



# K Mill nvu Series

Bridge Type Vertical Machining Centers

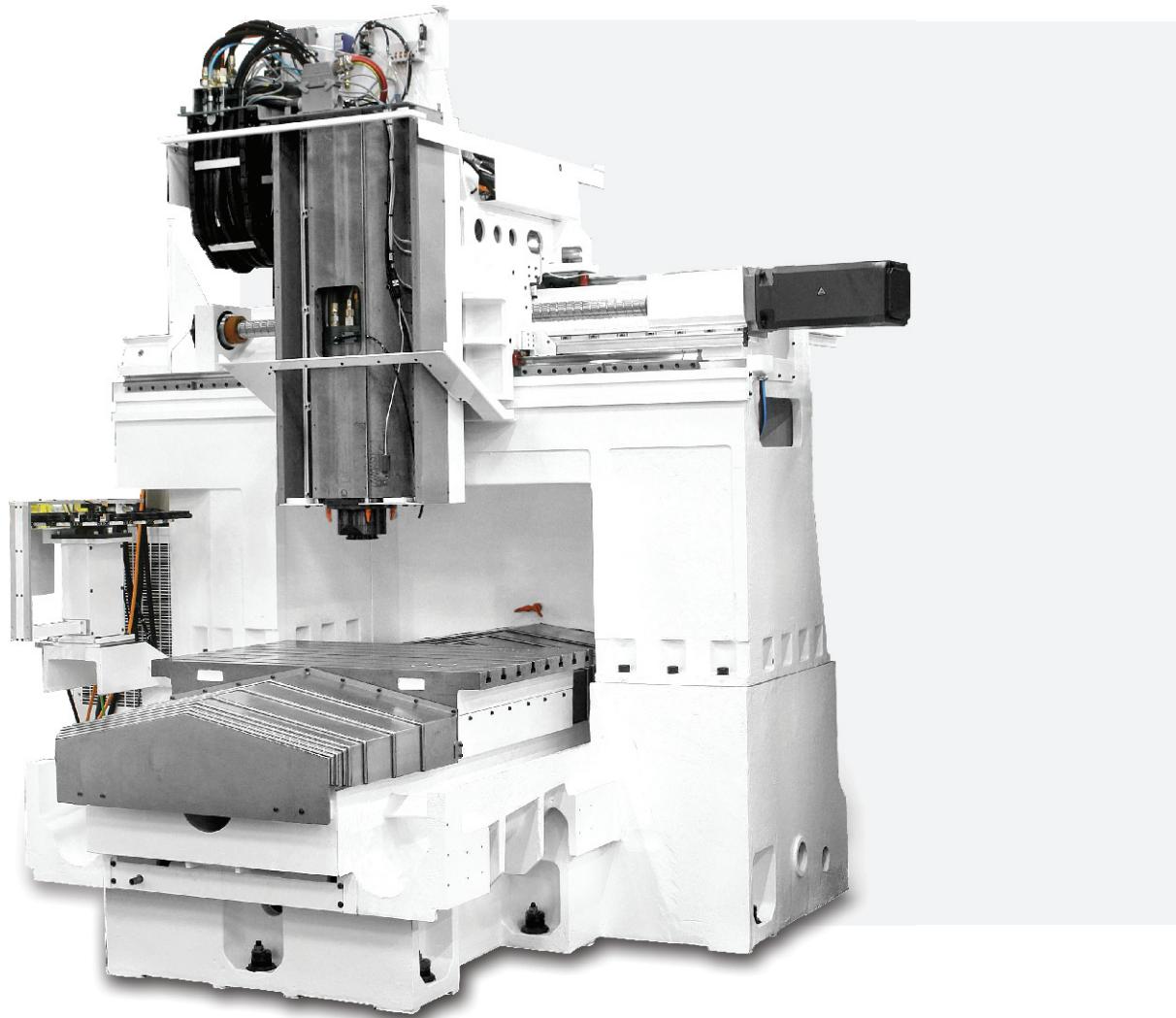


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Bridge Type Vertical Machining Center

## OVERVIEW

The High Precision machining centers, K Mill enables machining operations in 3 axis, from roughing to finishing operations of all kind of complex work pieces such as injection moulds, forging dies, punching dies, cutting tools and aeronautic jobs. These vertical machining centers are projected to be at the highest level in its category. Combination of dynamics and accuracy allows to obtain very high quality surfacing.



