



MOTORIZED LINEAR AND ROTATION TRANSLATION STAGES

Precision Motion Control Solutions

www.holmarc.com



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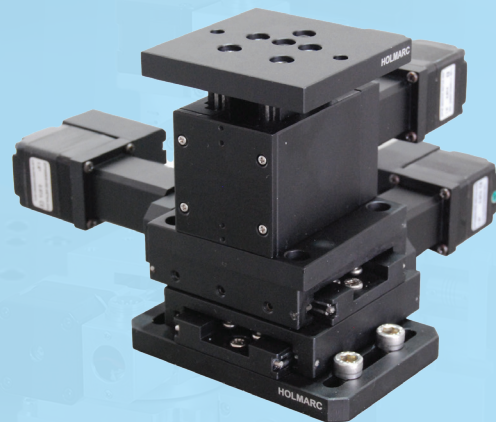
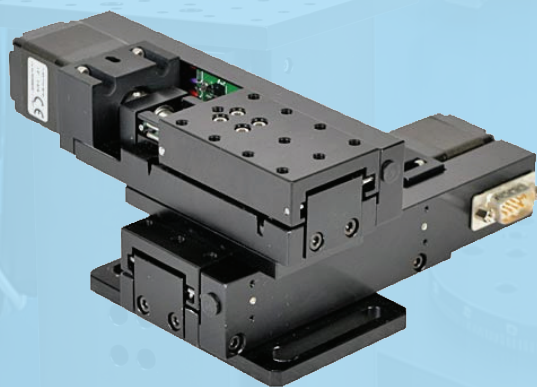
736 MOTORIZED LINEAR AND ROTATION TRANSLATION STAGES

- 738 Stepper Motors
- 738 Nema 23 High Vacuum
- 738 Compatible Stepper Motor
- 740 Control Electronics & Software
- 742 Custom Micro Motion Controls
- 744 Motorized Actuators
- 744 HO-MA Series
- 745 Motorized Actuator Heavy Duty
- 746 Motorized Linear Stage
- 747 Motorized Translation Stages MTS-M35 series
- 748 Motorized Translation Stages MTS-M series
- 750 Motorized Translation Stages MTS series
- 752 Motorized Translation Stages LMS series
- 754 Motorized Precision
- 754 Long Travel Translation stages MLTS series (Linear and XY)
- 755 Belt Driven High Speed Translation Stage (Linear)
- 756 Belt Driven High Speed Translation Stage (XY)
- 757 RCMTS Series Motorized Stages
- 758 Motorized Translation Stages RCMTS-35 Series
- 759 Motorized Translation Stages
- 759 RCMTS-50 Series
- 761 Motorized Translation Stages
- 761 RCMTS-125 Series
- 762 Motorized Translation Stages
- 762 RCMTS-150 Series
- 764 Motorized Translation Stages
- 764 RCMTS-200 Series
- 766 Motorized Translation Stages
- 766 RCMTS-250 Series

MOTORIZED LINEAR AND ROTATION TRANSLATION STAGES

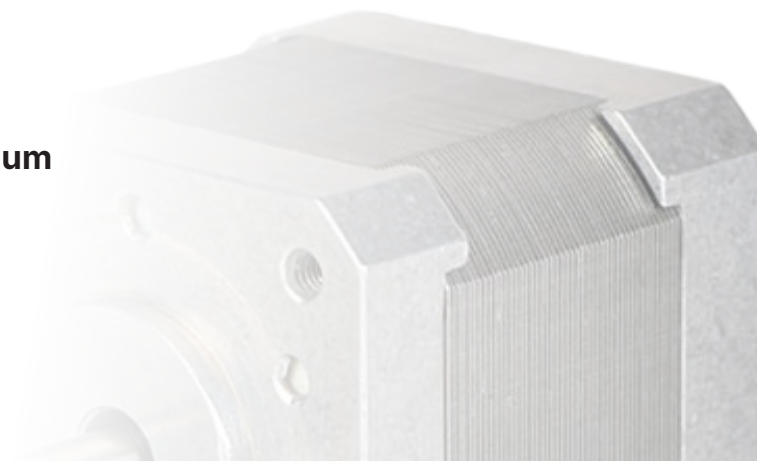
768 Motorized XY Moving Platform
768 XY Moving Platform
768 MXYTS Series
770 Motorized Vertical Translation Stages
772 Motorized Two Axes Gimbal Stage
774 Motorized Goniometer
775 Sine Drive Angular Stage
775 Sin216R Series
776 Motorized Rotation Stage
776 MRSC Series
777 MRS Series Rotation Stage
778 Motorized Heavy Duty
778 Rotation Stages MRSH Series
780 Rotation stage with IP65 rating
782 Motorized Multi Axis Stage
784 XY Theta Stage
786 XYZ Stage
788 5 axis Stage
790 Vacuum Compatible
790 Motorized 5 Axis Stage
790 6 axis Stage
791 Motorized Theta 2 Theta Stage
792 Design Stage
794 Gantry Design Stage GTNDT Series
796 Cartesian Design Stage SGTS Series
796 Automated XYZ Transverse System
797 Multi Axis Manipulator
798 Radiography Multi Axis Manipulator
800 Positioner
800 Pitch & Yaw Positioning Mechanism for Subsonic
Wind Tunnel
802 Antenna Positioner
804 Dual Axis Antenna Positioner with Azimuth and
Elevation Control
806 Lab Jacks

806 Manual Labjack
807 Motorized Labjack
808 Heavy Duty Labjack
809 Motorized Heavy Duty Labjack
810 Controller for Motorized Lab jack
812 Motorized Vertical Translation Stages



Stepper Motors

Nema 23 , Nema 17 High Vacuum Compatible Stepper Motor

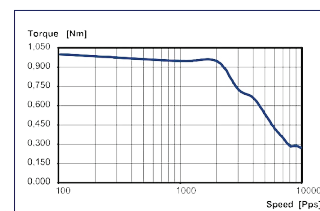
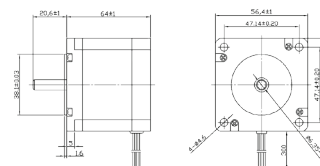


Nema 23 High Vacuum Compatible Stepper Motor

Model : 57ST51-4A-V

Specifications

Vacuum compatibility	Ultra high vacuum compatible Stepper Moto
Vacuum rang	$\leq 1 \times 10^{-7}$ mbar
Bake able temperature	150°C
Core material	Stainless steel , Grade - SS430
Shaft material	Stainless steel - 304
Bearings	Stainless steel - 304
Side plates	Aluminium - 6061
Winding	Class heavy film Polyester over coated with polyamide-imide enameled copper wire, 150°C thermal class
Plastic parts	Teflon
Size of motor	56 x 56 x 64 mm



Aperture platform

Engraved Scale for Accurate Adjustments

Model No.	57ST51-4A-V
Rated Voltage V	2.3
Current / Phase A	2.8
Resistance / Phase Ω	0.83
Inductance / Phase MH	2.2
Holding Torque NM	0.45
Rotor Inertia G-CM2	275
Weight KG	0.65
Number of Leads N°	4

Nema 17 High Vacuum Compatible Stepper Motor

Model : 42ST40-1A-V

Specifications

Motor Dimensions	42 x 42 x 40 mm
Weight	0.28 Kg
Rotor Inertia	54 g·cm ²
Number of Leads	4
Shaft Type	Customizable

1. Rotor, stator, bearings and shaft are made in Stainless steel
2. Windings and insulations can support a maximum temperature of 150°C
3. Winding coil extended outside without soldering for external connections.

Key Features

- Vacuum Compatibility : Ultra-high vacuum compatible ($\leq 1 \times 10^{-7}$ mbar)
- Bakeable Temperature : Up to 150 degrees C
- Outgassing Minimization : All materials selected for UHV suitability
- Extended Coil Leads : Winding wires are extended without solder joints inside the vacuum area
- Custom Modifications Available : For shaft length, mounting, or connector type upon request

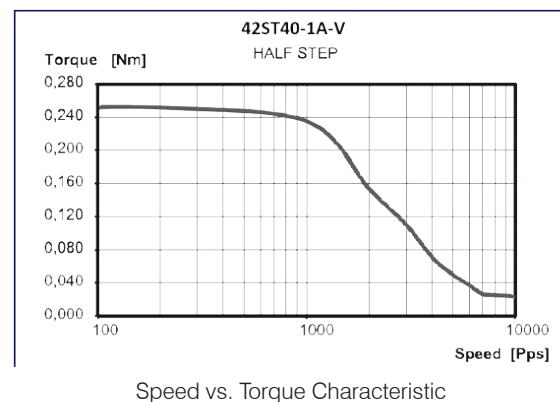
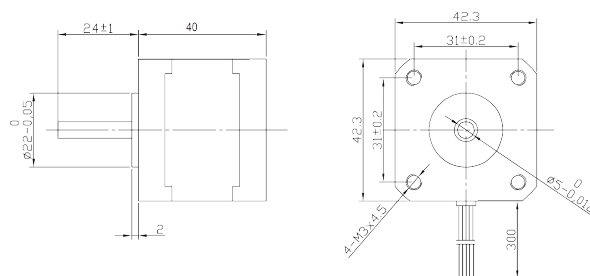
Model No.	42ST40-1A-V
Rated Voltage V	4
Current / Phase A	1
Resistance / Phase Ω	3.3
Inductance / Phase MH	3.4
Holding Torque NM	0.259
Rotor Inertia G-CM2	54
Weight KG	0.28
Number of Leads N°	4

Construction Materials

Core	Stainless Steel - Grade SS430
Shaft	Stainless Steel - Grade 304
Bearings	Stainless Steel - Grade 410
Side Plates	Aluminium - 6061
Plastic Parts	Teflon
Coil Wire	Class H (150° C) enameled copper with polyamide-imide overcoat

Electrical Specifications

Rated Voltage	4 V
Current per Phase	1 A
Resistance / Phase	3.3 Ohm
Inductance / Phase	3.4 mH
Holding Torque	0.259 Nm
Step Angle	1.8 degrees



Typical Applications

- Vacuum manipulators and motion stages
- Beamline positioning systems
- Semiconductor wafer handling
- Space simulation and cryogenic experiments

Control Electronics & Software

- **High-accuracy positioning for research and industrial applications**
- **Multi-axis motion control with stepper motor stages**
- **Programmable positioning using Micro-Motion software**



Micro-Motion

Holmarc offers a wide range of high-precision micro positioning devices and systems. Micro-Motion along with a combination of one or more of the MTS, LTMS or MTTS series motorized stages make a high accuracy positioning system for research and industrial applications. The option for selecting any of the various models of motorized translation stages makes it easy to develop a complete position control system involving any or all of the three linear or rotational axes.

Holmarc stepper motor controller has microstep drives offering microstepping down to 16 microsteps per step. Usually stepper motor has 200 steps per revolution. We can increase step per revolution by using drives which can divide a single step in to 16 microstep. This allows much higher resolution up to 3200 micro steps per revolution.

Micro-Motion unit also supports encoder feedback. A built in algorithm counts the incoming pulses from the encoder and compares it with the commanded number of steps to verify the accuracy of movement.

Multi Axis Positioning

Holmarc provides positioning controllers up to 6 axes for all motion applications, individually programmable for stepper motor driven stages. Multi axis position controller is recommended for a wide variety of both simple and complex motion applications.

- In built motor drives
- PWM current control
- 1 A to 5A Stepper drive
- Up to 1 / 256 micro step
- Microprocessor controlled
- Software for PC based operation
- Serial port (RS232C) connectivity
- Optional USB to serial converter
- Optional wireless connectivity (Bluetooth)
- Power down mode
- Position & speed control
- Acceleration / deceleration
- Trigger I / O
- In-built power supply

Handheld Motion Control System



PC based position control User programmable motion profile

Microstep Configuration	Micro steps per revolution
1 / 2	400
1 / 4	800
1 / 16	3200

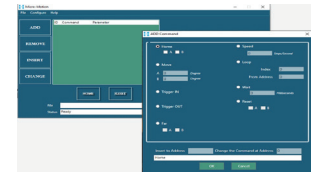
Hand-held stepper motor controller-driver offers up to 4 axes control for actuators, linear stages and rotation stages. The hand held unit features 16X micro stepping ratio for smooth, high resolution positioning. Two primary control modes are available, manual control and computer control.

