






# BACKLASH FREE, TORSIONALLY STIFF MINIATURE COUPLINGS

## 0.05 - 10 Nm

MODEL

FEATURES

<p><b>MK1</b></p>		<p><b>with radial set screws from 0.05 - 10 Nm</b></p> <ul style="list-style-type: none"> <li>▶ large bores available in small size</li> <li>▶ integral dismounting groove eliminates the need for flats on shafts</li> <li>▶ economy design</li> </ul>	<p>Page 52</p>
<p><b>MK2</b></p>		<p><b>with clamping hub from 0.5 - 10 Nm</b></p> <ul style="list-style-type: none"> <li>▶ easy mounting</li> <li>▶ for highly dynamic applications</li> <li>▶ finely balanced versions up to 90,000 rpm</li> </ul>	<p>Page 53</p>
<p><b>MKH</b></p>		<p><b>with split clamping hub from 0.5 - 10 Nm</b></p> <ul style="list-style-type: none"> <li>▶ lateral mounting possible</li> <li>▶ easy installation and removal</li> <li>▶ allows for pre-alignment of shafts</li> </ul>	<p>Page 54</p>
<p><b>MK3</b></p>		<p><b>with expanding shaft from 0.5 - 10 Nm</b></p> <ul style="list-style-type: none"> <li>▶ easy installation</li> <li>▶ solution for mismatched shaft / bore diameters</li> <li>▶ saves space and cost</li> </ul>	<p>Page 55</p>
<p><b>MK4</b></p>		<p><b>with radial set screw and blind mate connection from 0.5 - 10 Nm</b></p> <ul style="list-style-type: none"> <li>▶ axial installation possible</li> <li>▶ electrically and thermally isolating</li> <li>▶ includes integral dismounting groove</li> </ul>	<p>Page 56</p>

## MODEL

## FEATURES

MK5



**with clamping hub and blind mate connection from 0.5 - 10 Nm**

- ▶ axial installation possible
- ▶ electrically and thermally isolating
- ▶ easy mounting and dismounting

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MK6



**with expanding shaft and blind mate connection from 0.5 - 10 Nm**

- ▶ full axial installation possible
- ▶ well suited to restricted installation space
- ▶ solution to mismatched bore / shaft diameters

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MKS



**with conical clamping ring from 4.5 - 10 Nm**

- ▶ speeds up to 120,000 rpm
- ▶ naturally very well balanced due in part to self centering clamping system
- ▶ for high speed high precision applications

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BKL



**with clamping hub up to 3 Nm**

- ▶ low priced
- ▶ light weight and low moment of inertia
- ▶ temperatures up to 200° C

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FK1



**with radial set screw up to 1 Ncm**

- ▶ well balanced
- ▶ sterilizable

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# MK1

## WITH RADIAL SET SCREWS

0.05 - 10 Nm

### PROPERTIES



#### FEATURES

- ▶ integral dismounting groove eliminates the need for flats on shafts
- ▶ economical design
- ▶ larger bore diameters in a small size possible

▶ **Hubs:** aluminium

#### DESIGN

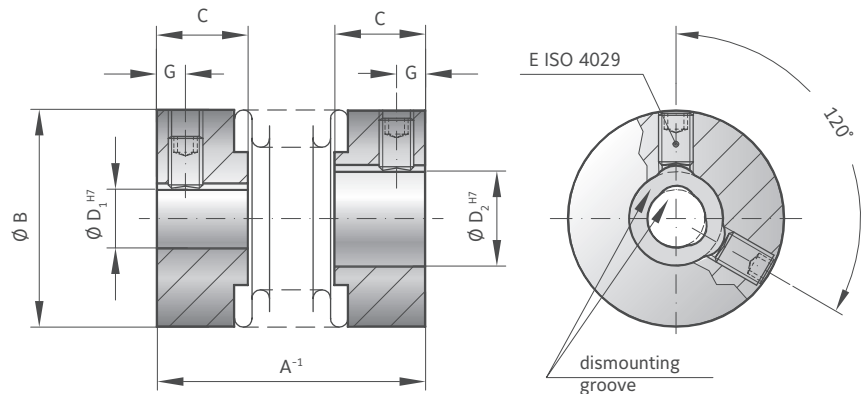
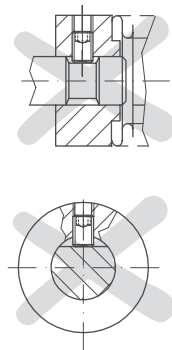
Two hubs with radial set screws concentrically mounted to flexible bellows. Speeds up to 20,000 rpm; over 20,000 with finely balanced version.

#### MATERIAL

- ▶ **Bellows:** size 0.5 tombac; sizes 1 and up high grade stainless steel

#### Advantage:

Bore diameters above 4mm have an integral dismounting groove, which provides clearance over any burr which may be kicked up by the set screw, eliminating the need for flats on shafts.



