

Cage Freewheels E

for installation between customer-supplied inner and outer rings
with highest torque capacity



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E08.121e

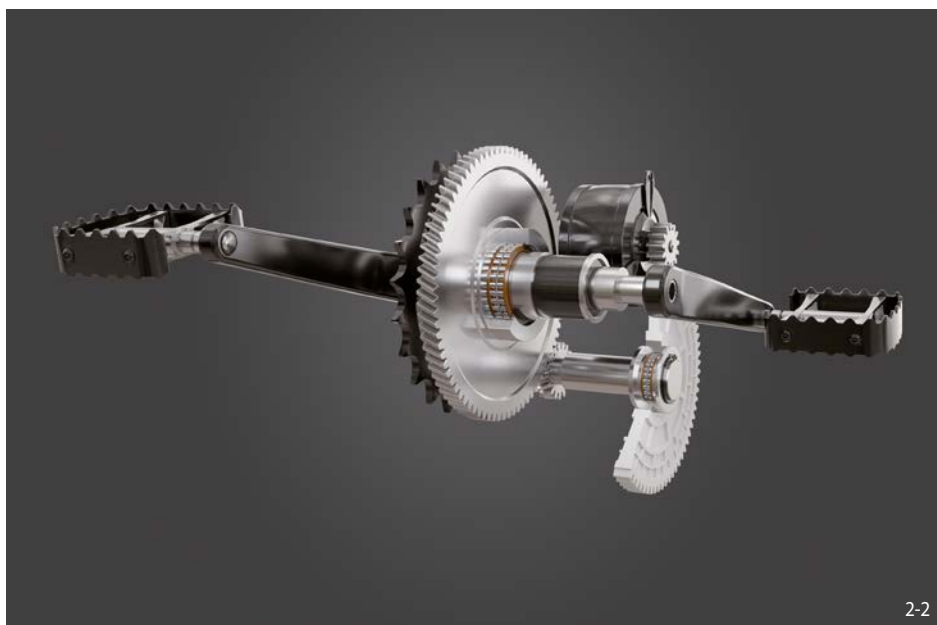


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2-1



2-2

E-bike drive with two Cage Freewheels E

Mounting

The lateral guidance of the Cage Freewheels can be effected either by a shoulder on the outer ring or by guard rings or guard discs which are fixed in the outer ring.

The transmissible torque can be increased if several cages are arranged side by side. In this case please consult with RINGSPANN on transmissible torques.

Cage Freewheels are not self-centering and have no own bearing support. Centric alignment of inner and outer ring must be provided by the customer.

Cages made from plastic (PA). The permissible operating temperature of the Cage Freewheel is -40°C to $+140^{\circ}\text{C}$. Please contact us if the temperature is different to the given values.

The sprag tracks must have the following characteristics:

- Conicity: $\leq 5 \mu\text{m}$ per 10 mm track width
- Average peak-to-valley height Rz as per DIN 4768, page 1: $1,6 \mu\text{m} \leq \text{Rz} \leq 6,3 \mu\text{m}$
- Hardness: $62 \pm 2 \text{ HRC}$

Possible application as

- ▶ Backstop
- ▶ Overrunning Clutch
- ▶ Indexing Freewheel

Features

Cage Freewheels E are sprag freewheels for installation between customer-supplied inner and outer rings. The sprags are made of hardened chrome steel and have an optimized geometry. Cages are made from plastic (PA).

Nominal torques up to 278 Nm.

Advantages

- Highest torque capacity; more than three times higher torque capacity than drawn cup roller clutches
- Increased, customer-supplied component tolerances possible due to optimized sprag geometry
- Particularly suitable for space-optimized applications such as e-bike drives
- Customer-specific solutions can be implemented at short notice

With case hardening:

Case hardening depth Eht as per DIN 50190, page 1: $1+0,5 \text{ mm}$, hardness limit HG = 550 HV1, core strength $\geq 1100 \text{ N/mm}^2$