To drive the stage using a PC, a command set will be provided to communicate with the controller using LabVIEW or any other programming language through RS 232 port.

Software (Micro-Motion)

Micro-Motion, a software developed by Holmarc is an easy to use package to drive all Holmarc made positioning stages. It allows the user to operate the system in two modes, namely Manual and Programmable.

The Micro-Motion software has a very short learning curve. According to the application requirements, the stages can be operated at different speeds and motion profiles. It incorporates facility to provide delay in between the movements to perform other tasks, trigger external devices or circuits and get itself triggered by an external trigger source. The software enables the user to program each movement of the stage in the form of the following commands executed sequentially.



>> Reset
Commands Trigger in
Home Trigger out
Move
Speed
Wait
Loop
Goto

Manual Mode

There are 4 buttons in the Manual mode region of the dialog window, the functions of which are explained below.

>	Move the stage one step towards far-end.
<	Move the stage one step towards home
>>	Move the stage continuously towards far-end. Click again to stop the movement.
<<	Move the stage continuously towards home. Click again to stop the movement
Home	Move the stage towards home. Click again to stop the movement
Reset	Click this button to reset the position display to zero.

Model No:	No. of axis	Motor Type	Motor Torque (kg cm)	Control	Typical Pay load (kg)*
MPC-1-ST-OL	1	Stepper	1.5	Open Loop	20
MPC-2-SV-OL	2	Servo	7	Closed Loop	35
MPC-3-ST-OL	3	Stepper	10	Open Loop	50
MPC-4-SV-OL	4	Servo	15	Closed Loop	60
MPC-6-ST-OL	6	Stepper	31	Open Loop	80
MPC-4-ST-CL-H	4	Stepper	7	Closed Loop	35

* Typical payload for a linear translation stage, mounted horizontally, driven by the specified model

Programmable mode

This mode enables the user to write a program, containing instructions to move different stages simultaneously, set the speed, incorporate delays and loop a set of instructions, execute that program and save it for later use.

Home W	Moves the stage of the axis specified towards home.
Move [Displacement]	Moves the stage for the specified displacement. Wait Incorporates a delay.
Speed	Set the speed.
Trigger IN	The program waits for an external trigger which is a TTL pulse applied through the Trigger Input on the front panel of the controller.
Trigger OUT	The controller output a trigger which is a TTL pulse.
Loop [index, address]	The program loops index times from the address specified.
Goto address	The program jumps to the address specified.
Reset W	Resets the position display of the axis specified to zero.

Customized Motion
Control and Data
Acquisition Applications

Measurement of spatial
distribution of

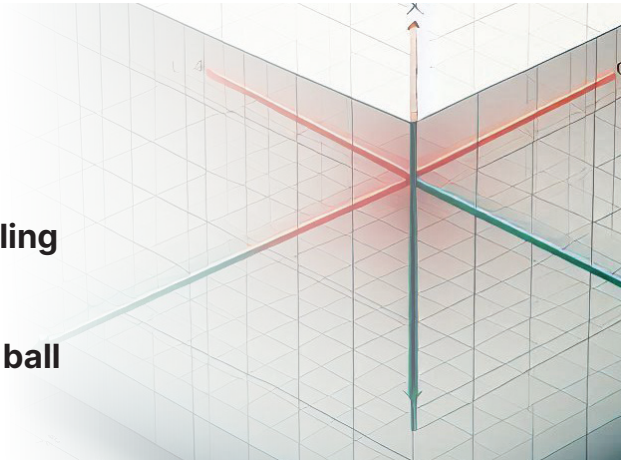
- Magnetic field strength of medium and large sized electromagnets.
- Microwave and RF signal intensity of antennae.
- Optical intensity of scattered, reflected or transmitted light in optical systems.

Multi-dimensional position
control of the following

- Mirror mounts, polarizers and light sources in optical systems.
- Samples in nonlinear optics experiments.
- Sensors and other components inside vacuum chambers and glove boxes.
- High power laser head for laser cutting applications.
- Spindles for marking and engraving applications.
- Nanofiber Electrospinning targets for weaving of nanofibers.

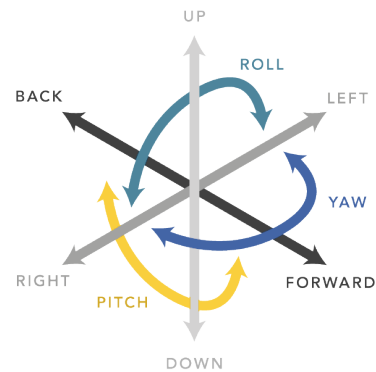
Custom Micro Motion Controls

- **Precise positioning in research and manufacturing applications**
- **Multi-axis configurations by assembling single-axis stages**
- **Smooth motion using lead screws or ball screws**

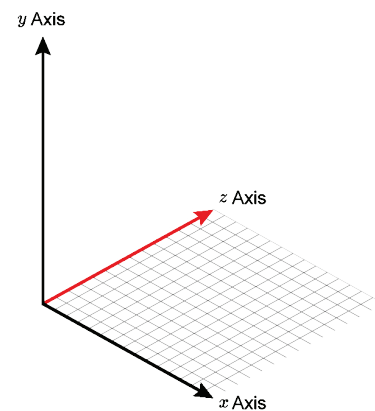


Motorized Translation Stage Ordering Information

Travel		mm
Carriage Size		LxW or diameter mm
Load Capacity		Kg
Resolution		micron or arc sec (rotary)
Accuracy		micron or arc sec (rotary)
Speed		mm/sec or degree/sec (rotary)
Configuration		X, Y, Z(linear) A (Yaw) ,B (Pitch),C (Roll)
		Combination : It is possible to select different combinations like XY, XZ, XYZ, XYA, XZA, XYZA, XYZB, XYZC, XYZAB, XYZBC, XYZABC.
User Interface		PC, hand held unit, both
Control		Closed loop & open loop
		Closed loop control : Open loop control : It uses an encoder attached to stage or motor which gives feed back of motion of the stage or motor. It depends on accuracy of steps of the motor and does not have a feedback from encode



Rotary Motion



Linear Motion

Ready to use linear stages

from holmarc are cost effective solutions for linear positioning

Various designs to suit multitudes of applications in industry and research.

Holmarc manufactures motorized linear translation stages in ready to operate design for applications in research and manufacturing. We have categorized our standard stages in four different series, namely MTS, LMS and RCMTS based on their design. All these stages are modular in design and construction. Multi-axes configurations are possible by assembling single axis stages at user end. For standard stages, construction material is aluminum alloy. We make stages in stainless steel and mild steel as well for custom requirements.

Linear Guides

Pre-loaded rolling contact bearings are used as guide ways. Both nonre-circulating type and re-circulating type guides are used depending upon the design and use. For non-re-circulating type, rollers are used as rolling elements where as for re-circulating type, balls are used.

Drive

Either lead screws or ball screws are used as mechanical drive. For ground lead screw, nut is spring loaded to minimize play and back-lash.

Actuators

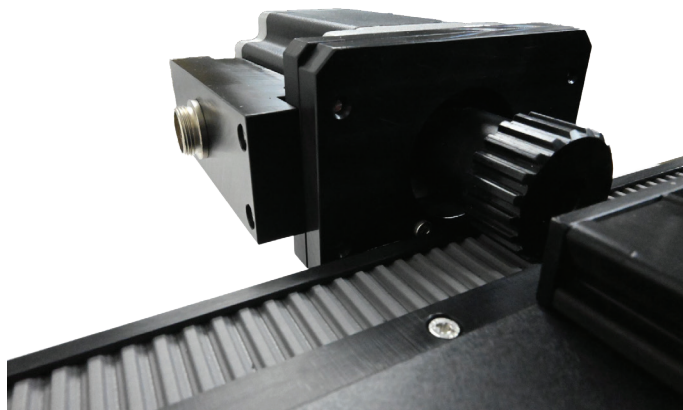
Stepper motors are used as electrical actuators. DC or AC servos can as well be used with our standard models on special request.



PITCH, STEP & RESOLUTION

Ball screw or lead screw pitch depends upon the speed and resolution requirements. Drive electronics of stepper motor decides both these parameters. In all our standard stages, 200 steps/revolution stepper motors are used. For ball screws, 4 mm is the standard pitch in our stages. For lead screws, pitch can be 0.5 mm, 1 mm, and 2 mm.

For any stages with lead screw/ ball screw pitch, resolution other than standard depends on the drive electronics. There are micro-step driver cards for the stepper motors having 1/8 to 1/256 micro steps.



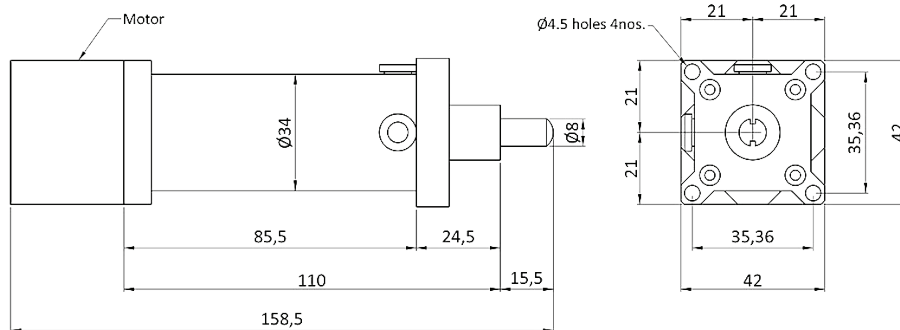
Motorized Actuators

- Automating micrometer replacement in translation stages
- Precise positioning with non-rotating spindle mechanism
- Driving kinematic mounts using stepper motor control

HO-MA Series

Holmarc's motorized actuator can be used to replace micrometers in translation stages or lead screws in kinematic mounts for making the positioning automated with appropriate control electronics. Drive is achieved by a stepper motor coupled to a precision lead screw-nut mechanism.

The spindle of the actuator which moves forward and backward when the motor rotates is made non-rotating to bring in extra precision. Construction material is stainless steel. Our standard position controllers can be used to drive these actuators without any customization. Holmarc can supply kinematic mounts and stages fitted with these actuators for custom applications. You are welcome to discuss your needs with our sales engineers.



Specifications

Travel	Up to 25mm
Positioning Accuracy	0.01 mm
Resolution	0.001 mm
Construction	Stainless steel / Aluminium

0.001 mm Resolution

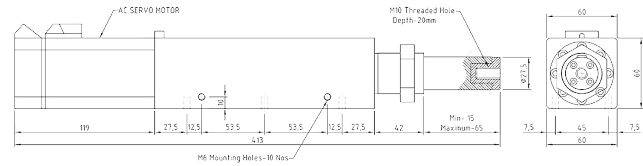
0.01 mm Positioning Accuracy

Model No.	Travel	Resolution
HO-MA-15	15 mm	0.001 mm
HO-MA-25	25 mm	0.001 mm

Motorized Actuator Heavy Duty

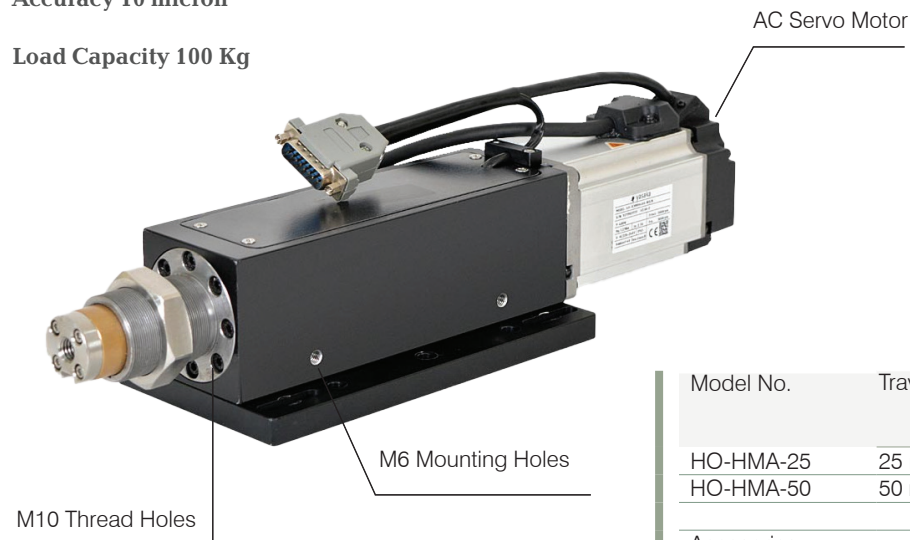
HO-HMA-Series

The spindle of the actuator which moves forward and backward when the motor rotates is made non-rotating to bring in extra precision. Construction material is Aluminium, Stainless steel and brass. Our standard position controllers can be used to drive these actuators without any customization. Holmarc can supply stages fitted with these actuators for custom applications. You are welcome to discuss your needs with our sales engineers.