## MODEL MK1

SIZE			0.5	1	5	10	15	20	45	100
Rated torque (Nm)	$T_{KN}$		0.05	0.1	0.5	1.0	1.5	2.0	4.5	10
Overall length (mm)	$A^{-1}$		14	20	20 23 26	22 25 28	24 29	26 31 35	37 45	43 53
Outside diameter (mm)	B		6.5	10	15	15	19	25	32	40
Fit length (mm)	C		4	5	6.5	6.5	7.5	11	13	15
Inside diameter possible from $\varnothing$ to $\varnothing$ H7 (mm)	$D_{1/2}$		1-3	1-5	3-9	3-9	3-12	3-16	6-22	6-28
Clamping screw ISO 4029			1xM2	1xM2.5	1xM3	1xM3	2xM3	2xM4	2xM5	2xM6
Tightening torque of the fastening screw (Nm)	E		0.35	0.75	1.3	1.3	1.3	2.5	4	6
Distance (mm)	G		1.5	1.8	2	2	2	2.5	3.5	4
Moment of inertia ( $gcm^2$ )	$J_{ges.}$		0.1	0.4	1.1 1.2 1.3	1.3 1.8 2	4.7 5.5	15 18 20	65 70	180 220
Approximate weight (g)			1	5	6 6 6	6 7 8	12 14	22 24 26	54 58	106 114
Torsional stiffness (Nm/rad)	$C_t$		50	70	280 210 170	510 380 320	750 700	1200 1300	1200 7000	5000 9050 8800
Axial (mm)			0.4	0.4	0.4 0.5 0.6	0.4 0.5 0.6	0.5 0.7	0.5 0.6 0.7	0.7 1 1	1.2
Lateral (mm)	Max. values		0.1	0.15	0.15 0.2 0.25	0.15 0.2 0.25	0.15 0.2	0.15 0.2 0.25	0.2 0.25 0.2	0.2 0.25 0.2 0.3
Angular (degree)			1	1	1 1.5 2	1 1.5 2	1.5 1.5	1.5 1.5 2	1.5 2 1.5 2	1.5 2

ORDERING EXAMPLE	MK1	5	26	4.76	5	XX
Model	●					
Size		●				
Overall length mm			●			
Bore D1 H7				●		
Bore D2 H7					●	

Special designation only (e.g. high speed balancing).

For custom features place an XX at the end of the part number and describe the special requirements (e.g. MK1 / 5 / 26 / 4.76 / 5 / XX; XX=finely balanced for 25,000 rpm)

# MK2

## WITH CLAMPING HUB

0.5 - 10 Nm



### PROPERTIES

#### FEATURES

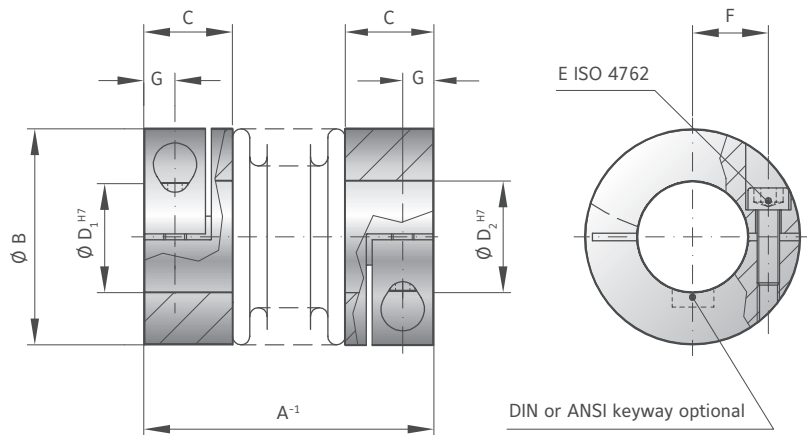
- ▶ for highly dynamic applications
- ▶ easy installation
- ▶ light weight and low moment of inertia

#### DESIGN

Two clamping hubs concentrically mounted to flexible bellows.

#### MATERIAL

- ▶ **Bellows:** high grade stainless steel
- ▶ **Hubs:** aluminium



## MODEL MK2

SIZE		5			10			15		20			45		100	
Rated torque (Nm)	T <sub>KN</sub>	0.5			1.0			1.5		2.0			4.5		10	
Overall length (mm)	A <sup>-1</sup>	25	28	31	27	30	33	30	35	35	40	44	46	54	50	60
Outside diameter (mm)	B	15			15			19		25			32		40	
Fit length (mm)	C	9			9			11		13			16		16	
Inside diameter possible from Ø to Ø H7 (mm)	D <sub>1/2</sub>	3-7			3-7			3-8		3-12.7			5-16		5-24	
Fastening screw ISO 4762	E	M2			M2			M2.5		M3			M4		M4	
Tightening torque of the fastening screw (Nm)		0.43			0.43			0.85		2.3			4		4.5	
Distance between centerlines (mm)	F	4.5			4.5			6		8			10		15	
Distance (mm)	G	3			3			3.5		4			5		5	
Moment of inertia (gcm <sup>2</sup> )	J <sub>ges</sub>	2.6	2.8	3	3	3.4	3.6	8.5	9.5	25	27	29	100	108	160	205
Approximate weight (g)		9	9	9	9	10	11	22	24	36	38	40	74	78	120	130
Torsional stiffness (Nm/rad)	C <sub>T</sub>	280	210	170	510	380	320	750	700	1200	1300	1200	7000	5000	9050	8800
Axial (mm)	Max. values	0.4	0.5	0.6	0.4	0.5	0.6	0.5	0.7	0.5	0.6	0.7	0.7	1	1	1.2
Lateral (mm)		0.15	0.2	0.25	0.15	0.2	0.25	0.15	0.2	0.15	0.2	0.25	0.2	0.25	0.2	0.3
Angular (degree)		1	1.5	2	1	1.5	2	1.5	1.5	1.5	1.5	2	1.5	2	1.5	2

