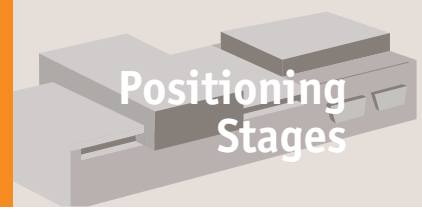




Motorised Linear & Rotary Stages

Overview



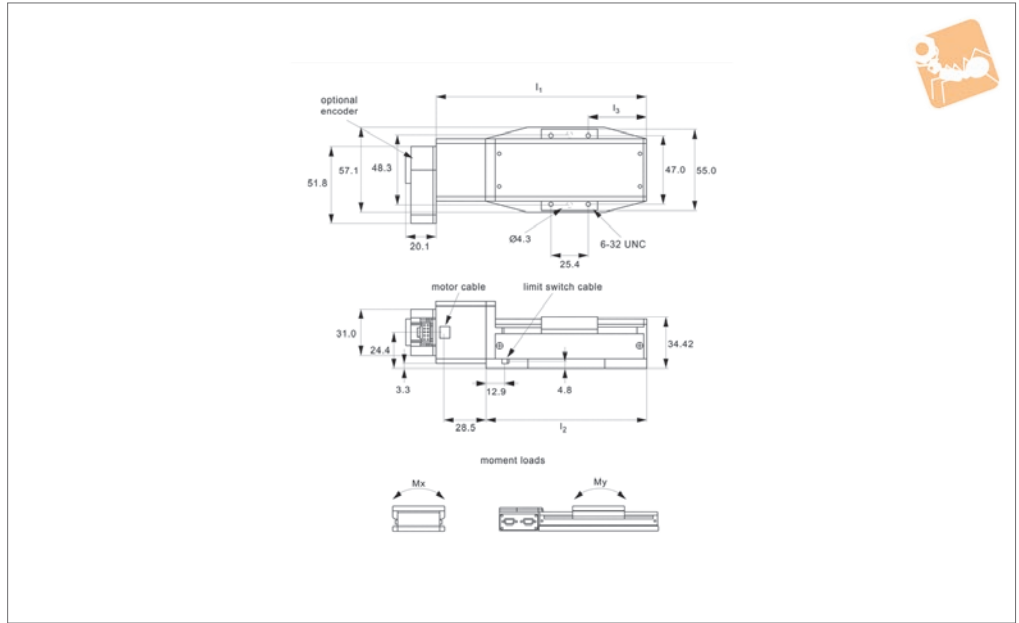
Positioning Stages

<p>L3500 Medium duty motorised stage</p> 	<p>L3504 Heavy-duty motorised stage</p> 	<p>L3505 Motorised linear stage</p> 	<p>L3506 Miniature motorised stage</p> 
<p>L3508 Motorised linear stage</p> 	<p>L3510 Motorised linear stage</p> 	<p>L3521 Single axis stepper controller</p> 	<p>L3522 Two axes stepper controller</p> 
<p>L3524 Multi-axes stepper controller</p> 	<p>L3525 Single axis servo controller</p> 	<p>L3550 Motorised rotary stage Ø50</p> 	<p>L3552 Motorised rotary stage Ø75</p> 
<p>L3554 Motorised rotary stage Ø75</p> 	<p>L3556 Motorised rotary stage Ø125</p> 	<p>L3558 Motorised rotary stage Ø125</p> 	<p>L3559 Manual rotary stage Ø125</p> 
<p>L3562 Motorised rotary stage Ø200</p> 	<p>L3569 High speed rotary table</p> 	<p>L3591 Vertical lift stage motorised</p> 	<p>L3592 Vertical lift stage motorised</p> 

MOTORISED LINEAR STAGES



L3506



Material

Black anodised aluminium body (6061).
Hardened linear guideways, stainless steel
Acme lead screw (with internally lubricated
anti-backlash nut).

Technical Notes

Compact, high precision slide.
Easy plug and play system. Controllable
from PC or PLC when used in conjunction
with a motion controller. Controllers come
with their own software but many pre-
existing software packages (such as
Labview) can be used.
Can be readily supplied in XY, XZ and XYZ
configurations.
Applications - research, semi-conductors,

fibre optics, automation etc.
Max. speed 8 mm/sec.
Accuracy $\pm 50\mu$. Uni-directional repeatability
 $\pm 5\mu$, resolution $\pm 0,7\mu$.

Tips

Motor options:
Stepper - Nema 17, high torque, brushless.
0.95 Amp/phase, 5.0 Ohm/phase, 3.1 mH/
phase, 1.8°/step. Option with 1000 line
rotary encoder.
Intelligent stepper - Nema 17 high torque
1.8° stepper motor with a fully
programmable motion controller inbuilt
(ie no need for an external motion
controller). Two +5 to +24VDC I/O lines.

One 10 bit analogue input selectable 0 to
+10VDC, 0 to +5VDC. RS-422/485 commu-
nications. Input voltage 24VDC.
Limit switches are wired normally open.
Drawings show stepper motor configura-
tion. See special pages for further motor
options.

Important Notes

Max. moment loads:
 $M_x = 4,0 \text{ Nm}$
 $M_y = 6,5 \text{ Nm}$
For combined stages, add suffixes:
XY - for XY stage
XZ - for XZ stage
XYZ - for XYZ stage

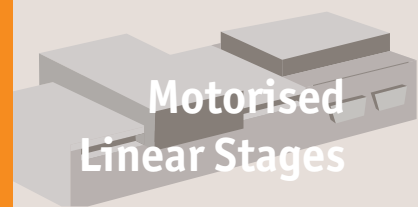
Order No.	Travel	Horizontal load kg max.	Axial load kg max.	Side load kg max.	Lead screw pitch	l_1	Motor code	Motor type	Weight kg
L3506.025-STA	25	2.2	2.2	0.9	1.058	109.2	-STA	Stepper	0.46
L3506.050-STA	50	2.2	2.2	0.9	1.058	143.3	-STA	Stepper	0.59
L3506.025-STB	25	2.2	2.2	0.9	1.058	109.2	-STB	Stepper & enc.	0.46
L3506.050-STB	50	2.2	2.2	0.9	1.058	143.3	-STB	Stepper & enc.	0.59
L3506.025-IMA	25	2.2	2.2	0.9	1.058	109.2	-IMA	Int. stepper	0.46
L3506.050-IMA	50	2.2	2.2	0.9	1.058	143.3	-IMA	Int. stepper	0.59

Order No.	l_2	l_3	Speed mm/s max.	Resolution \pm	Accuracy \pm	Uni-directional repeatability \pm
L3506.025-STA	83.9	41.9	8	0,7 μ	50 μ	5 μ
L3506.050-STA	117.9	54.6	8	0,7 μ	50 μ	5 μ
L3506.025-STB	83.9	41.9	8	0,7 μ	50 μ	5 μ
L3506.050-STB	117.9	54.6	8	0,7 μ	50 μ	5 μ
L3506.025-IMA	83.9	41.9	8	0,7 μ	50 μ	5 μ
L3506.050-IMA	117.9	54.6	8	0,7 μ	50 μ	5 μ



Miniature Motorised Stages

high precision



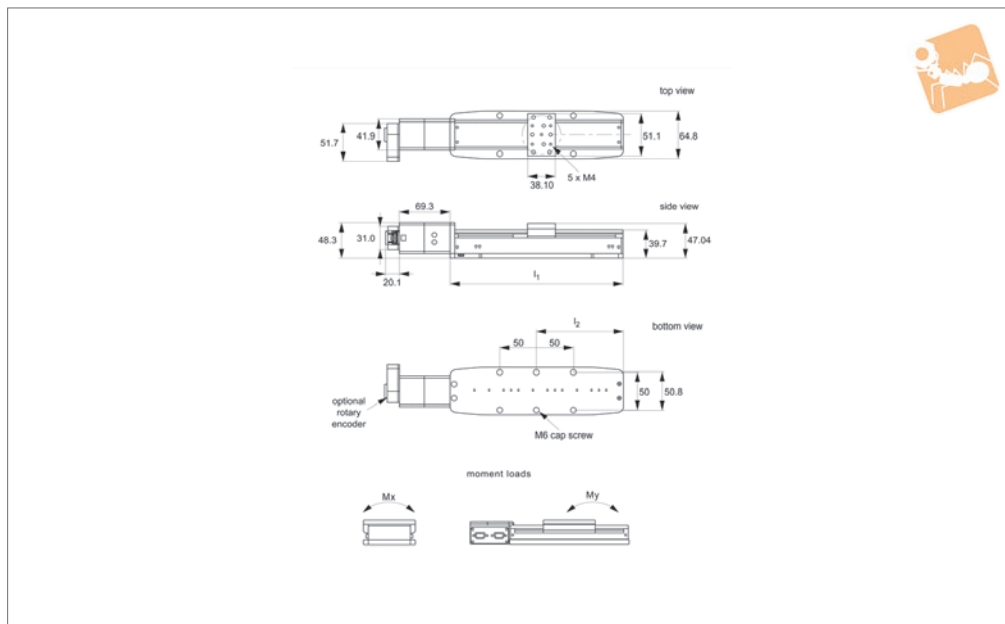
Motorised Linear Stages



MOTORISED LINEAR STAGES



L3508



Material

Black anodised aluminium body (6061). Hardened linear guideways, stainless steel Acme lead screw (with internally lubricated anti-backlash nut).

Technical Notes

Easy plug and play system. Controllable from PC or PLC when used in conjunction with a motion controller. Controllers come with their own software but many pre-existing software packages (such as Labview) can be used. Integrated limit switches are provided as standard. Can be readily supplied in XY, XZ and XYZ configurations. Applications - research, semi-conductors,

fibre optics, automation etc.

Replace -XXX in part number with the code for your preferred motor type - see second data table for codes and specifications.

Tips

Motor options:

Stepper Nema 17, high torque, brushless. 0.95 Amp/phase, 5.0 Ohm/phase, 3.1 mH/phase, 1.8°/step. Option with 1000 line encoder.

Intelligent stepper - Nema 17 with a fully programmable motion controller inbuilt (ie no need for an external motion controller). Two +5 to +24VDC I/O lines. One 10 bit analogue input selectable 0 to

+10VDC, 0 to +5VDC. RS 422/485 communications. Input voltage 24VDC. Option with 512 line encoder. Limit switches are wired normally closed. Drawings show stepper motor configuration. See special pages for further motor points.

Important Notes

Max. moment loads:

$M_x = 12 \text{ Nm}$

$M_y = 8 \text{ Nm}$

For combined stages, add suffixes:

XY - for XY stage

XZ - for XZ stage

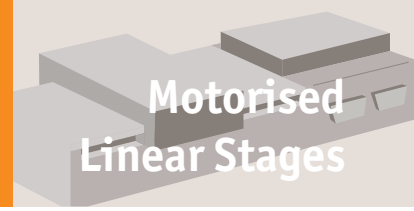
XYZ - for XYZ stage

Order No.	Travel	Horizontal load kg max.	Accuracy mm ±	Repeatability ±	Lead screw pitch	Axial load (for 2mm lead screw) kg max.	Axial load (for 10mm lead screw) kg max.	I_1	Weight kg
L3508.025-STA	25	4,5	0,6µ	5µ	2	2,5	0,5	109,0	0,73
L3508.025-STB	25	4,5	0,6µ	5µ	10	2,5	0,5	109,0	0,73
L3508.025-STC	25	4,5	0,6µ	5µ	2	2,5	0,5	109,0	0,73
L3508.025-STD	25	4,5	0,6µ	5µ	10	2,5	0,5	109,0	0,73
L3508.025-IMA	25	4,5	0,6µ	5µ	2	2,5	0,5	109,0	0,73
L3508.050-STA	50	4,5	0,6µ	5µ	2	2,5	0,5	134,4	0,77
L3508.050-STB	50	4,5	0,6µ	5µ	10	2,5	0,5	134,4	0,77
L3508.050-STC	50	4,5	0,6µ	5µ	2	2,5	0,5	134,4	0,77
L3508.050-STD	50	4,5	0,6µ	5µ	10	2,5	0,5	134,4	0,77
L3508.050-IMA	50	4,5	0,6µ	5µ	2	2,5	0,5	134,4	0,77
L3508.100-STA	100	4,5	0,6µ	5µ	2	2,5	0,5	185,2	0,89
L3508.100-STB	100	4,5	0,6µ	5µ	10	2,5	0,5	185,2	0,89
L3508.100-STC	100	4,5	0,6µ	5µ	2	2,5	0,5	185,2	0,89
L3508.100-STD	100	4,5	0,6µ	5µ	10	2,5	0,5	185,2	0,89
L3508.100-IMA	100	4,5	0,6µ	5µ	2	2,5	0,5	185,2	0,89
L3508.150-STA	150	4,5	0,6µ	5µ	2	2,5	0,5	236,0	1,01
L3508.150-STB	150	4,5	0,6µ	5µ	10	2,5	0,5	236,0	1,01



Motorised Linear Stages

high precision

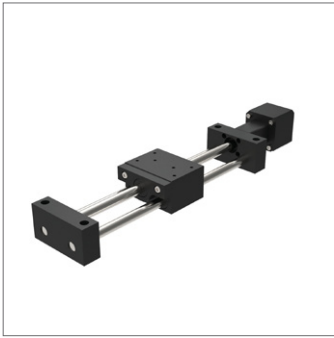


Motorised Linear Stages

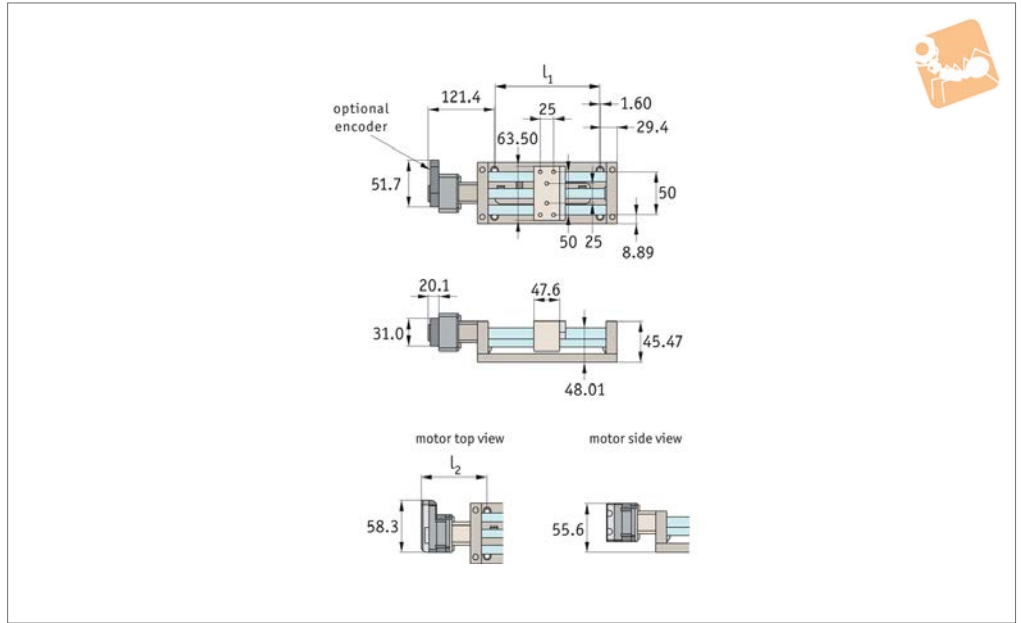
Order No.	Travel	Horizontal load kg max.	Accuracy mm ±	Repeatability ±	Lead screw pitch	Axial load (for 2mm lead screw) kg max.	Axial load (for 10mm lead screw) kg max.	I ₁	Weight kg
L3508.150-STC	150	4,5	0,6µ	5µ	2	2,5	0,5	236,0	1,01
L3508.150-STD	150	4,5	0,6µ	5µ	10	2,5	0,5	236,0	1,01
L3508.150-IMA	150	4,5	0,6µ	5µ	2	2,5	0,5	236,0	1,01
L3508.200-STC	200	4,5	0,6µ	5µ	2	2,5	0,5	286,8	1,13
L3508.200-STB	200	4,5	0,6µ	5µ	10	2,5	0,5	286,8	1,13
L3508.200-STC	200	4,5	0,6µ	5µ	2	2,5	0,5	286,8	1,13
L3508.200-STD	200	4,5	0,6µ	5µ	10	2,5	0,5	286,8	1,13
L3508.200-IMA	200	4,5	0,6µ	5µ	2	2,5	0,5	286,8	1,13

Order No.	Motor code	Motor type	I ₂	Speed mm/s	Resolution
L3508.025-STC	-STC	Stepper & enc.	54.5	25	0,04µ
L3508.025-STD	-STD	Stepper & enc.	54.5	100	0,2µ
L3508.025-IMA	-IMA	Int. stepper	54.5	25	0,04µ
L3508.050-STC	-STC	Stepper & enc.	67.2	25	0,04µ
L3508.050-STD	-STD	Stepper & enc.	67.2	100	0,2µ
L3508.050-IMA	-IMA	Int. stepper	67.2	25	0,04µ
L3508.100-STC	-STC	Stepper & enc.	62.6	25	0,04µ
L3508.100-STD	-STD	Stepper & enc.	62.6	100	0,2µ
L3508.100-IMA	-IMA	Int. stepper	62.6	25	0,04µ
L3508.150-STC	-STC	Stepper & enc.	67.2	25	0,04µ
L3508.150-STD	-STD	Stepper & enc.	67.2	100	0,2µ
L3508.150-IMA	-IMA	Int. stepper	67.2	25	0,04µ
L3508.200-STC	-STC	Stepper & enc.	92.6	25	0,04µ
L3508.200-STD	-STD	Stepper & enc.	92.6	100	0,2µ
L3508.200-IMA	-IMA	Int. stepper	92.6	25	0,04µ

MOTORISED LINEAR STAGES



L3510



Material

Black anodised aluminium body (6061). Hardened linear guideways, stainless steel Acme lead screw (with internally lubricated anti-backlash nut).

