

KENDRION



KENDRION SOLUTIONS

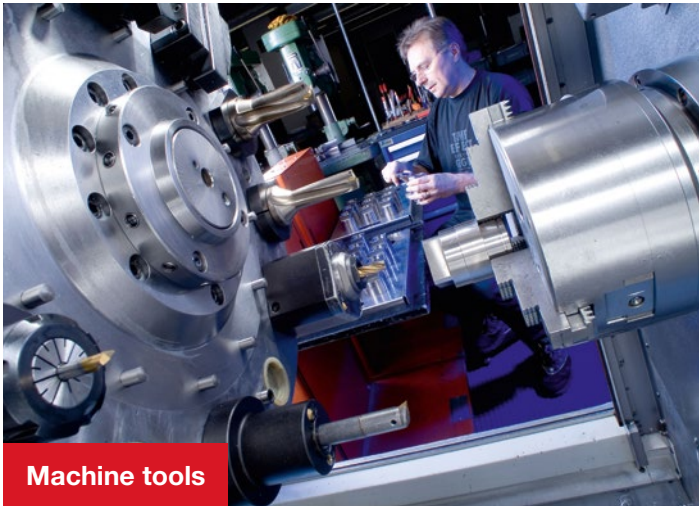
Servo Line

Spring-applied single-disc brake
for servo motors

PRECISION. SAFETY. MOTION.

Kendrion - The brake experts

Kendrion stands for high-precision electromagnetic actuator systems and components for passenger cars, commercial vehicles and industrial applications. We are the trusted partner of some of the world's market leaders in the automotive and industrial segments when it comes to designing and producing complex components and customised solutions. Rooted in Germany, headquartered in the Netherlands and listed on the Amsterdam stock exchange, our expertise extends across Europe to the Americas and Asia.



Machine tools

Tradition and progress

More than one hundred years after the company was founded by Wilhelm Binder, Kendrion is ideally equipped for the challenges and tasks of the future. The company has always held a strong position in the market and is expanding its activities all over the world. In the field of electromagnetism, Kendrion stands for highest quality, innovation and precision.

Areas of application for brakes and clutches

The Kendrion business unit Industrial Drive Systems develops and produces electromagnetic brakes and clutches for industrial drive technology. They are used to accelerate, brake, position, hold and secure moving drive components and loads. Areas of applications for the brakes and clutches can be found mainly in robotics and automation, conveyor technology, tooling machines and production engineering, medical technology and elevator technology.



Storage systems

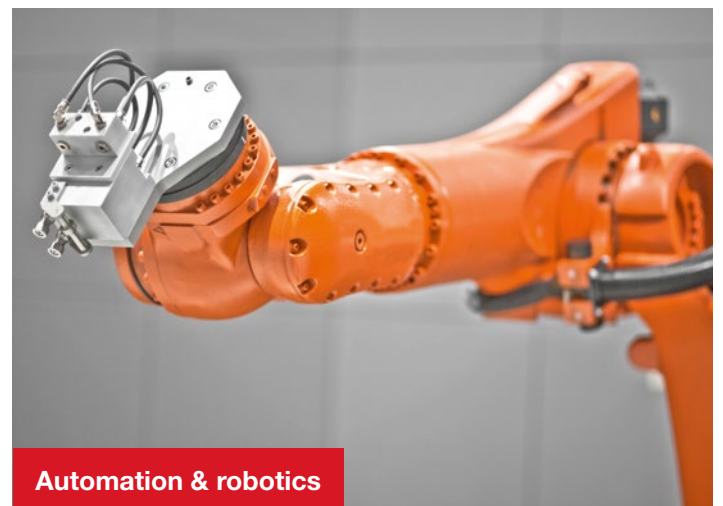
Worldwide availability

The main location is in Villingen-Schwenningen in southern Germany. However, Industrial Drive Systems has further development and production sites as well as a worldwide sales network at its disposal.

We will find the right brake for your application!



