Couplings

Properties of different shaft couplings

Coupling	**Nickel bellows coupling**	**Membrane coupling**	**Sliding disc coupling (Oldham type)**	**Double loop coupling**
Description	High-performance precision coupling with excellent kinematic properties.	Precision coupling with excellent kinematic properties. Dynamically balanced construction.	Multi-purpose coupling. Robust, user-friendly three-part coupling with replaceable components. Easy to fit.	Exceptional tolerance for angles and radial and axial movements.
Areas of application	First-class applications with strict requirements for measurement accuracy.	High-speed applications where exactness is required. Harsh environments with independent drive shafts.	Applications where simple installation and electrical insulation are required.	Normal applications with limited speeds and with low requirements for accuracy.
Speeds	Max 5000 rpm	Max 5000 rpm	Max 3000 rpm	Max 3000 rpm
Max torque for a Ø 10 mm shaft coupling	328 Ncm	5,6 Nm	4 Nm	1,8 Nm
Max displacement compensation for a Ø 10 mm shaft coupling	Angle 10° Radial 0,43 mm Axial 1,78 mm	Angle 3° Radial 0,2 mm Axial ±0,2 mm	Angle 0,5° Radial 0,2 mm Axial ±0,1 mm	Angle 15° Radial 3,2 mm Axial ±7,5 mm
Temperature	-40°C .. +120°C	-40°C .. +120°C	-20°C .. +60°C	-40°C .. +100°C
Electrical insulation	No	No	Yes	Yes
Type of fitting for encoder shaft	Set screw	Clamping or set screw	Set screw	Set screw

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Couplings

534024-01

534024-02

534024-03

Bellow couplings

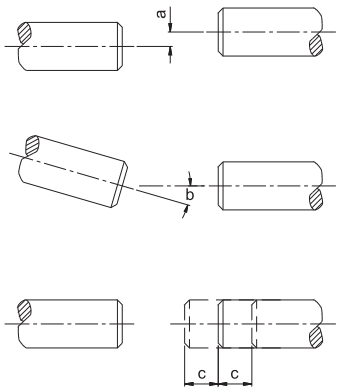
- High-performance precision coupling
- Excellent kinematic properties
- For applications with strict requirements for measurement accuracy

CE

Mechanical specification

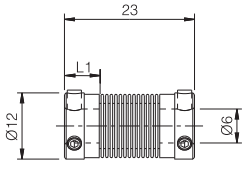
Aricle number	**534024-01**	**534024-02**	**534024-03**
Bore diameter (mm)	6 - 6	10 - 10	12 - 12
Type	Set screw	Set screw	Set screw
Dimensions (mm); L Length L1 Bore length ØD Diameter Key size	 23 6 12 1,3	 27,1 7 17 1,5	 33,5 7 25 1,5
Moment of inertia (Kgm^2)	1,85 x 10^{-7}	3,62 x 10^{-7}	16,1 x 10^{-7}
Weight	10 g	8,5 g	19,5 g
Max misalignment; Angular (b) Radial (a) Axial (c)	 15° 0,54 mm 1,72 mm	 10° 0,43 mm 1,78 mm	 8° 0,46 mm 2,07 mm
Torsional rigity	28 Nm/rad	102 Nm/rad	447 Nm/rad
Peak torque	13 Ncm	50 Ncm	328 Ncm

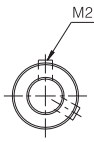
Alignment

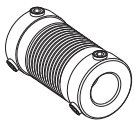


Dimensions

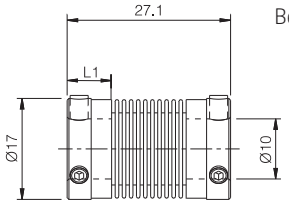
Bellow coupling 534024-01

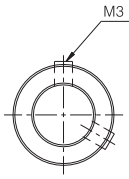


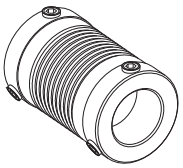




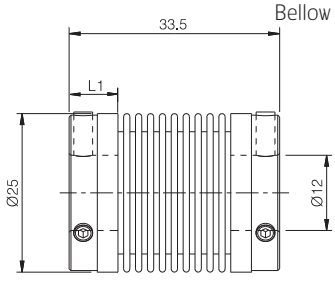
Bellow coupling 534024-02

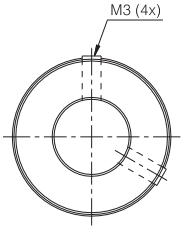


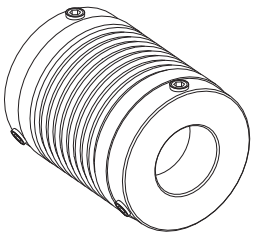




Bellow coupling 534024-03







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Couplings

46419 + 46433

46619 + 46633

46819 + 46833

47019 + 47033

Membrane couplings

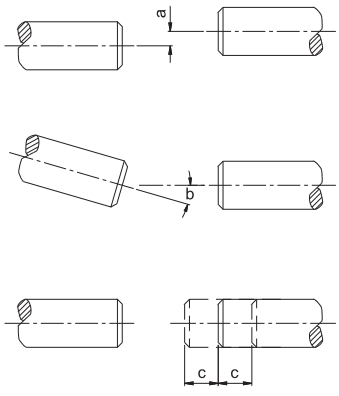
- Precision coupling with excellent kinematic properties
- Dynamically balanced construction
- For high-speed applications where exactness is required

