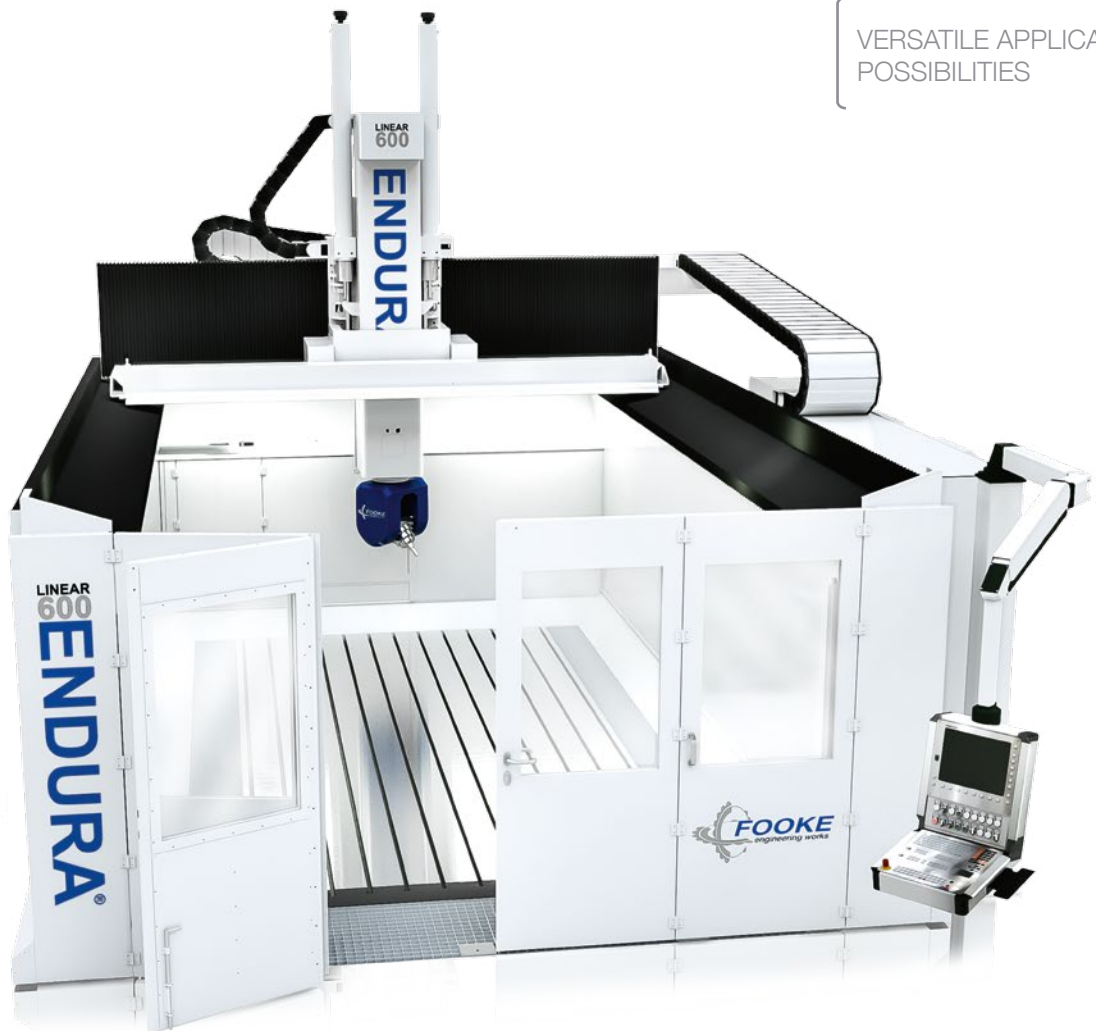




GANTRY MILLING MACHINE

ENDURA® 600LINEAR

VERSATILE APPLICATION
POSSIBILITIES



MEDIUM-WEIGHT
GANTRY MILLING MACHINE

GANTRY MILLING MACHINE ENDURA® 600LINEAR

TECHNICAL DATA

Traverse paths

| | |
|---------|-------------------|
| X-axis: | 5,000 - 30,000 mm |
| Y-axis: | 2,800 / 3,500 mm |
| Z-axis: | 1,500 / 2,000 mm |

