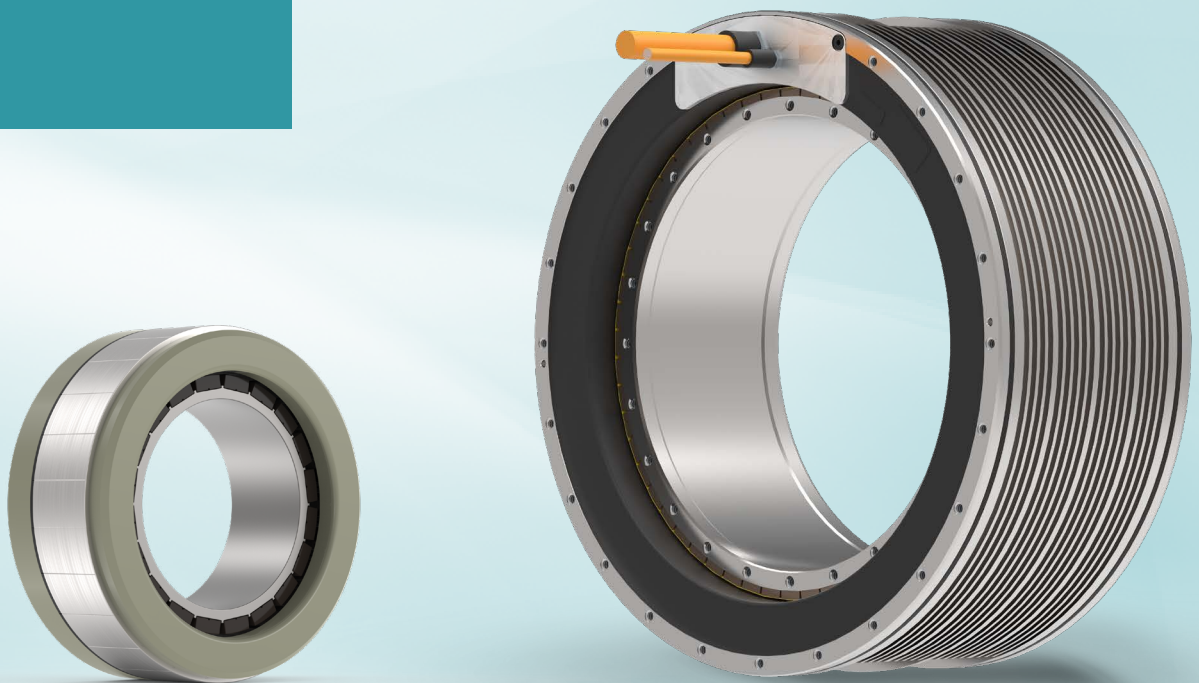


high torque
highly integrated
flexible

Frameless servo motors cyber[®] kit line





**Catalogs, CAD files and instruction manuals
can be found in our download center at**

<https://cyber-motor.wittenstein.de/en-en/download/>

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GROUP



WITTENSTEIN | alpha

WITTENSTEIN alpha GmbH
High-precision servo drives and
linear systems



WITTENSTEIN alpha develops, produces and sells mechanical and mechatronic servo drive systems for sectors that require maximum precision. Our products continue to set new standards around the world.

We have divided our product portfolio into four segments in order to meet varying, application-specific requirements: while the Premium and Advanced segments focus on technology and performance, the Value and Basic segments place more emphasis on price and satisfying basic customer requirements.



WITTENSTEIN | galaxie

WITTENSTEIN galaxie GmbH
Superior gearboxes and
drive systems



WITTENSTEIN galaxie develops, produces and sells radically innovative gearboxes and drive systems, whose functional superiority is based on an entirely new operating principle. Our unique expertise makes us the global leader in rotary mechatronic drive technologies.

Our innovations enable our customers to implement their machines and systems with previously unattainable performance parameters. This will help them to remain ahead of the competition in the future. Moreover, our solutions allow products to be manufactured in an efficient way that conserves resources.



WITTENSTEIN | cyber motor

WITTENSTEIN cyber motor GmbH
Highly dynamic servo motors and
drive electronics

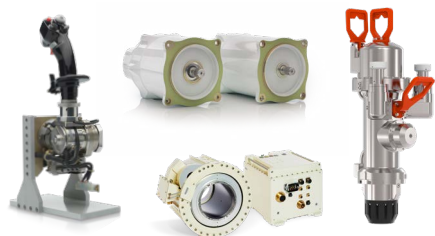


WITTENSTEIN cyber motor develops, produces and sells technologically advanced servo motors with sophisticated drive electronics as well as complete mechatronic drive systems with maximum power density. Our particular expertise lies in specialized motors for ultra-high vacuums, radioactive environments and high temperatures.

We collaborate closely with our customers on individual projects. During the development process, we share knowledge, learn from one another and develop new ideas together. The resulting solutions help differentiate our customers from their competitors.



WITTENSTEIN motion control GmbH
Drive systems for the most extreme
environmental requirements



WITTENSTEIN motion control develops, produces and sells customized systems for critical environmental conditions using servo motors, gearboxes, electronics and software. Our development expertise and the high level of vertical integration of the components ensure that our technologies meet our customers' requirements.

