

U1250N

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.

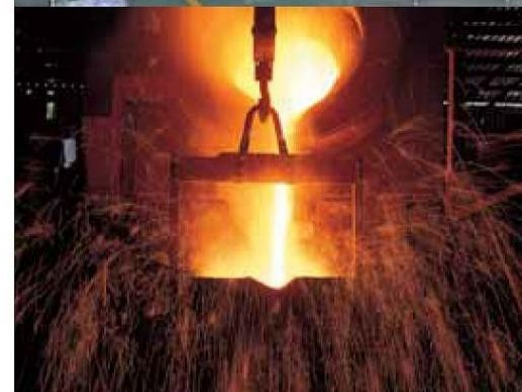
KIHEUNG specialized in CNC bed type milling machine, travelling column boring and milling center, Double column machining center, Simultaneous five axis machining center, Double column 5 axis and vertical turning machine, is determined to enhance the quality by respecting the customer's requirements 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 m²) established in Daejeon, Korea
- 1996** CE certificate from TUV, 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
- 2012** Developed Orthogonal Head (2.5° × 2.5°, 1° × 1°)
- 2013** Developed Universal head (0.001° × 0.001°)
- 2014** Developed Continuous universal head



BED TYPE MILLING CENTER U1250N



Machine Specification		U1250N
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	16000 mm / min
SPINDLE	Taper	50 mm / min
	Speed	4000 rpm, 2 steps (0~1000, 1001~4000)
MOTOR	Spindle drive motor	28 / 42 kw
	Feed drive motor	X 50, Y 27, Z 27 Nm
WEIGHT	Approx. machine net weight	29 / 32 / 33 ton

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



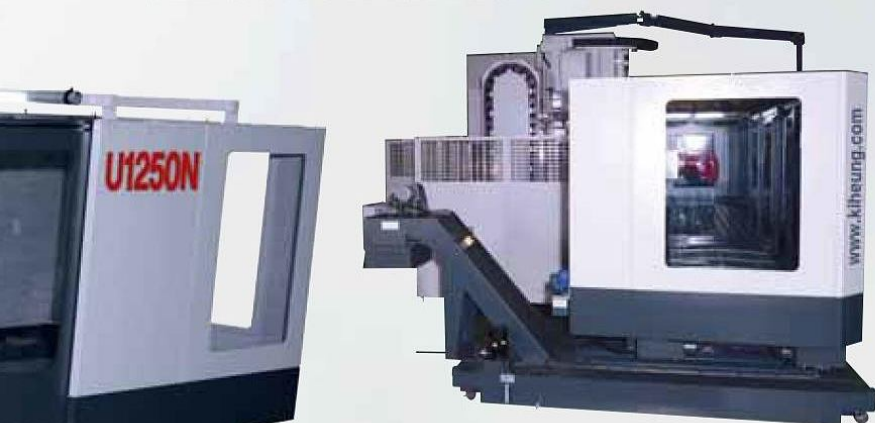
■ Hand Scrapping

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



■ Universal Head

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

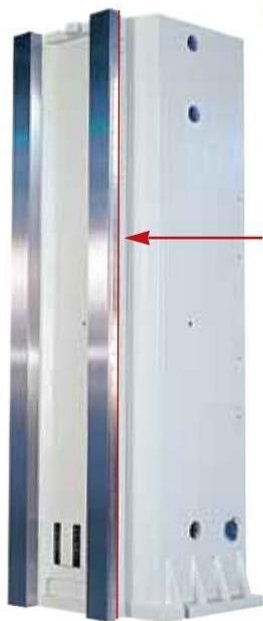


■ Flat-Ram design

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.

