

Blocker Ring Evo (BRE)

a cost efficient all-rounder for high performance applications



SHIFT²EXCELLENCE

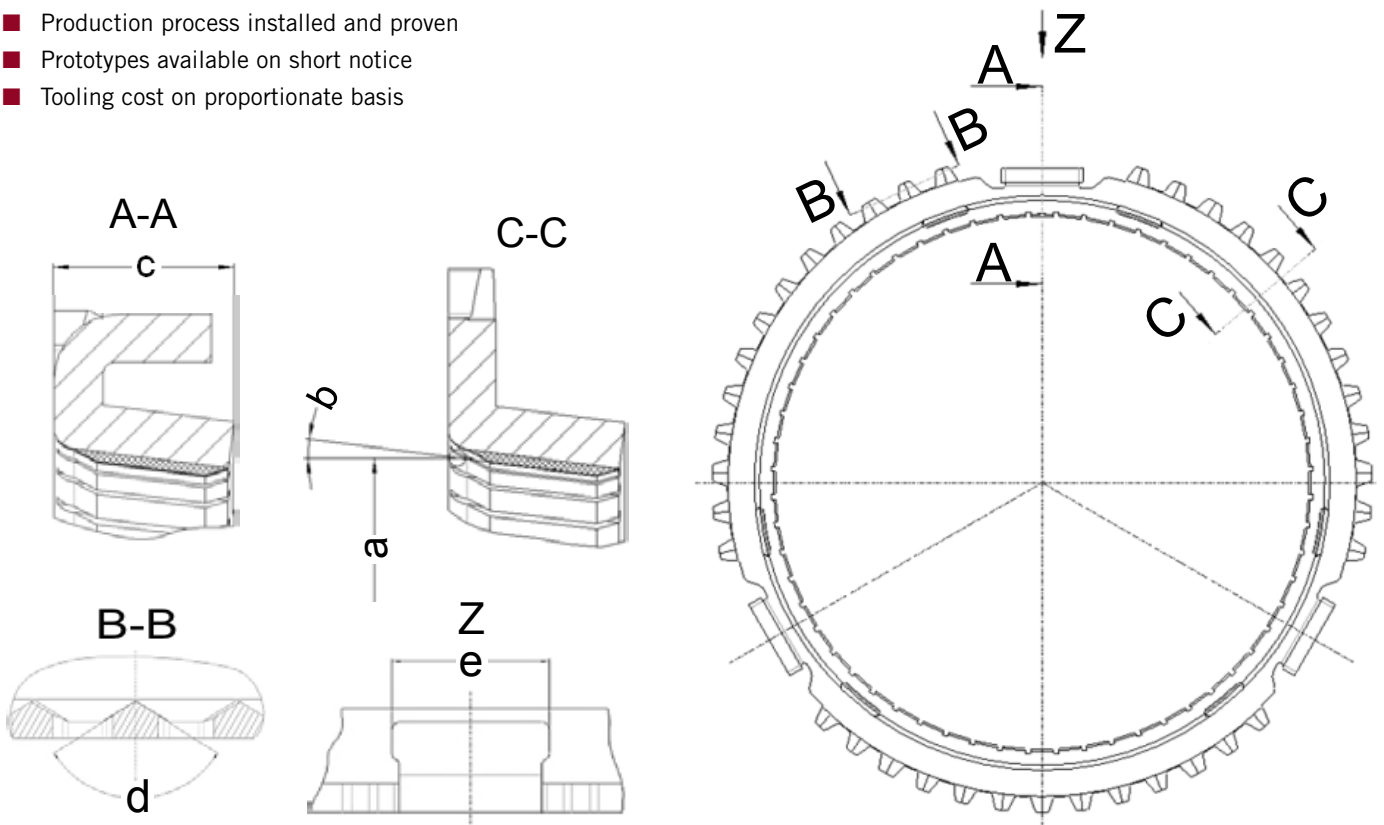


Modular Concept

			S	M	L
cone	a	diameter [mm]	66,16	75,75	83,35
	b	angle [°]	7	7	7,25
	c	width [mm]	8,5	8	8,25
spline	d	chamfer angle [°]	117	115	115
		pitch dia [mm]	83,4	93,4	101,1
		module	1,7	1,7	2,0
index lug	e	width [mm]	11,9	10,45	12,55
typical application	vehicle class	subcompact	compact/mid-size	light truck	
	torque [Nm]	< 200	200-350	> 350	

All data indicative and subject to possible changes

- Parts tested and validated
- Production process installed and proven
- Prototypes available on short notice
- Tooling cost on proportionate basis

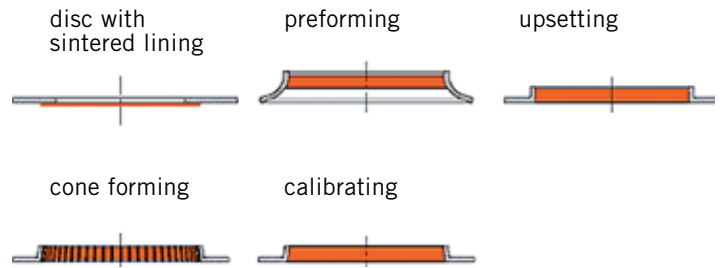


The BRE Technology

A new single-cone synchronizer ring, the **Blocker Ring Evo** (BRE), was developed for the HOERBIGER-Classic Line. It optimally blends the positive properties of formed steel carrier rings and powerful sintered friction linings.