Accuracy 10 micron

Load Capacity 100 Kg



controller sold separately

Model No.	Travel	Load capacity Axial load	Motor
HO-HMA-25	25 mm	100 Kg	Ac Servo
HO-HMA-50	50 mm	100 Kg	Ac Servo
Accessories			
Base plate	Suitable Model		
BP-HO-HMA-25	HO-HMA-25		
BP-HO-HMA-50	HO-HMA-50		

Specifications

Travel	HO-HMA-25 : 25 mm HO-HMA-50 : 50 mm
Absolute positioning accuracy	10 micron *
Resolution	0.1 micron (1 / 10000 microstep) *
Repeatability	5 micron *
Straight line accuracy	10 micron *
Maximum Speed	20 mm / sec *
Minimum continuous speed	2 micron / sec *
Feedback	Rotary encoder attached with motor
Material Construction	
Main body	Aluminum 6061 (main body)
Lead screw	Steel hardened
Shaft	Brass / Bronze
Load Capacity	100 kg (axial load)
Motor	Servo motor

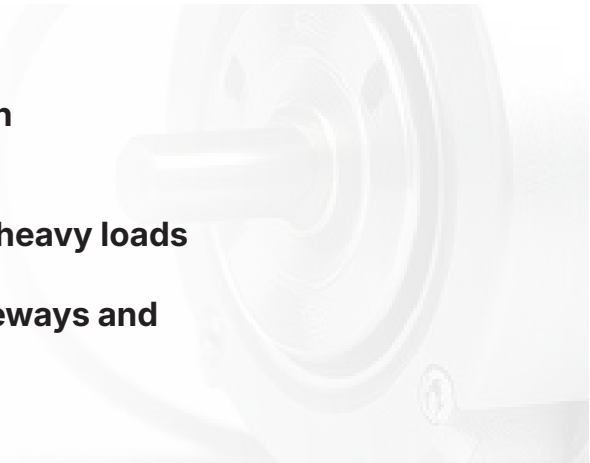
Lead screw pitch	1 mm
Lead screw type	Precision ground lead screw
Coupling	Flexible GS coupling
Bearings	SKF or Equivalent
Lubricants	Grease
Finish	Black Anodized
Mounting provisions	M6 Mounting holes on main body M35 x 1 (Clamp nut) M10 Std (Spindle)
Operating temperature	5 - 45 degree centigrade
Accessories	Base plate (sold separately)
Limit switches	Optical limit switch
Controller	Single axis controller
Hand held controller	Optional handheld controller on request

* These values achievable using Holmarc controller

Single axis controller and software sold separately

Motorized Linear Stage

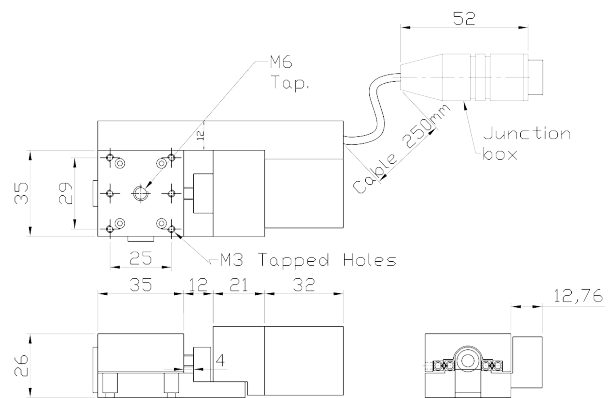
- **Precise positioning of loads in research applications**
- **Vertical Z-axis lifting with gearbox for heavy loads**
- **Dust protection using bellows on guideways and screws**



Motorized Translation Stages MTS-M35 series

MTSM series stages are compact and modular motorized positioners for short travel applications (up to 5 mm travel range). Stepper motor is used as electrical actuator. It has V grooved precision guide ways using crossed rollers. Construction material for standard stage is aluminium alloy.

These stages are X, XY, XYZ, XZ & Z axis configurable with the help of angle bracket and base plates



Accuracy 10 micron

Load Capacity 100 Kg



Specifications



Travel	5 mm
Straight Line Accuracy	3 Micron
Positioning accuracy	5 micron *
Resolution	1 micron *
Drive	Precision Lead screw
Construction	Aluminium Alloy B51S
Finish	Black anodized
Tapped Holes on Carriage	M3 Tapped Holes & M6 Tap
Mounting Holes on the base	M3 Tap and M6 tap
Design	Assembled
Carriage Size	35 mm x 35 mm
Load Capacity	2 Kg vertical on X Axis
Lead screw	0.5 mm pitch
Limit switch	Optical limit switch
Motor	Stepper motor

* when using Holmarc's controller

Model No.	Load Capacity	Accessories	Configurations
MTS-M3535-1-01	0.5 Kg	Angle Bracket	X Axis
MTS-M3535-1-02	0.5 Kg	Model : AB-MTS 3535	XY Axis
MTS-M3535-1-03	0.2 Kg	Base Plate	XYZ Axis
MTS-M3535-1-04	0.2 Kg	Model : BP-MTS-3535	Z Axis
MTS-M3535-1-05	0.2 Kg		XZ Axis



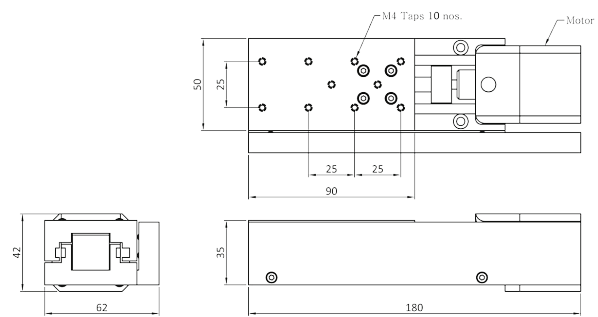
Motorized Translation Stages

MTS-M series

Holmarc's MTS-M series motorized stages are miniature in size with a footprint as small as 35 x 35 mm. Drive motor is stepper with 28 mm frame size. The stage features precision V grooved guides with balls and precision leadscrew drive having 1 mm / 0.4 mm pitch. Standard stages are constructed in aluminium alloy though stainless steel stages can also be manufactured on request. There are four footprint sizes to choose from as described in the drawing.

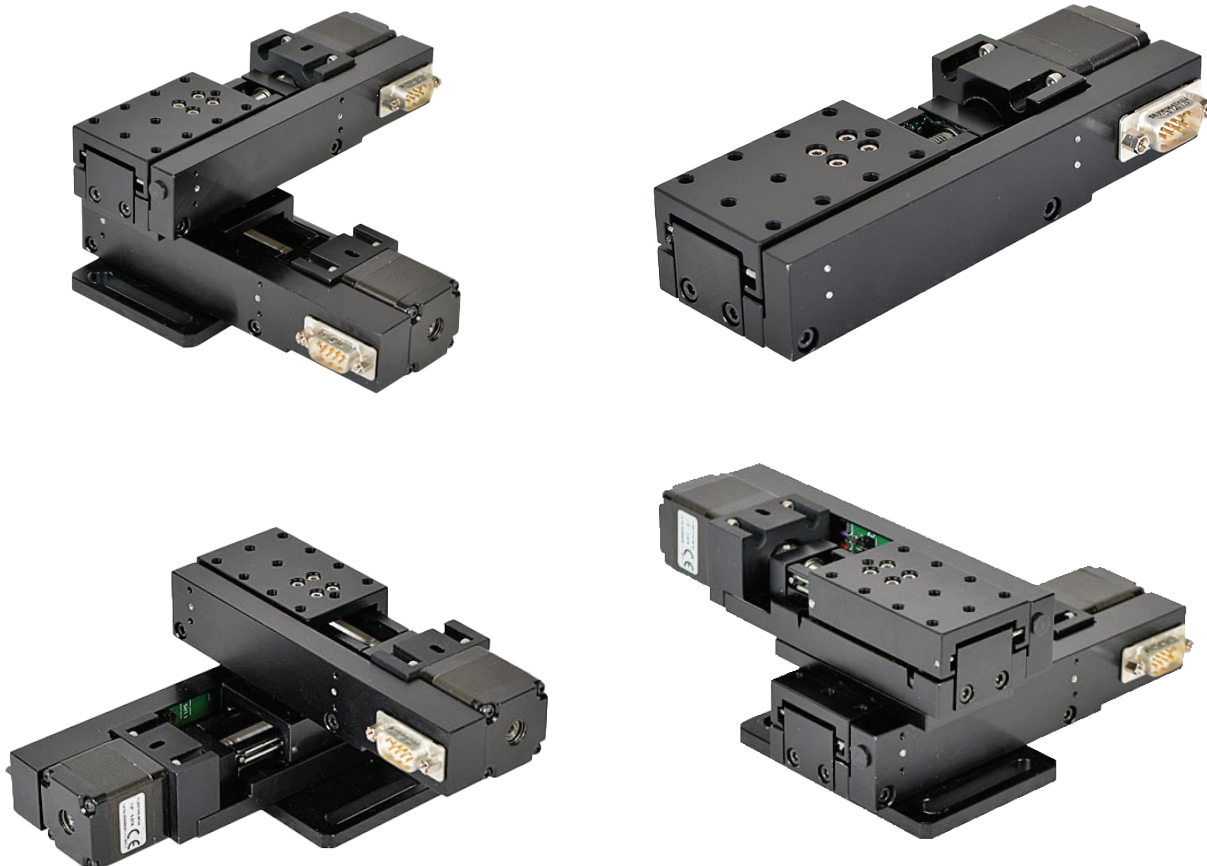
These stages are available in five factory assembled configurations (X, XY, XYZ, Z and XZ). Please see the chart below for details

controller sold separately



Specifications

Straight Line Accuracy	5 Micron
Guide way	Precision V grooved guide way
Drive	Precision lead screw
Construction	Aluminum alloy B51S
Finish	Black anodized
Tapped Holes on Moving Plate	M4 tapped holes
Mounting Holes	M3 tapped holes



4mm Pitch Lead Screw



Model No.	MTSM-5050-HC	MTSM-5065-HC	MTSM-5075-HC	MTSM-5090-HC
Travel	15 mm	25 mm	50 mm	75 mm
Load Capacity X Axis	2 kg	5 kg	5 kg	5 kg
Load Capacity Z Axis	0.7 kg	1 kg	1 kg	1 kg

1mm Pitch Lead Screw

Model No:	MTSM-3760	MTSM-5050-H	MTSM-5065-H	MTSM-5075-H	MTSM-5090-H
Travel	50 mm	15 mm	25 mm	50 mm	75 mm
Load Capacity X Axis	1 kg	2 kg	5 kg	5 kg	5 kg
Load Capacity Z Axis	0.4 kg	0.7 kg	1 kg	1 kg	1 kg

0.4mm Pitch Lead Screw

Model No:	MTSM-3760F	MTSM-5050-F	MTSM-5065-HF	MTSM-5075-HF	MTSM-5090-HF
Travel	50 mm	15 mm	25 mm	50 mm	75 mm
Load Capacity X Axis	1 kg	2 kg	5 kg	5 kg	5 kg
Load Capacity Z Axis	0.4 kg	0.7 kg	1 kg	1 kg	1 kg

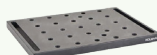
Micrometer Drive

Drive Details	4 mm Pitch Lead Screw	1 mm Pitch Lead Screw	0.4 mm Pitch Precision Lead screw
Positioning Accuracy	0.1 mm	0.01 mm	0.002 mm
Repeatability	0.2 mm	0.01 mm	0.002 mm
Resolution	0.01 mm	0.0003125 (Micro Step Mode)	0.000125 (Micro Step Mode)
Speed	16 mm / Sec. (4 rps)	4 mm / Sec. (4 rps)	1.2 mm / Sec. (4 rps)

Accessories



Base plates can be used for mounting translation stages to breadboards and tables conveniently



