



Reliance[®]

Precision Mechatronics



**Standard and Customised
Components and Assemblies**

A complete source for precise motion control

Leadscrews and Leadscrew Assemblies



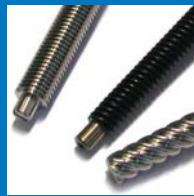
Leadscrews

A wide range of precision leadscrews, nuts and leadscrew assemblies for those demanding positioning applications.



Leadscrew Nut Assemblies

A wide range of anti-backlash and plain nuts
Miniature through to heavy duty



Leadscrews

Screw diameters 3.17mm to 24mm
Lead range 0.3mm to 76mm
Modifications for support and drive ends



Leadscrew Linear Slides

Maximum stroke length 1000mm



ScrewRail®

A space saving leadscrew assembly
Available in lengths from 104mm to 914mm.

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LBF MINI series - Miniature nut for applications that do not require anti-backlash or wear compensation.



LPX series - Long life, for applications that do not require anti-backlash or wear compensation.



LNTG series - Adjustable drag, compact design, anti-backlash nut assembly allows drag torque to be pre-set according to system requirements.



LAB series - Can be adjusted for torque ranges.



LNTB MINI series - Miniature anti-backlash nut for applications requiring axial stiffness through life with minimal drag torque.



LNTB series - Flexible design, self-compensating anti-backlash nut assembly maintains axial stiffness throughout its life with minimum system drag torque.



LAF series - Moderate loads. Precise position accuracy and repeatability. Anti-backlash.



LAK series - Moderate loads. Delivers increased load capacity and greater axial stiffness with low drag torque. Anti-backlash.



LWD series - Moderate loads. An anti-backlash, self-lubricating acetal nut. Compact design provides stiffness and accuracy for precise positioning.



LCM series - Light loads, compact design. Anti-backlash.



LAX series - Heavy loads. delivers maximum load carrying capacity with highest axial and radial stiffness. Anti-backlash.



Custom Design - Specials to suit your application.



Reliance has a wide variety of standard nut designs which offer many features to choose from. Once an application's most important requirements are understood, it becomes a matter of choosing the nut which best meets those requirements. Occasionally, more than one nut might do the job, but in the vast majority of situations, one nut design will stand above the rest. The matrix below may help to narrow down the choices before more specific data is studied in the leadscrew section.

All of the nuts can be modified to some degree to help them better meet specific requirements. Reliance is also very willing to discuss custom nut designs where requirements and volumes justify. Contact our sales team for more information.

Nut Feature	Nut Style:	LBF	LPX	LNTG	LAB	LNTB	LAF	LAK	LWD	LCM	LAX
Compactness		●●●	●●●	●●●	●●	●●	●●	●●	●●●	●●●	●
Dynamic load capability		●●●	●●●	●●	●●	●●	●	●●	●●	●●	●●●
Minimal drag torque		☒	☒	●●	●●	●●	●●	●●●	●●	●	●●●
Vibration damping (horizontal)		☒	☒	●●	●●●	●	●●●	●●	●	●	●●
Vibration damping (vertical)		☒	☒	●	●●●	●	●●●	●	●	●	●
Smoothness of operation (printing/ scanning)		●	●	●●●	●●●	●●	●●	●●	●●	●	●●
Backlash/wear compensation capability		☒	☒	●	●	●●●	●●	●●●	●●●	●●●	●●●
Ease of user adjustment of drag torque/backlash		☒	☒	●●●	●●●	●	☒	●●	☒	☒	●●
Stiffness (less axial bi-directional compliance)		☒	☒	●●	●●	●●●	●●	●●●	●●●	●●●	●●●
Ability to add modifications		●●●	●●●	●	●	●●●	●●	●	●	●	●
Ability to manufacture with custom material		●●●	●●●	●●	●●	●●●	●●	●	●	●	●
Ability to work with finer leads <0.2"		●●●	●●●	●●●	●●●	●●	●●●	●●●	●●●	●●●	●●●
Ability to work with long leads >1.0"		●●●	●●●	●	●●●	●●●	●●●	●●●	●●●	●●●	●●●

Comparative star rating:
 ●●● best
 ● good
 ☒ not applicable



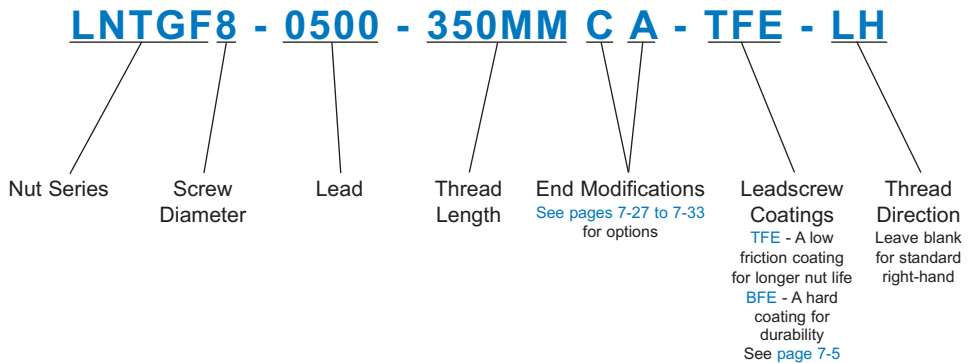


Product Summary

Leadscrews supplied by Reliance are available in standard diameters from 3.2mm (1/8") to 24mm (15/16"), with standard leads from 0.30mm to 92mm (0.012" to almost 4") including imperial and selected left hand threads. Custom sizes and leads can be specially ordered. Most stock screws are manufactured from 303 stainless steel and are produced with a precision rolling process. Other materials are available on special order.

Positional bi-directional repeatability with the anti-backlash nut is within 1.5 micron and standard lead accuracy is better than 0.0006mm/mm. Lead accuracies are available to 0.0001mm/mm. Please contact our sales team for more details or special requests.

Part Number Structure



Nut Mounting Options

The Reliance Precision Mechantronics range of nut assemblies are available in several different designs. These are designated as anti-backlash, adjustable anti-backlash, general purpose and miniature. Most nuts are available with a triangular, round or threaded mount, however, if a non-standard design is required, then these can be supported using specialist mould designs.



Materials

Reliance Precision Mechatronics leadscrews are rolled from a premium grade, corrosion resistant and non-magnetic 303 stainless steel, making them compatible with many demanding applications. Other materials have been used to roll the leadscrews ranging from 316 and 400 series stainless steel to precipitation hardening steels, aluminium and titanium. These materials are ideally suited for industries such as medical, vacuum, cleanroom, food and human contact and finally in salt spray or cryogenics.

Due to the controlled manufacturing processes, we can offer different types of plastics that can be moulded, eg PEEK, special carbon or other fibre filled plastic. Even though the standard design and materials developed for the leadscrew nut assemblies are commonly plastics, metal nuts made from bronze, brass or stainless steel have also been supplied. In order to be able to achieve both the most technically and cost effective solution, we are able to supply special moulded nuts with impregnated metal for strength, thus minimizing the number of components in the assembly.

Leadscrew Coatings

Reliance Precision Mechatronics can offer different forms of lubrication. All standard leadscrew nuts are manufactured from self-lubricating plastics. When the best performance is required, we offer a standard soft and hard TFE coating which is available to provide the ultimate result in the most demanding applications. These TFE coatings supply the best distribution of lubricant in our assemblies. Reliance also supplies leadscrews with specialist Nickel/TFE coatings and offers support with the choice of coatings used in medium vacuum applications (up to 10^{-5}). The BFE coating is a special proprietary hard coating which shares many of the benefits of TFE coating but offers exceptional durability in more aggressive environments and where reduced friction and a permanent coating is desired.

Lubrication to the screw/nut interface occurs by the nut picking up TFE particles from the coating as well as from migration of the internal lubricant from within the plastic nut.

Although care should be taken to ensure that chips and voids do not occur in the coating, small voids have been shown to have little effect on the system performance. The lubricant, although solid, has some of the "spreading" ability of fluid lubricants. When machining for bearing ends, soft fixtures are recommended.










TFE coated screws provide the maximum level of self-lubrication and should not be additionally lubricated or used in environments where oils or other lubricant contamination is possible.

All these coatings are supplied to give the customer the best results on wear life, coefficient of friction and the resulting torque that is needed to drive a leadscrew assembly for only a small additional cost.

Technical features - apply to the whole leadscrew range

- Precision rolled thread for greater accuracy
- Polyacetal nut with lubricating additive for longer life
- Average lead accuracy 0.0006mm/mm of screw length
- Standard repeatability of 0.0015mm on anti-backlash designs
- Low friction coatings extend the life of our standard assemblies by up to 300% add -TFE or -BFE to the part number as shown on [page 7-4](#)
- Standard lead screws are available in left hand thread, just consult our lead screw size list and add -LH to our part number as shown on [page 7-4](#)



										
Nominal Screw Diameter	Property	LBF LPX Series	LNTG Series	LAB Series	LNTB Series	LAF Series	LAK Series	LWD Series	LCM Series	LAX Series
3mm	Dynamic load	11kg	2.3kg		2.3kg					
	Static friction drag torque	free wheeling	0.001 - 0.004Nm		0.001 - 0.004Nm					
5mm	Dynamic load	11kg	2.3kg		2.3kg			4.5kg	2.3kg	
	Static friction drag torque	free wheeling	0.001 - 0.004Nm		0.001 - 0.004Nm			0.03Nm max	0.03Nm	
6mm	Dynamic load	20kg	4.6kg	2.3kg	4.6kg	2.3kg		4.5kg	2.3kg	
	Static friction drag torque	free wheeling	0.004 - 0.01Nm	0.01 - 0.004Nm	0.004 - 0.01Nm	0.004Nm		0.03Nm max	0.03Nm	
8mm	Dynamic load	35kg	10kg	5kg	10kg	5kg	10kg	11.3kg	3.6kg	
	Static friction drag torque	free wheeling	0.01 - 0.02Nm	0.01 - 0.02Nm	0.01 - 0.02Nm	0.01 - 0.03Nm	0.01 - 0.02Nm	0.04Nm max	0.04Nm	
10mm	Dynamic load	35kg	10kg	5kg	10kg	5kg	10kg	11.3kg	3.6kg	
	Static friction drag torque	free wheeling	0.01 - 0.02Nm	0.01 - 0.02Nm	0.01 - 0.02Nm	0.01 - 0.03Nm	0.01 - 0.02Nm	0.04Nm max	0.04Nm	
11mm	Dynamic load	40kg		7kg	13kg	7kg		34kg		
	Static friction drag torque	free wheeling		0.015 - 0.03Nm	0.01 - 0.02Nm	0.015 - 0.04Nm		0.06Nm max		
13mm	Dynamic load	68kg		11kg	45kg	11kg		34kg		68kg
	Static friction drag torque	free wheeling		0.015 - 0.03Nm	0.015 - 0.04Nm	0.02 - 0.05Nm		0.06Nm max		0.015 - 0.04Nm
16mm	Dynamic load	100kg		16kg	56kg	16kg				113kg
	Static friction drag torque	free wheeling		0.02 - 0.05Nm	0.01 - 0.04Nm	0.028 - 0.055Nm				0.01 - 0.04Nm
19mm	Dynamic load	160kg		25kg	68kg					159kg
	Static friction drag torque	free wheeling		0.03 - 0.004Nm	0.02 - 0.05Nm					0.02 - 0.05Nm
22mm	Dynamic load	227kg		25kg	90kg					159kg
	Static friction drag torque	free wheeling		0.03 - 0.004Nm	0.03 - 0.06Nm					0.02 - 0.05Nm
24mm	Dynamic load	227kg		25kg	90kg					
	Static friction drag torque	free wheeling		0.03 - 0.004Nm	0.03 - 0.06Nm					
See Page		7-12 & 14	7-15 & 16	7-17	7-18 to 20	7-21	7-22	7-23	7-24	7-25

