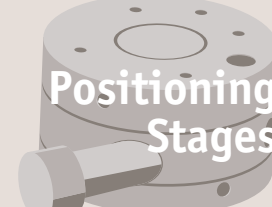




## Rotary Stages Selection



### 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

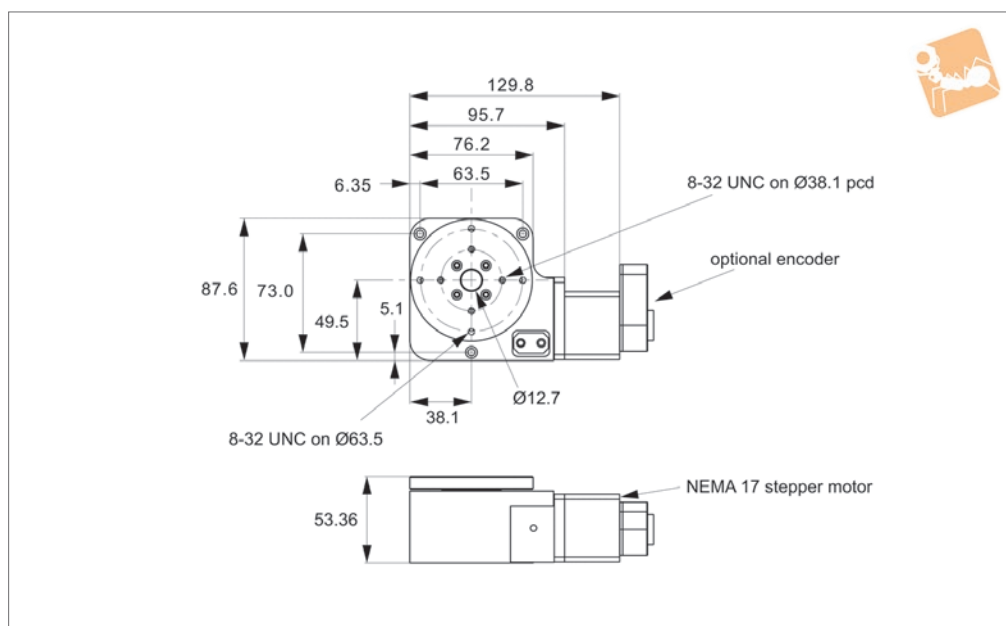
Errors caused by the reversal of the direction of travel affected by clearance in the drive chain.

#### Encoder errors

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



## L3554



### Material

Aluminium alloy body (light, stiff and stable), black anodised.  
Weight 1,4 Kg.

### Technical Notes

The design utilises a single preloaded crossed roller bearing system for the table movement. This eliminates the use of dual bearing configuration, thus improving axial runout and wobble.  
The stages are offered with different gear ratio options. A proprietary preload system ensures zero backlash in the gear train.  
The travel is 360° continuous.  
Easy to use plug and play system when used with a motion controller. Can be used

in conjunction with motorised linear stages for multi axis applications.  
Servo motor stages are only compatible with servo motion controllers. These allow for greater speeds but are more expensive.

### Tips

Requires external home switch (if required).

Motor options:

**Stepper** - Nema 23, high torque, brushless. 0.95 Amp/phase, 5.0 Ohm/phase, 3.1 mH/phase, 1.8°/step. Optionally with home switch and/or 1000 line rotary encoder.

**Servo** - Nema 23 with 1000 line rotary encoder.

**Intelligent stepper** - Nema 23 with a fully

programmable motion controller inbuilt (i.e. 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. Optionally with home switch and/or 512 line rotary encoder. RS422/485 communications. Input voltage +24VDC. Drawings show stepper motor configuration. See special pages for further motor options. Resolution up to 0,29 arcsecs, depending on gear ratio and motor.

