THETA
Theta Precision Co.,Ltd

GDM®

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Built-In spindle

Multi-Axis Turning & Milling Spindle

www.theta-spindle.com

2022

Ø62mm~Ø80mm
High Frequency Spindles for automatic tool change

Type		THZ-62.03 (220V)		THZ-62.05 (220V)	THZ-62.06 (170V)	THZ-80.01(220V) THZ-80.02(380V)
Spindle Ø		61.91mm	61.91mm	61.91mm	61.91mm	80mm
Maximum Speed		60,000rpm Grease	70,000rpm Grease	70,000rpm Grease	60,000rpm Grease	50,000rpm Oil-Air
Bore diameter of front bearings		17mm	17mm	20mm	17mm	25mm
Rigidity	Axial (N/μm)	28N/μm	28N/μm	38N/μm	28N/μm	40N/μm
	Radial (N/μm)	35N/μm	35N/μm	40N/μm	35N/μm	42N/μm
Frequency Max. (Hz)		1,000Hz	1,167Hz	1,167Hz	1,000Hz	833Hz
at speed		60,000RPM	70,000RPM	70,000RPM	60,000RPM	30,000RPM
S1 kW		1.3kW	1.5kW	1.5kW	1.2kW	2.2kW
S6-40% kW		1.6kW	1.8kW	1.8kW	1.4kW	2.6kW
S1 Torque (Nm)		0.20Nm	0.20Nm	0.2Nm	0.2Nm	0.7Nm
S6-40% Torque (Nm)		0.25Nm	0.24Nm	0.24Nm	0.22Nm	0.8Nm
Tool Interface		WT-5 (Collet 1~6mm)	WT-5 (Collet 1~6mm)	HSK-E20	Collet 3.175~6mm	HSK-E25 ISO-15
Spindle Cooling		Water cooling /Oil cooling				
Spindle Weight		3.5kg	3.5kg	4.5kg	3.5kg	6.2kg
Integral Encoder For Closed-Loop Control		N/A	N/A	N/A	N/A	Option
Coolant Through Shaft (CTS)		N/A	N/A	N/A	N/A	N/A
Tool Position Sensor		N/A	N/A	N/A	N/A	Proximity switches
Front Bearing Temperature Sensor		N/A	N/A	N/A	N/A	N/A

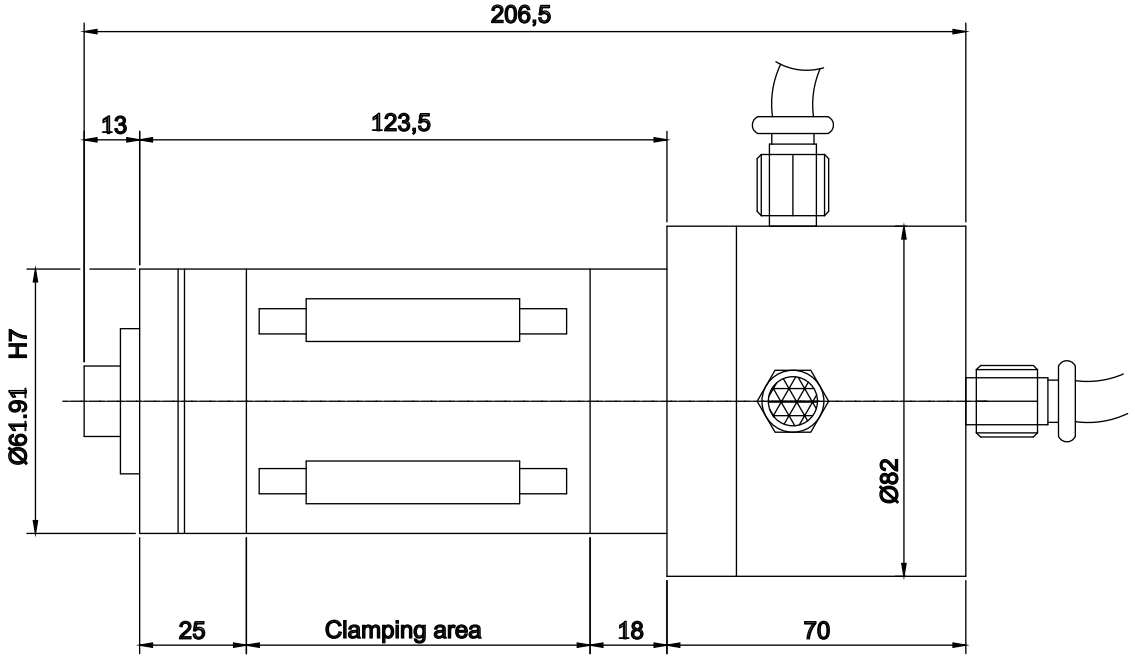
THZ-62.03

THZ-62.05

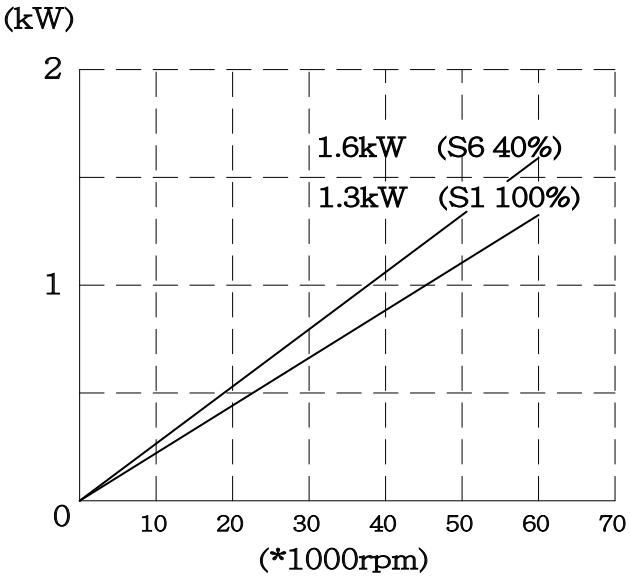
THZ-62.06

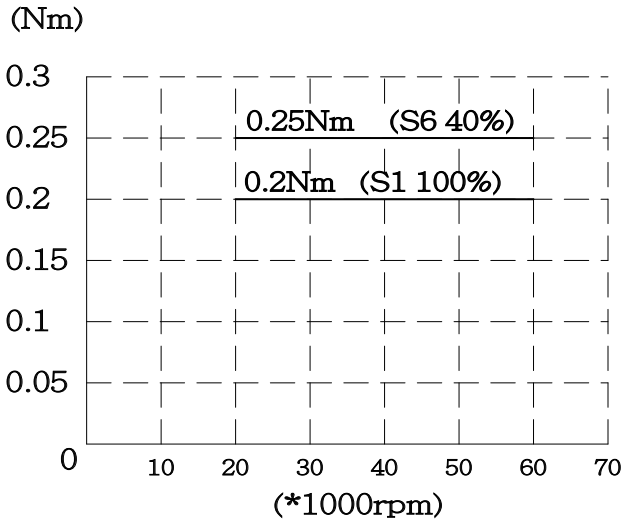
THZ-80.01
THZ-80.02

THZ-62.03 WT-5 60,000rpm
High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

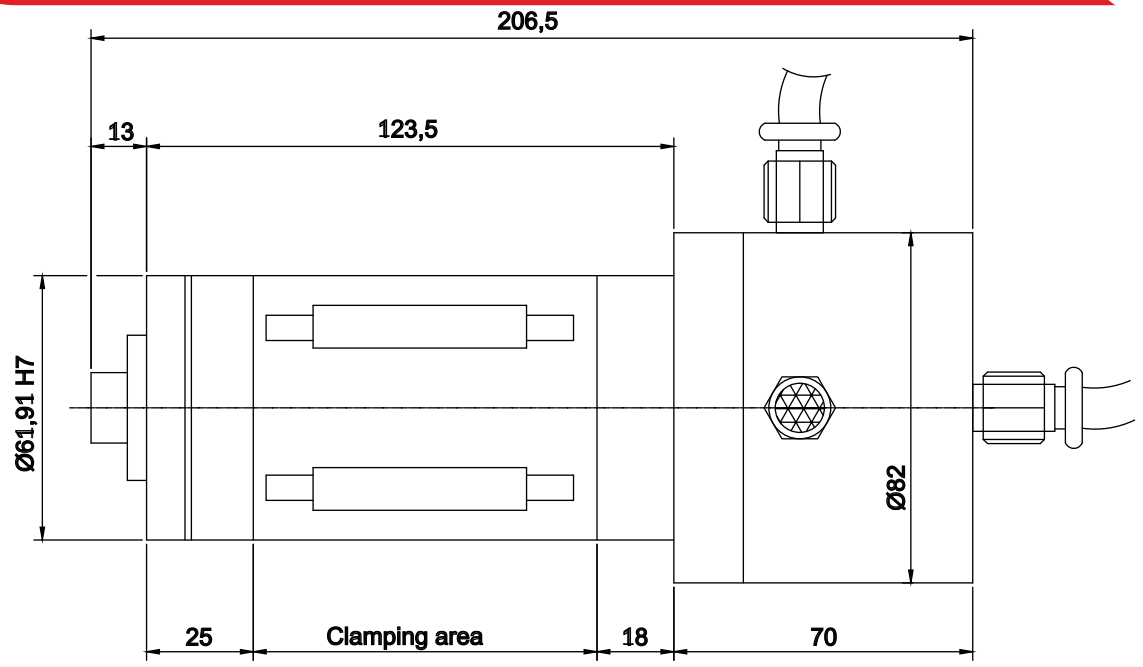


Type		THZ-62.03 (220V)
Spindle Ø		61.91mm
Maximum Speed (Oil-Air)		60,000rpm
Bore diameter of front bearings		17mm
Rigidity	Axial (N/μm)	28N/μm
	Radial (N/μm)	35N/μm
Frequency Max. (Hz)		1,000Hz
at speed		60,000RPM
S1 kW		1.3kW
S1 Current (A)		5.0A
S6-40% kW		1.6kW
S6-40% Current (A)		6.0A
S1 Torque (Nm)		0.20Nm
S6-40% Torque (Nm)		0.25Nm
Tool Interface		WT-5 (Collet 1~6mm)
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		3.5kg
Integral Encoder For Closed-Loop Control		N/A
Coolant Through Shaft (CTS)		N/A
Tool Position Sensors		N/A
Front Bearing Temperature Sensor		N/A

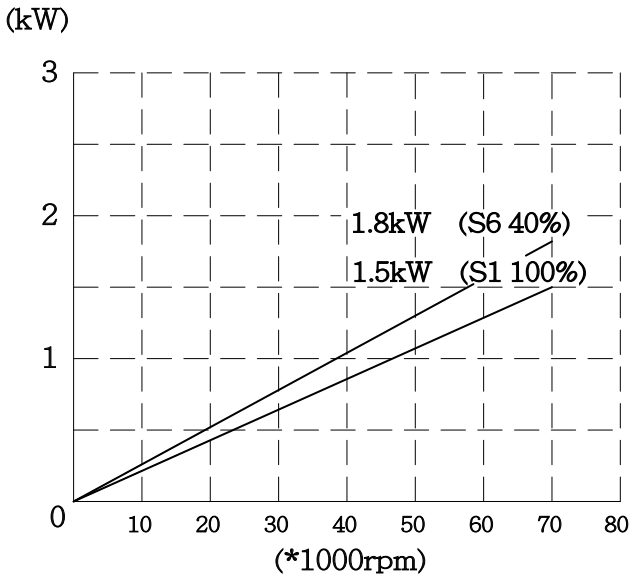


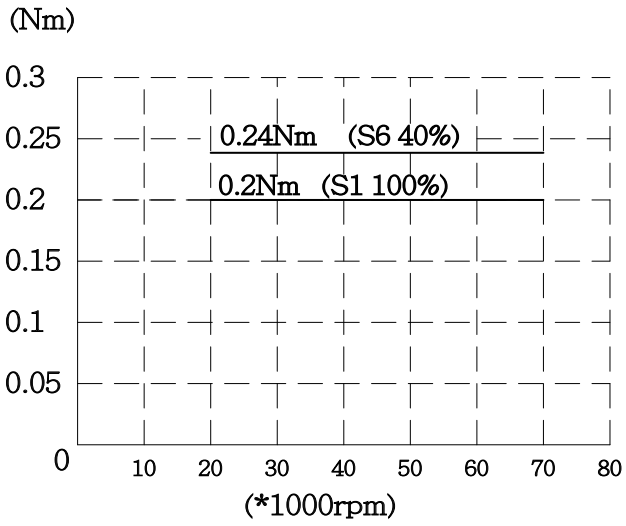


THZ-62.03 WT-5 70,000rpm
High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

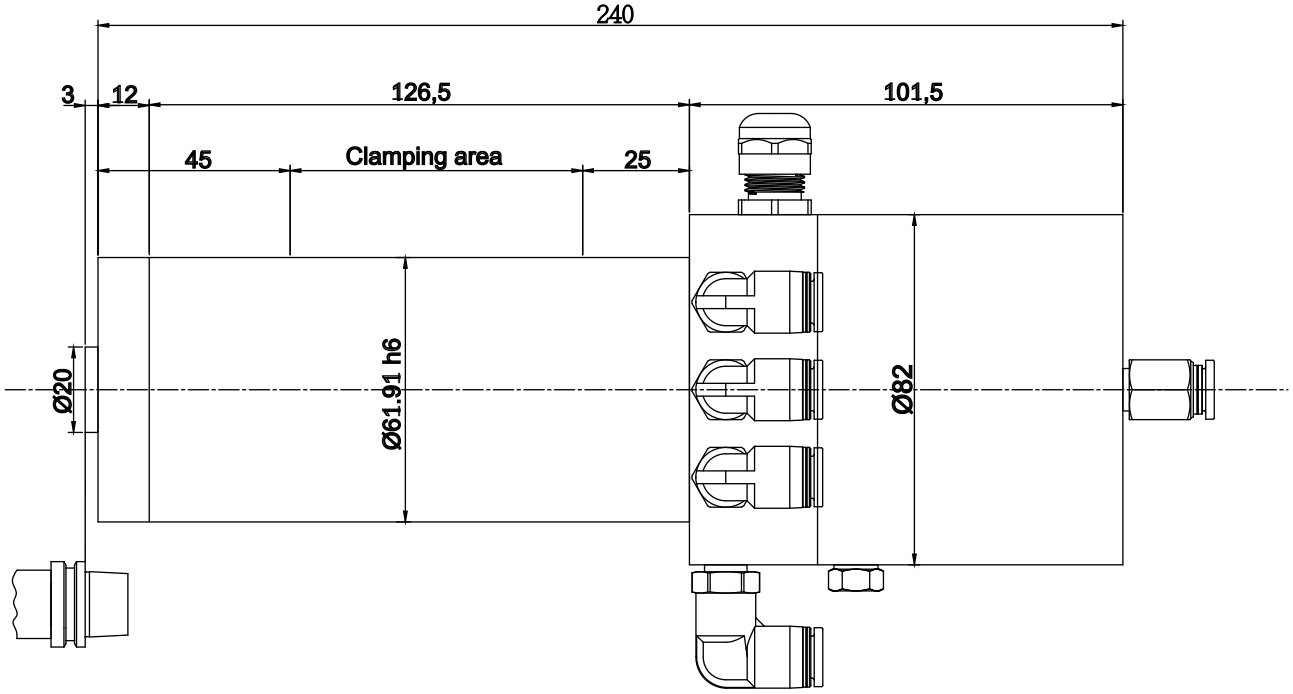


Type		THZ-62.03 (220V)
Spindle Ø		61.91mm
Maximum Speed (Oil-Air)		70,000rpm
Bore diameter of front bearings		17mm
Rigidity	Axial (N/μm)	28N/μm
	Radial (N/μm)	35N/μm
Frequency Max. (Hz)		1,167Hz
at speed		70,000RPM
S1 kW		1.5kW
S1 Current (A)		5.6A
S6-40% kW		1.8kW
S6-40% Current (A)		6.7A
S1 Torque (Nm)		0.20Nm
S6-40% Torque (Nm)		0.24Nm
Tool Interface		WT-5 (Collet 1~6mm)
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		3.5kg
Integral Encoder For Closed-Loop Control		N/A
Coolant Through Shaft (CTS)		N/A
Tool Position Sensors		N/A
Front Bearing Temperature Sensor		N/A

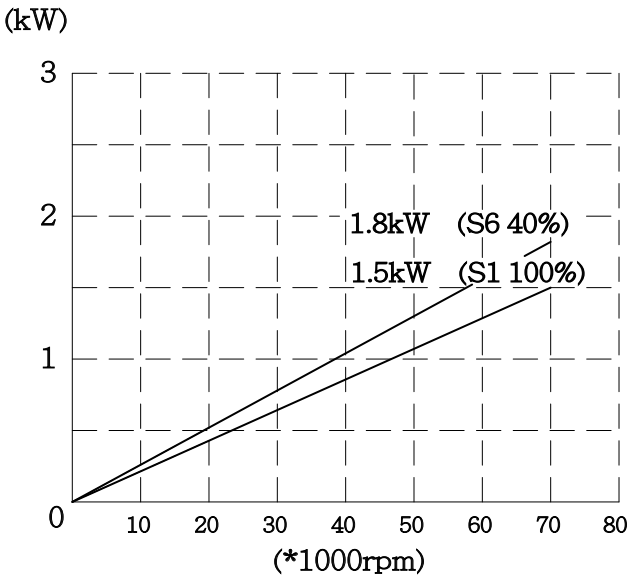


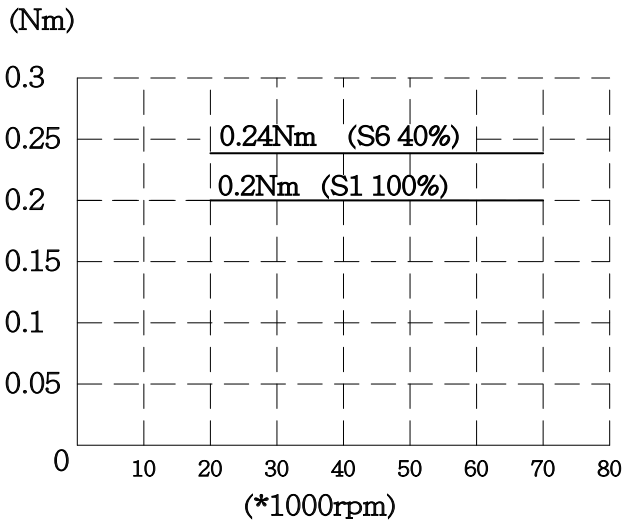


THZ-62.05 HSK-E20 70,000rpm
High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

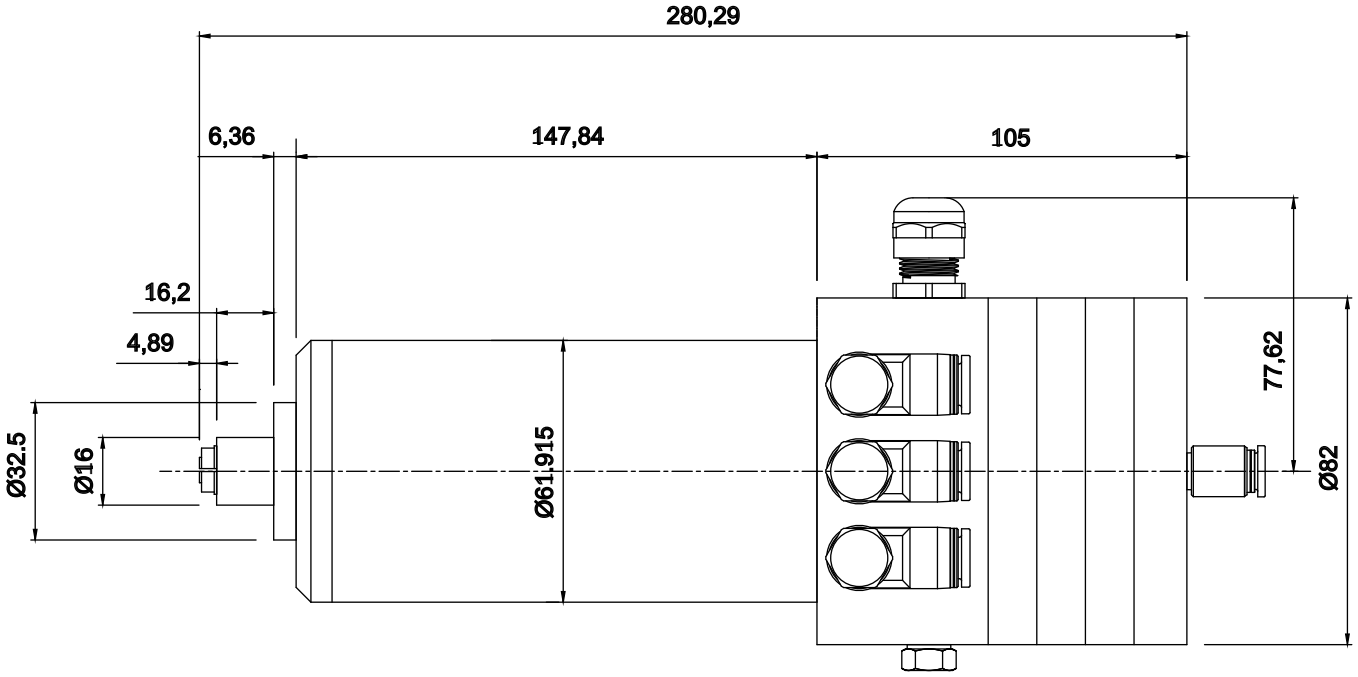


Type		THZ-62.05 (220V)
Spindle Ø		61.91mm
Maximum Speed (Oil-Air)		70,000rpm
Bore diameter of front bearings		20mm
Rigidity	Axial (N/μm)	38N/μm
	Radial (N/μm)	40N/μm
Frequency Max. (Hz)		1,167Hz
at speed		70,000RPM
S1 kW		1.5kW
S1 Current (A)		5.6A
S6-40% kW		1.8kW
S6-40% Current (A)		6.7A
S1 Torque (Nm)		0.20Nm
S6-40% Torque (Nm)		0.24Nm
Tool Interface		HSK-E20
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		4.5kg
Integral Encoder For Closed-Loop Control		N/A
Coolant Through Shaft (CTS)		N/A
Tool Position Sensors		N/A
Front Bearing Temperature Sensor		N/A

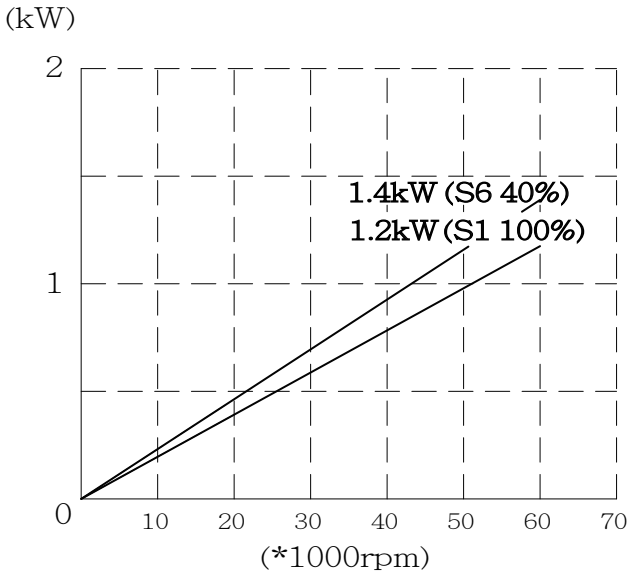


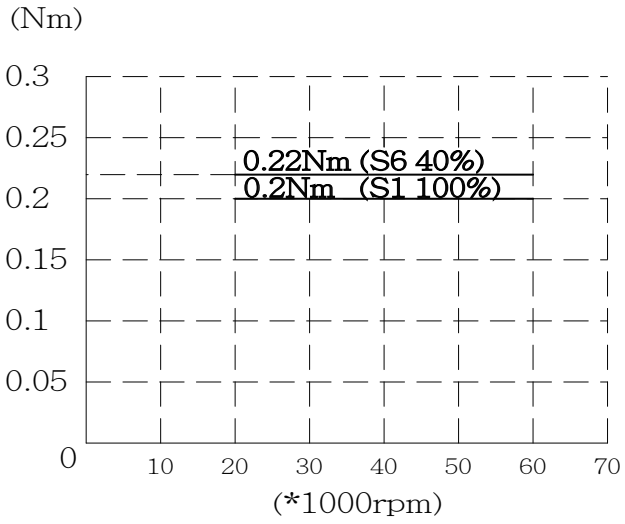


THZ-62.06 Ø3.175~6mm 70,000rpm
High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

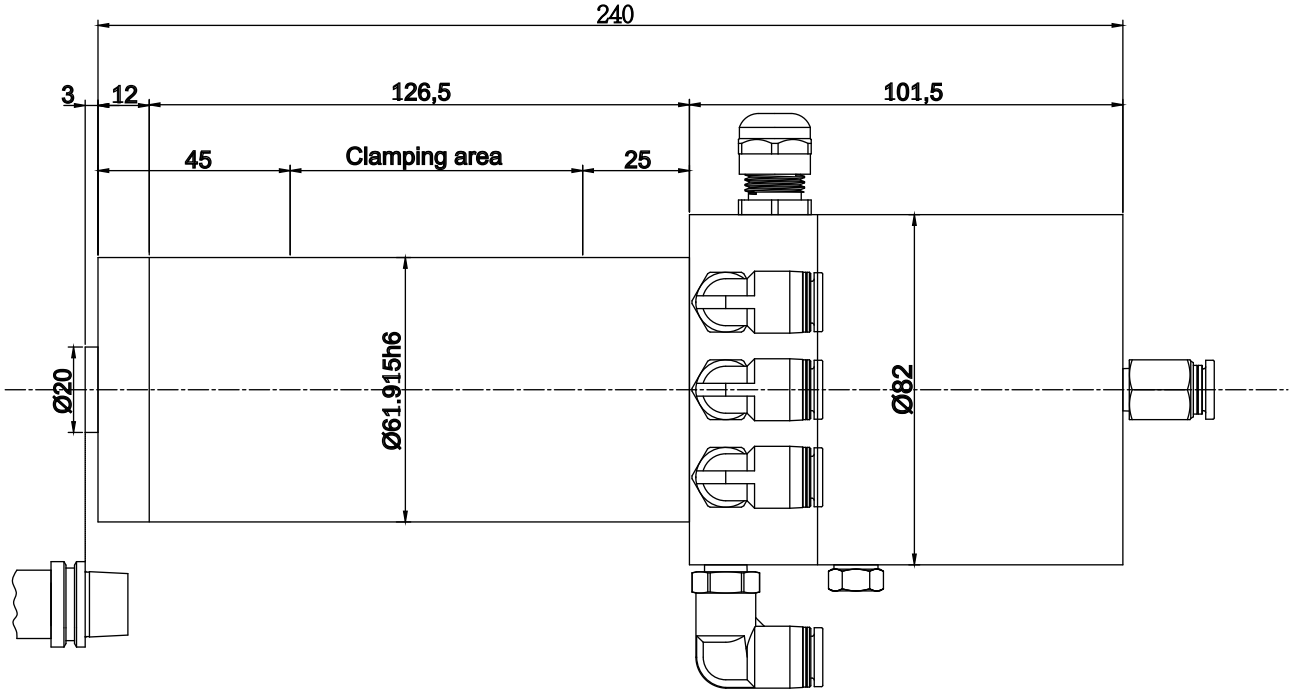


Type		THZ-62.06 (170V)
Spindle Ø		61.91mm
Maximum Speed (Oil-Air)		60,000rpm
Bore diameter of front bearings		17mm
Rigidity	Axial (N/μm)	28N/μm
	Radial (N/μm)	35N/μm
Frequency Max. (Hz)		1,000Hz
at speed		60,000RPM
S1 kW		1.2kW
S1 Current (A)		5.8A
S6-40% kW		1.4kW
S6-40% Current (A)		7.0A
S1 Torque (Nm)		0.2Nm
S6-40% Torque (Nm)		0.22Nm
Tool Interface		Collet 3.175~6mm
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		3.5kg
Integral Encoder For Closed-Loop Control		N/A
Coolant Through Shaft (CTS)		N/A
Tool Position Sensors		N/A
Front Bearing Temperature Sensor		N/A

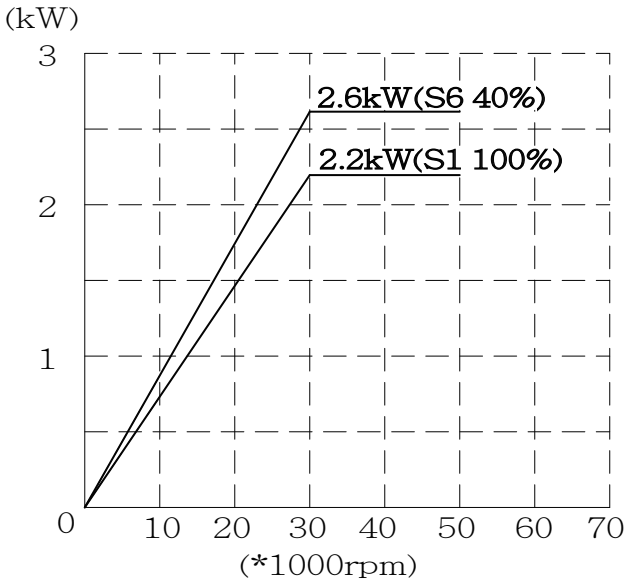


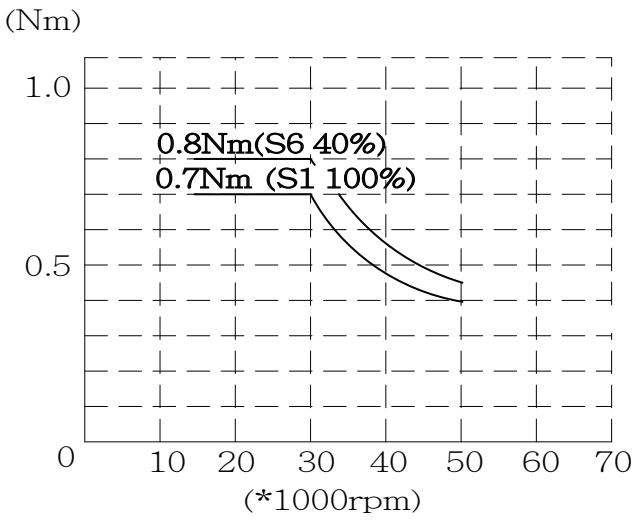


THZ-80.01/THZ-80.02 HSK-E25 50,000rpm
High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



Type		THZ-80.01 (220V)	THZ-80.02 (380V)
Spindle Ø		80mm	
Maximum Speed (Oil-Air)		50,000rpm	
Bore diameter of front bearings		25mm	
Rigidity	Axial (N/μm)	40N/μm	
	Radial (N/μm)	42N/μm	
Frequency Max. (Hz)		833Hz	
at speed		30,000RPM	
S1 kW		2.2kW	
S1 Current (A)		7.0A	4.3A
S6-40% kW		2.6kW	
S6-40% Current (A)		8.4A	5.2A
S1 Torque (Nm)		0.7Nm	
S6-40% Torque (Nm)		0.8Nm	
Tool Interface		HSK-E25 ISO-15	
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		6.2kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		N/A	
Tool Position Sensors		Proximity switche	
Front Bearing Temperature Sensor		N/A	





Ø80mm~Ø120mm
High Frequency Spindles for automatic tool change

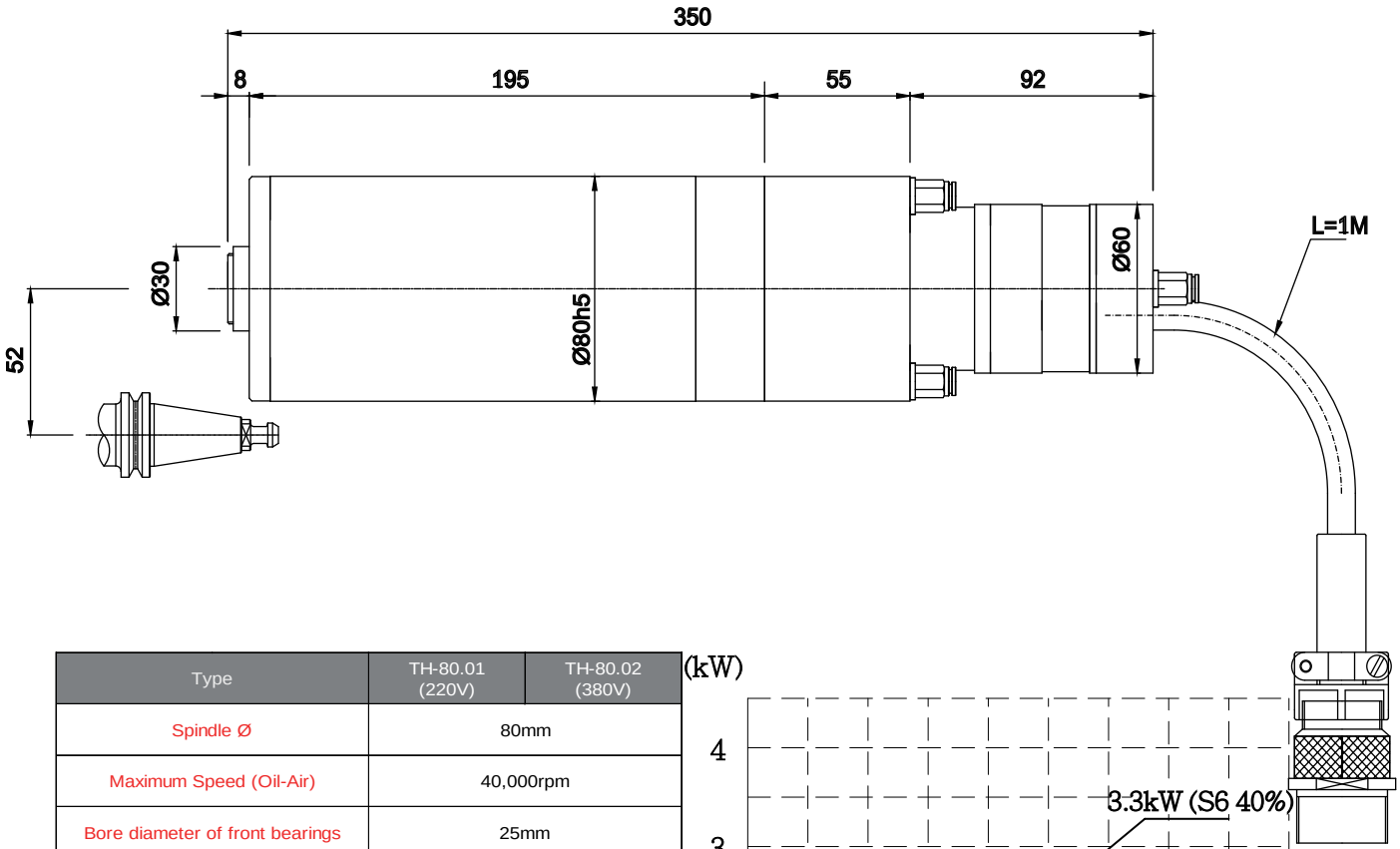
Type		TH-80.01(220V) TH-80.02(380V)	TH-100.03(400V) TH-100.04(230V)		TH-120.03(400V) TH-120.04(230V)	
Spindle Ø		80mm	100mm	100mm	120mm	120mm
Maximum Speed		40,000rpm Grease	30,000rpm Oil-Air	40,000rpm Oil-Air	30,000rpm Oil-Air	36,000rpm Oil-Air
Bore diameter of front bearings		25mm	35mm	35mm	40mm	40mm
Rigidity	Axial (N/μm)	40N/μm	90N/μm	90N/μm	90N/μm	90N/μm
	Radial (N/μm)	50N/μm	90N/μm	90N/μm	120N/μm	120N/μm
Frequency Max. (Hz)		1,334Hz	1,000Hz	1,334Hz	1,000Hz	1,200Hz
at speed		32,100RPM	11,700RPM	11,700RPM	9,700RPM	9,700RPM
S1 kW		2.5kW	3kW	3kW	4.6kW	4.6kW
S6-40% kW		3.3kW	3.9kW	3.9kW	6kW	6kW
kW (Peak Power)		5.8kW	8kW	8kW	14kW	14kW
S1 Torque (Nm)		0.7Nm	2.4Nm	2.4Nm	4.5Nm	4.5Nm
S6-40% Torque (Nm)		1Nm	3.2Nm	3.2Nm	5.9Nm	5.9Nm
Tool Interface		ISO-20	ISO-25	HSK-E32	BT-30 BBT-30	HSK-E40 HSK-F50
Spindle Cooling		Water cooling /Oil cooling				
Spindle Weight		8kg	15kg	15kg	27kg	27kg
Integral Encoder For Closed-Loop Control		N/A	Option	Option	Option	Option
Coolant Through Shaft (CTS)		N/A	N/A	N/A	Option	Option
Tool Position Sensors		Proximity switches / Analog sensor				
Front Bearing Temperature Sensor		N/A	N/A	N/A	Standard	Standard

TH-80.01
TH-80.02

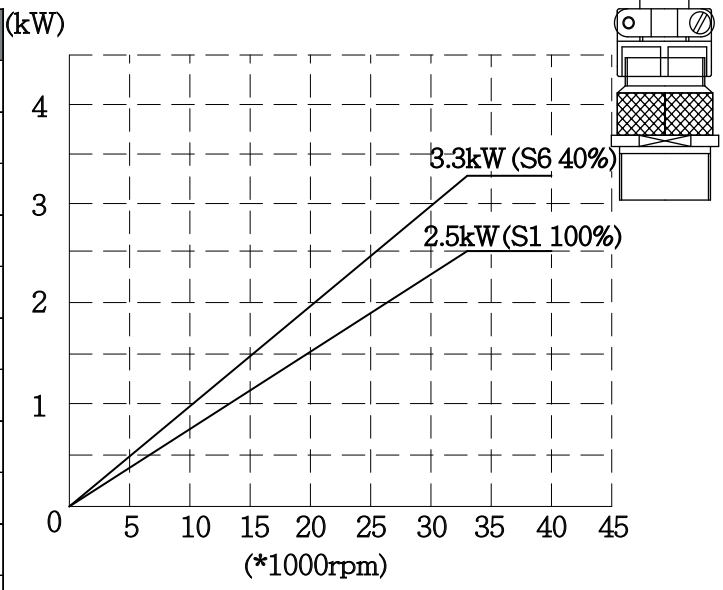
TH-100.03
TH-100.04

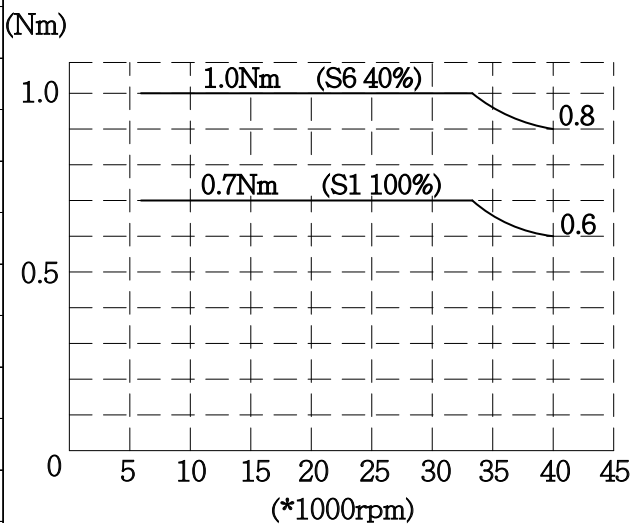
TH-120.03
TH-120.04

TH-80.01/TH-80.02 ISO-20 40,000rpm
High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

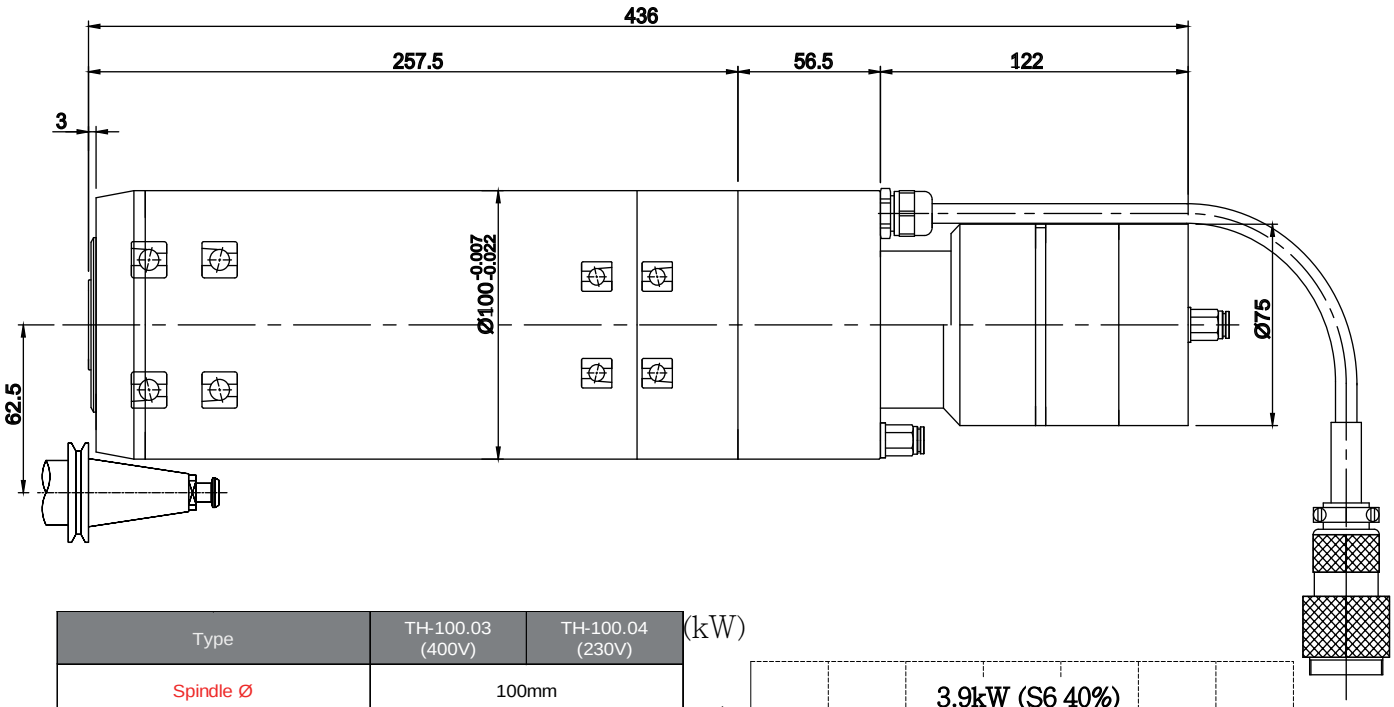


Type		TH-80.01 (220V)	TH-80.02 (380V)
Spindle Ø		80mm	
Maximum Speed (Oil-Air)		40,000rpm	
Bore diameter of front bearings		25mm	
Rigidity	Axial (N/μm)	40N/μm	
	Radial (N/μm)	50N/μm	
Frequency Max. (Hz)		1,334Hz	
at speed		32,100RPM	
S1 kW		2.5kW	
S1 Current (A)		13A	8A
S6-40% kW		3.3kW	
S6-40% Current (A)		17A	10A
kW (Peak Power)		5.8kW	
S1 Torque (Nm)		0.7Nm	
S6-40% Torque (Nm)		1Nm	
Tool Interface		ISO-20	
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		8kg	
Integral Encoder For Closed-Loop Control		N/A	
Coolant Through Shaft (CTS)		N/A	
Tool Position Sensors		Proximity switches / Analog sensor	
Front Bearing Temperature Sensor		N/A	

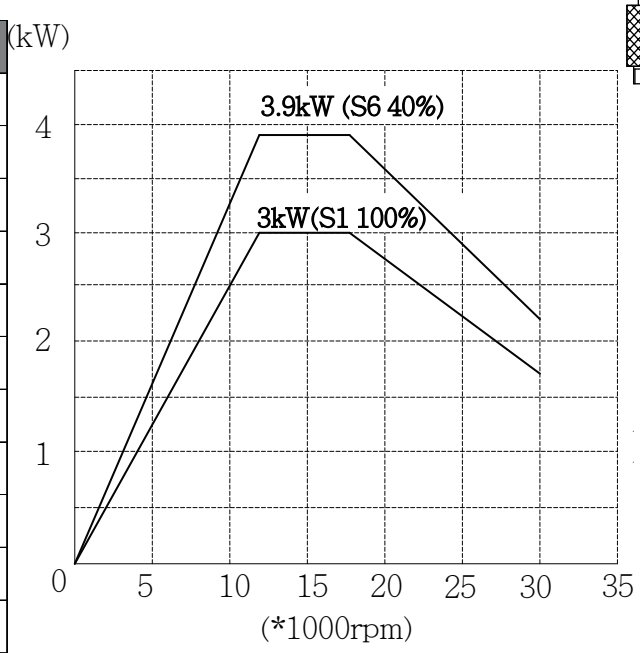


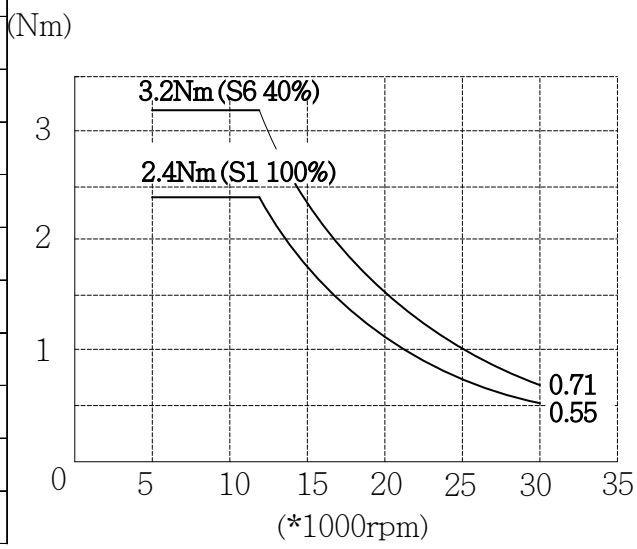


TH-100.03/TH-100.04 ISO-25 30,000rpm
High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

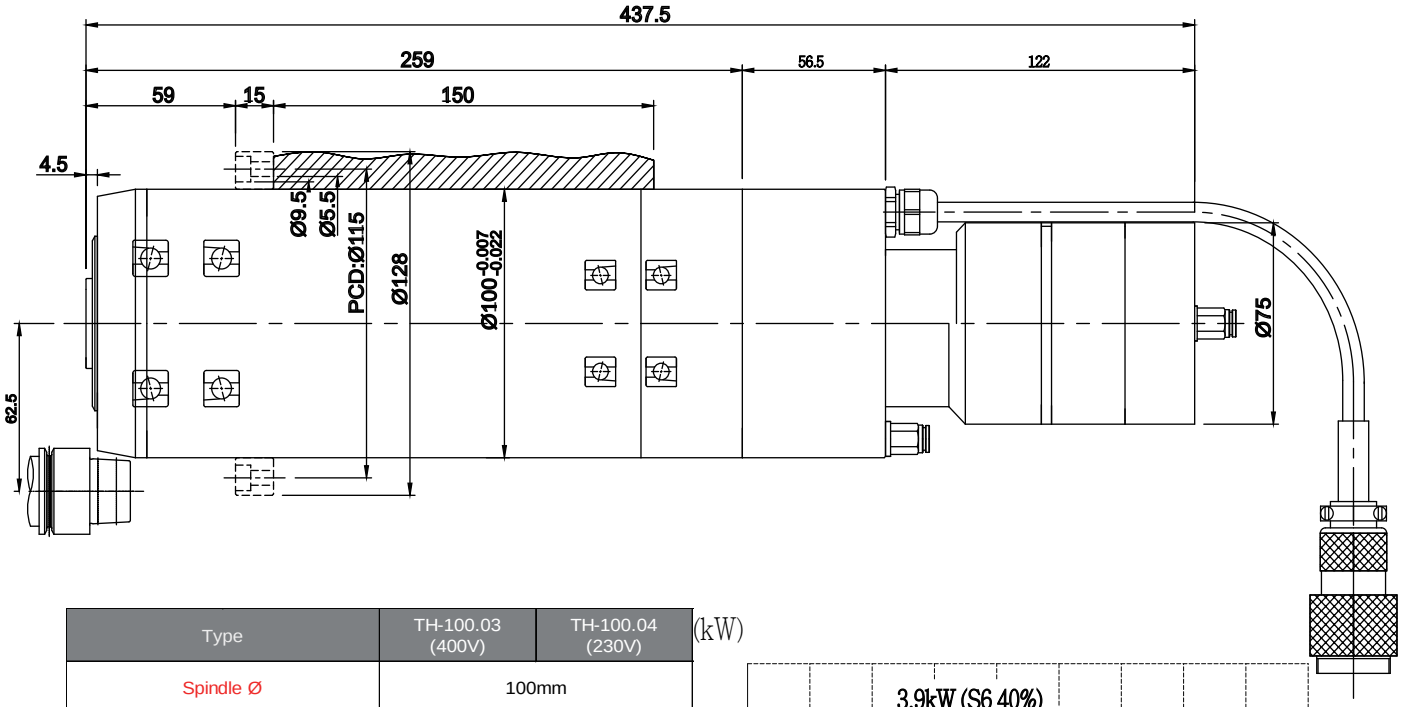


Type		TH-100.03 (400V)	TH-100.04 (230V)
Spindle Ø		100mm	
Maximum Speed (Oil-Air)		30,000rpm	
Bore diameter of front bearings		35mm	
Rigidity	Axial (N/μm)	90N/μm	
	Radial (N/μm)	90N/μm	
Frequency Max. (Hz)		1,000Hz	
at speed		11,700RPM	
S1 kW		3kW	
S1 Current (A)		7.4A	13A
S6-40% kW		3.9kW	
S6-40% Current (A)		9.6A	17A
kW (Peak Power)		8kW	
S1 Torque (Nm)		2.4Nm	
S6-40% Torque (Nm)		3.2Nm	
Tool Interface		ISO-25	
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		15kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		N/A	
Tool Position Sensors		Proximity switches / Analog sensor	
Front Bearing Temperature Sensor		N/A	
Also available with grease lubrication. This lubrication leads to speed reduction.			

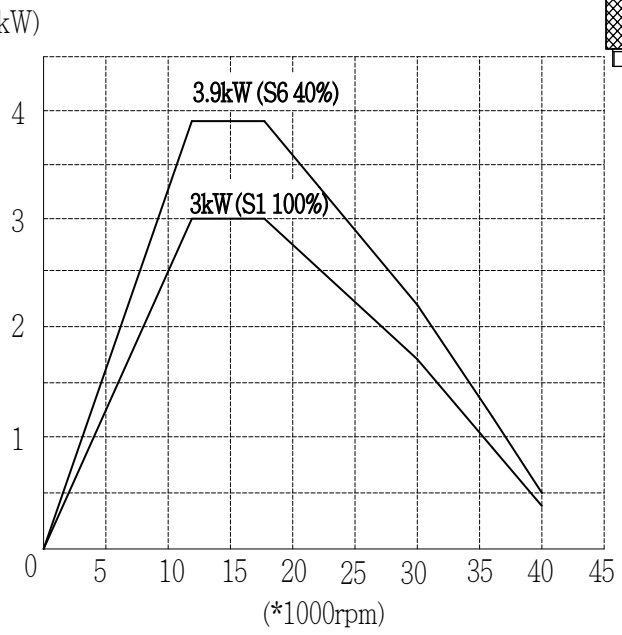


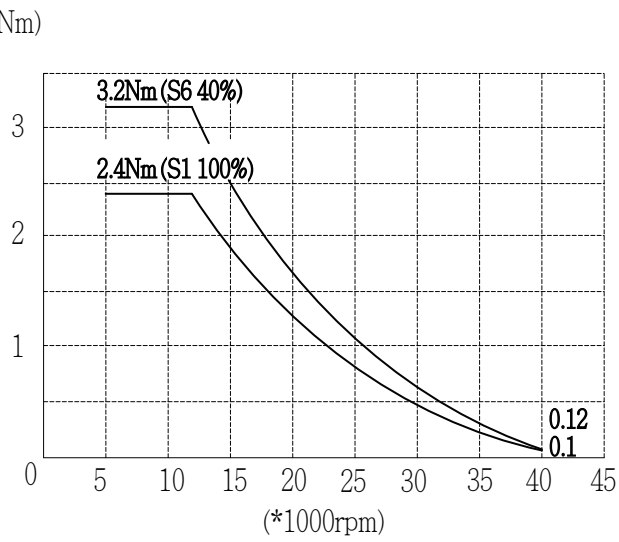


TH-100.03/TH-100.04 HSK-E32 40,000rpm
High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

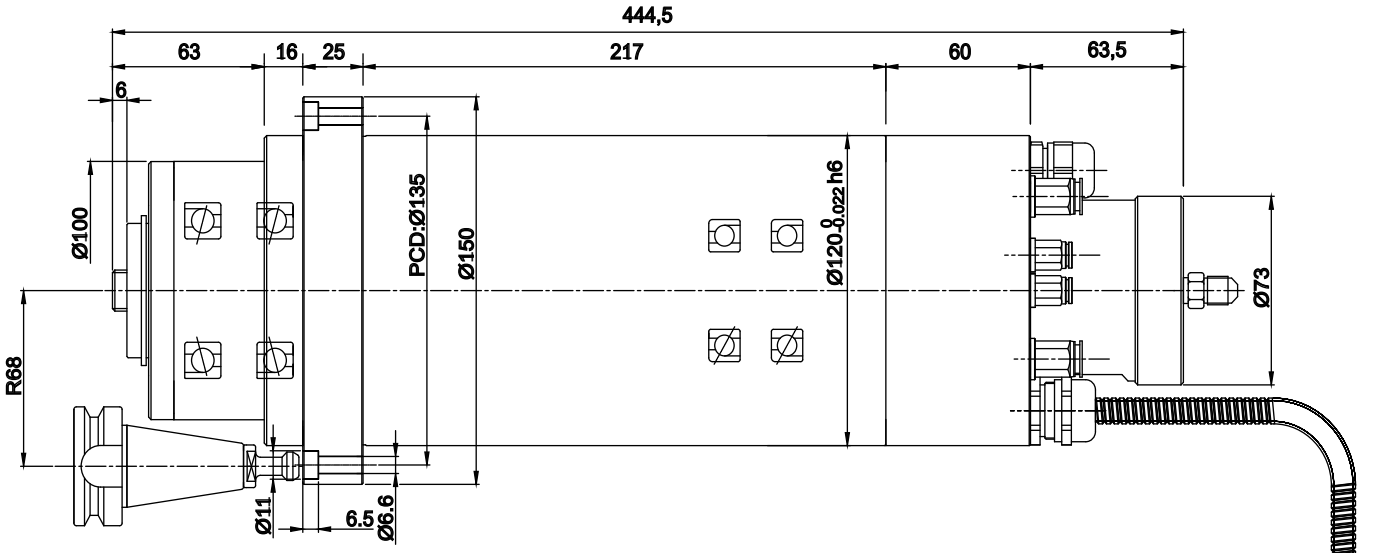


Type		TH-100.03 (400V)	TH-100.04 (230V)
Spindle Ø		100mm	
Maximum Speed (Oil-Air)		40,000rpm	
Bore diameter of front bearings		35mm	
Rigidity	Axial (N/μm)	90N/μm	
	Radial (N/μm)	90N/μm	
Frequency Max. (Hz)		1,334Hz	
at speed		11,700RPM	
S1 kW		3kW	
S1 Current (A)		7.4A	13A
S6-40% kW		3.9kW	
S6-40% Current (A)		9.6A	17A
kW (Peak Power)		8kW	
S1 Torque (Nm)		2.4Nm	
S6-40% Torque (Nm)		3.2Nm	
Tool Interface		HSK-E32	
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		15kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		N/A	
Tool Position Sensors		Proximity switches / Analog sensor	
Front Bearing Temperature Sensor		N/A	
Also available with grease lubrication. This lubrication leads to speed reduction.			

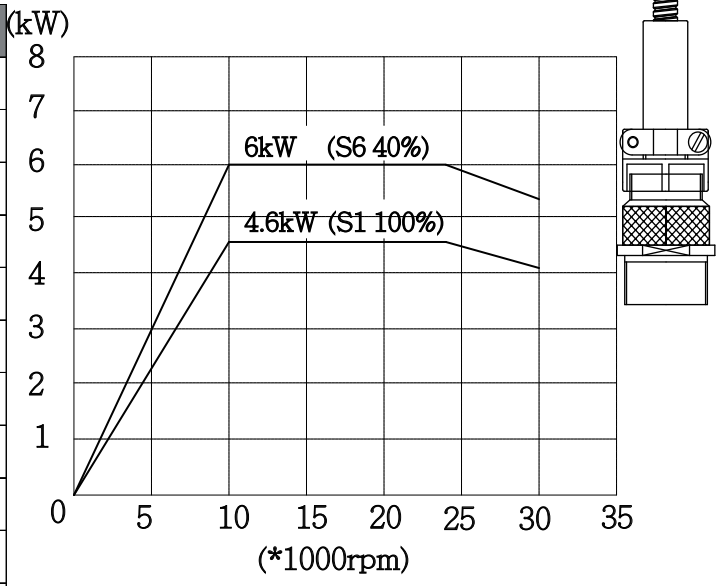


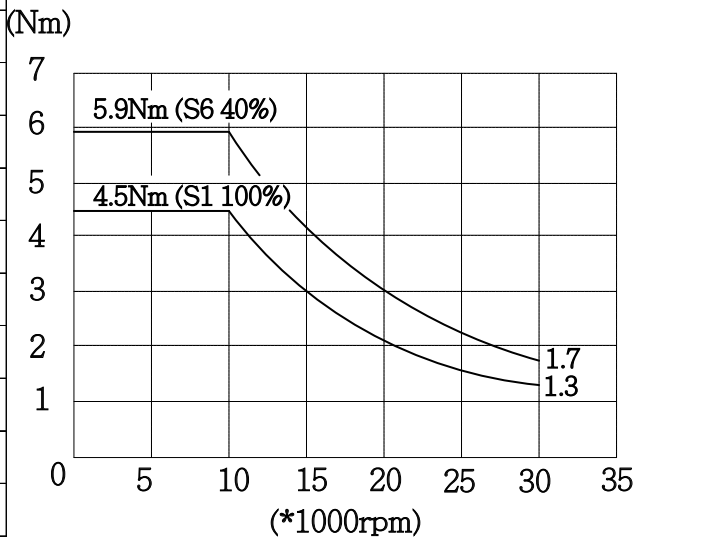


TH-120.03/TH-120.04 BT-30/BBT-30
30,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

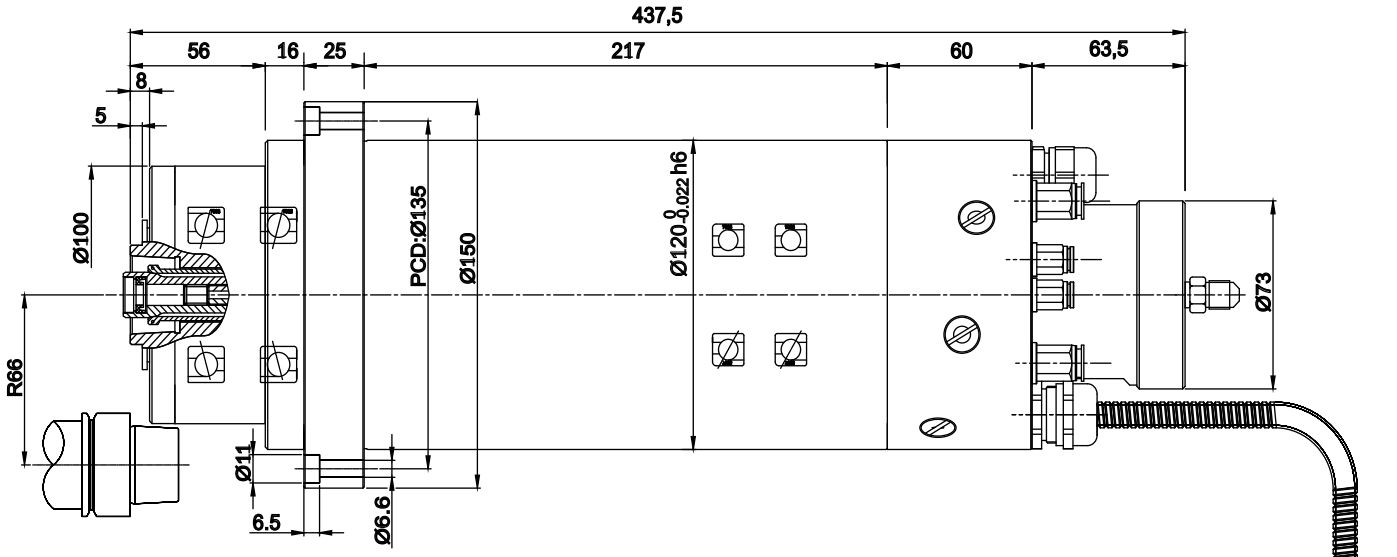


Type		TH-120.03 (400V)	TH-120.04 (230V)
Spindle Ø		120mm	
Maximum Speed (Oil-Air)		30,000rpm	
Bore diameter of front bearings		40mm	
Rigidity	Axial (N/µm)	90N/µm	
	Radial (N/µm)	120N/µm	
Frequency Max. (Hz)		1,000Hz	
at speed		9,700RPM	
S1 kW		4.6kW	
S1 Current (A)		14A	24A
S6-40% kW		6kW	
S6-40% Current (A)		18A	31A
kW (Peak Power)		14kW	
S1 Torque (Nm)		4.5Nm	
S6-40% Torque (Nm)		5.9Nm	
Tool Interface		BT-30 BBT-30	
Spindle Cooling unit		Cooling capacity:2,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		27kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Tool Position Sensors		Proximity switches / Analog sensor	
Front Bearing Temperature Sensor		Standard	
Also available with grease lubrication. This lubrication leads to speed reduction.			

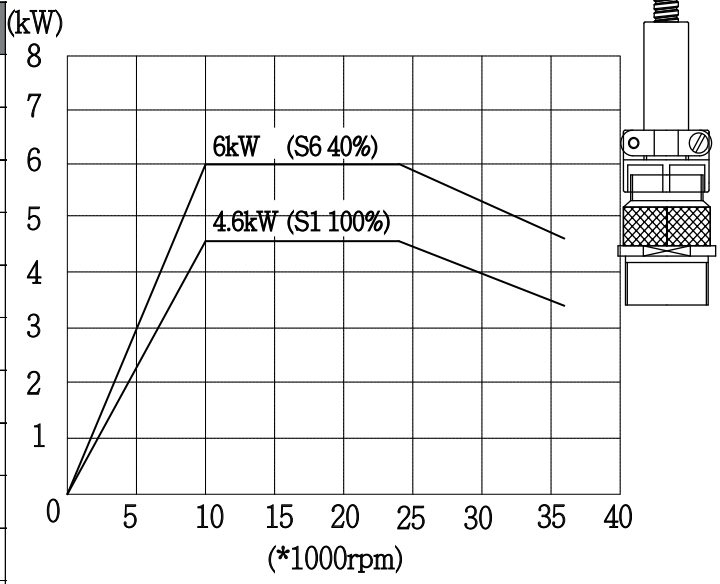


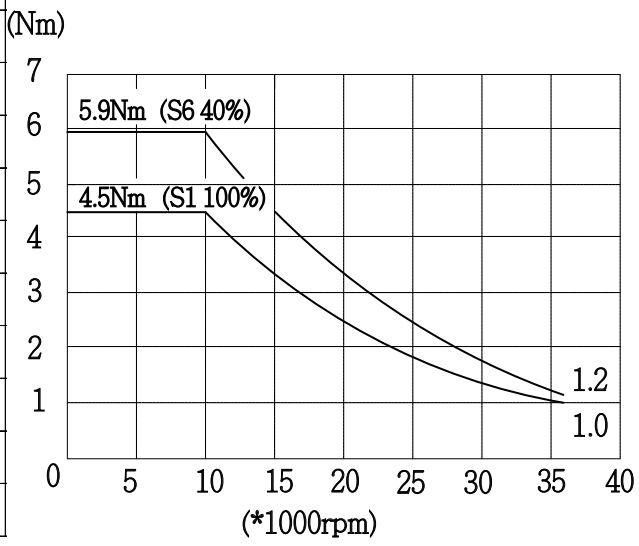


TH-120.03/TH-120.04 HSK-E40/HSK-F50
36,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



Type		TH-120.03 (400V)	TH-120.04 (230V)
Spindle Ø		120mm	
Maximum Speed (Oil-Air)		36,000rpm	
Bore diameter of front bearings		40mm	
Rigidity	Axial (N/μm)	90N/μm	
	Radial (N/μm)	120N/μm	
Frequency Max. (Hz)		1,200Hz	
at speed		9,700RPM	
S1 kW		4.6kW	
S1 Current (A)		14A	24A
S6-40% kW		6kW	
S6-40% Current (A)		18A	31A
kW (Peak Power)		14kW	
S1 Torque (Nm)		4.5Nm	
S6-40% Torque (Nm)		5.9Nm	
Tool Interface		HSK-E40 HSK-F50	
Spindle Cooling unit		Cooling capacity:2,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		27kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Tool Position Sensors		Proximity switches / Analog sensor	
Front Bearing Temperature Sensor		Standard	
Also available with grease lubrication. This lubrication leads to speed reduction.			





Ø120mm~Ø170mm
High Frequency Spindles for automatic tool change

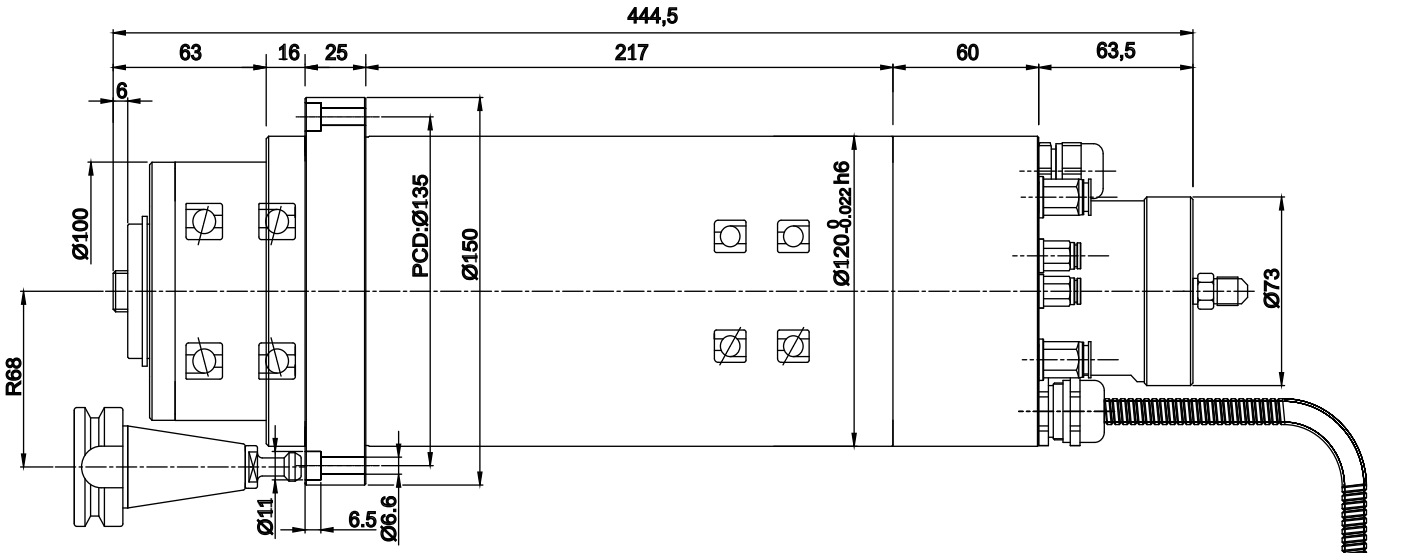
Type		TH-120.01(400V) TH-120.02(230V)		TH-150.01(380V) TH-150.02(220V)	TH-170.05(400V) TH-170.02(230V)	
Spindle Ø		120mm	120mm	150mm	170mm	170mm
Maximum Speed (Oil-Air) Also available with grease lubrication. This lubrication leads to speed reduction.		30,000rpm	42,000rpm	36,000rpm	20,000rpm	24,000rpm
Bore diameter of front bearings		40mm	40mm	50mm	65mm	65mm
Rigidity	Axial (N/µm)	90N/µm	90N/µm	130N/µm	150N/µm	150N/µm
	Radial (N/µm)	120N/µm	120N/µm	150N/µm	200N/µm	200N/µm
Frequency Max. (Hz)		1,200Hz	1,400Hz	1,200Hz	667Hz	800Hz
at speed		17,600RPM	17,600RPM	13,500RPM	5,870RPM	5,870RPM
S1 kW		10kW	10kW	15kW	18kW	18kW
S6-40% kW		13kW	13kW	20kW	23.4kW	23.4kW
kW (Peak Power)		25kW	25kW	50kW	58kW	58kW
S1 Torque (Nm)		5.4Nm	5.4Nm	10.6Nm	29.3Nm	29.3Nm
S6-40% Torque (Nm)		7.1Nm	7.1Nm	14.1Nm	38.1Nm	38.1Nm
Tool Interface		BT-30 BBT-30	HSK-E40 HSK-F50	HSK-E50 HSK-F63	BT-40 BBT-40	HSK-A63 HSK-E63
Spindle Cooling		Water cooling /Oil cooling				
Spindle Weight		27kg	27kg	46kg	63kg	63kg
Integral Encoder For Closed-Loop Control		Option	Option	Option	Option	Option
Coolant Through Shaft (CTS)		Option	Option	Option	Option	Option
Tool Position Sensors		Proximity switches / Analog sensor				
Front Bearing Temperature Sensor		Standard	Standard	Standard	Standard	Standard

TH-120.01
TH-120.02

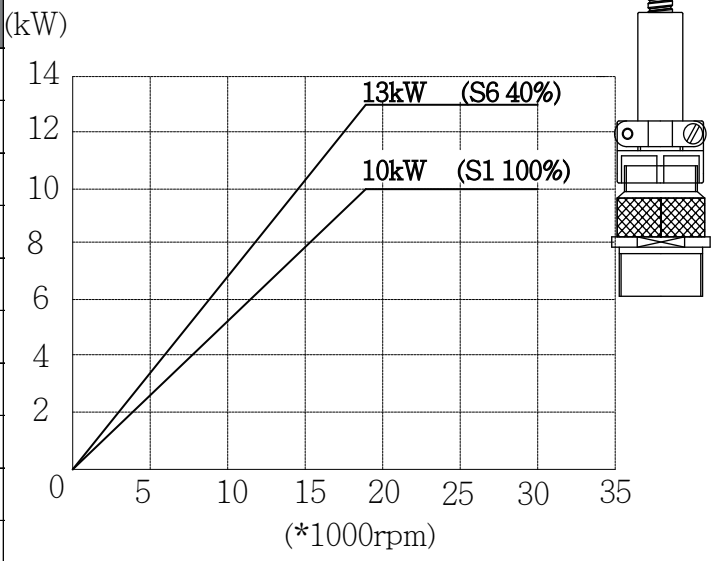
TH-150.01
TH-150.02

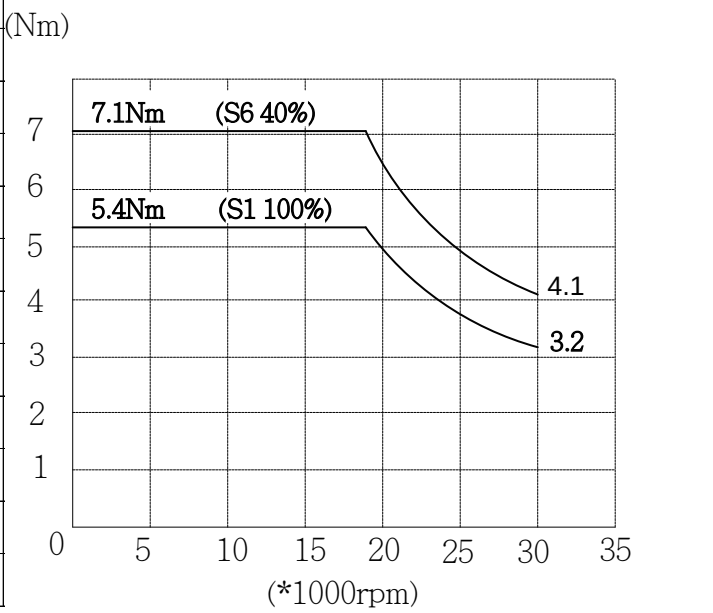
TH-170.05
TH-170.02

TH-120.01/TH-120.02 BT-30/BBT-30
30,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

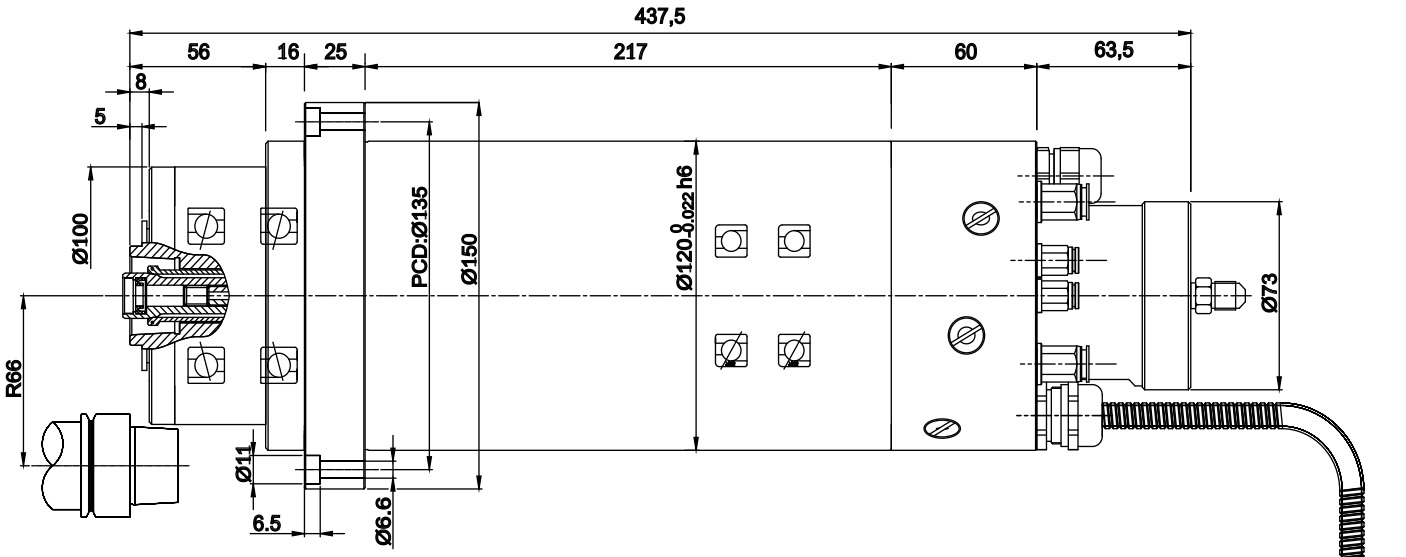


Type		TH-120.01 (400V)	TH-120.02 (230V)
Spindle Ø		120mm	
Maximum Speed (Oil-Air)		30,000rpm	
Bore diameter of front bearings		40mm	
Rigidity	Axial (N/μm)	90N/μm	
	Radial (N/μm)	120N/μm	
Frequency Max. (Hz)		1,200Hz	
at speed		17,600RPM	
S1 kW		10kW	
S1 Current (A)		30A	52A
S6-40% kW		13kW	
S6-40% Current (A)		39A	68A
kW (Peak Power)		25kW	
S1 Torque (Nm)		5.4Nm	
S6-40% Torque (Nm)		7.1Nm	
Tool Interface		BT-30 BBT-30	
Spindle Cooling unit		Cooling capacity:3,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		27kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Tool Position Sensors		Proximity switches / Analog sensor	
Front Bearing Temperature Sensor		Standard	
Also available with grease lubrication. This lubrication leads to speed reduction.			

