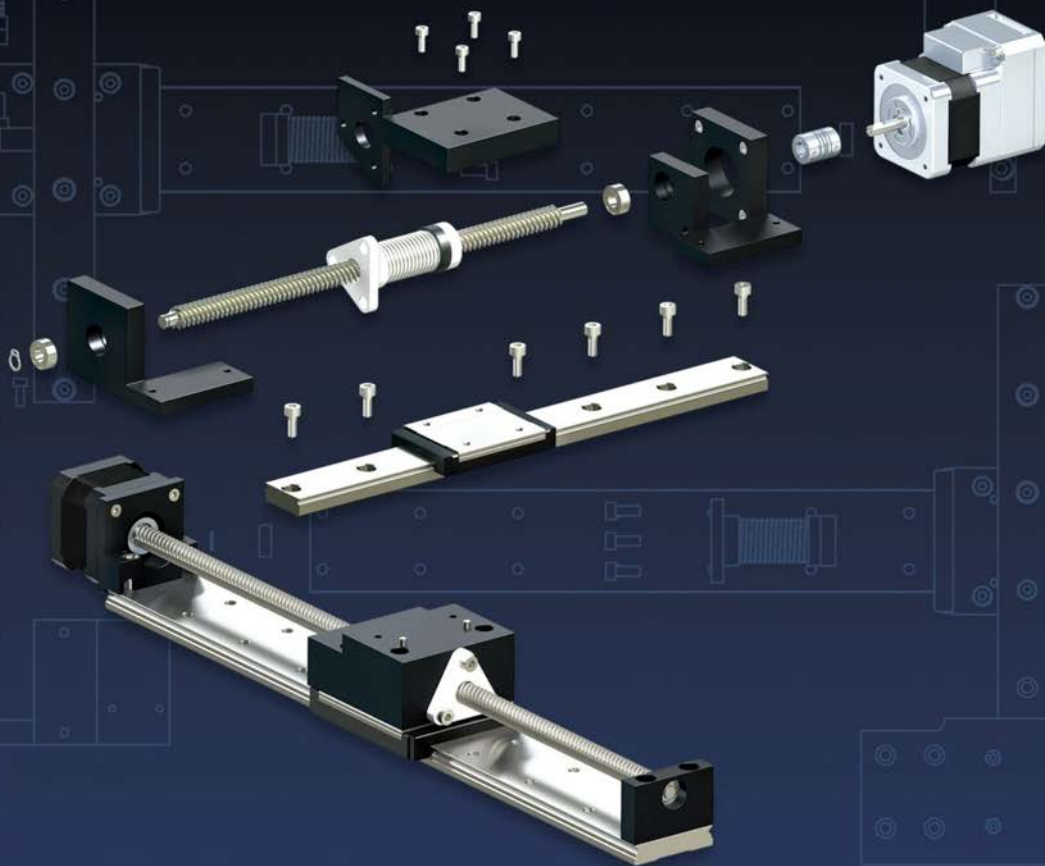




# RELIANCE<sup>TM</sup>

P R E C I S I O N



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

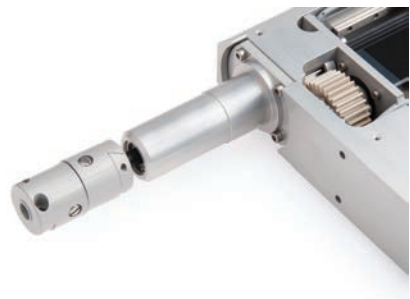
Friction clutches are available with two spring types. For lower torques up to 30 Ncm, the wire compression spring type should be used. For higher torques up to 120 Ncm, the disc spring version is the ideal choice.

### 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.



**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

	<b>Short or Long</b>	<ul style="list-style-type: none"><li>• RCS type (short) where space is limited</li><li>• RCL type (long) where greater parallel offset and greater accuracy are required</li></ul>
	<b>Reli-a-Grip™</b>	<ul style="list-style-type: none"><li>• 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</li></ul>
	<b>Precision or Micro</b>	<ul style="list-style-type: none"><li>• Precision coupling with outer diameters from 13 to 25 mm</li><li>• Micro coupling with outer diameters from 6 to 10 mm</li></ul>
	<b>Clamp or Set screw</b>	<ul style="list-style-type: none"><li>• Clamp type leaves shafts unmarked</li><li>• Set screw type where higher speeds are required</li></ul>
	<b>Electrically insulated</b>	<ul style="list-style-type: none"><li>• Protects delicate instruments from powered drive</li><li>• Available with selected bores on RCL type aluminium couplings, sizes 20 and 25</li></ul> <div>Please enquire</div>
	<b>Custom designs</b>	<ul style="list-style-type: none"><li>• Predictable performances</li><li>• Available with outer diameters from 6 to 40 mm</li><li>• Alternative materials may be specified</li></ul> <div>Please enquire</div>

**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.



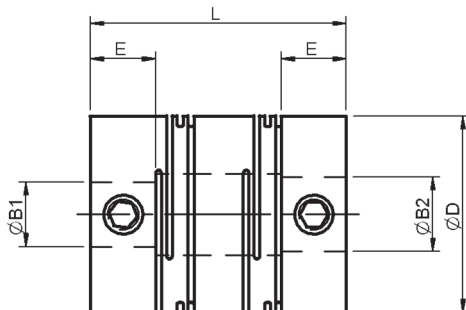


**1.5 - 5 mm  
Bore**

# Micro Reli-a-Flex® Couplings

All dimensions in mm  
General tolerances  $\pm 0.13$  mm  
Material: Aluminium alloy grade 7075-T6  
Finish: Surtec 650

**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)

## Part number selection table

Example Part No:- <u>RCS A 8 - 4-2</u>							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
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

Maximum shaft intrusion when fitted = E+2 mm.

\* Coupling fitted with stainless steel slotted head set screws.

Note: bores may be left unalocromed.



### 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 <sup>1</sup> Stiffness Nm/rad	Radial Compliance microns/N	Misalignment			Max Inertia gcm <sup>2</sup>	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.

<sup>1</sup> 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](#)



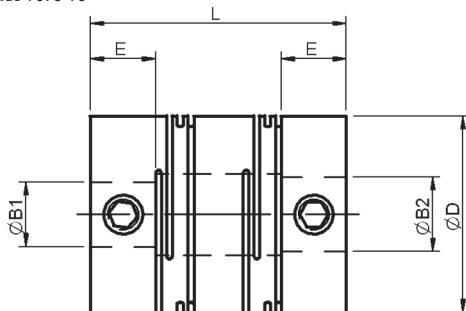


# 3 - 20 mm Bore

# Reli-a-Flex® Precision Couplings Set Screw Type

All dimensions in mm  
General tolerances  $\pm 0.13$  mm  
Material: Aluminium alloy grade 7075-T6  
Finish: Surtec 650

