

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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Possible application as

- ▶ Backstop
- ▶ Overrunning Clutch
- ▶ Indexing Freewheel

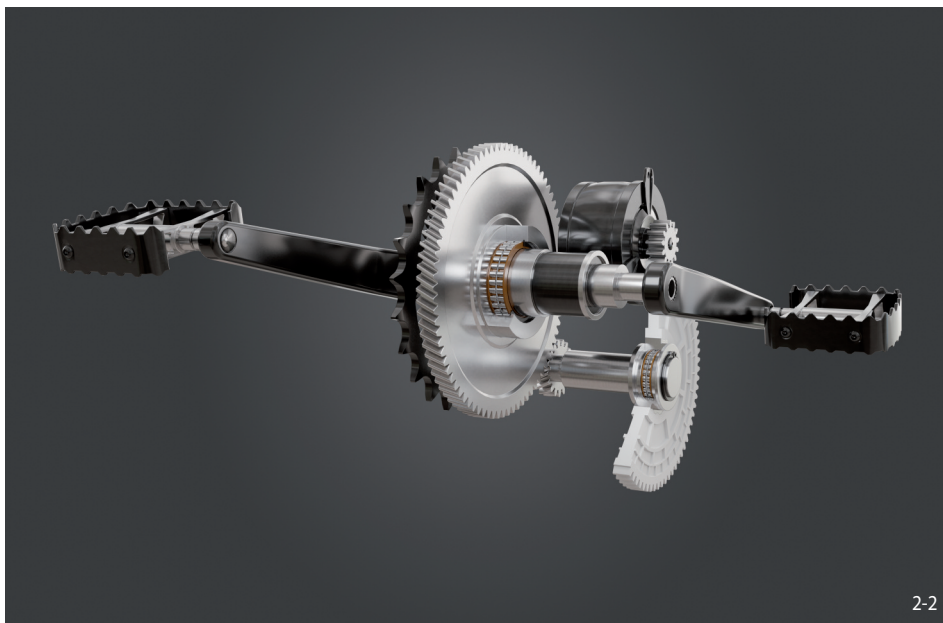
Features

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



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 $+140\text{ °C}$. Please contact us if the temperature is different to the given values.

The sprag tracks must have the following characteristics:

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

With case hardening:

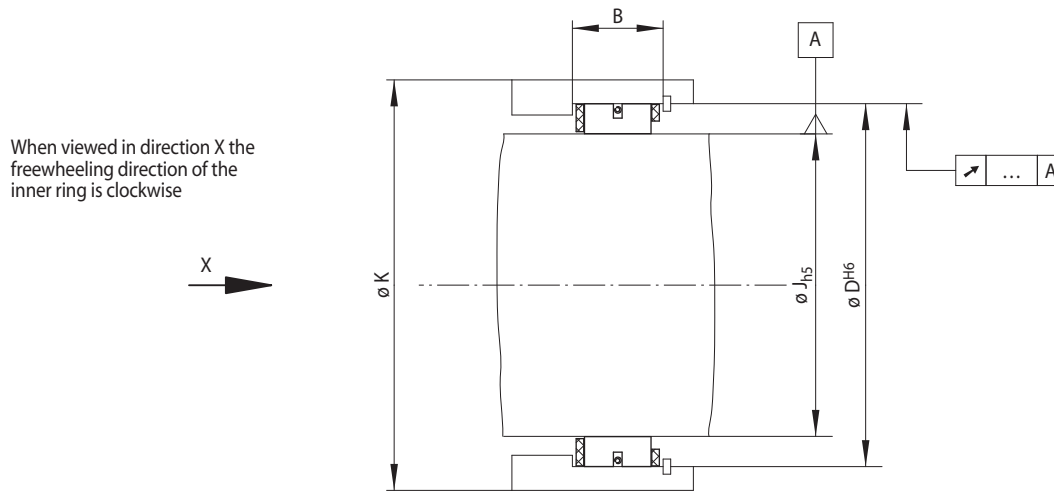
Case hardening depth Eht as per DIN 50190, page 1: $1,5 \dots 2\text{ mm}$, hardness limit HG = 550 HV1, core strength $\geq 1\text{ }100\text{ N/mm}^2$

