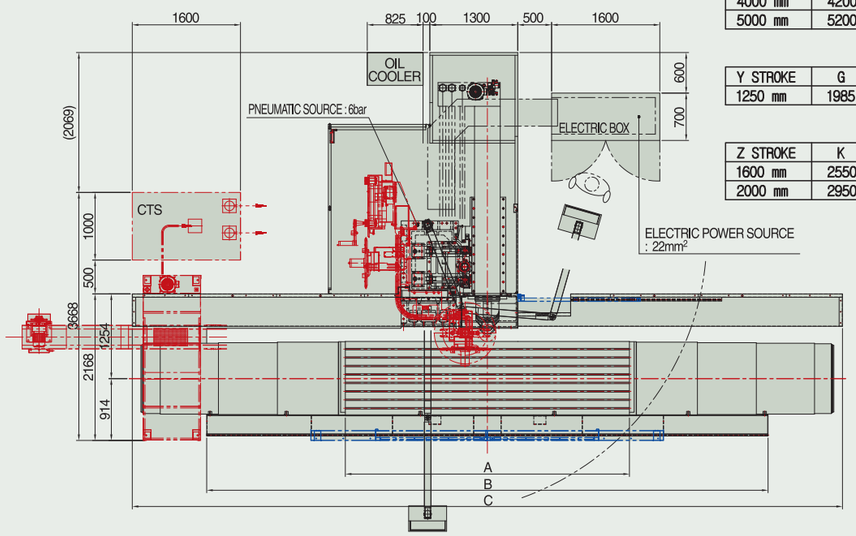
- A4 Head (2.5° x 2.5°, 2.5° x 1°)



- Option for Heidenhain iTNC 530, HSCi
  Software option 2
  DCM collision
  DXF converter + Smart CNC with mouse pad
  Adaptive Feed Control (AFC)
- Preparation of the continuous 4th axis
- Heidenhain Tool Touch Probe TT140 + Air operated cover
- Heidenhain Work piece Touch probe TS220
- Heidenhain Work piece touch probe TS640 (infrared transmission)
- Renishaw Work piece touch probe RMP60 (radio signal transmission)
- Electronic handwheel HR520 (Heidenhain CNC only) instead of HR410
- Two door guard
- Complete enclosure
- Air conditioner for electric cabinet
- One additional foot switch at the rear of the bed
- Rotary table



U1250 without complete enclosure

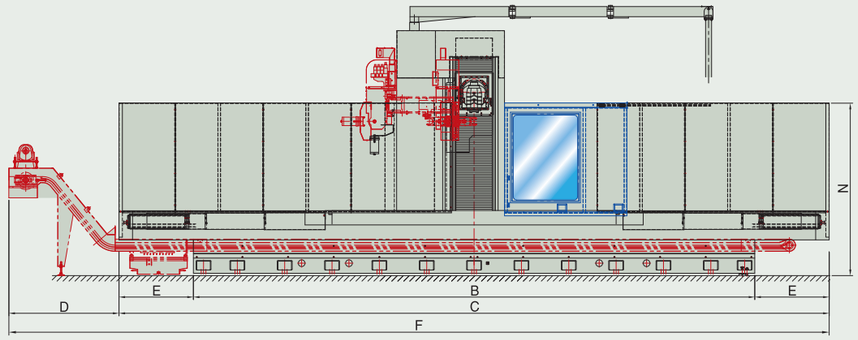


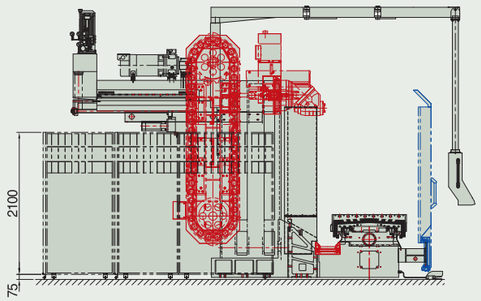
X STROKE	A	B	C	D	E	F
3000 mm	3200	6300	8500	1630	1100	10130
4000 mm	4200	8300	10500			12130
5000 mm	5200	10300	12500			14130

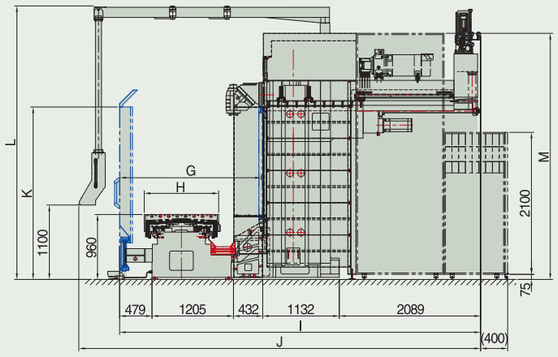
Y STROKE	G	H	I	J
1250 mm	1985	1100	5337	5940

Z STROKE	K	L	M	N
1600 mm	2550	4045	3640	2550
2000 mm	2950	4445	4040	2950

X STROKE	Two door	One door
3000 mm	3200	1200
4000 mm	4200	
5000 mm	5200	







U1250 with complete enclosure