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Metric leads

Compatible Nut Styles	Lead mm	Nominal Screw Diameter	Part Number	Root Dia mm	Outside Diameter	Efficiency %	Left Hand Available
LCM, LAF, LAB, LNTB, LNTG, LPX, LAK*	1.0	6mm 10mm	6-M010 10-M010	4.83 8.89	6.35 10.01	40 28	
LCM, LAF, LAB, LNTB, LNTG, LPX, LAK*	1.5	6mm 10mm	6-M015 10-M015	4.37 7.95	6.32 9.88	52 38	✓
LCM, LAF, LAB, LNTB, LNTG, LPX, LAK*	2.0	6mm 10mm 11mm 12mm	6-M020 10-M020 11-M020 12-M020	4.35 6.71 9.50 9.02	6.35 9.53 11.99 12.01	59 47 42 41	
LAF, LAB, LNTB, LWD, LPX	2.5	13mm	13-M025	9.73	12.70	46	
LCM, LAF, LAB, LNTB, LNTG, LPX	3.0	6mm 11mm	6-M030 11-M030	4.45 9.22	6.35 11.13	68 52	

Imperial leads

LCM, LAF, LAB, LNTB, LNTG, LPX, LAK*	1.27 (0.05")	4mm 5mm 6mm 10mm 11mm 13mm	4-0050 5-0050 6-0050 10-0050 11-0050 13-0050	2.44 3.15 4.85 7.65 9.19 11.00	3.96 4.78 6.35 9.53 11.10 12.57	59 58 46 36 30 29	✓
LCM, LAF, LAB, LNTB, LNTG, LPX, LAK*	5.08 (0.2")	6mm 10mm 13mm	6-0200 10-0200 13-0200	4.32 6.76 9.30	6.35 9.53 12.50	65 69 63	
LCM, LAF, LAB, LNTB, LNTG, LPX, LAK*	6.35 (0.25")	4mm 5mm 6mm 8mm 10mm 11mm 13mm	4-0250 5-0250 6-0250 8-0250 10-0250 11-0250 13-0250	3.30 3.56 4.32 5.94 6.81 8.26 9.70	3.96 5.18 6.35 7.92 9.53 11.23 12.70	83 81 79 76 70 70 67	
LAF, LAB, LNTB, LAX, LPX, LWD	12.7 (0.5")	4mm 6mm 8mm 10mm 11mm 13mm	4-0500 6-0500 8-0500 10-0500 11-0500 13-0500	3.30 4.29 5.89 6.73 8.31 8.94	3.96 6.35 7.92 9.86 11.48 12.40	86 85 83 81 80 79	✓ ✓

Please refer to the table opposite for compatible nut styles for the preferred lead and screw diameter.

*LAK nut styles are only available on leadscrews with an 8 or 10mm nominal screw diameter. Use the LNTB nut for other diameters.



Compatible Nut Styles	Lead mm	Nominal Screw Diameter	Part Number	Root Dia mm	Outside Diameter	Efficiency %	Left Hand Available
LNTB, LNTG, LPF	0.30	3mm (3.3mm)	3-0012	3.12	3.56	26	
	0.61		3-0024	2.36	3.28	44	
	0.85		3-0033	2.79	3.56	43	
	1.22		3-0048	2.36	3.28	61	
	1.91		3-0075	2.36	3.28	70	
	2.44		3-0096	2.36	2.28	75	
	2.44		3-0096	2.06	3.56	75	
	10.00	3.5mm	3.5-M100	2.59	3.56	86	
LNTB, LNTG, LPF	0.84	4mm (4.3mm)	4-0033	2.95	3.96	45	✓ LH Only
	1.27		4-0050	2.44	3.96	59	
	2.39		4-0094	3.25	4.17	67	
	3.18		4-0125	3.30	4.27	74	
	6.35		4-0250	3.30	3.96	83	
	9.53		4-0375	3.30	3.96	85	
	12.7		4-0500	3.30	3.96	86	
LNTB, LNTG, LPF, LWD	0.50	5mm (5.5mm)	5-M005	4.14	4.78	30	
	0.61		5-0024	4.60	5.54	31	
	0.79		5-0031	4.06	5.18	39	
	1.22		5-0048	3.96	5.49	50	
	2.44		5-0096	3.96	5.54	66	
	4.76		5-0188	4.24	4.78	78	
	4.88		5-0192	3.96	5.54	78	
	9.53		5-0375	4.09	4.78	84	
	10.85		5-0427	4.11	4.78	85	
	LCM, LAF, LAB, LNTB, LNTG, LPX, LWD		0.64	6mm (6.4mm)	6-0025	5.44	6.35
0.91		6-0030	5.08		6.25	35	
1.59		6-0063	4.32		6.35	52	
2.54		6-0100	4.83		6.35	62	
5.08		6-0200	4.32		6.35	65	
8.46		6-0333	4.32		6.35	82	
10.00		6-M100	4.32		6.35	78	
10.16		6-0400	4.32		6.35	84	
19.05		6-0750	4.32		6.35	86	
25.40		6-1000	4.32		6.35	84	✓
LCM, LAF, LAB, LNTB, LNTG, LPX, LWD		1.44	8mm (8.0mm)		8-0057	6.17	8.00
	1.88	8-0074		5.36	7.92	51	
	2.82	8-0111		5.89	7.92	60	
	4.24	8-0167		5.36	7.92	69	
	20.32	8-0800		6.17	7.77	86	
LCM, LAF, LAB, LAK, LNTB, LNTG, LPX	0.64	10mm (9.6mm)	10-0025	8.56	9.53	21	
	1.06		10-0042	8.13	9.53	34	✓
	1.59		10-0063	7.49	9.53	41	
	1.73		10-0079	7.49	9.86	42	
	2.12		10-0083	7.44	9.53	48	
	2.54		10-0100	6.76	9.53	53	✓
	3.18		10-0125	7.49	9.53	59	

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Compatible Nut Styles	Lead mm	Nominal Screw Diameter	Part Number	Root Dia mm	Outside Diameter	Efficiency %	Left Hand Available
LCM, LAF, LAB, LAK, LNTB, LNTG, LPX, LWD	4.00	10mm (9.6mm)	10-M040	6.96	9.53	65	
	4.23		10-0167	6.63	9.42	61	
	5.00		10-M050	6.76	9.53	69	
	5.08		10-0200	6.76	9.53	69	✓
	7.62		10-0300	6.48	9.53	76	
	8.46		10-0333	6.22	9.53	78	
	9.22		10-0363	6.60	9.53	79	✓
	9.53		10-0375	6.73	9.53	79	
	10.16		10-0400	7.44	9.53	79	
	12.00		10-M120	7.29	9.86	82	
	16.94		10-0667	6.93	9.53	84	
	19.05		10-0750	6.93	9.86	84	
	25.00		10-M250	6.65	9.53	84	
	25.40		10-1000	6.45	9.73	84	
	30.48		10-1200	6.45	9.73	84	✓
	38.10		10-1500	6.71	9.53	83	
LAF, LAB, LAK, LNTB, LNT, LPX	1.59	11mm (11.3mm)	11-0063	9.09	11.07	38	✓
	2.82		11-0111	8.31	11.10	52	
	3.18		11-0125	9.07	11.13	54	
	5.00		11-M050	8.00	11.13	65	
	6.00		11-M060	7.95	11.00	70	
	7.80		11-0300	8.71	11.30	73	
	8.26		11-0320	8.69	11.28	74	
	10.00		11-M100	8.41	11.33	77	
	11.76		11-0463	8.71	11.28	79	
	12.00		11-M120	8.08	11.13	80	
	12.70		11-0500	8.31	11.48	80	
	15.62		11-0610	9.55	12.07	82	
LAF, LAB, LNTB, LAX, LPX	2.54	13mm (12.7mm)	13-0100	9.25	12.45	46	✓
	3.18		13-0125	9.50	12.70	51	
	4.00		13-M040	9.75	12.70	58	
	4.06		13-0160	9.86	12.70	67	
	5.00		13-M050	9.27	12.70	62	
	5.08		13-0200	9.30	12.50	63	
	8.46		13-0330	9.19	12.62	73	
	10.00		13-M100	9.19	12.62	76	
	10.16		13-0400	9.25	12.62	76	
	16.00		13-M160	9.50	12.70	80	
	19.05		13-0750	10.13	13.34	83	
	20.32		13-0800	9.40	12.70	83	
	25.00		13-M250	9.37	12.70	84	
	25.40		13-1000	9.45	12.45	84	✓
	38.10		13-1500	9.50	12.45	85	



Compatible Nut Styles	Lead mm	Nominal Screw Diameter	Part Number	Root Dia mm	Outside Diameter	Efficiency %	Left Hand Available
LAF LAB LNTB LAX LPX	2.54	16mm (15.9mm)	16-0100	12.65	15.62	40	✓
	3.18		16-0120	11.94	15.88	45	
	5.08		16-0200	12.57	15.88	53	
	6.35		16-0250	11.91	15.88	63	
	8.00		16-M080	12.52	15.93	68	
	10.40		16-0410	12.22	15.88	72	
	12.70		16-0500	12.14	15.88	76	
	16.00		16-M160	12.47	15.88	78	
	25.41		16-1000	12.22	15.88	83	
	38.10		16-1500	12.67	15.88	85	
50.80	16-2000	12.67	15.88	86			
LAB LNTB LAX LPX	1.59	19mm (19.1mm)	19-0063	17.04	19.05	25	✓
	2.50		19-M0250	15.90	18.85	35	
	2.54		19-0100	15.85	18.95	35	
	4.23		19-0167	16.38	18.47	47	
	5.00		19-M050	15.85	18.92	51	
	5.08		19-0200	16.05	18.82	52	
	6.35		19-0250	16.23	18.57	57	
	7.00		19-M070	15.85	19.05	59	
	8.46		19-0333	15.85	19.05	64	
	10.00		19-M100	15.72	18.92	68	
	12.70		19-0500	15.82	18.90	73	
	14.00		19-M140	15.85	19.05	73	
	15.00		19-M150	15.82	19.02	74	
	19.00		19-M190	13.89	17.07	80	
	20.32		19-0800	15.70	19.05	79	
	24.00		19-M240	16.08	18.64	80	
	25.40		19-1000	15.72	18.87	81	
	38.10		19-1500	14.99	18.08	84	
50.00	19-M500	15.75	19.08	84			
50.80	19-2000	15.52	18.85	84			
60.96	19-2400	15.75	19.05	84			
92.00	19-M920	16.10	19.05	87			
LAB, LNTB, LAX, LPX	18.00	20mm	20-M180	16.51	19.81	77	
	20.00		20-M200	16.46	19.81	78	
LAB, LNTB LAX, LPX	5.08	22mm (22.3mm)	22-0200	18.85	22.10	48	
	6.00		22-M060	19.63	21.54	52	
	6.35		22-0250	19.02	22.23	53	
	10.00		22-M100	18.82	22.23	65	
	12.70		22-0500	18.90	21.89	69	
	16.00		22-M160	18.82	22.23	73	
	16.94		22-0667	18.92	22.12	74	
	20.00		22-M200	18.82	22.23	78	
	24.00		22-M240	18.82	22.23	79	
	25.40		22-1000	18.85	22.12	80	

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Compatible Nut Styles	Lead mm	Nominal Screw Diameter	Part Number	Root Dia mm	Outside Diameter	Efficiency %	Left Hand Available
LAB, LNTB, LPX	1.27	24mm	24-0050	22.20	23.83	17	✓
	50.80		24-2000	20.70	23.55	85	
	76.20		24-3000	20.40	23.85	86	

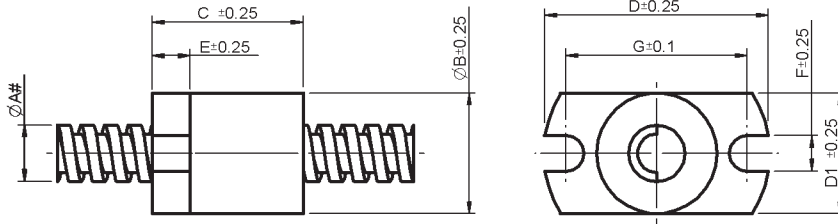
See [page 7-4](#) for leadscrew and nut ordering configurations
 See [page 7-27 to 7-33](#) for end modification detail if required





All dimensions in mm
 General tolerances $\pm 0.13\text{mm}$
 Material: Polyacetal

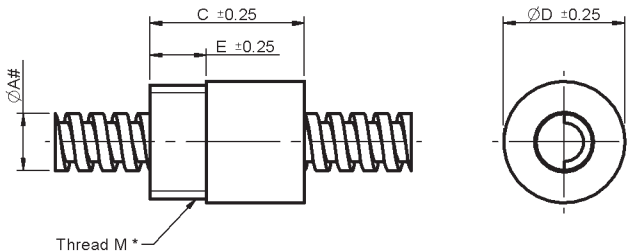
Associated Products
 Reli-a-Flex® couplings: [page 8-4](#)
 Linear bearings: [page 9-1](#)
 Linear slides: [page 9-1](#)
 Stepper motors: [page 2-1](#)
 Plain bearings: [page 12-1](#)



