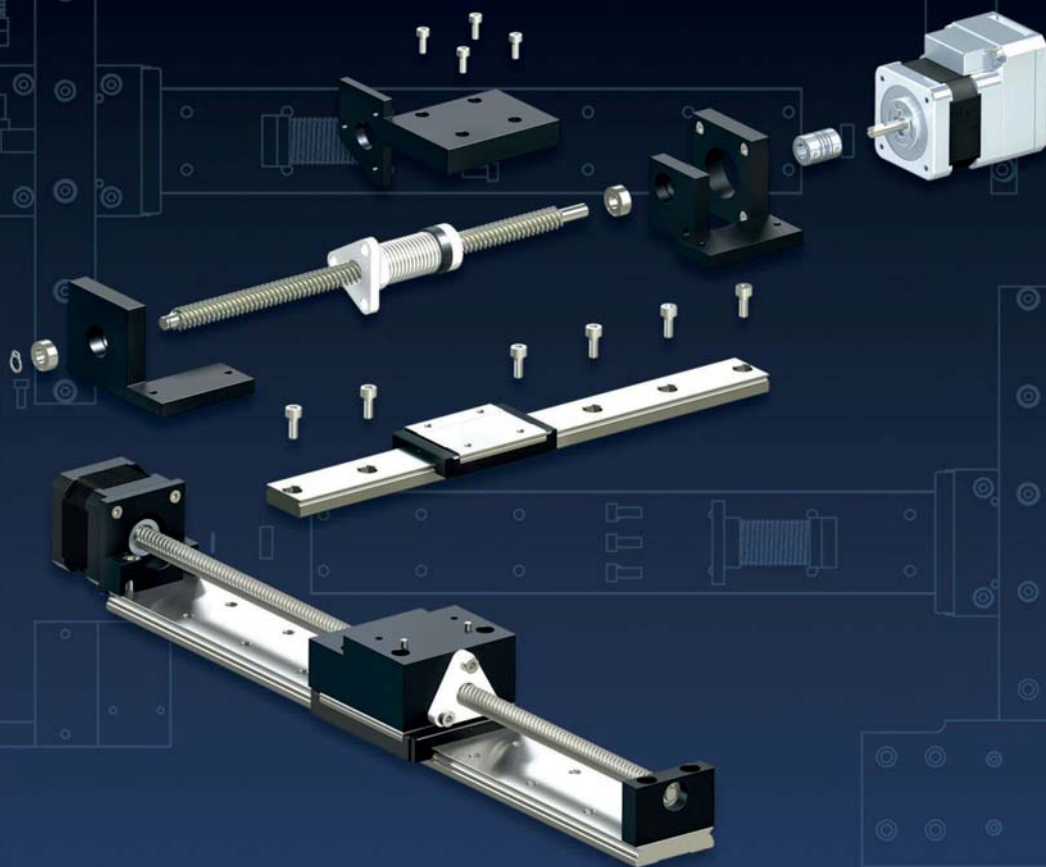








Reliance[®]

Precision Limited



Precise Motion Control Solutions
Flexible Shaft Couplings, Clutches and Collars

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Introduction to the range

In many cases machine designers give limited thought to the shaft coupling. They devote their time to the more expensive components, overlooking the fact that the performance of a machine is only as good as the connections of its shafts. Reliance is fully aware of the importance of the shaft coupling and that they are often a critical part of the drive system. The Reliance range of shaft couplings has been carefully designed and tested to provide trouble free operation over many millions of cycles.



Perfect alignment is not practical in applications where two shafts need to be joined and therefore some level of misalignment will always occur. This misalignment is usually the result of the support block manufacturing tolerances and structural alignment. Unless these tolerances are very precise use of a solid coupling will result in high shaft loading and significant bearing loads. In certain cases this misalignment is limited to angular or radial misalignments, but is more often a combination of the two. Therefore, careful shaft coupling selection is important as differing configurations of coupling are designed to perform very differently dependent upon the application, and, as a consequence, have very different benefits and drawbacks.

Reliance engineers have many years of experience working with and specifying shaft couplings and are very happy to offer applications advice on coupling selection.

Reli-a-Flex®

The Reli-a-Flex® range of couplings is an aluminium alloy, one piece configuration, which has been designed in-house at Reliance to provide very smooth transmission of motion, high torsional stiffness, low bearing loads, and long life. The patented slot pattern was developed after many months of analysis and test to provide the best balance between zero backlash, torsional stiffness and low bearing load, whilst attaining an operational life in excess of 50,000,000 cycles at rated load and 80% offset. With two sets of identical slots, the Reli-a-Flex® coupling is constant velocity by design and handles angular, parallel and axial offset. Available in sizes from 6 to 40 mm outside diameter and allowable speeds up to 70,000 rpm, the Reli-a-Flex® coupling provides a very reliable one piece coupling design that approaches the performance of a bellows coupling.

Also for customers that require a modified or completely bespoke Reli-a-Flex® coupling, Reliance has developed a unique computer-based design and performance prediction tool. This tool allows our engineers to experiment quickly with different coupling configurations and to design a coupling to meet either space envelope restrictions or performance requirements.

Oldham

Oldham couplings are ideal where high degrees of parallel misalignment are present, assembly access is restricted and electrical insulation is required. Their construction of aluminium alloy hubs and nylon or acetal centre blocks allows separate assembly of hubs onto shafts and then simple engagement with the centre block on assembly where shaft movement is restricted. In addition, the construction of the centre block allows it to act as a torque limiter or overload device.



Bellows

Maintenance free zero-backlash bellows couplings are available with three construction options: for highest accuracy, nickel bellows; for torque transmission, stainless steel bellows; and where space is restricted, bronze bellows are available down to 12 mm outer diameter. Shaft fixing options are both set screw and clamp for the stainless steel and nickel bellows options, with the brass bellows option available in clamp type only.

Flexible disc

A number of different options of flexible disc couplings are available, based on both single and double disc spring construction. Please note that single disc spring couplings should only be used where the misalignment between the shafts is restricted to angular and axial. Single disc spring couplings cannot be used where radial misalignments are present. The RFSXK-2213 and 3019 type uses a novel design which places the clamps inboard of the disc springs to give the shortest possible overall length. The RFSXK-3850 type has an extended centre piece which allows high radial misalignment capability whilst maintaining good accuracy of transmission.

Curved jaw

Curved jaw couplings are available with both set screw and clamp hub type fixing methods. They are an ideal solution for reducing system torque ripple with a choice of three damping elements for high, medium and low torques.

Spiral beam

Available in stainless steel or aluminium and with a clamp or set screw style fixing, spiral beam couplings are suitable for general applications. Manufactured in one piece, spiral beam couplings are also maintenance-free.

Friction clutches

Friction clutches are available with two spring types. For lower torques up to 30 Ncm, the wire compression spring type should be used. For higher torques up to 120 Ncm, the disc spring version is the ideal choice.

Radial tooth

Radial tooth couplings are self centering on assembly and can be used to transmit high torques. These couplings must not be used where radial and axial misalignments are present and may require light lubrication depending on the application conditions.

Solid

Stainless steel or aluminium solid couplings, in one or two piece construction, can be used for connecting two accurately aligned shafts. Screws are prevented from loosening during operation by precision honed bores and Nypatch anti-vibration hardware, providing superior holding strength.



Bespoke coupling designed for a medical dosing machine



Reli-a-Flex® - Unique design, maximises torsional stiffness without introducing high bearing loads. Chambered for ease of assembly.



Bellows - High accuracy, light duty. Maintenance free.



Flexible disc spring - Ideal for low torque applications requiring accuracy. Both external and internal hubs available.



Oldham - Large offset, designed to separate for assembly. Electrically insulating disc.



Membrane - Light duty, with an insulating fibreglass reinforced centre. Compact overall length. Zero backlash.



Curved jaw - Shock absorbing, low cost general purpose coupling, ideal for reducing torque ripple.



Spiral beam - Universal one piece coupling. Aluminium and stainless steel versions available.



Radial tooth - Positive connection, minimal axial misalignment.



Friction clutches - Variable torque settings. Gear manufactured to requirement.



Solid - One and two piece options. Excellent for accurately aligned shafts with high torque loads.



Clamp collars - No shaft marking, integral location face. One or two piece construction.



Custom Design - Designed and manufactured to suit your application, please contact us.



The couplings featured in this catalogue have been carefully selected to accommodate varying degrees of shaft misalignment whilst offering minimum distortion of rotation.

No one coupling provides a universal solution but the selection table below summarises the salient performance features for ease of comparison.

Full details for each coupling can be found on the product pages, with further technical information on [pages T8-1 to T8-4](#). If you require technical support please contact us to discuss your application and we will be happy to help you select an appropriate coupling.

Comparative star rating:
 ●●●● most suitable
 ● least suitable
 ☒ not applicable
 ■ please enquire

Coupling Feature Coupling Style	Electrically insulating	Vibration damping	High reliability	No inherent backlash	Torque capacity	Misalignment capability	Low bearing load	Accuracy	Price / performance
Reli-a-Flex®	■	●●	●●●●	●●●●	●●●●	●●●	●●●●	●●●	●●●●
Bellows	☒	●	●●●●	●●●●	●●●	●●●	●●●●	●●●●	●●
Flexible disc spring*	☒	●	●●●	●●●●	●●	●●	●●●*	●●●	●●
Oldham	●●●●	●●	●●●	☒	●●●	●●●●	●	●	●●●
Membrane	●●●●	●●●	●●	●●●●	●●	●●●	●●	●●	●●●
Curved jaw	●●●●	●●●	●●	☒	●●●●	●●	●	●	●●●
Spiral beam	☒	●●	●●	●●●	●●●	●●●	●●●	●●	●●●●
Radial tooth	☒	☒	●●●	●●	●●●●	☒	●	●	●●
Friction clutches	☒	●	☒	☒	■	☒	■	☒	●●
Solid	☒	☒	●●●●	●●●●	●●●●	☒	●	●●●●	●●●●

*single disc suitable for angular offset only



Reli-a-Flex®, specifically designed and manufactured by Reliance to:

- **Improve system accuracy**






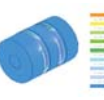
The Reli-a-Flex® coupling provides excellent kinematic transfer of motion with high torsional stiffness, zero backlash and constant velocity.

- **Extend system life**

The Reli-a-Flex® coupling introduces negligible radial and axial bearing loads, extending system life.



The range of Reli-a-Flex® flexible shaft couplings

	Short or Long	<ul style="list-style-type: none"> • RCS type (short) where space is limited • RCL type (long) where greater parallel offset and greater accuracy are required
	Reli-a-Grip™	<ul style="list-style-type: none"> • The Reli-a-Grip™ clamp enables Reli-a-Flex® coupling to be used to its full potential. Greater torques can be transmitted without the need to use set screws, which can potentially damage the shaft
	Precision or Micro	<ul style="list-style-type: none"> • Precision coupling with outer diameters from 13 to 25 mm • Micro coupling with outer diameters from 6 to 10 mm
	Clamp or Set screw	<ul style="list-style-type: none"> • Clamp type leaves shafts unmarked • Set screw type where higher speeds are required
	Electrically insulated	<ul style="list-style-type: none"> • Protects delicate instruments from powered drive • Available with selected bores on RCL type aluminium couplings, sizes 20 and 25
	Custom designs	<ul style="list-style-type: none"> • Predictable performances • Available with outer diameters from 6 to 40 mm • Alternative materials may be specified

Please enquire

Please enquire

Patented Reli-a-Flex®

UK Number 2316735
 US Number 6,203,437 B1
 European Number EP 0922168 B1
 Japanese Number 4,083,227



Picture perfect scanning with Reli-a-Flex® coupling

With the latest advances in digital optical scanning speed, professional flatbed scanner manufacturers are demanding more accuracy from their drive systems. A European company with leading edge technology in drum and flatbed scanners, image setting and integrated media processor products uses Reli-a-Flex® couplings in all their flatbed products. With XY technology, speeds of up to 50 scans per hour and resolutions of up to 5400 dpi, the accuracy and reliability of the Reli-a-Flex® coupling makes it the ideal choice.

Prior to the introduction of the Reli-a-Flex® coupling slight variations in the speed of the CCD element caused errors when trying to capture high resolution images. These errors manifest themselves as a colour registration defect, which resulted in an unacceptable banding effect across the image. Although these errors were small (typically 3.0 microns) they could easily be detected by the naked eye.

The cause of these errors was identified as the flatbed drive system. Introduction of a Reli-a-Flex® coupling manufactured from low inertia Grade 7075-T6 Aluminium was instrumental in bringing these registration defects under control. The unique slit pattern with radial rather than spiral slits gives the Reli-a-Flex® coupling high torsional stiffness and unsurpassed accuracy. However, with Reli-a-Flex® couplings high torsional stiffness does not mean high bearing loads, the Reli-a-Flex® coupling slit pattern has been carefully designed to give low bearing loads in conjunction with its high torsional stiffness.

Having been tested to 50 million cycles at rated torque, the Reli-a-Flex® coupling is also ideal for high duty cycle applications such as busy printing and typesetting applications. All in all the Reli-a-Flex® coupling has proved itself to be ideal for accurate positioning and responsive servo systems.



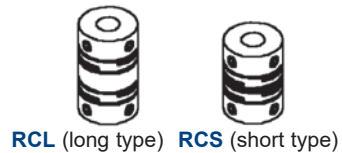
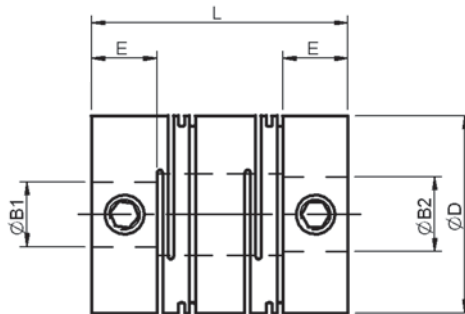


**1.5 - 5 mm
Bore**

Micro Reli-a-Flex® Couplings

All dimensions in mm
General tolerances ± 0.13 mm
Material: Aluminium alloy grade 7075-T6
Finish: Alocrom 1000

Associated Products
Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)



**Couplings
and Collars**

Part number selection table

Example Part No:- RCS A 8 - 4-2				Dimensions (mm)			
Basic Part No	Material	Size	Standard Bore Sizes ØB1 and ØB2 (bore tolerance +0.010/-0.000)	O/D ØD	Length L	Hub Length E	Fitted Screw
RCS (short)	A	6	1.5 2 3	6.0	9.35	2.80	M1.2*
		8	2 3 4	8.0	11.70	3.20	M1.6
		10	3 4 5	10.0	13.65	4.00	M2
RCL (long)	A	6	1.5 2 3	6.0	12.50	2.80	M1.2*
		8	2 3 4	8.0	14.50	3.20	M1.6
		10	3 4 5	10.0	17.00	4.00	M2

Maximum shaft intrusion when fitted = E+2 mm.

