



# GANTRY MILLING MACHINE

ENDURA® 7000LINEAR

THERMO-SYMMETRIC DESIGN



SPECIALIST FOR HIGH-PERFORMANCE MACHINING OF HIGH STRENGTH MATERIALS

# GANTRY MILLING MACHINE

## ENDURA® 7000LINEAR

### TECHNICAL DATA

#### Traverse paths

X-axis:	3,000 / 4,500 / 6,000 mm
Y-axis:	3,500 / 4,000 / 4,500 mm
Z-axis:	1,500 mm

#### Position accuracy

in X ( $P_{ar}$ )	0.015 mm
in Y ( $P_{ar}$ )	0.015 mm
in Z ( $P_{ar}$ )	0.015 mm

#### Continuously variable feed rates

X-axis:	5 - 65,000 mm/min
Y-axis:	5 - 65,000 mm/min
Z-axis:	5 - 65,000 mm/min

#### Position deviation

in X ( $P_s$ )	0.010 mm
in Y ( $P_s$ )	0.010 mm
in Z ( $P_s$ )	0.010 mm

Acceleration up to 3.0 m/sec<sup>2</sup>

### HIGHLIGHTS

- High-performance machining of high strength materials
- Compact design
- Large machining chamber
- Small installation area
- Can be set up without additional foundation

#### Equipment

- Naturally rigid compact machine with enclosed machine bed.
- Resistant, highly dynamic linear motors in all linear axes (X, Y and Z) and torque motors in the rotary axes (C and A).
- Direct measuring systems in all axes (X, Y, Z, C and A).
- Safety systems and brakes in all linear axes (X, Y and Z).
- Drive units efficiently protected by bellows.

#### Additional equipment

- Automatic tool changer
- Minimum quantity spray dosing system
- Cooling system (wet operation)
- Tool measuring systems
- Workpiece measuring systems
- Chips and dust disposal systems
- Emulsion mist suction unit
- Plane cover/Sound insulation enclosure
- Online Service
- and much more



TORQUE MOTORS  
IN C- AND A-AXIS

DIRECT MEASURING  
SYSTEMS IN C- AND  
A-AXIS

## MILLING HEAD 8

### C-axis

(Milling head rotary axis)

Pivoting angle: 550° (+/-275°)  
 Pivoting torque: 3,000 Nm  
 Clamping torque: 6,000 Nm  
 Revolution: 360°/sec  
 Axis acceleration: 800°/sec<sup>2</sup>  
 Position accuracy: 15" (0.0041°)  
 Position deviation: 10" (0.0027°)

### A-axis

(Spindle pivoting axis)

Pivoting angle: 220° (+/-110°)  
 Pivoting torque: 3,000 Nm  
 Clamping torque: 6,000 Nm  
 Revolution: 360°/sec  
 Axis acceleration: 800°/sec<sup>2</sup>  
 Position accuracy: 15" (0.0041°)  
 Position deviation: 10" (0.0027°)

### High-frequency milling spindle 1

Tool holding fixture: HSK100 A  
 max. power: 50 kW  
 max. rpm: 20,000 rpm  
 max. torque: 251 Nm

### High-frequency milling spindle 2

Tool holding fixture: HSK100 A  
 max. power: 63 kW  
 max. rpm: 15,000 rpm  
 max. torque: 300 Nm

### High-frequency milling spindle 3

Tool holding fixture: HSK63 A  
 max. power: 125 kW  
 max. rpm: 30,000 rpm  
 max. torque: 60 Nm

### High-frequency milling spindle 4

Tool holding fixture: HSK100 A  
 max. power: 150 kW  
 max. rpm: 20,000 rpm  
 max. torque: 96 Nm

### Milling head 8

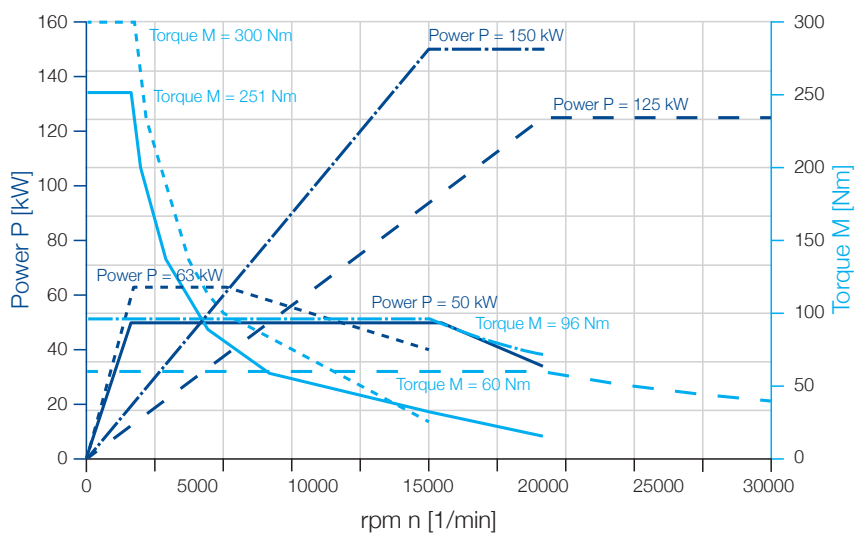
#### High-frequency milling spindle

HSK100 A  
 with 50 kW, 20,000 rpm ———  
 with 63 kW, 15,000 rpm - - - - -  
 with 150 kW, 20,000 rpm - · - · -

