

SPINDLE PROGRAMME
TURNING



TURNING SPINDLES | BEST SELECTION

WEISS

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WEISS Spindeltechnologie GmbH
A Siemens Company

GSS | GLOBAL SPINDLE SOLUTIONS



TURNING SPINDLES

„ T U R N I N G
FROM SMALL TO LARGE
- MORE THAN 250
DRIVE SOLUTIONS -
FROM ECONOMICAL
TO HIGH PERFORMANCE “

WEISS-TURNING SPINDLES BEST SELECTION

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STANDARD SERIES

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TURNING

Standard series set the standard!

Spindle noses from A4 to A11 and rated torque of up to 820 Nm – turning spindles from our standard series offer you proven quality and reliability. We can only point to the many satisfied customers who have put spindles from this series successfully to work.

Spindle units from the standard series prove that good quality, leading technology, and high performance need not necessarily be expensive. Batch production with a high degree of non-variable parts allows consistent exploitation of synergies and the economy of scale in material procurement and production. These savings are passed on to our customers.

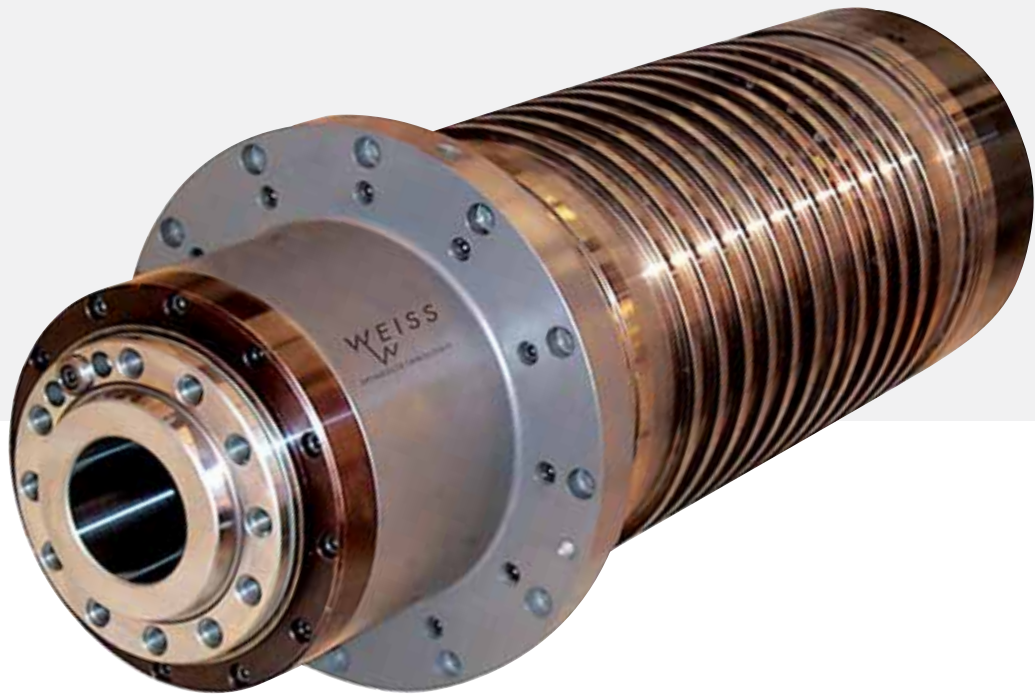
Our standard spindles can naturally also be adapted through design engineering to fit individual needs. It should be remembered, however, that the larger the adjustments, the smaller the advantages in delivery time and purchase price.

Advantages of standard series:

- ⊕ affordable to procure
- ⊕ short delivery times
- ⊕ field tested and proven
- ⊕ latest state-of-the-art design
- ⊕ affordable spindle service through optional stocking of replacement spindles and parts



Standard series TURNING				
ASYNCHRONOUS TECHNOLOGY		SPINDLE NOSE DIN 55026-	SYNCHRONOUS TECHNOLOGY	
SPINDLE NUMBER	RATED TORQUE S1-100%		RATED TORQUE S1-100%	SPINDLE NUMBER
D175375-VXXX	85 Nm	← A4 →	100 Nm	D175408-VXXX
D175376-VXXX	85 Nm	← A5 →	100 Nm	D175409-VXXX
D175374-VXXX	140 Nm		200 Nm	D175413-VXXX
D175380-VXXX	140 Nm	← A6 →	200 Nm	D175414-VXXX
D175377-VXXX	200 Nm		300 Nm	D175410-VXXX
D175378-VXXX	480 Nm	← A8 →	820 Nm	D175411-VXXX
D175379-VXXX	750 Nm	← A11 →		



PERFORMANCE CHARACTERISTICS

Interface dimensions:

Standard chucks and clamping cylinder

Precision spindle bearings:

Standard, high speed, or hybrid bearings

Speed range at constant power:

1:3 to 1:8

Motor:

Synchronous or asynchronous

Encoder:

Integrated

Hollow shaft measuring system SIEMENS SIZAG 2 or Heidenhain ERM

Vector controlled operation, compatible with all frequency converter types

Mounting position:

Horizontal or vertical spindle nose down, optional: vertical spindle nose up

Housing:

Cartridge with flange

Power connection:

Flying leads, 1.2 to 1.4 m in length (dependent on type)

Connection / Encoder and motor protection:

17-pin rounded socket (without mating connector)

Rotor balance quality:

G = 2.5 as per ISO 1940

Insulation of the stator winding:

As per EN 60034-1 (IEC 60034-1)

Class F

For coolant inlet temperatures of up to +25°C

Temperature monitoring:

PTC thermistor

Sealing on working end:

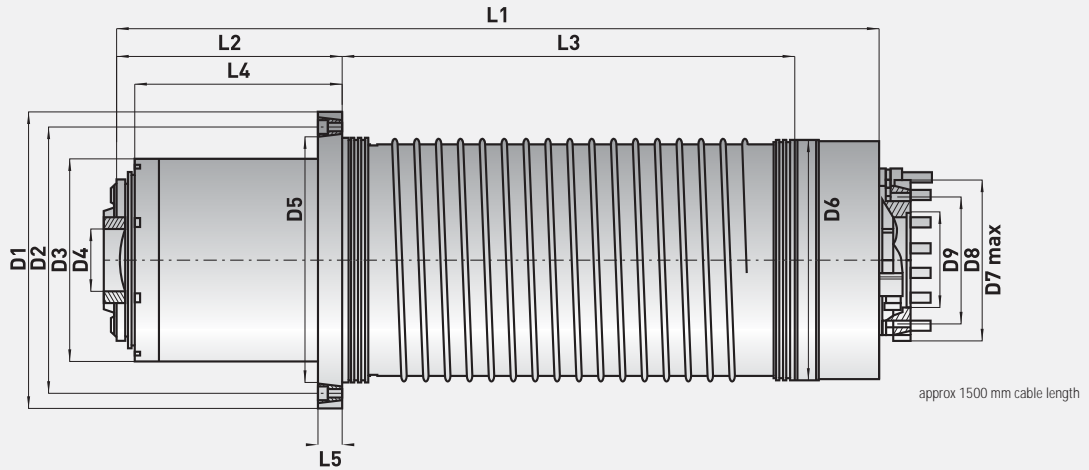
Labyrinth, option: with air purge

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DIMENSIONS



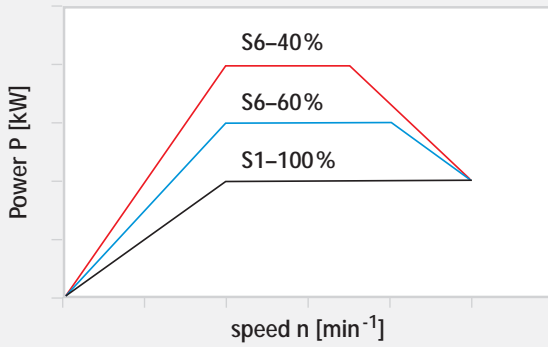
TURNING | STANDARD SPINDLES
ASYNCHRONOUS TECHNOLOGY

Model Number	Spindle Nose DIN 55026-	Rated power [kW] S1-100 %	Nominal speed [rpm]	Maximum speed [rpm]	Rated Torque S1-100% [Nm]	D1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	D5 [mm] h4	D6 [mm] h4	D7 [mm] max.	D8 [mm]	D9 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]
D175375-VXX	A4	13.4	1,500	bearing dependent	85	270	245	172	52	220	218	166	Dimensions vary based on clamping cylinder	Dimensions vary based on clamping cylinder	650	175	380	155	30
D175376-VXX	A5	13.4	1,500		85	270	245	172	52	220	218	166			660	185	380	167	30
D175374-VXX	A5	22.0	1,500		140	310	280	216	65	256	253	195			733	236	400	213	30
D175380-VXX	A6	22.0	1,500		140	310	280	216	65	256	253	195			732	235	400	213	30
D175377-VXX	A6	31.5	1,500		200	310	280	216	65	256	253	195			817	235	485	213	30
D175378-VXX	A8	25.1	500		480	390	360	265	82	320	317	210			1020	285	620	259	35
D175379-VXX	A11	39.3	500		750	515	475	345	120	442	440	275			1150	360	675	326	35

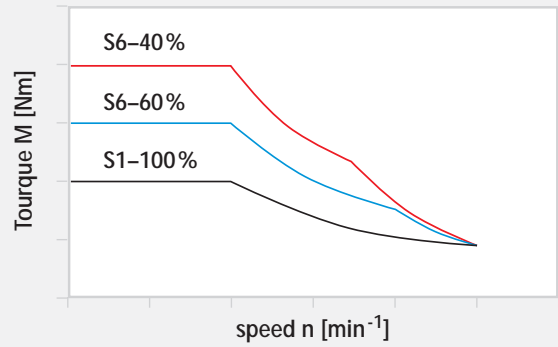
Spindle nose	working end bearing bore dia. [mm]	Standard spindle bearing [rpm]	High speed bearing [rpm]	Hybrid bearing [rpm]
A4	75	7,700	9,100	10,500
A5	90	6,000	7,000	8,400
A5	120	4,500	5,200	6,000
A6	120	4,500	5,200	6,000
A8	150	4,000	4,700	5,200
A11	180	2,700	-	-

A detailed data sheet for each spindle number is available on our homepage at www.weissgmbh.de

PERFORMANCE CHARACTERISTICS



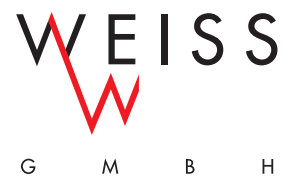
TORQUE CHARACTERISTICS



TURNING | STANDARD SPINDLES
SYNCHRONOUS TECHNOLOGY

Model Number	Spindle Nose DIN 55026-	Rated power [kW] S1-100%	Nominal speed [rpm]	Maximum speed [rpm]	Rated Torque S1-100% [Nm]	D1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	D5 [mm] h4	D6 [mm] h4	D7 [mm] max.	D8 [mm]	D9 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]
D175408-VXX	A4	16.8	1,600	bearing dependent	100	270	245	172	52	220	218	166	Dimensions vary based on clamping cylinder	Dimensions vary based on clamping cylinder	650	175	380	155	30
D175409-VXX	A5	16.8	1,600		100	270	245	172	52	220	218	170			660	185	380	167	30
D175413-VXX	A5	29.3	1,400		200	310	280	216	65	256	253	195			733	236	400	213	30
D175414-VXX	A6	29.3	1,400		200	310	280	216	65	256	253	195			732	235	400	213	30
D175410-VXX	A6	37.7	1,200		300	310	280	216	65	265	253	195			817	235	485	213	30
D175411-VXX	A8	103.0	1,200		820	390	360	265	82	320	317	210			1020	285	620	259	35

