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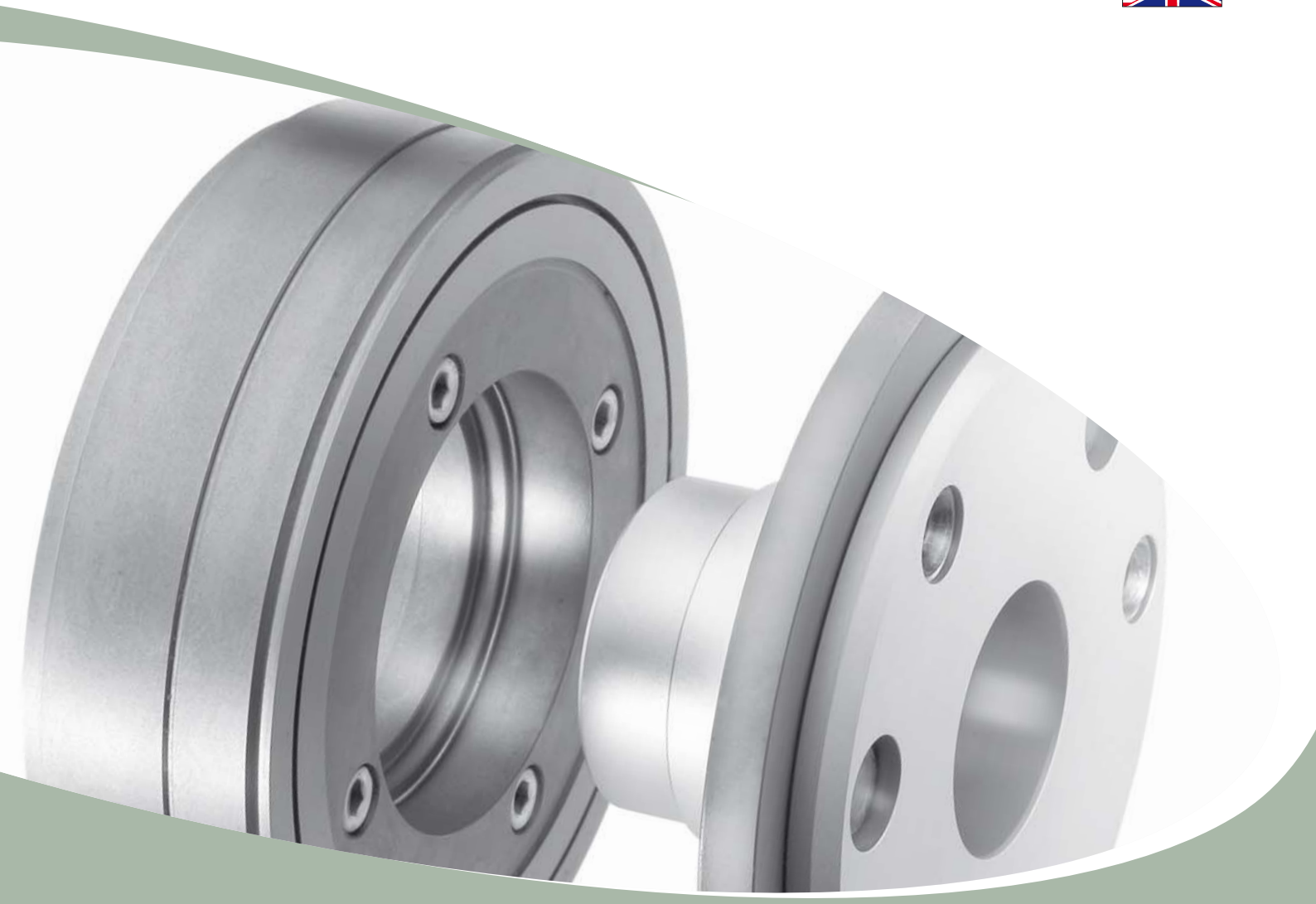
INDUSTRIAL DRIVE SYSTEMS



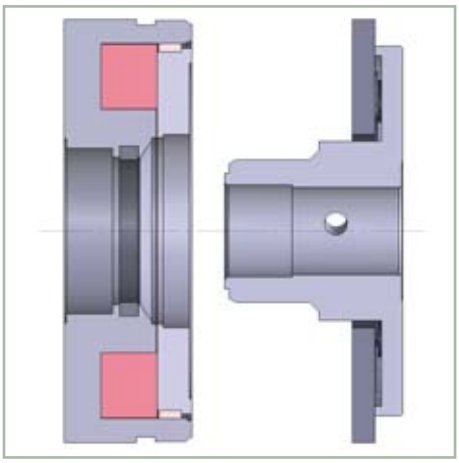
High Torque

Permanent Magnet Brake

BINDER

Permanent Magnet Brakes for Servo Motors

Binder permanent magnet brakes can be found inside the motors of the worlds leading servo motor manufacturers. The basic characteristics of the permanent magnet brakes, such as high power density in comparison to spring applied brakes, no residual braking torque and zero backlash (therefore wear free operation in all installations/integrations), makes them perfectly suitable for the integration into a motor.