* Coupling fitted with stainless steel slotted head set screws.

Note: bores may be left unalocromed.

i Product options

- Alternative bore sizes
- Imperial bores
- Alternative materials
- Custom designs - see [page 8-16](#)
- Product overview - see [pages 8-2 to 8-7](#)
- Selected items in stock, at reduced prices - see [page 8-17](#)



Technical specification

Basic Part No	Material	Size	Torsional ¹ Stiffness Nm/rad	Radial Compliance microns/N	Misalignment			Max Inertia gcm ²	Max Mass g
					Parallel mm	Angular deg	Axial mm		
RCS (short)	A	6	4.19	21.0	±0.02	±1.7	±0.06	0.03	0.65
		8	8.70	35.0	±0.05	±2.0	±0.10	0.11	1.27
		10	16.80	28.0	±0.06	±2.0	±0.17	0.33	2.34
RCL (long)	A	6	4.30	79.0	±0.04	±1.7	±0.06	0.05	0.95
		8	8.70	102.0	±0.10	±2.0	±0.10	0.15	1.66
		10	16.81	83.0	±0.12	±2.0	±0.17	0.43	3.05

Specifications vary according to bore size. For exact figures, please enquire.

¹ Typical torsional stiffness.

Torque and speed capacity

Basic Part No	Material	Size	Typical Torque Capacity			Max Speed rpm
			Reversing Nm	Non Reversing Nm	Peak Nm	
RCS (short)	A	6	0.10	0.15	0.25	70,000
		8	0.20	0.30	0.50	40,000
		10	0.30	0.45	0.75	35,000
RCL (long)	A	6	0.10	0.15	0.25	32,000
		8	0.20	0.30	0.50	24,000
		10	0.30	0.45	0.75	22,000

Specifications vary according to bore size. For exact figures, please enquire.

? Technical support

- Zero backlash, reliable one-piece construction
- Unique design maximises torsional stiffness without inducing high bearing loads
- Minimal velocity and positional fluctuations
- Over 50,000,000 test cycles at rated load and 80% offset without failure
- Maintenance free
- Recommended temperature range -80°C to +80°C
- Technical information - see [page T8-1](#)
- Installation information - see [page T8-3](#)



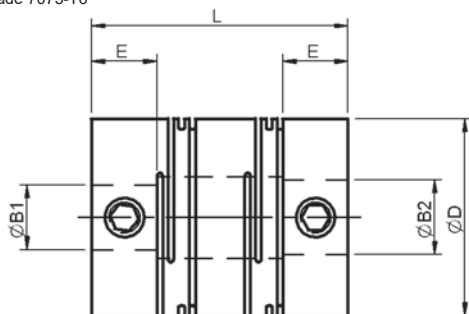


3 - 20 mm Bore

Reli-a-Flex® Precision Couplings Set Screw Type

All dimensions in mm
General tolerances ± 0.13 mm
Material: Aluminium alloy grade 7075-T6
Finish: Alocrom 1000

Associated Products
Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)



RCL (long type) **RCS** (short type)

Couplings are chambered for ease of assembly and fitted with stainless steel screws.

Part number selection table

Example Part No:- RCS A 20 - 8-5				Dimensions (mm)			
Basic Part No	Material	Size	Standard Bore Sizes ØB1 and ØB2 (bore tolerance +0.020/-0.000)	O/D ØD	Length L	Hub Length E	Fitted Screw
RCS (short)	A	13	3 4 5 6	13.0	16.80	5.00	M2.5
		16	4 5 6 8	16.0	19.75	5.90	M3
		20	5 6 8 10	20.0	21.50	6.60	M4
		25	6 8 10 12	25.0	25.80	7.60	M5
		30	8 10 12 15	30.0	30.30	9.10	M6
		40	10 12 15 20	40.0	35.95	10.60	M8
RCL (long)	A	13	3 4 5 6	13.0	20.00	5.00	M2.5
		16	4 5 6 8	16.0	23.50	5.90	M3
		20	5 6 8 10	20.0	26.00	6.60	M4
		25	6 8 10 12	25.0	34.00	7.60	M5
		30	8 10 12 15	30.0	44.00	9.10	M6
		40	10 12 15 20	40.0	57.00	10.60	M8

Maximum shaft intrusion when fitted = E+2 mm. Note: bores may be left unalocromed.

i Product options

- Alternative bore sizes
- Imperial bores
- Alternative materials
- Electrically insulated, sizes 20 and 25
- Reli-a-Grip™ clamp type - see [page 8-14](#)
- Custom designs - see [page 8-16](#)
- Product overview - see [pages 8-2 to 8-7](#)
- Selected items in stock, at reduced prices - see [page 8-17](#)

Technical specification

Basic Part No	Material	Size	Torsional ¹ Stiffness Nm/rad	Radial Compliance microns/N	Misalignment			Max Inertia gcm ²	Max Mass g
					Parallel mm	Angular deg	Axial mm		
RCS (short)	A	13	45.00	29.2	±0.08	±2.5	±0.30	1.1	4.74
		16	67.00	28.9	±0.10	±2.5	±0.40	3.0	8.42
		20	107.50	23.4	±0.12	±3.0	±0.50	8.8	14.62
		25	173.60	20.0	±0.16	±3.0	±0.70	24.0	27.50
		30	246.10	15.4	±0.20	±3.5	±0.85	58.0	45.98
		40	465.20	13.4	±0.25	±3.5	±1.25	220.0	97.30
RCL (long)	A	13	53.50	64.3	±0.15	±2.5	±0.30	1.3	5.83
		16	81.00	65.1	±0.20	±2.5	±0.40	3.6	10.33
		20	130.00	62.0	±0.25	±3.0	±0.50	9.9	18.20
		25	216.10	82.2	±0.40	±3.0	±0.70	33.0	38.40
		30	315.10	85.0	±0.60	±3.5	±0.85	89.0	71.82
		40	606.20	89.0	±0.95	±3.5	±1.25	370.0	168.57

Specifications vary according to bore size. For exact figures, please enquire. ¹ Typical torsional stiffness.

Torque and speed capacity

Basic Part No	Material	Size	Typical Torque Capacity			Max Speed rpm
			Reversing Nm	Non Reversing Nm	Peak Nm	
RCS (short)	A	13	0.50	0.70	1.20	30,000
		16	0.75	1.15	1.90	25,000
		20	1.30	1.95	3.25	20,000
		25	2.05	3.10	5.20	15,000
		30	2.90	4.40	7.35	11,000
		40	5.50	8.30	13.80	6,500
RCL (long)	A	13	0.50	0.70	1.20	20,000
		16	0.75	1.15	1.90	17,000
		20	1.30	1.95	3.25	15,000
		25	2.05	3.10	5.20	12,000
		30	2.90	4.40	7.35	10,000
		40	5.50	8.30	13.80	6,500

Specifications vary according to bore size. For exact figures, please enquire.

? Technical support

- Zero backlash, reliable one-piece construction
- Unique design maximises torsional stiffness without inducing high bearing loads
- Minimal velocity and positional fluctuations
- Over 50,000,000 test cycles at rated load and 80% offset without failure
- Maintenance free
- Recommended temperature range -80°C to +80°C
- Technical information - see [page T8-1](#)
- Installation information - see [page T8-3](#)



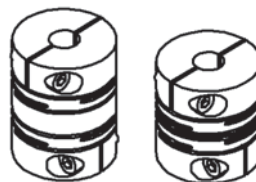
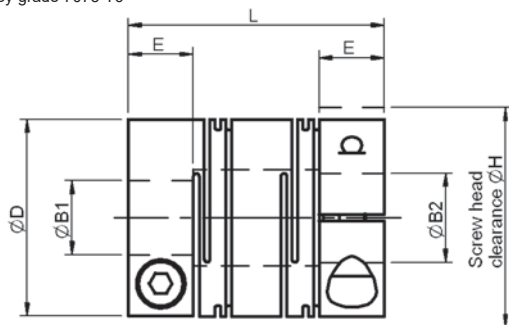


3 - 20 mm Bore

Reli-a-Flex® Precision Couplings Clamp Type

All dimensions in mm
General tolerances ± 0.13 mm
Material: Aluminium alloy grade 7075-T6
Finish: Alocrom 1000

Associated Products
Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)



RCL (long type) **RCS** (short type)

Couplings are chambered for ease of assembly and fitted with stainless steel screws.

Part number selection table

Example Part No:- RCS A 20C - 8-5				Dimensions (mm)				
Basic Part No	Material	Size	Standard Bore Sizes ØB1 and ØB2 (bore tolerance +0.020/-0.000)	O/D ØD	ØH	Length L	Hub Length E	Fitted Screw
RCS (short)	A	13C	3 4 5 6	13.0	14.5	16.80	5.00	M1.6
		16C	3 4 5 6 8	16.0	18.0	19.75	5.90	M2
		20C	4 5 6 8 10	20.0	21.8	21.50	6.60	M2.5
		25C	5 6 8 10 12	25.0	26.9	25.80	7.60	M3
		30C	6 8 10 12 15	30.0	32.3	30.30	9.10	M4
		40C	8 10 12 15 20	40.0	41.0	35.95	10.60	M5
RCL (long)	A	13C	3 4 5 6	13.0	14.5	20.00	5.00	M1.6
		16C	3 4 5 6 8	16.0	18.0	23.50	5.90	M2
		20C	4 5 6 8 10	20.0	21.8	26.00	6.60	M2.5
		25C	5 6 8 10 12	25.0	26.9	34.00	7.60	M3
		30C	6 8 10 12 15	30.0	32.3	44.00	9.10	M4
		40C	8 10 12 15 20	40.0	41.0	57.00	10.60	M5

Maximum shaft intrusion when fitted = E+2 mm. Note: bores may be left unalocromed.

i Product options

- Alternative bore sizes
- Imperial bores
- Alternative materials
- Electrically insulated, sizes 20 and 25
- Set screw fixing
- Reli-a-Grip™ clamp type - see [page 8-14](#)
- Custom designs - see [page 8-16](#)
- Product overview - see [pages 8-2 to 8-7](#)
- Selected items in stock, at reduced prices - see [page 8-17](#)



Technical specification

Basic Part No	Material	Size	Torsional ¹ Stiffness Nm/rad	Radial Compliance microns/N	Misalignment			Max Inertia g.cm ²	Max Mass g
					Parallel mm	Angular deg	Axial mm		
RCS (short)	A	13C	45.00	29.2	±0.08	±2.5	±0.30	1.0	4.4
		16C	67.00	28.9	±0.10	±2.5	±0.40	2.9	8.2
		20C	107.50	23.4	±0.12	±3.0	±0.50	7.8	14.3
		25C	177.60	20.0	±0.40	±3.0	±0.70	23.0	27.5
		30C	258.10	15.4	±0.60	±3.5	±0.85	55.0	46.4
		40C	481.20	13.4	±0.95	±3.5	±1.25	200.0	97.2
RCL (long)	A	13C	53.50	64.3	±0.15	±2.5	±0.30	1.2	5.5
		16C	81.00	65.1	±0.20	±2.5	±0.40	3.2	10.1
		20C	133.00	62.0	±0.25	±3.0	±0.50	9.0	18.7
		25C	223.10	82.2	±0.40	±3.0	±0.70	31.0	38.5
		30C	330.60	85.0	±0.60	±3.5	±0.85	86.0	72.6
		40C	627.30	89.0	±0.95	±3.5	±1.25	350.0	168.7

Specifications vary according to bore size. For exact figures, please enquire.

¹ Typical torsional stiffness.

Torque and speed capacity

Basic Part No	Material	Size	Typical Torque Capacity			Max Speed rpm
			Reversing Nm	Non Reversing Nm	Peak Nm	
RCS (short) or RCL (long)	A	13C	0.35	0.55	0.80	12,000
		16C	0.55	0.85	1.25	10,000
		20C	0.95	1.45	2.45	7,500
		25C	1.55	2.35	3.90	5,000
		30C	2.40	3.65	5.50	3,800
		40C	4.40	6.65	11.10	2,000

Specifications vary according to bore size. For exact figures, please enquire.

? Technical support

- Zero backlash, reliable one-piece construction
- Unique design maximises torsional stiffness without inducing high bearing loads
- Minimal velocity and positional fluctuations
- Over 50,000,000 test cycles at rated load and 80% offset without failure
- Maintenance free
- Recommended temperature range -80°C to +80°C
- Technical information - see [page T8-1](#)
- Installation information - see [page T8-3](#)





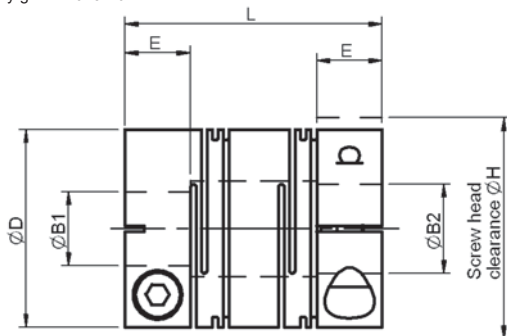
3 - 12 mm Bore

Reli-a-Flex® Precision Couplings

Reli-a-Grip™ Clamp

All dimensions in mm
General tolerances ± 0.13 mm
Material: Aluminium alloy grade 7075-T6
Finish: Alocrom 1000

Associated Products
Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)



RCL (long type) **RCS** (short type)

Couplings are chambered for ease of assembly and fitted with stainless steel screws.