**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:- <b>RCS A 20 - 8-5</b>				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
<b>RCS</b> (short)	<b>A</b>	<b>13</b>	<b>3 4 5 6</b>	13.0	16.80	5.00	M2.5
		<b>16</b>	<b>4 5 6 8</b>	16.0	19.75	5.90	M3
		<b>20</b>	<b>5 6 8 10</b>	20.0	21.50	6.60	M4
		<b>25</b>	<b>6 8 10 12</b>	25.0	25.80	7.60	M5
		<b>30</b>	<b>8 10 12 15</b>	30.0	30.30	9.10	M6
		<b>40</b>	<b>10 12 15 20</b>	40.0	35.95	10.60	M8
<b>RCL</b> (long)	<b>A</b>	<b>13</b>	<b>3 4 5 6</b>	13.0	20.00	5.00	M2.5
		<b>16</b>	<b>4 5 6 8</b>	16.0	23.50	5.90	M3
		<b>20</b>	<b>5 6 8 10</b>	20.0	26.00	6.60	M4
		<b>25</b>	<b>6 8 10 12</b>	25.0	34.00	7.60	M5
		<b>30</b>	<b>8 10 12 15</b>	30.0	44.00	9.10	M6
		<b>40</b>	<b>10 12 15 20</b>	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 <sup>1</sup> Stiffness Nm/rad	Radial Compliance microns/N	Misalignment			Max Inertia gcm <sup>2</sup>	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. <sup>1</sup>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](#)



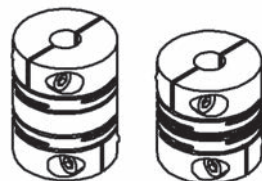
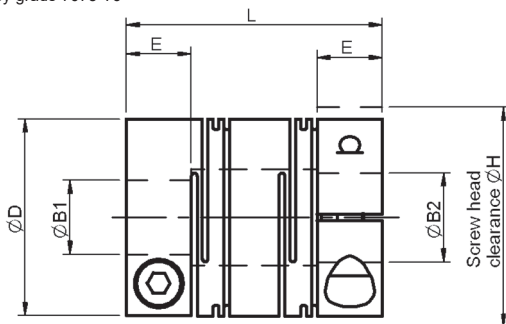


# 3 - 20 mm Bore

# Reli-a-Flex® Precision Couplings Clamp Type

All dimensions in mm  
General tolerances  $\pm 0.13$ mm  
Material: Aluminium alloy grade 7075-T6  
Finish: Surtec 650

**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:- <b>RCS A 20C - 8-5</b>				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
<b>RCS</b> (short)	<b>A</b>	<b>13C</b>	3 4 5 6	13.0	14.5	16.80	5.00	M1.6
		<b>16C</b>	3 4 5 6 8	16.0	18.0	19.75	5.90	M2
		<b>20C</b>	4 5 6 8 10	20.0	21.8	21.50	6.60	M2.5
		<b>25C</b>	5 6 8 10 12	25.0	26.9	25.80	7.60	M3
		<b>30C</b>	6 8 10 12 15	30.0	32.3	30.30	9.10	M4
		<b>40C</b>	8 10 12 15 20	40.0	41.0	35.95	10.60	M5
<b>RCL</b> (long)	<b>A</b>	<b>13C</b>	3 4 5 6	13.0	14.5	20.00	5.00	M1.6
		<b>16C</b>	3 4 5 6 8	16.0	18.0	23.50	5.90	M2
		<b>20C</b>	4 5 6 8 10	20.0	21.8	26.00	6.60	M2.5
		<b>25C</b>	5 6 8 10 12	25.0	26.9	34.00	7.60	M3
		<b>30C</b>	6 8 10 12 15	30.0	32.3	44.00	9.10	M4
		<b>40C</b>	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.

## 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 <sup>1</sup> Stiffness Nm/rad	Radial Compliance microns/N	Misalignment			Max Inertia g.cm <sup>2</sup>	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.

<sup>1</sup> 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](#)







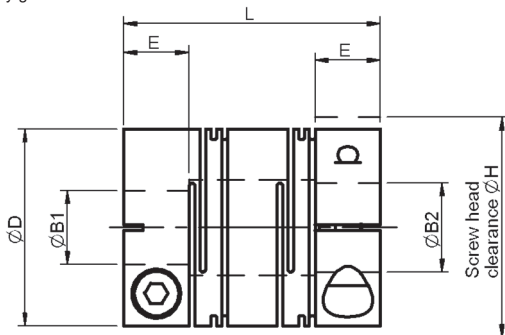
# 3 - 12 mm Bore

# Reli-a-Flex® Precision Couplings

## Reli-a-Grip™ Clamp

All dimensions in mm  
General tolerances  $\pm 0.13$  mm  
Material: Aluminium alloy grade 7075-T6  
Finish: Surtec 650

**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:- <u>RCS A 20G - 8-5</u>							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 <sup>1</sup> Stiffness Nm/rad	Radial Compliance microns/N	Misalignment			Max Inertia gcm <sup>2</sup>	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.

<sup>1</sup> 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](#)



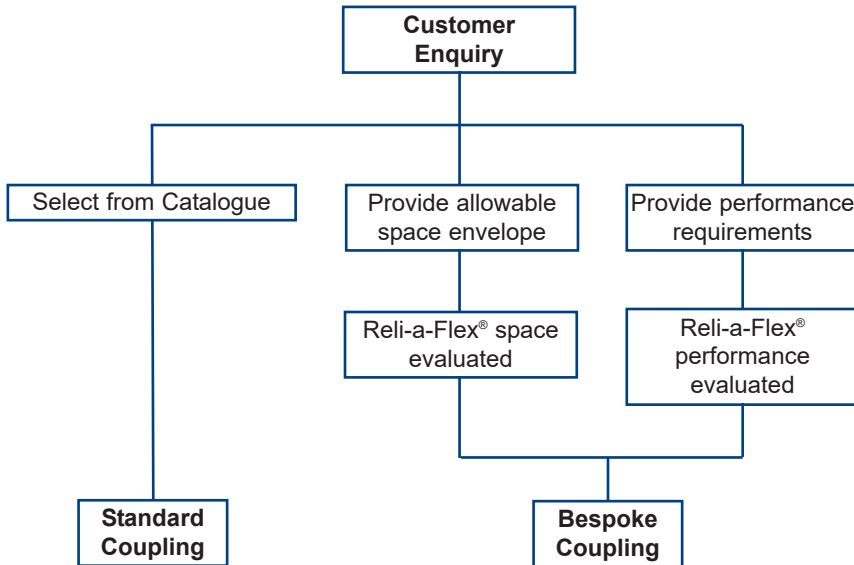


## Bespoke designs

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](http://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

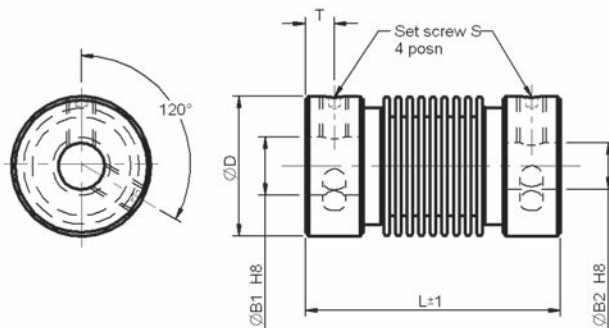


## 3 - 16 mm Bore

# Bellows Couplings Set Screw Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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	