Part number selection table - LBF series, flange mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Flange D	Flange Width E	Flange Height D1	Slot F	Centres G	Dynamic Load kg	Drag Torque Nm
LBF3-	3.3	10.2	13	19.1	3.2	10.2	3.05	15.24	11	Free wheeling
LBF5-	5.5									

7



Part number selection table - LBY series, thread mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Thread M*	Thread Length N	Dynamic Load kg	Drag Torque Nm
LBY3-	3.3	10.2	13	3/8-24	4.75	11	Free wheeling
LBY5-	5.5						

*metric available as required

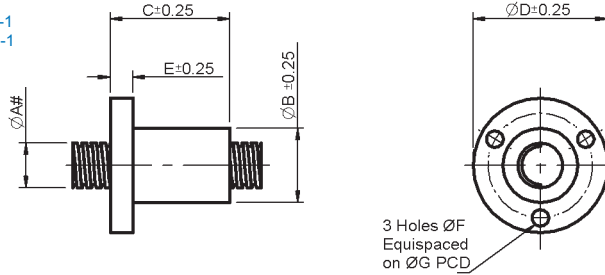
Nominal dimensions, see table on [pages 7-7 to 7-11](#)



Associated Products

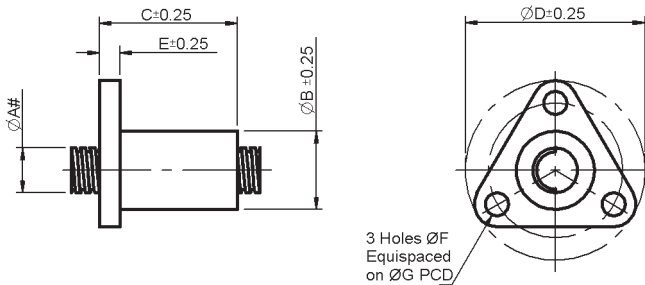
- Reli-a-Flex® couplings: [page 8-4](#)
- Linear bearings: [page 9-1](#)
- Linear slides: [page 9-1](#)
- Stepper motors: [page 2-1](#)
- Plain bearings: [page 12-1](#)

All dimensions in mm
 General tolerances $\pm 0.13\text{mm}$
 Material: Polyacetal



Part number selection table - LPX series, flange mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Flange ØD	Flange Width E	Hole Dia ØF	Mounting Holes PCD ØG	Dynamic Load kg	Drag Torque Nm
LPX6-	6.4	12.7	25.4	25.4	4.8	3.56	19.05	20	Free wheeling
LPX8-	7.9	15.9		28.7			22.23	35	
LPX10-	9.6			28.7			28.58	40	
LPX11-	11.3	19.1	38	38.1	5.16	30.18	68		
LPX13-	12.7					36.53	100		
LPX16-	15.9	22.2	51	44.4	6.4	47.63	160		
LPX19-	19.1	28.4		57.1		227			
LPX22-	22.3	38.1		57.1		6.4	5.16	47.63	227
LPX24-	24.0								



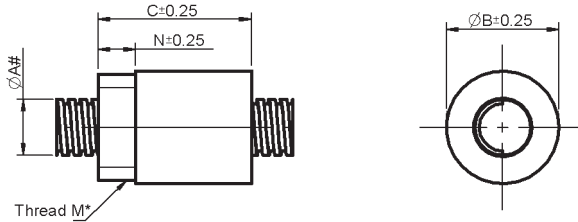
Part number selection table - LPXZ series, flange mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Flange ØD	Flange Width E	Hole Dia ØF	Mounting Holes PCD ØG	Dynamic Load kg	Drag Torque Nm
LPXZ6-	6.4	12.7	26	25.4	4.3	3.63	19.05	20	Free wheeling
LPXZ8-	8.0	16.6	47	38.1		5.00	28.58	35	
LPXZ10-	9.6					28.58	35		
LPXZ11-	11.3	19.1	47	38.1	5.00	28.58	40		
LPXZ13-	12.7						68		



All dimensions in mm
 General tolerances $\pm 0.13\text{mm}$
 Material: Polyacetal

Associated Products
 Reli-a-Flex® couplings: [page 8-4](#)
 Linear bearings: [page 9-1](#)
 Linear slides: [page 9-1](#)
 Stepper motors: [page 2-1](#)
 Plain bearings: [page 12-1](#)



Part number selection table - LPXY series, thread mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Thread M*	Thread Length N	Dynamic Load kg	Drag Torque Nm
LPXY6-	6.4	15.9	25.4	9/16-18	4.75	20	Free wheeling
LPXY8-	8.0	19.1		5/8-18	6.35	35	
LPXY10-	9.6					35	
LPXY11-	11.3	25.4	38	15/16-16	9.53	40	
LPXY13-	12.7					68	
LPXY16-	15.9					100	
LPXY19-	19.1	38.1	51	1 3/8-16	12.70	160	
LPXY22-	22.3					227	
LPXY24-	24.0						

Note: All LPX, LPXZ and LPXY nuts are free wheeling
 *metric available as required

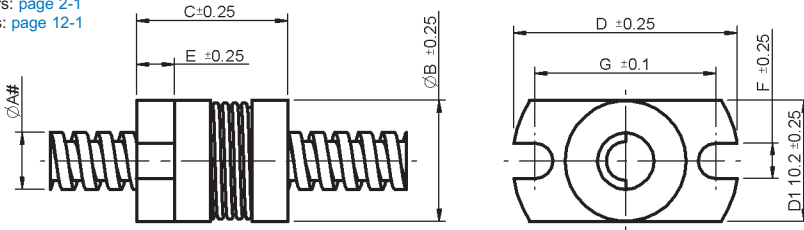
Nominal dimensions, see table on [pages 7-7 to 7-11](#)



Associated Products

Reli-a-Flex® couplings: [page 8-4](#)
 Linear bearings: [page 9-1](#)
 Linear slides: [page 9-1](#)
 Stepper motors: [page 2-1](#)
 Plain bearings: [page 12-1](#)

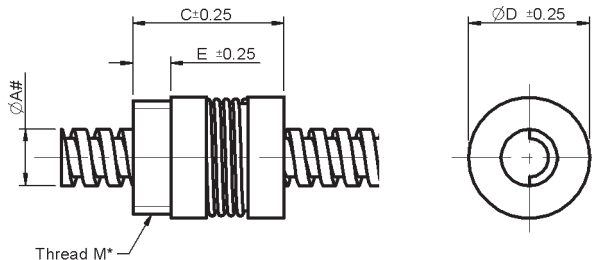
All dimensions in mm
 General tolerances $\pm 0.13\text{mm}$
 Material: Polyacetel



Part number selection table - LNTGF series, flange mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Flange D	Flange Width E	Flange Height D1	Slot F	Centres G	Dynamic Load kg	Drag Torque Nm
LNTGF3-	3.3	10.2	12.7	19.1	3.2	10.2	3.05	15.24	2.3	0.004
LNTGF5-	5.5									

7



Part number selection table - LNTGY series, thread mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Thread M*	Thread Length N	Dynamic Load kg	Drag Torque Nm
LNTGY3-	3.3	10.2	12.7	3/8-24	4.75	2.3	0.004
LNTGY5-	5.5						

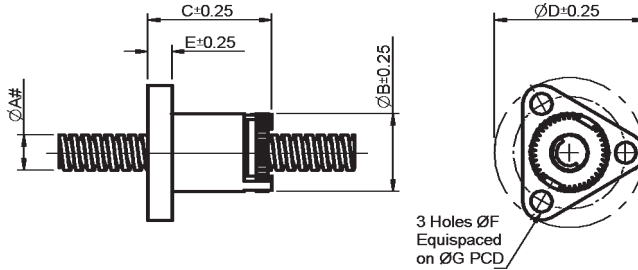
*metric available as required

Nominal dimensions, see table on [pages 7-7 to 7-11](#)



All dimensions in mm
 General tolerances $\pm 0.13\text{mm}$
 Material: Polyacetal

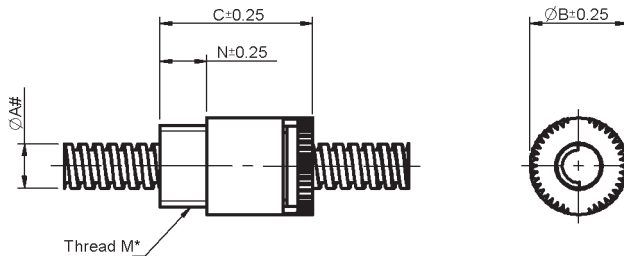
Associated Products
 Reli-a-Flex® couplings: [page 8-4](#)
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 Linear slides: [page 9-1](#)
 Stepper motors: [page 2-1](#)
 Plain bearings: [page 12-1](#)



Part number selection table - LNTGF series, flange mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Flange ØD	Flange Width E	Hole Dia ØF	Mounting Holes PCD ØG	Dynamic Load kg	Drag Torque Nm
LNTGF6-	6.4	13.2	19	25.4	4.0	3.63	19.1	4.5	0.004-0.01
LNTGF8-	8.0	20.3	26	38.1	5.1	9.1	28.6	9.1	0.01-0.02
LNTGF10-	9.6								

7



Part number selection table - LNTGY series, thread mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Thread M*	Thread Length N	Dynamic Load kg	Drag Torque Nm
LNTGY6-	6.4	13.2	22	7/16-20	6.35	4.5	0.004-0.01
LNTGY8-	8.0	20.3	30	3/4-20	9.53	9.1	0.01-0.02
LNTGY10-	9.6						

*metric available as required

Nominal dimensions, see table on [pages 7-7 to 7-11](#)

Light Duty Adjustable Anti-Backlash Nuts

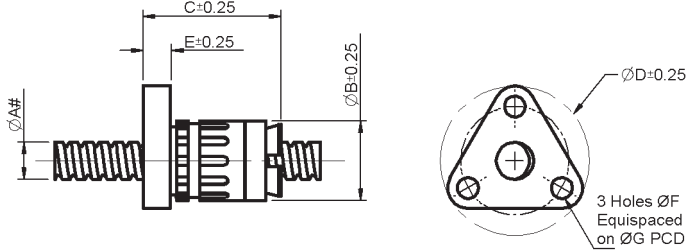
LAB & LABY Series



Associated Products

Reli-a-Flex® couplings: [page 8-4](#)
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 Linear slides: [page 9-1](#)
 Stepper motors: [page 2-1](#)
 Plain bearings: [page 12-1](#)

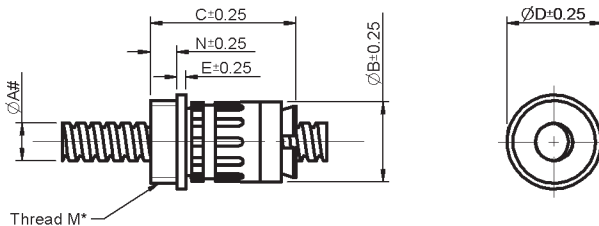
All dimensions in mm
 General tolerances $\pm 0.13\text{mm}$
 Material: Polyacetal