Order No.	Motor	Speed °/s max.	Horizontal load kg max.	Vertical load kg max.	Moment load Nm max.	Weight kg
L3554.075-STA	Stepper	30°	20.4	20.4	16.9	1.36
L3554.075-SVA	Servo, home, enc.	180°	20.4	20.4	16.9	1.36
L3554.075-IMA	Int. stepper	30°	20.4	20.4	16.9	1.36
L3554.075-STB	Stepper	50°	68.0	68.0	16.9	1.36
L3554.075-STC	Stepper & home	30°	20.4	20.4	16.9	1.36
L3554.075-STE	Stepper, home, enc.	30°	20.4	20.4	16.9	1.36
L3554.075-STD	Stepper & home	50°	68.0	68.0	16.9	1.36
L3554.075-STF	Stepper, home, enc.	50°	68.0	68.0	16.9	1.36
L3554.075-SVB	Servo, home, enc.	360°	68.0	68.0	16.9	1.36
L3554.075-IMB	Int. stepper	50°	68.0	68.0	16.9	1.36
L3554.075-IMC	Int. stepper & home	30°	20.4	20.4	16.9	1.36
L3554.075-IMD	Int. stepper & home	50°	68.0	68.0	16.9	1.36
L3554.075-IME	Int. stepper, home, enc.	30°	20.4	20.4	16.9	1.36
L3554.075-IMF	Int. stepper, home, enc.	50°	68.0	68.0	16.9	1.36

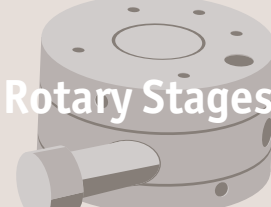
Order No.	Uni-directional repeatability ± arc-secs	Bi-directional repeatability ± arc-secs	Accuracy ± arc-secs	Gear ratio	Resolution ± arc-secs
L3554.075-STA	5"	45"	70"	90:1	0.3



# Motorised Rotary Stages Ø75

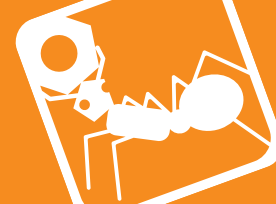
high precision, heavy duty

## Rotary Stages

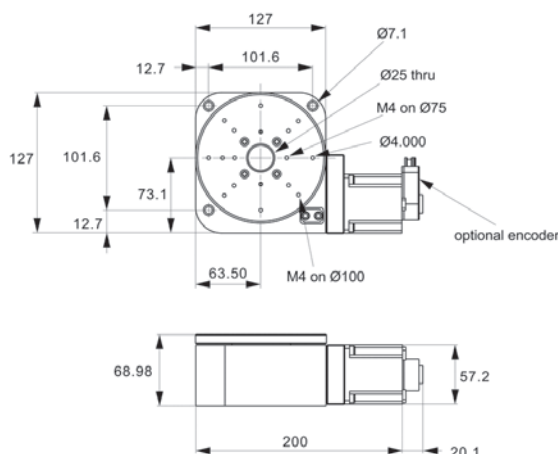


Order No.	Uni-directional repeatability ± arc-secs	Bi-directional repeatability ± arc-secs	Accuracy ± arc-secs	Gear ratio	Resolution ± arc-secs
L3554.075-SVA	5"	45"	70"	90:1	3.6
L3554.075-IMA	5"	45"	70"	90:1	0.3
L3554.075-STB	5"	45"	70"	45:1	0.6
L3554.075-STC	5"	45"	70"	90:1	0.3
L3554.075-STE	5"	45"	70"	90:1	0.3
L3554.075-STD	5"	45"	70"	45:1	0.6
L3554.075-STF	5"	45"	70"	45:1	0.6
L3554.075-SVB	5"	45"	70"	45:1	7.2
L3554.075-IMB	5"	45"	70"	45:1	0.6
L3554.075-IMC	5"	45"	70"	90:1	0.3
L3554.075-IMD	5"	45"	70"	45:1	0.6
L3554.075-IME	5"	45"	70"	90:1	0.3
L3554.075-IMF	5"	45"	70"	45:1	0.6

ROTARY STAGES



## L3558



### Material

Aluminium alloy body (light, stiff and stable), black anodised.  
Weight 3,6 Kg.

### Technical Notes

The design utilises a single preloaded crossed roller bearing system for the table movement. This eliminates the use of dual bearing configuration, thus improving axial runout and wobble.  
The stages are offered with different gear ratio options. A proprietary preload system ensures zero backlash in the gear train.  
The travel is 360° continuous. Maximum

output torques is 10,2 Nm.

Easy to use plug and play system when used with a motion controller. Can be used in conjunction with motorised linear stages for multi axis applications.

Servo motor stages are only compatible with servo motion controllers. These allow for greater speeds but are more expensive.

### Tips

Requires external home switch (if required).

Motor options:

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

phase, 1.8°/step. Optionally with 1000 line rotary encoder and home switch.