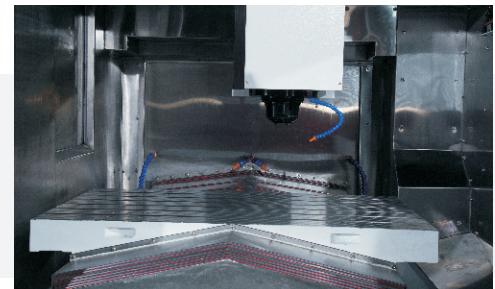
## RIGID AND STABLE STRUCTURE

- Structure with fixed portal in ribbed cast iron with wall stiffness
- Cast iron with a high mechanical performance which maximises structure rigidity, allows optimum harmonic stability and maximum damping during demanding cutting conditions
- Machine secured on foundation with equally distributed weight over fixing points enabling extreme rigidity and a very high geometrical stability
- Modular design allows maximum flexibility in machine configuration to adapt to the technical requirements of customer



## STRUCTURAL ADVANTAGES

- 3-Axis machining for large size of workpiece upto **1500kg** weight
- Hard material machining in a minimal time with high feed rate
- Ability to machining with Higher Dynamic
- HSM (High Speed Machining) capable machine



## PRECISION LINEAR AXIS

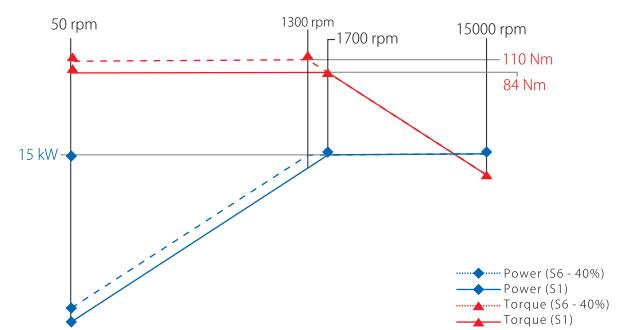
- Pre-loaded bearings to remove inversion backlash and axial stress on ballscrews enabling a high quality of surface finishing
- On K Mill 8nvu, linear guideways on all axes allowing high feedrates upto **40 m/min**
- On K Mill 10nvu, guiding on Z-axis is done by friction with turcite coating



## HIGH SPEED ELECTRO-SPINDLE

- High speed electro-spindle with high torque allowing high material removal rate
- Mechanical clamping with disc spring & Unclamp with hydraulic control
- Taper cleaning by compressed air
- Air wall for spindle protection
- Spindle cooling system to avoid thermal effect

K Mill nvu	
Taper	BT 40
Rotating Speed	15000 rpm
Power	15 kW
Torque	110 Nm / 84 Nm
Characteristic Speed	1700 / 1300 rpm



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## ERGONOMIC DESIGN

The machine built with much advanced ergonomically arranged design features with attractive and dynamic look of machine guarding and awesome LED lighting makes the machine outstanding in it's class.

### DISC TYPE AUTOMATIC TOOL CHANGER

Tool magazine outside working area.



### EFFICIENT CHIP FLOW

Two side evacuation channels discharge the chips to a third cross conveyor located at the front of the machine with the help of flush coolant.

### EASY ACCESSIBILITY OF JOB LOADING

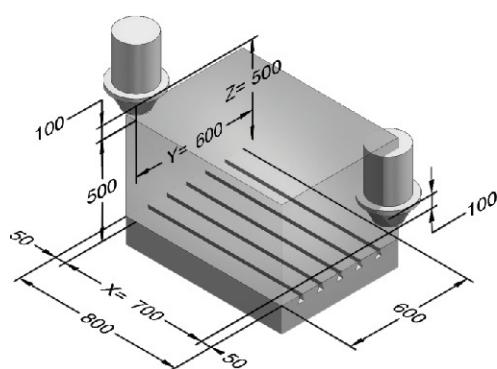
Heavy components can be easily loaded/unloaded from wide front & side door entry as well as from top of the machine with the help of crane.