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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Indexing Freewheel Overrunning Clutch Backstop	Type for high run out (T.I.R.) For universal use	Dimensions

Freewheel Size	Theoretical nominal torque	Nominal torque at existing run out (T.I.R.)				Inner sprag track	Outer sprag track	Installation width	Housing diameter	Sprags	Weight
	$\sqrt{0,0} \text{ A}$ Nm	$\sqrt{0,02} \text{ A}$ Nm	$\sqrt{0,04} \text{ A}$ Nm	$\sqrt{0,06} \text{ A}$ Nm	J mm	D mm	B mm	K mm	Quantity	kg	
E 14-11/16	40	40	39	37	14	22	11,5 +1	31	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	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	30	0,010	
E 30-11/20	120	115	110	110	30	38	11,5 +1	53	20	0,014	
E 30-11/26	160	160	160	150	30	38	11,5 +1	53	26	0,017	
E 34-11/33	245	240	240	235	34	42	11,5 +1	59	33	0,021	
E 35-11/28	210	200	200	200	35	43	11,5 +1	61	28	0,018	
E 40-11/30	260	250	250	240	40	48	11,5 +1	67	30	0,020	
E 45-6,3/42	206	203	200	195	45	53	6,7 +0,6	74,2	42	0,014	
E 55-6,3/46	278	275	269	260	55	63	6,7 +0,6	88,2	46	0,015	

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

Germany

RINGSPANN GmbH

Schaberweg 30 - 38, 61348 Bad Homburg, Germany
+49 6172 2750
info@ringspann.de • www.ringspann.de

RINGSPANN RCS GmbH

Hans-Mess-Straße 7, 61440 Oberursel, Germany
+49 6172 67 68 50
info@ringspann-rcs.de • www.ringspann-rcs.de

France

SIAM - RINGSPANN S.A.

23 rue Saint-Simon, 69009 Lyon, France
+33 4 78 83 59 01
info@siam-ringspann.fr • www.ringspann.fr

Great Britain, Ireland

RINGSPANN (U.K.) LTD.

3, Napier Road, Bedford MK41 0QS, Great Britain
+44 1234 34 25 11
info@ringspann.co.uk • www.ringspann.co.uk

Italy

RINGSPANN Italia S.r.l.

Via A.D. Sacharov, 13, 20812 Limbiate (MB), Italy
+39 02 93 57 12 97
info@ringspann.it • www.ringspann.it

Netherlands, Belgium, Luxembourg

RINGSPANN Benelux B.V.

Nieuwenkampsmeden 6-15, 7472 DE Goor,
Netherlands • +31 547 26 13 55
info@ringspann.nl • www.ringspann.nl

Austria, Hungary, Slovenia

RINGSPANN Austria GmbH

Triesterstraße 21, 2620 Neunkirchen, Austria
+43 2635 62446
info@ringspann.at • www.ringspann.at

Poland

Radius-Radpol Wiecheć Sp.J.

Ul. Pasjonatów 3, 62-070 Dąbrowa, Poland
+48 61 814 39 28 • info@radius-radpol.com.pl
www.radius-radpol.com.pl

Romania, Bulgaria, Moldova

S.C. Industrial Seals and Rolls S.R.L.

Str. Depozitelor, No. 29, 110078 Pitesti, Romania
+4 0751 22 82 28
mihai@isar.com.ro • www.isar.com.ro

Russia, Belarus, Kazakhstan

RINGSPANN Office

Pod'jennaja Street 12, Building 1, Floor 4,
Office 426, 109052 Moscow, Russia
+7 495 911 86 48
Denis.Kalashnikov@ringspann.com
www.ringspann.com.ru

Sweden, Finland, Denmark,

Norway, Baltic states

RINGSPANN Nordic AB

Industrigatan 7, 61933 Trosa, Sweden
+46 156 190 98
info@ringspann.se • www.ringspann.se

Switzerland

RINGSPANN AG

Sumpfstrasse 7, P.O. Box 3320, 6303 Zug,
Switzerland • +41 41 748 09 00
info@ringspann.ch • www.ringspann.ch

Spain, Portugal

RINGSPANN IBERICA S.A.