Spindle nose	working end bearing bore dia. [mm]	Standard spindle bearing [rpm]	High speed bearing [rpm]	Hybrid bearing [rpm]
A4	75	7,700	-	-
A5	90	6,000	7,000	8,400
A5	120	4,500	5,200	6,000
A6	120	4,500	5,200	6,000
A8	150	4,000	4,700	5,200
A11	180	2,700	-	-



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INDIVIDUAL - DESIGNS

TURNING

INDIVIDUALITY and FLEXIBILITY

WEISS GmbH is most frequently named benchmark worldwide when it comes to individual designs of optimal drive solutions for your machine concepts. From initial vision to development and on to realisation and optimisation, the engineers at WEISS and Siemens will be there at your side.

In the turning applications field, WEISS can draw upon a pool of over 250 high-class drive solutions. Economically optimised solutions are just as much a part of this portfolio as highly innovative designs that define the current state of the art on the world market.

Flexibility is always a key to us. Our developers and engineers oriented themselves completely to the requirements of your machine concept. – **Test the strength of WEISS by requesting your own personal spindle bid.**

ADVANTAGES OF INDIVIDUAL CONSTRUCTIONS:

- ⊕ machine concepts tailor made for the required price, quality, or efficiency
- ⊕ chance to distinguish oneself
- ⊕ possibility of realising own vision

PREVIOUSLY REALISED PERFORMANCE PARAMETERS:

- Output (S1–100%): up to **124 kW**
- Torque: up to **3,900 Nm**
- Max speed: up to **10,500 rpm**
- Spindle weight: up to **2,000 kg**
- Precision: up to **1 µm**

RANGE OF PRODUCTS:

- Spindles with **external drive** (i.e. belts)
- Spindles with **direct drive** (motor spindles)
- **synchronous motors**
- **asynchronous motors**
- Spindles with **ball bearings** (steel, hybrid, ...)
- Spindles with **fluid bearings** (hydrostatic, hydrodynamic)
- **Grease-for-life lubrication**
- **Oil-air lubrication**
- without integrated **gearbox**
- with integrated **gearbox (up to 1:3)**
- Spindle noses from DIN 55026-A4 to A11
- special spindle noses



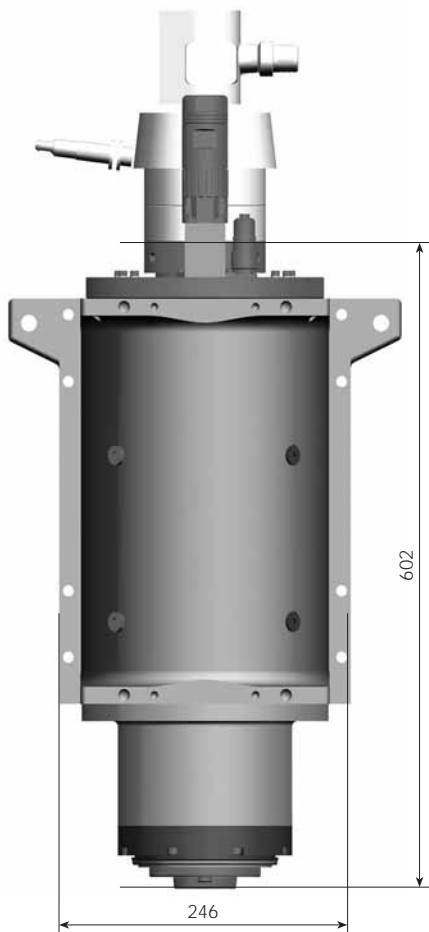
DESIGN EXAMPLES

– BEST SELECTION –

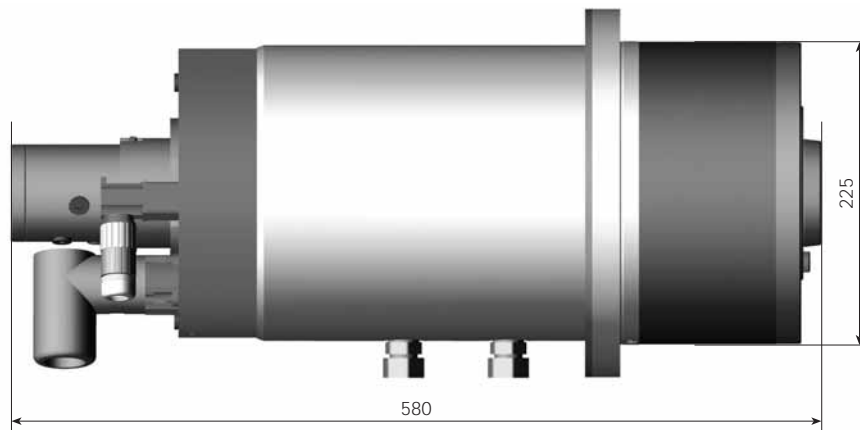
SPINDLE NUMBER	Spindle nose DIN 55026 -	Rated torque (S1–100%)	Comment
175666	A4	100 Nm	displayed at EMO 2005
175805	A5	45 Nm	integrated: brake + hydraulic clamping unit
175714	A5	200 Nm	
175189B	A6	88 Nm	
175524	A6	100 Nm	
175980	A6	200 Nm	
175931	A6	300 Nm	
175877A	A6	265 Nm	Cartridge Spindle; displayed at EMO 2005
175182A	A8	477 Nm	Cartridge Spindle with casing
175736	A8	585 Nm	
175821	A8	820 Nm	
176034	A8	820 Nm	
175841	A11	585 Nm	
175471	A11	820 Nm at 1:1 2,460 Nm at 1:3	Motorized spindle with integrated gearbox (1:1 and 1:3); displayed at EMO 2005
175862	special	42 Nm	Hydrostatic spindle
175345	special	66 Nm	Hydrostatic spindle