CE

Mechanical specification

Aricle number	Precisely aligned shafts				For greater radial misalignment			
	464.19 -	**466.19 -**	**464.33 -**	**466.33 -**	**468.19 -**	**470.19 -**	**468.33 -**	**470.33 -**
Bore diameter (mm) (Other bore diameters on request)	6 - 6	6 - 6	6 - 10 10 - 10 12 - 12	6 -10 10 - 10 10 - 11 11 - 11	6 - 6	6 - 6	6 - 10 10 - 10 12 - 12	6 - 10 10 - 10 12 - 12 11 - 11
Type	Set screw	Clamp	Set screw	Clamp	Set screw	Clamp	Set screw	Clamp
Dimensions (mm); L Length L1 Bore length ØD Diameter Key size	 19,6 5,6 19,2 1,5	 26,8 9,2 19,2 2,0	 32,1 10,0 33,5 2,5	 40,1 14,0 33,5 2,5	 27,3 5,6 19,2 1,5	 34,5 9,2 19,2 2,0	 42,8 10,0 33,5 2,5	 50,8 14,0 33,5 2,5
Moment of inertia (Kgm^2)	5×10^{-7}	6×10^{-7}	80×10^{-7}	73×10^{-7}	6×10^{-7}	6×10^{-7}	83×10^{-7}	76×10^{-7}
Weight	10 g	13 g	52 g	51 g	12 g	14 g	55 g	55 g
Max misalignment; Angular (b) Radial (a) Axial (c)	 4° 0,2 mm ± 0,2 mm	 4° 0,2 mm ± 0,2 mm	 3° 0,2 mm ± 0,2 mm	 3° 0,2 mm ± 0,2 mm	 4° 0,4 mm ± 0,2 mm	 4° 0,4 mm ± 0,2 mm	 3° 0,4 mm ± 0,2 mm	 3° 0,4 mm ± 0,2 mm
Torsional rigity	150 Nm/rad	150 Nm/rad	935 Nm/rad	935 Nm/rad	145 Nm/rad	145 Nm/rad	980 Nm/rad	980 Nm/rad
Peak torque	0,9 Nm	0,9 Nm	5,6 Nm	5,6 Nm	0,9 Nm	0,9 Nm	5,6 Nm	5,6 Nm

Alignment



Ordering information

Type

464	Set screw, short
466	Clamp, short
468	Set screw, long
470	Clamp, long

Bore

19 2222	6 - 6 mm
33 2232	6 - 10 mm
33 3232	10 - 10 mm
33 3233	10 - 11 mm
33 3333	11 - 11 mm
33 3535	12 - 12 mm

Other sizes available, contact Leine & Linde.

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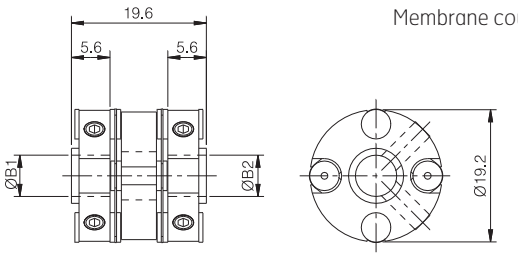
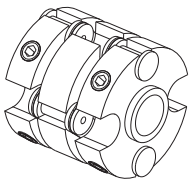
Couplings