Part number selection table

Example Part No:- RCS A 20G - 8-5					Dimensions (mm)				
Basic Part No	Material	Size	Standard Bore Sizes ØB1 and ØB2 (bore tolerance +0.020/-0.000)		O/D ØD	ØH	Length L	Hub Length E	Fitted Screw
RCS (short)	A	13G	3	4 5 6	13.0	14.5	16.80	5.00	M1.6
		16G	3	4 5 6 8	16.0	18.0	19.75	5.90	M2
		20G	4	5 6 8 10	20.0	21.8	21.50	6.60	M2.5
		25G	5	6 8 10 12	25.0	26.9	25.80	7.60	M3
RCL (long)	A	13G	3	4 5 6	13.0	14.5	20.00	5.00	M1.6
		16G	3	4 5 6 8	16.0	18.0	23.50	5.90	M2
		20G	4	5 6 8 10	20.0	21.8	26.00	6.60	M2.5
		25G	5	6 8 10 12	25.0	26.9	34.00	7.60	M3

Maximum shaft intrusion when fitted = $E+2$ mm.
Note: bores may be left unalocromed.

i Product options

- Alternative bore sizes
- Imperial bores
- Alternative materials
- Electrically insulated
- Custom designs - see [page 8-16](#)
- Product overview - see [pages 8-2 to 8-7](#)

Technical specification

Basic Part No	Material	Size	Torsional Stiffness Nm/rad	Radial Compliance microns/N	Misalignment			Max Inertia gcm ²	Max Mass g
					Parallel mm	Angular deg	Axial mm		
RCS (short)	A	13G	45.00	29.2	±0.08	±2.5	±0.30	1.0	4.4
		16G	70.00	28.9	±0.10	±2.5	±0.40	2.9	8.6
		20G	115.00	23.4	±0.12	±3.0	±0.50	7.9	14.9
		25G	182.00	20.0	±0.16	±3.0	±0.70	23.0	27.5
RCL (long)	A	13G	53.50	64.3	±0.15	±2.5	±0.30	1.2	5.5
		16G	84.00	65.1	±0.20	±2.5	±0.40	3.3	10.6
		20G	139.00	62.0	±0.25	±3.0	±0.50	9.0	18.7
		25G	227.00	82.2	±0.40	±3.0	±0.70	31.0	38.5

Specifications vary according to bore size. For exact figures, please enquire.

¹ Typical torsional stiffness.

Torque and speed capacity

Basic Part No	Material	Size	Typical Torque Capacity			Max Speed rpm
			Reversing Nm	Non Reversing Nm	Peak Nm	
RCS (short) or RCL (long)	A	13G	0.45	0.60	0.70	12,000
		16G	0.75	1.15	1.65	10,000
		20G	1.30	1.95	3.25	7,500
		25G	2.05	3.10	5.20	5,000

Specifications vary according to bore size. For exact figures, please enquire.

? Technical support

- Zero backlash, reliable one-piece construction
- Unique design maximises torsional stiffness without inducing high bearing loads
- Minimal velocity and positional fluctuations
- Over 50,000,000 test cycles at rated load and 80% offset without failure
- Maintenance free
- Recommended temperature range -80°C to +80°C
- Technical information - see [page T8-1](#)
- Installation information - see [page T8-3](#)



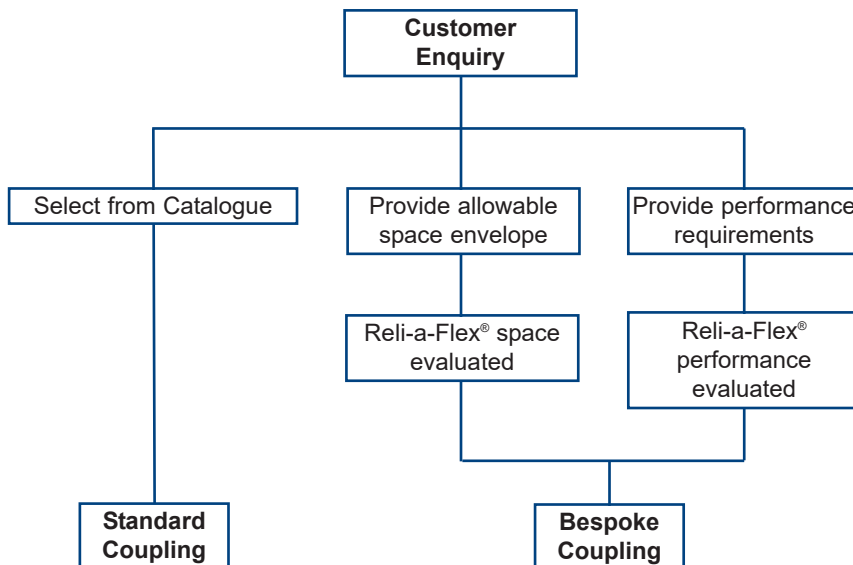


Bespoke designs

The Reli-a-Flex® coupling can be customised to suit individual applications. For example, special interfaces can be incorporated into the design to allow easier interaction between the coupling and other components within the assembly. Alternative materials such as PEEK polymer and other plastics are available.

Reliance's design engineers can predict the achievable performance of Reli-a-Flex® confidently when provided with details of the allowable space envelope.

Please contact us to discuss your requirements.





Stocked range of Reli-a-Flex® couplings

The range of couplings below is held in stock and available on short delivery at reduced prices. It is subject to change from time to time, please visit our website at www.reliance.co.uk/shop for the latest details.

Long type

Size 6

RCLA6-1.5-1.5
RCLA6-3-1.5

Size 8

RCLA8-2-2
RCLA8-3-3

Size 10

RCLA10-0.250-0.250
RCLA10-5-5

Size 13

RCLA13-0.250-0.250
RCLA13-4-4
RCLA13-6-5
RCLA13C-4-2
RCLA13C-4-4
RCLA13C-6-6

Size 16

RCLA16C-4-4
RCLA16C-5-4
RCLA16C-6-6

Size 20

RCLA20C-6-6
RCLA20C-8-8
RCLA20C-10-10
RCLA20C-0.250-0.250
RCLA20C-0.250-5
RCLA20C-0.250-6

Size 25

RCLA25C-6-6
RCLA25C-8-8
RCLA25C-10-10
RCLA25C-0.250-0.250
RCLA25C-0.375-0.375
RCLA25C-0.500-0.500

Short type

Size 6

RCSA6-1.5-1.5
RCSA6-3-1.5

Size 8

RCSA8-2-2
RCSA8-3-3

Size 10

RCSA10-5-3
RCSA10-5-5

Size 13

RCSA13-4-4
RCSA13-5-3
RCSA13-0.250-0.250
RCSA13C-3-3
RCSA13C-5-5

Size 16

RCSA16C-6-6
RCSA16C-0.250-5

Size 20

RCSA20C-6-5
RCSA20C-6-6
RCSA20C-8-8
RCSA20C-10-10

Size 25

RCSA25C-6-5
RCSA25C-6-6
RCSA25C-8-6
RCSA25C-8-8

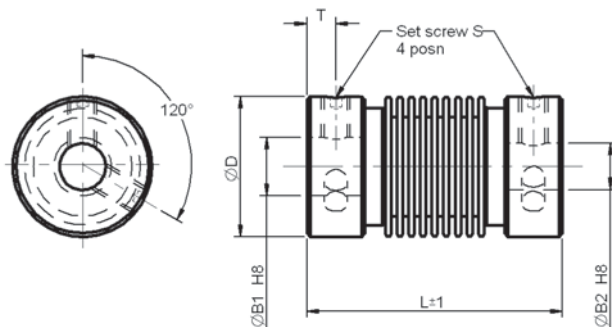


3 - 16 mm Bore

Bellows Couplings Set Screw Hub

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: page 11-2
Bearings: page 12-1
Leadscrews: page 7-1
Intelligent motors: page 2-2



H8	
Bore Size	Tolerance
3	+0.014
4	+0.018
5	
6	
8	+0.022
10	
12	+0.027
14	
16	

Couplings
and Collars

Part number selection table

Part Number	Hub Material	Bellows Material	Bore ØB1	Bore ØB2	O/D ØD	Length L	Screw Position T	Screw Thread S
RBKBS-1222-03-03	Brass (Nickel Plated)	Bronze (Nickel Plated)	3	3	12	22	2.2	M2.5
RBKBS-1222-04-04			4	4				
RBKBS-1222-06-04			6	4				
RBKBS-1222-05-05			5	5				
RBKBS-1222-06-06			6	6				
RBKXS-1520-03-03	Aluminium (Anodised)	Stainless steel	3	3	15	20	2.0	M3
RBKXS-1520-04-04			4	4				
RBKXS-1520-05-04			5	4				
RBKXS-1520-05-05			5	5				
RBKXS-1520-06-06			6	6				
RBKXS-1522-03-03	Aluminium (Anodised)	Stainless steel	3	3	15	22	2.0	M3
RBKXS-1522-04-04			4	4				
RBKXS-1522-05-04			5	4				
RBKXS-1522-05-05			5	5				
RBKXS-1522-06-06			6	6				
RBKXS-1525-03-03	Aluminium (Anodised)	Stainless steel	3	3	15	25	2.0	M3
RBKXS-1525-04-04			4	4				
RBKXS-1525-05-04			5	4				
RBKXS-1525-05-05			5	5				
RBKXS-1525-06-06			6	6				
RBKXS-1924-04-04	Aluminium (Anodised)	Stainless steel	4	4	19	24	2.0	M3
RBKXS-1924-05-05			5	5				
RBKXS-1924-06-06			6	6				
RBKXS-1924-08-08			8	8				
RBKXS-1924-10-10			10	10				

Part number selection table continued

Part Number	Hub Material	Bellows Material	Bore ØB1	Bore ØB2	O/D ØD	Length L	Screw Position T	Screw Thread S
RBKXS-2029-04-04	Aluminium (Anodised)	Stainless steel	4	4	20	29	3.2	M4
RBKXS-2029-06-04			6	4				
RBKXS-2029-06-06			6	6				
RBKXS-2029-10-06			10	6				
RBKXS-2029-08-08			8	8				
RBKXS-2029-10-10			10	10				
RBKXS-2029-12-10	Aluminium (Anodised)	Stainless steel	12	10	20	35	3.2	M4
RBKXS-2029-12-12			12	12				
RBKXS-2035-04-04			4	4				
RBKXS-2035-06-04			6	4				
RBKXS-2035-06-06			6	6				
RBKXS-2035-10-06			10	6				
RBKXS-2035-08-08			8	8				
RBKXS-2035-10-10			10	10				
RBKXS-2035-12-10	Aluminium (Anodised)	Stainless steel	12	10	25	26	2.8	M4
RBKXS-2526-06-06			6	6				
RBKXS-2526-08-08			8	8				
RBKXS-2526-10-10			10	10				
RBKXS-2526-12-12			12	12				
RBKXS-2526-14-14			14	14				
RBKXS-2526-16-16			16	16				

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
1222	10,000	15	±0.20	±0.40	±2.5	45	30	1.8	50	8.0
1520		40	±0.20	±0.40	±3.0	90	40	2.0	70	6.0
1522		40	±0.25	±0.45	±4.0	85	20	2.1	70	6.5
1525		40	±0.30	±0.50	±4.0	70	15	2.3	70	7.0
1924		80	±0.25	±0.40	±4.0	150	25	7.0	70	10.0
2029		80	±0.25	±0.40	±4.0	150	25	8.0	150	15.0
2035		80	±0.30	±0.50	±4.0	140	10	9.0	150	16.0
2526		200	±0.30	±0.40	±4.0	220	45	19.0	100	17.5

Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Complete absorption of eccentricity, angularity and end play by spring action of the bellows
- Maintenance free
- Recommended temperature range -30°C to +120°C
- Product overview - see [pages 8-2 to 8-7](#)
- Technical information - see [page T8-1](#)



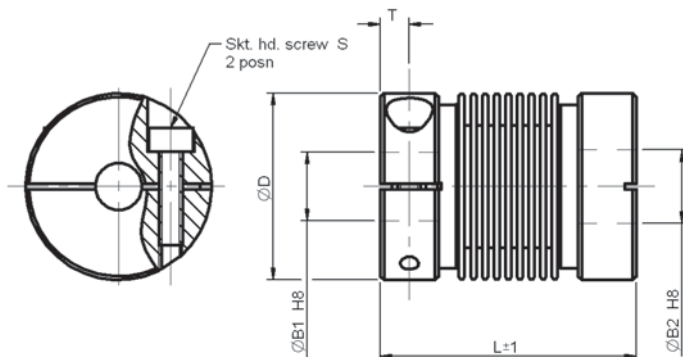


3 - 16 mm Bore

Bellows Couplings Clamp Hub

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: page 11-2
Bearings: page 12-1
Leadscrews: page 7-1
Intelligent motors: page 2-2



H8	
Bore Size	Tolerance
3	+0.014
4	
5	+0.018
6	
8	
10	+0.022
12	
14	+0.027
16	

Couplings
and Collars

Part number selection table

Part Number	Hub Material	Bellows Material	Bore ØB1	Bore ØB2	O/D ØD	Length L	Screw Position T	Screw Thread S
RBKXX-1622-03-03	Aluminium (Anodised)	Stainless steel	3	3	16	22	2.3	M2
RBKXX-1622-04-04			4	4				
RBKXX-1622-05-04			5	4				
RBKXX-1622-06-04			6	4				
RBKXX-1622-05-05			5	5				
RBKXX-1622-06-06			6	6				
RBKXX-1624-03-03	Aluminium (Anodised)	Stainless steel	3	3	16	24	2.3	M2
RBKXX-1624-06-03			6	3				
RBKXX-1624-04-04			4	4				
RBKXX-1624-05-04			5	4				
RBKXX-1624-06-04			6	4				
RBKXX-1624-05-05			5	5				
RBKXX-1624-06-06			6	6				
RBKXX-1627-03-03	Aluminium (Anodised)	Stainless steel	3	3	16	27	2.3	M2
RBKXX-1627-06-03			6	3				
RBKXX-1627-04-04			4	4				
RBKXX-1627-05-04			5	4				
RBKXX-1627-05-05			5	5				
RBKXX-1627-06-06			6	6				
RBKXX-2129-06-06	Aluminium (Anodised)	Stainless steel	6	6	21	29	3.0	M2.5
RBKXX-2129-10-06			10	6				
RBKXX-2129-08-08			8	8				
RBKXX-2129-10-10			10	10				