ORDERING EXAMPLE	MK2	5	25	4.76	5	XX
Model	●					Special designation only (e.g. special bore tolerance).
Size		●				
Overall length mm			●			
Bore D1 H7				●		
Bore D2 H7					●	

For custom features place an XX at the end of the part number and describe the special requirements (e.g. MK2 / 5 / 25 / 4.76 / 5 / XX; XX=finely balanced for 25,000 rpm)

MINIATURE  
COUPLINGS MK

## WITH SPLIT CLAMPING HUB

0.5 - 10 Nm



### PROPERTIES

#### FEATURES

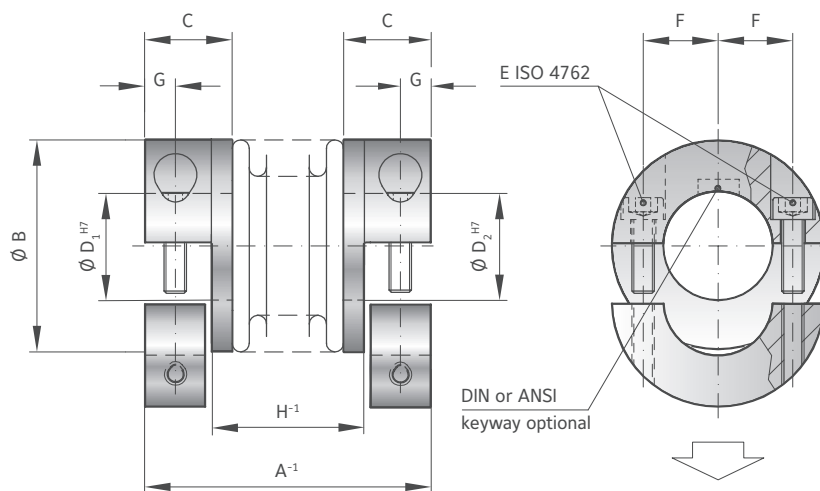
- ▶ mounts laterally
- ▶ allows for pre-alignment of shafts
- ▶ light weight and low moment of inertia

#### DESIGN

Two fully split clamping hubs, with two screws in each, concentrically mounted to flexible bellows.

#### MATERIAL

- ▶ **Bellows:** high grade stainless steel
- ▶ **Hubs:** aluminium



### MODEL MKH

SIZE	5			10			15		20			45		100		
Rated torque (Nm)	$T_{KN}$	0.5			1.0			1.5		2.0			4.5		10	
Overall length (mm)	$A^{-1}$	25	28	31	27	30	33	30	35	35	40	44	46	54	50	60
Outside diameter (mm)	B	15			15			19		25			32		40	
Fit length (mm)	C	9			9			11		13			16		16	
Inside diameter possible from Ø to Ø H7 (mm)	$D_{1/2}$	3-7			3-7			3-8		3-12.7			5-16		5-24	
Fastening screw ISO 4762	E	M2			M2			M2.5		M3			M4		M4	
Tightening torque of the fastening screw (Nm)		0.43			0.43			0.85		2.3			4		4.5	
Distance between centerlines (mm)	F	4.5			4.5			6		8			10		15	
Distance (mm)	G	3			3			3.5		4			5		5	
Distance (H)	$H^{-1}$	12	15	18	14	17	20	14.5	19.5	17	22	26	23.5	31.5	27.5	37.5
Moment of inertia ( $gcm^2$ )	$J_{ges}$	2.6	2.8	3	3	3.4	3.6	8.5	9.5	25	27	29	100	108	160	205
Approximate weight (g)		9	9	9	9	10	11	22	24	36	38	40	74	78	120	130
Torsional stiffness (Nm/rad)	$C_T$	280	210	170	510	380	320	750	700	1200	1300	1200	7000	5000	9050	8800
Axial (mm)	Max. values	0.4	0.5	0.6	0.4	0.5	0.6	0.5	0.7	0.5	0.6	0.7	0.7	1	1	1.2
Lateral (mm)		0.15	0.2	0.25	0.15	0.2	0.25	0.15	0.2	0.15	0.2	0.25	0.2	0.25	0.2	0.3
Angular (degree)		1	1.5	2	1	1.5	2	1.5	1.5	1.5	1.5	2	1.5	2	1.5	2

ORDERING EXAMPLE	MKH	20	35	8	9.53	XX
Model	●					Special designation only (e.g. special bore tolerance).
Size		●				
Overall length mm			●			
Bore D1 H7				●		
Bore D2 H7					●	

For custom features place an XX at the end of the part number and describe the special requirements (e.g. MKH / 20 / 35 / 8 / 9.53 / XX; XX=finely balanced for 25,000 rpm)

# MK3

## WITH EXPANDING SHAFT

0.5 - 10 Nm



### PROPERTIES

#### FEATURES

- ▶ for hollow shaft mounting
- ▶ easy to install
- ▶ light weight and low moment of inertia

