



# *K<sup>mill</sup> Series*

**Vertical machining centre with portal**

Performance  
Technology  
Power  
Accuracy





# K<sup>mill</sup> Series

The K<sup>mill</sup> range, portal-structured machine, incarnates the most efficient concept for machining complex parts along three axes, from roughing to finishing.

This Series of machines combines dynamic action and precision for top quality surface finishes, especially for 3D shapes for moulds, forgings and tooling.

- 3 axes machining for workpiece up to 1.500 kg
- Hard material machining in a minimal time

## Structure :

### Rigidity and Accuracy

- Reinforced portal ribbed cast iron structure for greater rigidity
- Cast iron with a high mechanical performance which maximises structure rigidity and allows optimum harmonic stability and maximum damping during demanding cutting conditions
- Machine secured on foundation with weight equally distributed 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

### Linear axes

- Preloaded ballscrews with integrated system of compensation for expansion
- Preloaded bearings to remove inversion backlash and axial stress on ballscrews enabling a high quality of surfacing
- Linear guideways on X, Y and Z axes (K<sup>mill</sup> 8) allowing high feedrates
- Guiding on Z axis done by friction with Turcite coating (K<sup>mill</sup> 10)
- Automatic grease lubrication of ballscrews and bearings minimising the pollution of coolant and reducing consumption



### Electrospindle

- Powerful spindle with high torque allowing high metal removal rate
- Special liquid cooler for maintaining the thermal stability of the spindle
- Spindle bearings lubricated with grease
- Thermal expansion compensation

### Numerical controller

- Ergonomic design
- Very high capacity of memory and calculation
- Interactive programming
- Graphic simulation before machining for optimal safety

### Environment - Ergonomics

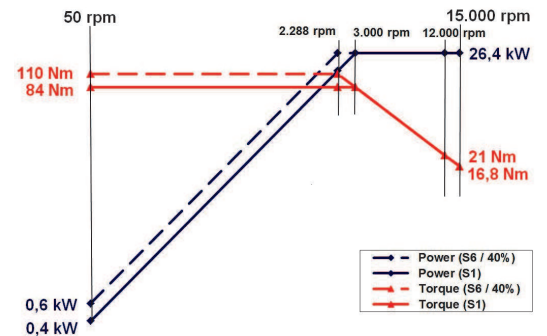
- Evacuation channels for chips equipped with washing device
- Tool magazine outside of working area
- Complete safeguard ensuring a safety of the machine, the operator and environment
- Very large accessibility from the top and the side thanks to a very big opening of the doors allowing loading of workpiece with crane
- Operator panel



## Electrospindle

K<sup>mill</sup> 8/10

Taper	ISO 40
Rotating speed	15.000 rpm
Power (S1/S6)	26,4 / 26,4 kW
Torque (S1/S6)	84 / 110 Nm
Characteristic speed	3.000 rpm



## Tool changer

K<sup>mill</sup> 8/10

The loading/unloading of tools is made in vertical position

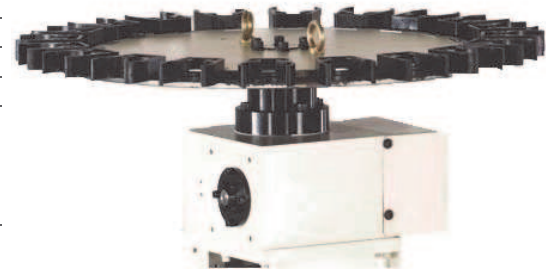
Type	Drup / Pick Up
Number of housings	30
Taper	ISO 40