### 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
<a href="#">RBKBS-1222-03-03</a>	Brass (Nickel Plated)	Bronze (Nickel Plated)	3	3	12	22	2.2	M2.5
<a href="#">RBKBS-1222-04-04</a>			4	4				
<a href="#">RBKBS-1222-06-04</a>			6	4				
<a href="#">RBKBS-1222-05-05</a>			5	5				
<a href="#">RBKBS-1222-06-06</a>			6	6				
<a href="#">RBKXS-1520-03-03</a>	Aluminium (Anodised)	Stainless steel	3	3	15	20	2.0	M3
<a href="#">RBKXS-1520-04-04</a>			4	4				
<a href="#">RBKXS-1520-05-04</a>			5	4				
<a href="#">RBKXS-1520-05-05</a>			5	5				
<a href="#">RBKXS-1520-06-06</a>			6	6				
<a href="#">RBKXS-1522-03-03</a>	Aluminium (Anodised)	Stainless steel	3	3	15	22	2.0	M3
<a href="#">RBKXS-1522-04-04</a>			4	4				
<a href="#">RBKXS-1522-05-04</a>			5	4				
<a href="#">RBKXS-1522-05-05</a>			5	5				
<a href="#">RBKXS-1522-06-06</a>			6	6				
<a href="#">RBKXS-1525-03-03</a>	Aluminium (Anodised)	Stainless steel	3	3	15	25	2.0	M3
<a href="#">RBKXS-1525-04-04</a>			4	4				
<a href="#">RBKXS-1525-05-04</a>			5	4				
<a href="#">RBKXS-1525-05-05</a>			5	5				
<a href="#">RBKXS-1525-06-06</a>			6	6				
<a href="#">RBKXS-1924-04-04</a>	Aluminium (Anodised)	Stainless steel	4	4	19	24	2.0	M3
<a href="#">RBKXS-1924-05-05</a>			5	5				
<a href="#">RBKXS-1924-06-06</a>			6	6				
<a href="#">RBKXS-1924-08-08</a>			8	8				
<a href="#">RBKXS-1924-10-10</a>			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			12	10				
RBKXS-2029-12-12			12	12				
RBKXS-2035-04-04	Aluminium (Anodised)	Stainless steel	4	4	20	35	3.2	M4
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			12	10				
RBKXS-2526-06-06	Aluminium (Anodised)	Stainless steel	6	6	25	26	2.8	M4
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 <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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](#)



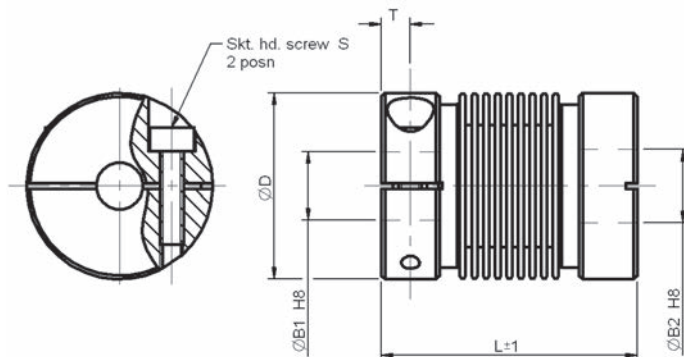


## 3 - 16 mm Bore

# Bellows Couplings Clamp Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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	

**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
RBKXK-1622-03-03	Aluminium (Anodised)	Stainless steel	3	3	16	22	2.3	M2
RBKXK-1622-04-04			4	4				
RBKXK-1622-05-04			5	4				
RBKXK-1622-06-04			6	4				
RBKXK-1622-05-05			5	5				
RBKXK-1622-06-06			6	6				
RBKXK-1624-03-03	Aluminium (Anodised)	Stainless steel	3	3	16	24	2.3	M2
RBKXK-1624-06-03			6	3				
RBKXK-1624-04-04			4	4				
RBKXK-1624-05-04			5	4				
RBKXK-1624-06-04			6	4				
RBKXK-1624-05-05			5	5				
RBKXK-1624-06-06			6	6				
RBKXK-1627-03-03	Aluminium (Anodised)	Stainless steel	3	3	16	27	2.3	M2
RBKXK-1627-06-03			6	3				
RBKXK-1627-04-04			4	4				
RBKXK-1627-05-04			5	4				
RBKXK-1627-05-05			5	5				
RBKXK-1627-06-06			6	6				
RBKXK-2129-06-06	Aluminium (Anodised)	Stainless steel	6	6	21	29	3.0	M2.5
RBKXK-2129-10-06			10	6				
RBKXK-2129-08-08			8	8				
RBKXK-2129-10-10			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
RBKXX-2135-06-06	Aluminium (Anodised)	Stainless steel	6	6	21	35	3.0	M2.5
RBKXX-2135-10-06			10	6				
RBKXX-2135-08-08			8	8				
RBKXX-2135-10-10			10	10				
RBKXX-2429-12-06	Aluminium (Anodised)	Stainless steel	12	6	24	29	3.0	M2.5
RBKXX-2429-12-10			12	10				
RBKXX-2429-12-12			12	12				
RBKXX-2435-12-06	Aluminium (Anodised)	Stainless steel	12	6	24	35	3.0	M2.5
RBKXX-2435-12-10			12	10				
RBKXX-2435-12-12			12	12				
RBKXX-3030-12-10	Aluminium (Anodised)	Stainless steel	12	10	30	30	3.0	M3
RBKXX-3030-12-12			12	12				
RBKXX-3030-14-14			14	14				
RBKXX-3030-16-16			16	16				

### Technical specifications

Size Ref	Max Speed min <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
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](#)



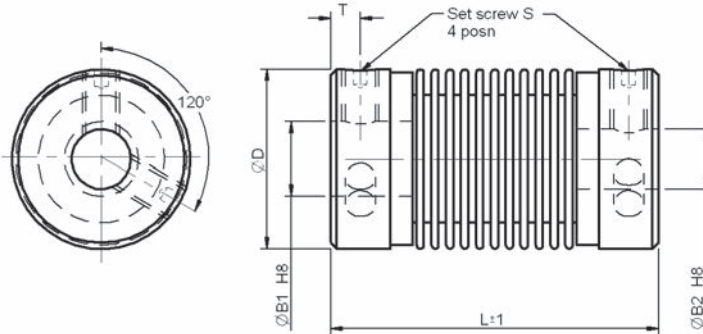


# 2 - 12 mm Bore

# Nickel Bellows Couplings Set Screw Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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

## 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 <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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

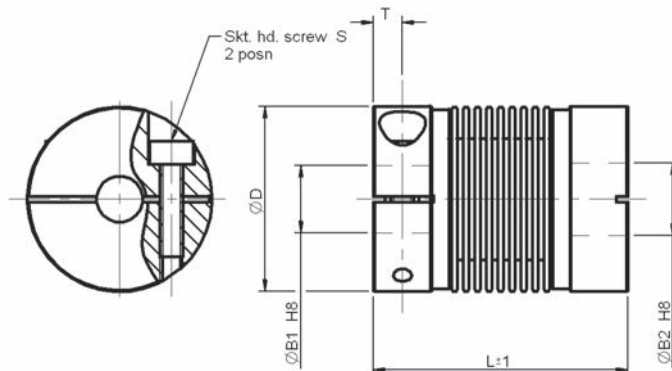


## Associated Products

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

All dimensions in mm  
General tolerances  $\pm 0.13$  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
<a href="#">RBKNK-1733-03-03</a>	Aluminium (Anodised)	Nickel	3	3	16.3	33	2.5	M2
<a href="#">RBKNK-1733-04-04</a>			4	4				
<a href="#">RBKNK-1733-06-04</a>			6	4				
<a href="#">RBKNK-1733-06-06</a>			6	6				
<a href="#">RBKNK-2537-06-06</a>	Aluminium (Anodised)	Nickel	6	6	25	37	2.8	M2.5
<a href="#">RBKNK-2537-10-06</a>			10	6				
<a href="#">RBKNK-2537-08-08</a>			8	8				
<a href="#">RBKNK-2537-10-10</a>			10	10				
<a href="#">RBKNK-2537-12-12</a>			12	12				