**Intelligent stepper** - Nema 17 with a fully programmable motion controller inbuilt (i.e. 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. Optionally with home switch, and 512 or 1000 line rotary encoder.

Drawings show stepper motor configuration. See special pages for further motor options.

Order No.	Motor	Speed °/s max.	Horizontal load kg max.	Vertical load kg max.	Moment load Nm max.	Weight kg
L3558.125-STA	Stepper	25°	45.4	45.4	29.3	3.6
L3558.125-SVA	Servo & enc.	180°	45.4	45.4	29.3	3.6
L3558.125-STC	Stepper, home & enc.	25°	45.4	45.4	29.3	3.6
L3558.125-IMA	Int. stepper, 512 enc.	25°	45.4	45.4	29.3	3.6
L3558.125-IMC	Int. stepper, 1000 enc.	25°	45.4	45.4	29.3	3.6
L3558.125-STB	Stepper	50°	45.4	45.4	29.3	3.6
L3558.125-SVB	Servo & enc.	360°	45.4	45.4	29.3	3.6
L3558.125-STD	Stepper, home & enc.	50°	45.4	45.4	29.3	3.6
L3558.125-IMB	Int. stepper, 512 enc.	50°	45.4	45.4	29.3	3.6
L3558.125-IMD	Int. stepper, 1000 enc.	50°	45.4	45.4	29.3	3.6

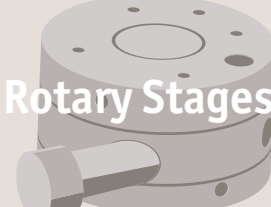
Order No.	Uni-directional repeatability ± arc-secs	Bi-directional repeatability ± arc-secs	Accuracy ± arc-secs	Gear ratio	Resolution ± arc-secs
L3558.125-STA	5"	45"	70"	72:1	0,36"
L3558.125-SVA	5"	45"	70"	72:1	4,5"
L3558.125-STC	5"	45"	70"	72:1	0,36"
L3558.125-IMA	5"	45"	70"	72:1	0,36"
L3558.125-IMC	5"	45"	70"	72:1	0,36"
L3558.125-STB	5"	45"	70"	36:1	0,72"
L3558.125-SVB	5"	45"	70"	36:1	9,0"



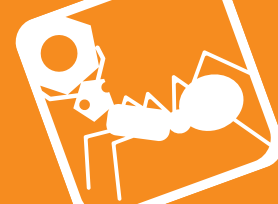
## Motorised Rotary Stage Ø125

high precision, heavy duty

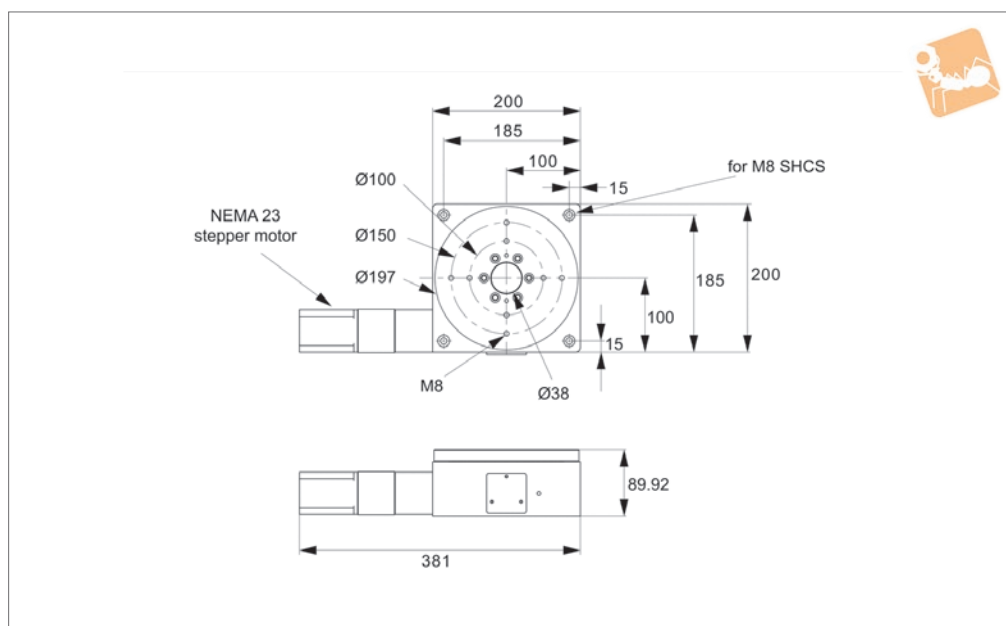
## Rotary Stages



Order No.	Uni-directional repeatability ± arc-secs	Bi-directional repeatability ± arc-secs	Accuracy ± arc-secs	Gear ratio	Resolution ± arc-secs
L3558.125-STD	5"	45"	70"	36:1	0,72"
L3558.125-IMB	5"	45"	70"	36:1	0,72"
L3558.125-IMD	5"	45"	70"	36:1	0,72"