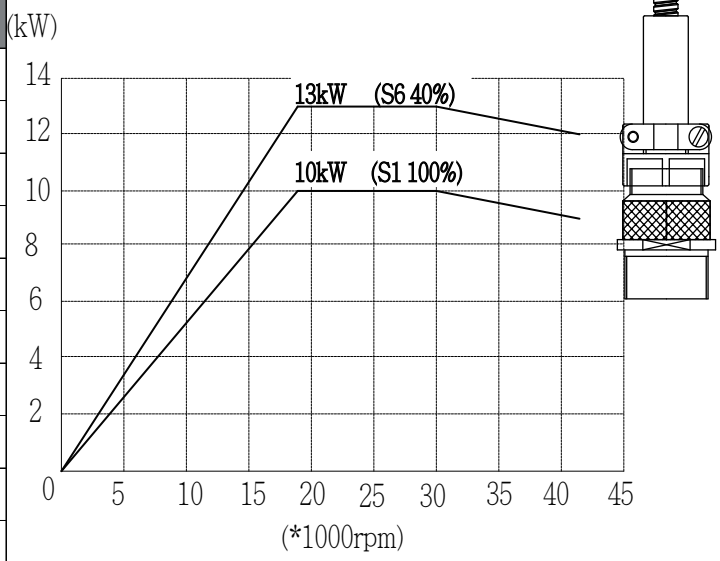


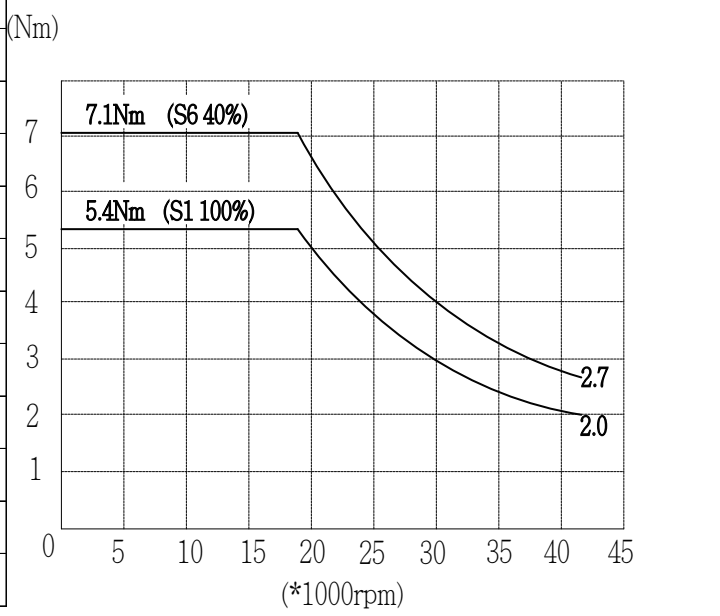


TH-120.01/TH-120.02 HSK-E40/HSK-F50
42,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

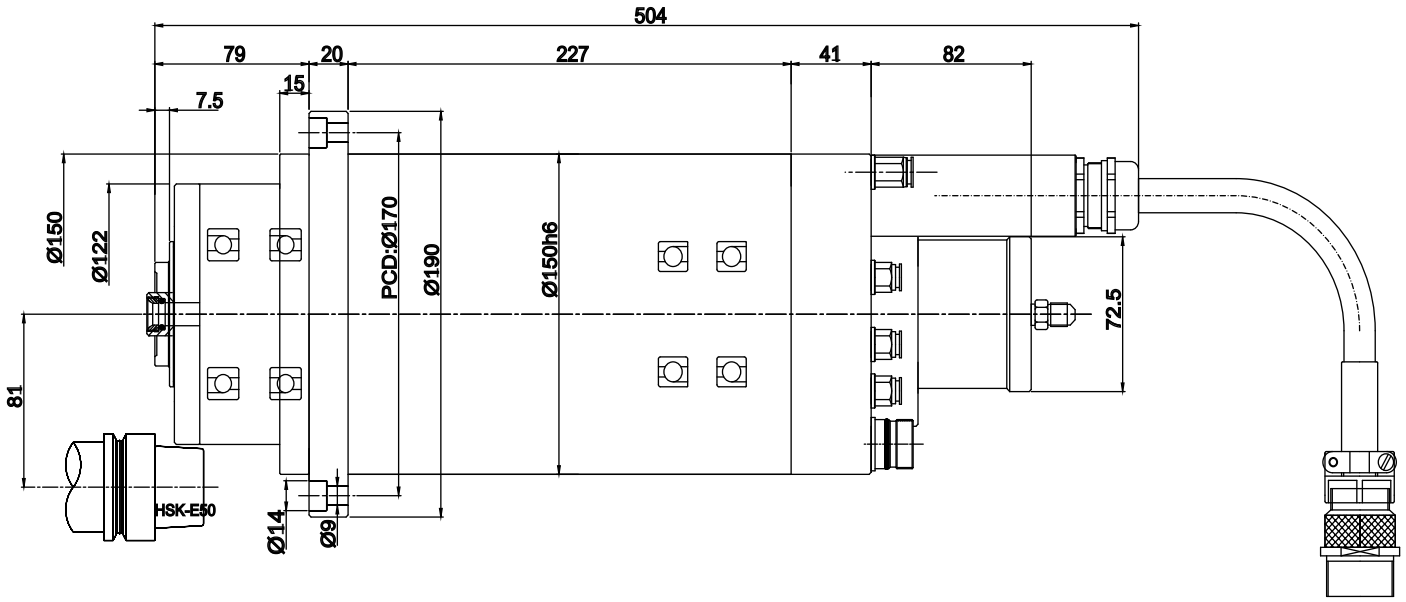


Type		TH-120.01 (400V)	TH-120.02 (230V)
Spindle Ø		120mm	
Maximum Speed (Oil-Air)		42,000rpm	
Bore diameter of front bearings		40mm	
Rigidity	Axial (N/μm)	90N/μm	
	Radial (N/μm)	120N/μm	
Frequency Max. (Hz)		1,400Hz	
at speed		17,600RPM	
S1 kW		10kW	
S1 Current (A)		30A	52A
S6-40% kW		13kW	
S6-40% Current (A)		39A	68A
kW (Peak Power)		25kW	
S1 Torque (Nm)		5.4Nm	
S6-40% Torque (Nm)		7.1Nm	
Tool Interface		HSK-E40 HSK-F50	
Spindle Cooling unit		Cooling capacity:3,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		27kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Tool Position Sensors		Proximity switches / Analog sensor	
Front Bearing Temperature Sensor		Standard	
Also available with grease lubrication. This lubrication leads to speed reduction.			

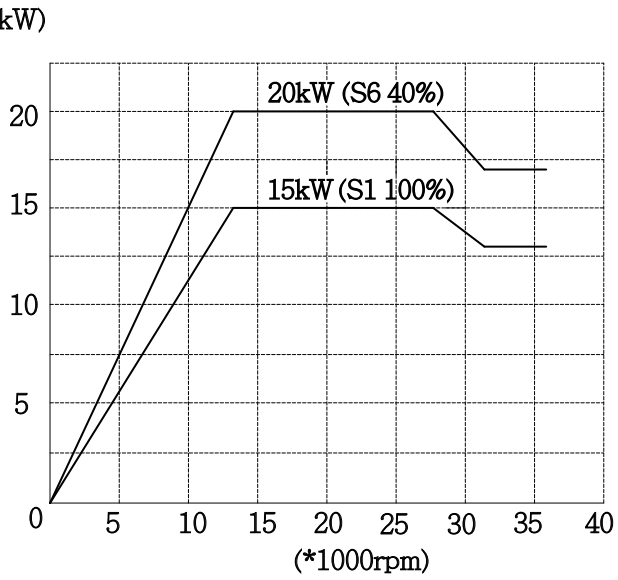


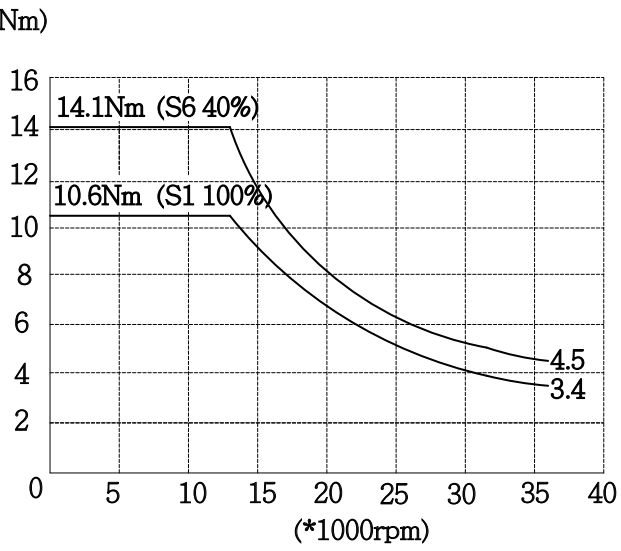


TH-150.01/TH-150.02 HSK-E50/HSK-F63
36,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

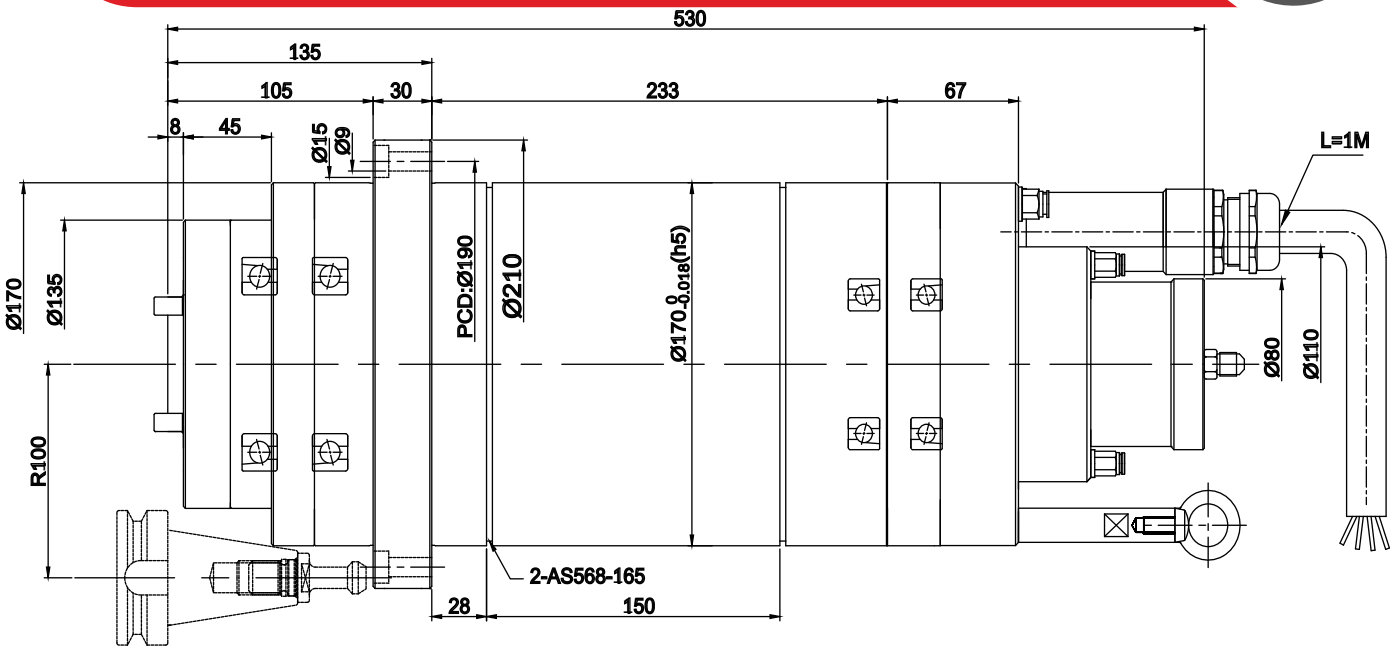


Type		TH-150.01 (380V)	TH-150.02 (220V)
Spindle Ø		150mm	
Maximum Speed (Oil-Air)		36,000rpm	
Bore diameter of front bearings		50mm	
Rigidity	Axial (N/μm)	130N/μm	
	Radial (N/μm)	150N/μm	
Frequency Max. (Hz)		1,200Hz	
at speed		13,500RPM	
S1 kW		15kW	
S1 Current (A)		41A	71A
S6-40% kW		20kW	
S6-40% Current (A)		53A	92A
kW (Peak Power)		50kW	
S1 Torque (Nm)		10.6Nm	
S6-40% Torque (Nm)		14.1Nm	
Tool Interface		HSK-E50 HSK-F63	
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		46kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Tool Position Sensors		Proximity switches / Analog sensor	
Front Bearing Temperature Sensor		Standard	
Also available with grease lubrication. This lubrication leads to speed reduction.			

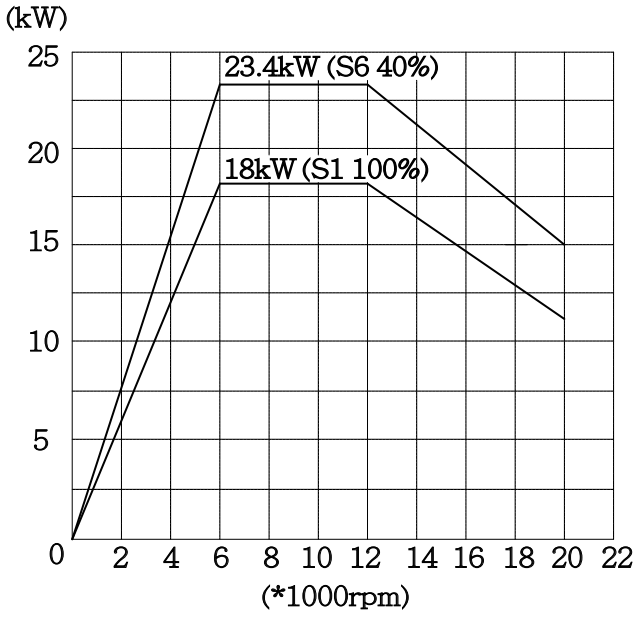


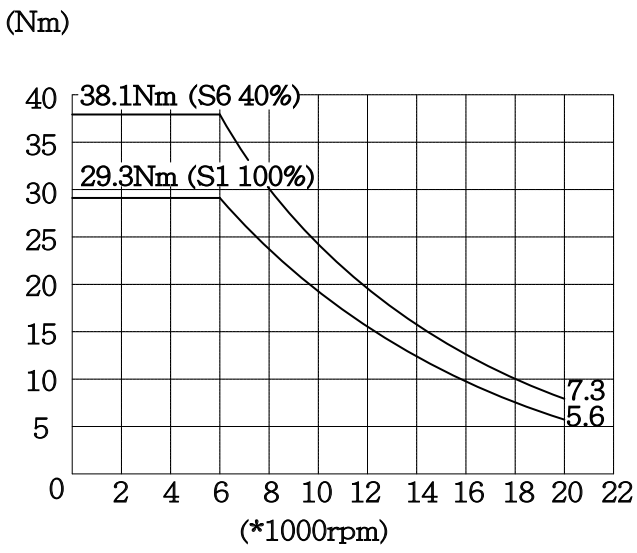


TH-170.05/TH-170.02 BT-40/BBT-40
20,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

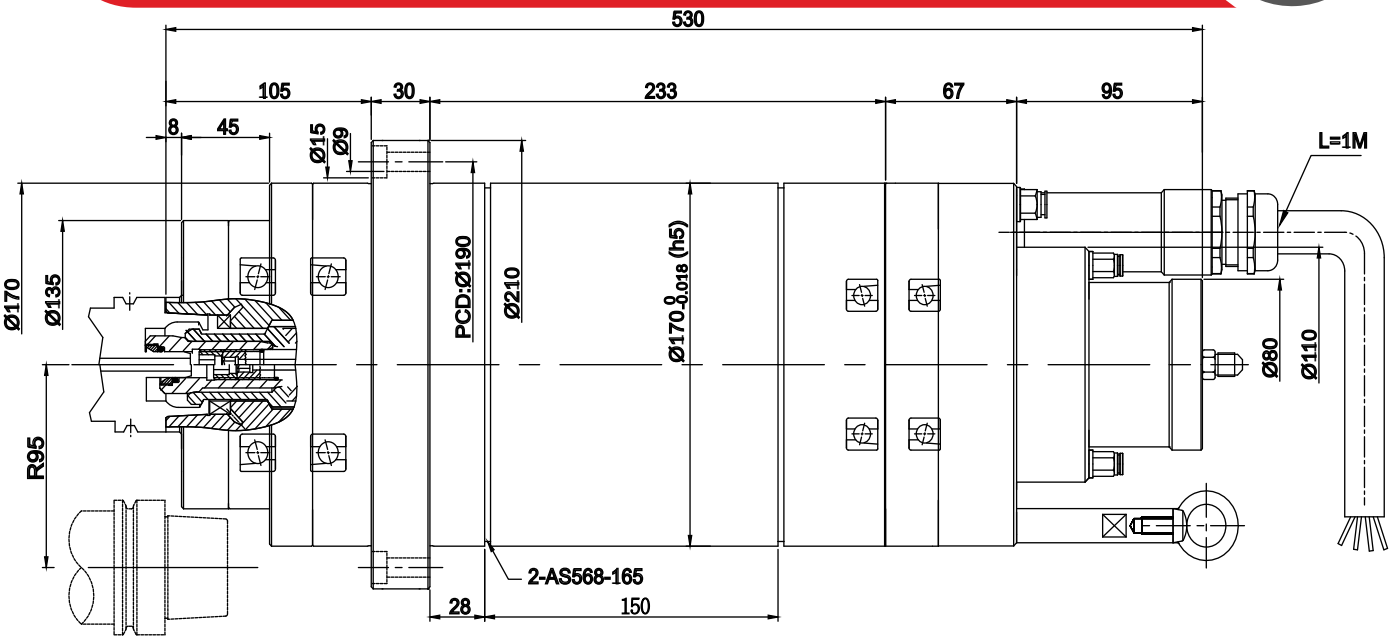


Type		TH-170.05 (400V)	TH-170.02 (230V)
Spindle Ø		170mm	
Maximum Speed (Oil-Air)		20,000rpm	
Bore diameter of front bearings		65mm	
Rigidity	Axial (N/μm)	150N/μm	
	Radial (N/μm)	200N/μm	
Frequency Max. (Hz)		667Hz	
at speed		5,870RPM	
S1 kW		18kW	
S1 Current (A)		44A	75A
S6-40% kW		23.4kW	
S6-40% Current (A)		57A	98A
kW (Peak Power)		58kW	
S1 Torque (Nm)		29.3Nm	
S6-40% Torque (Nm)		38.1Nm	
Tool Interface		BT-40 BBT-40	
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		63kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Tool Position Sensors		Proximity switches / Analog sensor	
Front Bearing Temperature Sensor		Standard	
Also available with grease lubrication. This lubrication leads to speed reduction.			

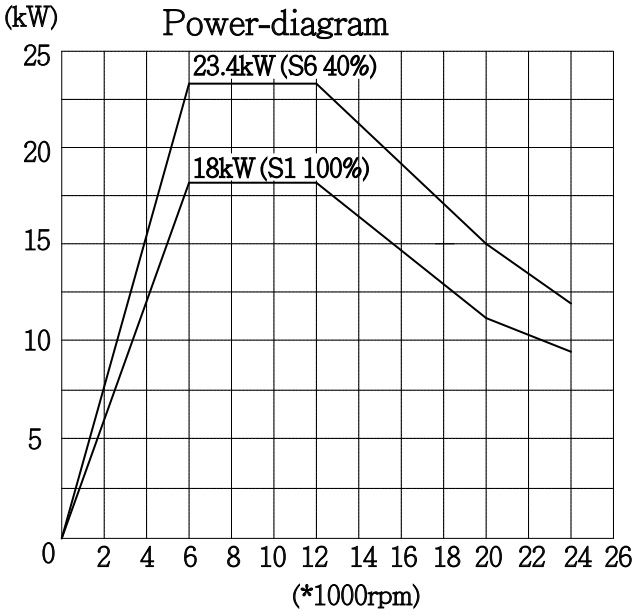


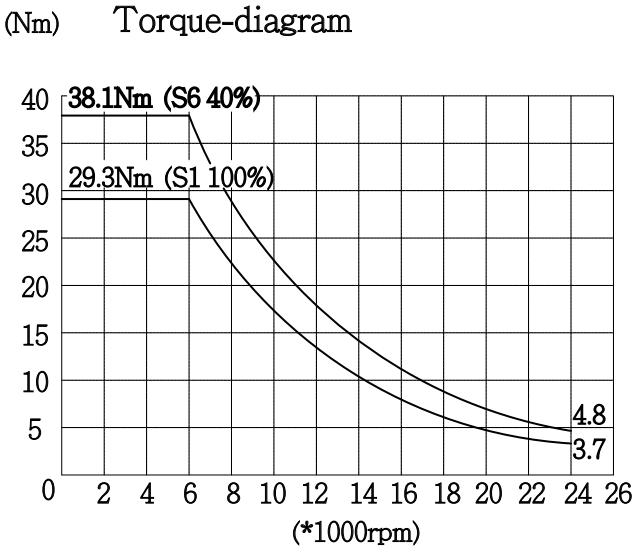


TH-170.05/TH-170.02 HSK-A63/HSK-E63
24,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



Type		TH-170.05 (400V)	TH-170.02 (230V)
Spindle Ø		170mm	
Maximum Speed (Oil-Air)		24,000rpm	
Bore diameter of front bearings		65mm	
Rigidity	Axial (N/μm)	150N/μm	
	Radial (N/μm)	200N/μm	
Frequency Max. (Hz)		800Hz	
at speed		5,870RPM	
S1 kW		18kW	
S1 Current (A)		44A	75A
S6-40% kW		23.4kW	
S6-40% Current (A)		57A	98A
kW (Peak Power)		58kW	
S1 Torque (Nm)		29.3Nm	
S6-40% Torque (Nm)		38.1Nm	
Tool Interface		HSK-A63 HSK-E63	
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		63kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Tool Position Sensors		Proximity switches / Analog sensor	
Front Bearing Temperature Sensor		Standard	
Also available with grease lubrication. This lubrication leads to speed reduction.			





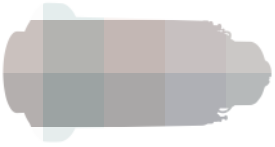
Ø170mm~Ø210mm
High Frequency Spindles for automatic tool change

Type		TH-170.03 (380V)		THN-170.02(230V) THN-170.03(400V)	TH-190.04 (400V)	TH-210.01 (400V)
Spindle Ø		170mm	170mm	170mm	190mm	210mm
Maximum Speed (Oil-Air) Also available with grease lubrication. This lubrication leads to speed reduction.		20,000rpm	30,000rpm	20,000rpm	12,000rpm	18,000rpm
Bore diameter of front bearings		65mm	65mm	70mm	70mm	70mm
Rigidity	Axial (N/µm)	150N/µm	150N/µm	180N/µm	180N/µm	180N/µm
	Radial (N/µm)	200N/µm	200N/µm	200N/µm	200N/µm	200N/µm
Frequency Max. (Hz)		667Hz	1,000Hz	667Hz	800Hz	1,200Hz
at speed		9,860RPM	9,860RPM	5,870RPM	3,200RPM	2,000RPM
S1 kW		30kW	30kW	18kW	16kW	15kW
S6-40% kW		39kW	39kW	23.4kW	20.8kW	19.5kW
kW (Peak Power)		106kW	106kW	58kW	63kW	83kW
S1 Torque (Nm)		29.1Nm	29.1Nm	29.3Nm	47.8Nm	71.6Nm
S6-40% Torque (Nm)		37.8Nm	37.8Nm	38.1Nm	62.1Nm	93.1Nm
Tool Interface		BT-40 BBT-40	HSK-A63 HSK-E63	BT-40 BBT-40	HSK-A63 HSK-C63	HSK-A63 BBT-40
Spindle Cooling		Water cooling /Oil cooling				
Spindle Weight		63kg	63kg	65kg	80kg	100kg
Integral Encoder For Closed-Loop Control		Option	Option	Option	Option	Option
Coolant Through Shaft (CTS)		Option	Option	Option	Option	Option
Tool Position Sensors		Proximity switches / Analog sensor				
Front Bearing Temperature Sensor		Standard	Standard	Standard	Standard	Standard

TH-170.03

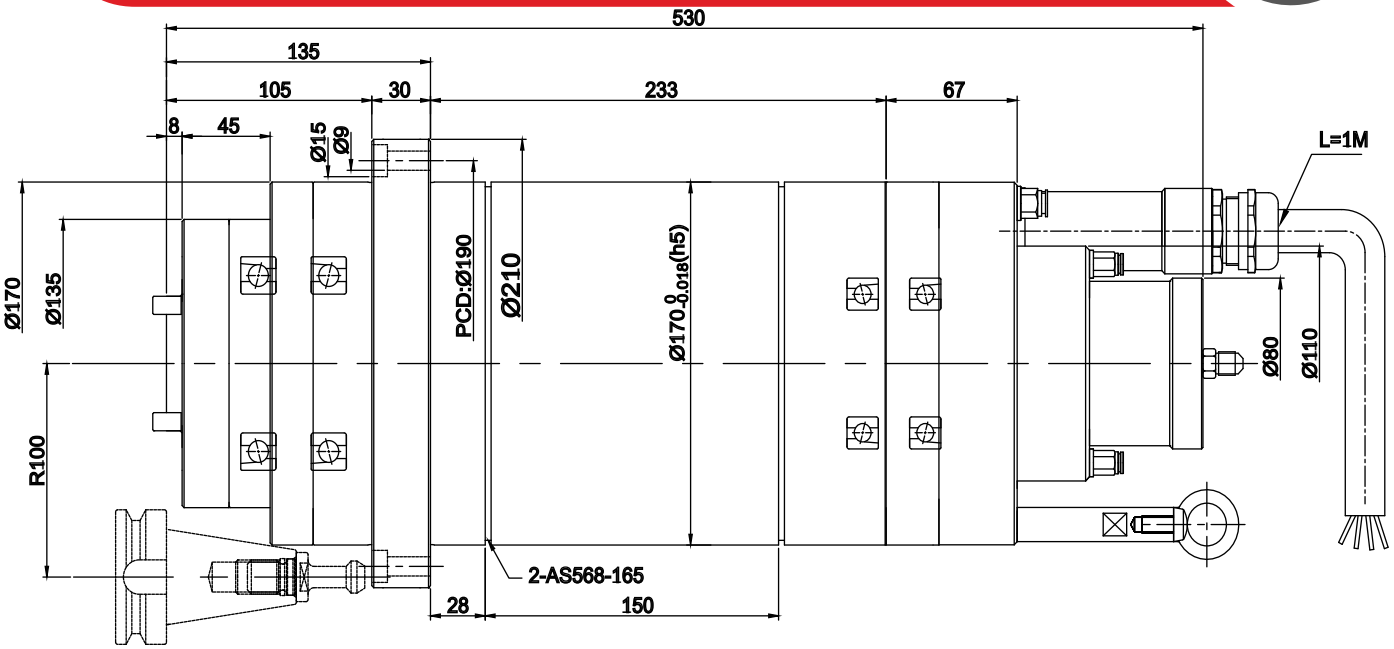
THN-170.02
THN-170.03

TH-190.04

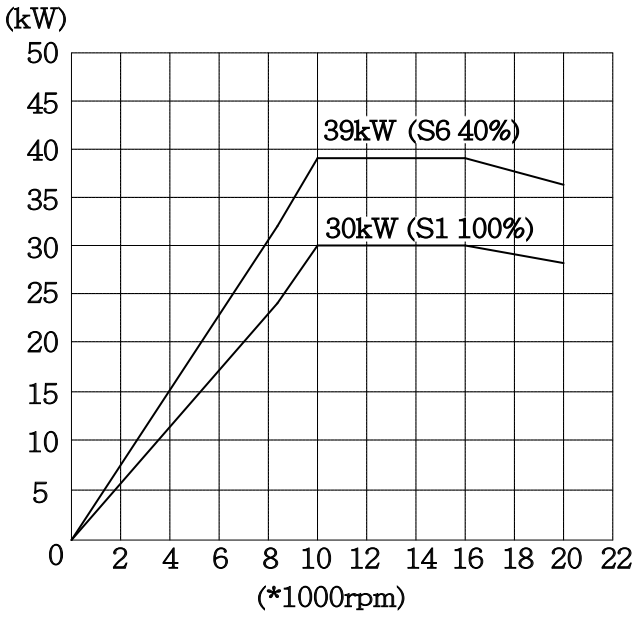


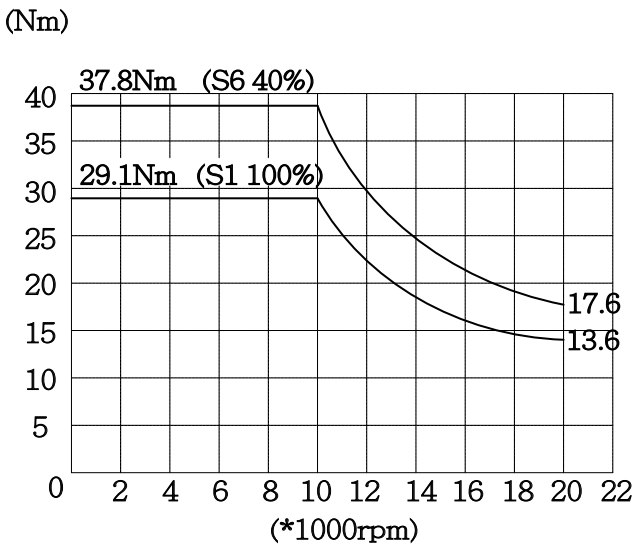
TH-210.01

TH-170.03 BT-40/BBT-40
20,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

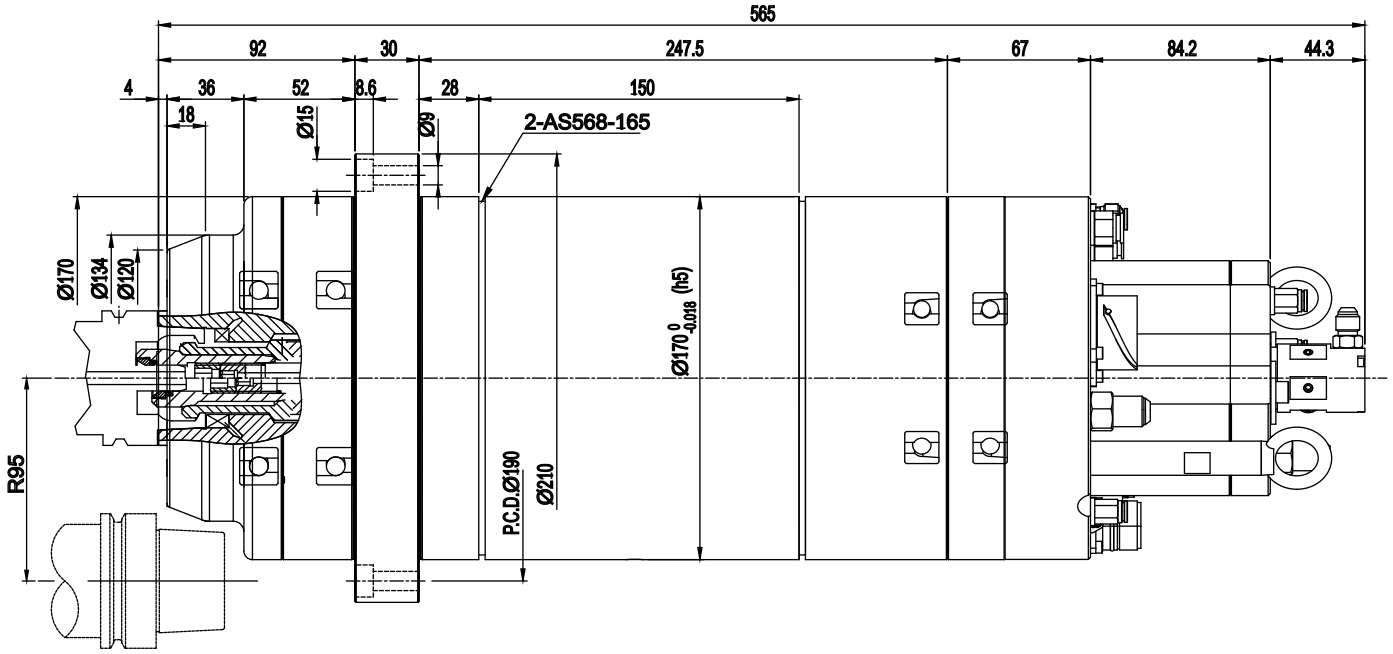


Type		TH-170.03 (380V)
Spindle Ø		170mm
Maximum Speed (Oil-Air)		20,000rpm
Bore diameter of front bearings		65mm
Rigidity	Axial (N/μm)	150N/μm
	Radial (N/μm)	200N/μm
Frequency Max. (Hz)		667Hz
at speed		9,860RPM
S1 kW		30kW
S1 Current (A)		68A
S6-40% kW		39kW
S6-40% Current (A)		88A
kW (Peak Power)		106kW
S1 Torque (Nm)		29.1Nm
S6-40% Torque (Nm)		37.8Nm
Tool Interface		BT-40 BBT-40
Spindle Cooling unit		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		63kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard
Also available with grease lubrication. This lubrication leads to speed reduction.		

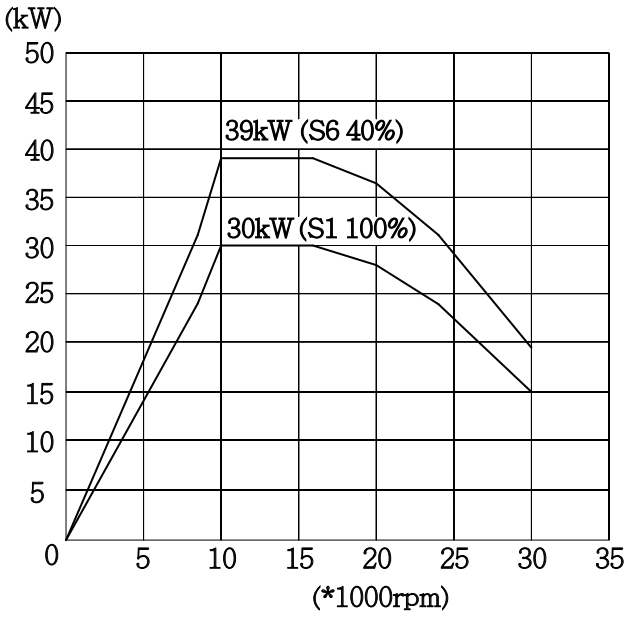


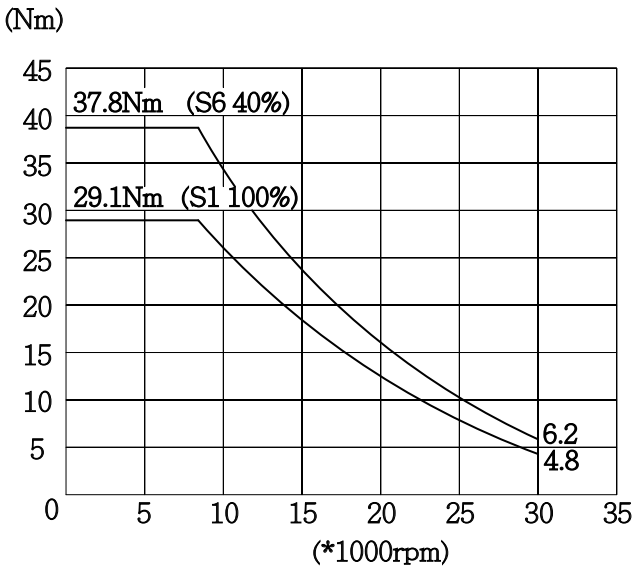


TH-170.03 HSK-A63/HSK-E63
30,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

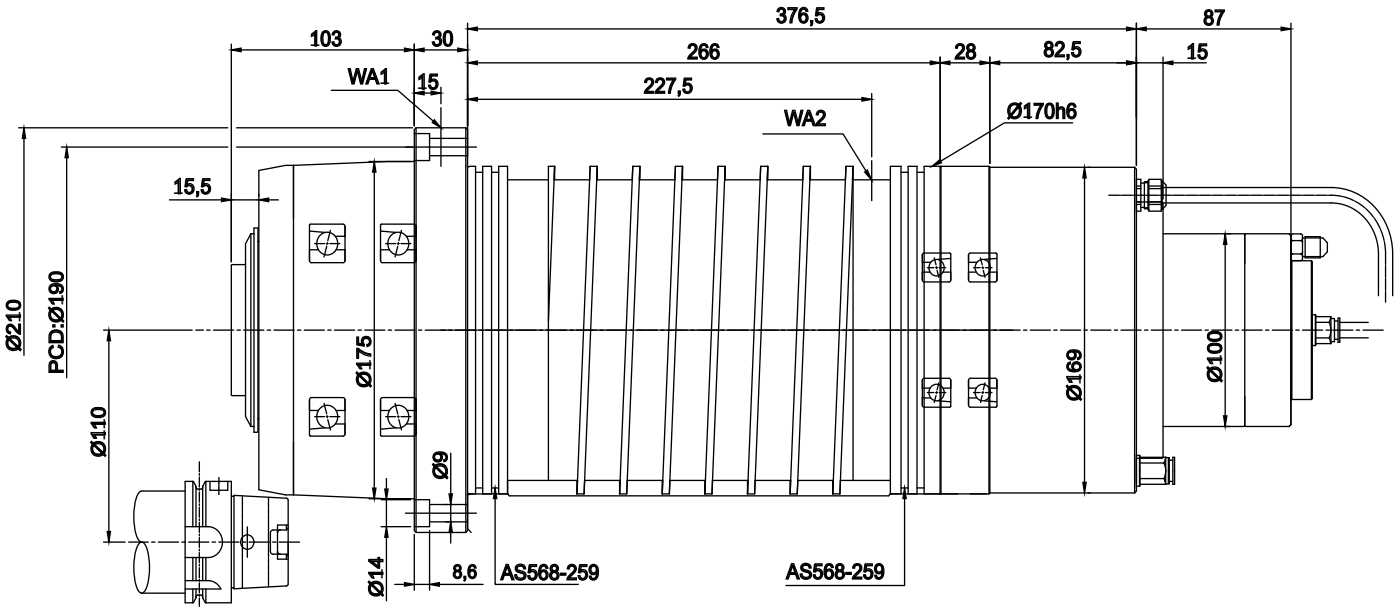


Type		TH-170.03 (380V)
Spindle Ø		170mm
Maximum Speed (Oil-Air)		30,000rpm
Bore diameter of front bearings		65mm
Rigidity	Axial (N/μm)	150N/μm
	Radial (N/μm)	200N/μm
Frequency Max. (Hz)		1,000Hz
at speed		9,860RPM
S1 kW		30kW
S1 Current (A)		68A
S6-40% kW		39kW
S6-40% Current (A)		88A
kW (Peak Power)		106kW
S1 Torque (Nm)		29.1Nm
S6-40% Torque (Nm)		37.8Nm
Tool Interface		HSK-A63 HSK-E63
Spindle Cooling unit		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		63kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard
Also available with grease lubrication. This lubrication leads to speed reduction.		

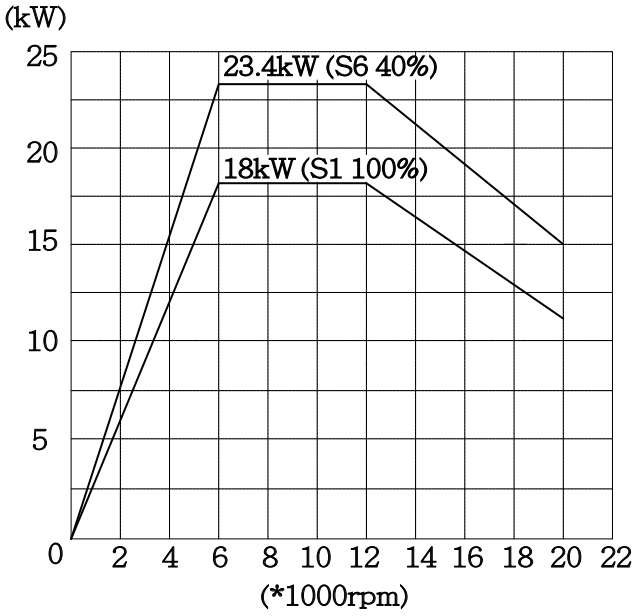


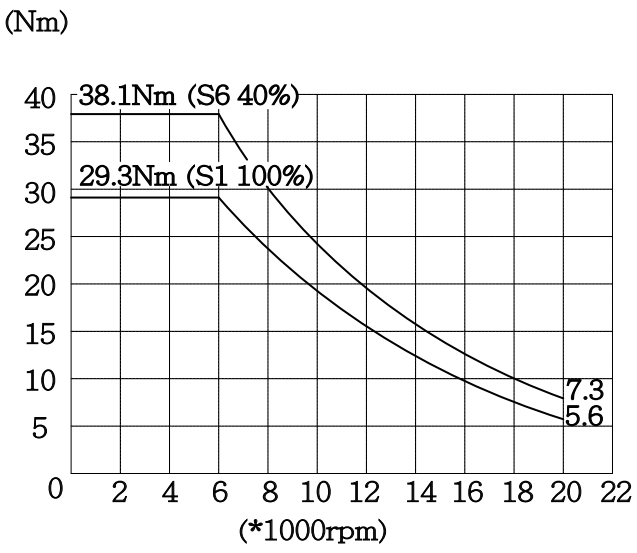


THN-170.02/THN-170.03 HSK-A63/BBT-40
20,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

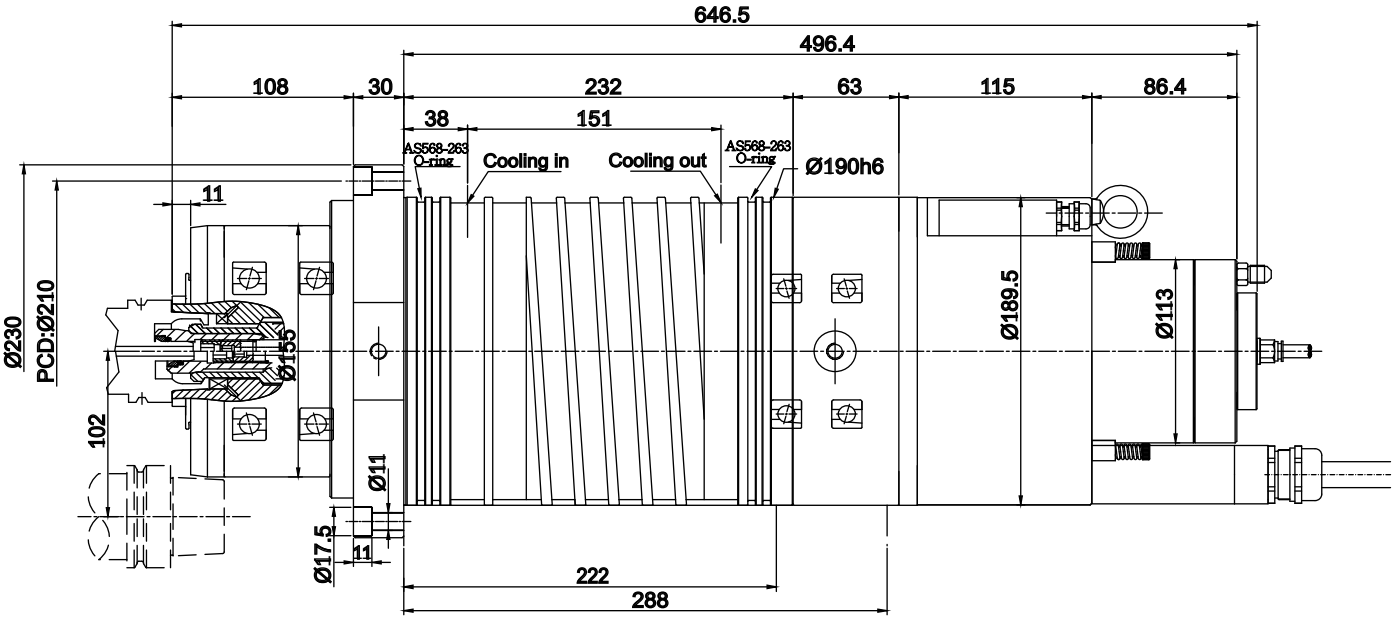


Type		THN-170.02 (230V)	THN-170.03 (400V)
Spindle Ø		170mm	
Maximum Speed (Oil-Air)		20,000rpm	
Bore diameter of front bearings		70mm	
Rigidity	Axial (N/μm)	180N/μm	
	Radial (N/μm)	200N/μm	
Frequency Max. (Hz)		667Hz	
at speed		5,870RPM	
S1 kW		18kW	
S1 Current (A)		75A	44A
S6-40% kW		23.4kW	
S6-40% Current (A)		98A	57A
kW (Peak Power)		58kW	
S1 Torque (Nm)		29.3Nm	
S6-40% Torque (Nm)		38.1Nm	
Tool Interface		HSK-A63 BBT-40	
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		65kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Tool Position Sensors		Proximity switches / Analog sensor	
Front Bearing Temperature Sensor		Standard	
Also available with grease lubrication. This lubrication leads to speed reduction.			

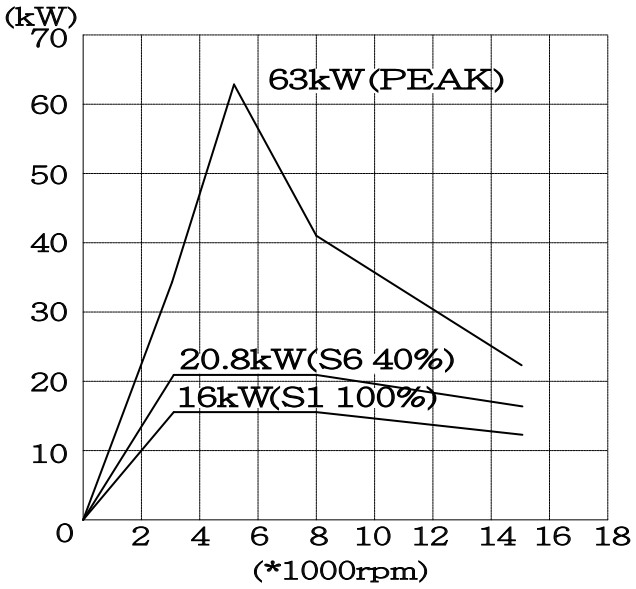


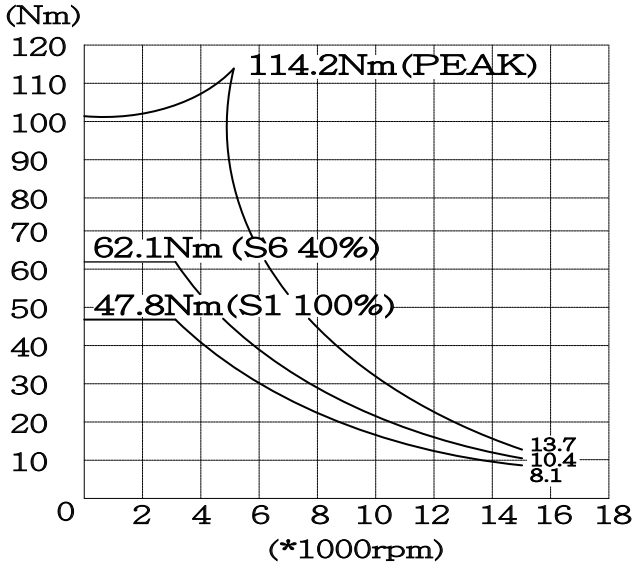


TH-190.04 HSK-A63/HSK-C63/BBT-40
15,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

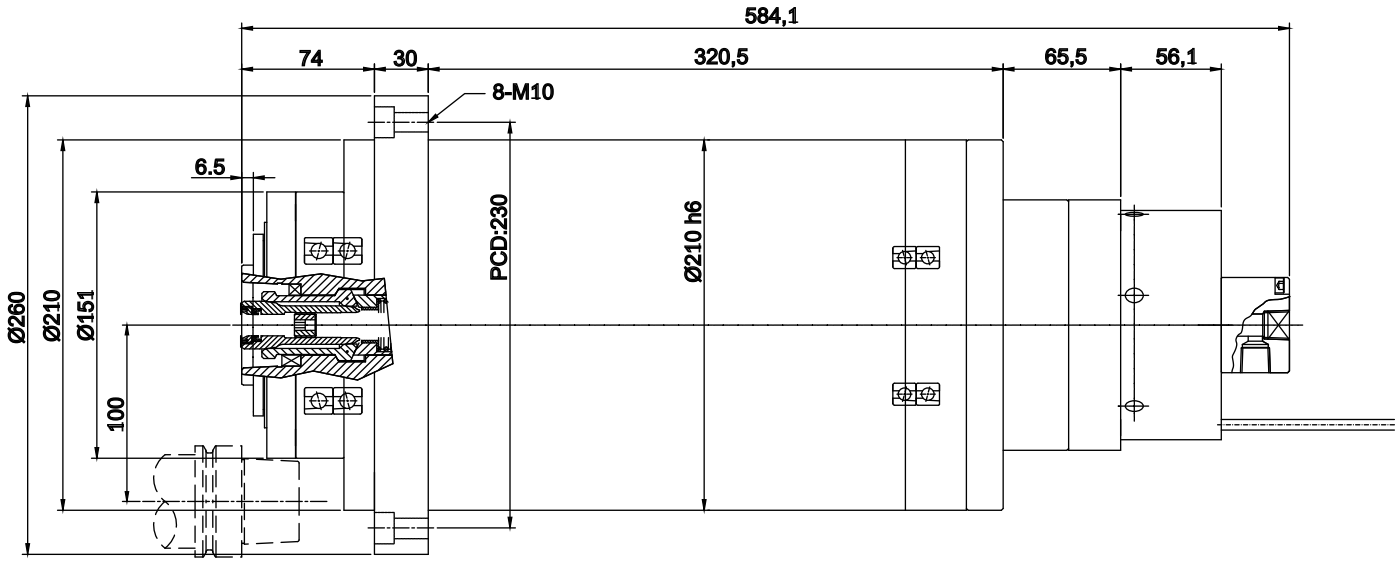


Type		TH-190.04 (400V)
Spindle Ø		190mm
Maximum Speed (Oil-Air)		15,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	180N/μm
	Radial (N/μm)	200N/μm
Frequency Max. (Hz)		800Hz
at speed		3,200RPM
S1 kW		16kW
S1 Current (A)		69A
S6-40% kW		20.8kW
S6-40% Current (A)		90A
kW (Peak Power)		63kW
S1 Torque (Nm)		47.8Nm
S6-40% Torque (Nm)		62.1Nm
Tool Interface		HSK-C63 / HSK-A63 BBT-40
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		80kg / 80kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		N/A / Analog sensor
Front Bearing Temperature Sensor		Standard
Also available with grease lubrication. This lubrication leads to speed reduction.		

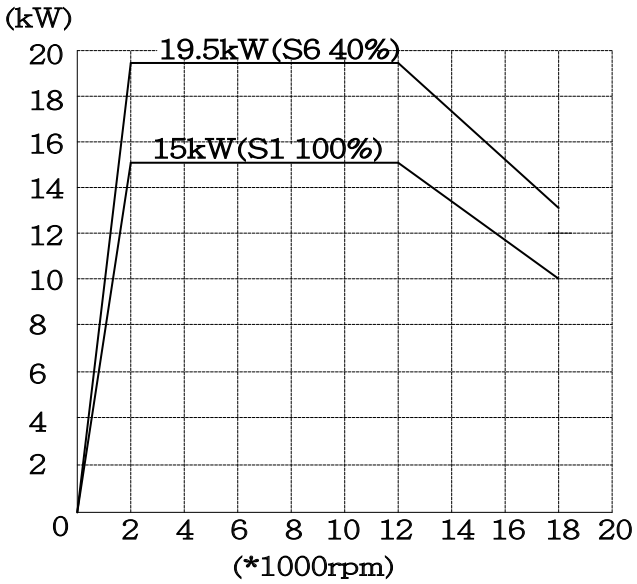


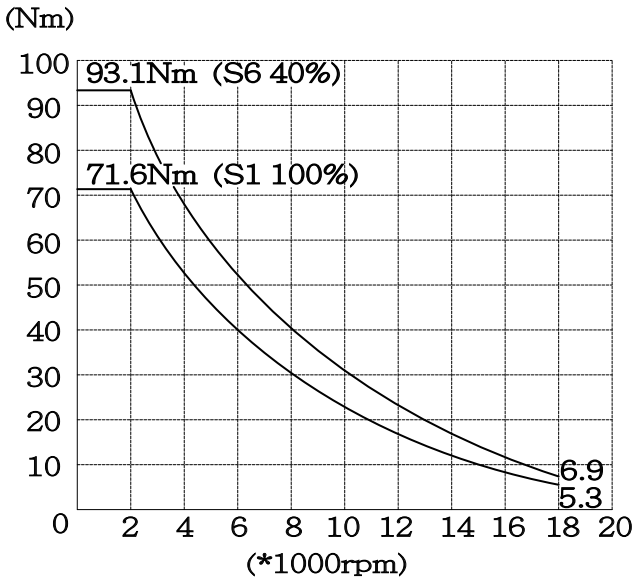


TH-210.01 HSK-A63/BBT-40
20,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



Type		TH-210.01 (400V)
Spindle Ø		210mm
Maximum Speed (Oil-Air)		18,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	180N/μm
	Radial (N/μm)	200N/μm
Frequency Max. (Hz)		1,200Hz
at speed		2,000RPM
S1 kW		15kW
S1 Current (A)		80A
S6-40% kW		19.5kW
S6-40% Current (A)		104A
kW (Peak Power)		83kW
S1 Torque (Nm)		71.6Nm
S6-40% Torque (Nm)		93.1Nm
Tool Interface		HSK-A63 BBT-40
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		100kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard
Also available with grease lubrication. This lubrication leads to speed reduction.		





Ø230mm
High Frequency Spindles for automatic tool change

Type		TH-230.02 (400V)	TH-230.05 (400V)	TH-230.12 (400V)
Spindle Ø		230mm	230mm	230mm
Maximum Speed (Oil-Air) Also available with grease lubrication. This lubrication leads to speed reduction.		16,000rpm	12,000rpm	20,000rpm
Bore diameter of front bearings		70mm	100mm	70mm
Rigidity	Axial (N/µm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.		
	Radial (N/µm)			
Frequency Max. (Hz)		533Hz	400Hz	667Hz
at speed		1,980RPM	1,980RPM	1,980RPM
S1 kW		20kW	20kW	20kW
S6-40% kW		25kW	25kW	25kW
kW (Peak Power)		171kW	171kW	171kW
S1 Torque (Nm)		96.5Nm	96.5Nm	96.5Nm
S6-40% Torque (Nm)		121Nm	121Nm	121Nm
Tool Interface		HSK-A63 BBT-40	HSK-A100 BBT-50	HSK-A63 BBT-40
Spindle Cooling		Water cooling /Oil cooling		
Spindle Weight		180kg	210kg	145kg
Integral Encoder For Closed-Loop Control		Option	Option	Option
Coolant Through Shaft (CTS)		Option	Option	Option
Tool Position Sensors		Proximity switches / Analog sensor		
Front Bearing Temperature Sensor		Standard	Standard	Standard

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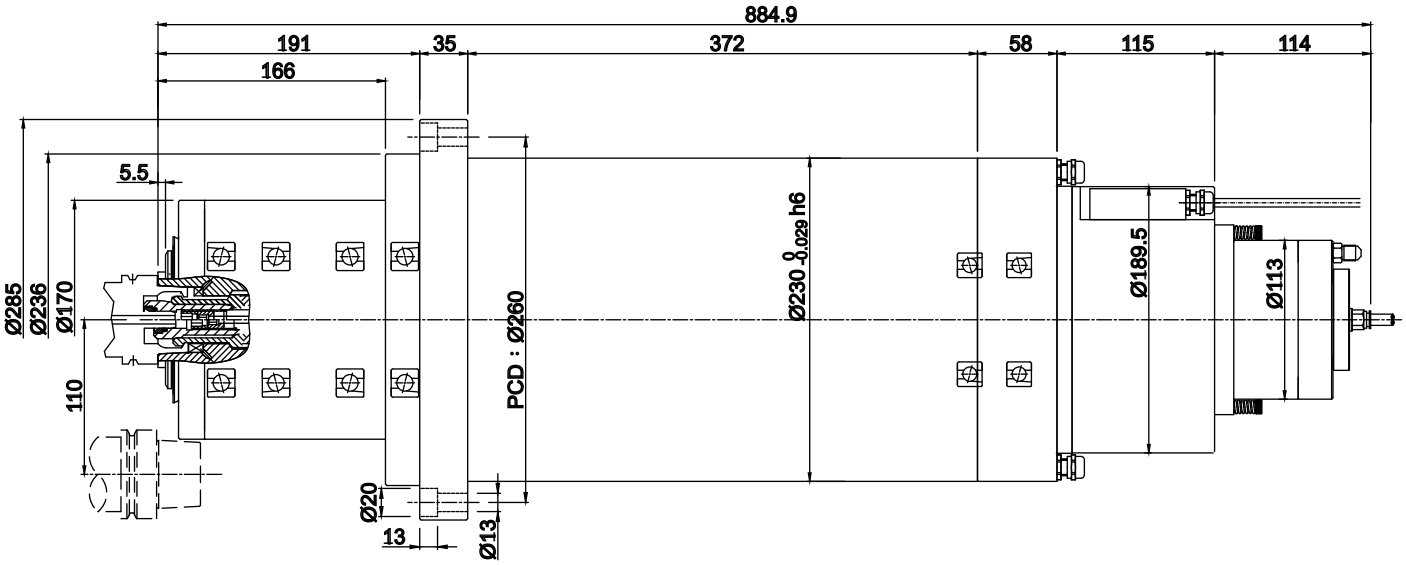
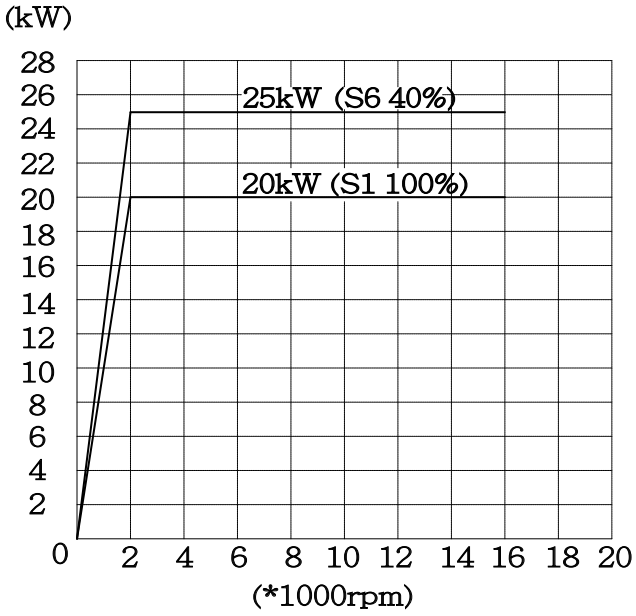
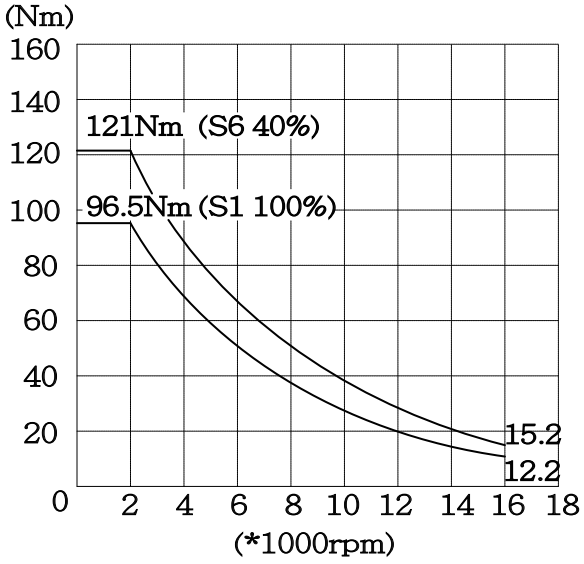
TH-230.02 HSK-A63/BBT-40
16,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

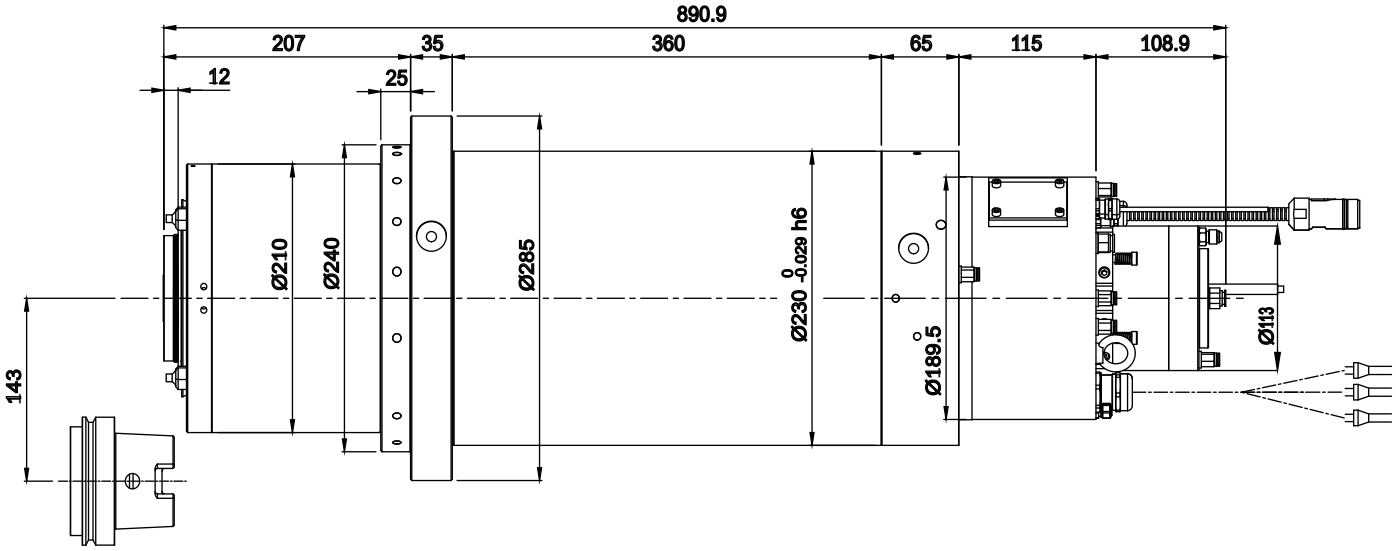


Type		TH-230.02 (400V)
Spindle Ø		230mm
Maximum Speed (Oil-Air)		16,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.
	Radial (N/μm)	
Frequency Max. (Hz)		533Hz
at speed		1,980RPM
S1 kW		20kW
S1 Current (A)		89A
S6-40% kW		25kW
S6-40% Current (A)		110A
kW (Peak Power)		171kW
S1 Torque (Nm)		96.5Nm
S6-40% Torque (Nm)		121Nm
Tool Interface		HSK-A63 BBT-40
Spindle Cooling unit		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		180kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard
Also available with grease lubrication. This lubrication leads to speed reduction.		

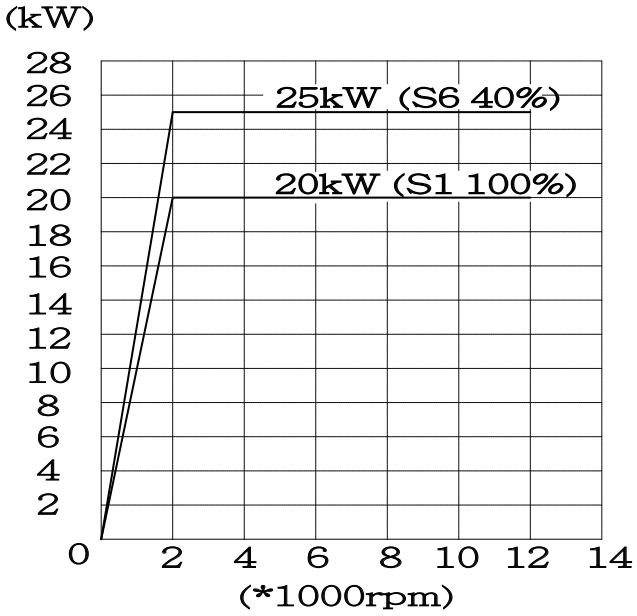


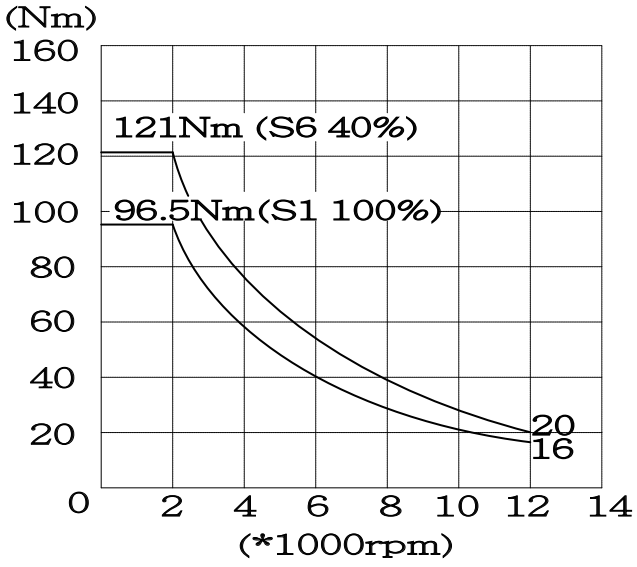


TH-230.05 HSK-A100/BBT-50
12,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

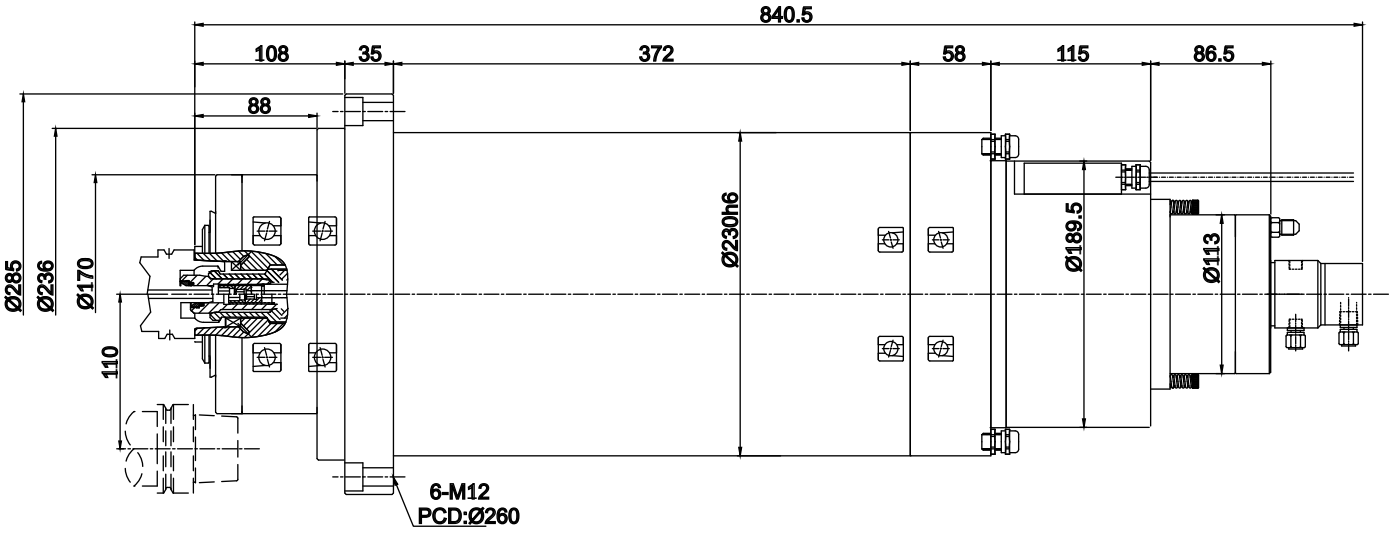


Type		TH-230.05 (400V)
Spindle Ø		230mm
Maximum Speed (Oil-Air)		12,000rpm
Bore diameter of front bearings		100mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.
	Radial (N/μm)	
Frequency Max. (Hz)		533Hz
at speed		1,980RPM
S1 kW		20kW
S1 Current (A)		89A
S6-40% kW		25kW
S6-40% Current (A)		110A
kW (Peak Power)		171kW
S1 Torque (Nm)		96.5Nm
S6-40% Torque (Nm)		121Nm
Tool Interface		HSK-A100 BBT-50
Spindle Cooling unit		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		210kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard
Also available with grease lubrication. This lubrication leads to speed reduction.		