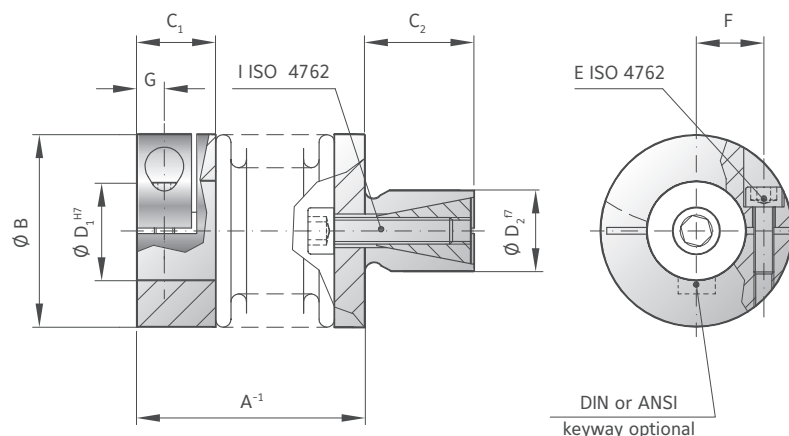
#### MATERIAL

- ▶ **Bellows:** high grade stainless steel
- ▶ **Clamping hub:** aluminium

#### ▶ Expanding shaft: steel

#### DESIGN

One clamping hub with one clamping screw, one expanding shaft system, both concentrically mounted to flexible bellows.



MINIATURE COUPLINGS MK

## MODEL MK3

SIZE		5			10			15			20			45		100	
Rated torque (Nm)	$T_{KH}$	0.5			1			1.5			2			4.5		10	
Overall length (mm)	$A^{-1}$	20	23	26	22	25	28	24	30	27	33	36	36	44	41	51	
Outside diameter (mm)	B	15			15			19			25			32		40	
Fit length (mm)	$C_1$	9			9			11			13			16		16	
Shaft length (mm)	$C_2$	10			10			12			12			15		20	
Inside diameter possible from $\emptyset$ to $\emptyset$ H7 (mm)	$D_1$	3-7			3-7			4-8			4-12.7			5-16		6-24	
Standard shaft possible from $\emptyset$ to $\emptyset$ f7 (mm)	$D_2$	8-10			8-10			10-14			10-16			14-20		16-24	
Fastening screw ISO 4762	E	M2			M2			M2.5			M3			M4		M4	
Tightening torque of the fastening screw (Nm)		0.43			0.43			0.85			2.3			4		4.5	
Distance between centerlines (mm)	F	4.5			4.5			6			8			10		15	
Distance (mm)	G	3			3			3.5			4			5		5	
Fastening screw ISO 4762	I	M3			M3			M4			M4			M5		M6	
Tightening torque of the fastening screw (Nm)		1.5			1.5			3			4			6.5		11	
Moment of inertia (gcm <sup>2</sup> )	$J_{ges.}$	2.6	2.8	3.0	3.0	3.4	3.6	8.5	9.5	25	27	29	100	108	160	205	
Torsional stiffness (Nm/rad)	$C_T$	280	210	170	510	380	320	750	700	1200	1300	1200	7000	5000	9050	8800	
Axial (mm)	Max. values	0.4	0.5	0.6	0.4	0.5	0.6	0.5	0.7	0.5	0.6	0.7	0.7	1	1	1.2	
Lateral (mm)		0.15	0.2	0.25	0.15	0.2	0.25	0.15	0.2	0.15	0.2	0.25	0.2	0.25	0.2	0.3	
Angular (degree)		1	1.5	2	1	1.5	2	1.5	1.5	1.5	1.5	2	1.5	2	1.5	2	

ORDERING EXAMPLE	MK3	20	36	6.35	12	XX
Model	●					Special designation only (e.g. special bore / shaft tolerance).
Size		●				
Overall length mm			●			
Bore D1 H7				●		
Shaft D2 f7					●	

For custom features place an XX at the end of the part number and describe the special requirements (e.g. MK3 / 20 / 36 / 6.35 / 12 / XX; XX=finely balanced for 25,000 rpm)

# MK4

## BLIND MATE WITH RADIAL SET SCREWS

0.5 - 10 Nm

### PROPERTIES



#### FEATURES

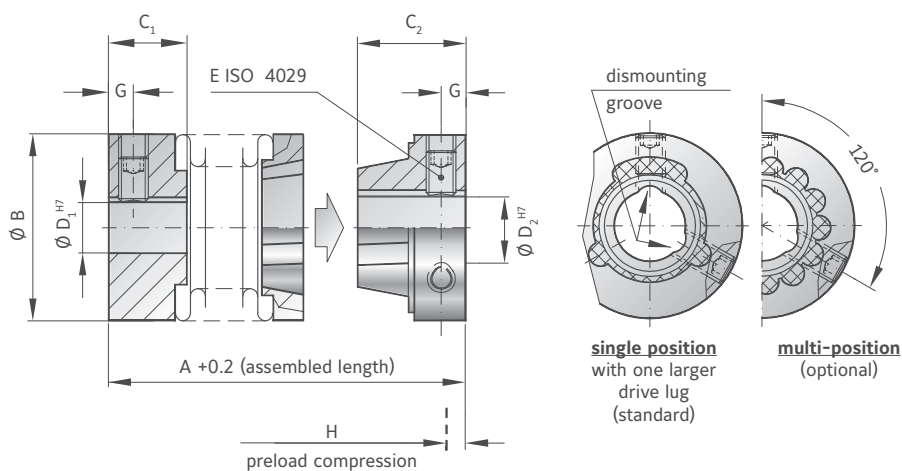
- ▶ easy installation and removal
- ▶ electrically and thermally isolating
- ▶ absolutely backlash free assembly

#### MATERIAL

- ▶ **Bellows:** high grade stainless steel
- ▶ **Hubs:** aluminium
- ▶ **Tapered male segment:** high strength plastic

#### DESIGN

Two hubs with radial set screws, one of which has a tapered male projection for blind mate connection. Speeds up to 20,000 rpm; over 20,000 with finely balanced version.



