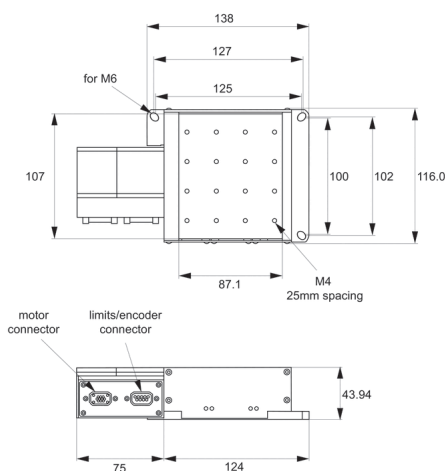




# Motorised Vertical Lift Stages

high precision

# Motorised Linear Stages



**L3592**

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

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 communi-  
cations. Input voltage +24VDC.

Option with 512 line encoder.

Limit switches are wired normally closed.

Drawings show stepper motor configura-  
tion. 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
<b>L3592.015-STB</b>	15	10μ	1μ	7.0	5	1.5875	Stepper & enc.	1.1
<b>L3592.015-IMA</b>	15	10μ	1μ	7.0	5	1.5875	Int. stepper & enc.	1.1
<b>L3592.015-IMB</b>	15	10μ	1μ	7.0	5	1.5875	Int. stepper	1.1
<b>L3592.015-STA</b>	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.

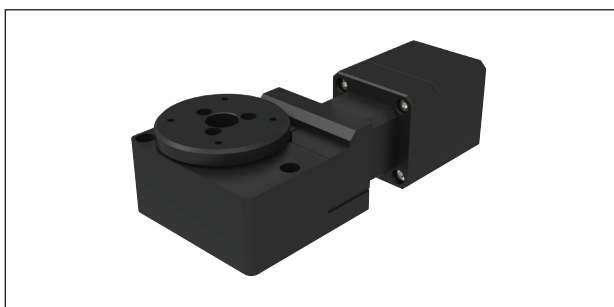
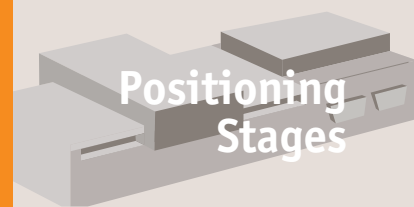
**Encoder errors**

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



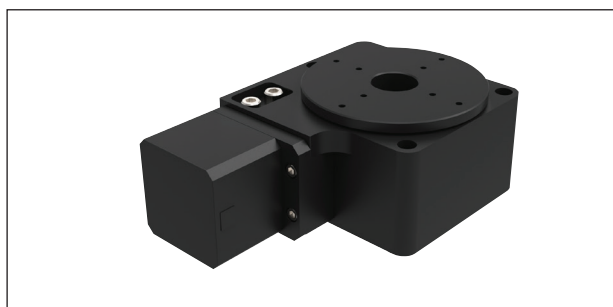
# Rotary Stages

High precision overview



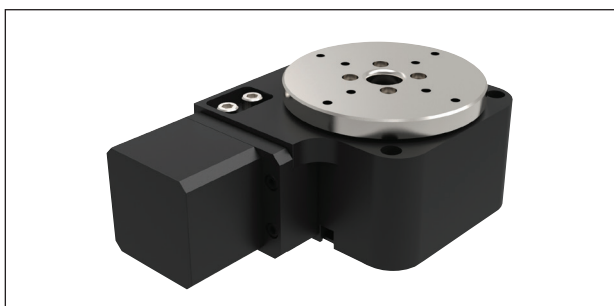
**L3550 Ø50 Rotary stage**

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



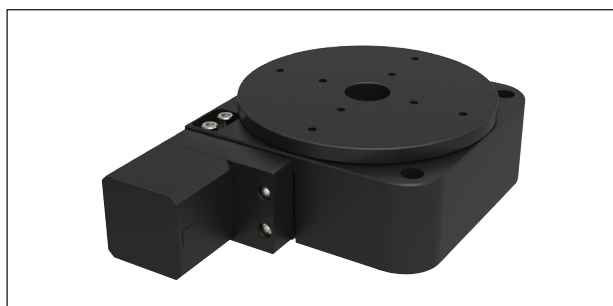
**L3552 Ø75 Rotary stage**

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



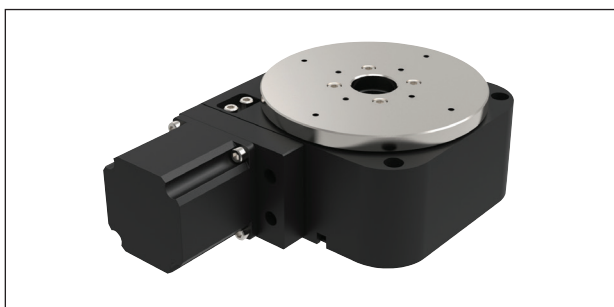
**L3554 Ø75 Rotary stage, heavy duty**

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



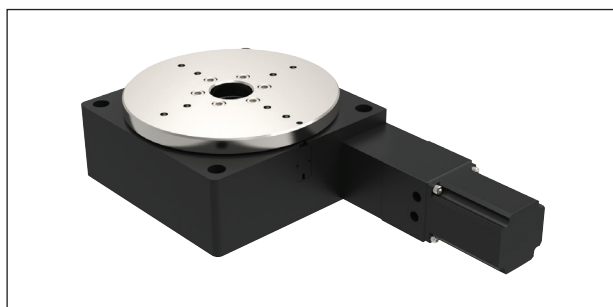
**L3556 Ø125 Rotary stage, medium duty**

- 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.



# Positioning Stages from Automation Components

Part no.	Stepper	MDrive	Servo
L3550	✓	✓	✗
L3552	✓	✓	✗
L3554	✓	✓	✓
L3556	✓	✓	✗
L3558	✓	✓	✗
L3562	✓	✓	✓