

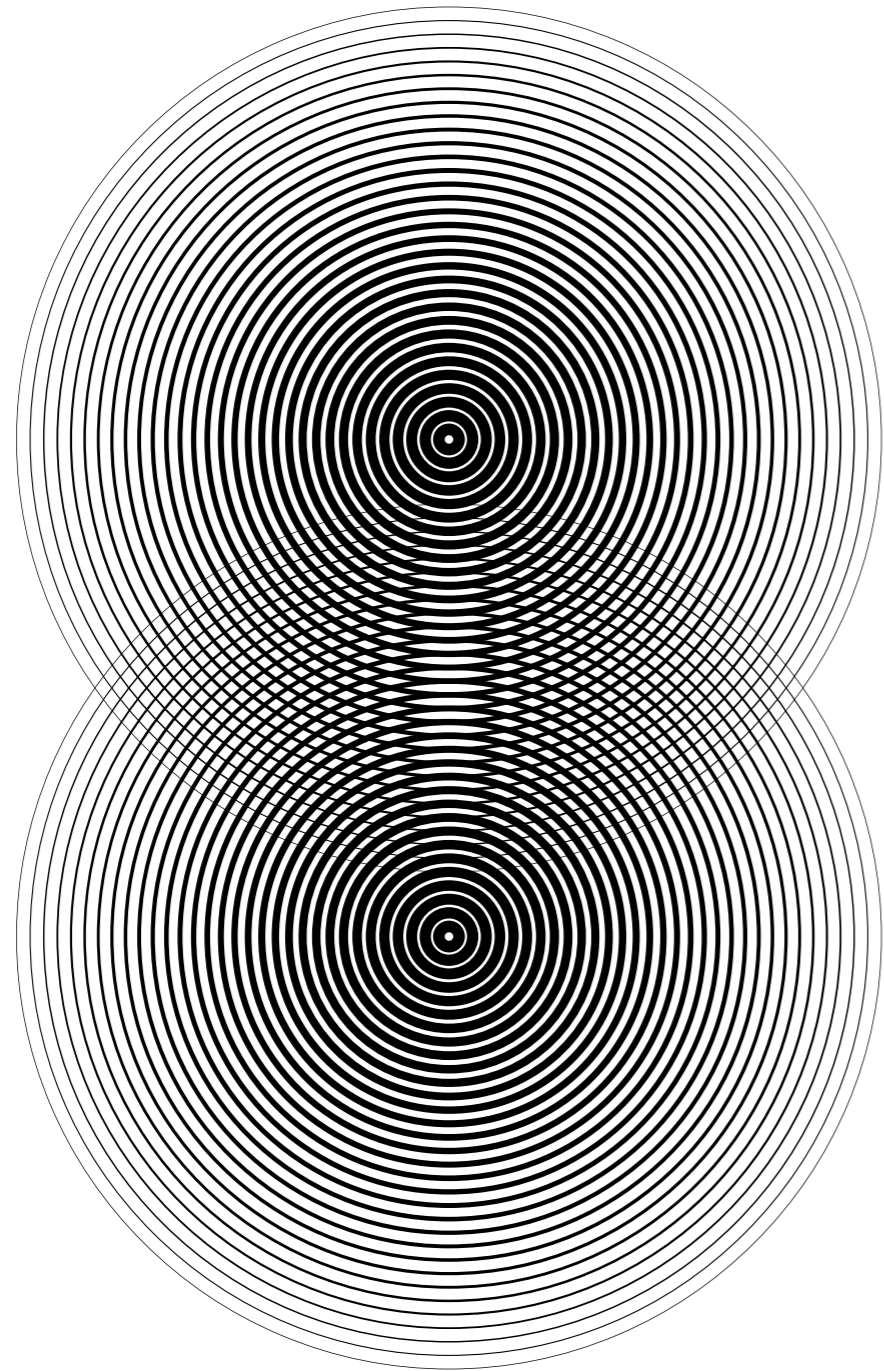


Motorized Spindles
Motorvretena



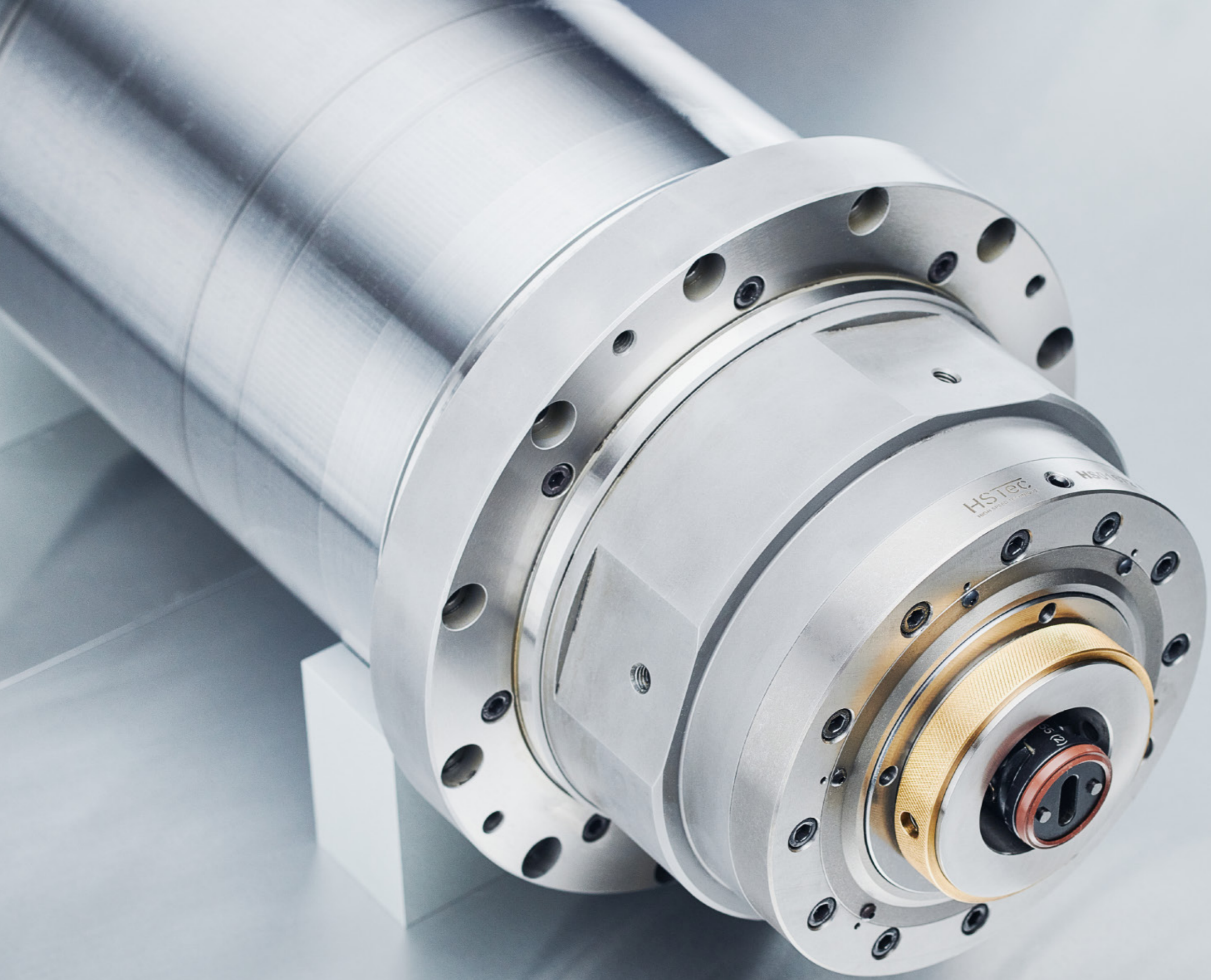
ISO 10 S T

2022. — 2023.



HSTec
Brand of the CHIRON Group

2022. — 2023.



Innovative motorized spindles

Transform your production process and increase productivity by implementing the new and improved SMART spindle, engineered to communicate with the machine and predict its maintenance. Our high-precision CNC machines, the latest technologies, and superb quality control are crucial for the development and manufacturing of high-quality products that fit Industry 4.0 standards.

We offer standard and special design solutions for motorized spindles.