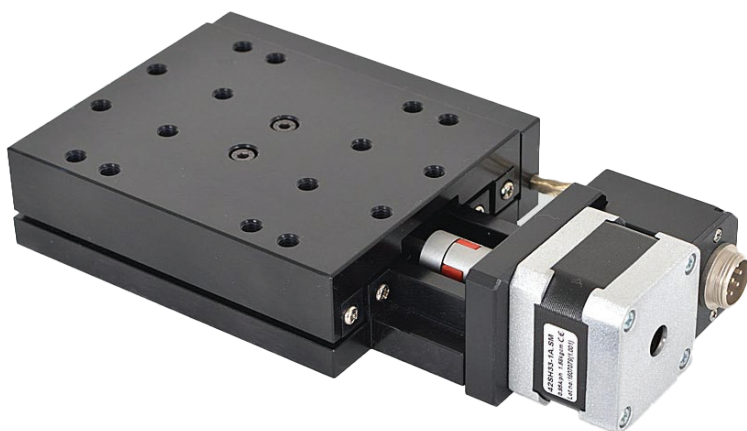
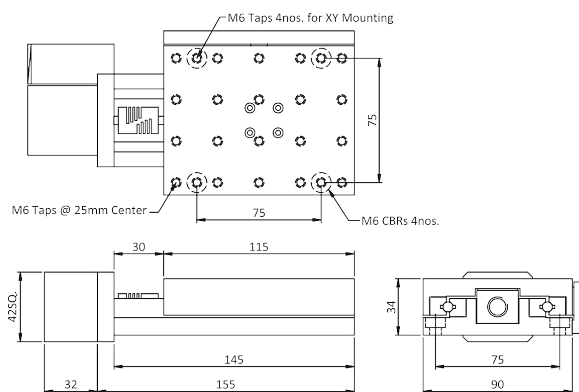
Base Plate	Vertical Bracket	Horizontal Bracket
BP-MTSM-3535	VB-MTSM-3535	HB-MTSM-3760
BP-MTSM-3550	VB-MTSM-3550	HB-MTSM-5050H
BP-MTSM-3760	VB-MTSM-3760	HB-MTSM-5065H
BP-MTSM-5050H	VB-MTSM-5050H	HB-MTSM-5075H
BP-MTSM-5065H	VB-MTSM-5065H	HB-MTSM-5090H
BP-MTSM-5075H	VB-MTSM-5075H	
BP-MTSM-5090H	VB-MTSM-5090H	

Motorized Translation Stages MTS series

MTS series stages are compact and modular motorized positioners for short travel applications. (up to 50 mm travel range). Stepper motor is used as electrical actuator. It has V grooved precision guide ways using crossed rollers. Construction material for standard stage is aluminium alloy. Linear drive is by a precision lead screwnut combination. There are two limit switches built in to the system, one for home and other for far end. Electrical junction box with suitable 9 pin connector is also a standard feature.

These stages are X, XY, XYZ, XZ & Z axis configurable with the help of angle bracket and base plates.

controller sold separately



Specifications

Straight Line Accuracy	2 Micron	
Guide way	Precision V grooved guide way	
Drive	Precision lead screw	# We have provided suitable mounting holes for assembling multi-axes configurations
Construction	Aluminum alloy B51S	
Finish	Black anodized	
Tapped Holes on Moving Plate	M6 tapped holes	
Mounting Holes	M3 / M6 C'bored holes	
Motor	Nema 17 motor	

Drive



Drive Details	1 mm Pitch Lead Screw	0.4 mm Pitch Precision Lead screw
Positioning Accuracy	0.01 mm	0.001 mm
Repeatability	0.01 mm	0.001 mm
Speed	4 mm / Sec. (4 rps)	1.2 mm / Sec. (4 rps)
Resolution	0.0003125 (Micro Step Mode)	0.000125 (Micro Step Mode)

0.4mm pitch Lead screw - Travel 10mm

Model No.	MTS-6565-1-01	MTS-6565-1-02	MTS-6565-1-03	MTS-6565-1-04	MTS-6565-1-05
Load Capacity	10 Kg	10 Kg	2 Kg	2 Kg	2 Kg
Accessories	Angle Bracket Model : AB-MTS 6565, Base Plate Model : BP-MTS-6565				
Configurations	X Axis	XY Axis	XYZ Axis	Z Axis	XZAxis

1mm pitch Lead screw

Model No:	MTS-6565-2-01	MTS-6565-2-02	MTS-6565-2-03	MTS-6565-2-04	MTS-6565-2-05
Load Capacity	10 Kg	10 Kg	2 Kg	2 Kg	2 Kg
Accessories	Angle Bracket Model : AB-MTS 6565 , Base Plate Model : BP-MTS-6565				
Configurations	X Axis	XY Axis	XYZ Axis	Z Axis	XZAxis

0.4mm pitch Lead screw MTS-7575 Series, Travel - 25 mm

Model No:	MTS-7575-1-01	MTS-7575-1-02	MTS-7575-1-03	MTS-7575-1-04	MTS-7575-1-05
Load Capacity	10 Kg	10 Kg	2 Kg	2 Kg	2 Kg
Accessories	Angle Bracket Model : AB-MTS 7575, Base Plate Model : BP-MTS-7575				
Configurations	X Axis	XY Axis	XYZ Axis	Z Axis	XZAxis

1mm pitch Lead screw

Model No:	MTS-7575-2-01	MTS-7575-2-02	MTS-7575-2-03	MTS-7575-2-04	MTS-7575-2-05
Load Capacity	10 Kg	10 Kg	2 Kg	2 Kg	2 Kg
Accessories	Angle Bracket Model : AB-MTS 7575 , Base Plate Model : BP-MTS-7575				
Configurations	X Axis	XY Axis	XYZ Axis	Z Axis	XZAxis

0.4mm pitch Lead screw MTS-9090 Series, Travel - 25 mm

Model No	MTS-9090-1-01	MTS-9090-1-02	MTS-9090-1-03	MTS-9090-1-04	MTS-9090-1-05
Load Capacity	14 Kg	14 Kg	3 Kg	3 Kg	3 Kg
Accessories	Angle Bracket Model : AB-MTS 9090, Base Plate Model : BP-MTS-9090				
Configurations	X Axis	XY Axis	XYZ Axis	Z Axis	XZAxis

1mm pitch Lead screw

Model No	MTS-9090-2-01	MTS-9090-2-02	MTS-9090-2-03	MTS-9090-2-04	MTS-9090-2-05
Load Capacity	15 Kg	15 Kg	5 Kg	5 Kg	5 Kg
Accessories	Angle Bracket Model : AB-MTS 9090, Base Plate Model : BP-MTS-9090				
Configurations	X Axis	XY Axis	XYZ Axis	Z Axis	XZAxis

0.4mm pitch Lead screw MTS-90115 Series, Travel - 50 mm

Model No	MTS-90115-1-01	MTS-90115-1-02	MTS-90115-1-03	MTS-90115-1-04	MTS-90115-1-05
Load Capacity	14 Kg	14 Kg	3 Kg	3 Kg	3 Kg
Accessories	Angle Bracket Model : AB-MTS 90115, Base Plate Model : BP-MTS-90115				
Configurations	X Axis	XY Axis	XYZ Axis	Z Axis	XZAxis

1mm pitch Lead screw

Model No	MTS-90115-2-01	MTS-90115-2-02	MTS-90115-2-03	MTS-90115-2-04	MTS-90115-2-05
Load Capacity	15 Kg	15 Kg	5 Kg	5 Kg	5 Kg
Accessories	Angle Bracket Model : AB-MTS 90115, Base Plate Model : BP-MTS-90115				
Configurations	X Axis	XY Axis	XYZ Axis	Z Axis	XZAxis

0.4mm pitch Lead screw MTS-90150 Series, Travel - 100 mm

Model No:	MTS-90150-1-01	MTS-90150-1-02	MTS-90150-1-03	MTS-90150-1-04	MTS-90150-1-05
Load Capacity	14 Kg	14 Kg	5 Kg	5 Kg	5 Kg
Accessories	Angle Bracket Model : AB-MTS 90150, Base Plate Model : BP-MTS-90150				
Configurations					

1mm pitch Lead screw

Model No:	MTS-90150-2-01	MTS-90150-2-02	MTS-90150-2-03	MTS-90150-2-04	MTS-90150-2-05
Load Capacity	15 Kg	15 Kg	6 Kg	6 Kg	6 Kg
Accessories	Angle Bracket Model : AB-MTS 90150, Base Plate Model : BP-MTS-90150				
Configurations	X Axis	XY Axis	XYZ Axis	Z Axis	XZAxis

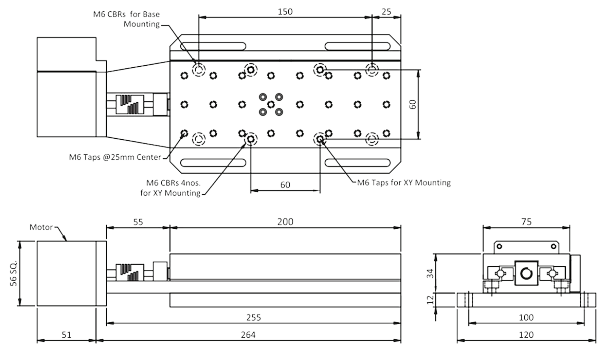
Accessories

Angle Bracket	AB-MTS 6565	AB-MTS 9090	AB-MTS 90115	AB-MTS 90150	
Base Plate	BP-MTS 6565	BP-MTS 9090	BP-MTS 90115	BP-MTS 90150	

Motorized Translation Stages LMS series

LMS series motorized stages provide travel up to 150 mm. Drive mechanism comprises of precision ground lead screw and preloaded nut. Stepper motor used is of 56 mm frame size and 10 kg-cm torque. There are limit switches for home and far end. Electrical junction box with 9 pin connector is also a standard feature. Linear guide ways using V grooved guides and crossed rollers are used for playless and stick-slip free precision positioning. Standard stages are constructed in aluminium alloy and finished by black anodizing. Tapped holes are provided on top and bottom surfaces for mounting. XY and XYZ configurations can be assembled from single axis stages along with accessories like base plates and angle brackets.

controller sold separately



Aluminum alloy B51S

Precision V grooved guide way

Specifications

Straight Line Accuracy	2 Micron	# We have provided suitable mounting holes for assembling multi-axes configurations
Guide way	Precision V grooved guide way	
Drive	Precision lead screw	
Construction	Aluminum alloy B51S	
Finish	Black anodized	
Tapped Holes on Moving Plate	M6 tapped holes	
Mounting Holes	M6 tapped holes	



0.4mm pitch Lead screw



Model No.	LMS 75100 - 3	LMS 100100 - 3			
Travel	50 mm	50 mm			
Load Capacity	8 Kg	8 Kg			
Size L X B	100 x 75 mm	100 x 100 mm			

1mm pitch Lead screw

Model No:	LMS 75100 - 2	LMS 75150 - 2	LMS 75200 - 2	LMS 100100 - 2	LMS 100150 - 2
Travel	50 mm	100 mm	150 mm	50 mm	100 mm
Load Capacity	10 Kg	11 Kg	14 Kg	15 Kg	17 Kg
Size L X B	100 x 75 mm	150 x 75 mm	200 x 75 mm	100 x 100 mm	150 x 100 mm

Model No:	LMS 100200 - 2	LMS 150150 - 2	LMS 150200 - 2	LMS 200200 - 2	LMS 250250 - 2
Travel	150 mm	100 mm	150 mm	150 mm	150 mm
Load Capacity	19 Kg	18 Kg	25 Kg	35 Kg	30 Kg
Size L X B	200 x 100 mm	150 x 150 mm	200 x 150 mm	200 x 200 mm	200 x 200 mm

2 mm pitch Lead screw

Model No:	LMS 75100 - 1	LMS 75150 - 1	LMS 75200 - 1	LMS 100100 - 1	LMS 100150 - 1
Travel	50 mm	100 mm	150 mm	50 mm	100 mm
Load Capacity	8 Kg	9 Kg	11 Kg	16 Kg	15 Kg
Size L X B	100 x 75 mm	150 x 75 mm	200 x 75 mm	100 x 100 mm	150 x 100 mm