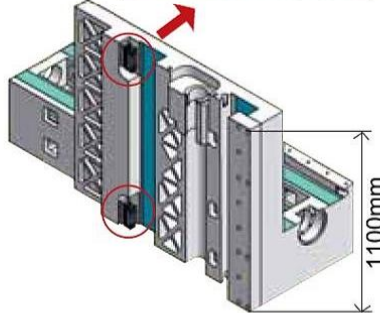




■ INA Roller shoes and INA Steel way

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

← INA steel



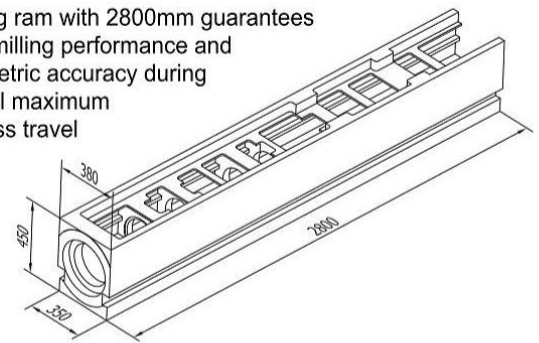
■ Table

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

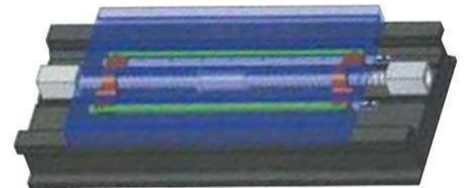


■ Hydraulic Balance

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

■ 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



■ M Head (Manual positioning)

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



■ Vertical Head (Manual positioning)

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



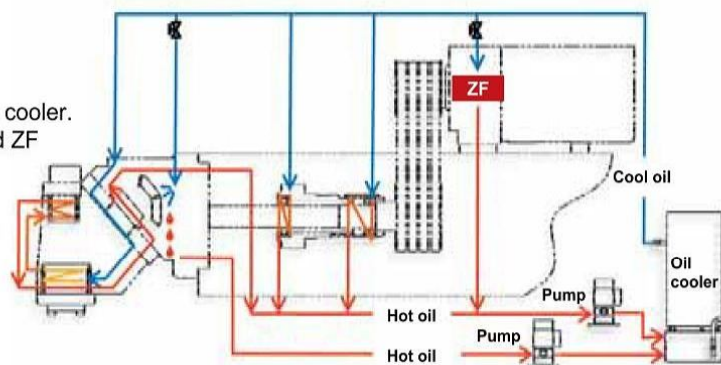
■ Horizontal Head

- ISO50 DIN69871
- 6000 spindle rpm
(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

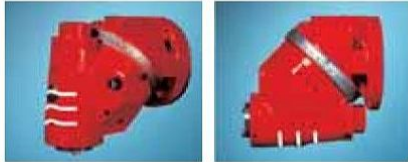
■ Vertical Head (Automatic 2.5°, 1°)

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



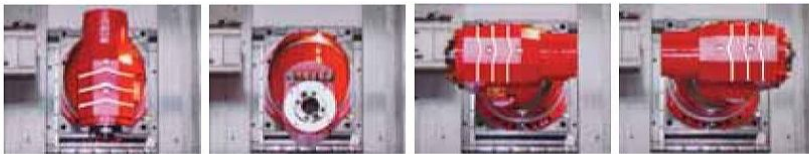
■ A2 Head (Automatic 2 positioning, Vertical / Horizontal)

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



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

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



■ Orthogonal Head (Automatic 2.5° × 2.5°, 1° × 1°)

- ISO50 DIN69871
- 4000 Spindle rpm (2step : 0~1000, 1001~4000)



■ Coolant through Spindle

1. Dual cartridge filter

- 16 bar (20 ℓ /min) coolant through spindle (Adjustable 5~16 bar)
- 9 bar coolant through nozzle (Adjustable 0~9 bar)
- Tank volume 500 ℓ
- Dual cartridge filter (20 μm) to switch over when one filter is dirty.



2. Paper filter

- 16, 30, 50 bar (20 ℓ, 25 ℓ, 25 ℓ / min) coolant through spindle (Adjustable 5~16, 30, 50 bar)
- 9 bar coolant through nozzle (Adjustable 0~9 bar)
- 2 tank (500 ℓ + 700 ℓ, 1000 ℓ)
- Paper band filtering (20 μm) system with drive and paper transport unit

