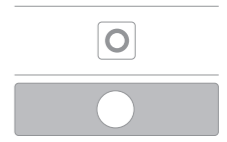
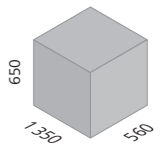


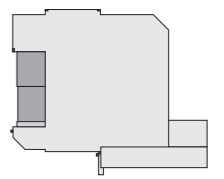
Working range		
X-axis	1 350 mm	
Y-axis (toolchange position)	650 mm (1 025 mm)	
Z-axis	560 mm (650 mm)*	
Spindle distance to A-axis	150 - 710 mm (150 - 800 mm)*	
Workpiece carrier		
A-axis, prepared for mounting a fixture plate, up to max.	ø 1 300 mm x 1 630 mm	
Drive system	Torque motor	
Load capacity	1 500 kg	
Speed range A-axis	1 - 40 rpm	
Work spindle		
	HSK-A100 (Typ 1)	HSK-A100 (Typ 2)*
Speed range	1 - 12 500 rpm	1 - 6 000 rpm
Run-up time 0-n _{max}	3,75 s	1,20 s
Spindle bearing Ø	100 mm	100 mm
Power (duty cycle)	1 x 42 kW (25%)	1 x 52 kW (25%)
Torque (duty cycle)	1 x 400 Nm (25%)	1 x 615 Nm (25%)
Feed drive		
Drive system	Ball screw	
Rapid traverse X / Y / Z	70 / 60 / 70 m/min	
Axis acceleration X / Y / Z	7 / 8 / 12 m/s ²	
Max. feed thrust X / Y / Z	10 000 / 15 000 / 10 000 N	
Accuracy		
Position measuring system	Direct, absolute	
Positioning accuracy A / Repeatability R (ISO 230-2)	≤ 0,008 ≤ 0,006	
Tool magazine		
Toolchange system	Pick-Up	
Capacity	1 x 35 (1 x 70 / 1 x 120)*	
Max. tool ø	105 mm / 350 mm (-o-)	
Max. tool length	600 mm	
Max. tool weight	20 kg	
Toolchange		
Chip-to-chip time	3,5 s	
Weight / Dimensions		
Total weight	21 000 kg	
Transport dimensions W x H x L	4,00 m x 3,50 m x 5,30 m	
Machine installed W x H x L	5,20 m x 4,20 m x 7,70 m	
Connected load		
Operating voltage	3 x 400 Volt, 50 Hz, TN-S/TN-C Netz	
Total connected load	101 kVA	
Mean air consumption	0,4 Nm ³ /min (5,5 bar)	
CNC control system		
Siemens	SINUMERIK 840D sl	



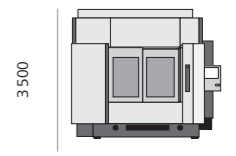
SWIVEL CARRIER
1 ROTARY TABLE



WORKSPACE PER SPINDLE



5 300

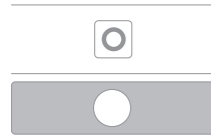


4 000

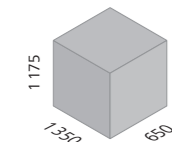
*optional, **on request, -o- occupancy of multiple magazine positions. Details depending on equipment. Technical data according to project planning. Deviation +/- 15% reserved. Subject to change without notice.