#### High-frequency milling spindle

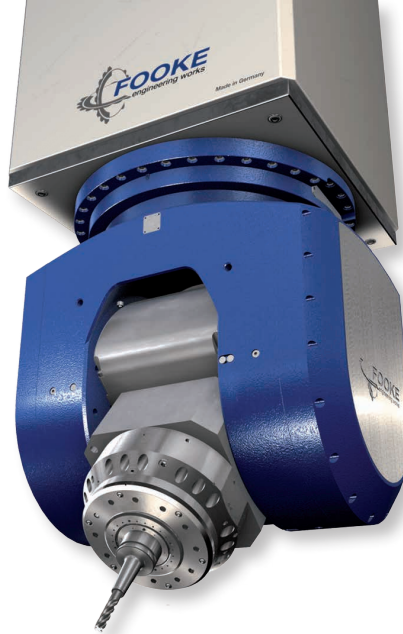
HSK63 A  
 with 125 kW, 30,000 rpm - - - -

Spindle also available with other performance characteristics



### MATERIAL

Plastics	Blockmaterials for modelling	Composite materials (CFRP/GRP)	Aluminium	Cast Iron	Steel
-	-	-	+	+	+



TORQUE MOTORS  
IN C- AND A-AXIS

DIRECT MEASURING  
SYSTEMS IN C- AND  
A-AXIS

## MILLING HEAD 12

### C-axis

(Milling head rotary axis)

Pivoting angle: 550° (+/-275°)  
 Pivoting torque: 2,500 Nm  
 Clamping torque: 5,500 Nm  
 Revolution: 360°/sec  
 Axis acceleration: 1200°/sec<sup>2</sup>  
 Position accuracy: 15" (0.0041°)  
 Position deviation: 10" (0.0027°)

### A-axis

(Spindle pivoting axis)

Pivoting angle: 220° (+/-110°)  
 Pivoting torque: 1,100 Nm  
 Clamping torque: 6,900 Nm  
 Revolution: 360°/sec  
 Axis acceleration: 1200°/sec<sup>2</sup>  
 Position accuracy: 15" (0.0041°)  
 Position deviation: 10" (0.0027°)

### High-frequency milling spindle 1

Tool holding fixture: HSK100 A  
 max. power: 50 kW  
 max. rpm: 10,000 rpm  
 max. torque: 400 Nm

### High-frequency milling spindle 2

Tool holding fixture: HSK100 A  
 max. power: 60 kW  
 max. rpm: 15,000 rpm  
 max. torque: 300 Nm

### High-frequency milling spindle 3

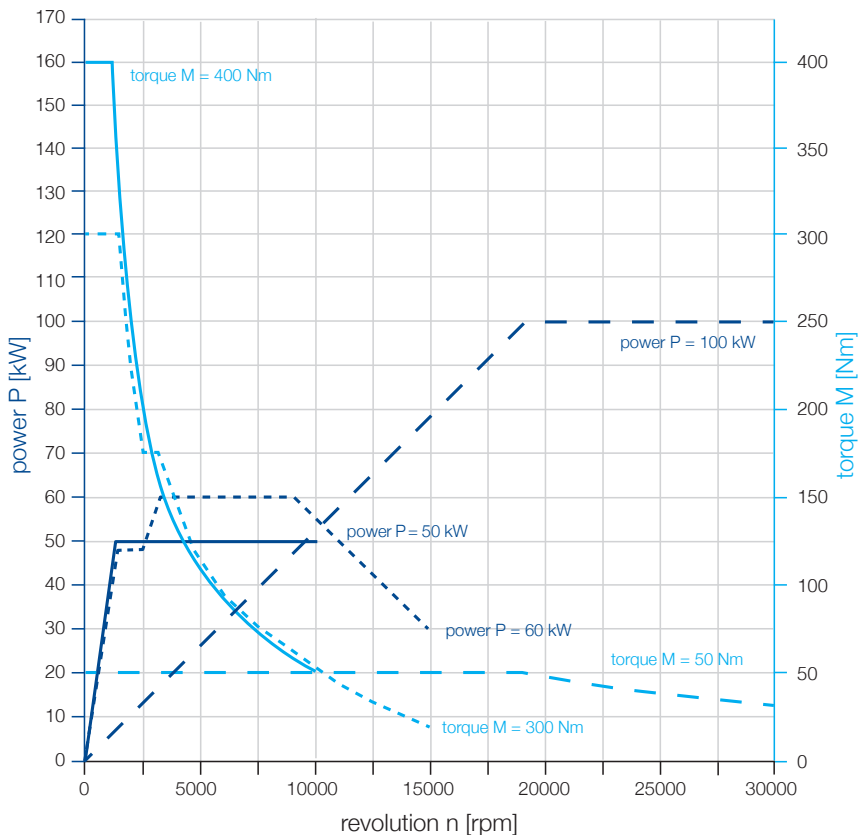
Tool holding fixture: HSK63 A  
 max. power: 100 kW  
 max. rpm: 30,000 rpm  
 max. torque: 50 Nm

### Milling head 12

High-frequency milling spindle HSK100A  
 with 50 kW, 10,000 rpm ———  
 with 60 kW, 15,000 rpm - - - - -

High-frequency milling spindle HSK63A  
 with 100 kW, 30,000 rpm - - - - -

Spindle also available with other performance characteristics



### MATERIAL

Plastics	Blockmaterials for modelling	Composite materials (CFRP/GRP)	Aluminium	Cast Iron	Steel
-	-	-	+	+	+



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