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

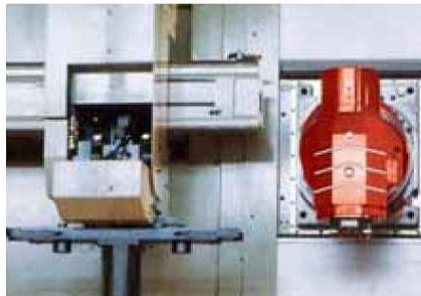
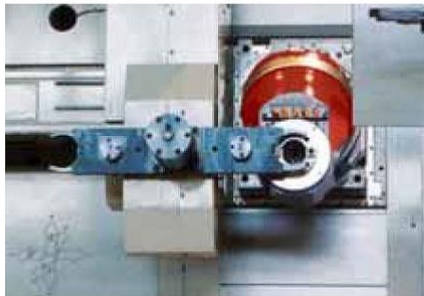
Max. tool weight	kg	20
Max. tool length	mm	350
Max. tool diameter $\varnothing$		
- when adjacent tool present	mm	110
- when adjacent tool absent	mm	200

■ 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 $\varnothing$		
- when adjacent tool present	mm	125
- when adjacent tool absent	mm	250



■ Sub. Angle Table

1300(H) × 1100mm

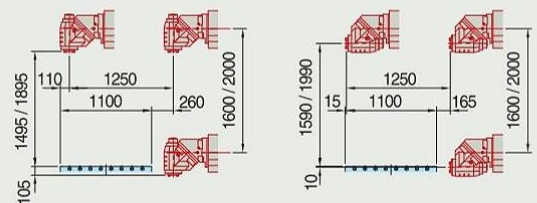


■ Chip Conveyor

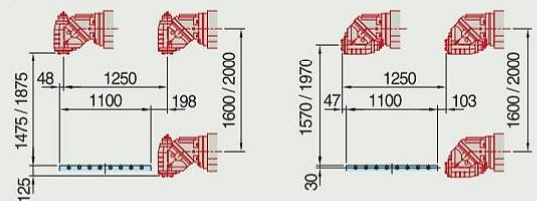
Wider link type chip conveyor performs : "QUICK EXTRACTION" of chips and coolant water to the bucket and tank



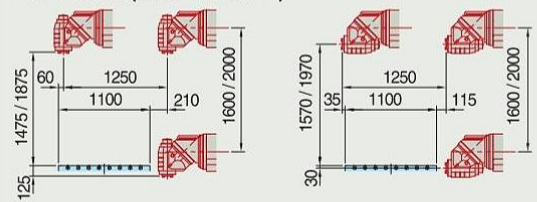
M Head



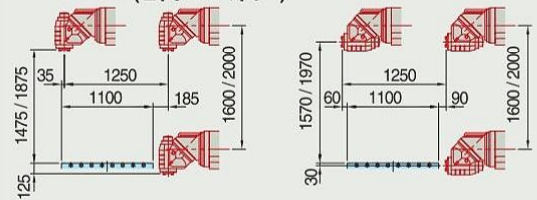
A2 Head



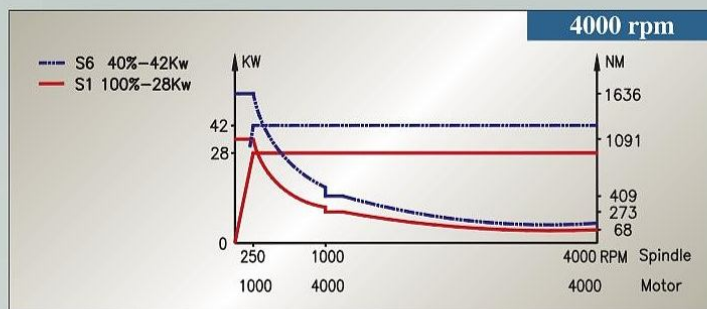
A4 Head(2.5° × 2.5°)



A4 Head(2.5° × 1.0°)



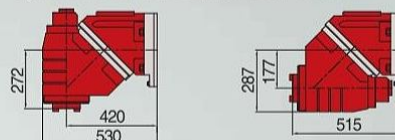
■ Spindle Motor



■ Standard

- Heideanhn iTNC530 BF150, HSCI, Software option 1.
- Heidenhain or Siemens spindle motor 28 / 42 kw
- Heidenhain or Siemens AC servo motor
- Heidenhain linear scale
- Heidenhain electronic hand wheel HR410
- Heidenhain DA400
- ZF gear box, 2 step (1~1000, 1001~4000 rpm)
- Universal head
- Spindle orientation for rigid tapping
- Hydraulic balance for vertical Z axis
- Automatic centralized lubrication system with pressure switch
- Flood coolant system
The quantity of coolant water is adjusted by potention meter on the operator panel
- Lift up link chip conveyor at the rear of the bed