According to your needs, we can specify:

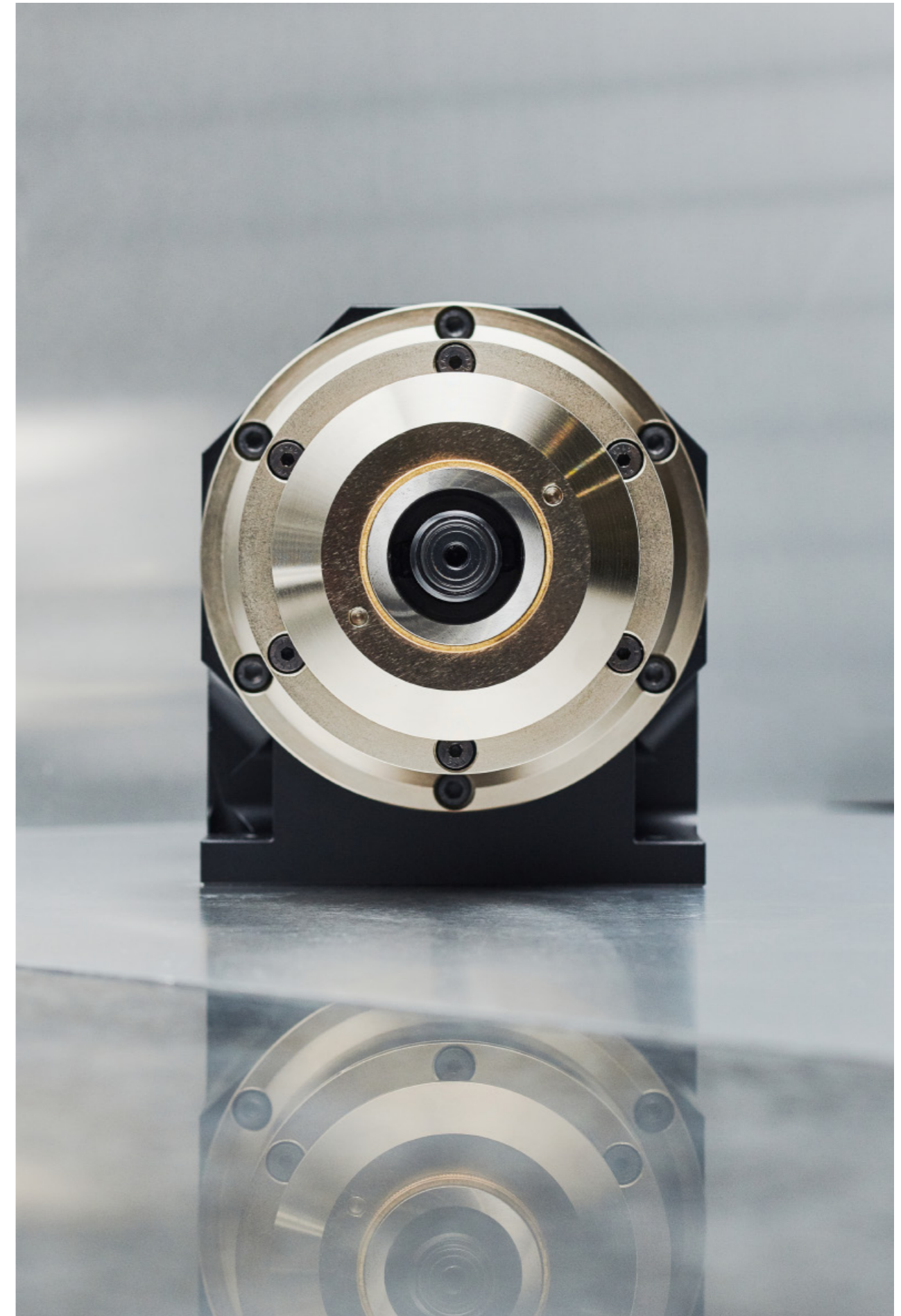
Spindle dimensions
Spindle torque
Motor speed
Tool clamping
Tool interface
Bearing
Lubrication type
Position sensor type

Inovativna motorvretena

Preoblikujte svoj proizvodni proces i povećajte produktivnost uvođenjem novog i unaprijeđenog SMART vretena, izrađenog da komunicira sa strojem i predviđa njegovo održavanje. Naši visokoprecizni CNC proizvodni strojevi, najnovije tehnologije te vrhunska kontrola kvalitete od presudne su važnosti za razvoj i proizvodnju visokokvalitetnih proizvoda koji odgovaraju standardima Industrije 4.0.

Nudimo standardna i posebno dizajnirana rješenja za motorvretena. Ovisno o vašim potrebama, možemo prilagoditi:

Dimenzije vretena
Moment sile vretena
Brzinu motora
Stezanje alat
Prihvat alata
Uležištenje
Vrstu podmazivanja
Tip senzora pozicije i brzine



High precision spindles for internal and external cylindrical grinding.

Low vibration amplitudes of HSTec spindles during the grinding process ensure excellent surface quality of the machined workpiece. Additionally, we offer dressing spindles designed for dressing and profiling of grinding wheels.

Options and functionalities:

Rated power outputs from 1,5 kW to 150 kW

Rotational speed up to 90000 rpm

Manual or automatic tool clamping systems

Tool interface: HSK, Grinding Arbor, customized solutions

Hybrid or steel spindle bearings

Bearing lubrication: grease or oil-air lubrication

High-resolution speed and position sensor, incremental or absolute encoder

Data Logger - Predictive maintenance with data acquisition and monitoring system

Active balancing system

Acoustic emission sensors

Adaptive bearing preload

Compensation of the spindle axial expansion

Compatibility with all control devices and CNC machine programs

Mounting dimensions and drive specifications according to customer request

Visokoprecizna motorvretena za unutarnje i vanjsko cilindrično brušenje.

Niske vibracijske amplitude HSTec vretena tijekom obrade brušenjem osiguravaju izvrsnu kvalitetu strojno obrađene površine. Dodatno, u ponudi imamo i vretena za brusne strojeve dizajnirana za skidanje srha i profiliranje brusnih ploča.

Opcije i funkcionalnosti:

Nazivna izlazna snaga od 1,5 kW do 150 kW

Brzina vrtnje do 90 000 o/min

Ručni ili automatski sustavi stezanja alata

Prihvat alata: HSK, Grinding Arbor, prilagođena rješenja

Keramička ili čelična uležištenja vretena

Podmazivanje ležajeva: mast ili podmazivanje mješavinom ulje-zrak

Senzor brzine i položaja visoke rezolucije, inkrementalni ili apsolutni enkoder

Data Logger – prediktivno održavanje sa sustavom za prikupljanje i nadzor podataka

Sustav za automatsko balansiranje

Acoustic emission senzor

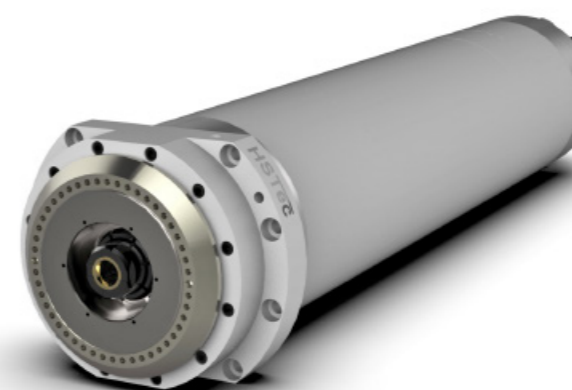
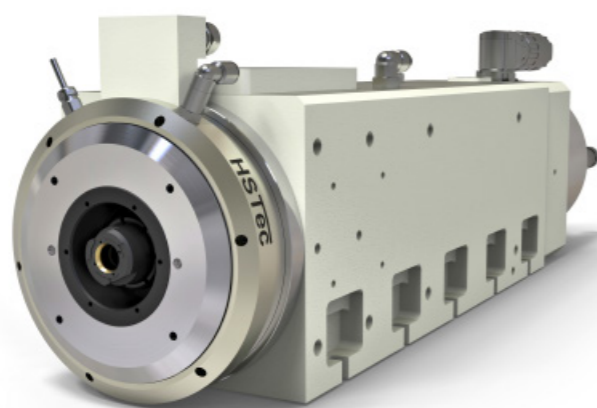
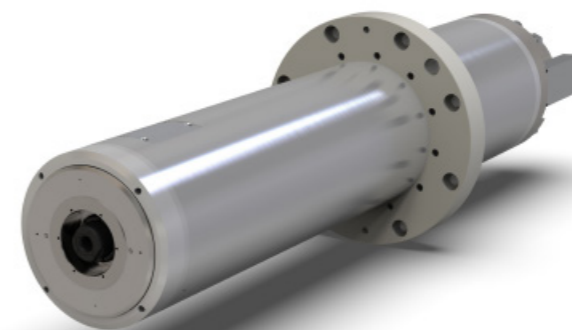
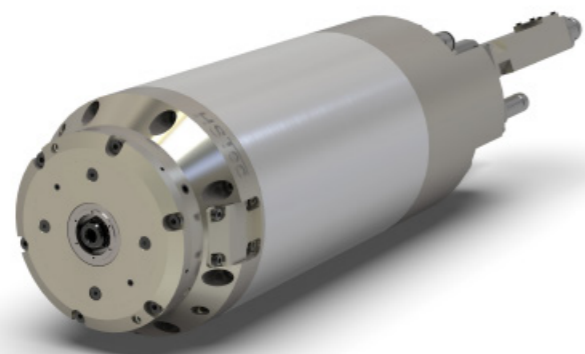
Adaptivno predopterećenje ležajeva