### OPERATOR PANEL POSITION

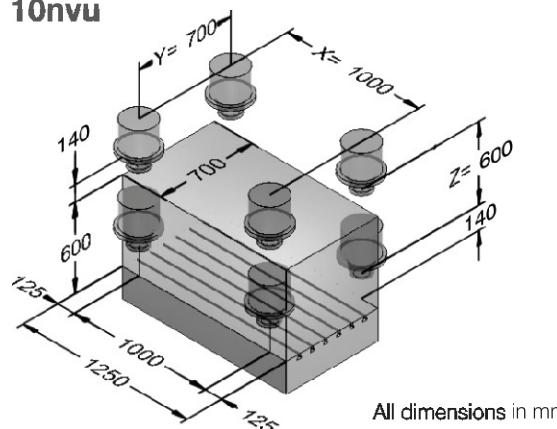
A operating panel position help the operator to view the machining area while operating.

## INTERFERENCE DIAGRAM

### K Mill 8nvu



### K Mill 10nvu



All dimensions in mm



## TECHNICAL SPECIFICATION

<b>Table</b>		<b>K Mill 8 nvu</b>	<b>K Mill 10 nvu</b>
Table Size	mm	800 x 600	1250 x 700
T-Slot-Dimension	mm	5 x 18 x 100	6 x 18 x 100
Distance from Floor to Table	mm	848	965
Max. Load on Table	kgf	500	1500
<b>Capacity</b>			
X-Axis Travel	mm	700	1000
Y-Axis Travel	mm	600	700
Z-Axis Travel	mm	500	600
Dist. From Spindle Face to Table Top (Min.-Max.)	mm	100 - 600	140 - 740
<b>Feed</b>			
Rapid Traverse ( X, Y & Z Axis)	m/min	40 / 40 / 40	30 / 30 / 18
Cutting Feed	m/min	10	10
<b>Main Spindle</b>			
Spindle Motor Speed	rpm	15000	15000
Spindle Motor Power - Siemens	kW	15	15
Front Bearing Bore	mm	70	70
Spindle Nose		BT 40	BT 40
<b>Automatic Tool Changer</b>			
Number of Tools		24	24
Max. Tool Dia. Pockets (All/Adj. Empty)	mm	90/120	90/120
Max. Tool Weight	kg	8	8
Max. Tool Length	mm	300	300
<b>Accuracy (as per VDI/DGQ 3441)</b>			
Positioning Uncertainty (P)	mm	0.010	0.015
Repeatability (Ps Medium)	mm	0.005	0.007
<b>Other Data</b>			
Machine Weight # (Approx.)	kg	7000	10500
Machine Dimension # (Approx.) :			
Length	mm	2600	2610
Width	mm	4480	4840
Height	mm	2800	2850

### CONTROL SYSTEM

The CNC System SIEMENS 828D offered with the K Mill nvu Series machine.

### STANDARD FEATURES

- AC Spindle Drive
- AC SERVO Axis Drive
- L.M. Guideways
- Auto & Manual Coolant System
- Centralized & Programmable Lubrication
- Laser Calibrated Axis for High Precise Positing Accuracy and Repeatability
- Chip Conveyor
- Flush Coolant System
- Electrical with Quality Devices & Panel with A.C.
- Work Light

### PRODUCTIVITY IMPROVING OPTIONS

- 30 Tool ATC
- High Speed 18,000rpm Spindle
- Micro Spraying Coolant
- Coolant Through Spindle
- Job Probe & Tool Probe
- Coolant Gun
- Spin Window
- Oil Separator
- Linear Glass Scale
- Tool Tip Air Nozzle (For Dry Cutting)
- Tool Life Management
- 4<sup>th</sup> & 5<sup>th</sup> Axis Option
- Easy SMS System (Siemens)
- Fully Toolled up Solutions to Meet the Customer Needs

# Refer machine detail layout for weight & overall space requirements

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Note: Specified information are subject to change arising out of continuous product improvement without notice. The description standard accessories/feature conforms to its list; not the photo of machine show in the catalogue. Other controller will have different configuration. Machine images are shown with option.