- Oil cooler for cooling the head and ZF gear box
- 2(Two) sliding door in front and 1(one) sliding door at rear for CE norm
- Telescopic chip cover for X, multi cover for Z axis
- Preparation of TS220 work piece touch probe
- Air through spindle
- Air through nozzle
- Automatic power off
- M Head
Manual positioning
Spindle nose DIN 2080 / DIN 69871



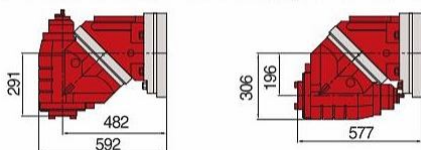
■ High Quality Component

- CNC : Heidenhain, Siemens, Fanuc
- Motor : Heidenhain, Siemens, Fanuc
- Spiral bevel gear for universal head : Tandler, Germany
- Spindle bearing : SKF, Sweden
- Spindle gear box : ZF, Germany
- Ball screw for X, Y, Z axis : Korta, Spain

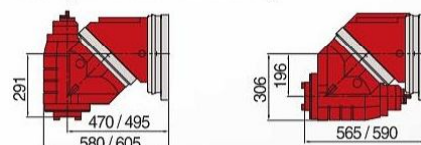
- Roller shoes and guide way for vertical axis : INA, Germany
- Lubrication pump : Dropsa, Italy
- Hydraulic unit : HAWE, Germany
- Electric component : Telemecanique / Schneider, Germany
- Electric cabinet : Rittal, Germany

■ 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)
- 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
- Vertical head (2.5°, 1°)
- A2 Head (Automatic 2 positioning, Vertical/Horizontal)



- A4 Head (2.5° x 2.5° / 2.5° x 1°)