Part number selection table - LAB series, flange mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Flange ØD	Flange Width E	Hole Dia ØF	Mounting Holes PCD ØG	Dynamic Load kg	Drag Torque Nm	
LAB6-	6.4	13.5	26	25.4	4.6	3.6	19.05	2.3	0.004-0.01	
LAB8-	8.0	18.8	48	38.1		5.1	28.58	5.0	0.01-0.02	
LAB10-	9.6							5.0		
LAB11-	11.3	20.3	51	41.2	7.0			31.75	11.0	0.015-0.03
LAB13-	12.7	22.6			7.1		44.5		34.93	
LAB16-	15.9	26.9								16.0

screw sizes 19, 22 and 24mm available



Part number selection table - LABY series, thread mount

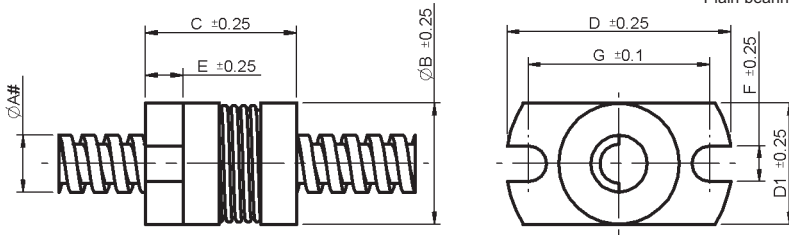
Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Flange ØD	Flange Width E	Thread M*	Thread Length N	Dynamic Load kg	Drag Torque Nm	
LABY6-	6.4	13.5	33	20.3	3.1	5/8 - 18	4.1	2.3	0.004-0.01	
LABY8-	8.0	18.8	56	25.4	3.8		15/16 - 16	9.7	5.0	0.01-0.02
LABY10-	9.6								7.0	
LABY11-	11.3	20.3	59	25.9	2.5	11.0		16.0	0.015-0.03	
LABY13-	12.7	22.6								
LABY16-	15.9	26.9	61	26.9	3.1	12.7		16.0	0.02-0.05	

*metric available as required



All dimensions in mm
 General tolerances $\pm 0.13\text{mm}$
 Material: Polyacetal

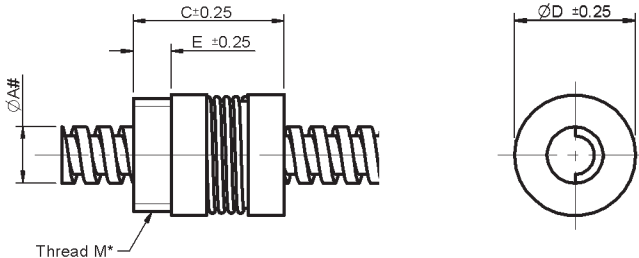
Associated Products
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 Linear slides: [page 9-1](#)
 Stepper motors: [page 2-1](#)
 Plain bearings: [page 12-1](#)



Part number selection table - LNTBF series, flange mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Flange D	Flange Width E	Flange Height D1	Slot F	Centres G	Dynamic Load kg	Drag Torque Nm
LNTBF3-	3.3	10.2	12.7	19.1	3.2	10.2	3.05	15.24	2.3	0.004
LNTBF5-	5.5									

7



Part number selection table - LNTBY series, thread mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Thread M*	Thread Length N	Dynamic Load kg	Drag Torque Nm
LNTBY3-	3.3	10.2	12.7	3/8-24	4.06	2.3	0.004
LNTBY5-	5.5						

*metric available as required

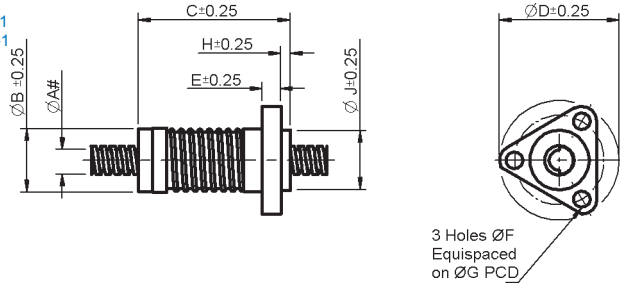
Nominal dimensions, see table on [pages 7-7 to 7-11](#)



Associated Products

- Reli-a-Flex® couplings: [page 8-4](#)
- Linear bearings: [page 9-1](#)
- Linear slides: [page 9-1](#)
- Stepper motors: [page 2-1](#)
- Plain bearings: [page 12-1](#)

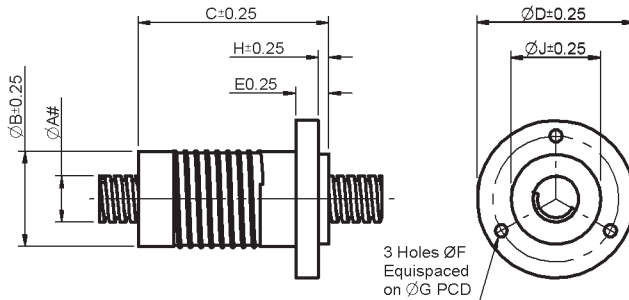
All dimensions in mm
 General tolerances $\pm 0.13\text{mm}$
 Material: Polyacetal



Part number selection table - LNTBF series, flange mount

Nut Series	Nom Screw ØA	Nut ØB	Nut Length C	Flange ØD	Flange Width E	Hole Dia ØF	Mounting Holes PCD ØG	Hub Width H	Hub ØJ	Dynamic Load kg	Drag Torque Nm
LNTBF6-	6.4	13.2	28	25.4	4.0	3.63	19.1	2.0	12.7	4.5	0.004-0.01
LNTBF8-	8.0	20.3	45	38.1	5.1	5.08	28.6	2.6	19.1	9.1	0.01-0.02
LNTBF10-	9.6										
LNTBF11-	11.3	22.9	46	41.2	5.7		31.8		22.2	13.6	

7



Part number selection table - LNTBF series, flange mount

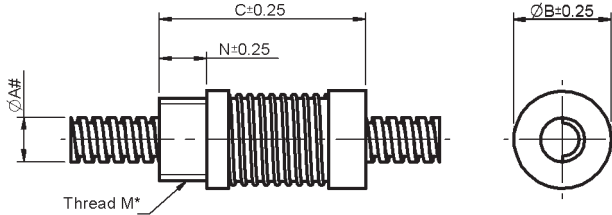
Nut Series	Nom Screw ØA	Nut ØB	Nut Length C	Flange ØD	Flange Width E	Hole Dia ØF	Mounting Holes PCD ØG	Hub Width H	Hub ØJ	Dynamic Load kg	Drag Torque Nm
LNTBF13-	12.7	26.9	54	44.5	6.4	5.59	35.71	3.0	25.4	45.5	0.015-0.04
LNTBF16-	15.9	34.9	59	54.1	7.0		44.45	2.5	31.8	56.8	
LNTBF19-	19.1	39.6	67	60.5	7.9	5.59	50.80	3.0	38.1	68.2	0.02-0.05
LNTBF22-	22.3	44.5	70	66.8	9.5		57.15		44.5	90.9	0.03-0.06
LNTBF24-	24.0										

Nominal dimensions, see table on [pages 7-7 to 7-11](#)



All dimensions in mm
 General tolerances $\pm 0.13\text{mm}$
 Material: Polyacetal

Associated Products
 Reli-a-Flex® couplings: [page 8-4](#)
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 Linear slides: [page 9-1](#)
 Stepper motors: [page 2-1](#)
 Plain bearings: [page 12-1](#)



Part number selection table - LNTBY series, thread mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Thread M*	Thread Length N	Dynamic Load kg	Drag Torque Nm
LNTBY6-	6.4	13.2	28	7/16 - 20	6.4	4.5	0.004-0.01
LNTBF8-	8.0	20.3	45	3/4 - 20	9.5	9.1	0.01-0.02
LNTBY10-	9.6					13.6	
LNTBY11-	11.3	22.9	46	13/16 - 16		45.5	0.015-0.04
LNTBY13-	12.7	26.9	54	15/16 - 16		56.8	
LNTBF16-	15.9	34.9	59	1 1/8 - 16		12.7	68.2
LNTBY19-	19.1	39.6	67	1 3/8 - 16	90.9		0.03-0.06
LNTBY22-	22.3	44.5	70	1 9/16 - 16			
LNTBY24-	24.0						

*metric available as required

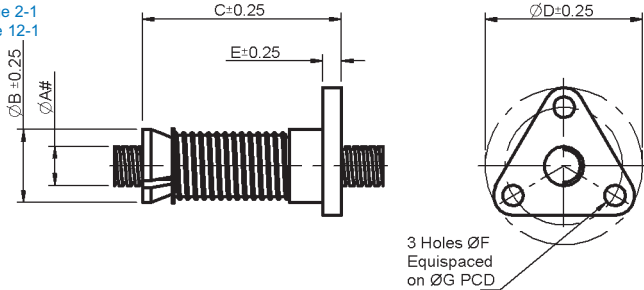
Nominal dimensions, see table on [pages 7-7 to 7-11](#)



Associated Products

- Reli-a-Flex® couplings: [page 8-4](#)
- Linear bearings: [page 9-1](#)
- Linear slides: [page 9-1](#)
- Stepper motors: [page 2-1](#)
- Plain bearings: [page 12-1](#)

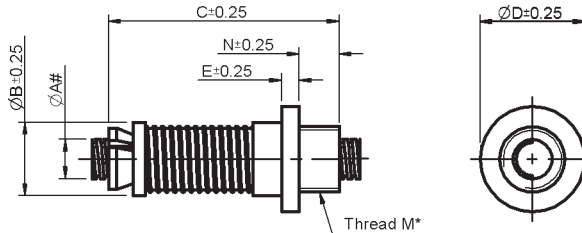
All dimensions in mm
General tolerances $\pm 0.13\text{mm}$
Material: Polyacetel



Part number selection table - LAF series, flange mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Flange ØD	Flange Width E	Hole Dia ØF	Mounting Holes PCD ØG	Dynamic Load kg	Drag Torque Nm
LAF6-	6.4	12.7	26	25.4	4.6	3.6	19.1	2.3	0.004-0.02
LAF8-	8.0	17.8	48	38.1					
LAF10-	9.6	20.3			51	41.2	6.6	5.1	28.6
LAF11-	11.3		22.6	44.5					
LAF13-	12.7	26.9			34.9	16	16	0.02-0.05	
LAF16-	15.9		0.028-0.055						

7



Part number selection table - LAFY series, thread mount

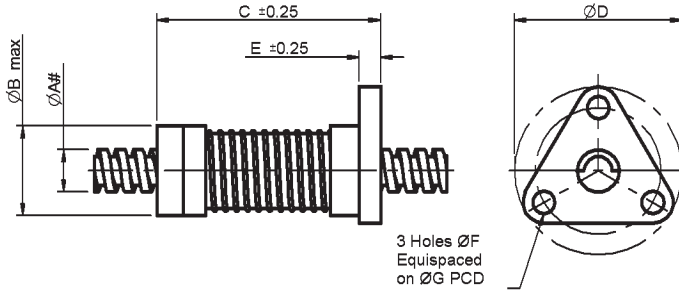
Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Flange ØD	Flange Width E	Thread M*	Thread Length N	Dynamic Load kg	Drag Torque Nm
LAFY6-	6.4	12.7	33	20.3	5.6	5/8 - 18	4.1	2.3	0.004-0.02
LAFY8-	8.0	17.8	56	25.4	4.3				
LAFY10-	9.6	20.3				59	25.9	3.1	15/16 - 16
LAFY11-	11.3		22.6	61	26.9				
LAFY13-	12.7	0.02-0.05							
LAFY16-	15.9		0.028-0.055						

*metric available as required



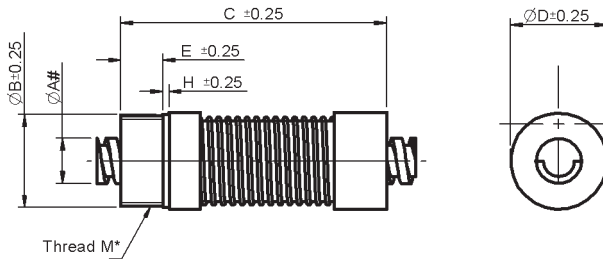
All dimensions in mm
 General tolerances $\pm 0.13\text{mm}$
 Material: Polyacetal

Associated Products
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 Linear slides: [page 9-1](#)
 Stepper motors: [page 2-1](#)
 Plain bearings: [page 12-1](#)



Part number selection table - LAK series, flange mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Flange D	Flange Width E	Hole Dia ØF	Mounting Holes PCD ØG	Dynamic Load kg	Drag Torque Nm
LAK8-	8.0	20.3	51	38.1	4.8	5.08	28.58	10	0.007-0.02
LAK10-	9.6								



Part number selection table - LAKY series, thread mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Thread M*	Thread Length N	Hub Width H	Dynamic Load kg	Drag Torque Nm
LAKY8-	8.0	20.3	55.9	3/8-24	8.9	1.3	10	0.007-0.02
LAKY10-	9.6							