We focus our innovative solutions on fields that rely on maximum performance, robustness and reliability: aviation, the defense sector, simulator applications and subsea. Real-time security software completes our product portfolio.



attocube systems AG
Nanoprecision drive and
measurement technology solutions



attocube develops, produces and sells drive and measurement technology for highly demanding nanotech applications. Its product range includes everything from nano drives and complete microscope systems to innovative sensor solutions, which far exceed current measurement technology in their precision, speed and compactness and can also be used under extreme conditions.

Years of experience and expertise in both the scientific and industrial market segments have yielded an inspiring product catalog boasting maximum precision and user-friendliness. This superior technology revolutionizes existing applications and guarantees lasting competitive advantages for our customers.



baramundi software GmbH
Secure management of IT
infrastructure in offices and
production areas



baramundi provides companies and organizations worldwide with efficient, secure and cross-platform management of networked endpoints in IT and manufacturing. The Management Suite provides our customers with integrated, future-orientated unified endpoint management.

baramundi leads the way in regard to unified endpoint management in networked production environments. We develop this solution in close cooperation with the WITTENSTEIN Digitalization Center.

Comprehensive product expertise

- Rotary and linear servo motors and servo actuators
- Drive electronics
- Mechatronic drive systems

Customized solutions

- Customized solutions with maximum customer benefits
- We act holistically and are eager to explore new possibilities
- From conception and development through production and qualification to series delivery

Development and production in Germany

- Strong development team with profound competencies
- High level of vertical integration, including in-house winding room and certified test benches
- Premium quality based on innovative, controllable processes

Servo motors



Drive electronics

WITTENSTEIN – Products that know no limits

Packaging



Pharmaceuticals and food



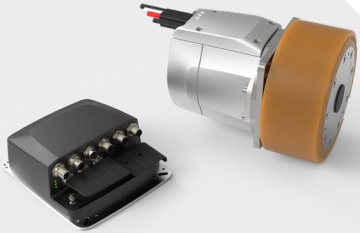
Assembly and measurement technology



Handling and robotics



Our core competencies



Mechatronic systems



Competent project management

- Preparation of feasibility studies for complex motion tasks
- Defined product development process supervised by certified project managers
- Certified according to DIN EN ISO 9001

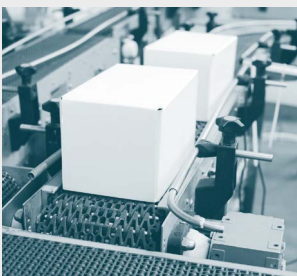
From standard industry to harsh environmental conditions

- High and low temperatures
- Radioactivity
- Vacuum
- Pressure
- Explosive atmospheres
- Clean room

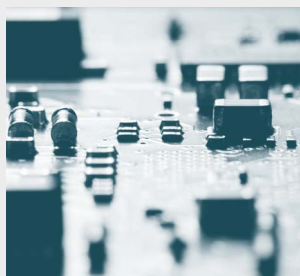
Testing, approval and certification

- CE
- UL
- IECEx (ATEX)
- EHEDG

Intralogistics



Semiconductor/
electronics production



Electromobility



Oil and gas exploration



A plus
in performance:

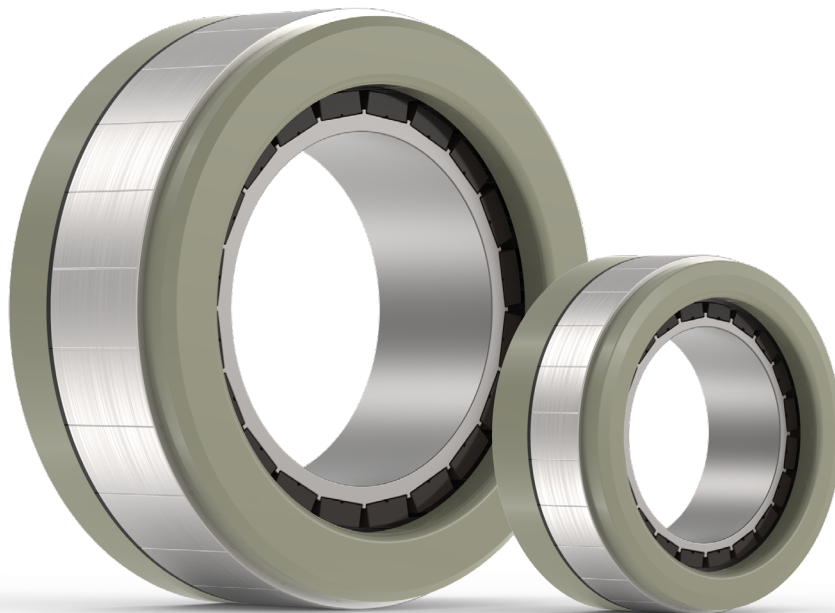
frameless motors
revolutionized.

High torque

Maximum torque density for
more performance and compactness
of the application

Integratability

For ultra-compact designs and
the realization of hollow shaft
feedthroughs



Flexibility

Flexible design with identical contour
60 V & 600 V variants with more than
100 choices



Dynamics

Realization of short cycle times
thanks to inertia-optimized motors

Connectivity

The use of temperature and hall sensors
makes condition monitoring and compatibility
with other systems possible

Frameless motors for highly integrative motion tasks

Highly integrative.
Cost-effective.
High torque.

+ Robotics

Ultra-compact drives with large hollow shaft for optimized space requirements and highly dynamic applications.



+ Actuator

For individual actuator solutions, the frameless motors offer maximum flexibility, e.g. for hollow shaft integrated spindle solutions.