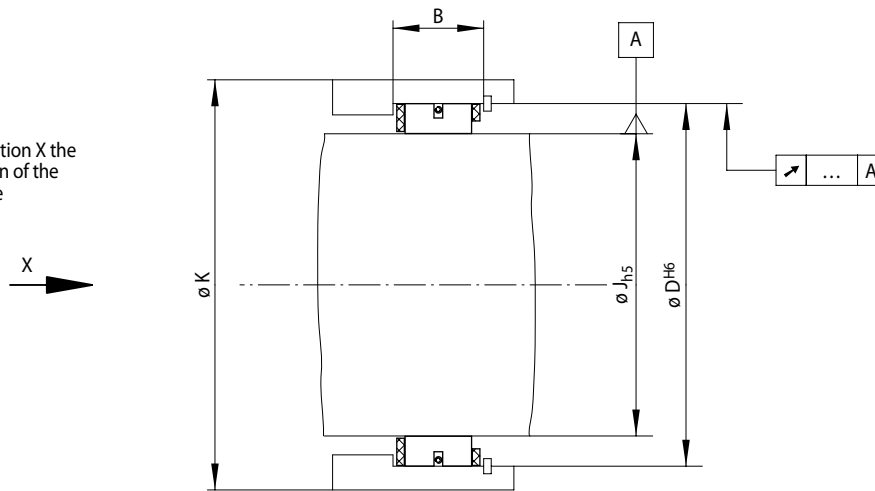
If other hardness processes are to be applied or if you need to deviate from the specified directives, we will gladly offer assistance in working out a solution.

To facilitate mounting when sliding on the Cage Freewheel, a lead-in chamfer of, for example, 30° , should be provided on each edge of the sprag tracks.

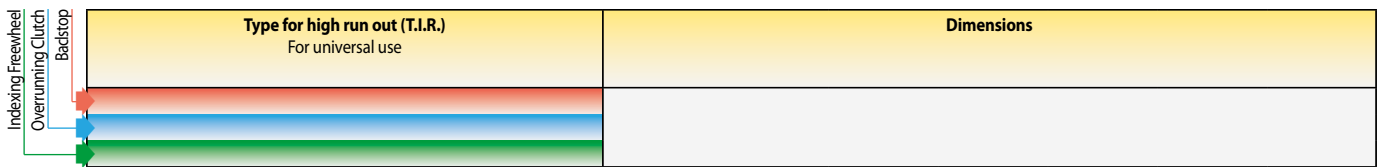
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When viewed in direction X the
freewheeling direction of the
inner ring is clockwise



3-1



Freewheel Size	Theoretical nominal torque Nm	Nominal torque at existing run out (T.I.R.) Nm				Inner sprag track J mm	Outer sprag track D mm	Installation width B mm	Housing diameter K mm	Sprags Quantity	Weight kg
		0,0 A	0,02 A	0,04 A	0,06 A						
E 14-11/16	40	40	39	37	14	22	11,5 +1	31,0	16	0,010	
E 24-11/24	115	112	110	106	24	32	11,5 +1	44,8	24	0,016	
E 25-6,3/26	67	65	65	60	25	33	6,7 +0,6	46,0	26	0,009	
E 25-11/26	130	127	125	120	25	33	11,5 +1	46,2	26	0,017	
E 30-6,3/30	100	95	95	90	30	38	6,7 +0,6	53,0	30	0,010	
E 30-11/20	120	115	110	110	30	38	11,5 +1	53,0	20	0,014	
E 30-11/26	160	160	160	150	30	38	11,5 +1	53,0	26	0,017	
E 32-11/30	197	197	197	193	32	40	11,5 +1	56,0	30	0,020	
E 34-11/33	245	240	240	235	34	42	11,5 +1	59,0	33	0,021	
E 35-11/28	210	200	200	200	35	43	11,5 +1	61,0	28	0,018	
E 40-11/30	260	250	250	240	40	48	11,5 +1	67,0	30	0,020	
E 45-6,3/42	206	203	200	195	45	53	6,7 +0,6	74,2	42	0,014	

The maximum transmissible torque is 2 times the specified nominal torque. See page 14 for determination of selection torque.

The theoretical nominal torque applies only for ideal concentricity between the inner and outer ring. In practice, the concentricity is affected by the bearing play and centering errors of the neighbouring parts. The specified nominal torques refer to the housing diameter K specified in the table. Smaller housing diameters are subject to reduced nominal torques. In such a case, please contact us.

Lubrication

It is necessary to provide an oil or grease lubrication with the specified quality.

Example for ordering

- E 40-11/30

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