Kompenzacija aksijalne ekspanzije vretena

Kompatibilnost sa svim upravljačkim uređajima i programima CNC strojeva

Montažne dimenzije i specifikacije motora u skladu sa zahtjevom kupca

SPINDLE	HSM050AA	HSM060AC	HSM060SB	HSM090SG	HSM132SB	HSE150SD
PN (KW)	4,5	15	10	70	31	70
MN (NM)	0,85	4,8	1,3	203	130	446
NMAX (RPM) NMAX (O/MIN)	50000	45000	75000	8000	7000	3000
SPINDLE FITTING Ø (MM) PROMJER KUČIŠTA VREtenA Ø (MM)	100	120	120	190	200	300 X 300
TOOL INTERFACE PRIHVAT ALATA	HSK F40	HSK C40	HSK E25	HSK A100	HSK A80	HSK A125
CLAMPING SYSTEM SUSTAV ZA STEZANJE ALATA	Automatic clamping system (hydraulic) Sustav automatskog stezanja (hidraulički)	Automatic clamping system (hydraulic) Sustav automatskog stezanja (hidraulički)	Automatic clamping system (hydraulic) Sustav automatskog stezanja (hidraulički)	Automatic clamping system (hydraulic) Sustav automatskog stezanja (hidraulički)	Automatic clamping system (hydraulic) Sustav automatskog stezanja (hidraulički)	Automatic clamping system (hydraulic) Sustav automatskog stezanja (hidraulički)
BUILT-IN MOTOR UGRADBENI MOTOR	Asynchronous Asinkroni	Asynchronous Asinkroni	Synchronous Sinkroni	Synchronous Sinkroni	Synchronous Sinkroni	Synchronous Sinkroni
SPINDLE BEARINGS ULEŽIŠTENJE VREtenA	Hybrid bearings Hibridni ležajevi	Hybrid bearings Hibridni ležajevi	Hybrid bearings Hibridni ležajevi	Hybrid bearings Hibridni ležajevi	Hybrid bearings Hibridni ležajevi	Steel bearings Čelični ležajevi
LUBRICATION SYSTEM SUSTAV PODMAZIVANJA	Oil-air lubrication Podmazivanje mješavinom ulje-zrak	Oil-air lubrication Podmazivanje mješavinom ulje-zrak	Oil-air lubrication Podmazivanje mješavinom ulje-zrak	Oil-air lubrication Podmazivanje mješavinom ulje-zrak	Permanent grease lubrication Trajno podmazivanje mašču	Permanent grease lubrication Trajno podmazivanje mašču
SPINDLE COOLING HLADENJE VREtenA	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom
SPEED AND POSITION SENSOR SENZOR BRZINE I POLOŽAJA	Incremental encoder Inkrementalni enkoder	Incremental encoder Inkrementalni enkoder	Incremental encoder Inkrementalni enkoder	Incremental encoder Inkrementalni enkoder	Incremental encoder Inkrementalni enkoder	Absolute encoder Apsolutni enkoder
ACTIVE BALANCING SYSTEM SUSTAV ZA AUTOMATSKO BALANSIRANJE	Optional Po izboru	Optional Po izboru	Optional Po izboru	Optional Po izboru	Optional Po izboru	Active balancing system integrated Ugrađeni sustav za automatsko balansiranje
DATA LOGGER – REAL TIME MONITORING OF BEARING TEMPERATURES AND VIBRATION DATA LOGGER – NADZOR TEMPERATURE I VIBRACIJA LEŽAJEVA U STVARNOM VREMENU	Optional Po izboru	Optional Po izboru	Optional Po izboru	Optional Po izboru	Data Logger integrated Ugrađeni Data Logger	Optional Po izboru
SENSOR MONITORING SYSTEM SENZORSKI SUSTAVI	Temperature sensor Clamping status monitoring Temperaturni senzor Nadzor statusa stezanja alata	Temperature sensor Clamping status monitoring Temperaturni senzor Nadzor statusa stezanja alata	Temperature sensor Clamping status monitoring Temperaturni senzor Nadzor statusa stezanja alata	Temperature sensor Clamping status monitoring Temperaturni senzor Nadzor statusa stezanja alata	Temperature sensor Acoustic emission sensor Clamping status monitoring Temperaturni senzor Acoustic emission senzor Nadzor statusa stezanja alata	Temperature sensor Vibration sensor Clamping status monitoring Temperaturni senzor Vibracijski senzor Nadzor statusa stezanja alata





High-performance spindles for a variety of milling and boring applications.
Robust and reliable for high load capabilities. Designed for high efficiency CNC machine tools machining. Applicable for high speed cutting applications.
Options and functionalities:

Rated power outputs up to 80 kW

Rotational speed up to 28000 rpm

Automatic tool clamping system and clamping status monitoring

Hydraulic, pneumatic or electric release unit and rotary union up to 150 bar

Tool interface: HSK, PSC (Capto), SK, BT, CAT, customized solutions

Hybrid or steel spindle bearings

Bearing lubrication: grease or oil-air lubrication

High-resolution speed and position sensor, incremental or absolute encoder

Data Logger - Predictive maintenance with data acquisition and monitoring system

Active balancing system

Compensation of the spindle axial expansion

Compatibility with all control devices and CNC machine programs

Mounting dimensions and drive specifications according to customer request

Visokoučinkovita motorvretena za razne primjene u području obrade glodanjem i bušenjem.
Robusna i pouzdana u slučajevima velikih opterećenja. Dizajnirana da bi omogućila visokoučinkovitu obradu CNC alatnim strojevima. Primjenjiva za strojne obrade velikim brzinama.
Opcije i funkcionalnosti:

Nazivna izlazna snaga do 80 kW

Brzina vrtnje do 28 000 o/min

Automatski sustav stezanja alata i nadzor statusa stezanja

Hidraulična, pneumatska ili električna jedinica za otpuštanje alata i rotacijske glave do 150 bara

Prihvata alata: HSK, PSC (Capto), SK, BT, CAT, prilagođena rješenja

Keramička ili čelična uležištenja vretena

Podmazivanje ležajeva: mast ili podmazivanje mješavinom ulje-zrak

Senzor brzine i položaja visoke rezolucije, inkrementalni ili apsolutni enkoder

Data Logger – prediktivno održavanje sa sustavom za prikupljanje i nadzor podataka

