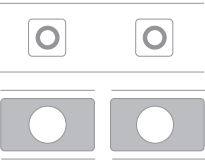
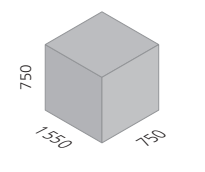


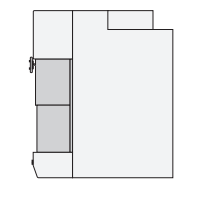
BF 15-21D



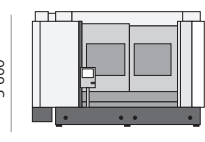
SWIVEL CARRIER



WORKSPACE PER SPINDLE



4 100

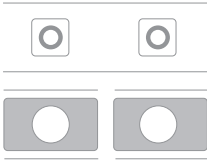


6 950

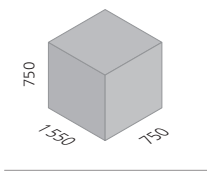
*optional, **on request, -o- occupancy of multiple magazine positions. Details depending on equipment. Technical data according to project planning. Deviation +/- 15% reserved. Subject to change without notice.

Working range per working Area		
X-axis (change position)	1 550 mm (1 850 mm)	
Y-axis	750 mm (1 000 mm)	
Z-axis	750 mm (100 - 900 mm)	
Spindle distance A	650 - 3 750 mm	
Amount of Working Areas	2	
Workpiece carrier per working Area		
Max. dimensions of clamping device / workpiece	Ø 1 650 mm x 1 830 mm	
Drive system	Torque-Motor	
Transport load	1 500 kg	
Speed range A1/A2 axis	40 rpm	
Work spindle	HSK-A63	HSK-A100*
Speed range	1 - 17 500 rpm	1 - 12 500 rpm
Run up time n _{max}	< 0,75 s	< 1,05 s
Spindle bearing Ø	80 mm	100 mm
Power (duty cycle)	32 kW (40%) / 4 200 min ⁻¹	42 kW (10%)
Torque (duty cycle)	72 Nm (40%)	200 Nm (10%)
Feed drive		
Drive system	X/Z Linear motor, Y ball screw	
Rapid traverse X / Y / Z	120 / 90 / 120 m/min	
Axle acceleration X / Y / Z	12 / 10 / 18 m/s ²	10 / 10 / 16 m/s ²
Max. Feed force X / Y / Z	16 000 / 5 000 / 5 000 N	
Accuracy		
Toolchange system	Direct, absolute	
Positioning accuracy A /	≤ 0,012 mm	
Repeatability R (ISO 230-2)	≤ 0,006 mm	
Tool magazine	HSK-A63	HSK-A100*
Tool changing system	Pick-Up	
Chain magazine capacity	2 x 20 (2 x 40)*	2 x 24 (2 x 36)*
Max. Tool Ø	115 / 250 mm (-o-)	115 / 250 mm (-o-) (115 / 300 mm)* (-o-)
Max. Tool length	450 mm	500 mm
Max. Tool weight	7,5 kg	25 kg
Toolchange		
Chip-to-chip time	approx 3,00 s	approx 3,25 s
Weight / Dimensions		
Weight of the machine	approx 22 000 kg	
Transport dimensions W x H x D	6,95 m x 3,60 m x 4,10 m	
Machine installed W x H x L	9,10 m x 5,50 m x 5,80 m	
Connected load		
Operating voltage	3 x 400 Volt, 50 Hz, TN-S/TN-C Net	
Total connected load	approx 121 kVA	
Mean air consumption	0,6 Nm³/min (5,5 bar)	
CNC control system		
Siemens	SINUMERIK ONE	

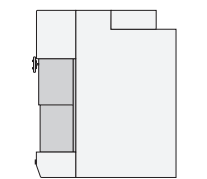
BF 15-21D



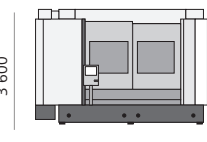
SWIVEL CARRIER



WORKSPACE PER SPINDLE



4 100



6 950

*optional, **on request, -o- occupancy of multiple magazine positions. Details depending on equipment. Technical data according to project planning. Deviation +/- 15% reserved. Subject to change without notice.

Working range per working Area	
X-axis (change position)	1 550 mm (1 850 mm)
Y-axis	750 mm (1 000 mm)
Z-axis	750 mm (100 - 900 mm)
Spindle distance A	650 - 3 750 mm
Amount of Working Areas	2
Workpiece carrier per working Area	
Max. dimensions of clamping device / workpiece	Ø 1 650 mm x 1 830 mm
Drive system	Torque-Motor
Transport load	1 500 kg
Speed range A1/A2 axis	40 rpm
Work spindle	HSK-E50*
Speed range	1 - 40 000 rpm
Run up time n _{max}	< 1,5 s
Spindle bearing Ø	55 / 40 mm
Power (duty cycle)	18 kW (25%) / 15 000 min ⁻¹
Torque (duty cycle)	11,5 Nm (25%)
Feed drive	
Drive system	X/Z Linear motor, Y ball screw
Rapid traverse X / Y / Z	120 / 90 / 120 m/min
Axle acceleration X / Y / Z	10 / 10 / 16 m/s ²
Max. Feed force X / Y / Z	16 000 / 5 000 / 5 000 N
Accuracy	
Toolchange system	Direct, absolute
Positioning accuracy A /	≤ 0,012 mm
Repeatability R (ISO 230-2)	≤ 0,006 mm
Tool magazine	HSK-E50*
Tool changing system	Pick-Up
Chain magazine capacity	2 x 20 (2 x 40)*
Max. Tool ø	40 mm
Max. Tool length	300 mm
Max. Tool weight	3 kg
Toolchange	
Chip-to-chip time	approx 3,00 s
Weight / Dimensions	
Weight of the machine	approx 22 000 kg
Transport dimensions W x H x D	6,95 m x 3,60 m x 4,10 m
Machine installed W x H x L	9,10 m x 5,50 m x 5,80 m
Connected load	
Operating voltage	3 x 400 Volt, 50 Hz, TN-S/TN-C Net
Total connected load	approx 121 kVA
Mean air consumption	0,6 Nm³/min (5,5 bar)
CNC control system	
Siemens	SINUMERIK ONE