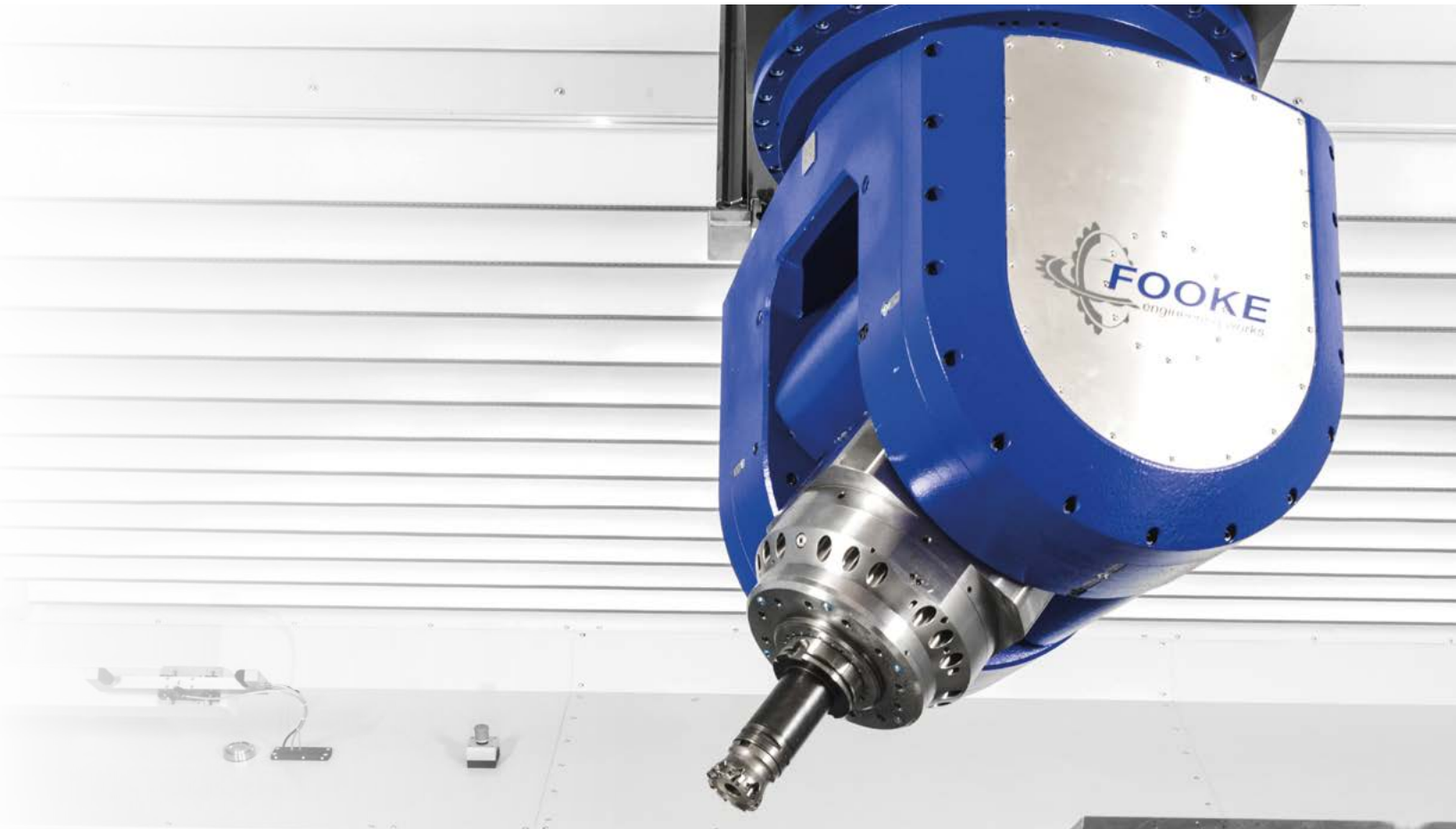


# MILLING HEADS

THE WHOLE WORLD OF PRECISION.



