

# Couplings

## Properties of different shaft couplings



Coupling	Nickel bellows coupling	Membrane coupling	Sliding disc coupling (Oldham type)	Double loop coupling
<b>Description</b>	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.
<b>Areas of application</b>	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.
<b>Speeds</b>	Max 5000 rpm	Max 5000 rpm	Max 3000 rpm	Max 3000 rpm
<b>Max torque for a Ø 10 mm shaft coupling</b>	328 Ncm	5,6 Nm	4 Nm	1,8 Nm
<b>Max displacement compensation for a Ø 10 mm shaft coupling</b>	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
<b>Temperature</b>	-40°C .. +120°C	-40°C .. +120°C	-20°C .. +60°C	-40°C .. +100°C
<b>Electrical insulation</b>	No	No	Yes	Yes
<b>Type of fitting for encoder shaft</b>	Set screw	Clamping or set screw	Set screw	Set screw



Coupling	Stainless steel bellows coupling
<b>Description</b>	For optimal balance of misalignments, anti-vibration, and very large torsional stiffness.
<b>Areas of application</b>	High performance safety applications with runflat and mechanical redundancy.
<b>Speeds</b>	Max 10000 rpm
<b>Max torque for a Ø 10 mm shaft coupling</b>	200 Ncm
<b>Max displacement compensation for a Ø 10 mm shaft coupling</b>	Angle 3° Radial 0,3 mm Axial 0,45 mm
<b>Temperature</b>	-30°C .. +120°C
<b>Electrical insulation</b>	No
<b>Type of fitting for encoder shaft</b>	Set screw
<b>Runflat</b>	DIN6885

# Couplings

534024-01



534024-02



534024-03



## Bellow couplings

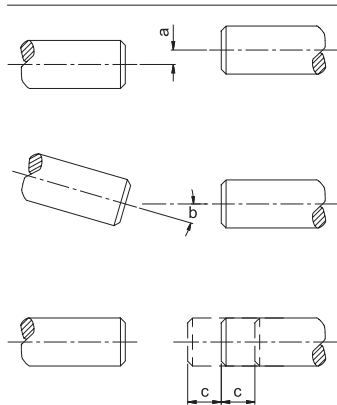
- High-performance precision coupling
- Excellent kinematic properties
- For applications with strict requirements for measurement accuracy



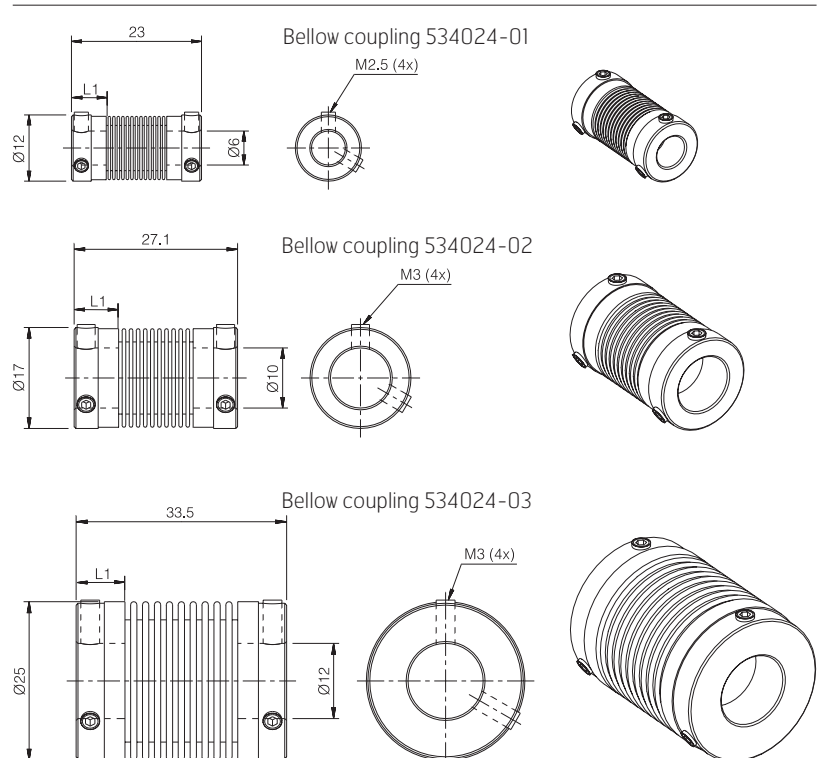
## Mechanical specification

Article 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	23	27,1	33,5
L1 Bore length	6	7	7
ØD Diameter	12	17	25
Key size	1,3	1,5	1,5
Moment of inertia (Kgm <sup>2</sup> )	1,85 x 10 <sup>-7</sup>	3,62 x 10 <sup>-7</sup>	16,1 x 10 <sup>-7</sup>
Weight	10 g	8,5 g	19,5 g
Max misalignment;			
Angular (b)	15°	10°	8°
Radial (a)	0,54 mm	0,43 mm	0,46 mm
Axial (c)	1,72 mm	1,78 mm	2,07 mm
Torsional rigidity	28 Nm/rad	102 Nm/rad	447 Nm/rad
Peak torque	13 Ncm	50 Ncm	328 Ncm