Technical Notes

Easy plug and play system. Controllable from PC or PLC when used in conjunction with a motion controller. Controllers come with their own software but you can also use your own pre-existing software with them such as Labview etc. Integrated limit switches are provided as standard. Can be readily supplied in XY, XZ and XYZ configurations (for travel lengths

<150mm).

Replace -XXX in part number with the code for your preferred motor type - see second data table for codes and specifications.

Tips

Motor options:

Stepper - Nema 17, high torque, brushless. 0.95 Amp/phase, 5.0 Ohm/phase, 3.1 mH/phase, 1.8°/step. Option with 1000 line encoder.

Intelligent stepper - Nema 17 with a fully programmable motion controller inbuilt (ie no need for an external motion controller). Two +5 to +24VDC I/O lines.

One 10 bit analogue input selectable 0 to +10VDC, 0 to +5VDC. RS422/485 communications. Input voltage +24VDC. Option with 512 line encoder.

Limit switches are wired normally closed. Drawings show stepper motor configuration. See special pages for further motor points.

Important Notes

For combined stages, add suffixes:

XY - for XY stage

XZ - for XZ stage

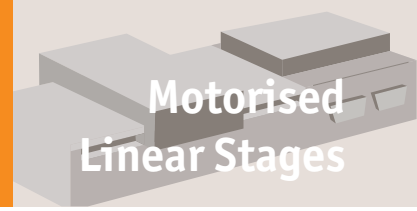
XYZ - for XYZ stage

Order No.	Travel	Horizontal load kg max.	Accuracy mm ±	Repeatability ±	Lead screw pitch	l_1	Motor code	Motor type	Speed mm/s max.	Resolution µm ±	Weight kg
L3510.050-IMA	50	4,5	0,06µ	30µ	2	100	IMA	Int. stepper	20	0,04	1,1
L3510.050-IMB	50	4,5	0,06µ	30µ	12	100	IMB	Int. stepper	150	0,24	1,1
L3510.050-STA	50	4,5	0,06µ	30µ	2	100	STA	Stepper	20	0,04	1,1
L3510.050-STB	50	4,5	0,06µ	30µ	12	100	STB	Stepper	150	0,24	1,1
L3510.050-STC	50	4,5	0,06µ	30µ	2	100	STC	Stepper & enc.	20	0,04	1,1
L3510.050-STD	50	4,5	0,06µ	30µ	12	100	STD	Stepper & enc.	150	0,24	1,1
L3510.100-IMA	100	4,5	0,06µ	30µ	2	150	IMA	Int. stepper	20	0,04	1,5
L3510.100-IMB	100	4,5	0,06µ	30µ	12	150	IMB	Int. stepper	150	0,24	1,6
L3510.100-STA	100	4,5	0,06µ	30µ	2	150	STA	Stepper	20	0,04	1,1
L3510.100-STB	100	4,5	0,06µ	30µ	12	150	STB	Stepper	150	0,24	1,2
L3510.100-STC	100	4,5	0,06µ	30µ	2	150	STC	Stepper & enc.	20	0,04	1,3
L3510.100-STD	100	4,5	0,06µ	30µ	12	150	STD	Stepper & enc.	150	0,24	1,4
L3510.150-IMA	150	4,5	0,06µ	30µ	2	200	IMA	Int. stepper	20	0,04	1,5
L3510.150-IMB	150	4,5	0,06µ	30µ	12	200	IMB	Int. stepper	150	0,24	1,6
L3510.150-STA	150	4,5	0,06µ	30µ	2	200	STA	Stepper	20	0,04	1,1
L3510.150-STB	150	4,5	0,06µ	30µ	12	200	STB	Stepper	150	0,24	1,2
L3510.150-STC	150	4,5	0,06µ	30µ	2	200	STC	Stepper & enc.	20	0,04	1,3
L3510.150-STD	150	4,5	0,06µ	30µ	12	200	STD	Stepper & enc.	150	0,24	1,4
L3510.200-IMA	200	4,5	0,06µ	30µ	2	250	IMA	Int. stepper	20	0,04	1,5
L3510.200-IMB	200	4,5	0,06µ	30µ	12	250	IMB	Int. stepper	150	0,24	1,6



Motorised Linear Stages

economy



Motorised Linear Stages

Order No.	Travel	Horizontal load kg max.	Accuracy mm ±	Repeatability ±	Lead screw pitch	I ₁	Motor code	Motor type	Speed mm/s max.	Resolution µm ±	Weight kg
L3510.200-STA	200	4,5	0,06µ	30µ	2	250	STA	Stepper	20	0,04	1,1
L3510.200-STB	200	4,5	0,06µ	30µ	12	250	STB	Stepper	150	0,24	1,2
L3510.200-STC	200	4,5	0,06µ	30µ	2	250	STC	Stepper & enc.	20	0,04	1,3
L3510.200-STD	200	4,5	0,06µ	30µ	12	250	STD	Stepper & enc.	150	0,24	1,4
L3510.250-IMA	250	4,5	0,06µ	30µ	2	300	IMA	Int. stepper	20	0,04	1,5
L3510.250-IMB	250	4,5	0,06µ	30µ	12	300	IMB	Int. stepper	150	0,24	1,6
L3510.250-STA	250	4,5	0,06µ	30µ	2	300	STA	Stepper	20	0,04	1,1
L3510.250-STB	250	4,5	0,06µ	30µ	12	300	STB	Stepper	150	0,24	1,2
L3510.250-STC	250	4,5	0,06µ	30µ	2	300	STC	Stepper & enc.	20	0,04	1,3
L3510.250-STD	250	4,5	0,06µ	30µ	12	300	STD	Stepper & enc.	150	0,24	1,4
L3510.300-IMA	300	4,5	0,06µ	30µ	2	350	IMA	Int. stepper	20	0,04	1,5
L3510.300-IMB	300	4,5	0,06µ	30µ	12	350	IMB	Int. stepper	150	0,24	1,6
L3510.300-STA	300	4,5	0,06µ	30µ	2	350	STA	Stepper	20	0,04	1,1
L3510.300-STB	300	4,5	0,06µ	30µ	12	350	STB	Stepper	150	0,24	1,2
L3510.300-STC	300	4,5	0,06µ	30µ	2	350	STC	Stepper & enc.	20	0,04	1,3
L3510.300-STD	300	4,5	0,06µ	30µ	12	350	STD	Stepper & enc.	150	0,24	1,4

MOTORISED LINEAR STAGES



Our motorised linear stages are precise, heavy duty and available from 25mm stroke to 800mm.

They can be easily controlled either with an Intelligent motor (this is a motor with an inbuilt driver and controller) or with a motor and one of our motion controller stages.

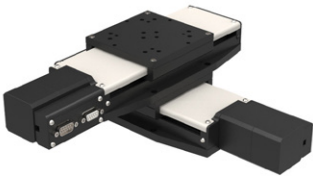
Programming for both the intelligent motor (less expensive) and the motion controllers is very simple and we provide free software and sample source code for Labview, VB, C++, OSX etc. It is also possible to download a stand-alone programme to the device so it can run independently of a host.

We also offer a Joystick controller.

The stages can be readily supplied in X, XY, XZ and XYZ configurations and can also be used with our range of rotary tables (L3550 to L3562).

MOTORISED LINEAR STAGES

XY Assembly



XY Assembly



XY Assembly



Using intelligent motors

- RS-485 - USB connection.
- Can run independently from host.
- Joystick control option

Using motion controllers

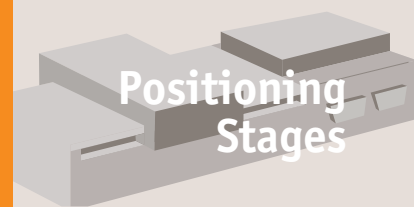
- RS-485 - USB connection.
- Can run independently from host.
- Joystick control option



Motorised Stages

Stepper + servo motors

Positioning Stages



Positioning Stages from Automotion Components

MOTORISED LINEAR STAGES

Stepper limitations

For all of their advantages, stepper motors have a number of limitations which can cause significant implementation and operational issues depending on your application. Stepper motors do not have any reserve power. In fact, stepper motors lose a significant amount of their torque as they approach their maximum driver speed. A loss of 80% of the rated torque at 90% of the maximum speed is typical.

Stepper motors are also not as good as servo motors in accelerating a load. Attempting to accelerate a load too fast where the stepper cannot generate enough torque to move to the next step before the next drive pulse will result in a skipped step and a loss in position. If positional accuracy is essential, either the load on the motor must never exceed its torque or the stepper must be combined with a position encoder to ensure positional accuracy.

Stepper motors may also suffer from vibration and resonance problems. At certain speeds, partially depending on the load dynamics, they may resonate and be unable to drive the load. This may result in skipped steps, stalled motors, excessive vibration and noise.

Servo limitations

Servo motors are capable of delivering more power than stepper motors, but do require much more complex drive circuitry and positional feedback for accurate positioning. Servo motors are also much considerably expensive than stepper motors and are often harder to find. Servo motors often require gear boxes, especially for lower speed operation.

The requirement for a gearbox and a position encoder makes servo motor designs more mechanically complex and increases the maintenance requirements for the system. To top it all off, servo motors are more expensive than stepper motors before adding on the cost of a position encoder.

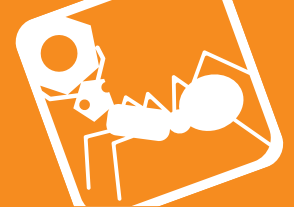
Summary

Selecting the best motor for your application depends on a few key design criteria for your system including cost, positional accuracy requirements, torque requirements, drive power availability, and acceleration requirements. Overall, servo motors are best for high speed, high torque applications while stepper motors are better suited for lower acceleration, high holding torque applications as well as generally being less expensive and easier to control.

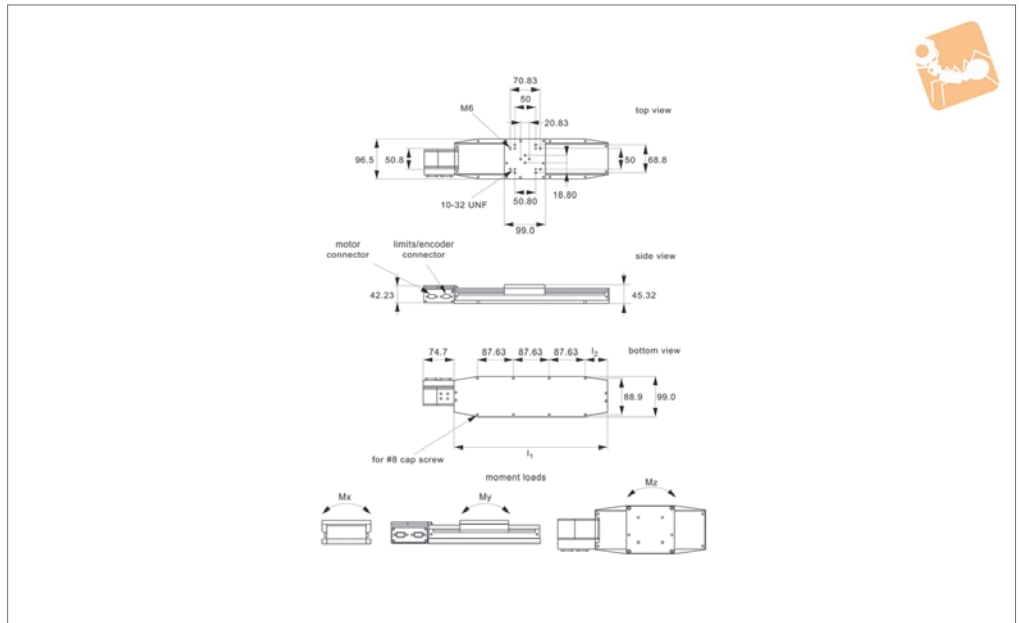
Motor options

	<p>Stepper motor</p> <ul style="list-style-type: none"> • Standard • With rotary encoder (1000 line)
	<p>Intelligent stepper motor</p> <ul style="list-style-type: none"> • Standard • With rotary encoder (512 line)
	<p>Servo motor</p> <ul style="list-style-type: none"> • Standard • With rotary encoder (1000 line)

ov-stepper&servo-motors-rmh - Updated - 02-03-2023



L3500



Material

Black anodised aluminium body (6061). Hardened linear guideways, stainless steel Acme lead screw (with internally lubricated anti-backlash nut).

Technical Notes

These are smooth running, precise and stiff linear stages. For ease of use they have separate connections for motor power and limit/encoder signals. Integrated limit switches are provided as standard. Easy plug and play system. Controllable from PC or PLC when used in conjunction with a motion controller. Controllers come with their own software but many pre-existing software packages (such as Labview) can be used. Can be readily supplied in XY, XZ and XYZ configurations.

Applications - research, semi-conductors, fibre optics, automation etc.

Replace -XXX in part number with the code for your preferred motor type - see second data table for codes and specifications.

Tips

Motor options:

Stepper - Nema 17, high torque, brushless. 0.95 Amp/phase, 5.0 Ohm/phase, 3.1 mH/phase, 1.8°/step. Optional Stepper & 1000 line linear encoder.

Servo - Nema 17, brushless DC motor. Continuous stall torque 0.25Nm, peak torque 0.7 Nm, with 1000 line rotary encoder.

Intelligent stepper - Nema 17 with a fully programmable motion controller inbuilt (ie no need for an external motion

controller). Two +5 to +24VDC I/O lines. One 10 bit analogue input selectable 0 to +10VDC, 0 to +5VDC. RS422/485 communications. Input voltage +24VDC. Limit switches are wired normally open. Option with 512 line encoder. Drawings show stepper motor configuration. See special pages for further motor options.

Important Notes

Max. moment loads:

$M_x = 20 \text{ Nm}$

$M_y = 20 \text{ Nm}$

$M_z = 19 \text{ Nm}$

For 50mm travel stage M_a and $M_b = 12 \text{ Nm}$.