Wind turbines



Automation & robotics

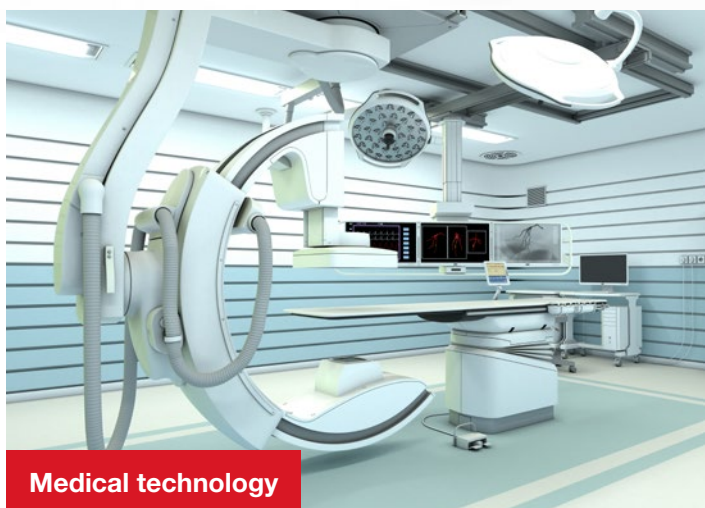
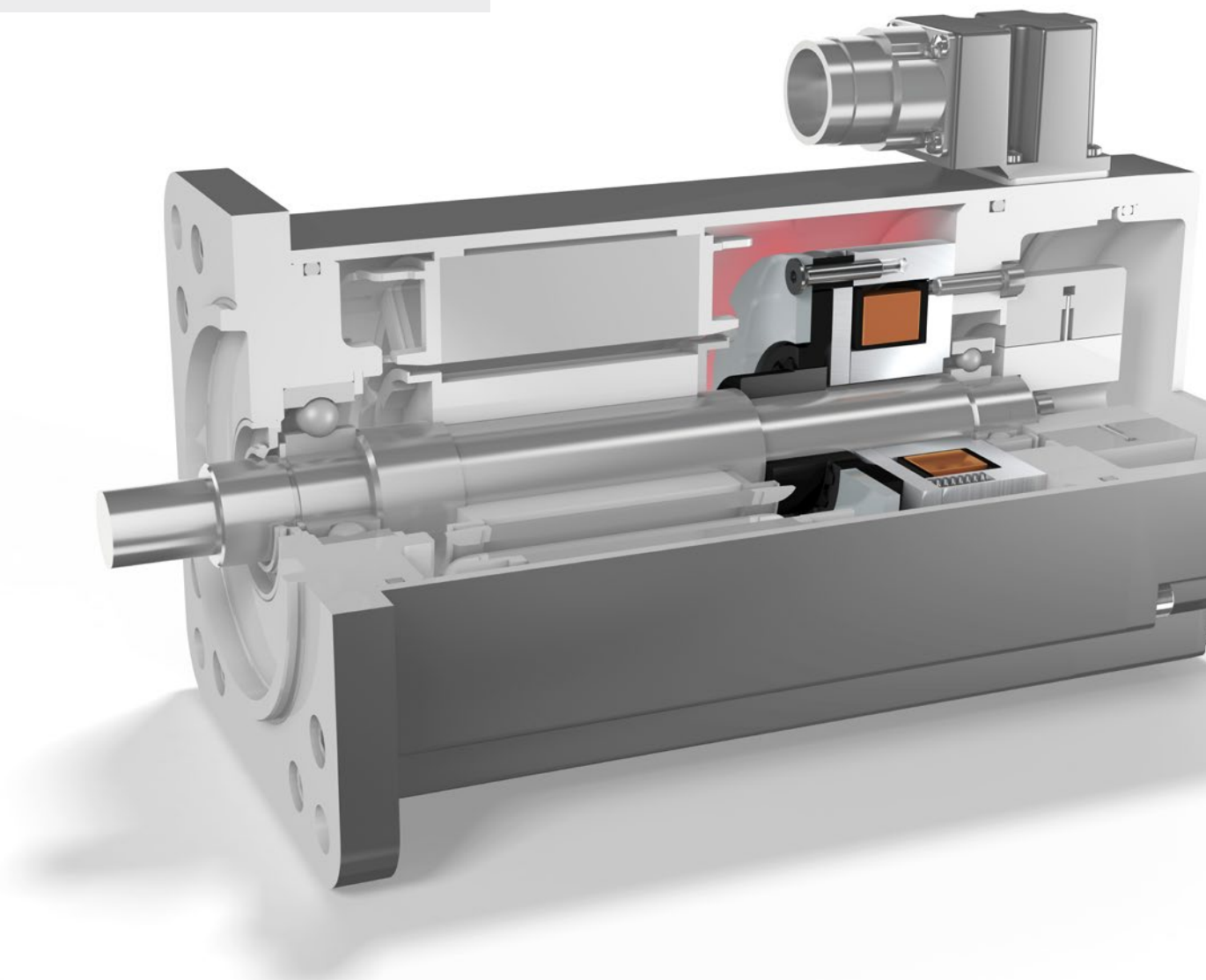
Mounting on electric motors