Model No:	LMS 100200 - 1	LMS 150150 - 1	LMS 150200 - 1	LMS 200200 - 1	LMS 250250 - 1
Travel	150 mm	100 mm	150 mm	150 mm	200 mm
Load Capacity	17 Kg	16 Kg	22 Kg	30 Kg	30 Kg
Size L X B	200 x 100 mm	150 x 150 mm	200 x 150 mm	200 x 200 mm	250 x 250 mm

Drive



Drive Details	0.4 mm Pitch Lead screw	1 mm Pitch Precision Lead screw	2 mm Pitch Precision Lead screw		
Positioning Accuracy	0.001 mm	0.0025 mm	0.005 mm		
Repeatability	0.001 mm	0.0025 mm	0.005 mm		
Resolution	0.000125 (Micro Step Mode)	0.003125 (Micro Step Mode)	0.000625 (Micro Step Mode)		
Speed	1.6 mm / sec	4 mm / sec	8 mm / sec		

Accessories

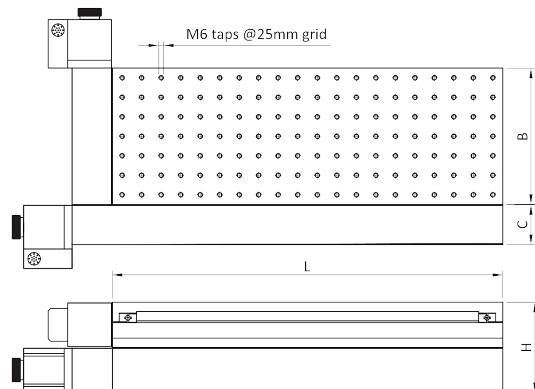


Angle Bracket	AB - LMS 75100 AB - LMS 100200	AB - LMS 75150 AB - LMS 150150	AB - LMS 75200 AB - LMS 150200	AB - LMS 100100 AB - LMS 200200	AB - LMS 100150
Base Plate	BP - LMS 75100 BP - LMS 100200	BP - LMS 75150 BP - LMS 150150	BP - LMS 75200 BP - LMS 150200	BP - LMS 100100 BP - LMS 200200	BP - LMS 100150

Motorized Precision Long Travel Translation stages MLTS series (Linear and XY)

These stages are based on linear guide ways using V grooved guides and crossed rollers are used for play-less and stick-slip free precision positioning. Stages are constructed in aluminium alloy and finished by black anodizing. Tapped holes are provided on top and bottom surfaces for mounting.

controller sold separately



Specifications

Precision roller slides
100 - 200 mm travel
1 - 5 micron straight line accuracy
5 micron positioning accuracy
0.625 micron resolution
2 mm pitch backlash free lead screw and nut
4 mm pitch ball screw and nut
8 - 16 mm Maximum speed
Up to 75 kg load capacity
Stepper motor for computer control movement
Optional Servo motor control
Controller with software for computer controlling
Additional handheld unit or joysticks available as per request



Travel : 100 - 200 mm

Load capacity up to 75 Kg

Linear

Model No.	Travel Range X	Load Capacity (vertical)	Resolution (mm)	Max .Speed	Carriage Size W x L (mm)
MLTS-100-250	125 mm	15 kg	0.000625	8 mm / se	100 x 150
MLTS-100-350	225 mm	15 kg	0.000625	8 mm / se	100 x 350
MLTS-100-500	350 mm	25 kg	0.00125	16 mm / sec	100 x 500
MLTS-175-175	50 mm	15 kg	0.000625	8 mm / se	175 x 175
MLTS-175-350	225 mm	25 kg	0.00125	16 mm / sec	175 x 350
MLTS-175-500	375 mm	25 kg	0.00125	16 mm / sec	175 x 500
MLTS-250-250	125 mm	50 kg	0.00125	16 mm / sec	250 x 250
MLTS-250-400	250 mm	60 kg	0.00125	16 mm / sec	250 x 400
MLTS-250-600	450 mm	75 kg	0.00125	16 mm / sec	250 x 600

X & Y

Model No:	Travel Range X & Y	Load Capacity (vertical)	Resolution (mm)	Max .Speed	Carriage Size W x L (mm)
MLTS-175-175-XY	50 mm	15 kg	0.000625	8 mm / sec	175 x 175
MLTS-175-275-XY	50 & 125 mm	25 kg	0.00125	16 mm / sec	175 x 275
MLTS-175-500-XY	50 & 350 mm	25 kg	0.00125	16 mm / sec	175 x 500
MLTS-250-250-XY	125 mm	50 kg	0.00125	16 mm / sec	250 x 250
MLTS-250-400-XY	125 & 250 mm	60 kg	0.00125	16 mm / sec	250 x 400
MLTS-250-600-XY	125 & 450 mm	75 kg	0.00125	16 mm / sec	250 x 600

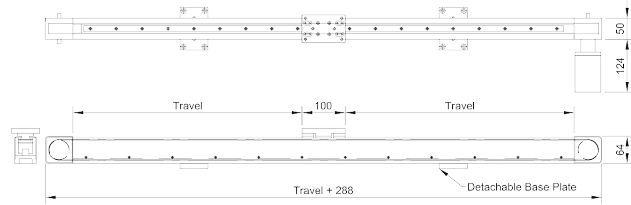
Belt Driven High Speed Translation Stage (Linear)

Belt-driven stages are ideal for applications requiring long distances and high speeds. Speeds as high as 600mm per second can be achieved. The belt drive's high efficiency make it an ideal choice for moving light loads at high speed and for continuous duty applications. They are not recommended for vertical applications because of the risk of load free-fall in the event of belt failure.

controller sold separately

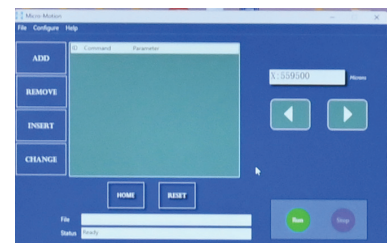
Specifications

Suitable for faster movements and positioning
Precision re circulating slide
100 - 1500 mm Travel
600mm / sec maximum speed
2mm / sec minimum speed
100 micron straight line accuracy
500 micron positioning accuracy
100 x 65 mm carriage size
Timing belt and pully mechanism
Up to 5 kg load capacity
Shaft extension for connecting rod free slide (XY) ***
Stepper motor for computer control movement
Controller with software for computer controlling
Additional handheld unit or joysticks available as per request



Precision re circulating slide

Travel up to 1500mm



Model No:	Travel Range	Positioning Accuracy	Min. Speed	Max. Speed	Length
HS-LTS-100	100 mm	0.5 mm	2 mm / sec	600 mm / sec	388 mm
HS-LTS-200	200 mm	0.5 mm	2 mm / sec	600 mm / sec	488 mm
HS-LTS-300	300 mm	0.5 mm	2 mm / sec	600 mm / sec	588 mm
HS-LTS-500	500 mm	0.5 mm	2 mm / sec	600 mm / sec	788 mm
HS-LTS-600	600 mm	0.5 mm	2 mm / sec	600 mm / sec	888 mm
HS-LTS-750	750 mm	0.5 mm	2 mm / sec	600 mm / sec	1038 mm
HS-LTS-1000	1000 mm	0.5 mm	2 mm / sec	600 mm / sec	1288 mm
HS-LTS-1250	1250 mm	0.5 mm	2 mm / sec	600 mm / sec	1538 mm
HS-LTS-1500	1500 mm	0.5 mm	2 mm / sec	600 mm / sec	1788 mm
HS-LTS-X***	Specify trave				X + 288 mm
# How to order custom travel					
HS-LTS-1750	X = 1750 mm	0.5 mm	2 mm / sec	600 mm / sec	1750 + 288 mm

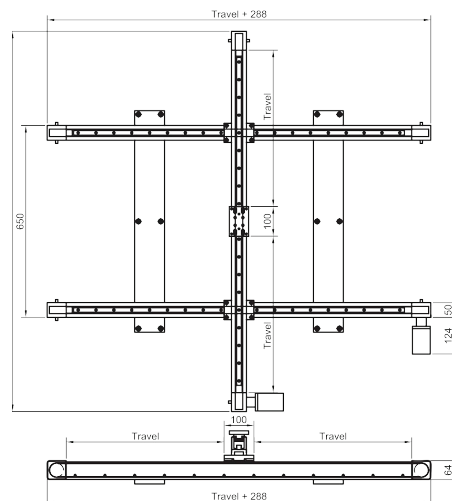
Belt Driven High Speed Translation Stage (XY)

Belt-driven stages are ideal for applications requiring long distances and high speeds. Speeds as high as 600mm per second can be achieved. The belt drive's high efficiency make it an ideal choice for moving light loads at high speed and for continuous duty applications. They are not recommended for vertical applications because of the risk of load free-fall in the event of belt failure.

controller sold separately

Specifications

Suitable for faster movements and positioning
Precision re circulating slide
100 - 1500 mm Travel
600mm / sec maximum speed
2mm / sec minimum speed
100 micron straight line accuracy
500 micron positioning accuracy
100 x 65 mm carriage size
Timing belt and pulley mechanism
Up to 5 kg load capacity
Shaft extension for connecting rod free slide (XY) ***
Stepper motor for computer control movement
Controller with software for computer controlling
Additional handheld unit or joysticks available as per request



Model No:	Travel Range	Positioning Accuracy	Min. Speed	Max. Speed	Length
HS-XYLTS-100-100	100 mm	0.5 mm	2 mm / sec	600 mm / sec	388 mm
HS-XYLTS-200-200	200 mm	0.5 mm	2 mm / sec	600 mm / sec	488 mm
HS-XYLTS-300-300	300 mm	0.5 mm	2 mm / sec	600 mm / sec	588 mm
HS-XYLTS-500-500	500 mm	0.5 mm	2 mm / sec	600 mm / sec	788 mm
HS-XYLTS-600-600	600 mm	0.5 mm	2 mm / sec	600 mm / sec	888 mm
HS-XYLTS-750-750	750 mm	0.5 mm	2 mm / sec	600 mm / sec	1038 mm
HS-XYLTS-1000-1000	1000 mm	0.5 mm	2 mm / sec	600 mm / sec	1288 mm
HS-XYLTS-1250-1250	1250 mm	0.5 mm	2 mm / sec	600 mm / sec	1538 mm
HS-XYLTS-1500-1500	1500 mm	0.5 mm	2 mm / sec	600 mm / se	1788 mm
HS-XYLTS-XY***	Specify X travel				X + 288 mm
					Y + 288 mm
# How to order custom 200mm X travel					200 + 288 mm
travel					
HS-LTS-1750	1800mm Y travel	0.5 mm	2 mm / sec	600 mm / sec	1800 + 288 mm

RCMTS Series Motorized Stages

RCMTS series stages use re-circulating type linear bearings. Hence, the carriage (moving part) in this case will be smaller in length than the base. As in the case of our standard stages described in preceding pages, there are two drive options, precision lead screws and ball screws. Its design permits dust protection by the use of bellows. Holmarc manufacture these stages up to a travel of 500 mm in various carriage sizes and load bearing capacities. Apart from the standard stages described in this section, we also manufacture custom stages in aluminum, steel and stainless steel for variety of applications. Kindly contact our sales engineers for details.

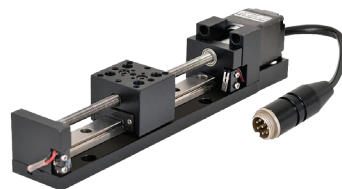


Motorized Translation Stages RCMTS-35 Series

These stages use re-circulating type ball bearing guideways along with leadscrews positioned above the guideways as shown in the drawing. This configuration helps to keep the footprint as minimum as possible. In this case, width of the stage could be reduced to 35mm. Construction is in aluminum alloy with black anodized finish.

There are two options for leadscrew pitch, 1mm and 2mm. For those applications where greater speed is required, 9 mm pitch leadscrew can be considered.

controller sold separately



Specifications

Straight Line Accuracy	+/- 20 Micron over 200 mm travel
Drive	Precision Lead screw
Construction	Aluminium Alloy B51S
Finish	Black anodized
Tapped Holes on Carriage	M4 Tapped Holes
Mounting Holes on the base	M6 Tap and M4 CBR
Design	Modular Type
Configuration	Multi axis
Travel	50 to 150 mm
Carriage Size	35 mm x 35 mm
Load Capacity	2 kg vertical on X Axis
Lead screw	1.25mm pitch
Motor	Stepper motor (42mm size)

1.25 mm Pitch Leadscrew

Model No:	Travel	Load Capacity X - Axis	Load Capacity Z - Axis
RCMTS35-50-1	50 mm	2 kg	500 gm
RCMTS35-75-1	75 mm	2 kg	500 gm
RCMTS35-100-1	100 mm	2 kg	500 gm
RCMTS35-150-1	150 mm	2 kg	500 gm

Drive

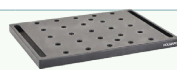
Drive Details	1.25 mm Pitch Precision Lead Screw
Positioning Accuracy	3.125 micron
Repeatability	3.125 micron
Resolution	0.000390 (Micro Step Mode)
Speed	5 mm / Sec.