+ Textile machinery

Compact and cost-efficient servo motors for highly dynamic applications.



+ Packaging

Optimized cycle times and increased product quality are offered by the high-performance drives.



+ Pharma & Food

Frameless servo motors with maximum reliability and integratability also for hygienic environments.



+ Machine tools

High-performance direct drives (torque motors) with maximum torque and flexibility for the ideal solution.



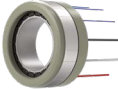
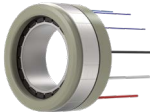
cyber[®] kit line small

Nearly endless possibilities

A plus in performance in terms of torque, integratability and flexibility is guaranteed by the frameless servo motors from WITTENSTEIN cyber motor:

- Maximum torque density for more performance and compactness of the application
- Uniform 60 V and 600 V contour design
- High integratability for ultra-compact designs and the realization of hollow shaft feedthroughs
- Flexible design with a wide range of choices
- Integrated temperature and Hall sensors for precise condition monitoring and high compatibility with other systems

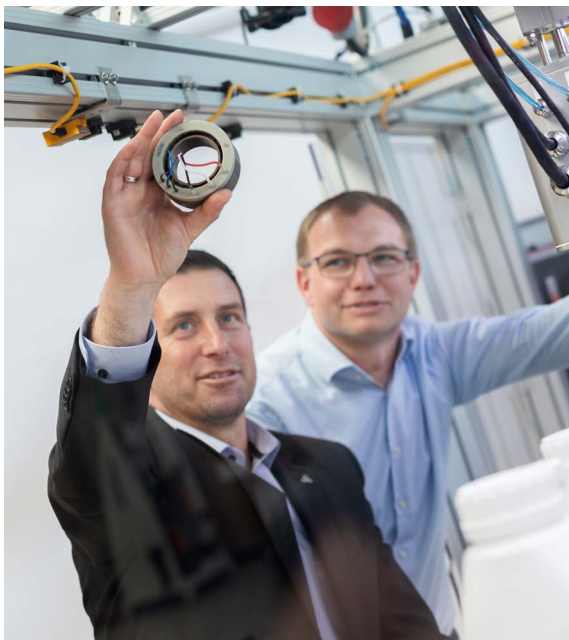
This creates new freedoms in your machine design.

Sizes	Lengths	Hollow shafts
50 mm 	10 mm	12 mm
		30 mm
	20 mm	12 mm
		30 mm
	40 mm	12 mm
		30 mm
85 mm 	20 mm	15 mm
		50 mm
	40 mm	15 mm
		50 mm
	80 mm	15 mm
		50 mm

Voltage 60 V	Voltage 600 V	Sensor PT 1000	Sensor PTC	Sensor HALL
✓		✓	✓	✓
✓		✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
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✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓

Applications in practice

Screwing and sealing of closures in just one work step for higher process reliability



Application:

The goal of the project, which was funded by the German Federal Ministry of Economics and Climate Action (BMWK), was to combine two process steps in hermetic, hygienic screwing and sealing. For this purpose, the induction sealer InduTwist combines two process tools in a single operation: one for tightening the screw caps onto the package and one for induction sealing.

Solution:

To solve this challenge, the developers at IMAGINE Engineering relied on frameless servo motors of the cyber® kit line small with compact size, integration-friendly design, large hollow shaft as well as high dynamics and the appropriate torque. In addition, IMAGINE Engineering was able to obtain the cyber® simco® drive 2 servo drive, which is matched to the motors, and the efficient cyber® power supply from a single source.

Description:

For the innovative system for aseptic and hermetic sealing of containers for food, pharmaceutical and cosmetic products, a space-saving installation solution was required on the drive side, and the frameless servo motor also required a large hollow shaft diameter for guiding the induction welding head. The selected motor from the cyber® kit line

“All components of the drive system – frameless servo motor, servo drive and power supply unit – are matched to work together in harmony. This allowed us to avoid functional interface risks.”

Dr Jan Oberländer, Technology & Simulation

Customer:

IMAGINE Engineering GmbH

Industry:

Machine and plant building as well as process technology with a focus on hygienic apparatus engineering for e.g. the food, pharmaceutical and cosmetics industries.

Find more examples
of applications here



with an outer diameter of 85 mm and a voltage class of 60 VDC provides sufficient power to tighten the caps with the desired torque of 3 Nm. The tightening torque applied for screwing can be controlled very precisely thanks to the high current resolution of the cyber® simco® drive 2 servo drives.

In addition, all torques for each bundle are also read out and evaluated. Furthermore, these servo drives are not only space-saving, but also offer optimum connectivity into many fieldbus environments due to their multi-Ethernet interface. An ideal addition are also the efficient DIN rail power supply units of the cyber® power supply series.