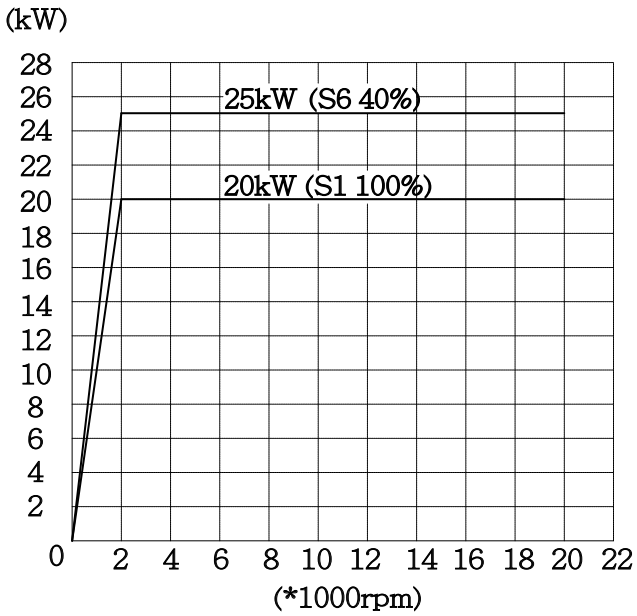


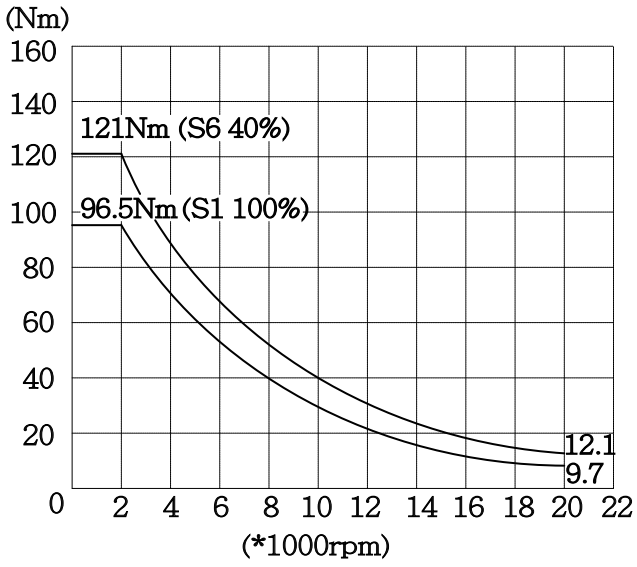


TH-230.20 HSK-A63/BBT-40
20,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



Type		TH-230.12 (400V)
Spindle Ø		230mm
Maximum Speed (Oil-Air)		20,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.
	Radial (N/μm)	
Frequency Max. (Hz)		533Hz
at speed		1,980RPM
S1 kW		20kW
S1 Current (A)		89A
S6-40% kW		25kW
S6-40% Current (A)		110A
kW (Peak Power)		171kW
S1 Torque (Nm)		96.5Nm
S6-40% Torque (Nm)		121Nm
Tool Interface		HSK-A63 BBT-40
Spindle Cooling unit		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		145kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard
Also available with grease lubrication. This lubrication leads to speed reduction.		



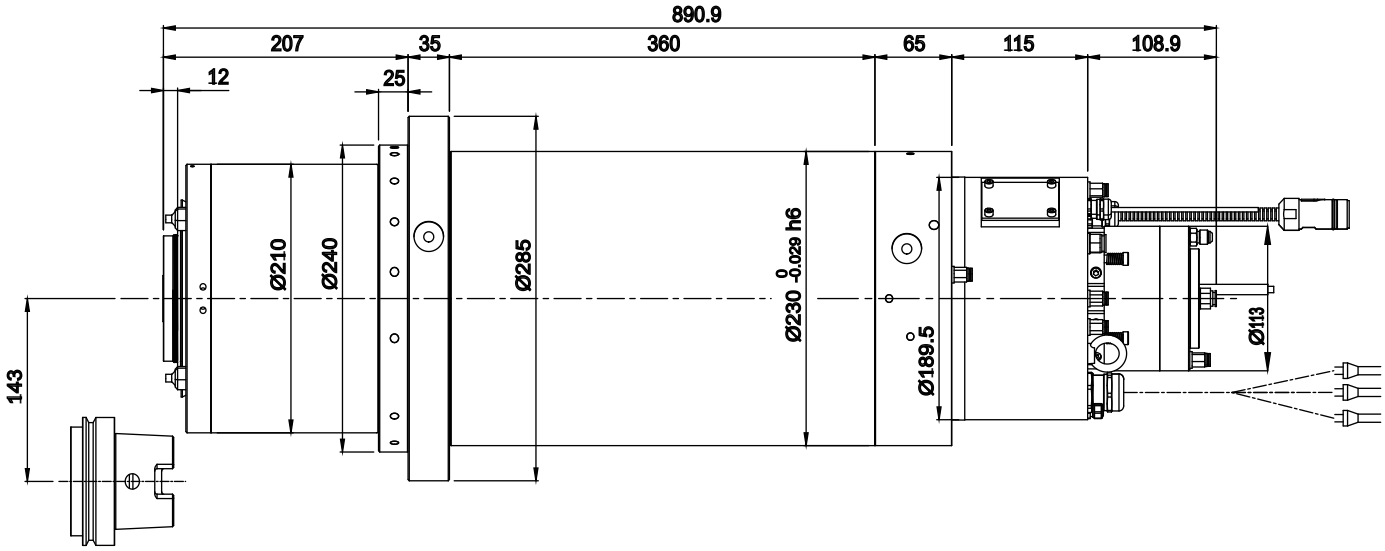


Ø230mm
High Frequency Spindles for automatic tool change

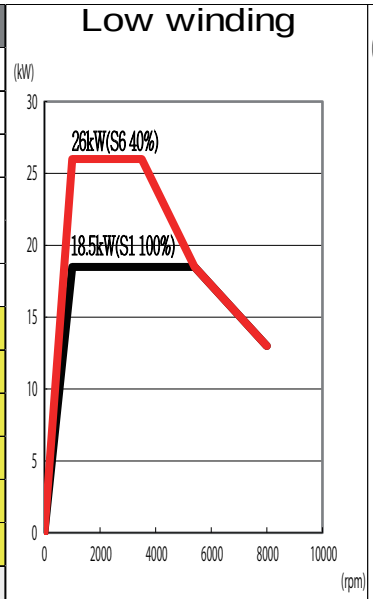
Type		TH-230.23 (400V)	TH-230.24 (400V)
Spindle Ø		230mm	230mm
Maximum Speed (Oil-Air) Also available with grease lubrication. This lubrication leads to speed reduction.		12,000rpm	15,000rpm
Bore diameter of front bearings		100mm	70mm
Rigidity	Axial (N/µm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.	
	Radial (N/µm)		
Frequency Max. (Hz)		800Hz	1,000Hz
Low winding	S1 kW	18.5kW	15kW
	S1 Torque (Nm)	177Nm	136Nm
	S6-40% kW	26kW	21.1kW
	S6-40% Torque (Nm)	248Nm	196Nm
	at speed	1,000rpm	1,050rpm
High winding	S1 kW	22kW	18.5kW
	S1 Torque (Nm)	70Nm	55Nm
	S6-40% kW	30.8kW	26kW
	S6-40% Torque (Nm)	98Nm	77.6Nm
	at speed	3,000rpm	3,200rpm
kW (Peak Power)		40kW	32kW
Tool Interface		HSK-A100 BBT-50	HSK-A80
Spindle Cooling		Water cooling /Oil cooling	
Spindle Weight		210kg	170kg
Integral Encoder For Closed-Loop Control		Option	Option
Coolant Through Shaft(CTS)		Option	Option
Tool Position Sensors		Proximity switches / Analog sensor	
Front Bearing Temperature Sensor		Standard	Standard

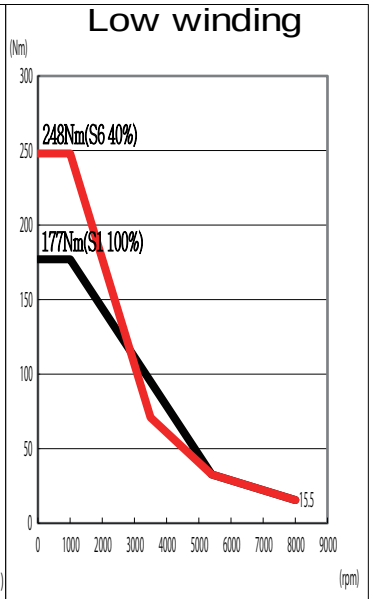
TH-230

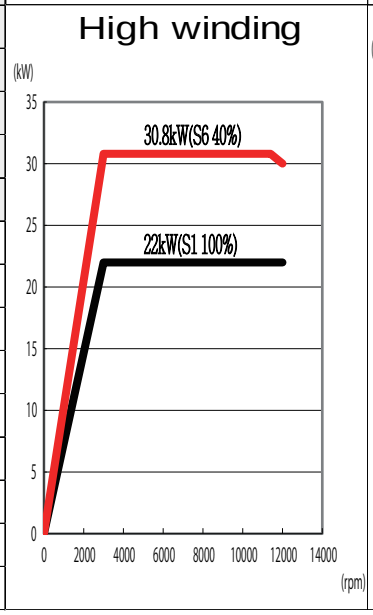
TH-230.23 HSK-A100/BBT-50
12,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

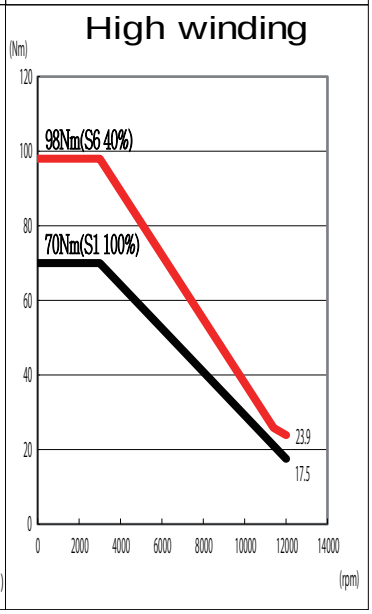


Type		TH-230.23 (400V)
Spindle Ø		230mm
Maximum Speed (Oil-Air)		12,000rpm
Bore diameter of front bearings		100mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs.
	Radial (N/μm)	It is available to increase the static rigidity, but the maximum speed will be reduced.
Frequency Max. (Hz)		800Hz
Low winding	S1 kW	18.5kW at speed : 1,000~5,400rpm
	S1 Torque (Nm)	177Nm at speed : ~1,000rpm
	S1 Current (A)	60A
	S6-40% kW	26kW at speed : 1,000~3,500rpm
	S6-40% Torque (Nm)	248Nm at speed : ~1,000rpm
	S6-40% Current (A)	84A
High winding	S1 kW	22kW at speed : 3,000~12,000rpm
	S1 Torque (Nm)	70Nm at speed : ~3,000rpm
	S1 Current (A)	56A
	S6-40% kW	30.8kW at speed : 3,000~12,000rpm
	S6-40% Torque (Nm)	98Nm at speed : ~3,000rpm
	S6-40% Current (A)	78A
kW (Peak Power)		40kW
Tool Interface		HSK-A100 BBT-50
Spindle Cooling unit		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		210kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard
Also available with grease lubrication. This lubrication leads to speed reduction.		

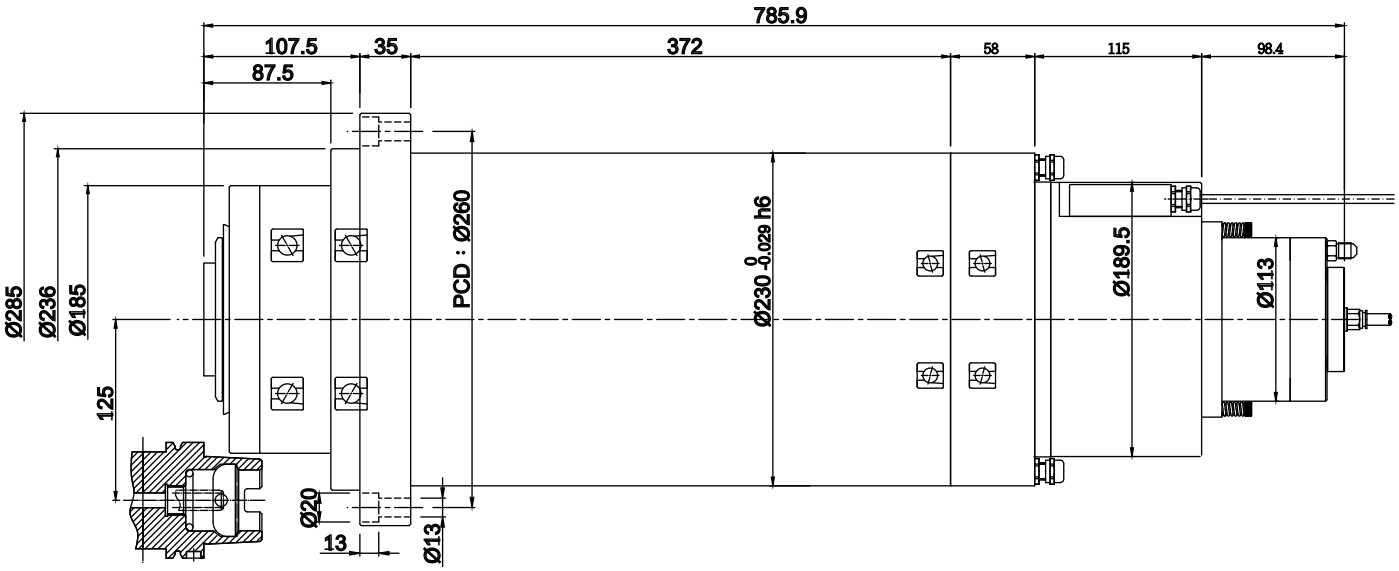




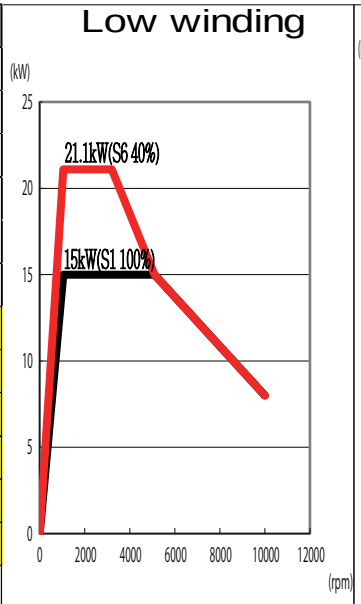


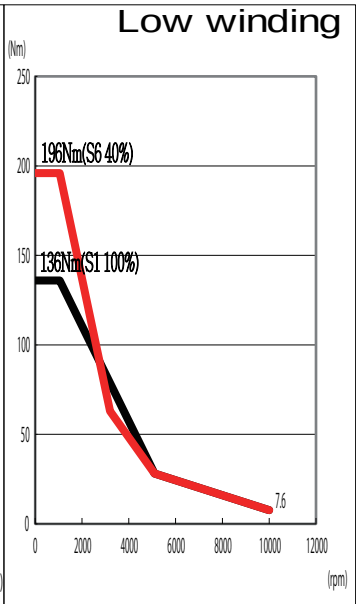


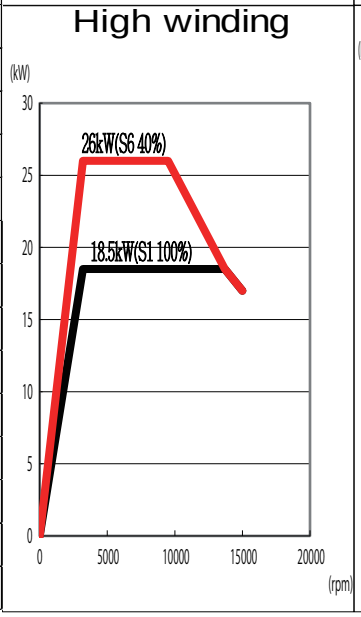
TH-230.24 HSK-A80
15,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

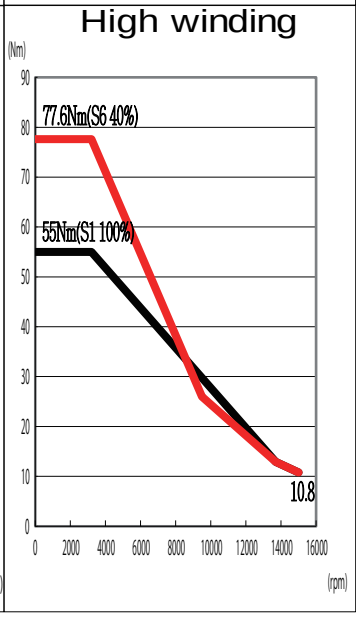


Type		TH-230.24 (400V)
Spindle Ø		230mm
Maximum Speed (Oil-Air)		15,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.
	Radial (N/μm)	
Frequency Max. (Hz)		1,000Hz
Low winding	S1 kW	15kW at speed : 1,050~5,100rpm
	S1 Torque (Nm)	136Nm at speed : ~1,050rpm
	S1 Current (A)	45A
	S6-40% kW	21.1kW at speed : 1,050~3,200rpm
	S6-40% Torque (Nm)	196Nm at speed : ~1,050rpm
	S6-40% Current (A)	63A
High winding	S1 kW	18.5kW at speed : 3,200~13,700rpm
	S1 Torque (Nm)	55Nm at speed : ~3,200rpm
	S1 Current (A)	45A
	S6-40% kW	26kW at speed : 3,200~9,500rpm
	S6-40% Torque (Nm)	77.6Nm at speed : ~3,200rpm
	S6-40% Current (A)	63A
kW (Peak Power)		32kW
Tool Interface		HSK-A80
Spindle Cooling unit		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		170kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard
Also available with grease lubrication. This lubrication leads to speed reduction.		









Ø210mm~Ø255mm
Multi-axis spindle
Turning and Milling Spindles

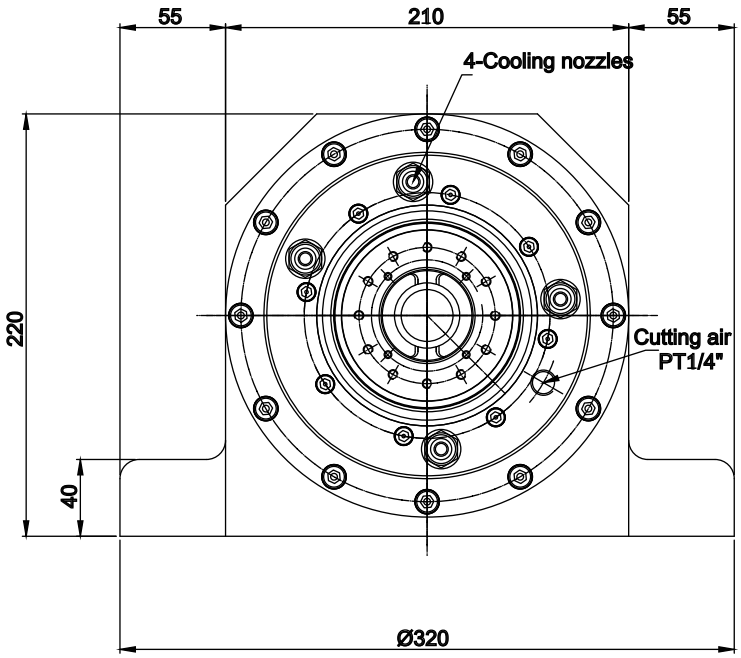
Type		THS-210.01(400V) Asynchronous Motor	THS-255.01(400V) Multi-Axis Mill Turn Spindle Asynchronous Motor	TTS-255.01(504V) Multi-Axis Mill Turn Spindle Synchronous Motor
Spindle Ø		210mm	255mm	255mm
Maximum Speed (Oil-Air) Also available with grease lubrication. This lubrication leads to speed reduction.		15,000rpm	12,000rpm	12,000rpm
Bore diameter of front bearings		70mm	70mm	70mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.		
	Radial (N/μm)			
Frequency Max. (Hz)		1,000Hz	800Hz	800Hz
at speed		2,000RPM	3,200RPM	3,000RPM
S1 kW		15kW	16kW	25.1kW
S6-40% kW		19.5kW	20.8kW	33.9kW
kW (Peak Power)		83kW	63kW	52.8kW
S1 Torque (Nm)		71.6Nm	47.8Nm	79.9Nm
S6-40% Torque (Nm)		93.1Nm	62.1Nm	107.9Nm
Tool Interface		HSK-A63 BBT-40	HSK-T63 Capto C6	HSK-T63 Capto C6
Spindle Cooling		Water cooling /Oil cooling		
Spindle Weight		120kg	195kg	195kg
Integral Encoder For Closed-Loop Control		Option	Option	Option
Coolant Through Shaft (CTS)		Option	Option	Option
Tool Position Sensors		Proximity switches / Analog sensor		
Front Bearing Temperature Sensor		Standard	Standard	Standard

THS-210.01

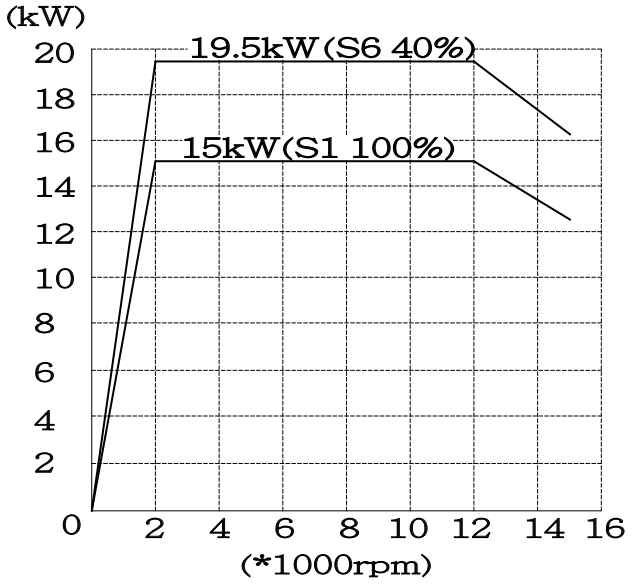
THS-255.01

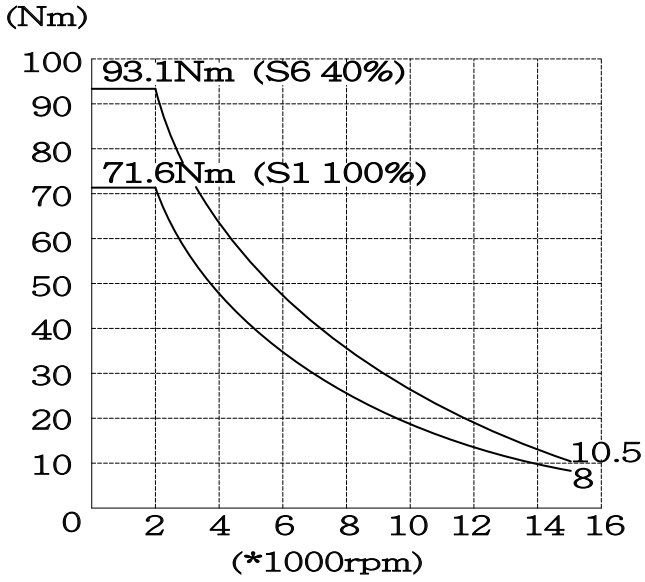
TTS-255.01

THS-210.01 HSK-A63/BBT-40
15,000rpm Multi-axis spindle
Automatic Tool Change / Asynchronous Motor

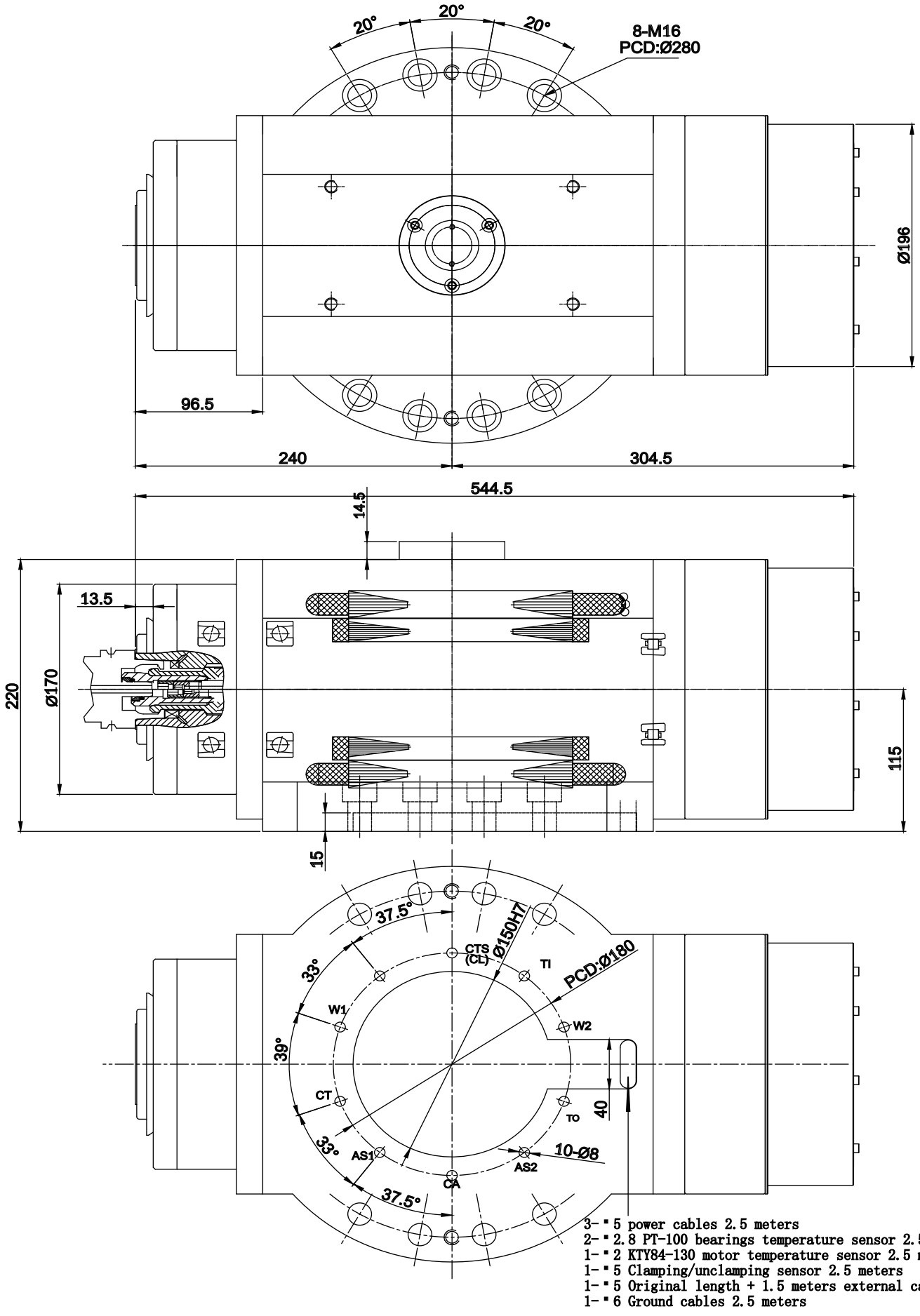


Type		THS-210.01 (400V)
Spindle Ø		210mm
Maximum Speed (Oil-Air)		15,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.
	Radial (N/μm)	
Frequency Max. (Hz)		1,000Hz
at speed		2,000RPM
S1 kW		15kW
S1 Current (A)		80A
S6-40% kW		19.5kW
S6-40% Current (A)		104A
kW (Peak Power)		83kW
S1 Torque (Nm)		71.6Nm
S6-40% Torque (Nm)		93.1Nm
Tool Interface		HSK-A63 BBT-40
Spindle Cooling unit		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		120kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard
Also available with grease lubrication. This lubrication leads to speed reduction.		



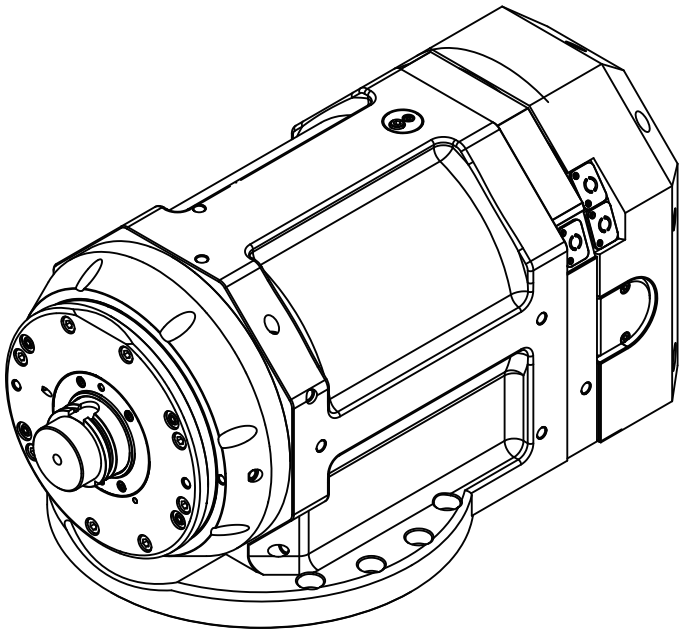


THS-210.01 HSK-A63/BBT-40

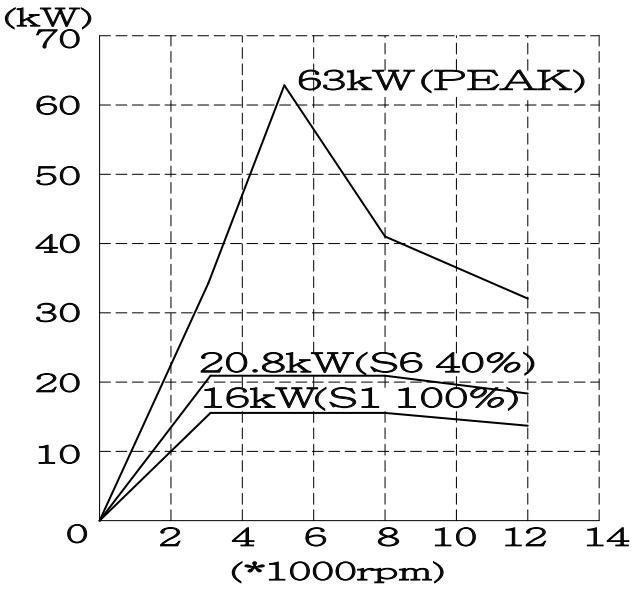


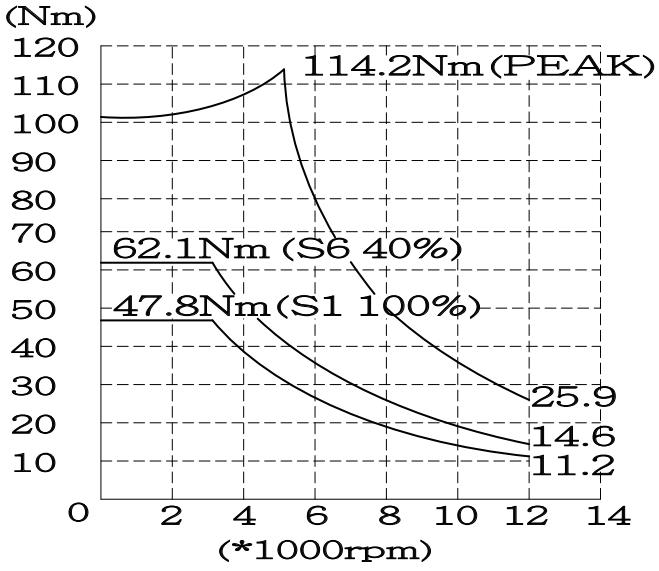
3-▪5 power cables 2.5 meters
2-▪2.8 PT-100 bearings temperature sensor 2.5 meters
1-▪2 KTY84-130 motor temperature sensor 2.5 meters
1-▪5 Clamping/unclamping sensor 2.5 meters
1-▪5 Original length + 1.5 meters external cables
1-▪6 Ground cables 2.5 meters

THS-255.01 HSK-T63/CAPTO C6
12,000rpm Turning and Milling Spindle
Automatic Tool Change / Asynchronous Motor

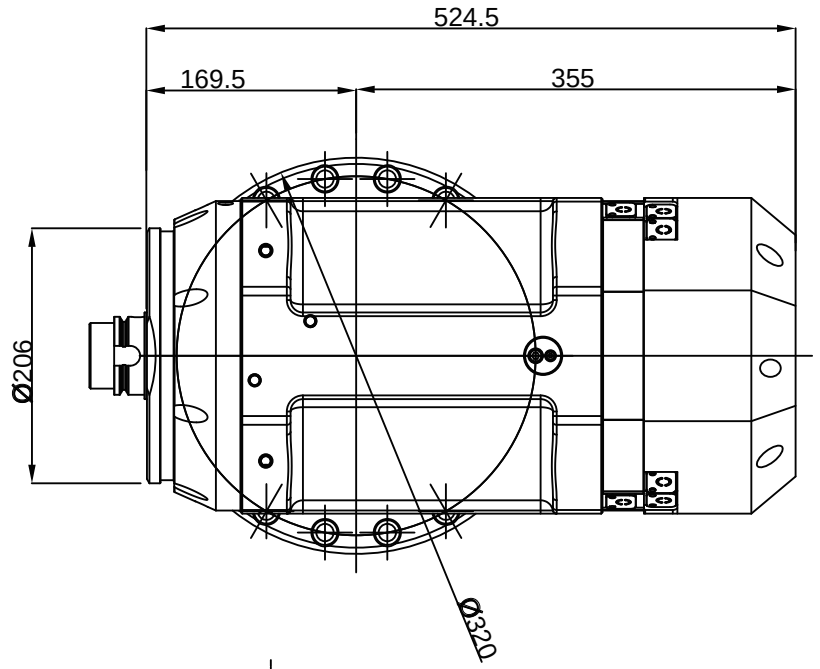


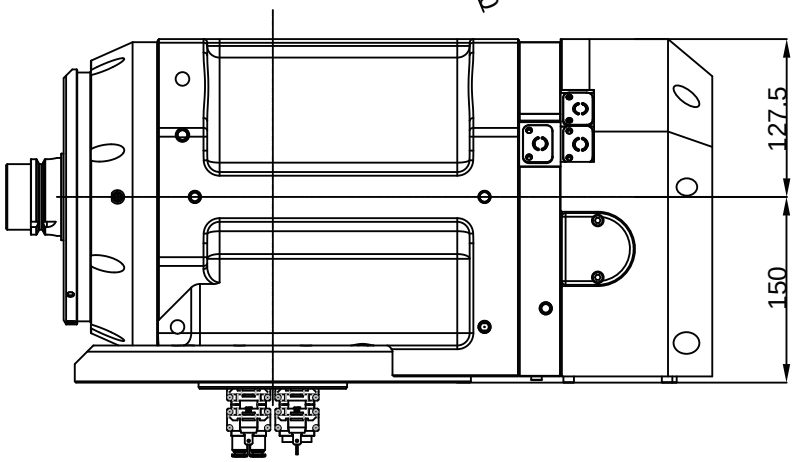
Type		THS-255.01 (400V)
Spindle Ø		255mm
Maximum Speed (Oil-Air)		12,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/µm)	Standardised or According to customer needs.
	Radial (N/µm)	It is available to increase the static rigidity, but the maximum speed will be reduced.
Frequency Max. (Hz)		800Hz
at speed		3,200RPM
S1 kW		16kW
S1 Current (A)		69A
S6-40% kW		20.8kW
S6-40% Current (A)		90A
kW (Peak Power)		63kW
S1 Torque (Nm)		47.8Nm
S6-40% Torque (Nm)		62.1Nm
Tool Interface		HSK-T63 Capto C6
Spindle Cooling unit		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		195kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard
Also available with grease lubrication. This lubrication leads to speed reduction.		

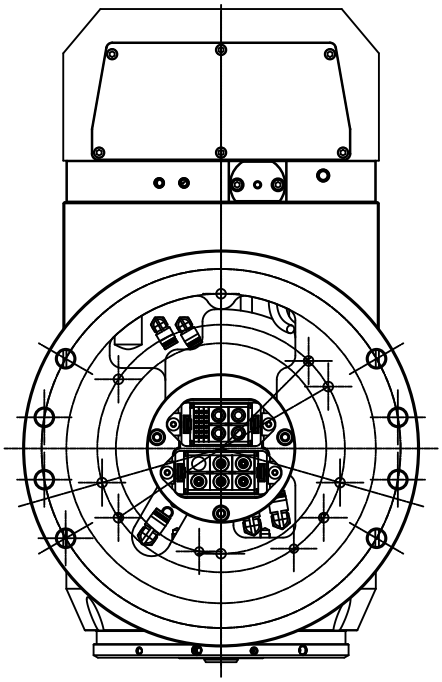


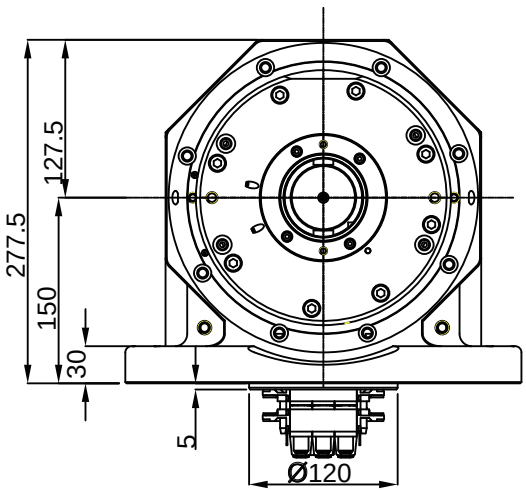


THS-255.01 HSK-T63/CAPTO C6

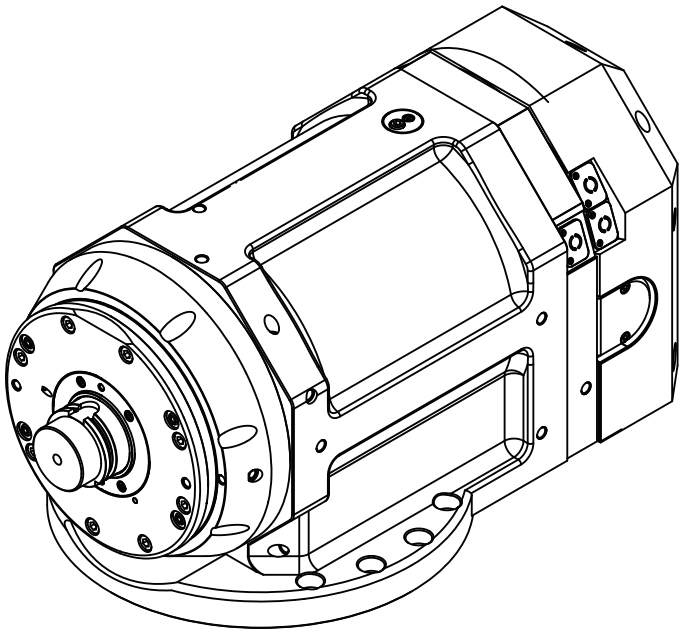




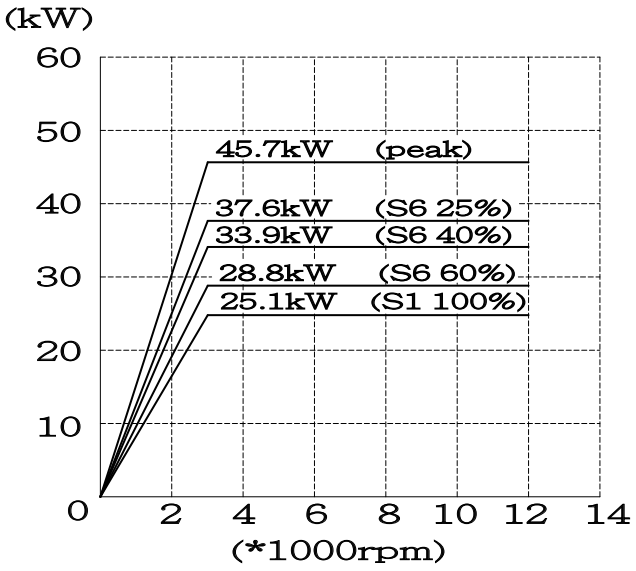


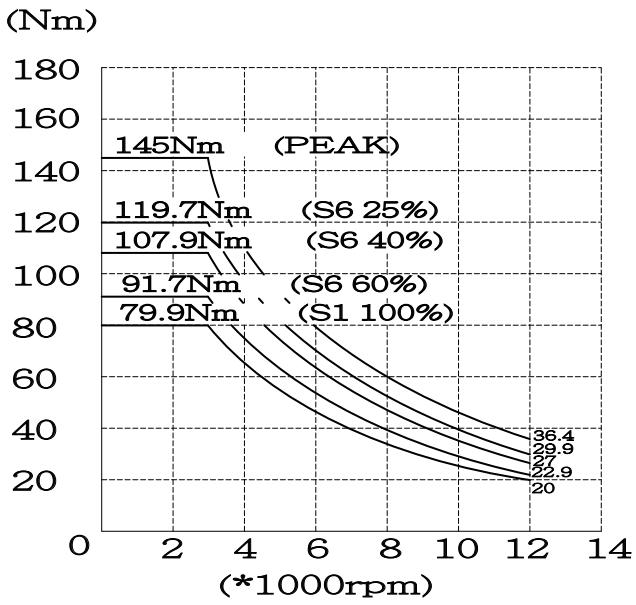


TTS-255.01 HSK-T63/CAPTO C6
12,000rpm Turning and Milling Spindle
Automatic Tool Change / Synchronous Motor

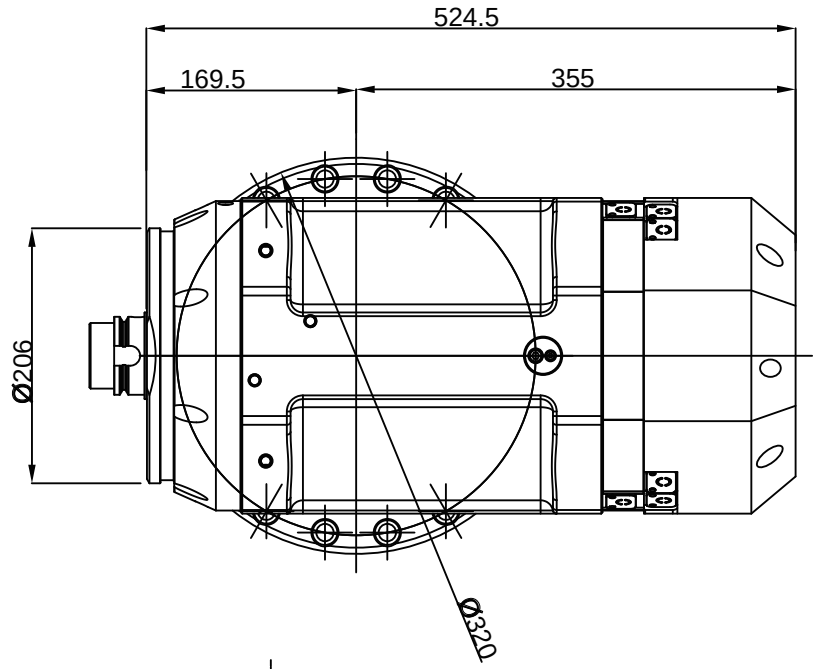


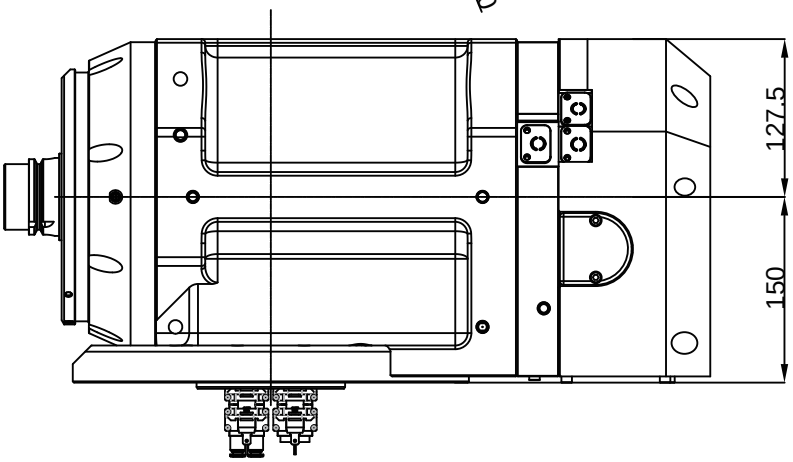
Type		TTS-255.01 (504V)
Spindle Ø		255mm
Maximum Speed (Oil-Air)		12,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.
	Radial (N/μm)	
Frequency Max. (Hz)		800Hz
at speed		3,000RPM
S1 kW		25.1kW
S1 Current (A)		72A
S6-40% kW		33.9kW
S6-40% Current (A)		97A
kW (Peak Power)		52.8kW
S1 Torque (Nm)		79.9Nm
S6-40% Torque (Nm)		107.9Nm
Tool Interface		HSK-T63 Capto C6
Spindle Cooling unit		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		195kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard
Also available with grease lubrication. This lubrication leads to speed reduction.		

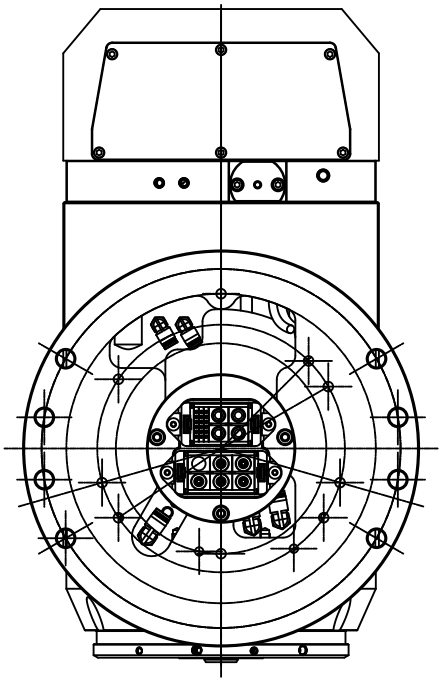


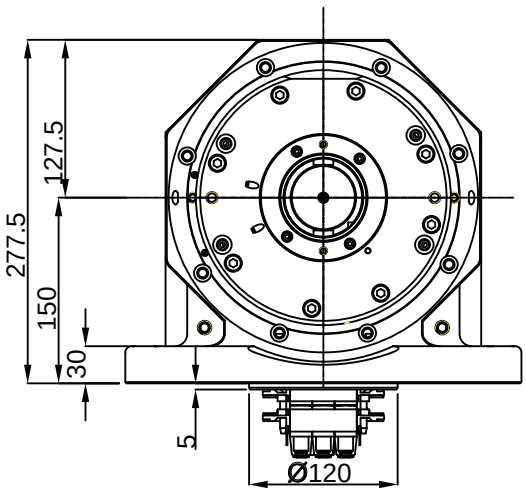


TTS-255.01 HSK-T63/CAPTO C6









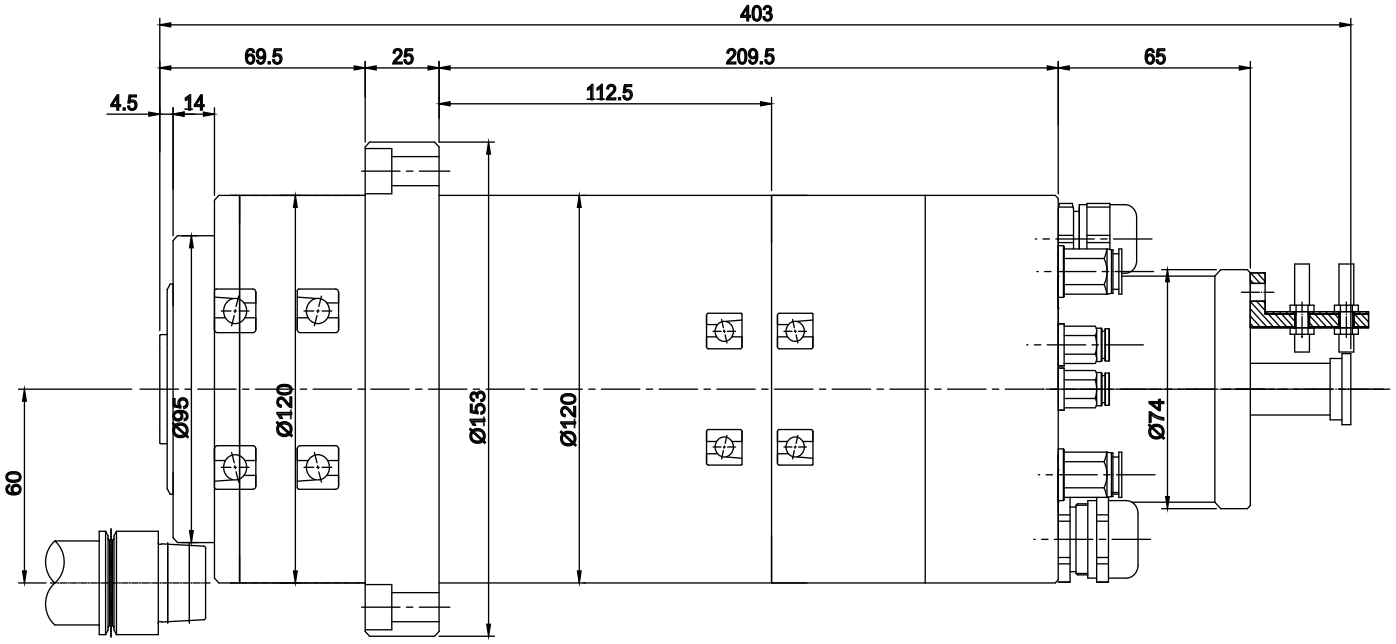
Ø120mm
High Frequency Spindles for automatic tool change

Type		TH-120.08	TH-120.11	TH-120.15		TT-120.04
FANUC BUILT-IN SPINDLE MOTOR		**Bi I 40M/70000**	**Bi I 50L/30000**	**Bi I 56L/40000**		**Bi I 56L2/15000-B**
Spindle Ø		120mm	120mm	120mm	120mm	120mm
Maximum Speed (Oil-Air) Also available with grease lubrication. This lubrication leads to speed reduction.		40,000rpm	30,000rpm	30,000rpm	40,000rpm	12,000rpm
Bore diameter of front bearings		40mm	40mm	40mm	40mm	40mm
Rigidity	Axial (N/µm)	90N/µm	90N/µm	90N/µm	90N/µm	90N/µm
	Radial (N/µm)	120N/µm	120N/µm	120N/µm	120N/µm	120N/µm
at speed		30,000RPM	15,000RPM	12,000RPM	12,000RPM	7,500RPM
S1 kW		3.0kW	7.5kW	7.5kW	7.5kW	10kW
S2/S3 kW		3.5kW(S2-10min)	9kW(S3-25%)	9kW(S3-25%)	9kW(S3-25%)	11kW(S6-15%)
S1 Torque (Nm)		0.95Nm	4.77Nm	5.97Nm	5.97Nm	12.7Nm
S2/S3 Torque (Nm)		1.1Nm(S2-10min)	6.14Nm(S3-25%)	7.16Nm(S3-25%)	7.16Nm(S3-25%)	15Nm(S6-15%)
Tool Interface		HSK-E32	HSK-E40 BBT-30	BT-30 BBT-30	HSK-E40 HSK-F50	HSK-E40 HSK-F50
Spindle Cooling		Water cooling Also available with Oil cooling. This cooling leads to motor power reduction.				
Spindle Weight		27kg	27kg	27kg	27kg	27kg
Integral Encoder For Closed-Loop Control		Option	Standard	Standard	Standard	Standard
Coolant Through Shaft (CTS)		N/A	Option	Option	Option	Option
Tool Position Sensors		Proximity switches / Analog sensor				
Front Bearing Temperature Sensor		N/A	Standard	Standard	Standard	Standard

TH-120

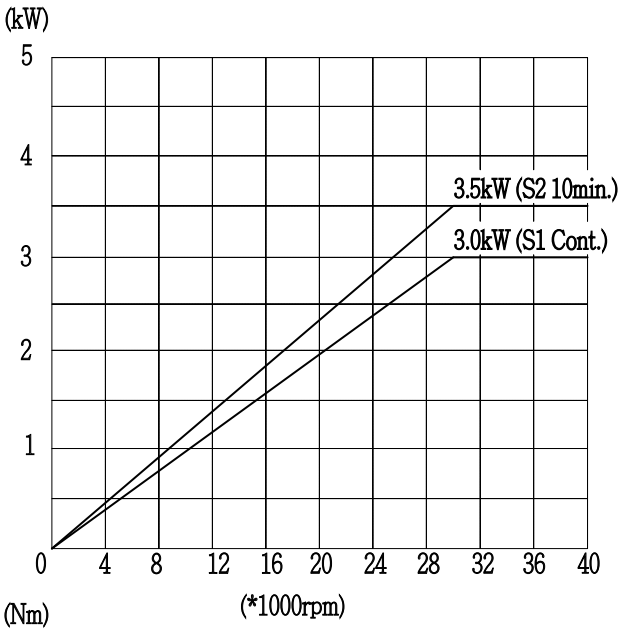
TT-120

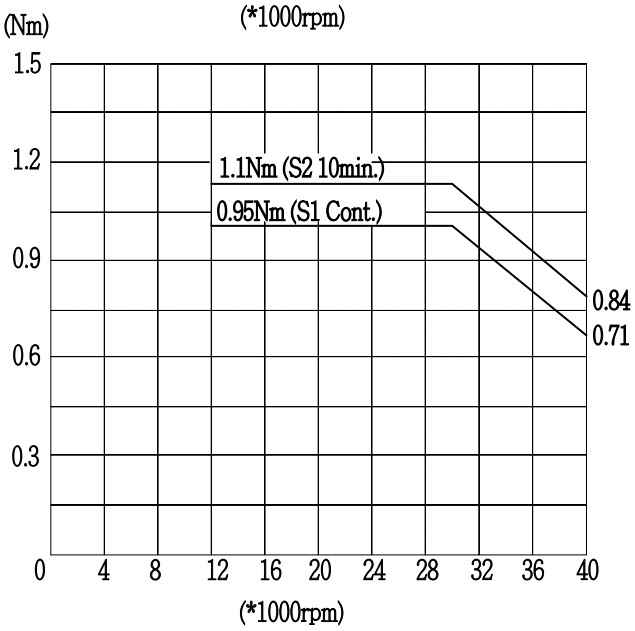
TH-120.08 HSK-E32
40,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



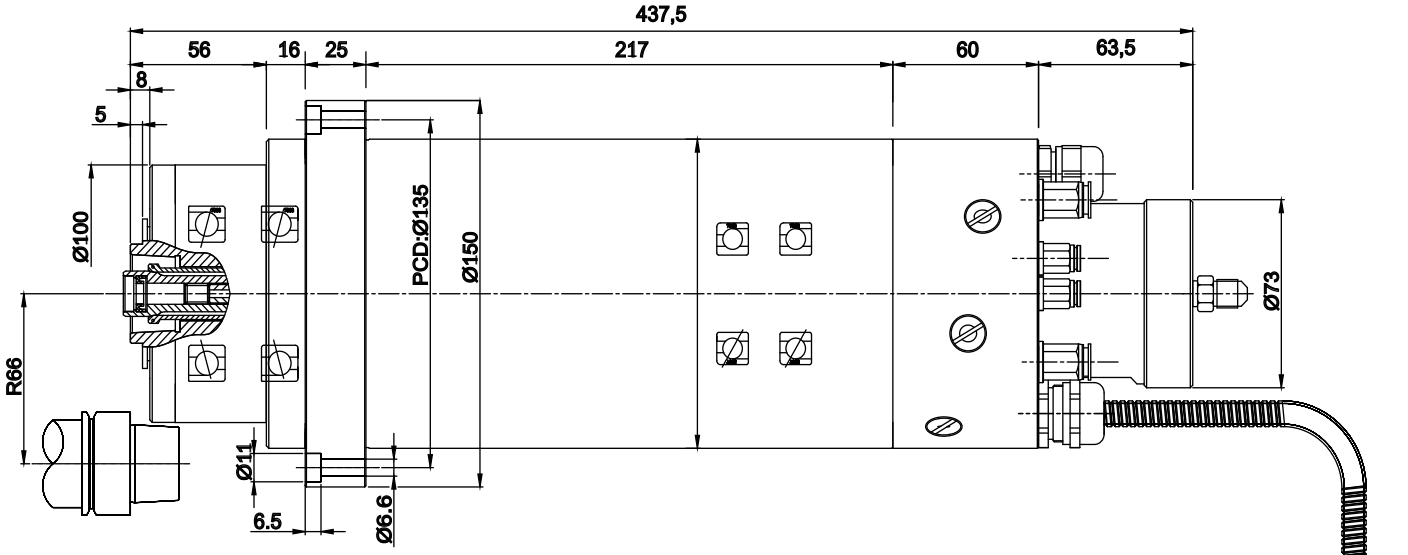
Type		TH-120.08
FANUC BUILT-IN SPINDLE MOTOR		**Bi 40M/70000**
Spindle Ø		120mm
Maximum Speed (Oil-Air)		40,000rpm
Bore diameter of front bearings		40mm
Rigidity	Axial (N/μm)	90N/μm
	Radial (N/μm)	120N/μm
at speed		30,000RPM
S1 kW		3.0kW
S2/S3 kW		3.5kW(S2-10min)
S1 Torque (Nm)		0.95Nm
S2/S3 Torque (Nm)		1.1Nm(S2-10min)
Tool Interface		HSK-E32
Spindle Cooling		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		27kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		N/A
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		N/A

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.



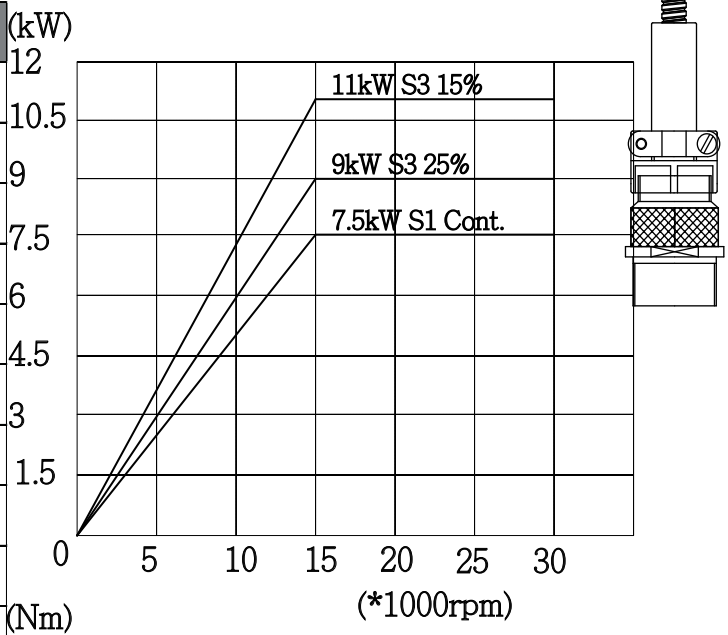


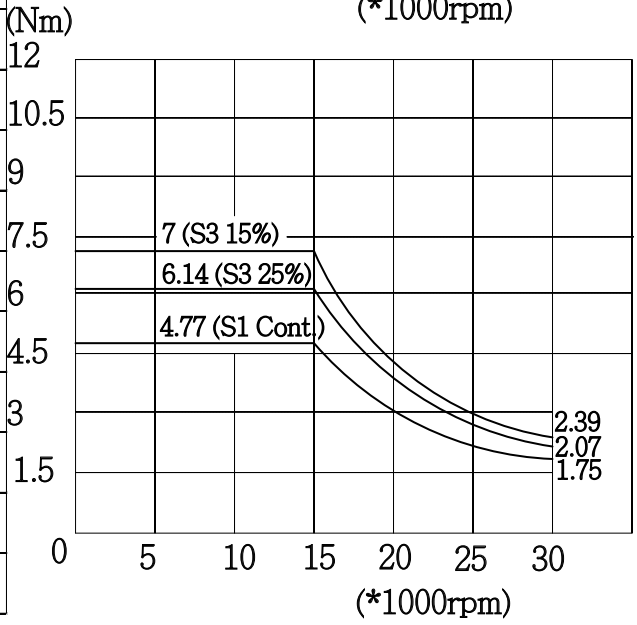
TH-120.11 HSK-E40/BBT-30
30,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



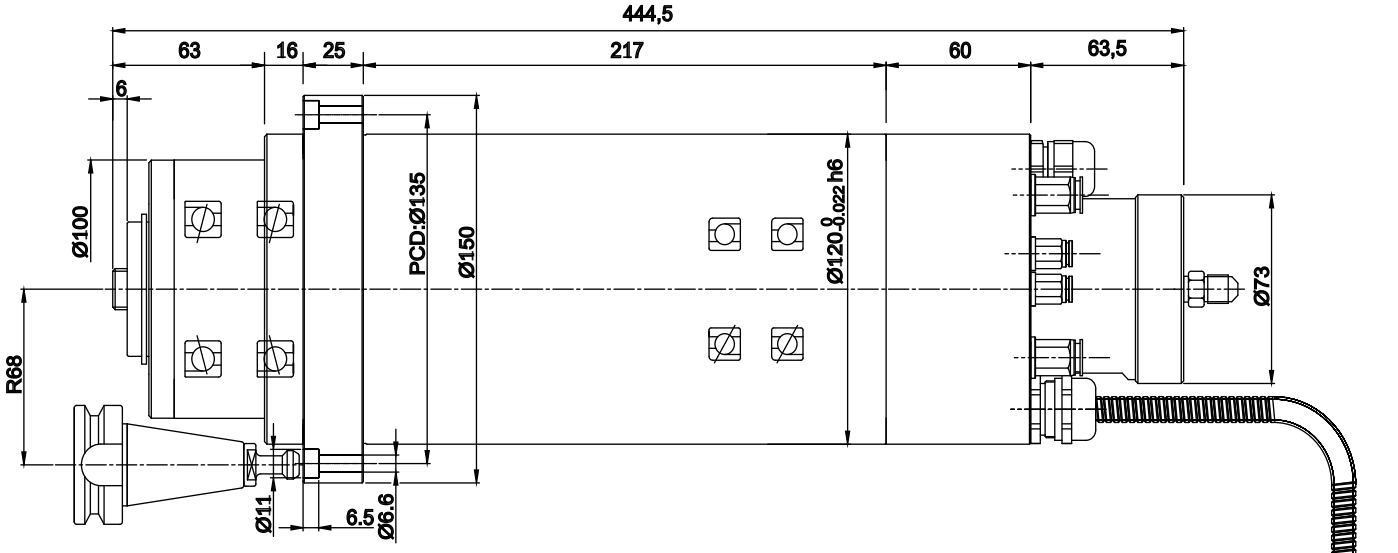
Type		TH-120.11
FANUC BUILT-IN SPINDLE MOTOR		**Bi I 50L/30000**
Spindle Ø		120mm
Maximum Speed (Oil-Air)		30,000rpm
Bore diameter of front bearings		40mm
Rigidity	Axial (N/μm)	90N/μm
	Radial (N/μm)	120N/μm
at speed		15,000RPM
S1 kW		7.5kW
S2/S3 kW		9kW(S3-25%)
S1 Torque (Nm)		4.77Nm
S2/S3 Torque (Nm)		6.14Nm(S3-25%)
Tool Interface		HSK-E40 BBT-30
Spindle Cooling		Cooling capacity:3,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		27kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		N/A
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.



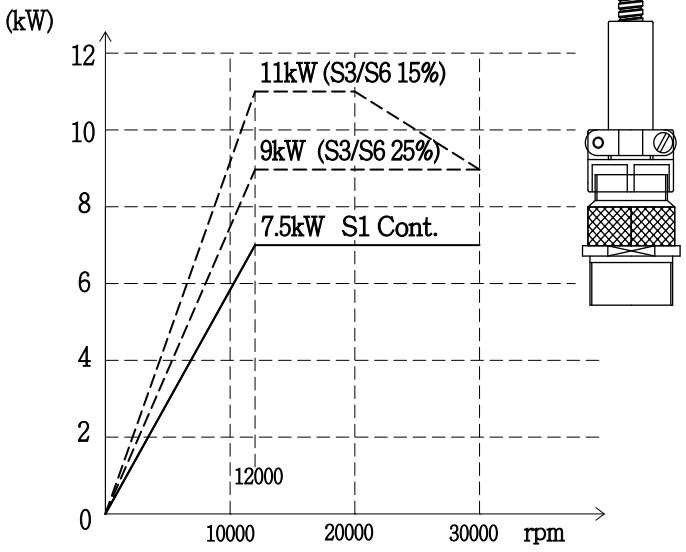


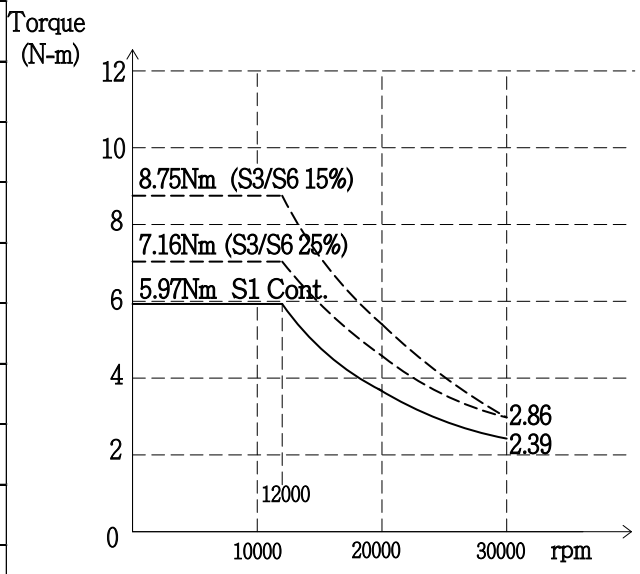
TH-120.15 BBT-30/BT-30
30,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



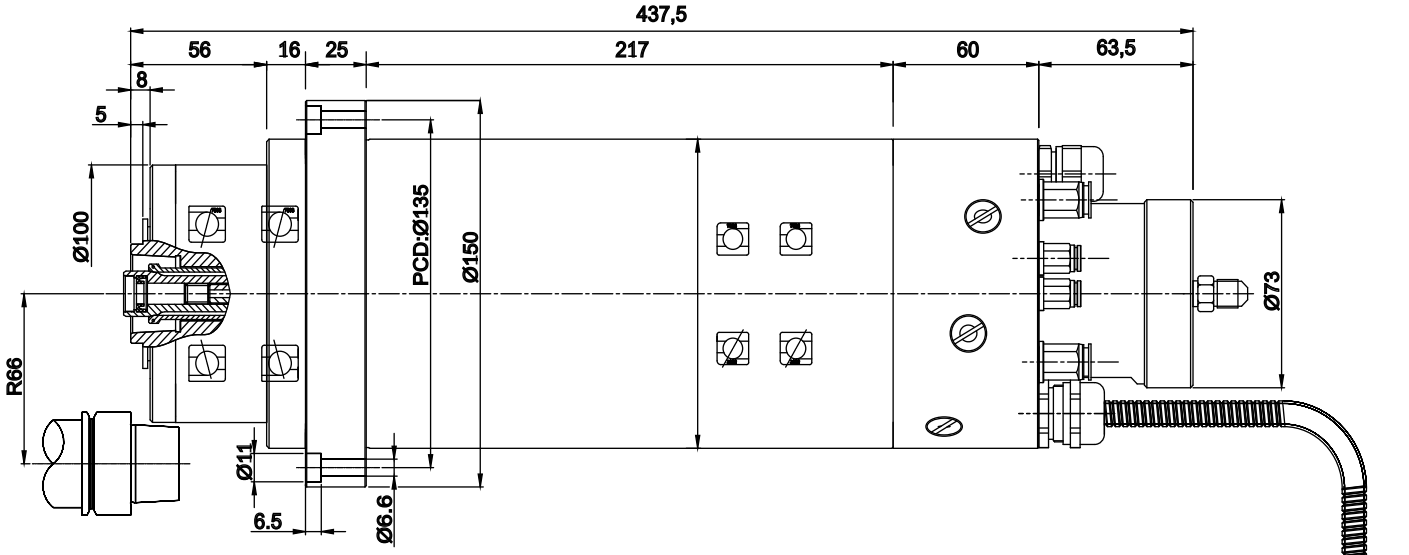
Type		TH-120.15
FANUC BUILT-IN SPINDLE MOTOR		Bi 56L/40000
Spindle Ø		120mm
Maximum Speed (Oil-Air)		30,000rpm
Bore diameter of front bearings		40mm
Rigidity	Axial (N/µm)	90N/µm
	Radial (N/µm)	120N/µm
at speed		12,000RPM
S1 kW		7.5kW
S2/S3 kW		9kW(S3-25%)
S1 Torque (Nm)		5.97Nm
S2/S3 Torque (Nm)		7.16Nm(S3-25%)
Tool Interface		BT-30 BBT-30
Spindle Cooling		Cooling capacity:3,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		27kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.



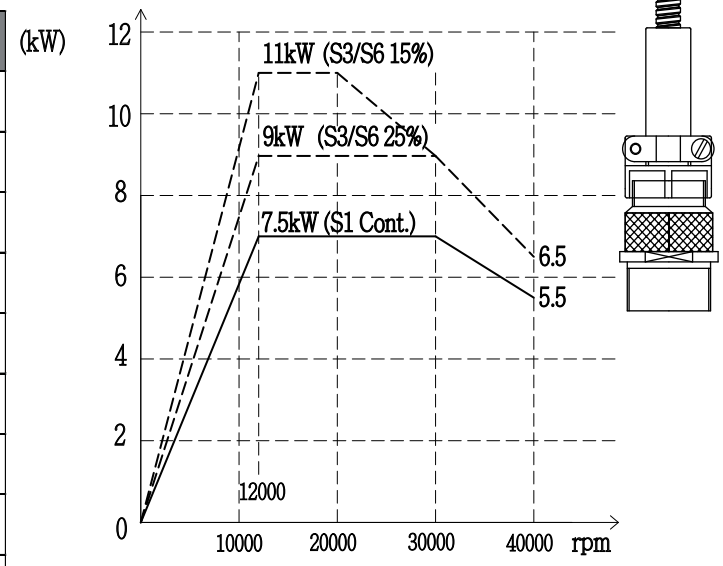


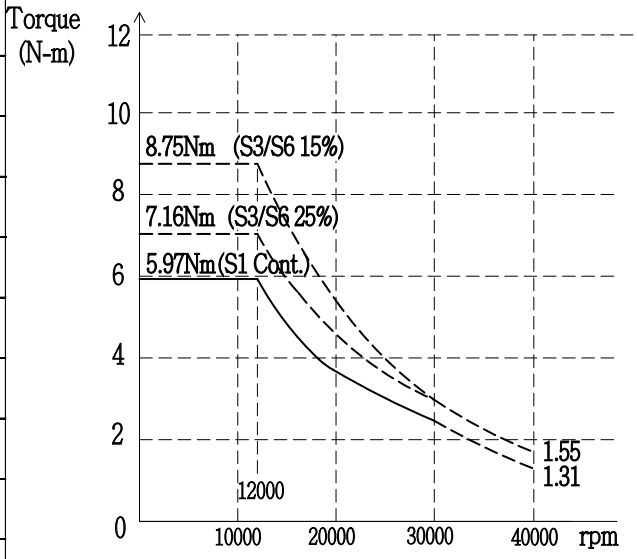
TH-120.15 HSK-E40
40,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



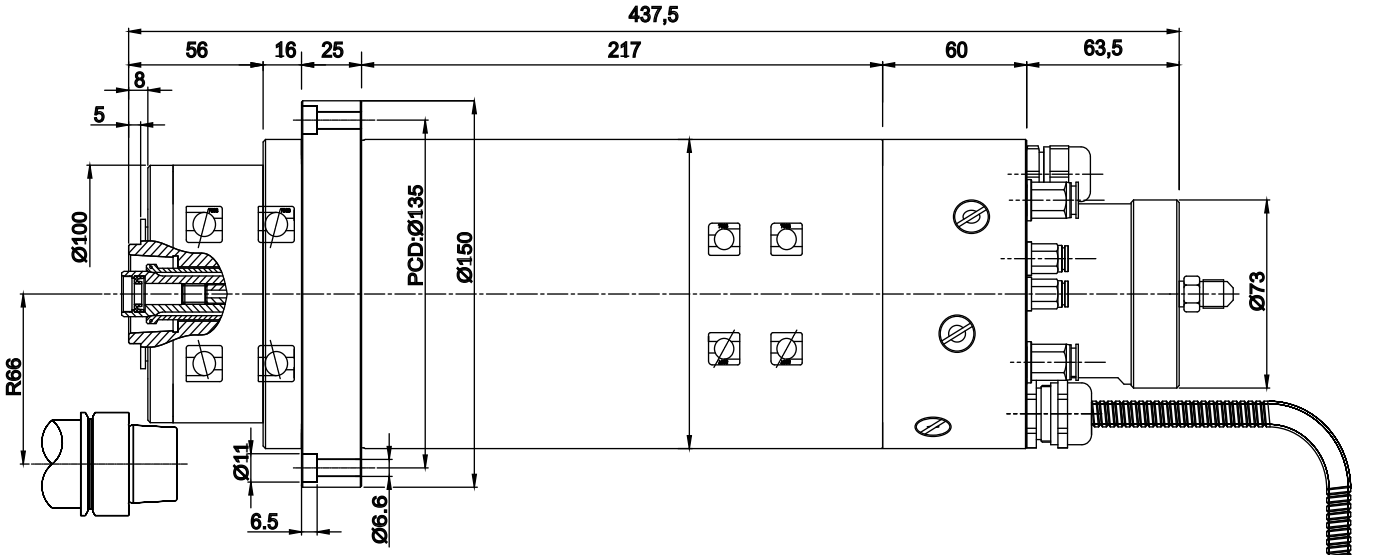
Type		TH-120.15
FANUC BUILT-IN SPINDLE MOTOR		Bi 56L/40000
Spindle Ø		120mm
Maximum Speed (Oil-Air)		40,000rpm
Bore diameter of front bearings		40mm
Rigidity	Axial (N/µm)	90N/µm
	Radial (N/µm)	120N/µm
at speed		12,000RPM
S1 kW		7.5kW
S2/S3 kW		9kW(S3-25%)
S1 Torque (Nm)		5.97Nm
S2/S3 Torque (Nm)		7.16Nm(S3-25%)
Tool Interface		HSK-E40 HSK-F50
Spindle Cooling		Cooling capacity:3,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		27kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.