# GANTRY MILLING MACHINES

EXCELLENT QUALITY OF MOTION CONTROL.



FK 4

FK 8

FK 9

FK 10

FK 11

FK 12

FK 15

## C-axis (Milling head rotary axis)

Pivoting angle:	550° (+/-275°)
Pivoting torque:	420.4 ft-lb (570 Nm)
Clamping torque:	2,212.7 ft-lb (3,000 Nm)
Revolution:	360°/sec
Axis acceleration:	1,200°/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:	420.4 ft-lb (570 Nm)
Clamping torque:	1,475.1 ft-lb (2,000 Nm)
Revolution:	360°/sec
Axis acceleration:	1,200°/sec <sup>2</sup>
Position accuracy:	15" (0.0041°)
Position deviation:	10" (0.0027°)

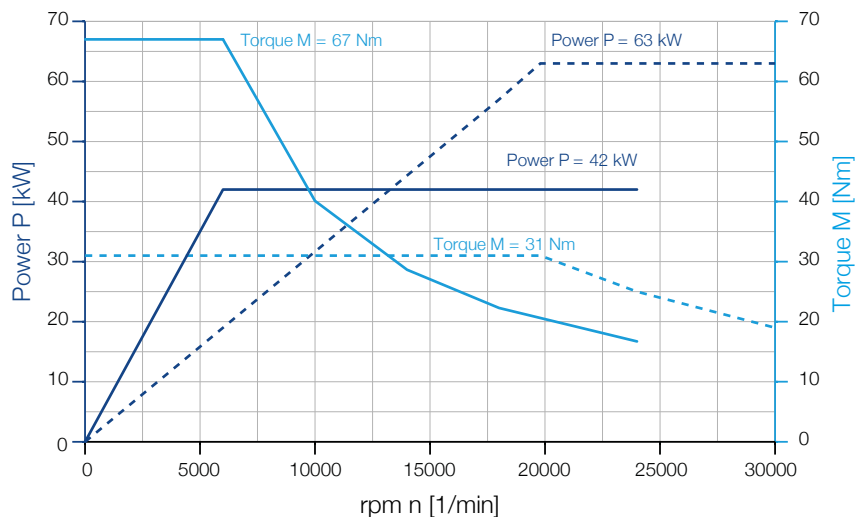


TORQUE MOTORS  
IN C- AND A-AXIS

DIRECT MEASURING SYSTEM  
IN C- AND A-AXIS

OPTIONALLY AVAILABLE WITH  
SUCTION AROUND THE SPINDLE

High-frequency milling spindle	Tool holding fixture	max. Power [kW]	max. rpm [1/min]	max. Torque [ft-lb] / [Nm]
HF-Milling spindle —	HSK-A63	42	24,000	49.4 / 67
HF-Milling spindle - - - -	HSK-A63	63	30,000	22.9 / 31



S1 100% DC

Milling spindles with  
other performances  
data on request

MILLING HEAD DATA

C-axis (Milling head rotary axis)

Pivoting angle:	550° (+/-275°)
Pivoting torque:	2,212.7 ft-lb (3,000 Nm)
Clamping torque:	4,425.4 ft-lb (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:	2,212.7 ft-lb (3,000 Nm)
Clamping torque:	4,425.4 ft-lb (6,000 Nm)
Revolution:	360°/sec
Axis acceleration:	800°/sec <sup>2</sup>
Position accuracy:	15" (0.0041°)
Position deviation:	10" (0.0027°)