Conventional single-cone synchronizer rings are marked by friction linings that are glued into a carrier ring. By combining the know-how in the fields of metal forming technology and lining technology, HOERBIGER developers have succeeded in directly sintering the friction lining onto the steel carrier and then forming the single-cone synchronizer ring in the forming press.

Because the gluing process has been eliminated, the strength of the synchronizer ring has been further increased and the manufacturing process has been simplified at the same time. The new, formed single-cone synchronizer ring, the **Blocker Ring Evo** (BRE), can be used 1:1 in existing installation spaces.



Robust Design

Pure metallic structure
High wear resistance

Reliable Quality

100% in-house production
100% automated processes

Favorable Cost-Performance Ratio

Machining and bonding process eliminated

The Single-Cone Family

BRC

Blocker Ring Coated



BRC - HC300

Dual Layer Carbon

Premium performance
under all conditions

BRE

Blocker Ring Evo



BRE - HS90

Sinter Layer

Robust all-rounder
for high-performance

BRB

Blocker Ring Basic



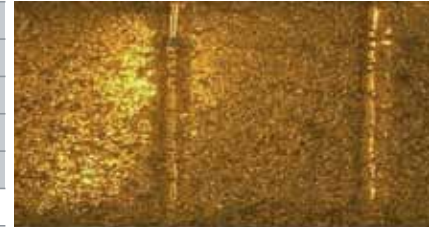
BRB - Micro Groove

All-Steel Blocker Ring

The powerful substitute
for brass rings

BRE with HS90 friction lining

load parameters standard values	permanent load	overload
sliding speed (m/s)	10	20
surface pressure (N/mm ²)	8	10
friction work (J/mm ²)	1	2
friction power (W/mm ²)	4,5	10
c.o.f. values	0.9 < μ < 0.120	

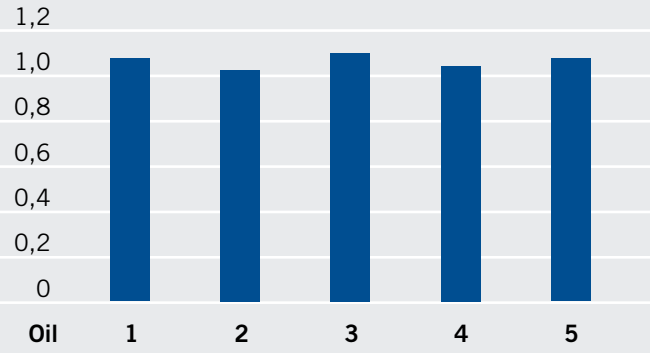


load parameters are dependent on type of oil and lubrication

- Improved c.o.f. characteristic
- Stable c.o.f. at high loads
- Adapted to latest oil developments

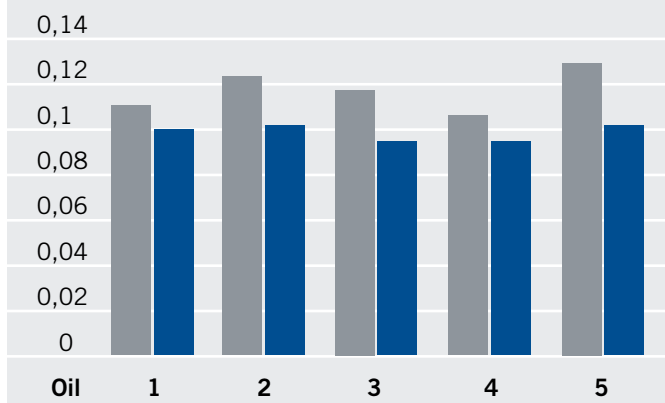
Excellent shift comfort

■ μ_3/μ_2



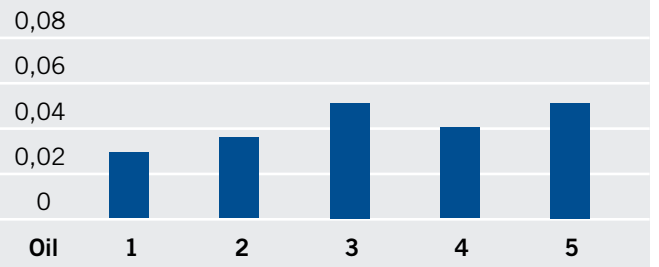
Excellent c.o.f stability

■ μ_2 standard load
■ μ_2 overload



Excellent wear results

■ mm



- Oil 1-3 used in MTs
- Oil 3-5 used in DCTs

All data indicative and subject to possible changes

HOERBIGER combines innovation and technology in maximum quality solutions



HOERBIGER Antriebstechnik GmbH
Bernbeurener Strasse 13
86956 Schongau, Germany

Phone: +49 8861 2566 0
Fax: +49 8861 2566 22 20

info-hant@hoerbiger.com
www.hoerbiger.com

HOERBIGER Synchron Technik GmbH & Co. KG
Lembacher Strasse 2
71720 Oberstenfeld, Germany

Phone: +49 7062 266 0
Fax: +49 7062 266 2144

info-hant@hoerbiger.com
www.hoerbiger.com

HOERBIGER Drive Technology (Changzhou) Co. Ltd.
GDH Industrial Park – Building No. 7
16 Chuangye Road, Xinbei District
213 033 Changzhou, Jiangsu, P.R. China

Phone: +86 519 8560 3636
Fax: +86 519 8560 2525

info-hant-ap@hoerbiger.com
www.hoerbiger.com