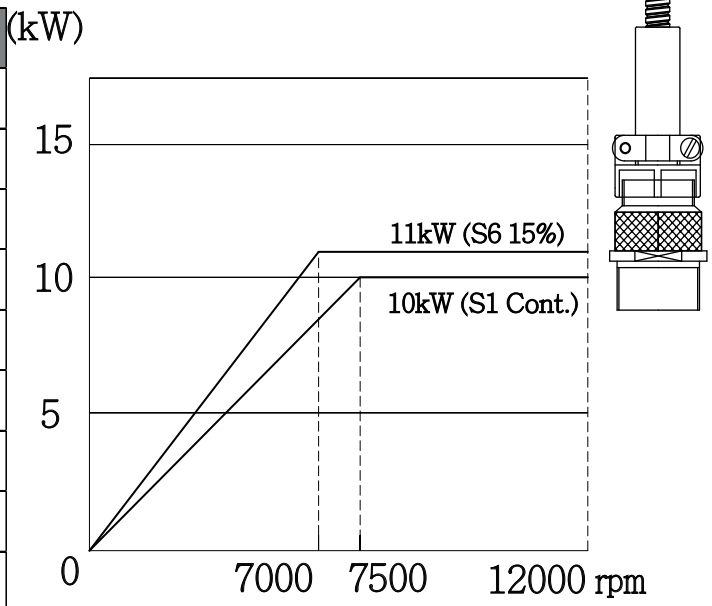


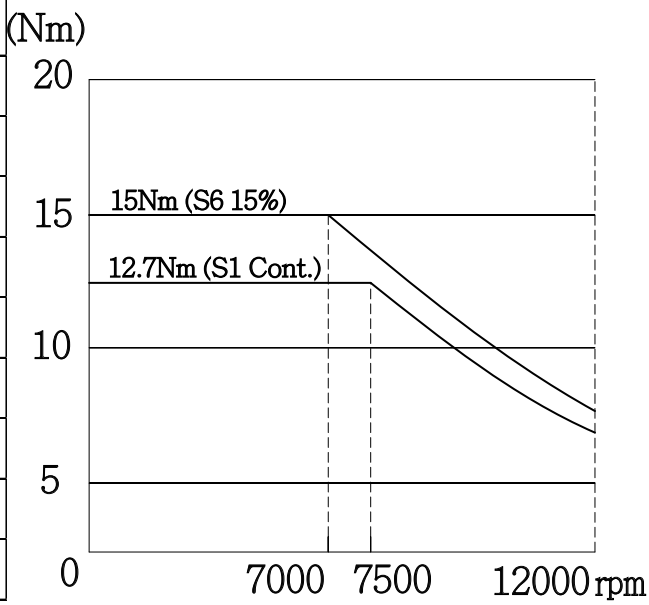
TT-120.04 HSK-E40/HSK-F50
12,000rpm High Frequency Spindle
Automatic Tool Change / Synchronous Motor



Type		TT-120.04
FANUC BUILT-IN SPINDLE MOTOR		BiS 56L2/15000-B
Spindle Ø		120mm
Maximum Speed (Oil-Air)		12,000rpm
Bore diameter of front bearings		40mm
Rigidity	Axial (N/μm)	90N/μm
	Radial (N/μm)	120N/μm
at speed		7,500RPM
S1 kW		10kW
S2/S3 kW		11kW(S6-15%)
S1 Torque (Nm)		12.7Nm
S2/S3 Torque (Nm)		15Nm(S6-15%)
Tool Interface		HSK-E40 HSK-F50
Spindle Cooling		Cooling capacity:3,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		27kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.





Ø170~Ø190mm
High Frequency Spindles for automatic tool change

Type		TH-170.07	THN-170.04	TH-170.09		TH-190.05
FANUC BUILT-IN SPINDLE MOTOR		**Bi I 80M/30000**	**Bi I 90L/25000**	**Bi I 90L/25000 TYPE M**		**Bi I 112S/20000-B**
Spindle Ø		170mm	170mm	170mm	170mm	190mm
Maximum Speed (Oil-Air) Also available with grease lubrication. This lubrication leads to speed reduction.		30,000rpm	20,000RPM	20,000RPM	24,000rpm	20,000rpm
Bore diameter of front bearings		55mm	70mm	65mm	65mm	70mm
Rigidity	Axial (N/µm)	140N/µm	180N/µm	150N/µm	150N/µm	180N/µm
	Radial (N/µm)	150N/µm	200N/µm	200N/µm	200N/µm	200N/µm
at speed		7,000RPM	6,000RPM	6,000RPM	6,000RPM	3,200RPM
S1 kW		11kW	18.5kW	18.5kW	18.5kW	15kW
S2/S3 kW		15kW(S2-15min) 18.5kW(S3-25%)	26kW(S3-25%)	26kW(S3-25%)	26kW(S3-25%)	18.5kW (S2/S3-10mim)
S1 Torque (Nm)		15Nm	29.5Nm	29.5Nm	29.5Nm	44.8Nm
S2/S3 Torque (Nm)		20.5/23Nm (S2/S3)	43Nm(S3-25%)	43Nm(S3-25%)	43Nm(S3-25%)	55.2Nm(S2-10mim) 63.1Nm(S3-10mim)
Tool Interface		HSK-E50 HSK-F63	HSK-A63 BBT-40	BT-40 BBT-40	HSK-A63 HSK-E63	HSK-A63 / BBT-40 HSK-C63
Spindle Cooling		Water cooling Also available with Oil cooling. This cooling leads to motor power reduction.				
Spindle Weight		58kg	65kg	63kg	63kg	80kg
Integral Encoder For Closed-Loop Control		Standard	Standard	Standard	Standard	Standard
Coolant Through Shaft (CTS)		Option	Option	Option	Option	Option
Tool Position Sensors		Proximity switches / Analog sensor				
Front Bearing Temperature Sensor		Standard	Standard	Standard	Standard	Standard

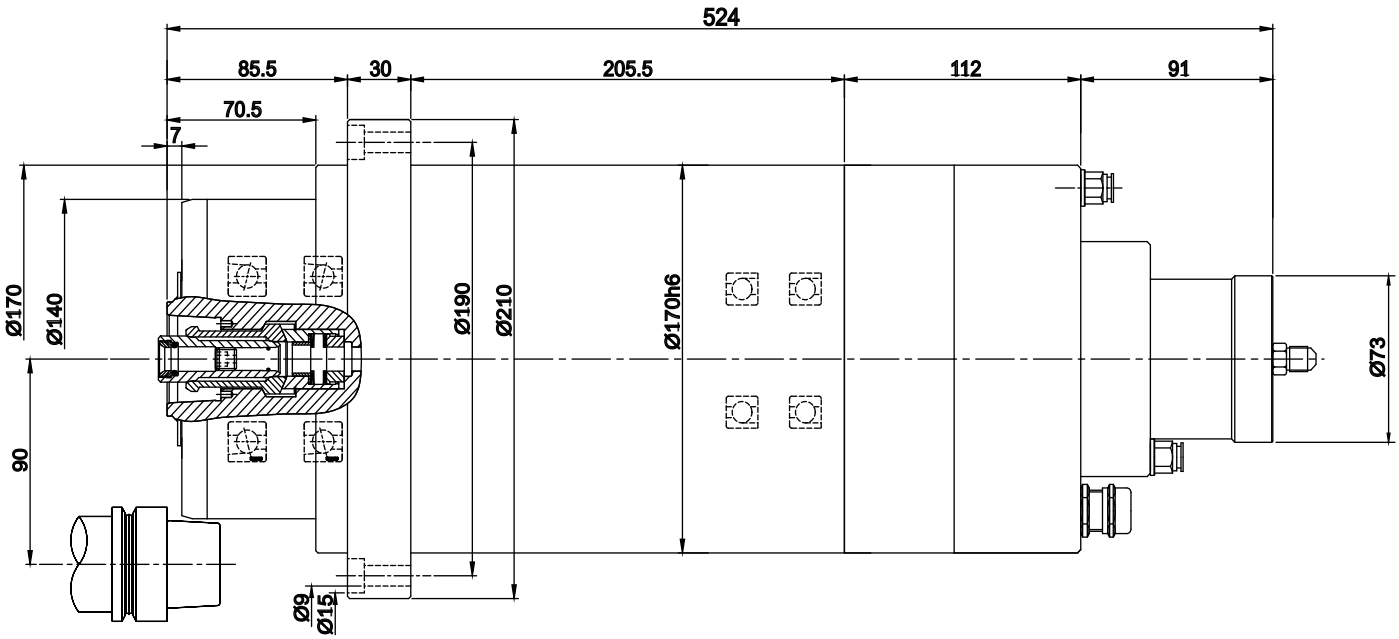
TH-170.07

THN-170.04

TH-170.09

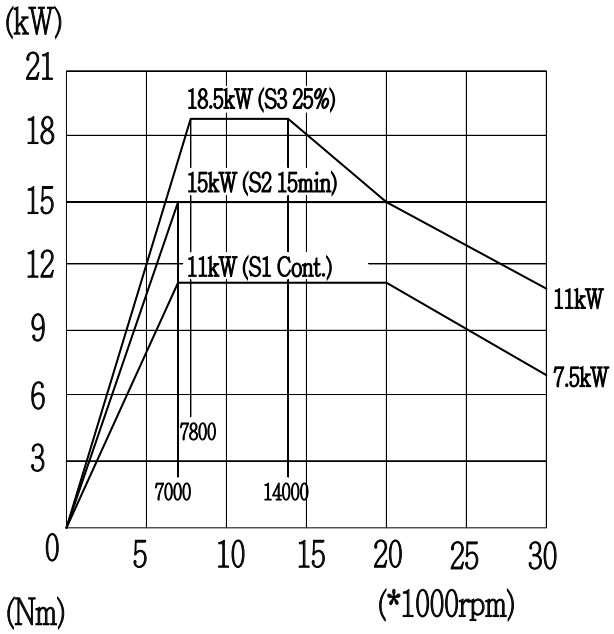
TH-190.05

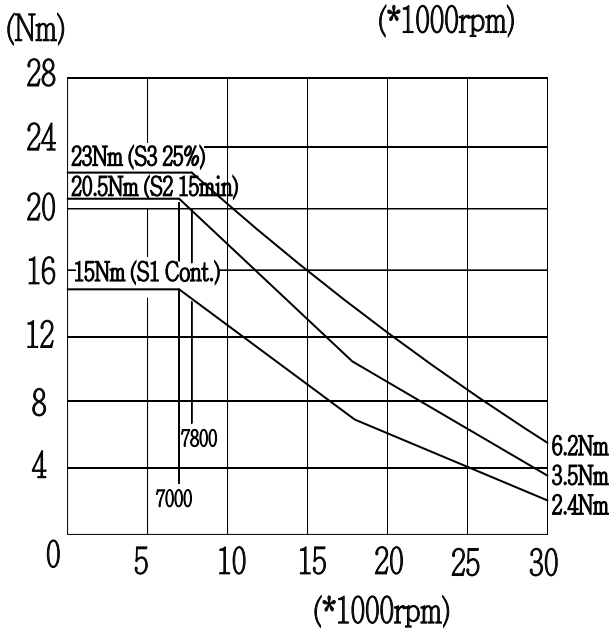
TH-170.07 HSK-E50
30,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



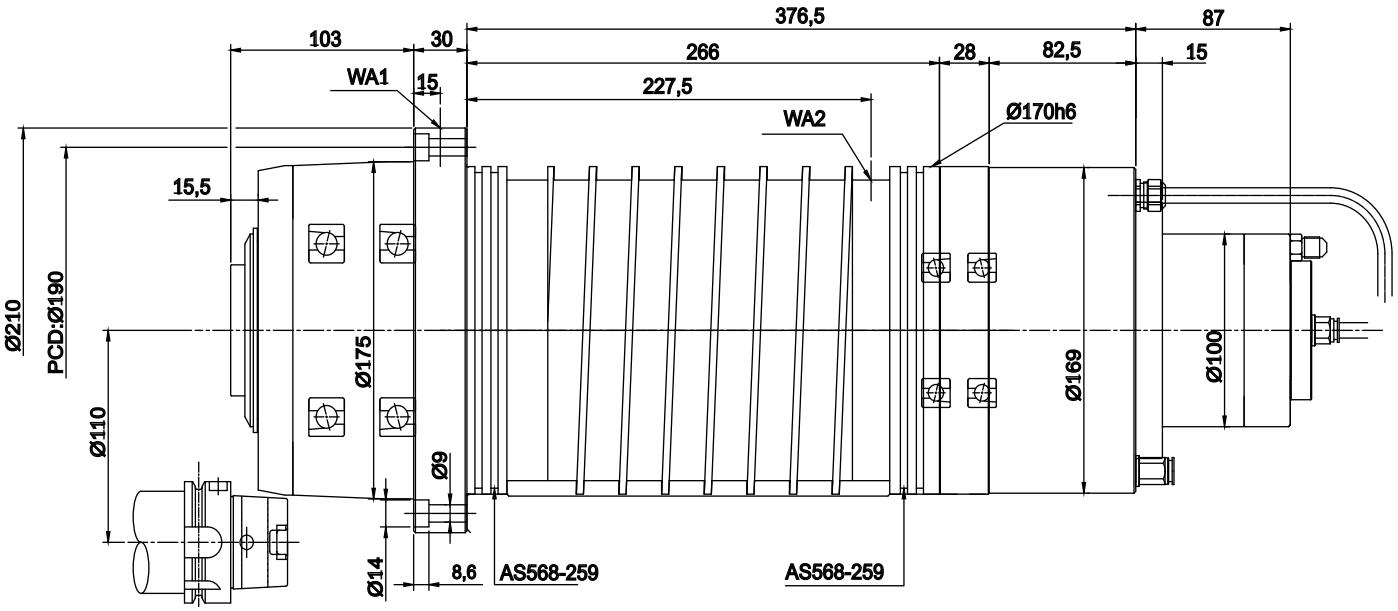
Type		TH-170.07
FANUC BUILT-IN SPINDLE MOTOR		**Bii 80M/30000**
Spindle Ø		170mm
Maximum Speed (Oil-Air)		30,000rpm
Bore diameter of front bearings		55mm
Rigidity	Axial (N/μm)	140N/μm
	Radial (N/μm)	150N/μm
at speed		7,000RPM
S1 kW		11kW
S2/S3 kW		15kW(S2-15min) 18.5kW(S3-25%)
S1 Torque (Nm)		15Nm
S2/S3 Torque (Nm)		20.5/23Nm(S2/S3)
Tool Interface		HSK-E50 HSK-F63
Spindle Cooling		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		58kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.



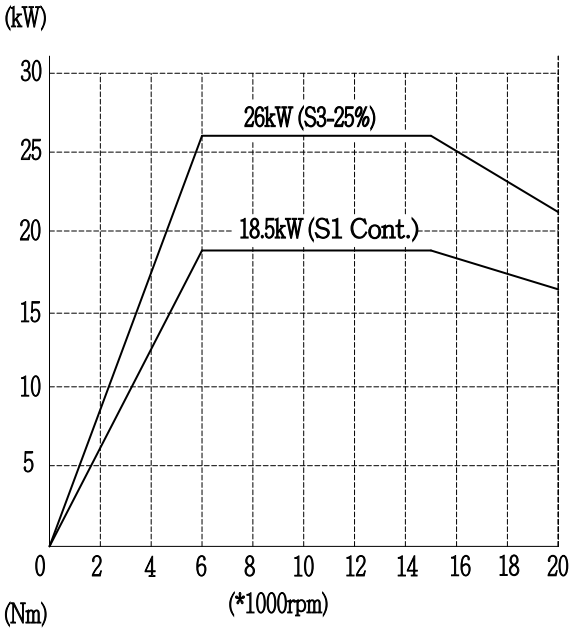


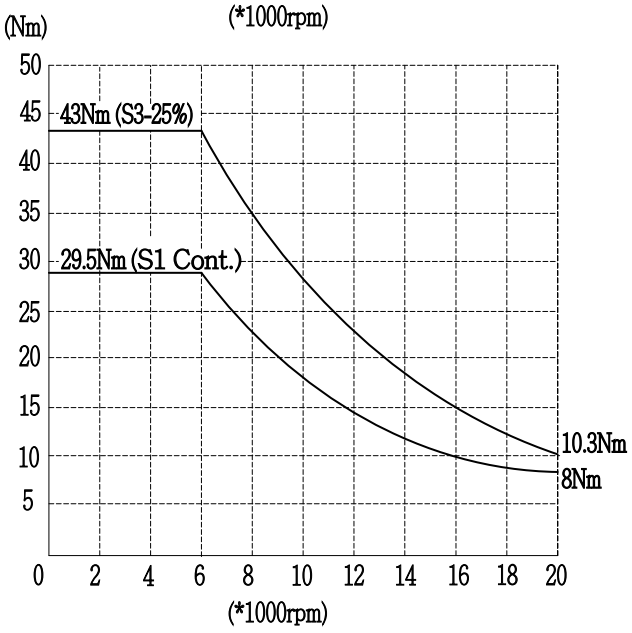
THN-170.04 HSK-A63/BBT-40
20,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



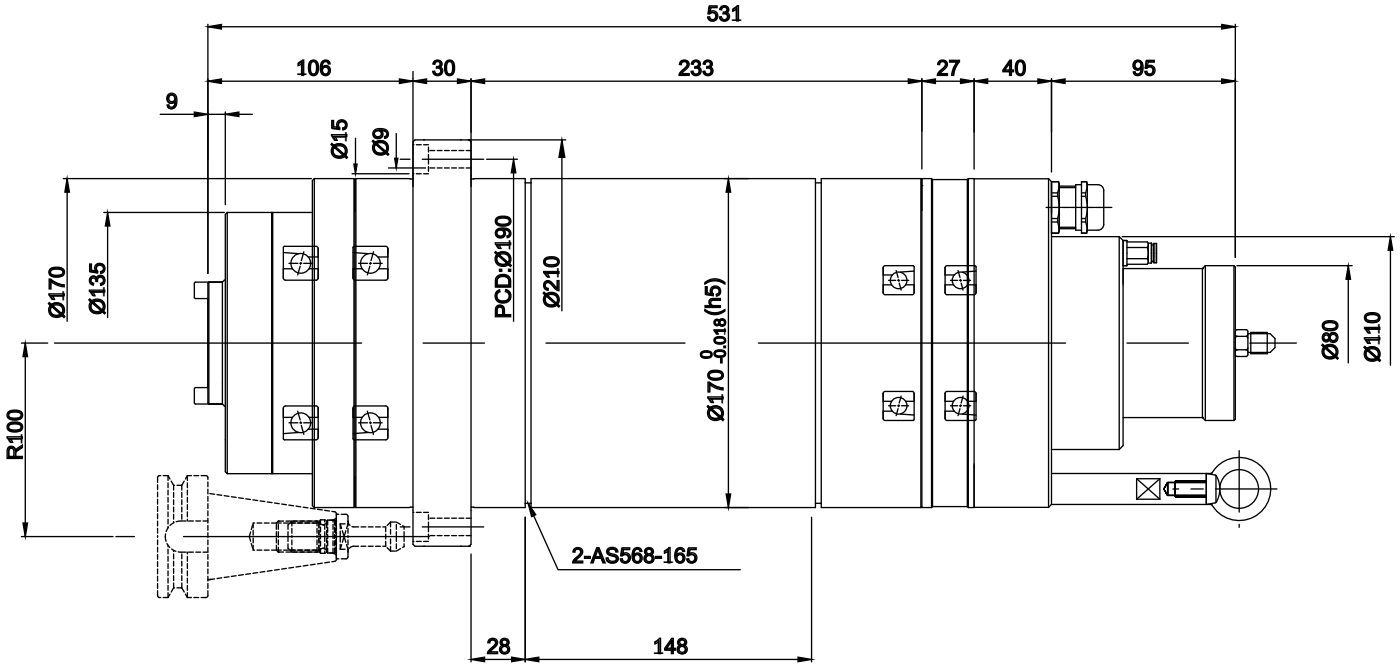
Type		THN-170.04
FANUC BUILT-IN SPINDLE MOTOR		BiI 90L/25000
Spindle Ø		170mm
Maximum Speed (Oil-Air)		20,000RPM
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	180N/μm
	Radial (N/μm)	200N/μm
at speed		6,000RPM
S1 kW		18.5kW
S2/S3 kW		26kW(S3-25%)
S1 Torque (Nm)		29.5Nm
S2/S3 Torque (Nm)		43Nm(S3-25%)
Tool Interface		HSK-A63 BBT-40
Spindle Cooling		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		65kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.



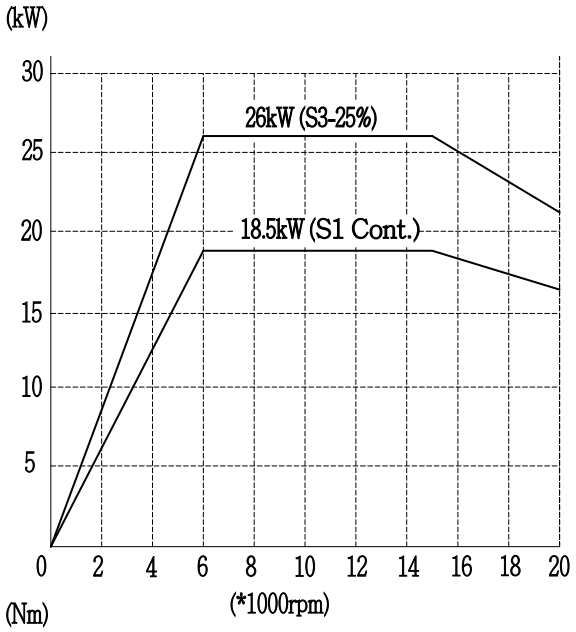


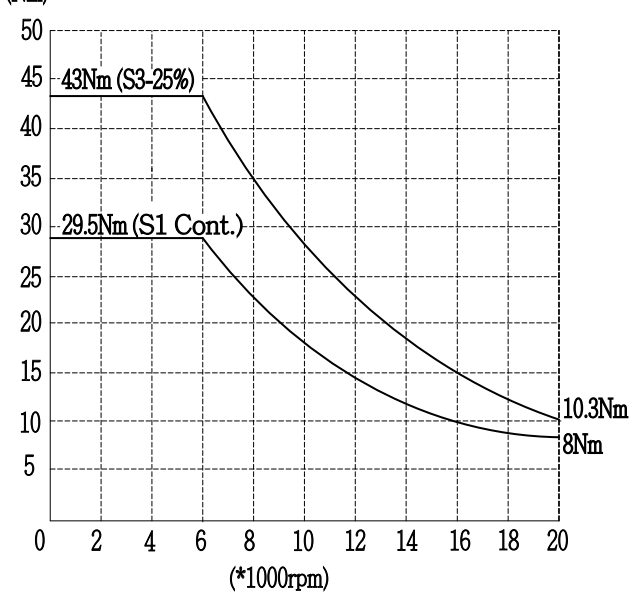
TH-170.09 BBT-40/BT-40
20,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



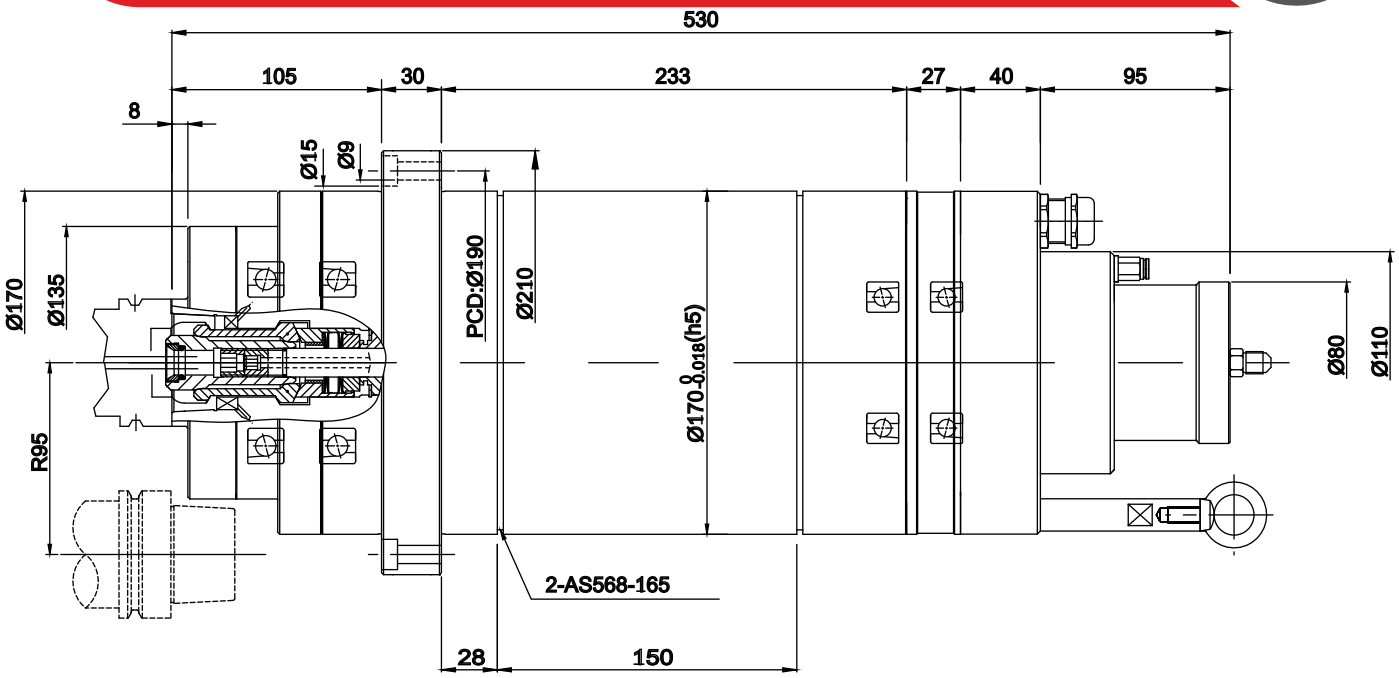
Type		TH-170.09
FANUC BUILT-IN SPINDLE MOTOR		**Bi 90L/25000 TYPE M**
Spindle Ø		170mm
Maximum Speed (Oil-Air)		20,000RPM
Bore diameter of front bearings		65mm
Rigidity	Axial (N/μm)	150N/μm
	Radial (N/μm)	200N/μm
at speed		6,000RPM
S1 kW		18.5kW
S2/S3 kW		26kW(S3-25%)
S1 Torque (Nm)		29.5Nm
S2/S3 Torque (Nm)		43Nm(S3-25%)
Tool Interface		BT-40 BBT-40
Spindle Cooling		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		63kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.



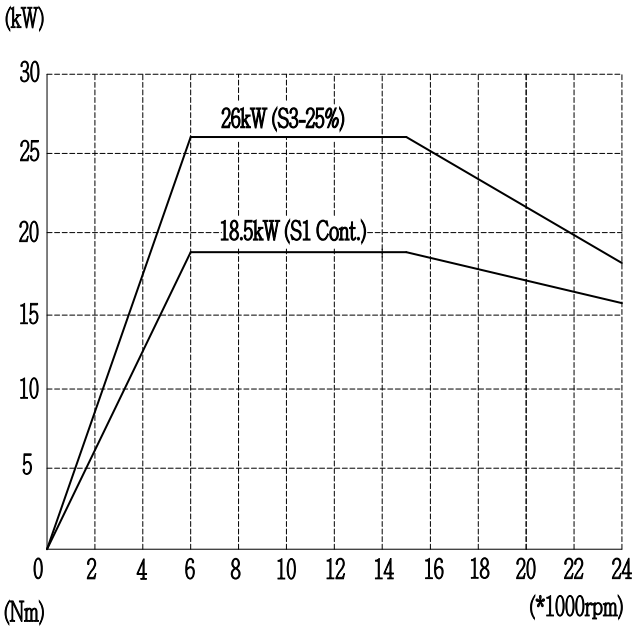


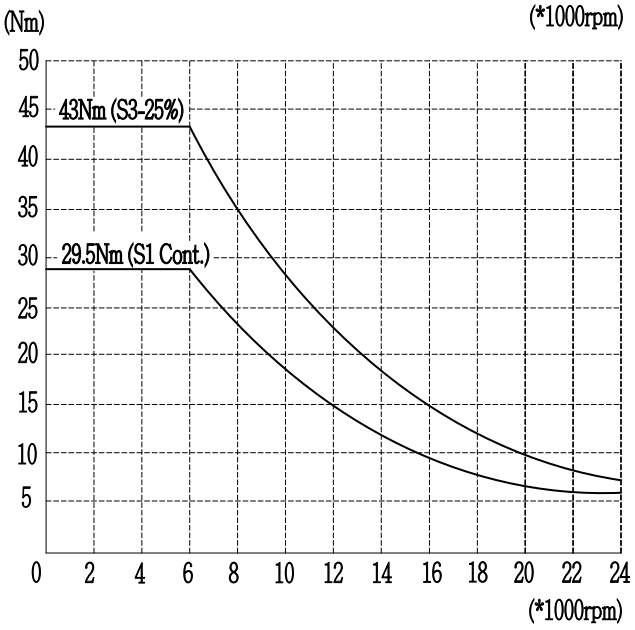
TH-170.09 HSK-A63/HSK-E63
24,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



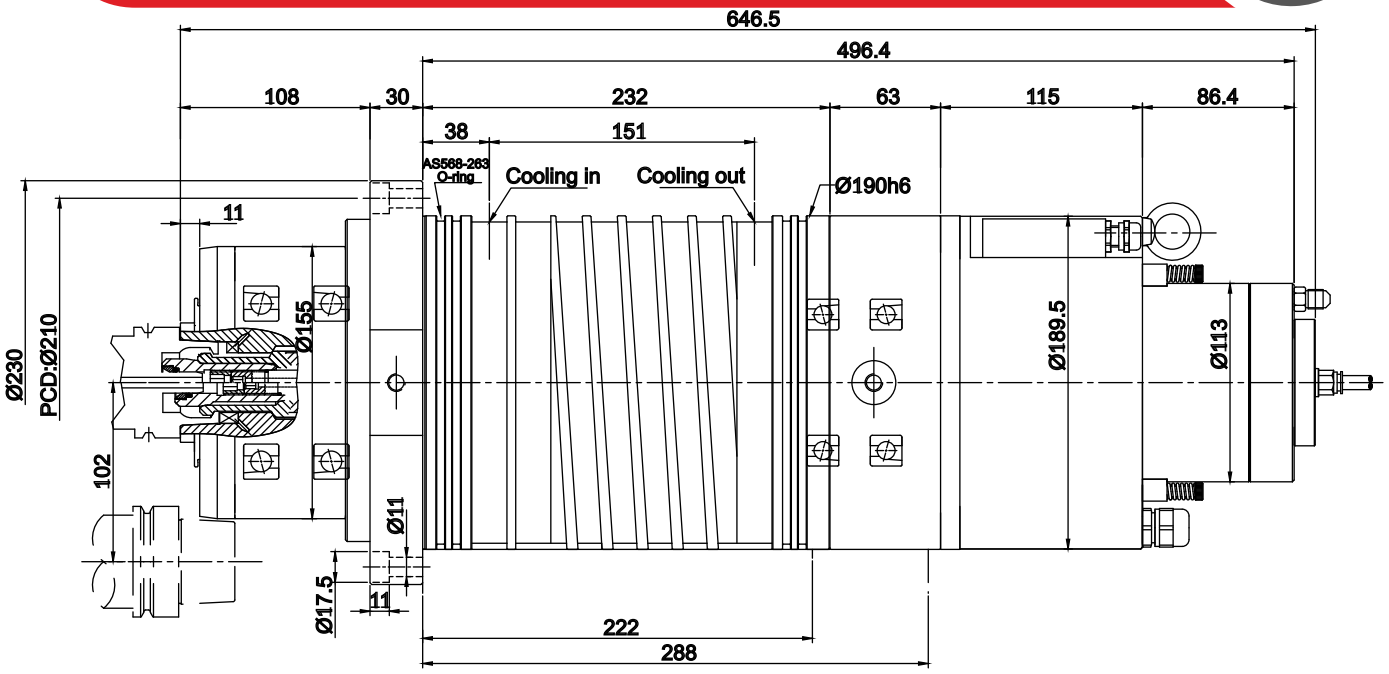
Type		TH-170.09
FANUC BUILT-IN SPINDLE MOTOR		BiI 90L/25000 TYPE M
Spindle Ø		170mm
Maximum Speed (Oil-Air)		24,000rpm
Bore diameter of front bearings		65mm
Rigidity	Axial (N/μm)	150N/μm
	Radial (N/μm)	200N/μm
at speed		6,000RPM
S1 kW		18.5kW
S2/S3 kW		26kW(S3-25%)
S1 Torque (Nm)		29.5Nm
S2/S3 Torque (Nm)		43Nm(S3-25%)
Tool Interface		HSK-A63 HSK-E63
Spindle Cooling		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		63kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.



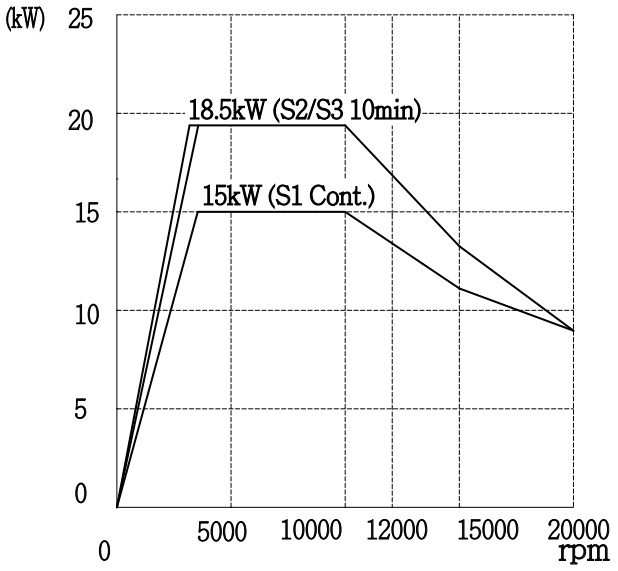


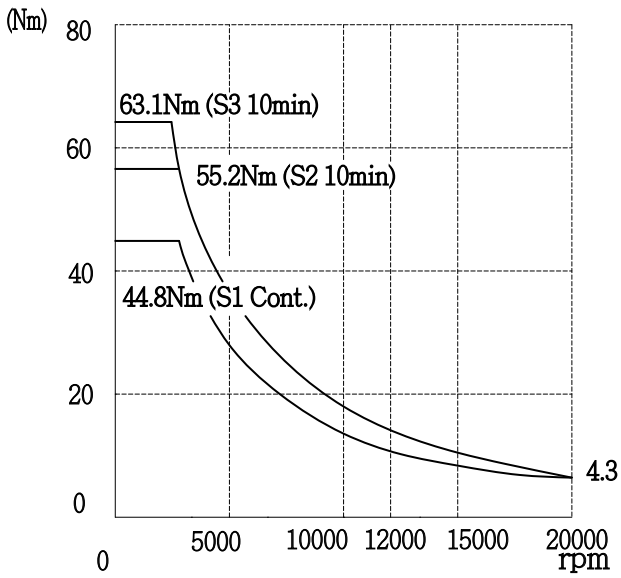
TH-190.05 HSK-A63/HSK-C63/BBT-40
20,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



Type		TH-190.05
FANUC BUILT-IN SPINDLE MOTOR		B*i* 112S/20000-B
Spindle Ø		190mm
Maximum Speed (Oil-Air)		20,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	180N/μm
	Radial (N/μm)	200N/μm
at speed		3,200RPM
S1 kW		15kW
S2/S3 kW		18.5kW(S2/S3-10mim)
S1 Torque (Nm)		44.8Nm
S2/S3 Torque (Nm)		55.2Nm(S2-10mim) 63.1Nm(S3-10mim)
Tool Interface		HSK-A63 / BBT-40 HSK-C63
Spindle Cooling		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		80kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.





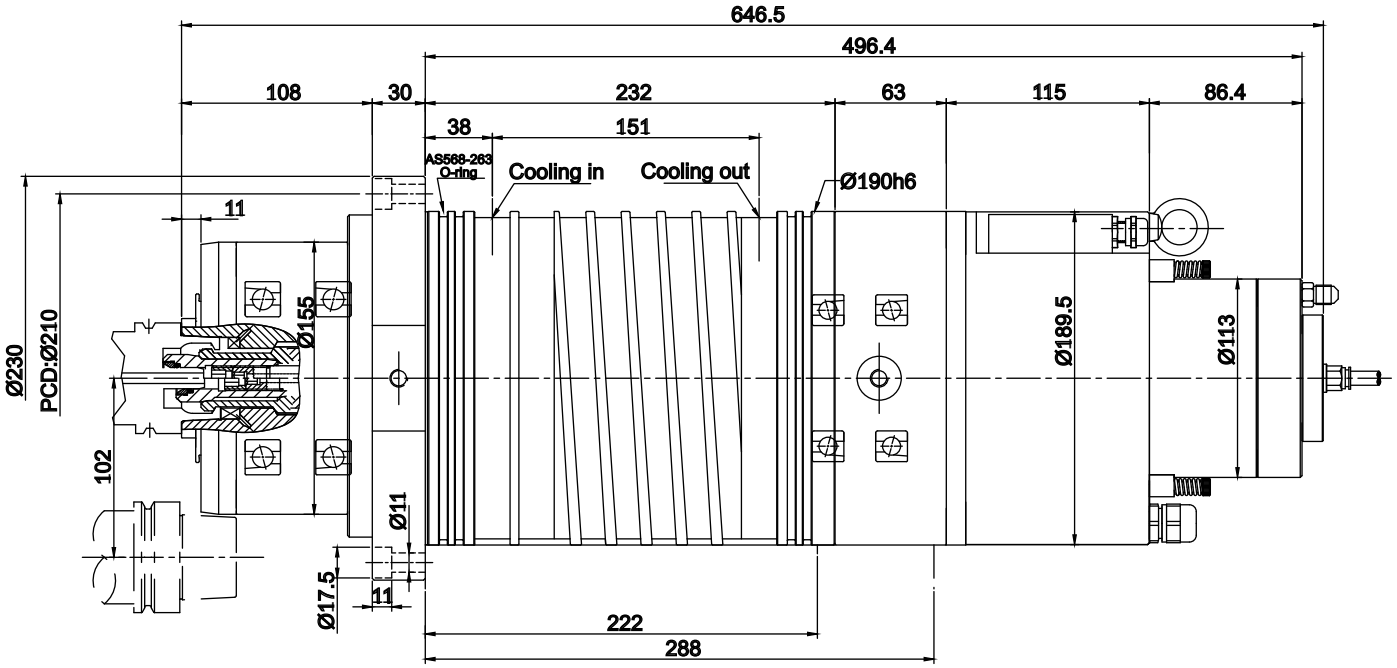
Ø190~Ø230mm
High Frequency Spindles for automatic tool change

Type		TH-190.01	TH-230.01	TH-230.04	TH-230.08	TH-230.13
FANUC BUILT-IN SPINDLE MOTOR		BiI 112S/20000i	BiI 112L/15000i	BiI 112L/15000i	BiI 112L/20000i	BiI 112L/20000i
Spindle Ø		190mm	230mm	230mm	230mm	230mm
Maximum Speed (Oil-Air) Also available with grease lubrication. This lubrication leads to speed reduction.		20,000rpm	15,000rpm	10,000rpm	20,000rpm	12,000rpm
Bore diameter of front bearings		70mm	70mm	100mm	70mm	70mm
Rigidity	Axial (N/µm)	180N/µm	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.			
	Radial (N/µm)	200N/µm				
Low winding	S1 kW	7kW	15kW	15kW	15kW	15kW
	S1 Torque (Nm)	31Nm	95Nm	95Nm	80Nm	80Nm
	S2/S3 kW	11KW(S3-15%)	18.5kW(S3-15%)	18.5kW(S3-15%)	18.5kW(S3-25%)	18.5kW(S3-25%)
	S2/S3 Torque (Nm)	60Nm(S3-15%)	167Nm(S3-15%)	167Nm(S3-15%)	118Nm(S3-25%)	118Nm(S3-25%)
High winding	S1 kW	11kW	18.5kW	18.5kW	18.5kW	18.5kW
	S1 Torque (Nm)	18Nm	35Nm	35Nm	22Nm	22Nm
	S2/S3 kW	18.5kW(S2-10min)	22kW(S2-15min)	22kW(S2-15min)	22kW(S2-15min)	22kW(S2-15min)
	S2/S3 Torque (Nm)	29Nm(S2-10min)	42Nm(S2-15min)	42Nm(S2-15min)	42Nm(S2-15min)	42Nm(S2-15min)
Tool Interface		HSK-A63 BBT-40	HSK-A63 BBT-40	HSK-A100 BBT-50	HSK-A63 BBT-40	HSK-A63 BBT-40
Spindle Cooling		Water cooling Also available with Oil cooling. This cooling leads to motor power reduction.				
Spindle Weight		87kg	210kg	230kg	180kg	230kg
Integral Encoder For Closed-Loop Control		Option	Standard	Standard	Standard	Standard
Coolant Through Shaft (CTS)		Option	Option	Option	Option	Option
Tool Position Sensors		Proximity switches / Analog sensor				
Front Bearing Temperature Sensor		Standard	Standard	Standard	Standard	Standard

TH-190.01

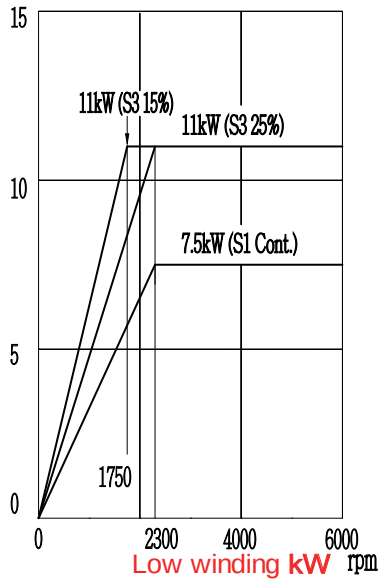
TH-230

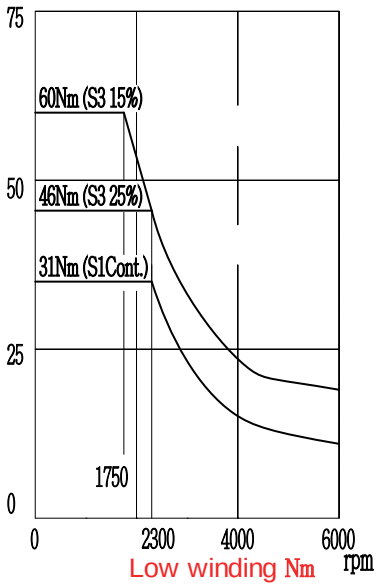
TH-190.01 HSK-A63/BBT-40
20,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

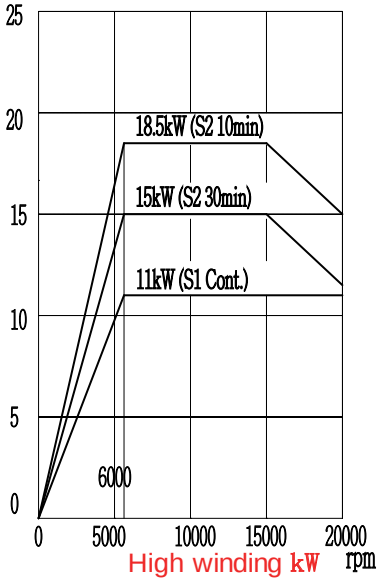


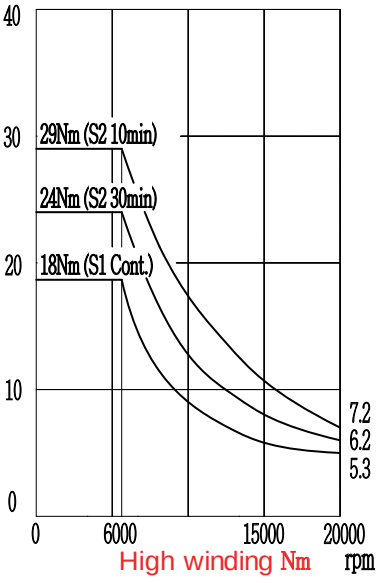
Type		TH-190.01
FANUC BUILT-IN SPINDLE MOTOR		BiI 112S/20000i
Spindle Ø		190mm
Maximum Speed (Oil-Air)		20,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	180N/μm
	Radial (N/μm)	200N/μm
Low winding	S1 kW	7.5kW at speed : 2,300~6,000rpm
	S1 Torque (Nm)	31Nm at speed : ~2,300rpm
	S2/S3 kW	11kW(S3-25%) at speed : 2,300~6,000rpm
	S2/S3 Torque (Nm)	46Nm(S3-25%) at speed : ~2,300rpm
High winding	S1 kW	11kW at speed : 6,000~20,000rpm
	S1 Torque (Nm)	18Nm at speed : ~6,000rpm
	S2/S3 kW	18.5kW(S2-10min) at speed : 6,000~15,000rpm
	S2/S3 Torque (Nm)	29Nm(S2-10min) at speed : ~6,000rpm
Tool Interface		HSK-A63 BBT-40
Spindle Cooling		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		87kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.

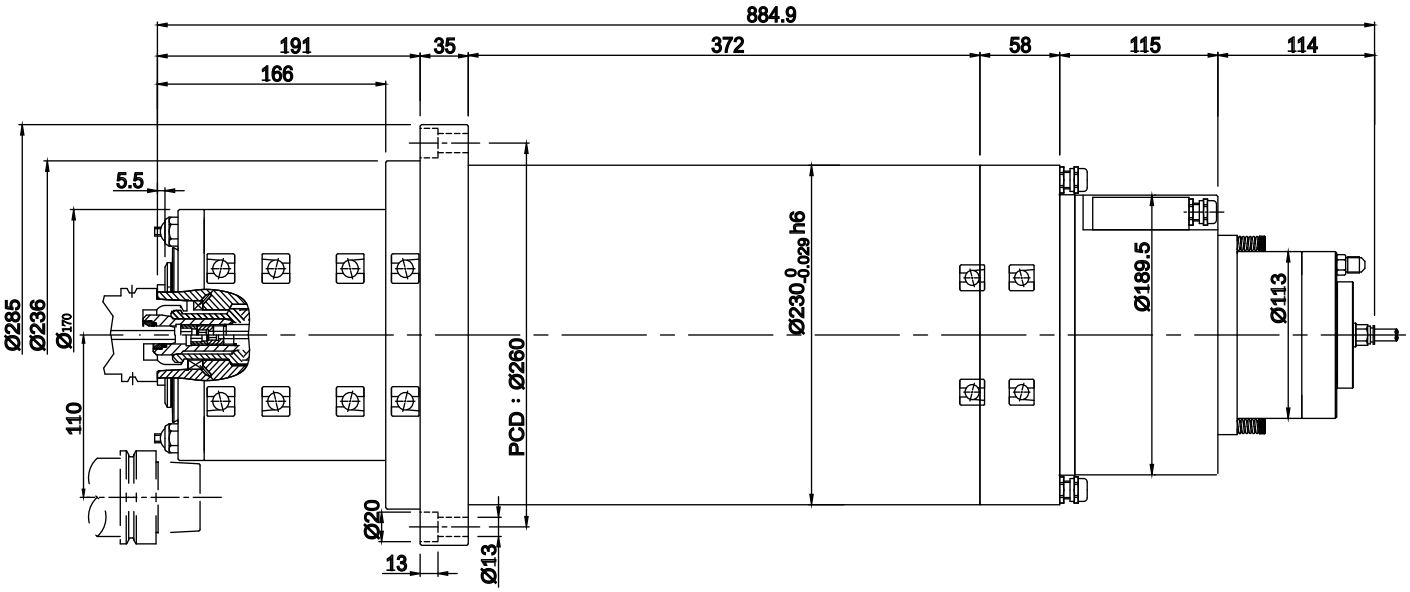




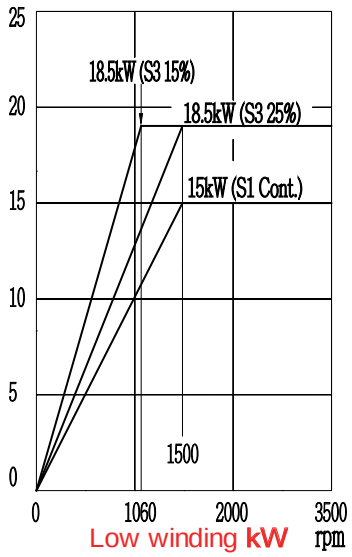


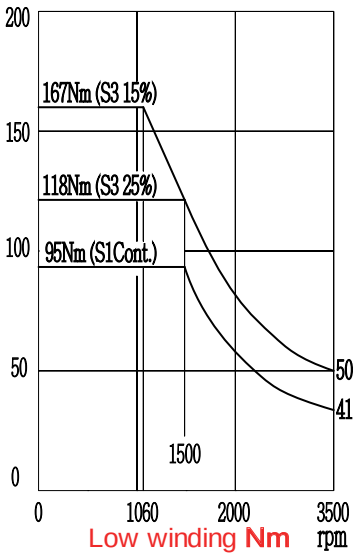


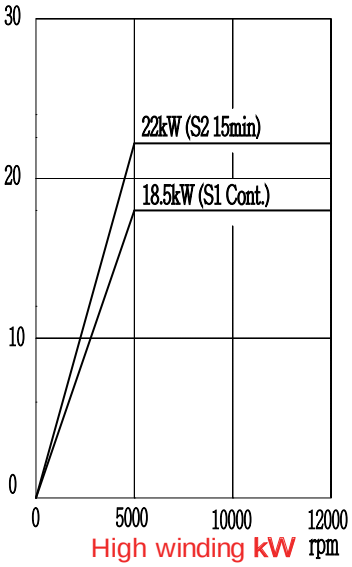
TH-230.01 HSK-A63/BBT-40
15,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

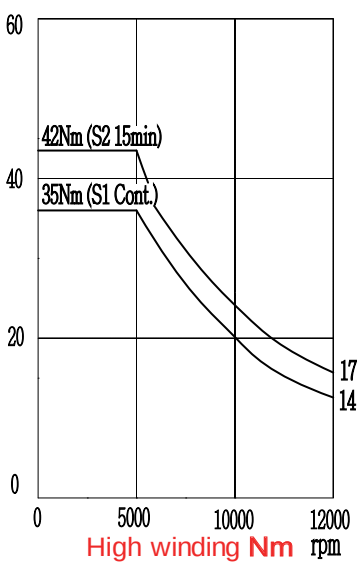


Type		TH-230.01
FANUC BUILT-IN SPINDLE MOTOR		**BiI 112L/15000i**
Spindle Ø		230mm
Maximum Speed (Oil-Air)		15,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.
	Radial (N/μm)	
Low winding	S1 kW	15kW at speed : 1,500~3,500rpm
	S1 Torque (Nm)	95Nm at speed : ~1,500rpm
	S2/S3 kW	18.5kW(S3-15%) at speed : 1,060~3,500rpm
	S2/S3 Torque (Nm)	167Nm(S3-15%) at speed : ~1,060rpm
High winding	S1 kW	18.5kW at speed : 5,000~15,000rpm
	S1 Torque (Nm)	35Nm at speed : ~5,000rpm
	S2/S3 kW	22kW(S2-15min) at speed : 5,000~15,000rpm
	S2/S3 Torque (Nm)	42Nm(S2-15min) at speed : ~5,000rpm
Tool Interface		HSK-A63 BBT-40
Spindle Cooling		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		210kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard
Also available with Oil cooling. This cooling leads to motor power reduction. Also available with grease lubrication. This lubrication leads to speed reduction.		

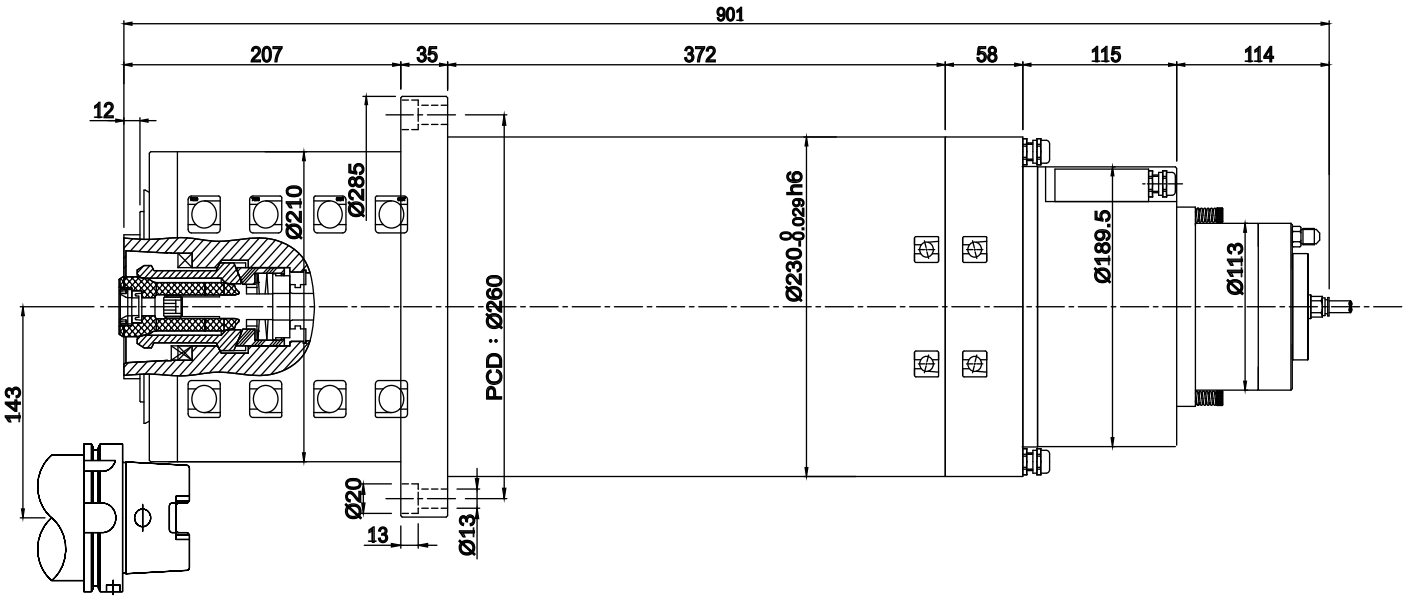






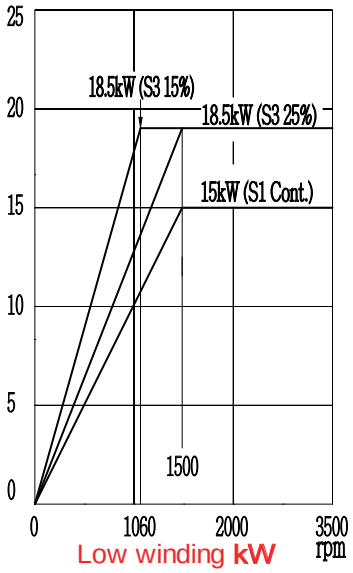


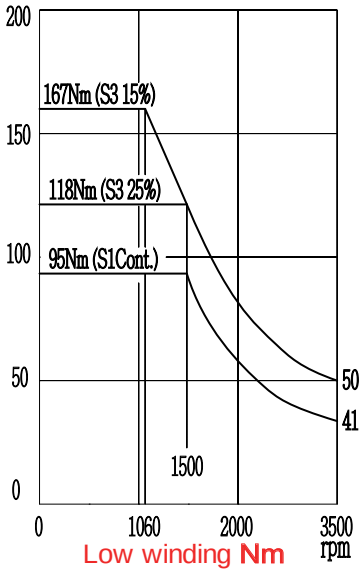
TH-230.04 HSK-A100/BBT-50
10,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

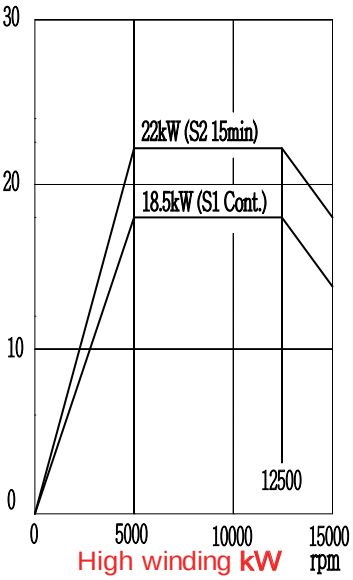


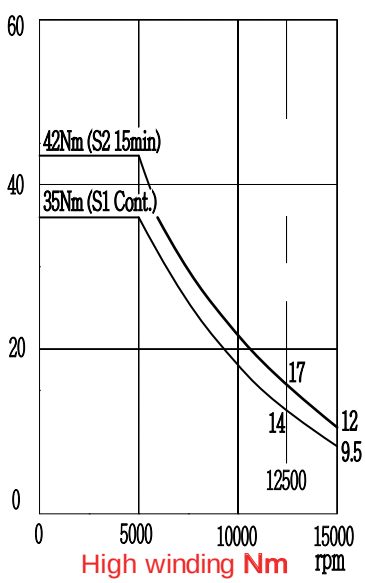
Type		TH-230.04
FANUC BUILT-IN SPINDLE MOTOR		**Bi 112L/15000i**
Spindle Ø		230mm
Maximum Speed (Oil-Air)		10,000rpm
Bore diameter of front bearings		100mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.
	Radial (N/μm)	
Low winding	S1 kW	15kW at speed : 1,500~3,500rpm
	S1 Torque (Nm)	95Nm at speed : ~1,500rpm
	S2/S3 kW	18.5kW(S3-15%) at speed : 1,060~3,500rpm
	S2/S3 Torque (Nm)	167Nm(S3-15%) at speed : ~1,060rpm
High winding	S1 kW	18.5kW at speed : 5,000~10,000rpm
	S1 Torque (Nm)	35Nm at speed : ~5,000rpm
	S2/S3 kW	22kW(S2-15min) at speed : 5,000~10,000rpm
	S2/S3 Torque (Nm)	42Nm(S2-15min) at speed : ~5,000rpm
Tool Interface		HSK-A100 BBT-50
Spindle Cooling		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		230kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.

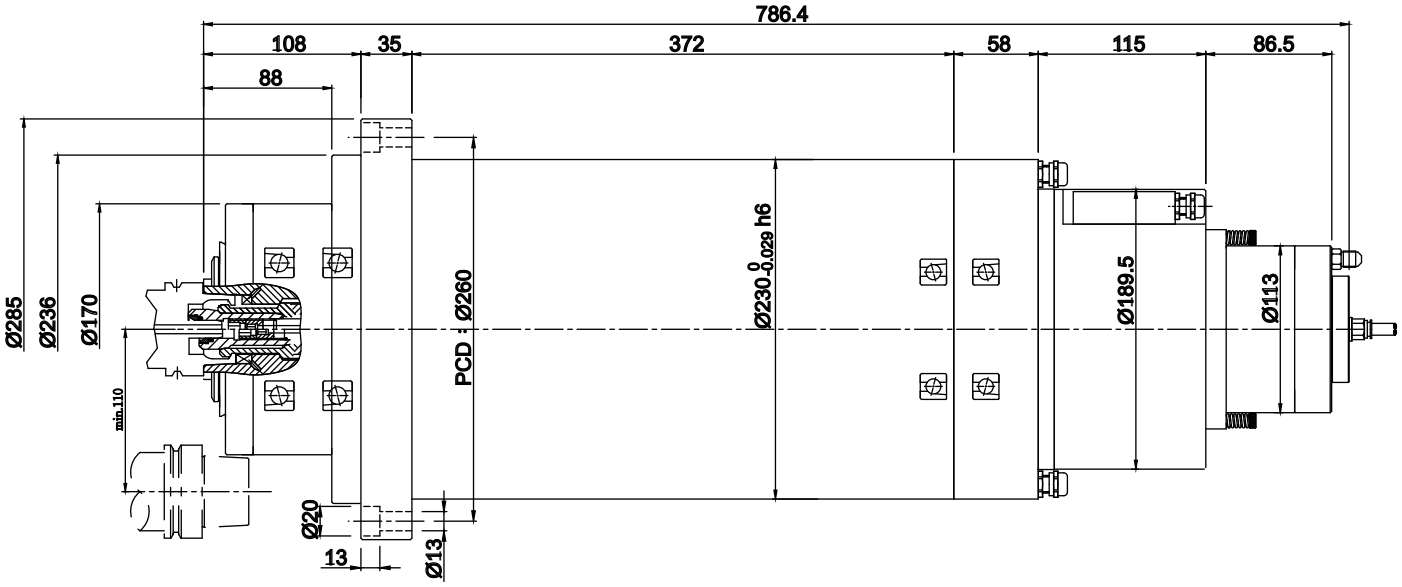






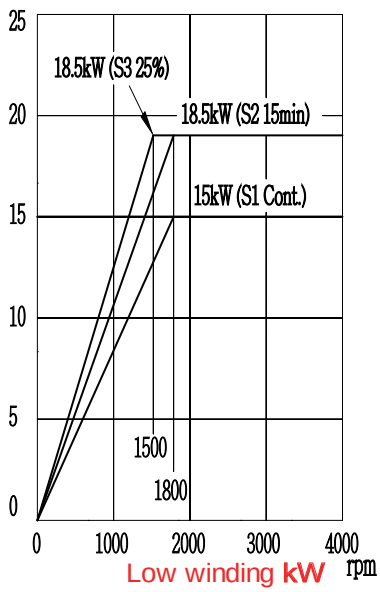


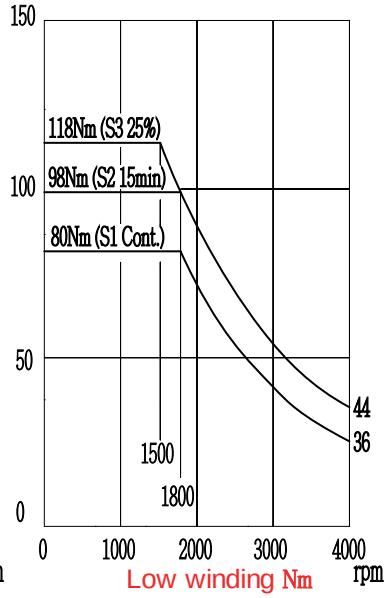
TH-230.08 HSK-A63/BBT-40
20,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

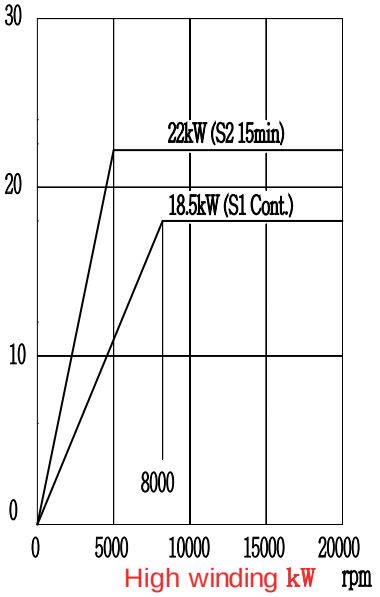


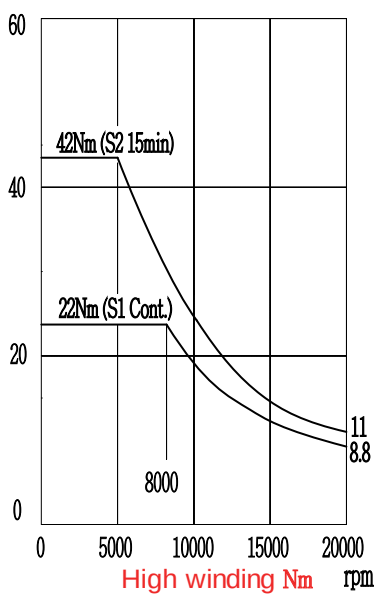
Type		TH-230.08
FANUC BUILT-IN SPINDLE MOTOR		**Bi I 112L/20000i**
Spindle Ø		230mm
Maximum Speed (Oil-Air)		20,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.
	Radial (N/μm)	
Low winding	S1 kW	15kW at speed : 2,000~4,000rpm
	S1 Torque (Nm)	80Nm at speed : ~2,000rpm
	S2/S3 kW	18.5kW(S3-25%) at speed : 1,500~4,000rpm
	S2/S3 Torque (Nm)	118Nm(S3-25%) at speed : ~1,500rpm
High winding	S1 kW	18.5kW at speed : 8,000~20,000rpm
	S1 Torque (Nm)	22Nm at speed : ~8,000rpm
	S2/S3 kW	22kW(S2-15min) at speed : 5,000~20,000rpm
	S2/S3 Torque (Nm)	42Nm(S2-15min) at speed : ~5,000rpm
Tool Interface		HSK-A63 BBT-40
Spindle Cooling		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		180kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.

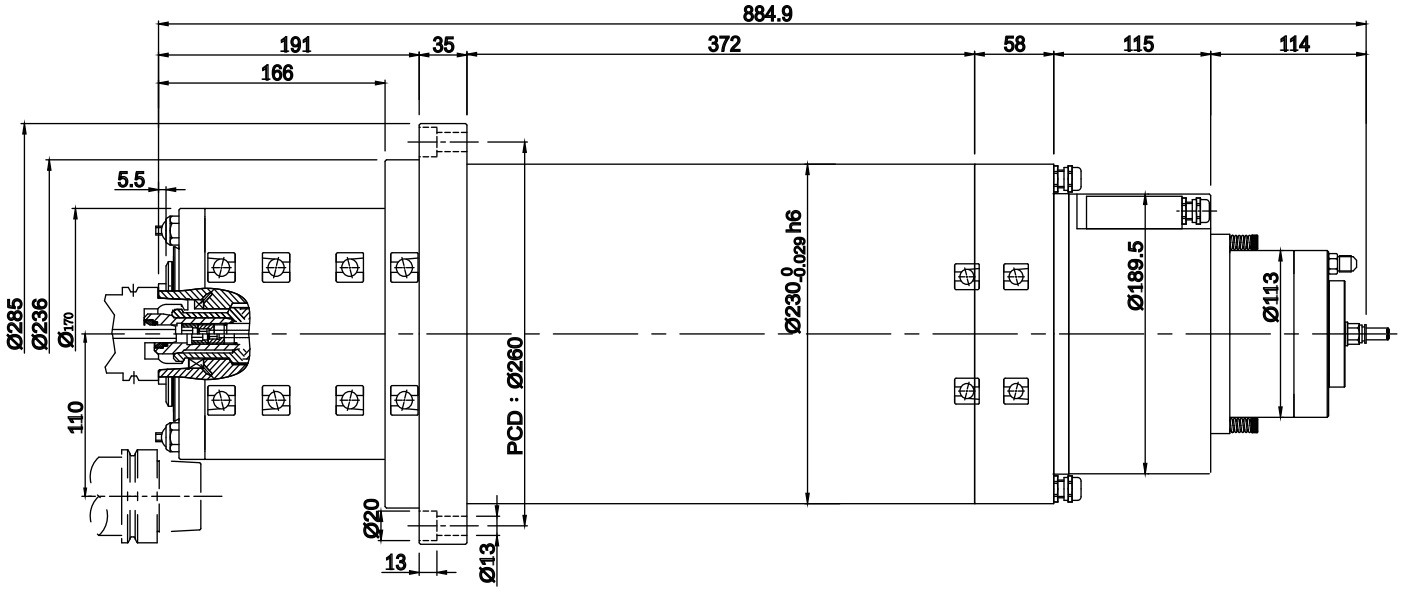






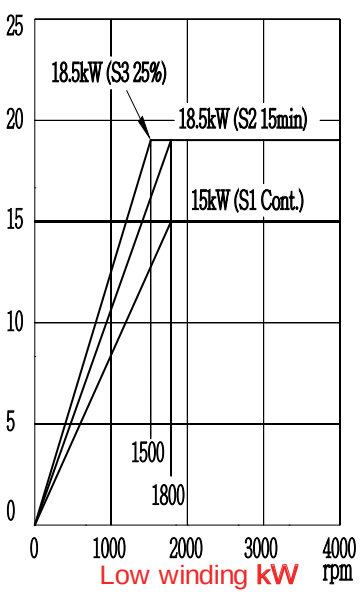


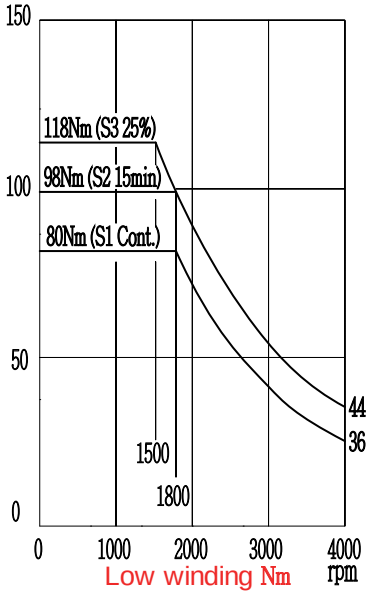
TH-230.13 HSK-A63/BBT-40
12,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

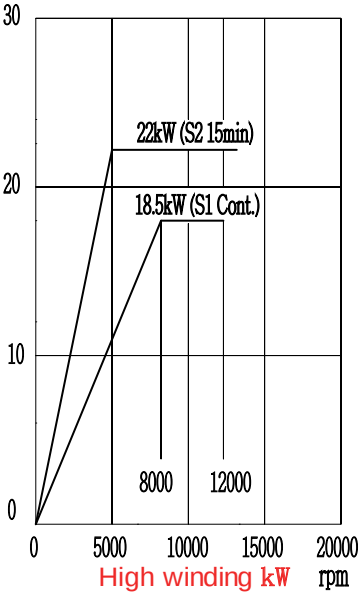


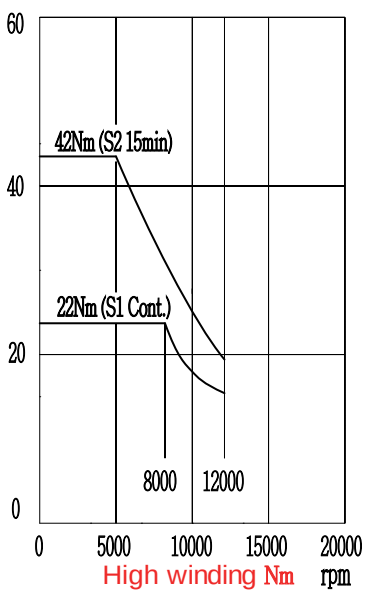
Type		TH-230.13
FANUC BUILT-IN SPINDLE MOTOR		**Bi I 112L/20000i**
Spindle Ø		230mm
Maximum Speed (Oil-Air)		12,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.
	Radial (N/μm)	
Low winding	S1 kW	15kW at speed : 2,000~4,000rpm
	S1 Torque (Nm)	80Nm at speed : ~2,000rpm
	S2/S3 kW	18.5kW(S3-25%) at speed : 1,500~4,000rpm
	S2/S3 Torque (Nm)	118Nm(S3-25%) at speed : ~1,500rpm
High winding	S1 kW	18.5kW at speed : 8,000~12,000rpm
	S1 Torque (Nm)	22Nm at speed : ~8,000rpm
	S2/S3 kW	22kW(S2-15min) at speed : 5,000~12,000rpm
	S2/S3 Torque (Nm)	42Nm(S2-15min) at speed : ~5,000rpm
Tool Interface		HSK-A63 BBT-40
Spindle Cooling		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		230kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.