### MODEL MK4

SIZE		5			15		20			45		100	
Rated torque (Nm)	$T_{KN}$	0.5			1.5		2			4.5		10	
Overall length (inserted) (mm)	$A^{+0.2}$	22	25	28	26	31	28	33	37	39	47	46	56
Outside diameter (mm)	B	15			19		25			32		40	
Fit length (mm)	$C_1$	6.5			7.5		11			13		15	
Fit length (mm)	$C_2$	9			10		11			14		16	
Inside diameter possible from $\emptyset$ to $\emptyset$ H7 (mm)	$D_1$	3-9			3-12		3-16			6-22		6-28	
Inside diameter possible from $\emptyset$ to $\emptyset$ H7 (mm)	$D_2$	3-6.35			3-9		3-12.7			6-16		6-20	
Clamping screw ISO 4029	E	1xM3			2xM3		2xM4			2xM5		2xM6	
Tightening torque of the fastening screw (Nm)		1.3			1.3		2.5			4		6	
Distance (mm)	G	2			2		2.5			3.5		4	
Preload compression (mm)	H	0.4			0.5		0.5			0.7		1	
Axial recovery force at max. preload compression (N)		5	3	2	4	3	3	4	3	15	10	25	30
Moment of inertia (gcm <sup>2</sup> )	$J_{ges}$	2.0	2.2	2.5	5.5	6.0	21	23	25	80	85	200	210
Torsional stiffness (Nm/rad)	$C_T$	280	210	170	750	700	1200	1300	1200	7000	5000	9050	8800
Axial* (mm)	Max. values	0.4	0.5	0.6	0.5	0.7	0.5	0.6	0.7	0.7	1	1	1.2
Lateral (mm)		0.15	0.2	0.25	0.15	0.2	0.15	0.2	0.25	0.2	0.25	0.2	0.3
Angular (degree)		1	1.5	2	1.5	1.5	1.5	1.5	2	1.5	2	1.5	2

\* in addition to maximum pretensioning

ORDERING EXAMPLE	MK4	20	37	8	9.53	XX
Model	●					
Size		●				
Overall length mm			●			
Bore D1 H7				●		
Bore D2 H7					●	

Special designation only (e.g. special bore tolerance).

For custom features place an XX at the end of the part number and describe the special requirements (e.g. MK4 / 20 / 37 / 8 / 9.53 / XX; XX=finely balanced for 25,000 rpm)

# MK5

## BLIND MATE WITH CLAMPING HUB 0.5 - 10 Nm



### PROPERTIES

#### FEATURES

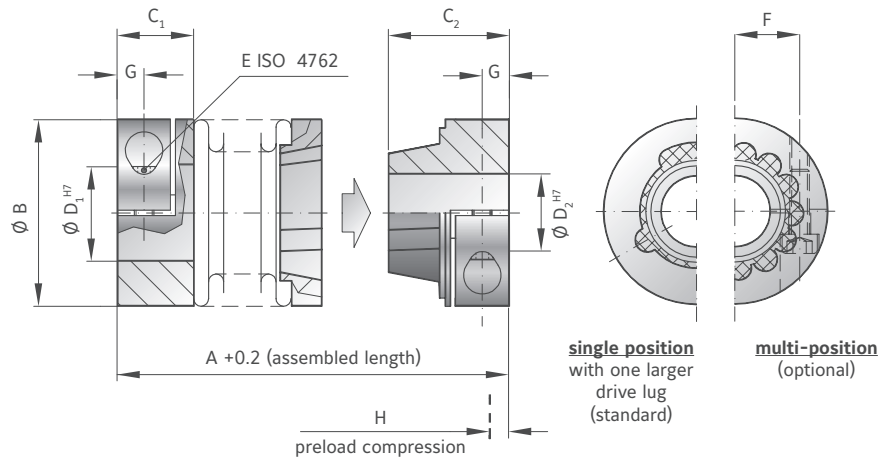
- ▶ easy installation and removal
- ▶ electrically and thermally isolating
- ▶ absolutely backlash free assembly

#### DESIGN

Two clamping hubs, one of which has a tapered male projection for blind mate connection.

#### MATERIAL

- ▶ **Bellows:** high grade stainless steel
- ▶ **Hubs:** aluminium
- ▶ **Tapered male segment:** high strength plastic