Special feature:

Compact, sufficiently high torque density, large hollow shaft and available at the right time: in the InduTwist project, the frameless servo motors of the cyber® kit line made a precision landing in terms of application-critical parameters. The cyber® simco® drive 2 servo drives also open up maximum degrees of freedom: Service-friendly 48 V supply voltage, high current resolution and control quality as well as compatibility with different feedback systems and fieldbus connections allow generous combination and testing of different system designs. This perfect one-stop drive solution is then completed by perfectly matched power supply units.

cyber[®] kit line small

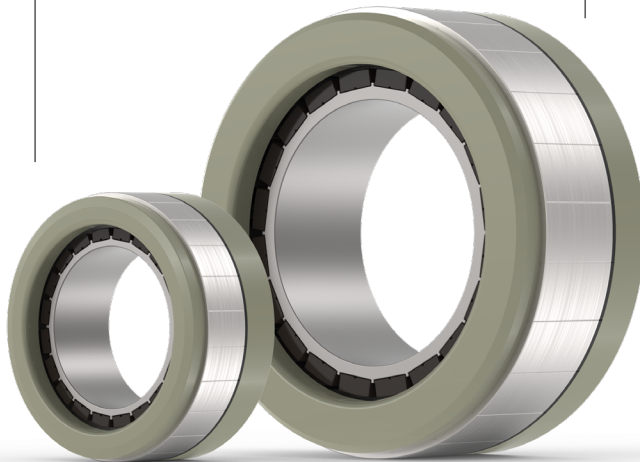
Frameless servo motors

High torque

Highest torque density thanks to maximum copper fill factor

Flexibility

Uniform 60 V and 600 V contour design with a wide range of choices



Connectivity

Integrated PTC and PT1000 temperature sensor as well as an optional Hall sensor

Integratability

Frameless design for shrinking and gluing

Dynamics

Mass inertia-optimized design with two hollow shaft versions

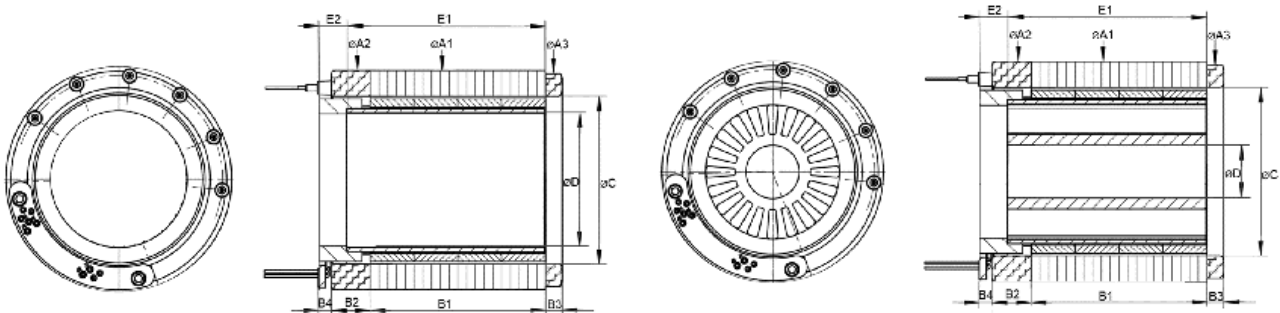
More information about
our cyber[®] kit line small



cyber[®] kit line small

Size 050

Design			050-010		050-020		050-040	
DC bus voltage	U_{DC}	V_{DC}	48	48	560	48	560	
Maximum power	P_{max}	W	304	406	932	549	1229	
Maximum torque	M_{max}	Nm	0.66	1.30	1.10	2.66	2.88	
Maximum current	I_{max}	A	10.0	13.0	3.0	20.0	3.0	
Continuous stall torque	M_0	Nm	0.35	0.73	0.63	1.09	1.01	
Continuous stall current	I_0	A	5.8	7.7	1.1	9.0	1.1	
No-load speed	n_0	min ⁻¹	7016	5015	10,843	3801	7098	
Rated power	P_n	W	205	295	610	349	640	
Rated torque	M_n	Nm	0.35	0.73	0.63	1.09	1.01	
Rated current	I_n	A	5.8	7.7	1.1	9.0	1.1	
Rated speed	n_n	min ⁻¹	5631	3873	9283	3051	6036	
Ambient temperature	ϑ_u	°C						25
Maximum winding temperature	ϑ_{max}	°C						140



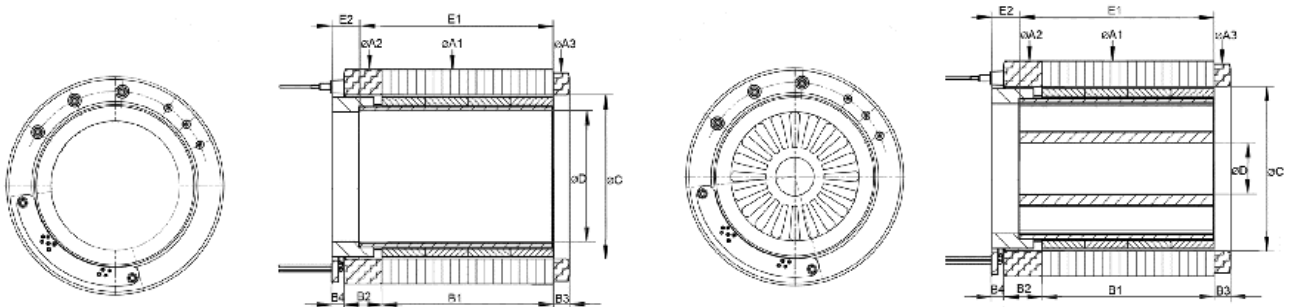
Design			050-010		050-020				050-040			
Stator outer diameter	A1	mm	50									
Winding head outer diameter A-side	A2	mm	50									
Winding head outer diameter B-side	A3	mm	48.5									
Stator length (B1+B2+B3)	B	mm	23.2	32.9				52.7				
Additional stator length with Hall sensor	B4	mm	3									
Stator stack length	B1	mm	10	20				40				
Winding head length A-side	B2	mm	9.4	9.1				8.9				
Winding head length B-side	B3	mm	3.8									
Stator inner diameter	C	mm	38.2									
Rotor inner diameter	D	mm	12	30	12	30	12	30	12	30	12	30
Mass moment of inertia (rotor)	J	kgm ²	1.29E-05	8.45E-06	2.25E-05	1.53E-05	2.25E-05	1.53E-05	4.23E-05	2.95E-05	4.23E-05	2.95E-05
Mass active parts	m	kg	0.15	0.12	0.26	0.20	0.26	0.20	0.44	0.33	0.44	0.33
Rotor length	E1	mm	15.5		25.2				45.3			
Additional rotor length with Hall sensor	E2	mm	6.3									
Strand length		mm	300									