* metric available as required

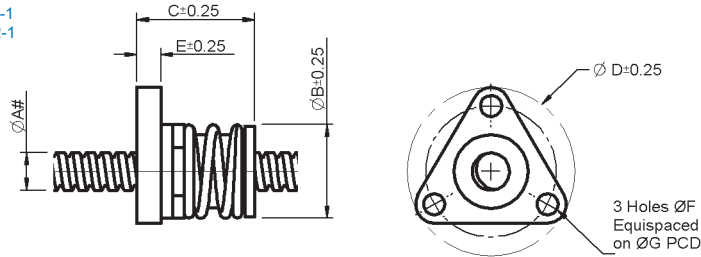
Nominal dimensions, see table on [pages 7-7 to 7-11](#)



Associated Products

- Reli-a-Flex® couplings: [page 8-4](#)
- Linear bearings: [page 9-1](#)
- Linear slides: [page 9-1](#)
- Stepper motors: [page 2-1](#)
- Plain bearings: [page 12-1](#)

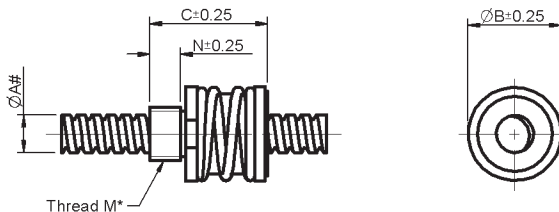
All dimensions in mm
 General tolerances $\pm 0.13\text{mm}$
 Material: Polyacetel



Part number selection table - LWD series, flange mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Flange ØD	Flange Width E	Hole Dia ØF	Mounting Holes PCD ØG	Dynamic Load kg	Drag Torque Nm
LWD4-	4.0	16	20.6	28.6	4.10	3.7	22.2	4.5	0.03 max
LWD6-	6.4								
LWD8-	8.0	19	33.5	38.1	5.10	5.1	28.6	11.3	0.04 max
LWD10-	9.6								
LWD11-	11.3	24.5	52.8	44.5	6.35	5.6	35.7	34.0	0.06 max
LWD13-	12.7								

7



Part number selection table - LWDY series, thread mount

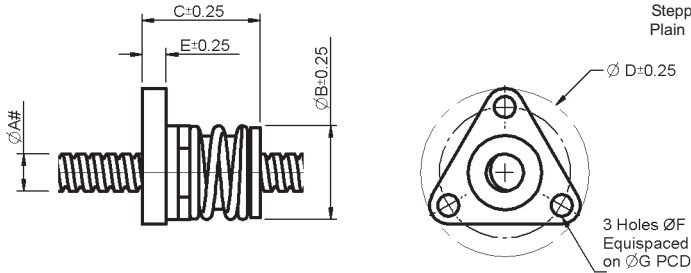
Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Thread M*	Thread Length N	Dynamic Load kg	Drag Torque Nm
LWDY4-	4.0	16	20.6	9/16 - 18	6.1	4.5	0.03 max
LWDY6-	6.4						
LWDY8-	8.0	19	33.5	5/8 - 18	8.1	11.3	0.04 max
LWDY10-	9.6						
LWDY11-	11.3	24.5	52.8	15/16 - 16	12.7	34.0	0.06 max
LWDY13-	12.7						

* metric available as required



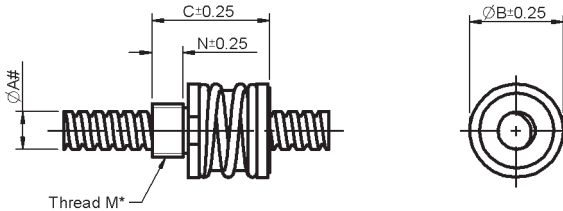
All dimensions in mm
 General tolerances $\pm 0.13\text{mm}$
 Material: Polyacetal

Associated Products
 Reli-a-Flex® couplings: [page 8-4](#)
 Linear bearings: [page 9-1](#)
 Linear slides: [page 9-1](#)
 Stepper motors: [page 2-1](#)
 Plain bearings: [page 12-1](#)



Part number selection table - LCM series, flange mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Flange ØD	Flange Width E	Hole Dia ØF	Mounting Holes PCD ØG	Dynamic Load kg	Drag Torque Nm
LCM4-	4.0	16	20.6	28.6	4.1	3.7	22.2	2.3	0.03 max
LCM6-	6.4								
LCM8-	8.0	19	33.5	38.1	5.1	5.1	28.6	3.6	0.04 max
LCM10-	9.6								



Part number selection table - LCMY series, thread mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Thread M*	Thread Length N	Dynamic Load kg	Drag Torque Nm
LCMY4-	4.0	16	20.6	9/16 - 18	16.1	2.3	0.03 max
LCMY6-	6.4						
LCMY8-	8.0	19	33.5	5/8 - 18	18.1	3.6	0.04 max
LCMY10-	9.6						

* metric available as required

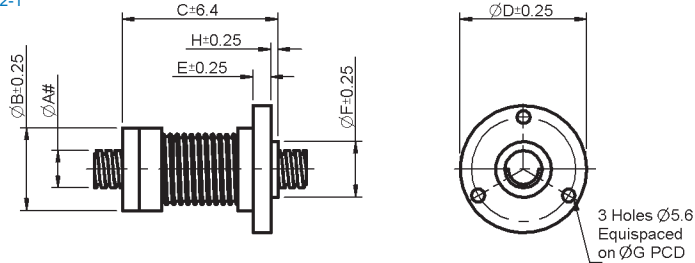
Nominal dimensions, see table on [pages 7-7 to 7-11](#)



Associated Products

- Reli-a-Flex® couplings: [page 8-4](#)
- Linear bearings: [page 9-1](#)
- Linear slides: [page 9-1](#)
- Stepper motors: [page 2-1](#)
- Plain bearings: [page 12-1](#)

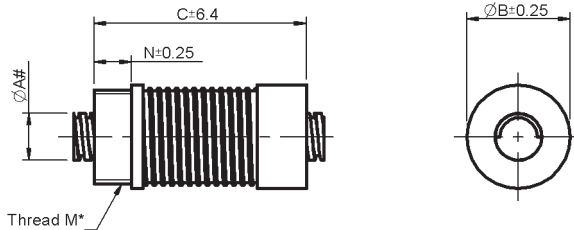
All dimensions in mm
 General tolerances $\pm 0.13\text{mm}$
 Material: Polyacetal with bronze
 anti-backlash mechanism



Part number selection table - LAX series, flange mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Flange ØD	Flange Width E	Mounting Holes PCD ØG	Hub Length H	Hub ØF	Dynamic Load kg	Drag Torque Nm
LAX13-	12.7	28.5	59	44.5	5.9	35.71	3.1	23.62	68	0.01-0.02
LAX16-	15.9	35.1	66	53.9	7.6	44.45	--	--	113	
LAX19-	19.1	41.2	71	60.5	7.9	50.80	--	--	159	0.02-0.05
LAX22-	22.3						--	--		

7



Part number selection table - LAXY series, thread mount

Nut Series	Nominal Screw ØA#	Nut ØB	Nut Length C	Thread M*	Thread Length N	Dynamic Load kg	Drag Torque Nm
LAXY13-	12.7	28.5	64	15/16-16	12.7	68	0.01-0.04
LAXY16-	15.9	35.1	72	1 1/4-16		113	
LAXY19-	19.1	41.2	79	1 3/8-16		159	0.02-0.05
LAXY22-	22.3						

* metric available as required

Nominal dimensions, see table on [pages 7-7 to 7-11](#)

In addition to the standard nut types, modified and complete custom configurations are available. Modifications may be simple changes such as different mounting hole patterns or mounting threads, small dimensional changes or special materials.

Reliance can provide tremendous value by producing a multi-functional nut. Using custom moulds and special machining, nuts can also include guide bushings, carriages, timing pulleys, gears, syringe components, sensor mounts and flags, encoder features, clamps and many other complementary elements.

In addition, custom designed nuts can offer quick release mounts, partial thread engagement, half nut construction or special shapes and geometries. Special materials are offered to extend the performance of our assemblies. Materials can be chosen for extreme temperature, chemical compatibility, autoclaving, agency approvals, special loadings and many other specific requirements.

7



Leadscrew Ordering - End Detail

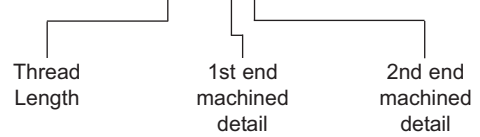
End Modifications and Associated Products

- End **A** - Ball bearing : [page 7-28](#)
- End **B** - Ball bearing & circlip : [page 7-29](#)
- End **C** - Ball bearing & coupling : [page 7-30](#)
- End **D** - Twin bearings & coupling : [page 7-31](#)
- End **E** - Ball bearing & pulley : [page 7-32](#)
- End **F** - Ball bearing & gear : [page 7-33](#)

Ordering your modified leadscrew

To order a leadscrew with machined ends, use the ordering example below.
 Note, if only one end is to be machined leave the 2nd end machining suffix blank.

Example part no. - **LPX10 - M050 - 350MM - C A**



Leadscrew Dia	Standard RG Bearing P/No. ¹	Standard RG Circlip P/No.	Standard RG Coupling P/No. ²
6	B1-104-S-7	D1400-0040-SS	RCLA13C-**-*
10	B1-106-S-7	D1400-0060-SS	RCLA16C-**-*
11	B1-108-S-7	D1400-0080-SS	RCLA20C-**-*
13	B1-108-S-7	D1400-0080-SS	RCLA20C-**-*

¹ Bearings for low to medium loads, see [page 12-2](#). For high loads consult Reliance Technical Sales

² Add bore diameters to complete part number, see [page 8-4](#)



Leadscrew Dia	Standard RG Pulley P/No. ³	Standard RG Shim P/No.	Standard RG Gear P/No. ⁴
6	TPMP25 F6-**-*	SS1-104	P**S1B4 F4A**
10	TPMP25 F6-**-*	SS1-108	P**S1B6 F4A**
11	TPMP25 F6-**-*	SS1-112	P**S1B8 F6A**
13	TPMP25 F6-**-*	SS1-112	P**S1B8 F6A**

³ Add required number of teeth to complete part number, see [page 10-3](#)

⁴ Add gear module and required number of teeth to complete part number, see from [page 4-1](#)

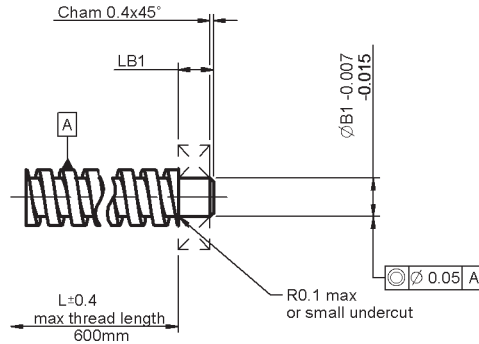
For all other accessories shown above, please refer to sections 12 and 13 in this catalogue.



All dimensions in mm
General tolerances $\pm 0.13\text{mm}$

Ball bearing journal, End A

Refer to [page 7-27](#) for ordering instructions and available associated product part numbers.



7

Drawing dimension table

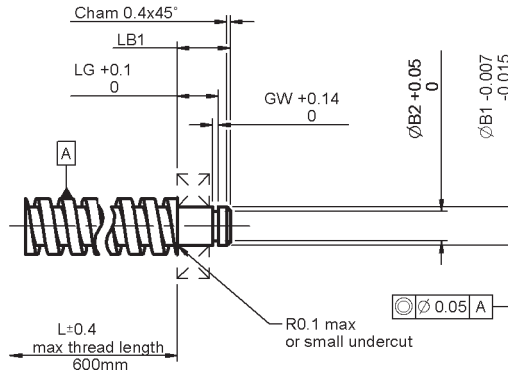
Leadscrew Diameter	Screw Diameter	Journal	
		Diameter ØB1	Length LB1
6	6.35	4	4.5
10	9.53	6	5.5
11	11.11	8	6.5
13	12.70	8	6.5

- End modification engineered to maximise the linear accuracy of the leadscrew
- Custom end machining also available, please fax or e-mail your drawing
- Full technical support available on both standard and custom end machining
- Quantities up to 10 off usually available in 2 weeks



Ball bearing journal with circlip groove, End B

Refer to [page 7-27](#) for ordering instructions and available associated product part numbers.