BA 711 space

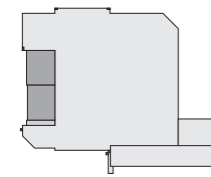
BA 721



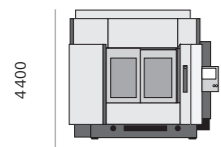
SWIVEL CARRIER
1 ROTARY TABLE



WORKSPACE PER SPINDLE



5 600

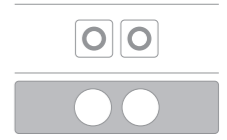


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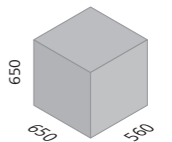
Working range		
X-axis	1 350 mm	
Y-axis (toolchange position)	1 175 mm (1 575 mm)	
Z-axis	650 mm	
Spindle distance to A-axis	200 - 850 mm	
Workpiece carrier		
A-axis, prepared for mounting a fixture plate, up to max.	ø 1 700 mm x 1 830 mm	
Drive system	Torque motor	
Load capacity	2 000 kg	
Speed range A-axis	1 - 25 rpm	
Work spindle		
	HSK-A100 (Typ 1)	HSK-A100 (Typ 2)*
Speed range	1 - 12 500 rpm	1 - 6 000 rpm
Run-up time 0 - n _{max}	3,75 s	1,20 s
Spindle bearing Ø	100 mm	100 mm
Power (duty cycle)	1 x 42 kW (25%)	1 x 52 kW (25%)
Torque (duty cycle)	1 x 400 Nm (25%)	1 x 615 Nm (25%)
Feed drive		
Drive system	Ball screw	
Rapid traverse X / Y / Z	70 / 60 / 70 m/min	
Axis acceleration X / Y / Z	7 / 8 / 12 m/s ²	
Max. feed thrust X / Y / Z	10 000 / 15 000 / 10 000 N	
Accuracy		
Position measuring system	Direct, absolute	
Positioning accuracy A / Repeatability R (ISO 230-2)	≤ 0,008 / ≤ 0,006	
Tool magazine		
Toolchange system	Pick-Up	
Capacity	1 x 40 (1 x 80 / 1 x 130)*	
Max. tool ø	105 mm / 320 mm (-o-)	
Max. tool length	600 mm	
Max. tool weight	20 kg	
Toolchange		
Chip-to-chip time	3,75 s	
Weight / Dimensions		
Total weight	24 000 kg	
Transport dimensions W x H x L	4,00 m x 4,40 m x 5,60 m	
Machine installed W x H x L	5,20 m x 4,90 m x 8,20 m	
Connected load		
Operating voltage	3 x 400 Volt, 50 Hz, TN-S/TN-C Netz	
Total connected load	112 kVA	
Mean air consumption	0,4 Nm ³ /min (5,5 bar)	
CNC control system		
Siemens	SINUMERIK 840D sl	

*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.

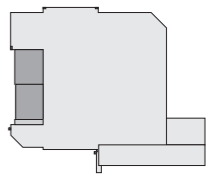
Working range		
X-axis	650 mm	
Y-axis (toolchange position)	650 mm (1 025 mm)	
Z-axis	560 mm (650 mm)*	
Spindle distance	700 mm	
Spindle distance to A-axis	150 - 710 mm (150 - 800 mm)*	
Workpiece carrier		
A-axis, prepared for mounting a fixture plate, up to max.	ø 1 300 mm x 1 630 mm	
Drive system	Torque motor	
Load capacity	1 500 kg	
Speed range A-axis	1 - 40 rpm	
Work spindle		
	HSK-A100 (Typ 1)	HSK-A100 (Typ 2)*
Speed range	1 - 12 500 rpm	1 - 6 000 rpm
Run-up time 0 - n _{max}	3,75 s	1,20 s
Spindle bearing Ø	100 mm	100 mm
Power (duty cycle)	2 x 42 kW (25%)	2x 52 kW (25%)
Torque (duty cycle)	2 x 400 Nm (25%)	2 x 615 Nm (25%)
Feed drive		
Drive system	Ball screw	
Rapid traverse X / Y / Z	60 / 60 / 70 m/min	
Axis acceleration X / Y / Z	8 / 6 / 12 m/s ²	
Max. feed thrust X / Y / Z	15 000 / 15 000 / 2 x 10 000 N	
Accuracy		
Position measuring system	Direct, absolute	
Positioning accuracy A / Repeatability R (ISO 230-2)	≤ 0,008 / ≤ 0,006	
Tool magazine		
Toolchange system	Pick-Up	
Capacity	2 x 35 (2 x 60)*	
Max. tool ø	105 mm / 320 mm (-o-)	
Max. tool length	600 mm	
Max. tool weight	20 kg	
Toolchange		
Chip-to-chip time	3,50 s	
Weight / Dimensions		
Total weight	22 000 kg	
Transport dimensions W x H x L	4,00 m x 3,50 m x 5,30 m	
Machine installed W x H x L	5,20 m x 4,20 m x 7,90 m	
Connected load		
Operating voltage	3 x 400 Volt, 50 Hz, TN-S/TN-C Netz	
Total connected load	approx. 133 kVA	
Mean air consumption	0,6 Nm ³ /min (5,5 bar)	
CNC control system		
Siemens	SINUMERIK 840 D sl	



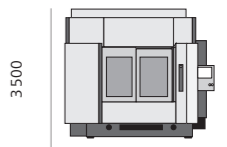
SWIVEL CARRIER
2 ROTARY TABLES



WORKSPACE PER SPINDLE



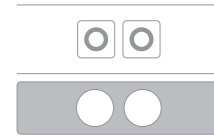
5 300



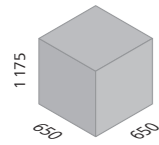
4 000

*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.