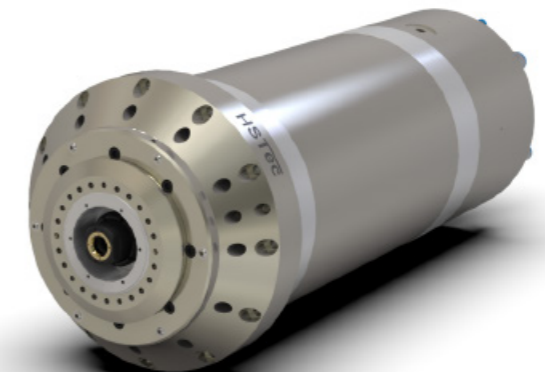
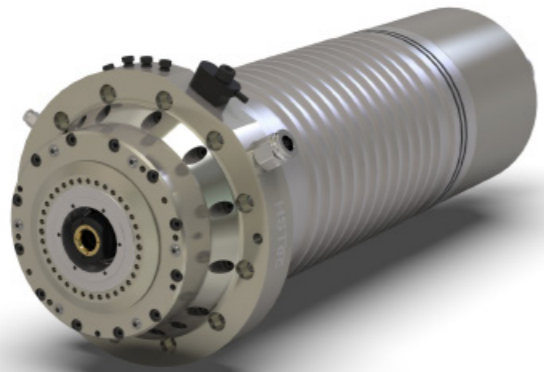
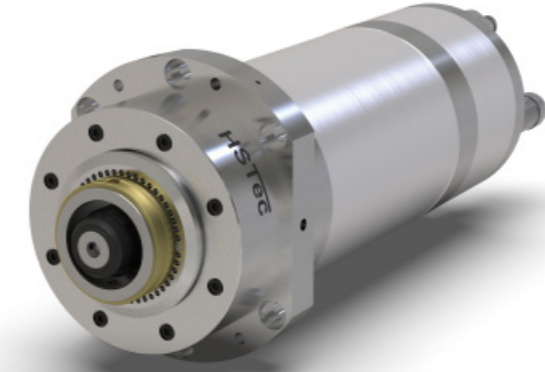
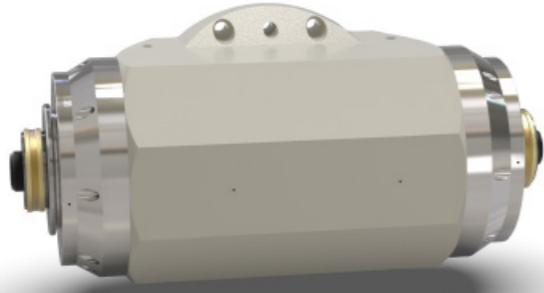
Sustav za automatsko balansiranje

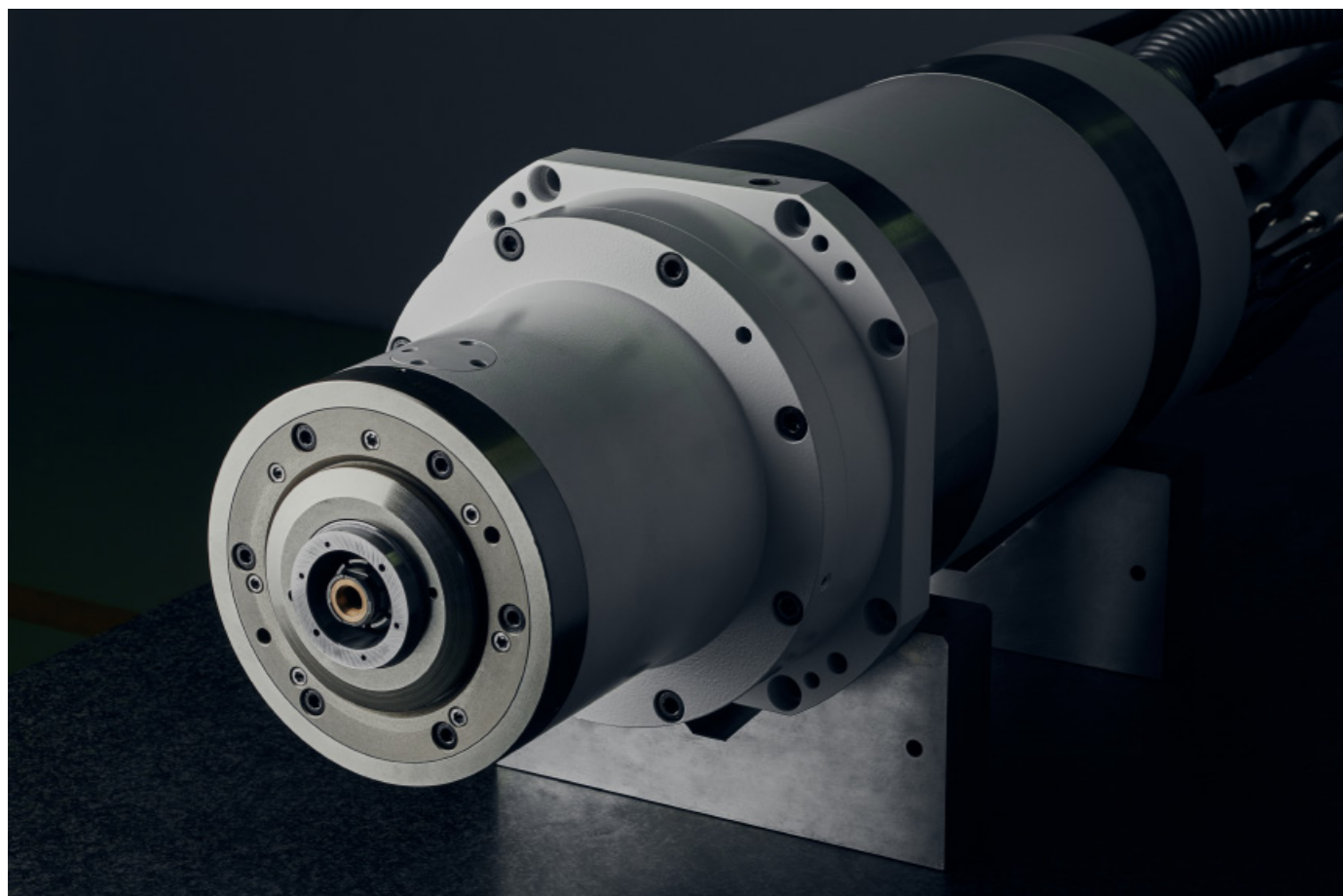
Kompenzacija aksijalne ekspanzije vretena