Part number selection table continued

Part Number	Hub Material	Bellows Material	Bore	Bore	O/D	Length	Screw Position	Screw Thread
			ØB1	ØB2	ØD	L	T	S
RBKXX-2135-06-06 RBKXX-2135-10-06 RBKXX-2135-08-08 RBKXX-2135-10-10	Aluminium (Anodised)	Stainless steel	6	6	21	35	3.0	M2.5
			10	6				
			8	8				
			10	10				
RBKXX-2429-12-06 RBKXX-2429-12-10 RBKXX-2429-12-12	Aluminium (Anodised)	Stainless steel	12	6	24	29	3.0	M2.5
			12	10				
			12	12				
RBKXX-2435-12-06 RBKXX-2435-12-10 RBKXX-2435-12-12	Aluminium (Anodised)	Stainless steel	12	6	24	35	3.0	M2.5
			12	10				
			12	12				
RBKXX-3030-12-10 RBKXX-3030-12-12 RBKXX-3030-14-14 RBKXX-3030-16-16	Aluminium (Anodised)	Stainless steel	12	10	30	30	3.0	M3
			12	12				
			14	14				
			16	16				

Technical specifications

Size Ref	Max Speed	Max Torque	Misalignment			Torsional Stiffness	Radial Stiffness	Moment of Inertia	Max Screw Torque	Approx Weight
			Radial	Axial	Angular					
	min ⁻¹	Ncm	mm	mm	deg	Nm/rad	N/mm	gcm ²	Ncm	g
1622	10,000	40	±0.20	±0.40	±3.0	90	40	2.1	50	6.0
1624		40	±0.25	±0.45	±4.0	85	20	2.2	50	6.5
1627		40	±0.30	±0.50	±4.0	70	15	2.6	50	7.0
2129		80	±0.25	±0.40	±4.0	150	25	9.0	100	15.0
2135		80	±0.30	±0.50	±4.0	140	10	9.5	100	16.0
2429		80	±0.25	±0.40	±4.0	150	25	15.0	100	17.0
2435		80	±0.30	±0.50	±4.0	140	10	15.2	100	18.0
3030		200	±0.30	±0.40	±4.0	220	45	37.0	100	31.0

? Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Complete absorption of eccentricity, angularity and end play by spring action of the bellows
- Maintenance free
- Recommended temperature range -30°C to +120°C
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



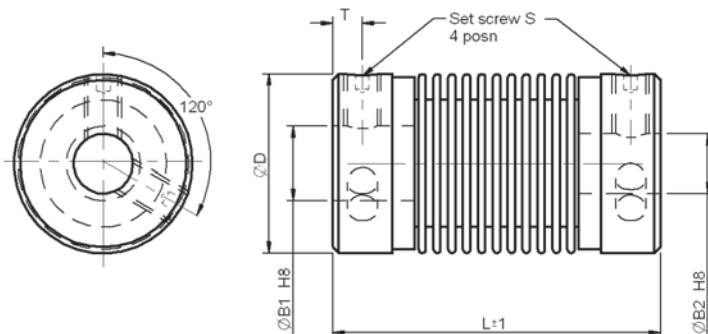


2 - 12 mm Bore

Nickel Bellows Couplings Set Screw Hub

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: page 11-2
Bearings: page 12-1
Leadscrews: page 7-1
Intelligent motors: page 2-2



H8	
Bore Size	Tolerance
2	+0.014
3	
4	+0.018
6	
8	+0.022
10	
12	+0.027

Couplings
and Collars

Part number selection table

Part Number	Hub Material	Bellows Material	Bore ØB1	Bore ØB2	O/D ØD	Length L	Screw Position T	Screw Thread S
RBKNS-1223-02-02	Stainless steel	Nickel	2	2	12	23	2.0	M2.5
RBKNS-1223-03-02			3	2				
RBKNS-1223-03-03			3	3				
RBKNS-1223-04-04			4	4				
RBKNS-1223-06-04			6	4				
RBKNS-1223-06-06			6	6				
RBKNS-1730-04-04	Aluminium (Anodised)	Nickel	4	4	17	31	2.0	M3
RBKNS-1730-06-04			6	4				
RBKNS-1730-06-06			6	6				
RBKNS-1730-10-06			10	6				
RBKNS-1730-08-08			8	8				
RBKNS-1730-10-10			10	10				
RBKNS-2533-06-06	Aluminium (Anodised)	Nickel	6	6	25	33	2.3	M3
RBKNS-2533-10-06			10	6				
RBKNS-2533-12-06			12	6				
RBKNS-2533-08-08			8	8				
RBKNS-2533-10-10			10	10				
RBKNS-2533-12-12			12	12				

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
1223	10,000	13	±0.54	±2.29	±15	28	4.2	1.85	60	10.0
1730		39	±0.72	±3.09	±14	70	3.0	3.81	80	10.0
2533		200	±0.46	±2.77	±8	210	29.0	16.10	80	19.5

Nickel Bellows Couplings Clamp Hub

3 - 12 mm Bore

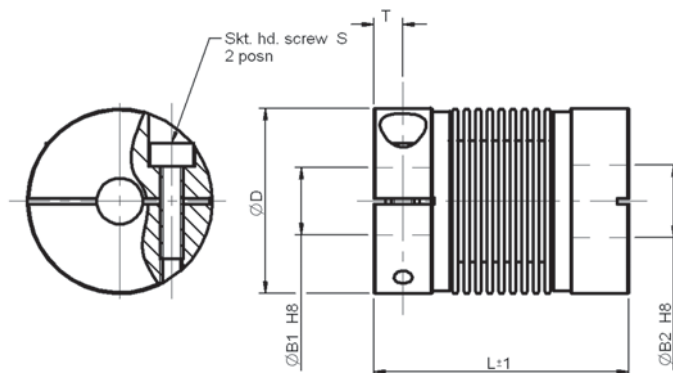


Associated Products

Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)

All dimensions in mm
General tolerances ± 0.13 mm

H8	
Bore Size	Tolerance
3	+0.014
4	
6	+0.018
8	
10	+0.022
12	+0.027



Part number selection table

Part Number	Hub Material	Bellows Material	Bore ØB1	Bore ØB2	O/D ØD	Length L	Screw Position T	Screw Thread S
RBKNK-1733-03-03	Aluminium (Anodised)	Nickel	3	3	16.3	33	2.5	M2
RBKNK-1733-04-04			4	4				
RBKNK-1733-06-04			6	4				
RBKNK-1733-06-06			6	6				
RBKNK-2537-06-06	Aluminium (Anodised)	Nickel	6	6	25	37	2.8	M2.5
RBKNK-2537-10-06			10	6				
RBKNK-2537-08-08			8	8				
RBKNK-2537-10-10			10	10				
RBKNK-2537-12-12			12	12				

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
1733	10,000	39	±0.72	±3.09	±14	70	3.0	4.89	35	11.5
2537		200	±0.46	±2.77	±8	210	29.0	25.40	66	28.5

? Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Complete absorption of eccentricity, angularity and end play by spring action of the bellows
- Maintenance free
- Recommended temperature range -30°C to +120°C
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



Contact us for product information, design support and custom solutions
sales@reliance.co.uk +44 (0) 1484 601002 www.reliance.co.uk

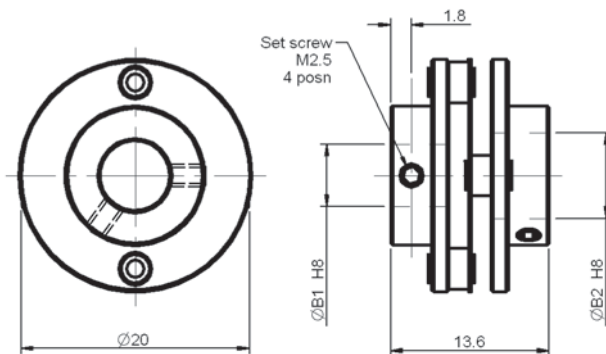


2 - 6 mm Bore

Flexible Disc Spring Couplings Set Screw Hub

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)



H8	
Bore Size	Tolerance
2	+0.014
4	+0.018
6	+0.018

Couplings
and Collars

Part number selection table

Part Number	Hub Material	Disc Springs Material	Bore ØB1	Bore ØB2
RFSXS-2014-02-02	Aluminium (Anodised)	Stainless steel	2	2
RFSXS-2014-04-02			4	2
RFSXS-2014-04-04			4	4
RFSXS-2014-06-06			6	6

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
2014	10,000	50	-	±0.3	±2.5	100	-	2.6	60	5.0

? Technical support

- Zero backlash
- High torsional stiffness
- Maintenance free
- Recommended temperature range -30°C to +120°C
- Vibration isolation
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



Flexible Disc Spring Couplings Set Screw Hub

2 - 6 mm Bore

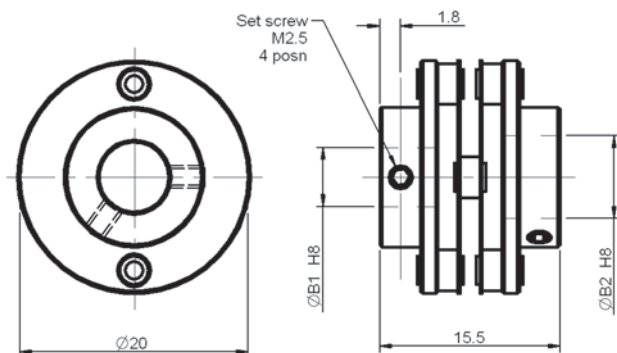


Associated Products

Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)

All dimensions in mm
General tolerances ± 0.13 mm

H8	
Bore Size	Tolerance
2	+0.014
4	+0.018
6	+0.018



Part number selection table

Part Number	Hub Material	Disc Springs Material	Bore ØB1	Bore ØB2
RFSXS-2016-02-02	Aluminium (Anodised)	Stainless steel	2	2
RFSXS-2016-04-02			4	2
RFSXS-2016-04-04			4	4
RFSXS-2016-06-06			6	6

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
2016	10,000	50	±0.2	±0.4	±3.0	20	125	2.8	60	6.0

? Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Maintenance free
- Recommended temperature range -30°C to +120°C
- Vibration isolation
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



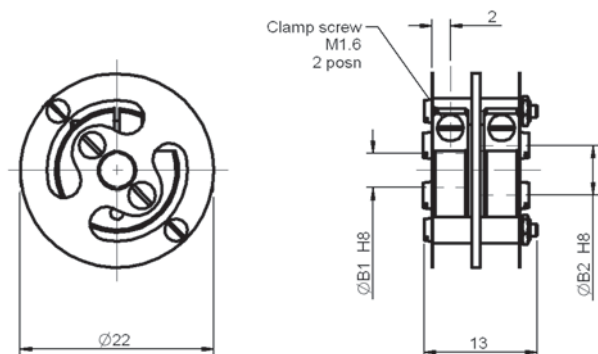


2 - 4 mm Bore

Flexible Disc Spring Couplings Clamp Hub

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)



H8	
Bore Size	Tolerance
2	+0.014
3	+0.018
4	+0.018

Couplings
and Collars

Part number selection table

Part Number	Hub Material	Disc Springs Material	Bore ØB1	Bore ØB2
RFSXK-2213-02-02	Nickel plated steel	Stainless steel	2	2
RFSXK-2213-03-02			3	2
RFSXK-2213-03-03			3	3
RFSXK-2213-04-04			4	4

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
2213	10,000	20	±0.3	±0.3	±2.0	14	3.0	3.2	20	9.5

? Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Maintenance free
- Recommended temperature range -30°C to +120°C
- Vibration isolation
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)

Flexible Disc Spring Couplings Clamp Hub

3 - 8 mm Bore

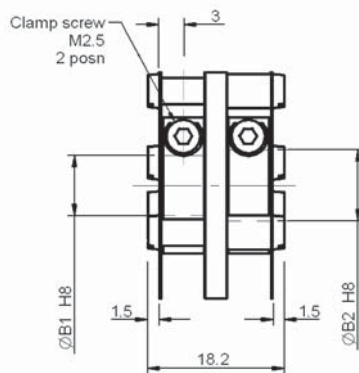


Associated Products

Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)

All dimensions in mm
General tolerances ± 0.13 mm

H8		
Bore Size	Tolerance	
3	+0.014	
4		
5	+0.018	
6		
8	+0.022	



Part number selection table

Part Number	Hub Material	Disc Springs Material	Bore ØB1	Bore ØB2
RFSXK-3019-03-03	Aluminium (Anodised)	Stainless steel	3	3
RFSXK-3019-04-04			4	4
RFSXK-3019-05-05			5	5
RFSXK-3019-06-05			6	5
RFSXK-3019-06-06			6	6
RFSXK-3019-08-06			8	6
RFSXK-3019-10-08			10	8

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
3019	12,000	80	±0.4	±0.4	±3.0	150	6	19	80	16

? Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Maintenance free
- Recommended temperature range -30°C to +120°C
- Vibration isolation
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



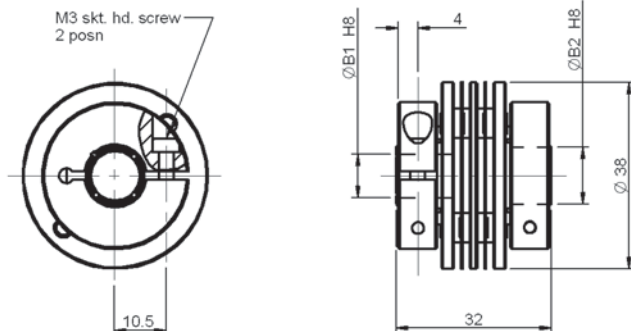


6 - 14 mm Bore

Flexible Disc Spring Couplings Clamp Hub

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)