### MODEL MK5

SIZE	5			15		20			45		100			
Rated torque (Nm)	$T_{KN}$		0.5		1.5		2		4.5		10			
Overall length (inserted) (mm)	$A^{+0.2}$		27	30	33	34	39	37	43	46	49	57	55	65
Outside diameter (mm)	B		15			19		25			32		40	
Fit length (mm)	$C_1$		9			11		13			16		16	
Fit length (mm)	$C_2$		12			14		16			20		21.5	
Inside diameter possible from $\emptyset$ to $\emptyset$ H7 (mm)	$D_1$		3-7			3-8		3-12.7			5-16		5-24	
Inside diameter possible from $\emptyset$ to $\emptyset$ H7 (mm)	$D_2$		3-6.35			3-8		3-12.7			5-16		5-20	
Fastening screw ISO 4762	E		M2			M2.5		M3			M4		M4	
Tightening torque of the fastening screw (Nm)	E		0.43			0.85		2.3			4		4.5	
Distance between centerlines (mm)	F		4.5			6		8			10		15	
Distance (mm)	G		3			3.5		4			5		5	
Preload compression (mm)	H		0.4			0.5		0.5			0.7		1	
Axial recovery force at max. preload compression (N)			5	3	2	4	3	3	4	3	15	10	25	30
Moment of inertia ( $\text{gcm}^2$ )	$J_{ges}$		3.0	3.2	3.5	9.0	10	28	30	33	110	120	220	230
Torsional stiffness (Nm/rad)	$C_T$		280	210	170	750	700	1200	1300	1200	7000	5000	9050	8800
Axial* (mm)	Max. values		0.4	0.5	0.6	0.5	0.7	0.5	0.6	0.7	0.7	1	1	1.2
Lateral (mm)	Max. values		0.15	0.2	0.25	0.15	0.2	0.15	0.2	0.25	0.2	0.25	0.2	0.3
Angular (degree)	Max. values		1	1.5	2	1.5	1.5	1.5	1.5	2	1.5	2	1.5	2

\* in addition to maximum pretensioning

ORDERING EXAMPLE	MK5	20	37	6	9.53	XX
Model	●					
Size		●				
Overall length mm			●			
Bore D1 H7				●		
Bore D2 H7					●	

For custom features place an XX at the end of the part number and describe the special requirements (e.g. MK5 / 20 / 37 / 6 / 9.53 / XX; XX=finely balanced for 25,000 rpm)

MINIATURE COUPLINGS MK



# MK6

## BLIND MATE WITH EXPANDING SHAFT

0.5 - 10 Nm



### PROPERTIES

#### FEATURES

- ▶ easy installation and removal
- ▶ solution for mismatched bore / shaft diameters
- ▶ absolutely backlash free assembly

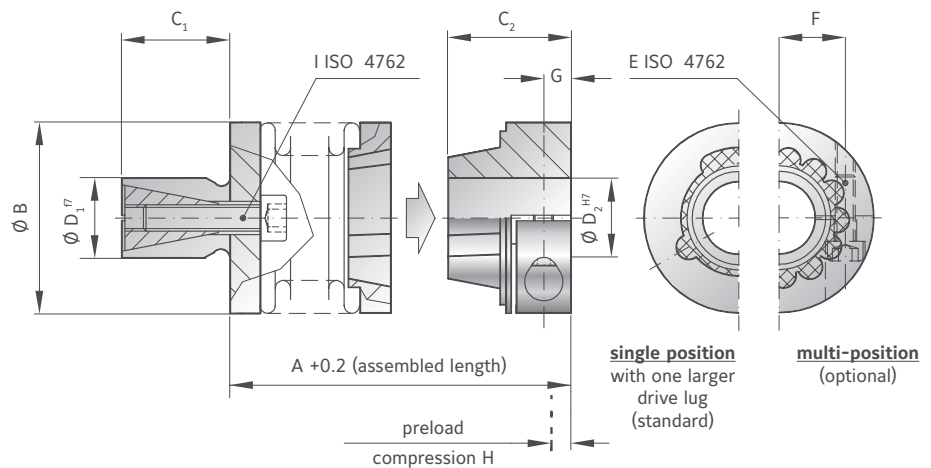
- ▶ **Tapered male segment:** high strength plastic
- ▶ **Clamping hub:** aluminium
- ▶ **Expanding shaft:** steel

#### MATERIAL

- ▶ **Bellows:** high grade stainless steel

#### DESIGN

One clamping hub with a tapered male projection for blind mate connection and one expanding shaft system.



### MODEL MK6

SIZE		5			15		20			45		100			
Rated torque	(Nm)	$T_{KN}$		0.5		1.5		2		4.5		10			
Overall length (inserted)	(mm)	$A^{+0.2}$		21	24	27	27	32	28	34	38	38	46	45	55
Outside diameter	(mm)	B		15		19		25		32		40			
Shaft length	(mm)	$C_1$		10		12		12		15		20			
Fit length	(mm)	$C_2$		12		14		16		20		21.5			
Standard shaft $\phi$ f7	(mm)	$D_1$		8-10		10-14		10-16		14-20		16-24			
Inside diameter possible from $\phi$ to $\phi$ H7	(mm)	$D_2$		3-6.35		3-8		3-12.7		5-16		5-20			
Fastening screw ISO 4762		E		M2		M2.5		M3		M4		M4			
Tightening torque of the fastening screw	(Nm)	E		0.43		0.85		2.3		4		4.5			
Distance between centerlines	(mm)	F		4.5		6		8		10		15			
Distance	(mm)	G		3		3.5		4		5		5			
Preload compression	(mm)	H		0.4		0.5		0.5		0.7		1			
Axial recovery force at max. preload compression	(N)	5	3	2	4	3	3	4	3	15	10	25	30		
Fastening screw ISO 4762		I		M3		M4		M4		M5		M6			
Tightening torque of the fastening screw	(Nm)	I		1.5		3		4		6.5		11			
Moment of inertia	(gcm <sup>2</sup> )	$J_{res}$		3.0	3.2	3.5	9.0	10	28	30	33	110	120	220	230
Torsional stiffness	(Nm/rad)	$C_T$		280	210	170	750	700	1200	1300	1200	7000	5000	9050	8800
Lateral	(mm)	Max. values		0.15	0.2	0.25	0.15	0.2	0.15	0.2	0.25	0.2	0.25	0.2	0.3
Angular	(degree)	Max. values		1	1.5	2	1.5	1.5	1.5	1.5	2	1.5	2	1.5	2