Position accuracy

| | |
|----------------|----------|
| in X (P_a) | 0.030 mm |
| in Y (P_a) | 0.020 mm |
| in Z (P_a) | 0.015 mm |

Feed rate

| | |
|---------|-------------------|
| 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) | 0.015 mm |
| in Y (P_s) | 0.010 mm |
| in Z (P_s) | 0.010 mm |

Acceleration up to 3.0 m/sec²

HIGHLIGHTS

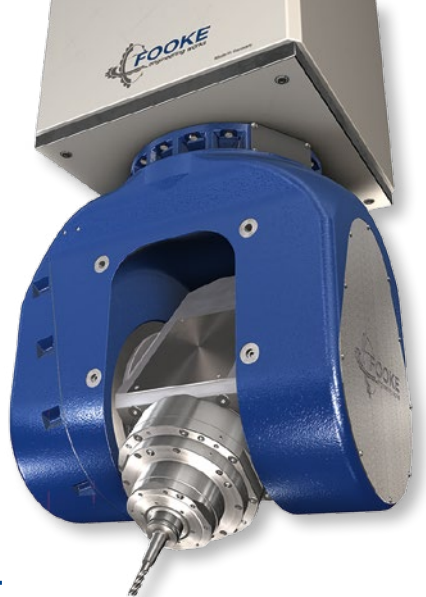
- Very large enclosed milling chamber
- Efficient dust suction and conveyance
- Direct drive in all axes
(linear and torque motors)
- Loadable at ground level

Equipment

- Resistant, highly powerful linear motors in all linear axes (X, Y and Z) and torque motors in all rotary axes.
- Direct measuring systems in all axes (X, Y, Z, C and A).
- Safety system and brakes in all linear axes (X, Y and Z).
- Drive units efficiently protected by bellows.
- Extremely fast and highly dynamic overhead X-axis gantry milling machine.
- Easily accessible ground-level milling chamber facilitates loading and unloading with crane or forklift.

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
- 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 4

C-axis

(Milling head rotary axis)

Pivoting angle: 550° (+/-275°)
 Pivoting torque: 570 Nm
 Clamping torque: 3,000 Nm
 Revolution: 360°/sec
 Axis acceleration: 1,200°/sec²
 Position accuracy: 15" (0.0041°)
 Position deviation: 10" (0.0027°)

A-axis

(Spindle pivoting axis)

Pivoting angle: 220° (+/-110°)
 Pivoting torque: 570 Nm
 Clamping torque: 2,000 Nm
 Revolution: 360°/sec
 Axis acceleration: 1,200°/sec²
 Position accuracy: 15" (0.0041°)
 Position deviation: 10" (0.0027°)

High-frequency milling spindle 1

Tool holding fixture: HSK63 A
 max. power: 39 kW
 max. rpm: 24,000 rpm
 max. torque: 32 Nm

High-frequency milling spindle 2

Tool holding fixture: HSK63 A
 max. power: 42 kW
 max. rpm: 24,000 rpm
 max. torque: 67 Nm

High-frequency milling spindle 3

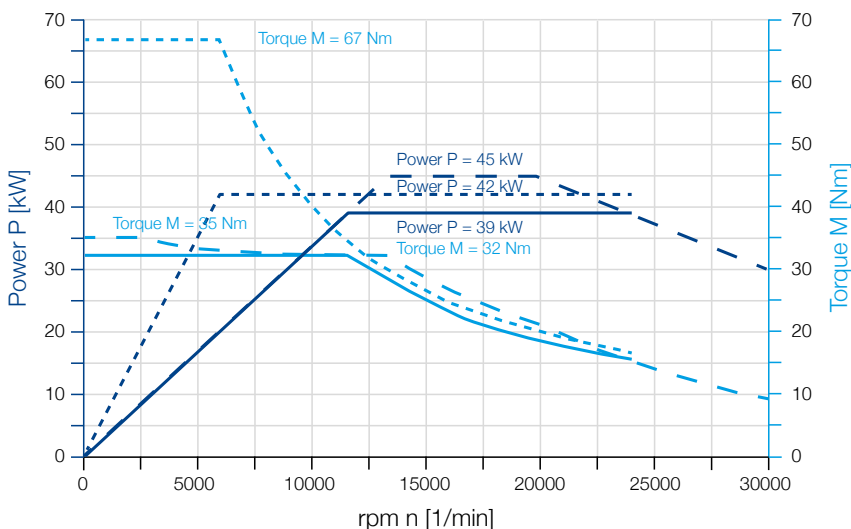
Tool holding fixture: HSK63 A
 max. power: 45 kW
 max. rpm: 30,000 rpm
 max. torque: 35 Nm