H8	
Bore Size	Tolerance
6	+0.018
9.53	+0.022
10	+0.022
12	+0.027
14	+0.027

Couplings
and Collars

Part number selection table

Part Number	Hub Material	Disc Springs Material	Bore ØB1	Bore ØB2
RFSXK-3832-06-06	Aluminium (Anodised)	Stainless steel	6	6
RFSXK-3832-95-95			9.53	9.53
RFSXK-3832-10-10			10	10
RFSXK-3832-12-10			12	10
RFSXK-3832-12-12			12	12
RFSXK-3832-14-12			14	12
RFSXK-3832-14-14			14	14

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
3832	8,000	200	±0.3	±0.3	±2.5	250	220	82	100	53

? Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Maintenance free
- Recommended temperature range -30°C to +120°C
- Vibration isolation
- Suitable for high number of revolutions at high torque
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



Flexible Disc Spring Couplings Clamp Hub

6 - 14 mm Bore

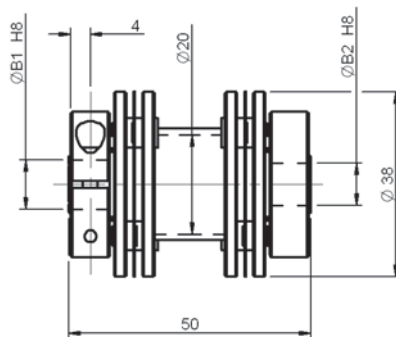
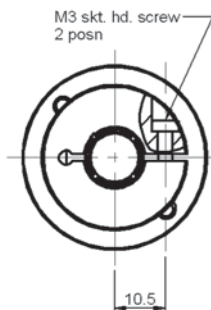


Associated Products

Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)

All dimensions in mm
General tolerances ± 0.13 mm

H8	
Bore Size	Tolerance
6	+0.018
9.53	+0.022
10	
12	+0.027
14	



Part number selection table

Part Number	Hub Material	Disc Springs Material	Bore ØB1	Bore ØB2
RFSXK-3850-06-06	Aluminium (Anodised)	Stainless steel	6	6
RFSXK-3850-95-95			9.53	9.53
RFSXK-3850-10-10			10	10
RFSXK-3850-12-10			12	10
RFSXK-3850-12-12			12	12
RFSXK-3850-14-12			14	12
RFSXK-3850-14-14			14	14

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
3850	8,000	200	±0.8	±0.8	±2.5	250	12	106	100	63

? Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Maintenance free
- Recommended temperature range -30°C to +120°C
- Vibration isolation
- Suitable for high number of revolutions at high torque
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



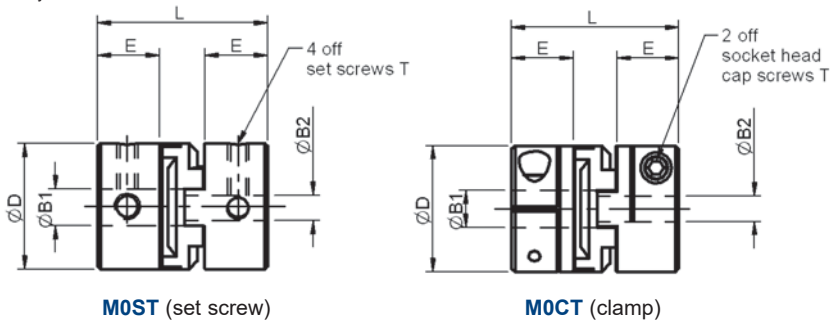


3 - 12 mm bore

Oldham Couplings

All dimensions in mm
 Hub material: Aluminium alloy
 grade 2024 T351 or 7075 T651
 Finish: Black sulphuric anodised
 MIL-A-8625 Type II, class 2
 Spacer material: Acetal or nylon 11

Associated Products
 Shafts: [page 11-2](#)
 Bearings: [page 12-1](#)
 Leadscrews: [page 7-1](#)
 Intelligent motors: [page 2-2](#)



Couplings
and Collars

Part number selection table

Example Part No:- M0ST AT - 13 - 3-3							Dimensions (mm)			
Basic Part No	Disc Material	Size	Standard Bore Sizes ØB1 and ØB2				O/D ØD	Length L	Hub Length E	Fitted Screw T
M0ST (set screw)	AT (Acetal)	13	3	4	5	6	12.7	15.9	5.6	M3
		19		4	5	6 8	19.1	22.2	7.6	M3
	NL (Nylon)	25				6 8 10 12	25.4	28.6	9.9	M4
		33				8 10 12	33.3	47.6	15.0	M4
		41				10 12	41.3	50.8	18.0	M5
M0CT (clamp)	AT (Acetal)	19		4	5	6 8	19.1	25.4	9.7	M2.5
		25				6 8 10 12	25.4	31.8	11.9	M3
	NL (Nylon)	33				8 10 12	33.3	47.6	15.0	M3
		41				10 12	41.3	50.8	18.0	M4

Note: Oldham couplings sizes 13 and 19 use only two set screws 'T'

Product options

- Larger or alternative bore sizes
- Imperial bores
- Product overview - see [pages 8-2 to 8-7](#)



Technical specifications

Size Ref	Disc Material	Torsional Stiffness Deg/Nm	Torque Capacity		Misalignment	
			Rated Nm	Break Nm	Parallel mm	Axial mm
13	AT	0.636	0.68	3.9	0.10	0.05
	NL	2.560	0.17	2.8	0.10	0.05
19	AT	0.380	2.25	10.5	0.20	0.10
	NL	1.240	0.57	9.6	0.20	0.10
25	AT	0.291	4.75	19.0	0.20	0.10
	NL	1.110	1.13	15.9	0.20	0.10
33	AT	0.079	8.00	39.5	0.20	0.15
	NL	0.460	2.05	34.0	0.20	0.15
41	AT	0.068	14.75	54.5	0.25	0.15
	NL	0.330	3.65	45.3	0.25	0.15

? Technical support

- Zero backlash with acetal disc
- High parallel misalignment capability
- Electrically insulated discs act as a mechanical fuse preventing damage to other components
- Temperature range:-
 - Acetal disc: -23°C to +65°C.
 - Nylon disc: -23°C to +54°C.
- Max speed: 4,500 rpm
- Acetal discs provide high torsional stiffness
- Nylon discs provide vibration and shock absorption
- Technical information - see [page T8-1](#)
- Installation information - see [page T8-3](#)



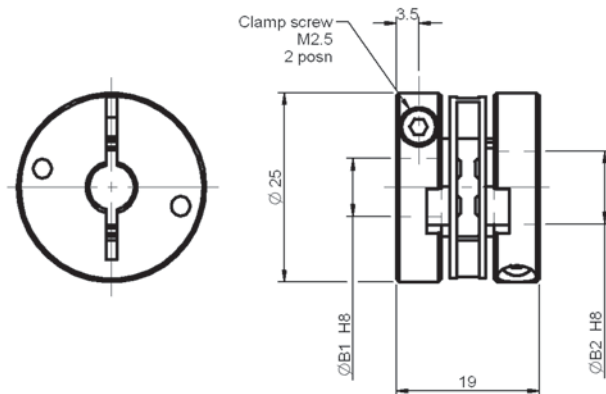


6 - 10 mm Bore

Membrane Couplings Clamp Hub

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)



H8	
Bore Size	Tolerance
6	+0.018
8	+0.022
10	+0.022

Couplings
and Collars

Part number selection table

Part Number	Hub Material	Membrane Material	Bore ØB1	Bore ØB2
RFSKK-2519-06-06	Aluminium (Anodised)	Polyamide	6	6
RFSKK-2519-10-06		6.6	10	6
RFSKK-2519-08-08		re-inforced	8	8
RFSKK-2519-10-10		fibreglass	10	10

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
2519	12,000	40	±0.25	±0.4	±2.5	22	60	13.5	65	16

? Technical support

- Zero backlash
- Maintenance free
- Recommended temperature range -10°C to +80°C
- Electrical isolation
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



Membrane Couplings Clamp Hub

6 - 12 mm Bore

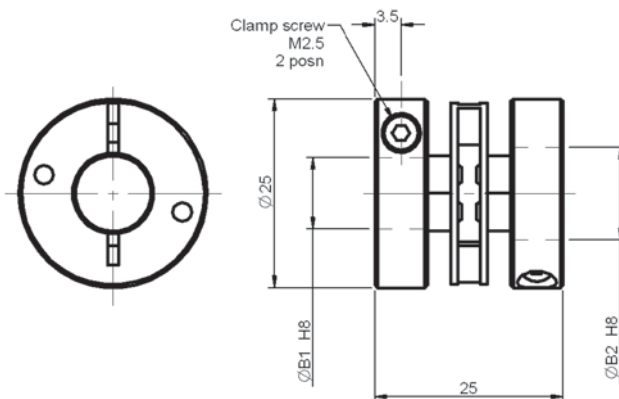


Associated Products

Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)

All dimensions in mm
General tolerances ± 0.13 mm

H8	
Bore Size	Tolerance
6	+0.018
8	+0.022
10	
12	+0.027



Part number selection table

Part Number	Hub Material	Membrane Material	Bore ØB1	Bore ØB2
RFSKK-2525-06-06	Aluminium (Anodised)	Polyamide 6.6 re-inforced fibreglass	6	6
RFSKK-2525-10-06			10	6
RFSKK-2525-08-08			8	8
RFSKK-2525-10-10			10	10
RFSKK-2525-12-10			12	10
RFSKK-2525-12-12			12	12

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
2525	12,000	40	±0.25	±0.4	±2.5	22	60	15	65	18

? Technical support

- Zero backlash
- Maintenance free
- Recommended temperature range -10°C to +80°C
- Electrical isolation
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



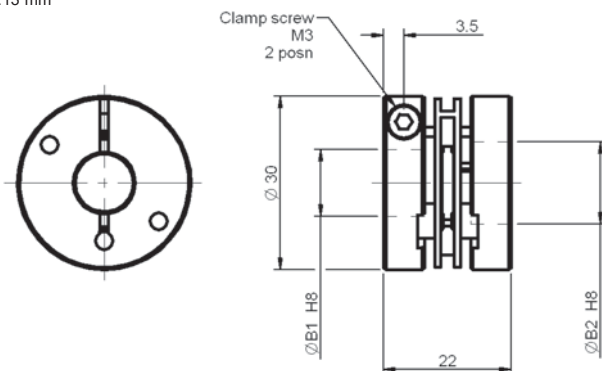


6 - 14 mm Bore

Membrane Couplings Clamp Hub

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: page 11-2
Bearings: page 12-1
Leadscrews: page 7-1
Intelligent motors: page 2-2



H8	
Bore Size	Tolerance
6	+0.018
8	+0.022
10	+0.022
12	+0.027
14	+0.027

Couplings
and Collars

Part number selection table

Part Number	Hub Material	Membrane Material	Bore ØB1	Bore ØB2
RFSKK-3022-06-06	Aluminium (Anodised)	Polyamide 6.6 reinforced fibreglass	6	6
RFSKK-3022-10-06			10	6
RFSKK-3022-08-08			8	8
RFSKK-3022-10-10			10	10
RFSKK-3022-12-10			12	10
RFSKK-3022-12-12			12	12
RFSKK-3022-14-14			14	14

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
3022	12,000	60	±0.3	±0.4	±2.5	30	40	35	80	30

? Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Maintenance free
- Recommended temperature range -10°C to +80°C
- Electrical isolation
- High rigidity
- Technical information - see page T8-1
- Product overview - see pages 8-2 to 8-7



Membrane Couplings Clamp Hub

6 - 14 mm Bore

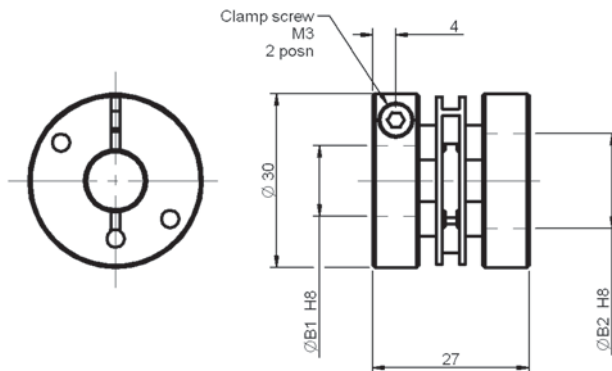


Associated Products

Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)

All dimensions in mm
General tolerances ± 0.13 mm

H8	
Bore Size	Tolerance
6	+0.018
8	+0.022
10	
12	+0.027
14	



Part number selection table

Part Number	Hub Material	Membrane Material	Bore ØB1	Bore ØB2
RFSKK-3027-06-06	Aluminium (Anodised)	Polyamide 6.6 reinforced fibreglass	6	6
RFSKK-3027-10-06			10	6
RFSKK-3027-08-08			8	8
RFSKK-3027-10-10			10	10
RFSKK-3027-12-10			12	10
RFSKK-3027-12-12			12	12
RFSKK-3027-14-14			14	14

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
3027	12,000	60	±0.3	±0.4	±2.5	30	40	37	80	32

? Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Maintenance free
- Recommended temperature range -10°C to +80°C
- Electrical isolation
- High rigidity
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)

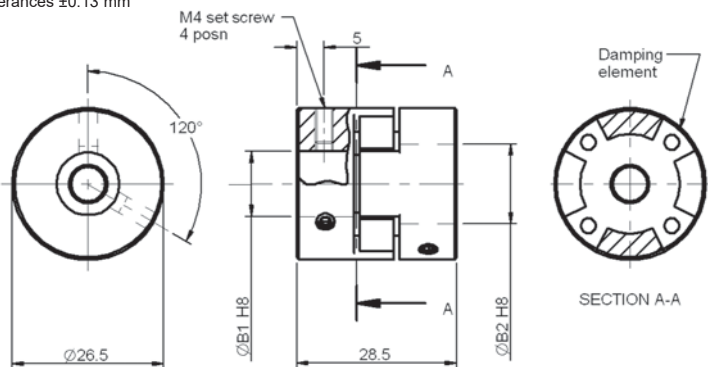




6 - 12 mm Bore

Curved Jaw Couplings Set Screw Hub

All dimensions in mm
General tolerances ± 0.13 mm



Associated Products
Shafts: page 11-2
Bearings: page 12-1
Leadscrews: page 7-1
Intelligent motors: page 2-2