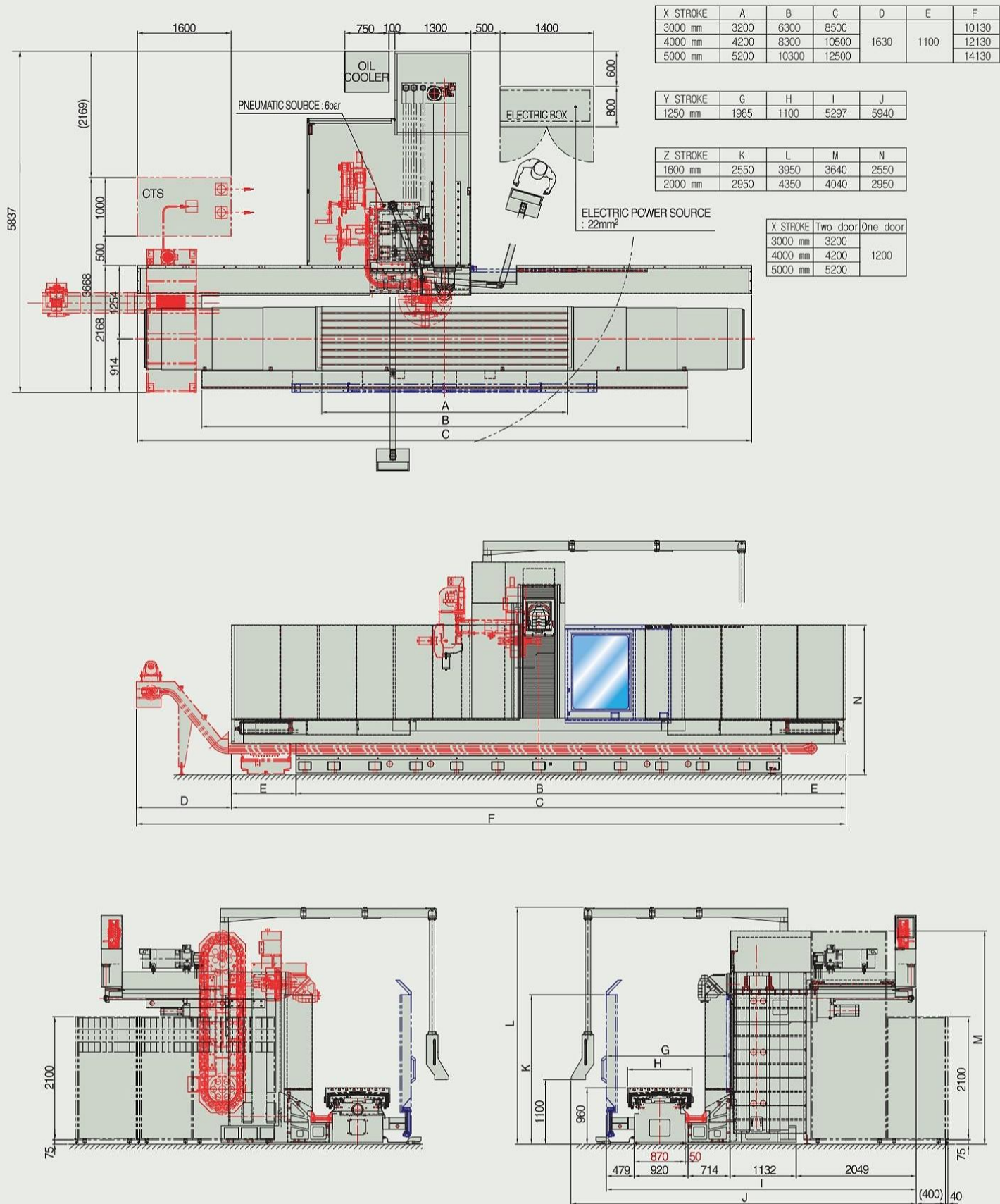


- Orthogonal head (2.5° x 2.5°, 1° x 1°)
- Preparation of the continuous 4th axis
- Heidenhain Tool Touch Probe TT140 + Air operated cover
- Heidenhain Work piece Touch probe TS220
- Heidenhain Work piece touch probe TS640 (infrared transmission)
- Renishaw Work piece touch probe RMP60 (radio signal transmission)
- Electronic handwheel HR520
- Electronic hard wheel HR550 FS(Wireless)
- Air conditioner for electric cabinet
- One additional foot switch at the rear of the bed
- Rotary table