Kompatibilnost sa svim upravljačkim uređajima i programima CNC strojeva

Montažne dimenzije i specifikacije motora u skladu sa zahtjevom kupca

SPINDLE	HSM070SC	HSM100AB	HSM105AF	HSM105SC	HSM105SD	HSM112SB
PN (KW)	6,5	16	30	16	23	31
MN (NM)	6,5	64	97	28	130	130
NMAX (RPM) NMAX (O/MIN)	14000	8000	12000	20000	4000	2000
SPINDLE FITTING Ø (MM) PROMJER KUČIŠTA VREtenA Ø (MM)	140	208	210	200	220	215
TOOL INTERFACE PRHVAT ALATA	HSK A63	Custom tool interface Prilagođeno sučelje alata	SK 40	Custom tool interface Prilagođeno sučelje alata	HSK A80	HSK A80
CLAMPING SYSTEM SUSTAV ZA STEZANJE ALATA	Automatic clamping system (hydraulic) Sustav automatskog stezanja (hidraulički)	Custom manual clamping system Prilagođeni sustav ručnog stezanja	Automatic clamping system (hydraulic) Sustav automatskog stezanja (hidraulički)	Automatic clamping system (pneumatic) Sustav automatskog stezanja (pneumatski)	Automatic clamping system (hydraulic) Sustav automatskog stezanja (hidraulički)	Automatic clamping system (hydraulic) Sustav automatskog stezanja (hidraulički)
BUILT-IN MOTOR UGRADBENI MOTOR	Synchronous Sinkroni	Asynchronous Asinkroni	Asynchronous Asinkroni	Synchronous Sinkroni	Synchronous Sinkroni	Synchronous Sinkroni
SPINDLE BEARINGS ULEŽIŠTENJE VREtenA	Hybrid bearings Hibridni ležajevi	Hybrid bearings Hibridni ležajevi	Hybrid bearings Hibridni ležajevi	Hybrid bearings Hibridni ležajevi	Steel bearings Čelični ležajevi	Steel bearings Čelični ležajevi
LUBRICATION SYSTEM SUSTAV PODMAZIVANJA	Permanent grease lubrication Trajno podmazivanje mašću	Permanent grease lubrication Trajno podmazivanje mašću	Permanent grease lubrication Trajno podmazivanje mašću	Oil-air lubrication Podmazivanje mješavinom ulje-zrak	Permanent grease lubrication Trajno podmazivanje mašću	Permanent grease lubrication Trajno podmazivanje mašću
SPINDLE COOLING HLADENJE VREtenA	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom
SPEED AND POSITION SENSOR SENZOR BRZINE I POLOŽAJA	Incremental encoder Inkrementalni enkoder	Absolute encoder w. Sin-Cos Incr. signal Apsolutni enkoder s inkrementalnim Sin-Cos davačem položaja	Incremental encoder Inkrementalni enkoder	Incremental encoder Inkrementalni enkoder	Incremental encoder Inkrementalni enkoder	Incremental encoder Inkrementalni enkoder
ROTARY UNION FOR TOOL COOLING ROTACIJSKA GLAVA ZA HLADENJE ALATA	Optional Po izboru	Ø	Optional Po izboru	Optional Po izboru	Rotary union integrated Ugrađena rotacijska glava	Rotary union integrated Ugrađena rotacijska glava
ACTIVE BALANCING SYSTEM SUSTAV ZA AUTOMATSKO BALANSIRANJE	Optional Po izboru	Optional Po izboru	Optional Po izboru	Active balancing system integrated Ugrađeni sustav za automatsko balansiranje	Optional Po izboru	Optional Po izboru
DATA LOGGER – REAL TIME MONITORING OF BEARING TEMPERATURES AND VIBRATION DATA LOGGER – NADZOR TEMPERATURE I VIBRACIJA LEŽAJEVA U STVARNOM VREMENU	Optional Po izboru	Optional Po izboru	Data Logger integrated Ugrađeni Data Logger	Optional Po izboru	Optional Po izboru	Optional Po izboru
SENSOR MONITORING SYSTEM SENZORSKI SUSTAVI	Temperature sensor Clamping status monitoring Temperaturni senzor Nadzor statusa stezanja alata	Temperature sensor Temperaturni senzor	Temperature sensor Clamping status monitoring Temperaturni senzor Nadzor statusa stezanja alata	Temperature sensor Clamping status monitoring Temperaturni senzor Nadzor statusa stezanja alata	Temperature sensor Clamping status monitoring Temperaturni senzor Nadzor statusa stezanja alata	Temperature sensor Clamping status monitoring Temperaturni senzor Nadzor statusa stezanja alata



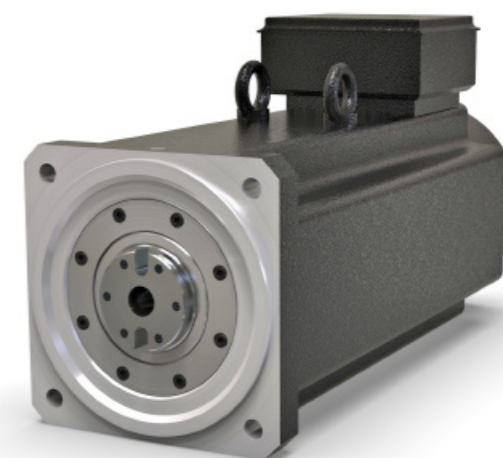
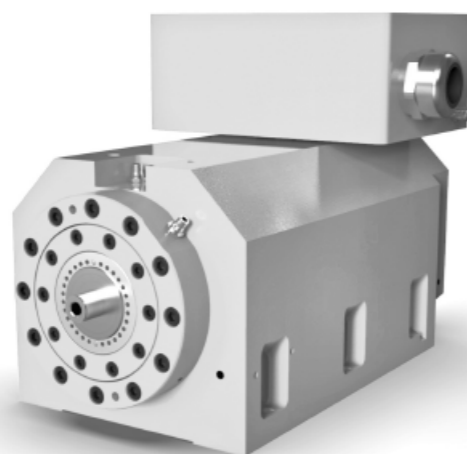
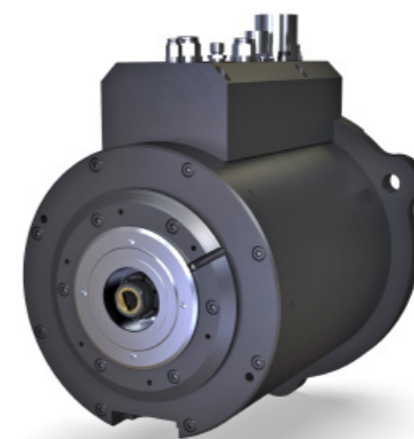
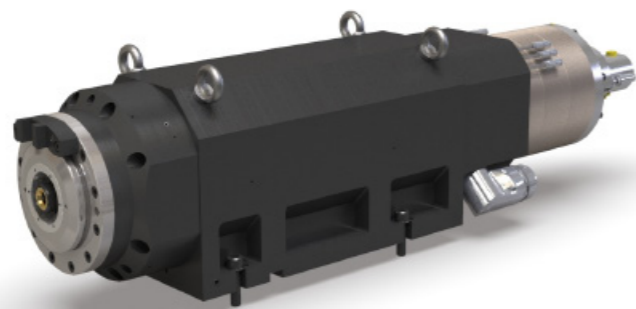