$B^* = B1 + B2 + B3$

cyber[®] kit line small

Size 085

Design			085-020		085-040		085-080	
DC bus voltage	U_{DC}	V_{DC}	48	560	48	560	48	560
Maximum power	P_{max}	W	1773	4656	2692	6996	3452	9405
Maximum torque	M_{max}	Nm	7.9	7.4	14.9	16.1	26.6	31.5
Maximum current	I_{max}	A	61.5	10.0	89.0	15.0	120.0	20.0
Continuous stall torque	M_0	Nm	2.98	3.14	5.24	5.06	7.67	7.70
Continuous stall current	I_0	A	23.3	4.1	31.6	4.6	36.7	5.3
No-load speed	n_0	min^{-1}	3700	8324	2900	5890	2290	4084
Rated power	P_n	W	971	2413	1365	2830	1595	3051
Rated torque	M_n	Nm	2.98	3.14	5.24	5.06	7.67	7.70
Rated current	I_n	A	23.3	4.1	31.6	4.6	36.7	5.3
Rated speed	n_n	min^{-1}	3114	7339	2487	5344	1987	3783
Ambient temperature	ϑ_u	$^{\circ}\text{C}$	25					
Maximum winding temperature	ϑ_{max}	$^{\circ}\text{C}$	140					



Design			085-020				085-040				085-080			
Stator outer diameter	A1	mm					85							
Winding head outer diameter A-side	A2	mm					85							
Winding head outer diameter B-side	A3	mm					82.5							
Stator length	B*	mm	36.7				57				96.8			
Additional stator length with Hall sensor	B4	mm					3.1							
Stator stack length	B1	mm	20				40				80			
Winding head length A-side	B2	mm	11				11.3				11.1			
Winding head length B-side	B3	mm					5.7							
Stator inner diameter	C	mm	63.2											
Rotor inner diameter	D	mm	15	50	15	50	15	50	15	50	15	50	15	50
Mass moment of inertia (rotor)	J	kgm^2	1.83E-04	1.24E-04	1.83E-04	1.24E-04	3.39E-04	2.36E-04	3.39E-04	2.36E-04	6.50E-04	4.58E-04	6.50E-04	4.58E-04
Mass active parts	m	kg	0.80	0.61	0.80	0.61	1.39	1.05	1.39	1.05	2.52	1.90	2.52	1.90
Rotor length	E1	mm	25.7				46				86			
Additional rotor length with Hall sensor	E2	mm					7.8							
Strand length		mm	300											

$$B^* = B1 + B2 + B3$$

cyber[®] kit line large

Frameless servo motors

High torque

Highest torque density thanks to maximum copper fill factor

Integratability

Frameless version and large hollow shaft




Reliability

Complete potting for outstanding robustness and sizing safety

Flexibility

600 V design with a wide range of choices

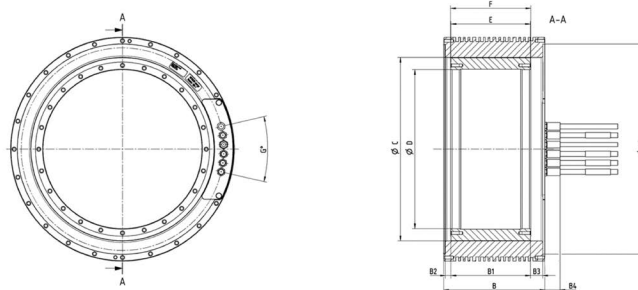
More information about our cyber[®] kit line large 



cyber[®] kit line large

Size 290

Design			290-050	290-100	290-200
DC bus voltage	U_{DC}	V_{DC}	560		
Maximum power	P_{max}	W	11,900	11,800	25,900
Maximum torque	M_{max}	Nm	580	1120	2310
Maximum current	I_{max}	A	33	43	93
Continuous stall torque	M_0	Nm	255	493	1002
Continuous stall current	I_0	A	16	21	44
No-load speed	n_0	min ⁻¹	364	240	251
Rated power	P_n	W	7700	7900	19,400
Rated torque	M_n	Nm	255.00	422.00	1002.00
Rated current	I_n	A	16.0	20.0	44.0
Rated speed	n_n	min ⁻¹	290	178	185
Coolant inlet temperature	ϑ_u	°C	30		
Maximum winding temperature	ϑ_{max}	°C	155		