H8	
Bore Size	Tolerance
6	+0.018
8	+0.022
10	+0.027
12	+0.027

Part number selection table

Example Part No:- RKKAS - 1500 - 08 - 06 - 92					
Basic Part Number	Hub Material	Damping Element Material	Element Hardness	Bore ØB1	Bore ØB2
RKKAS-1500-06-06	Aluminium (Anodised)	Polyurethane	-80 (blue) -92 (white) -98 (red)	6	6
RKKAS-1500-08-06				8	6
RKKAS-1500-08-08				8	8
RKKAS-1500-10-08				10	8
RKKAS-1500-10-10				10	10
RKKAS-1500-12-10				12	10

Technical specifications

Element Hardness	Max Speed min ⁻¹	Max Torque Ncm	Misalignment at 750rpm			Twist at Max Torque Deg	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg				
80	19,000	800	±0.22	±1.0	±1.3	10	30	120	34
92		1500	±0.22	±1.0	±1.3	10	30	120	34
98		2500	±0.22	±1.0	±1.3	10	30	120	34

? Technical support

- Zero backlash
- Alternative damping element hardness
- Maintenance free
- Recommended temperature range -30°C to +80°C
- Torque ripple reduction
- Technical information - see page T8-1
- Product overview - see pages 8-2 to 8-7



Curved Jaw Couplings Clamp Hub

6 - 12 mm Bore

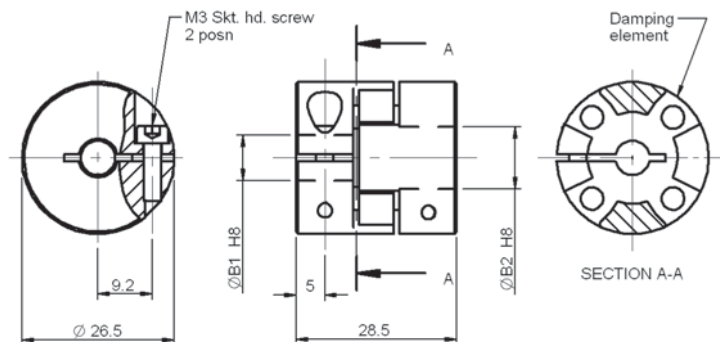


Associated Products

Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)

All dimensions in mm
General tolerances ± 0.13 mm

H8	
Bore Size	Tolerance
6	+0.018
8	+0.022
10	+0.027
12	+0.027



Part number selection table

Example Part No:- RKKAK - 1500 - 08 - 06 - 92					
Basic Part Number	Hub Material	Damping Element Material	Element Hardness	Bore $\varnothing B1$	Bore $\varnothing B2$
RKKAK-1500-06-06	Aluminium (Anodised)	Polyurethane	-80 (blue) -92 (white) -98 (red)	6	6
RKKAK-1500-08-06				8	6
RKKAK-1500-08-08				8	8
RKKAK-1500-10-08				10	8
RKKAK-1500-10-10				10	10
RKKAK-1500-12-10				12	10

Technical specifications

Element Hardness	Max Speed min^{-1}	Max Torque Ncm	Misalignment at 750rpm			Twist at Max Torque Deg	Moment of Inertia gcm^2	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg				
80	19,000	800	± 0.22	± 1.0	± 1.3	10	30	150	34
92		1500	± 0.22	± 1.0	± 1.3	10	30	150	34
98		2500	± 0.22	± 1.0	± 1.3	10	30	150	34

Technical support

- Zero backlash
- Alternative damping element hardness
- Maintenance free
- Recommended temperature range -30°C to $+80^{\circ}\text{C}$
- Torque ripple reduction
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



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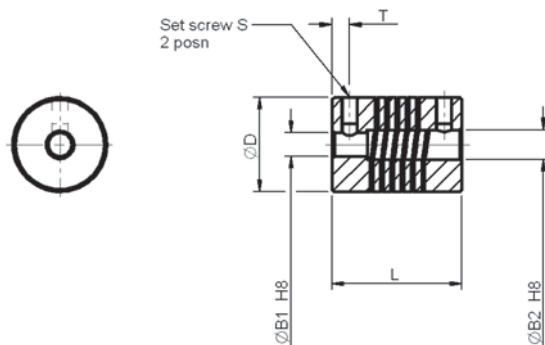


1 - 5 mm Bore

Micro Spiral Beam Couplings Set Screw Hub

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)



H8	
Bore Size	Tolerance
1	+0.014
2	
3	
4	+0.018
5	

Couplings
and Collars

Part number selection table

Part Number	Material	Bore ØB1	Bore ØB2	O/D ØD	Length L	Screw Position T	Screw Thread S
RWKAS-6508-01-01	Aluminium	1	1	6.5	8	1.3	M1.6
RWKAS-6508-02-01		2	1				
RWKAS-6508-02-02		2	2				
RWKAS-1015-02-02	Aluminium	2	2	10	15	2.0	M2
RWKAS-1015-03-02		3	2				
RWKAS-1015-04-02		4	2				
RWKAS-1015-05-02		5	2				
RWKAS-1015-03-03		3	3				
RWKAS-1015-05-03		5	3				

Technical specifications

Size	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
6508	8,000	2	±0.10	±0.15	±2.0	0.55	24	0.02	8	0.5
1015		15	±0.15	±0.20	±2.0	2.20	22	0.34	15	2.4

? Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Maintenance free
- Recommended temperature range -30°C to +150°C
- One piece construction
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



Spiral Beam Couplings Set Screw Hub

2 - 6 mm Bore

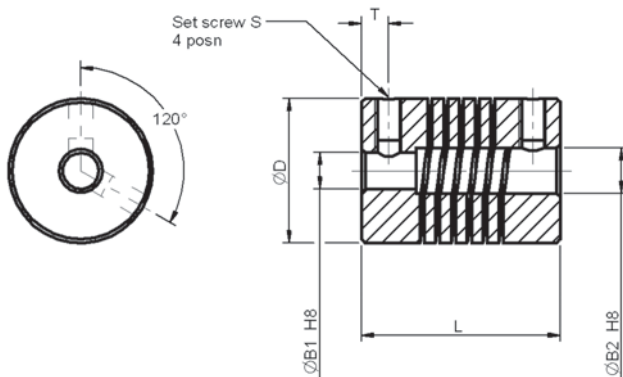


Associated Products

Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)

All dimensions in mm
General tolerances ± 0.13 mm

H8		
Bore Size	Tolerance	
2	+0.014	
3		
4		
5	+0.018	
6		



Part number selection table

Part Number	Material	Bore ØB1	Bore ØB2	O/D ØD	Length L	Screw Position T	Screw Thread S
RWKAS-1218-04-02	Aluminium	4	2	12	18	2.5	M2.5
RWKAS-1218-03-03		3	3				
RWKAS-1218-04-03		4	3				
RWKAS-1218-04-04		4	4				
RWKAS-1622-03-03	Aluminium	3	3	16	22	3.0	M3
RWKAS-1622-05-03		5	3				
RWKAS-1622-04-04		4	4				
RWKAS-1622-05-04		5	4				
RWKAS-1622-05-05		5	5				
RWKAS-1622-06-06		6	6				

Technical specifications

Size	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
1218	8,000	25	±0.15	±0.25	±2.5	2.8	28	0.83	35	4.0
1622		40	±0.20	±0.30	±3.0	5.0	34	3.20	50	9.5

Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Maintenance free
- Recommended temperature range -30°C to +150°C
- One piece construction
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



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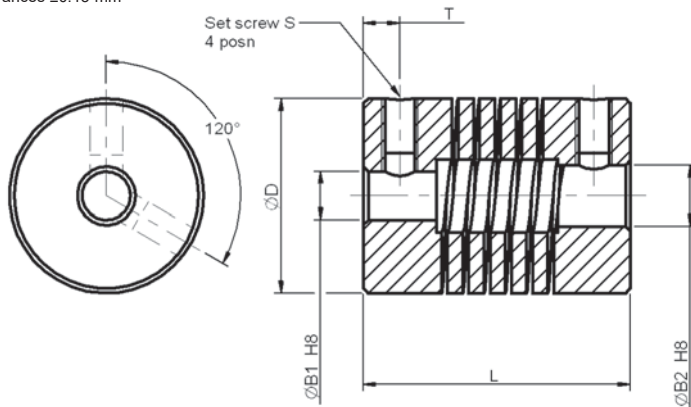


4 - 14 mm Bore

Spiral Beam Couplings Set Screw Hub

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: page 11-2
Bearings: page 12-1
Leadscrews: page 7-1
Intelligent motors: page 2-2



H8	
Bore Size	Tolerance
4	+0.018
5	
6	
8	+0.022
10	
12	+0.027
14	

Couplings
and Collars

Part number selection table

Part Number	Material	Bore ØB1	Bore ØB2	O/D ØD	Length L	Screw Position T	Screw Thread S
RWKAS-1922-04-04	Aluminium	4	4	19	22	3.0	M3
RWKAS-1922-06-04		6	4				
RWKAS-1922-05-05		5	5				
RWKAS-1922-06-06		6	6				
RWKAS-1922-08-06		8	6				
RWKAS-1922-08-08		8	8				
RWKAS-2019-06-04	Aluminium	6	4	20	19	2.8	M3
RWKAS-2019-05-05		5	5				
RWKAS-2019-06-06		6	6				
RWKAS-2019-08-06		8	6				
RWKAS-2524-06-06	Aluminium (Anodised)	6	6	25	24	3	M4
RWKAS-2524-08-06		8	6				
RWKAS-2524-10-06		10	6				
RWKAS-2524-08-08		8	8				
RWKAS-2524-10-08		10	8				
RWKAS-2524-10-10		10	10				
RWKAS-2524-12-12		12	12				
RWKAS-2532-06-06	Aluminium (Anodised)	6	6	25	32	4	M4
RWKAS-2532-08-06		8	6				
RWKAS-2532-10-06		10	6				
RWKAS-2532-08-08		8	8				
RWKAS-2532-10-08		10	8				
RWKAS-2532-10-10		10	10				
RWKAS-2532-12-10		12	10				
RWKAS-2532-12-12		12	12				

Part number selection table continued

Part Number	Material	Bore	Bore	O/D	Length	Screw Position	Screw Thread
		ØB1	ØB2	ØD	L	T	S
RWKAS-3030-10-10	Aluminium (Anodised)	10	10	30	30	4	M4
RWKAS-3030-12-10		12	10				
RWKAS-3030-14-10		14	10				
RWKAS-3038-10-10	Aluminium (Anodised)	10	10	30	38	5	M4
RWKAS-3038-12-10		12	10				
RWKAS-3038-14-10		14	10				
RWKAS-3038-12-12		12	12				

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
1922	8,000	60	±0.25	±0.4	±3.5	9	40	6.7	50	13
2019		60	±0.25	±0.4	±3.5	9	40	6.0	50	12
2524		100	±0.30	±0.5	±4.0	20	60	22.2	120	26
2532		100	±0.30	±0.5	±4.0	18	50	30.0	120	35
3030		150	±0.30	±0.5	±4.0	21	60	57.0	120	45
3038		150	±0.30	±0.5	±4.0	21	60	76.0	120	60

? Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Maintenance free
- Recommended temperature range -30°C to +150°C
- One piece construction
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



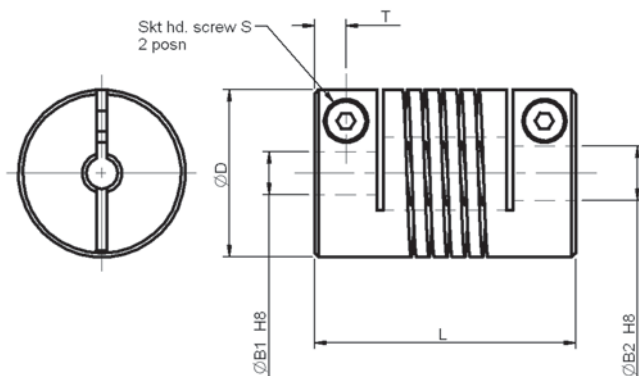


2 - 14 mm Bore

Spiral Beam Couplings Clamp Hub

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: page 11-2
Bearings: page 12-1
Leadscrews: page 7-1
Intelligent motors: page 2-2



H8	
Bore Size	Tolerance
2	+0.014
3	
4	
5	+0.018
6	
8	
10	+0.022
12	
14	

Couplings
and Collars

Part number selection table

Part Number	Material	Bore ØB1	Bore ØB2	O/D ØD	Length L	Screw Position T	Screw Thread S
RWKAK-1421-02-02	Aluminium (Anodised)	2	2	14	21	2.6	M2
RWKAK-1421-03-02		3	2				
RWKAK-1421-03-03		3	3				
RWKAK-1421-04-03		4	3				
RWKAK-1421-04-04		4	4				
RWKAK-1625-03-03	Aluminium (Anodised)	3	3	16	25	3.0	M2
RWKAK-1625-05-03		5	3				
RWKAK-1625-04-04		4	4				
RWKAK-1625-06-04		6	4				
RWKAK-1625-05-05		5	5				
RWKAK-1625-06-05		6	5				
RWKAK-1928-04-04	Aluminium (Anodised)	4	4	19	28	3.3	M3
RWKAK-1928-06-04		6	4				
RWKAK-1928-05-05		5	5				
RWKAK-1928-06-05		6	5				
RWKAK-1928-06-06		6	6				
RWKAK-2532-06-06	Aluminium (Anodised)	6	6	25	32	4.0	M3
RWKAK-2532-08-06		8	6				
RWKAK-2532-10-06		10	6				
RWKAK-2532-08-08		8	8				
RWKAK-2532-10-08		10	8				
RWKAK-2532-10-10		10	10				
RWKAK-2532-12-10		12	10				

Part number selection table continued

Part Number	Material	Bore	Bore	O/D	Length	Screw Position	Screw Thread
		ØB1	ØB2	ØD	L	T	S
RWKAK-3038-10-10	Aluminium (Anodised)	10	10	30	38	4.8	M4
RWKAK-3038-12-10		12	10				
RWKAK-3038-12-12		12	12				
RWKAK-3038-14-14		14	14				