For combined stages, add suffixes:

XY - for XY stage

XZ - for XZ stage

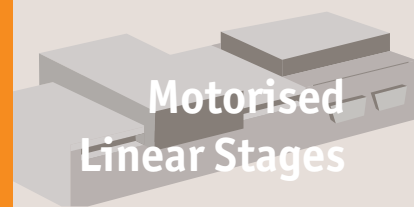
XYZ - for XYZ stage

Order No.	Travel	Motor type	Motor code	Accuracy $\mu\text{m}/\text{mm}$	Bi-directional repeatability	Horizontal load kg max.	Vertical load kg max.	Side load kg max.	Weight kg
L3500.050-STA	50	Stepper	-STA	0,6 μ	10 μ	23	6.5	18	1.36
L3500.050-STB	50	Stepper	-STB	0,6 μ	10 μ	23	6.5	18	1.36
L3500.050-STC	50	Stepper & enc.	-STC	0,6 μ	10 μ	23	6.5	18	1.36
L3500.050-STD	50	Stepper & enc.	-STD	0,6 μ	10 μ	23	6.5	18	1.36
L3500.050-IMA	50	Int. stepper	-IMA	0,6 μ	10 μ	23	6.5	18	1.36
L3500.050-IMB	50	Int. stepper	-IMB	0,6 μ	10 μ	23	6.5	18	1.36
L3500.050-IMC	50	Int. stepper & enc.	-IMC	0,6 μ	10 μ	23	6.5	18	1.36
L3500.050-IMD	50	Int. stepper	-IMD	0,6 μ	10 μ	23	6.5	18	1.36
L3500.050-SVA	50	Servo & encoder	-SVA	0,6 μ	10 μ	23	6.5	18	1.36
L3500.050-SVB	50	Servo & encoder	-SVB	0,6 μ	10 μ	23	6.5	18	1.36
L3500.150-STA	150	Stepper	-STA	0,6 μ	10 μ	23	6.5	18	2.41
L3500.150-STB	150	Stepper	-STB	0,6 μ	10 μ	23	6.5	18	2.41
L3500.150-STC	150	Stepper & enc.	-STC	0,6 μ	10 μ	23	6.5	18	2.41



Medium-Duty Motorised Stages

high precision



Motorised Linear Stages

Order No.	Travel	Motor type	Motor code	Accuracy µm/mm	Bi-directional repeatability	Horizontal load kg max.	Vertical load kg max.	Side load kg max.	Weight kg
L3500.150-STD	150	Stepper & enc.	-STD	0,6µ	10µ	23	6.5	18	2.41
L3500.150-IMA	150	Int. stepper	-IMA	0,6µ	10µ	23	6.5	18	2.41
L3500.150-IMB	150	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	2.41
L3500.150-IMC	150	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	2.41
L3500.150-IMD	150	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	2.41
L3500.150-SVA	150	Servo & encoder	-SVA	0,6µ	10µ	23	6.5	18	2.41
L3500.150-SVB	150	Servo & encoder	-SVB	0,6µ	10µ	23	6.5	18	2.41
L3500.200-STA	200	Stepper	-STA	0,6µ	10µ	23	6.5	18	2.59
L3500.200-STB	200	Stepper	-STB	0,6µ	10µ	23	6.5	18	2.59
L3500.200-STC	200	Stepper & enc.	-STC	0,6µ	10µ	23	6.5	18	2.59
L3500.200-STD	200	Stepper & enc.	-STD	0,6µ	10µ	23	6.5	18	2.59
L3500.200-IMA	200	Int. stepper	-IMA	0,6µ	10µ	23	6.5	18	2.59
L3500.200-IMB	200	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	2.59
L3500.200-IMC	200	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	2.59
L3500.200-IMD	200	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	2.59
L3500.200-SVA	200	Servo & encoder	-SVA	0,6µ	10µ	23	6.5	18	2.59
L3500.200-SVB	200	Servo & encoder	-SVB	0,6µ	10µ	23	6.5	18	2.59
L3500.250-STA	250	Stepper	-STA	0,6µ	10µ	23	6.5	18	2.86
L3500.250-STB	250	Stepper	-STB	0,6µ	10µ	23	6.5	18	2.86
L3500.250-STC	250	Stepper & enc.	-STC	0,6µ	10µ	23	6.5	18	2.86
L3500.250-STD	250	Stepper & enc.	-STD	0,6µ	10µ	23	6.5	18	2.86
L3500.250-IMA	250	Int. stepper	-IMA	0,6µ	10µ	23	6.5	18	2.86
L3500.250-IMB	250	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	2.86
L3500.250-IMC	250	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	2.86
L3500.250-IMD	250	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	2.86
L3500.250-SVA	250	Servo & encoder	-SVA	0,6µ	10µ	23	6.5	18	2.86
L3500.250-SVB	250	Servo & encoder	-SVB	0,6µ	10µ	23	6.5	18	2.86
L3500.300-STA	300	Stepper	-STA	0,6µ	10µ	23	6.5	18	3.13
L3500.300-STB	300	Stepper	-STB	0,6µ	10µ	23	6.5	18	3.13
L3500.300-STC	300	Stepper & enc.	-STC	0,6µ	10µ	23	6.5	18	3.13
L3500.300-STD	300	Stepper & enc.	-STD	0,6µ	10µ	23	6.5	18	3.13
L3500.300-IMA	300	Int. stepper	-IMA	0,6µ	10µ	23	6.5	18	3.13
L3500.300-IMB	300	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	3.13
L3500.300-IMC	300	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	3.13
L3500.300-IMD	300	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	3.13
L3500.300-SVA	300	Servo & encoder	-SVA	0,6µ	10µ	23	6.5	18	3.13
L3500.300-SVB	300	Servo & encoder	-SVB	0,6µ	10µ	23	6.5	18	3.13
L3500.350-STA	350	Stepper	-STA	0,6µ	10µ	23	6.5	18	3.41
L3500.350-STB	350	Stepper	-STB	0,6µ	10µ	23	6.5	18	3.41
L3500.350-STC	350	Stepper & enc.	-STC	0,6µ	10µ	23	6.5	18	3.41
L3500.350-STD	350	Stepper & enc.	-STD	0,6µ	10µ	23	6.5	18	3.41
L3500.350-IMA	350	Int. stepper	-IMA	0,6µ	10µ	23	6.5	18	3.41
L3500.350-IMB	350	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	3.41
L3500.350-IMC	350	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	3.41
L3500.350-IMD	350	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	3.41
L3500.350-SVA	350	Servo & encoder	-SVA	0,6µ	10µ	23	6.5	18	3.41
L3500.350-SVB	350	Servo & encoder	-SVB	0,6µ	10µ	23	6.5	18	3.41
L3500.400-STA	400	Stepper	-STA	0,6µ	10µ	23	6.5	18	3.68
L3500.400-STB	400	Stepper	-STB	0,6µ	10µ	23	6.5	18	3.68
L3500.400-STC	400	Stepper & enc.	-STC	0,6µ	10µ	23	6.5	18	3.68
L3500.400-STD	400	Stepper & enc.	-STD	0,6µ	10µ	23	6.5	18	3.68
L3500.400-IMA	400	Int. stepper	-IMA	0,6µ	10µ	23	6.5	18	3.68
L3500.400-IMB	400	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	3.68
L3500.400-IMC	400	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	3.68
L3500.400-IMD	400	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	3.68
L3500.400-SVA	400	Servo & encoder	-SVA	0,6µ	10µ	23	6.5	18	3.68
L3500.400-SVB	400	Servo & encoder	-SVB	0,6µ	10µ	23	6.5	18	3.68
L3500.500-STA	500	Stepper	-STA	0,6µ	10µ	23	6.5	18	3.95
L3500.500-STB	500	Stepper	-STB	0,6µ	10µ	23	6.5	18	3.95
L3500.500-STC	500	Stepper & enc.	-STC	0,6µ	10µ	23	6.5	18	3.95

MOTORISED LINEAR STAGES



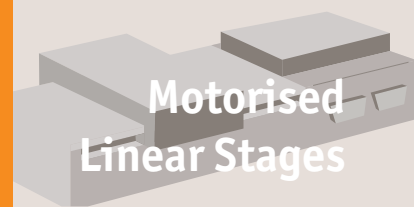
Order No.	Travel	Motor type	Motor code	Accuracy µm/mm	Bi-directional repeatability	Horizontal load kg max.	Vertical load kg max.	Side load kg max.	Weight kg
L3500.500-STD	500	Stepper & enc.	-STD	0,6µ	10µ	23	6,5	18	3,95
L3500.500-IMA	500	Int. stepper	-IMA	0,6µ	10µ	23	6,5	18	3,95
L3500.500-IMB	500	Int. stepper	-IMB	0,6µ	10µ	23	6,5	18	3,95
L3500.500-IMC	500	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6,5	18	3,95
L3500.500-IMD	500	Int. stepper	-IMD	0,6µ	10µ	23	6,5	18	3,95
L3500.500-SVA	500	Servo & encoder	-SVA	0,6µ	10µ	23	6,5	18	3,95
L3500.500-SVB	500	Servo & encoder	-SVB	0,6µ	10µ	23	6,5	18	3,95
L3500.600-STA	600	Stepper	-STA	0,6µ	10µ	23	6,5	18	4,23
L3500.600-STB	600	Stepper	-STB	0,6µ	10µ	23	6,5	18	4,23
L3500.600-STC	600	Stepper & enc.	-STC	0,6µ	10µ	23	6,5	18	4,23
L3500.600-STD	600	Stepper & enc.	-STD	0,6µ	10µ	23	6,5	18	4,23
L3500.600-IMA	600	Int. stepper	-IMA	0,6µ	10µ	23	6,5	18	4,23
L3500.600-IMB	600	Int. stepper	-IMB	0,6µ	10µ	23	6,5	18	4,23
L3500.600-IMC	600	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6,5	18	4,23
L3500.600-IMD	600	Int. stepper	-IMD	0,6µ	10µ	23	6,5	18	4,23
L3500.600-SVA	600	Servo & encoder	-SVA	0,6µ	10µ	23	6,5	18	4,23
L3500.600-SVB	600	Servo & encoder	-SVB	0,6µ	10µ	23	6,5	18	4,23
L3500.100-STA	100	Stepper	-STA	0,6µ	10µ	23	6,5	18	2,14
L3500.100-STB	100	Stepper	-STB	0,6µ	10µ	23	6,5	18	2,14
L3500.100-STC	100	Stepper & enc.	-STC	0,6µ	10µ	23	6,5	18	2,14
L3500.100-STD	100	Stepper & enc.	-STD	0,6µ	10µ	23	6,5	18	2,14
L3500.100-IMA	100	Int. stepper	-IMA	0,6µ	10µ	23	6,5	18	2,14
L3500.100-IMB	100	Int. stepper	-IMB	0,6µ	10µ	23	6,5	18	2,14
L3500.100-IMC	100	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6,5	18	2,14
L3500.100-IMD	100	Int. stepper	-IMD	0,6µ	10µ	23	6,5	18	2,14
L3500.100-SVA	100	Servo & encoder	-SVA	0,6µ	10µ	23	6,5	18	2,14
L3500.100-SVB	100	Servo & encoder	-SVB	0,6µ	10µ	23	6,5	18	2,14

Order No.	Lead screw pitch	Speed mm/s max.	I ₁	I ₂	Resolution
L3500.050-STA	1.5875	12.0	176	44.5	0,3µ
L3500.050-STB	6.35	50.0	176	44.5	0,13µ
L3500.050-STC	1.5875	12.0	176	44.5	0,4µ
L3500.050-STD	6.35	50.0	176	44.5	1,6µ
L3500.050-IMA	1.5875	12.0	176	44.5	0,4µ
L3500.050-IMB	6.35	12.0	176	44.5	1,6µ
L3500.050-IMC	1.5875	25.0	176	44.5	0,4µ
L3500.050-IMD	6.35	50.0	176	44.5	1,6µ
L3500.050-SVA	1.5875	25.0	176	44.5	0,4µ
L3500.050-SVB	6.35	100.0	176	44.5	1,6µ
L3500.150-STA	1.5875	12.0	277	94.3	0,3µ
L3500.150-STB	6.35	50.0	277	94.3	0,13µ
L3500.150-STC	1.5875	12.0	277	94.3	0,4µ
L3500.150-STD	6.35	50.0	277	94.3	1,6µ
L3500.150-IMA	1.5875	12.0	277	94.3	0,4µ
L3500.150-IMB	6.35	12.0	277	94.3	1,6µ
L3500.150-IMC	1.5875	25.0	277	94.3	0,4µ
L3500.150-IMD	6.35	50.0	277	94.3	1,6µ
L3500.150-SVA	1.5875	25.0	277	94.3	0,4µ
L3500.150-SVB	6.35	100.0	277	94.3	1,6µ
L3500.200-STA	1.5875	12.0	327	119.7	0,3µ
L3500.200-STB	6.35	50.0	327	119.7	0,13µ
L3500.200-STC	1.5875	12.0	327	119.7	0,4µ
L3500.200-STD	6.35	50.0	327	119.7	1,6µ
L3500.200-IMA	1.5875	12.0	327	119.7	0,4µ
L3500.200-IMB	6.35	12.0	327	119.7	1,6µ
L3500.200-IMC	1.5875	25.0	327	119.7	0,4µ
L3500.200-IMD	6.35	50.0	327	119.7	1,6µ
L3500.200-SVA	1.5875	25.0	327	119.7	0,4µ
L3500.200-SVB	6.35	100.0	327	119.7	1,6µ
L3500.250-STA	1.5875	12.0	378	57.5	0,3µ
L3500.250-STB	6.35	50.0	378	57.5	0,13µ



Medium-Duty Motorised Stages

high precision



Motorised Linear Stages

Order No.	Lead screw pitch	Speed mm/s max.	l_1	l_2	Resolution
L3500.250-STC	1.5875	12.0	378	57.5	0,4μ
L3500.250-STD	6.35	50.0	378	57.5	1,6μ
L3500.250-IMA	1.5875	12.0	378	57.5	0,4μ
L3500.250-IMB	6.35	12.0	378	57.5	1,6μ
L3500.250-IMC	1.5875	25.0	378	57.5	0,4μ
L3500.250-IMD	6.35	50.0	378	57.5	1,6μ
L3500.250-SVA	1.5875	25.0	378	57.5	0,4μ
L3500.250-SVB	6.35	100.0	378	57.5	1,6μ
L3500.300-STA	1.5875	12.0	429	82.7	0,3μ
L3500.300-STB	6.35	50.0	429	82.7	0,13μ
L3500.300-STC	1.5875	12.0	429	82.7	0,4μ
L3500.300-STD	6.35	50.0	429	82.7	1,6μ
L3500.300-IMA	1.5875	12.0	429	82.7	0,4μ
L3500.300-IMB	6.35	12.0	429	82.7	1,6μ
L3500.300-IMC	1.5875	25.0	429	82.7	0,4μ
L3500.300-IMD	6.35	50.0	429	82.7	1,6μ
L3500.300-SVA	1.5875	25.0	429	82.7	0,4μ
L3500.300-SVB	6.35	100.0	429	82.7	1,6μ
L3500.350-STA	1.5875	12.0	480	82.7	0,3μ
L3500.350-STB	6.35	50.0	480	82.7	0,13μ
L3500.350-STC	1.5875	12.0	480	82.7	0,4μ
L3500.350-STD	6.35	50.0	480	82.7	1,6μ
L3500.350-IMA	1.5875	12.0	480	82.7	0,4μ
L3500.350-IMB	6.35	12.0	480	82.7	1,6μ
L3500.350-IMC	1.5875	25.0	480	82.7	0,4μ
L3500.350-IMD	6.35	50.0	480	82.7	1,6μ
L3500.350-SVA	1.5875	25.0	480	82.7	0,4μ
L3500.350-SVB	6.35	100.0	480	82.7	1,6μ
L3500.400-STA	1.5875	12.0	531	133.7	0,3μ
L3500.400-STB	6.35	50.0	531	133.7	0,13μ
L3500.400-STC	1.5875	12.0	531	133.7	0,4μ
L3500.400-STD	6.35	50.0	531	133.7	1,6μ
L3500.400-IMA	1.5875	12.0	531	133.7	0,4μ
L3500.400-IMB	6.35	12.0	531	133.7	1,6μ
L3500.400-IMC	1.5875	25.0	531	133.7	0,4μ
L3500.400-IMD	6.35	50.0	531	133.7	1,6μ
L3500.400-SVA	1.5875	25.0	531	133.7	0,4μ
L3500.400-SVB	6.35	100.0	531	133.7	1,6μ
L3500.500-STA	1.5875	12.0	632	185.5	0,3μ
L3500.500-STB	6.35	50.0	632	185.5	0,13μ
L3500.500-STC	1.5875	12.0	632	185.5	0,4μ
L3500.500-STD	6.35	50.0	632	185.5	1,6μ
L3500.500-IMA	1.5875	12.0	632	185.5	0,4μ
L3500.500-IMB	6.35	12.0	632	185.5	1,6μ
L3500.500-IMC	1.5875	25.0	632	185.5	0,4μ
L3500.500-IMD	6.35	50.0	632	185.5	1,6μ
L3500.500-SVA	1.5875	25.0	632	185.5	0,4μ
L3500.500-SVB	6.35	100.0	632	185.5	1,6μ
L3500.600-STA	1.5875	12.0	734	235.3	0,3μ
L3500.600-STB	6.35	50.0	734	235.3	0,13μ
L3500.600-STC	1.5875	12.0	734	235.3	0,4μ
L3500.600-STD	6.35	50.0	734	235.3	1,6μ
L3500.600-IMA	1.5875	12.0	734	235.3	0,4μ
L3500.600-IMB	6.35	12.0	734	235.3	1,6μ
L3500.600-IMC	1.5875	25.0	734	235.3	0,4μ
L3500.600-IMD	6.35	50.0	734	235.3	1,6μ
L3500.600-SVA	1.5875	25.0	734	235.3	0,4μ
L3500.600-SVB	6.35	100.0	734	235.3	1,6μ
L3500.100-STA	1.5875	12.0	226	68.9	0,3μ
L3500.100-STB	6.35	50.0	226	68.9	0,13μ
L3500.100-STC	1.5875	12.0	226	68.9	0,4μ
L3500.100-STD	6.35	50.0	226	68.9	1,6μ
L3500.100-IMA	1.5875	12.0	226	68.9	0,4μ
L3500.100-IMB	6.35	12.0	226	68.9	1,6μ
L3500.100-IMC	1.5875	25.0	226	68.9	0,4μ
L3500.100-IMD	6.35	50.0	226	68.9	1,6μ
L3500.100-SVA	1.5875	25.0	226	68.9	0,4μ