## Technical specifications

Size Ref	Max Speed $\text{min}^{-1}$	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia $\text{gcm}^2$	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
1733	10,000	39	$\pm 0.72$	$\pm 3.09$	$\pm 14$	70	3.0	4.89	35	11.5
2537		200	$\pm 0.46$	$\pm 2.77$	$\pm 8$	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  $-30^{\circ}\text{C}$  to  $+120^{\circ}\text{C}$
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



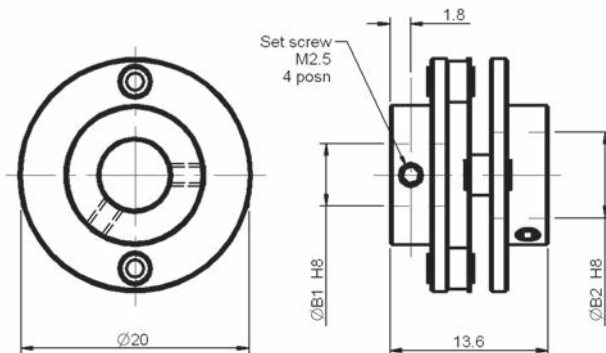


# 2 - 6 mm Bore

# Flexible Disc Spring Couplings Set Screw Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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

## 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 <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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

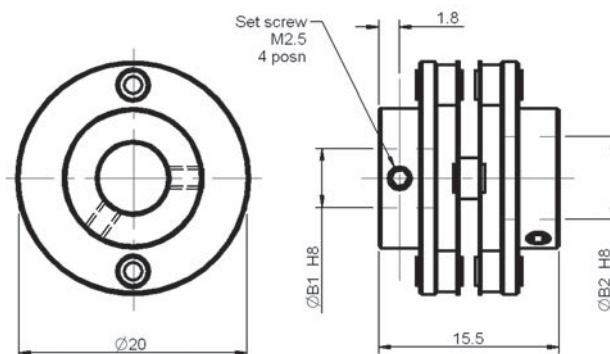


## Associated Products

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

All dimensions in mm  
General tolerances  $\pm 0.13$  mm

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 $\varnothing B1$	Bore $\varnothing B2$
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 $\text{min}^{-1}$	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia $\text{gcm}^2$	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
2016	10,000	50	$\pm 0.2$	$\pm 0.4$	$\pm 3.0$	20	125	2.8	60	6.0

## ? Technical support

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



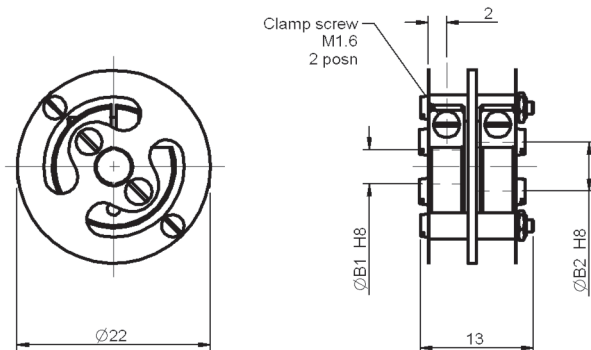


## 2 - 4 mm Bore

# Flexible Disc Spring Couplings Clamp Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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

### 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 <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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

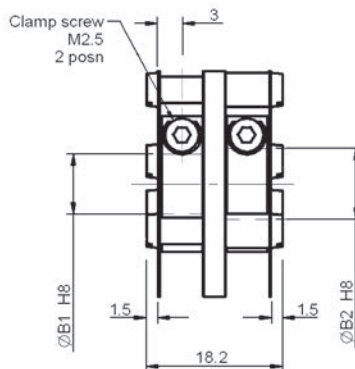
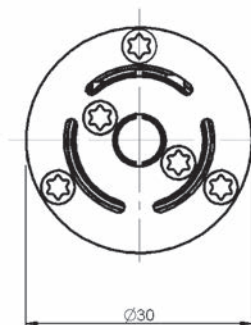


## Associated Products

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

All dimensions in mm  
General tolerances  $\pm 0.13$  mm

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



Couplings  
and Collars

## 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 <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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](#)





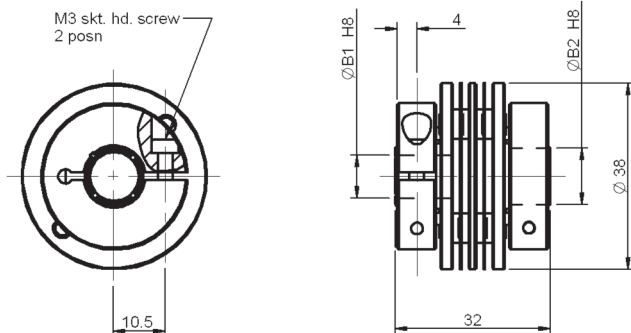


# 6 - 14 mm Bore

# Flexible Disc Spring Couplings Clamp Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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

## 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 <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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

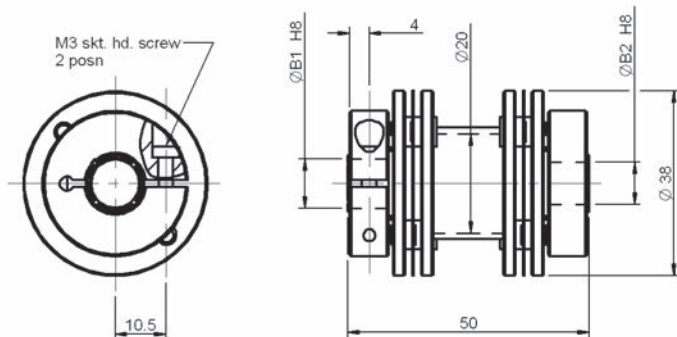


## Associated Products

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

All dimensions in mm  
General tolerances  $\pm 0.13$  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	Bore
			ØB1	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 $\text{min}^{-1}$	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia $\text{gcm}^2$	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg					
3850	8,000	200	$\pm 0.8$	$\pm 0.8$	$\pm 2.5$	250	12	106	100	63

## ? Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Maintenance free
- Recommended temperature range  $-30^{\circ}\text{C}$  to  $+120^{\circ}\text{C}$
- 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](#)



