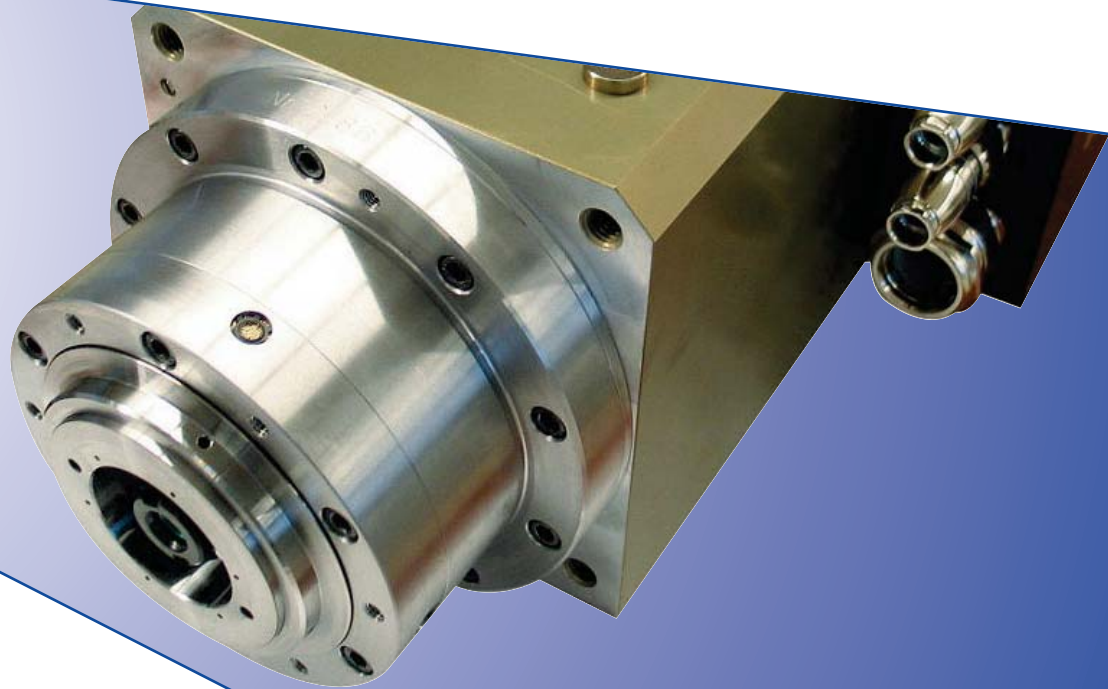


Hugo Reckerth GmbH

Spindle & Balancing Technology



tool

Individual Spindle Solutions.

of the tools

Reckerth

valid from September 2014

Hugo Reckerth GmbH is a family-owned business with a long history in Filderstadt-Bonlanden. We develop and manufacture highly precise spindles for milling, drilling, turning, and grinding machines utilized in wood, plastic, and metal-processing commercial applications. With more than 30 years of experience we are one of the international quality providers in the spindle manufacturing industry.

Even if you only need a relatively small quantity, we are your partner for custom solutions and innovative spindles. Our technology puts us on the technology leader board, while our midsize operation enables us to rapidly respond to your individual requests. Our state-of-the-art production equipment puts us in a position to flexibly respond to new market requirements.

Quality, reliability, and punctuality are our top priorities, and for that reason we work with a team of highly qualified employees. This is also supported by our quality management system, which is certified to DIN EN ISO 9001: 2008 standards. It is applied in all areas of our business operations, from development, design, and production right through to sales.

Our new catalogue provides you with a comprehensive overview of our product offering. Our product range is not only comprised of electric and motor spindles, we also manufactures complete 5-axle milling heads, belt spindles, and motors for test bays. In addition to our standardized model series, we can develop custom as well as future-oriented solutions.

If you have any questions regarding our products or require personal assistance, we would be delighted to hear from you and will be glad to advise you.

Hugo Reckerth GmbH
Spindle & Balancing Technology
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Fax +49 (0)711 / 722579-29
info@reckerth.de
www.reckerth.de

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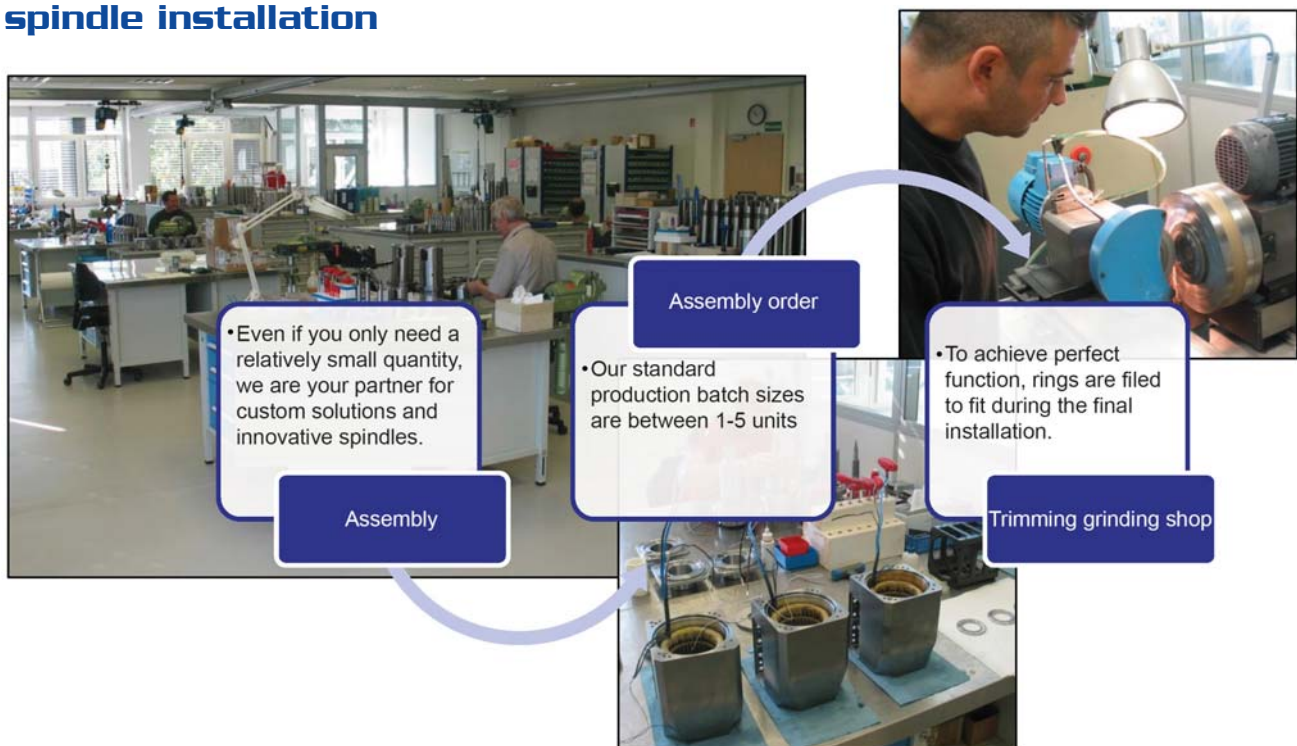
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The Company

Our headquarters are located in Filderstadt close to Stuttgart airport. We are nationally and internationally well-positioned as a medium-size, highly specialized, and successful technology company.

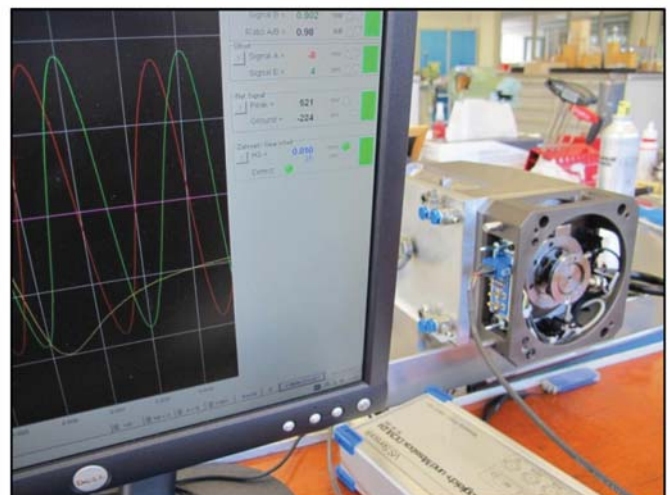


Our spindle installation



Technical expertise

All individual rotation-symmetrical components are checked and calibrated utilizing state-of-the-art measuring technology. In our test bay, each spindle is operated up to the maximum speed. Vibrations are reduced to a minimum through dynamic weight balancing. The measuring protocol documents values such as true-running accuracy, feed-in power, vibration behaviour, and electrical settings (e.g. of the encoder).



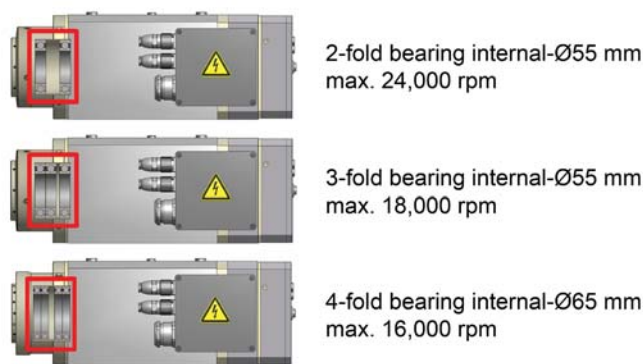
Encoder setting

1. Motor spindles with HSK interface

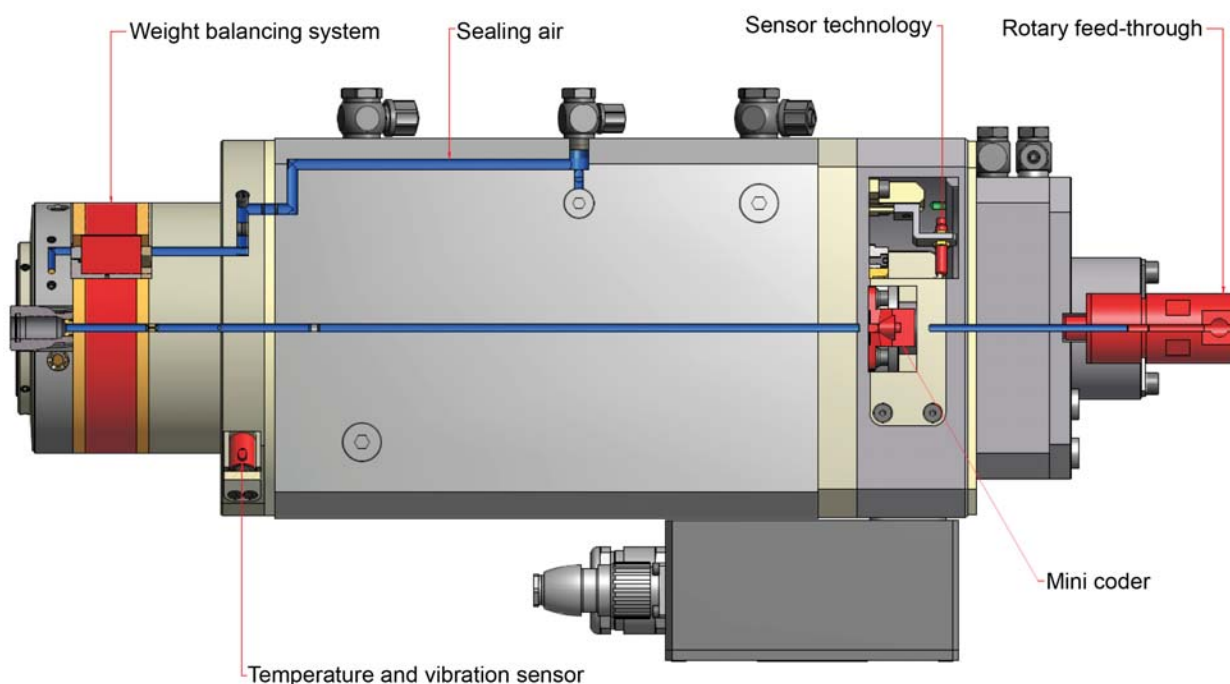
Our line of motor spindles has experienced very diverse development over the last several years. The product range consists of models for grinding, drilling, and milling applications, whose strength is especially based on high-speed processing. A large selection of product options and additional options is available.