MOTORISED LINEAR STAGES



Order No.	Lead screw pitch	Speed mm/s max.	l_1	l_2	Resolution
L3500.100-SVB	6.35	100.0	226	68.9	1,6 μ



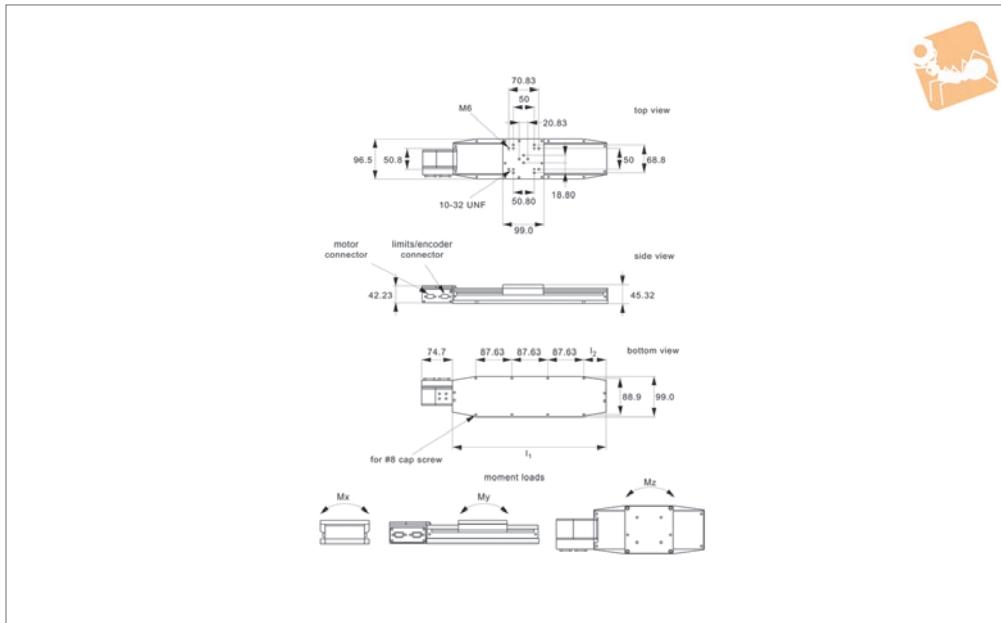
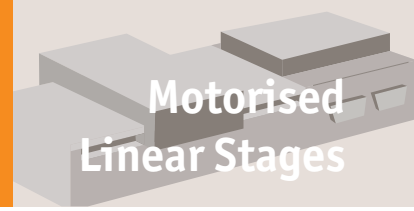
MOTORISED LINEAR STAGES



Vacuum Compatible Motorised Stages

high precision

Motorised Linear Stages



L3502

MOTORIZED LINEAR STAGES

Material

Black anodised aluminium body (6061).
Hardened linear guideways, stainless steel
Acme lead screw (with internally lubricated
anti-backlash nut).

Technical Notes

Operation down to 10^{-6} Torr.
Teflon jacketed wire, fluxless soldered
connections. Vacuum compatible motor
and limit switches. Low vapour pressure
lubricant, blind holes are vented. All parts
are thoroughly cleaned followed by latex
gloved assembly.
Replace -XXX in part number with the code
for your preferred motor type - see second
data table for codes and specifications.
Easy plug and play system. Controllable
from PC or PLC when used in conjunction
with a motion controller. Controllers come

with their own software but many pre-
existing software packages (such as
Labview) can be used.
Can be readily supplied in XY, XZ and XYZ
configurations.
Applications - research, semi-conductors,
fibre optics, automation etc.

**Replace -XXX in part number with the
code for your preferred motor type - see
second data table for codes and specifi-
cations.**

Tips

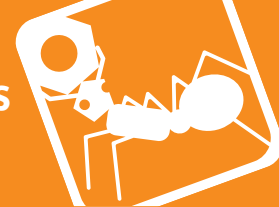
Motor options:
Stepper - Nema 17, high torque, brushless.
0.95 Amp/phase, 5.0 Ohm/phase, 3.1 mH/
phase, 1.8° /step.
Intelligent stepper - Nema 17 with a fully
programmable motion controller inbuilt
(ie no need for an external motion

controller). Two +5 to +24VDC I/O lines.
One 10 bit analogue input selectable 0 to
+10VDC, 0 to +5VDC. RS422/485 communi-
cations. Input voltage +24VDC.
Drawings show stepper motor configura-
tion. See special pages for further motor
options.

Important Notes

Max. moment loads:
 $M_x = 20 \text{ Nm}$
 $M_y = 20 \text{ Nm}$
 $M_z = 19 \text{ Nm}$
For 50mm travel stage M_a and $M_b = 12 \text{ Nm}$.
For combined stages, add suffixes:
XY - for XY stage
XZ - for XZ stage
XYZ - for XYZ stage

Order No.	Travel	Motor type	Motor code	Accuracy mm \pm	Bi-directional repeatability \pm	Horizontal load kg max.	Vertical load kg max.	Side load kg max.	Weight kg
L3502.050-STA	50	Stepper	-STA	0,6 μ	10 μ	23	6.5	18	1.36
L3502.050-STB	50	Stepper	-STB	0,6 μ	10 μ	23	6.5	18	1.36
L3502.050-STC	50	Stepper & enc.	-STC	0,6 μ	10 μ	23	6.5	18	1.36
L3502.050-STD	50	Stepper & enc.	-STD	0,6 μ	10 μ	23	6.5	18	1.36
L3502.050-IMA	50	Int. stepper	-IMA	0,6 μ	10 μ	23	6.5	18	1.36
L3502.050-IMB	50	Int. stepper	-IMB	0,6 μ	10 μ	23	6.5	18	1.36
L3502.050-IMC	50	Int. stepper & enc.	-IMC	0,6 μ	10 μ	23	6.5	18	1.36
L3502.050-IMD	50	Int. stepper	-IMD	0,6 μ	10 μ	23	6.5	18	1.36
L3502.100-STA	100	Stepper	-STA	0,6 μ	10 μ	23	6.5	18	2.14
L3502.100-STB	100	Stepper	-STB	0,6 μ	10 μ	23	6.5	18	2.14
L3502.100-STC	100	Stepper & enc.	-STC	0,6 μ	10 μ	23	6.5	18	2.14
L3502.100-STD	100	Stepper & enc.	-STD	0,6 μ	10 μ	23	6.5	18	2.14
L3502.100-IMA	100	Int. stepper	-IMA	0,6 μ	10 μ	23	6.5	18	2.14

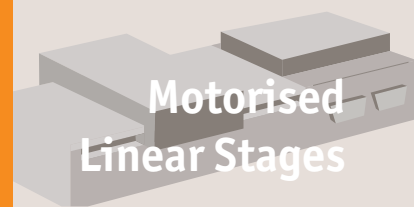


Order No.	Travel	Motor type	Motor code	Accuracy mm ±	Bi-directional repeatability ±	Horizontal load kg max.	Vertical load kg max.	Side load kg max.	Weight kg
L3502.100-IMB	100	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	2.14
L3502.100-IMC	100	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	2.14
L3502.100-IMD	100	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	2.14
L3502.150-STA	150	Stepper	-STA	0,6µ	10µ	23	6.5	18	2.41
L3502.150-STB	150	Stepper	-STB	0,6µ	10µ	23	6.5	18	2.41
L3502.150-STC	150	Stepper & enc.	-STC	0,6µ	10µ	23	6.5	18	2.41
L3502.150-STD	150	Stepper & enc.	-STD	0,6µ	10µ	23	6.5	18	2.41
L3502.150-IMA	150	Int. stepper	-IMA	0,6µ	10µ	23	6.5	18	2.41
L3502.150-IMB	150	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	2.41
L3502.150-IMC	150	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	2.41
L3502.150-IMD	150	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	2.41
L3502.200-STA	200	Stepper	-STA	0,6µ	10µ	23	6.5	18	2.59
L3502.200-STB	200	Stepper	-STB	0,6µ	10µ	23	6.5	18	2.59
L3502.200-STC	200	Stepper & enc.	-STC	0,6µ	10µ	23	6.5	18	2.59
L3502.200-STD	200	Stepper & enc.	-STD	0,6µ	10µ	23	6.5	18	2.59
L3502.200-IMA	200	Int. stepper	-IMA	0,6µ	10µ	23	6.5	18	2.59
L3502.200-IMB	200	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	2.59
L3502.200-IMC	200	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	2.59
L3502.200-IMD	200	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	2.59
L3502.250-STA	250	Stepper	-STA	0,6µ	10µ	23	6.5	18	2.86
L3502.250-STB	250	Stepper	-STB	0,6µ	10µ	23	6.5	18	2.86
L3502.250-STC	250	Stepper & enc.	-STC	0,6µ	10µ	23	6.5	18	2.86
L3502.250-STD	250	Stepper & enc.	-STD	0,6µ	10µ	23	6.5	18	2.86
L3502.250-IMA	250	Int. stepper	-IMA	0,6µ	10µ	23	6.5	18	2.86
L3502.250-IMB	250	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	2.86
L3502.250-IMC	250	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	2.86
L3502.250-IMD	250	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	2.86
L3502.300-STA	300	Stepper	-STA	0,6µ	10µ	23	6.5	18	3.13
L3502.300-STB	300	Stepper	-STB	0,6µ	10µ	23	6.5	18	3.13
L3502.300-STC	300	Stepper & enc.	-STC	0,6µ	10µ	23	6.5	18	3.13
L3502.300-STD	200	Stepper & enc.	-STD	0,6µ	10µ	23	6.5	18	3.13
L3502.300-IMA	250	Int. stepper	-IMA	0,6µ	10µ	23	6.5	18	3.13
L3502.300-IMB	300	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	3.13
L3502.300-IMC	350	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	3.13
L3502.300-IMD	400	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	3.13
L3502.350-STA	350	Stepper	-STA	0,6µ	10µ	23	108.3	18	3.41
L3502.350-STB	350	Stepper	-STB	0,6µ	10µ	23	108.3	18	3.41
L3502.350-STC	350	Stepper & enc.	-STC	0,6µ	10µ	23	108.3	18	3.41
L3502.350-STD	350	Stepper & enc.	-STD	0,6µ	10µ	23	6.5	18	3.41
L3502.350-IMA	350	Int. stepper	-IMA	0,6µ	10µ	23	6.5	18	3.41
L3502.350-IMB	350	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	3.41
L3502.350-IMC	350	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	3.41
L3502.350-IMD	350	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	3.41
L3502.400-STA	400	Stepper	-STA	0,6µ	10µ	23	6.5	18	3.68
L3502.400-STB	400	Stepper	-STB	0,6µ	10µ	23	6.5	18	3.68
L3502.400-STC	400	Stepper & enc.	-STC	0,6µ	10µ	23	6.5	18	3.68
L3502.400-STD	400	Stepper & enc.	-STD	0,6µ	10µ	23	6.5	18	3.68
L3502.400-IMA	400	Int. stepper	-IMA	0,6µ	10µ	23	6.5	18	3.68
L3502.400-IMB	400	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	3.68
L3502.400-IMC	400	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	3.68
L3502.400-IMD	400	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	3.68
L3502.500-STA	500	Stepper	-STA	0,6µ	10µ	23	6.5	18	3.95
L3502.500-STB	500	Stepper	-STB	0,6µ	10µ	23	6.5	18	3.95
L3502.500-STC	500	Stepper & enc.	-STC	0,6µ	10µ	23	6.5	18	3.95
L3502.500-STD	500	Stepper & enc.	-STD	0,6µ	10µ	23	6.5	18	3.95
L3502.500-IMA	500	Int. stepper	-IMA	0,6µ	10µ	23	6.5	18	3.95
L3502.500-IMB	500	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	3.95
L3502.500-IMC	500	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	3.95



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Order No.	Travel	Motor type	Motor code	Accuracy mm ±	Bi-directional repeatability ±	Horizontal load kg max.	Vertical load kg max.	Side load kg max.	Weight kg
L3502.500-IMD	500	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	3.95
L3502.600-STA	600	Stepper	-STA	0,6µ	10µ	23	6.5	18	4.23
L3502.600-STB	600	Stepper	-STB	0,6µ	10µ	23	6.5	18	4.23
L3502.600-STC	600	Stepper & enc.	-STC	0,6µ	10µ	23	6.5	18	4.23
L3502.600-STD	600	Stepper & enc.	-STD	0,6µ	10µ	23	6.5	18	4.23
L3502.600-IMA	600	Int. stepper	-IMA	0,6µ	10µ	23	6.5	18	4.23
L3502.600-IMB	600	Int. stepper	-IMB	0,6µ	10µ	23	6.5	18	4.23
L3502.600-IMC	600	Int. stepper & enc.	-IMC	0,6µ	10µ	23	6.5	18	4.23
L3502.600-IMD	600	Int. stepper	-IMD	0,6µ	10µ	23	6.5	18	4.23