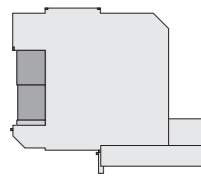
BA 721 space



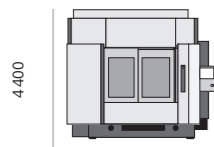
SWIVEL CARRIER
2 ROTARY TABLES



WORKSPACE PER SPINDLE



5 600



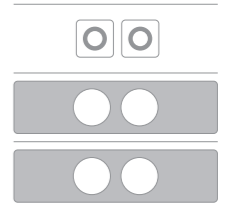
4 000

Working range		
X-axis	650 mm	
Y-axis (toolchange position)	1 175 mm (1 575 mm)	
Z-axis	650 mm	
Spindle distance	700 mm	
Spindle distance to A-axis	200 - 850 mm	
Workpiece carrier		
A-axis, prepared for mounting a fixture plate, up to max.	ø 1 700 mm x 1 830 mm	
Drive system	Torque motor	
Load capacity	2 000 kg	
Speed range A-axis	1 - 25 rpm	
Work spindle		
	HSK-A100 (Typ 1)	HSK-A100 (Typ 2)*
Speed range	1 - 12 500 rpm	1 - 6 000 rpm
Run-up time 0 - n _{max}	3,75 s	1,20 s
Spindle bearing Ø	100 mm	100 mm
Power (duty cycle)	2 x 42 kW (25%)	2x 52 kW (25%)
Torque (duty cycle)	2 x 400 Nm (25%)	2 x 615 Nm (25%)
Feed drive		
Drive system	Ball screw	
Rapid traverse X / Y / Z	60 / 60 / 70 m/min	
Axis acceleration X / Y / Z	8 / 8 / 12 m/s ²	
Max. feed thrust X / Y / Z	15 000 / 15 000 / 2 x 10 000 N	
Accuracy		
Position measuring system	Direct, absolute	
Positioning accuracy A / Repeatability R (ISO 230-2)	≤ 0,008 ≤ 0,006	
Tool magazine		
Toolchange system	Pick-Up	
Capacity	2 x 40 (2 x 65)*	
Max. tool ø	105 mm / 320 mm (-o-)	
Max. tool length	600 mm	
Max. tool weight	20 kg	
Toolchange		
Chip-to-chip time	3,75 s	
Weight / Dimensions		
Total weight	25 000 kg	
Transport dimensions W x H x L	4,00 m x 4,40 m x 5,60 m	
Machine installed W x H x L	5,20 m x 4,90 m x 8,20 m	
Connected load		
Operating voltage	3 x 400 Volt, 50 Hz, TN-S/TN-C Netz	
Total connected load	approx. 144 kVA	
Mean air consumption	0,6 Nm ³ /min (5,5 bar)	
CNC control system		
Siemens	SINUMERIK 840 D sl	

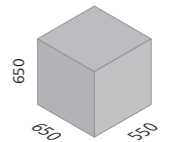
*optional, **on request, -o- occupancy of multiple magazine positions. Details depending on equipment. Technical data according to project planning. Deviation +/- 15% reserved. Subject to change without notice.