Spindle attributes:

- Compact design
 - Asynchronous or synchronous motor
 - Cylindrical or prismatic housing
 - Manual or automatic tool changer
 - Water or air cooling
 - Sealing air to protect the inside of the spindle against contamination
 - High true-running accuracy in the taper ≤ 0.002 mm
 - Ball bearing with continuous grease lubrication or oil-air lubrication system
- Rigidity variation options (adapted to the customer's speed requirement):



- Optional accessories such as for example tool sensors, mini coders, rotary feed-through, temperature and vibration sensor as well as automatic weight balancing system:



1.1 HSK25

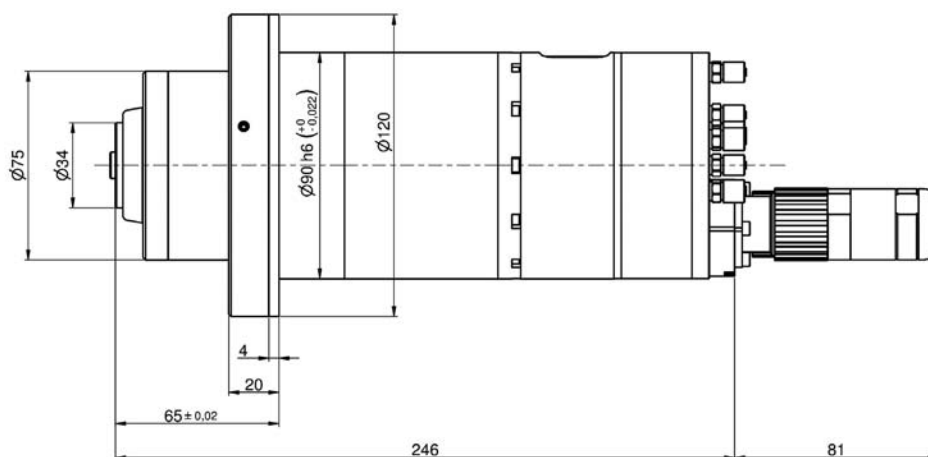
1.1.1 RF-HSK-E25 90/246

Item no. 2650.090.001



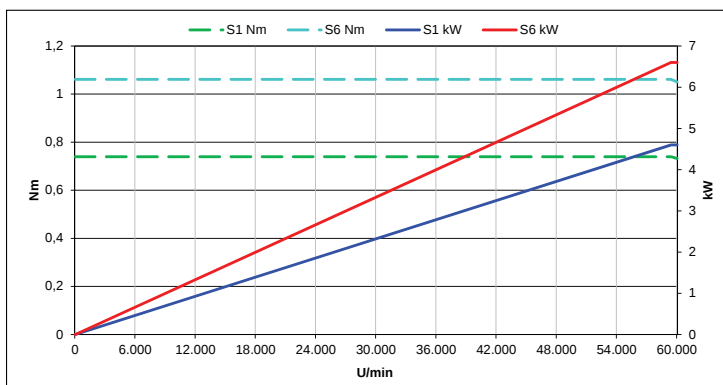
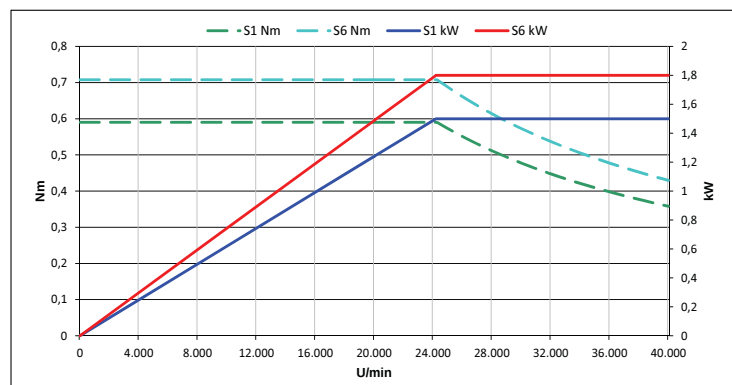
Spindle attributes:

Processing type:	Milling, drilling
Tool interface:	HSK-E25
Weight:	9 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Pneumatic
Sensor technology:	Release unit monitoring
Thermal sensor:	PTC
Cooling:	Water



Motor data:

Motor type:	Asynchronous	Asynchronous
Max. rotational speed:	40,000 rpm	60,000 rpm
Nominal rotational speed:	24,200 rpm	59,400 rpm
Max. output S1:	1.5 kW	4.6 kW
Max. torque S1:	0.59 Nm	0.74 Nm
Max. voltage:	380 V	380 V
Max. current:	3.5 A	10 A
Max. frequency:	667 Hz	1000 Hz



1.2 HSK32
1.2.1 RF-HSK-F40 125/125x360

Item no. 2600.125.002/003

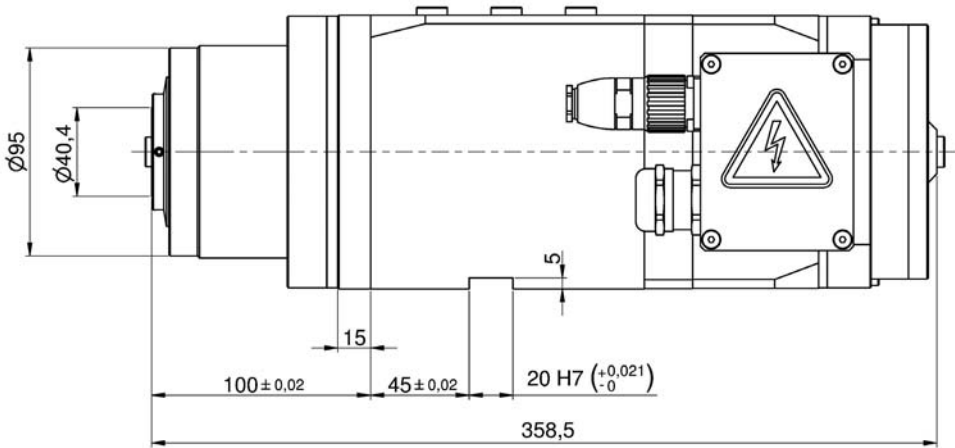


Spindle attributes:

Processing type:	Milling, drilling
Tool interface:	HSK-E32/-F40
Weight:	27 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Pneumatic
Sensor technology:	Release unit monitoring
Thermal sensor:	PTC/KTY
Cooling:	Water

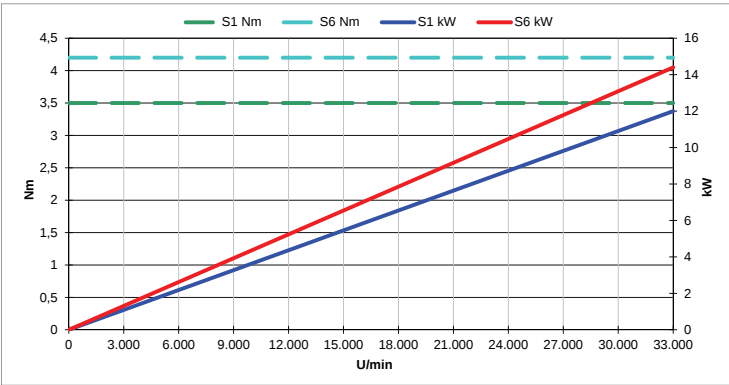
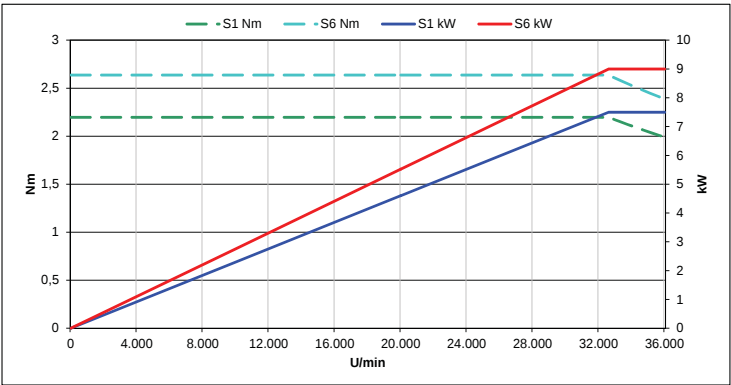
Optional additional functions:

Encoder:	TTL or sin/cos 1 vss
Sensor technology:	Bearing temperature monitoring



Motor data:

Motor type:	Asynchronous	Asynchronous
Max. rotational speed:	36,000 rpm	40,000 rpm
Nominal rotational speed:	32,600 rpm	33,000 rpm
Max. output S1:	7.5 kW	12 kW
Max. torque S1:	2.2 Nm	3.45 Nm
Max. voltage:	380 V	380 V
Max. current:	30 A	30 A
Max. frequency:	1200 Hz	1334 Hz



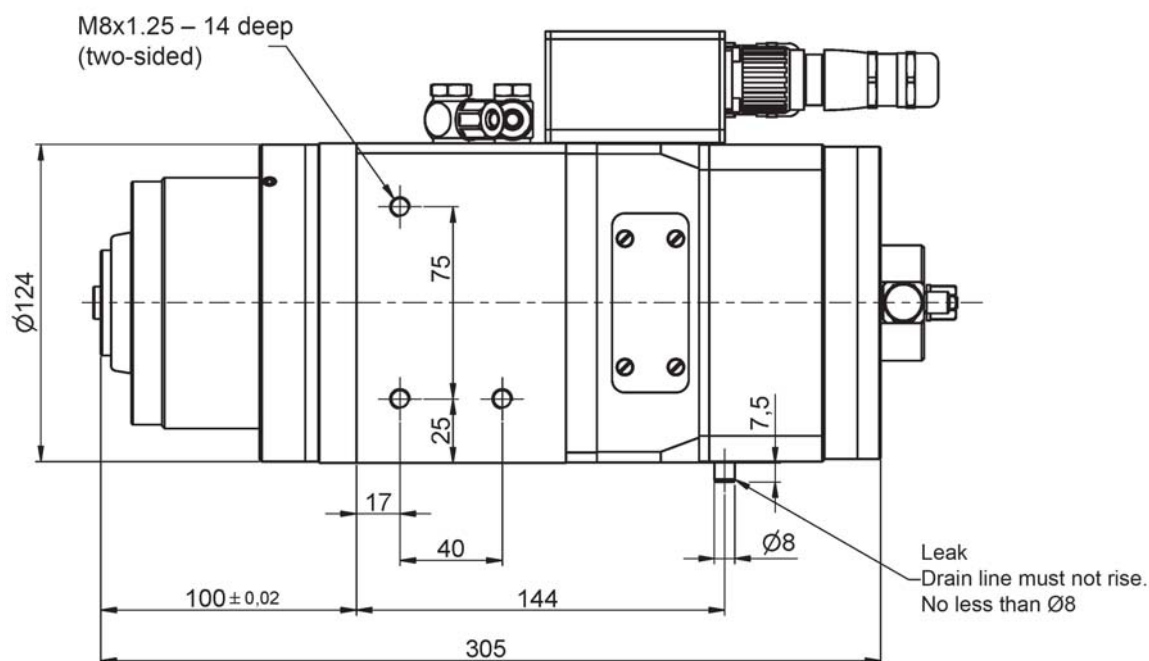
1.2.2 RF-HSK-F40 125/125x305

Item no. 2600.125.006



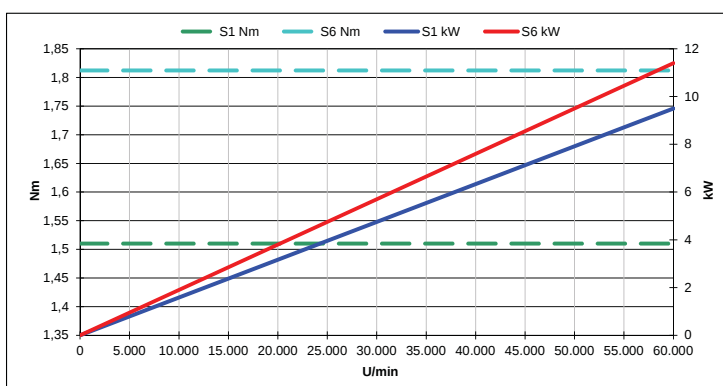
Spindle attributes:

Processing type:	Milling, drilling
Tool interface:	HSK-E32/-F40
Weight:	22 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Pneumatic
Sensor technology:	Release unit monitoring
Thermal sensor:	PTC
Cooling:	Water



Motor data:

Motor type:	Asynchronous
Max. rotational speed:	60,000 rpm
Nominal rotational speed:	60,000 rpm
Max. output S1:	9 kW
Max. torque S1:	1.51 Nm
Max. voltage:	380 V
Max. current:	20 A
Max. frequency:	1,000 Hz



1.2.3 RF-HSK-F40 120x415

Item no. 2650.120.002

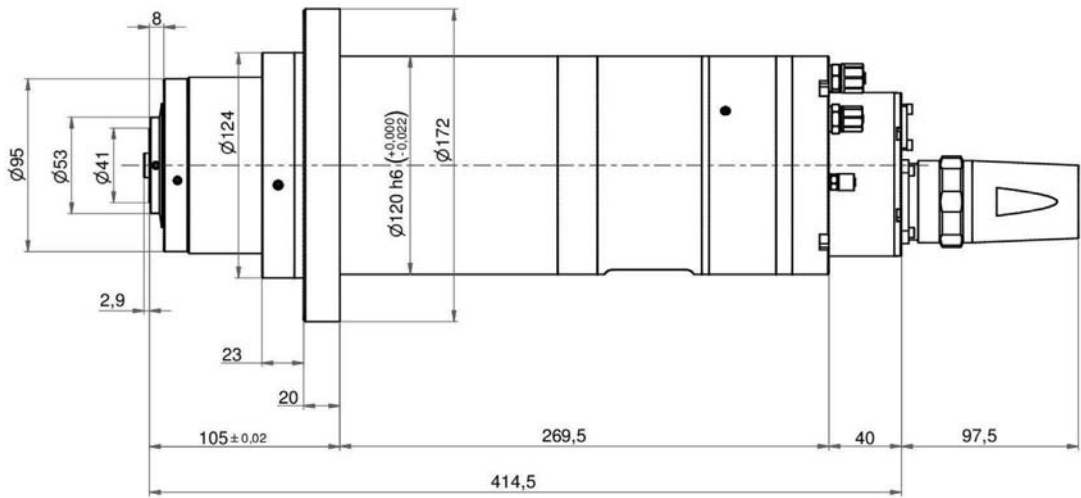


Spindle attributes:

Processing type:	Milling, drilling
Tool interface:	HSK-E32/-F40
Weight:	23 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Pneumatic
Sensor technology:	Release unit monitoring
Thermal sensor:	PTC/KTY
Cooling:	Water

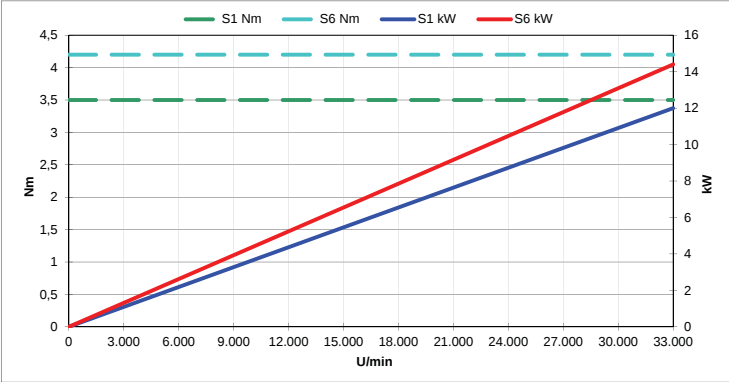
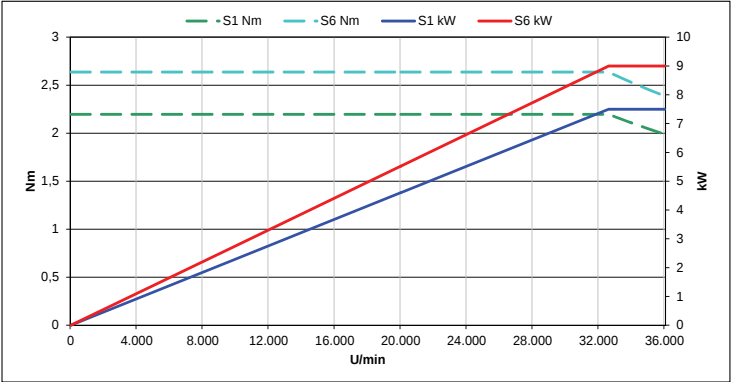
Optional additional functions:

Encoder:	TTL or sin/cos 1 vss
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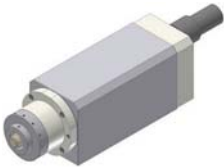
Motor data:

Motor type:	Asynchronous	Asynchronous
Max. rotational speed:	36,000 rpm	40,000 rpm
Nominal rotational speed:	32,600 rpm	33,000 rpm
Max. output S1:	7.5 kW	12 kW
Max. torque S1:	2.2 Nm	3.45 Nm
Max. voltage:	380 V	380 V
Max. current:	30 A	30 A
Max. frequency:	1200 Hz	1334 Hz



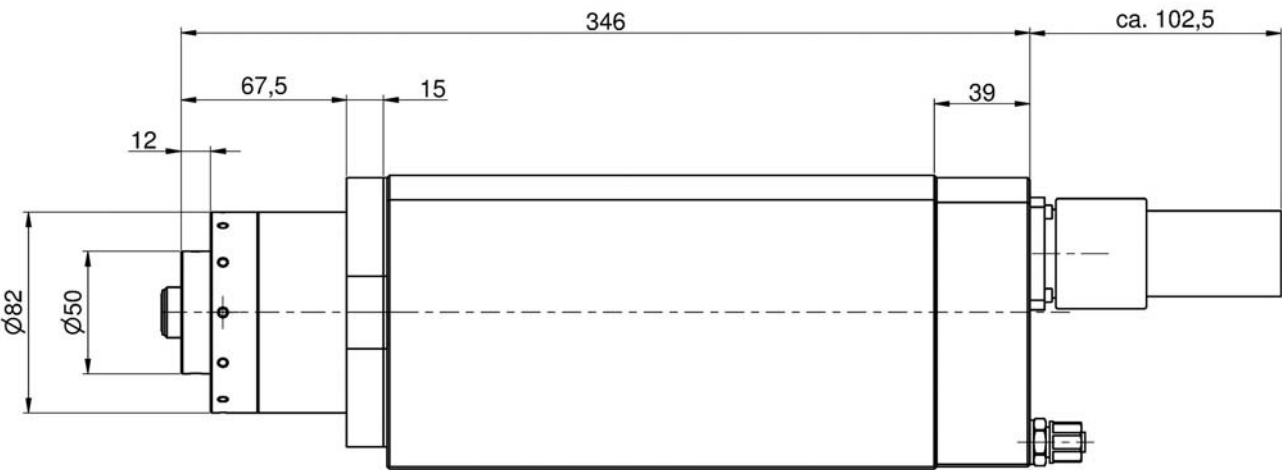
1.3 HSK40
1.3.1 RF-HSK-C40 110/120x350

Item no. 2500.110.004



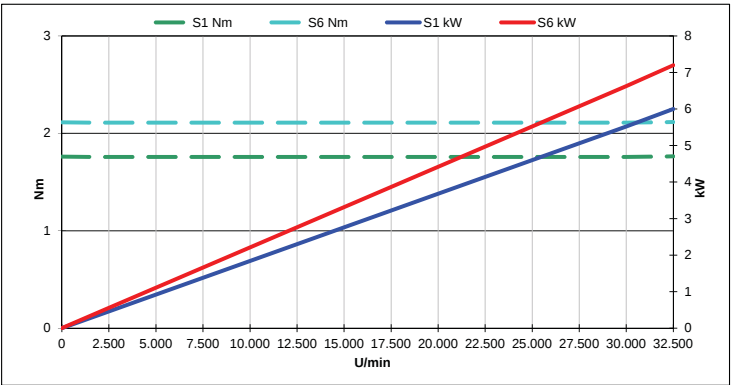
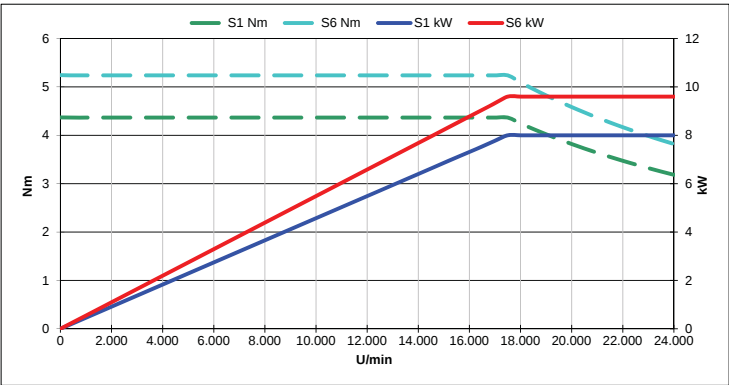
Spindle attributes:

Processing type:	Milling
Tool interface:	HSK-C40
Weight:	18 kg
Bearing lubrication:	Grease lubrication
Release unit:	Manual
Thermal sensor:	PTC
Cooling:	Water



Motor data:

Motor type:	Asynchronous	Asynchronous
Max. rotational speed:	24,000 rpm	32,500 rpm
Nominal rotational speed:	17,000 rpm	32,500 rpm
Max. output S1:	8 kW	6 kW
Max. torque S1:	4.37 Nm	1.76 Nm
Max. voltage:	350 V	380 V
Max. current:	20 A	15 A
Max. frequency:	800 Hz	1,100 Hz



1.3.2 RF-HSK-F50 140/140x385

Item no. 2600.140.001

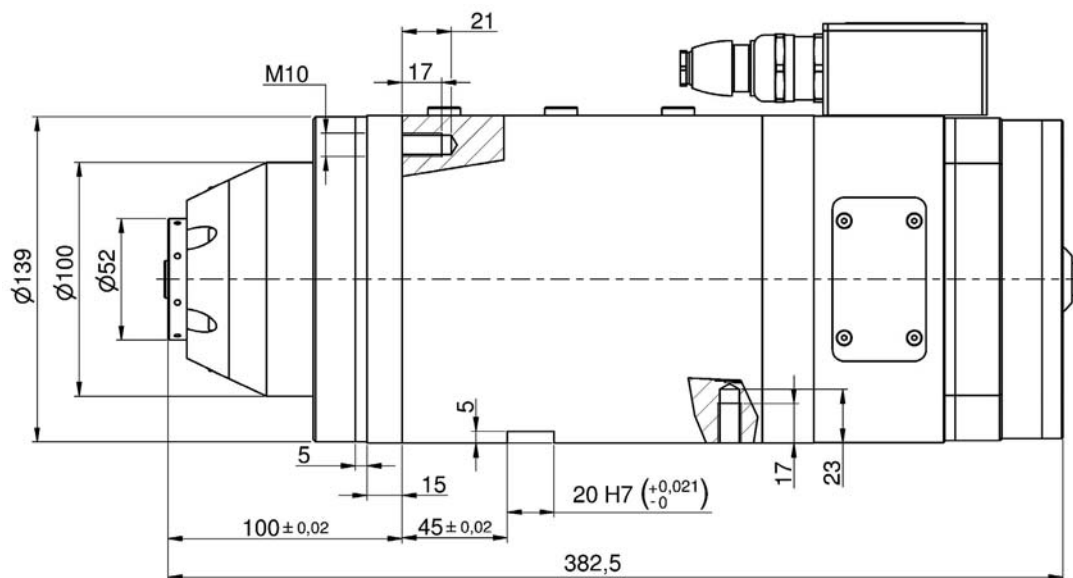


Spindle attributes:

Processing type:	Milling, drilling
Tool interface:	HSK-E40/-F50
Weight:	35 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Pneumatic
Sensor technology:	Release unit monitoring
Thermal sensor:	PTC
Cooling:	Water

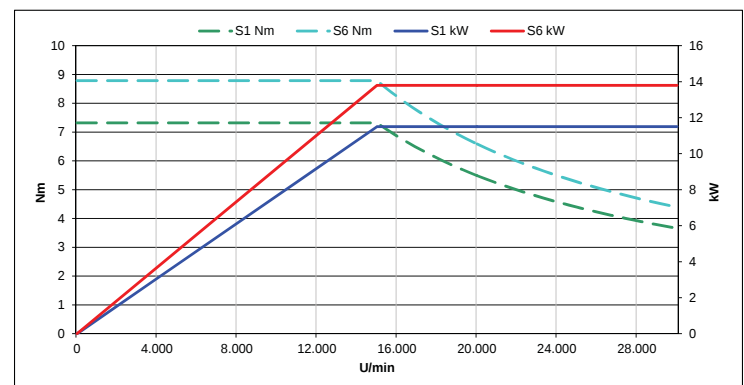
Optional additional functions:

Encoder:	TTL or sin/cos 1 vss
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Motor data:

Motor type:	Asynchronous
Max. rotational speed:	30,000 rpm
Nominal rotational speed:	15,000 rpm
Max. output S1:	11.5 kW
Max. torque S1:	7.32 Nm
Max. voltage:	380 V
Max. current:	34 A
Max. frequency:	1,000 Hz



1.4 HSK50

1.4.1 RF-HSK-F63 125/125x430

Item no. 2600.125.010

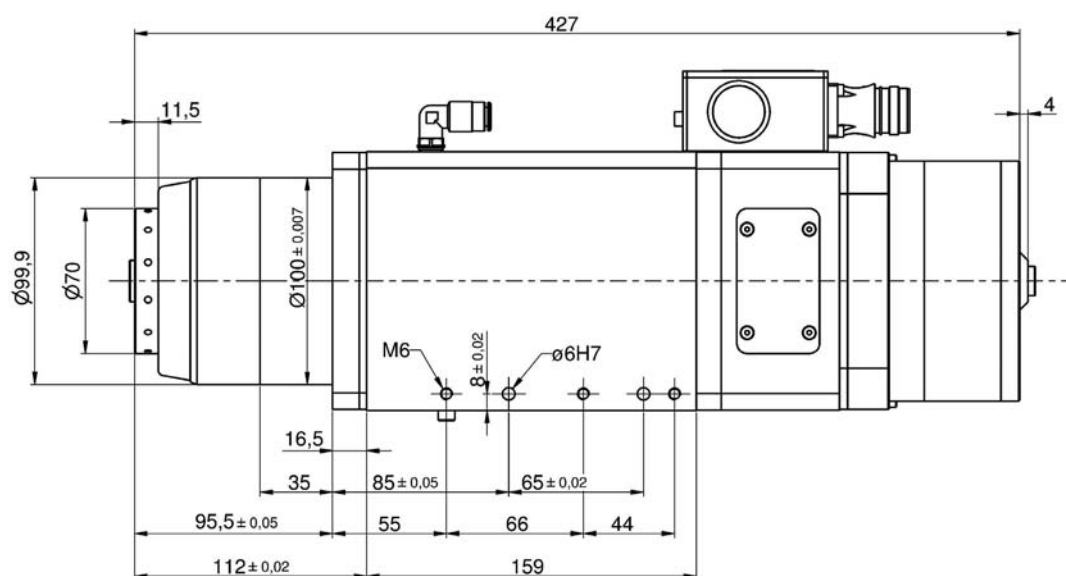


Spindle attributes:

Processing type:	Milling, drilling
Tool interface:	HSK-E50/-F63
Weight:	30 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Pneumatic
Sensor technology:	Release unit monitoring
Thermal sensor:	PTC
Cooling:	Water/air

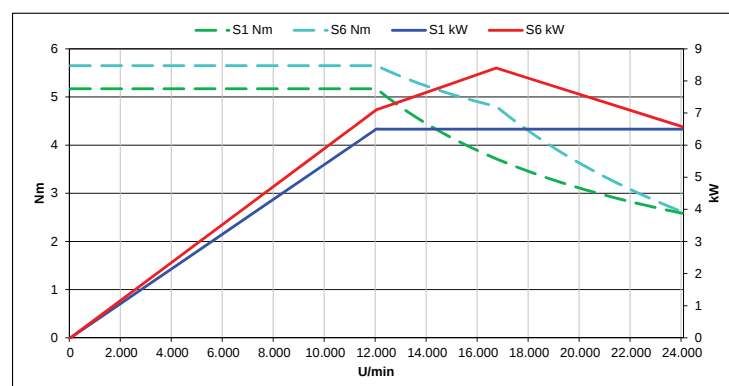
Optional additional functions:

Encoder:	TTL or sin/cos 1 vss
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Motor data:

Motor type:	Asynchronous
Max. rotational speed:	24,000 rpm
Nominal rotational speed:	12,000 rpm
Max. output S1:	6.5 kW
Max. torque S1:	5.17 Nm
Max. voltage:	380 V
Max. current:	20 A
Max. frequency:	800 Hz



1.4.2 RF-HSK-F63 140/140x328

Item no. 2600.140.002/003/004

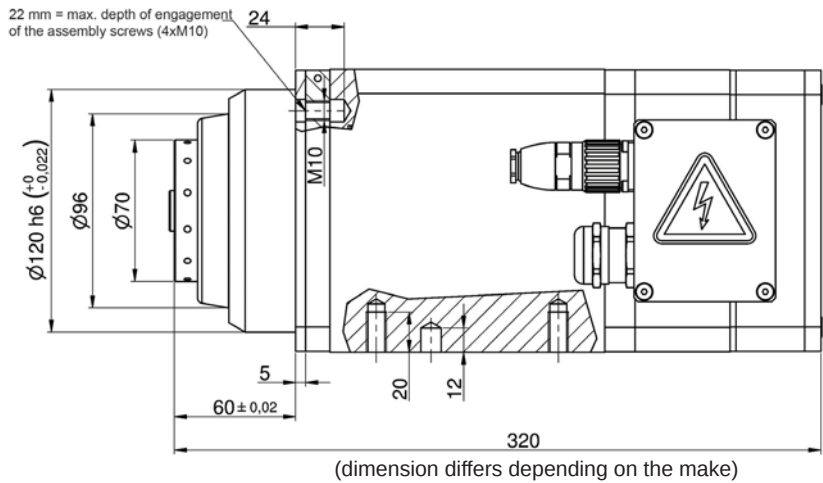


Spindle attributes:

Processing type:	Milling, drilling
Tool interface:	HSK-E50/-F63
Weight:	23 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Pneumatic
Sensor technology:	Release unit monitoring
Thermal sensor:	PTC/KTY
Cooling:	Water

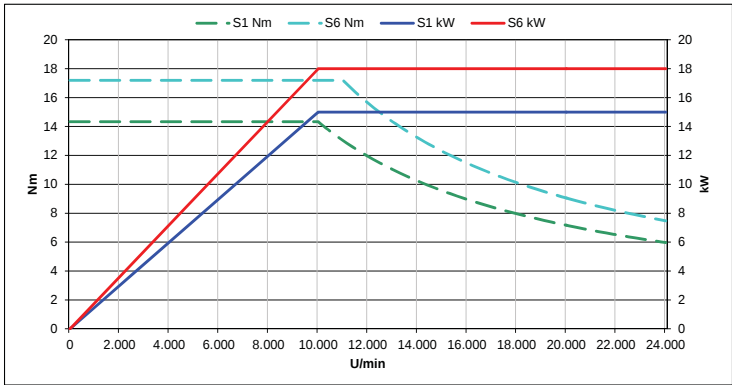
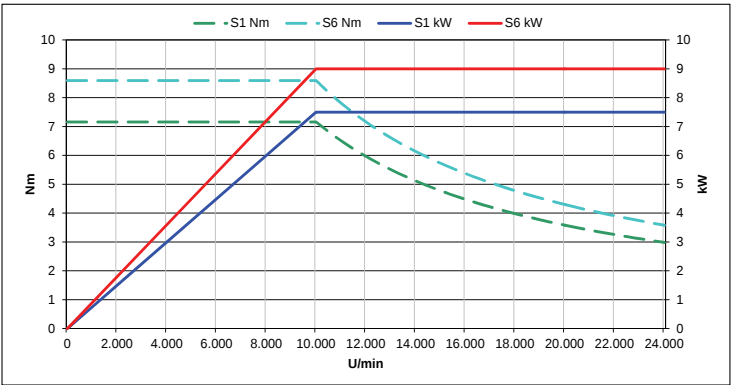
Optional additional functions:

Encoder:	TTL or sin/cos 1 vss
Sensor technology:	Bearing temperature and/or bearing state monitoring
Rotary feed-through/ pressure:	80 bar (cooling lubricant) 5 bar (air up to max. 10,000 rpm)



Motor data:

Motor type:	Asynchronous	Synchronous
Max. rotational speed:	24,000 rpm	24,000 rpm
Nominal rotational speed:	10,000 rpm	10,000 rpm
Max. output S1:	7.5 kW	15 kW
Max. torque S1:	7.16 Nm	14.33 Nm
Max. voltage:	400 V	412 V
Max. current:	22 A	40 A
Max. frequency:	800 Hz	800 Hz

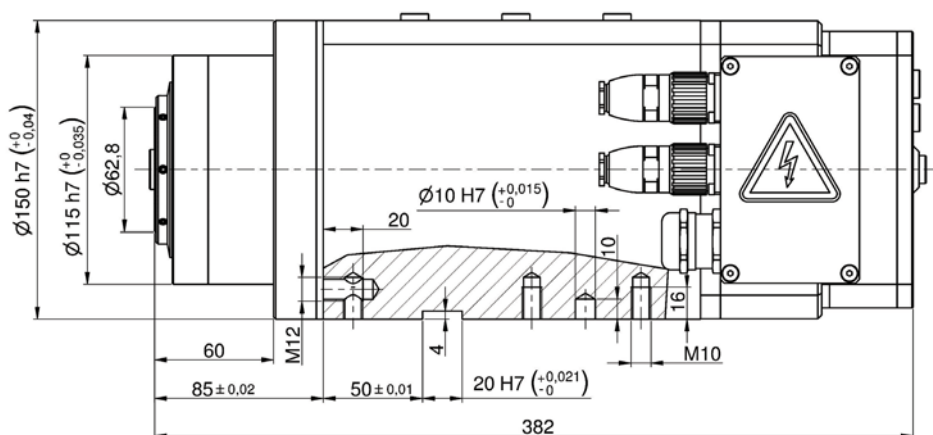


Item no. 2600.150.010/012

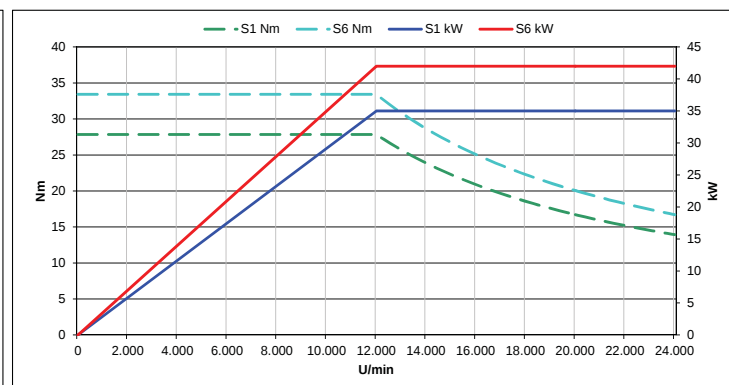
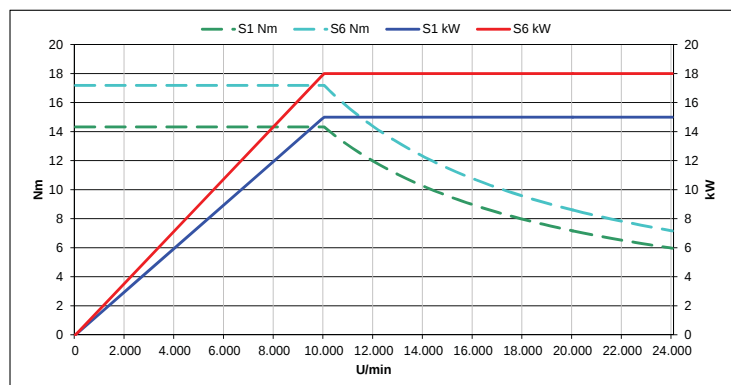


Processing type:	Milling, drilling
Tool interface:	HSK-E50/-F63
Weight:	45 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Pneumatic
Sensor technology:	Release unit monitoring
Thermal sensor:	PTC/KTY
Cooling:	Water

Encoder:	TTL or sin/cos 1 vss
Sensor technology:	Bearing temperature monitoring
Rotary feed-through/ pressure:	80 bar (cooling lubricant) 5 bar (air up to max. 10,000 rpm)



Motor type:	Asynchronous	Synchronous
Max. rotational speed:	24,000 rpm	24,000 rpm
Nominal rotational speed:	10,000 rpm	12,000 rpm
Max. output S1:	15 kW	35 kW
Max. torque S1:	14.325 Nm	27.85 Nm
Max. voltage:	380 V	465 V
Max. current:	38 A	77 A
Max. frequency:	800 Hz	800 Hz



1.4.4 RF-HSK-E50 170/175x395

Item no. 2600.170.002/004

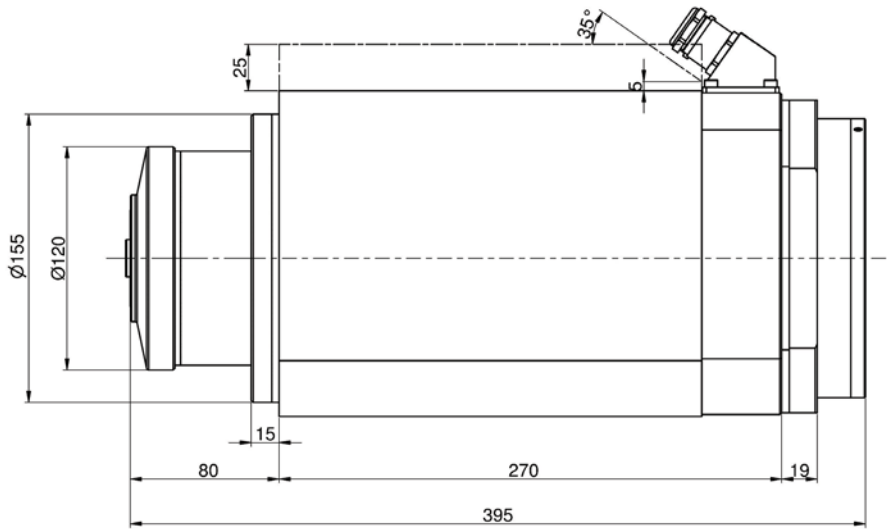


Spindle attributes:

Processing type:	Milling, drilling
Tool interface:	HSK-E50
Weight:	58 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Pneumatic
Sensor technology:	Release unit monitoring
Thermal sensor:	PTC/KTY
Cooling:	Water

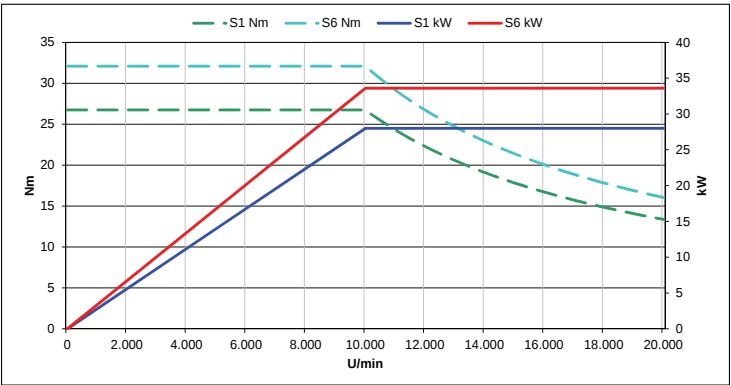
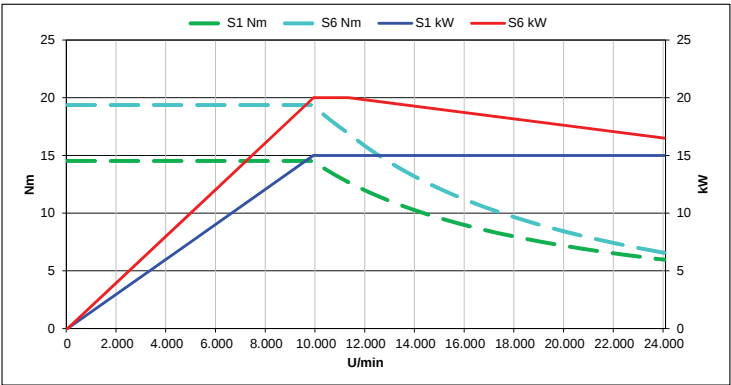
Optional additional functions:

Encoder:	TTL or sin/cos 1 vss
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Motor data:

Motor type:	Asynchronous	Synchronous
Max. rotational speed:	20,000 rpm	20,000 rpm
Nominal rotational speed:	10,000 rpm	10,000 rpm
Max. output S1:	15 kW	28 kW
Max. torque S1:	14.52 Nm	26.74 Nm
Max. voltage:	380 V	433 V
Max. current:	38 A	61 A
Max. frequency:	667 Hz	667 Hz



1.4.5 RF-HSK-E50 170x440

Item no. 2650.170.001

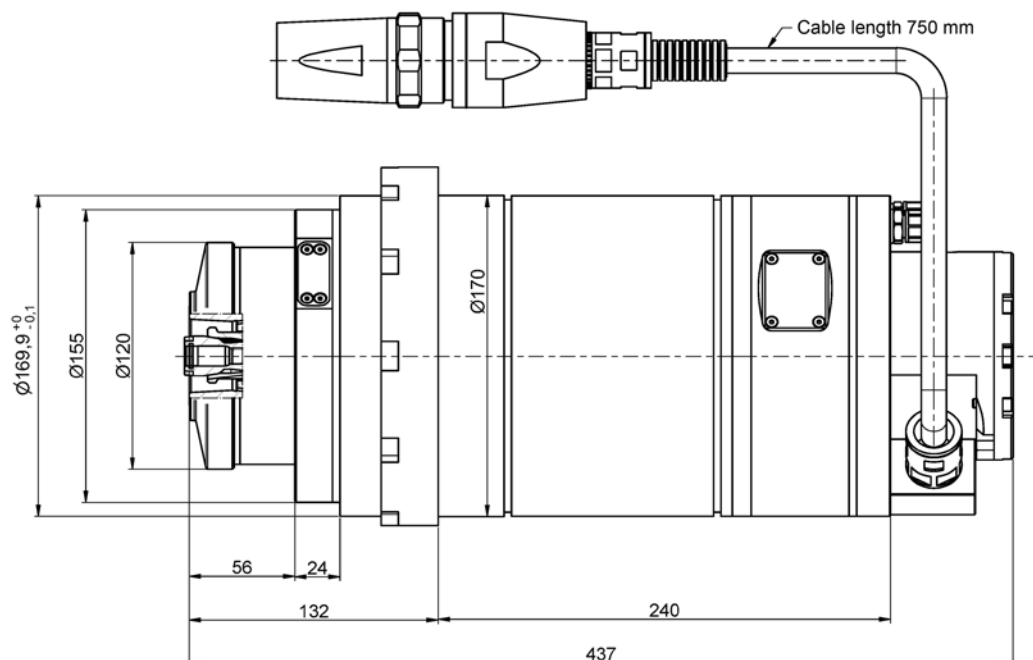


Spindle attributes:

Processing type:	Grinding
Tool interface:	HSK-E50
Weight:	51 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Hydraulic
Sensor technology:	Release unit monitoring
Thermal sensor:	PTC/KTY
Cooling:	Water

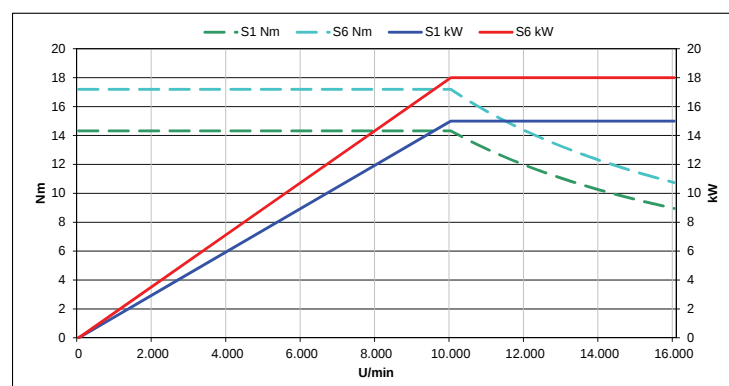
Optional additional functions:

Encoder:	TTL or sin/cos 1 vss
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Motor data:

Motor type:	Asynchronous
Max. rotational speed:	16,000 rpm
Nominal rotational speed:	10,000 rpm
Max. output S1:	15 kW
Max. torque S1:	14.62 Nm
Max. voltage:	380 V
Max. current:	38 A
Max. frequency:	550 Hz



1.4.6 RF-HSK-F63 175/175x450

Item no. 2600.175.004

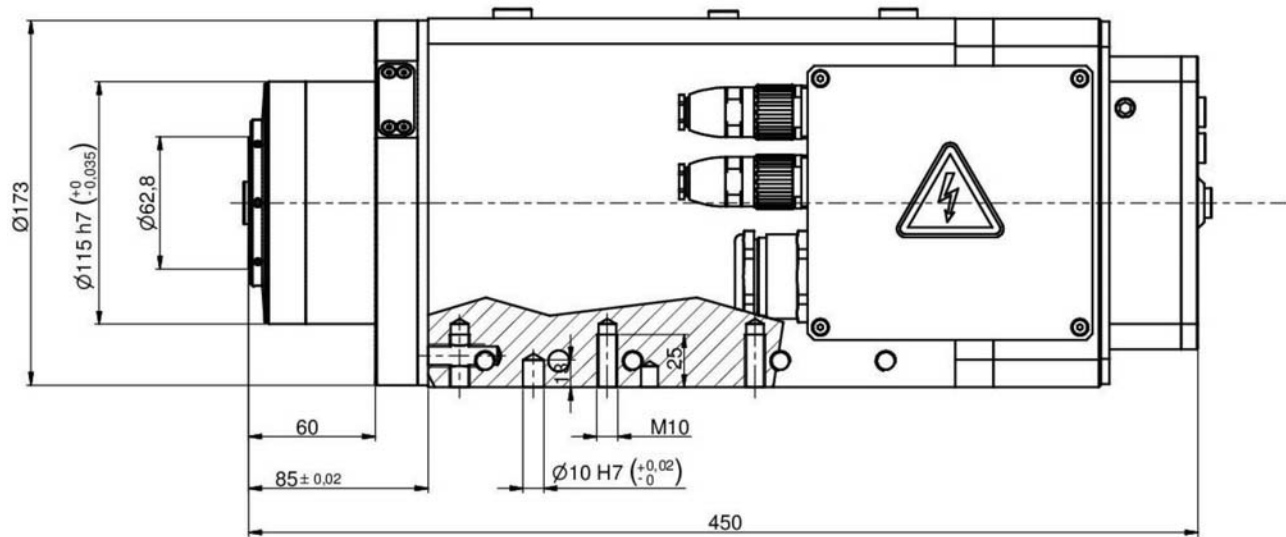


Spindle attributes:

Processing type:	Milling, drilling
Tool interface:	HSK-E50/-F63
Weight:	70 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Pneumatic
Sensor technology:	Release unit monitoring
Thermal sensor:	KTY
Cooling:	Water

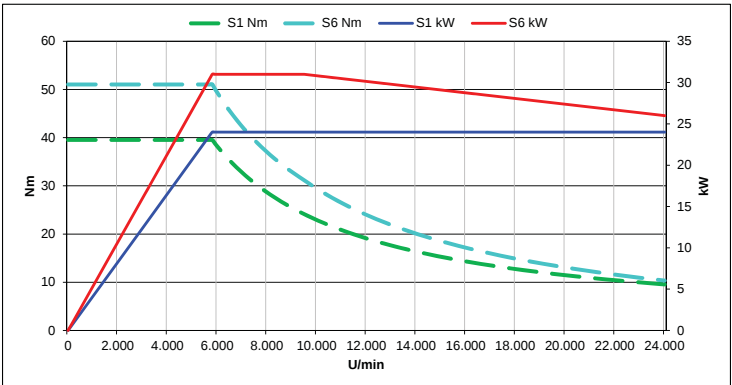
Optional additional functions:

Encoder:	TTL or sin/cos 1 vss
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Motor data:

Motor type:	Asynchronous
Max. rotational speed:	24,000 rpm
Nominal rotational speed:	5,850 rpm
Max. output S1:	24 kW
Max. torque S1:	39.11 Nm
Max. voltage:	380 V
Max. current:	82 A
Max. frequency:	800 Hz



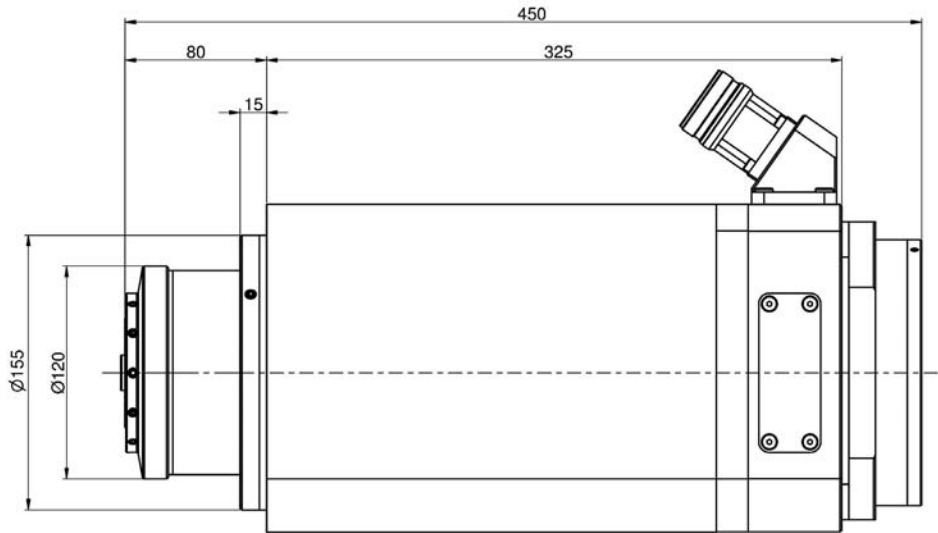
1.4.7 RF-HSK-F63 180/185x450

Item no. 2600.180.002



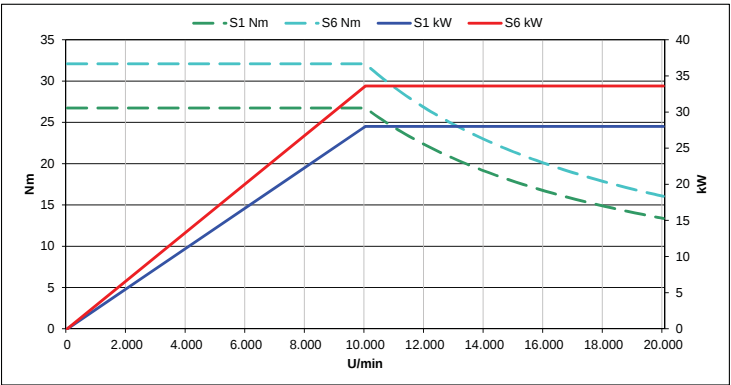
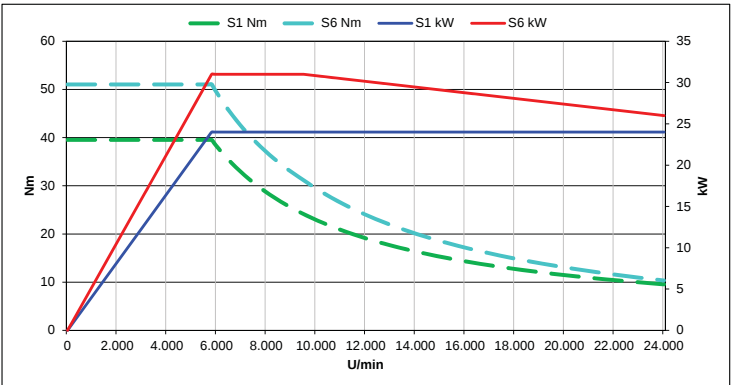
Spindle attributes:

Processing type:	Grinding
Tool interface:	HSK-E50/-F63
Weight:	72 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Pneumatic
Sensor technology:	Release unit monitoring
Thermal sensor:	KTY
Cooling:	Water



Motor data:

Motor type:	Asynchronous	Synchronous
Max. rotational speed:	24,000 rpm	20,000 rpm
Nominal rotational speed:	5,850 rpm	10,000 rpm
Max. output S1:	24 kW	28 kW
Max. torque S1:	39.11 kW	26.74 Nm
Max. voltage:	380 V	433 V
Max. current:	82 A	61 A
Max. frequency:	800 Hz	667 Hz