Order No.	Lead screw pitch	Speed mm/s max.	I ₁	I ₂	Resolution ±
L3502.050-STA	1.5875	12.0	176	44.5	0,03µ
L3502.050-STB	6.35	50.0	176	44.5	0,13µ
L3502.050-STC	1.5875	12.0	176	44.5	0,4µ
L3502.050-STD	6.35	50.0	176	44.5	1,6µ
L3502.050-IMA	1.5875	12.0	176	44.5	0,4µ
L3502.050-IMB	6.35	12.0	176	44.5	1,6µ
L3502.050-IMC	1.5875	25.0	176	44.5	0,4µ
L3502.050-IMD	6.35	50.0	176	44.5	1,6µ
L3502.100-STA	1.5875	12.0	226	68.9	0,03µ
L3502.100-STB	6.35	50.0	226	68.9	0,13µ
L3502.100-STC	1.5875	12.0	226	68.9	0,4µ
L3502.100-STD	6.35	50.0	226	68.9	1,6µ
L3502.100-IMA	1.5875	12.0	226	68.9	0,4µ
L3502.100-IMB	6.35	12.0	226	68.9	1,6µ
L3502.100-IMC	1.5875	25.0	226	68.9	0,4µ
L3502.100-IMD	6.35	50.0	226	68.9	1,6µ
L3502.150-STA	1.5875	12.0	277	44.5	0,03µ
L3502.150-STB	6.35	50.0	277	68.9	0,13µ
L3502.150-STC	1.5875	12.0	277	94.3	0,4µ
L3502.150-STD	6.35	50.0	277	119.7	1,6µ
L3502.150-IMA	1.5875	12.0	277	57.5	0,4µ
L3502.150-IMB	6.35	12.0	277	82.7	1,6µ
L3502.150-IMC	1.5875	25.0	277	108.3	0,4µ
L3502.150-IMD	6.35	50.0	277	133.7	1,6µ
L3502.200-STA	1.5875	12.0	327	119.7	0,03µ
L3502.200-STB	6.35	50.0	327	119.7	0,13µ
L3502.200-STC	1.5875	12.0	327	119.7	0,4µ
L3502.200-STD	6.35	50.0	327	119.7	1,6µ
L3502.200-IMA	1.5875	12.0	327	119.7	0,4µ
L3502.200-IMB	6.35	12.0	327	119.7	1,6µ
L3502.200-IMC	1.5875	25.0	327	119.7	0,4µ
L3502.200-IMD	6.35	50.0	327	119.7	1,6µ
L3502.250-STA	1.5875	12.0	378	57.5	0,03µ
L3502.250-STB	6.35	50.0	378	57.5	0,13µ
L3502.250-STC	1.5875	12.0	378	57.5	0,4µ
L3502.250-STD	6.35	50.0	378	57.5	1,6µ
L3502.250-IMA	1.5875	12.0	378	57.5	0,4µ
L3502.250-IMB	6.35	12.0	378	57.5	1,6µ
L3502.250-IMC	1.5875	25.0	378	57.5	0,4µ
L3502.250-IMD	6.35	50.0	378	57.5	1,6µ
L3502.300-STA	1.5875	12.0	429	82.7	0,03µ
L3502.300-STB	6.35	50.0	429	82.7	0,13µ
L3502.300-STC	1.5875	12.0	429	82.7	0,4µ
L3502.300-STD	6.35	50.0	429	82.7	1,6µ
L3502.300-IMA	1.5875	12.0	429	82.7	0,4µ
L3502.300-IMB	6.35	12.0	429	82.7	1,6µ
L3502.300-IMC	1.5875	25.0	429	82.7	0,4µ
L3502.300-IMD	6.35	50.0	429	82.7	1,6µ
L3502.350-STA	1.5875	12.0	480	44.5	0,03µ
L3502.350-STB	6.35	50.0	480	68.9	0,13µ
L3502.350-STC	1.5875	12.0	480	94.3	0,4µ
L3502.350-STD	6.35	50.0	480	108.3	1,6µ

MOTORISED LINEAR STAGES

Motorised Linear Stages

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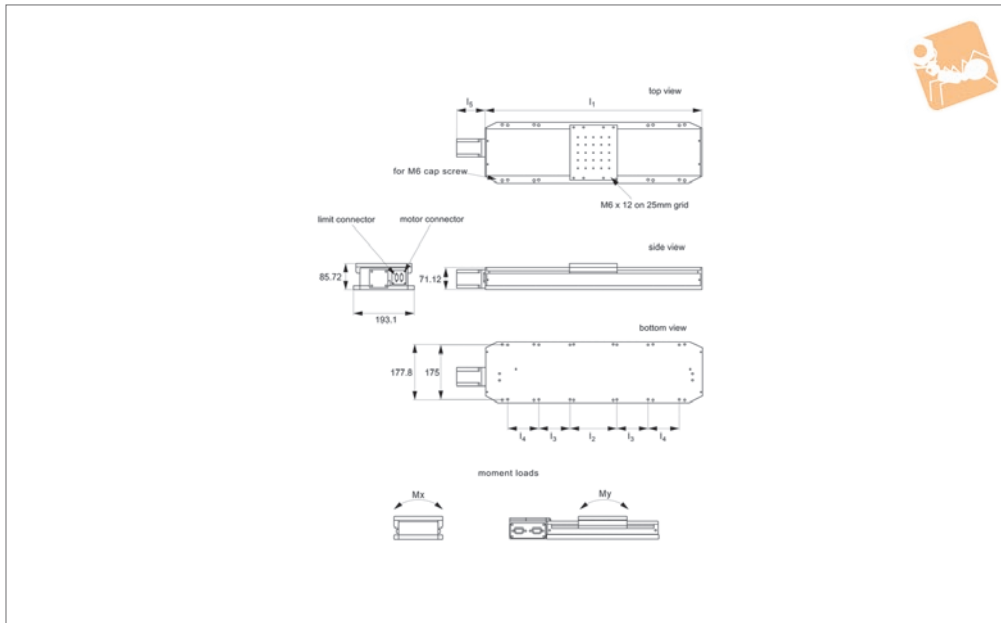
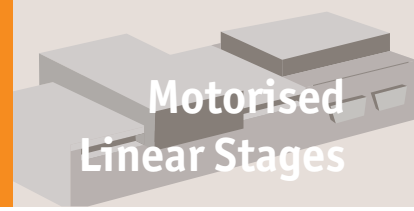
Order No.	Lead screw pitch	Speed mm/s max.	l ₁	l ₂	Resolution ±
L3502.350-IMA	1.5875	12.0	480	108.3	0,4µ
L3502.350-IMB	6.35	12.0	480	108.3	1,6µ
L3502.350-IMC	1.5875	25.0	480	108.3	0,4µ
L3502.350-IMD	6.35	50.0	480	108.3	1,6µ
L3502.400-STA	1.5875	12.0	531	133.7	0,03µ
L3502.400-STB	6.35	50.0	531	133.7	0,13µ
L3502.400-STC	1.5875	12.0	531	133.7	0,4µ
L3502.400-STD	6.35	50.0	531	133.7	1,6µ
L3502.400-IMA	1.5875	12.0	531	133.7	0,4µ
L3502.400-IMB	6.35	12.0	531	133.7	1,6µ
L3502.400-IMC	1.5875	25.0	531	133.7	0,4µ
L3502.400-IMD	6.35	50.0	531	133.7	1,6µ
L3502.500-STA	1.5875	12.0	632	185.5	0,03µ
L3502.500-STB	6.35	50.0	632	185.5	0,13µ
L3502.500-STC	1.5875	12.0	632	185.5	0,4µ
L3502.500-STD	6.35	50.0	632	185.5	1,6µ
L3502.500-IMA	1.5875	12.0	632	185.5	0,4µ
L3502.500-IMB	6.35	12.0	632	185.5	1,6µ
L3502.500-IMC	1.5875	25.0	632	185.5	0,4µ
L3502.500-IMD	6.35	50.0	632	185.5	1,6µ
L3502.600-STA	1.5875	12.0	734	235.3	0,03µ
L3502.600-STB	6.35	50.0	734	235.3	0,13µ
L3502.600-STC	1.5875	12.0	734	235.3	0,4µ
L3502.600-STD	6.35	50.0	734	235.3	1,6µ
L3502.600-IMA	1.5875	12.0	734	235.3	0,4µ
L3502.600-IMB	6.35	12.0	734	235.3	1,6µ
L3502.600-IMC	1.5875	25.0	734	235.3	0,4µ
L3502.600-IMD	6.35	50.0	734	235.3	1,6µ



Heavy-Duty Motorised Stages

high precision

Motorised Linear Stages



L3504

MOTORISED LINEAR STAGES

Material

Black anodised aluminium body (6061). Hardened linear guideways, stainless steel Acme lead screw with internally lubricated anti-backlash nut.

Technical Notes

These are smooth running, precise and stiff linear stages. For ease of use they have separate connections for motor power and limit/encoder signals. Integrated limit switches are provided as standard. Easy plug and play system. Controllable from PC or PLC when used in conjunction with a motion controller. Controllers come with their own software but you can also use your own pre-existing software with them such as Labview etc.

Replace -XXX in part number with the code for your preferred motor type. See the second data table for these codes and the specifications of these motors.

Tips

Motor options:

Stepper - Nema 23, high torque. 2.8 Amp/phase, 0.9 Ohm/phase, 2.5 mH/phase, 1.8°/step. Optionally with optical linear encoder or 1000 line rotary encoder.

Servo - Nema 23 brushless DC motor. Continuous stall torque 0.51Nm, peak torque 1.34 Nm. Option with 4000 count/rev optical rotary encoder with index mark.

Intelligent stepper - Nema 23 with a fully programmable motion controller inbuilt (ie no need for an external motion

controller). Two +5 to +24VDC I/O lines. One 10 bit analogue input selectable 0 to +10VDC, 0 to +5VDC. RS422/485 communications. Input voltage +24VDC. Limit switches are wired normally closed. Drawings show stepper motor configuration. See special pages for further motor options.

Important Notes

Max. moment loads:

$M_x = 200 \text{ Nm}$

$M_y = 280 \text{ Nm}$

For combined stages, add suffixes:

XY - for XY stage

XZ - for XZ stage

XYZ - for XYZ stage

Order No.	Travel	Motor type	Motor code	Horizontal load	Vertical load	Accuracy $\pm /200\text{m}$	Side load	Lead screw pitch	Speed mm/s max.	l_1	Weight kg
				kg max.	kg max.		kg max.				
L3504.200-STA	200	Stepper	-STA	113	36	30 μ /200mm	36	4	25	389	9
L3504.200-STB	200	Stepper & rot. enc.	-STB	113	36	30 μ /200mm	36	4	25	389	9
L3504.200-STC	200	Stepper & lin. enc.	-STC	113	36	5 μ	36	4	25	389	9
L3504.200-IMA	200	Int. stepper	-IMA	113	36	30 μ /200mm	36	4	25	389	9
L3504.300-STA	300	Stepper	-STA	113	36	30 μ /200mm	36	4	25	490	10
L3504.300-STB	300	Stepper & rot. enc.	-STB	113	36	30 μ /200mm	36	4	25	490	10
L3504.300-STC	400	Stepper & lin. enc.	-STC	113	36	5 μ	36	4	25	490	10
L3504.300-IMA	500	Int. stepper	-IMA	113	36	30 μ /200mm	36	4	25	490	10
L3504.400-STA	400	Stepper	-STA	113	36	30 μ /200mm	36	4	25	592	12
L3504.400-STB	400	Stepper & rot. enc.	-STB	113	36	30 μ /200mm	36	4	25	592	12
L3504.400-STC	400	Stepper & lin. enc.	-STC	113	36	5 μ	36	4	25	592	12
L3504.400-IMA	400	Int. stepper	-IMA	113	36	30 μ /200mm	36	4	25	592	12
L3504.500-STA	500	Stepper	-STA	113	36	30 μ /200mm	36	4	25	694	14
L3504.500-STB	500	Stepper & rot. enc.	-STB	113	36	30 μ /200mm	36	4	25	694	14
L3504.500-STC	500	Stepper & lin. enc.	-STC	113	36	5 μ	36	4	25	694	14
L3504.500-IMA	500	Int. stepper	-IMA	113	36	30 μ /200mm	36	4	25	694	14

Motorised Linear Stages

Heavy-Duty Motorised Stages

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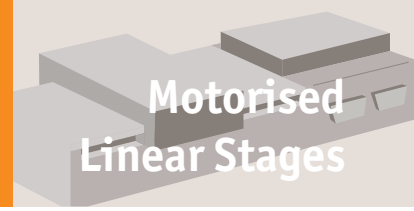
MOTORISED LINEAR STAGES

Order No.	l ₂	l ₃	l ₄	l ₅	Resolution	Uni-directional repeatability
L3504.200-STA	150	-	-	70	0,08μ	1,0μ
L3504.200-STB	150	-	-	70	1,0μ	1,0μ
L3504.200-STC	150	-	-	70	1,0μ	1,0μ
L3504.200-IMA	150	-	100	70	1,0μ	1,0μ
L3504.300-STA	150	100	-	156	0,08μ	1,0μ
L3504.300-STB	150	100	-	156	1,0μ	1,0μ
L3504.300-STC	150	100	-	156	1,0μ	1,0μ
L3504.300-IMA	150	100	-	156	1,0μ	1,0μ
L3504.400-STA	150	100	-	112	0,08μ	1,0μ
L3504.400-STB	150	100	-	112	1,0μ	1,0μ
L3504.400-STC	150	100	-	112	1,0μ	1,0μ
L3504.400-IMA	150	100	100	112	1,0μ	1,0μ
L3504.500-STA	150	100	100	70	0,08μ	1,0μ
L3504.500-STB	150	100	100	70	1,0μ	1,0μ
L3504.500-STC	150	100	100	70	1,0μ	1,0μ
L3504.500-IMA	150	100	100	70	1,0μ	1,0μ

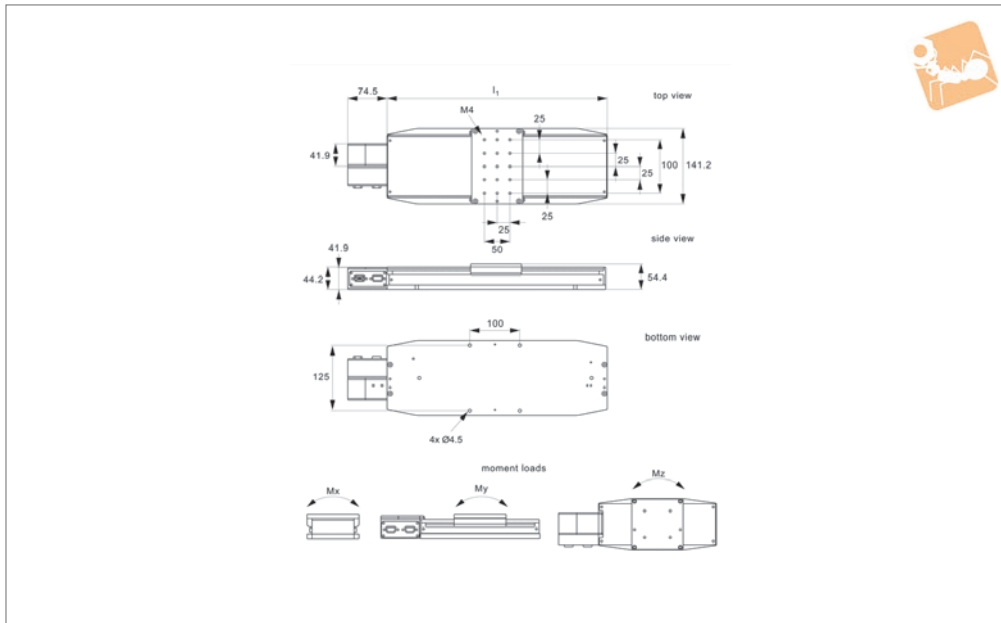


Motorised Linear Stages

high precision



Motorised Linear Stages



L3505

MOTORISED LINEAR STAGES

Material

Black anodised aluminium body (6061). Hardened linear guideways, stainless steel Acme lead screw (with internally lubricated anti-backlash nut).

Technical Notes

These are smooth running, precise and stiff linear stages. For ease of use they have separate connections for motor power and limit/encoder signals. Integrated limit switches are provided as standard. Supplied with optical linear encoder. Easy plug and play system. Controllable from PC or PLC when used in conjunction

with a motion controller. Controllers come with their own software but many pre-existing software packages (such as Labview) can be used.

Can be readily supplied in XY, XZ and XYZ configurations for 100 and 150mm stroke models.

Applications - research, semi-conductors, fibre optics, automation etc.

Tips

Stepper motor - Nema 17, high torque, brushless. 0.95 Amp/phase, 5.0 Ohm/phase, 3.1 mH/phase, 1.8°/step. Limit switches wired normally closed.