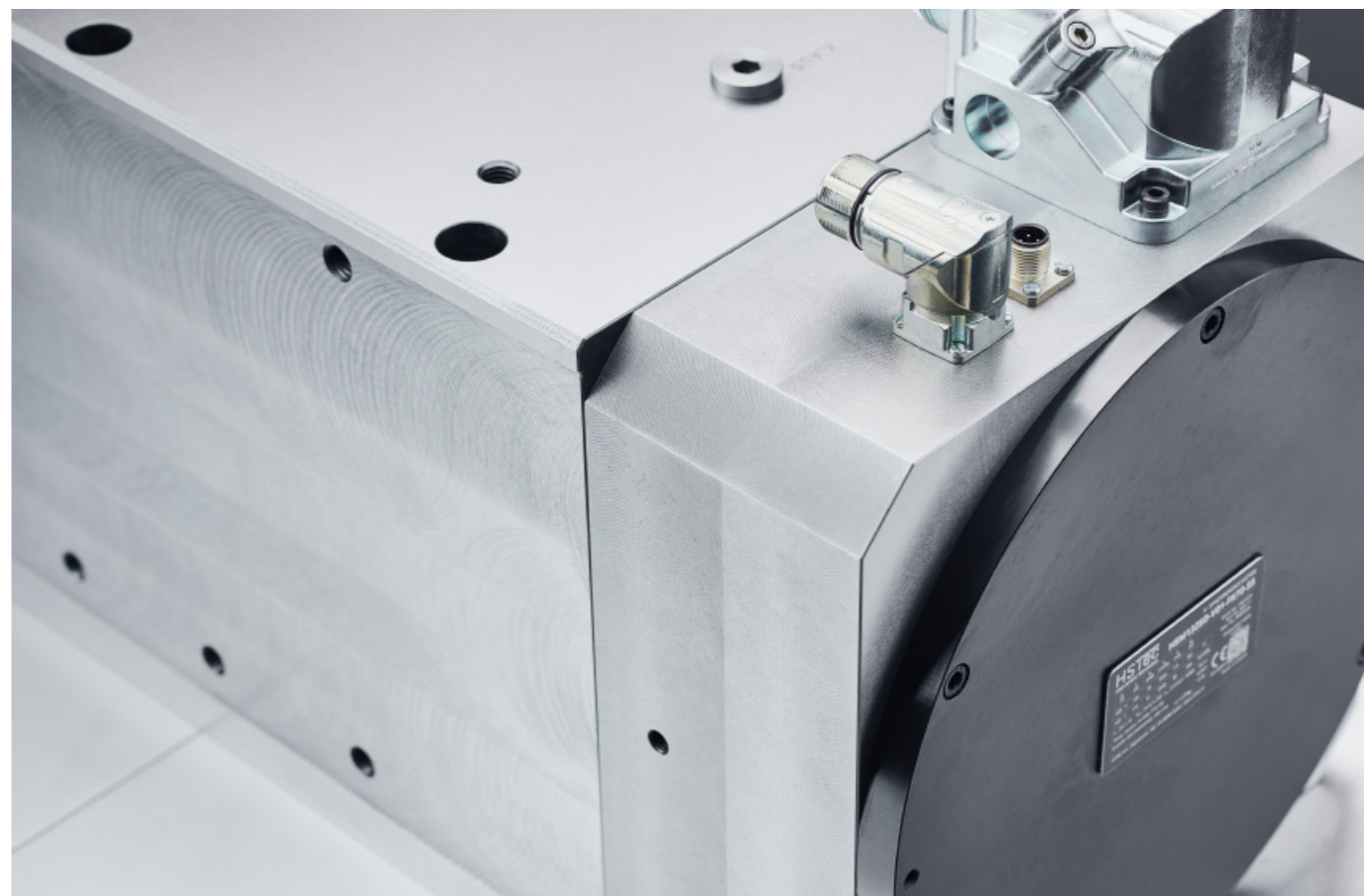
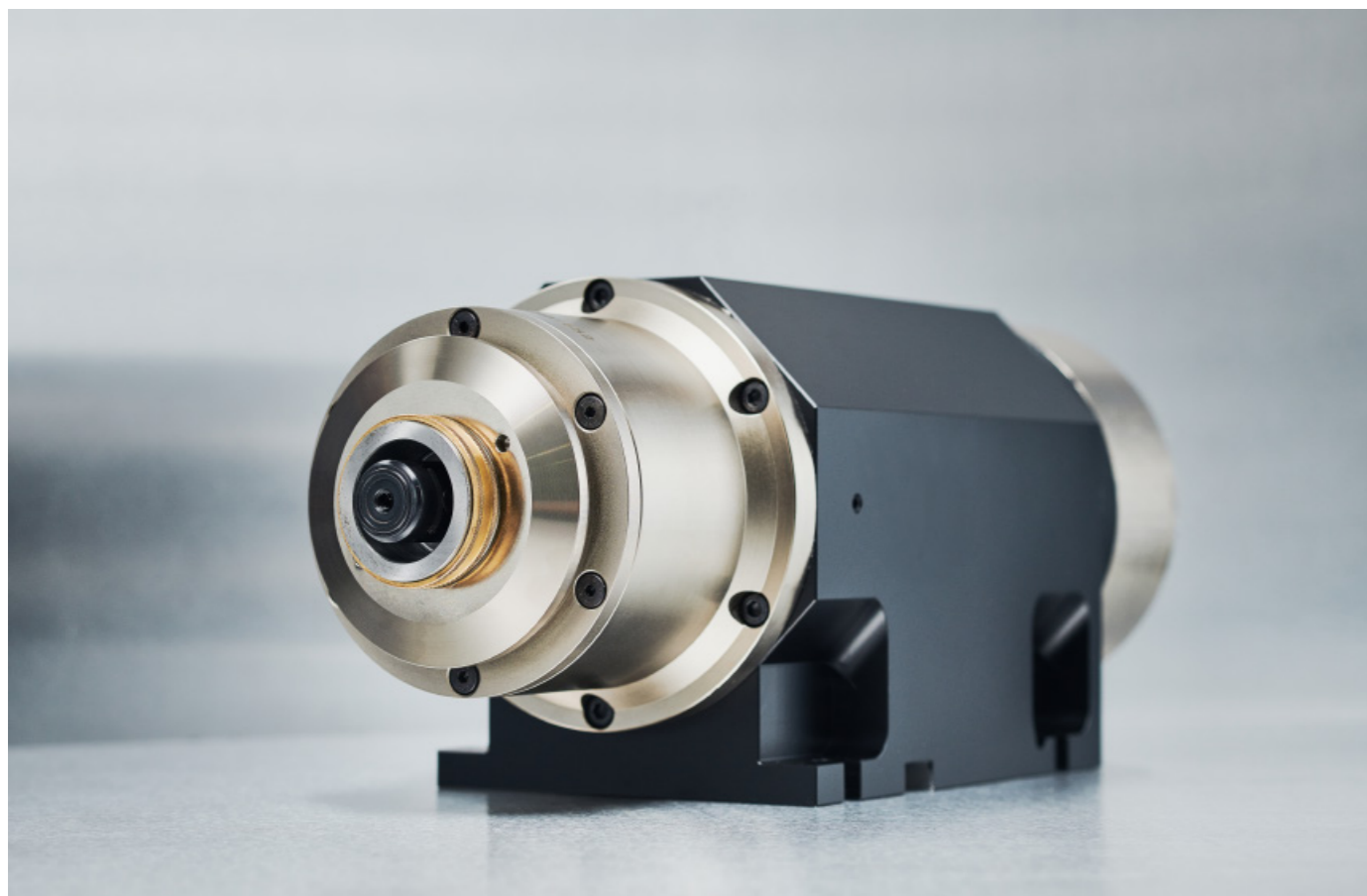
Lightweight spindles and custom design suitable for mounting on industrial robots.

Custom made for various operations, such as balance and force test stands, turret heads. Mounting dimensions and drive specifications according to customer request.

Lagana vretena i prilagođen dizajn prikladan za montažu na industrijske robote. Izrađena po narudžbi za različite namjene, poput ispitnih uređaja za balansiranje i testiranje sile, revolver glave. Montažne dimenzije i specifikacije motornog pogona prema zahtjevima kupca.

SPINDLE	HSE070AA	HSE105SC	HSM100SB	HSE130SE	HSS105SE	HSS180AG
	SPINDLE FOR ROBOTIC MACHINING VRETENO ZA OBRADU ROBOTOM	SPINDLE FOR ROBOTIC MACHINING VRETENO ZA OBRADU ROBOTOM	SPINDLE FOR FRICTION STIR WELDING PROCESS (FSW) VRETENO ZA PROCES ZAVARIVANJA FRICTION STIR WELDING (FSW)	HIGH SPEED MOTOR FOR TEST STANDS VISOKOBRZINSKI MOTOR ZA ISPITNE POSTAVE	HIGH SPEED MOTOR FOR VARIOUS APPLICATIONS VISOKOBRZINSKI MOTOR ZA RAZNE NAMJENE	HIGH TORQUE MOTOR FOR VARIOUS APPLICATION MOTOR VELIKOG OKRETNOG MOMENTA ZA RAZNE NAMJENE
PN (KW)	6,3	30	24	100	26	100
MN (NM)	5	42	66	48	60	1872
NMAX (RPM) NMAX (O/MIN)	12000	18000	6500	20000	15000	980
SPINDLE FITTING Ø (MM) PROMJER KUČIŠTA VRETENA Ø (MM)	140 × 123	197 × 170	Ø 230	600 × 274	525 × 220	Ø 350
TOOL INTERFACE PRIHVAT ALATA	HSK C40	HSK A63	HSK A63	Custom shaft interface Osovina prema zahtjevima kupca	Custom shaft interface Osovina prema zahtjevima kupca	Custom shaft interface Osovina prema zahtjevima kupca
CLAMPING SYSTEM SUSTAV ZA STEZANJE ALATA	Manual clamping system Sustav ručnog stezanja	Automatic clamping system (pneumatic) Sustav automatskog stezanja (pneumatski)	Automatic clamping system (hydraulic) Sustav automatskog stezanja (hidraulički)	Ø	Ø	Ø
BUILT-IN MOTOR UGRADBENI MOTOR	Asynchronous Asinkroni	Synchronous Sinkroni	Synchronous Sinkroni	Synchronous Sinkroni	Synchronous Sinkroni	Asynchronous Asinkroni
SPINDLE BEARINGS ULEŽIŠTENJE VRETENA	Steel bearings Čelični ležajevi	Hybrid bearings Hibridni ležajevi	Steel bearings Čelični ležajevi	Hybrid bearings Hibridni ležajevi	Steel bearings Čelični ležajevi	Steel bearings Čelični ležajevi
LUBRICATION SYSTEM SUSTAV PODMAZIVANJA	Permanent grease lubrication Trajno podmazivanje mašću	Oil-air lubrication Podmazivanje mješavinom ulje-zrak	Permanent grease lubrication Trajno podmazivanje mašću	Oil-air lubrication Podmazivanje mješavinom ulje-zrak	Permanent grease lubrication Trajno podmazivanje mašću	Permanent grease lubrication Trajno podmazivanje mašću
SPINDLE COOLING HLADENJE VRETENA	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom	Water with anti-corrosion agent Rotor cold air cooling Voda s antikoroziivnim sredstvom Hlađenje rotora hladnim zrakom	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom	Water with anti-corrosion agent Voda s antikoroziivnim sredstvom
SPEED AND POSITION SENSOR SENZOR BRZINE I POLOŽAJA	Induction sensor for speed control Induktivni senzor za kontrolu brzine	Incremental encoder Inkrementalni enkoder	Incremental encoder Inkrementalni enkoder	Incremental encoder Inkrementalni enkoder	Incremental encoder Inkrementalni enkoder	Incremental encoder Inkrementalni enkoder
DATA LOGGER – REAL TIME MONITORING OF BEARING TEMPERATURES AND VIBRATION DATA LOGGER – NADZOR TEMPERATURE I VIBRACIJA LEŽAJEVA U STVARNOM VREMENU	Optional Po izboru	Optional Po izboru	Optional Po izboru	Optional Po izboru	Optional Po izboru	Optional Po izboru
SENSOR MONITORING SYSTEM SENZORSKI SUSTAVI	Temperature sensor Temperaturni senzor	Temperature sensor Temperaturni senzor	Temperature sensor Integrated load cells Temperaturni senzor Ugrađeni senzori sile	Temperature sensor Temperaturni senzor	Temperature sensor Temperaturni senzor	Temperature sensor Temperaturni senzor