ORDERING EXAMPLE	MK6	20	28	12	9.53	XX
Model	●					Special designation only (e.g. special bore / shaft tolerance).
Size		●				
Overall length mm			●			
Shaft D1 f7				●		
Bore D2 H7					●	

For custom features place an XX at the end of the part number and describe the special requirements (e.g. MK6 / 20 / 28 / 12 / 9.53 / XX; XX=finely balanced for 25,000 rpm)



High speed

#### PROPERTIES

##### FEATURES

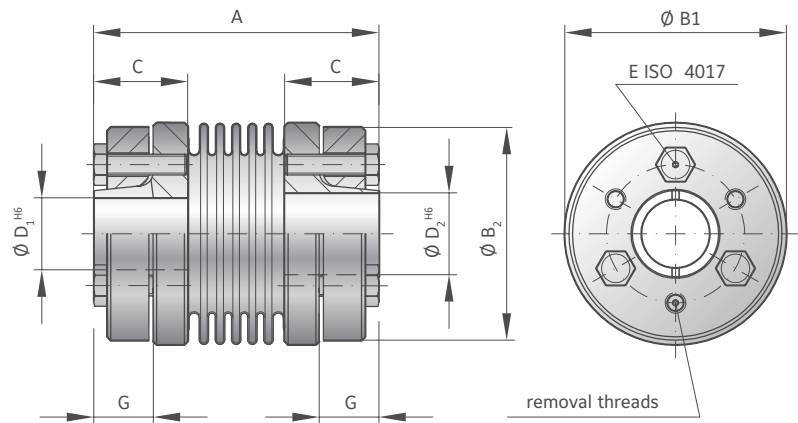
- ▶ for high speeds
- ▶ self centering conical clamping ring design
- ▶ high balancing grade

##### DESIGN

Two hubs with conical clamping ring and three or four screws. Maximum speed up to 120,000 rpm.

##### MATERIAL

- ▶ **Bellows:** high grade stainless steel
- ▶ **Hubs and clamping rings:** aluminium



## MODELL MKS

SIZE			45	100	150	
Rated torque (Nm)	$T_{KN}$		4.5	10	15	
Overall length (mm)	A		42	48	53	
Outside diameter (mm)	$B_1$		32	40	49	
Outside diameter of hub (mm)	$B_2$		30	38	46	
Fit length (mm)	C		14	16	20	
Inside diameter possible from $\emptyset$ to $\emptyset$ H6 (mm)	$D_{1/2}$		6-10	8-14	10-19	
Fastening screw ISO 4017 (mm)			3x M3	4x M3	8x M3	
Tightening torque of the fastening screw (Nm)	E		1.3	1.3	1.3	
Distance (mm)	G		8.5	9.5	13	
Moment of inertia ( $gcm^2$ )	$J_{ges.}$		65	226	561	
Masse (g)			51	103	171	
Torsional stiffness (Nm/rad)	$C_T$		7000	9050	23000	
Axial (mm)			0.5	0.75	0.75	
Lateral (mm)	Max. values		0.1	0.05*	0.1	0.05*
Angular (degree)			0.5	0.5	0.5	0.5

For speeds beyond 50,000 rpm use reduced misalignment values marked with \*

ORDERING EXAMPLE	MKS	45	8	9.53	XX
Model	●				
Size		●			
Bore D1 H6			●		
Bore D2 H6				●	
Special designation only (e.g. special bore tolerance).					
For custom features place an XX at the end of the part number and describe the special requirements (e.g. MKS / 45 / 8 / 9.53 / XX; XX=anodized aluminum hubs)					

# BKL/003

## ECOFLEX® WITH CLAMPING HUB 3 Nm



### PROPERTIES

#### FEATURES

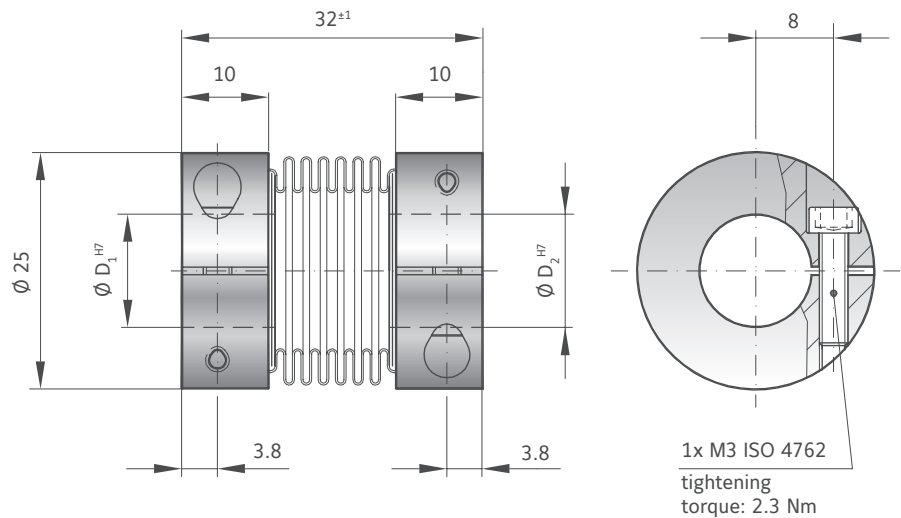
- ▶ economically priced
- ▶ backlash free and torsionally stiff
- ▶ wear free and robust