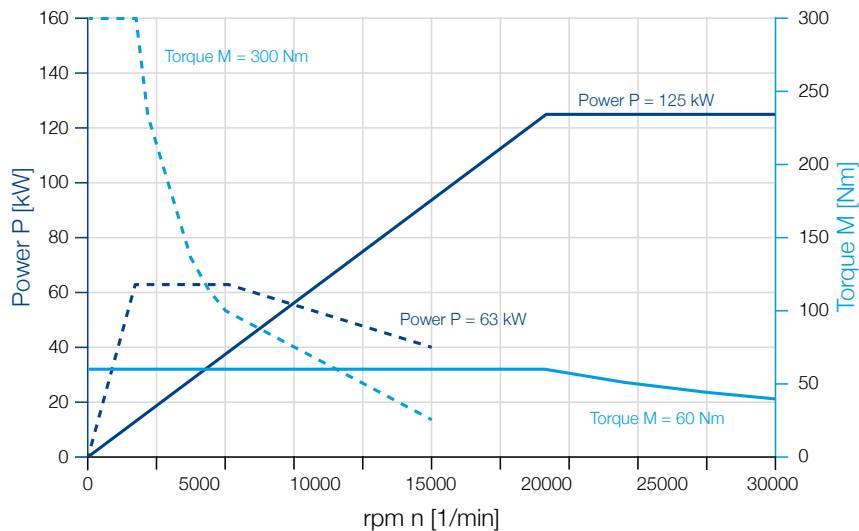


TORQUE MOTORS IN C- AND A-AXIS

DIRECT MEASURING SYSTEM IN C- AND A-AXIS

SPINDLE DATA

High-frequency milling spindle	Tool holding fixture	max. Power [kW]	max. rpm [1/min]	max. Torque [ft-lb] / [Nm]
HF-Milling spindle ———	HSK-A63	125	30.000	44.3 / 60
HF-Milling spindle - - - -	HSK-A100	63	15.000	221.3 / 300



S1 100% DC

Milling spindles with other performances data on request

MILLING HEAD DATA

C-axis (Milling head rotary axis)

Pivoting angle:	550° (+/-275°)
Pivoting torque:	590 ft-lb (800 Nm)
Clamping torque:	1,180.1 ft-lb (1,600 Nm)
Revolution:	60°/sec
Axis acceleration:	600°/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:	590 ft-lb (800 Nm)
Clamping torque:	1,180.1 ft-lb (1,600 Nm)
Revolution:	60°/sec
Axis acceleration:	600°/sec <sup>2</sup>
Position accuracy:	15" (0.0041°)
Position deviation:	10" (0.0027°)



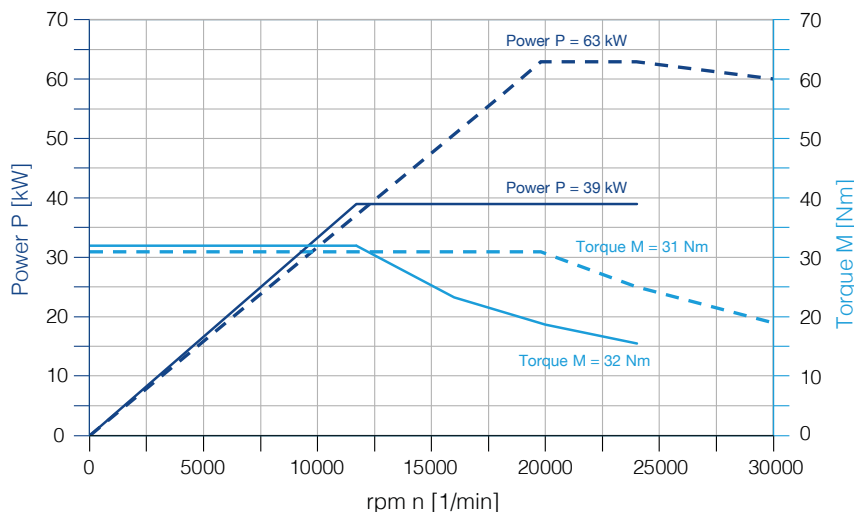
TORQUE MOTORS  
IN C- AND A-AXIS

DIRECT MEASURING SYSTEM  
IN C- AND A-AXIS

WITH INTEGRATED  
SUCTION UNIT

SPINDLE DATA

High-frequency milling spindle	Tool holding fixture	max. Power [kW]	max. rpm [1/min]	max. Torque [ft-lb] / [Nm]
HF-Milling spindle ———	HSK-A63	39	24,000	23.6 / 32
HF-Milling spindle - - - -	HSK-A63	63	30,000	22.9 / 31