High torque spindles designed for turning applications.

Custom made special purpose spindles for demanding turning operations.
Powerful B-axis milling spindles for CNC lathe machines.

Options and functionalities:

Maximum torque outputs up to 500 Nm

Rotational speed up to 10000 rpm

Automatic tool clamping system and clamping status monitoring

Workpiece clamping with a variety of different chucks

Hybrid or steel spindle bearings

Bearing lubrication: grease or oil-air lubrication

High-resolution speed and position sensor, incremental or absolute encoder

Data Logger - Predictive maintenance with data acquisition and monitoring system

Compatibility with all control devices and CNC machine programs

Mounting dimensions and drive specifications according to customer request

Vretna visokog okretnog momenta dizajnirana za tokarske strojeve.

Prilagođena vretna posebne namjene za zahtjevne postupke tokarenja. Snažna glodača motorvretna za B-os stroja za primjenu u CNC tokarskim strojevima.

Opcije i funkcionalnosti:

Maksimalni okretni moment do 500 Nm

Brzina vrtnje do 10 000 o/min

Automatski sustav stezanja alata i nadzor statusa stezanja

Stezanje obratka različitim tipovima steznih glava

Keramička ili čelična uležištenja vretena

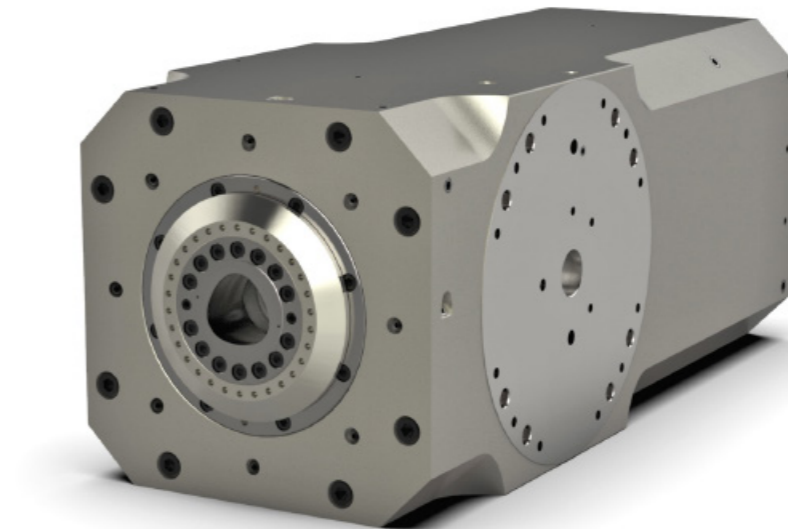
Podmazivanje ležajeva: mast ili podmazivanje mješavinom ulje-zrak

Senzor brzine i položaja visoke rezolucije, inkrementalni ili apsolutni enkoder

Data Logger – prediktivno održavanje sa sustavom za prikupljanje i nadzor podataka

Kompatibilnost sa svim upravljačkim uređajima i programima CNC strojeva

Montažne dimenzije i specifikacije motora u skladu sa zahtjevom kupca



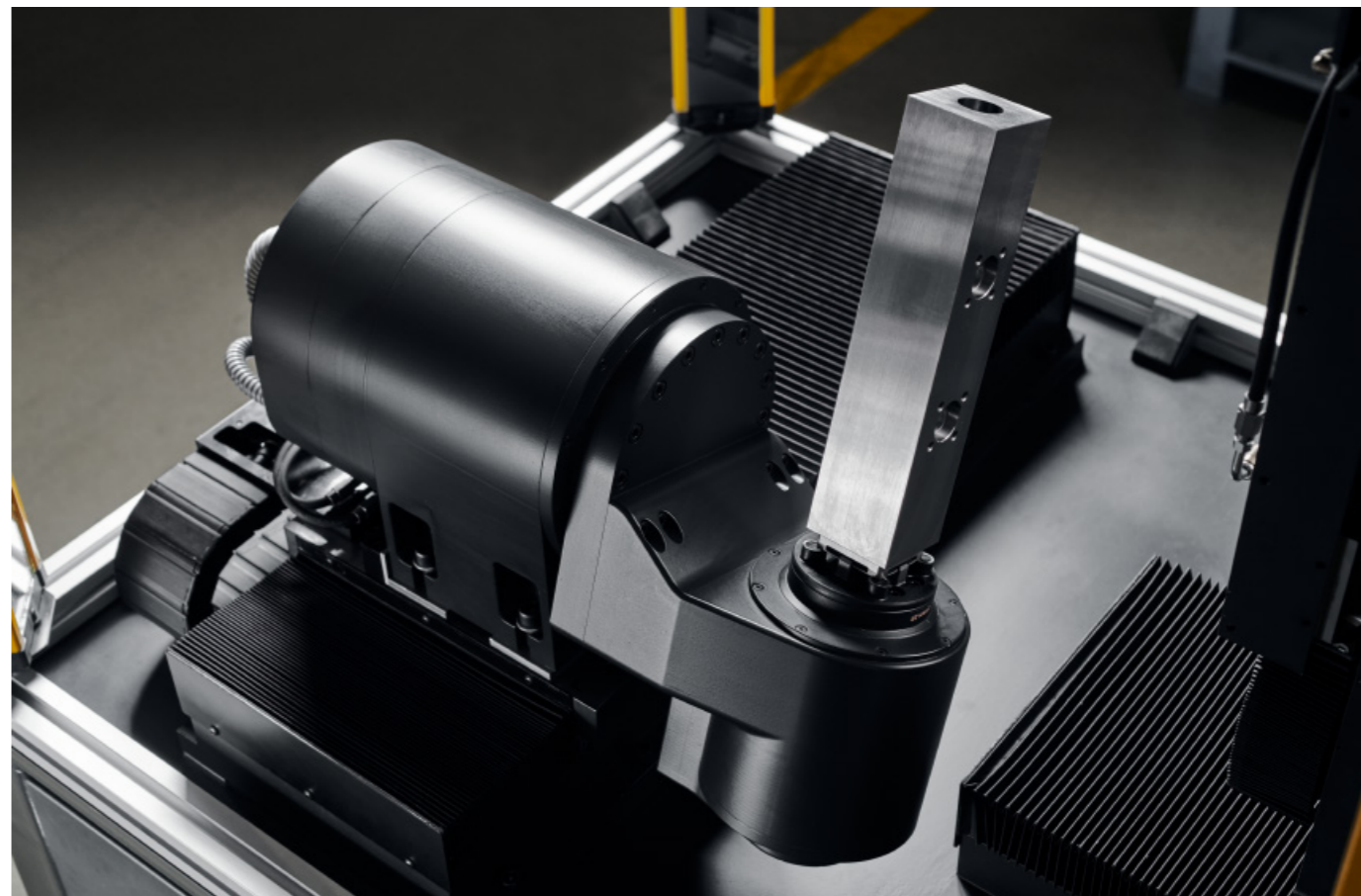
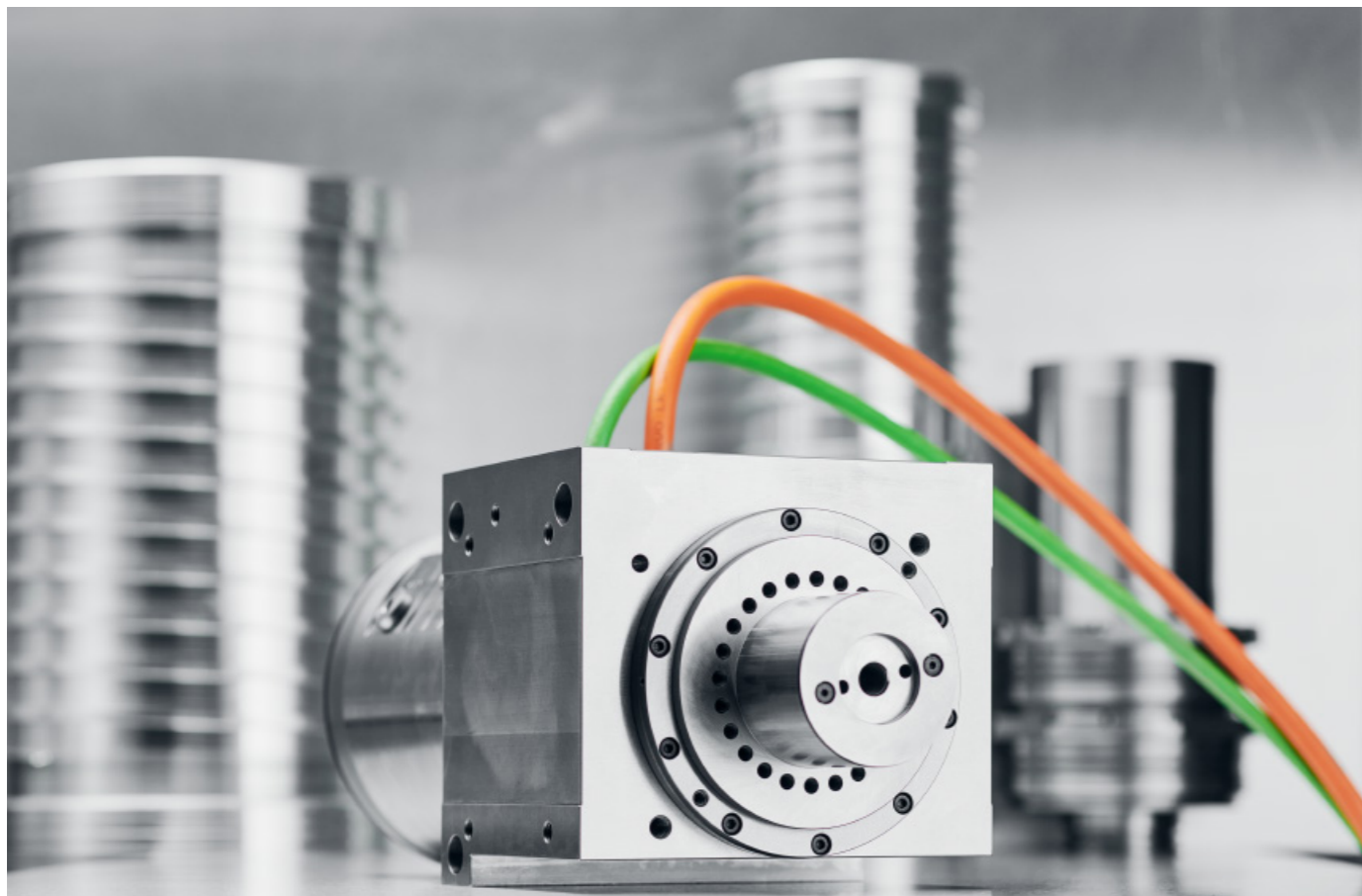
Designed for top performance and custom made for special applications.