Milling head 4

High-frequency milling spindle
 HSK63 A

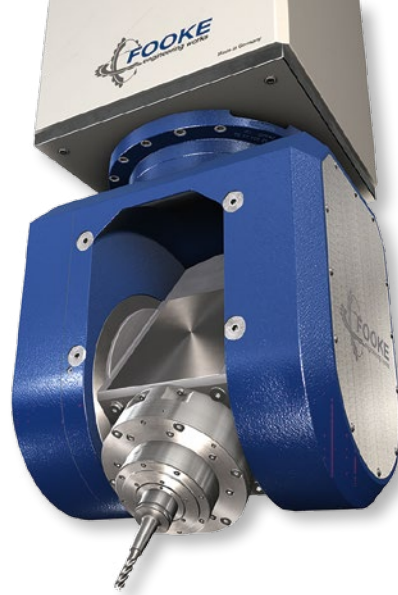
with 39 kW, 24,000 rpm ———
 with 42 kW, 24,000 rpm - - - - -
 with 45 kW, 30,000 rpm - - - - -

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 11

C-axis

(Milling head rotary axis)

Pivoting angle: 550° (+/-275°)
 Pivoting torque: 170 Nm
 Clamping torque: 750 Nm
 Revolution: 300°/sec
 Axis acceleration: 600°/sec²
 Position accuracy: 15" (0.0041°)
 Position deviation: 10" (0.0027°)

A-axis

(Spindle pivoting axis)

Pivoting angle: 220° (+/-110°)
 Pivoting torque: 250 Nm
 Clamping torque: 750 Nm
 Revolution: 300°/sec
 Axis acceleration: 600°/sec²
 Position accuracy: 15" (0.0041°)
 Position deviation: 10" (0.0027°)

High-frequency milling spindle 1

Tool holding fixture: HSK63 A
 max. power: 20 kW
 max. rpm: 22,000 rpm
 max. torque: 30 Nm

High-frequency milling spindle 2

Tool holding fixture: HSK63 A
 max. power: 20 kW
 max. rpm: 30,000 rpm
 max. torque: 21.5 Nm

High-frequency milling spindle 3

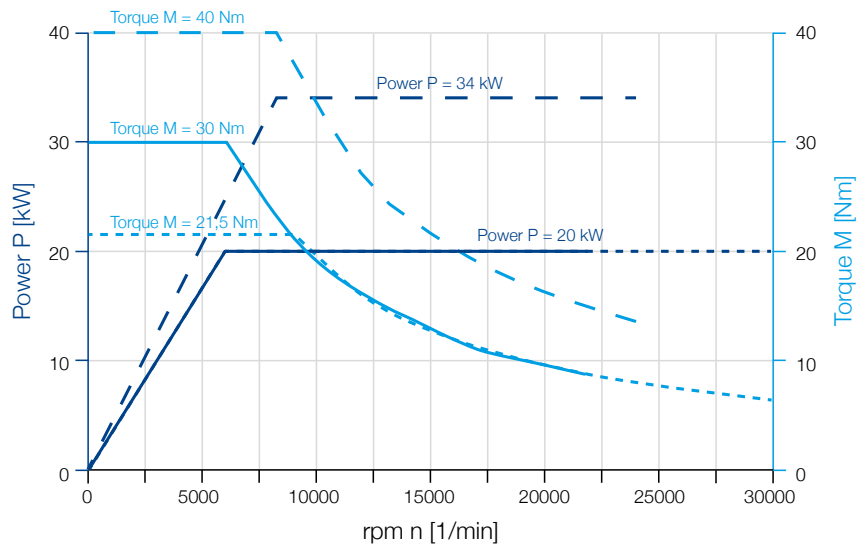
Tool holding fixture: HSK63 A
 max. power: 34 kW
 max. rpm: 24,000 rpm
 max. torque: 40 Nm

Milling head 11

High-frequency milling spindle
 HSK63A

with 20 kW, 22,000 rpm ———
 with 20 kW, 30,000 rpm - - - - -
 with 34 kW, 24,000 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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