7

Drawing dimension table

Leadscrew Diameter	Screw Diameter	Journal		Groove		Length LB1
		Dia ØB1	Length LG	Dia ØB2	Width GW	
6	6.35	4	4.8	3.75	0.5	7.0
10	9.53	6	6.1	5.65	0.8	8.5
11	11.11	8	7.2	7.54	0.9	9.5
13	12.70	8	7.2	7.54	0.9	9.5

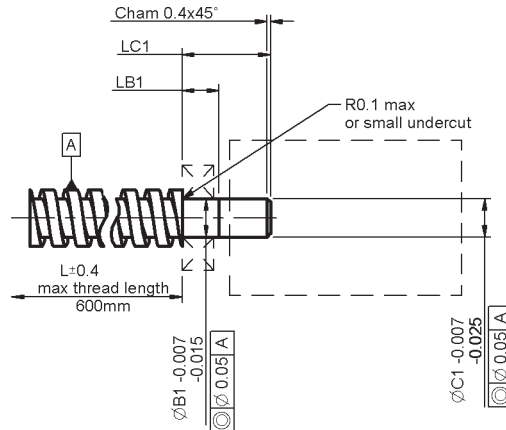
- End modification engineered to maximise the linear accuracy of the leadscrew
- Custom end machining also available, please fax or e-mail your drawing
- Full technical support available on both standard and custom end machining
- Quantities up to 10 off usually available in 2 weeks



All dimensions in mm
General tolerances $\pm 0.13\text{mm}$

Ball bearing journal for coupling, End C

Refer to [page 7-27](#) for ordering instructions and available associated product part numbers.



Drawing dimension table

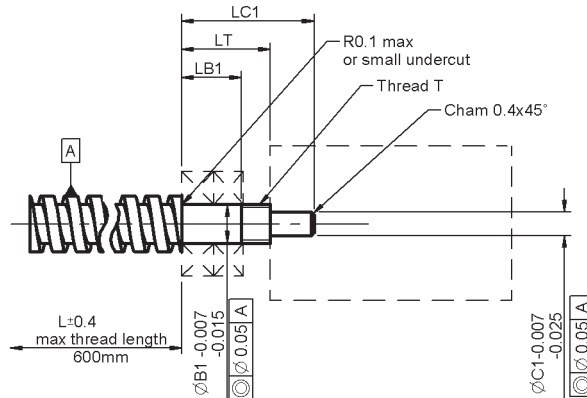
Leadscrew Diameter	Screw Diameter	Journal		Coupling Diameter ØC1	Length LC1
		Dia ØB1	Length LB1		
6	6.35	4	4.5	4	14.0
10	9.53	6	5.5	6	15.0
11	11.11	8	6.5	8	20.5
13	12.70	8	6.5	8	20.5

- End modification engineered to maximise the linear accuracy of the leadscrew
- Custom end machining also available, please fax or e-mail your drawing
- Full technical support available on both standard and custom end machining
- Quantities up to 10 off usually available in 2 weeks



Twin ball bearing journal for coupling, End D

Refer to [page 7-27](#) for ordering instructions and available associated product part numbers.



Drawing dimension table

Leadscrew Diameter	Screw Dia	Journal		Thread		Coupling	
		Dia ØB1	Length LB1	Distance LT	T	Dia ØC1	Length LC1
6	6.35	4	7.5	11.2	M4	3	17.5
10	9.53	6	9.5	15.0	M6	4	22.5
11	11.11	8	11.5	18.5	M8	6	28.5
13	12.70	8	11.5	18.5	M8	6	28.5

- End modification engineered to maximise the linear accuracy of the leadscrew
- Custom end machining also available, please fax or e-mail your drawing
- Full technical support available on both standard and custom end machining
- Quantities up to 10 off usually available in 2 weeks

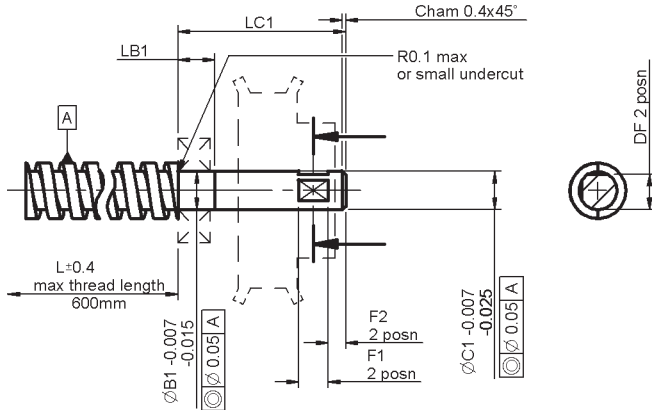




All dimensions in mm
General tolerances $\pm 0.13\text{mm}$

Ball bearing journal for drive pulley, End E

Refer to [page 7-27](#) for ordering instructions and available associated product part numbers.



7

Drawing dimension table

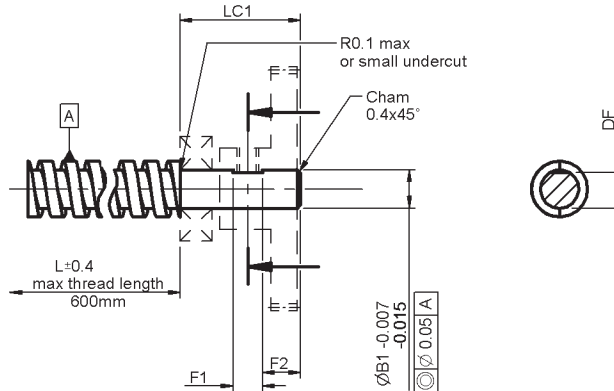
Leadscrew Diameter	Screw Dia	Journal		Pulley Dia ØC1	Length LC1	Flats		
		Dia ØB1	Length LB1			Width F1	Length F2	Distance DF
6	6.35	4	4.5	4	27.5	4	3	3.5
10	9.53	6	5.5	6	28.5	5	3	5.5
11	11.11	8	6.5	8	29.5	6	3	7.5
13	12.70	8	6.5	8	29.5	6	3	7.5

- End modification engineered to maximise the linear accuracy of the leadscrew
- Custom end machining also available, please fax or e-mail your drawing
- Full technical support available on both standard and custom end machining
- Quantities up to 10 off usually available in 2 weeks



Ball bearing journal for drive gear, End F

Refer to [page 7-27](#) for ordering instructions and available associated product part numbers.



Drawing dimension table

Leadscrew Diameter	Screw Dia	Journal		Flat Width F1	Length F2	Flat Distance DF
		Dia \O B1	Length LC1			
6	6.35	4	17.5	4	5.0	3.5
10	9.53	6	20.5	5	6.5	5.5
11	11.11	8	21.5	6	6.0	7.5
13	12.70	8	21.5	6	6.0	7.5

- End modification engineered to maximise the linear accuracy of the leadscrew
- Custom end machining also available, please fax or e-mail your drawing
- Full technical support available on both standard and custom end machining
- Quantities up to 10 off usually available in 2 weeks





All dimensions in mm

Materials:

Guide and carriage - Aluminium alloy TFE coated

Leadscrew - Stainless steel TFE coated

Follower nut - Polyacetal

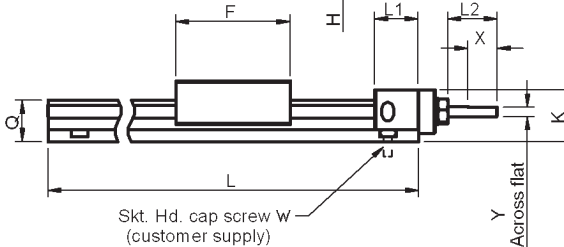
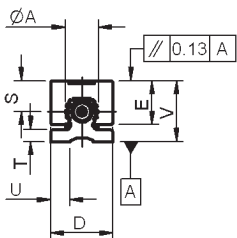
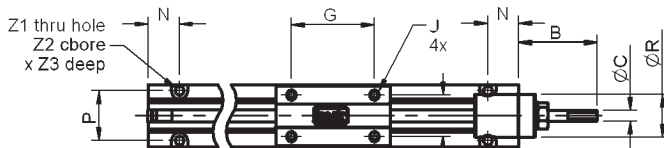
Associated Products

Reli-a-Flex® couplings: [page 8-4](#)

Stepper motors: [page 2-1](#)

Hardware: [page 13-1](#)

Dimensional Tolerances	
< L4	± 0.1
4 < L ≤ 16	± 0.15
16 < L ≤ 63	± 0.2
63 < L ≤ 250	± 0.3



Technical specification

Total Travel = L - L1 - F

Series	A Nominal Rail Ø	B	C	D	E	F	G	H	J	K	L1	L2	N
RGLS6	10.2	21.1	3.175	19.1	13.5	36	25.4	12.7	4-40 UNC 4.45 deep	15	13.5	11.9	9.53
RGLS10	15.2	31.8	4.762	28.6	20.1	51	38.1	19.1	6-32 UNC 6.35 deep	23	20.3	20.3	12.70
RGLS13	20.3	28.1	6.350	40.6	26.9	69	44.45	25.4	10-24 UNC 9.60 deep	33	27.7	19.6	15.88
RGLS16	25.4	44.5	7.938	50.8	33.5	83	57.2	31.8	1/4-20 UNC 10.80 deep	41	33.0	33.0	19.05

Series	P	Q	R	S	T	U	V	W	X	Y	Z1	Z2	Z3
RGLS6	15.24	12.7	13.2	9.4	3.8	5.8	18.5	4-40 UNC	9.7	2.92	2.8	5.1	2.3
RGLS10	22.86	18.8	20.3	14.0	5.6	8.9	27.9	6-32 UNC	12.7	4.32	3.6	6.4	3.3
RGLS13	31.75	25.4	26.4	18.8	7.6	13.0	37.3	10-24 UNC	17.8	5.59	5.1	8.4	4.8
RGLS16	38.10	31.8	33.0	23.4	9.5	16.3	46.5	1/4-20 UNC	22.4	7.11	6.6	12.7	5.6



Standard product sizes

Lead mm	Series (Screw Size)																			
	RGLS6				RGLS10					RGLS13					RGLS16					
	Guide Length L ±1mm																			
	152	203	254	305	254	305	381	457	610	914	254	305	457	610	914	254	305	457	610	914
2.54	★	★	★	★	★	★	★	★	★			★						★		
5.08	★	★	★	★	★	★	★	★	★			★						★		
12.7	★	★	★	★		★	★	★	★			★	★	★				★	★	★
25.4	★	★	★	★		★		★	★	★		★	★	★	★			★	★	★

★Indicates standard available lengths

Product performance

Basic Part Number	Lead mm	Typical Drag Torque* Nm	Life @ 1/4 Design Load m	Torque To Move Load Nm/Kg	Design Load Kg	Screw Inertia Kgm ² /m
RGLS6-0100	2.54	0.02	2,540,000	0.016	7	6.5 x10 ⁻⁶
RGLS6-0200	5.08	0.03		0.023		
RGLS6-0500	12.70	0.04		0.039		
RGLS6-1000	25.40	0.04		0.070		
RGLS10-0100	2.54	0.03	2,540,000	0.016	16	6.5 x10 ⁻⁶
RGLS10-0200	5.08	0.04		0.023		
RGLS10-0500	12.70	0.04		0.039		
RGLS10-1000	25.40	0.05		0.070		
RGLS13-0100	2.54	0.04	2,540,000	0.018	22	20 x10 ⁻⁶
RGLS13-0200	5.08	0.04		0.027		
RGLS13-0500	12.70	0.05		0.047		
RGLS13-1000	25.40	0.06		0.096		
RGLS16-0100	2.54	0.04	2,540,000	0.020	46	3.9 x10 ⁻⁵
RGLS16-0200	5.08	0.05		0.031		
RGLS16-0500	12.70	0.05		0.047		
RGLS16-1000	25.40	0.06		0.101		

* Assemblies with lengths over 915mm and/or leads higher than 12.7mm are likely to have higher drag torques than listed values.