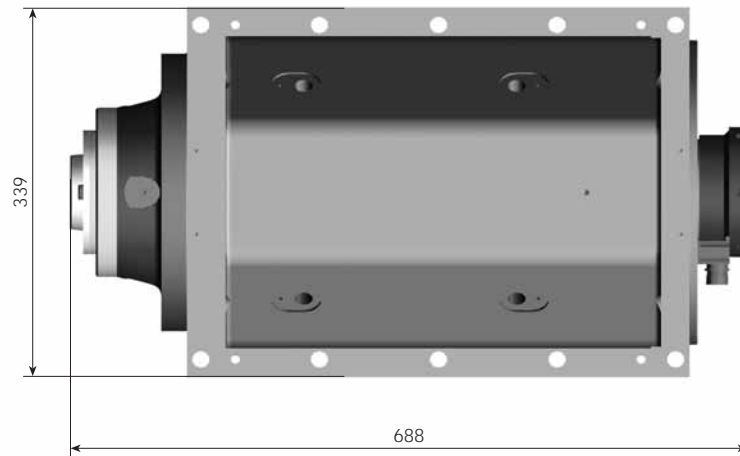
A detailed data sheet for all spindle numbers can be downloaded from our homepage at: www.weissgmbh.de



SPINDLE NUMBER	175666
Category:	Turning Individual
Spindle nose (DIN 55026):	A4
Rated power (S1–100 %):	17 kW
Rated torque (S1–100 %):	100 Nm
Rated speed:	1,600 rpm
Max speed:	7,000 rpm
Motor:	synchronous
Moment of Inertia (spindle):	0.0695 kgm ²
Housing shape:	cylindrical
Block dimensions:	246 x 243 mm
Overall length:	602 mm
Operating position:	vertical / nose down
Bearing bore diameter:	85 mm
Bearing lubrication:	grease

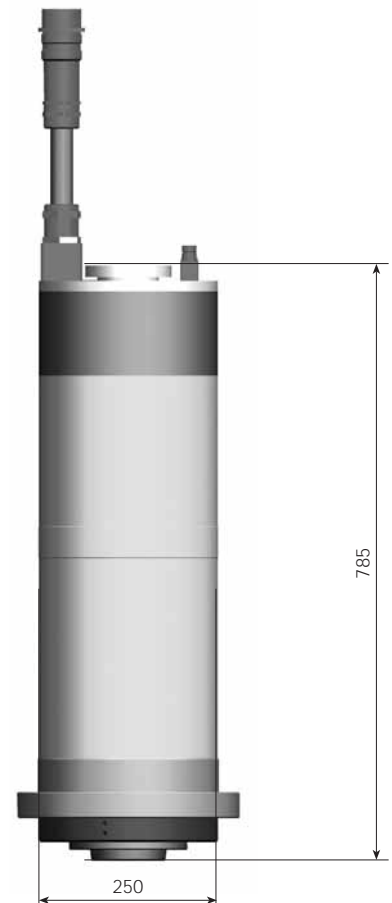


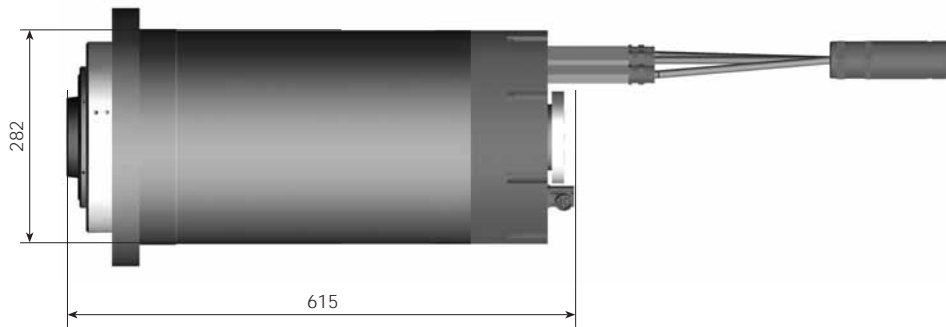
SPINDEL-NUMMER	175805
Kategorie:	Turning Individual
Spindle nose:	A5
Rated power (S1–100 %):	16 kW
Rated torque (S1–100 %):	45 Nm
Rated speed:	3,400 rpm
Max speed:	8,500 rpm
Motor:	synchronous
Moment of Inertia (spindle):	0.0445 kgm ²
Housing shape:	cylindrical
Diameter:	225 mm
Overall length:	580 mm
Operating position:	horizontal
Bearing bore diameter:	90 mm
Bearing lubrication:	grease
<ul style="list-style-type: none"> ⊕ integrated brake ⊕ integrated hydraulic clamping unit 	