Accessories



Adapter Plate



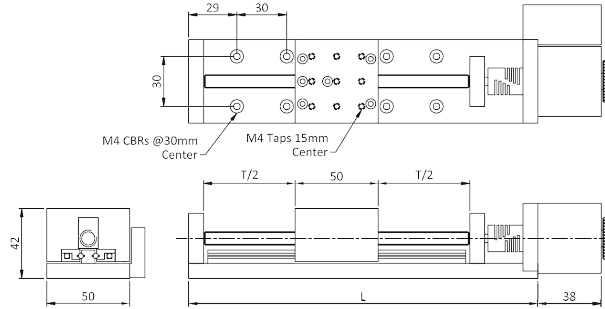
Base Plate



Angle Bracket

Motorized Translation Stages RCMTS-50 Series

These stages use re-circulating type ball bearing guideways along with leadscrews positioned above the guideways as shown in the drawing. This configuration helps to keep the footprint as minimum as possible. In this case, width of the stage could be reduced to 50mm. Construction is in aluminum alloy with black anodized finish. There are two options for leadscrew pitch, 1mm and 2mm. For those applications where greater speed is required, 9 mm pitch leadscrew can be considered.



Modular Type Design
Travel : 50 to 150 mm



controller sold separately

Specifications

Straight Line Accuracy	+/- 20 Micron over 200 mm travel
Drive	Precision Lead screw
Construction	Aluminium Alloy B51S
Finish	Black anodized
Tapped Holes on Carriage	M4 Tapped Holes
Mounting Holes on the base	M6 Tap and M4 CBR
Design	Modular Type
Configuration	Multi axis
Travel	50 to 150 mm
Carriage Size	50 mm x 50 mm
Load Capacity	2 kg vertical on X Axis
Lead screw	1 mm pitch / 2 mm pitch
Footprint	50 x 255 mm (motor size extra)

1 mm Pitch Lead Screw

Model No.	RCMTS50-50-1	RCMTS50-75-1	RCMTS50-100-1	RCMTS50-150-1
Travel	50 mm	75 mm	100 mm	150 mm
Length	155 mm	180 mm	205 mm	280 mm
Load Capacity X - Axis	2 kg	2 kg	2 kg	2 kg
Load Capacity Z - Axis	1 kg	1 kg	1 kg	1 kg

2mm pitch Lead screw

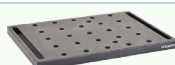
Model No:	RCMTS50-50-2	RCMTS50-75-2	RCMTS50-100-2	RCMTS50-150-2
Travel	50 mm	75 mm	100 mm	150 mm
Length	155 mm	180 mm	205 mm	280 mm
Load Capacity X - Axis	2 kg	2 kg	2 kg	2 kg
Load Capacity Z - Axis	1 kg	1 kg	1 kg	1 kg

Drive



Drive Details	1 mm Pitch Lead screw	2 mm Pitch Precision Lead screw
Positioning Accuracy	0.0025 mm	0.005 mm
Repeatability	0.0025 mm	0.005 mm
Resolution	0.000125 (Micro Step Mode)	0.000125 (Micro Step Mode)
Speed	4 mm / Sec.	8 mm / Sec.

Accessories

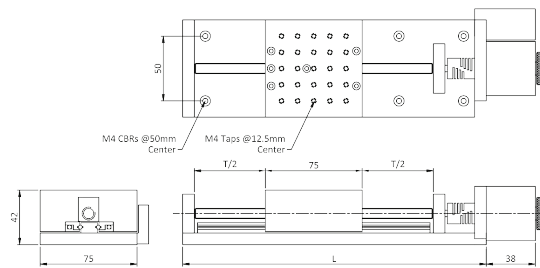


Base Plate	BP-RCMTS50-50	BP-RCMTS50-75	BP-RCMTS50-100	BP-RCMTS50-150
Vertical Bracket	VAB-RCMTS50-50	VAB-RCMTS50-75	VAB-RCMTS50-100	VAB-RCMTS50-150
Horizontal Bracket	HAB-RCMTS-50	Size : 50 x 50 mm		

Motorized Translation Stages

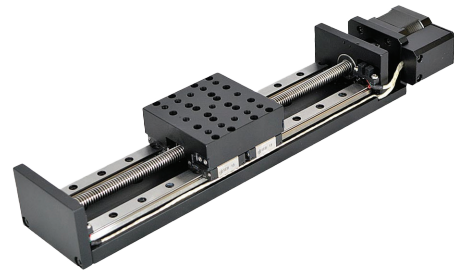
RCMTS-75 Series

RCMTS-75 series are light duty stages with respect to load capacity. Point contact ball bearing guides are used in these stages to keep height of the stage at 42 mm which is height of the drive motor. Bellows are provided for the protection of the stage from dust as well as to protect the environment from the accidental contamination from grease used in the guideways and leadscrew drives. Standard stages are fixed with stepper motors. There are two models to choose from, stages with 1 mm pitch leadscrew (low speed) and stages with 9mm pitch leadscrew (high speed).



Specifications

Straight Line Accuracy	+/- 20 Micron over 200 mm travel
Drive	Precision Lead screw
Construction	Aluminium Alloy B51S
Finish	Black anodized
Tapped Holes on Carriage	M4 Tapped Holes
Mounting Holes on the base	M6 Tap and M4 CBR
Design	Modular Type
Configuration	Multi axis
Travel	50 to 250 mm
Carriage Size	75 mm x 75 mm
Load Capacity	5 kg vertical on X Axis
Lead screw	1.25 mm pitch / 2 mm pitch
Lock	Can be Locked at desired position
Footprint	50 x 280 mm (motor size extra)



controller sold separately

1 mm Pitch Lead Screw

Model No.	RCMTS75-50-A	RCMTS75-100-A	RCMTS75-150-A	RCMTS75-200-A	RCMTS75-250-A
Travel	50 mm	100 mm	150 mm	200 mm	250 mm
Length	180 mm	230 mm	280 mm	330 mm	380 mm
Load Capacity X Axis	6 kg	6 kg	6 kg	6 kg	6 kg
Load Capacity Z Axis	3 kg	3 kg	3 kg	3 kg	3 kg

2mm pitch Lead screw

Model No:	RCMTS75-50-Z	RCMTS75-100-Z	RCMTS75-150-Z	RCMTS75-200-Z	RCMTS75-250-Z
Travel	50 mm	100 mm	150 mm	200 mm	250 mm
Length	180 mm	230 mm	280 mm	330 mm	380 mm
Load Capacity X Axis	8 kg	8 kg	8 kg	8 kg	8 kg
Load Capacity Z Axis	4 kg	4 kg	4 kg	4 kg	4 kg

Drive

	1 mm Pitch Lead screw	2 mm Pitch Precision Lead screw
Drive Details	1 mm Pitch Lead screw	2 mm Pitch Precision Lead screw
Positioning Accuracy	0.003125 mm	0.005 mm
Repeatability	0.003125 mm	0.005 mm
Resolution	0.000390 (Micro Step Mode)	0.000125 (Micro Step Mode)
Speed	5 mm / Sec.	8 mm / Sec.

Accessories

	BP-RCMTS75-50	BP-RCMTS75-100	BP-RCMTS75-150	BP-RCMTS75-200	BP-RCMTS75-250
Base Plate	BP-RCMTS75-50	BP-RCMTS75-100	BP-RCMTS75-150	BP-RCMTS75-200	BP-RCMTS75-250
Vertical Bracket	VAB-RCMTS75-50	VAB-RCMTS75-100	VAB-RCMTS75-150	VAB-RCMTS75-200	VAB-RCMTS75-250
Horizontal Bracket	HAB-RCMTS-75	75X75 mm			

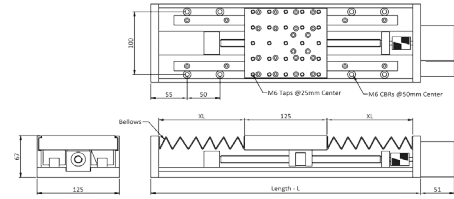
Motorized Translation Stages

RCMTS-125 Series

RCMTS-125 series stages are designed to carry heavy loads, yet to move and position precisely. Recirculating type ball bearing linear ways are used as guides. Drive is provided by a combination of ball screw and stepper motor.

Z-axis: In these stages in vertical configuration, if the load is more than 15 kgs, the carriage may come down under gravity when power to the motor is switched off. This is when ball screw is directly attached to the stepper motor.

If the load to be lifted is more than 15 kgs, it is advisable to use our Z axis stages with a gear box (1:6 ratio) in between motor and ball screw. Though this reduces speed in Z axis, load capacity increases considerably.



Specifications

Straight Line Accuracy	+/- 20 Micron over 300 mm travel
Drive	Precision Lead ball screw
Construction	Aluminium Alloy B51
Finish	Black anodized
Tapped Holes on Carriage	M6 Tapped Holes
Mounting Holes on the base	M6 Tap and M6 CBR
Design	Modular Type
Configuration	Multi axis
Travel	100 to 500 mm
Carriage Size	125 mm x 125 mm
Load Capacity	Up to 90kg vertical



controller sold separately

4 mm Pitch ball Screw

Model No.	RCMTS125-100-2	RCMTS125-150-2	RCMTS125-200-2	RCMTS125-300-2	RCMTS125-500-2
Travel	100 mm	150 mm	200 mm	300 mm	500 mm
Length	310 mm	360 mm	410 mm	510 mm	750 mm
Load Capacity X Axis	50 kg	50 kg	50 kg	45 kg	45 kg
Load Capacity -Z Axis	15 kg	15 kg	15 kg	15 kg	15 kg

4mm pitch Pitch ball Screw with Magnetic brake

Model No:	RCMTS125-100-B	RCMTS125-150-B	RCMTS125-200-B	RCMTS125-300-B	RCMTS125-500-B
Travel	100 mm	150 mm	200 mm	300 mm	500 mm
Length	310 mm	360 mm	410 mm	510 mm	750 mm
Load Capacity X Axis	90 kg	90 kg	86 kg	85 kg	80 kg
Load Capacity Z Axis	70 kg	70 kg	62 kg	60 kg	55 kg

Drive

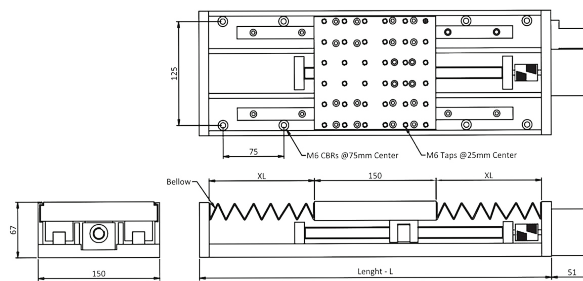
	4 mm Pitch Ball Screw	4 mm Pitch Ball Screw with Magnetic brake
Drive Details	4 mm Pitch Ball Screw	4 mm Pitch Ball Screw with Magnetic brake
Positioning Accuracy	0.02 mm	0.01 mm
Repeatability	0.01 mm	0.01 mm
Resolution	0.00125 (Micro Step Mode)	0.00125 (Micro Step Mode)
Speed	16 mm / sec (4RPS)	16 mm / sec (4RPS)
* Feature : Magnetic break helps stages carriage from sudden falling while loading heavy load in Z axis		

Accessories

	BP-RCMTS125-100	BP-RCMTS125-150	BP-RCMTS125-200	BP-RCMTS125-300	BP-RCMTS125-500
Base Plate	BP-RCMTS125-100	BP-RCMTS125-150	BP-RCMTS125-200	BP-RCMTS125-300	BP-RCMTS125-500
Vertical Bracket	VAB-RCMTS125-100	VAB-RCMTS125-150	VAB-RCMTS125-200	VAB-RCMTS125-300	VAB-RCMTS125-500
Horizontal Bracket	HAB-RCMTS-125	125X125mm			

Motorized Translation Stages RCMTS-150 Series

RCMTS-150 series stages are available for travel upto 150 mm. Carriage size is 150 x 150 mm. Drive is by ball screw-stepper motor combination. There are bellows for dust protection. Re-circulating type linear ways are used as guides. Z-axis: In these stages, in vertical configuration, if the load is more than 15 kgs, the carriage may come down under gravity when power to the motor is switched off. This is when ball screw is directly attached to the stepper motor. If the load to be lifted is more than 15 kgs, it is advisable to use our Z axis stages with a gear box (1:6 ratio) in between motor and ball screw. Though this reduces speed in Z axis, load capacity increases considerably. Please see the tables and chart below for details.