BA 722

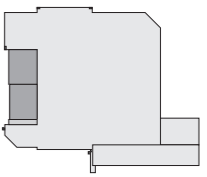
Working range		
X-axis	650 mm	
Y-axis (toolchange position)	650 mm (1 025 mm)	
Z-axis	550 mm (Z ₁ , Z ₂)	
Spindle distance	700 mm	
Workpiece carrier		
Swivel carrier / counterbearing with crown gear: swivel time 0 / 180°	approx. 4,75 s	
A- and U-axis, prepared for mounting a fixture plate, up to max.	ø 775 mm x 1 600 mm	
Drive system	Torque motor	
Load capacity	2 x 800 kg	
Speed range A-, U-axis	1 - 40 rpm	
C- / W-axis*	2 / 4 satellites	
Work spindle		
	HSK A-100 (Typ 1)	HSK-A100 (Typ 2)*
Speed range	1 - 10 000 rpm	1 - 6 000 rpm
Run-up time 0-n _{max}	1,95 s	1,20 s
Spindle bearings ø	100 mm	
Power (duty cycle)	2 x 42 kW (25%)	2 x 52 kW (25%)
Torque (duty cycle)	2 x 400 Nm (25%)	2 x 615 Nm (25%)
Feed drive		
Drive system	Ball screw	
Rapid traverse X / Y / Z	60 / 60 / 70 m/min	
Axis acceleration X / Y / Z	8 / 6 / 12 m/s ²	
Max. feed thrust X / Y / Z	15 000 / 15 000 / 2 x 10 000 N	
Accuracy		
Position measuring system	Direct, absolute	
Positioning accuracy A / Repeatability R (ISO 230-2)	≤ 0,006 ≤ 0,004	
Tool magazine		
Toolchange system	Pick-Up	
Capacity	2 x 35 (2 x 60)*	
Max. tool ø	105 / 250 mm (-o-)	
Max. tool length	425 mm	
Max. tool weight	20 kg	
Toolchange		
Chip-to-chip time	approx. 3,50 s	
Weight / Dimensions		
Total weight	approx. 24 000 kg	
Transport dimensions W x H x L	3,97 m x 3,50 m x 5,40 m	
Transport dimensions* W x H x L	3,50 m x 3,50 m x 5,40 m	
Machine installed W x H x L	5,05 m x 4,20 m x 7,80 m	
Connected load		
Operating voltage	3 x 400 Volt, 50 Hz, TN-S/TN-C Netz	
Total connected load	133 kVA	
Mean air consumption	0,6 Nm ³ /min (6 bar)	
CNC control system		
Siemens	SINUMERIK 840 D sl	



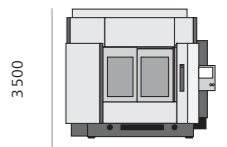
DOUBLE SWIVEL CARRIER
2 OR 4 ROTARY TABLES



WORKSPACE PER SPINDLE

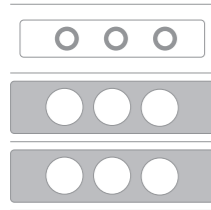


5 400

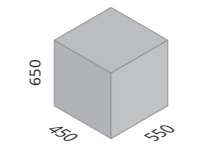


3 975

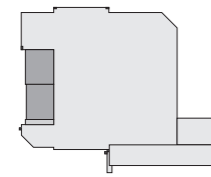
*optional, **on request, -o- occupancy of multiple magazine positions. Details depending on equipment. Technical data according to project planning. Deviation +/- 15% reserved. Subject to change without notice.