## Alignment



## Dimensions



# Couplings



534024-05



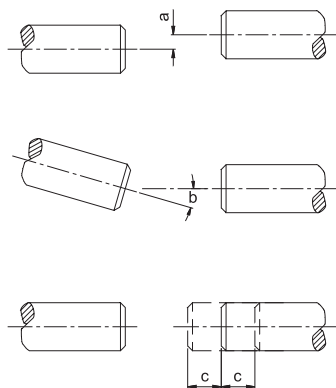
## Stainless steel Bellows couplings

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

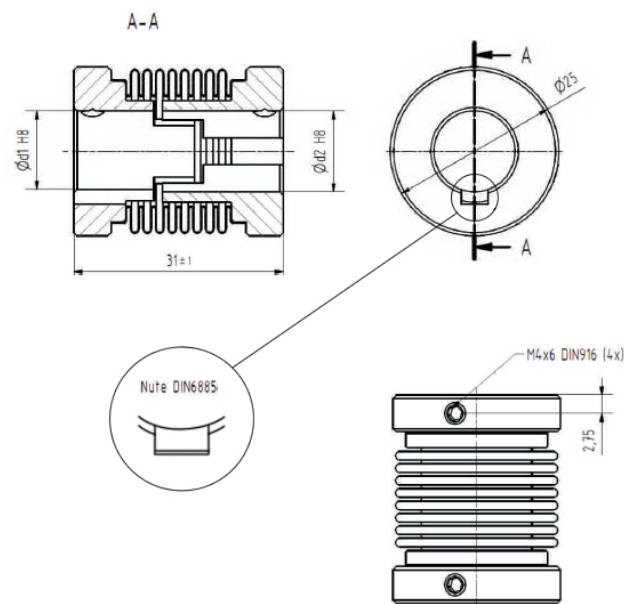
## Mechanical specification

Article number	534024-05
Bore diameter (mm)	11 - 11
Type	Set screw
Dimensions (mm);	
L Length	31
L1 Bore length	8
ØD Diameter	25
Key size	4
Moment of inertia (Kgm <sup>2</sup> )	$9,1 \times 10^{-7}$
Weight	54 g
Max misalignment;	
Angular (b)	3°
Radial (a)	0,3 mm
Axial (c)	0,45 mm
Torsional rigity	3 Nm/°
Peak torque	200 Ncm
Shaft insertion	min. 6 / max. 11

## Alignment



## Dimensions



# Couplings

46419 + 46433



46619 + 46633



46819 + 46833



47019 + 47033



## Membrane couplings

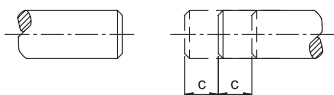
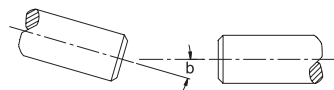
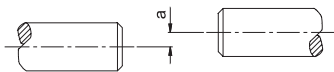
- Precision coupling with excellent kinematic properties
- Dynamically balanced construction
- For high-speed applications where exactness is required