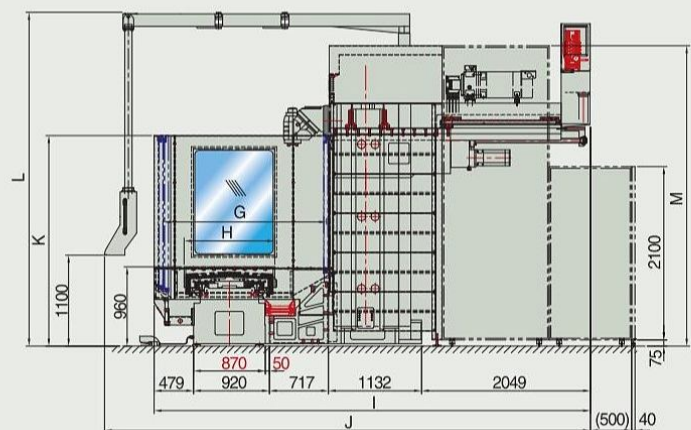
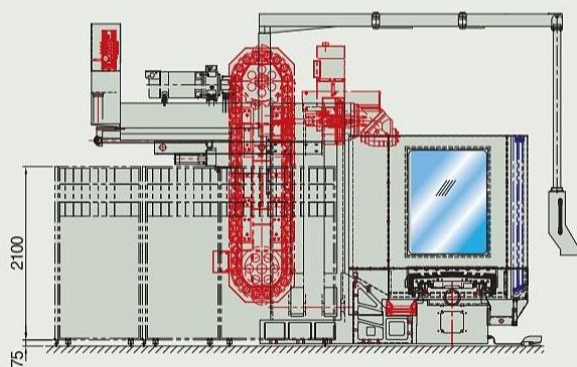
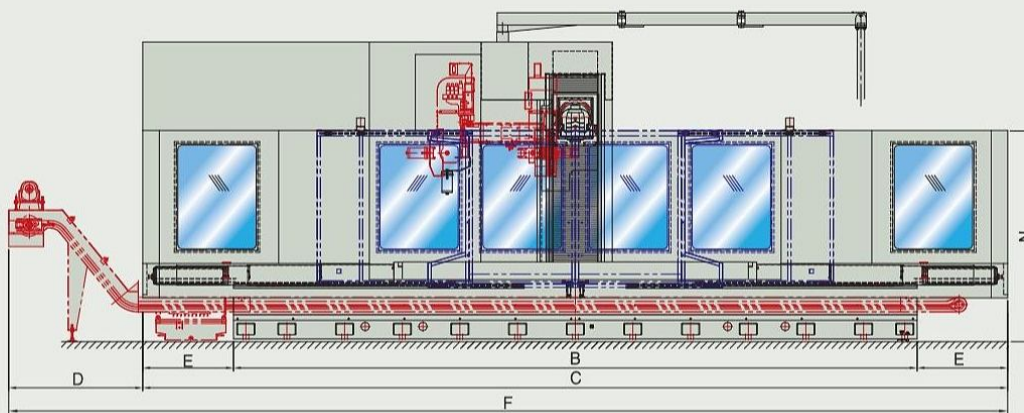
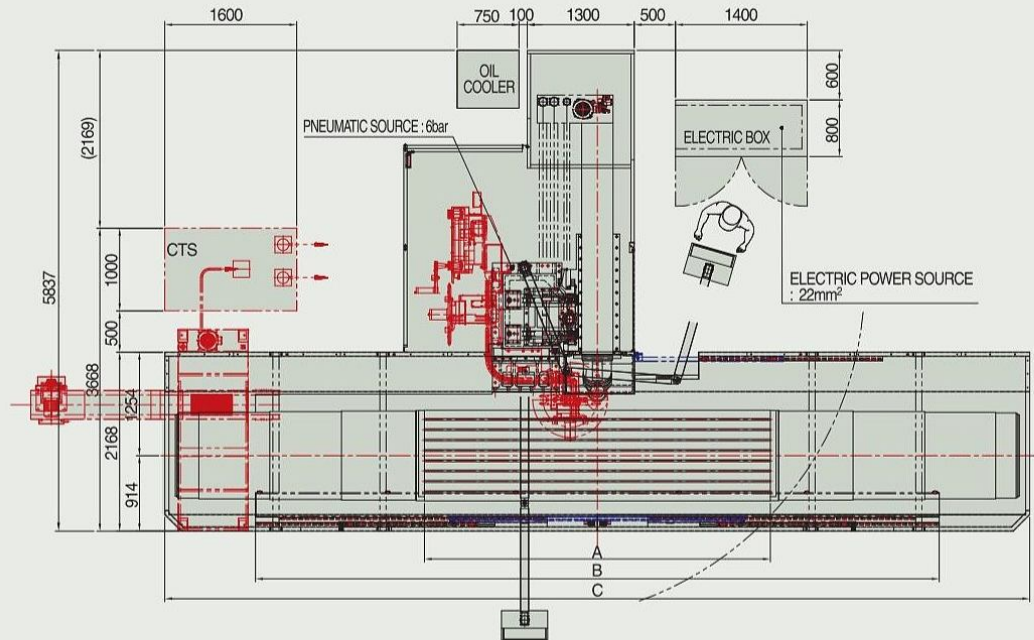
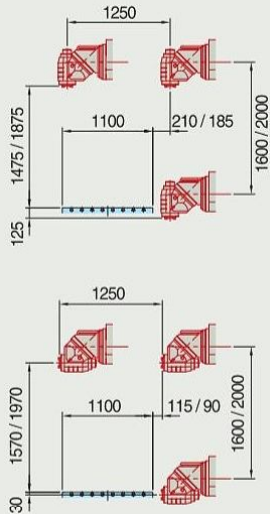
- Option for Heidenhain iTNC 530, HSCI
Software option 2
DCM collision
DXF converter + Smart CNC with mouse pad
Adaptive Feed Control (AFC)

U1250N without complete enclosure



U1250N with complete enclosure

A4 Head
($2.5^\circ \times 2.5^\circ$, $2.5^\circ \times 1.0^\circ$)





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