Basic part numbering

RGLS6-0100-1-305

Linear Slide and Series Designator

- RGLS6 series = 6mm screw
- RGLS10 series = 10mm screw
- RGLS13 series = 13mm screw
- RGLS16 series = 16mm screw

Lead

- No. of Carriages
- 1 = 1 driven (standard)
 - 2 = 1 driven & 1 passive
 - 3 = 1 driven & 2 passive

Guide Length (Dimension "L")

Non-standard options, please contact our sales team

- Special carriage, rail, screw or mounting configuration
- Higher accuracy leadscrew, Left Hand (LH) or Left/Right (L/R) threads
- Alternative guide lengths upto 1000mm available



All dimensions in mm

Materials:

Guide and carriage - Aluminium alloy TFE coated

Leadscrew - Stainless steel TFE coated

Nut - Aluminium and

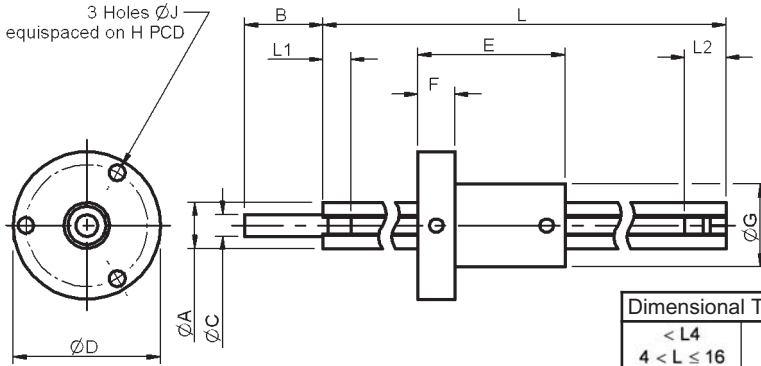
Polycetal composite

Associated Products

Reli-a-Flex® couplings: page 8-4

Stepper motors: page 2-1

Hardware: page 13-1



Dimensional Tolerances	
< L4	± 0.1
4 < L ≤ 16	± 0.15
16 < L ≤ 63	± 0.2
63 < L ≤ 250	± 0.3

Technical specification

Total Travel = L - (L1 + L2 + E)

7

Series	ØA	B	ØC	ØD	E	F	ØG	ØH	ØJ	L1	L2
RSRA5	9.24/9.33	9.65	3.16/3.18	24.9	27.9	7.2	14.3	19.1	2.39	9.4	9.66
RSRA6	12.42/12.5	15.75	4.75/4.76	33.3	36.0	9.5	19.1	26.2	3.56	6.6	9.1
RSRA10	18.77/18.85	19.05	6.33/6.34	46.0	51.0	12.7	28.4	37.6	4.39	9.7	17.8
RSRA13	25.12/25.2	19.05	6.33/6.34	58.4	64.0	15.9	38.0	48.8	5.08	12.2	19.6

Standard product sizes - RSRA5 and RSRA6 ScrewRail®

Lead mm	Series													
	RSRA5							RSRA6						
	Length L ±1mm													
	102	152	203	254	305	381	457	102	152	203	254	305	381	457
1.27	★	★	★	★				★	★	★	★			
2.54														
5.08														
6.35			★	★	★	★				★	★	★	★	
12.70				★	★	★	★				★	★	★	★
25.40				★	★	★	★				★	★	★	★

*Length tolerance ±1mm, ★Indicates standard lengths





Standard product sizes - RSRA10 and RSRA13 ScrewRail®

Lead mm	Series													
	RSRA10							RSRA13						
	Length L ±1mm													
	152	203	254	305	381	457	610	914	254	305	381	457	610	914
1.27														
2.54	★	★	★	★	★					★				
5.08		★	★	★	★					★				
6.35														
12.70		★	★	★	★		★			★		★	★	
25.40				★	★	★	★	★		★		★	★	★

★Indicates standard available lengths

Product performance

Basic Part Number	Nominal Rail Dia. mm	Nominal Screw Dia. mm	Lead mm	Max. Drag Torque Nm	Life @ 1/4 Design Load m	Torque to Move Load Nm/Kg	Design Load Kg	Screw Inertia Kgm ² /m	Equiv. Dia. *
RSRA5-0050	9.52	4.76	1.27	0.014	2,500,000	0.007	5	0.4 x 10 ⁻⁶	7.6
RSRA5-0100			2.54	0.018		0.016			
RSRA5-0250			6.35	0.020		0.019			
RSRA5-0370			9.52	0.025		0.030			
RSRA6-0050	12.70	6.35	1.27	0.015	3,800,000	0.007	10	1.3 x 10 ⁻⁶	9.9
RSRA6-0250			6.35	0.020		0.023			
RSRA6-0500			12.70	0.030		0.039			
RSRA6-1000			25.40	0.040		0.070			
RSRA10-0100	19.05	9.52	2.54	0.020	4,500,000	0.016	20	6.5 x 10 ⁻⁶	15.2
RSRA10-0200			5.08	0.030		0.023			
RSRA10-0500			12.70	0.040		0.039			
RSRA10-1000			25.40	0.045		0.070			
RSRA13-0100	25.40	12.70	2.54	0.030	7,100,000	0.016	45	20 x 10 ⁻⁶	20.5
RSRA13-0200			5.08	0.040		0.023			
RSRA13-0500			12.70	0.045		0.039			
RSRA13-1000			25.40	0.060		0.070			

* ScrewRail® stiffness may be modelled using Classical Beam Deflection Theory with equivalent solid stainless steel beam of diameter given.

Basic part numbering

RSRA6-1000-305MM

ScrewRail® and Series Designator

Lead

Screw Length

Non-standard options, please contact our sales team

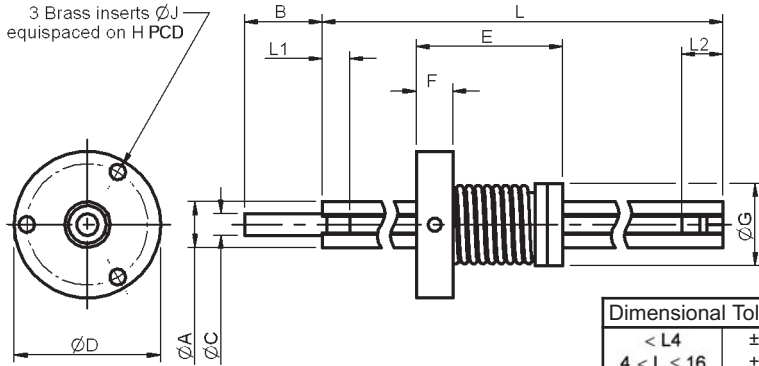
- End support modifications
- Higher accuracy leadscrew, Left Hand (LH) or Left/Right (L/R) threads
- Alternative ScrewRail® lengths up to 1200mm available
- Other leads available as custom orders



All dimensions in mm

Materials:
 Guide and - Aluminium alloy TFE coated
 Leadscrew - Stainless steel TFE coated
 Nut - Aluminium and
 Polyacetal composite

Associated Products
 Reli-a-Flex® couplings: [page 8-4](#)
 Stepper motors: [page 2-1](#)
 Hardware: [page 13-1](#)



Dimensional Tolerances	
< L4	± 0.1
4 < L ≤ 16	± 0.15
16 < L ≤ 63	± 0.2
63 < L ≤ 250	± 0.3

Technical specification

Total Travel = L - (L1 + L2 + E)

7

Series	ØA	B	ØC	ØD	E	F	ØG	ØH	ØJ Brass Inserts	L1	L2
RSRZ5	9.24/9.32	9.65	3.16/3.18	24.9	27.94	7.2	19.1	19.05	2-56 UNF	9.4	9.65
RSRZ6	12.42/12.5	15.75	4.75/4.76	33.3	36	9.5	24.7	26.2	6-32 UNF	6.6	9.1
RSRZ10	18.77/18.85	19.05	6.33/6.34	46.0	51	12.7	35.1	37.6	10-32 UNF	9.7	17.8
RSRZ13	25.12/25.2	19.05	6.33/6.34	58.4	64	15.9	43.7	48.8	10-32 UNF	12.2	19.6

Standard product sizes - RSRZ5 and RSRZ6 ScrewRail®

Lead mm	Series													
	RSRZ5							RSRZ6						
	Length L ±1mm													
	102	152	203	254	305	381	457	102	152	203	254	305	381	457
1.27	★	★	★	★				★	★	★	★			
2.54														
5.08														
6.35			★	★	★	★				★	★	★	★	
12.70				★	★	★	★				★	★	★	★
25.40				★	★	★	★				★	★	★	★

*Length tolerance ±1mm, ★Indicates standard lengths

Standard product sizes - RSRZ10 and RSRZ13 ScrewRail®

Lead mm	Series														
	RSRZ10									RSRZ13					
	Length L ±1mm														
	152	203	254	305	381	457	533	610	914	254	305	381	457	610	914
1.27															
2.54	★	★	★	★	★						★				
5.08			★	★	★	★					★				
6.35															
12.70			★	★	★	★		★	★		★		★	★	
25.40					★	★	★	★	★		★		★	★	★

★Indicates standard lengths

Product performance

Basic Part Number	Nominal Rail Dia. mm	Nominal Screw Dia. mm	Lead mm	Max. Drag Torque Nm	Life @ 1/4 Design Load m	Torque to Move Load Nm/Kg	Design Load Kg	Screw Inertia Kgm ² /m	Equiv. Dia. *
RSRZ5-0050	9.52	4.76	1.27	0.014	1,300,000	0.007	5	0.4 x 10 ⁻⁶	7.6
RSRZ5-0100			2.54	0.018		0.016			
RSRZ5-0250			6.35	0.020		0.019			
RSRZ5-0370			9.52	0.025		0.030			
RSRZ6-0050	12.70	6.35	1.27	0.020	1,900,000	0.007	10	1.3 x 10 ⁻⁶	9.9
RSRZ6-0250			6.35	0.030		0.023			
RSRZ6-0500			12.70	0.040		0.039			
RSRZ6-1000			25.40	0.045		0.070			
RSRZ10-0100	19.05	9.52	2.54	0.045	2,300,000	0.016	20	6.5 x 10 ⁻⁶	15.2
RSRZ10-0200			5.08	0.047		0.023			
RSRZ10-0500			12.70	0.050		0.039			
RSRZ10-1000			25.40	0.053		0.070			
RSRZ13-0100	25.40	12.70	2.54	0.057	3,500,000	0.016	45	20 x 10 ⁻⁶	20.5
RSRZ13-0200			5.08	0.060		0.023			
RSRZ13-0500			12.70	0.064		0.039			
RSRZ13-1000			25.40	0.067		0.070			

* ScrewRail® stiffness may be modelled using Classical Beam Deflection Theory with equivalent solid stainless steel beam of diameter given.

Basic part numbering

RSRZ6-1000-305MM

ScrewRail® and Series Designator

Lead

Screw Length

Non-standard options, please contact our sales team

- End support modifications
- Higher accuracy leadscrew, Left Hand (LH) or Left/Right (L/R) threads
- Alternative ScrewRail® lengths up to 1200mm available
- Other leads available as custom orders



FEATURES

Reliance's precision leadscrew assemblies are designed specifically for motion control applications where accuracy must be maintained. Rather than being adaptations of general purpose screws or nuts they have a precision rolled screw thread which has been designed for maximum life and quiet operation.

A further enhancement available on stainless steel leadscrews up to 2.4 metres long is a specially formulated TFE coating which can extend normal nut life by up to 300%.

Innovative anti-backlash nut designs provide assemblies which are wear compensating with low frictional drag torques and excellent positional repeatability.

Reliance stainless steel leadscrews offer the following:

1. High Accuracy

Precision thread rolling process provides a standard lead accuracy of 0.0006mm/mm. Higher accuracies up to 0.0001mm/mm can be provided. The unloaded repeatability of anti-backlash assemblies is within 0.0013mm.

2. Long Life

More than 7.5 million metres of travel can be expected.

3. Low Drag Torque

An anti-backlash nut design which does not require high spring forces to maintain bidirectional anti-backlash characteristics gives a very low nut to screw friction.

4. Low Maintenance

Self lubricating and wear compensating nuts eliminate the need for repeated lubrication or adjustment.

5. Wide Range

Diameters from 3.2mm to 16mm.
Leads from 0.30mm to 25mm.
Lengths up to 1 metre.

6. Custom Thread Design

Unique thread form designed specifically for leadscrews in anti-backlash applications.

7. Smooth Quiet Operation

No recirculating ball noise or metal to metal contact.

8. Lower Cost

Less than comparable ball screws or ground leadscrews, while still providing high accuracy and long life.

9. Modifications

Special leadscrew ends, aluminium alloy shafts and other leads are available on the stainless steel leadscrew range in selected sizes. Please contact Reliance Technical Sales or refer to the leadscrews modification section of this brochure.