S1 100% DC

Milling spindles with  
other performances  
data on request

MILLING HEAD DATA

C-axis (Milling head rotary axis)

Pivoting angle:	550° (+/-275°)
Pivoting torque:	258.2 ft-lb (350 Nm)
Clamping torque:	560.5 ft-lb (760 Nm)
Revolution:	300°/sec
Axis acceleration:	600°/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:	258.2 ft-lb (350 Nm)
Clamping torque:	619.6 ft-lb (840 Nm)
Revolution:	300°/sec
Axis acceleration:	600°/sec <sup>2</sup>
Position accuracy:	15" (0,0041°)
Position deviation:	10" (0,0027°)

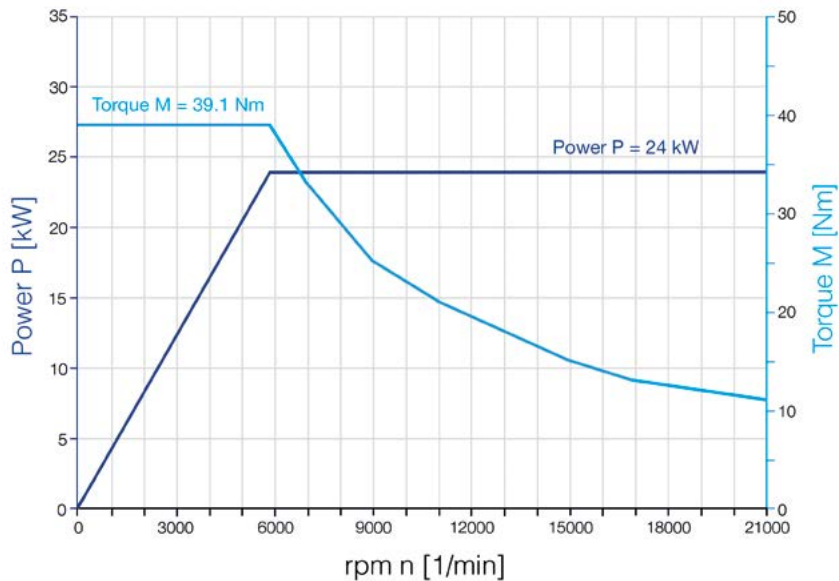


TORQUE MOTORS  
IN C- AND A-AXIS

DIRECT MEASURING SYSTEM  
IN C- AND A-AXIS

SPINDLE DATA

High-frequency milling spindle	Tool holding fixture	max. Power [kW]	max. rpm [1/min]	max. Torque [ft-lb] / [Nm]
HF-Milling spindle —	HSK-A63	24	21,000	28.8 / 39.1



S1 100% DC  
Milling spindles with  
other performances  
data on request

MILLING HEAD DATA

C-axis (Milling head rotary axis)

Pivoting angle:	550° (+/-275°)
Pivoting torque:	258.2 ft-lb (350 Nm)
Clamping torque:	619.6 ft-lb (840 Nm)
Revolution:	300°/sec
Axis acceleration:	600°/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:	258.2 ft-lb (350 Nm)
Clamping torque:	619.6 ft-lb (840 Nm)
Revolution:	300°/sec
Axis acceleration:	600°/sec <sup>2</sup>
Position accuracy:	15" (0.0041°)
Position deviation:	10" (0.0027°)