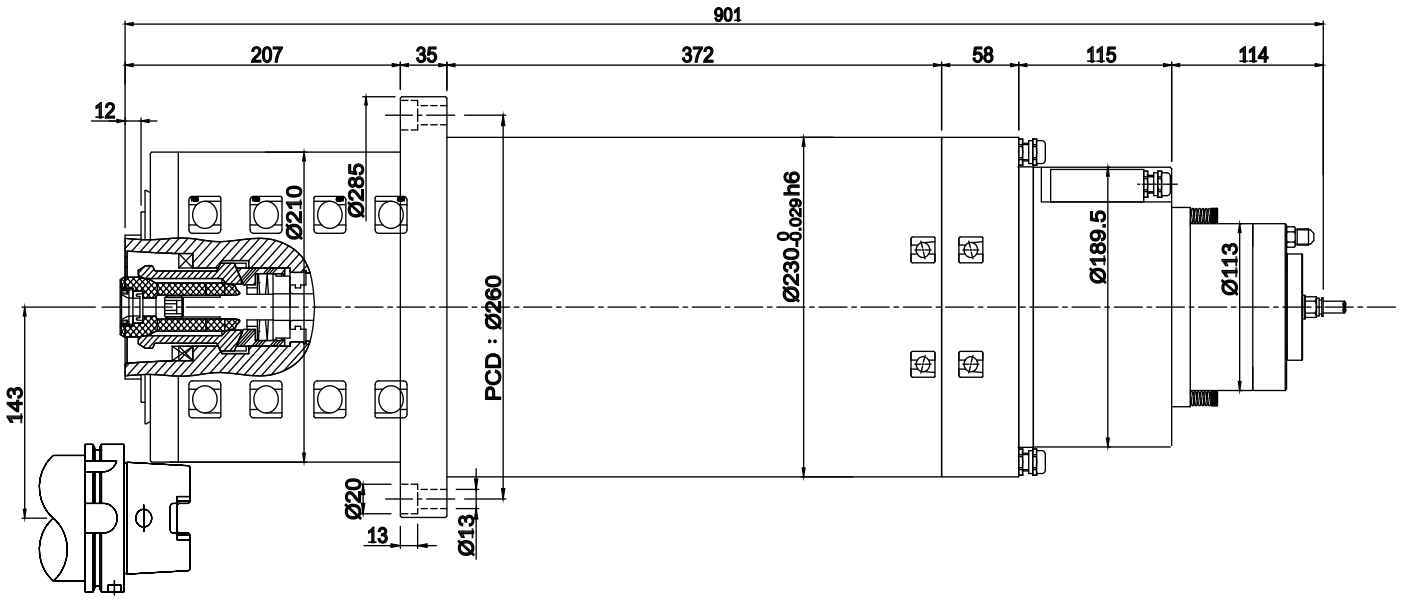
Ø230~Ø310mm
High Frequency Spindles for automatic tool change

Type		TH-230.17	TH-230.20	TH-310.01	TH-310.02	TH-310.03
FANUC BUILT-IN SPINDLE MOTOR		BiI 112M/15000-B	BiI 112L/20000i	BiI 160LL/13000i	BiI160LL/13000i typeM	BiI 160LL/13000-B
Spindle Ø		230mm	230mm	310mm	310mm	310mm
Maximum Speed (Oil-Air) Also available with grease lubrication. This lubrication leads to speed reduction.		15,000rpm	10,000rpm	10,000rpm	10,000rpm	10,000rpm
Bore diameter of front bearings		70mm	100mm	100mm	100mm	100mm
Rigidity	Axial (N/µm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.				
	Radial (N/µm)					
Low winding	S1 kW	15kW	18.5kW	15kW	15kW	18.5kW
	S1 Torque (Nm)	69.9Nm	86.2Nm	238Nm	318Nm	305Nm
	S2/S3 kW	22kW(S3-10%)	25kW(S6-40%)	22kW(S3-25%)	22kW(S3-25%)	37kW(S3-15%)
	S2/S3 Torque (Nm)	195Nm(S3-10%)	116Nm(S6-40%)	420Nm(S3-25%)	525Nm(S3-25%)	609(S3-15%)
High winding	S1 kW	18.5kW	N/A	25kW	25kW	37kW
	S1 Torque (Nm)	29.4Nm	N/A	95Nm	115Nm	196Nm
	S2/S3 kW	30kW(S3-25%)	N/A	30kW(S2-15min)	30kW(S2-15min)	55kW(S3-25%)
	S2/S3 Torque (Nm)	47.7Nm(S3-25%)	N/A	115Nm(S2-15min)	135Nm(S2-15min)	292Nm(S3-25%)
Tool Interface		HSK-A63 BBT-40	HSK-A100 BBT-50	HSK-A100 BBT-50	HSK-A100 BBT-50	HSK-A100 BBT-50
Spindle Cooling		Water cooling Also available with Oil cooling. This cooling leads to motor power reduction.				
Spindle Weight		230kg	230kg	320kg	320kg	320kg
Integral Encoder For Closed-Loop Control		Standard	Standard	Standard	Standard	Standard
Coolant Through Shaft (CTS)		Option	Option	Option	Option	Option
Tool Position Sensors		Proximity switches / Analog sensor				
Front Bearing Temperature Sensor		Standard	Standard	Standard	Standard	Standard

TH-230

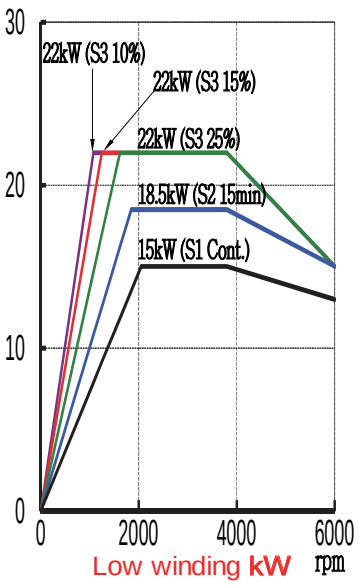
TH-310

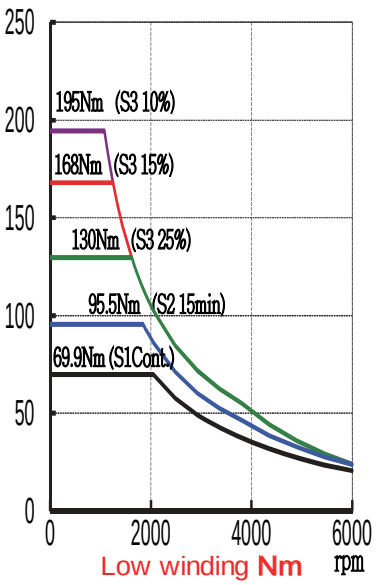
TH-230.17 HSK-A63/BBT-40
High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

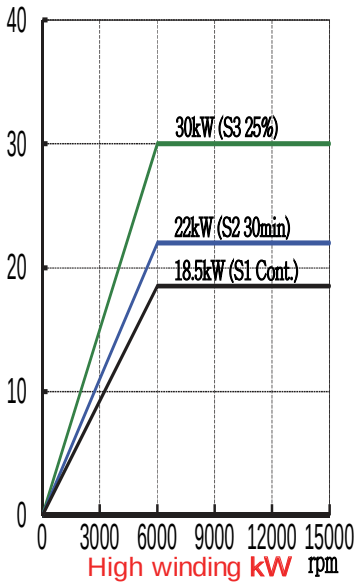


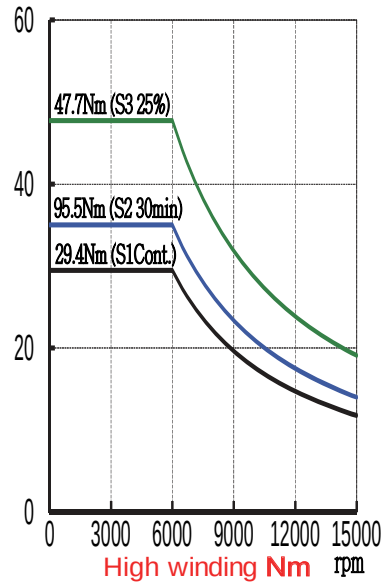
Type		TH-230.17
FANUC BUILT-IN SPINDLE MOTOR		**Bi 112M/15000-B**
Spindle Ø		230mm
Maximum Speed (Oil-Air)		15,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs.
	Radial (N/μm)	It is available to increase the static rigidity, but the maximum speed will be reduced.
Low winding	S1 kW	15kW at speed : 2,050~3,800rpm
	S1 Torque (Nm)	69.9Nm at speed : ~2,050rpm
	S2/S3 kW	22kW(S3-10%) at speed : 1,080~1,250rpm
	S2/S3 Torque (Nm)	195Nm(S3-10%) at speed : ~1,080rpm
High winding	S1 kW	18.5kW at speed : 6,000~15,000rpm
	S1 Torque (Nm)	29.4Nm at speed : ~6,000rpm
	S2/S3 kW	30kW(S3-25%) at speed : 6,000~15,000rpm
	S2/S3 Torque (Nm)	47.7Nm(S3-25%) at speed : ~6,000rpm
Tool Interface		HSK-A63 BBT-40
Spindle Cooling		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		230kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.

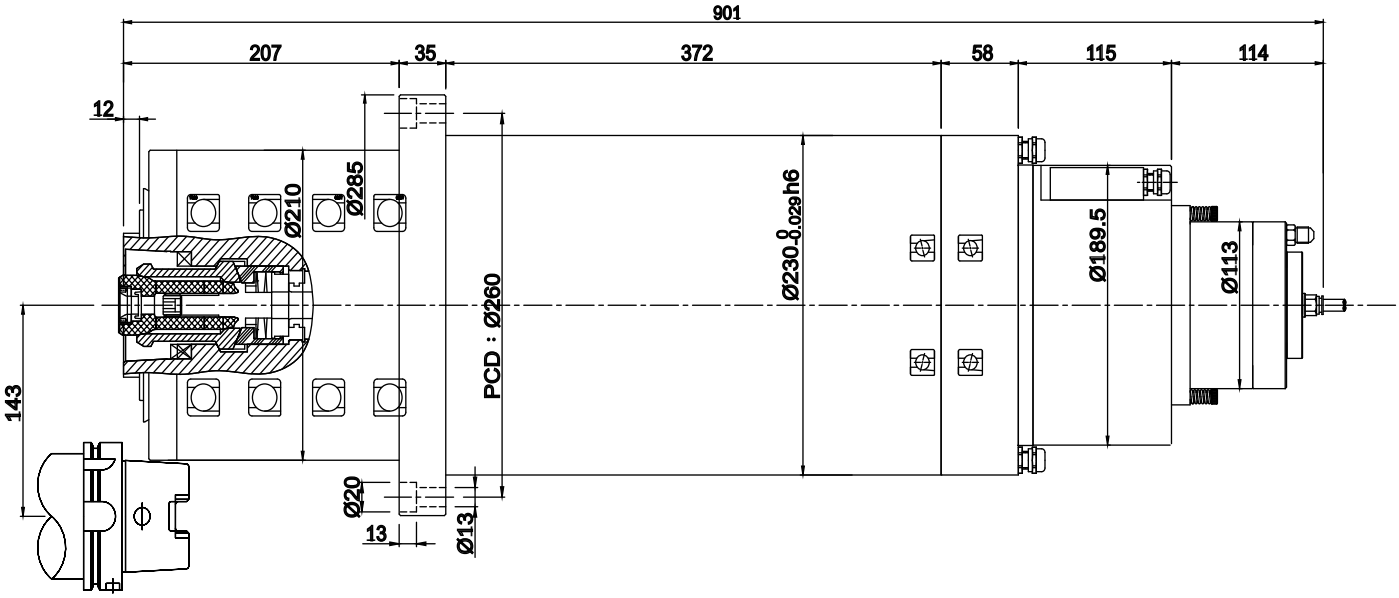






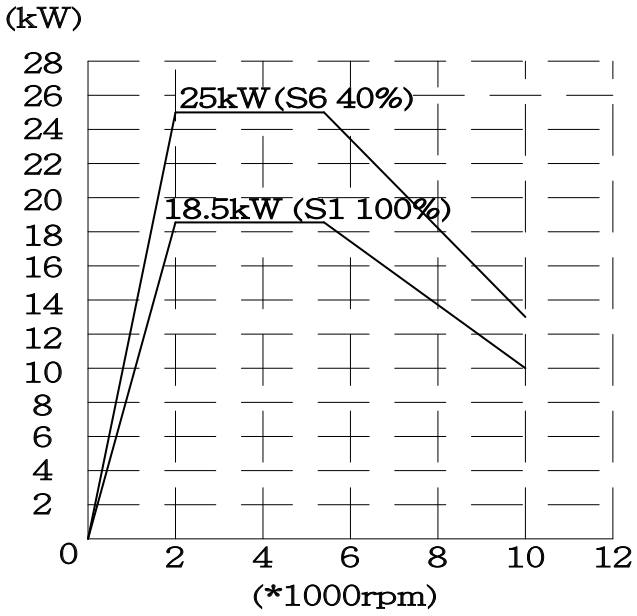


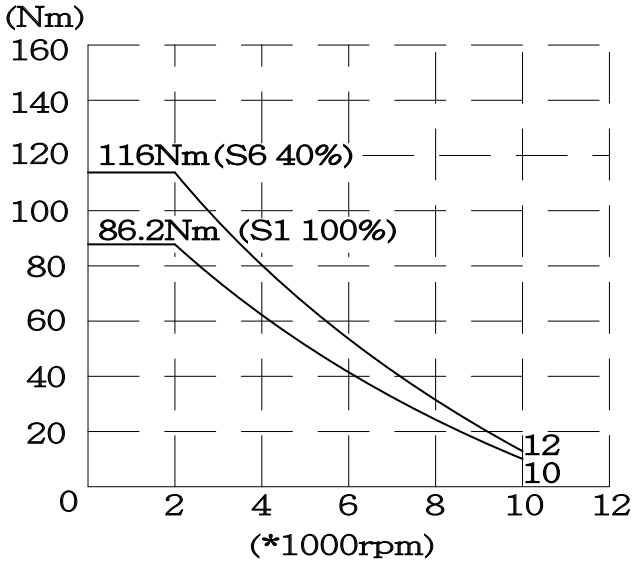
TH-230.20 HSK-A100/BBT-50
10,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor



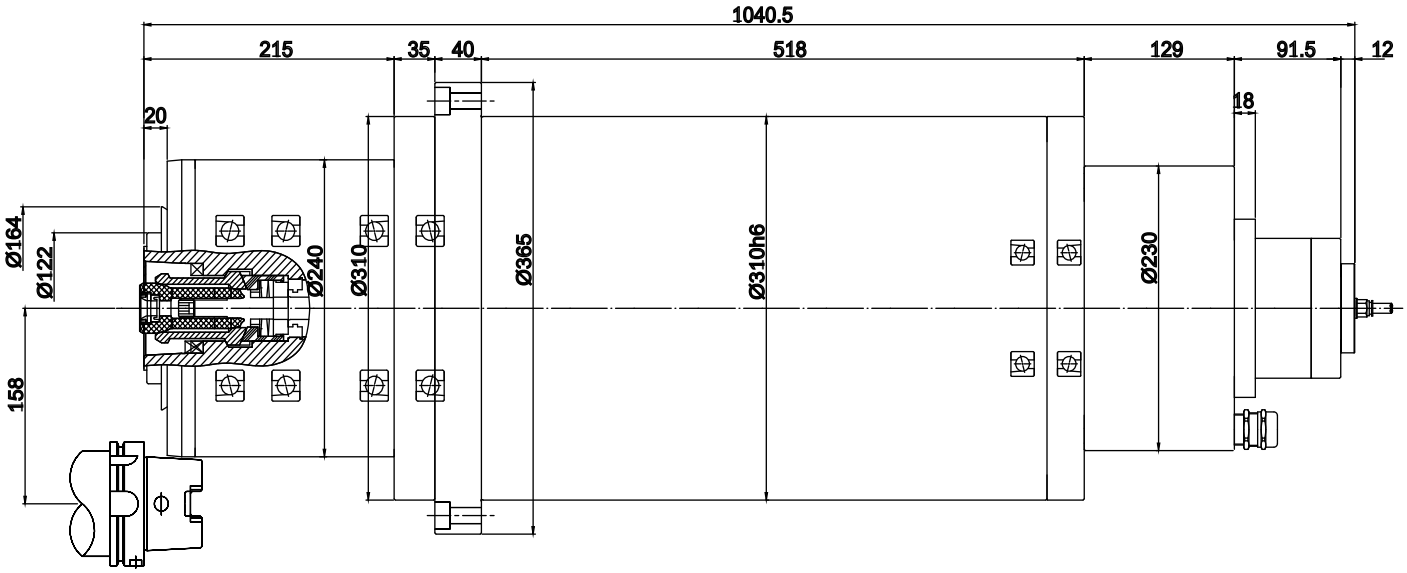
Type		TH-230.20
FANUC BUILT-IN SPINDLE MOTOR		**Bi 112L/20000i**
Spindle Ø		230mm
Maximum Speed (Oil-Air)		10,000rpm
Bore diameter of front bearings		100mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.
	Radial (N/μm)	
Low winding	S1 kW	18.5kW at speed : 2,050~5,500rpm
	S1 Torque (Nm)	86.2Nm at speed : ~2,050rpm
	S2/S3 kW	25kW(S6-40%) at speed : 2,050~5,500rpm
	S2/S3 Torque (Nm)	116Nm(S6-40%) at speed : ~2,050rpm
High winding	S1 kW	N/A
	S1 Torque (Nm)	N/A
	S2/S3 kW	N/A
	S2/S3 Torque (Nm)	N/A
Tool Interface		HSK-A100 BBT-50
Spindle Cooling		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		230kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.



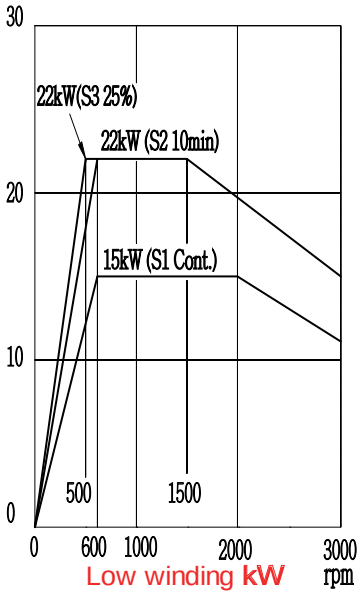


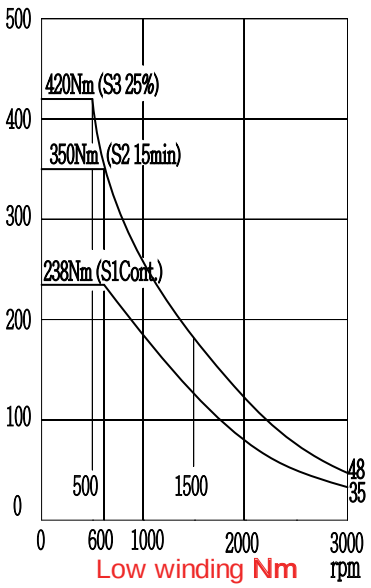
TH-310.01 HSK-A100/BBT-50
10,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

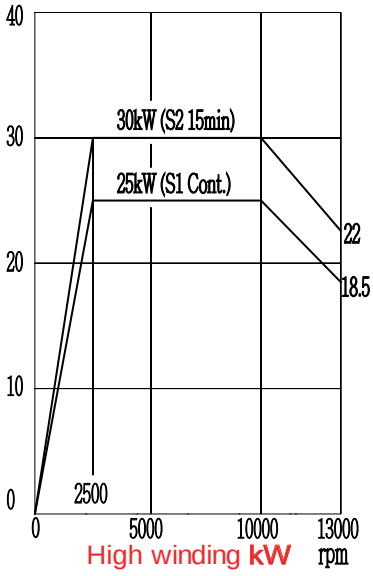


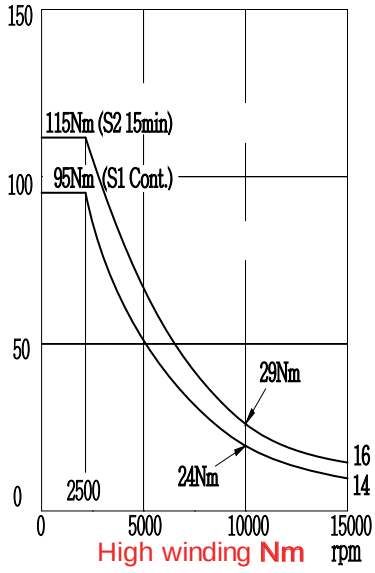
Type		TH-310.01
FANUC BUILT-IN SPINDLE MOTOR		**Bi 160LL/13000i**
Spindle Ø		310mm
Maximum Speed (Oil-Air)		10,000rpm
Bore diameter of front bearings		100mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.
	Radial (N/μm)	
Low winding	S1 kW	15kW at speed : 600~2,000rpm
	S1 Torque (Nm)	238Nm at speed : ~600rpm
	S2/S3 kW	22kW(S3-25%) at speed : 500~1,500rpm
	S2/S3 Torque (Nm)	420Nm(S3-25%) at speed : ~500rpm
High winding	S1 kW	25kW at speed : 2,500~10,000rpm
	S1 Torque (Nm)	95Nm at speed : ~2,500rpm
	S2/S3 kW	30kW(S2-15min) at speed : 2,500~10,000rpm
	S2/S3 Torque (Nm)	115Nm(S2-15min) at speed : ~2,500rpm
Tool Interface		HSK-A100 BBT-50
Spindle Cooling		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		320kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.

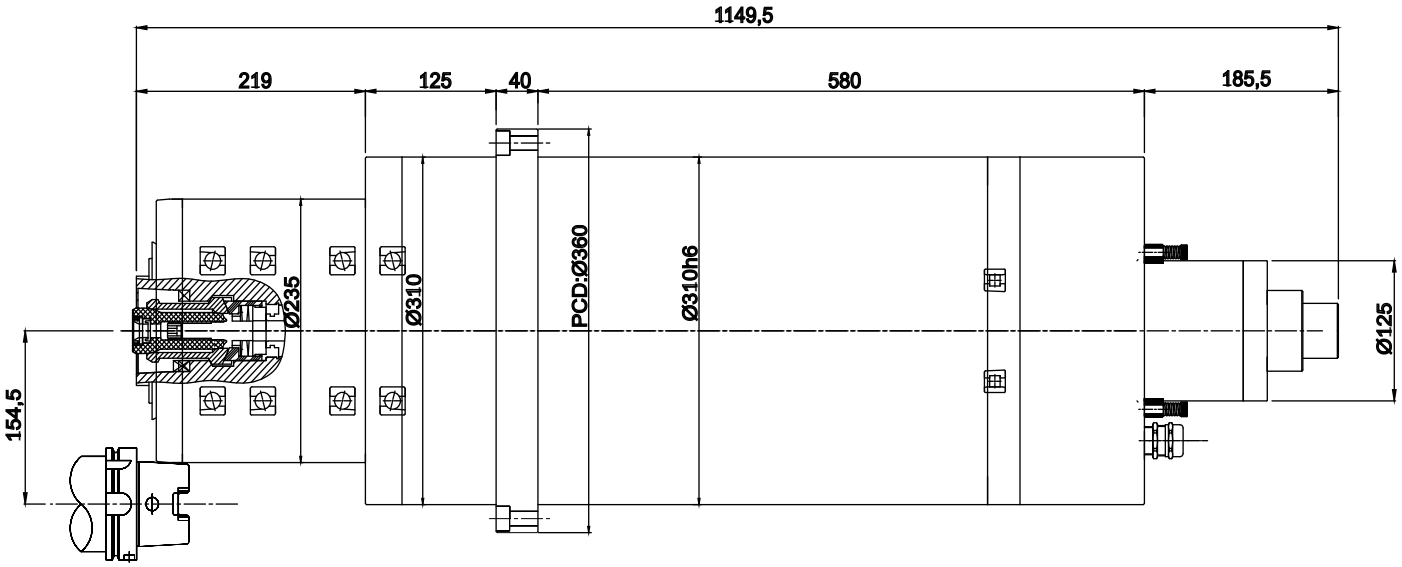






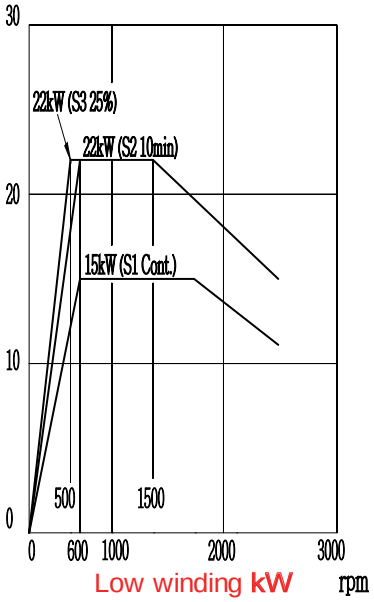


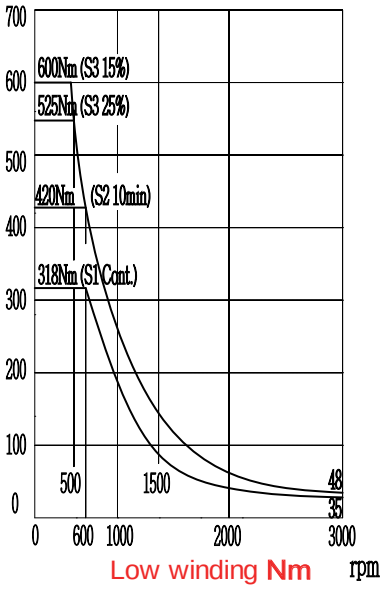
TH-310.02 HSK-A100/BBT-50
10,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

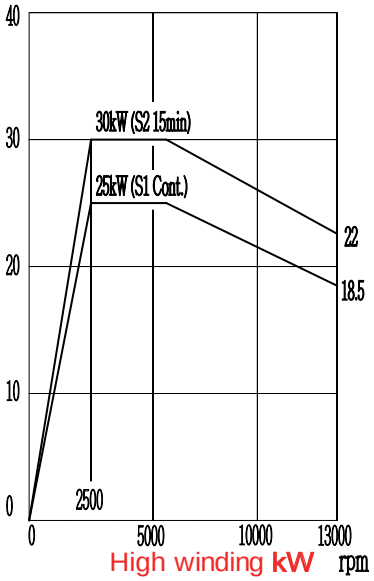


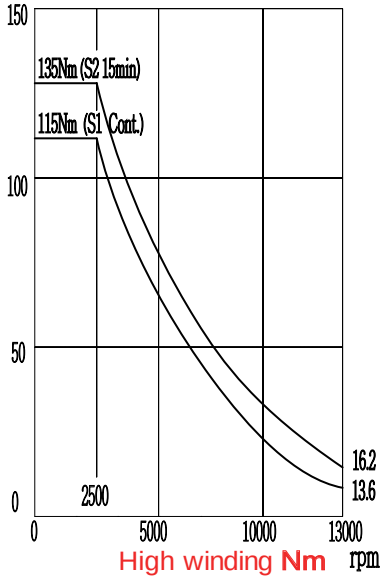
Type		TH-310.02
FANUC BUILT-IN SPINDLE MOTOR		**Bi 160LL/13000i typeM**
Spindle Ø		310mm
Maximum Speed (Oil-Air)		10,000rpm
Bore diameter of front bearings		100mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.
	Radial (N/μm)	
Low winding	S1 kW	15kW at speed : 500~1,700rpm
	S1 Torque (Nm)	318Nm at speed : ~600rpm
	S2/S3 kW	22kW(S3-25%) at speed : 450~1,500rpm
	S2/S3 Torque (Nm)	525Nm(S3-25%) at speed : ~450rpm
High winding	S1 kW	25kW
	S1 Torque (Nm)	115Nm
	S2/S3 kW	30kW(S2-15min)
	S2/S3 Torque (Nm)	135Nm(S2-15min)
Tool Interface		HSK-A100 BBT-50
Spindle Cooling		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		320kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.

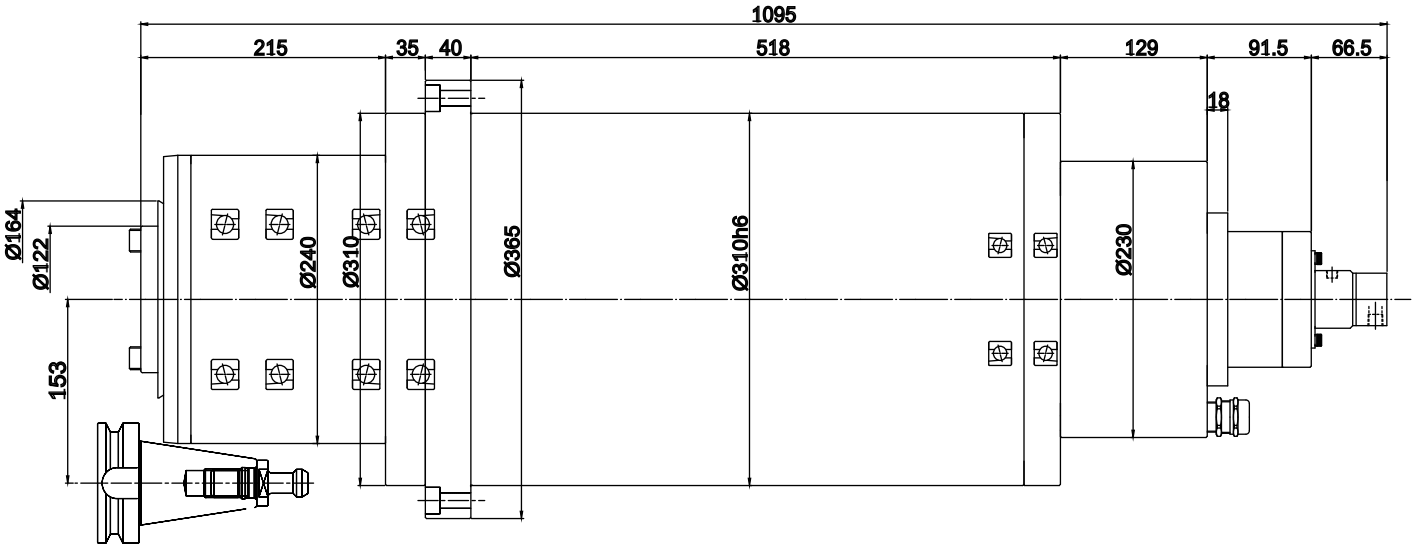






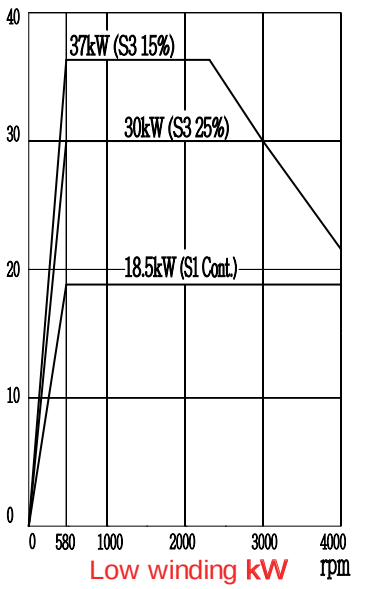


TH-310.03 HSK-A100/BBT-50
10,000rpm High Frequency Spindle
Automatic Tool Change / Asynchronous Motor

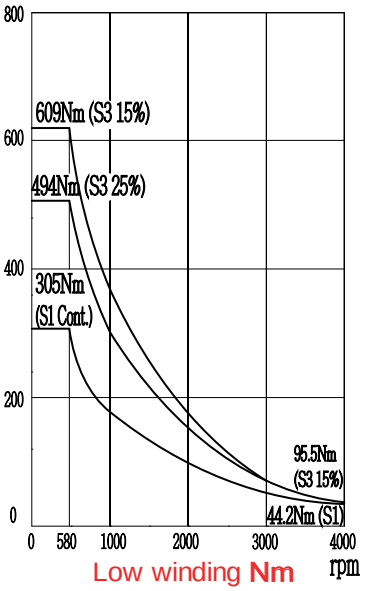


Type		TH-310.03
FANUC BUILT-IN SPINDLE MOTOR		**Bi 160LL/13000-B**
Spindle Ø		310mm
Maximum Speed (Oil-Air)		10,000rpm
Bore diameter of front bearings		100mm
Rigidity	Axial (N/μm)	Standardised or According to customer needs. It is available to increase the static rigidity, but the maximum speed will be reduced.
	Radial (N/μm)	
Low winding	S1 kW	18.5kW at speed : 580~4,000rpm
	S1 Torque (Nm)	305Nm at speed : ~580rpm
	S2/S3 kW	37kW(S3-15%) at speed : 580~3,000rpm
	S2/S3 Torque (Nm)	609Nm(S3-15%) at speed : ~580rpm
High winding	S1 kW	37kW at speed : 1,800~6,000rpm
	S1 Torque (Nm)	196Nm at speed : ~1,800rpm
	S2/S3 kW	55kW(S3-25%) at speed : 1,800~6,000rpm
	S2/S3 Torque (Nm)	292Nm(S3-25%) at speed : ~1,800rpm
Tool Interface		HSK-A100 BBT-50
Spindle Cooling		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		320kg
Integral Encoder For Closed-Loop Control		Standard
Coolant Through Shaft (CTS)		Option
Tool Position Sensors		Proximity switches / Analog sensor
Front Bearing Temperature Sensor		Standard

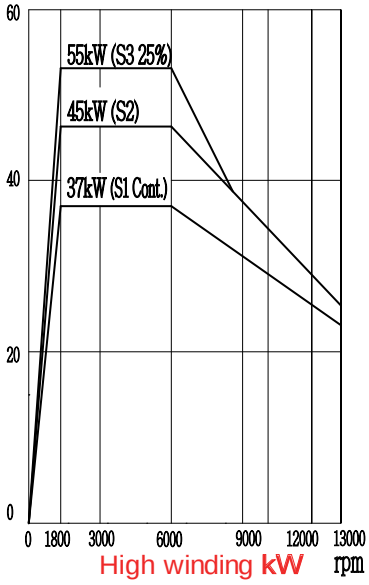
Also available with Oil cooling. This cooling leads to motor power reduction.
Also available with grease lubrication. This lubrication leads to speed reduction.



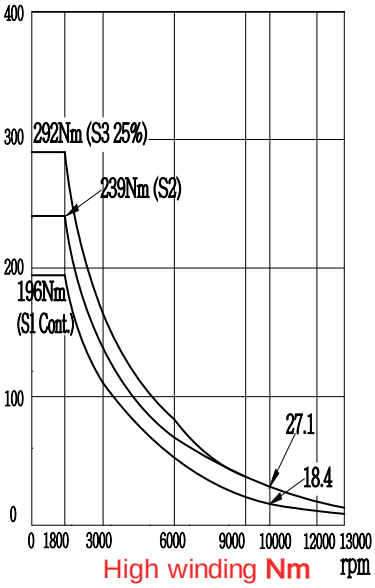
Low winding **kW**



Low winding **Nm**



High winding **kW**



High winding **Nm**

Ø80mm~Ø120mm
High-speed grinding spindles
Manual tool change

Type		THG-80.01(400V) THG-80.02(220V)	THGZ-80.03 (230V)	THG-100.01(380V) THG-100.03(230V)	THG-100.02(230V) THG-100.04(380V)	THG-120.02(400V) THG-120.15(230V)
Spindle Ø		80mm	80mm	100mm	100mm	120mm
Maximum Speed		120,000rpm	150,000rpm	60,000rpm	90,000rpm	36,000rpm
Bore diameter of front bearings		12mm	12mm	25mm	15mm	40mm
Rigidity	Axial (N/μm)	10N/μm	10N/μm	55N/μm	20N/μm	90N/μm
	Radial (N/μm)	20N/μm	20N/μm	55N/μm	30N/μm	120N/μm
Frequency Max. (Hz)		2,000Hz	2,500Hz	2,000Hz	1,500Hz	1,200Hz
at speed		117,500RPM	147,000RPM	35,500RPM	87,600RPM	9,700RPM
S1 kW		1kW	0.64kW	6.4kW	1.5kW	4.6kW
S6-40% kW		1.3kW	0.75kW	8.3kW	1.95kW	6kW
kW (Peak Power)		2.65kW	1.5kW	15kW	4.1kW	14kW
S1 Torque (Nm)		0.08Nm	0.04Nm	1.7Nm	0.16Nm	4.5Nm
S6-40% Torque (Nm)		0.1Nm	0.05Nm	2.2Nm	0.21Nm	5.9Nm
Tool Interface		D6/12	Collet 3~3.175mm	D14/23	D8/14	D22/38 HSK-C32
Spindle Cooling		Water cooling /Oil cooling				
Spindle Weight		4.5kg	4.1kg	15kg	12kg	25kg
Integral Encoder For Closed-Loop Control		N/A	N/A	N/A	N/A	Option
Coolant Through Shaft (CTS)		N/A	N/A	Option	Option	Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.				
Flange Type		N/A	N/A	Option	N/A	Option

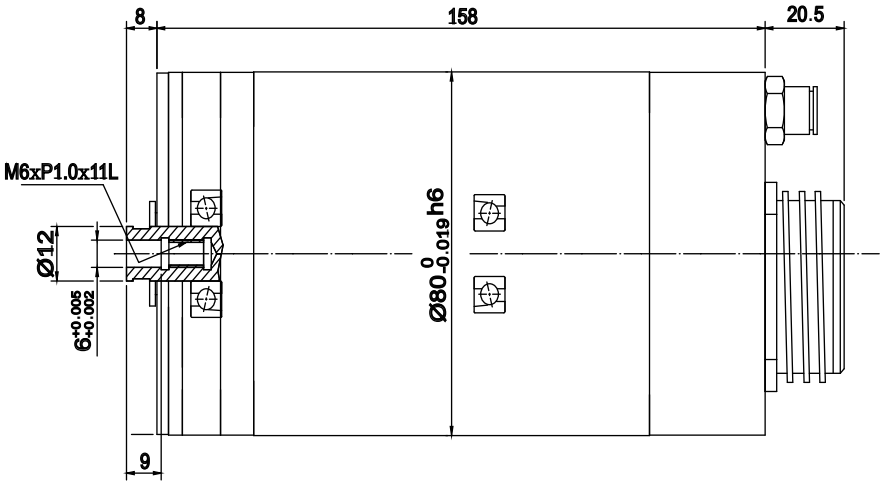




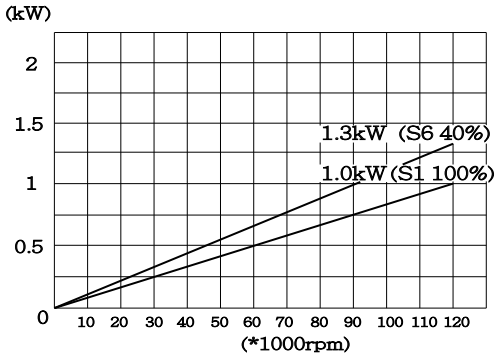
THG-80.01 THGZ-80.03 THG-100.01 THG-100.02 THG-120.02

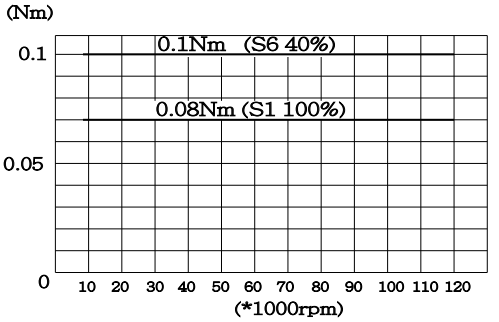
THG-80.02 THG-100.03 THG-100.04 THG-120.15

THG-80.01/THG-80.02 D6/12
High-speed grinding spindle
Application : Machining of small bores
Manual tool change / Asynchronous Motor

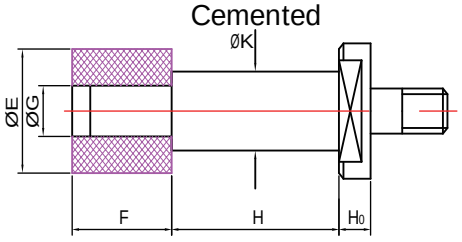


Type		THG-80.01 (400V)	THG-80.02 (230V)
Spindle Ø		80mm	
Maximum Speed (Oil-Air)		120,000rpm	
Bore diameter of front bearings		12mm	
Rigidity	Axial (N/µm)	10N/µm	
	Radial (N/µm)	20N/µm	
Frequency Max. (Hz)		2,000Hz	
at speed		117,500RPM	
S1 kW		1kW	
S1 Current (A)		3A	5A
S6-40% kW		1.3kW	
S6-40% Current (A)		4A	6.5A
kW (Peak Power)		2.65kW	
S1 Torque (Nm)		0.08Nm	
S6-40% Torque (Nm)		0.1Nm	
Tool Interface		D6/12	
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		4.5kg	
Integral Encoder For Closed-Loop Control		N/A	
Coolant Through Shaft (CTS)		N/A	
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.	
Flange Type		N/A	



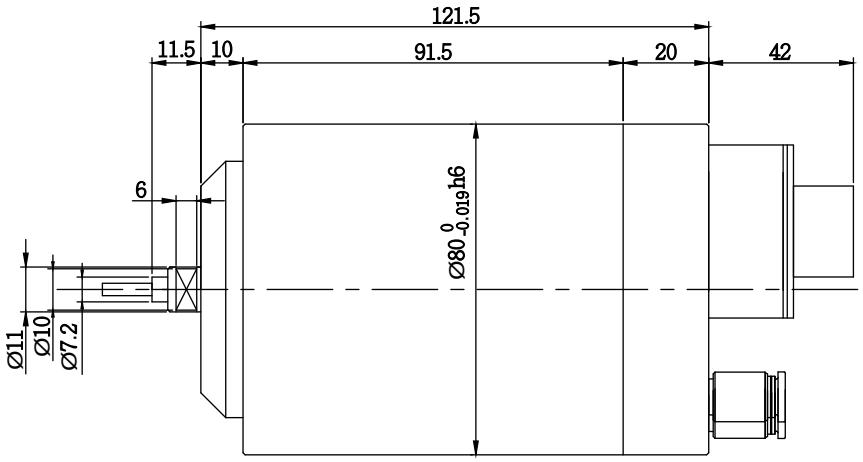


	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D6/12	4	15	6 X 8	2	Cemented	4

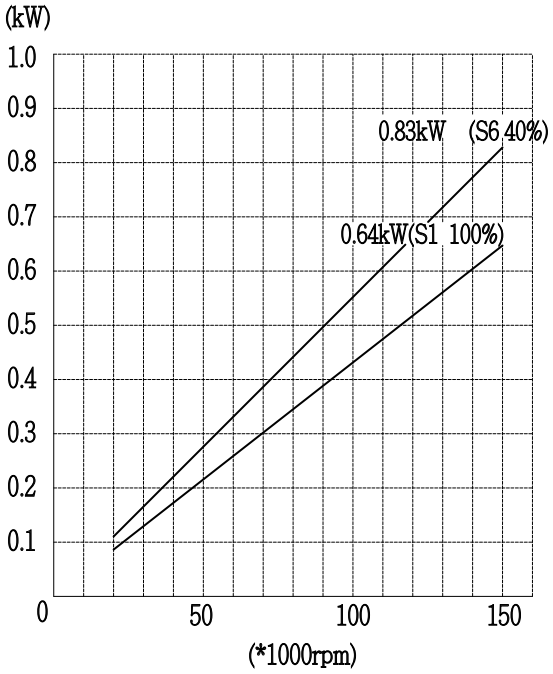


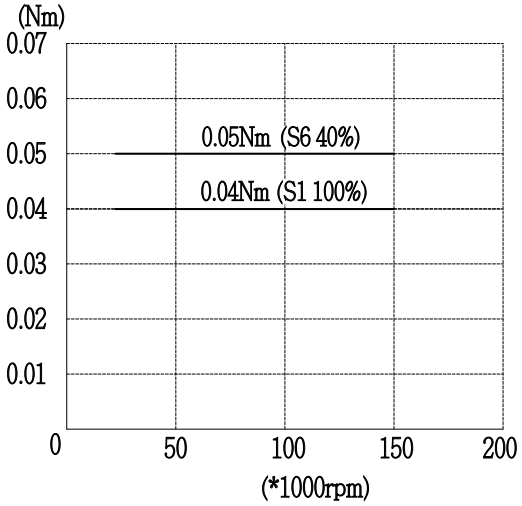
Maximum Speed					
Tool Interface D6/12	K	H			
Spindle Type		<16mm	20mm	25mm	N/A
THG-80.01/THG-80.02	5mm	120,000rpm	120,000rpm	N/A	N/A
	6mm	120,000rpm	110,000rpm	N/A	N/A
	8mm	110,000rpm	95,000rpm	85,000rpm	N/A

THGZ-80.03 Collet 3~3.175mm
High-speed grinding spindle
Application : Machining of small and very small bores
Manual tool change / Asynchronous Motor

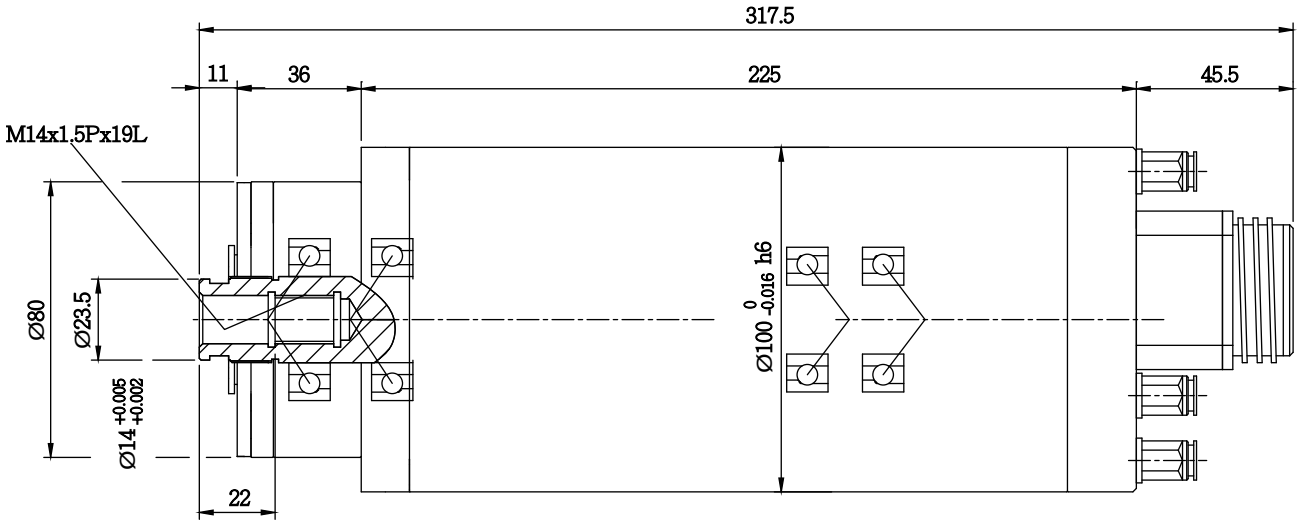


Type		THGZ-80.03 (230V)
Spindle Ø		80mm
Maximum Speed (Oil-Air)		150,000rpm
Bore diameter of front bearings		12mm
Rigidity	Axial (N/μm)	10N/μm
	Radial (N/μm)	20N/μm
Frequency Max. (Hz)		2,500Hz
at speed		147,000RPM
S1 kW		0.64kW
S1 Current (A)		4.3A
S6-40% kW		0.75kW
S6-40% Current (A)		5.6A
kW (Peak Power)		1.5kW
S1 Torque (Nm)		0.04Nm
S6-40% Torque (Nm)		0.05Nm
Tool Interface		Collet 3~3.175mm
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		4.1kg
Integral Encoder For Closed-Loop Control		N/A
Coolant Through Shaft (CTS)		N/A
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.
Flange Type		N/A

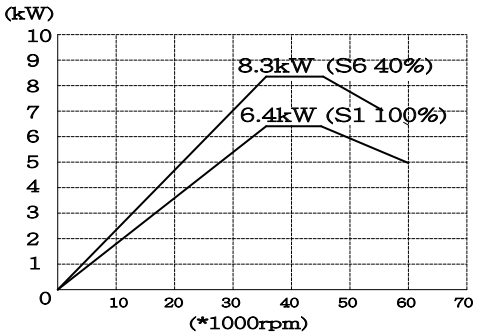


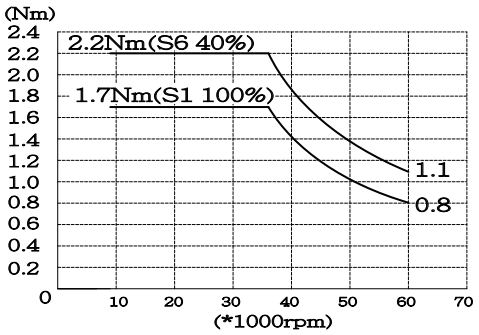


THG-100.01/THG-100.03 D14/23
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor



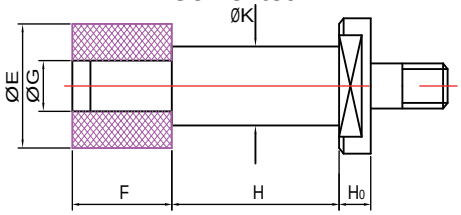
Type		THG-100.01 (380V)	THG-100.03 (230V)
Spindle Ø		100mm	
Maximum Speed (Oil-Air)		60,000rpm	
Bore diameter of front bearings		25mm	
Rigidity	Axial (N/µm)	55N/µm	
	Radial (N/µm)	55N/µm	
Frequency Max. (Hz)		2,000Hz	
at speed		35,500RPM	
S1 kW		6.4kW	
S1 Current (A)		18A	32A
S6-40% kW		8.3kW	
S6-40% Current (A)		23A	42A
kW (Peak Power)		15kW	
S1 Torque (Nm)		1.7Nm	
S6-40% Torque (Nm)		2.2Nm	
Tool Interface		D14/23	
Spindle Cooling unit		Cooling capacity:3,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		15kg	
Integral Encoder For Closed-Loop Control		N/A	
Coolant Through Shaft (CTS)		Option	
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.	
Flange Type		Option	



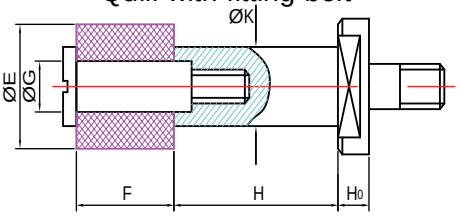


	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D14/23	6	20	10 X 10	4	Cemented	8
	10	25	16 X 16	6	Quill with fitting bolt /	8
	16	32	25 X 25	10	Grinding wheels on threaded pin	10

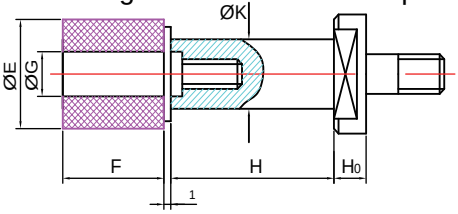
Cemented



Quill with fitting bolt

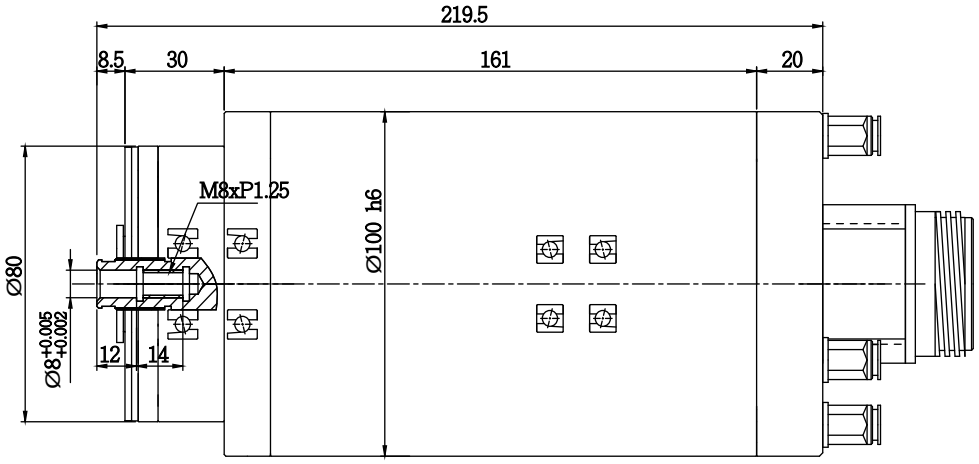


Grinding wheels on threaded pin

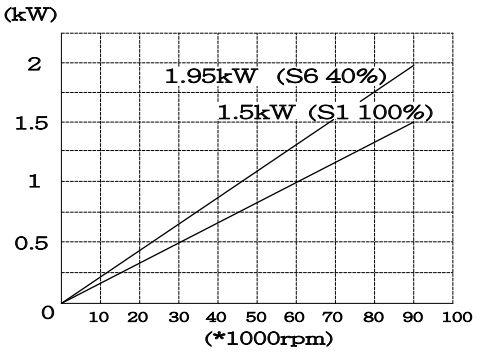


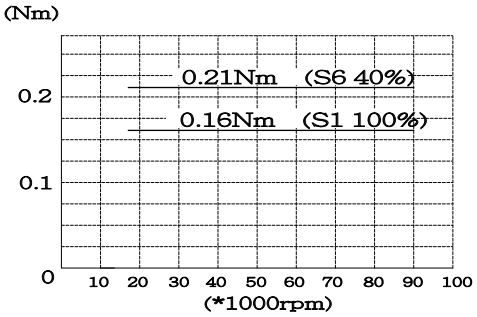
Maximum Speed					
Tool Interface D14/23	K	H			
Spindle Type		<32mm	40mm	50mm	63mm
THG-100.01/THG-100.03	8mm	60,000rpm	N/A	N/A	N/A
	10mm	60,000rpm	60,000rpm	N/A	N/A
	13mm	60,000rpm	57,500rpm	52,000rpm	N/A
	16mm	56,000rpm	52,000rpm	46,500rpm	39,500rpm

THG-100.02/THG-100.04 D8/14
High-speed grinding spindle
Application : Machining of small bores
Manual tool change / Asynchronous Motor



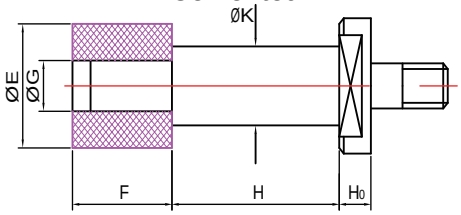
Type		THG-100.02 (230V)	THG-100.04 (380V)
Spindle Ø		100mm	
Maximum Speed (Oil-Air)		90,000rpm	
Bore diameter of front bearings		15mm	
Rigidity	Axial (N/µm)	20N/µm	
	Radial (N/µm)	30N/µm	
Frequency Max. (Hz)		1,500Hz	
at speed		87,600RPM	
S1 kW		1.5kW	
S1 Current (A)		6.8A	4.0A
S6-40% kW		1.95kW	
S6-40% Current (A)		8.8A	5.2A
kW (Peak Power)		4.1kW	
S1 Torque (Nm)		0.16Nm	
S6-40% Torque (Nm)		0.21Nm	
Tool Interface		D8/14	
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		12kg	
Integral Encoder For Closed-Loop Control		N/A	
Coolant Through Shaft (CTS)		Option	
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.	
Flange Type		N/A	



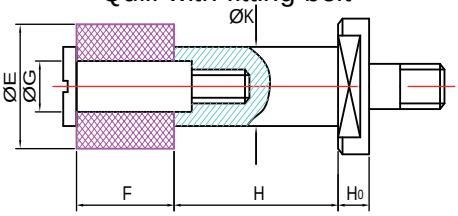


	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D8/14	5	20	8 X 10	3	Cemented	6
	6	25	10 X 10	3	Quill with fitting bolt /	6
	8	32	13 X 13	4	Grinding wheels on threaded pin	6

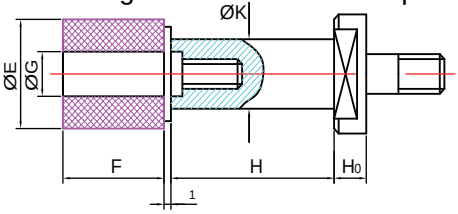
Cemented



Quill with fitting bolt

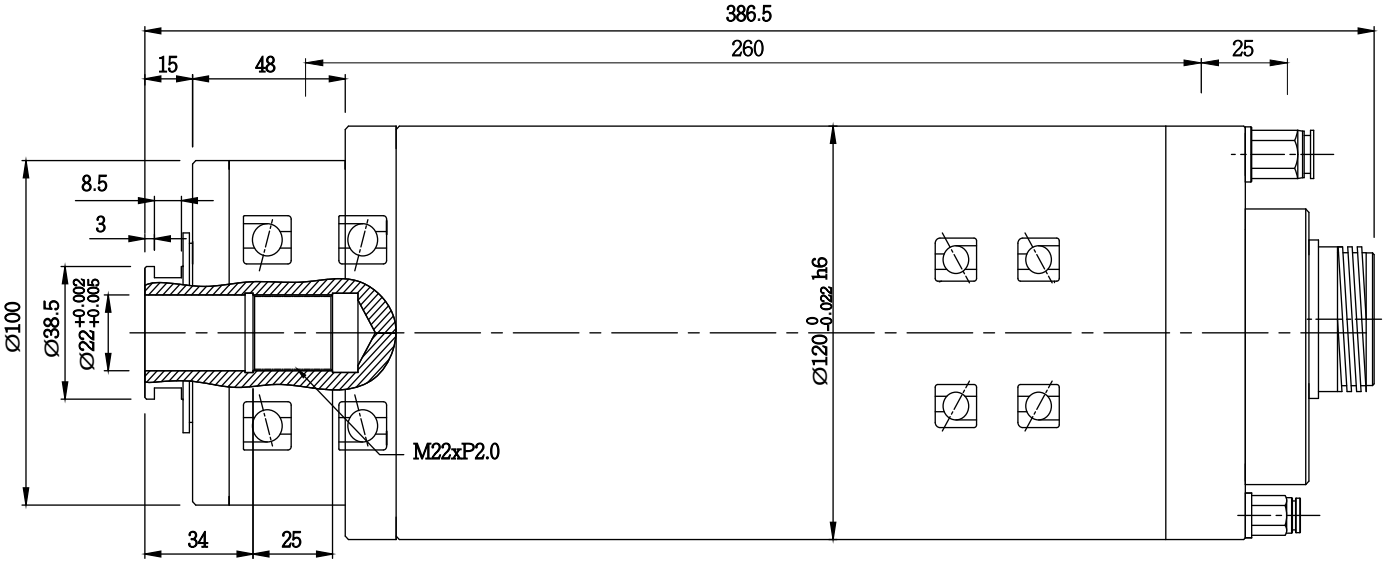


Grinding wheels on threaded pin

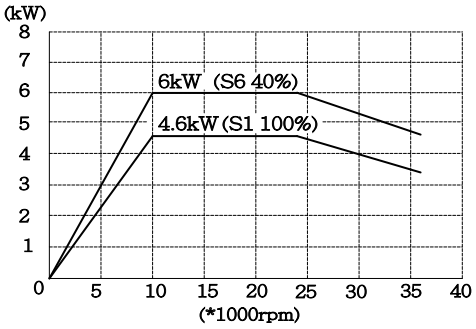


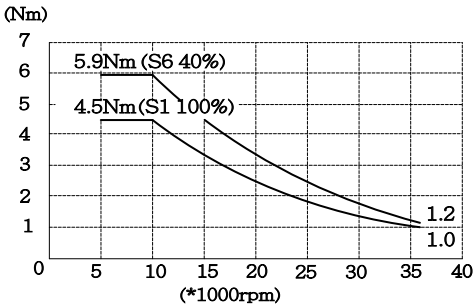
Maximum Speed					
Tool Interface D8/14	K	H			
Spindle Type		<20mm	25mm	32mm	N/A
THG-100.02/THG-100.04	5mm	90,000rpm	90,000rpm	N/A	N/A
	6mm	90,000rpm	90,000rpm	N/A	N/A
	8mm	89,000rpm	84,000rpm	73,000rpm	N/A

THG-120.02/THG-120.15 D22/38
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor



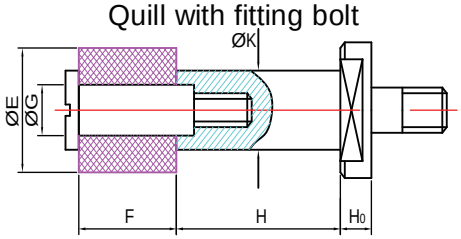
Type		THG-120.02 (400V)	THG-120.15 (230V)
Spindle Ø		120mm	
Maximum Speed (Oil-Air)		36,000rpm	
Bore diameter of front bearings		40mm	
Rigidity	Axial (N/µm)	90N/µm	
	Radial (N/µm)	120N/µm	
Frequency Max. (Hz)		1,200Hz	
at speed		9,700RPM	
S1 kW		4.6kW	
S1 Current (A)		14A	24A
S6-40% kW		6kW	
S6-40% Current (A)		18A	31A
kW (Peak Power)		14kW	
S1 Torque (Nm)		4.5Nm	
S6-40% Torque (Nm)		5.9Nm	
Tool Interface		D22/38 HSK-C32	
Spindle Cooling unit		Cooling capacity:2,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		25kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.	
Flange Type		Option	



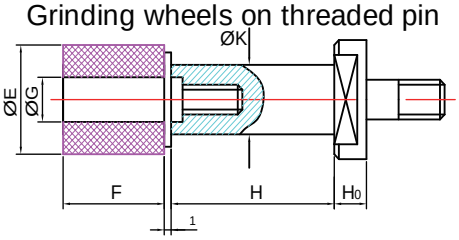


	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D22/38	13	32	20 X 20	8	Quill with fitting bolt / Grinding wheels on threaded pin	12
	20	40	32 X 25	13		12
	25	50	40 X 32	16	Grinding quill with nut	12

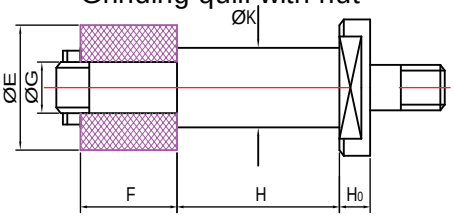
Quill with fitting bolt



Grinding wheels on threaded pin



Grinding quill with nut



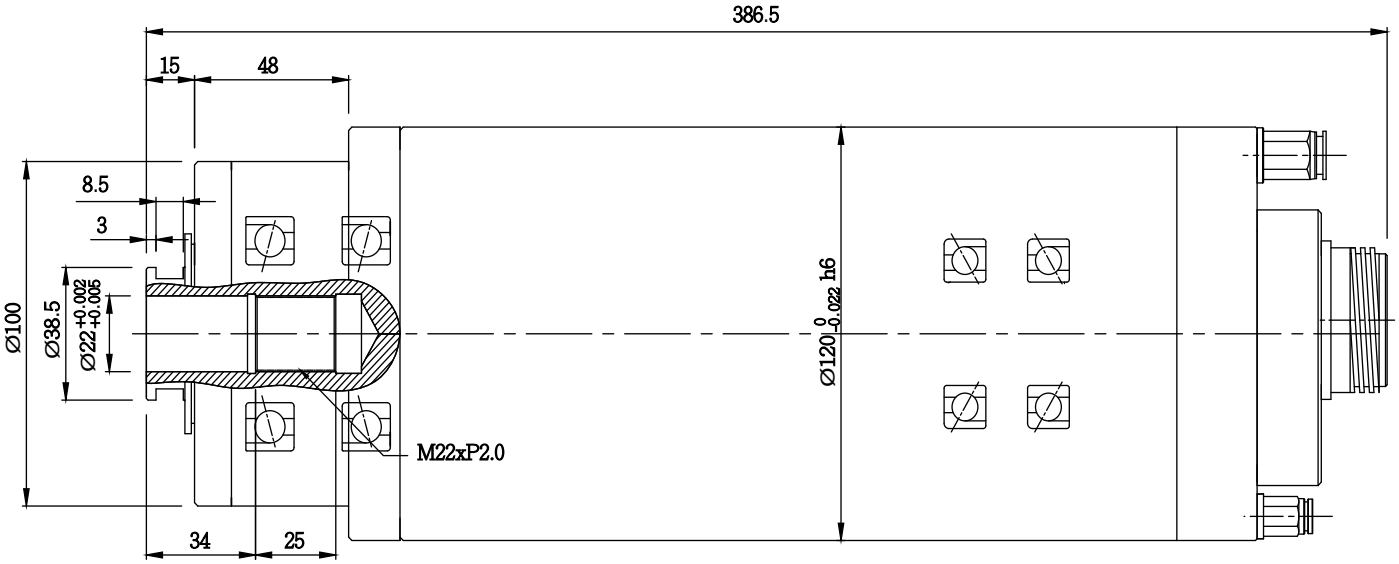
Maximum Speed					
Tool Interface D22/38	K	H			
Spindle Type		<50mm	63mm	80mm	N/A
THG-120.02/THG-120.15	13mm	36,000rpm	N/A	N/A	N/A
	16mm	36,000rpm	36,000rpm	N/A	N/A
	20mm	36,000rpm	36,000rpm	N/A	N/A
	25mm	36,000rpm	36,000rpm	36,000rpm	N/A

Ø120mm
High-speed grinding spindles
Manual tool change

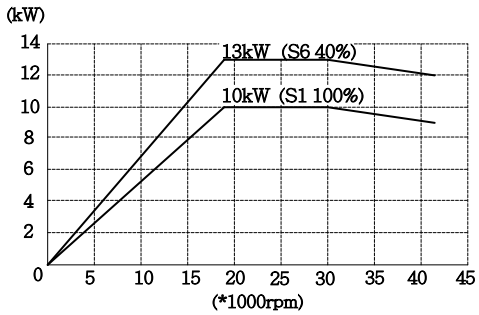
Type		THG-120.01(400V) THG-120.08(230V)	THG-120.14 (400V)	THG-120.17(400V) THG-120.18(230V)	THG-120.20(380V) THG-120.22(220V)	THG-120.21 (400V)
Spindle Ø		120mm	120mm	120mm	120mm	120mm
Maximum Speed (Oil-air lubrication)		42,000rpm	42,000rpm	36,000rpm	51,000rpm	45,000rpm
Bore diameter of front bearings		40mm	40mm	45mm	30mm	45mm
Rigidity	Axial (N/μm)	90N/μm	90N/μm	100N/μm	70N/μm	100N/μm
	Radial (N/μm)	120N/μm	120N/μm	130N/μm	100N/μm	130N/μm
Frequency Max. (Hz)		1,400Hz	1,400Hz	1,200Hz	1,700Hz	1,500Hz
at speed		17,600RPM	35,700RPM	17,600RPM	29,700RPM	35,700RPM
S1 kW		10kW	13kW	10kW	10kW	13kW
S6-40% kW		13kW	16.9kW	13kW	12.5kW	16.9kW
kW (Peak Power)		25kW	30.6kW	25kW	25kW	30.6kW
S1 Torque (Nm)		5.4Nm	3.5Nm	5.4Nm	3.2Nm	3.5Nm
S6-40% Torque (Nm)		7.1Nm	4.5Nm	7.1Nm	4.0Nm	4.5Nm
Tool Interface		D22/38 HSK-C32	D22/38 HSK-C32	D28/43 HSK-C40	D16/28	D28/43 HSK-C40
Spindle Cooling		Water cooling /Oil cooling				
Spindle Weight		25kg	25kg	25kg	25kg	25kg
Integral Encoder For Closed-Loop Control		Option	Option	Option	Option	Option
Coolant Through Shaft (CTS)		Option	Option	Option	Option	Option
Grease Lubrication.		Also available with grease lubrication. . This lubrication leads to speed reduction.				
Flange Type		Option	Option	Option	Option	Option

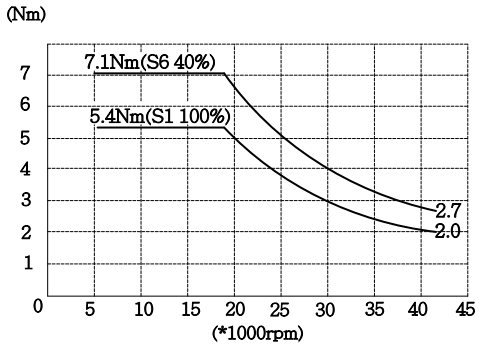
THG-120

THG-120.01/THG-120.08 D22/38
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor



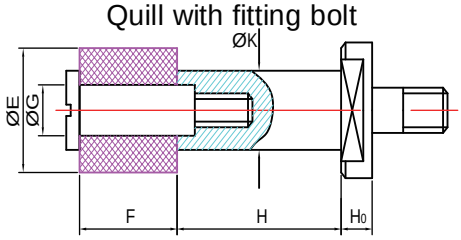
Type		THG-120.01 (400V)	THG-120.08 (230V)
Spindle Ø		120mm	
Maximum Speed (Oil-Air)		42,000rpm	
Bore diameter of front bearings		40mm	
Rigidity	Axial (N/µm)	90N/µm	
	Radial (N/µm)	120N/µm	
Frequency Max. (Hz)		1,400Hz	
at speed		17,600RPM	
S1 kW		10kW	
S1 Current (A)		30A	52A
S6-40% kW		13kW	
S6-40% Current (A)		39A	68A
kW (Peak Power)		25kW	
S1 Torque (Nm)		5.4Nm	
S6-40% Torque (Nm)		7.1Nm	
Tool Interface		D22/38 HSK-C32	
Spindle Cooling unit		Cooling capacity:3,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		25kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.	
Flange Type		Option	



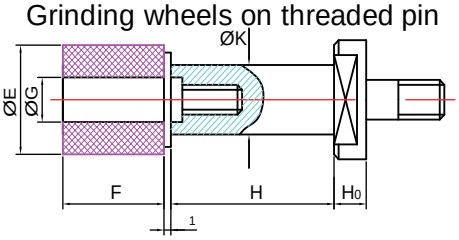


	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D22/38	13	32	20 X 20	8	Quill with fitting bolt / Grinding wheels on threaded pin	12
	20	40	32 X 25	13		12
	25	50	40 X 32	16	Grinding quill with nut	12

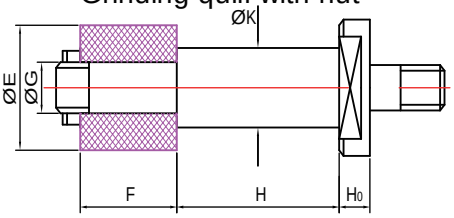
Quill with fitting bolt



Grinding wheels on threaded pin

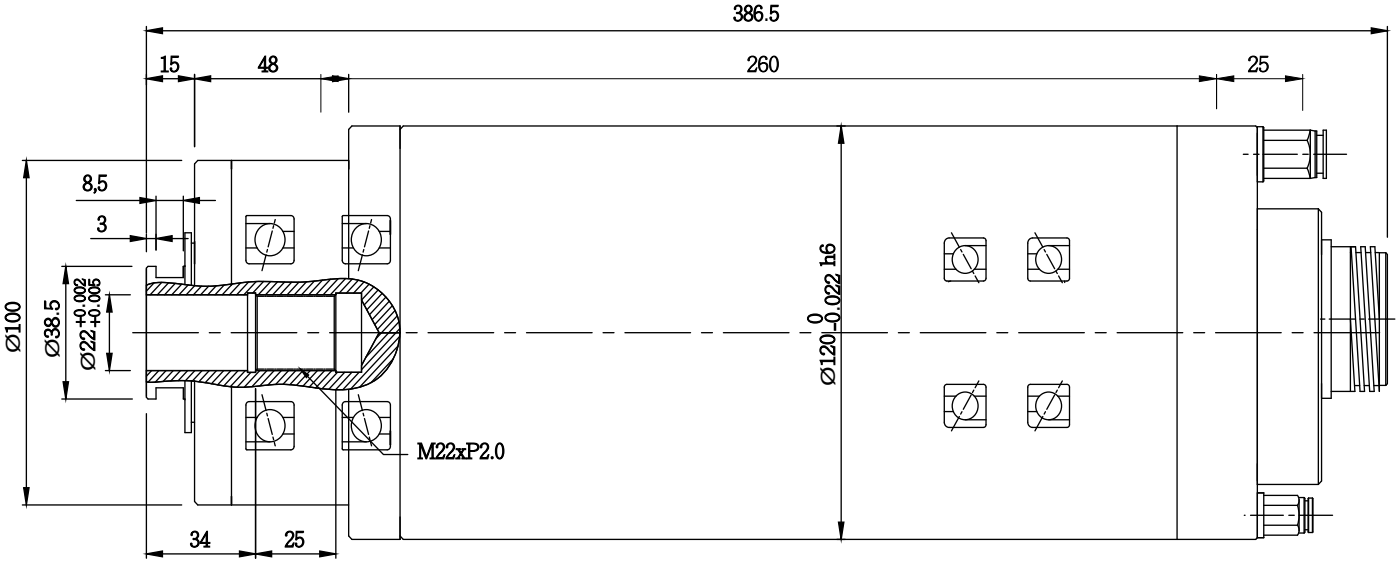


Grinding quill with nut

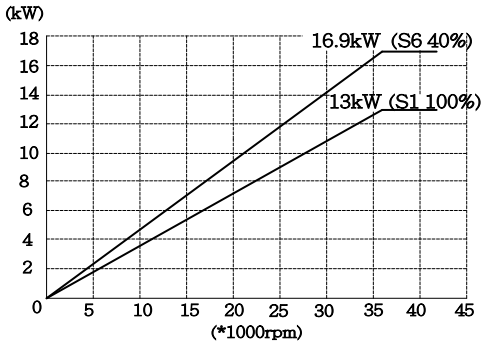


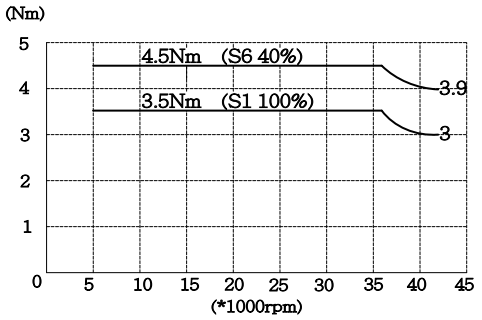
Maximum Speed					
Tool Interface D22/38	K	H			
Spindle Type		<50mm	63mm	80mm	N/A
THG-120.01/THG-120.08	13mm	42,000rpm	N/A	N/A	N/A
	16mm	42,000rpm	42,000rpm	N/A	N/A
THG-120.14	20mm	42,000rpm	42,000rpm	N/A	N/A
	25mm	42,000rpm	42,000rpm	36,000rpm	N/A