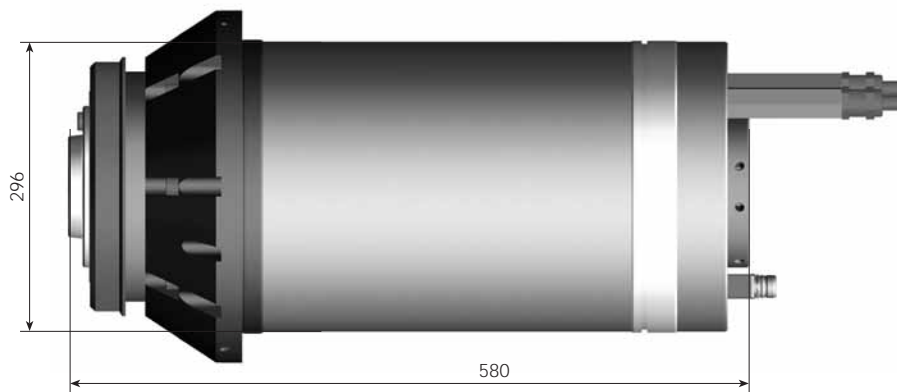
SPINDLE NUMBER		175714	
Category:	Turning Individual		
Spindle nose (DIN 55026):	A5	Housing shape:	block
Rated power (S1-100%):	29 kW	Block dimensions:	398 mm x 339 mm
Rated torque (S1-100%):	200 Nm	Overall length:	688 mm
Rated speed:	1,400 rpm	Operating position:	vertical / nose up
Max speed:	6,500 rpm	Bearing bore diameter:	90 mm
Motor:	synchronous	Bearing lubrication:	grease
Moment of Inertia (spindle):	0.148 kgm ²		

SPINDLE NUMBER		175189B	
Category:	Turning Individual		
Spindle nose (DIN 55026):	A6	Housing shape:	cylindrical
Rated power (S1-100%):	20 kW	Diameter:	252 mm
Rated torque (S1-100%):	88 Nm	Overall length:	785 mm
Rated speed:	2,160 rpm	Operating position:	vertical / nose down
Max speed:	8,000 rpm	Bearing bore diameter:	120 mm
Motor:	asynchronous	Bearing lubrication:	grease
Moment of Inertia (spindle):	0.1416 kgm ²		



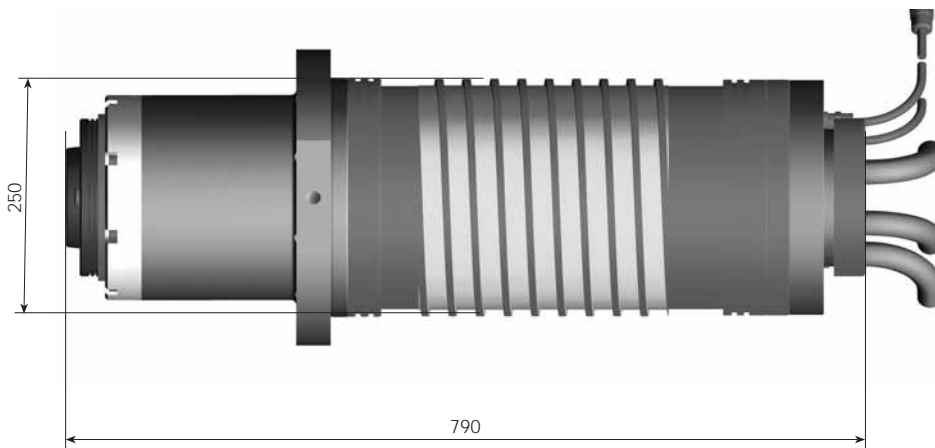
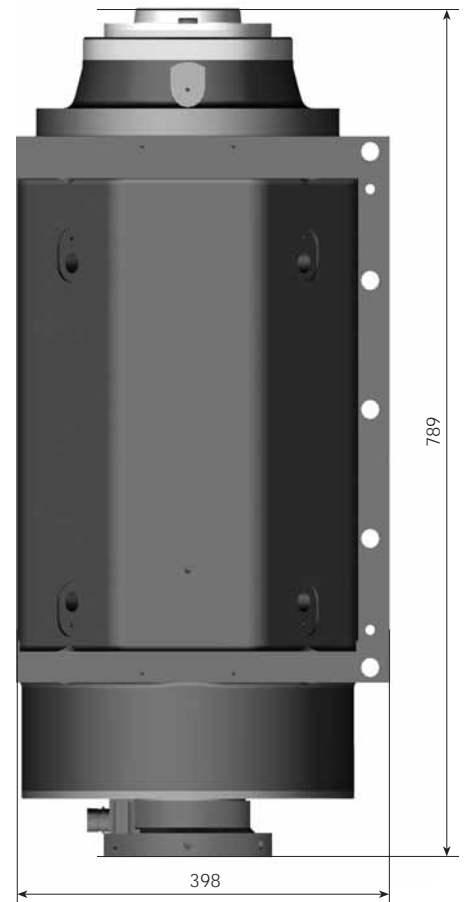


SPINDLE NUMBER		175524	
Category:	Turning Individual		
Spindle nose (DIN 55026):	A6	Housing shape:	cylindrical
Rated power (S1-100%):	22 kW	Diameter:	282 mm
Rated torque (S1-100%):	100 Nm	Overall length:	615 mm
Rated speed:	2,100 rpm	Operating position:	vertical / nose up
Max speed:	6,000 rpm	Bearing bore diameter:	120 mm
Motor:	synchronous	Bearing lubrication:	grease
Moment of Inertia (spindle):	0.2 kgm ²		