Specifications

Straight Line Accuracy	+/- 30 Micron over 300 mm travel
Drive	Precision Lead ball screw
Construction	Aluminium Alloy B51S
Finish	Black anodized
Tapped Holes on Carriage	M6 Tapped Holes
Mounting Holes on the base	M6 Tap and M6 CBR
Design	Modular Type
Configuration	Multi axis
Travel	100 to 750 mm
Carriage Size	150 mm x 150 mm
Load Capacity	Up to 90kg vertical

Aluminum alloy B51S
Precision Lead ball screw

controller sold separately



RCMTS-75 Series in XY Configuration

4 mm Pitch ball Screw



Model No.	RCMTS150-100-2	RCMTS150-150-2	RCMTS150-200-2	RCMTS150-300-2	
Travel	100 mm	150 mm	200 mm	300 mm	
Length	310 mm	380 mm	430 mm	480 mm	
Load Capacity X Axis	50 kg	50 kg	50 kg	45 kg	
Load Capacity -Z Axis	15 kg	15 kg	15 kg	15 kg	
Model No.	RCMTS150-500-2	RCMTS150-750-2			
Travel	500 mm	750 mm			
Length	790 mm	1070 mm			
Load Capacity X Axis	45 kg	45 kg			
Load Capacity -Z Axis	15 kg	15 kg			

4mm pitch Pitch ball Screw with Magnetic brake

Model No:	RCMTS150-100-B	RCMTS150-150-B	RCMTS150-200-B	RCMTS150-300-B	RCMTS150-500-B
Travel	100 mm	150 mm	200 mm	300 mm	500 mm
Length	330 mm	380 mm	430 mm	480 mm	790 mm
Load Capacity X Axis	90 kg	90 kg	86 kg	85 kg	80 kg
Load Capacity Z Axis	70 kg	70 kg	62 kg	60 kg	55 kg
Model No	RCMTS150-750-B				
Travel	750 mm				
Length	1070 mm				
Load Capacity X Axis	80 kg				
Load Capacity Z Axis	50 kg				

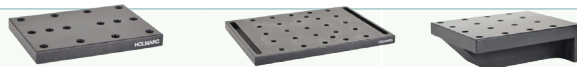
Drive



Drive Details	4 mm Pitch Ball Screw	4 mm Pitch Ball Screw with Magnetic brake
Positioning Accuracy	0.02 mm	0.01 mm
Repeatability	0.01 mm	0.01 mm
Resolution	0.00125 (Micro Step Mode)	0.00125 (Micro Step Mode)
Speed	16 mm / sec (4RPS)	16 mm / sec (4RPS)

* Feature : Magnetic break helps stages carriage from sudden falling while loading heavy load in Z axis

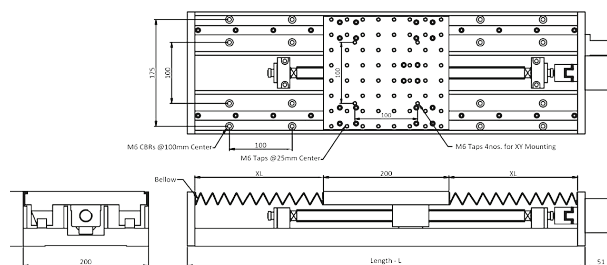
Accessories



Base Plate	BP-RCMTS150-100 BP-RCMTS150-750	BP-RCMTS150-150	BP-RCMTS150-200	BP-RCMTS150-300	BP-RCMTS150-500
Vertical Bracket	VAB-RCMTS150-100 VAB-RCMTS150-750	VAB-RCMTS150-150	VAB-RCMTS150-200	VAB-RCMTS150-300	VAB-RCMTS150-500
Horizontal Bracket	HAB-RCMTS-150	Size : 150 x 150 mm			

Motorized Translation Stages RCMTS-200 Series

RCMTS-200 series stages have 200 mm width and carriages (load bearing moving surfaces) have 200 mm x 200 mm size. Drive is by ball screw-stepper motor combination. Re-circulating type linear ways are used as guides (two linear ways per stage). These stages are available up to travel of 750 mm as standard products. For more traverse, please contact us. Z-axis: In these stages, in vertical configuration, if the load is more than 15 kgs, the carriage may come down under gravity when power to the motor is switched off. This is when ball screw is directly attached to the stepper motor. If the load to be lifted is more than 15 kgs, it is advisable to use our Z axis stages with a gear box (1:6 ratio) in between motor and ball screw. Though this reduces speed in Z axis, load capacity increases considerably. Please see the tables and chart below for details. # controller sold separately



Specifications

Straight Line Accuracy	+/- 30 Micron over 300 mm travel
Drive	Precision Lead ball screw
Construction	Aluminium Alloy B51S
Finish	Black anodized
Tapped Holes on Carriage	M6 Tapped Holes
Mounting Holes on the base	M6 Tap and M6 CBR
Design	Modular Type
Configuration	Multi axis
Travel	100 to 750 mm
Carriage Size	200 mm x 200 mm
Load Capacity	Up to 150kg vertical



Aluminum alloy B51S
Precision Lead ball screw

4 mm Pitch ball Screw



Model No.	RCMTS200-100-2	RCMTS200-200-2	RCMTS200-300-2	RCMTS200-500-2	RCMTS200-750-2
Travel	100 mm	200 mm	300 mm	500 mm	750 mm
Length	390 mm	490 mm	590 mm	670 mm	1120 mm
Load Capacity X Axis	100 kg	100 kg	100 kg	95 kg	90 kg
Load Capacity Z Axis	15 kg	15 kg	15 kg	15 kg	15 kg

* (maximum holding kg weight at off condition)

4 mm Pitch ball Screw with Magnetic brake

Model No:	RCMTS200-100-B	RCMTS200-200-B	RCMTS200-300-B	RCMTS200-500-B	RCMTS200-750-B
Travel	100 mm	200 mm	300 mm	500 mm	750 mm
Length	390 mm	490 mm	590 mm	670 mm	1120 mm
Load Capacity X Axis	150 kg	150 kg	156 kg	140 kg	135 kg
Load Capacity Z Axis	70 kg	70 kg	70 kg	65 kg	65 kg

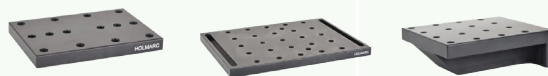
Drive Details



Drive Details	4 mm Pitch Ball Screw	4 mm Pitch Ball Screw with Magnetic brake
Positioning Accuracy	0.02 mm	0.01 mm
Repeatability	0.01 mm	0.01 mm
Resolution	0.00125 (Micro Step Mode)	0.00125 (Micro Step Mode)
Speed	16 mm / sec (4RPS)	16 mm / sec (4RPS)

* Feature : Magnetic break helps stages carriage from sudden falling while loading heavy load in Z axis

Accessories



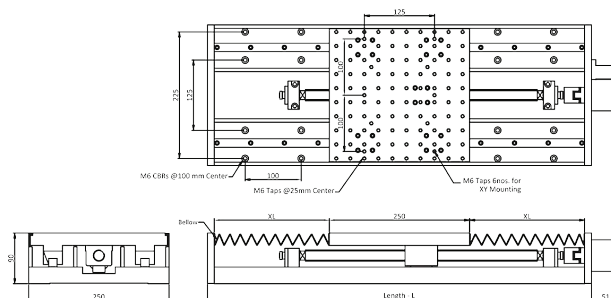
Base Plate	BP-RCMTS200-100	BP-RCMTS200-200	BP-RCMTS200-300	BP-RCMTS200-500	BP-RCMTS200-750
Vertical Bracket	VAB-RCMTS200-100	VAB-RCMTS200-200	VAB-RCMTS200-300	VAB-RCMTS200-500	VAB-RCMTS200-750
Horizontal Bracket	HAB-RCMTS-200 Size : 200 x 200 mm				

Motorized Translation Stages

RCMTS-250 Series

Carriages (load bearing surface of the stage which moves) of RCMTS-250 stages have 250 mm x 250 mm size. Standard models are available for up to 750 mm traverse. There are two linear guideways for each axis and these are re-circulating type with balls. Drive is by ball screw-stepper motor combination. Servo motors can also be made available for specific applications where speed requirements are not possible with steppers.

Z-axis: In these stages, in vertical configuration, if the load is more than 15 kgs, the carriage may come down under gravity when power to the motor is switched off. This is when ball screw is directly attached to the stepper motor. If the load to be lifted is more than 15 kgs, it is advisable to use our Z axis stages with a gear box (1:6 ratio) in between motor and ball screw. Though this reduce speed in Z axis, load capacity increases considerably. Please see the tables and chart below for details.



Specifications

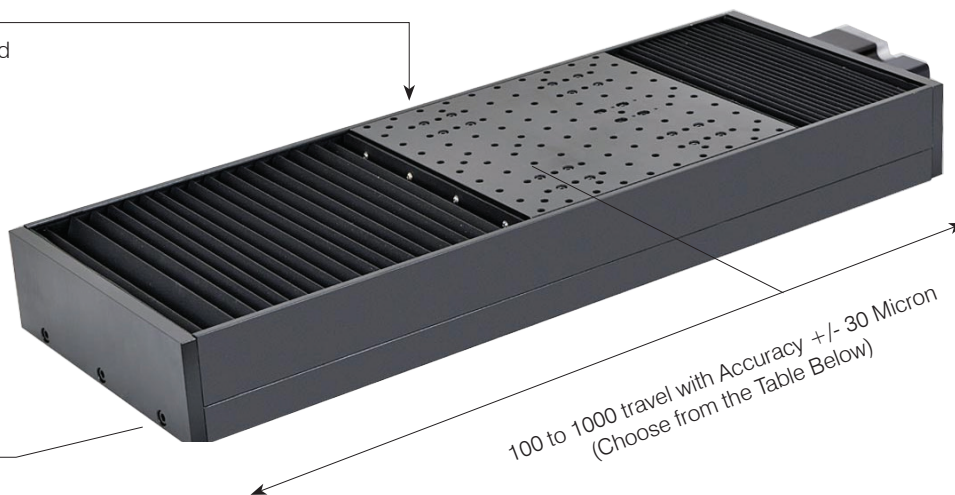
Straight Line Accuracy	+/- 30 Micron over 300 mm travel
Drive	Precision Lead ball screw
Construction	Aluminium Alloy B51S
Finish	Black anodized
Tapped Holes on Carriage	M6 Tapped Holes
Mounting Holes on the base	M6 Tap and M6 CBR
Design	Modular Type
Configuration	Multi axis
Travel	100 to 1000 mm
Carriage Size	250 mm x 250 mm
Load Capacity	Up to 150kg vertical

Pay-load

95 to 150 Kg Vertical Load
(Models Listed in Table)

Build Quality

Aluminum alloy B51S
Precision Lead ball screw



100 to 1000 travel with Accuracy +/- 30 Micron
(Choose from the Table Below)

4 mm Pitch ball Screw



Model No.	RCMTS250-100-2	RCMTS250-200-2	RCMTS250-250-2	RCMTS250-300-2	RCMTS250-500-2
Travel	100 mm	200 mm	250 mm	300 mm	500 mm
Length	410 mm	510 mm	560 mm	610 mm	920 mm
Load Capacity X Axis	100 kg	100 kg	100 kg	100 kg	95 kg
Load Capacity Z Axis	15 kg	15 kg	15 kg	15 kg	15 kg
Model No	RCMTS250-750-2	RCMTS250-1000-2			
Travel	750 mm	1000 mm			
Length	1170 mm	1420 mm			
Load Capacity X Axis	90 kg	90 kg			
Load Capacity Z Axis	15 kg	15 kg			