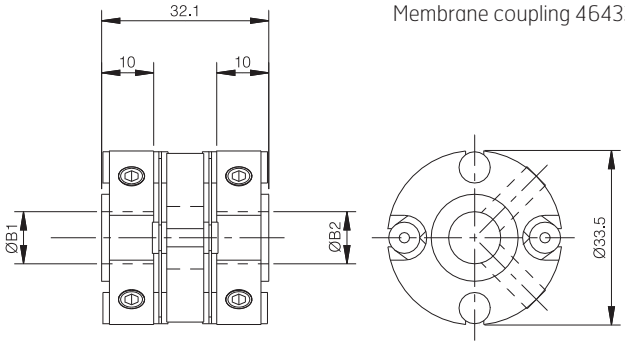
Dimensions

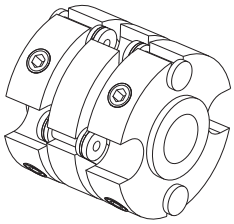
Membrane coupling 46419



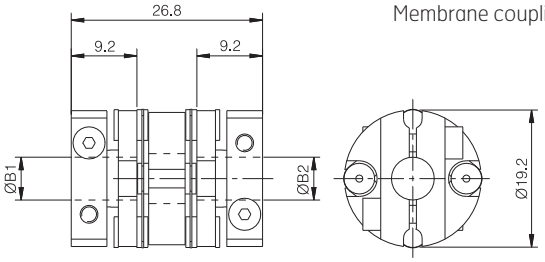


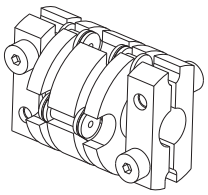
Membrane coupling 46433



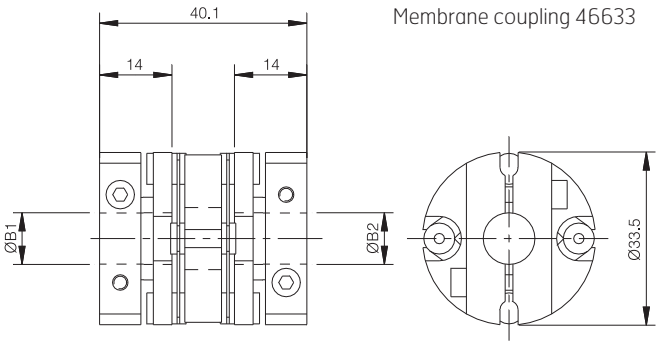


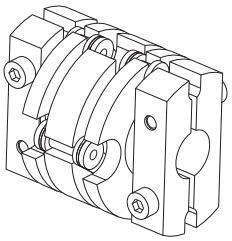
Membrane coupling 46619





Membrane coupling 46633





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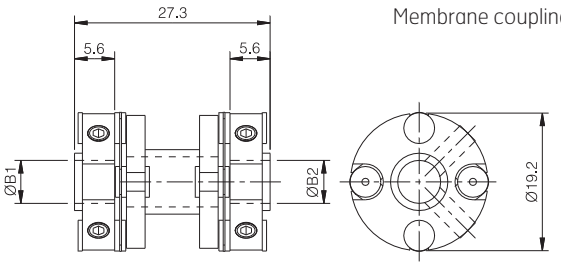
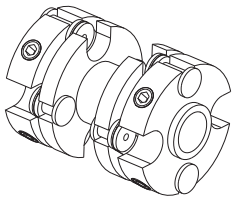
Couplings