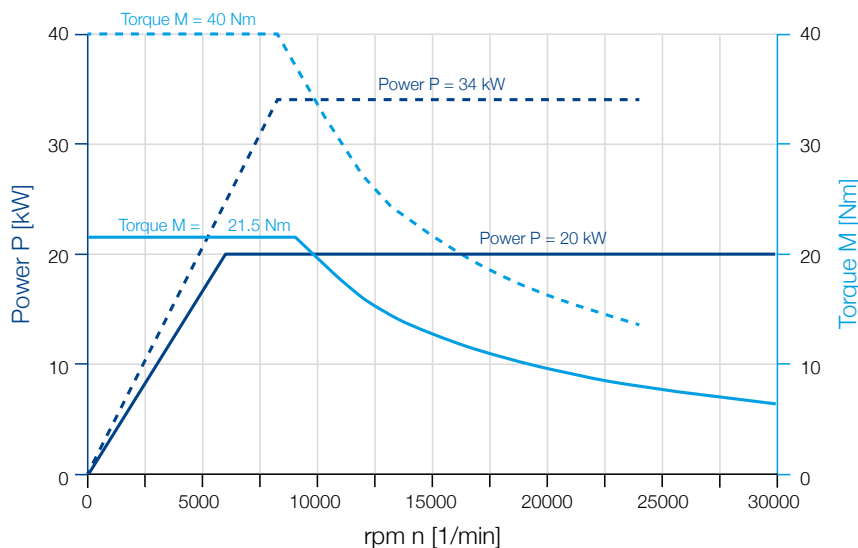
TORQUE MOTORS  
IN C- AND A-AXIS

DIRECT MEASURING SYSTEM  
IN C- AND A-AXIS

OPTIONALLY AVAILABLE WITH  
SUCTION AROUND THE SPINDLE

SPINDLE DATA

High-frequency milling spindle	Tool holding fixture	max. Power [kW]	max. rpm [1/min]	max. Torque [ft-lb] / [Nm]
HF-Milling spindle ———	HSK-A63	20	30,000	15.9 / 21.5
HF-Milling spindle - - - -	HSK-A63	34	24,000	29.5 / 40



S1 100% DC

Milling spindles with  
other performances  
data on request



MILLING HEAD DATA

C-axis (Milling head rotary axis)

Pivoting angle:	550° (+/-275°)
Pivoting torque:	1,843.9 ft-lb (2,500 Nm)
Clamping torque:	4,056.6 ft-lb (5,500 Nm)
Revolution:	360°/sec
Axis acceleration:	1,200°/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:	811.3 ft-lb (1,100 Nm)
Clamping torque:	5,089.2 ft-lb (6,900 Nm)
Revolution:	360°/sec
Axis acceleration:	1,200°/sec <sup>2</sup>
Position accuracy:	15" (0.0041°)
Position deviation:	10" (0.0027°)

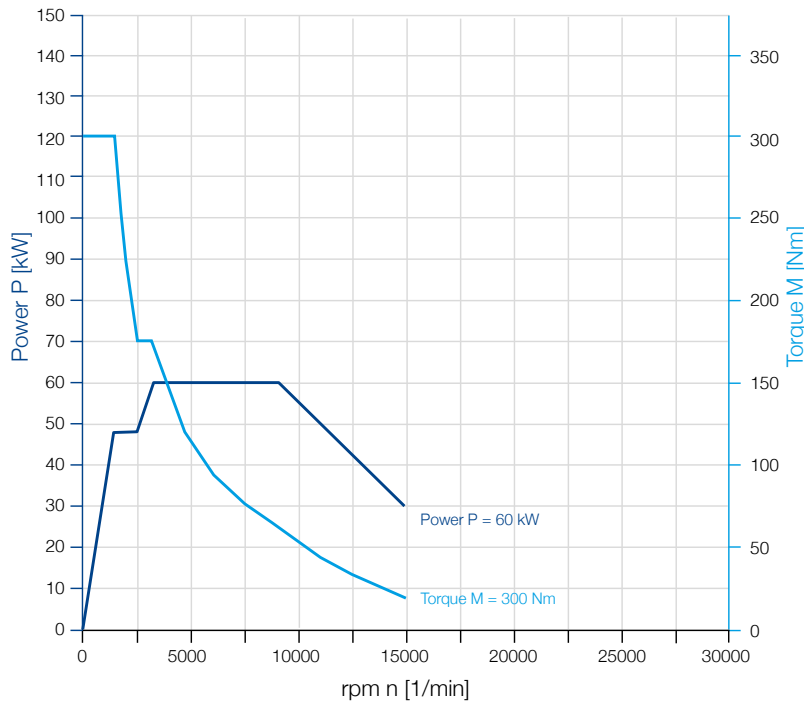


TORQUE MOTORS  
IN C- AND A-AXIS

DIRECT MEASURING SYSTEM  
IN C- AND A-AXIS

SPINDLE DATA

High-frequency milling spindle	Tool holding fixture	max. Power [kW]	max. rpm [1/min]	max. Torque [ft-lb] / [Nm]
HF-Milling spindle	HSK-A100	60	15,000	221.3 / 300