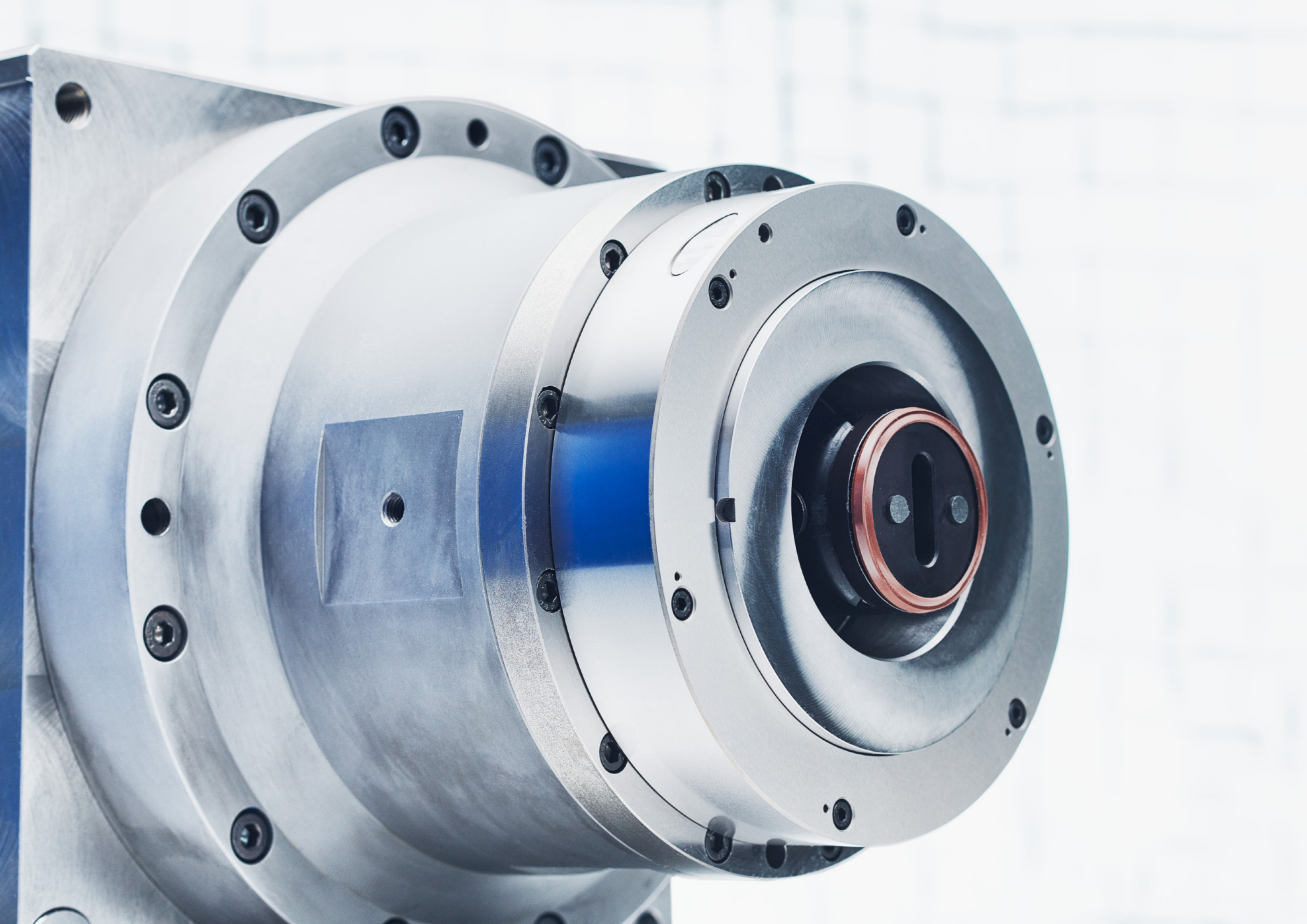
Customized motors for demanding applications. Two-axis milling heads.

Linear drive units. One and two axis rotary tables. Direct drive high torque motors with absolute measuring encoder system.

Dizajnirani za vrhunske performanse i prilagođeni za posebne primjene.
Motori prilagođeni zahtjevnim namjenama. Dvoosne glodače glave. Linearne pogonske jedinice. Jednoosni i dvoosni rotacijski stolovi. Direktni pogonski motori s velikim okretnim momentom sa apsolutnim mjernim enkoderom.







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