Technical specifications

Size Ref	Max Speed min ⁻¹	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
1421	6,000	50	±0.20	±0.25	±3.0	4.5	22	1.9	50	6.5
1625		60	±0.20	±0.30	±3.5	5.5	30	3.8	50	10
1928		80	±0.25	±0.40	±4.0	8	36	8.7	80	16
2532		100	±0.35	±0.50	±4.0	16	45	29.0	100	34
3038		150	±0.35	±0.50	±4.0	19	60	76.0	100	58

? Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Maintenance free
- Recommended temperature range -30°C to +150°C
- One piece construction
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



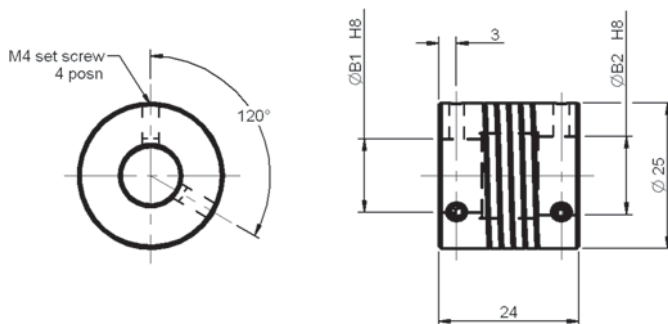


8 - 10 mm Bore Stainless Steel

Spiral Beam Couplings Set Screw Hub

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)



H8	
Bore Size	Tolerance
8	+0.022
10	

Couplings
and Collars

Part number selection table

Part Number	Material	Bore $\varnothing B1$	Bore $\varnothing B2$
RWKXS-2524-08-08	Stainless	8	8
RWKXS-2524-10-10	steel	10	10

Technical specifications

Size Ref	Max Speed min^{-1}	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm^2	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
2524	8,000	200	± 0.3	± 0.5	± 4.0	40	250	64	200	65

? Technical support

- Zero backlash
- High torsional stiffness
- Maintenance free
- Recommended temperature range -30°C to $+180^{\circ}\text{C}$
- One piece construction
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



Spiral Beam Couplings Clamp Hub

6 - 10 mm Bore
Stainless Steel

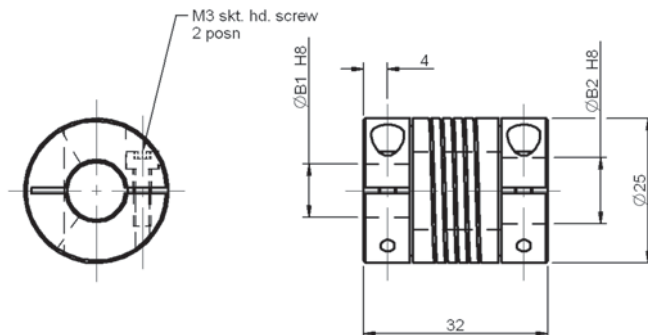


Associated Products

Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)

All dimensions in mm
General tolerances ± 0.13 mm

H8	
Bore Size	Tolerance
6	+0.018
8	+0.022
10	+0.022



Part number selection table

Part Number	Material	Bore ØB1	Bore ØB2
RWKXX-2532-10-06	Stainless steel	10	6
RWKXX-2532-08-08		8	8
RWKXX-2532-10-10		10	10

Technical specifications

Size Ref	Max Speed min^{-1}	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm^2	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
2532	6,000	200	± 0.35	± 0.5	± 4.0	29	150	84	200	88

? Technical support

- Zero backlash
- High torsional stiffness
- Maintenance free
- Recommended temperature range -30°C to $+180^{\circ}\text{C}$
- One piece construction
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)

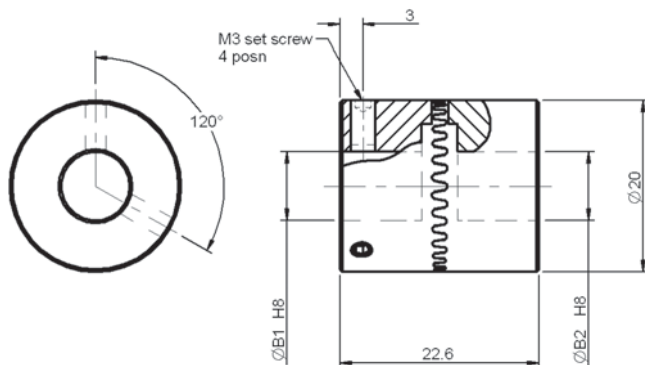


6 - 10 mm Bore

Radial Tooth Couplings

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)



H8	
Bore Size	Tolerance
6	+0.018
8	+0.022
10	+0.022

Part number selection table

Part Number	Coupling Material	Bore ØB1	Bore ØB2
RSKSS-2022-06-06	Steel 9S Mn Pb 28 (Black finished)	6	6
RSKSS-2022-08-06		8	6
RSKSS-2022-10-06		10	6
RSKSS-2022-08-08		8	8
RSKSS-2022-10-10		10	10

Technical specifications

Size Ref	Max Speed min^{-1}	Max Torque Ncm	Misalignment			Module mm	Radial Stiffness N/mm	Moment of Inertia gcm^2	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
2022	8,000	200	N/A	N/A	± 0.5	0.7	N/A	26	80	42

? Technical support

- Recommended temperature range -30°C to $+120^{\circ}\text{C}$
- Self centering connection
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



Associated Products

Shafts: [page 11-2](#)

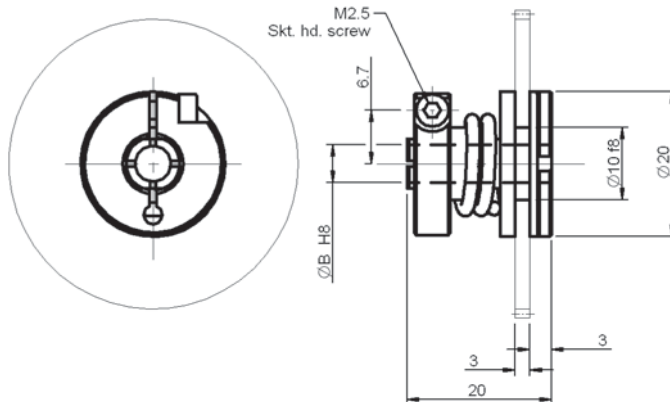
Bearings: [page 12-1](#)

Leadscrews: [page 7-1](#)

Intelligent motors: [page 2-2](#)

H8	
Bore Size	Tolerance
4	+0.018
5	
6	

f8	
Shaft Dia	Tolerance
10	-0.013 -0.035



All dimensions in mm
General tolerances ± 0.13 mm

Couplings and Collars

Technical specifications

Part Number	Bore ØB	Max Speed min ⁻¹	Max Adjustable Torque Ncm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Material		Approx Weight g
						Flange	Clutch Lining	
RRKSK-2020-04	4	50	30	8.4	100	Steel	Nylatron	20
RRKSK-2020-05	5					9S Mn Pb 28		
RRKSK-2020-06	6					(Black finished)		

Note: Gear not included, manufactured on request, please enquire

Technical support

- Zero backlash before slipping
- Maintenance free
- Recommended temperature range -10°C to +50°C
- Protects actuators from torque damage
- Adjustable torque setting
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



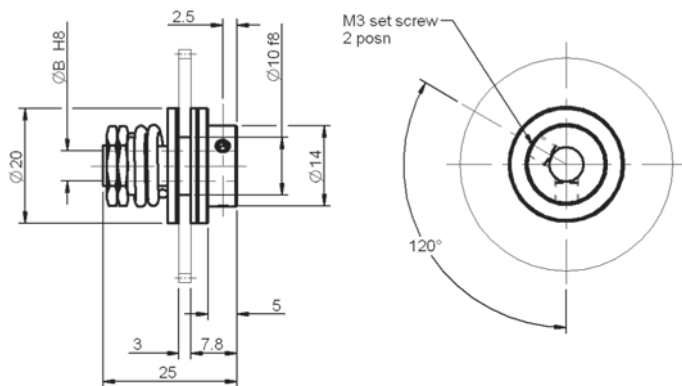


4 - 6 mm Bore

Friction Clutch - Spiral Spring Set Screw Hub

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)



H8	
Bore Size	Tolerance
4	+0.018
5	
6	

f8	
Shaft Dia	Tolerance
10	-0.013 -0.035

Part number selection and technical table

Part Number	Bore ØB	Max Speed min ⁻¹	Max Adjustable Torque Ncm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Material		Approx Weight g
						Flange	Clutch Lining	
RRKSS-2025-04	4	50	30	8.4	80	Steel 9S Mn Pb 28 (Black finished)	Nylatron	23
RRKSS-2025-05	5							
RRKSS-2025-06	6							

Note: Gear not included, manufactured on request, please enquire

? Technical support

- Zero backlash before slipping
- Maintenance free
- Recommended temperature range -10°C to +50°C
- Protects actuators from torque damage
- Adjustable torque setting
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



Friction Clutch - Plate Spring Clamp Hub

4 - 6 mm Bore



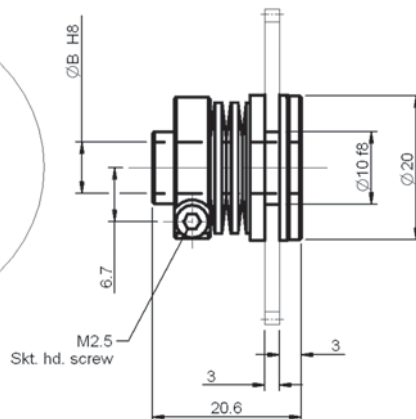
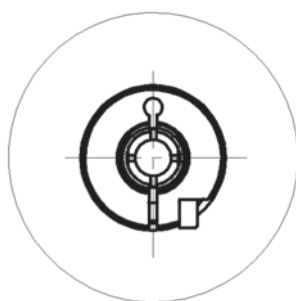
Associated Products

Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)

All dimensions in mm
General tolerances ± 0.13 mm

H8	
Bore Size	Tolerance
4	+0.018
5	
6	

f8	
Shaft Dia	Tolerance
10	-0.013
	-0.035



Couplings
and Collars

Technical specifications

Part Number	Bore ØB	Max Speed min ⁻¹	Max Adjustable Torque Ncm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Material		Approx Weight g
						Flange	Clutch Lining	
RRKTK-2020-04	4	40	120	7	100	Steel	Nylatron	23
RRKTK-2020-05	5					9S Mn Pb 28		
RRKTK-2020-06	6					(Black finished)		

Note: Gear not included, manufactured on request, please enquire

? Technical support

- Zero backlash before slipping
- Maintenance free
- Recommended temperature range -10°C to +50°C
- Protects actuators from torque damage
- Adjustable torque setting
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



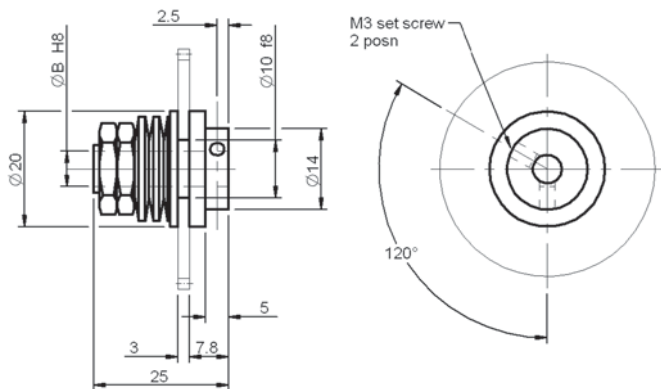


4 - 6 mm Bore

Friction Clutch - Plate Spring Set Screw Hub

All dimensions in mm
General tolerances ± 0.13 mm

Associated Products
Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)



H8	
Bore Size	Tolerance
4	+0.018
5	
6	

f8	
Shaft Dia	Tolerance
10	-0.013
	-0.035

Technical specifications

Part Number	Bore ØB	Max Speed min ⁻¹	Max Adjustable Torque Ncm	Moment of Inertia gcm ²	Max Screw Torque Ncm	Material		Approx Weight g
						Flange	Clutch Lining	
RRKTS-2025-04	4	40	120	9.9	80	Steel 9S Mn Pb 28 (Black finished)	Nylatron	25
RRKTS-2025-05	5							
RRKTS-2025-06	6							

Note: Gear not included, manufactured on request, please enquire

? Technical support

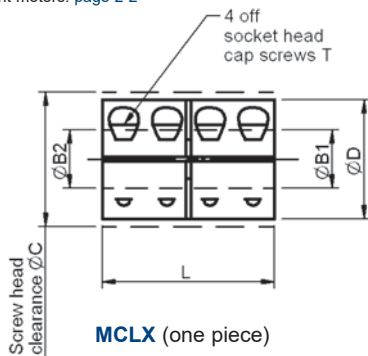
- Zero backlash before slipping
- Maintenance free
- Recommended temperature range -10°C to +50°C
- Protects actuators from torque damage
- Adjustable torque setting
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



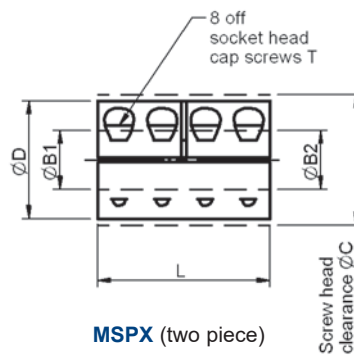
Associated Products

Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)

All dimensions in mm
Materials: Aluminium alloy
grade 2024 T351
Stainless steel
Grade 18.8 type 303
Screws C12L14



MCLX (one piece)



MSPX (two piece)

Part number selection table

Example Part No:- MCLX - A - 3-3			Dimensions (mm)				
Basic Part Number	Material	Size Ref	Standard Bore Sizes ØB1 and ØB2 (bore tolerance +0.012/+0.050)	O/D ØD	Length L	ØC	Clamp Screw T
MCLX (1-piece)	A* (Aluminium)	3	3	15	22	15.0	M2
		4	4	15	22	15.0	M2
		5	5	15	22	15.0	M2
MSPX (2-piece)	SS (St. steel)	6	6	18	30	21.5	M3
		8	8	24	35	27.1	M3
		10	10	29	45	33.0	M4

*Aluminium is only available on MCLX

i Product options

- Alternative bore sizes
- Imperial bores
- Set screw clamping
- Stainless steel screws