C/Uzbina, 24-Nave E1, 01015 Vitoria, Spain
+34 945 22 77 50
info@ringspann.es • www.ringspann.es

Czech Republic, Slovakia

Ing. Petr Schejbal

Mezivří 1444/27, 14700 Prag, Czech Republic
+420 222 96 90 22
Petr.Schejbal@ringspann.cz • www.ringspann.com

Ukraine

"START-UP" LLC.

Saltivske Hwy, 43, letter G-3, office 101,
Kharkiv 61038, Ukraine • +38 057 717 03 04
start-up@start-up.kh.ua • www.start-up.kh.ua

Asia

Australia, New Zealand

RINGSPANN Australia Pty Ltd

Unit 5, 13A Elite Way, Carrum Downs Vic 3201,
Australia • +61 3 9069 0566
info@ringspann.com.au • www.ringspann.com.au

China

RINGSPANN Power Transmission (Tianjin) Co., Ltd.

No. 21 Gaoyan Rd., Binhai Science and Technology
Park, Binhai Hi-Tech Industrial, Development Area,
Tianjin, 300458, P.R. China • +86 22 5980 31 60
info.cn@ringspann.cn • www.ringspann.cn

India, Bangladesh, Nepal

RINGSPANN Power Transmission India Pvt. Ltd.

GAT No: 679/2/1, Village Kuruli, Taluka Khed, Chakan-
Alandi Road, Pune - 410501, Maharashtra, India
+91 21 35 67 75 00 • info@ringspann-india.com
www.ringspann-india.com

Singapore, Taiwan, ASEAN

RINGSPANN Singapore Pte. Ltd.

143 Cecil Street, #17-03 GB Building,
Singapore 069542 • +65 9633 6692
info@ringspann.sg • www.ringspann.sg

South Korea

RINGSPANN Korea Ltd.

Chungnam Cheonan-si Dongnam-gu
Mokcheon-eup Samsung 1 Ghil 15-12,
31226, South Korea • + 82 10 54961 368
info@ringspann.kr • www.ringspann.kr

America

Brazil

Antares Acoplamentos Ltda.

Rua Evaristo de Antoni, 1222, Caxias do Sul, RS,
CEP 95041-000, Brazil • +55 54 32 18 68 00
vendas@antaresacoplamentos.com.br
www.antaresacoplamentos.com.br

USA, Canada, Mexico, Chile, Peru

RINGSPANN Corporation

10550 Anderson Place, Franklin Park, IL 60131, USA
+1 847 678 35 81
info@ringspanncorp.com • www.ringspanncorp.com

Africa and Middle East

Egypt

Shofree Trading Co.

218 Emtedad Ramsis 2, 2775 Nasr City, Cairo, Egypt
+20 2 20 81 20 57
info@shofree.com • www.ringspann.com

Israel

G.G. Yarom Rolling and Conveying Ltd.

6, Hamaktesh Str., 58810 Holon, Israel
+972 3 557 01 15
noam_a@gg.co.il • www.ringspann.com

South Africa, Sub-Saharan

RINGSPANN South Africa (Pty) Ltd.

96 Plane Road Spartan, Kempton Park,
P.O. Box 8111 Edenglen 1613, South Africa
+27 11 394 18 30
info@ringspann.co.za • www.ringspann.co.za

Iran

Persia Robot Machine Co. Ltd.

4th Floor, No 71, Mansour St, Motahari Avenue,
Tehran 15957, Iran • +98 21 887091 58-62
info@persiarobot.com • www.ringspann.com

Maghreb, West Africa

SIAM - RINGSPANN S.A.

23 rue Saint-Simon, 69009 Lyon, France
+33 4 78 83 59 01
info@siam-ringspann.fr • www.ringspann.fr