ENGINEERING DATA

1. Lead

The lead of the screw is the amount of linear movement of the nut for one revolution of the leadscrew.

2. Drive Torque

The required motor torque to drive a leadscrew assembly is the sum of three components: inertial torque, static friction torque and torque to move the load. Additional torque associated with driving and supporting the leadscrew must also be considered.

Inertial torque: $T = I\alpha$ I = Inertia of leadscrew (kgm^2)
 α = Angular acceleration (rads/s^2)

Static friction torque: Anti-backlash leadscrews are typically supplied with a static frictional torque of 0.007 - 0.05Nm. Higher pre-load forces lead to higher frictional drag torques but better anti-backlash characteristics.

Torque to move load: The torque to move a certain load is a function of the lead and efficiency of the leadscrew assembly.

$$\text{Torque} = \frac{\text{Load} \times \text{Lead}}{2\pi \times \text{Efficiency}} \quad \begin{array}{l} \text{Torque} = \text{Newton metres} \\ \text{Load} = \text{Newtons} \\ \text{Lead} = \text{Metres} \end{array}$$

(Note - efficiency of 70% would require 0.7 in these equations)

4. Backdriving

In general when the screw pitch is less than 1/3 its diameter and the screw is uncoated, backdriving will not occur. (Coated screws require to be 1/4 diameter). For higher leads where backdriving is likely, the torque required for holding a load is as follows:

$$\text{Backdrive torque} = \frac{\text{Load} \times \text{Lead} \times \text{Efficiency}}{2\pi} \quad \begin{array}{l} \text{Torque} = \text{Newton metres} \\ \text{Load} = \text{Newtons} \\ \text{Lead} = \text{Metres} \end{array}$$

Small vibrations in the system may break the static friction initiating backdriving, therefore, for small critical applications use smaller lead or an external locking device.

5. Traverse Speed

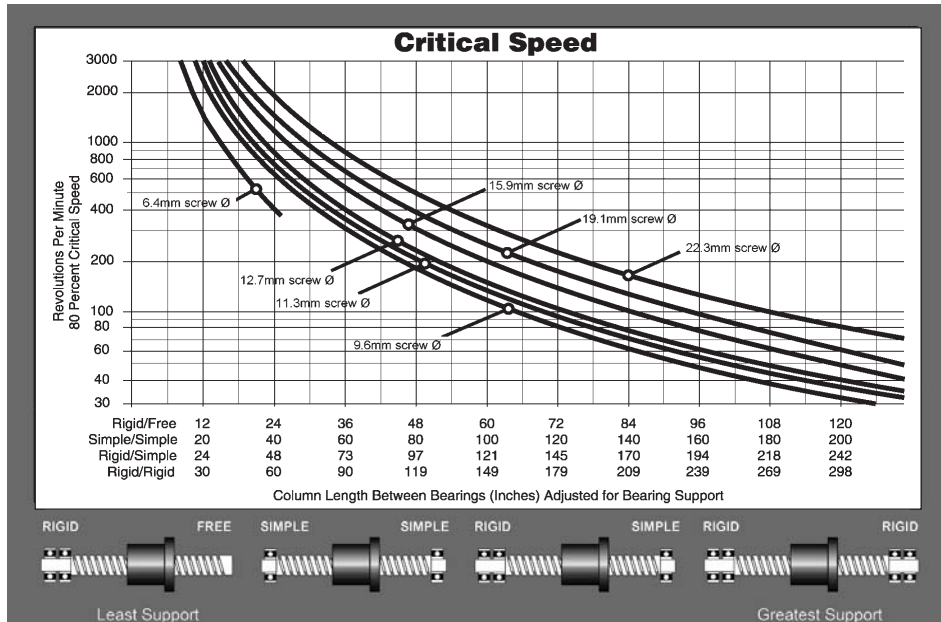
The Polyacetal nut materials provide long wear-life over a wide variety of conditions, but very high loads and/or high speeds will accelerate nut wear. We recommend the following maximum linear traversing speeds for optimum life:

Lead	Maximum traverse speed
2.5mm - 12mm	100mm/sec
12mm - 25mm	250mm/sec

6. Critical Speed

This is the rotational speed at which a leadscrew will experience vibration or other dynamic problems. See the critical speed chart below to determine if the application parameters result in speeds approaching critical.

To minimise critical speed problems use a longer lead, choose a larger diameter screw or increase the bearing mount support.



7. Maximum Load

Although the leadscrew assemblies are able to withstand relatively high loads without catastrophic failure, these units have been designed to operate with the loads shown on the product pages.

8. Efficiency

The efficiency of a leadscrew varies with the lead angle of the screw. The theoretical maximum efficiencies of all our leadscrews are given in the part number tables on the product pages. These have been calculated using the static coefficient of friction 0.08. For applications where the dynamic efficiency is critical please contact Reliance Technical Sales.

9. Leadscrew Inertia

Values of leadscrew inertia are given in the Typical Mechanical Properties chart on the next page.

10. Screw Straightness

Typical screw straightness is 0.25mm/metre.

11. Leadscrew Interfacing

Examples of machined end options can be found on [pages 7-27 to 7-33](#).



Physical Properties					
Leadscrew		Nuts		Assembly	
Material	Surface Finish	Material	Tensile Strength	Operating Temp. Range	Coefficient of Friction Nut to Screw
Stainless steel 303 series	Better than 0.4 µm	Polyacetal with lubricating additive	67N/mm ² 9,700psi	0 - 93°C	Static = 0.08 0.08# Dynamic = 0.15 0.09# # - with TFE coating

Typical Mechanical Properties				
Leadscrew Series	Static Frictional Drag Torque (Nm)	Screw Inertia Kg m ² /m	Anti-backlash Life +	
			Plain Screw	TFE Coated Screw
LPX6 LPX10 LPX11 LPX13 LPX16 LPX19 LPX22 LPX24	Free Wheeling	8.340x10 ⁻⁷ 4.170x10 ⁻⁶ 9.730x10 ⁻⁶ 1.446x10 ⁻⁵ 3.948x10 ⁻⁵ 8.479x10 ⁻⁵ 1.612x10 ⁻⁴ 2.030x10 ⁻⁴	N/A Typical Backlash 0.076-0.25mm	N/A Typical Backlash 0.076-0.25mm
LNTG6 LNTG8 LNTG10	0.004-0.01 0.01-0.02 0.01-0.02	8.340x10 ⁻⁷ 1.390x10 ⁻⁶ 4.170x10 ⁻⁶	0.12 - 0.25 million metres	0.38 - 1.0 million metres
LAB6 LAB10 LAB11 LAB13 LAB16 LAB19 LAB22 LAB24	0.004-0.01 0.01-0.02 0.015-0.03 0.015-0.03 0.02-0.05 0.03-0.063 0.03-0.063 0.03-0.063	8.340x10 ⁻⁷ 4.170x10 ⁻⁶ 9.730x10 ⁻⁶ 1.446x10 ⁻⁵ 3.948x10 ⁻⁵ 8.479x10 ⁻⁵ 1.612x10 ⁻⁴ 2.030x10 ⁻⁴	0.12 - 0.25 million metres	0.38 - 1.0 million metres
LAF6 LAF8 LAF10 LAF11 LAF13 LAF16	0.004-0.02 0.01-0.03 0.01-0.03 0.015-0.04 0.02-0.05 0.03-0.055	8.340x10 ⁻⁷ 1.390x10 ⁻⁶ 4.170x10 ⁻⁶ 9.730x10 ⁻⁶ 1.446x10 ⁻⁵ 3.948x10 ⁻⁵	1.0 - 1.5 million metres	3.8 - 5.0 million metres
LAK8 LAK10	0.01-0.02 0.01-0.02	1.390x10 ⁻⁶ 4.170x10 ⁻⁶	2.0 - 2.5 million metres	4.5 - 5.8 million metres
LWD6 LWD8 LWD10 LWD11 LWD13	0.03max 0.04max 0.04max 0.06max 0.06max	8.340x10 ⁻⁷ 1.390x10 ⁻⁶ 4.170x10 ⁻⁶ 9.730x10 ⁻⁶ 1.446x10 ⁻⁵	2.5 - 3.15 million metres	5.0 - 6.35 million metres



Typical Mechanical Properties (continued)				
Leadscrew Series	Static Frictional Drag Torque (Nm)	Screw Inertia Kg m ² /m	Anti-backlash life +	
			Plain Screw	TFE Coated Screw
LNTB6	0.004-0.01	8.340x10 ⁻⁷	2.5 - 3.15 million metres	5.0 - 6.35 million metres
LNTB8	0.01-0.02	1.390x10 ⁻⁶		
LNTB10	0.01-0.02	4.170x10 ⁻⁶		
LNTB11	0.01-0.02	9.730x10 ⁻⁶		
LNTB13	0.015-0.04	1.446x10 ⁻⁵		
LNTB16	0.015-0.04	3.948x10 ⁻⁵		
LNTB19	0.02-0.05	8.479x10 ⁻⁵		
LNTB22	0.03-0.06	1.612x10 ⁻⁴		
LNTB24	0.03-0.06	2.030x10 ⁻⁴		
LCM6	0.03	8.340x10 ⁻⁷	1.0 - 1.5 million metres	3.8 - 5.0 million metres
LCM8	0.04	1.390x10 ⁻⁶		
LCM10	0.04	4.170x10 ⁻⁶		
LAX13	0.015-0.04	1.446x10 ⁻⁵	5.0 - 5.7 million metres	7.6 - 8.8 million metres
LAX16	0.015-0.04	3.948x10 ⁻⁵		

+ Life will vary with loading, operating environment and duty cycle.
Longer screw leads generally give longer life.

TFE COATED LEADSCREW ASSEMBLIES

The TFE coating is designed to supply a more even distribution of lubricant than is normally achieved when using standard self lubricating plastics on steel. The entire screw surface is coated which gives an extremely even lubrication distribution, and an expected increase in normal nut life of up to 300%. Lubrication to the screw/nut interface occurs by the nut picking up TFE particles from the coating as well as from migration of the internal lubricant from within the plastic nut.

Although care should be taken to ensure that chips and voids do not occur in the coating, small voids have been shown to have little effect on the system performance. The lubricant, although solid, has some of the "spreading" ability of fluid lubricants. When machining for bearing ends, soft fixtures are recommended.

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TFE coated screws provide the maximum level of self-lubrication and should not be additionally lubricated or used in environments where oils or other lubricant contamination is possible.





In addition to these conditions of sale, our standard Conditions of Sale also apply. A copy of these is available on request and from our website www.rpmechatronics.co.uk/en/help

Minimum order charge - Orders are subject to a minimum order charge of £25.00 unless they have been placed on our website at www.rpmechatronics.co.uk

Carriage and packing - Additional charges are made for carriage and packing.

Payment - Payment terms are 30 days. New customers are requested to complete an application form for a credit account. Customers who do not have a credit account with Reliance are requested to supply cheque with order. In addition, orders may be paid for by Visa and Mastercard.

Telephone orders - An order number must be quoted by customers and a written confirmatory order, clearly marked "CONFIRMATION", sent within 7 days. We reserve the right to supply parts against a telephone order. All telephone orders are accepted subject to these conditions of sale and those detailed on the acknowledgement of order. An acknowledgement will normally be sent by Reliance on receipt of order and goods will be supplied in accordance with the order acknowledgement.

Certificates of Conformance - Reliance's quality management system is certified to AS9100 and ISO 9001. A Certificate of Conformance can be supplied at an additional charge of £10.00 per delivery. Alternatively, a Certificate with full material traceability can be supplied at a charge of £20.00 per delivery.

Confirmation - All orders, other than telephone orders with a value of less than £500 and orders placed through our website, are subject to acceptance in writing by Reliance Precision Mechatronics.

Order amendments - Order amendments are subject to our approval and a charge will be made for reasonable compensation for any costs incurred.

Returns - Unused items may, solely at our discretion, be accepted for credit within 90 days of delivery. Any parts so accepted will be subject to a 20% service charge for re-inspection and handling. No credit can be allowed after the above period, or for any used or modified part, or for parts manufactured to a customer's specification.

Additional charges - Reliance reserves the right to charge for all additional expenses and taxes incurred over and above published prices (including without limitation duty, VAT, exchange rate fluctuations etc.)

Alterations - As a result of continuous product development, Reliance reserves the right to alter prices and other details without prior notice and to change dimensions where this does not affect the function of the item.

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