Standard version

- Built into motor housing
- Face mounting / flange mounting

Optional

- Mounted outside the end shield



Medical technology



Packaging & materials handling



Spring-applied brake for servo motors

Servo Line

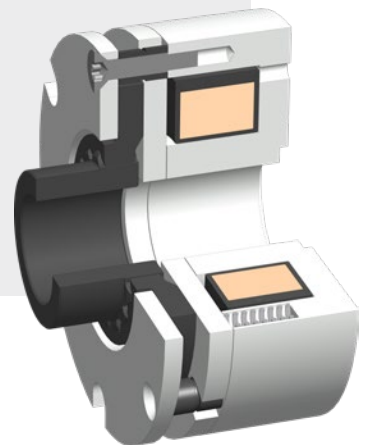
The Servo Line series of spring-applied brakes has been developed for integration into servo motors. The brakes are designed for use as holding brakes with emergency stop function.

The spring-applied single-disc brakes in the Servo Line series are designed to operate dry. They can be mounted to the A-face or B-face end shield inside the servo motor. The braking action generated by the compression springs is neutralized by applying the electromagnetic principle involving generation of a magnetic field. The brakes engage in unpowered condition and release when DC voltage is applied.

- The brakes are equipped with a flange and firmly fastened with screws.
- Thanks to a specially developed and patented manufacturing method, the rated air gap tolerance can be reduced to a few hundredths of a millimetre, providing enhanced power.
- Toothed hub/friction disc connection with minimal circumferential backlash.
- Standard version suitable for flange mounting and face mounting.

Safety & reliability for your application

Our wealth of experience in brake design and state-of-the-art manufacturing technologies enables us to ensure an optimum brake service life for given temperature and torque specifications.