### Tool size

Max. Ø of tool	90 mm
Max. length	300 mm
Max. weight	7 kg

### Tool changing time

tool to tool - chip to chip	5 sec - 15 sec
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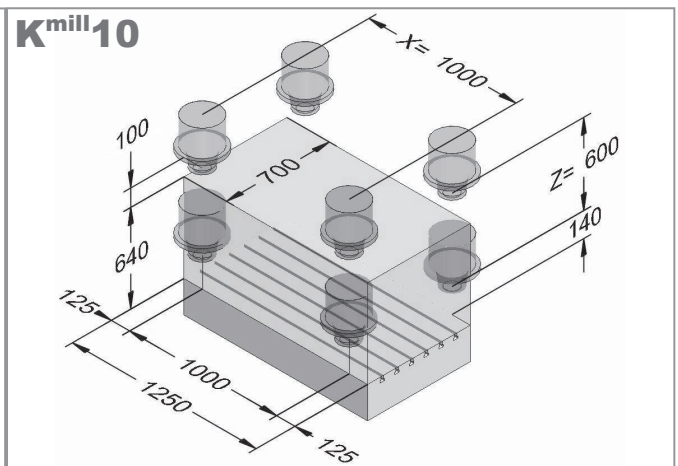
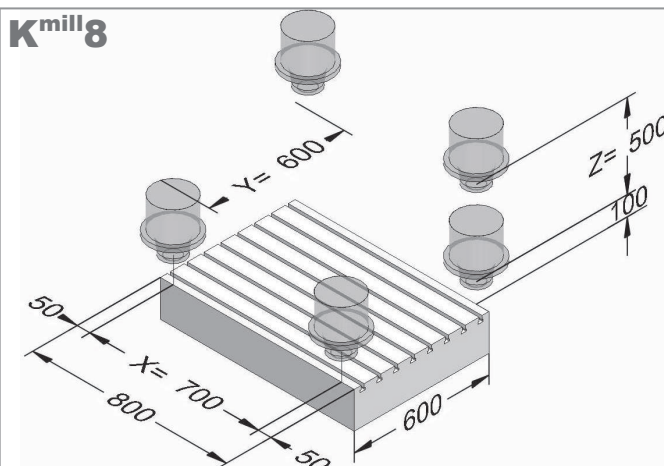


## Table

K<sup>mill</sup> 8

K<sup>mill</sup> 10

Table size	800 x 600 mm	1.250 x 700 mm
Admissible load	500 kg	1.500 kg
Number of T slots	5	6
Distance between slots	100 mm	100 mm
Size of referring slot	18 H 7 mm	18 H 7 mm
Size of other slots	18 H 12 mm	18 H 12 mm
Distance from floor to top table	848 mm	930 mm
Distance min/max spindle face / top table	100 mm / 600 mm	140 mm / 740 mm
Distance under portal	485 mm	670 mm





## Technical specifications

Linear axes X/Y/Z		K <sup>mill</sup> 8	K <sup>mill</sup> 10
Travels	mm	700 x 600 x 500	1.000 x 700 x 600
Rapid feedrates	m/min	X - Y - Z = 40 m/min	X - Y = 30 m/min Z = 18 m/min
Accelerations on axes	m/s <sup>2</sup>	X - Z = 5 m/s <sup>2</sup> Y = 4 m/s <sup>2</sup>	X - Y - Z = 3 m/s <sup>2</sup>
<b>Table</b>			
Table size	mm	800 x 600	1.250 x 700
Admissible load	kg	500	1.500
<b>Electrospindle</b>			
Rotating speed	rpm	15.000	15.000
Taper		ISO 40	ISO 40
Power - Torque (S1/S6)	kW/Nm	26,4 / 26,4 - 84 / 110	26,4 / 26,4 - 84 / 110
Characteristic speed	rpm	3.000	3.000
<b>Accuracy on linear axes</b>			
Positioning uncertainty : P		X - Y - Z = 10 μ	X - Y = 15 μ Z = 7 μ
Repeatability : Ps medium		X - Y - Z = 5 μ	X - Y = 7 μ Z = 5 μ
<b>Tool changer</b>			
Qty of housings		30	30
Taper		ISO 40	ISO 40
Tool size : Length - Ø - Weight	mm - mm - kg	300 - 90 - 7	300 - 90 - 7
<b>Coolant</b>			
Flow - Pressure	l/min - bar	30 - 3	30 - 3
Tank	liters	150	150
<b>Other datas</b>			
NC available		Siemens / Heidenhain	Siemens / Heidenhain
Weight of the machine	kg	7.000	10.500
Width x Length	mm	4.100 x 2.050	4.590 x 2.840
Height	mm	3.060	3.060

### Standard machine

- In compliance with the directive « Machine » 2006/42 CE
- Vertical spindle
- Tool changer 30 housings
- Low pressure coolant 3 bar
- Coolant tank
- Washing of chips recuperation system
- Washing gun
- Complete safeguard
- Chips conveyor
- Electronic portable handwheel
- Linear measuring scale on Z axis (K<sup>mill</sup>10)

### Equipments as options

- Taper HSK 63-A
- Medium coolant pressure 20 bar
- Air blowing by nozzles
- Part probe
- Tool probe
- Linear measuring scales on X, Y and Z (K<sup>mill</sup>8)
- Linear measuring scales on X and Y (K<sup>mill</sup>10)



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