S1 100% DC

Milling spindles with  
other performances  
data on request

MILLING HEAD DATA

C-axis (Milling head rotary axis)

Pivoting angle:	550° (+/-275°)
Pivoting torque:	413.0 ft-lb / 840.1 ft-lb (560 Nm / 1.139 Nm)
Clamping torque:	2,212.7 ft-lb (3,000 Nm)
Revolution:	360°/sec
Axis acceleration:	1.200°/sec <sup>2</sup>
Position accuracy:	15" (0,0041°)
Position deviation:	10" (0,0027°)

A-axis (Spindle pivoting axis)

Pivoting angle:	240° (+/-120°)
Pivoting torque:	405.7 ft-lb / 811.3 ft-lb (550 Nm / 1,100 Nm)
Clamping torque:	1,593.1 ft-lb (2,160 Nm)
Revolution:	360°/sec
Axis acceleration:	1.200°/sec <sup>2</sup>
Position accuracy:	15" (0,0041°)
Position deviation:	10" (0,0027°)

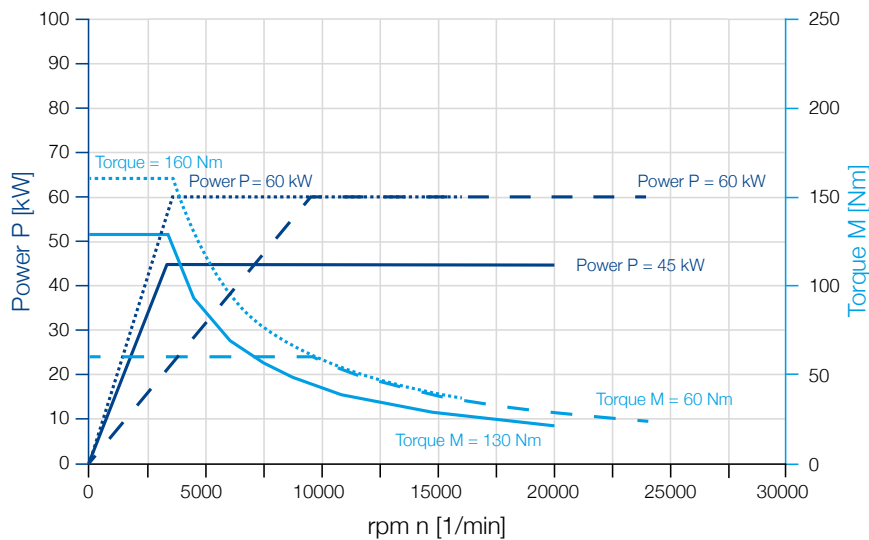


TORQUE MOTORS  
IN C- AND A-AXIS

DIRECT MEASURING SYSTEM  
IN C- AND A-AXIS

SPINDLE DATA

High-frequency milling spindle	Tool holding fixture	max. Power [kW]	max. rpm [1/min]	max. Torque [ft-lb] / [Nm]
HF-Milling spindle ———	HSK-A63	45	20.000	95.9 / 130
HF-Milling spindle - - - -	HSK-A63	60	24.000	44.3 / 60
HF-Milling spindle ········	HSK-A100	60	16.000	118.0 / 160



S1 100% DC  
Milling spindles with  
other performances  
data on request





#### HEADQUARTER

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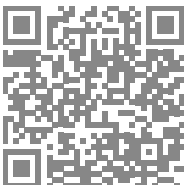
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