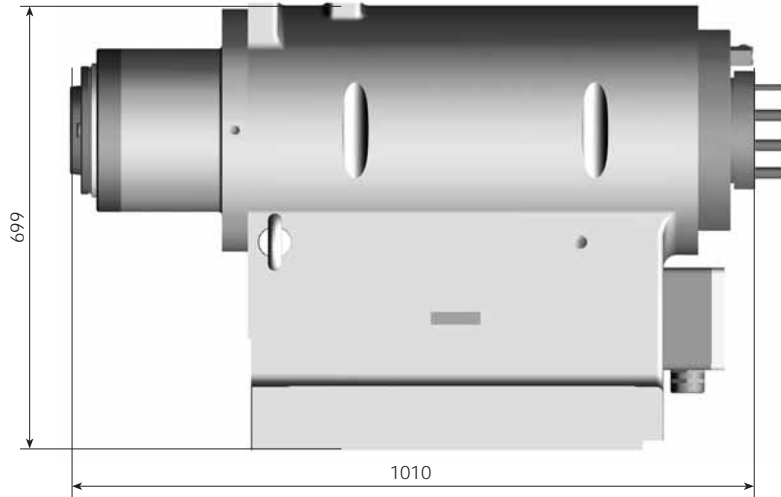
SPINDLE NUMBER		175980	
Category:	Turning Individual		
Spindle nose:	A6	Housing shape:	cylindrical
Rated power (S1-100%):	21 kW	Diameter:	300 mm
Rated torque (S1-100%):	200 Nm	Overall length:	640 mm
Rated speed:	1,000 rpm	Operating position:	vertical / nose up
Max speed:	4,500 rpm	Bearing bore diameter:	120 mm
Motor:	synchronous	Bearing lubrication:	grease
Moment of Inertia (spindle):	0.287 kgm ²		

SPINDLE NUMBER	175931
Category:	Turning Individual
Spindle nose:	A6
Rated power (S1-100%):	28 kW
Rated torque (S1-100%):	300 Nm
Rated speed:	900 rpm
Max speed:	5,500 rpm
Motor:	synchronous
Moment of Inertia (spindle):	0.24 kgm ²
Housing shape:	block
Block dimensions:	398 mm x 339 mm
Overall length:	789 mm
Operating position:	vertical / nose up
Bearing bore diameter:	120 mm
Bearing lubrication:	grease



SPINDLE NUMBER	175877A		
Category:	Turning Individual		
Spindle nose (DIN 55026):	A6	Housing shape:	cylindrical
Rated power (S1-100%):	42 kW	Diameter:	250 mm
Rated torque (S1-100%):	265 Nm	Overall length:	790 mm
Rated speed:	1,500 rpm	Operating position:	horizontal
Max speed:	4,500 rpm	Bearing bore diameter:	120 mm
Motor:	synchronous	Bearing lubrication:	grease
Moment of Inertia (spindle):	0.29 kgm ²		
		+ Cartridge spindle	





SPINDLE NUMBER		175182A	
Category:	Turning Individual		
Spindle nose:	A8	Housing shape:	block
Rated power (S1-100%):	18 kW	Block dimensions:	699 x 410 mm
Rated torque (S1-100%):	350 Nm	Overall length:	1010 mm
Rated speed:	499 rpm	Operating position:	horizontal
Max speed:	4,000 rpm	Bearing bore diameter:	130 mm
Motor:	asynchronous	Bearing lubrication:	grease
Moment of Inertia (spindle):	0.81 kgm ²	+ Cartridge-Spindle with casing	



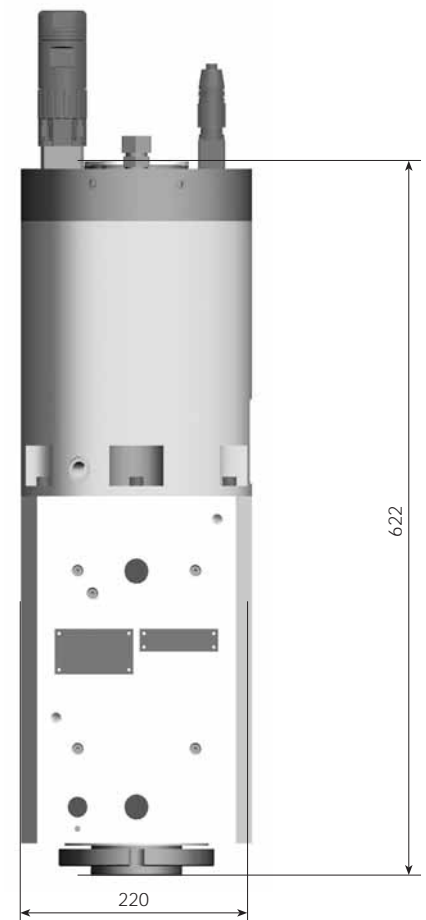
Gear box spindle



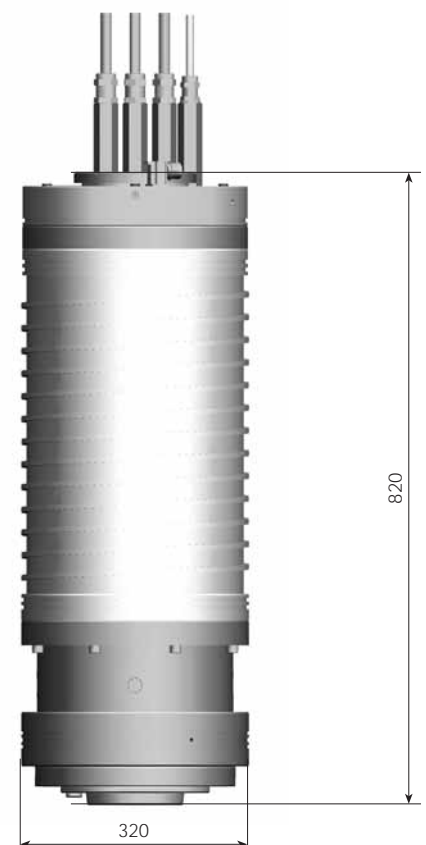
SPINDLE NUMBER		175471	
Category:	Turning Individual		
Spindle nose:	A11		
Rated power (S1-100%):	82 kW		
Rated torque (S1-100%):	820 Nm at 1:1 / 2,460 at 1:3		
Rated speed:	950 rpm		
Max speed:	2,500 rpm		
Motor:	synchronous		
Moment of Inertia (spindle):	1.35 kgm ²		
Housing shape:	cylindrical		
Diameter:	450 mm		
Overall length:	1,217 mm		
Operating position:	vertical / nose down	alternative: nose up 175950	
Bearing bore diameter:	200 mm		
Bearing lubrication:	grease		
+ Motor spindle with integration gear box (1:1/1:3)			