### L3562



#### Material

Aluminium alloy body (light, stiff and stable), black anodised. Stainless steel circular plate.

#### Technical Notes

The design utilises a single preloaded crossed roller bearing system for the table movement. This eliminates the use of dual bearing configuration, thus improving axial runout and wobble.

The stages are offered with different gear ratio options. A proprietary preload system ensures zero backlash in the gear train.

The travel is 360° continuous.

Easy to use plug and play system when

used with a motion controller. Can be used in conjunction with motorised linear stages for multi axis applications.

Servo motor stages are only compatible with servo motion controllers. These allow for greater speeds but are more expensive. Can be supplied with an optional pneumatic brake for added stability when stopped.

#### Tips

Requires external home switch (if required).

Motor options:

**Stepper** - Nema 23, high torque, brushless. 0.95 Amp/phase, 5.0 Ohm/phase, 3.1 mH/

phase, 1.8°/step. Optionally with home switch and/or 1000 line rotary encoder.

**Servo** - Nema 23, with home switch and 1000 line rotary encoder.

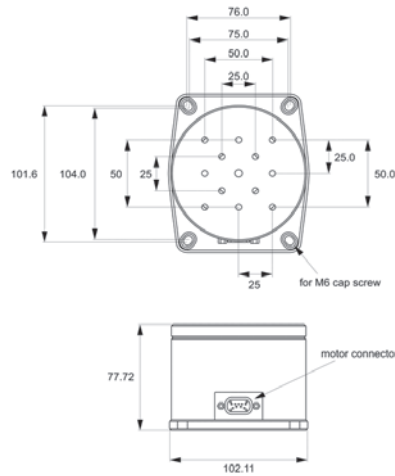
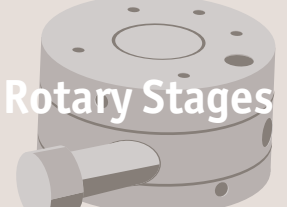
**Intelligent stepper** - Nema 23 with a fully programmable motion controller inbuilt (i.e. no need for an external motion controller). Two +5 to +24VDC I/O lines. One 10 bit analogue input selectable 0 to +10VDC, 0 to +5VDC.

Optionally with home switch or 512 line rotary encoder.

RS422/485 communications. Input voltage +24VDC.

Order No.	Motor	Speed °/s max.	Horizontal load kg max.	Vertical load kg max.	Moment load Nm	Weight kg
L3562.200-STA	Stepper	20°	300	200	82.2	13.6
L3562.200-STB	Stepper & home	20°	300	200	82.2	13.6
L3562.200-STC	Stepper, home, enc.	20°	300	200	82.2	13.6
L3562.200-IMA	Int. stepper	20°	300	200	82.2	13.6
L3562.200-IMB	Int. stepper, home, enc.	20°	300	200	82.2	13.6
L3562.200-SVA	Servo, home, enc.	180°	300	200	82.2	13.6

Order No.	Uni-directional repeatability ± arc-secs	Bi-directional repeatability ± arc-secs	Accuracy ± arc-secs	Gear ratio	Resolution ± arc-secs
L3562.200-STA	5"	45"	70"	80:1	0,32"
L3562.200-STB	5"	45"	70"	80:1	0,32"
L3562.200-STC	5"	45"	70"	80:1	0,32"
L3562.200-IMA	5"	45"	70"	80:1	0,32"
L3562.200-IMB	5"	45"	70"	80:1	0,32"
L3562.200-SVA	5"	45"	70"	80:1	5,0"



## L3569

ROTARY STAGES

### Material

Aluminium alloy body (light, stiff and stable).