#### DESIGN

Two clamping hubs, each with a clamping screw.  
Operational from -40 to +200° C

#### MATERIAL

- ▶ **Bellows:** high grade stainless steel
- ▶ **Hubs:** aluminium



### MODEL BKL/003

SIZE			3
Rated torque	(Nm)	$T_{KN}$	3
Standard bore diameters H7	(mm)	$D_1, D_2$	3 to 12.7
Moment of inertia	(gcm <sup>2</sup> )	$J_{ges.}$	20
Approximate weight	(g)		23
Tightening torque of the fastening screws	(Nm)		2.3
Torsional stiffness	(Nm/rad)	$C_T$	994
Axial	(mm)	Max. values	1
Lateral	(mm)		0.2
Angular	(degree)		2

**ECOFLEX®:**  
The low cost alternative for encoders, potentiometers, stepper motors, and small servo drives.

ORDERING EXAMPLE	BKL	003	3	6.35	XX
Model	●				
Size		●			
Bore D1 H7			●		
Bore D2 H7				●	
For custom features place an XX at the end of the part number and describe the special requirements (e.g. BKL / 003 / 3 / 6.35 / XX; XX=stainless steel hubs)					

# FK1

## MICROFLEX WITH RADIAL SET SCREWS

### 1 Ncm



#### PROPERTIES

##### FEATURES

- ▶ very small dimensions
- ▶ backlash free
- ▶ vibration damping

##### MATERIAL

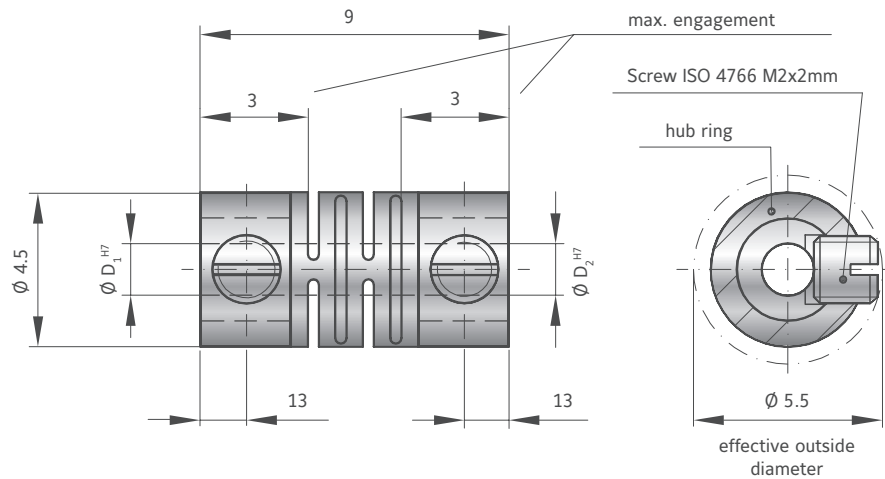
- ▶ **Flex element:** high strength Polyamide
- ▶ **Hubs:** stainless steel

##### DESIGN

Two hubs with set screws mounted to a flex beam segment. Operational from -35° to +80° C. Speeds up to 20,000 rpm \*

##### SPECIAL SOLUTION

Effective outside diameter can be reduced to 4.5mm through the use of M2x1.5mm screws.

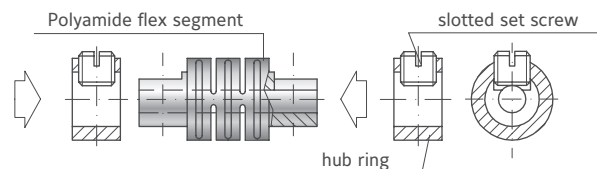


MINIATURE  
COUPLINGS MK

### MODEL FK1/001/9

SIZE			
Rated torque	(Ncm)	$T_{KN}$	1
Standard bore H7	(mm)	$D_1, D_2$	1.5 / 1.5 or 2 / 1.5 additional bore diameters available upon request
Moment of inertia	(gcm <sup>2</sup> )	$J_{ges.}$	5.39
Approximate weight	(g)		0.47
Torsional stiffness	(Ncm/rad)	$C_T$	23 (measured at +20° C)
Axial	(mm)	Max. values	0.2
Lateral	(mm)		0.1
Angular	(degree)		1.5

#### COUPLING ASSEMBLY AND MOUNTING



The screw threads through the clamping ring, through a slot in the flexible segment, and down onto the shaft, securing the entire assembly. Including a flat on the shaft can improve torque transmission.

**Caution:** Always use a precisely calibrated torque wrench during installation.

ORDERING EXAMPLE	FK1	001	9	1.5	1.5	XX
Model	●					Special designation only (e.g. special screw size).
Size		●				
Overall length mm			●			
Bore D1 H7				●		
Bore D2 H7					●	

For custom features place an XX at the end of the part number and describe the special requirements (e.g. FK1 / 001 / 9 / 1.5 / 1.5 / XX; XX=M2x1.5mm screws)

#### DISMOUNTING

For dismounting, simply loosen the set screws and remove the coupling from the shafts.