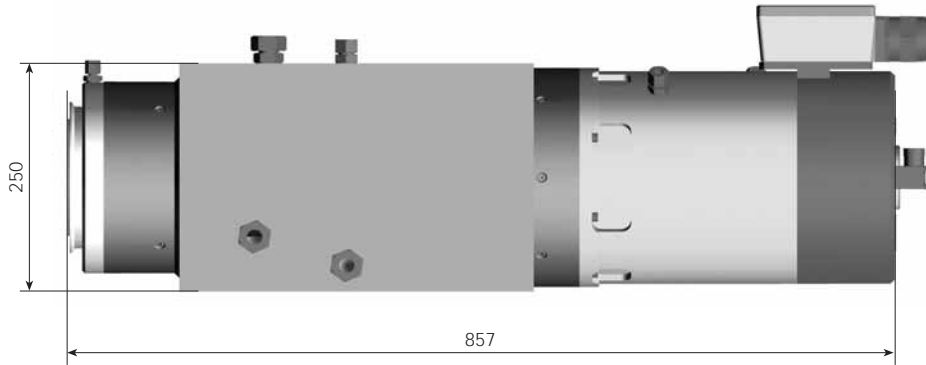
Hydrostatic spindle

SPINDLE NUMBER	175862
Category:	Turning Individual
Interface:	Special interface
Rated power (S1–100%):	16 kW
Rated torque (S1–100%):	42 Nm
Nominal speed:	3,500 rpm
Max speed:	8,500 rpm
Motor:	synchronous
Moment of inertia (spindle):	0.024 kgm ²
Housing shape:	block
Block dimensions:	265 mm x 220 mm
Overall length:	622 mm
Operating position:	vertical / nose down
Bearing bore diameter:	75 mm
Bearing lubrication:	re-circulating oil



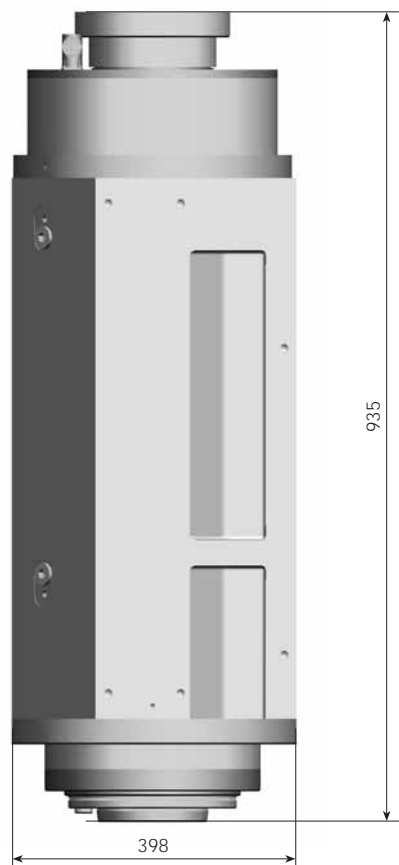
SPINDLE NUMBER	175736
Category:	Turning Individual
Spindle nose:	A8
Rated power (S1–100%):	67 kW
Rated torque (S1–100%):	585 Nm
Rated speed:	1,100 rpm
Max speed:	3,200 rpm
Motor:	synchronous
Moment of Inertia (spindle):	0.74 kgm ²
Housing shape:	cylindrical
Diameter:	320 mm
Overall length:	836 mm
Operating position:	vertical / nose down
Bearing bore diameter:	150 mm
Bearing lubrication:	grease





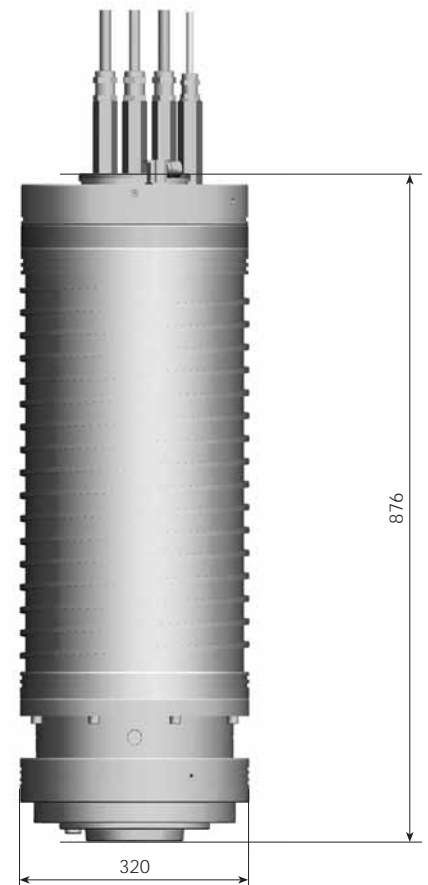
Hydrostatic spindle

SPINDLE NUMBER		175345	
Category:	Turning Individual		
Spindle nose:	Special interface	Housing shape:	block
Rated power (S1-100%):	24 kW	Block dimensions:	250 mm x 250 mm
Rated torque (S1-100%):	66 Nm	Overall length:	857 mm
Rated speed:	3,500 rpm	Operating position:	horizontal
Max speed:	5,000 rpm	Bearing bore diameter:	105 mm
Motor:	synchronous	Bearing lubrication:	re-circulating oil
Moment of Inertia (spindle):	0.086 kgm ²		