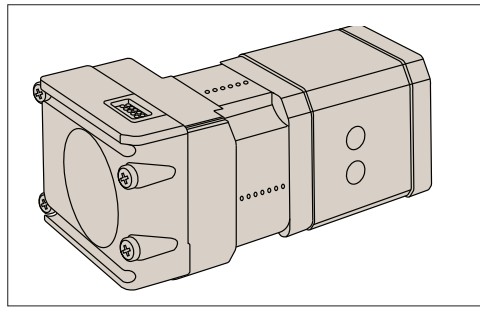
Supplied with in-built linear encoder to increase positional accuracy. Drawings show stepper motor configuration. See special pages for further motor options.

Important Notes

Max. moment loads:
My = 20 Nm
Mz = 20 Nm.

For combined stages, add suffixes:
XY - for XY stage
XZ - for XZ stage
XYZ - for XYZ stage

Order No.	Travel	Motor type	Horizontal load kg max.	Accuracy ±	Side load kg max.	Repeatability ±	Lead screw pitch	Speed mm/s max.	I ₁	I ₂	Resolution ±	Weight kg
L3505.100	100	Stepper & enc.	22,6	3µ	4,5	0,5µ	5	50	225,4	74,7	0,1µ	2,9
L3505.150	150	Stepper & enc.	22,6	3µ	4,5	0,5µ	5	50	275,4	74,7	0,1µ	3,2
L3505.200	200	Stepper & enc.	22,6	3µ	4,5	0,5µ	5	50	325,4	74,7	0,1µ	3,6
L3505.250	250	Stepper & enc.	22,6	3µ	4,5	0,5µ	5	50	375,4	74,7	0,1µ	3,9
L3505.300	300	Stepper & enc.	22,6	3µ	4,5	0,5µ	5	50	425,4	74,7	0,1µ	4,2
L3505.050	50	Stepper & enc.	22,6	3µ	4,5	0,5µ	5	50	174,6	74,7	0,1µ	2,7



Intelligent stepper motor

- No need for separate motion controller.
- Inbuilt motor, driver and controller.

Options

- Standard
- With rotary encoder (512 line)

Separate motor controllers (single axis)

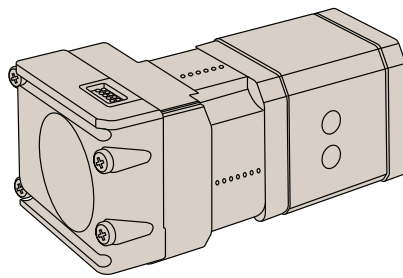
Single axis stepper controller



Single axis servo controller

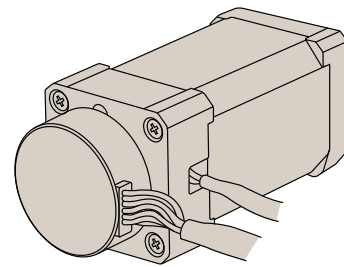


Intelligent stepper motor



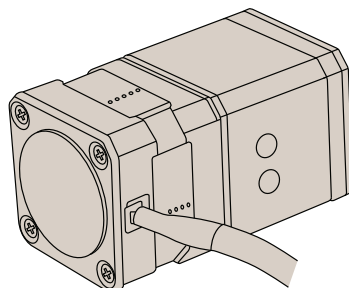
- Standard
- With rotary encoder (512 line)

Stepper motor



- Standard
- With rotary encoder (1000 line)

Servo motor



- Standard
- With rotary encoder (1000 line)

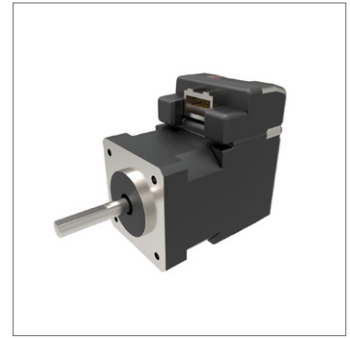
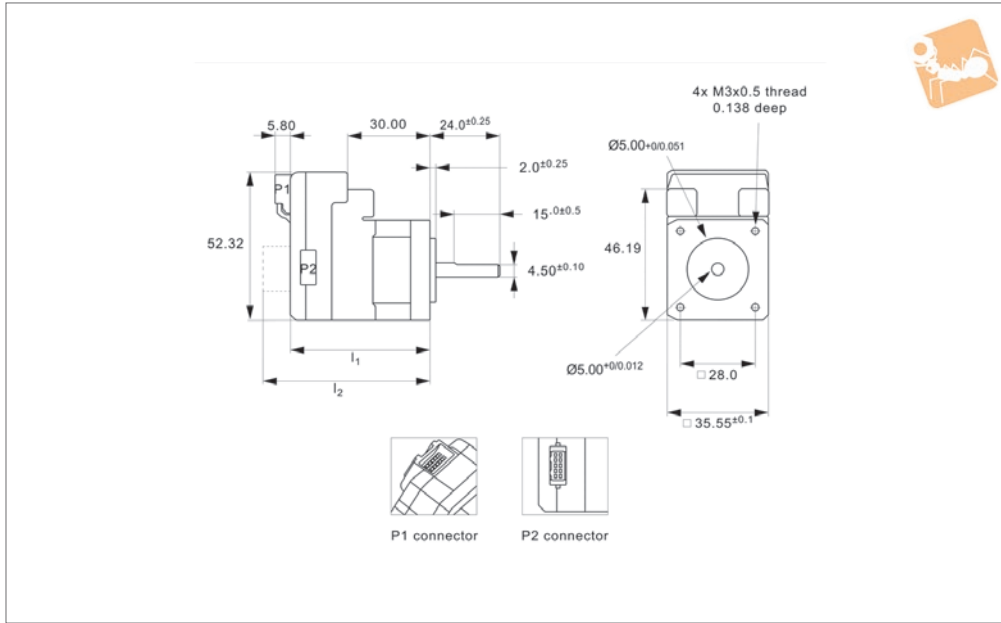
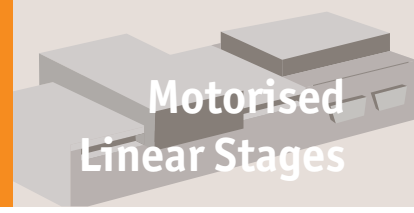
Positioning Stages from Automation Components

MOTORISED LINEAR STAGES



Intelligent NEMA 14 Stepper Motors with mcode software

Motorised Linear Stages



L3530

MOTORISED LINEAR STAGES

Material

Combined 2 phase, high torque stepper motors with in-built power driver and controller. IP20 rated (IP 67 optional).

Technical Notes

Allows easy control from a PC or PLC for single or multiple motors. Low cost alternative to motors, drivers and controllers. Easy to use free software, little cabling.

Voltage 12 to 48V DC.

20 microstepping resolutions up to 51,200 steps per rev. Up to 8 I/O lines, one 10 bit selectable analogue input.

Tips

Can readily be programmed in Labview, VB etc. The motor can be run independently from PC if required (programmed can be downloaded to motor). Easy connection via

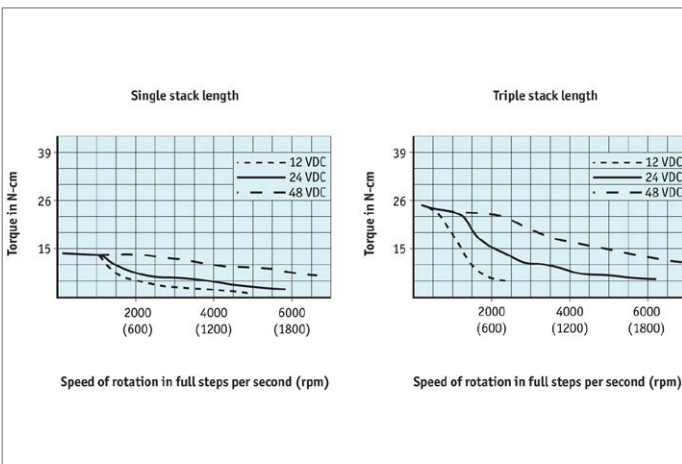
RS422/485.

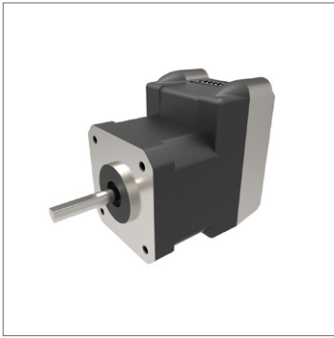
Optional encoders, gearing, motor brake etc.

Important Notes

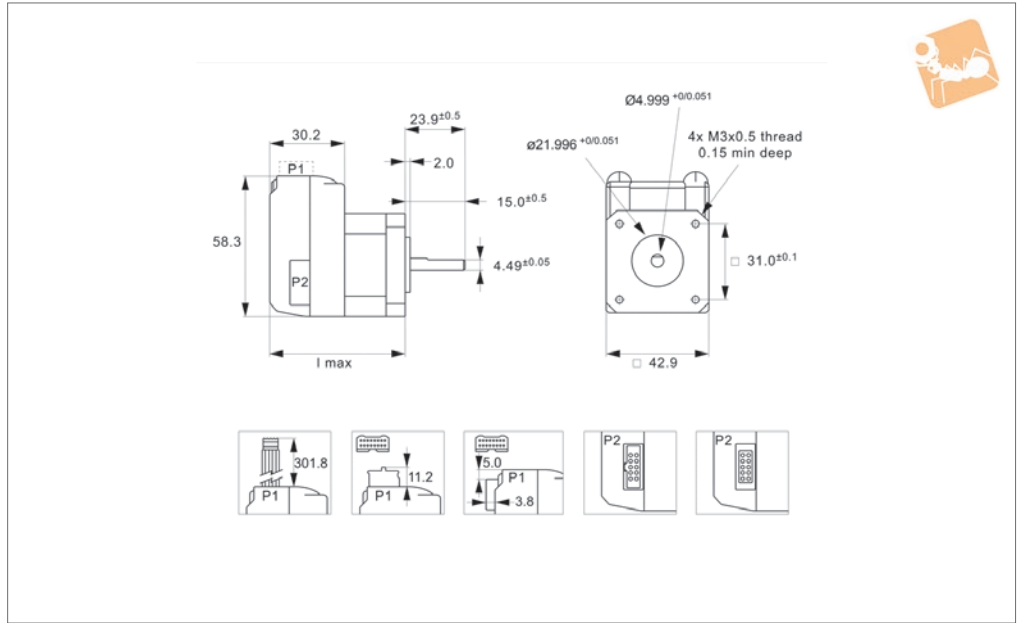
We have a free motor selection help service - including a free motor configuration software programme and technical help to ensure the motor is to your requirement - please consult our technical department for full motor specifications.

Order No.	Holding torque Nm	Flange dimensions	l ₁ max.	l ₂ max.	Shaft +0 -0.013	Rotor inertia kg·cm ²	Weight kg
L3530.14-1	0.13	35x35	49	67	5.00	0.014	0.15
L3530.14-3	0.25	35x35	77	95	5.00	0.057	0.38





L3532



Material

Combined 2 phase, high torque stepper motors with in-built power driver and controller. IP20 rated (IP 67 optional).

Technical Notes

Allows easy control from a PC or PLC for single or multiple motors. Low cost alternative to motors, drivers and controllers. Easy to use free software, little cabling.

Voltage 12 to 48V DC.

20 microstepping resolutions up to 51,200 steps per rev.
Up to 8 I/O lines, one 10 bit selectable analogue input.

Tips

Can readily be programmed in Labview, VB etc. The motor can be run independently from PC if required (programmed can be downloaded to motor). Easy connection via

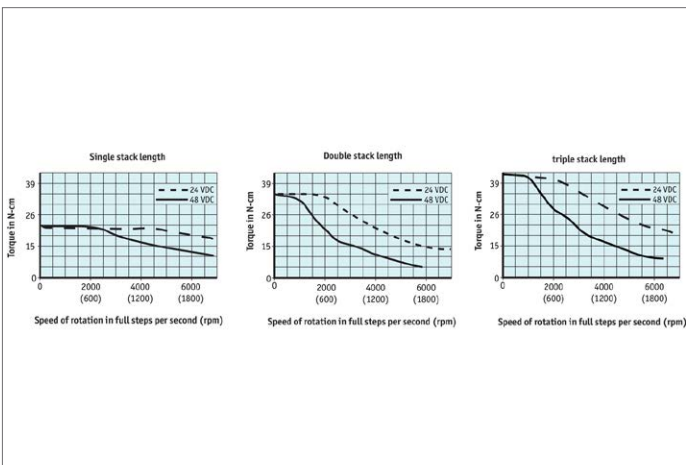
RS422/485.

Optional encoders, gearing, motor brake etc.

Important Notes

We have a free motor selection help service - including a free motor configuration software programme and technical help to ensure the motor is to your requirement - please consult our technical department for full motor specifications.

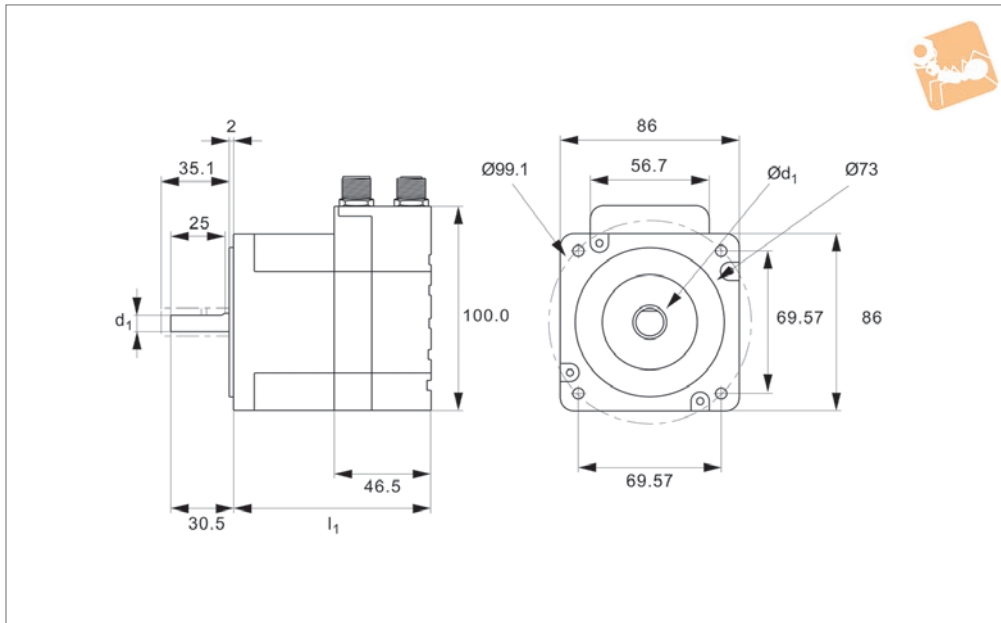
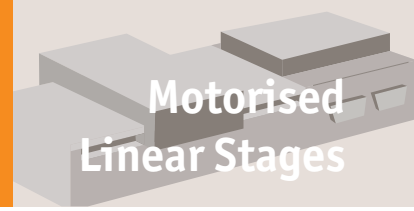
Order No.	Holding torque Nm	Flange dimensions	I ₁ max.	Shaft +0 -0.013	Rotor inertia kg·cm ²	Weight kg
L3532.17-1	0.23	43x43	56	5.00	0.038	0.30
L3532.17-2	0.42	43x43	62	5.00	0.057	0.34
L3532.17-3	0.53	43x43	71	5.00	0.082	0.43





Intelligent NEMA 34 Stepper Motors with mactalk software

Motorised Linear Stages



L3536

MOTORISED LINEAR STAGES

Material

Combined 2 phase, high torque stepper motors with in-built power driver and controller.
IP42/55 rated (IP 67 optional).

Technical Notes

Allows easy control from a PC or PLC for single or multiple motors. Low cost alternative to motors, drivers and controllers. Easy to use free software, little cabling. The I/O points can be set up by users as Input or Output or as analogue input.

Resolution: 409600 counts/rev.
Mainly supply voltage: 12-80V DC.
Control and main I/O supply voltage: 12-28V DC.
Nominal speed range 0.01-3000 rpm.