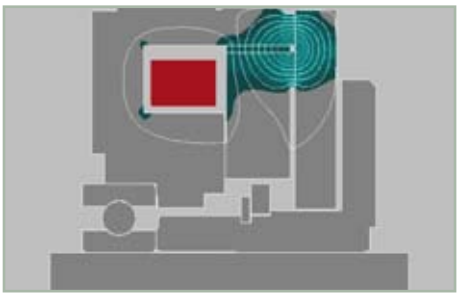


The new “High Torque” range is the result of a complete re-design of the present generation of permanent magnet brakes. “High Torque” is a new development in the magnetic circuit with significant advantages such as:

- higher torque with the same design space and power input
- significantly higher temperature and voltage ranges (-40°C to +120°C)
- high constancy of the holding and dynamic braking torque over the entire life span

Optimized Geometry

The flow of the magnetic flux has been optimized by a new arrangement of the poles and the permanent magnet. This optimization has been registered for an international patent. The above mentioned advantages are a result of this new arrangement.



Higher Braking Torque

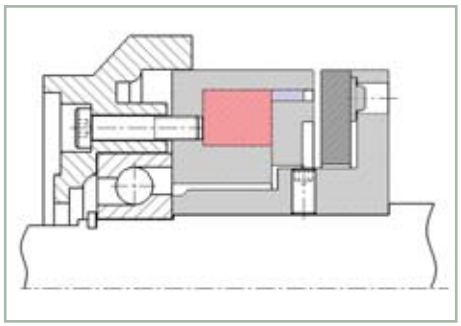
In the course of the development of the “High Torque” range it was not only possible to achieve an increase in the braking torque, with the same design space and power input, but also to improve the constancy of the torque over the life cycle of the brake.

Integration into the Motor

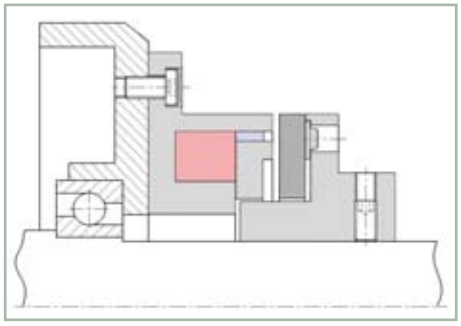
The brake can be mounted either on the a- or b-side of the end shield of the motor. An adjustment of the air gap is not necessary if the magnet housing rests against the outer ring of a fixed bearing. The rotating armature of the brake then rests firmly onto the inner ring of the bearing.

If the brake is installed on the outer end of the end shield, flange versions can be used. In all cases the installation geometry of the brake is adapted to the requests of the motor manufacturer.

If the brake is integrated on the b-side of the end shield with limited space, the ball bearings can alternatively extend into the brake. With this a decrease of the overall length is achieved (please see recommended ball bearings b-side). Armatures with shorter hubs are available for this.