THG-120.14 D22/38
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor



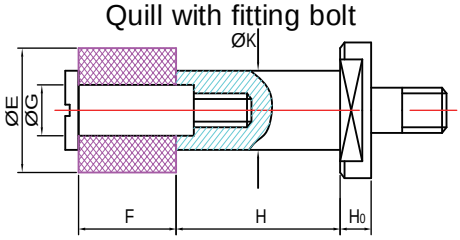
Type		THG-120.14 (400V)
Spindle Ø		120mm
Maximum Speed (Oil-Air)		42,000rpm
Bore diameter of front bearings		40mm
Rigidity	Axial (N/µm)	90N/µm
	Radial (N/µm)	120N/µm
Frequency Max. (Hz)		1,400Hz
at speed		35,700RPM
S1 kW		13kW
S1 Current (A)		28A
S6-40% kW		16.9kW
S6-40% Current (A)		36.4A
kW (Peak Power)		30.6kW
S1 Torque (Nm)		3.5Nm
S6-40% Torque (Nm)		4.5Nm
Tool Interface		D22/38 HSK-C32
Spindle Cooling unit		Cooling capacity:3,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		25kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.
Flange Type		Option



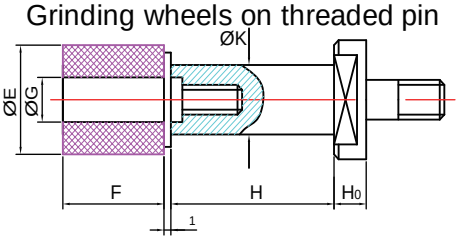


	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D22/38	13	32	20 X 20	8	Quill with fitting bolt / Grinding wheels on threaded pin	12
	20	40	32 X 25	13		12
	25	50	40 X 32	16	Grinding quill with nut	12

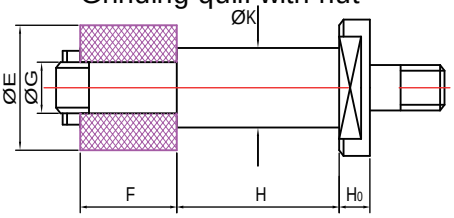
Quill with fitting bolt



Grinding wheels on threaded pin

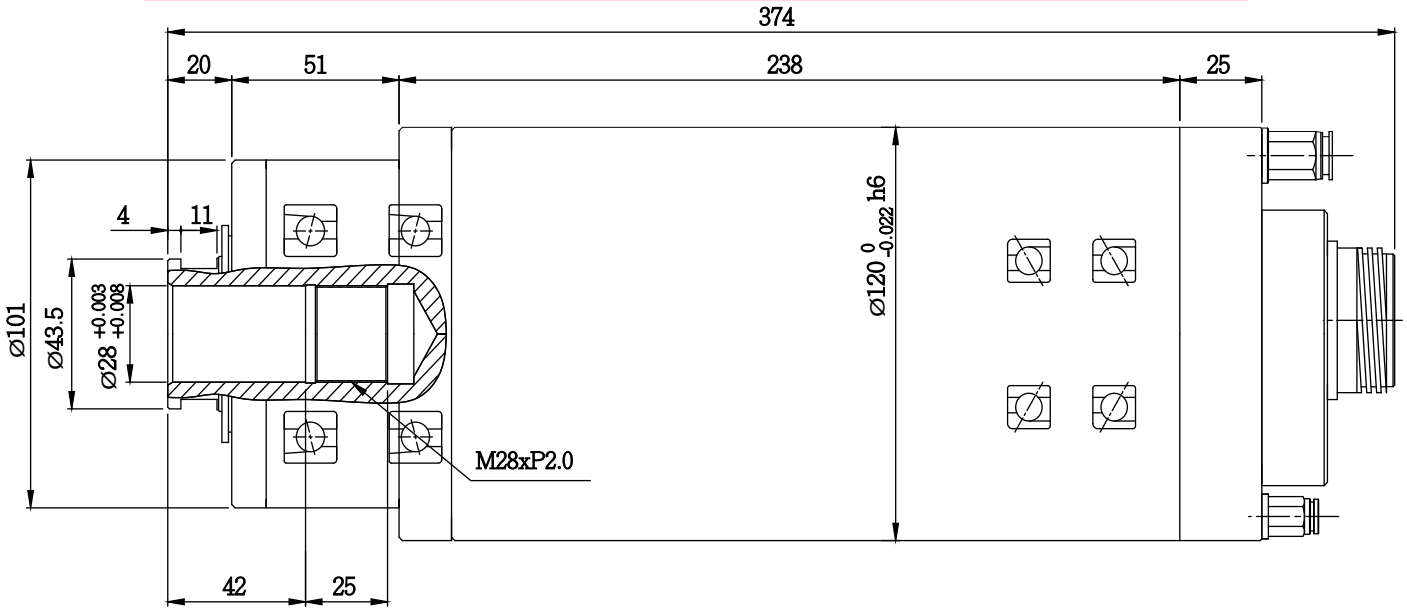


Grinding quill with nut

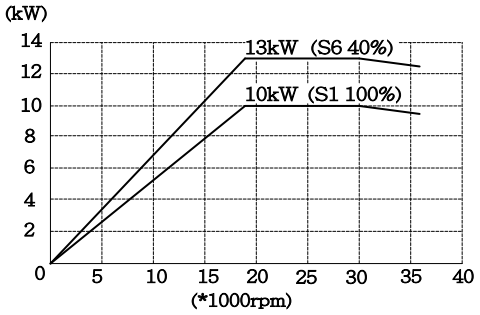


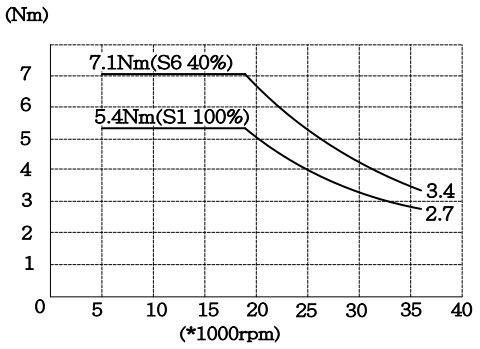
Maximum Speed					
Tool Interface D22/38	K	H			
Spindle Type		<50mm	63mm	80mm	N/A
THG-120.01/THG-120.08	13mm	42,000rpm	N/A	N/A	N/A
	16mm	42,000rpm	42,000rpm	N/A	N/A
THG-120.14	20mm	42,000rpm	42,000rpm	N/A	N/A
	25mm	42,000rpm	42,000rpm	36,000rpm	N/A

THG-120.17/THG-120.18 D28/43
High-speed grinding spindle
Application : Universal grinding with high rigidity
Manual tool change / Asynchronous Motor



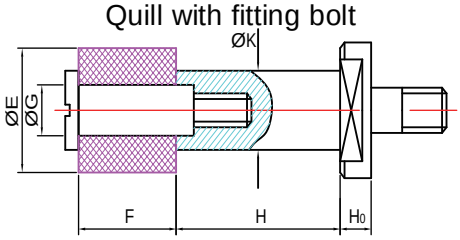
Type		THG-120.17 (400V)	THG-120.18 (230V)
Spindle Ø		120mm	
Maximum Speed (Oil-Air)		36,000rpm	
Bore diameter of front bearings		45mm	
Rigidity	Axial (N/µm)	100N/µm	
	Radial (N/µm)	130N/µm	
Frequency Max. (Hz)		1,200Hz	
at speed		17,600RPM	
S1 kW		10kW	
S1 Current (A)		30A	52A
S6-40% kW		13kW	
S6-40% Current (A)		39A	68A
kW (Peak Power)		25kW	
S1 Torque (Nm)		5.4Nm	
S6-40% Torque (Nm)		7.1Nm	
Tool Interface		D28/43 HSK-C40	
Spindle Cooling unit		Cooling capacity:3,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		25kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.	
Flange Type		Option	



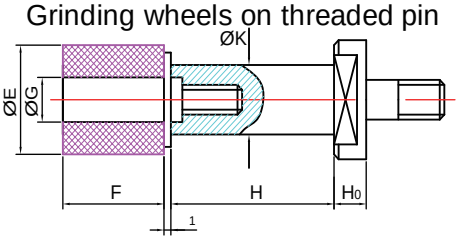


	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D28/43	16	40	25 X 25	10	Quill with fitting bolt / Grinding wheels on threaded pin	12
	20	50	32 X 25	13		12
	32	63	50 X 40	20	Grinding quill with nut	12

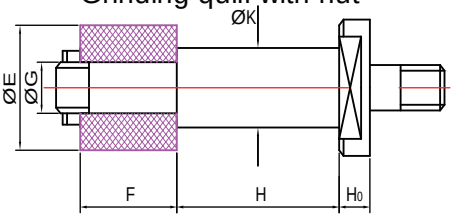
Quill with fitting bolt



Grinding wheels on threaded pin

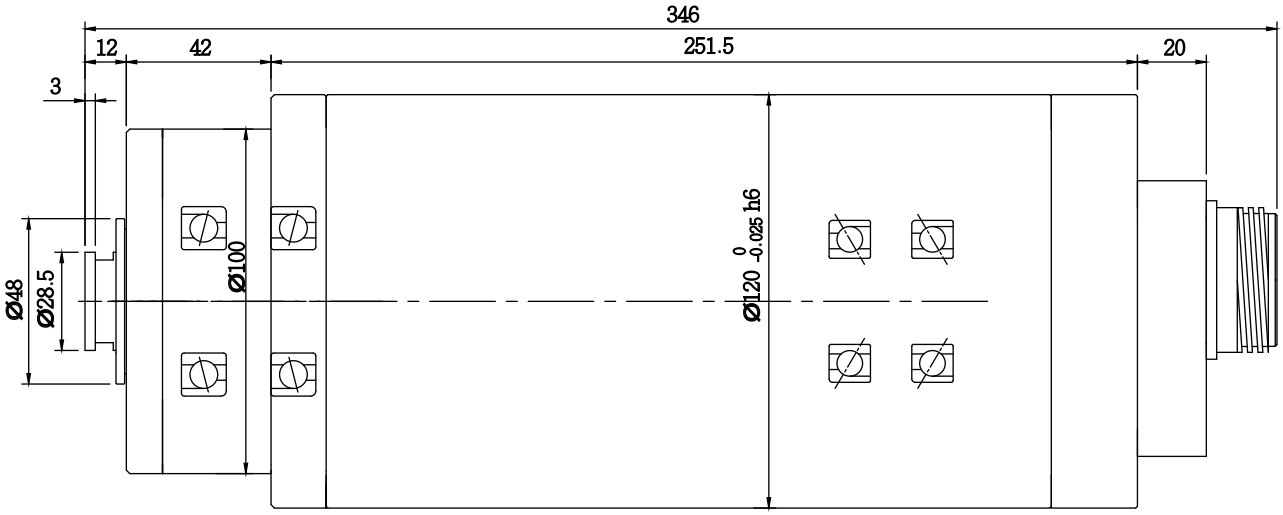


Grinding quill with nut

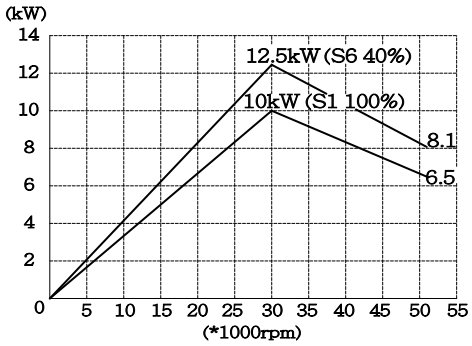


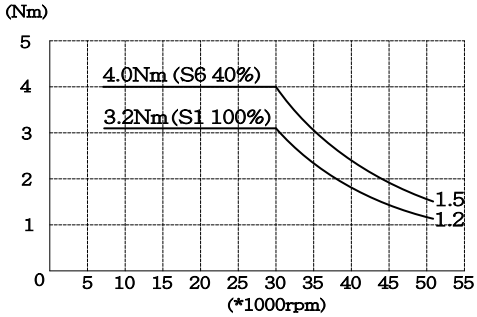
Maximum Speed					
Tool Interface D28/43	K	H			
Spindle Type		<63mm	80mm	100mm	N/A
THG-120.17/THG-120.18	16mm	36,000rpm	N/A	N/A	N/A
	20mm	36,000rpm	N/A	N/A	N/A
	25mm	36,000rpm	36,000rpm	N/A	N/A
	32mm	36,000rpm	29,000rpm	25,000rpm	N/A

THG-120.20/THG-120.22 D16/28
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor



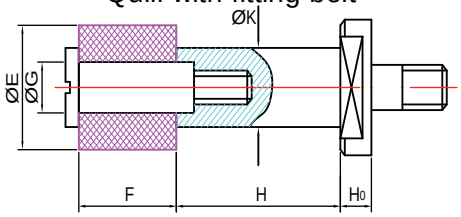
Type		THG-120.20 (380V)	THG-120.22 (220V)
Spindle Ø		120mm	
Maximum Speed (Oil-Air)		51,000rpm	
Bore diameter of front bearings		30mm	
Rigidity	Axial (N/μm)	70N/μm	
	Radial (N/μm)	100N/μm	
Frequency Max. (Hz)		1,700Hz	
at speed		29,700RPM	
S1 kW		10kW	
S1 Current (A)		23A	41A
S6-40% kW		12.5kW	
S6-40% Current (A)		29A	52A
kW (Peak Power)		25kW	
S1 Torque (Nm)		5.4Nm	
S6-40% Torque (Nm)		7.1Nm	
Tool Interface		D16/28	
Spindle Cooling unit		Cooling capacity:3,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		25kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.	
Flange Type		Option	



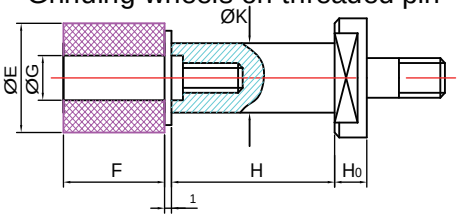


	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D16/28	10	25	16 X 16	6	Quill with fitting bolt / Grinding wheels on threaded pin	10
	13	32	20 X 20	8		10
	16	40	25 X 25	10		10

Quill with fitting bolt

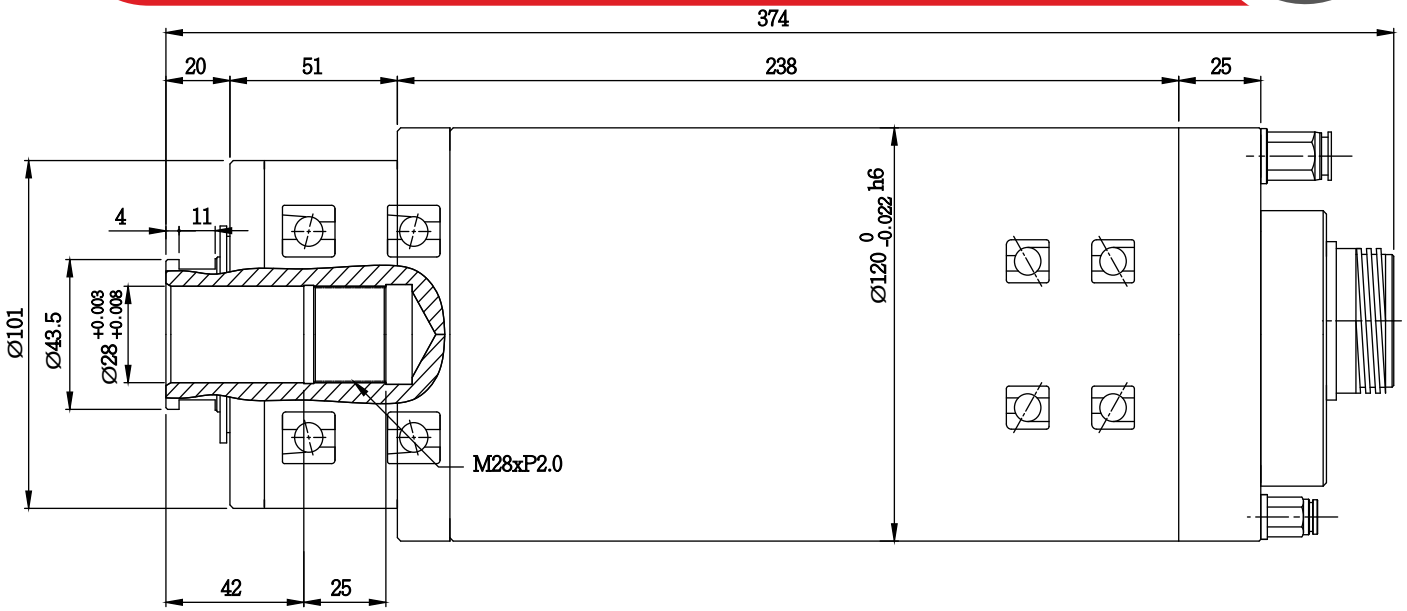


Grinding wheels on threaded pin

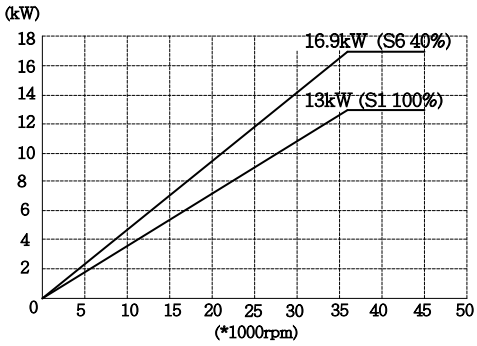


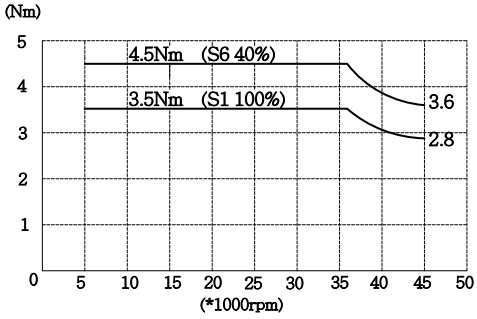
Maximum Speed					
Tool Interface D16/28	K	H			
Spindle Type		<40mm	50mm	63mm	N/A
THG-120.20/THG-120.22	10mm	51,000rpm	N/A	N/A	N/A
	13mm	51,000rpm	51,000rpm	N/A	N/A
	16mm	51,000rpm	50,000rpm	45,000rpm	N/A
	20mm	50,500rpm	48,500rpm	43,000rpm	N/A

THG-120.21 D28/43
High-speed grinding spindle
Application : Universal grinding with high rigidity
Manual tool change / Asynchronous Motor



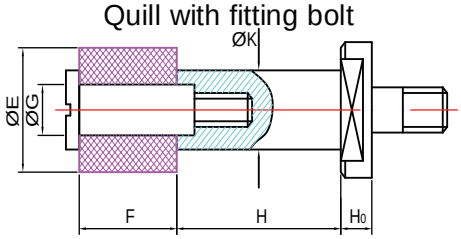
Type		THG-120.21 (400V)
Spindle Ø		120mm
Maximum Speed (Oil-Air)		45,000rpm
Bore diameter of front bearings		45mm
Rigidity	Axial (N/μm)	100N/μm
	Radial (N/μm)	130N/μm
Frequency Max. (Hz)		1,500Hz
at speed		35,700RPM
S1 kW		13kW
S1 Current (A)		28A
S6-40% kW		16.9kW
S6-40% Current (A)		36.4A
kW (Peak Power)		30.6kW
S1 Torque (Nm)		3.5Nm
S6-40% Torque (Nm)		4.5Nm
Tool Interface		D28/43 HSK-C40
Spindle Cooling unit		Cooling capacity:3,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		25kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.
Flange Type		Option



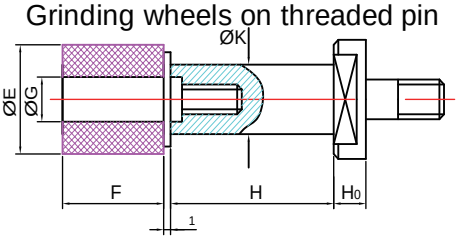


	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D28/43	16	40	25 X 25	10	Quill with fitting bolt / Grinding wheels on threaded pin	12
	20	50	32 X 25	13		12
	32	63	50 X 40	20	Grinding quill with nut	12

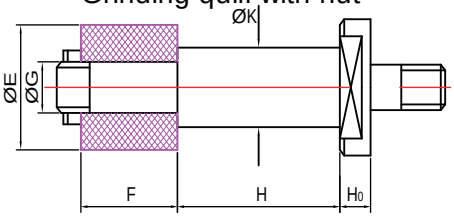
Quill with fitting bolt



Grinding wheels on threaded pin



Grinding quill with nut



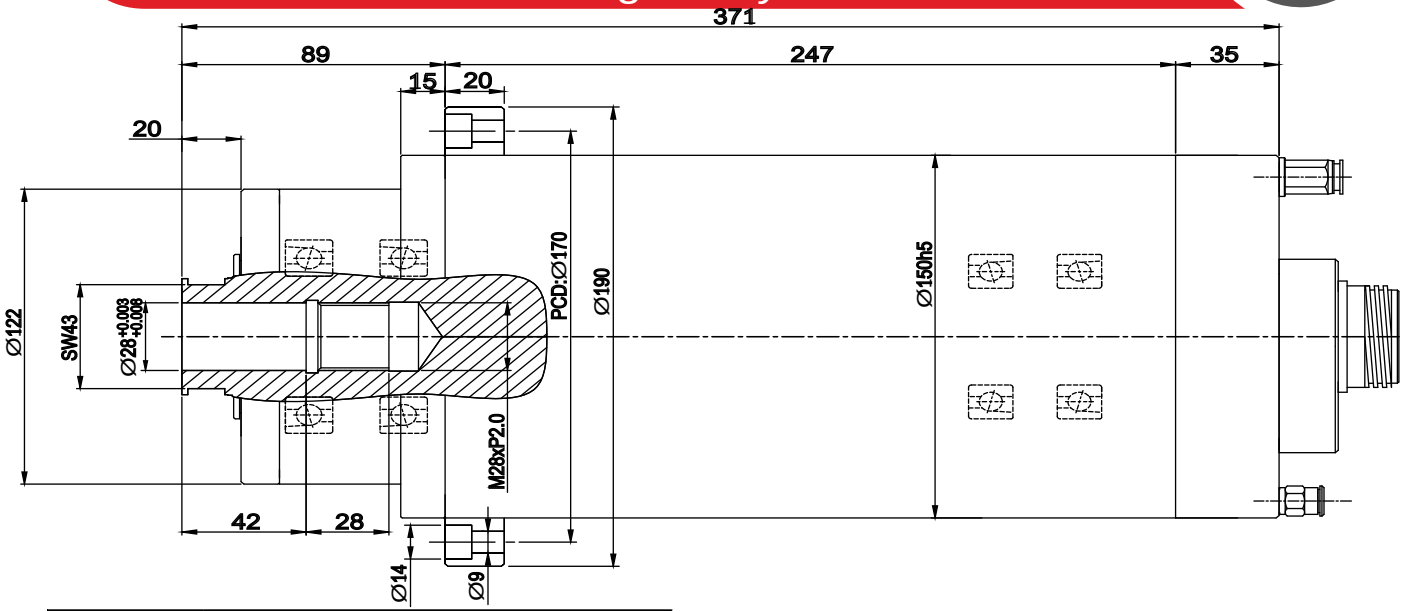
Maximum Speed					
Tool Interface D28/43	K	H			
Spindle Type		<63mm	80mm	100mm	N/A
THG-120.21	13mm	45,000rpm	N/A	N/A	N/A
	16mm	45,000rpm	N/A	N/A	N/A
	20mm	45,000rpm	N/A	N/A	N/A
	25mm	45,000rpm	42,000rpm	N/A	N/A

Ø150mm
High-speed grinding spindles
Manual tool change

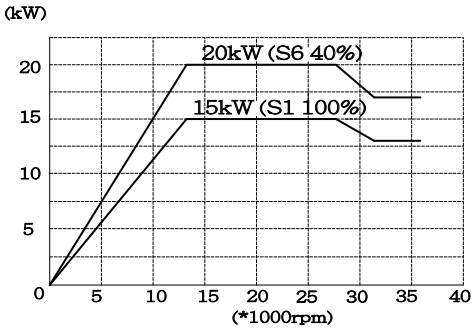
Type		THG-150.01(380V) THG-150.03(220V)		THG-150.02 (400V)	THG-150.06 (350V)	THG-150.07 (350V)
Spindle Ø		150mm	150mm	150mm	150mm	150mm
Maximum Speed (Oil-air lubrication)		36,000rpm	24,000rpm	42,000rpm	30,000rpm	30,000rpm
Bore diameter of front bearings		50mm	65mm	40mm	65mm	65mm
Rigidity	Axial (N/µm)	130N/µm	130N/µm	90N/µm	130N/µm	130N/µm
	Radial (N/µm)	150N/µm	200N/µm	120N/µm	200N/µm	200N/µm
Frequency Max. (Hz)		1,200Hz	800Hz	1,400Hz	1,000Hz	1,000Hz
at speed		13,500RPM	13,500RPM	17,600RPM	14,700RPM	20,700RPM
S1 kW		15kW	15kW	10kW	23kW	33kW
S6-40% kW		20kW	20kW	13kW	30kW	43kW
kW (Peak Power)		50kW	50kW	25kW	61.2kW	98.1kW
S1 Torque (Nm)		10.6Nm	10.6Nm	5.4Nm	15Nm	15.2Nm
S6-40% Torque (Nm)		14.1Nm	14.1Nm	7.1Nm	19.5Nm	19.8Nm
Tool Interface		D28/43 HSK-C40	D36/63 HSK-C50	D22/38 HSK-C32	D36/63 HSK-C50	D36/63 HSK-C50
Spindle Cooling		Water cooling /Oil cooling				
Spindle Weight		43kg	43kg	43kg	55kg	55kg
Integral Encoder For Closed-Loop Control		Option	Option	Option	Option	Option
Coolant Through Shaft (CTS)		Option	Option	Option	Option	Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.				
Flange Type		Standard	Standard	Standard	Option	Option

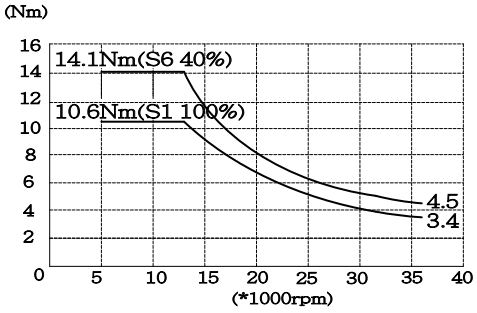
THG-150

THG-150.01/THG-150.03 D28/43
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor



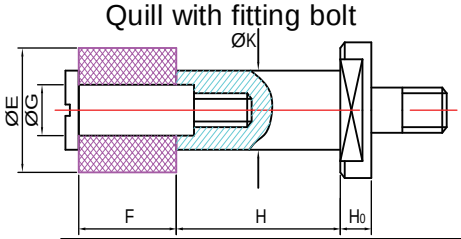
Type		THG-150.01 (380V)	THG-150.03 (220V)
Spindle Ø		150mm	
Maximum Speed (Oil-Air)		36,000rpm	
Bore diameter of front bearings		50mm	
Rigidity	Axial (N/μm)	130N/μm	
	Radial (N/μm)	150N/μm	
Frequency Max. (Hz)		1,200Hz	
at speed		13,500RPM	
S1 kW		15kW	
S1 Current (A)		41A	71A
S6-40% kW		20kW	
S6-40% Current (A)		53A	92A
kW (Peak Power)		50kW	
S1 Torque (Nm)		10.6Nm	
S6-40% Torque (Nm)		14.1Nm	
Tool Interface		D28/43 HSK-C40	
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		43kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.	
Flange Type		Standard	



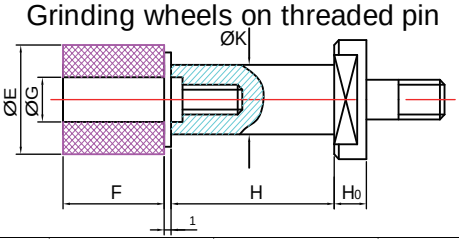


	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D28/43	16	40	25 X 25	10	Quill with fitting bolt / Grinding wheels on threaded pin	12
	20	50	32 X 25	13		12
	32	63	50 X 40	20	Grinding quill with nut	12

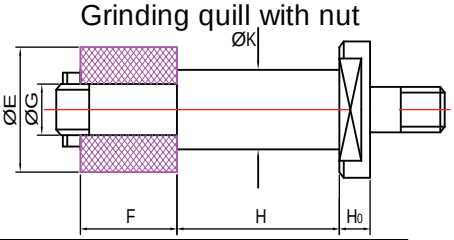
Quill with fitting bolt



Grinding wheels on threaded pin

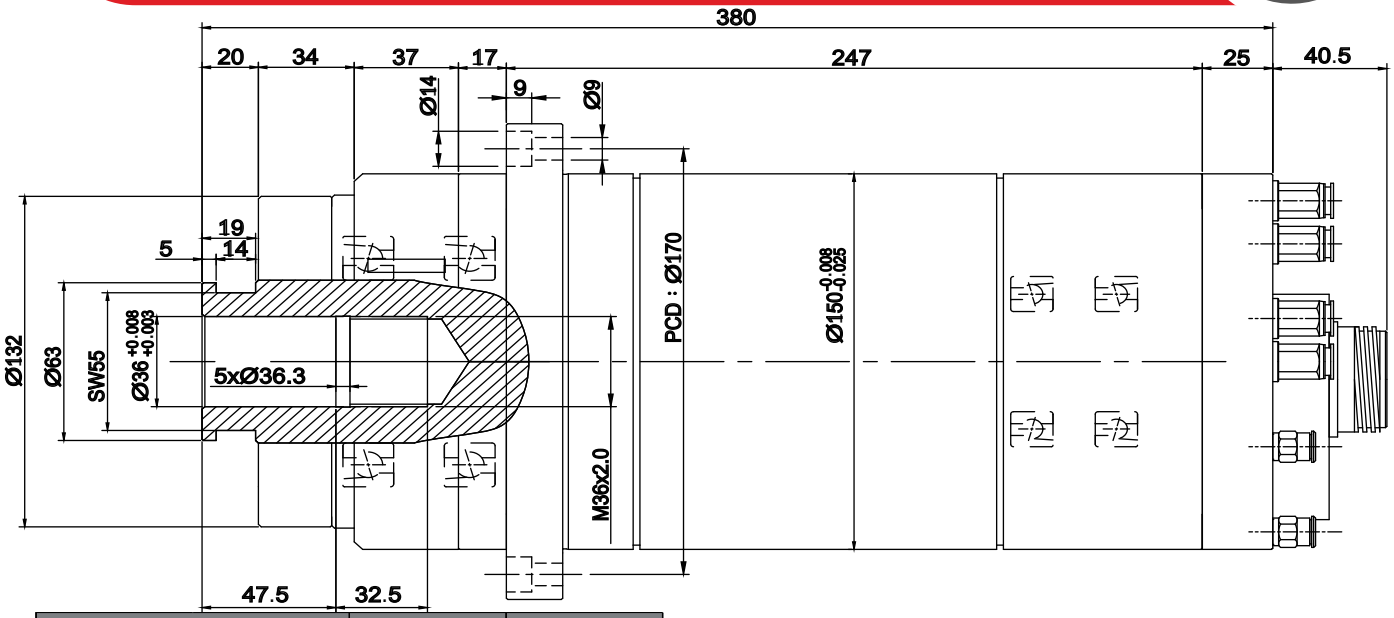


Grinding quill with nut

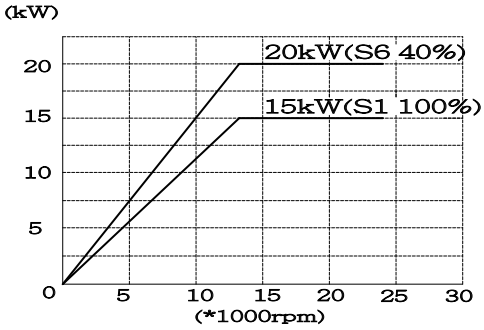


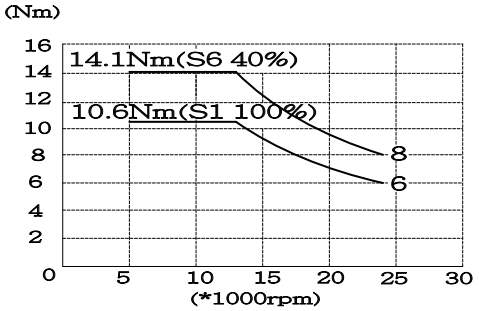
Maximum Speed					
Tool Interface D28/43	K	H			
Spindle Type		<63mm	80mm	100mm	125mm
THG-150.01/THG-150.03	16mm	36,000rpm	N/A	N/A	N/A
	20mm	36,000rpm	N/A	N/A	N/A
	25mm	36,000rpm	36,000rpm	N/A	N/A
	32mm	36,000rpm	30,000rpm	27,500rpm	N/A
	40mm	30,000rpm	28,000rpm	25,000rpm	21,500rpm

THG-150.01/THG-150.03 D36/63
High-speed grinding spindle
Application : Universal grinding with high rigidity
Manual tool change / Asynchronous Motor



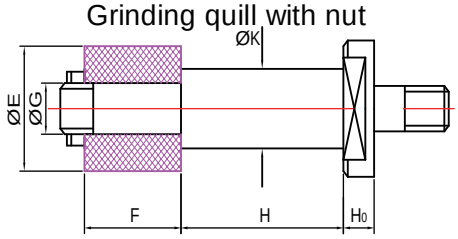
Type		THG-150.01 (380V)	THG-150.03 (220V)
Spindle Ø		150mm	
Maximum Speed (Oil-Air)		24,000rpm	
Bore diameter of front bearings		65mm	
Rigidity	Axial (N/μm)	130N/μm	
	Radial (N/μm)	200N/μm	
Frequency Max. (Hz)		800Hz	
at speed		13,500RPM	
S1 kW		15kW	
S1 Current (A)		41A	71A
S6-40% kW		20kW	
S6-40% Current (A)		53A	92A
kW (Peak Power)		50kW	
S1 Torque (Nm)		10.6Nm	
S6-40% Torque (Nm)		14.1Nm	
Tool Interface		D36/63 HSK-C50	
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		43kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.	
Flange Type		Standard	





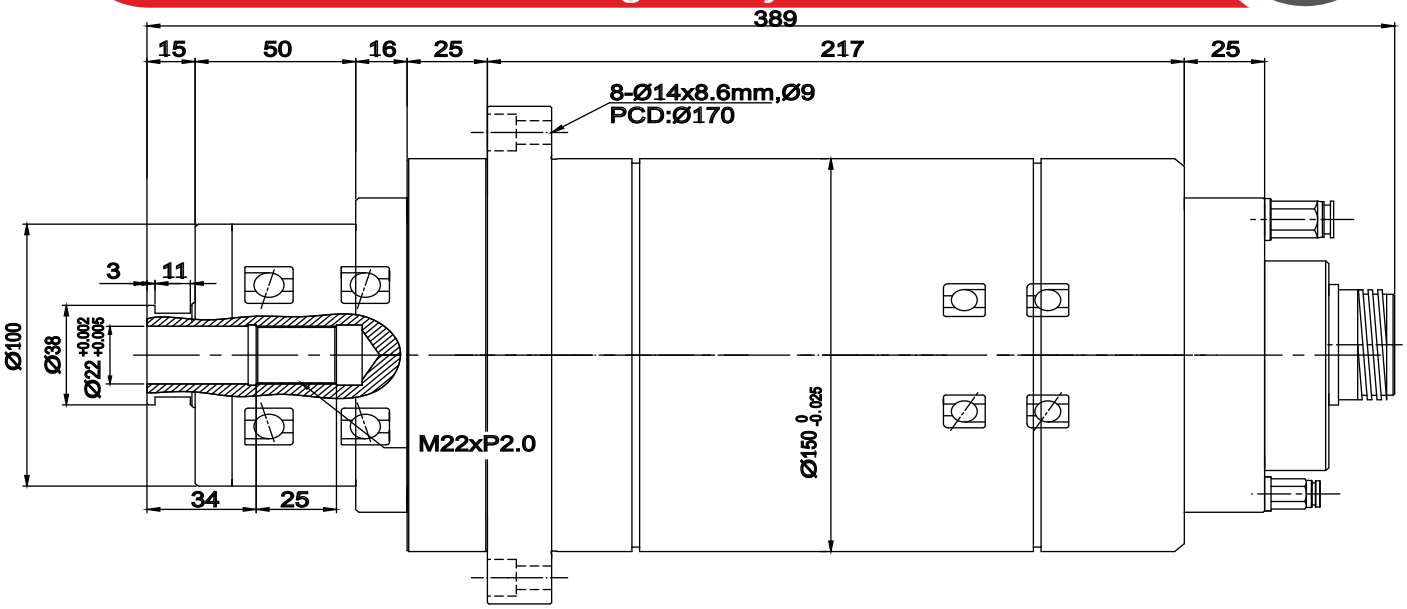
	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D36/63	25	50	40 X 32	16	Grinding quill with nut	15
	32	63	50 X 40	20		15
	50	100	80 X 40	32		15

Grinding quill with nut

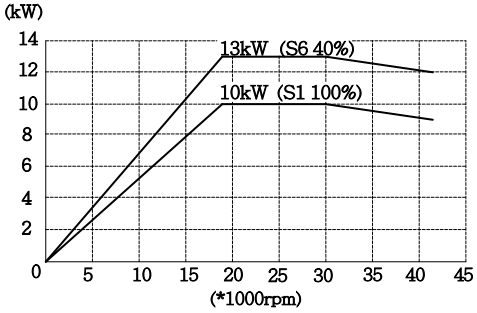


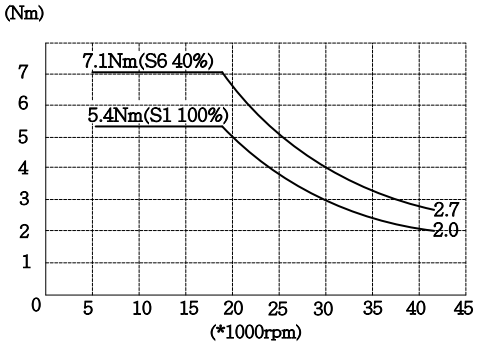
Maximum Speed					
Tool Interface D36/63	K	H			
Spindle Type		<80mm	100mm	125mm	160mm
THG-150.01/THG-150.03 *D36/63*	20mm	24,000rpm	N/A	N/A	N/A
	25mm	24,000rpm	N/A	N/A	N/A
	32mm	24,000rpm	24,000rpm	N/A	N/A
	40mm	24,000rpm	24,000rpm	21,500rpm	N/A
	50mm	24,000rpm	21,500rpm	18,500rpm	15,500rpm

THG-150.02 D22/38
High-speed grinding spindle
Application : Universal grinding with high rigidity
Manual tool change / Asynchronous Motor



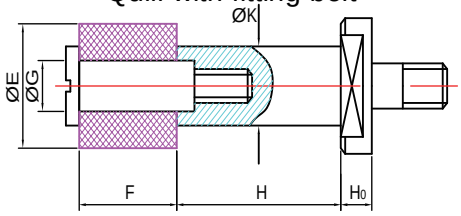
Type		THG-150.02 (400V)
Spindle Ø		120mm
Maximum Speed (Oil-Air)		42,000rpm
Bore diameter of front bearings		40mm
Rigidity	Axial (N/µm)	90N/µm
	Radial (N/µm)	120N/µm
Frequency Max. (Hz)		1,400Hz
at speed		17,600RPM
S1 kW		10kW
S1 Current (A)		30A
S6-40% kW		13kW
S6-40% Current (A)		39A
kW (Peak Power)		25kW
S1 Torque (Nm)		5.4Nm
S6-40% Torque (Nm)		7.1Nm
Tool Interface		D22/38 HSK-C32
Spindle Cooling unit		Cooling capacity:3,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		40kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.
Flange Type		Standard



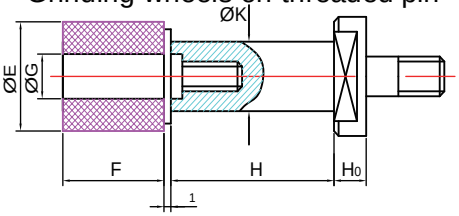


	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D22/38	13	32	20 X 20	8	Quill with fitting bolt / Grinding wheels on threaded pin	12
	20	40	32 X 25	13		12
	25	50	40 X 32	16	Grinding quill with nut	12

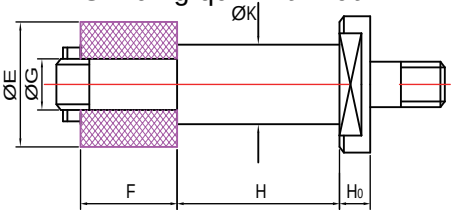
Quill with fitting bolt



Grinding wheels on threaded pin

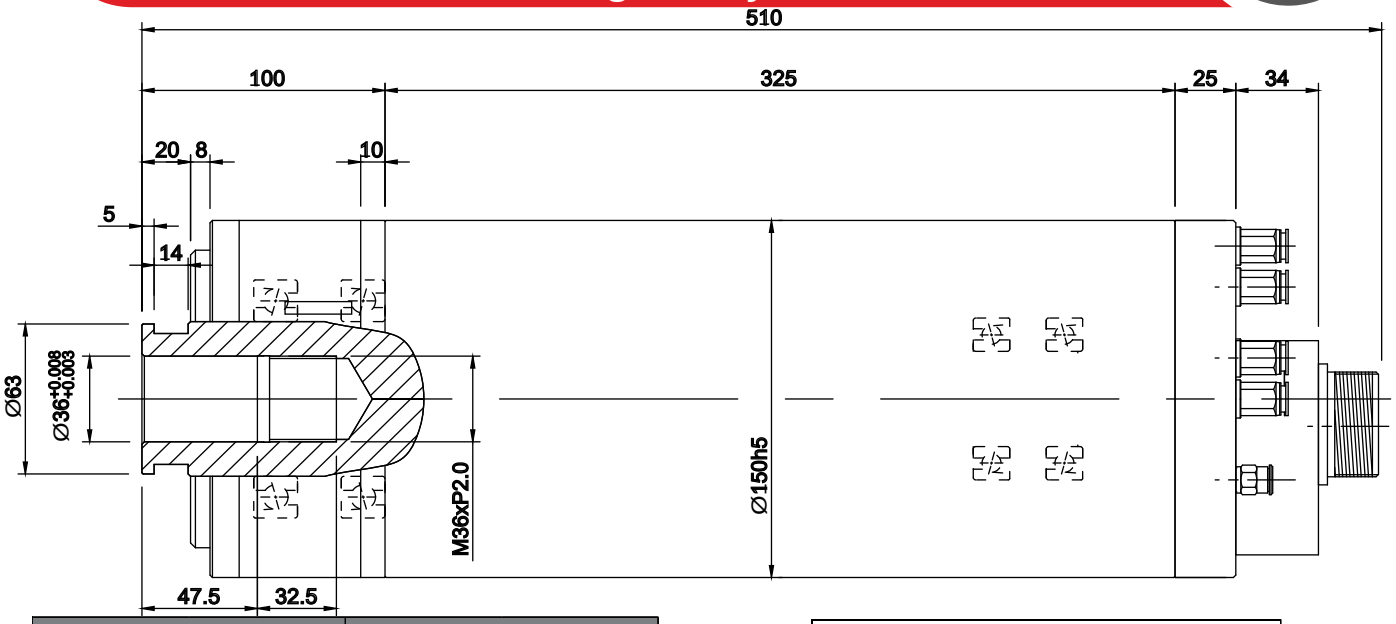


Grinding quill with nut

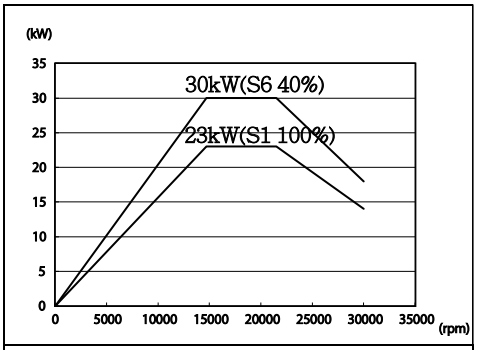


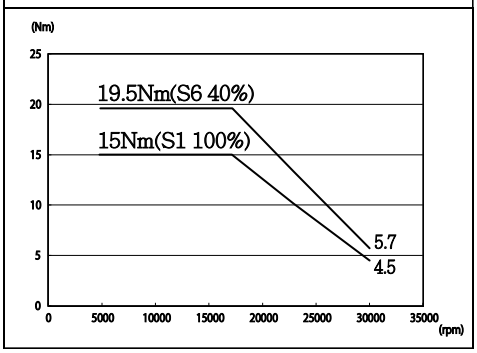
Maximum Speed					
Tool Interface D22/38	K	H			
Spindle Type		<50mm	63mm	80mm	N/A
THG-150.02	13mm	42,000rpm	N/A	N/A	N/A
	16mm	42,000rpm	42,000rpm	N/A	N/A
	20mm	42,000rpm	42,000rpm	N/A	N/A
	25mm	42,000rpm	42,000rpm	36,000rpm	N/A

THG-150.06 D36/63
High-speed grinding spindle
Application : Universal grinding with high rigidity
Manual tool change / Asynchronous Motor



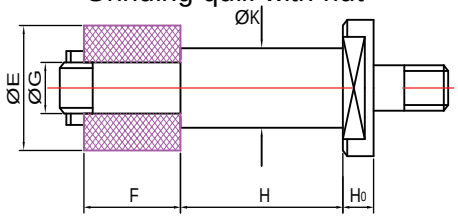
Type		THG-150.06 (350V)
Spindle Ø		150mm
Maximum Speed (Oil-Air)		30,000rpm
Bore diameter of front bearings		65mm
Rigidity	Axial (N/μm)	130N/μm
	Radial (N/μm)	200N/μm
Frequency Max. (Hz)		1,000Hz
at speed		14,700RPM
S1 kW		23kW
S1 Current (A)		51A
S6-40% kW		30kW
S6-40% Current (A)		66A
kW (Peak Power)		61.2kW
S1 Torque (Nm)		15Nm
S6-40% Torque (Nm)		19.5Nm
Tool Interface		D36/63 HSK-C50
Spindle Cooling unit		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		55kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.
Flange Type		Option





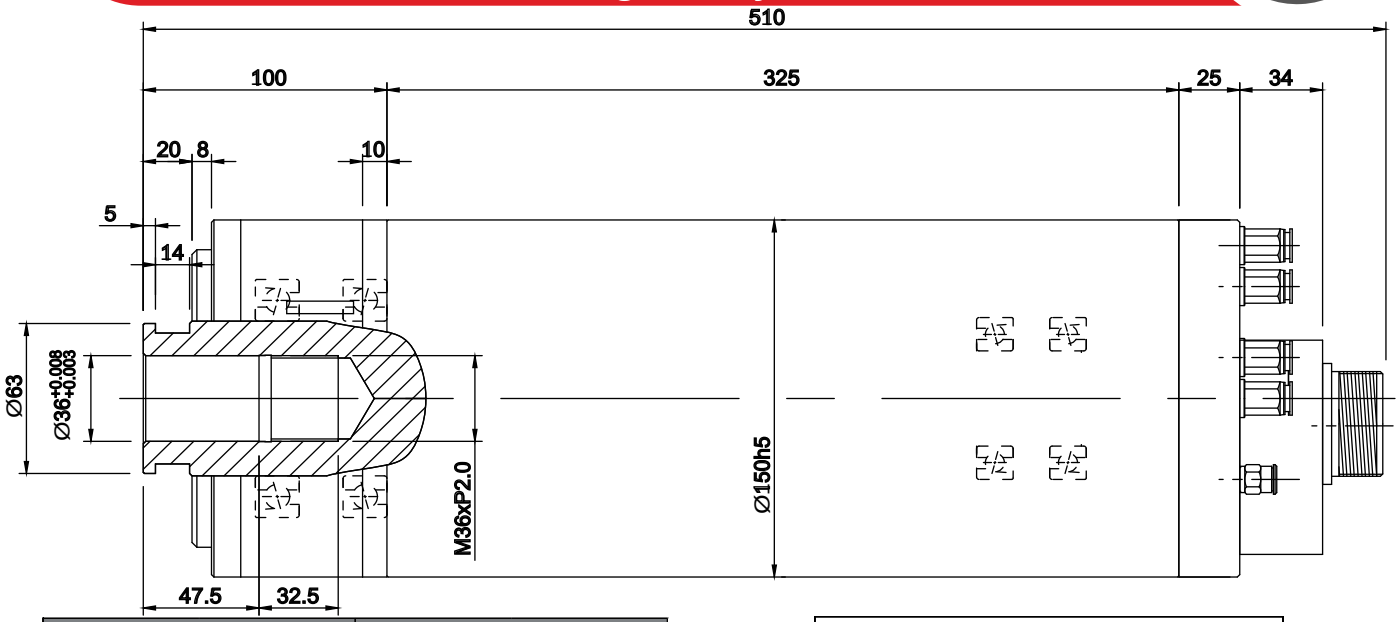
	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D36/63	25	50	40 X 32	16	Grinding quill with nut	15
	32	63	50 X 40	20		15
	50	100	80 X 40	32		15

Grinding quill with nut

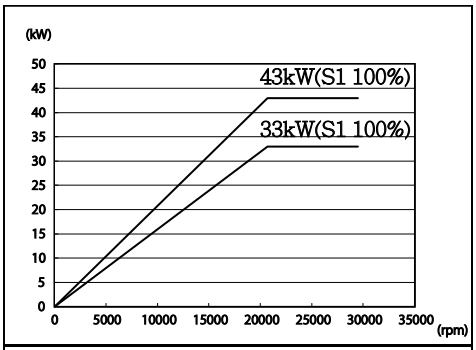


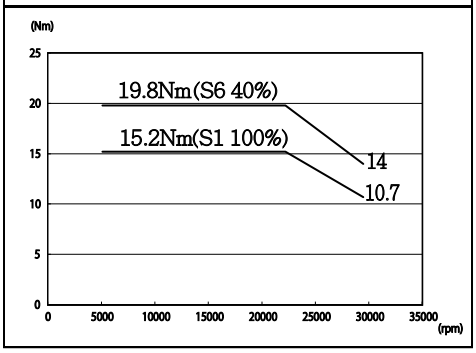
Maximum Speed					
Tool Interface D36/63	K	H			
Spindle Type		<80mm	100mm	125mm	160mm
THG-150.06/THG-150.07	20mm	30,000rpm	N/A	N/A	N/A
	25mm	30,000rpm	N/A	N/A	N/A
	32mm	30,000rpm	30,000rpm	N/A	N/A
	40mm	30,000rpm	27,000rpm	21,000rpm	N/A
	50mm	30,000rpm	24,000rpm	18,000rpm	15,000rpm

THG-150.07 D36/63
High-speed grinding spindle
Application : Universal grinding with high rigidity
Manual tool change / Asynchronous Motor



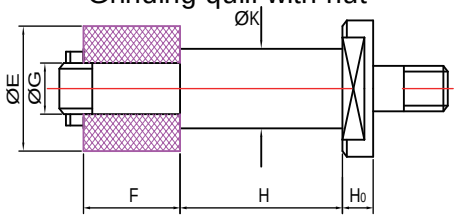
Type		THG-150.07 (350V)
Spindle Ø		150mm
Maximum Speed (Oil-Air)		30,000rpm
Bore diameter of front bearings		65mm
Rigidity	Axial (N/μm)	130N/μm
	Radial (N/μm)	200N/μm
Frequency Max. (Hz)		1,000Hz
at speed		20,700RPM
S1 kW		33kW
S1 Current (A)		74A
S6-40% kW		43kW
S6-40% Current (A)		96A
kW (Peak Power)		98.1kW
S1 Torque (Nm)		15.2Nm
S6-40% Torque (Nm)		19.8Nm
Tool Interface		D36/63 HSK-C50
Spindle Cooling unit		Cooling capacity:7,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		55kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.
Flange Type		Option





	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D36/63	25	50	40 X 32	16	Grinding quill with nut	15
	32	63	50 X 40	20		15
	50	100	80 X 40	32		15

Grinding quill with nut



Maximum Speed					
Tool Interface D36/63	K	H			
Spindle Type		<80mm	100mm	125mm	160mm
THG-150.06/THG-150.07	20mm	30,000rpm	N/A	N/A	N/A
	25mm	30,000rpm	N/A	N/A	N/A
	32mm	30,000rpm	30,000rpm	N/A	N/A
	40mm	30,000rpm	27,000rpm	21,000rpm	N/A
	50mm	30,000rpm	24,000rpm	18,000rpm	15,000rpm

Ø170mm~Ø190mm
High-speed grinding spindles
Manual tool change

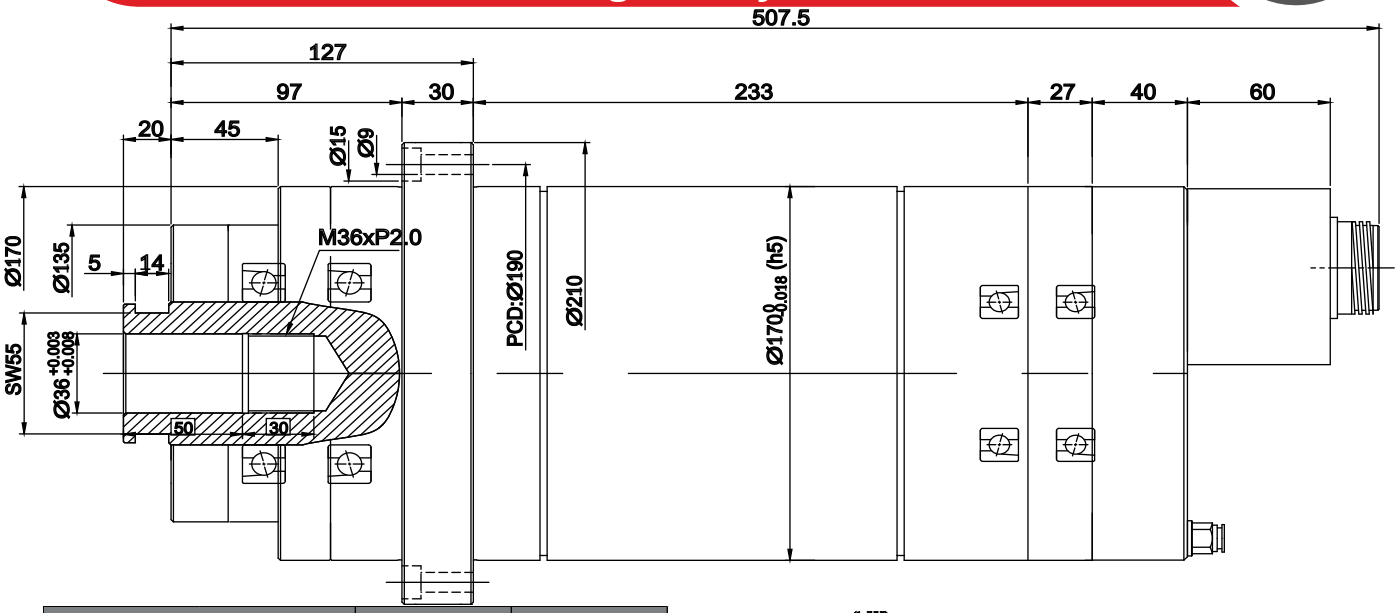
Type		THG-170.01(400V) THG-170.02(230V)	THG-170.06(380V)	THGN-170.01(230V) THGN-170.02(400V)	THGN-170.03 (380V)	THG-190.01 (400V)
Spindle Ø		170mm	170mm	170mm	170mm	190mm
Maximum Speed (Oil-air lubrication)		24,000rpm	24,000rpm	20,000rpm	20,000rpm	10,000rpm
Bore diameter of front bearings		65mm	65mm	70mm	70mm	80mm
Rigidity	Axial (N/µm)	150N/µm	150N/µm	180N/µm	180N/µm	200N/µm
	Radial (N/µm)	200N/µm	200N/µm	200N/µm	200N/µm	250N/µm
Frequency Max. (Hz)		800Hz	800Hz	667Hz	667Hz	667Hz
at speed		5,870RPM	9,860RPM	5,870RPM	9,860RPM	3,200RPM
S1 kW		18kW	30kW	18kW	30kW	15kW
S6-40% kW		23.4kW	39kW	23.4kW	39kW	19.5kW
kW (Peak Power)		58kW	106kW	58kW	106kW	N/A
S1 Torque (Nm)		29.3Nm	29.1Nm	29.3Nm	29.1Nm	44.8Nm
S6-40% Torque (Nm)		38.1Nm	37.8Nm	38.1Nm	37.8Nm	58Nm
Tool Interface		D36/63 HSK-C50	D36/63 HSK-C50	D36/68 HSK-C63	D36/68 HSK-C63	D36/68 D36/78 HSK-C63
Spindle Cooling		Water cooling /Oil cooling				
Spindle Weight		63kg	63kg	65kg	65kg	75kg
Integral Encoder For Closed-Loop Control		Option	Option	Option	Option	Option
Coolant Through Shaft (CTS)		Option	Option	Option	Option	Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.				
Flange Type		Standard	Standard	Standard	Standard	Standard

THG-170

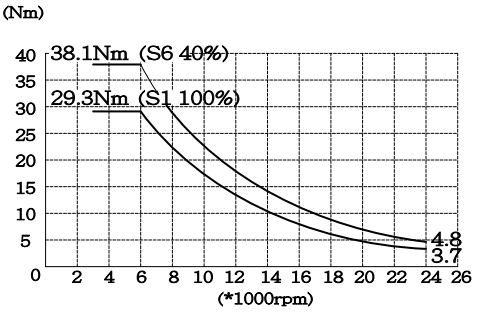
THGN-170

THG-190

THG-170.01/THG-170.02 D36/63
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor

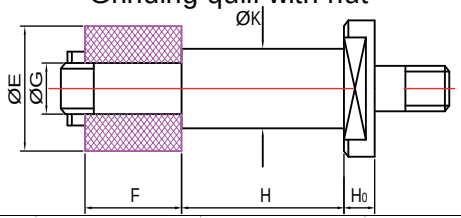


Type		THG-170.01 (400V)	THG-170.02 (230V)
Spindle Ø		170mm	
Maximum Speed (Oil-Air)		24,000rpm	
Bore diameter of front bearings		65mm	
Rigidity	Axial (N/µm)	150N/µm	
	Radial (N/µm)	200N/µm	
Frequency Max. (Hz)		800Hz	
at speed		5,870RPM	
S1 kW		18kW	
S1 Current (A)		44A	75A
S6-40% kW		23.4kW	
S6-40% Current (A)		57A	98A
kW (Peak Power)		58kW	
S1 Torque (Nm)		29.3Nm	
S6-40% Torque (Nm)		38.1Nm	
Tool Interface		D36/63 HSK-C50	
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		63kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.	
Flange Type		Standard	



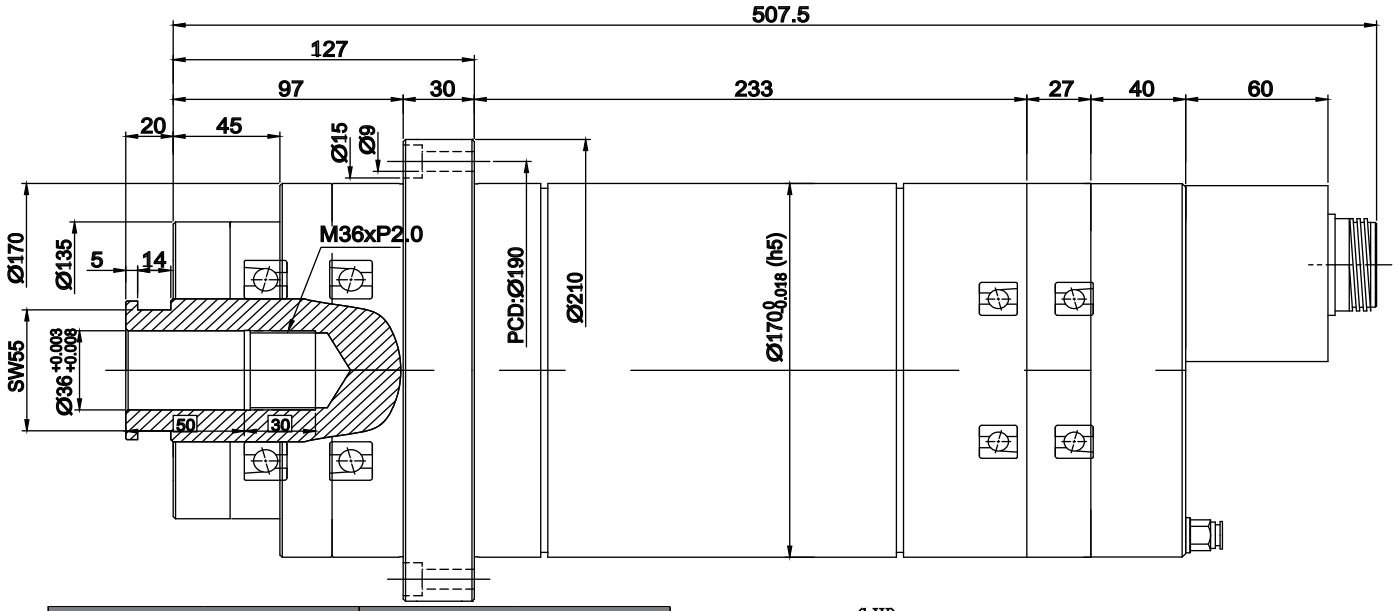
	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D36/63	25	50	40 X 32	16	Grinding quill with nut	15
	32	63	50 X 40	20		15
	50	100	80 X 40	32		15

Grinding quill with nut

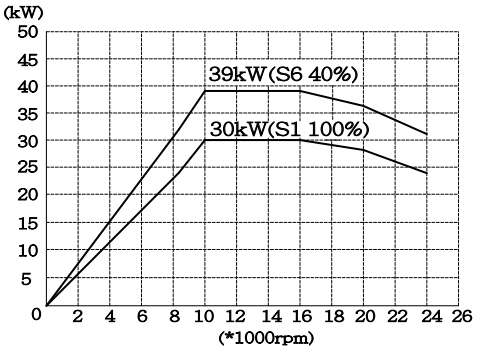


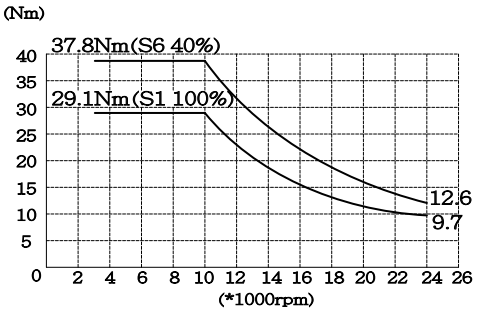
Maximum Speed					
Tool Interface D36/63	K	H			
Spindle Type		<80mm	100mm	125mm	160mm
THG-170.01/THG-170.02	20mm	24,000rpm	N/A	N/A	N/A
	25mm	24,000rpm	N/A	N/A	N/A
	32mm	24,000rpm	24,000rpm	N/A	N/A
	40mm	24,000rpm	24,000rpm	23,000rpm	N/A
	50mm	24,000rpm	24,000rpm	20,500rpm	17,000rpm

THG-170.06 D36/63
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor



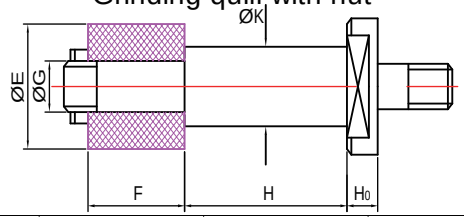
Type		THG-170.06 (380V)
Spindle Ø		170mm
Maximum Speed (Oil-Air)		24,000rpm
Bore diameter of front bearings		65mm
Rigidity	Axial (N/μm)	150N/μm
	Radial (N/μm)	200N/μm
Frequency Max. (Hz)		800Hz
at speed		9,860RPM
S1 kW		30kW
S1 Current (A)		68A
S6-40% kW		39kW
S6-40% Current (A)		88A
kW (Peak Power)		106kW
S1 Torque (Nm)		29.1Nm
S6-40% Torque (Nm)		37.8Nm
Tool Interface		D36/63 HSK-C50
Spindle Cooling unit		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		63kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.
Flange Type		Option





	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D36/63	25	50	40 X 32	16	Grinding quill with nut	15
	32	63	50 X 40	20		15
	50	100	80 X 40	32		15

Grinding quill with nut



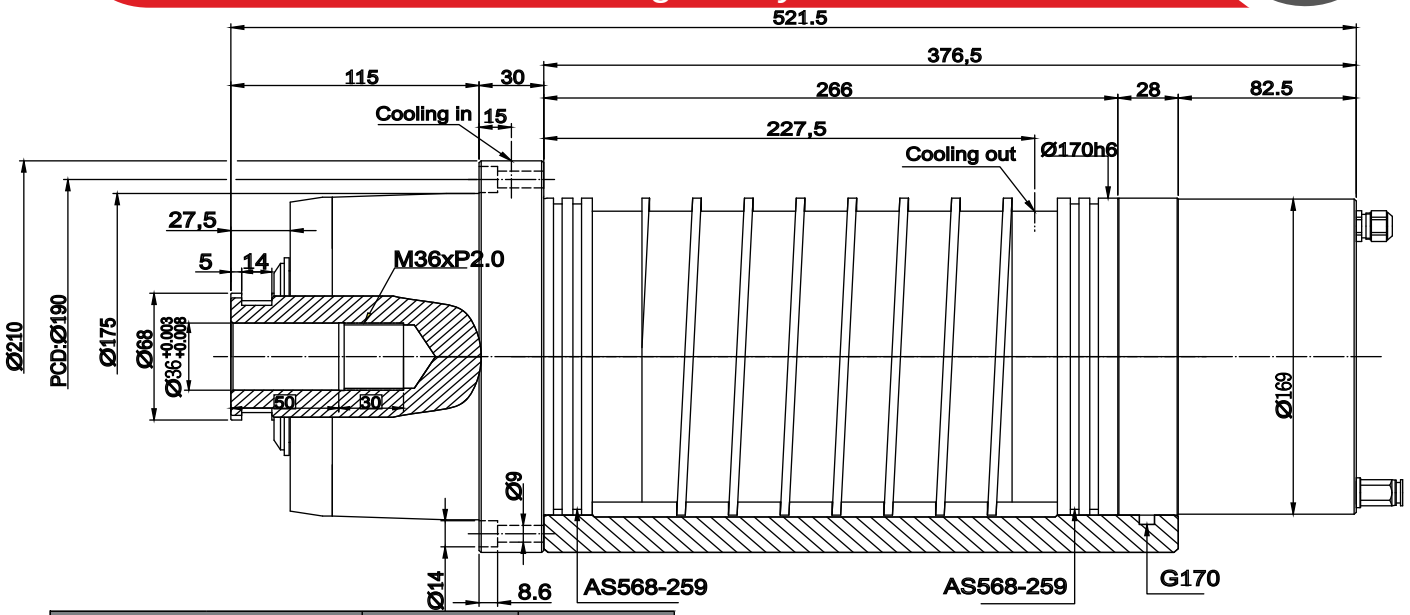
Maximum Speed					
Tool Interface D36/63	K	H			
Spindle Type		<80mm	100mm	125mm	160mm
THG-170.06	20mm	24,000rpm	N/A	N/A	N/A
	25mm	24,000rpm	N/A	N/A	N/A
	32mm	24,000rpm	24,000rpm	N/A	N/A
	40mm	24,000rpm	24,000rpm	23,000rpm	N/A
	50mm	24,000rpm	24,000rpm	20,500rpm	17,000rpm

THGN-170.02/THGN-170.02 D36/68

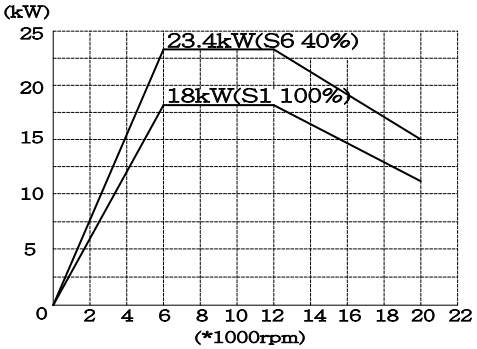
High-speed grinding spindle

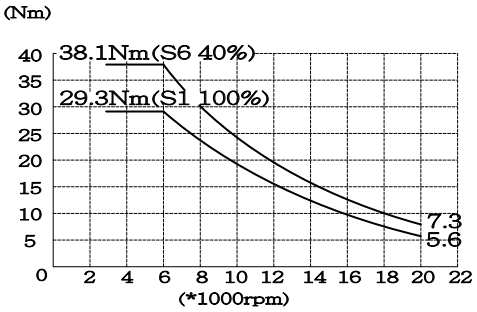
Application : Universal grinding with high rigidity

Manual tool change / Asynchronous Motor



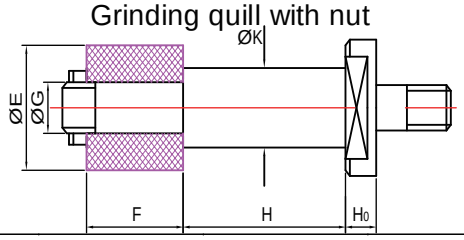
Type		THGN-170.01 (230V)	THGN-170.02 (400V)
Spindle Ø		170mm	
Maximum Speed (Oil-Air)		20,000rpm	
Bore diameter of front bearings		70mm	
Rigidity	Axial (N/μm)	180N/μm	
	Radial (N/μm)	200N/μm	
Frequency Max. (Hz)		667Hz	
at speed		5,870RPM	
S1 kW		18kW	
S1 Current (A)		75A	44A
S6-40% kW		23.4kW	
S6-40% Current (A)		98A	57A
kW (Peak Power)		58kW	
S1 Torque (Nm)		29.3Nm	
S6-40% Torque (Nm)		38.1Nm	
Tool Interface		D36/63 HSK-C63	
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling	
Spindle Weight		65kg	
Integral Encoder For Closed-Loop Control		Option	
Coolant Through Shaft (CTS)		Option	
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.	
Flange Type		Standard	