Tips

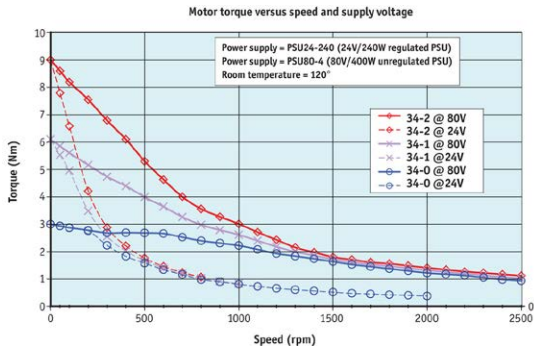
8 I/O's that can be configured to Inputs, Outputs or analogue Inputs. Can readily be programmed in Labview, VB etc. The motor can be run independently from PC if required (programmed can be downloaded to motor). Easy connection via

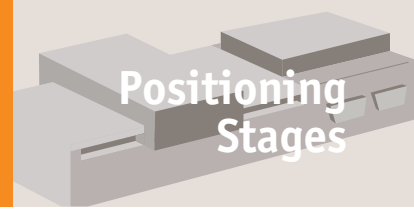
USB port, RS 485, optional wireless and ethernet control.
Optional encoders, gearing, motor brake etc.

Important Notes

We have a free motor selection help service - including a free motor configuration software programme and technical help to ensure the motor is to your requirement - please consult our technical department for full motor specifications.

Order No.	Holding torque Nm	Flange dimensions	Length	Shaft +0 -0.013	Power W max.	Rotor inertia kg·cm ²	Typical supply current @24V DC ADC RMS	Typical supply current @48V DC ADC RMS	Typical supply current @80V DC ADC RMS	Weight kg
L3536.34-0	3,0	87x87	95	9,53	260	1,4	5,1	5,1	5,1	2,0
L3536.34-1	6,1	87x87	126	9,53	288	2,7	5,6	5,3	5,6	3,1
L3536.34-2	9,0	87x87	156	14,0	315	4,0	6,0	5,4	6,1	4,2
L3536.34-3	10,5	87x87	220	14,0	>320	5,3	6,3	5,7	6,6	5,3





Controllers



L3294 Single axis stepper motor controller

- Communicate via RS-232 or Ethernet interface
- Uses virtually any programming language



L3295 Two axis stepper motor controller

- Communicate via RS-232 or Ethernet interface
- Programming via Labupu, VB, C++ and OSX etc.
- Stand alone programs can be downloaded
- Max output of 1.5A



L3296 Multi axis stepper motor controller

- Communicate via RS-232 or Ethernet interface
- Can control 4 axis and perform coordinated or independent motion of each or all the axis simultaneously
- Uses virtually any programming language



L3297 Single axis servo motor controller

- Communicate via RS-232 or Ethernet interface
- Uses virtually any programming language

Accessories



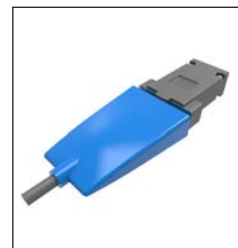
Joysticks



Digital readout



Connector RS232-USB



Connector RS422-USB



These have major benefits as they combine the motor (from size NEMA17 up) with an inbuilt driver and controller.

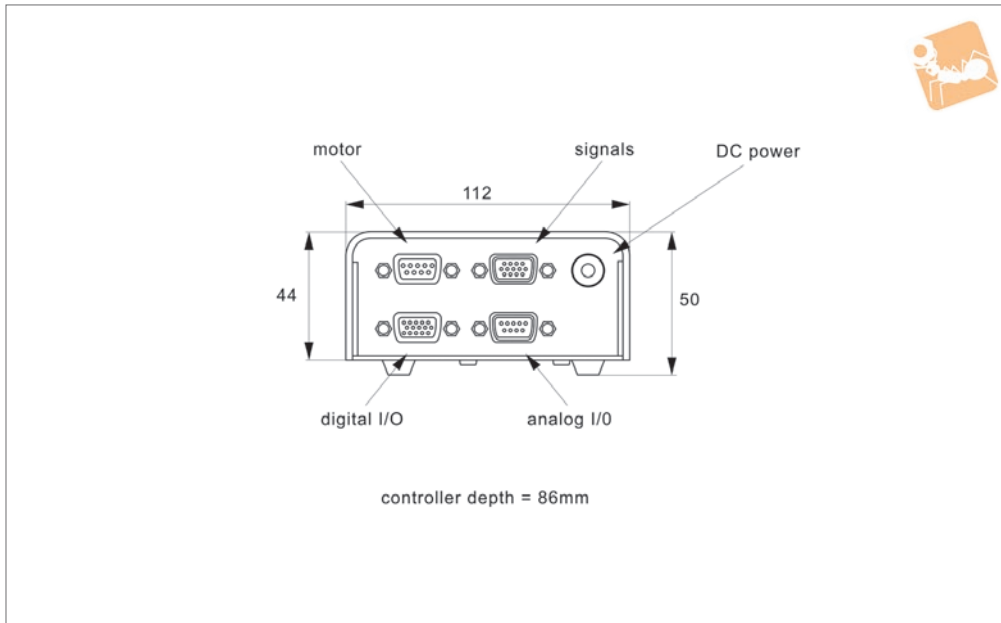
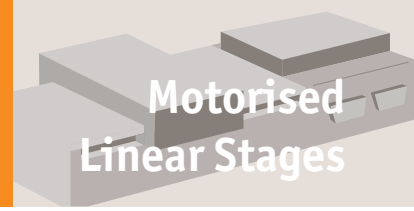
- Stepper or servo motor versions.
- Simple to install
- CE certified
- Free software programming

Plug and play

- Download free software
- Connect motor to computer (USB port)
- Connect power supply to the motor
- Start controlling/programming

- Low cost solution.
- The I/O points can be set by users to input, output or analogue input.
- NEMA17, 23, 34, 43 and larger sizes available.
- 12-48VDC.
- High torque stepper motors (1.2 to 10.5 Nm).
- Simple Windows software program provided free).
- Also Labview VB etc. programs.
- IP67, Motor brake.
- Optional Joysticks.

Positioning Stages from Automation Components



L3521

MOTORISED LINEAR STAGES

Material

Includes universal AC power adapter, user interface software and USB cable.

Technical Notes

Communication: USB 2,0 or RS-485 ASCII (9600 - 115200 bps)

Digital IO Communication: 4 bit motion profile select inputs (DI3-DI6). One start motion input (DI1). One abort/clear motion input (DI2). One in position output (DO1). One error output (DO2).

A/B/Z differential encoder inputs:
StepNLoop closed loop control (position verification)

2 x 10-bit analog inputs (joystick control).
Opto-isolated I/O: 6 x inputs, 2 x outputs,
1 x high speed position capture latch input, +limit/-limit/home inputs.

Tips

Can only be plugged into, and control a single axis. Comes with cables and software. Simple plug and play system via USB port of your laptop or PC. Also has analogue inputs for connection of a joystick control.

This motion controller can only be used with stages that have a stepper motor attached. If you have a servo motor, see part

number L3297.

Micro-stepping is the number of steps per step of the motor output shaft. e.g the stepper motors have 200 steps per revolution of the shaft. The motion controllers are defaulted to 250 microsteps. This means that the motor shaft has 50,000 steps per revolution (250 x 200). Compatible with LabView, Matlab, VB, C++, Python, and OS X.

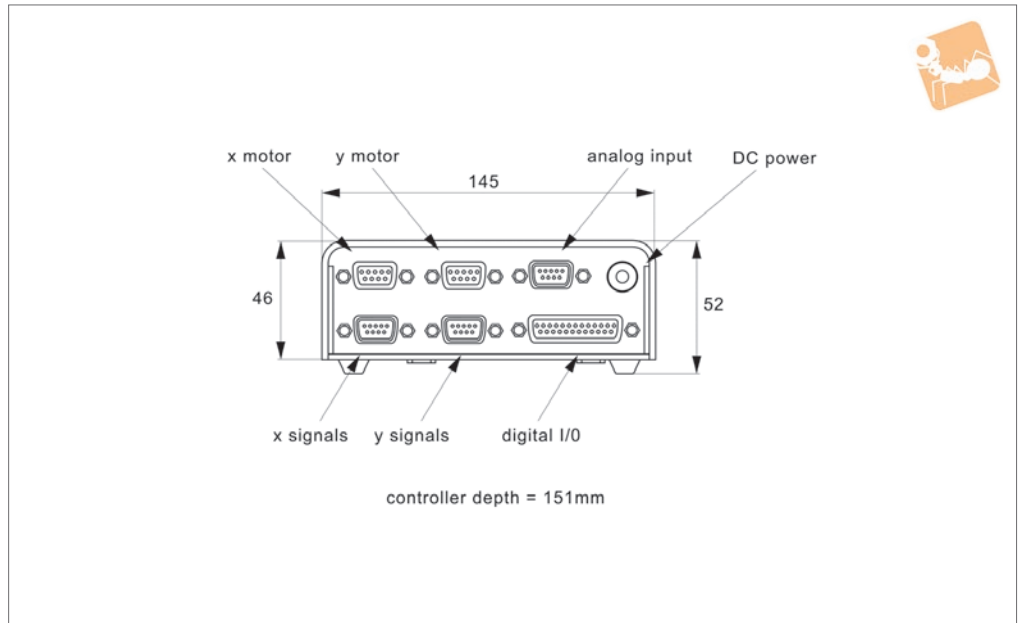
Important Notes

When using with Matlab a RS-485 to USB adapter will be required.

Order No.	No. of axes	Encoder	Input voltage V DC	Output current Amps max.	Micro-step resolution	Weight kg
L3521.ST1X	One	No	+12 to +24	3.0	2 to 500	0.34
L3521.ST1X-E	One	Yes	+12 to +24	3.0	2 to 500	0.34
L3521.RS485	USB cable	-	-	-	-	-



L3522



Material

Includes universal AC power adapter, user interface software and USB cable.

Technical Notes

Communication: USB 2,0 or RS-485 ASCII (9600 - 115200 bps)

Digital IO Communication: 4 bit motion profile select inputs (DI3-DI6). One start motion input (DI1). One abort/clear motion input (DI2). One in position output (DO1). One error output (DO2).

A/B/Z differential encoder inputs (Max frequency of 5 MHz): StepNLoop closed loop control (position verification)

2 x 10-bit analog inputs.

Opto-isolated I/O: 8 x inputs, 8 x outputs, +Limit/-Limit/Home inputs per axis
Stand alone programmable.
Max. pulse input rate of 400K.

Tips

Can be plugged into, and control two axis simultaneously. Comes with cables and software. Simple plug and play system via USB port of your laptop or PC.

This motion controller can only be used with stages that have a stepper motor attached. If you have a Servo motor, see part number L3297.

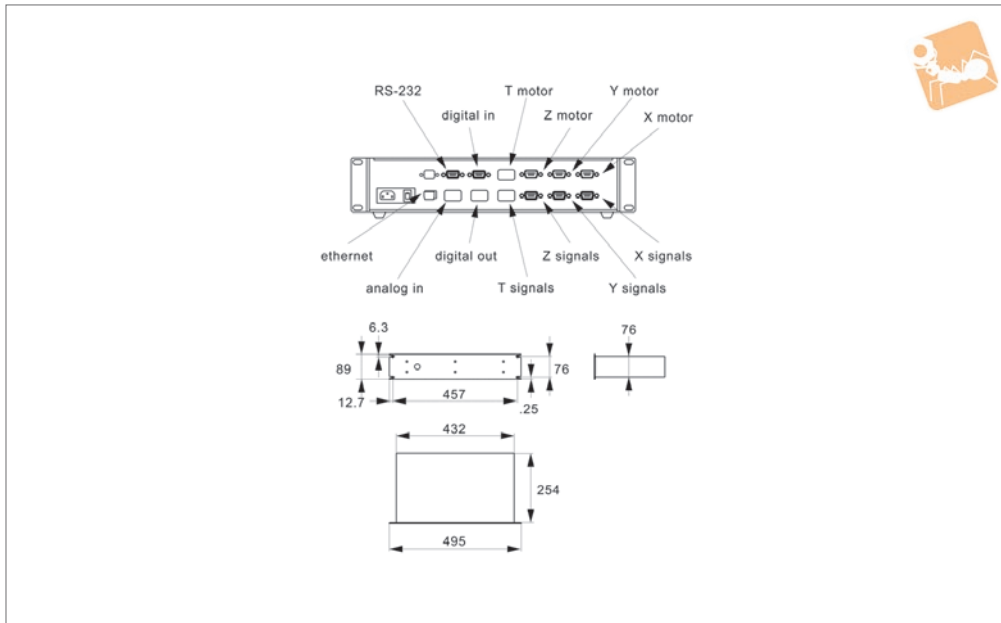
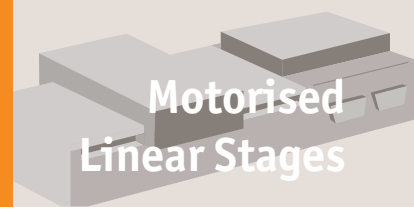
Micro-stepping is the number of steps per step of the motor output shaft. e.g the stepper motors have 200 steps per revolution of the shaft. If the motion controllers are set to 8 microsteps, this means that the motor shaft has 1600 steps per revolution (8 x 200).

Compatible with LabView, Matlab, VB, C++, Python, and OS X.

Important Notes

When using with Matlab a RS-485 to USB adapter will be required.

Order No.	No. of axes	Encoder	Input voltage V DC	Output current Amps max.	Micro-step resolution	Weight kg
L3522.ST2X	Two	No	+12 to +24	1.5	1 to 8	0.45
L3522.ST2X-E	Two	Yes	+12 to +24	1.5	1 to 8	0.45
L3522.RS485	USB cable	-	-	-	-	-



L3524

MOTORISED LINEAR STAGES

Material

Incorporates a Motorola 32 bit microcomputer. Configurable to run up to four stepper or servo motors. For 2/4 phase bipolar stepper motors. Power input 100-240V AC, 47-63 Hz.

Technical Notes

Communication: RS-485 (up to 19,2 kbps)
10 Base-T Ethernet.
Encoder feedback: High speed differential

inputs up to 12Mhz.

Number of I/O: 4 x inputs, 4 x outputs.
Program and data storage: 1000 lines x 80 characters. 510 variables. 8000 array elements in up to 30 arrays.
Easy programming with simple command language. Communication drivers are available for Windows, .NET, Mac OSX and Linux.
Operating temperature 0°C to 50°C, humidity 20-95%.

Can be plugged into, and control up to four axes simultaneously. Comes with cables and software. Simple plug and play system via USB port of your laptop or PC. Micro-stepping is the number of steps per revolution of the motor output shaft.

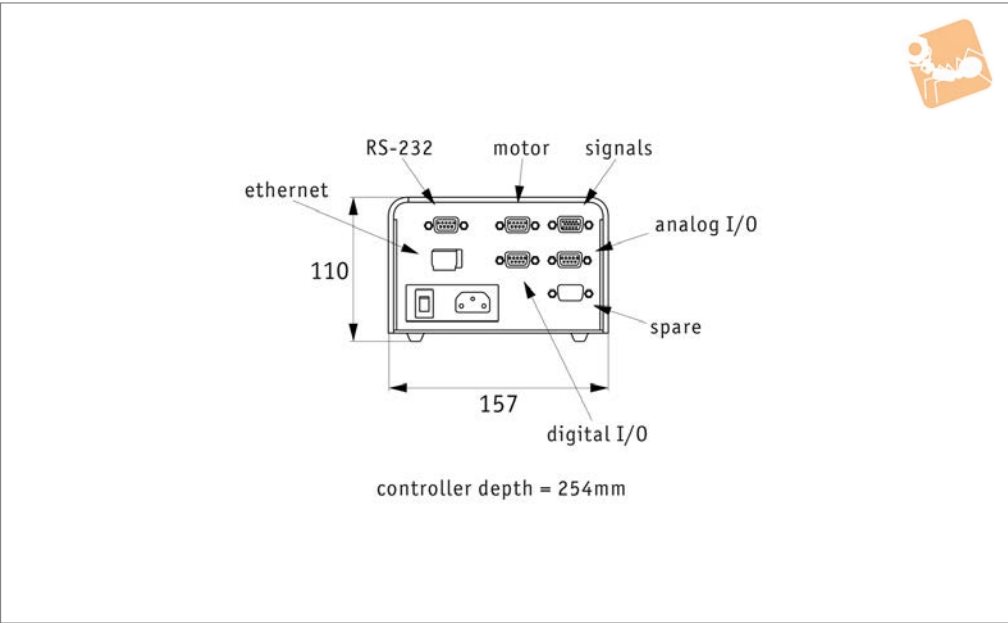
Tips

Can be plugged into, and control up to four axes simultaneously. Comes with cables and software. Simple plug and play system via USB port of your laptop or PC. Micro-stepping is the number of steps per revolution of the motor output shaft.