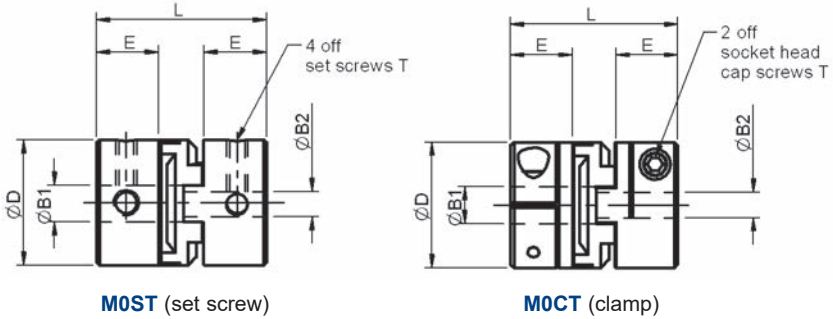


# 3 - 12 mm bore

# 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](#)



## Part number selection table

Example Part No:- <b>M0ST AT - 13 - 3-3</b>							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
			(bore tolerance +0.050/-0.000)							
<b>M0ST</b> (set screw)	<b>AT</b> (Acetal)	<b>13</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	12.7	15.9	5.6	M3
		<b>19</b>		<b>4</b>	<b>5</b>	<b>6</b>	19.1	22.2	7.6	M3
	<b>NL</b> (Nylon)	<b>25</b>				<b>6</b>	25.4	28.6	9.9	M4
		<b>33</b>				<b>8</b>	33.3	47.6	15.0	M4
		<b>41</b>				<b>10</b>	41.3	50.8	18.0	M5
<b>M0CT</b> (clamp)	<b>AT</b> (Acetal)	<b>19</b>		<b>4</b>	<b>5</b>	<b>6</b>	19.1	25.4	9.7	M2.5
		<b>25</b>				<b>8</b>	25.4	31.8	11.9	M3
	<b>NL</b> (Nylon)	<b>33</b>				<b>10</b>	33.3	47.6	15.0	M3
		<b>41</b>				<b>12</b>	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](#)



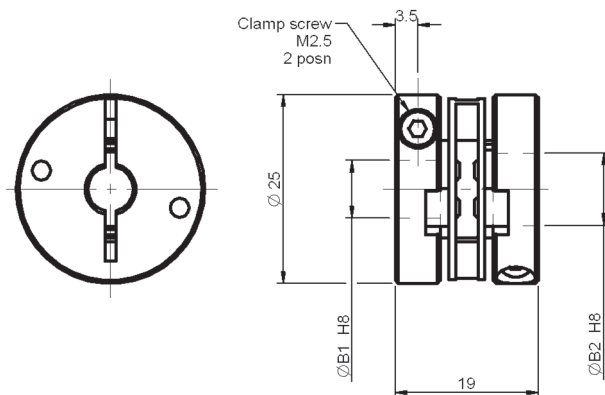


## 6 - 10 mm Bore

# Membrane Couplings Clamp Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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	Hub Material	Membrane Material	Bore ØB1	Bore ØB2
<a href="#">RFSKK-2519-06-06</a>	Aluminium (Anodised)	Polyamide	6	6
<a href="#">RFSKK-2519-10-06</a>		6.6	10	6
<a href="#">RFSKK-2519-08-08</a>		re-inforced	8	8
<a href="#">RFSKK-2519-10-10</a>		fibreglass	10	10

### Technical specifications

Size Ref	Max Speed min <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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

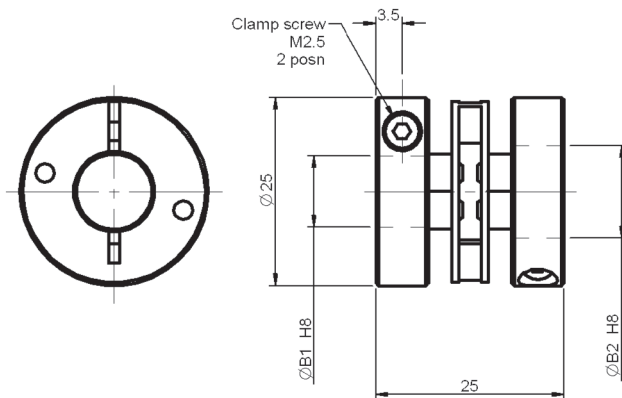


## Associated Products

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

All dimensions in mm  
General tolerances  $\pm 0.13$  mm

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



Couplings  
and Collars

## 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 <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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](#)



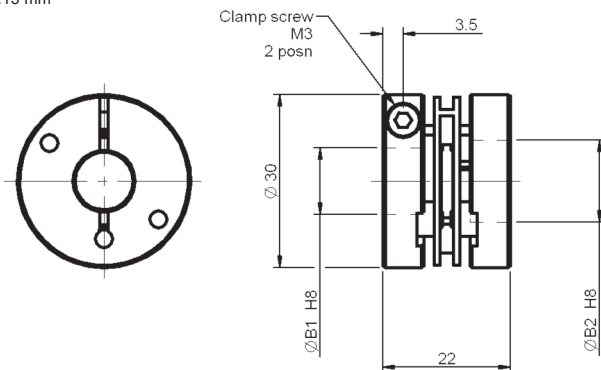


# 6 - 14 mm Bore

# Membrane Couplings Clamp Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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	
12	+0.027
14	

## Part number selection table

Part Number	Hub Material	Membrane Material	Bore ØB1	Bore ØB2
<a href="#">RFSKK-3022-06-06</a>	Aluminium (Anodised)	Polyamide 6.6 reinforced fibreglass	6	6
<a href="#">RFSKK-3022-10-06</a>			10	6
<a href="#">RFSKK-3022-08-08</a>			8	8
<a href="#">RFSKK-3022-10-10</a>			10	10
<a href="#">RFSKK-3022-12-10</a>			12	10
<a href="#">RFSKK-3022-12-12</a>			12	12
<a href="#">RFSKK-3022-14-14</a>			14	14

## Technical specifications

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

### ? Technical support

- Zero backlash
- High torsional stiffness and low bearing loads
- Maintenance free
- Recommended temperature range  $-10^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$
- 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

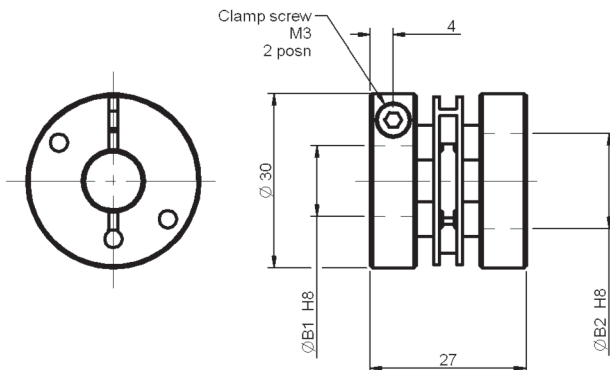


## Associated Products

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

All dimensions in mm  
General tolerances  $\pm 0.13$  mm

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



Couplings  
and Collars

## 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 <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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](#)



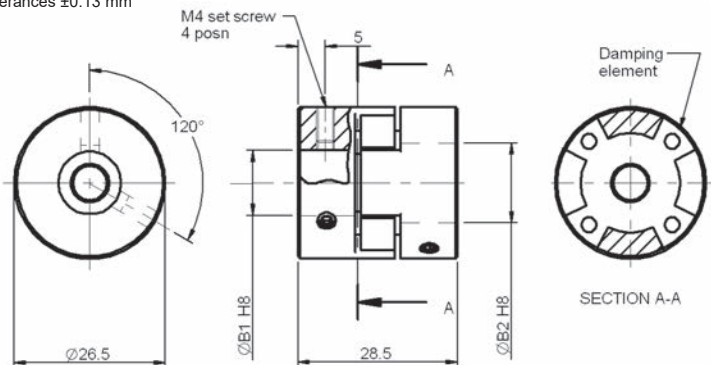


# 6 - 12 mm Bore

# Curved Jaw Couplings Set Screw Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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

## 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 <sup>-1</sup>	Max Torque Ncm	Misalignment at 750rpm			Twist at Max Torque Deg	Moment of Inertia gcm <sup>2</sup>	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