## Mechanical specification

Article 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)	6 - 6	6 - 6	6 - 10 10 - 10	6 - 10 10 - 10	6 - 6	6 - 6	6 - 10 10 - 10	6 - 10 10 - 10
(Other bore diameters on request)			12 - 12	10 - 11 11 - 11			12 - 12	12 - 12 11 - 11
Type	Set screw	Clamp	Set screw	Clamp	Set screw	Clamp	Set screw	Clamp
Dimensions (mm);								
L Length	19,6	26,8	32,1	40,1	27,3	34,5	42,8	50,8
L1 Bore length	5,6	9,2	10,0	14,0	5,6	9,2	10,0	14,0
ØD Diameter	19,2	19,2	33,5	33,5	19,2	19,2	33,5	33,5
Key size	1,5	2,0	2,5	2,5	1,5	2,0	2,5	2,5
Moment of inertia (Kgm <sup>2</sup> )	5 x 10 <sup>-7</sup>	6 x 10 <sup>-7</sup>	80 x 10 <sup>-7</sup>	73 x 10 <sup>-7</sup>	6 x 10 <sup>-7</sup>	6 x 10 <sup>-7</sup>	83 x 10 <sup>-7</sup>	76 x 10 <sup>-7</sup>
Weight	10 g	13 g	52 g	51 g	12 g	14 g	55 g	55 g
Max misalignment;								
Angular (b)	4°	4°	3°	3°	4°	4°	3°	3°
Radial (a)	0,2 mm	0,2 mm	0,2 mm	0,2 mm	0,4 mm	0,4 mm	0,4 mm	0,4 mm
Axial (c)	± 0,2 mm	± 0,2 mm	± 0,2 mm	± 0,2 mm	± 0,2 mm	± 0,2 mm	± 0,2 mm	± 0,2 mm
Torsional rigidity	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

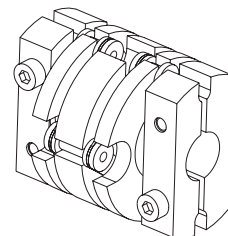
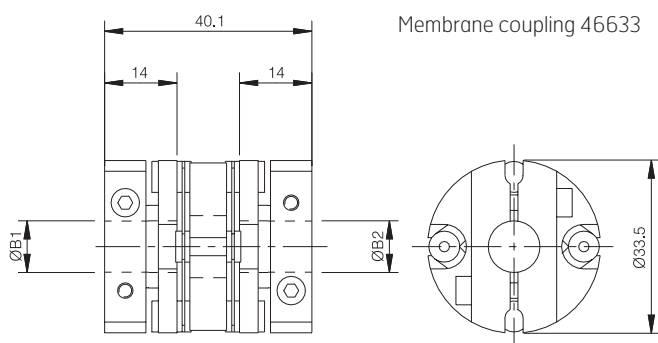
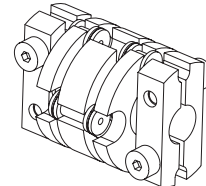
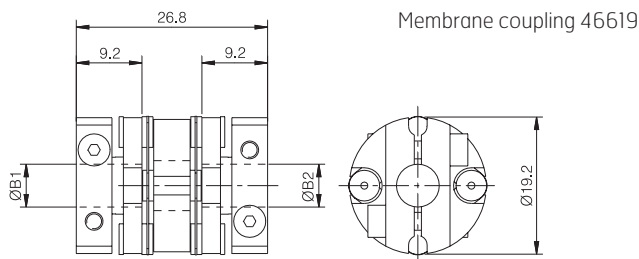
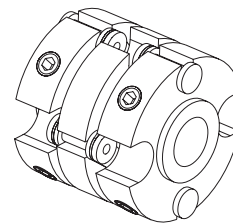
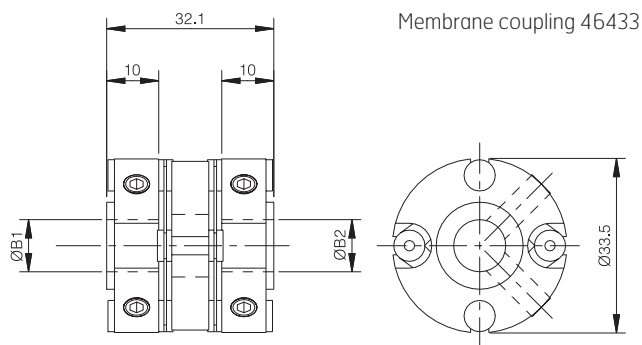
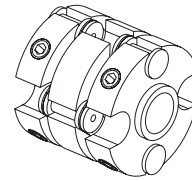
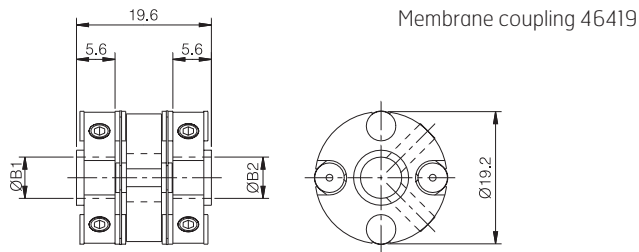
### Bore

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.