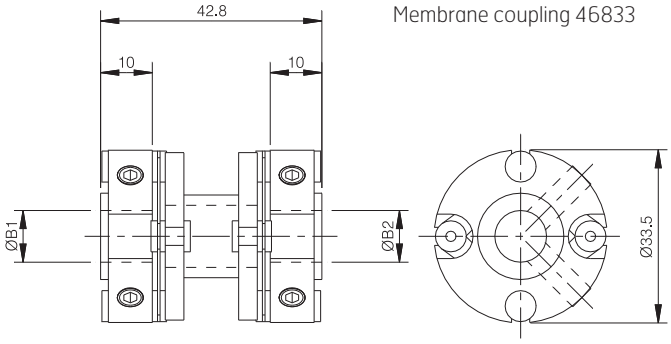
Dimensions

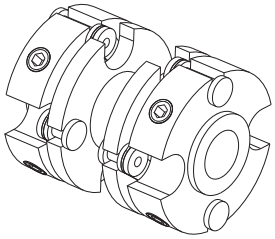
Membrane coupling 46819



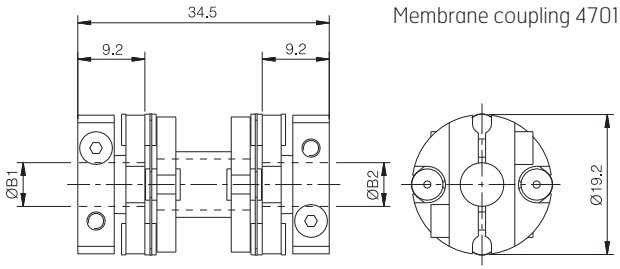


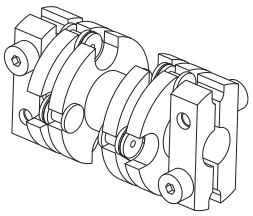
Membrane coupling 46833



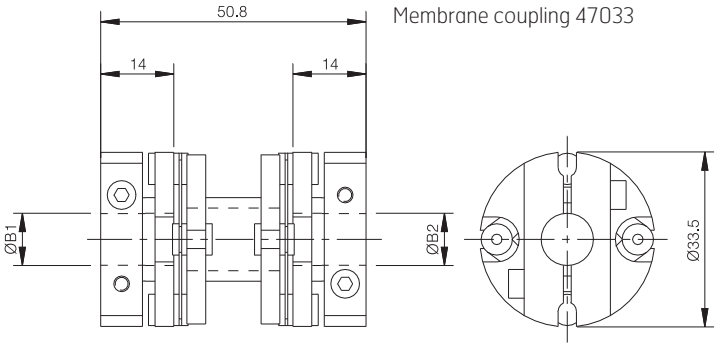


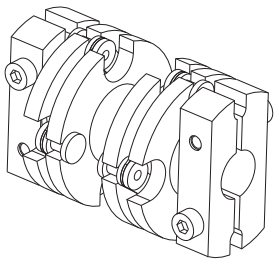
Membrane coupling 47019





Membrane coupling 47033





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Couplings

Oldham coupling with set screw hubs

- Simple to mount and comission
- Electrical insulation between shafts
- Suitable for normal industrial applications

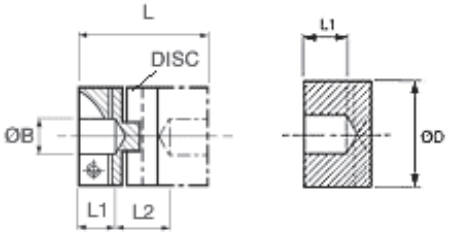
CE

Technical data

Material and finishes	Brass BS 2874 CZ121. Alocrom, chromate and passivate finish
Fasteners	Alloy steel, black oiled
Torque discs	Types 236 - Acetal (black)
Temperature range (°C)	-20 .. +60

Dimensions

Coupling size	Ø D mm	L mm	L1 mm	L2 mm	Ø B mm	Fastener screw	Fastener torque Nm	Fastener wrench mm	Moment of inertia $kgm^{-2} \times 10^{-8}$	Mass $kg \times 10^{-3}$	Corresponding Acetal (black) Disc ref
25	25.4	28.4	8.6	11.2	6 or 10	M3	2.43	2.5	252	31	236.25



Performance (at 20°C with standard acetal disc)

Coupling size	Peak torque Nm	Max compensation at 3000 rpm Angular deg	Radial mm	Axial mm	Torsional stiffness Nm/rad	Static break torque Nm
25	4	0.5	0.2	0.1	205	13

Ordering information

750858-01	Shaft coupling, Sliding disc type Ø 6 mm - Ø 6 mm set screw
750858-02	Shaft coupling, Sliding disc type Ø 10 mm - Ø 10 mm set screw
750858-03	Shaft coupling, Sliding disc type Ø 6 mm - Ø 10 mm set screw
750858-04	Shaft coupling, Sliding disc type Ø 11 mm - Ø 11 mm set screw

Other variants available upon request.

Table notes

Peak torque; Select a size where peak torque exceeds the application torque x service factor.
Couplers can provide up to (Ø D x 0.1) radial compensation in extreme cases.
Observe given values for maximum backlash-free life.
Axial compensation is set on installation.
Electrical isolation between shafts >3kV.
Values apply at 50% peak torque with no misalignment, measured shaft-to-shaft with largest standard bores.

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Couplings

Double loop coupling with steel hubs

- Maximum rotational speed 3000 rpm
- Electrical insulation between shafts
- Suitable for applications with low accuracy requirements

CE

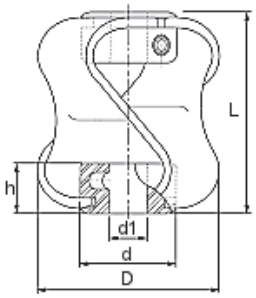
Technical data

Max rotational speed (rpm)	3000
Material and finishes; Hubs	Steel 230M07 Pb, zinc plated with clear passivate
Material and finishes; Double loop element	HYRTEL®
Temperature range (°C)	-40 .. +100

Dimensions

Coupling size	Max dia. D, mm	Ø d1 mm	Length L, mm	Hub height h, mm	Fastener size	Fastener torque, Nm	Fastener wrench, mm	Mass ka x 10^{-3}
20	48	6 or 10	48	12.70	M4	2.27	2	92

Size 20



Performance

Coupling size	Max torque Nm	Maximum misalignment /displacement Angular, deg	Radial, mm	Axial, mm
20	3	15	3.2	7.5

Ordering information

685589-02	Shaft coupling, Double loop type, Ø 6 mm - Ø 6 mm
685589-03	Shaft coupling, Double loop type, Ø 10 mm - Ø 10 mm

Table notes

Maximum torque at maximum displacement.
Maximum torque at displacement 1° angular, 2 mm axial, 0.5 mm radial.

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18 March 2013. Specifications can be changed without prior notice.