? Technical support

- Does not mark the shaft
- Nypatch® anti-vibration hardware
- Precision honed bore
- MSPX, two piece style is balanced by opposing hardware and is easily disassembled and maintained
- Max speed: 4,000 rpm
- Recommended temperature range:
Stainless steel -40°C to +175°C
Aluminium -40°C to +100°C
- Technical information - see [page T8-1](#)
- Installation information - see [page T8-4](#)
- Product overview - see [pages 8-2 to 8-7](#)



6 - 10 mm Bore

Double Width Shaft Clamp Collars

All dimensions in mm
Materials: Aluminium alloy
grade 2024 T351
Stainless steel
Grade 18.8 type 303
Screws C12L14

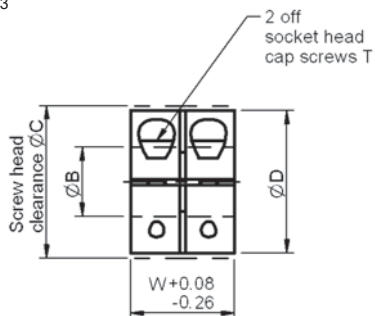
Associated Products

Shafts: [page 11-2](#)

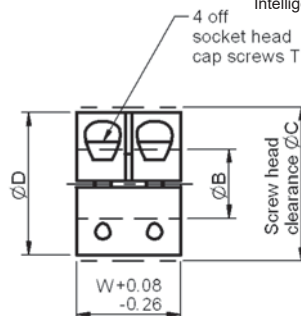
Bearings: [page 12-1](#)

Leadscrews: [page 7-1](#)

Intelligent motors: [page 2-2](#)



MWCL (one piece)



MWSP (two piece)

Part number selection table

Example Part No:- MWCL - A - 6			Dimensions (mm)				
Basic Part Number	Material	Size	Standard Bore Sizes ØB (bore tolerance +0.012/+0.050)	O/D ØD	Width W	ØC	Clamp Screw T
MWCL (1-piece)	A* (Aluminium)	6	6	16	20	20.8	M3
MWSP (2-piece)	SS (St. steel)	8	8	18	20	22.4	M3
		10	10	24	20	26.3	M3

*Aluminium is only available on MWCL

i Product options

- Alternative bore sizes
- Imperial bores
- Set screw clamping
- Stainless steel screws



? Technical support

- Does not mark the shaft
- Integral location face
- Excellent for high axial loads
- MWSP, two piece style is balanced by opposing hardware and is easily disassembled and maintained
- Transmits torque in confined spaces
- Recommended temperature range:
 - Stainless steel -40°C to +175°C
 - Aluminium -40°C to +100°C
- Installation information - see [page T8-4](#)
- Product overview - see [pages 8-2 to 8-7](#)

Shaft Clamp Collars

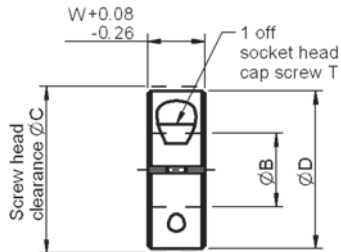
3 - 10 mm Bore



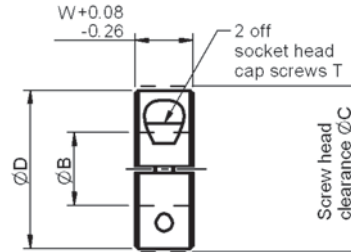
Associated Products

Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)

All dimensions in mm
Materials: Aluminium alloy
grade 2024 T351
sulphuric anodised
Stainless steel
Grade 18.8 type 303
Screws C12L14



MCL (one piece)



MSP (two piece)

Part number selection table

Example Part No:- MCL - A - 3			Dimensions (mm)				
Basic Part Number	Material	Size	Standard Bore Sizes ØB (bore tolerance +0.012/+0.050)	O/D ØD	Width W	ØC	Clamp Screw T
MCL (1-piece)	A (Aluminium)	3	3	16	9	20.8	M3
		4	4	16	9	20.8	M3
		5	5	16	9	20.8	M3
		6	6	16	9	20.8	M3
MSP (2-piece)	SS (St. steel)	7	7	18	9	22.4	M3
		8	8	18	9	22.4	M3
		9	9	24	9	26.3	M3
		10	10	24	9	26.3	M3

Product options

- Alternative bore sizes
- Imperial bores
- Stainless steel screws
- Plastic collars available
- 316 stainless steel available



Technical support

- Does not mark shaft
- Integral location face
- MSP, two piece style is balanced by opposing hardware and is easily disassembled and maintained
- Pre-drilled face holes
- Recommended temperature range:
Stainless steel -40°C to +175°C
Aluminium -40°C to +90°C
- Installation information - see [page T8-4](#)
- Product overview - see [pages 8-2 to 8-7](#)

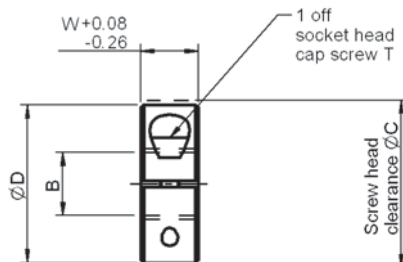


4 - 10 mm Bore

One Piece Threaded Collars

All dimensions in mm
Material: Stainless steel
grade 18.8 type 303
Screws C12L14

Associated Products
Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)



MTCL (threaded)

Part number selection table

Example Part No:- MTCL - SS - 4			Dimensions (mm)				
Basic Part Number	Material	Size	Standard Thread Sizes B	O/D ØD	Width W	ØC	Clamp Screw T
MTCL	SS (St. steel)	4	M4x0.7	16	9	20.8	M3
		5	M5x0.8	16	9	20.8	M3
		6	M6x1	16	9	20.8	M3
		8	M8x1.25	18	9	22.4	M3
		10	M10x1.5	24	9	26.3	M3



i Product options

- Alternative thread sizes
- Imperial threads
- Stainless steel screws
- Acme and left-hand threads available
- Additional sizes available

? Technical support

- Does not mark shaft
- Integral location face
- Installation information - see [page T8-4](#)
- Product overview - see [pages 8-2 to 8-7](#)

One Piece Set Screw Collars

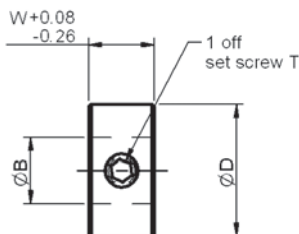
4 - 10 mm Bore



Associated Products

Shafts: [page 11-2](#)
Bearings: [page 12-1](#)
Leadscrews: [page 7-1](#)
Intelligent motors: [page 2-2](#)

All dimensions in mm
Material: Stainless steel
grade 18.8 type 303
Screws C12L14



MSC (set screw)

Part number selection table

Example Part No:- MSC - SS - 4			Dimensions (mm)			
Basic Part Number	Material	Size	Standard Bore Sizes ØB (bore tolerance +0.012/+0.050)	O/D ØD	Width W	Set Screw T
MSC	SS (St. steel)	4	4	8	5	M2.5X3
		5	5	10	6	M3X4
		6	6	12	8	M4X4
		8	8	16	8	M4X4
		10	10	20	10	M5X5



Product options

- Alternative bore sizes
- Imperial bores
- Stainless steel screws
- Plastic collars available

Technical support

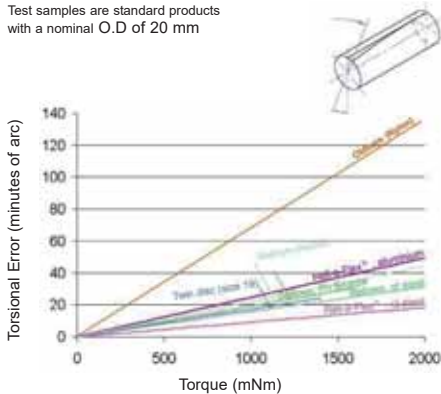
- Forged socket set screw
- Installation information - see [page T8-4](#)
- Product overview - see [pages 8-2 to 8-7](#)

TORSIONAL STIFFNESS

This is the characteristic that describes the angular deflection when a torque is applied. High torsional stiffness contributes to increased accuracy and system response. It is essential for accurate feedback applications.

Applications that are subject to shock loads may require a less stiff coupling to reduce the peak torques and avoid premature failure or slipping clamps.

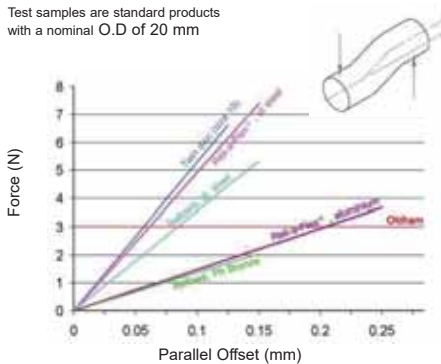
Test samples are standard products with a nominal O.D of 20 mm



RADIAL COMPLIANCE

This is the characteristic that describes the force the coupling applies on the support bearings when the shafts are misaligned. High radial compliance is essential to provide low bearing loads.

Test samples are standard products with a nominal O.D of 20 mm



TORQUE CAPACITY

In general, the rated torque figures are based on $>10^6$ torque reversals and the peak torque should not be applied for more than 1% of the duty cycle.

SHAFT MISALIGNMENT

The most common type of misalignment is a combination of angular, parallel and axial misalignment and occurs due to the build-up of tolerances as associated parts are assembled together. As these accumulate randomly, worst-case misalignment should be calculated and used to select the correct coupling to avoid premature failure.

Angular



Parallel



Axial



Combined



TRANSMISSION ERROR

Often referred to as kinematic error, this is the total error in the driven shaft position with regard to the driving shaft position. In a system the following factors must be individually considered to determine their overall effect.

- a. Backlash internal clearance related
- b. Torsional wind up torsional stiffness related
- c. Velocity error coupling design related

a. Backlash

Is the amount of free rotational movement inherent in the coupling under zero or near zero torsional loads. Only the Oldham coupling type in this catalogue is susceptible to slight backlash.

b. Torsional Wind Up

In applications where the resistance is frictional, the driven shaft will experience a position lag, which will double with direction reversal, proportional to the torsional stiffness.

During operating mode, the inertia and the torque will cause a momentary lag but this will not be seen at standstill.

c. Velocity Error

In general, couplings with double flexing elements (Reli-a-Flex®, Bellows and Twin disc couplings) will introduce negligible velocity errors.

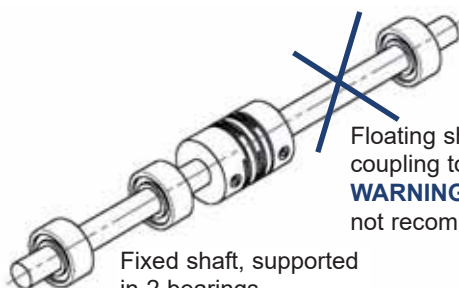
Velocity errors occur with angular misalignment and are proportional to shaft angle. Only the Oldham coupling type in this catalogue is susceptible to this error.

LUBRICATION

This is not required on any of the couplings in this catalogue.

FLOATING SHAFTS

We do not recommend the use of couplings in this catalogue for floating shafts, where one or both ends of a shaft are supported by a coupling.



Floating shaft, relies on the coupling to support one end.
WARNING: This arrangement is not recommended.

Fixed shaft, supported
in 2 bearings.

TORSIONAL RESONANCE

The torsional natural frequencies of a system are dependent on the mass/elastic characteristics of the various inertias and connecting shafts. Torsional resonance can occur under certain conditions when the natural frequency of the system is close to the excitation frequency of the driving system. It is most likely to occur when the load is predominantly inertial and can occur in closed loop position or velocity control systems, leading to torsional vibrations which in severe circumstances can destroy the coupling.

Choosing a coupling that operates well above or well below the operating frequencies can help to avoid premature failure.

The resonant frequency of a system can be calculated from the following:

$$F_R = 1/2\pi \times \sqrt{(1/J_M + 1/J_L) \times 10.8/\pi \times C_T}$$

where

F_R = Resonant frequency (Hz)

J_M = Motor inertia (Kgm²)

J_L = Load inertia (Kgm²)

C_T = Coupling torsional stiffness (mNm/min)

RELI-A-FLEX® INSTALLATION

Couplings are available with either clamp or set screw mounting. Clamp fastening, both Reli-a-Grip™ and traditional, allows repeated repositioning of the coupling on the shaft leaving the shaft unmarked. The effectiveness of the clamp is dependent on the diameter being a 'close' fit in the coupling bore. Use of Reliance components will ensure that the clamp works correctly.

Set screws provide an effective but non-adjustable means of connecting couplings and shafts. Ideally the shafts should have a small flat in the area of the screw, which allows the set screw to seat below the surface of the shaft.

OLDHAM COUPLING, SOLID COUPLING AND COLLAR INSTALLATION

Oldham Couplings

Ensure that the misalignment between shafts is within the coupling's ratings. Slide a hub onto each shaft to be joined with the drive tenons facing each other. Rotate the hubs on the shaft so the drive tenons are located 90° from each other. Place a torque disc so one groove fits over the drive tenons of a hub and centre the disc by hand.

Insert a shim with the thickness of the coupling's axial motion rating into the groove of the torque disc. Slide the tenons of the second hub into the mating groove in the disc until it touches the shim stock.

Fully tighten the screw(s) on each hub to their recommended seating torque. Remove the shim stock to leave a small gap between the top of the drive tenons and the torque disc to allow for axial movement.











Solid Couplings

Align the coupling on the two shafts to be connected. Tighten the Nypatch® clamp screws in two stages. Starting with the inside screws, tighten to half of the recommended seating torque. Repeat for the outside screws, again tightening to half of the recommended seating torque (on two-piece collars be sure to maintain the gap between the two halves of the coupling during installation). Tighten screws to the full recommended seating torque following the same pattern, beginning with the inside screws.

Collars

Use collars as they are received.

Wipe the bore clean and apply a thin coat of light oil to the shaft. Place collar in desired location on shaft and tighten the collar until a slight resistance is felt (on two-piece collars be sure to maintain the gap between the two halves of the collar during installation). Bring collar into final position and tighten screws to the full recommended seating torque.

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