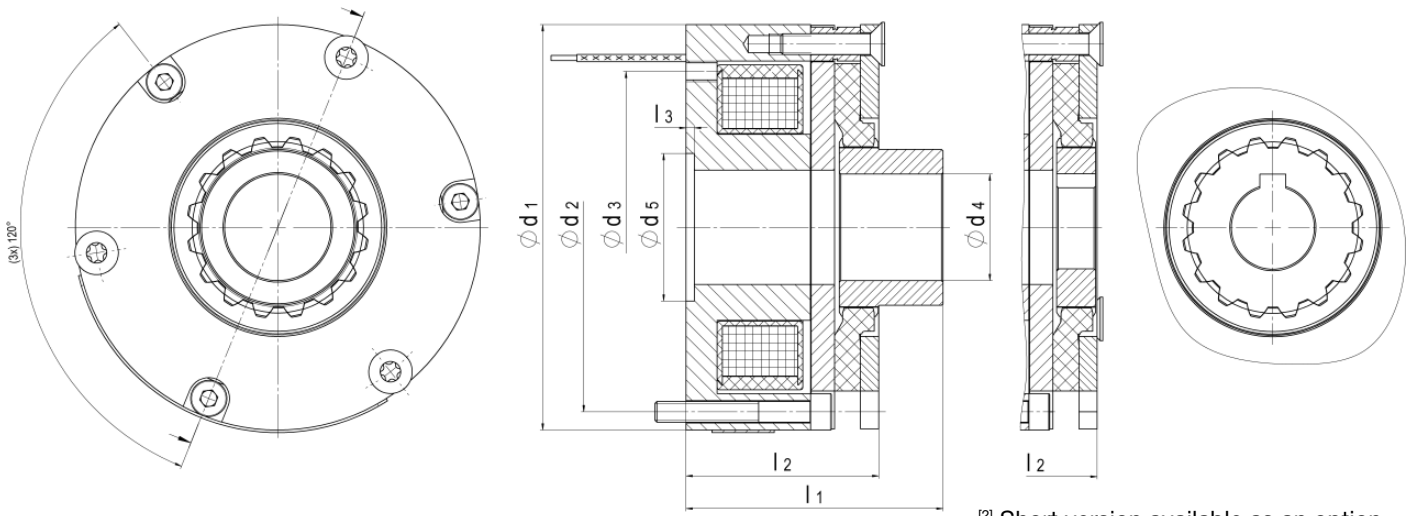
Technical specifications

Servo Line

Model types	Face mounting / flange mounting KS 1xx..A00
Standard rated voltage	24VDC (±10%)
Protection	IP00
Insulation class	F
Ambient temperature	-15°C to 120°C
Minimum holding torques	0.3 to 130 Nm
Duty cycle	100%
Options	Keyway to DIN 6885
Note	The general information on specification sheets and the applicable operating instructions must be observed. Specifications subject to change without notice.



Size	Holding torque (at $T_u = 120^\circ\text{C}$) $M_{4\text{MIN}}$ [Nm]	No-load speed $n_0\text{max}$ [min^{-1}]	Emergency stop speed $n_N\text{max}$ [min^{-1}]	Switching work with single switching operation W_{max} [J]	Total number of emergency stops Z_{ges} [-]
03	0.3	10000	6000	1	500
04	1.3	10000	6000	10	500
05	2	10000	5000	40	500
06	3.3	8000	4000	70	500
07	4.5	8000	4000	100	500
08	7	6500	3000	140	500
10	16	6000	3000	600	500
12	32	4000	2500	1600	500
14	60	4000	2500	2400	500
16	80	3500	1500	5000	500
19	130	3500	1500	10000	500



^[2] Short version available as an option

Size	Outside diameter d_1 [mm]	Pitch circle diameter flange side d_2 [mm]	Pitch circle diameter face side d_3 [mm]	Length l_1 [mm]	Length l_2 [mm]	Hub bore ^[1] $d_{4\max}$ [mm]	Diameter (for circlip) d_5 [mm]	Length (for circlip) l_3 [mm]
03	32	28	28	34.2	28.9	7.5	14.0	1.3
04	44	39.5	40	36.6	30.0	10.5	17.0	1.5
05	51	45	45	37.9	32.0	12.5	20.0	1.5
06	62	55	42	43.7	32.2	15.5	22.6	1.5
07	72	65	54	47.4	36.6	17.5	25.0	1.5
08	78	71	60	49.5	37.0	20.5	28.4	1.6
10	102	93	72	58.7	43.0	25.5	34.2	1.7
12	124	114	94	65.0	50.0	35.5	46.8	2.0
14	147	134	97	68.5	56.0	40.5	53.0	2.3
16	164	151	120	81.3	61.3	45.5	62.0	2.3
19	188	175	167	94.1	76.3	50.5	65.0	2.6

^[1] Standard shaft/hub connection through press fit or shrink fit.