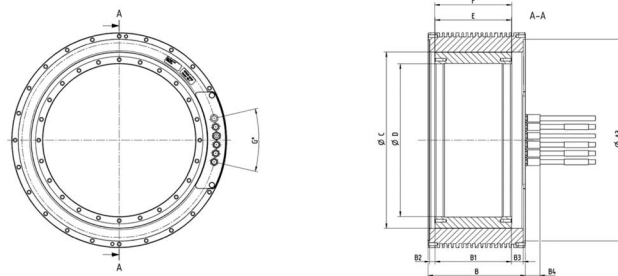


Design			290-050	290-100	290-200
Stator outer diameter	A3	mm	310		
Stator length	B	mm	90	140	240
Stator stack length	B1	mm	60	110	210
Winding head length A-side	B2	mm	7.8		
Winding head length B-side	B3	mm	17		
Stator inner diameter	C	mm	254		
Rotor inner diameter	D	mm	220		
Mass moment of inertia (rotor)	J	kgm ²	0.078	0.145	0.272
Mass active parts	m	kg	16	27	50
Rotor length	F	mm	61	111	211
Strand length		mm	2000		

cyber[®] kit line large

Size 360

Design			360-050	360-100	360-200
DC bus voltage	U_{DC}	V_{DC}	560		
Maximum power	P_{max}	W	11,200	17,300	19,800
Maximum torque	M_{max}	Nm	1122	2066	4059
Maximum current	I_{max}	A	45	76	110
Continuous stall torque	M_0	Nm	484	902	1583
Continuous stall current	I_0	A	20	33	46
No-load speed	n_0	min^{-1}	236	209	147
Rated power	P_n	W	8500	13,600	16,200
Rated torque	M_n	Nm	484	902	1380
Rated current	I_n	A	20	33	40
Rated speed	n_n	min^{-1}	168	144	100
Coolant inlet temperature	ϑ_u	$^{\circ}\text{C}$	30		
Maximum winding temperature	ϑ_{max}	$^{\circ}\text{C}$	155		

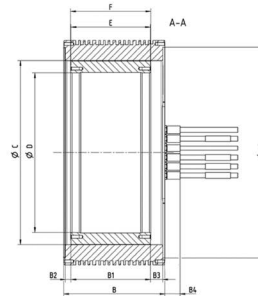
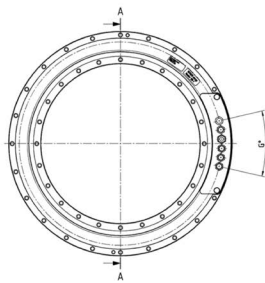


Design			360-050	360-100	360-200
Stator outer diameter	A3	mm	385		
Stator length	B	mm	110	160	260
Stator stack length	B1	mm	70	120	220
Winding head length A-side	B2	mm	11.3		
Winding head length B-side	B3	mm	22.5		
Stator inner diameter	C	mm	300		
Rotor inner diameter	D	mm	265		
Mass moment of inertia (rotor)	J	kgm^2	0.1555	0.266	0.4845
Mass active parts	m	kg	31	50	86
Rotor length	F	mm	71	121	221
Strand length		mm	2000		

cyber[®] kit line large

Size 420

Design			420-070	420-150
DC bus voltage	U_{DC}	V_{DC}	560	
Maximum power	P_{max}	W	20,300	30,800
Maximum torque	M_{max}	Nm	2234	4447
Maximum current	I_{max}	A	82	138
Continuous stall torque	M_0	Nm	968	1945
Continuous stall current	I_0	A	35	58
No-load speed	n_0	min ⁻¹	206	168
Rated power	P_n	W	15,000	23,700
Rated torque	M_n	Nm	968	1945
Rated current	I_n	A	35	58
Rated speed	n_n	min ⁻¹	149	117
Coolant inlet temperature	ϑ_u	°C	30	
Maximum winding temperature	ϑ_{max}	°C	155	

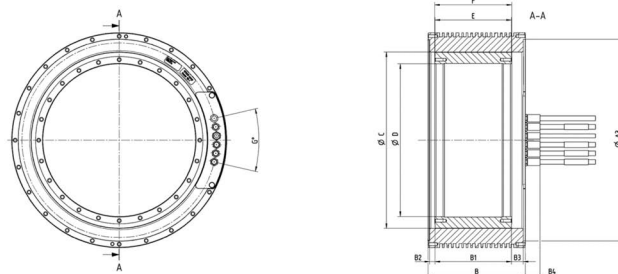


Design			420-070	420-150
Stator outer diameter	A3	mm	455	
Stator length	B	mm	130	210
Stator stack length	B1	mm	90	170
Winding head length A-side	B2	mm	11.3	
Winding head length B-side	B3	mm	22.5	
Stator inner diameter	C	mm	365	
Rotor inner diameter	D	mm	325	
Mass moment of inertia (rotor)	J	kgm ²	0.42	0.786
Mass active parts	m	kg	51	89
Rotor length	F	mm	91	171
Strand length		mm	2000	

cyber[®] kit line large

Size 530

Design			530-100	530-200
DC bus voltage	U_{DC}	V_{DC}	560	
Maximum power	P_{max}	W	31,800	60,000
Maximum torque	M_{max}	Nm	4847	9191
Maximum current	I_{max}	A	109	209
Continuous stall torque	M_0	Nm	2094	3982
Continuous stall current	I_0	A	50	95
No-load speed	n_0	min ⁻¹	137	137
Rated power	P_n	W	22,400	42,300
Rated torque	M_n	Nm	2094	3982
Rated current	I_n	A	50.0	95.0
Rated speed	n_n	min ⁻¹	102	102
Coolant inlet temperature	ϑ_u	°C	30	
Maximum winding temperature	ϑ_{max}	°C	155	