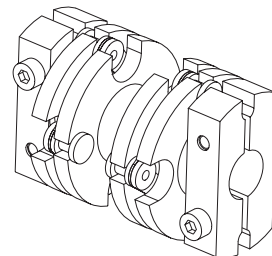
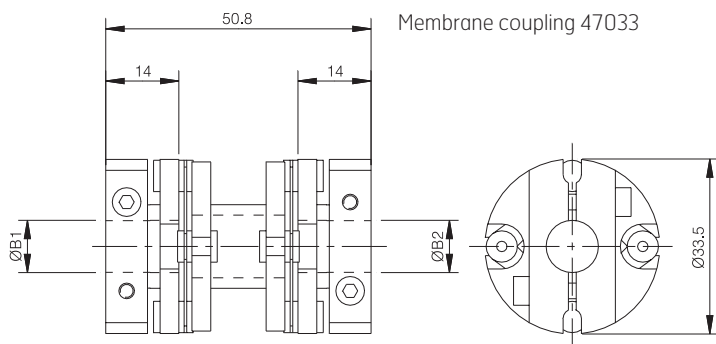
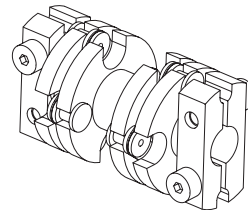
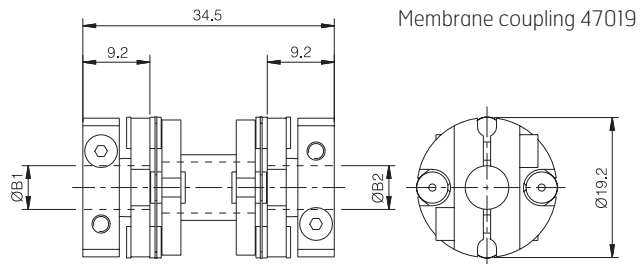
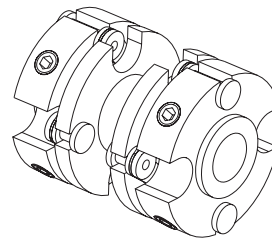
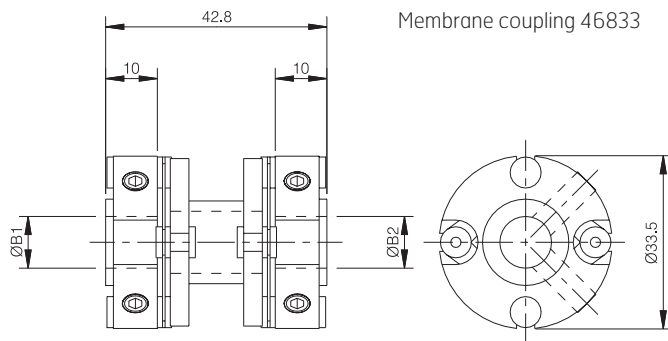
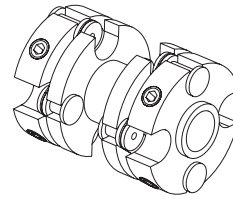
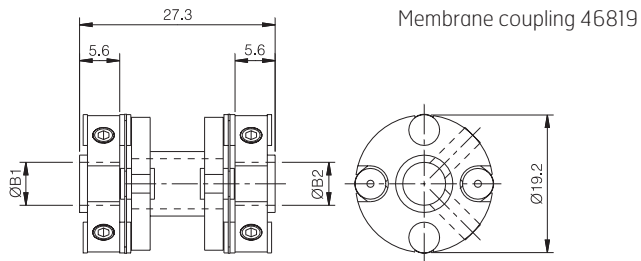
# Couplings

## Dimensions



# Couplings

## Dimensions



# Couplings



## Oldham coupling with set screw hubs

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

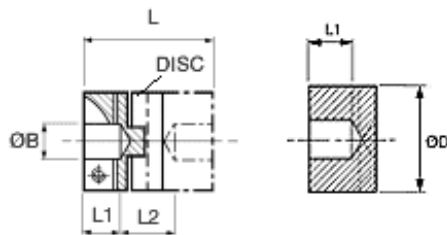


## Technical data

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 $\text{kgm}^{-2} \times 10^{-8}$	Mass $\text{kg} \times 10^{-3}$	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.

# Couplings



## Double loop coupling with steel hubs

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

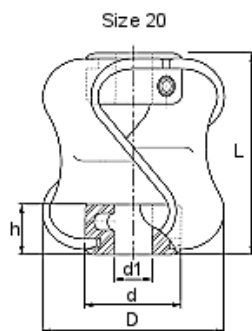


## Technical data

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 <sup>-3</sup>
20	48	6 or 10	48	12.70	M4	2.27	2	92



## 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.