Assembly principle – Integration of the brake into the motor



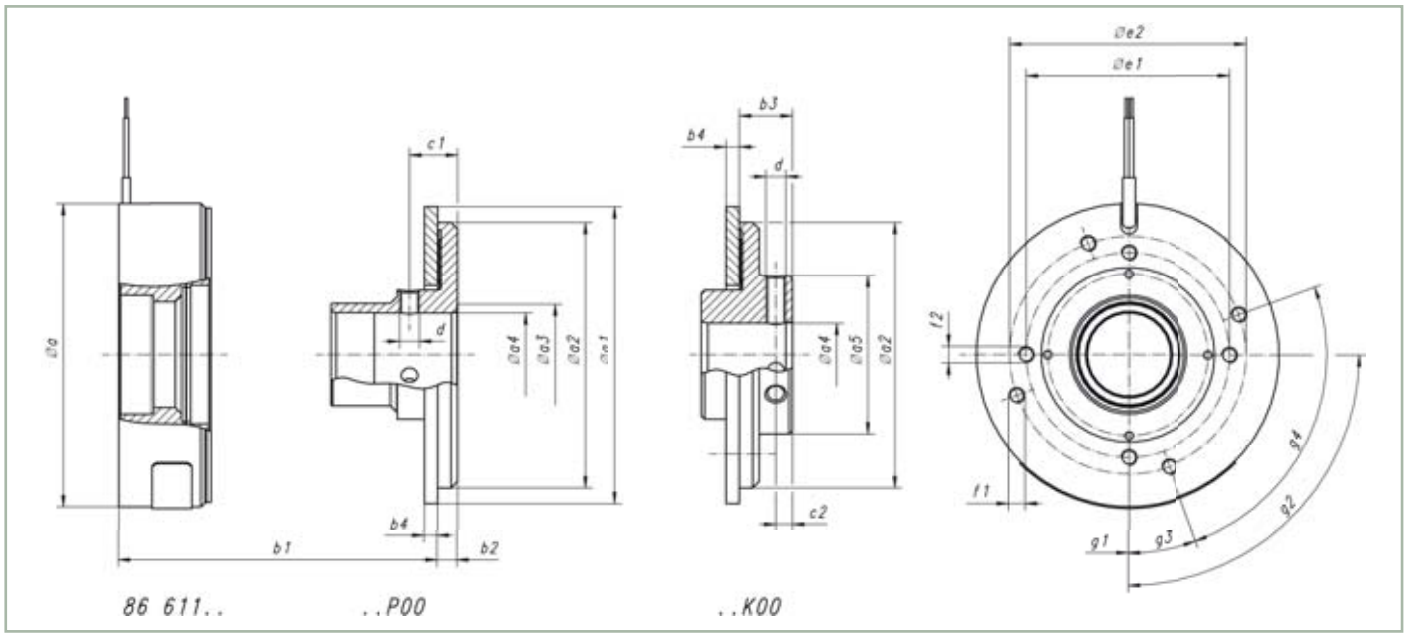
Assembly principles for mounting from the outside

Integration of the brake into the end shield a-side

Advantages

- backlash free
- wearless operation in all mounting positions
- high dynamic with optimized inertia
- constant torque with high and low temperatures
- high stability of operational voltage range

Integration of the brake into the end shield b-side with a shorter overall length



Further data and measurements on request. Gladly we can discuss your specific requirements and work out your specific version. We are pleased to adapt the brake according to your specificaitions.

- hub diameter
- optional felt ring against lubricants
- individual hub characteristics

Technical Data & Dimensions* in [mm]

Size	Holding Torque M_4	Rated Voltage U_N	Input Power P_{20}	a	a_1	a_2	a_3	a_4	a_5	b_1
03	0,4 Nm	24 VDC	6,5 W	32f9	32,9	28,5	13	4-9	17	24
04	2,5 Nm	24 VDC	9,0 W	44f9	42,8	35	18	6-10	–	21,5
05	5 Nm	24 VDC	12,0 W	56f9	56	42	22	10-18	–	27
06	9 Nm	24 VDC	15,0 W	65f9	63	56	22	10-18	51	27
08	15 Nm	24 VDC	18,0 W	82f9	80	70	25,5	15-22	40	32,5
09	22 Nm	24 VDC	19,0 W	92f9	90	80,5	30,5	16-28	48	32
10	32 Nm	24 VDC	22,5 W	100f9	102	85	45,5	25-36	–	41
11	60 Nm	24 VDC	25,0 W	120f9	121	94	45,5	25-36	–	46,5
14	80 Nm	24 VDC	36,5 W	134f9	138	120	50	28-40	78	50
16	160 Nm	24 VDC	39,0 W	158f9	160	140	90	40-60	90	68

Size	b_2	b_3	b_4	c_1	c_2	d	e_1	e_2	f_1	f_2	g_1	g_2	g_3	g_4
03	3	8,5	2	–	3,5	3xM3	27	–	3xM3	–	10°	3x120°	–	–
04	5,3	5,3	2,8	–	2,5	3xM3	31	35	3xM3	3xM3	20°	3x120°	20°	3x120°
05	7,7	7,7	3	–	3,6	3xM4	35	42	4xM4	4xM4	20°	4x90°	20°	4x90°
06	7,5	7,5	3	–	3,5	3xM4	42	54	4xM4	4xM4	45°	4x90°	20°	4x90°
08	3,9	12	3,5	10,4	4,1	3xM5	42	54	4xM4	4xM4	20°	4x90°	20°	4x90°
09	6	16	4	14,5	5	3xM6	62	72	4xM5	4xM5	0°	4x90°	20°	4x90°
10	10,7	–	4,5	–	5	3xM6	72	83	4xM6	4xM6	0°	4x90°	20°	4x90°
11	6	14	8	20	7	3xM10	72	83	4xM6	4xM6	20°	4x90°	0°	4x90°
14	7	20,3	8,5	22	7,3	3xM10	83	97	4xM8	4xM8	0°	4x90°	20°	4x90°
16	7	21	8,5	–	7,7	3xM10	90	120	8xM6	6xM6	0°	8x45°	30°	6x60°

* Specific characteristics can be adjusted according to specific applications.

Other overall sizes are in preparation.
Further existing sizes up to 300 Nm upon request.

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