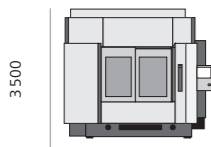
DOUBLE SWIVEL CARRIER
3 ROTARY TABLES



WORKSPACE PER SPINDLE



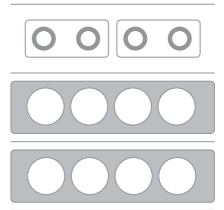
5 400



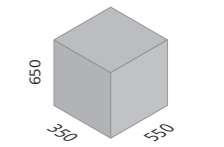
3 975

Working range	
X-axis	450 mm
Y-axis (toolchange position)	650 mm (1 025 mm)
Z-axis	550 mm
Spindle distance	450 mm
Workpiece carrier	
Swivel carrier / counterbearing with crown gear: swivel time 0 / 180°	approx. 4,75 s
A- and U-axis, prepared for mounting a fixture plate, up to max.	ø 775 mm x 1 600 mm
Drive system	Torque motor
Load capacity	2 x 800 kg
Speed range A-, U-axis	1 - 40 rpm
C- / W-axis*	3 satellites
Work spindle	
HSK-A100	
Speed range	1 - 10 000 rpm
Run up time 0 - n _{max}	approx. 1,75 s
Spindle bearings ø	100 mm
Power (duty cycle)	3 x 42 kW (25%)
Torque (duty cycle)	3 x 400 Nm (25%)
Feed drive	
Drive system	Ball screw
Rapid traverse X / Y / Z	60 / 60 / 70 m/min
Axis acceleration X / Y / Z	8 / 7 / 12 m/s ²
Max. feed thrust X / Y / Z	15 000 / 15 000 / 20 000 N
Accuracy	
Position measuring system	Direct, absolute
Positioning accuracy A / Repeatability R (ISO 230-2)	≤ 0,006 ≤ 0,004
Tool magazine	
Toolchange system	Pick-Up
Capacity	3 x 21 (3 x 36)*
Max. tool ø	ø110 / ø250 mm (-o)
Max. tool length	425 mm
Max. tool weight	20 kg
Toolchange	
Chip-to-chip time	approx. 3,5 s
Weight / Dimensions	
Total weight	approx. 24 000 kg
Transport dimensions W x H x L	3,97 m x 3,50 m x 5,40 m
Machine installed W x H x L	5,05 m x 4,20 m x 7,80 m
Connected load	
Operating voltage	3 x 400 Volt, 50 Hz, TN-S/TN-C Netz
Total connected load	147 kVA
Mean air consumption	0,8 Nm ³ /min (6 bar)
CNC control system	
Siemens	SINUMERIK 840 D sl

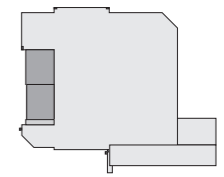
*optional, **on request, -o- occupancy of multiple magazine positions. Details depending on equipment. Technical data according to project planning. Deviation +/- 15% reserved. Subject to change without notice.



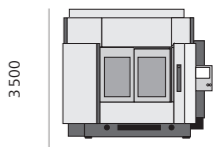
DOUBLE SWIVEL CARRIER
4 ROTARY TABLES



ARBEITSRAUM PRO SPINDEL



5 400



3 975

Working range	
X-axis	350 mm
Y-axis (toolchange position)	650 mm (1 025 mm)
Z-axis	550 mm (Z ₁ , Z ₂)
Spindle distance	350 mm
Workpiece carrier	
Swivel carrier / counterbearing with crown gear: swivel time 0 / 180°	approx. 4,75 s
A- and U-axis, prepared for mounting a fixture plate, up to max.	ø 775 mm x 1 600 mm
Drive system	Torque motor
Load capacity	2 x 800 kg
Speed range A-, U-axis	1 - 40 rpm
C- / W-axis*	4 satellites
Work spindle	
HSK-A100	
Speed range	1 - 10 000 rpm
Run up time 0 - n _{max}	approx. 1,75 s
Spindle bearings ø	100 mm
Power (duty cycle)	4 x 28 kW (25%)
Torque (duty cycle)	4 x 340 Nm (25%)
Feed drive	
Drive system	Ball screw
Rapid traverse X / Y / Z	60 / 60 / 70 m/min
Axis acceleration X / Y / Z	7 / 7 / 10 m/s ²
Max. feed thrust X / Y / Z	15 000 / 15 000 / 2 x 10 000 N
Accuracy	
Position measuring system	Direct, absolute
Positioning accuracy A / Repeatability R (ISO 230-2)	≤ 0,006 ≤ 0,004
Tool magazine	
Toolchange system	Pick-Up
Capacity	4 x 14 (4 x 24)*
Max. tool ø / free adjacent pocket	ø 125 mm / ø 250 mm
Max. tool length	425 mm
Max. tool weight	20 kg
Toolchange	
Chip-to-chip time	approx. 3,5 s
Weight / Dimensions	
Total weight	approx. 24 000 kg
Transport dimensions W x H x L	3,97 m x 3,50 m x 5,40 m
Machine installed W x H x L	5,05 m x 4,20 m x 7,80 m
Connected load	
Operating voltage	3 x 400 Volt, 50 Hz, TN-S/TN-C Netz
Total connected load	160 kVA
Mean air consumption	1,0 Nm ³ /min (6 bar)
CNC control system	
Siemens	SINUMERIK 840 D sl

*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.