### Technical Notes

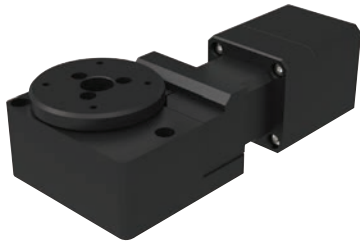
Suitable for fast rotation of light payloads, uses a high torque direct drive Nema 23

stepper motor. This eliminates the use of worm gears enabling fast speeds, high reliability and maintenance free operation. Max. speed (no load) up to 2000 rpm (12,000°/sec), max. acceleration (no load) 900°/sec<sup>2</sup>.

### Tips

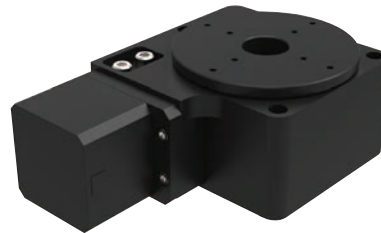
Optionally with an optical rotary encoder (4000 counts/rev). Can be used with our motion controllers L3521 and L3524.

Order No.	Motor	Speed rpm max.	Acceleration °/s <sup>2</sup> max.	Load kg max.	Holding torque Nm	Resolution @25k steps/rev	Weight kg
L3569.STA	Stepper	2000	900	2.3	0.71	0,014°	1.38
L3569.STB	Stepper & enc.	2000	900	2.3	0.71	0,014°	1.38



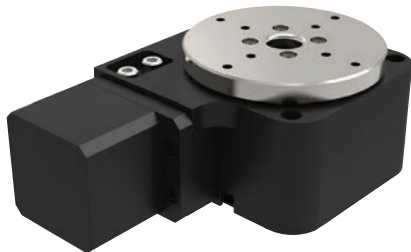
**L3550 Ø50 Rotary stage**

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



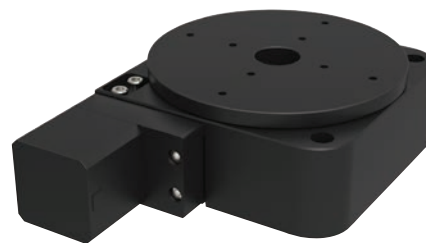
**L3552 Ø75 Rotary stage**

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



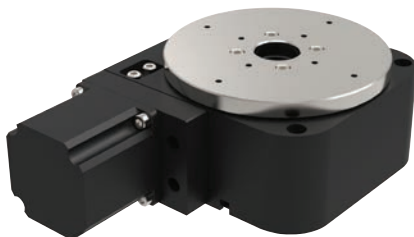
**L3554 Ø75 Rotary stage, heavy duty**

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



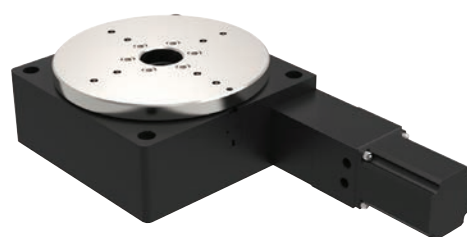
**L3556 Ø125 Rotary stage, medium duty**

- 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.





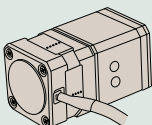
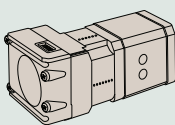
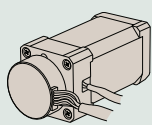
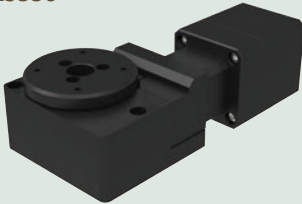
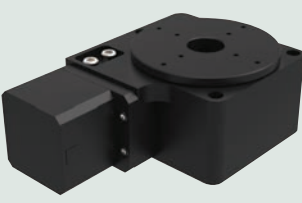

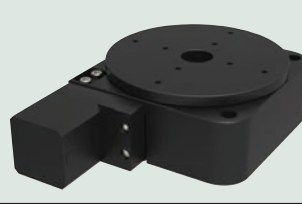
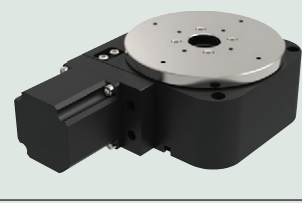
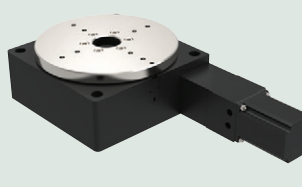
# Rotary Stages

Motor options

## Positioning Stages

ROTARY STAGES

## Positioning Stages from Automation Components

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