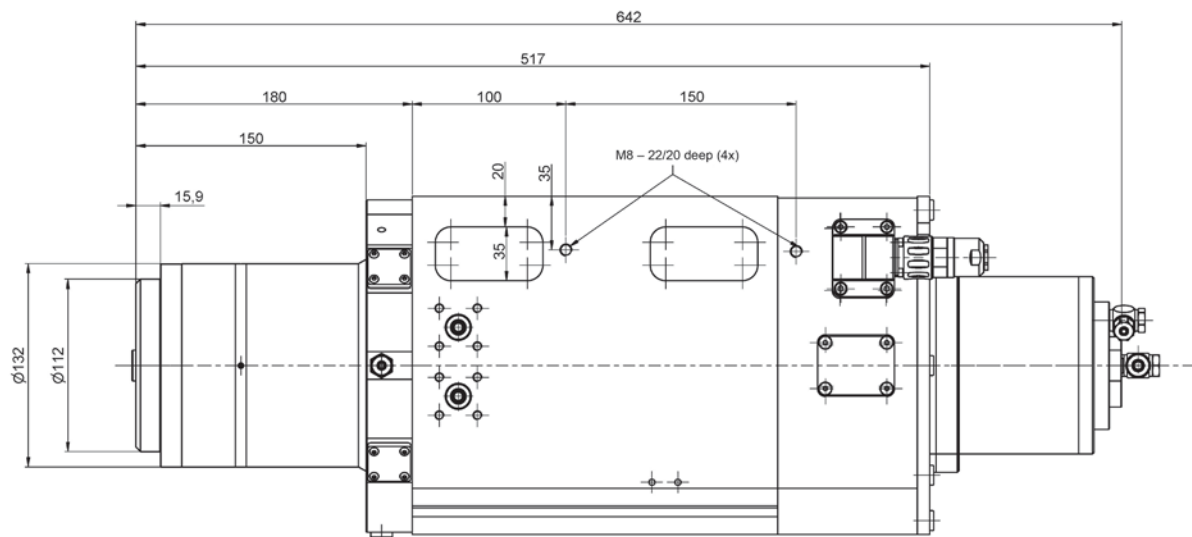


Item no. 2600.220.002

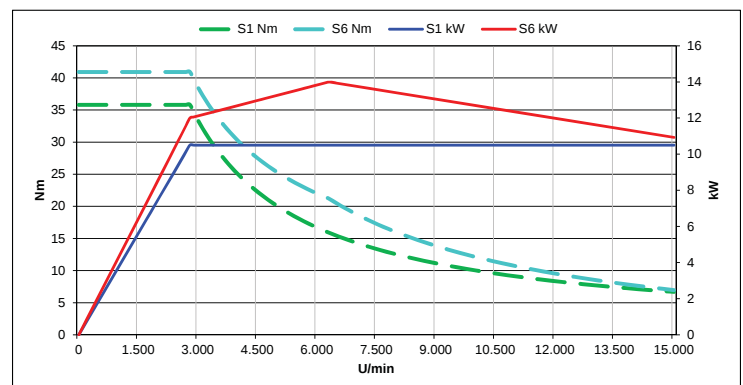


Processing type:	Milling, drilling
Tool interface:	HSK-E50/-F63
Weight:	About 125 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Hydraulic
Sensor technology:	Release unit monitoring
Thermal sensor:	PTC,KTY and NTC
Cooling:	Water

Encoder:	TTL or sin/cos 1 vss
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Motor type:	Asynchronous
Max. rotational speed:	15,000 rpm
Nominal rotational speed:	2,840 rpm
Max. output S1:	10.5 kW
Max. torque S1:	35.81 Nm
Max. voltage:	380 V
Max. current:	46 A
Max. frequency:	500 Hz



1.5 HSK63
1.5.1 RF-HSK-A63 140/140x368

Item no. 2600.140.009

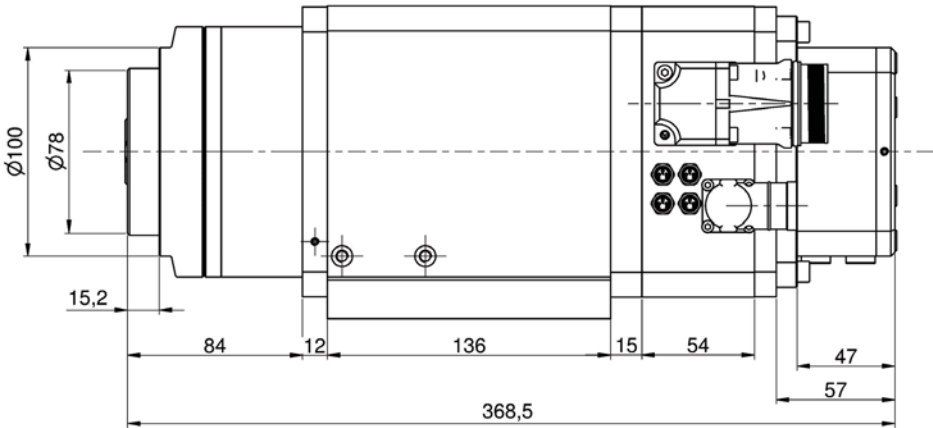


Spindle attributes:

Table with 2 columns: Attribute and Value. Rows include Processing type (Grinding), Tool interface (HSK-A63), Weight (about 35 kg), Ball bearing protection (Sealing air 0.4 bar), Bearing lubrication (Grease lubrication), Release unit (Hydraulic), Sensor technology (Release unit monitoring), Thermal sensor (PTC/KTY), and Cooling (Water).

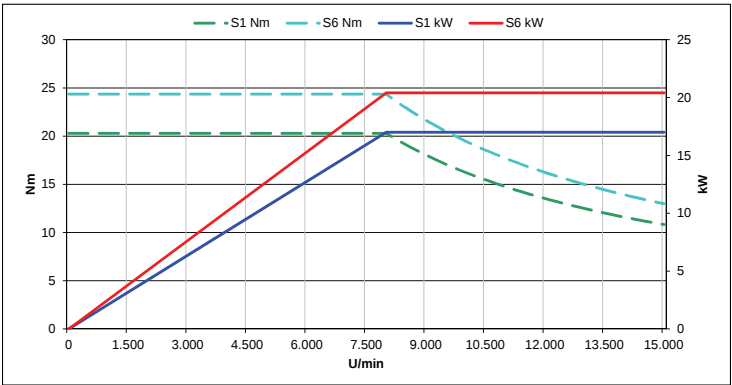
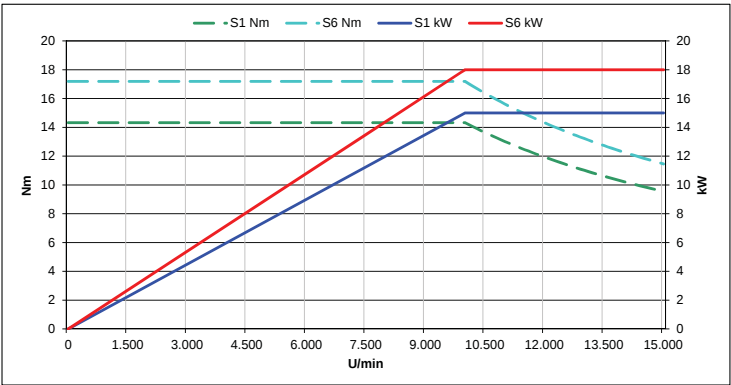
Optional additional functions:

Table with 2 columns: Function and Value. Row includes Encoder (TTL or sin/cos 1 vss).



Motor data:

Table with 3 columns: Motor type, Synchronous, and Synchronous. Rows include Max. rotational speed (15,000 rpm), Nominal rotational speed (10,000 rpm and 8,000 rpm), Max. output S1 (15 kW and 17 kW), Max. torque S1 (14.33 Nm and 20.29 Nm), Max. voltage (412 V and 434 V), Max. current (40 A and 37 A), and Max. frequency (500 Hz and 750 Hz).



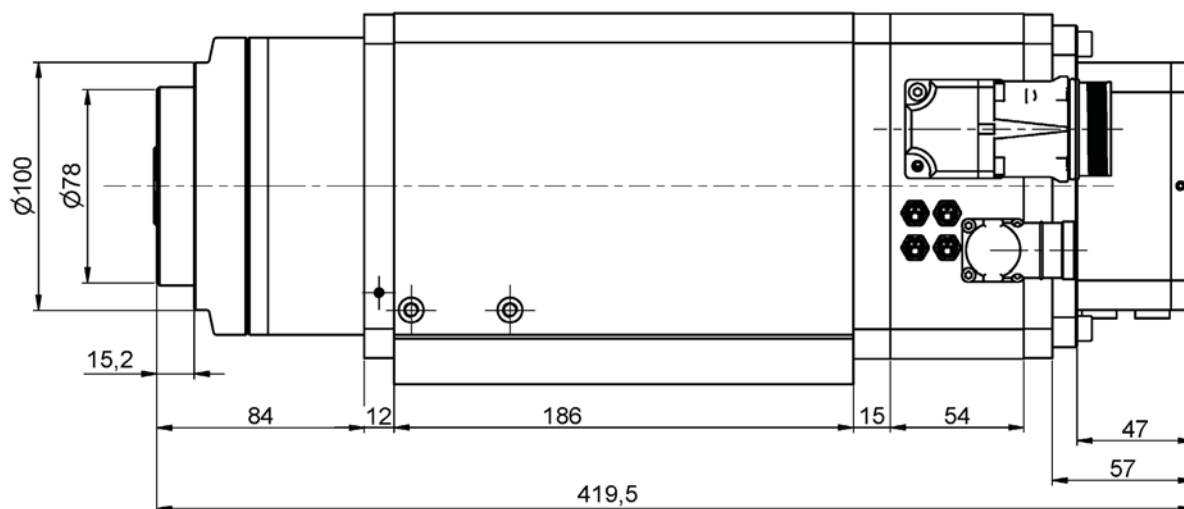
1.5.2 RF-HSK-A63 140/140x418

Item no. 2600.140.014



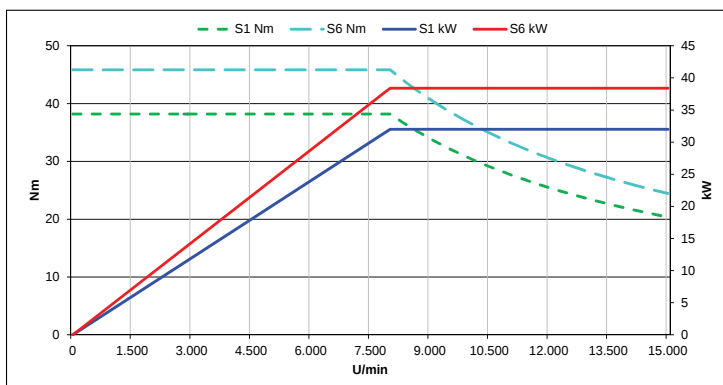
Spindle attributes:

Processing type:	Grinding
Tool interface:	HSK-A63
Weight:	About 35 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Hydraulic
Sensor technology:	Release unit monitoring
Thermal sensor:	PTC/KTY
Cooling:	Water



Motor data:

Motor type:	Synchronous
Max. rotational speed:	15,000 rpm
Nominal rotational speed:	8,000 rpm
Max. output S1:	32 kW
Max. torque S1:	38.2 Nm
Max. voltage:	421 V
Max. current:	83 A
Max. frequency:	750 Hz



1.5.3 RF-HSK-E63 175/175x472

Item no. 2600.175.003

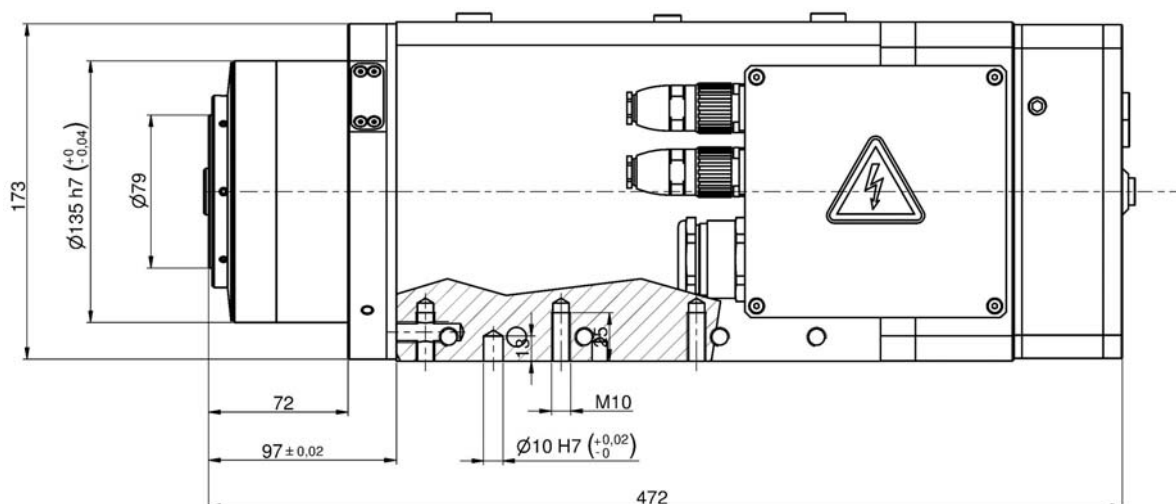


Spindle attributes:

Processing type:	Milling, drilling
Tool interface:	HSK-E63
Weight:	74 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Pneumatic
Sensor technology:	Release unit monitoring
Thermal sensor:	KTY
Cooling:	Water