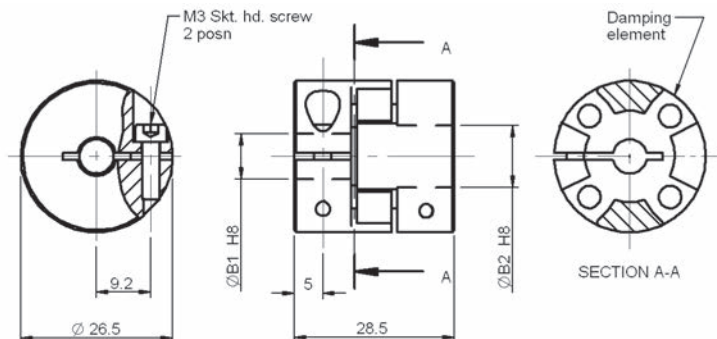


## Associated Products

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

All dimensions in mm  
General tolerances  $\pm 0.13$  mm

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



## Part number selection table

Example Part No:- <b>RKKAK - 1500 - 08 - 06 - 92</b>					
Basic Part Number	Hub Material	Damping Element Material	Element Hardness	Bore ØB1	Bore ØB2
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 $\text{min}^{-1}$	Max Torque Ncm	Misalignment at 750rpm			Twist at Max Torque Deg	Moment of Inertia $\text{gcm}^2$	Max Screw Torque Ncm	Approx Weight g
			Radial mm	Axial mm	Angular deg				
80	19,000	800	$\pm 0.22$	$\pm 1.0$	$\pm 1.3$	10	30	150	34
92		1500	$\pm 0.22$	$\pm 1.0$	$\pm 1.3$	10	30	150	34
98		2500	$\pm 0.22$	$\pm 1.0$	$\pm 1.3$	10	30	150	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



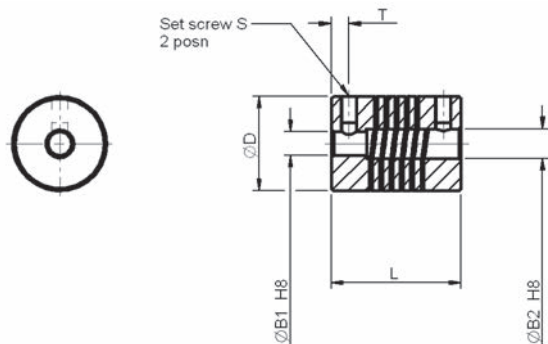


# 1 - 5 mm Bore

# Micro Spiral Beam Couplings Set Screw Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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		

## Part number selection table

Part Number	Material	Bore	Bore	O/D	Length	Screw Position	Screw Thread
		ØB1	ØB2	ØD	L	T	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 <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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](#)

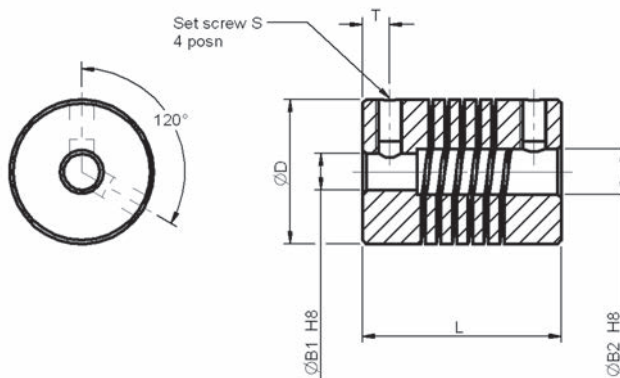
Bearings: [page 12-1](#)

Leadscrews: [page 7-1](#)

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

All dimensions in mm  
General tolerances  $\pm 0.13$  mm

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



## Part number selection table

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

## Technical specifications

Size	Max Speed min <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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](#)



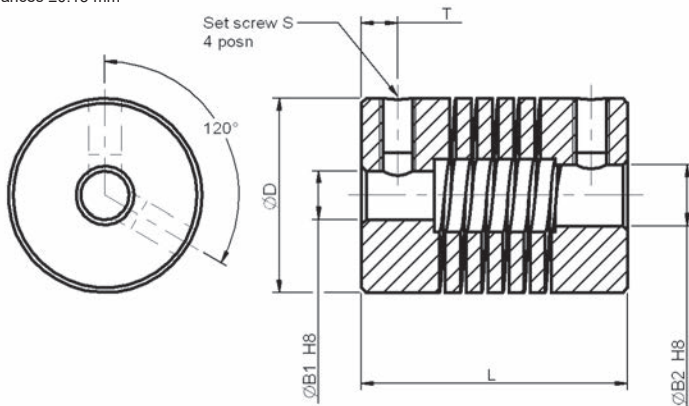


## 4 - 14 mm Bore

# Spiral Beam Couplings Set Screw Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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	

### 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 <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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](#)



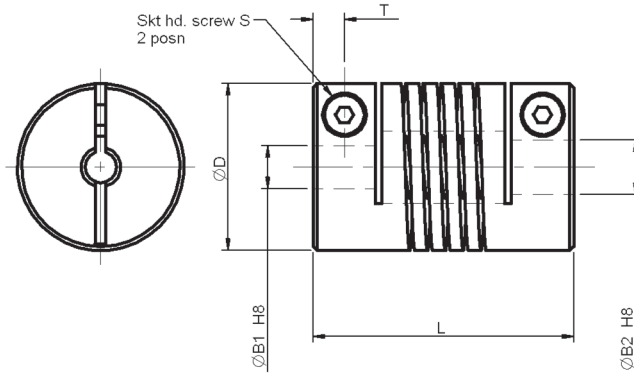


# 2 - 14 mm Bore

# Spiral Beam Couplings Clamp Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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	

**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
<b>RWKAK-3038-10-10</b>	Aluminium (Anodised)	10	10	30	38	4.8	M4
<b>RWKAK-3038-12-10</b>		12	10				
<b>RWKAK-3038-12-12</b>		12	12				
<b>RWKAK-3038-14-14</b>		14	14				

### Technical specifications

Size Ref	Max Speed min <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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](#)



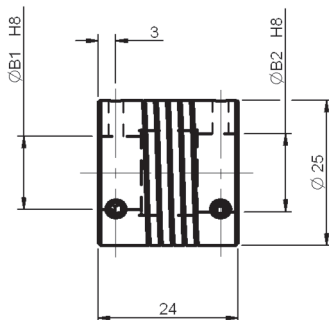
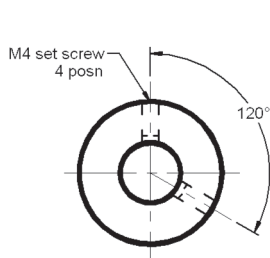


## 8 - 10 mm Bore Stainless Steel

# Spiral Beam Couplings Set Screw Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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	

### Part number selection table

Part Number	Material	Bore ØB1	Bore ØB2
<a href="#">RWKXS-2524-08-08</a>	Stainless steel	8	8
<a href="#">RWKXS-2524-10-10</a>		10	10

### Technical specifications

Size Ref	Max Speed min <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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°C
- One piece construction
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