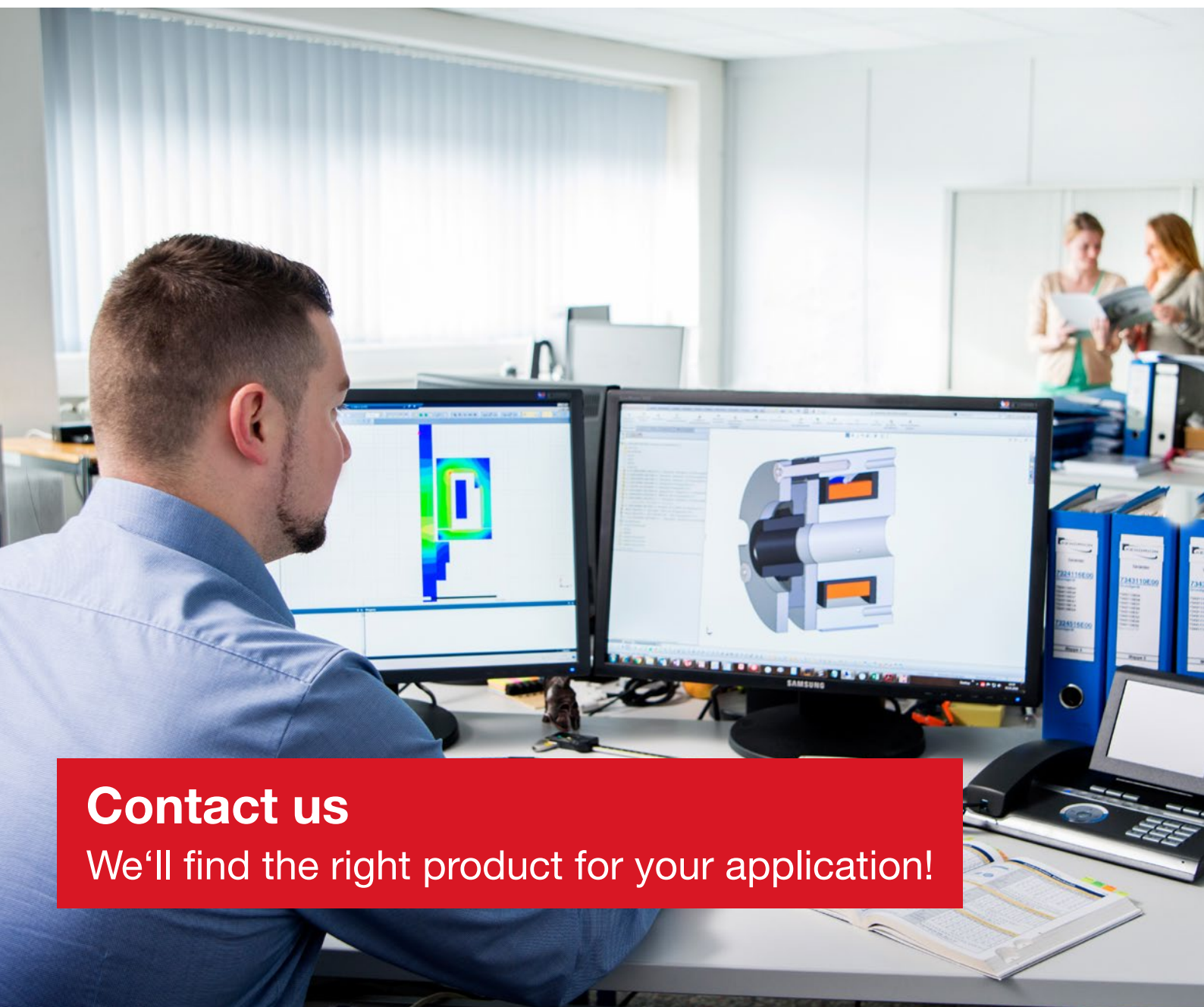
^[2] Optionally, a short-version hub is available with a feather key to DIN 6885. Maximum shaft diameter upon request.

Individual customer solutions

Specially tailored to your needs

Automation solutions have become indispensable in both industry and our everyday lives. Mechatronics helps achieve further expansion of these solutions, and increases the range of applications. In many cases, electromagnetic brakes meet the necessary safety requirements, allowing loads to be securely held and ensuring safe braking in an emergency.

Catering to different market demands while also ensuring product standardization is a challenge that Kendrion relishes. Customized solutions can be developed and manufactured on the basis of an existing portfolio of products, the prerequisite being the analysis and understanding of industry-specific customer requirements. With the right product range and a high level of expertise in automation technology, robotics, machine building and elevator engineering, Kendrion Industrial Drive Systems is your dependable partner, providing the ideal individual brake solution for any application.



Contact us

We'll find the right product for your application!

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