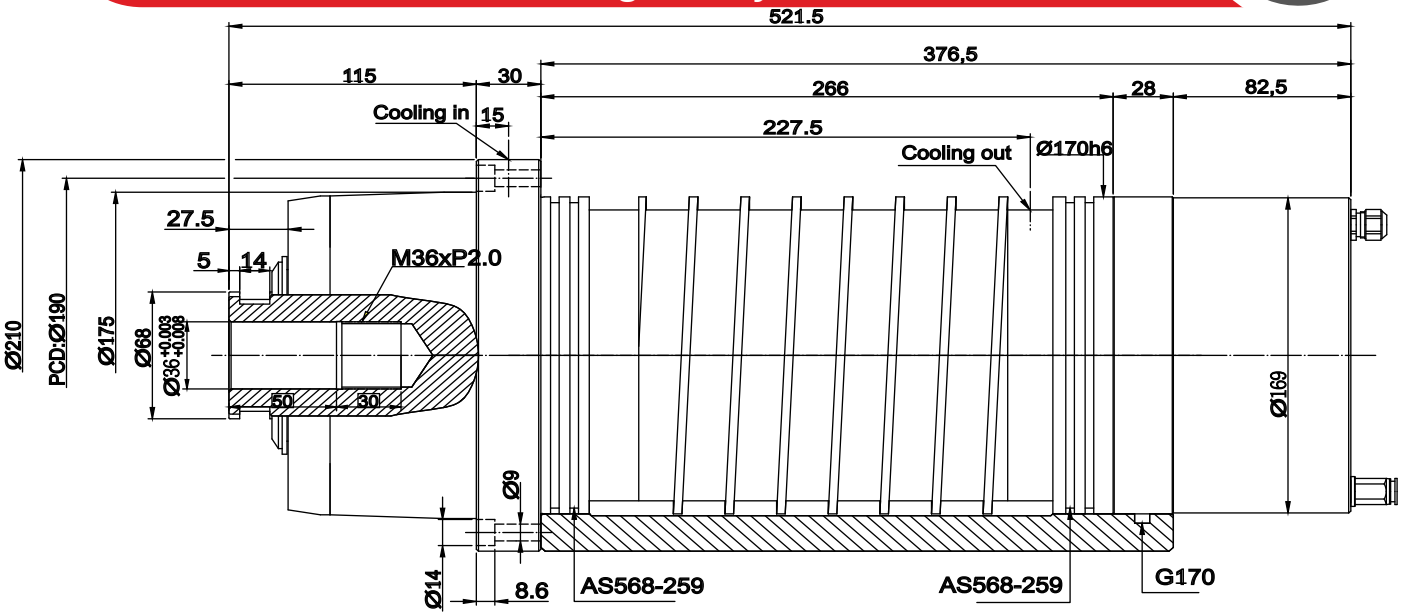
	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D36/68 D36/78	32	63	50 X 40	20	Grinding quill with nut	15
	40	80	63 X 40	25		15
	56	125	100 X 40	36		15

Grinding quill with nut

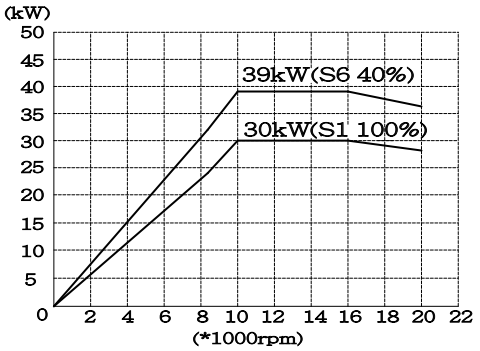


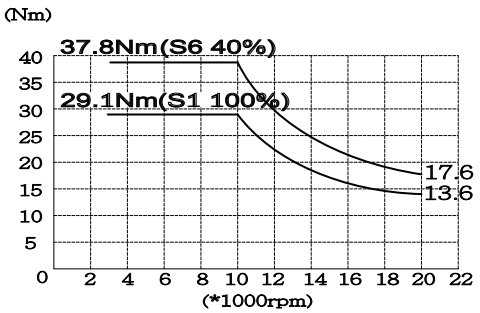
Maximum Speed					
Tool Interface D36/68	K	H			
Spindle Type		<80mm	100mm	125mm	160mm
THGN-170.01/THGN-170.01	25mm	20,000rpm	N/A	N/A	N/A
	32mm	20,000rpm	18,000rpm	N/A	N/A
	40mm	20,000rpm	18,000rpm	18,000rpm	N/A
	50mm	20,000rpm	18,000rpm	18,000rpm	18,000rpm
	56mm	20,000rpm	18,000rpm	18,000rpm	18,000rpm

THGN-170.03 D36/68
High-speed grinding spindle
Application : Universal grinding with high rigidity
Manual tool change / Asynchronous Motor



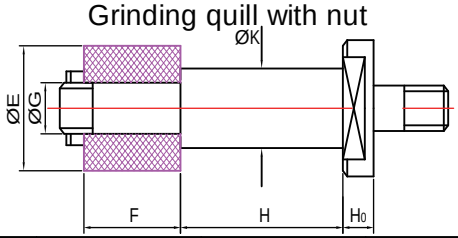
Type		THGN-170.03 (380V)
Spindle Ø		170mm
Maximum Speed (Oil-Air)		20,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	180N/μm
	Radial (N/μm)	200N/μm
Frequency Max. (Hz)		667Hz
at speed		9,860RPM
S1 kW		30kW
S1 Current (A)		68A
S6-40% kW		39kW
S6-40% Current (A)		88A
kW (Peak Power)		106kW
S1 Torque (Nm)		29.1Nm
S6-40% Torque (Nm)		37.8Nm
Tool Interface		D36/63 HSK-C63
Spindle Cooling unit		Cooling capacity:6,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		65kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.
Flange Type		Standard





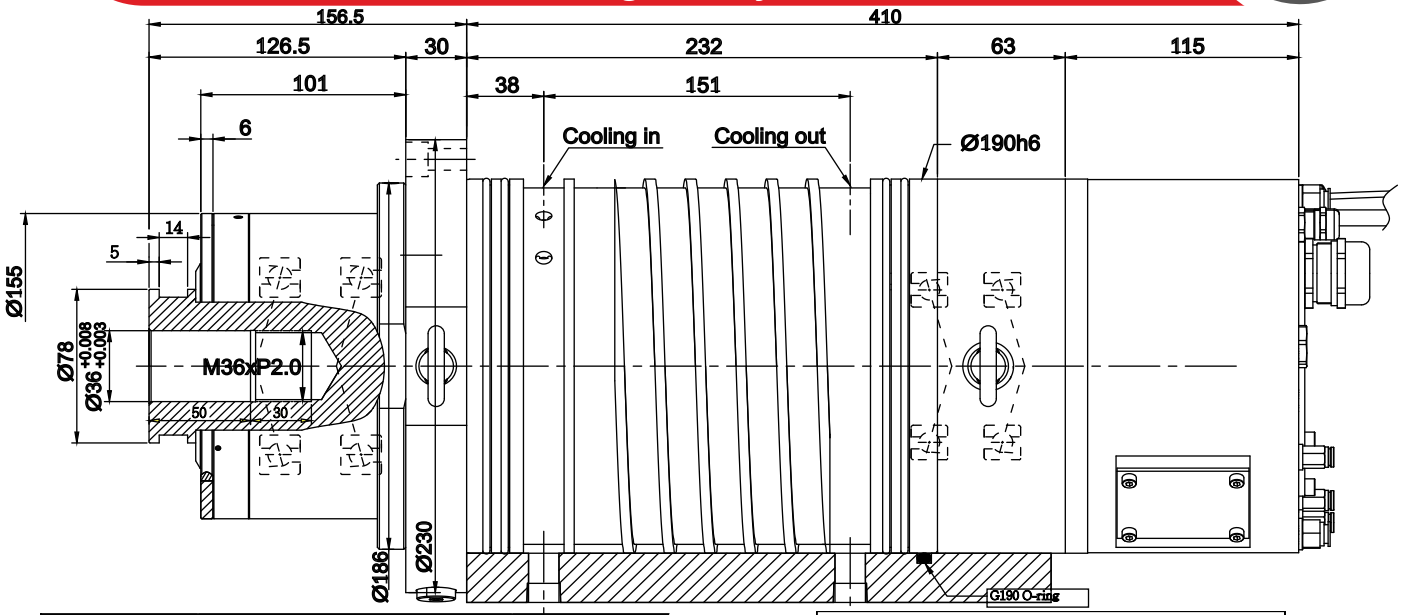
	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D36/68 D36/78	32	63	50 X 40	20	Grinding quill with nut	15
	40	80	63 X 40	25		15
	56	125	100 X 40	36		15

Grinding quill with nut

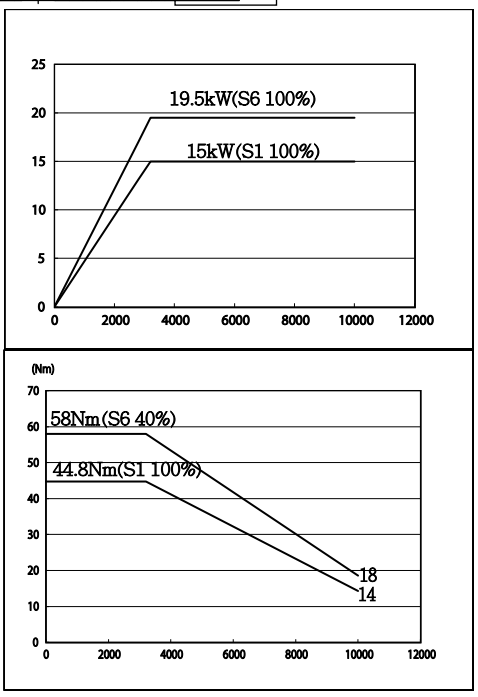


Maximum Speed					
Tool Interface D36/68	K	H			
Spindle Type		<80mm	100mm	125mm	160mm
THGN-170.03	25mm	20,000rpm	N/A	N/A	N/A
	32mm	20,000rpm	18,000rpm	N/A	N/A
	40mm	20,000rpm	18,000rpm	18,000rpm	N/A
	50mm	20,000rpm	18,000rpm	18,000rpm	18,000rpm
	56mm	20,000rpm	18,000rpm	18,000rpm	18,000rpm

THG-190.01 D36/68 D36/78
High-speed grinding spindle
Application : Universal grinding with high rigidity
Manual tool change / Asynchronous Motor

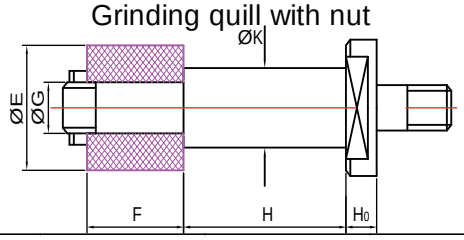


Type		THG-190.01 (400V)
Spindle Ø		190mm
Maximum Speed (Oil-Air)		10,000rpm
Bore diameter of front bearings		80mm
Rigidity	Axial (N/μm)	200N/μm
	Radial (N/μm)	250N/μm
Frequency Max. (Hz)		667Hz
at speed		3,200RPM
S1 kW		15kW
S1 Current (A)		56A
S6-40% kW		19.5kW
S6-40% Current (A)		72A
kW (Peak Power)		N/A
S1 Torque (Nm)		44.8Nm
S6-40% Torque (Nm)		58Nm
Tool Interface		D36/68 D36/78 HSK-C63
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		75kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.
Flange Type		Standard



	K [mm]	H [mm]	Grinding wheel E x F [mm]	G [mm]	Grinding wheel fixation	Ho [mm]
D36/68 D36/78	32	63	50 X 40	20	Grinding quill with nut	15
	40	80	63 X 40	25		15
	56	125	100 X 40	36		15

Grinding quill with nut



Maximum Speed					
Tool Interface D36/68	K	H			
Spindle Type		<80mm	100mm	125mm	160mm
THG-190.01	25mm	10,000rpm	N/A	N/A	N/A
	32mm	10,000rpm	10,000rpm	N/A	N/A
	40mm	10,000rpm	10,000rpm	10,000rpm	N/A
	50mm	10,000rpm	10,000rpm	10,000rpm	10,000rpm
	56mm	10,000rpm	10,000rpm	10,000rpm	10,000rpm

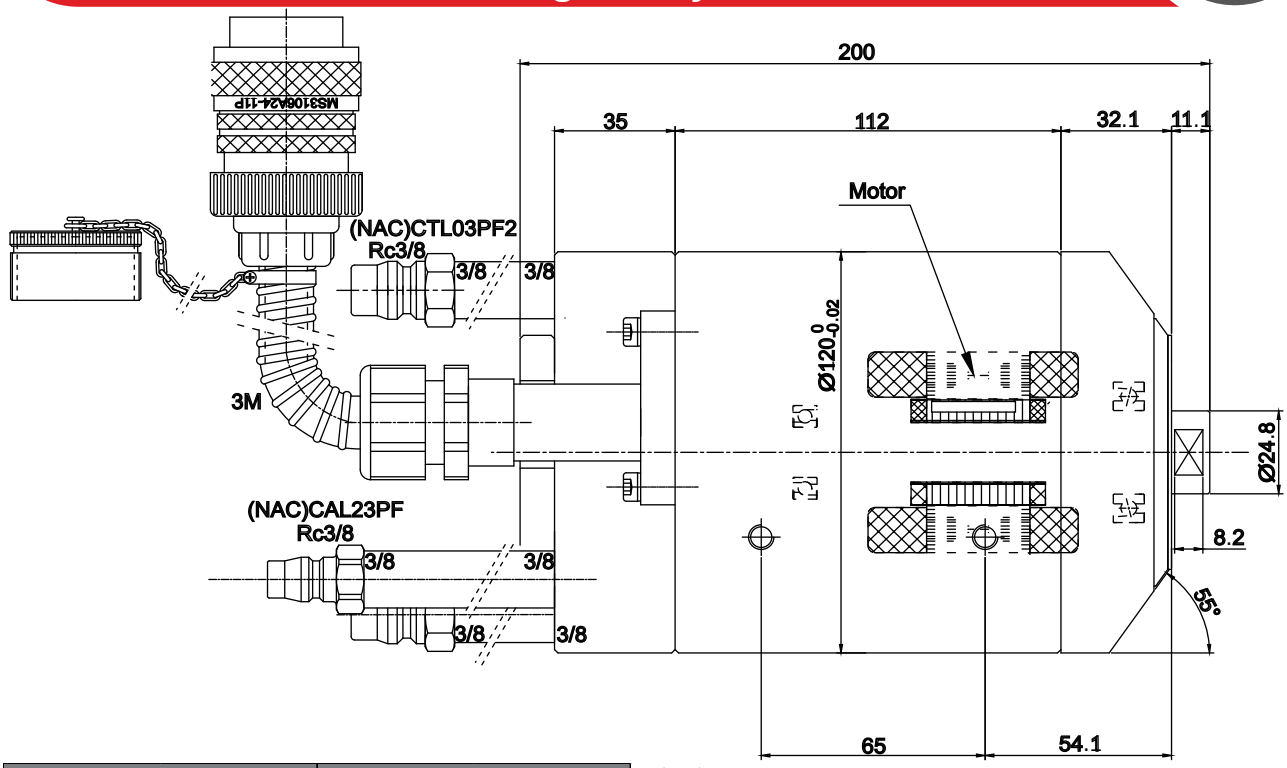
Ø120mm~Ø170mm
High-speed grinding spindles
Manual tool change

Type		THGA-H120.01 (160V)	THGA-H120.02 (200V)	THGA-H120.03 (200V)	THGA-H130.01 (200V)	THGA-H170.01 (200V)
Spindle Ø		120mm	120mm	120mm	130mm	170mm
Maximum Speed (Oil-air lubrication)		80,000rpm	60,000rpm	80,000rpm	50,000rpm	30,000rpm
Bore diameter of front bearings		25mm	30mm	25mm	40mm	70mm
Rigidity	Axial (N/μm)	40N/μm	50N/μm	40N/μm	80N/μm	110N/μm
	Radial (N/μm)	50N/μm	60N/μm	50N/μm	80N/μm	140N/μm
Frequency Max. (Hz)		1,334Hz	1,000Hz	1,334Hz	834Hz	500Hz
at speed		78,500RPM	59,500RPM	79,100RPM	39,400RPM	19,800RPM
S1 kW		1.5kW	3kW	2.6kW	3.9kW	7.5kW
S6-40% kW		2kW	4kW	3.4kW	5.1kW	9.8kW
kW (Peak Power)		2.7kW	9.2kW	7.9kW	8kW	17kW
S1 Torque (Nm)		0.18Nm	0.48Nm	0.29Nm	0.95Nm	3.6Nm
S6-40% Torque (Nm)		0.24Nm	0.64Nm	0.37Nm	1.24Nm	4.7Nm
Tool Interface		D15/25	D18/30	D15/25	D22/40	D35/65
Spindle Cooling		Water cooling /Oil cooling				
Spindle Weight		10kg	13kg	10kg	32kg	42kg
Integral Encoder For Closed-Loop Control		N/A	N/A	N/A	N/A	N/A
Coolant Through Shaft (CTS)		N/A	N/A	N/A	N/A	N/A
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.				
Flange Type		N/A	N/A	N/A	N/A	N/A

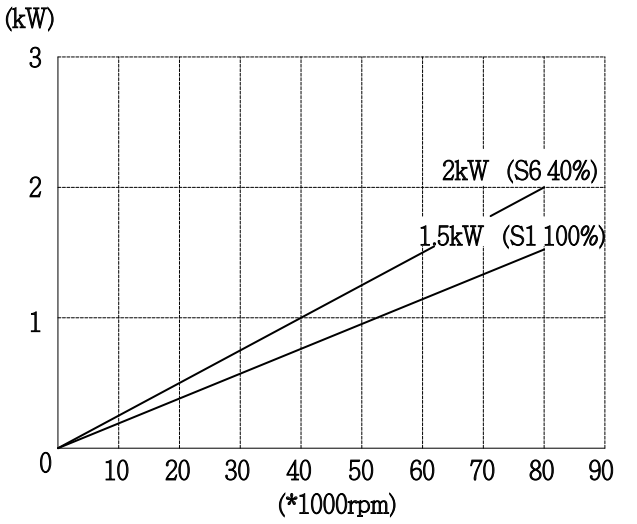
THGA-H120

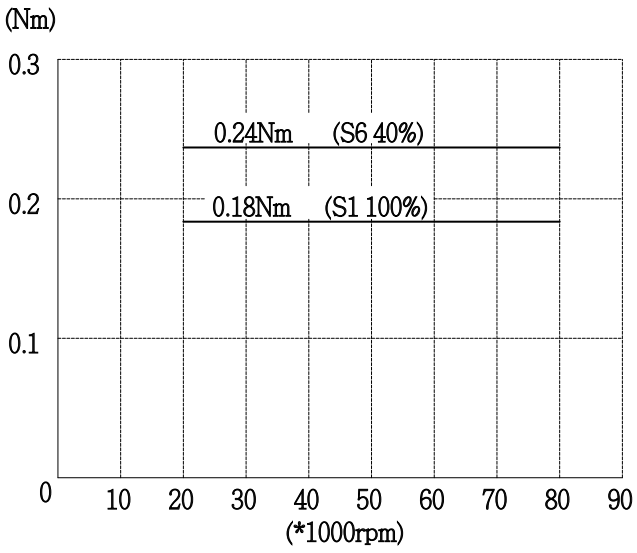
THGA-H130
THGA-H170

THGA-H120.01 D15/25
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor

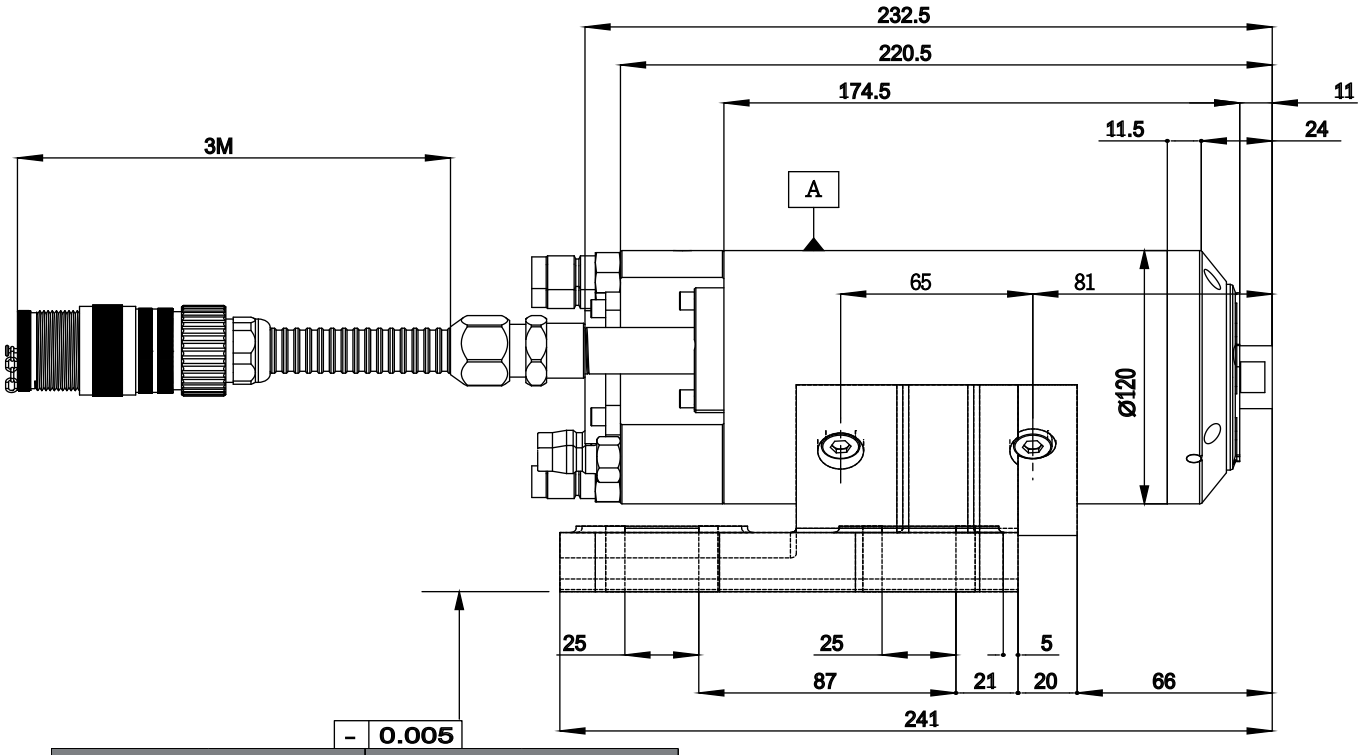


Type		THGA-H120.01 (160V)
Spindle Ø		120mm
Maximum Speed (Oil-Air)		80,000rpm
Bore diameter of front bearings		25mm
Rigidity	Axial (N/μm)	40N/μm
	Radial (N/μm)	50N/μm
Frequency Max. (Hz)		1,334Hz
at speed		78,500RPM
S1 kW		1.5kW
S1 Current (A)		8A
S6-40% kW		2kW
S6-40% Current (A)		10A
kW (Peak Power)		2.7kW
S1 Torque (Nm)		0.18Nm
S6-40% Torque (Nm)		0.24Nm
Tool Interface		D15/25
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		10kg
Integral Encoder For Closed-Loop Control		N/A
Coolant Through Shaft (CTS)		N/A
Grease Lubrication.		N/A
Flange Type		N/A

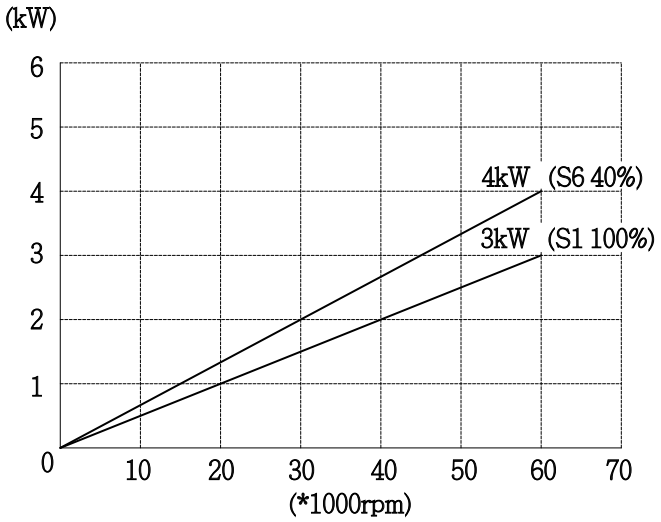


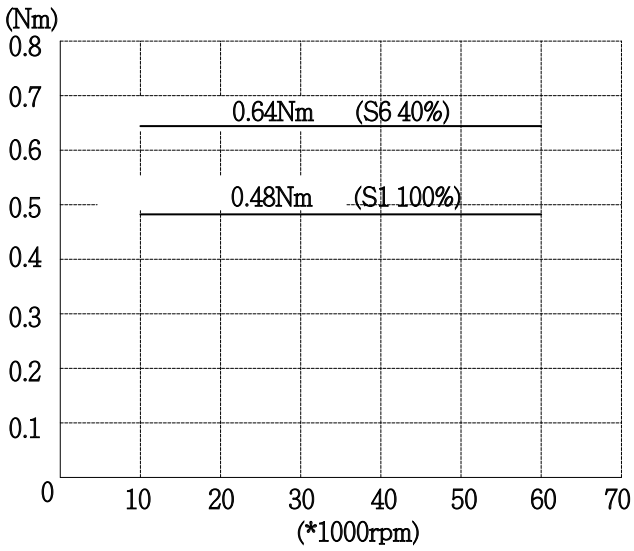


THGA-H120.02 D18/30
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor

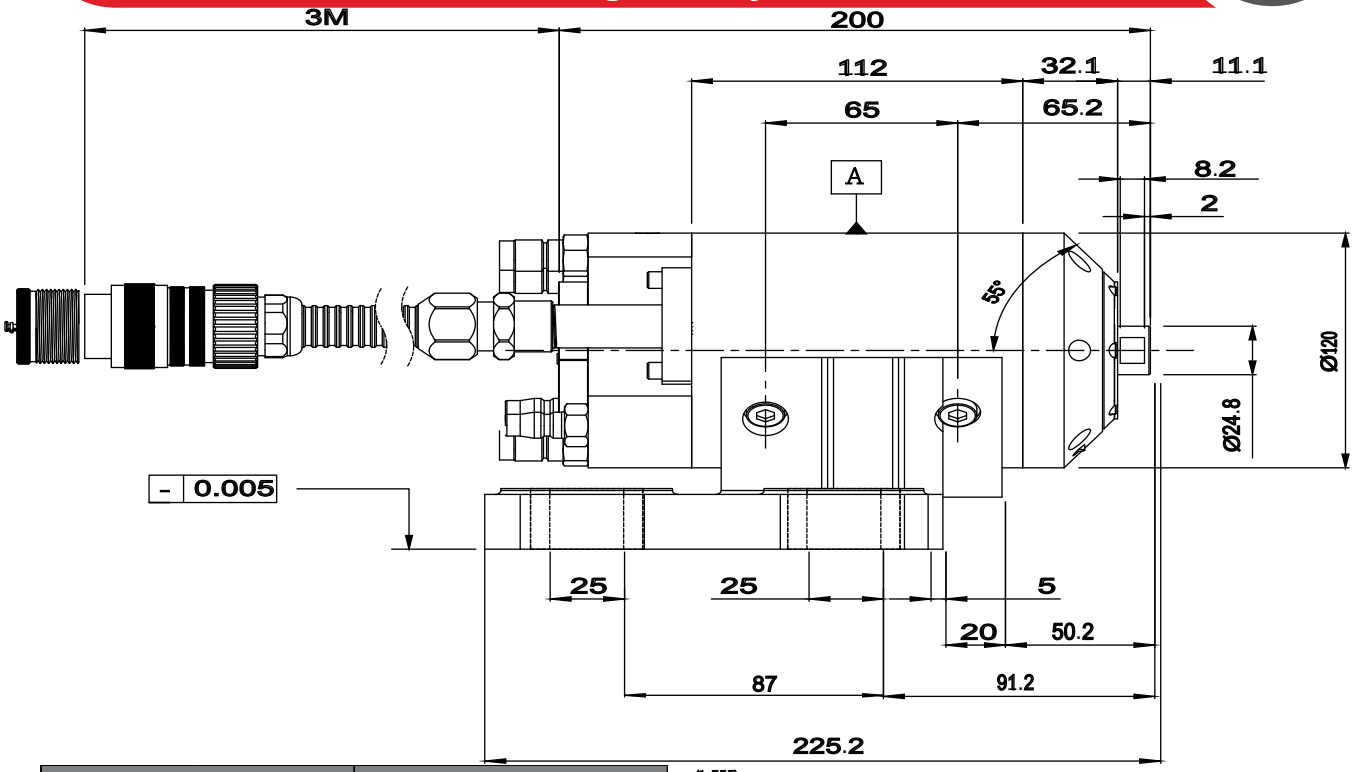


Type		THGA-H120.02 (200V)
Spindle Ø		120mm
Maximum Speed (Oil-Air)		60,000rpm
Bore diameter of front bearings		30mm
Rigidity	Axial (N/μm)	50N/μm
	Radial (N/μm)	60N/μm
Frequency Max. (Hz)		1,000Hz
at speed		59,500RPM
S1 kW		3kW
S1 Current (A)		13A
S6-40% kW		4kW
S6-40% Current (A)		17A
kW (Peak Power)		9.2kW
S1 Torque (Nm)		0.48Nm
S6-40% Torque (Nm)		0.64Nm
Tool Interface		D18/30
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		13kg
Integral Encoder For Closed-Loop Control		N/A
Coolant Through Shaft (CTS)		N/A
Grease Lubrication.		N/A
Flange Type		N/A

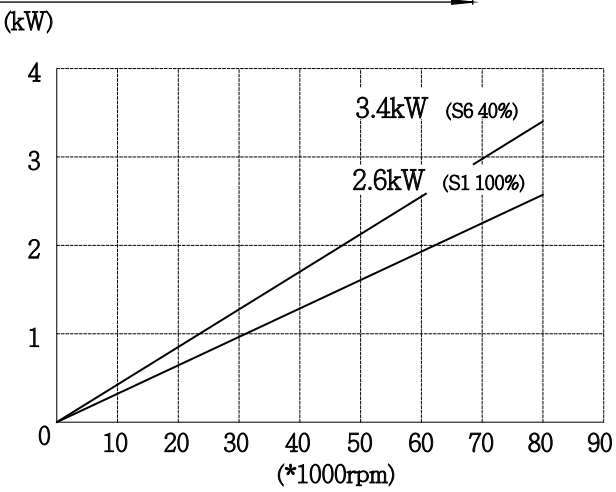


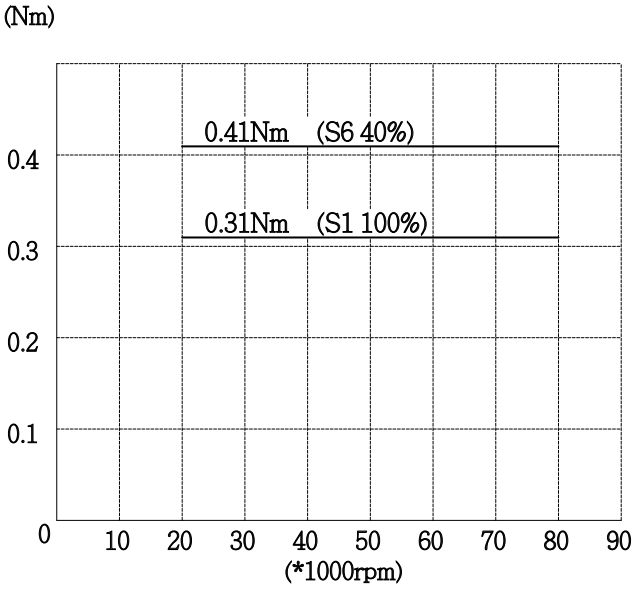


THGA-H120.03 D15/25
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor

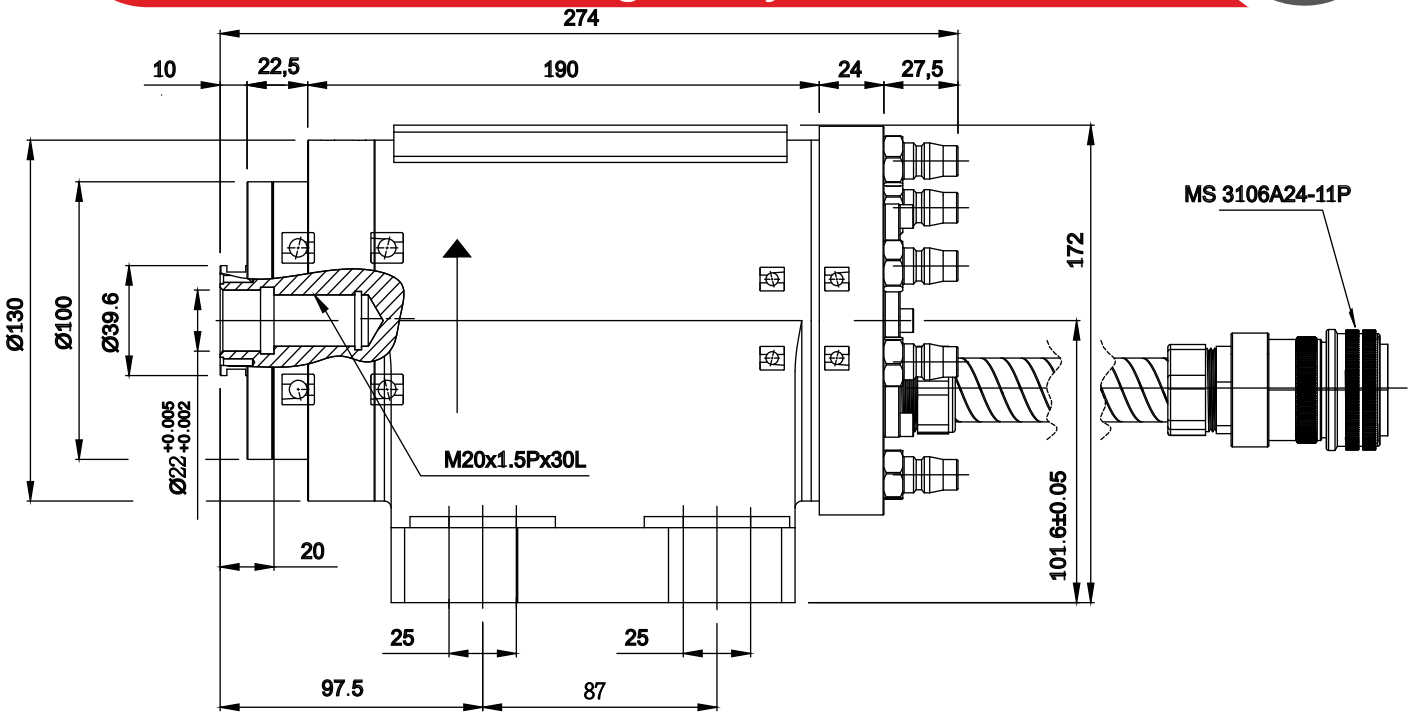


Type		THGA-H120.03 (200V)
Spindle Ø		120mm
Maximum Speed (Oil-Air)		80,000rpm
Bore diameter of front bearings		25mm
Rigidity	Axial (N/μm)	40N/μm
	Radial (N/μm)	50N/μm
Frequency Max. (Hz)		1,334Hz
at speed		79,100RPM
S1 kW		2.6kW
S1 Current (A)		10A
S6-40% kW		3.4kW
S6-40% Current (A)		13A
kW (Peak Power)		7.9kW
S1 Torque (Nm)		0.29Nm
S6-40% Torque (Nm)		0.37Nm
Tool Interface		D15/25
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		10kg
Integral Encoder For Closed-Loop Control		N/A
Coolant Through Shaft (CTS)		N/A
Grease Lubrication.		N/A
Flange Type		N/A

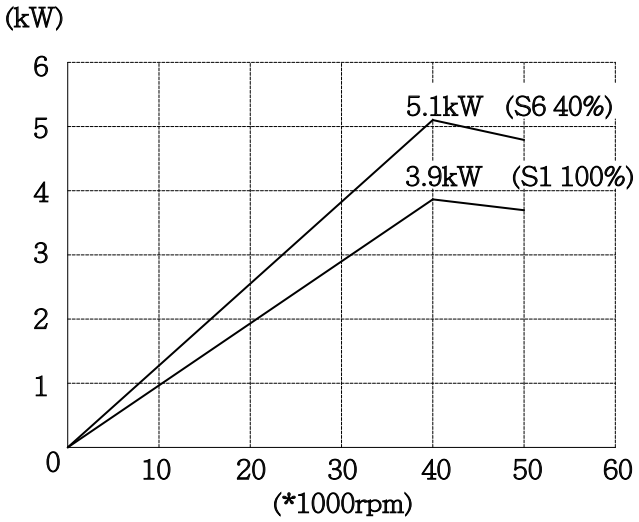


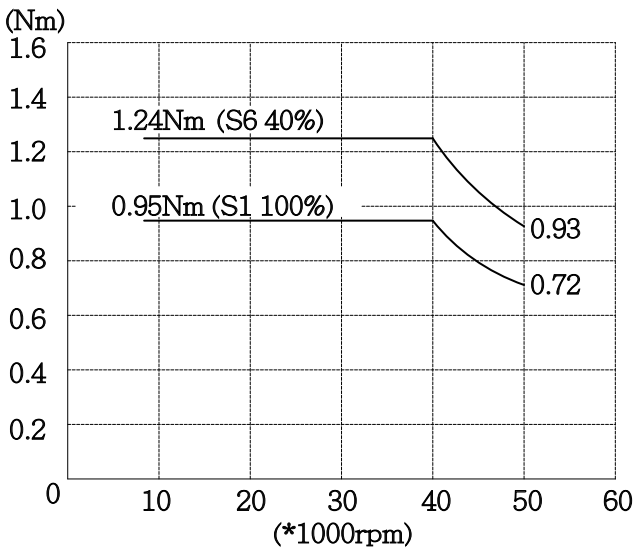


THGA-H130.01 D22/40
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor

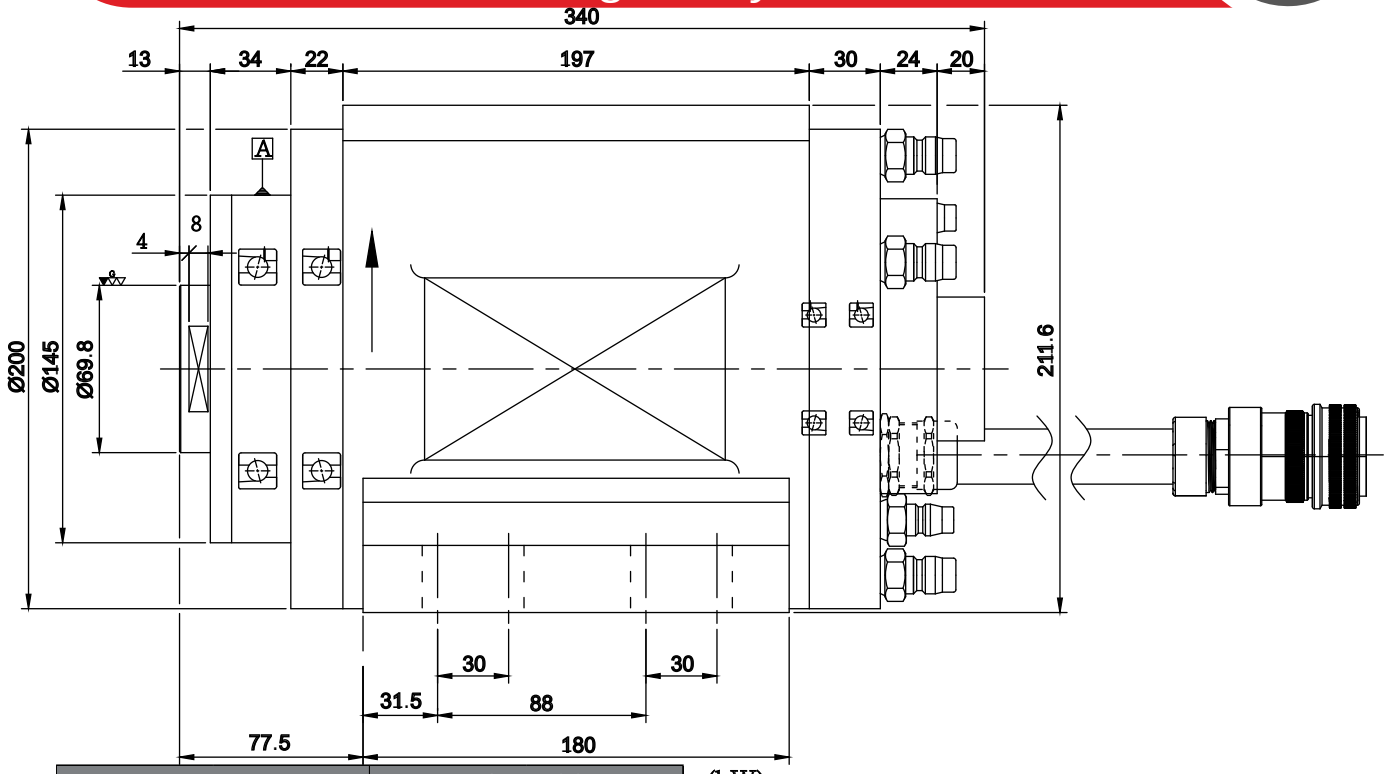


Type		THGA-H130.01 (200V)
Spindle Ø		130mm
Maximum Speed (Oil-Air)		50,000rpm
Bore diameter of front bearings		40mm
Rigidity	Axial (N/μm)	80N/μm
	Radial (N/μm)	80N/μm
Frequency Max. (Hz)		834Hz
at speed		39,400RPM
S1 kW		3.9kW
S1 Current (A)		15A
S6-40% kW		5.1kW
S6-40% Current (A)		20A
kW (Peak Power)		8kW
S1 Torque (Nm)		0.95Nm
S6-40% Torque (Nm)		1.24Nm
Tool Interface		D22/40
Spindle Cooling unit		Cooling capacity:2,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		32kg
Integral Encoder For Closed-Loop Control		N/A
Coolant Through Shaft (CTS)		N/A
Grease Lubrication.		N/A
Flange Type		N/A

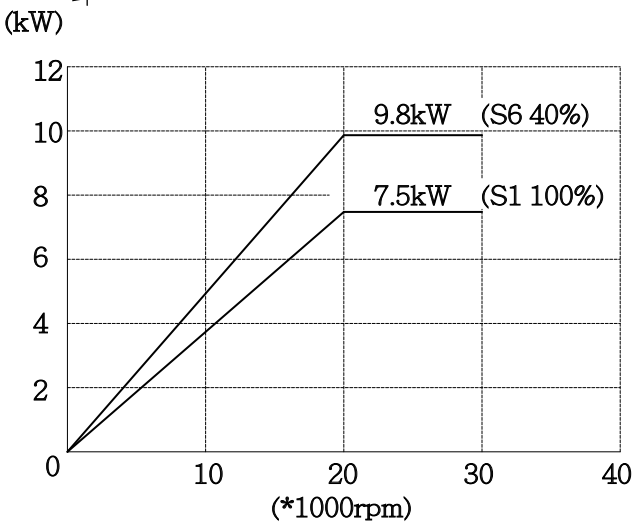


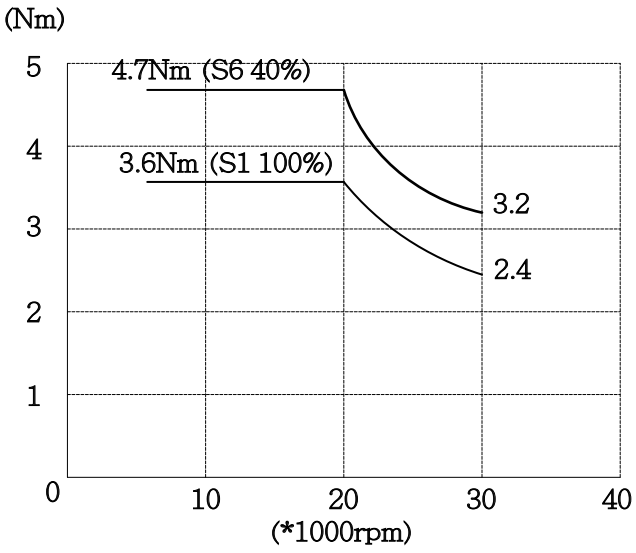


THGA-H170.01 D35/65
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor



Type		THGA-H170.01 (200V)
Spindle Ø		170mm
Maximum Speed (Oil-Air)		30,000rpm
Bore diameter of front bearings		70mm
Rigidity	Axial (N/μm)	110N/μm
	Radial (N/μm)	140N/μm
Frequency Max. (Hz)		500Hz
at speed		19,800RPM
S1 kW		7.5kW
S1 Current (A)		30A
S6-40% kW		9.8kW
S6-40% Current (A)		39A
kW (Peak Power)		17kW
S1 Torque (Nm)		3.6Nm
S6-40% Torque (Nm)		4.7Nm
Tool Interface		D35/65
Spindle Cooling unit		Cooling capacity:2,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		42kg
Integral Encoder For Closed-Loop Control		N/A
Coolant Through Shaft (CTS)		N/A
Grease Lubrication.		N/A
Flange Type		N/A



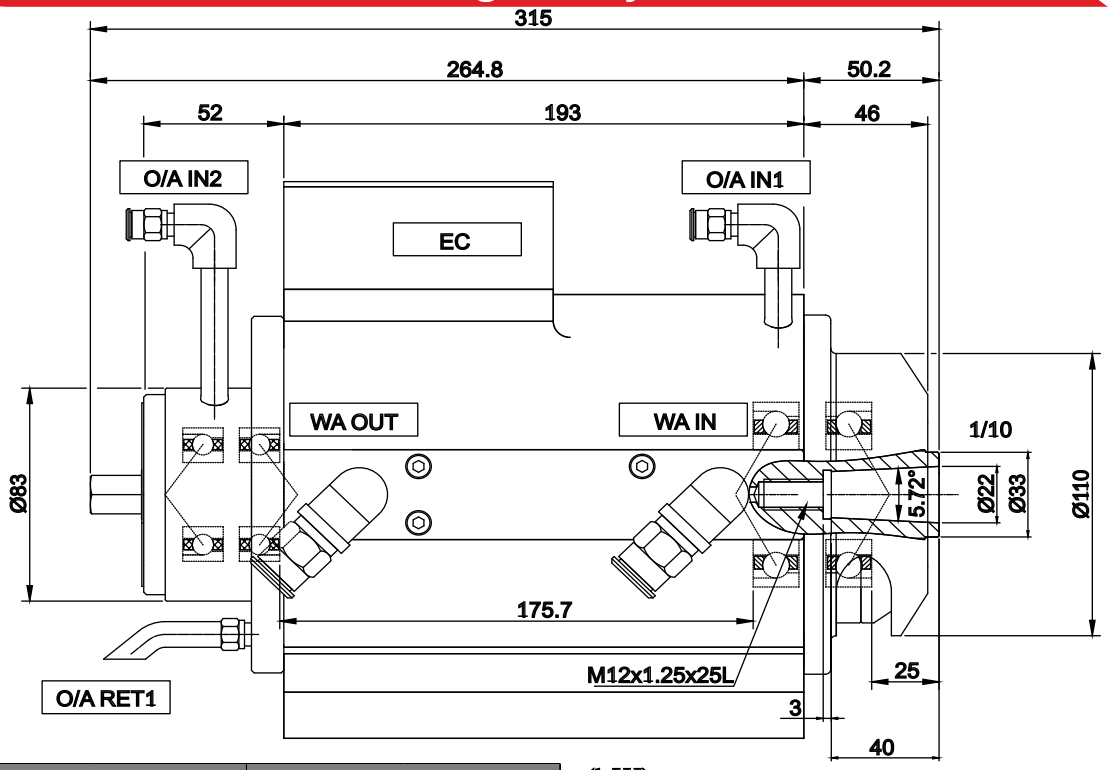


Ø150mm
High-speed grinding spindles
Manual tool change

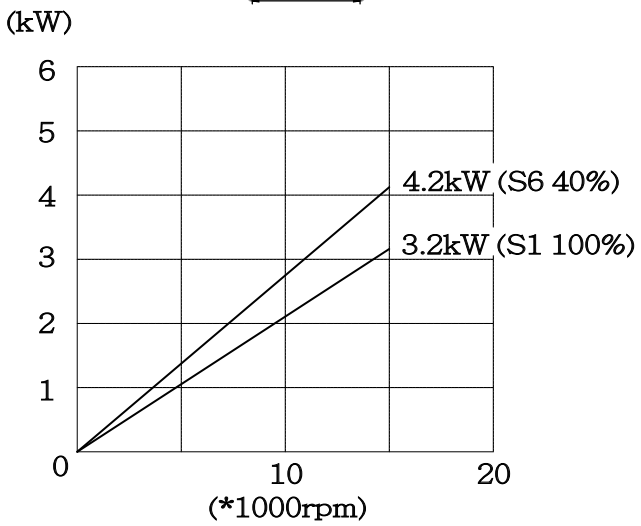
Type		THGD-M150.01 (155V)	THGD-M150.02 (220V)	THGD-M150.03 (230V)
Spindle Ø		150mm	150mm	150mm
Maximum Speed (Oil-air lubrication)		15,000rpm	24,000rpm	60,000rpm
Bore diameter of front bearings		35mm	25mm	25mm
Rigidity	Axial (N/µm)	70N/µm	40N/µm	55N/µm
	Radial (N/µm)	130N/µm	60N/µm	55N/µm
Frequency Max. (Hz)		200Hz	360Hz	2,000Hz
at speed		14,800RPM	20,900RPM	35,500RPM
S1 kW		3.2kW	4.5kW	6.4kW
S6-40% kW		4.2kW	5.9kW	8.3kW
kW (Peak Power)		11kW	11kW	15kW
S1 Torque (Nm)		2.1Nm	2.1Nm	1.7Nm
S6-40% Torque (Nm)		2.7Nm	2.7Nm	2.2Nm
Tool Interface		D22/34	D22/34	D14/23
Spindle Cooling		Water cooling /Oil cooling		
Spindle Weight		32kg	32kg	24kg
Integral Encoder For Closed-Loop Control		N/A	N/A	N/A
Coolant Through Shaft (CTS)		N/A	N/A	Option
Grease Lubrication.		N/A	N/A	N/A
Flange Type		N/A	N/A	N/A

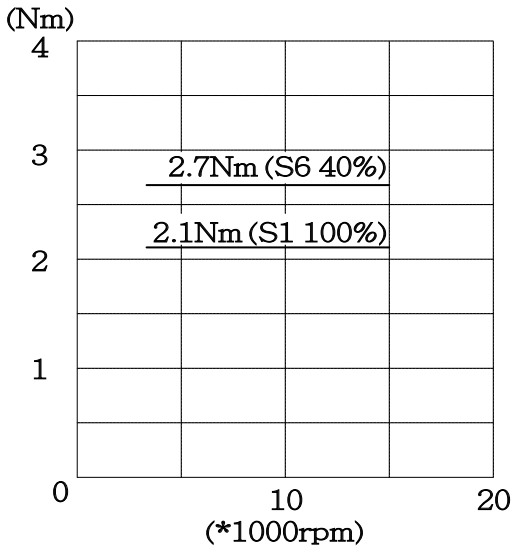
THGD-M150

THGD-M150.01 D22/34
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor

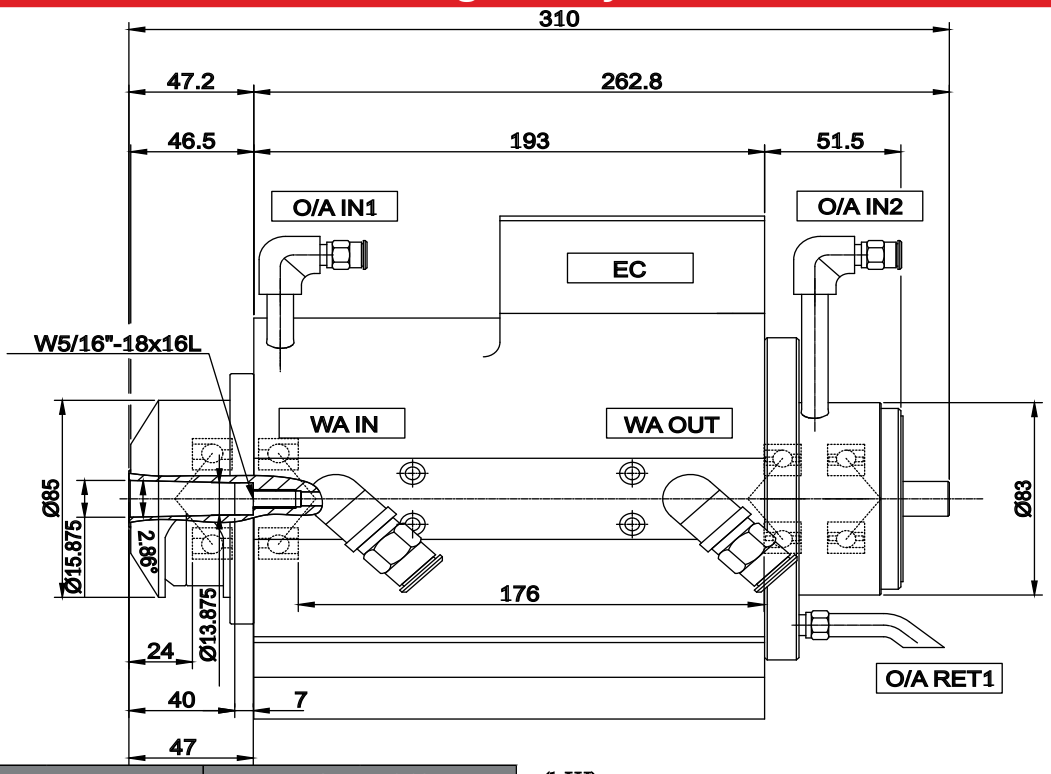


Type		THGD-M150.01 (155V)
Spindle Ø		150mm
Maximum Speed (Oil-Air)		15,000rpm
Bore diameter of front bearings		35mm
Rigidity	Axial (N/μm)	70N/μm
	Radial (N/μm)	130N/μm
Frequency Max. (Hz)		200Hz
at speed		14,800RPM
S1 kW		3.2kW
S1 Current (A)		15A
S6-40% kW		4.2kW
S6-40% Current (A)		20A
kW (Peak Power)		11kW
S1 Torque (Nm)		2.1Nm
S6-40% Torque (Nm)		2.7Nm
Tool Interface		D22/34
Spindle Cooling unit		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		32kg
Integral Encoder For Closed-Loop Control		N/A
Coolant Through Shaft (CTS)		N/A
Grease Lubrication.		N/A
Flange Type		N/A

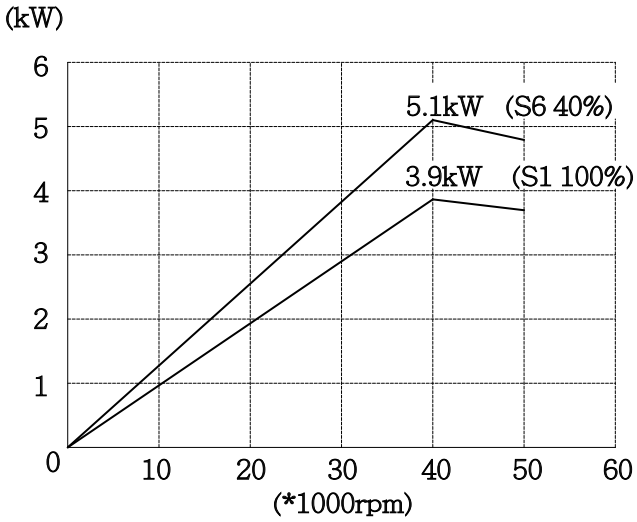


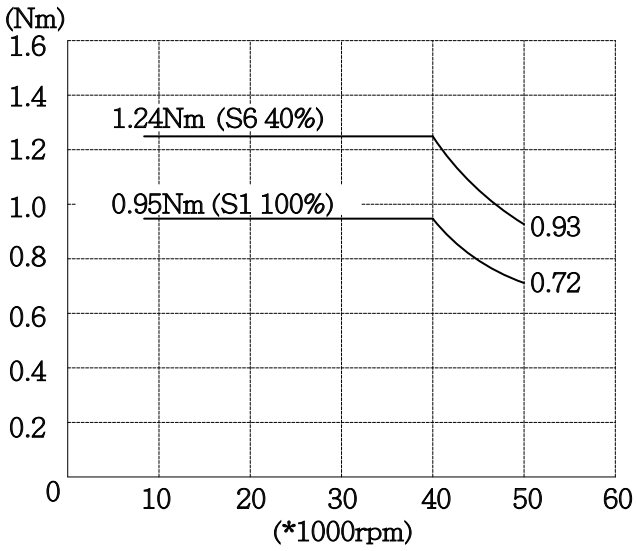


THGD-M150.02 D22/34
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor

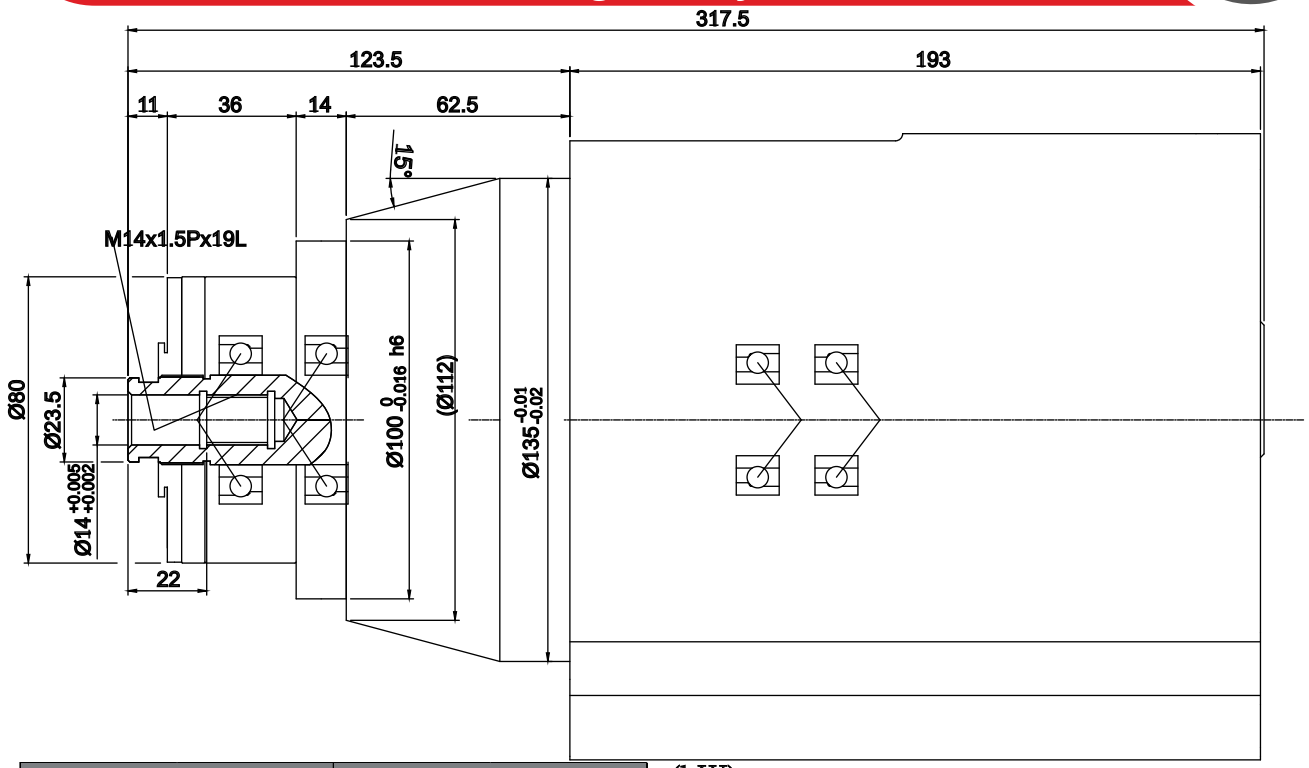


Type		THGD-M150.02 (220V)
Spindle Ø		150mm
Maximum Speed (Oil-Air)		24,000rpm
Bore diameter of front bearings		25mm
Rigidity	Axial (N/μm)	40N/μm
	Radial (N/μm)	60N/μm
Frequency Max. (Hz)		360Hz
at speed		20,900RPM
S1 kW		4.5kW
S1 Current (A)		15A
S6-40% kW		5.9kW
S6-40% Current (A)		20A
kW (Peak Power)		11kW
S1 Torque (Nm)		2.1Nm
S6-40% Torque (Nm)		2.7Nm
Tool Interface		D22/34
Spindle Cooling unit		Cooling capacity:2,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		32kg
Integral Encoder For Closed-Loop Control		N/A
Coolant Through Shaft (CTS)		N/A
Grease Lubrication.		N/A
Flange Type		N/A

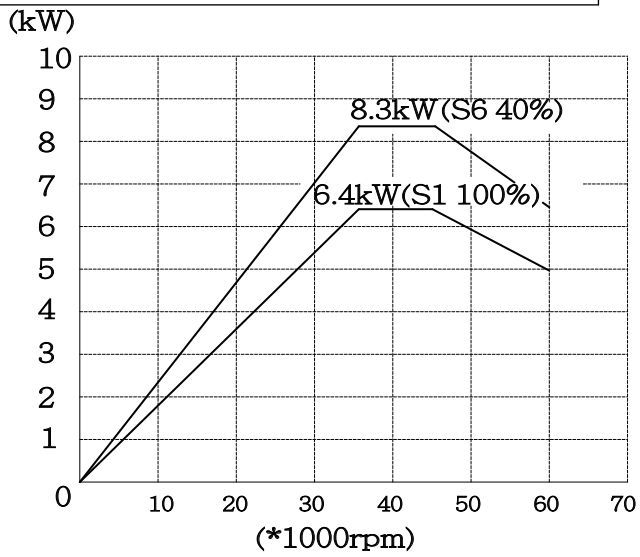


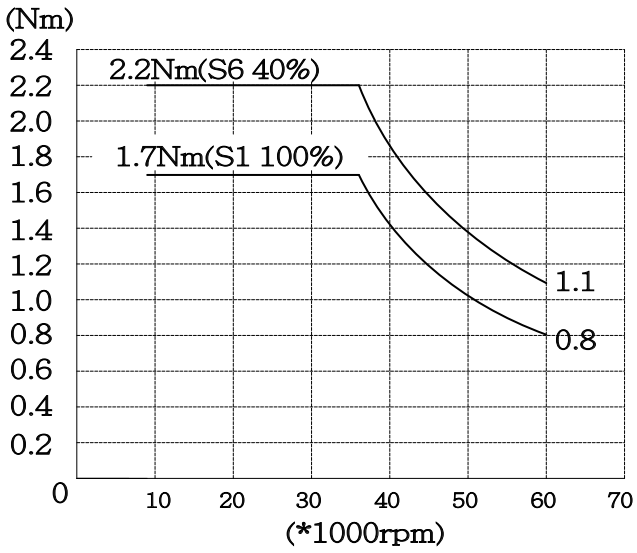


THGD-M150.03 D14/23
High-speed grinding spindle
Application : Universal grinding applications
Manual tool change / Asynchronous Motor



Type		THGD-M150.03 (230V)
Spindle Ø		150mm
Maximum Speed (Oil-Air)		60,000rpm
Bore diameter of front bearings		25mm
Rigidity	Axial (N/μm)	55N/μm
	Radial (N/μm)	55N/μm
Frequency Max. (Hz)		2,000Hz
at speed		35,500RPM
S1 kW		6.4kW
S1 Current (A)		32A
S6-40% kW		8.3kW
S6-40% Current (A)		42A
kW (Peak Power)		15kW
S1 Torque (Nm)		1.7Nm
S6-40% Torque (Nm)		2.2Nm
Tool Interface		D14/23
Spindle Cooling unit		Cooling capacity:3,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		24kg
Integral Encoder For Closed-Loop Control		N/A
Coolant Through Shaft (CTS)		N/A
Grease Lubrication.		N/A
Flange Type		N/A





Ø220mm~240mm
High-speed grinding spindles
Manual tool change

Type		THGA-220.03 (380V)	THGA-220.05 (380V)	THGA-220.06 (380V)	THGS-240.02 (380V)
Spindle Ø		220mm	220mm	220mm	240mm
Maximum Speed (Oil-air lubrication)		6,000rpm	6,000rpm	6,000rpm	5,000rpm
Bore diameter of front bearings		90mm	90mm	90mm	110mm
Rigidity	Axial (N/µm)	230N/µm	230N/µm	230N/µm	400N/µm
	Radial (N/µm)	240N/µm	240N/µm	240N/µm	300N/µm
Frequency Max. (Hz)		200Hz	200Hz	200Hz	260Hz
at speed		3,000RPM	1,500RPM	3,000RPM	3,500RPM
S1 kW		24kW	16kW	24kW	23.6kW
S6-40% kW		31.2kW	21kW	31.2kW	30kW
kW (Peak Power)		55kW	N/A	55kW	N/A
S1 Torque (Nm)		76.4Nm	102Nm	76.4Nm	66Nm
S6-40% Torque (Nm)		99.3Nm	134Nm	99.3Nm	84Nm
Tool Interface		Standardised or according to customer's specifications.			
Spindle Cooling		Water cooling /Oil cooling			
Spindle Weight		160kg	165kg	150kg	218kg
Integral Encoder For Closed-Loop Control		Option	Option	Option	Option
Coolant Through Shaft (CTS)		Option	Option	Option	Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.			
Flange Type / Square Type		Standard	Standard	Option	Square

THGA-220

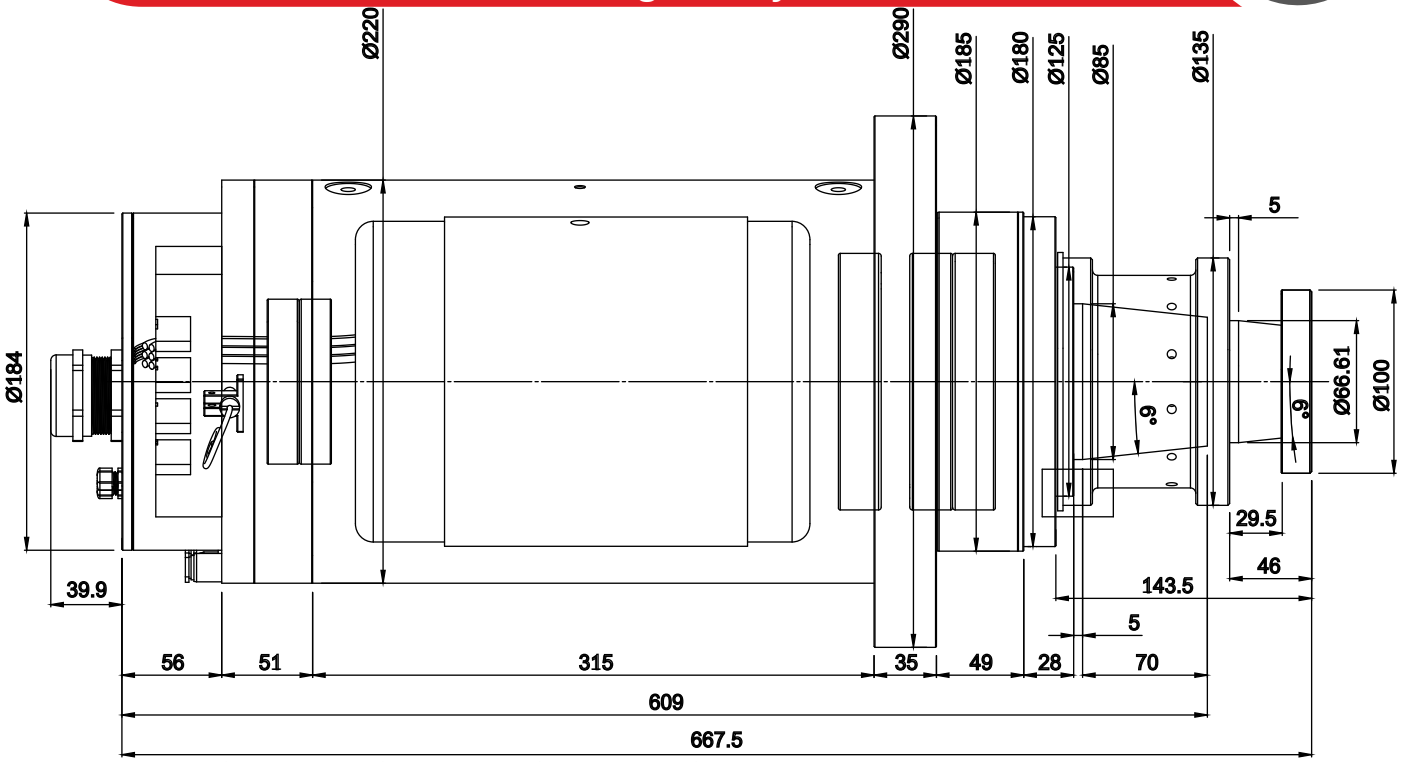
THGS-240

THGA-220.03

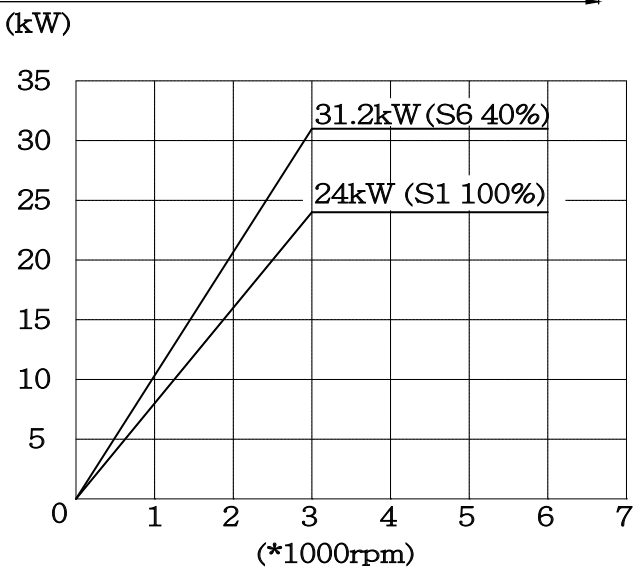
Standardised or according to customer's specifications

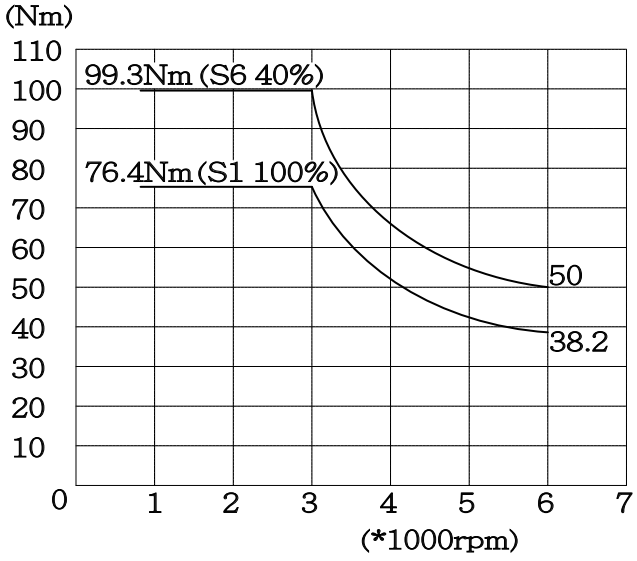
Application : Universal grinding with high rigidity

Manual tool change / Asynchronous Motor



Type		THGA-220.03 (380V)
Spindle Ø		220mm
Maximum Speed (Oil-Air)		6,000rpm
Bore diameter of front bearings		90mm
Rigidity	Axial (N/μm)	230N/μm
	Radial (N/μm)	240N/μm
Frequency Max. (Hz)		200Hz
at speed		3,000RPM
S1 kW		24kW
S1 Current (A)		46A
S6-40% kW		31.2kW
S6-40% Current (A)		60A
kW (Peak Power)		55kW
S1 Torque (Nm)		76.4Nm
S6-40% Torque (Nm)		99.3Nm
Tool Interface		Standardised or according to customer's specifications.
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		160kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.
Flange Type		Standard