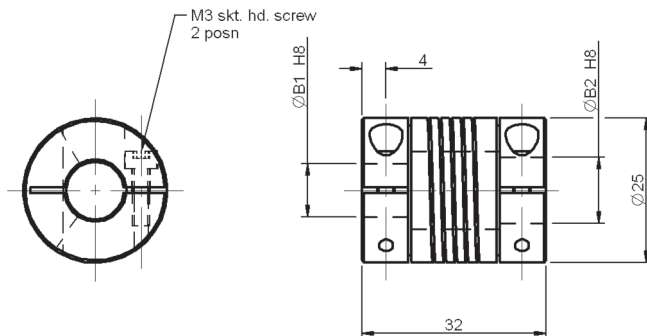


### Associated Products

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

All dimensions in mm  
General tolerances  $\pm 0.13$  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
<a href="#">RWKXX-2532-10-06</a>	Stainless steel	10	6
<a href="#">RWKXX-2532-08-08</a>		8	8
<a href="#">RWKXX-2532-10-10</a>		10	10

### Technical specifications

Size Ref	Max Speed min <sup>-1</sup>	Max Torque Ncm	Misalignment			Torsional Stiffness Nm/rad	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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°C
- One piece construction
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)

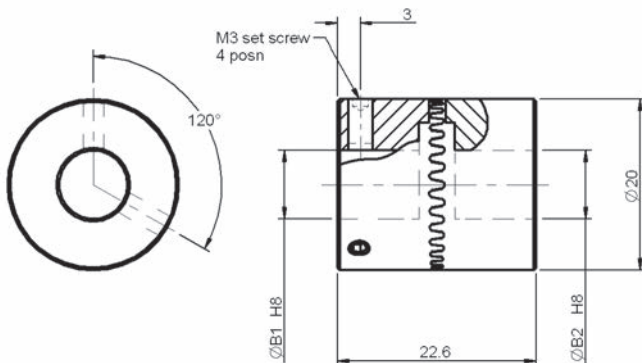


## 6 - 10 mm Bore

# Radial Tooth Couplings

All dimensions in mm  
General tolerances  $\pm 0.13$  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	

## Part number selection table

Part Number	Coupling Material	Bore ØB1	Bore ØB2
<a href="#">RSKSS-2022-06-06</a>	Steel 9S Mn Pb 28 (Black finished)	6	6
<a href="#">RSKSS-2022-08-06</a>		8	6
<a href="#">RSKSS-2022-10-06</a>		10	6
<a href="#">RSKSS-2022-08-08</a>		8	8
<a href="#">RSKSS-2022-10-10</a>		10	10

## Technical specifications

Size Ref	Max Speed min <sup>-1</sup>	Max Torque Ncm	Misalignment			Module mm	Radial Stiffness N/mm	Moment of Inertia gcm <sup>2</sup>	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°C
- Self centering connection
- Technical information - see [page T8-1](#)
- Product overview - see [pages 8-2 to 8-7](#)



# Friction Clutch - Spiral Spring Clamp Hub

4 - 6 mm Bore



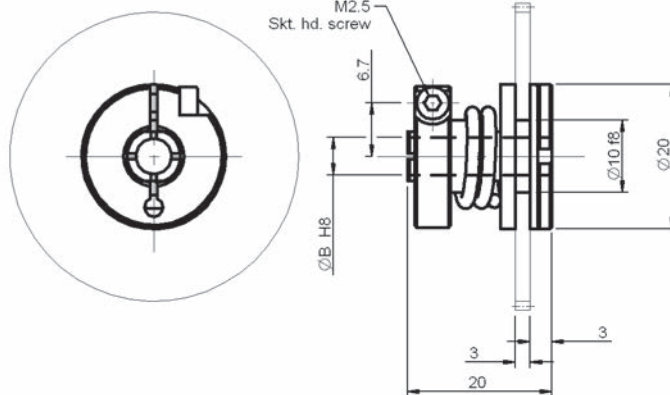
## Associated Products

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

All dimensions in mm  
General tolerances  $\pm 0.13$  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 <sup>-1</sup>	Max Adjustable Torque Ncm	Moment of Inertia gcm <sup>2</sup>	Max Screw Torque Ncm	Material		Approx Weight g
						Flange	Clutch Lining	
<a href="#">RRKSK-2020-04</a>	4	50	30	8.4	100	Steel 9S Mn Pb 28 (Black finished)	Nylatron	20
<a href="#">RRKSK-2020-05</a>	5							
<a href="#">RRKSK-2020-06</a>	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](#)



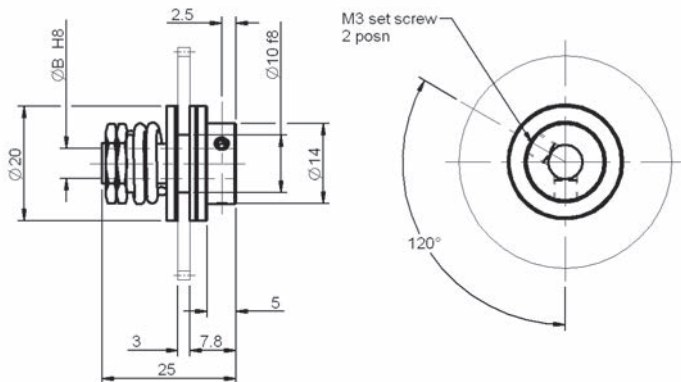


## 4 - 6 mm Bore

# Friction Clutch - Spiral Spring Set Screw Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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 <sup>-1</sup>	Max Adjustable Torque Ncm	Moment of Inertia gcm <sup>2</sup>	Max Screw Torque Ncm	Material		Approx Weight g
						Flange	Clutch Lining	
<a href="#">RRKSS-2025-04</a>	4	50	30	8.4	80	Steel 9S Mn Pb 28 (Black finished)	Nylatron	23
<a href="#">RRKSS-2025-05</a>	5							
<a href="#">RRKSS-2025-06</a>	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



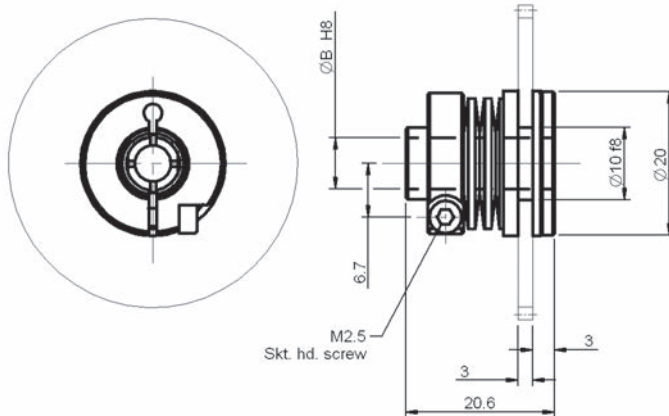
## Associated Products

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

All dimensions in mm  
General tolerances  $\pm 0.13$  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 <sup>-1</sup>	Max Adjustable Torque Ncm	Moment of Inertia gcm <sup>2</sup>	Max Screw Torque Ncm	Material		Approx Weight g
						Flange	Clutch Lining	
<a href="#">RRKTK-2020-04</a>	4	40	120	7	100	Steel 9S Mn Pb 28 (Black finished)	Nylatron	23
<a href="#">RRKTK-2020-05</a>	5							
<a href="#">RRKTK-2020-06</a>	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](#)



