



# SIZES FROM 0.5 - 25,000 Nm BACKLASH FREE ELASTOMER INSERT COUPLINGS

ELASTOMER  
COUPLINGS EK | TX

## GENERAL INFORMATION ABOUT R+W ELASTOMER COUPLINGS:



### SERVICE LIFE

When properly selected, handled, and installed, these couplings are maintenance free with infinite service life.

### ATEX (Optional)

For use in hazardous zones 1/21 and 2/22, the elastomer coupling has been authorized under directive 94/9/EG and is available with certification.

### SPECIAL SOLUTIONS

Various materials, tolerances, dimensions and performance ratings available for custom applications on request.

### FIT CLEARANCE

Overall shaft / hub clearance of 0.01 - 0.05 mm



# BACKLASH FREE ELASTOMER COUPLINGS SERVOMAX® AND ECOLIGHT® SIZES FROM 0.5 - 25,000 Nm

MODEL

FEATURES

EKL



**with clamping hub  
from 0.5 - 2,150 Nm**

- ▶ compact design
- ▶ low moment of inertia
- ▶ easy mounting

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EK2



**with clamping hub  
from 6 - 2,150 Nm**

- ▶ high concentricity
- ▶ backlash free
- ▶ easy mounting

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EKH



**with fully split clamping hub  
from 4 - 25,000 Nm**

- ▶ for lateral installation
- ▶ allows for pre-aligned shafts
- ▶ easy mounting

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EK6



**with conical clamping ring  
from 4 - 25,000 Nm**

- ▶ high concentricity
- ▶ high clamping pressure
- ▶ self centering hub design
- ▶ allows for axial installation

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MODEL

FEATURES

**EK1**



**with keyway mounting  
from 0.5 - 25,000 Nm**

Pages 74-75

- ▶ press fit design
- ▶ readily modified for custom dimensions

**TX1**



**with keyway mounting  
from 0.5 - 810 Nm**

Pages 76-77

- ▶ corrosion proof
- ▶ low cost
- ▶ light weight

**EK7**



**with expanding shaft  
from 2 - 2,150 Nm**

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- ▶ for hollow shaft mounting
- ▶ expanding shaft through axial tightening
- ▶ short body length after installation

**EKZ**



**intermediate spacer  
from 2 - 2,150 Nm**

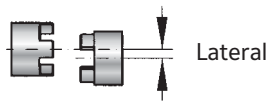
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- ▶ high lateral misalignment
- ▶ easy to mount
- ▶ vibration damping

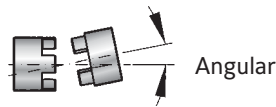
# GENERAL INFORMATION

## R+W ELASTOMER COUPLINGS

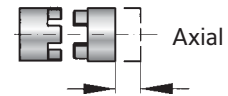
### AXES OF MISALIGNMENT



Lateral



Angular



Axial

### FUNCTION

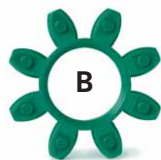
The equalizing element of the EK coupling is the elastomer insert. It transmits torque without backlash or vibration. The elastomer insert defines the characteristics of the entire drive system.

Backlash is eliminated by the press fit of the elastomer into the hubs. Through variation of the Shore hardness of the elastomer insert, the coupling system can be optimized for the ideal torsional characteristics.

### SIZES 2 - 800



A



B



C



D



E

Shore hardness 98 A

Shore hardness 64 Sh D

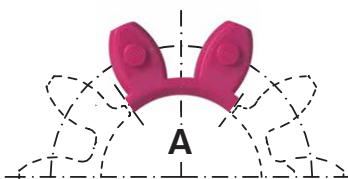
Shore hardness 80 Sh A

Shore hardness 65 Sh D

Shore hardness 64 Sh D

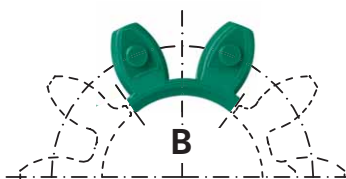
### SIZES 2500 - 9500

THE COUPLING INCLUDES 5X ELASTOMER SEGMENTS



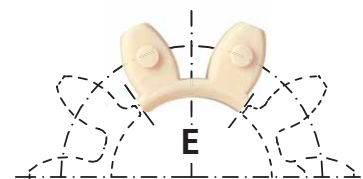
A

Shore hardness 98 A



B

Shore hardness 64 Sh D



E

Shore hardness 64 Sh D

## DESCRIPTION OF THE ELASTOMER TYPES

Type	Shore hardness	Color	Material	Relative damping ( $\mu$ )	Temperature range	Features
A	98 Sh A	red	TPU	0.4 - 0.5	-30°C to +100°C	high damping
B	64 Sh D	green	TPU	0.3 - 0.45	-30°C to +120°C	high torsional stiffness
C	80 Sh A	yellow	TPU	0.3 - 0.4	-30°C to +100°C	very high damping
D*	65 Sh D	black	TPU	0.3 - 0.45	-10°C to + 70°C	electrically conductive
E	64 Sh D	beige	Hytrel	0.3 - 0.45	-50°C to +150°C	temperature resistant

\* The electrical conductivity of the elastomer material is to prevent the electrostatic charging of the elastomer coupling system, to reduce the risk of sparking in operation. ATEX technical data is available upon request.

The values of the relative damping were determined at 10 Hz and +20° C.

## SIZES EK

SIZE		2			5			10			20			60			150		
Type (Elastomer insert)		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Static torsional stiffness (Nm/rad)	$C_T$	50	115	17	150	350	53	260	600	90	1140	2500	520	3290	9750	1400	4970	10600	2000
Dynamic torsional stiffness (Nm/rad)	$C_{Tdyn}$	100	230	35	300	700	106	541	1650	224	2540	4440	876	7940	11900	2072	13400	29300	3590
Lateral (mm)	Max. values	0.08	0.06	0.2	0.08	0.06	0.2	0.1	0.08	0.22	0.1	0.08	0.25	0.12	0.1	0.25	0.15	0.12	0.3
Angular (Degree)		1	0.8	1.2	1	0.8	1.2	1	0.8	1.2	1	0.8	1.2	1	0.8	1.2	1	0.8	1.2
Axial (mm)		±1			±1			±1			±2			±2			±2		

SIZE		300			450			800			2500		4500		9500	
Type (Elastomer insert)		A	B	C	A	B	C	A	B	C	A	B	A	B	A	B
Static torsional stiffness (Nm/rad)	$C_T$	12400	18000	3000	15100	27000	4120	41300	66080	10320	87600	109000	167000	372000	590000	670000
Dynamic torsional stiffness (Nm/rad)	$C_{Tdyn}$	23700	40400	6090	55400	81200	11600	82600	180150	28600	175000	216000	337000	743000	1180000	1340000
Lateral (mm)	Max. values	0.18	0.14	0.35	0.2	0.18	0.35	0.25	0.2	0.4	0.5	0.3	0.5	0.3	0.6	0.4
Angular (Degree)		1	0.8	1.2	1	0.8	1.2	1	0.8	1.2	1.5	1	1.5	1	1.5	1
Axial (mm)		±2			±2			±2			±3		±4		±5	

Static torsional stiffness at 50%  $T_{KN}$

Dynamic torsional stiffness at  $T_{KN}$