Design			530-100	530-200
Stator outer diameter	A3	mm	565	
Stator length	B	mm	160	260
Stator stack length	B1	mm	120	220
Winding head length A-side	B2	mm	11.3	
Winding head length B-side	B3	mm	22.5	
Stator inner diameter	C	mm	463	
Rotor inner diameter	D	mm	420	
Mass moment of inertia (rotor)	J	kgm ²	1.26	2.3
Mass active parts	m	kg	95	164
Rotor length	F	mm	121	221
Strand length		mm	2000	

cyber® kit line

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
C	K	L	C	0	5	0	B	-	0	4	0	C	-	N	N	N	B	A	-	H	A	0	A	S	W	-	N	N	N

Series
4 characters
(Pos. 1-4)

Size
3 characters (Pos. 5-7):
050 = 50 mm stator outer diameter
085 = 85 mm stator outer diameter
290 = 290 mm stator outer diameter
360 = 360 mm stator outer diameter
420 = 420 mm stator outer diameter
530 = 530 mm stator outer diameter

Cooling type ¹⁾
1 character (Pos. 13):
C = natural convection
L = liquid cooling

Feedback system ⁴⁾
2 characters (Pos. 21-22):
NN = without feedback system
HA = with Hall sensor

Voltage class ²⁾
1 character (Pos. 18):
B = 60 V
S = 600 V

Temperature sensor ⁶⁾
1 character (Pos. 26)
W = PT1000, PTC
Z = PT1000, PTC, bimetal

Voltage constant ²⁾
3 characters
(Pos. 15-17):

Stator stack length
3 characters
(Pos. 10-12)
CKLx050 = 010, 020, 040
CKLx085 = 020, 040, 080
CKLx290 = 050, 100, 200
CKLx360 = 050, 100, 200
CKLx420 = 070, 150
CKLx530 = 100, 200

Inner diameter ⁵⁾
1 character (Pos. 24):
E = large diameter
A = small diameter

Power connection ³⁾
1 character (Pos. 19):
A = 300 mm
E = 2000 mm

¹⁾ Cooling type "C" is only available with sizes "050" and "085". Cooling type "L" is only available with sizes "290", "360", "420" and "530".

²⁾ Voltage constant and voltage class are only available in the combinations specified under voltage constant.

³⁾ Power connection "A" is only available with sizes "050" and "085". Power connection "E" is only available with sizes "290", "360", "420" and "530".

⁴⁾ Feedback system "HA" is only available with sizes "050" and "085".

⁵⁾ Inner diameter "A" is only available with sizes "050" and "085".

⁶⁾ Temperature sensor "W" is only available with sizes "050" and "085". Temperature sensor "Z" is only available with sizes "290", "360", "420" and "530".

Information

Service concept

PRE-SALES

Planning



Investment



Consulting expertise

- Optimum solutions thanks to professional application calculations and drive sizing
- Customized solutions and maximum innovation

Customer training and webinars

- Tailored content and specific training programs
- Recordings of WITTENSTEIN webinars to enable familiarization with products and solutions

CAD POINT

- Technical data sheets and 3D data – find the right information with just a few clicks

cymex®

Optimization of your drive train

- cymex® – the tried-and-tested software for drive system optimization
- cymex® enables straightforward dimensioning and evaluation of the complete drive train (application + transformation + motor + gearbox)
- Support and extensive design experience

Overview of
our services



AFTER-SALES

Usage



Re-investment



Professional support for the best possible start

- Assistance with installation and commissioning
- Individual training in commissioning
- Operating manuals with information regarding commissioning and installation
- Optimum integration of the system into your application

Maintenance

- Proactive measures to minimize failure risks
- Personal and prompt handling of your time-critical repair requirements
- Tailored repairs combining highest levels of quality and care

WITTENSTEIN Service Portal

- Support throughout the entire life cycle of your WITTENSTEIN product
- Instant access to individual product information
- Quick assembly and commissioning
- Play IIoT with Smart Services

Application-specific retrofitting

- Professional retrofitting of mechanical drive systems
- Reliable compatibility testing of existing solutions

Find out more about the
WITTENSTEIN Service Portal



Support hotline

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Service hotline

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Fax: +49 7931 493-10903
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Technical support

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Information

Drive selection and sizing

WITTENSTEIN sizing tools – several ways to reach your objectives



Our software portfolio helps you to choose the right drive

You can conveniently download dimension sheets and CAD data, select the best product quickly and easily, and design complex kinematic sequences in detail – our software solutions offer various methods of selecting the best, most reliable drive on all axes.

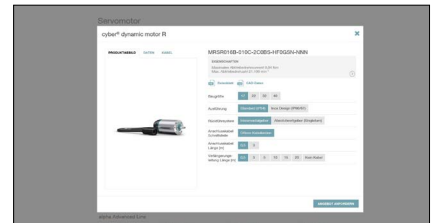


CAD Point

– Your smart catalog

- Performance data, dimension sheets and CAD data for all products
- Available online, without login
- Clear documentation of the selection

www.wittenstein-cad-point.de

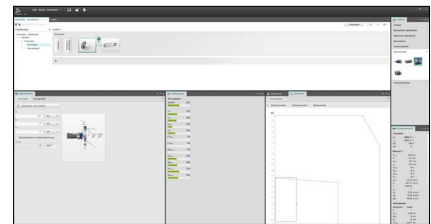


cymex®5

– Calculate on the best

- Detailed calculation of complete drive trains
- Precise simulation of motion and load variables
- Desktop software for complex designs

www.wittenstein-cymex.de



Additional tools



CADENAS

Electronic product catalog

- 2D, 3D CAD and CAE models as well as dimension and data sheets for all products
- Multi-CAD /CAE: support for approximately 150 native and neutral formats
- Integration in the CAD POINT WITTENSTEIN solution
- For simplicity, speed and choice in the design process