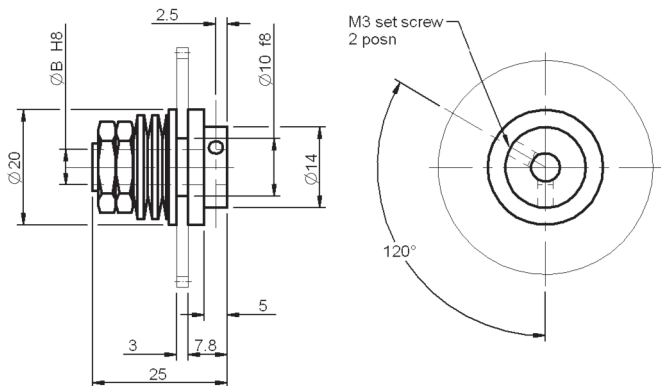


## 4 - 6 mm Bore

# Friction Clutch - Plate Spring Set Screw Hub

All dimensions in mm  
General tolerances  $\pm 0.13$  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 <sup>-1</sup>	Max Adjustable Torque Ncm	Moment of Inertia gcm <sup>2</sup>	Max Screw Torque Ncm	Material		Approx Weight g
						Flange	Clutch Lining	
<a href="#">RRKTS-2025-04</a>	4	40	120	9.9	80	Steel 9S Mn Pb 28 (Black finished)	Nylatron	25
<a href="#">RRKTS-2025-05</a>	5							
<a href="#">RRKTS-2025-06</a>	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](#)



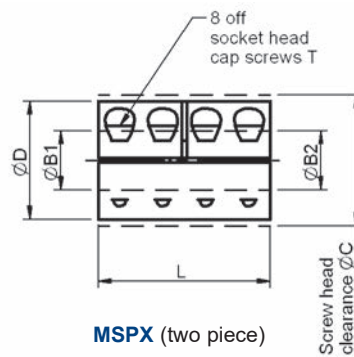
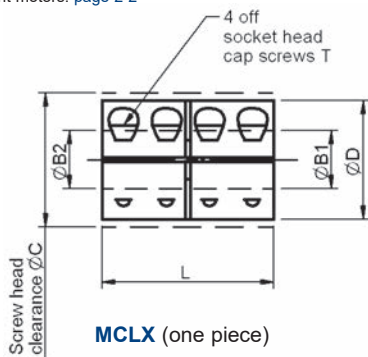




### Associated Products

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



### Part number selection table

Example Part No:- <b>MCLX - A - 3-3</b>			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
<b>MCLX</b> (1-piece)	<b>A*</b> (Aluminium)	<b>3</b>	3	15	22	15.0	M2
		<b>4</b>	4	15	22	15.0	M2
		<b>5</b>	5	15	22	15.0	M2
<b>MSPX</b> (2-piece)	<b>SS</b> (St. steel)	<b>6</b>	6	18	30	21.5	M3
		<b>8</b>	8	24	35	27.1	M3
		<b>10</b>	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](#)



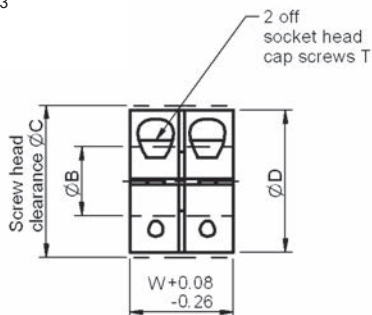
# 6 - 10 mm Bore

# Double Width Shaft Clamp Collars

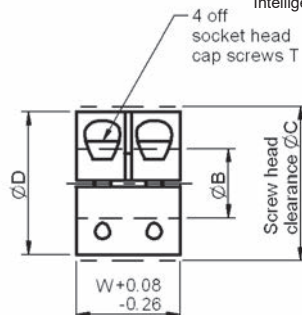
All dimensions in mm  
Materials: Aluminium alloy  
grade 2024 T351  
Stainless steel  
Grade 18.8 type 303  
Screws C12L14

## 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:- <b>MWCL - A - 6</b>			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
<b>MWCL</b> (1-piece)	<b>A*</b> (Aluminium)	<b>6</b>	6	16	20	20.8	M3
<b>MWSP</b> (2-piece)	<b>SS</b> (St. steel)	<b>8</b>	8	18	20	22.4	M3
		<b>10</b>	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

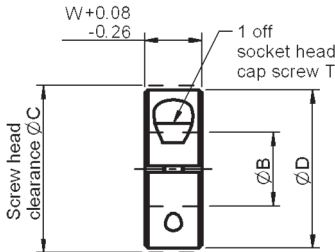
- Does not mark the shaft
- Integral location face
- Excellent for high axial loads
- MWSP, two piece style is balanced by opposing hardware and is easily disassembled and maintained
- Transmits torque in confined spaces
- Recommended temperature range:  
Stainless steel -40°C to +175°C  
Aluminium -40°C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



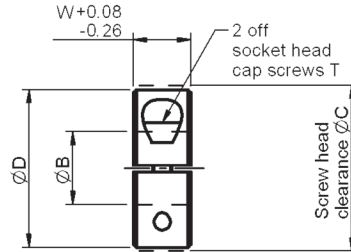
### Associated Products

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:- <b>MCL - A - 3</b>			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
<b>MCL</b> (1-piece)	<b>A</b> (Aluminium)	<b>3</b>	3	16	9	20.8	M3
		<b>4</b>	4	16	9	20.8	M3
		<b>5</b>	5	16	9	20.8	M3
		<b>6</b>	6	16	9	20.8	M3
<b>MSP</b> (2-piece)	<b>SS</b> (St. steel)	<b>7</b>	7	18	9	22.4	M3
		<b>8</b>	8	18	9	22.4	M3
		<b>9</b>	9	24	9	26.3	M3
		<b>10</b>	10	24	9	26.3	M3

### **i** 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](#)

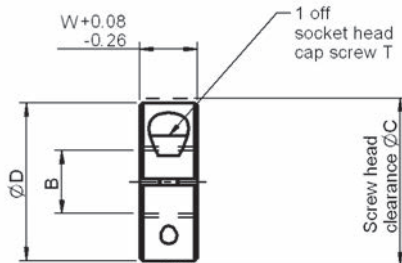


# 4 - 10 mm Bore

# 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:- <b>MTCL - SS - 4</b>			Dimensions (mm)				
Basic Part Number	Material	Size	Standard Thread Sizes  B	O/D  ØD	Width  W	ØC	Clamp Screw T
<b>MTCL</b>	<b>SS</b> (St. steel)	<b>4</b>	M4x0.7	16	9	20.8	M3
		<b>5</b>	M5x0.8	16	9	20.8	M3
		<b>6</b>	M6x1	16	9	20.8	M3
		<b>8</b>	M8x1.25	18	9	22.4	M3
		<b>10</b>	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**

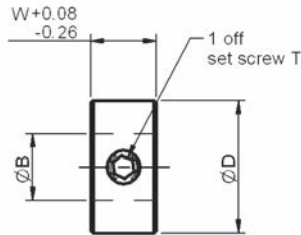
- Does not mark shaft
- Integral location face
- Installation information - see [page T8-4](#)
- Product overview - see [pages 8-2 to 8-7](#)



### 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:- <b>MSC - SS - 4</b>			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
<b>MSC</b>	<b>SS</b> (St. steel)	<b>4</b>	4	8	5	M2.5X3
		<b>5</b>	5	10	6	M3X4
		<b>6</b>	6	12	8	M4X4
		<b>8</b>	8	16	8	M4X4
		<b>10</b>	10	20	10	M5X5















### **i** 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](#)



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