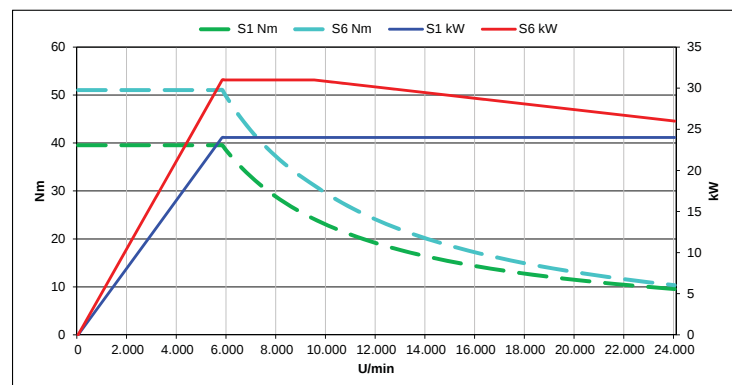
Optional additional functions:

Encoder:	TTL or sin/cos 1 vss
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Motor data:

Motor type:	Asynchronous
Max. rotational speed:	24,000 rpm
Nominal rotational speed:	5,850 rpm
Max. output S1:	24 kW
Max. torque S1:	39.11 Nm
Max. voltage:	380 V
Max. current:	82 A
Max. frequency:	800 Hz



1.5.4 RF-HSK-B80 175/175x510

Item no. 2600.175.008

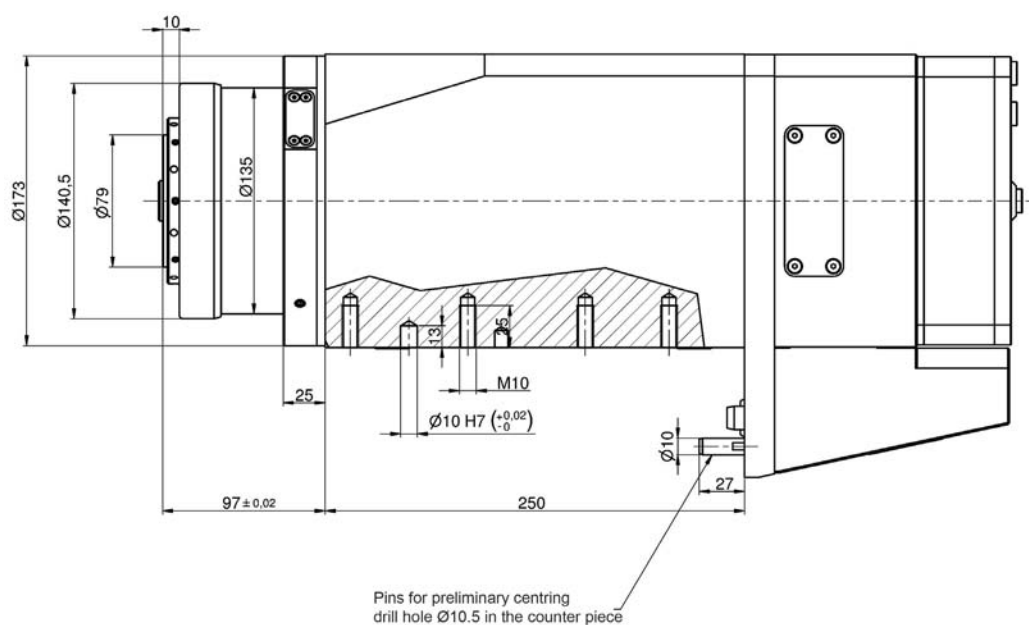


Spindle attributes:

Processing type:	Milling, drilling, grinding
Tool interface:	HSK-E63/-B80
Weight:	74 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Pneumatic
Sensor technology:	Release unit monitoring
Thermal sensor:	KTY
Cooling:	Water

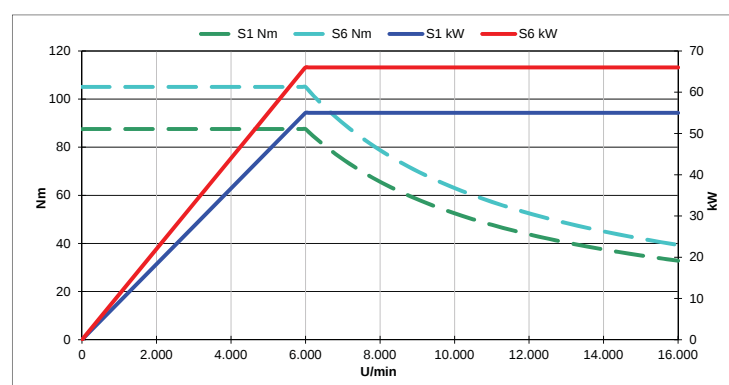
Optional additional functions:

Encoder:	TTL or sin/cos 1 vss
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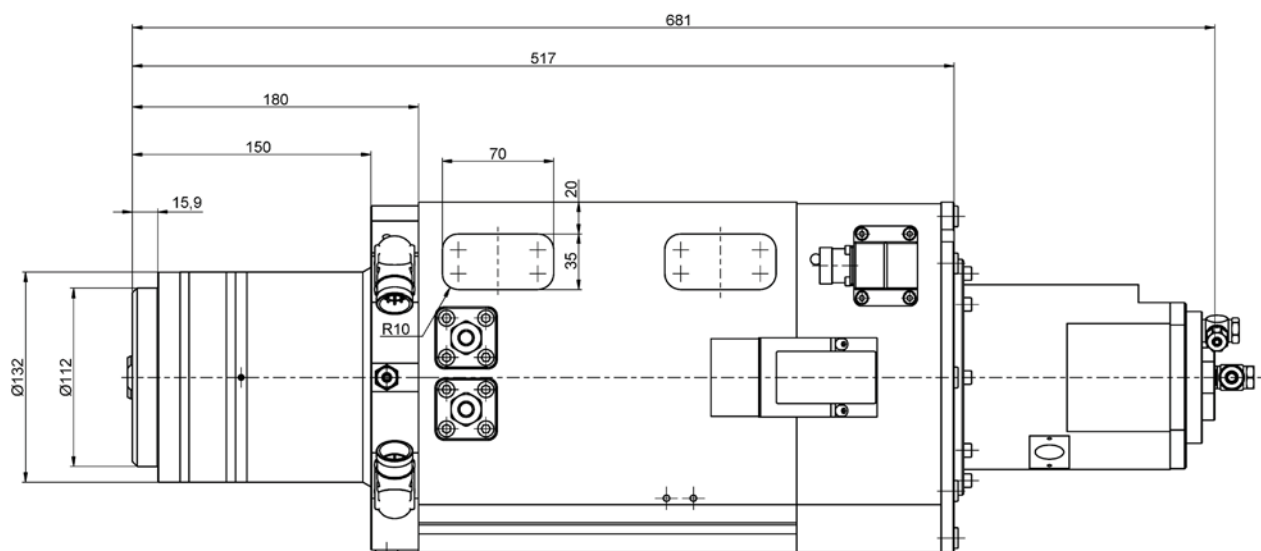
Motor data:

Motor type:	Synchronous
Max. rotational speed:	16,000 rpm
Nominal rotational speed:	6,000 rpm
Max. output S1:	55 kW
Max. torque S1:	87.54 Nm
Max. voltage:	534 V
Max. current:	120 A
Max. frequency:	800 Hz

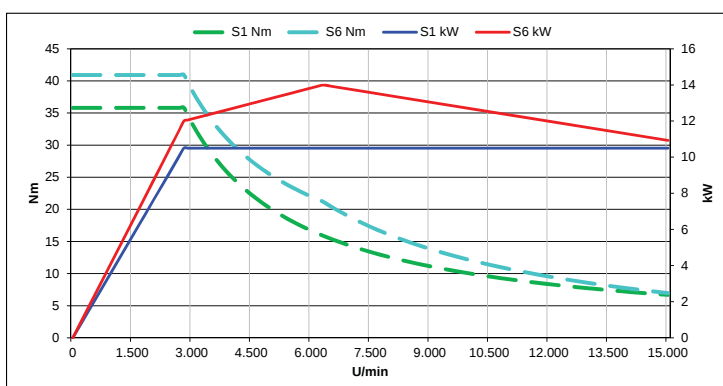


Item no. 2600.220.001

Processing type:	Milling, drilling
Tool interface:	HSK-A63
Weight:	About 125 kg
Ball bearing protection:	Sealing air 0.4 bar
Bearing lubrication:	Grease lubrication
Release unit:	Hydraulic
Sensor technology:	Release unit monitoring
Thermal sensor:	PTC, KTY and NTC
Cooling:	Water



Motor type:	Asynchronous
Max. rotational speed:	15,000 rpm
Nominal rotational speed:	2,840 rpm
Max. output S1:	10.5 kW
Max. torque S1:	35.81 Nm
Max. voltage:	380 V
Max. current:	46 A
Max. frequency:	500 Hz



2. Belt spindles

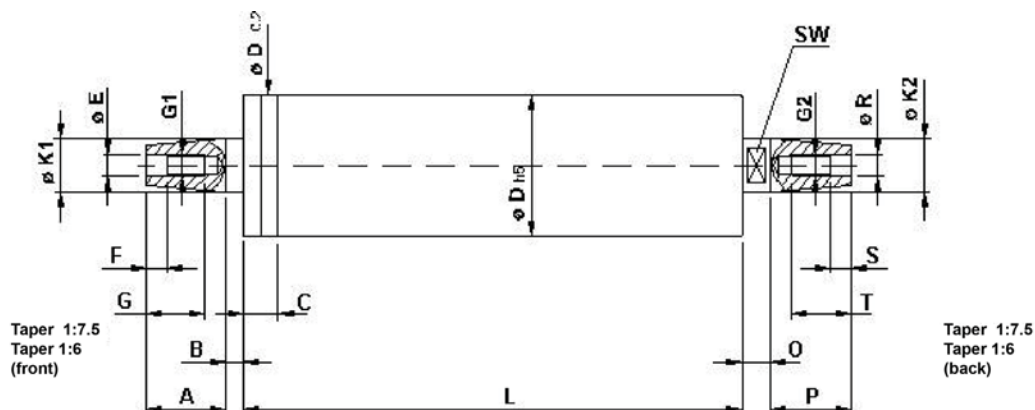
Our belt spindles are used for interior, exterior, and flat grinding.

The bearing can be adapted to your needs.

You can choose between models with interior, exterior, or manual HSK taper .

Belt spindles RSA/RSA-V/RSA-VV

Belt spindles with exterior taper for exterior, interior, and flat grinding



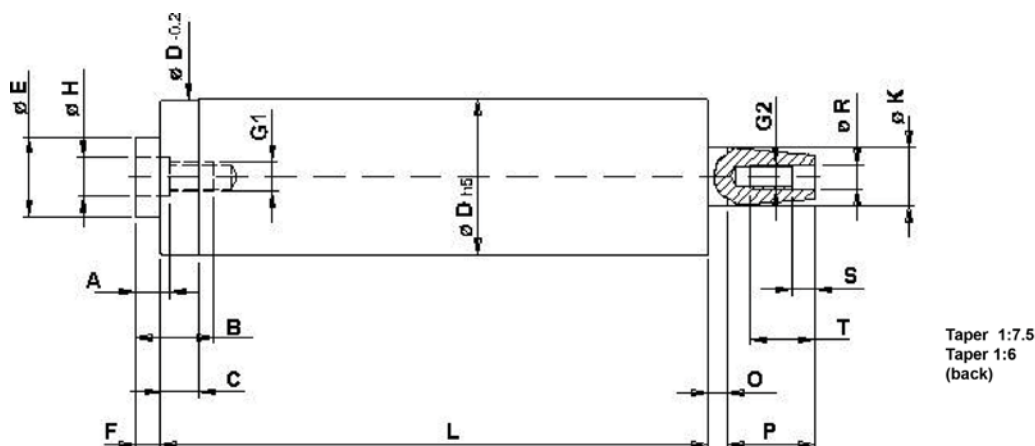
Design sizes from our series line:

Type D x L	Rotational speed x 1000 RSA / RSA- V grease	K1	A	B	C	E	G1	F	G	O	K2	P	R	G2	S	T	SW
RSA - 60 x 250	28 / 24	18	25	3	11	8	M8	11	25	9	18	25	8	M8	11	25	14
RSA - 80 x 315	20 / 17	27	35	4	12	12	M12	13	34	12	27	35	12	M12	13	34	24
RSA - 100 x 315	- / 12	38	52	4	14	16	M16	15	42	15	38	52	16	M16	15	42	32

(other sizes available upon request)

Belt spindles RSP

Belt spindles with flat abutment for interior grinding



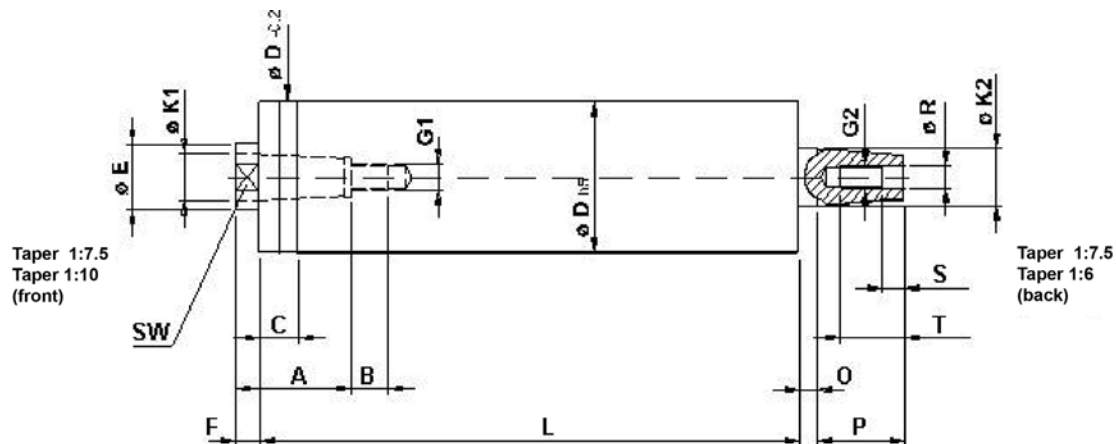
Design sizes from our series line:

Type D x L	Rotational speed	H	A	B	G1	C	E	F	O	K	P	R	G2	S	T
RSP - 50 x 250	55,000	10	8	16	M8	10	30	6	6	10	15	5	M5	7	14
RSP - 60 x 160	45,000	14	8	18	M10	12	40	8.5	7	19	20	6	M6	8	18

(other sizes available upon request)

Belt spindles RSI/RSI-V

Belt spindles with interior taper for interior and flat grinding



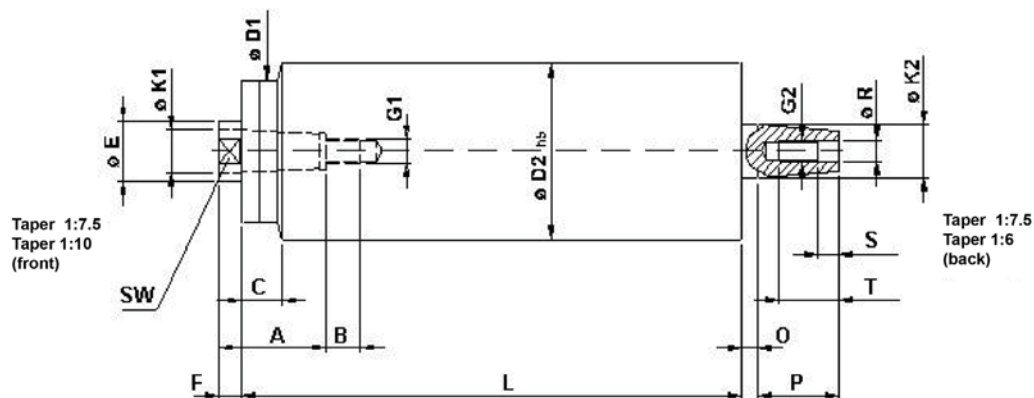
Design sizes from our series line:

Type D x L	Rotational speed x 1000 RSI / RSI - V grease	K1	A	B	G1	C	E	F	SW	O	K2	P	R	G2	S	T
RSI - 45 x 250	40 / 35	10	28	14	M6	10	15	8	12	6	13	20	6	M6	7	20
RSI - 60 x 250	28 / 24	14	39	19	M8	11	20	9	17	7	18	27	8	M8	9	24
RSI - 60 x 315	28 / 24	14	39	19	M8	11	20	9	17	7	18	27	8	M8	9	24
RSI - 80 x 315	20 / 17	22	60	24	M14	12	30	13	27	8	28	42	12	M12	13	32
RSI - 100 x 250	- / 12	32	76	24	M18	14	44	16	41	12	38	57	16	M16	15	42

(other sizes available upon request)

Belt spindles RSI-A/ RSI-VA

Belt spindles with interior taper for interior and flat grinding with shouldered spindle bushing



Design sizes from our series line:

Type D1.D2 x L	Rotational speed x 1000 RSI - A/ RSI - VA Grease	K1	A	B	G1	C	E	F	SW	O	K2	P	R	G2	S	T
RSI - A 60.80 x 160	28 / 24	14	39	19	M8	23	23	9	20	7	18	27	8	M8	9	24
RSI - A 60,100 x 250	28 / 24	14	39	19	M8	23	23	9	17	7	18	27	8	M8	9	24
RSI - A 70,100 x 250	28 / 24	18	49	21	M12	23	28	11	24	7	23	35	10	M10	11	28
RSI - A 80,100 x 250	20 / 17	22	60	24	M14	25	33	13	30	8	28	42	12	M12	13	33

(other sizes available upon request)

3. Custom spindles

Even if you only need a relatively small quantity, we are your partner for custom solutions and innovative spindles. Whether you need spindles for true running tasks, for custom grinding requirements, or for test bays - we have the right spindle for your application. If not, we can very quickly produce a custom-tailored concept from our portfolio that meets your needs.

Simply advise your specific requirements, and we will send you a technical draft together with an offer for the number of items you requested.

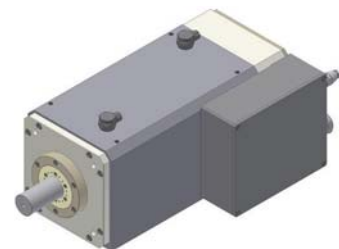
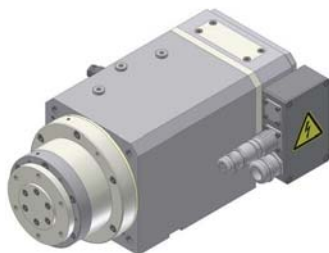
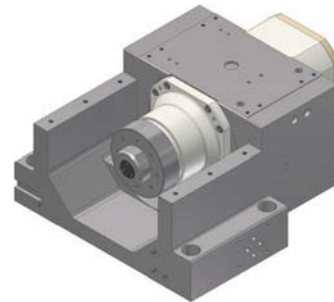
Examples of custom spindles that we have already produced:



Grinding spindle with flange holder A6 for large grinding discs.

An automatic weight balancing system can be implemented in the spindles. With encoder for standstill monitoring.

Spindles for the profiling and alignment of grinding discs. The spindles are pressurized with sealing air as a protective measure for the ball bearings. The ball bearings are grease-lubricated and are thus maintenance-free. The spindle is water-cooled for optimal thermal stability.



Examples for high-performance motors used in test bays. The shaft ends are designed according to customer specifications. Our motors are specialized to meet requirements for high rotational speed while providing high performance.

4. Milling heads

The milling head solutions from Reckerth.

Innovative technology that provides requirement-specific independence with best-possible processing values. The combination of a 3-axe machine with a 2-axe head practically offers unlimited work piece processing options. Two milling head models are used to achieve this: a fork head as well as a gimbal head. They are of essential importance because the as a relatively small module milling head has the most significant impact on the production factors

Speed, surface finish, metal-cutting volume, cost-effectiveness, and material selection.

Technical data:	Fork head	Gimbal work head
Slewing range C-axis:	+/- 360°	+/- 360°
Contortion rigidity:	400 Nm	800 Nm
Backlash: (double pinion, pre-tensioned)	0	0
Nominal torque:	140 Nm	216 Nm
Max. torque:	480 Nm	620 Nm
Slewing speed:	360°/s	360°/s
Slewing range B-axis:	+/- 135°	+/- 180°
Contortion rigidity:	140 Nm	280 Nm
Backlash:	0	0
Nominal torque:	216 Nm	162 Nm
Max. torque:	480 Nm	486 Nm
Slewing speed:	270°/s	180°/s
Positioning speed:	+/- 0.01°	+/- 0.01°



Spindle model:	Max. rotational speed (rpm)	Nom. rotational speed (rpm)	Max. output in S1	Max. torque in S1
RF-HSK-F32 (60/4.6)	60,000	59,400	4.6 kW	0.74 Nm
RF-HSK-F40 (40/12)	40,000	33,000	12 kW	3.45 Nm
RF-HSK-F63 (24/14)	24,000	18,000	14 kW	7.26 Nm
RF-HSK-F63 (24/15)	24,000	10,000	15 kW	14.52 Nm
RF-HSK-F63 (24/24)	24,000	5,850	24 kW	39.11 Nm

5. Repair service

Our repair service meets highest quality demands and ensures that your product corresponds with the attributes of a new spindle after the repair.

You can trust our technological expertise.

Reckerth repair service from evaluation to delivery:

Analysis. The spindle requiring repair is delivered, dismantled and examined. A detailed repair and action report summarizes the results together with a cost estimate.

Analysis technology. All individual rotation-symmetrical components are checked and calibrated utilizing state-of-the-art measuring technology.

Repair. Upon approval of the costs, the problem is addressed and solved immediately, even for spindles of other manufacturers. Thanks to our company-internal grinding and turning shop, the repair time is reduced to a minimum.

Final assembly. As a result of the spatial separation of damage analysis and final assembly in the clean room, we guarantee highest quality standards during the handover.

Quality control. The fine-tuning of the balancing and test runs with protocols for the customer are carried out in this phase. In a separate break-in room, we run every spindle up to the final speed prior to the delivery to the customer.

Warranty. The quality of a repaired spindle corresponds with that of a new spindle. A repaired spindle carries a warranty of 6 months.



True-running gauging machine (to test rotation-symmetric parts of a spindle)



Fine tuning of balancing quality on the spindle



Comparison:

Spindle condition before and after repair.

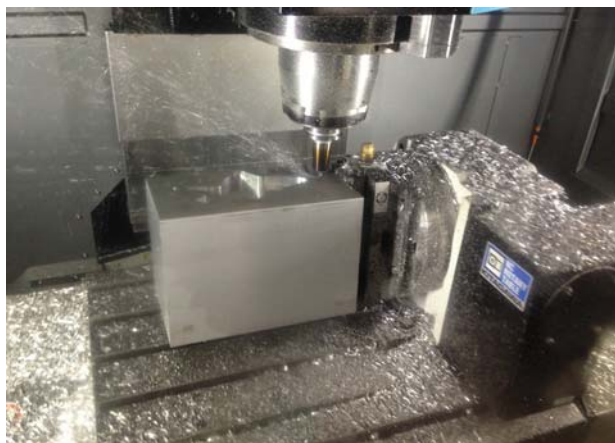
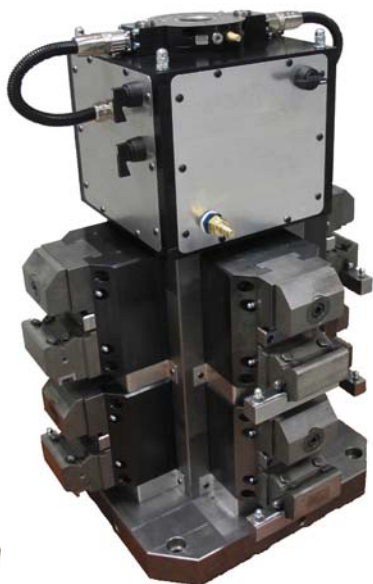
6. BEST GmbH - axial clamping technology

BEST the manufacture of clamping systems and clamping equipment with headquarters in Filderstadt-Bonlanden and is managed under one roof with Hugo Reckerth GmbH. The product range of BEST comprises a large selection of centric closing, stationery two-jaw chuck equipment, which stands out from its competition through particularly high manufacturing precision.

In addition, BEST offers customer-specific solutions that align complex work pieces with highest precision in power-operated clamping equipment. The midsize operation enables us to rapidly respond to your individual requests.

Range of services:

- Mechanical centric vices
- Pneumatic centric vices
- Hydraulic centric vices
- Face plates
- Manual chucks
- Customized clamping solutions



If you have any questions regarding our products or require personal assistance, we would be delighted to hear from you and will be glad to advise you.

BEST GmbH

Modular clamping technology and automation

Raiffeisenstrasse 15

D - 70794 Filderstadt-Bonlanden

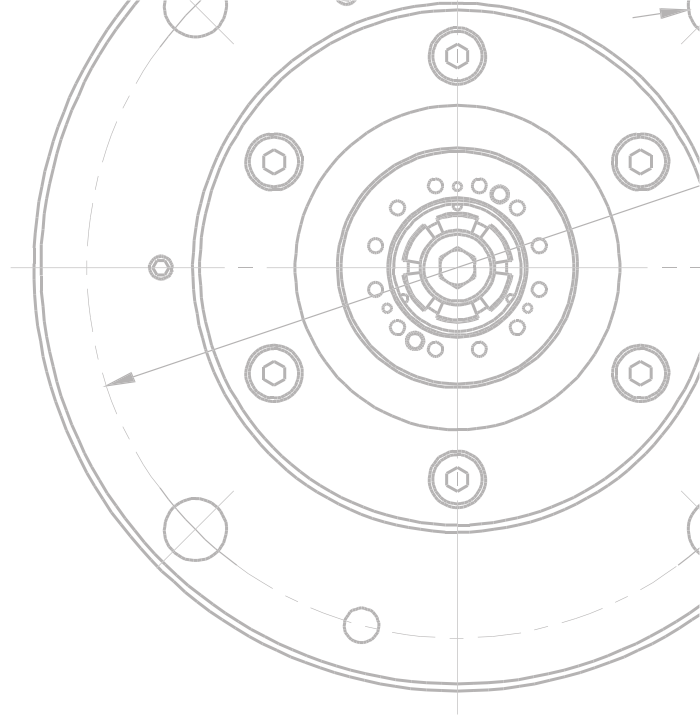
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tool
Individual Spindle Solutions.
of the tools

Reckerth

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