<https://wittenstein.partcommunity.com>



EPLAN

Data portal catalog

- For reduced project planning work in your electrical design
- Extensive product availability in the EPLAN catalog

<https://dataportal.eplan.com>

WITTENSTEIN Service Portal



The new web-based WITTENSTEIN Service Portal supports you throughout the entire life cycle of your WITTENSTEIN product – from installation and commissioning to servicing and/or drive replacement. Here you will find relevant and up-to-date information about your product, covering explanations, technical data, tutorial videos on assembly & commissioning, documentation, firmware files and the details of your contact. The WITTENSTEIN Service Portal also makes it quick and easy to request replacement products and register returns for inspection or repair.



Fast

You will receive clear information about the present product without any time spent waiting or researching.

Simple access

You can access the WITTENSTEIN Service Portal via desktop PC and mobile devices and navigate intuitively.

Up-to-date

You will improve security because data, documentation and software are up to date.

Personal

For further support, you can get in touch directly with the competent contact responsible.

Transparent

You will receive access to the version of the firmware as of delivery as well as to the latest version.

International

The Service Portal is available in six languages (EN, DE, ES, IT, FR, TR).

Information

Glossary

Term	Symbol	Unit	Explanation
Continuous torque	M_{S1}	Nm	Continuous torque of the motor.
Continuous power	P_{S1}	W	Continuous power of the motor.
DC bus voltage	U_{DC}	V	Voltage at DC bus.
Torque constant	k_m	Nm/A	Torque constant calculated from the torque and the RMS current. $k_m = \frac{M}{I}$
Voltage constant	k_e	Vs	Voltage constant calculated from the peak value of the induced voltage between two terminals and the rotation speed for the externally driven motor: $k_e = \frac{\hat{U}_{tt}}{2p n}$
Motor constant	k_{mot}	Nm/ \sqrt{W}	Factor of efficiency calculated from torque and power losses. $k_{mot} = \sqrt{\frac{2}{3}} \times \frac{k_m}{\sqrt{R_{tt}}}$
Ambient temperature	ϑ_u	°C	Maximum allowed ambient temperature (with liquid cooling, maximum inlet temperature of the cooling liquid) without derating.
Maximum winding temperature	ϑ_{max}	°C	Maximum allowed winding temperature.
Thermal resistance	R_{th}	K/W	Heat transmission resistance that must not be exceeded for the dissipation of the thermal losses.
Thermal time constant	t_{th}	min	Time in which 63% of the final value of the warming at rated loading is reached.
Thermal overload factor	k_{th}	A ² s/K	Linearized factor to determine the remaining on-time depending on the current and temperature rise.
Minimal flow rate	Q	l/min	Minimum flow rate of the coolant water.
Maximum power	P_{max}	W	Maximum power in short time operation.
Maximum torque	M_{max}	Nm	Maximum torque with maximum current I_{max} .
Maximum current	I_{max}	A	Maximum current rms value.
Continuous stall torque	M_0	Nm	Continuous torque at standstill of the motor.
Continuous stall current	I_0	A	Continuous current (rms value) which leads to the allowed heating of the winding.
No-load speed	n_0	min ⁻¹	Maximum no-load speed which will be reached without field weakening at operation with U_{DC} .
Rated power	P_n	W	Continuous power at speed n_n .
Rated torque	M_n	Nm	Continuous torque at speed n_n .
Rated current	I_n	A	Continuous current (rms value) at speed n_n .
Rated speed	n_n	min ⁻¹	Speed up to which M_n is produced continuously.

Term	Symbol	Unit	Explanation
Cogging torque	M_{cog}	Nm	The cogging torque is defined as the maximum peak-to-peak value of two consecutive significant extrema of the cogging torque over one complete revolution
Motor terminal resistance	R_{tt}	Ω	Resistance between two terminals at 20°C.
Motor terminal inductance	L_{tt}	mH	Inductance between two terminals at 20°C.
Motor terminal inductance (d-axis)	$L_{\text{tt}d}$	mH	Direct-axis inductance between two terminals at 20°C.
Motor terminal inductance (q-axis)	$L_{\text{tt}q}$	mH	Quadrature-axis inductance between two terminals at 20°C.
Electrical time constant	t_e	ms	Electrical time constant, derived from: $t_e = L_{\text{tt}} / R_{\text{tt}}$
Number of pole pairs	p	-	Number of the pole pairs of the motor.
Inertia of motor	J	kgm ²	Inertia of the motor without brake.
Inertia active part	J	kgm ²	Inertia of the rotor.
Mass of motor	m	kg	Mass of the motor without brake.
Mass active part	m	kg	Mass of the rotor and the stator.

All specified values are liable to specific variabilities due to the tolerances of material properties and dimensions. The specified values are mean values at which a tolerance of +/-10% of torque, current, inductance, resistance and speed is allowed. In addition, the terminal inductance can alternate depending on the angle between the rotor and stator.

Notes



cyber motor



cyber motor

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