Order No.	No. of axes	Encoder	Voltage for stepper driver	Output current continuous Amps	Output current peak Amps
L3524.ST2X	Two stepper	No	24V DC	-	3
L3524.ST2X-E	Two stepper	Yes	24V DC	-	3
L3524.ST3X	Three stepper	No	24V DC	-	3
L3524.ST3X-E	Three stepper	Yes	24V DC	-	3
L3524.ST4X	Four stepper	No	24V DC	-	3
L3524.ST4X-E	Four stepper	Yes	24V DC	-	3
L3524.SV2X	Two servo	No	48V DC	7	10
L3524.SV2X-E	Two servo	Yes	48V DC	7	10
L3524.SV3X	Three servo	No	48V DC	7	10
L3524.SV3X-E	Three servo	Yes	48V DC	7	10
L3524.STV4X	Four servo	No	48V DC	7	10
L3524.SV4X-E	Four servo	Yes	48V DC	7	10



L3525



Technical Notes

The L3297 servo motion controller is a single-axis controller and amplifier designed for use with all servo motor stages. The controller can communicate with the host computer through an RS-232 or 10/100 Base-T Ethernet interface. With built-in high level functionality such as position tracking, contouring and teach/playback, programming the controller is greatly simplified. The motion controller can operate as a stand-alone system through the digital I/O for synchronizing motion with external events. It utilises a 32-bit microprocessor

to control the trajectory profile, acceleration, velocity, deceleration and program memory with multi-tasking for simultaneously running up to eight programs.

Tips

Features:
Single-axis motion controller with on-board PWM drive for brush or brushless servo motor and integrated power supply. Ethernet 10/100 Base-T and (1) 19.2kb RS232 port.
Accepts encoder feedback up to 12 MHz. Advanced PID compensation with velocity and acceleration feedforward, integration

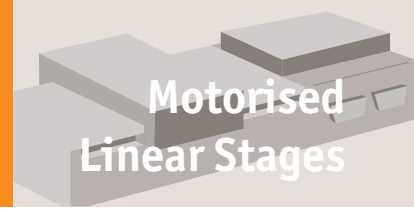
limits, notch filter and low-pass filter. Modes of motion include jogging, point-to-point positioning, contouring, electronic gearing and ECAM. Multi-tasking for concurrent execution of up to eight application programs. Non-volatile memory for application programs, variables and arrays. Over 200 English-like commands executable by controller. Includes conditional statements and event triggers. Home input and forward and reverse limits. Four TTL uncommitted inputs and 4 outputs. TWO uncommitted analog inputs (0-5V).

Order No.	No. of axes	Input power	Drive current continuous Amps	Drive current peak Amps
L3525.SV1X	One	120-240V AC	7	10

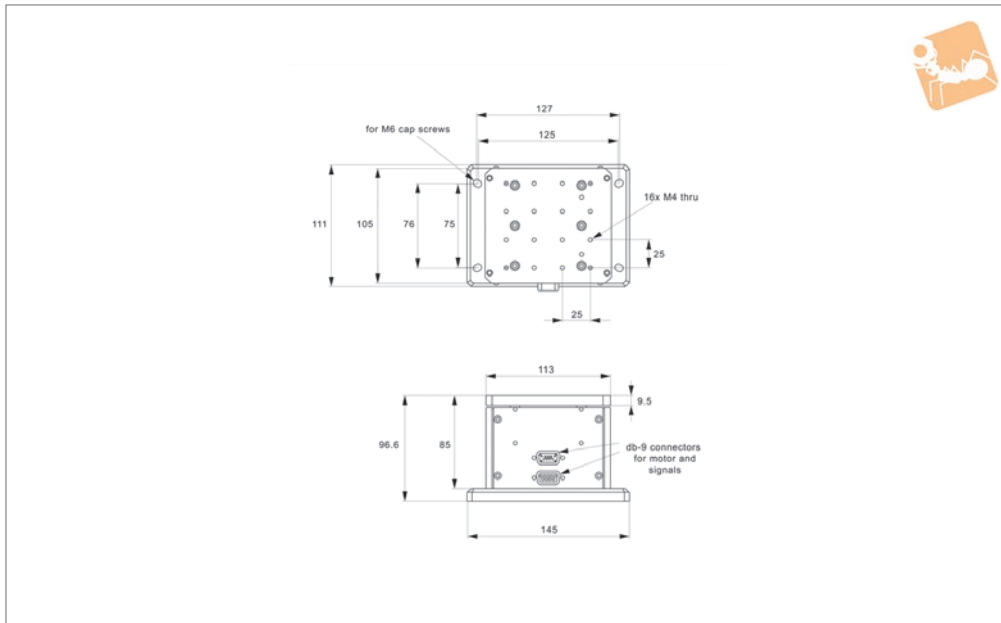


Motorised Vertical Lift Stages

high precision



Motorised Linear Stages



L3591

MOTORISED LINEAR STAGES

Material

Black anodised aluminium body (6061). Hardened linear guideways, stainless steel Acme lead screw (with internally lubricated anti-backlash nut).

Technical Notes

Easy plug and play system. Integrated limit switches are provided as standard. Controllable from PC or PLC when used in

conjunction with a motion controller. Controllers come with their own software but many pre-existing software packages (such as Labview) can be used. Applications - research, semi-conductors, fibre optics, automation etc.

Tips

Stepper - Nema 17, high torque, brushless. 0.95 Amp/phase, 5.0 Ohm/phase, 3.1 mH/

phase, 1.8°/step. Option with 1000 line rotary encoder. Limit switches are wired normally closed.

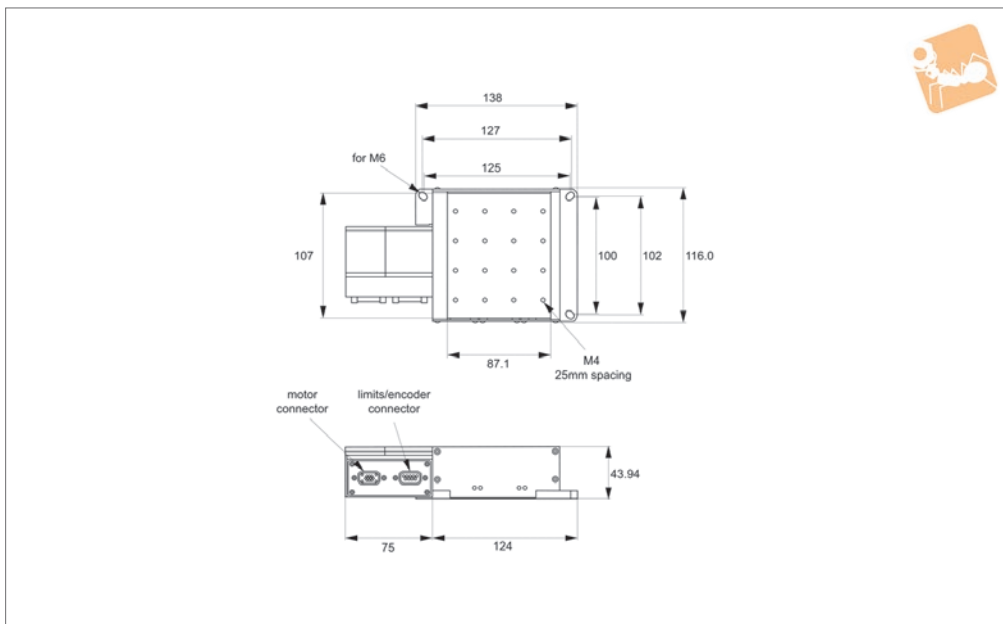
Important Notes

Motor resolution 0,03μ, encoder resolution 0,4μ. Minimum step size 0,5μ.

Order No.	Travel	Accuracy ±	Uni-directional repeatability ±	Load kg max.	Speed mm/s max.	Lead screw pitch	Motor type	Weight kg
L3591.025-STA	25	10μ	1μ	7.0	10	1.5875	Stepper	2.5
L3591.025-STB	25	10μ	1μ	7.0	10	1.5875	Stepper & enc.	2.5



L3592



Material

Black anodised aluminium body (6061). Hardened linear guideways, stainless steel Acme lead screw (with internally lubricated anti-backlash nut).

Technical Notes

Easy plug and play system. Integrated limit switches are provided as standard. Controllable from PC or PLC when used in conjunction with a motion controller. Controllers come with their own software but many pre-existing software packages

(such as Labview) can be used. Applications - research, semi-conductors, fibre optics, automation etc.

Tips

Motor options:

Stepper - Nema 17, high torque, brushless. 0.95 Amp/phase, 5.0 Ohm/phase, 3.1 mH/phase, 1.8°/step. Option with 1000 line encoder.

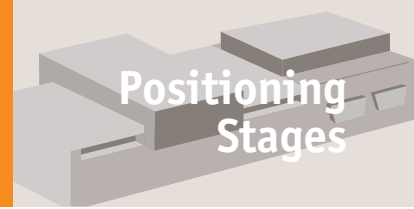
Intelligent stepper - Nema 17 with a fully programmable motion controller inbuilt (ie no need for an external motion

controller). Two +5 to +24VDC I/O lines. One 10 bit analogue input selectable 0 to +10VDC, 0 to +5VDC. RS422/485 communications. Input voltage +24VDC. Option with 512 line encoder. Limit switches are wired normally closed. Drawings show stepper motor configuration. See special pages for further motor options.

Important Notes

Motor resolution 0.03μ, encoder resolution 0.4μ.

Order No.	Travel	Accuracy ±	Uni-directional repeatability ±	Load kg max.	Speed mm/s max.	Lead screw pitch	Motor type	Weight kg
L3592.015-STB	15	10μ	1μ	7.0	5	1.5875	Stepper & enc.	1.1
L3592.015-IMA	15	10μ	1μ	7.0	5	1.5875	Int. stepper & enc.	1.1
L3592.015-IMB	15	10μ	1μ	7.0	5	1.5875	Int. stepper	1.1
L3592.015-STA	15	10μ	1μ	7.0	5	1.5875	Stepper	1.1



Factors affecting stage selection

- Size and weight of load (including any moment loads)
- Accuracy (positioning, repeatability and resolution)
- Speed of rotation required
- Means of control

Parameters	High precision
Table diameters (mm)	50-200
Maximum loads (Kg) Horizontal Vertical	125 125
Maximum speed °/sec Stepper motor Servo motor	25-50 180-360
Accuracy (arc-secs) Positioning Repeatability Resolution	70" 5" <0,7"
Control options	Stepper, servo or intelligent motor Motion controllers available

*Dependent on stage selected

Factors affecting stage performance

Run-out

The displacement of a measure sensor placed on the surface of the rotary table.

Applied loads

These cause small deformations in the stage bearings and are dependent on the stiffness of the stage, the bearings and the stability and flatness of the mounting surface.

Hysteresis errors

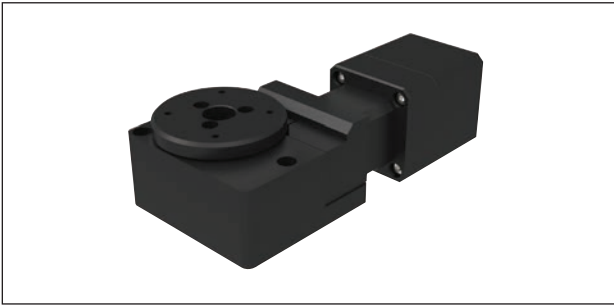
The difference between the control and instructed position.

Backlash errors

Errors caused by the reversal of the direction of travel affected by clearance in the drive chain.

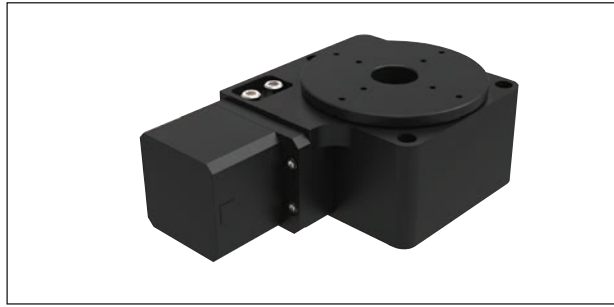
Encoder errors

Imperfections in the operations of the encoder (if present).



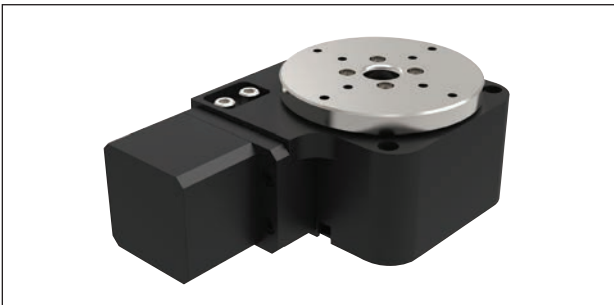
L3550 Ø50 Rotary stage

- Motorised.
- Accurate to 70 arc-secs, repeatedly to 3 arc/sec.
- Loads up to 4.5kg.



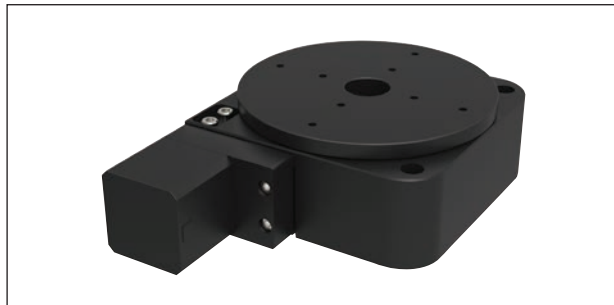
L3552 Ø75 Rotary stage

- Motorised.
- Accurate to 70 arc-secs, repeatedly to 5 arc-secs.
- Loads up to 11kg.



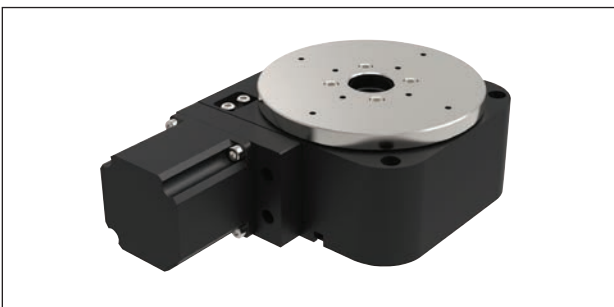
L3554 Ø75 Rotary stage, heavy duty

- Heavy duty.
- Motorised.
- Accurate to 70 arc-secs, repeatedly to 3 arc-secs.
- Loads up to 20kg.



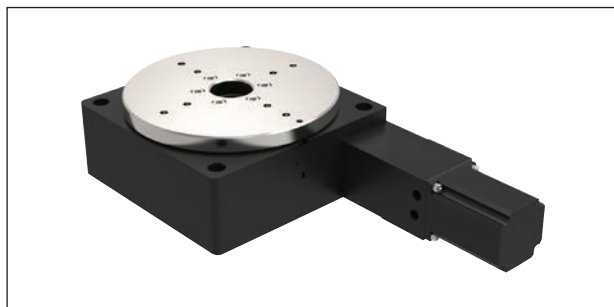
L3556 Ø125 Rotary stage, medium duty

- Motorised.
- Accurate to 70 arc-secs, repeatedly to 5 arc-secs.
- Loads up to 25kg.



L3558 Ø125 Rotary stage, heavy duty

- Heavy duty.
- Motorised.
- Accurate to 70 arc-secs, repeatedly to 3 arc-secs.
- Loads up to 45kg.



L3662 Ø200 Rotary stage

- Motorised.
- Accurate to 70 arc-secs, repeatedly to 5 arc-secs.
- Loads up to 125kg.