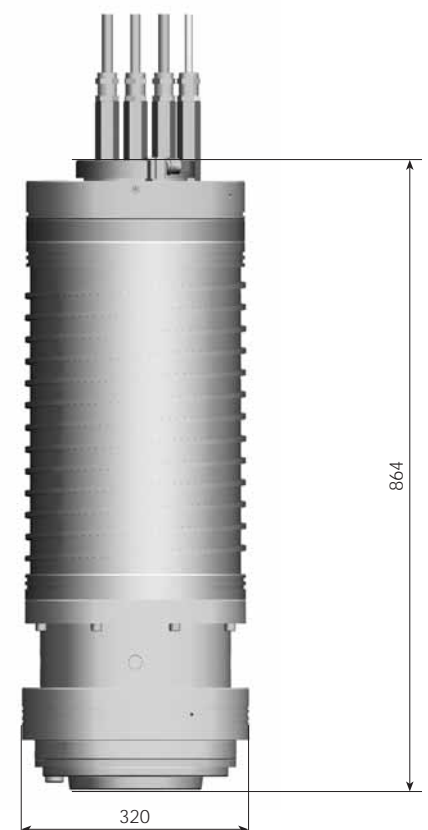


SPINDLE NUMBER		175821	
Category:	Turning Individual		
Spindle nose:	A8	Housing shape:	block
Rated power (S1-100%):	64 kW	Diameter:	398 mm x 354 mm
Rated torque (S1-100%):	820 Nm	Overall length:	935 mm
Rated speed:	750 rpm	Operating position:	vertical / nose down
Max speed:	3,500 rpm	Bearing bore diameter:	160 mm
Motor:	synchronous	Bearing lubrication:	grease
Moment of Inertia (spindle):	0.768 kgm ²		

SPINDLE NUMBER	176034
Category:	Turning Individual
Spindle nose:	A8
Rated power (S1–100%):	64 kW
Rated torque (S1–100%):	820 Nm
Rated speed:	750 rpm
Max speed:	3,200 rpm
Motor:	synchronous
Moment of Inertia (spindle):	0.78 kgm ²
Housing shape:	cylindrical
Block dimensions:	320 mm
Overall length:	876 mm
Operating position:	vertical / nose down
Bearing bore diameter:	150 mm
Bearing lubrication:	grease



SPINDLE NUMBER	175841
Category:	Turning Individual
Spindle nose:	A 11
Rated power (S1–100%):	67 kW
Rated torque (S1–100%):	585 Nm
Rated speed:	1,100 rpm
Max speed:	3,200 rpm
Motor:	synchronous
Moment of Inertia (spindle):	0.74 kgm ²
Housing shape:	cylindrical
Diameter:	320 mm
Overall length:	864 mm
Operating position:	vertical / nose down
Bearing bore diameter:	150 mm
Bearing lubrication:	grease



YOUR CONTACT

Siemens and WEISS – everywhere near by!

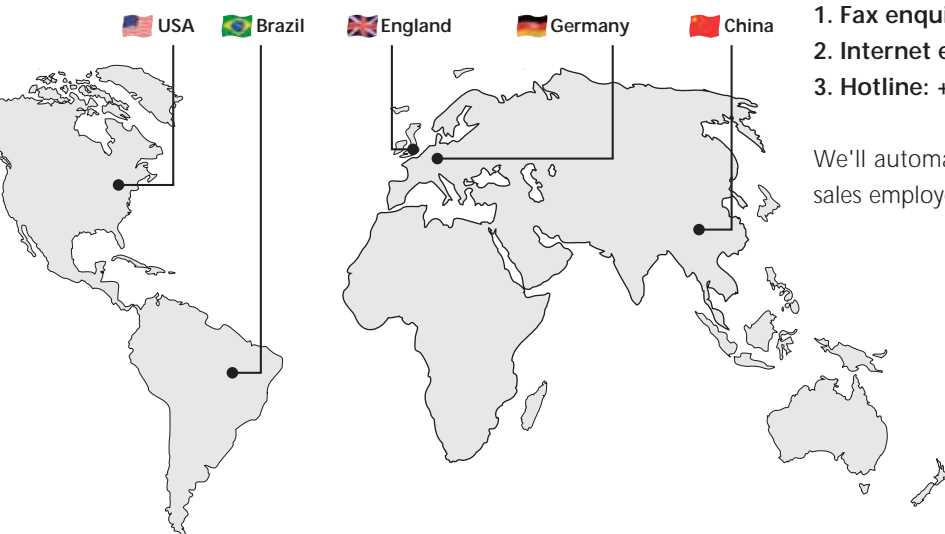
The Siemens Automation & Drives division is present around the world through its branches – near you as well! Qualified and competent contact partners stand ready to work at your side, on site, and provide support.

WEISS Spindeltechnologie GmbH and its 6 current service centres in 4 continents serve as the centre of competence for Siemens in all questions related to spindle technology. Almost on 300 employees are currently employed for all spindle-related questions, from development to production to service.

We would gladly help you find answers to any questions you might have: whether you are interested in more brochures, have specific questions, or are ready to enquire about a detailed offer. **We'll help you to the next step, quickly and simply.**

If you already know your personal contact partner at Siemens or WEISS, you may contact them immediately regarding your enquiry.

We also recommend the following alternative options for initiating contact with us:



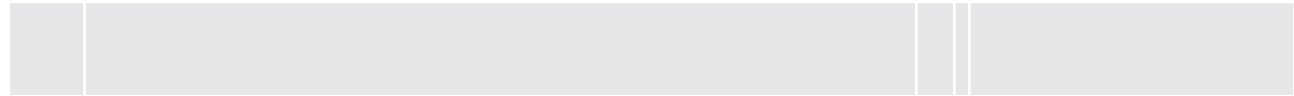
1. Fax enquiry form (see right)
2. Internet enquiry: www.weissgmbh.de/kontakt
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We'll automatically forward your enquiry to the appropriate sales employee who will contact you immediately, as desired.

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