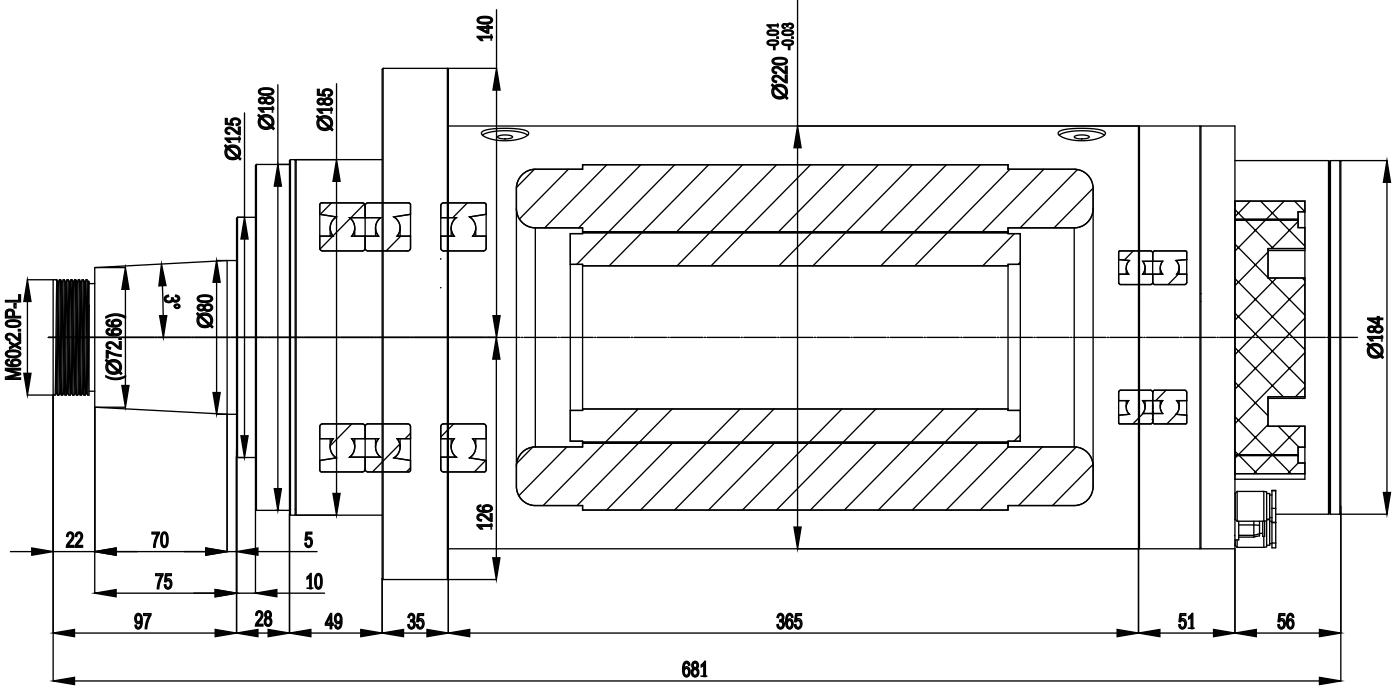


THGA-220.05

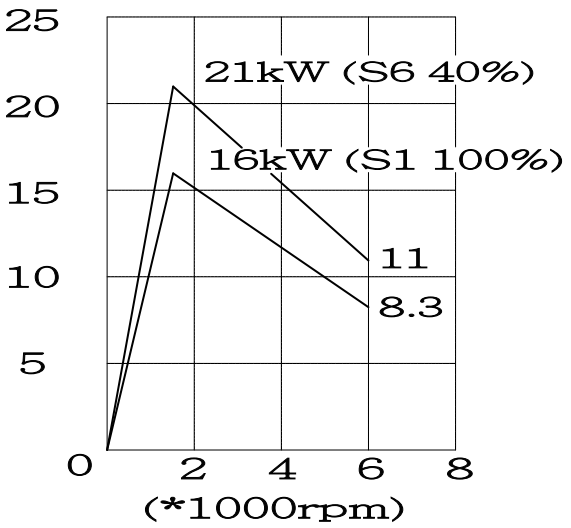
Standardised or according to customer's specifications

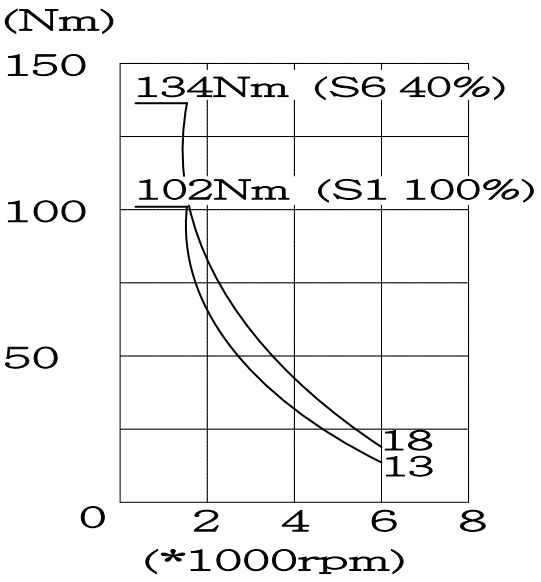
Application : Universal grinding with high rigidity

Manual tool change / Asynchronous Motor



Type		THGA-220.05 (380V)
Spindle Ø		220mm
Maximum Speed (Oil-Air)		6,000rpm
Bore diameter of front bearings		90mm
Rigidity	Axial (N/µm)	230N/µm
	Radial (N/µm)	240N/µm
Frequency Max. (Hz)		200Hz
at speed		1,500RPM
S1 kW		16kW
S1 Current (A)		32A
S6-40% kW		21kW
S6-40% Current (A)		42A
kW (Peak Power)		N/A
S1 Torque (Nm)		102Nm
S6-40% Torque (Nm)		134Nm
Tool Interface		Standardised or according to customer's specifications.
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		165kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.
Flange Type		Standard



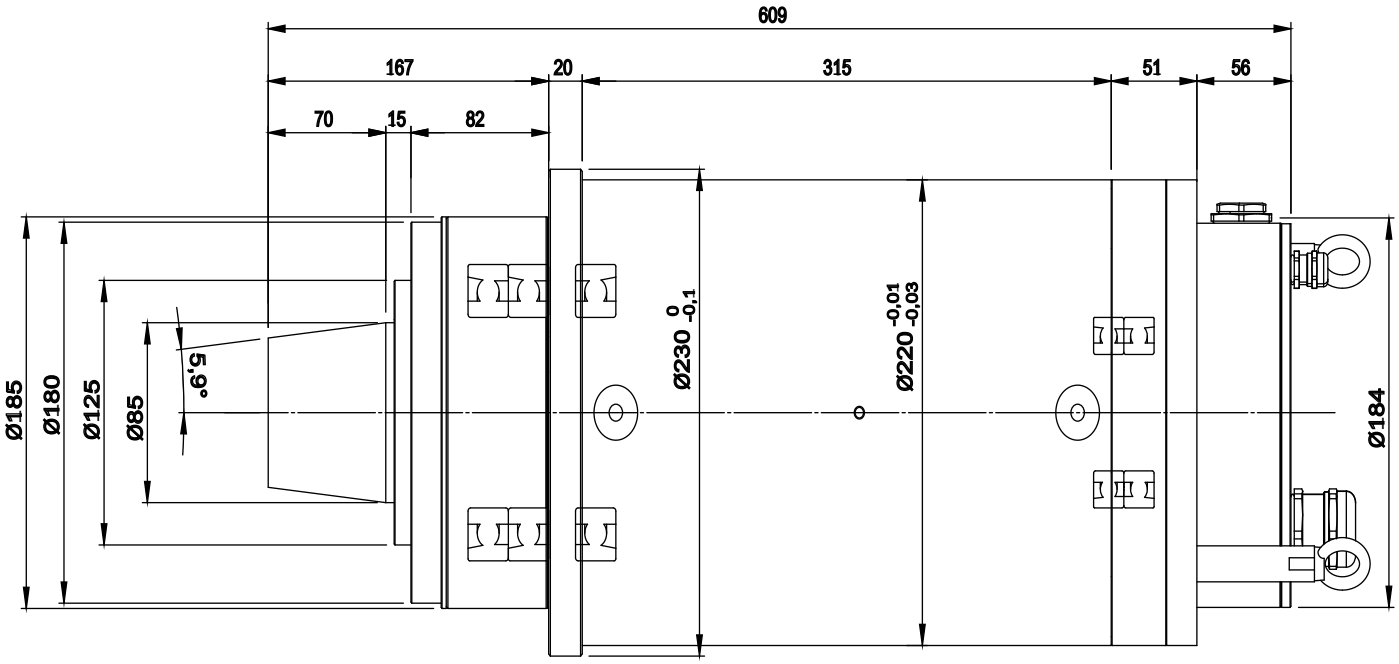


THGA-220.06

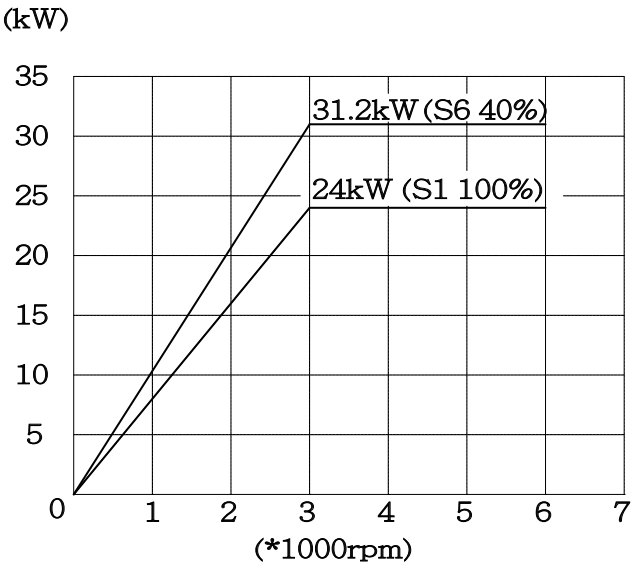
Standardised or according to customer's specifications

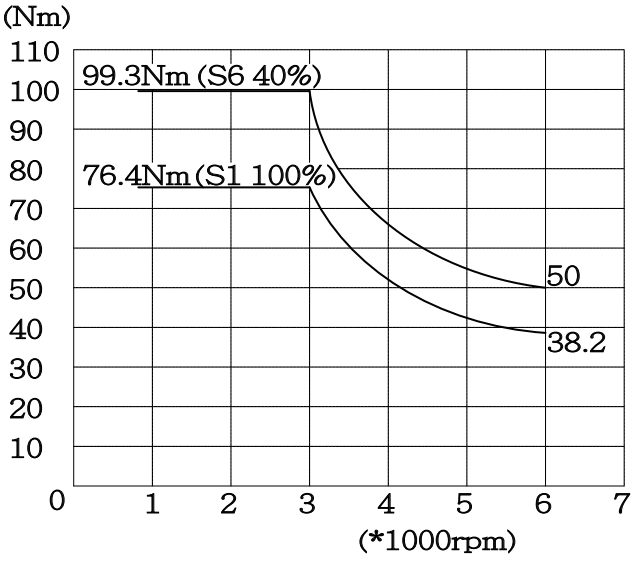
Application : Universal grinding with high rigidity

Manual tool change / Asynchronous Motor

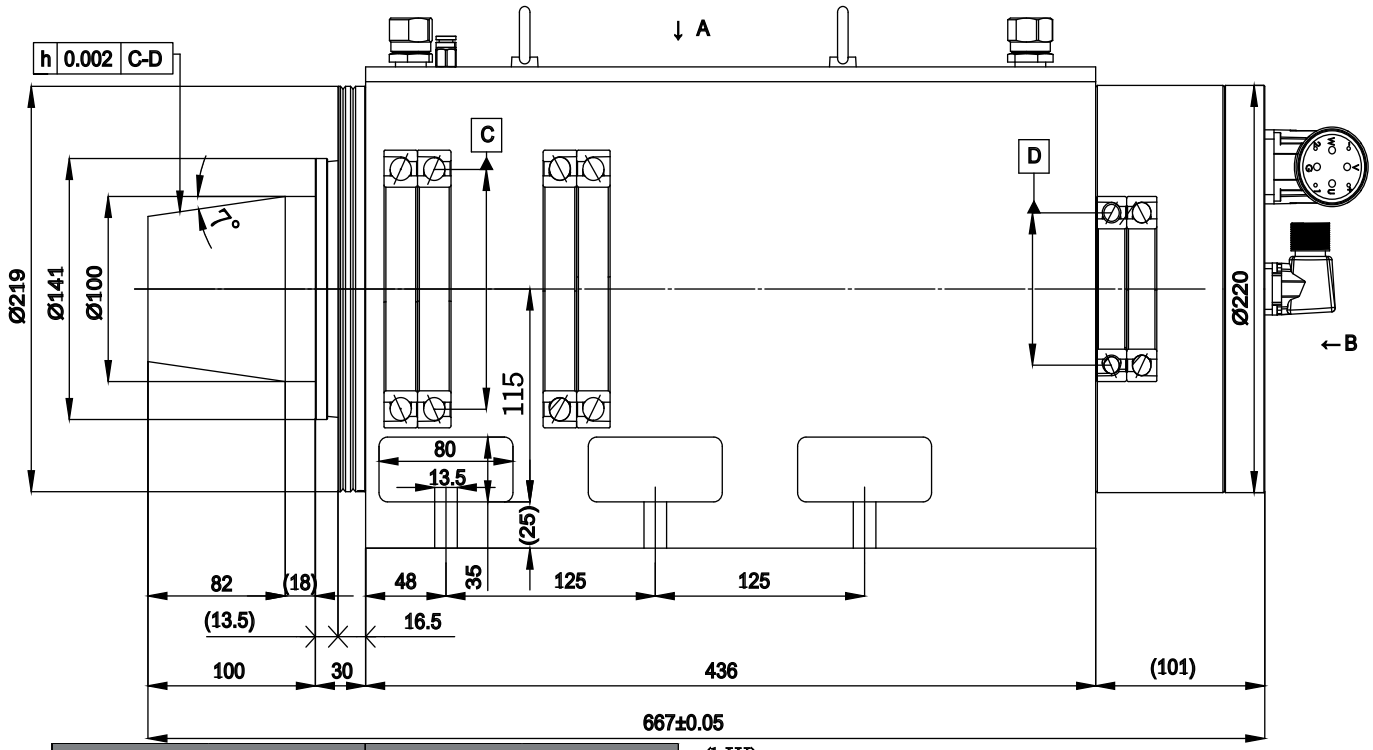


Type		THGA-220.06 (380V)
Spindle Ø		220mm
Maximum Speed (Oil-Air)		6,000rpm
Bore diameter of front bearings		90mm
Rigidity	Axial (N/µm)	230N/µm
	Radial (N/µm)	240N/µm
Frequency Max. (Hz)		200Hz
at speed		3,000RPM
S1 kW		24kW
S1 Current (A)		46A
S6-40% kW		31.2kW
S6-40% Current (A)		60A
kW (Peak Power)		55kW
S1 Torque (Nm)		76.4Nm
S6-40% Torque (Nm)		99.3Nm
Tool Interface		Standardised or according to customer's specifications.
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		150kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.
Flange Type		Standard

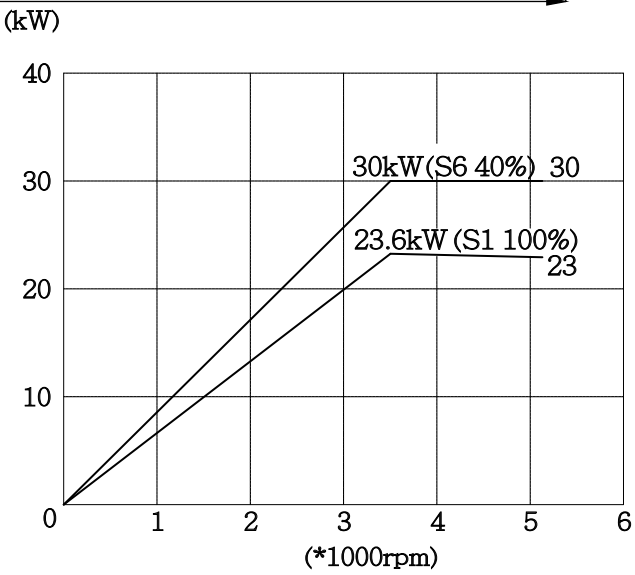


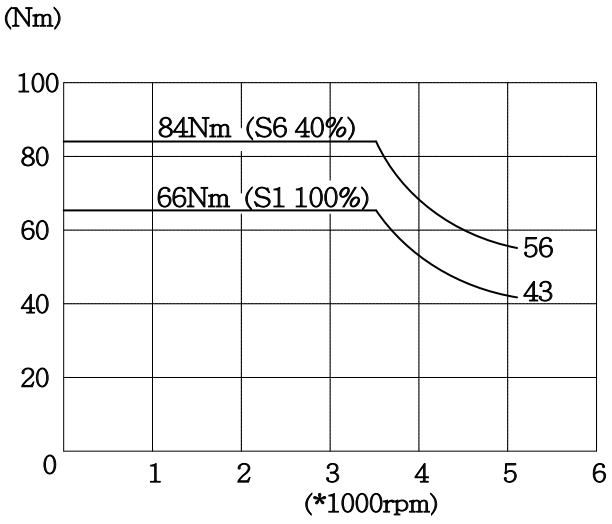


THGS-240.02
Standardised or according to customer's specifications
Application : Universal grinding with high rigidity
Manual tool change / Asynchronous Motor



Type		THGS-240.02 (380V)
Spindle Ø		240mm
Maximum Speed (Oil-Air)		5,000rpm
Bore diameter of front bearings		110mm
Rigidity	Axial (N/μm)	400N/μm
	Radial (N/μm)	300N/μm
Frequency Max. (Hz)		260Hz
at speed		3,500RPM
S1 kW		23.6kW
S1 Current (A)		48A
S6-40% kW		30kW
S6-40% Current (A)		62A
kW (Peak Power)		N/A
S1 Torque (Nm)		66Nm
S6-40% Torque (Nm)		84Nm
Tool Interface		Standardised or according to customer's specifications.
Spindle Cooling unit		Cooling capacity:4,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		218kg
Integral Encoder For Closed-Loop Control		Option
Coolant Through Shaft (CTS)		Option
Grease Lubrication.		Also available with grease lubrication. This lubrication leads to speed reduction.
Square Type		Standard





Cutting speed for spindle speed (m/s)

Cutting speed for spindle speed (m/s)														
Type / Tool interface / Maximum Speed		Cutting speed for spindle speed (m/s)												
THGZ-80 180,000rpm		56												
THGZ-80.03 D4/8 150,000rpm		47												
THG-80 D6/12 120,000rpm		38												
THG-100.02 D8/14 90,000rpm			38	47	61									
THG-100.01/THG-100.03 D14/23 60,000rpm					41	50	63	79						
THG-120.22 D16/28 51,000rpm						43	53	67	85					
THG-120.01/THG-120.08/THG-120.14 D22/38 42,000rpm							44	55	70	88				
THG-120.21 D28/43 45,000rpm							47	59	75	94				
TH-120.17/THG-120.18 D28/43 36,000rpm								39	50	63	79			
THG-150.01/THG-150.03 D28/43 30,000rpm								39	50	63	79			
THG-150.01/THG-150.03 D36/63 24,000rpm									40	50	63	79		
THG-150.06/THG-150.07 D36/63 30,000rpm									50	63	79	99	125	
THG-170.01/THG-170.02/THG-170.06 D36/63 24,000rpm									40	50	63	79	101	
THGN-170.01/THGN-170.02/THGN-170.03 D36/68 20,000rpm										41	52	65	83	104
THG-190.01 D36/68 10,000rpm										21	26	33	42	52
Grinding wheel dimensions (mm)	E (mm)	6	8	10	13	16	20	25	32	40	50	63	80	100
	F (mm)	8	10	10	13	16	20	25	25	32	40	40	40	40
	G (mm)	2	3	3	4	6	8	10	13	16	20	25	32	36
Grinding mandrel diameter Ø (mm)	K	4	5	6	8	10	13	16	20	25	32	40	50	56
Grinding quill		Cemented			Grinding quill with fitting bolt / For grinding wheels on threaded pin					Grinding quill with nut				

Interface	K [mm]	H [mm]	Grinding wheel E x F [mm]	G[mm]	Grinding wheel fixation	Ho[mm]
D6/12	4	15	6 X 8	2	Cemented	4
D8/14	5	20	8 X 10	3	Cemented	6
	6	25	10 X 10	3	Quill with fitting bolt / Grinding wheels on threaded pin	6
	8	32	13 X 13	4		6
D14/23	6	20	10 X 10	4	Cemented	8
	10	25	16 X 16	6	Quill with fitting bolt / Grinding wheels on threaded pin	8
	16	32	25 X 25	10		10
D16/28	10	25	16 X 16	6	Quill with fitting bolt / Grinding wheels on threaded pin	10
	13	32	20 X 20	8		10
	16	40	25 X 25	10		10
D22/38	13	32	20 X 20	8	Quill with fitting bolt / Grinding wheels on threaded pin	12
	20	40	32 X 25	13		12
	25	50	40 X 32	16	Grinding quill with nut	12
D28/43	16	40	25 X 25	10	Quill with fitting bolt / Grinding wheels on threaded pin	12
	20	50	32 X 25	13		12
	32	63	50 X 40	20	Grinding quill with nut	12
D36/63	25	50	40 X 32	16	Grinding quill with nut	15
	32	63	50 X 40	20		15
	50	100	80 X 40	32		15
D36/68	32	63	50 X 40	20	Grinding quill with nut	15
	40	80	63 X 40	25		15
	56	125	100 X 40	36		15

Imbalance

A large tool imbalance leads to poor precision and accidents.
Correct imbalances in all tools

Critical Speed

Do not use inappropriate tools like those with critical speed in the vicinity of the number of rotations used. This is extremely dangerous.

Centrifugal Force Exerted on the Tools

The grindstone has a weak tensile strength. This will cause damage if the centrifugal force from high-speed rotation is too great.
Use a grindstone with a margin greater than the maximum circumferential speed specified by the grindstone manufacturer.

Ø49.5mm~Ø60mm
Dressing Spindles
Manual tool change

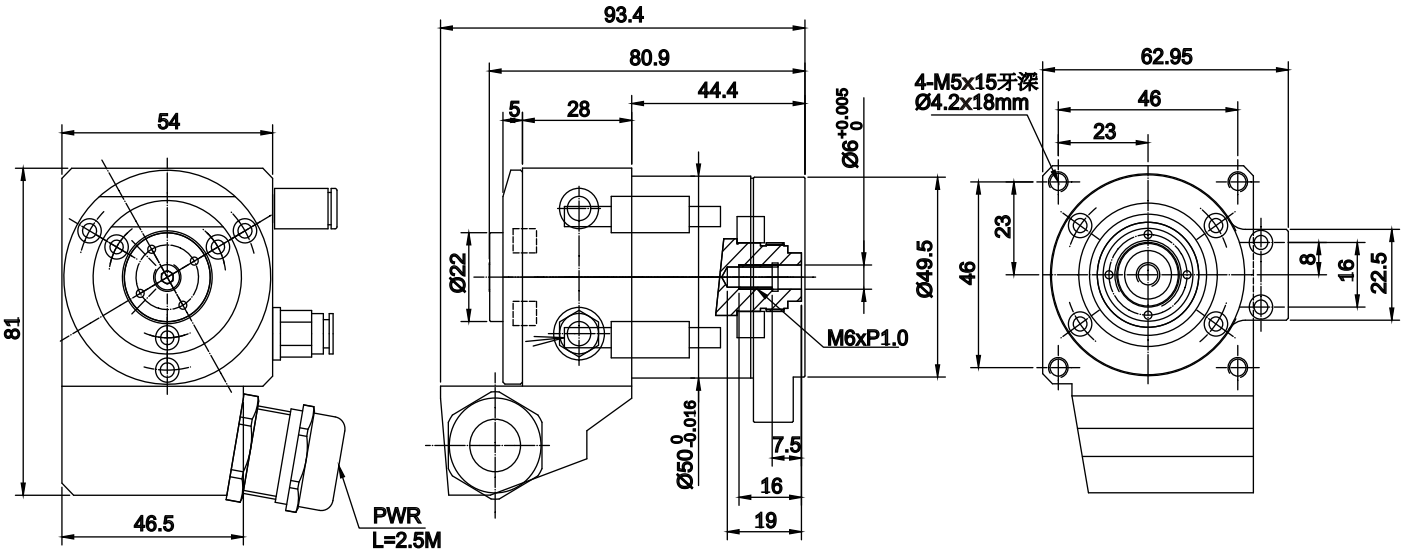
Type		THGA-V50.01 (200V)	THGA-60.01 (220V)	THGL-60.01 (130V)
Spindle Ø		49.5mm	60mm	60mm
Built-in Spindle Motor		Asynchronous motor		
Maximum Speed	Grease	N/A	N/A	12,000rpm
	Oil-Air	18,000rpm	24,000rpm	N/A
Frequency Max. (Hz)		334Hz	400Hz	200Hz
at speed		18,000rpm	19,600RPM	11,700RPM
S1 kW		0.1kW	0.45kW	0.26kW
S1 Torque (Nm)		0.05Nm	0.21Nm	0.21Nm
Tool Interface / Grinding Wheel Flange		M6 X P1.0	External Taper 1/5	
		N/A	Grinding Wheel Flange Contact Face Φ 56mm	
		Shaft Ø 12mm	Grinding Wheel Flange Centering Φ 40mm	
Rotational Direction		Left or Right		
Spindle Cooling		N/A	N/A	N/A
Spindle Weight		2.2kg	3kg	4kg
Integral Encoder For Closed-Loop Control		N/A	N/A	N/A
Built-In AE Sensor		N/A	N/A	N/A
Grease Lubricated		N/A	N/A	Standard
Flange Type		Standard	Standard	N/A

THGA-V50.01

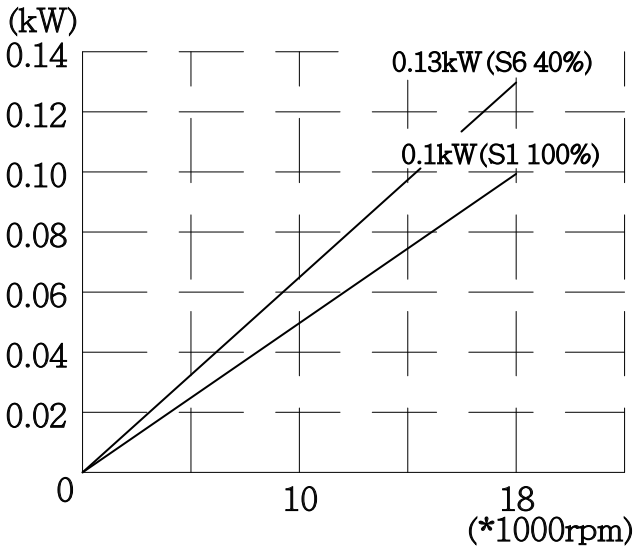
THGA-60.01

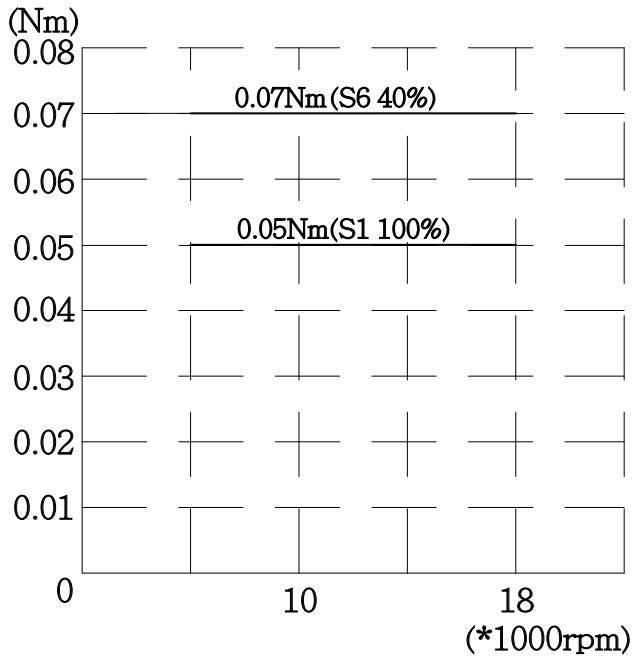
THGL-60.01

THGA-V50.01 18,000rpm
Dressing Spindle
Application : Dressing
Manual tool change / Asynchronous Motor

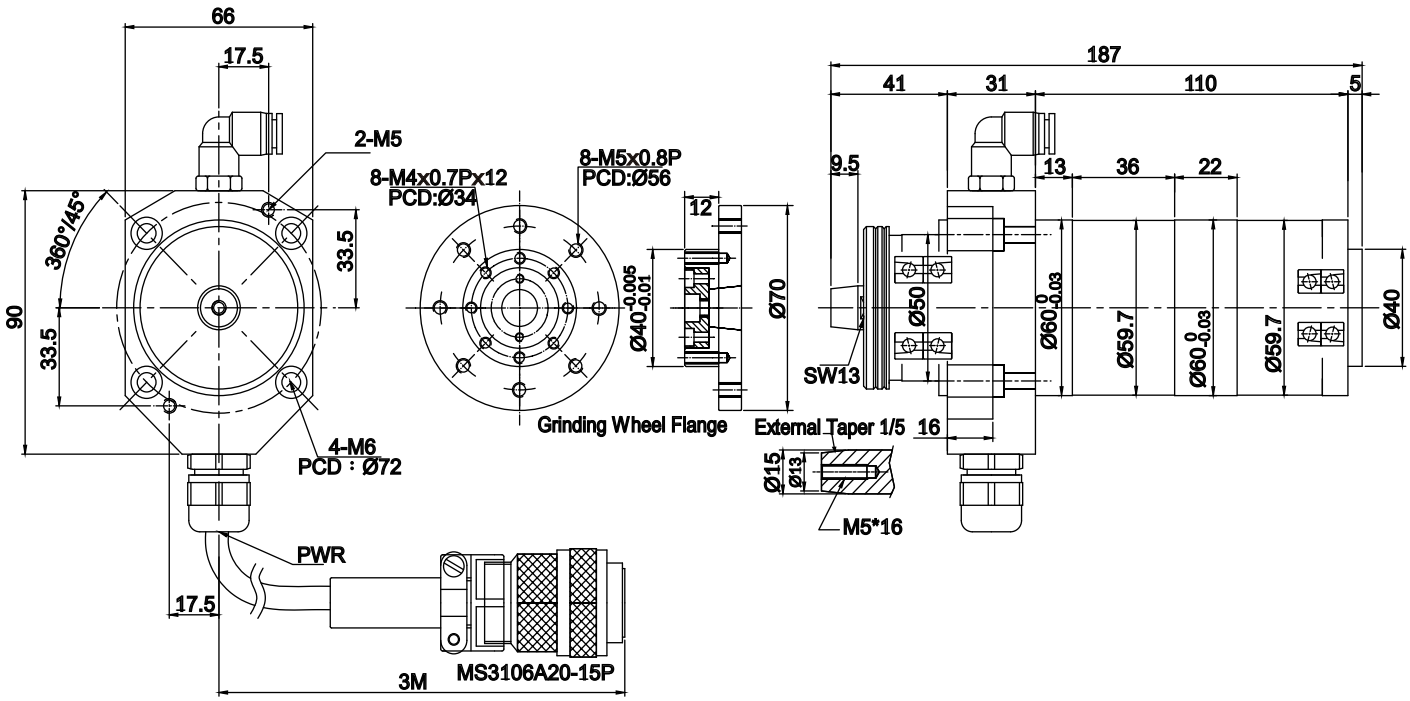


Type		THGA-V50.01 (200V)
Spindle Ø		49.5mm
Built-in Spindle Motor		Asynchronous motor
Maximum Speed	Grease	N/A
	Oil-Air	18,000rpm
Frequency Max. (Hz)		334Hz
at speed		18,000rpm
S1 kW		0.1kW
S1 Current (A)		0.8A
S1 Torque (Nm)		0.05Nm
Tool Interface / Grinding Wheel Flange		M6 X P1.0
		N/A
		Shaft Ø 12mm
Rotational Direction		Left or Right
Spindle Cooling		N/A
Spindle Weight		2.2kg
Integral Encoder For Closed-Loop Control		N/A
Built-In AE Sensor		N/A
Grease Lubricated		N/A
Flange Type		Standard

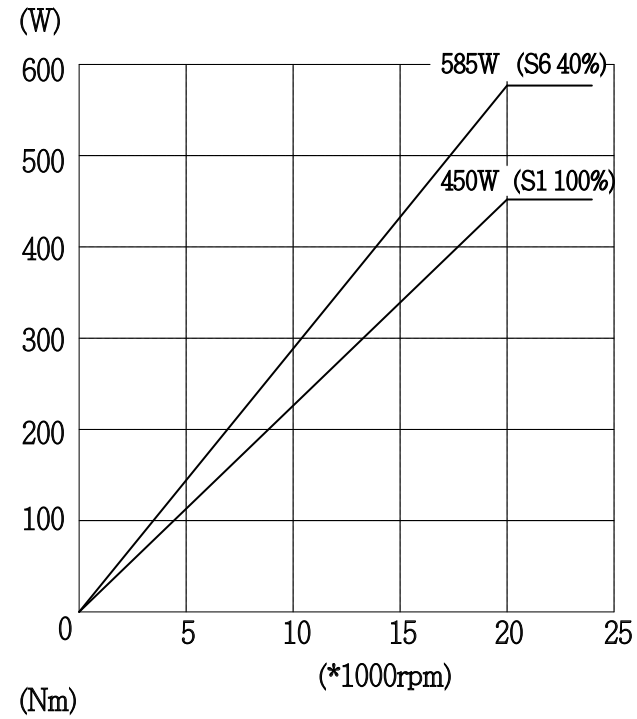


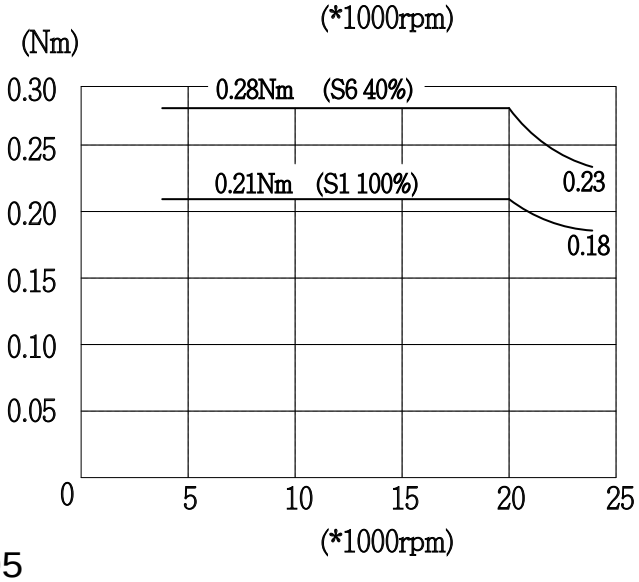


THGA-60.01 24,000rpm
Dressing Spindle
Application : Dressing
Manual tool change / Asynchronous Motor

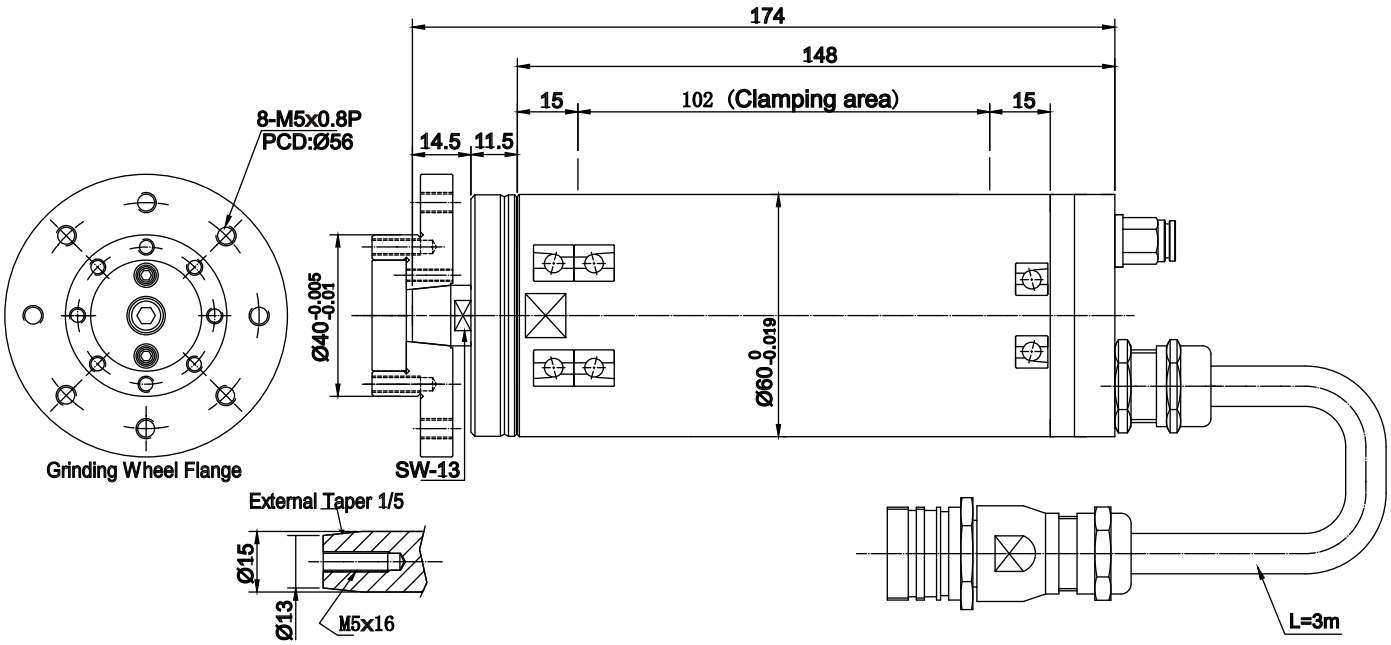


Type		THGA-60.01 (220V)
Spindle Ø		60mm
Built-in Spindle Motor		Asynchronous motor
Maximum Speed	Grease	N/A
	Oil-Air	24,000rpm
Frequency Max. (Hz)		400Hz
at speed		19,600RPM
S1 kW		0.45kW
S1 Current (A)		1.5A
S1 Torque (Nm)		0.21Nm
Tool Interface / Grinding Wheel Flange		External Taper 1/5
		Grinding Wheel Flange Contact Face Φ56mm
		Grinding Wheel Flange Centering Φ40mm
Rotational Direction		Left or Right
Spindle Cooling		N/A
Spindle Weight		3kg
Integral Encoder For Closed-Loop Control		N/A
Built-In AE Sensor		N/A
Grease Lubricated		N/A
Flange Type		Standard

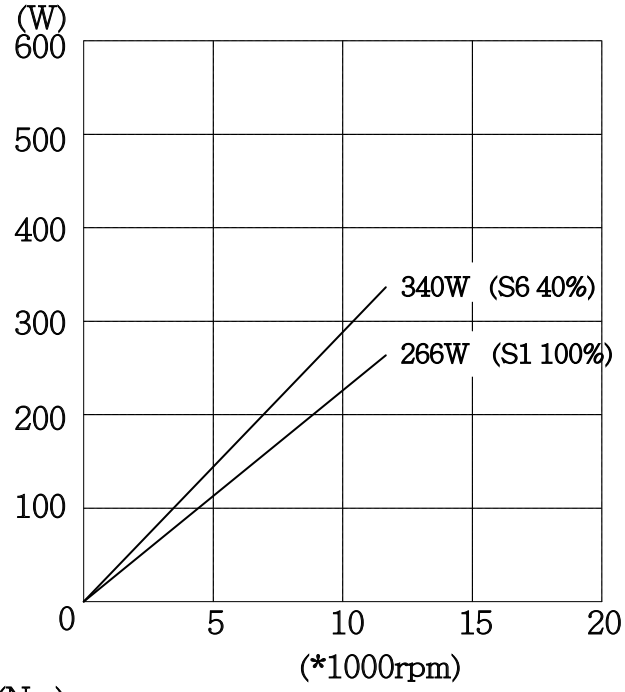


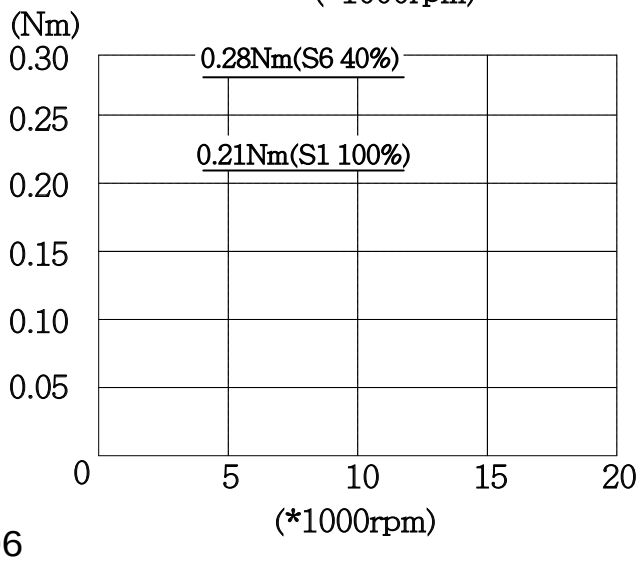


THGL-60.01 12,000rpm
Dressing Spindle
Application : Dressing
Manual tool change / Asynchronous Motor



Type		THGL-60.01 (130V)
Spindle Ø		60mm
Built-in Spindle Motor		Asynchronous motor
Maximum Speed	Grease	12,000rpm
	Oil-Air	N/A
Frequency Max. (Hz)		200Hz
at speed		11,700RPM
S1 kW		0.26kW
S1 Current (A)		1.5A
S1 Torque (Nm)		0.21Nm
Tool Interface / Grinding Wheel Flange		External Taper 1/5
		Grinding Wheel Flange Contact Face Φ56mm
		Grinding Wheel Flange Centering Φ40mm
Rotational Direction		Left or Right
Spindle Cooling		N/A
Spindle Weight		3kg
Integral Encoder For Closed-Loop Control		N/A
Built-In AE Sensor		N/A
Grease Lubricated		Standard
Flange Type		N/A



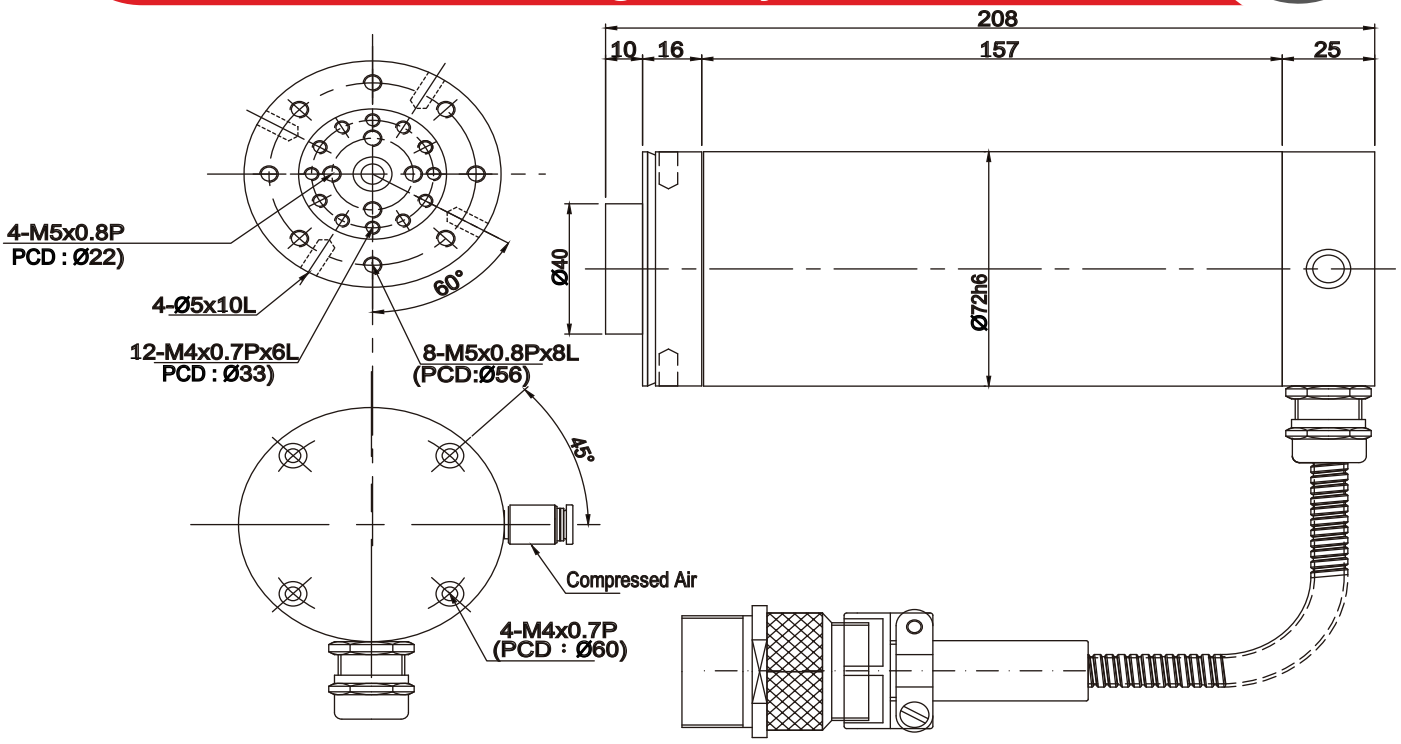


Ø72mm~Ø110mm
Dressing Spindles
Manual tool change

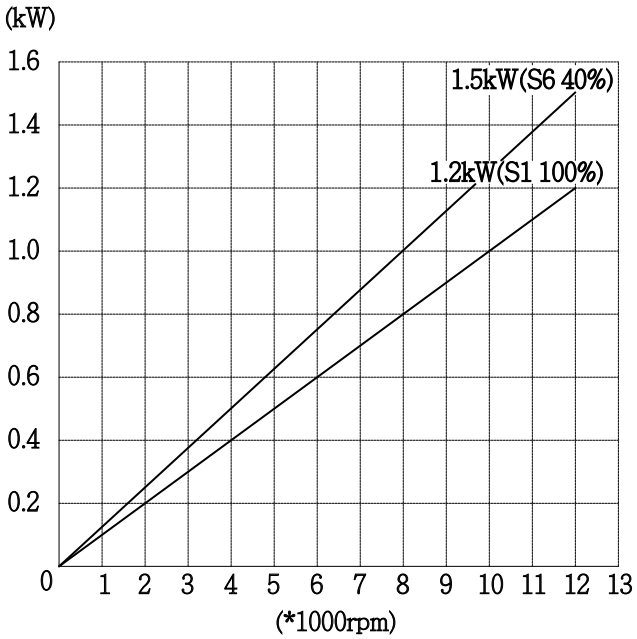
Type		THGZ-72 (170V)	TTGZ-72.01 (300V)	TTGZ-72.02 (110V)	TTGD-110.01 (200V)
Spindle Ø		72mm	72mm	72mm	110mm
Built-in Spindle Motor		Asynchronous motor	Synchronous motor		
Maximum Speed	Grease	12,000rpm	6,000rpm	12,000rpm	9,000rpm
	Oil-Air	N/A	N/A	N/A	N/A
Frequency Max. (Hz)		400Hz	200Hz	400Hz	300Hz
at speed		11,800RPM	6,000RPM	10,000RPM	6,000RPM
S1 kW		1.2kW	1.8kW	1kW	1.8kW
S1 Torque (Nm)		0.96Nm	3Nm	1Nm	2.9Nm
Tool Interface / Flat Contact Face Φ		Standardised or according to customer's specifications.			
Tool Interface / Centering Diamter		Standardised or according to customer's specifications.			
Rotational Direction		Left or Right or Left&Right			
Spindle Cooling		Compressed Air	Water cooling / Oil cooling	Compressed Air	Water cooling / Oil cooling
Spindle Weight		5kg	5kg	5kg	14kg
Integral Encoder For Closed-Loop Control		N/A	N/A	N/A	Option
Built-In AE Sensor		Option	Option	Option	Option
Grease Lubricated		Standard	Standard	Standard	Standard
Flange Type / Square Type		N/A	N/A	N/A	Square

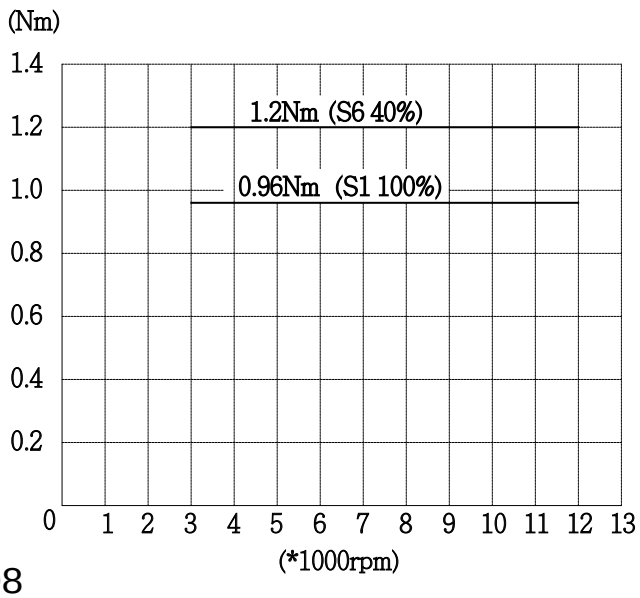
THGZ-72
TTGZ-72

THGZ-72 12,000rpm
Dressing Spindle
Application : Dressing
Manual tool change / Asynchronous Motor

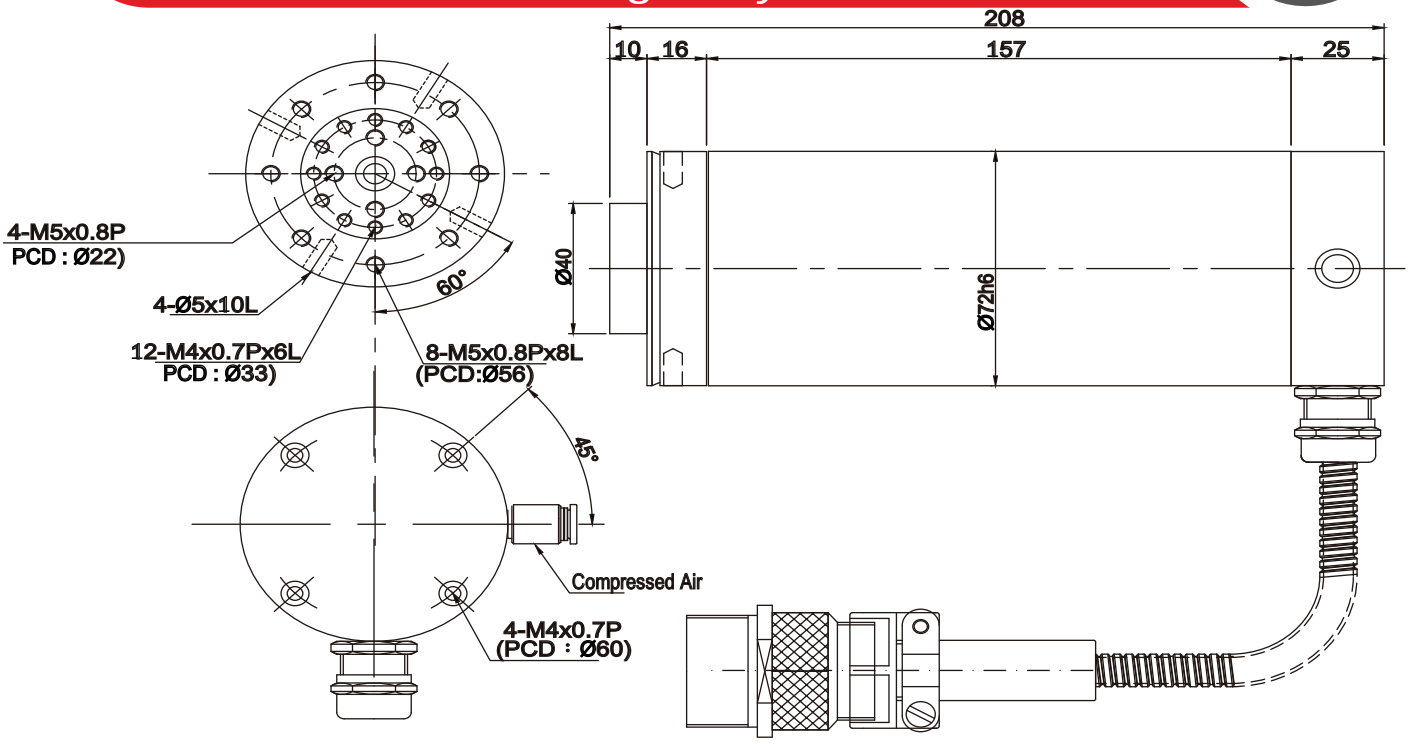


Type		THGZ-72 (170V)
Spindle Ø		72mm
Built-in Spindle Motor		Asynchronous motor
Maximum Speed	Grease	12,000rpm
	Oil-Air	N/A
Frequency Max. (Hz)		400Hz
at speed		11,800RPM
S1 kW		1.2kW
S1 Current (A)		8.0A
S1 Torque (Nm)		0.96Nm
Tool Interface / Flat Contact Face Φ		Standardised or according to customer's specifications.
Tool Interface / Centering Diamter		
Rotational Direction		Left or Right or Left&Right
Spindle Cooling		Compressed Air
Spindle Weight		5kg
Integral Encoder For Closed-Loop Control		N/A
Built-In AE Sensor		Option
Grease Lubricated		Standard
Flange Type		N/A

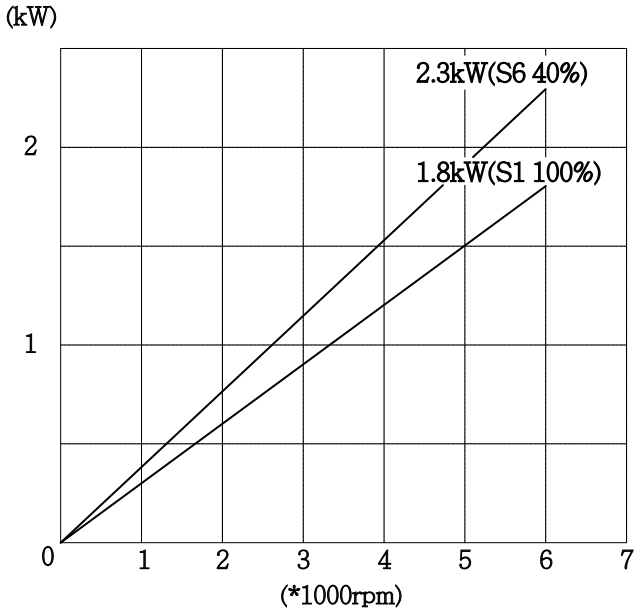


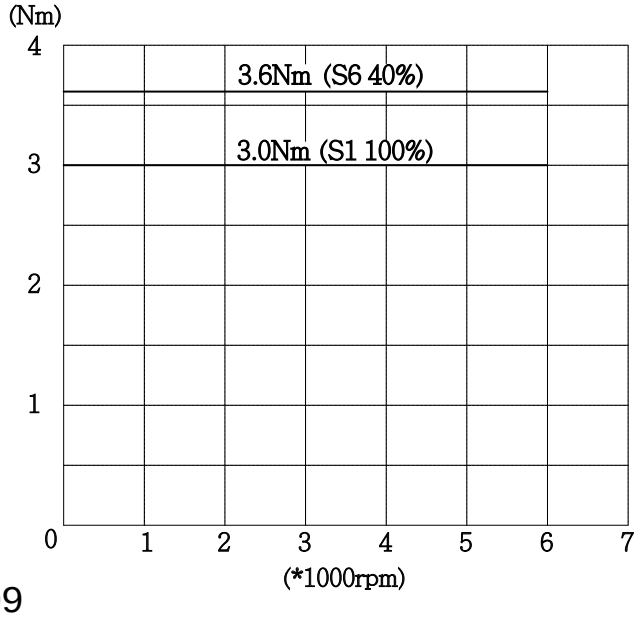


TTGZ-72.01 6,000rpm
Dressing Spindle
Application : Dressing
Manual tool change / Synchronous Motor

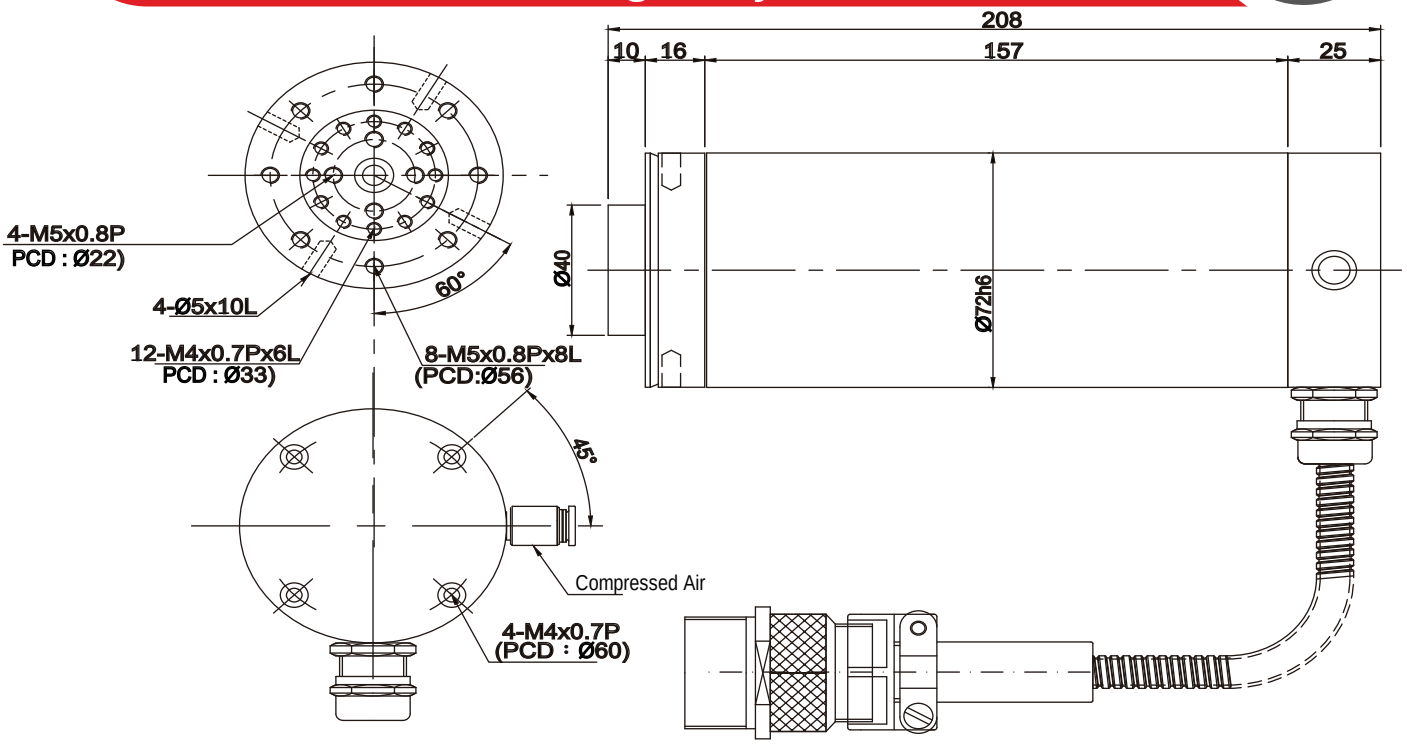


Type		TTGZ-72.01 (300V)
Spindle Ø		72mm
Built-in Spindle Motor		Synchronous motor
Maximum Speed	Grease	6,000rpm
	Oil-Air	N/A
Frequency Max. (Hz)		200Hz
at speed		6,000RPM
S1 kW		1.8kW
S1 Current (A)		4.5A
S1 Torque (Nm)		3Nm
Tool Interface / Flat Contact Face Φ		Standardised or according to customer's specifications.
Tool Interface / Centering Diamter		
Rotational Direction		Left or Right or Left&Right
Spindle Cooling		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		5kg
Integral Encoder For Closed-Loop Control		N/A
Built-In AE Sensor		Option
Grease Lubricated		Standard
Flange Type		N/A

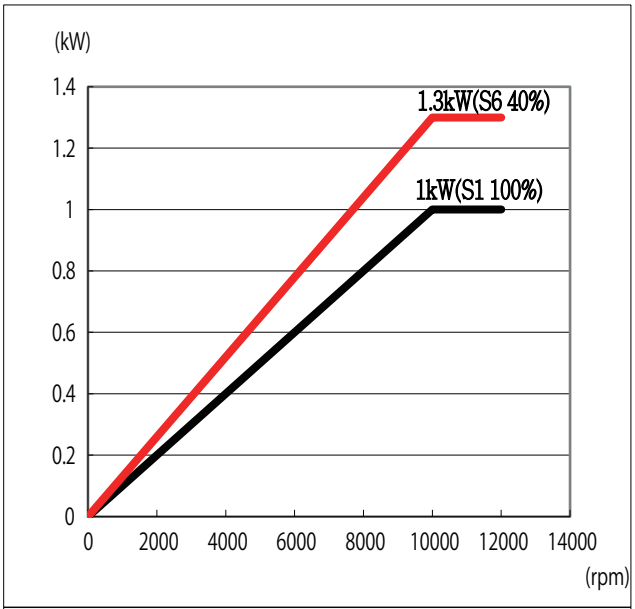


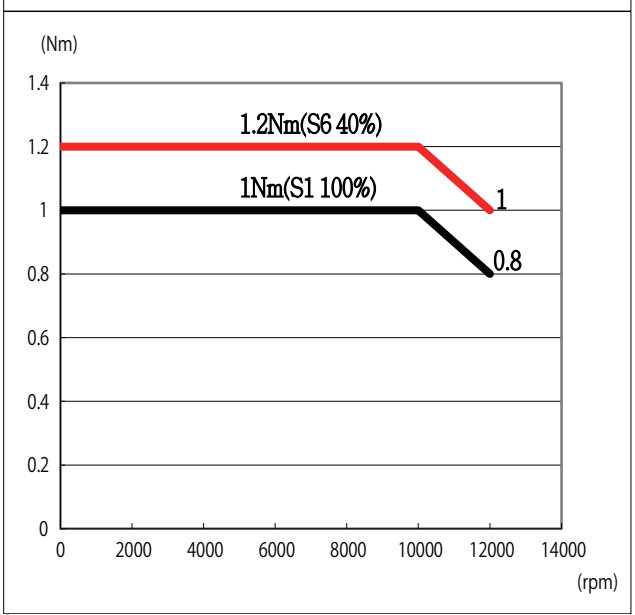


TTGZ-72.02 12,000rpm
Dressing Spindle
Application : Dressing
Manual tool change / Synchronous Motor

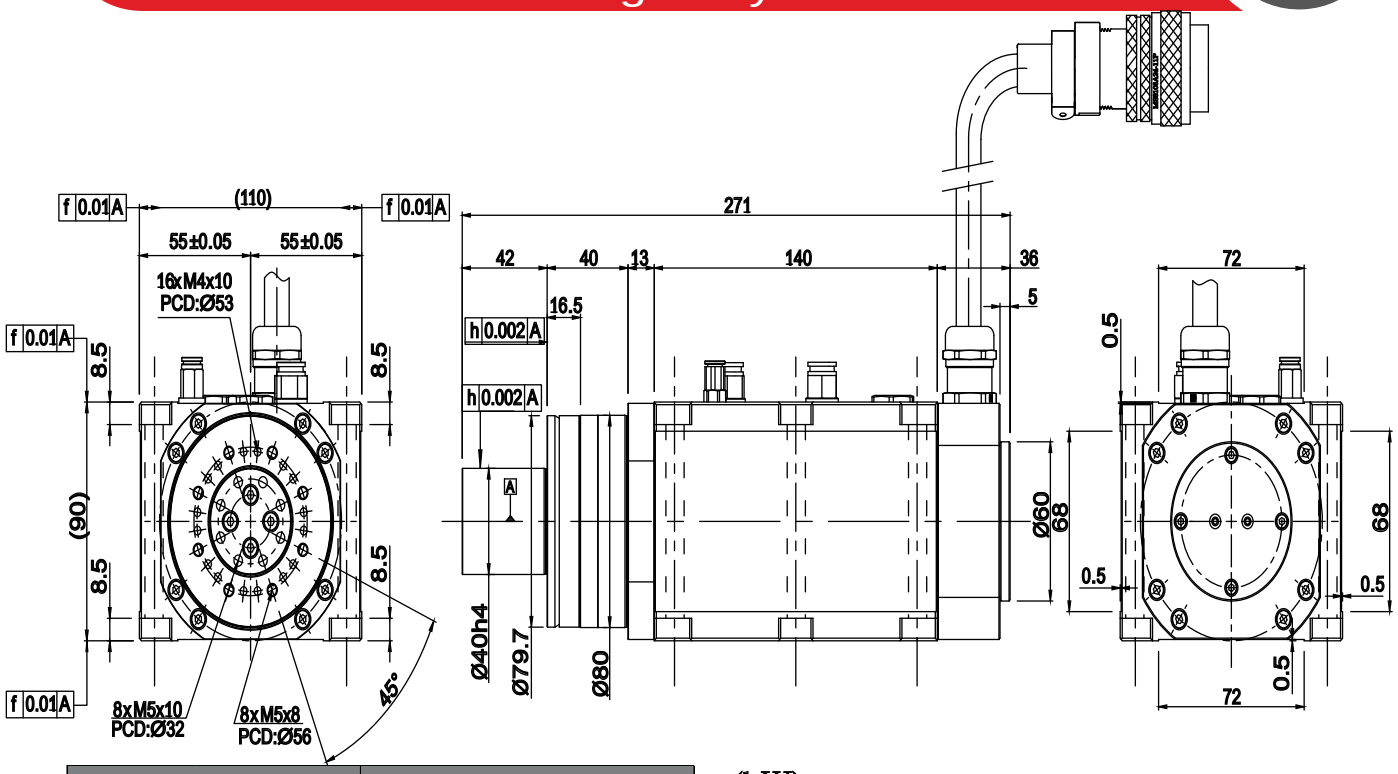


Type		TTGZ-72.02 (110V)
Spindle Ø		72mm
Built-in Spindle Motor		Synchronous motor
Maximum Speed	Grease	12,000rpm
	Oil-Air	N/A
Frequency Max. (Hz)		400Hz
at speed		10,000RPM
S1 kW		1kW
S1 Current (A)		10A
S1 Torque (Nm)		1Nm
Tool Interface / Flat Contact Face Φ		Standardised or according to customer's specifications.
Tool Interface / Centering Diamter		
Rotational Direction		Left or Right or Left&Right
Spindle Cooling		Compressed Air
Spindle Weight		5kg
Integral Encoder For Closed-Loop Control		N/A
Built-In AE Sensor		Option
Grease Lubricated		Standard
Flange Type		N/A

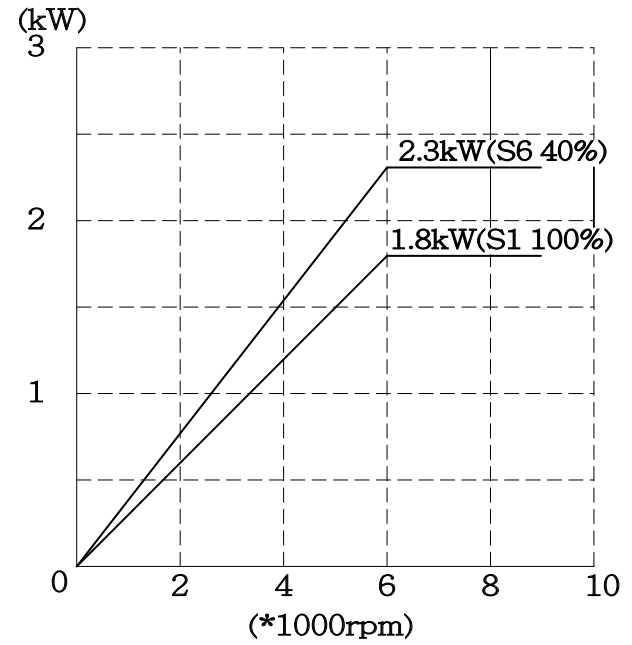


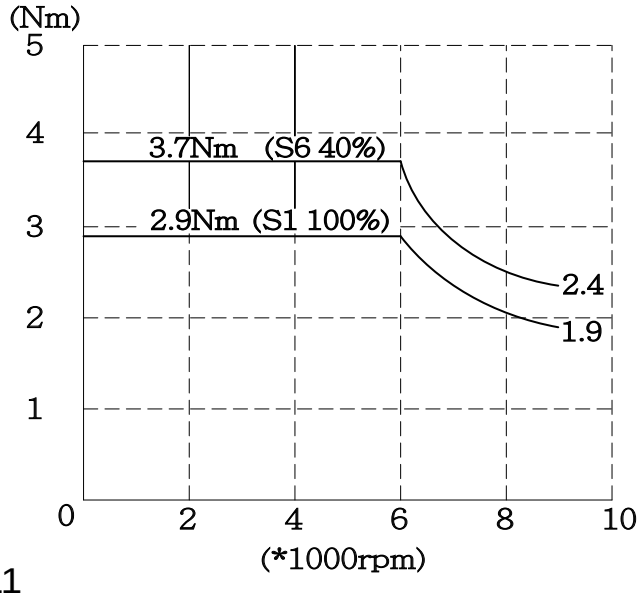


TTGD-110.01 9,000rpm
Dressing Spindle
Application : Dressing
Manual tool change / Synchronous Motor



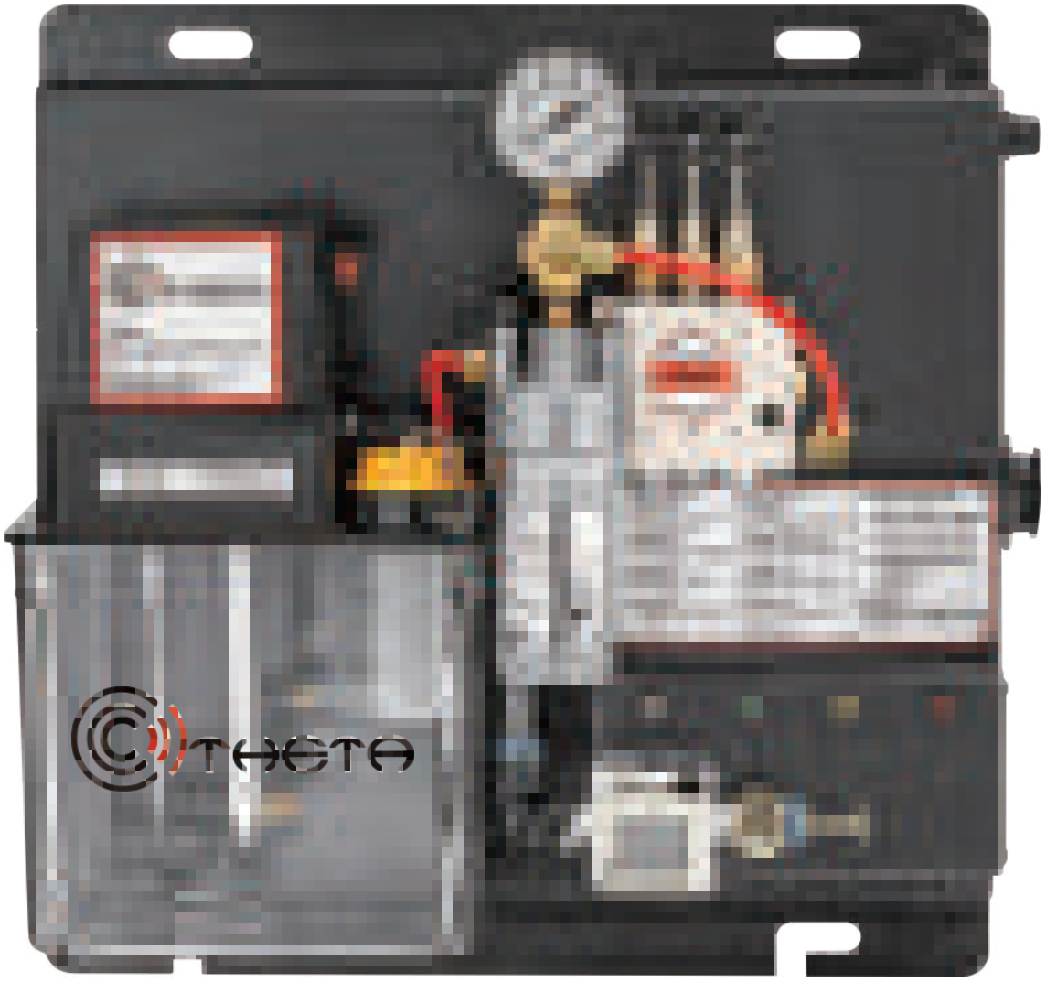
Type		TTGD-110.01 (200V)
Spindle Ø		110mm
Built-in Spindle Motor		Synchronous motor
Maximum Speed	Grease	9,000rpm
	Oil-Air	N/A
Frequency Max. (Hz)		300Hz
at speed		6,000RPM
S1 kW		1.8kW
S1 Current (A)		5.0A
S1 Torque (Nm)		2.9Nm
Tool Interface / Flat Contact Face Φ		Standardised or according to customer's specifications.
Tool Interface / Centering Diamter		
Rotational Direction		Left or Right or Left&Right
Spindle Cooling		Cooling capacity:1,000Kcal/hr (at25℃) Water cooling /Oil cooling
Spindle Weight		14kg
Integral Encoder For Closed-Loop Control		Option
Built-In AE Sensor		Option
Grease Lubricated		Standard
Square Type		Standard





THOA-008 2.5
Oil-Air Lubrication System

THOA-008 3.0
Oil-Air Lubrication System



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