* (maximum holding kg weight at off condition)

4 mm Pitch ball Screw with Magnetic brake

Model No:	RCMTS250-100-B	RCMTS250-200-B	RCMTS250-250-B	RCMTS250-300-B	RCMTS250-500-B
Travel	100 mm	200 mm	250 mm	300 mm	500 mm
Length	410 mm	510 mm	560 mm	610 mm	920 mm
Load Capacity X Axis	150 kg	150 kg	150 kg	150 kg	140 kg
Load Capacity Z Axis	120 kg	120 kg	120 kg	115 kg	90 kg
Model No	RCMTS250-750-B	RCMTS250-1000-B			
Travel	750 mm	1000 mm			
Length	1170 mm	1420 mm			
Load Capacity X Axis	135 kg	135 kg			
Load Capacity Z Axis	90 kg	85 kg			

Drive Details



Drive Details	4 mm Pitch Ball Screw	4 mm Pitch Ball Screw with Magnetic brake
Positioning Accuracy	0.02 mm	0.01 mm
Repeatability	0.01 mm	0.01 mm
Resolution	0.00125 (Micro Step Mode)	0.00125 (Micro Step Mode)
Speed	16 mm / sec (4RPS)	16 mm / sec (4RPS)

* Feature : Magnetic break helps stages carriage from sudden falling while loading heavy load in Z axis

Accessories



Base Plate	BP-RCMTS250-100	BP-RCMTS250-200	BP-RCMTS250-250	BP-RCMTS250-300	BP-RCMTS250-500
	BP-RCMTS250-750	BP-RCMTS250-1000			
Vertical Bracket	VAB-RCMTS250-100	VAB-RCMTS250-750	VAB-RCMTS250-250	VAB-RCMTS250-300	VAB-RCMTS250-500
	VAB-RCMTS250-750	VAB-RCMTS250-1000			
Horizontal Bracket	HAB-RCMTS-250				
	Size : 250 x 250 mm				

Motorized XY Moving Platform

- General purpose positioning and measurement applications
- Precision linear motion using crossed roller guides



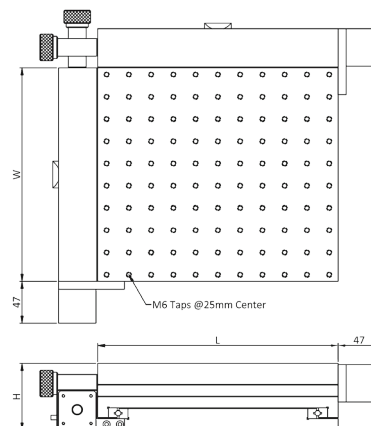
XY Moving Platform MXYTS Series

MXYTS series motorized stages are manufactured in five different sizes for general purpose positioning and measurement applications. The stages are supplied with or without mounting holes as per requirement. The stages are supplied with or without mounting holes as per requirement. Drive leadscrew along with motor is mounted by the side of the stage. One end of the lead screw is attached to a rotary knob for manual adjustments, whenever required. Limit switches are fixed at both extremes for home and far end location. Crossed roller based linear guides are used for achieving precision linear motion. The guide ways are factory pre-loaded to eliminate play and wobble. Coefficient of friction is less than 0.003. Standard stages are constructed in aluminium alloy and finished by black anodizing.

controller sold separately

Specifications

Straight line accuracy	0.010 mm
Positioning accuracy	0.005 mm
Repeatability (unidirectional)	0.002 mm
Backlash	0.02mm (Max)
Resolution	0.625 micron (1/16 microstep)
Drive	Precision lead screw
Mounting holes	M6 mounting holes
Load Capacity	20 Kg
Base mountable	



- XY moving platforms
- XY dispensing units
- Inspection microscopes
- Hardness testing
- Induction hardening
- Measuring microscope

**Precision lead screw
0.010 mm Straight line
accuracy**

Model No.	Carriage size	Travel X & Y	Height	L	W
MXYTS150150	150 x 150	50, 50	65	150	150
MXYTS170170	170 x 170	100, 100	65	170	170
MXYTS270170	270 x 170	200, 100	75	270	170
MXYTS270240	270 x 240	200, 170	75	270	240
MXYTS270270	270 x 270	200, 200	75	270	270
MXYTS370240	370 x 240	300, 170	75	370	240
MXYTS370370	370 x 370	300, 300	75	370	370

All dimensions are in "mm"



XY Moving Platform MXYTSW Series

MXYTSW Series stages are provided with a rectangular through hole at the center. This holes can either be used as access hole for keeping other instruments or for illuminating objects from underneath. Drive lead screw along with motor is mounted by the side of the stage. One end of the lead screw is attached to a rotary knob for manual adjustments, whenever required. Limit switches are fixed at both extremes for home and far end location.

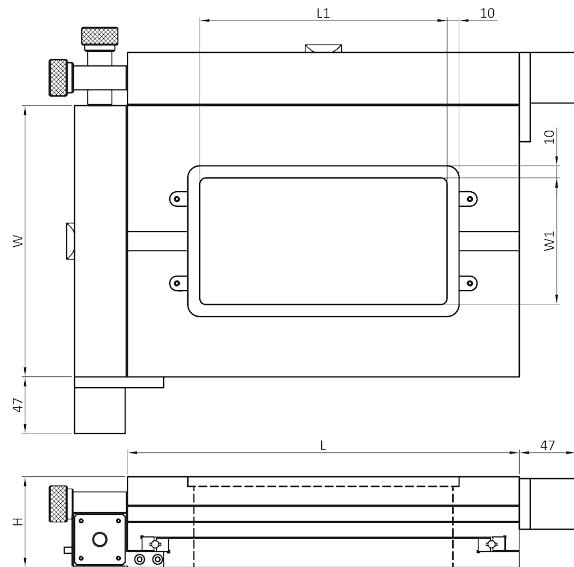
Crossed roller based linear guides are used for achieving precision linear motion. The guide ways are factory pre-loaded to eliminate play and wobble. Coefficient of friction is less than 0.003. Standard stages are constructed in aluminium alloy with black anodized finish.

controller sold separately

Straight line accuracy	0.010 mm
Repeatability	0.002 mm
Drive	Precision lead screw
Mounting holes	M6 mounting holes
Finish	Black anodized
Stepper Motor Driven	

Glass Plate

Model	Size	Compatible Stage
GI7575	95 x 95	XYTSW175175
GI125125	145 x 145	XYTSW225225
GI225125	245 x 145	XYTSW325225
GI225195	245 x 215	XYTSW325295
GI325195	345 x 215	XYTSW425295



Model No.	Carriage size	Aperture Size	Travel X & Y	H	L	W	L1	W1
MXYTSW175175	175 x 175	75 x 75	50, 50	65	175	175	75	75
MXYTSW225175	225 x 175		100, 50		225	175		
MXYTSW225225	225 x 225	125 x 125	100, 100	65	225	225	125	125
MXYTSW325225	325 x 225	225 x 125	200, 100	75	325	225	225	125
MXYTSW325295	325 x 295	225 x 195	200, 170	75	325	225	225	195
MXYTSW425295	425 x 295	325 x 195	300, 170	75	425	225	325	195

All dimensions are in "mm"

Long Travel Motorised XY Stage

Model: MLXYTS-550



* Without encoder # controller sold separately

Platform flatness	within 40 microns
Travel range	400 x 400 mm
Carriage size	550 x 550 mm
Ball screw pitch	4 mm
Straight line accuracy	0.010 mm
Positioning accuracy	0.02 mm*
Repeatability (unidirectional)	0.02 mm*
Backlash	0.02 mm (Max)
Resolution	0.00125 mm (1/16 microstep)
Maximum speed	16mm / sec (4 RPS)
Mounting holes	M6 mounting holes
Load Capacity	10 Kg
Motor	56 mm frame stepper motor

Motorized Vertical Translation Stages



Holmarc's motorized actuator can be used to replace micrometers in translation stages or lead screws in kinematic mounts for making the positioning automated with appropriate control electronics. Drive is achieved by a stepper motor coupled to a precision lead screw-nut mechanism. The spindle of the actuator which moves forward and backward when the motor rotates is made non-rotating to bring in extra precision. Construction material is stainless steel. Our standard position controllers can be used to drive these actuators without any customization. Holmarc can supply kinematic mounts and stages fitted with these actuators for custom applications. You are welcome to discuss your needs with our sales engineers.

Travel	10 - 50 mm
Absolute positioning accuracy	5 micron *
Resolution	0.625 micron (1/16 microstep) *
Repeatability	5 micron *
Straight line accuracy	10 micron *
Parallelism	5 micron (total travel)
	Assembly 10 micron
	Full travel 5 micron
Maximum Speed	8 mm / sec *
Minimum continuous speed	12.5 micron / sec *
Feedback	Nil
Linear Guide way	Pre-loaded roller bearing
Material Construction	Aluminum 6061
	Main body Aluminum 606
	Lead screw Steel hardened
	Nut Brass / Bronze
Load Capacity	10 - 15 kg
Motor	Stepper Motor
Lead screw	
	Lead screw pitch 2 mm (can be modify on request)
	Lead screw type Precision ground lead screw
Coupling	Directing coupling (coupling not included)
Bearings	SKF or Equivalent
Lubricants	Grease
Finish	Black Anodized
Mounting holes	
	Top Plate M6 Mounting holes on 25mm grid
	Bottom plate M6 Clear Holes
Operating temperature	5 - 80 degree centigrade

0.001 mm Resolution

0.01 mm Positioning Accuracy



controller sold separately

Accessories	Nil
Electrical connector	9 pin brass connector
Limit switches	Optical limit switch
Controller	Single axis controller
Hand held controller	Optional handheld controller on request

0.5 mm Pitch Lead Screw

Model No.	L (mm)	B (mm)	H (min, max) (mm)	Travel (mm)	Load capacity
MVTS-5065-10	65	50	75 - 85	10	2 Kg
MVTS-5065-25	65	50	90 - 115	25	2 Kg
MVTS-65-10	65	65	90 - 100	10	5 Kg
MVTS-65-25	65	65	100 - 125	25	5 Kg

1 mm Pitch Lead Screw

Model No:	L (mm)	B (mm)	H (min, max) (mm)	Travel (mm)	Load capacity
MVTS-75-10	75	75	75 - 85	10	5 Kg
MVTS-75-25	75	75	90 - 100	25	5 Kg
MVTS-90-10	90	90	90 - 100	10	5 Kg
MVTS-90-25	90	90	100 - 125	25	5 Kg

2 mm Pitch Lead Screw

Model No:	L (mm)	B (mm)	H (min, max) (mm)	Travel (mm)	Load capacity
MVTS-125-10	125	125	100 - 110	10	15 Kg
MVTS-125-25	125	125	125 - 150	25	15 Kg
MVTS-125-35	125	125	150 - 185	35	10 Kg
MVTS-125-50	125	125	150 - 200	50	10 Kg
MVTS-125180-10	125	180	100 - 110	10	15 Kg
MVTS-125180-25	125	180	125 - 150	25	15 Kg
MVTS-125180-50	125	180	150 - 200	50	10 Kg
MVTS-200200-10	200	200	100 - 110	10	12 Kg
MVTS-200200-25	200	200	125 - 150	25	10 Kg
MVTS-200200-50	200	200	150 - 200	50	8 Kg

2 mm Pitch Lead Screw

Model No.	L (mm)	B (mm)	H (min, max) (mm)	Travel (mm)	Load capacity
MVTS-200150-250	200	150	475 - 725	250	25 Kg
MVTS-200200-250	200	200	475 - 725	250	25 Kg



Vacuum Compatible Motorized Vertical Translation Stage

HVC-MVTS Series

Holmarc's motorized actuator can be used to replace micrometers in translation stages or lead screws in kinematic mounts for making the positioning automated with appropriate control electronics. Drive is achieved by a stepper motor coupled to a precision lead screw-nut mechanism.

The spindle of the actuator which moves forward and backward when the motor rotates is made non-rotating to bring in extra precision. Construction material is stainless steel. Our standard position controllers can be used to drive these actuators without any customization. Holmarc can supply kinematic mounts and stages fitted with these actuators for custom applications. You are welcome to discuss your needs with our sales engineers.



Specifications

Travel	10 - 50 mm
Absolute positioning accuracy	5 micron *
Resolution	0.625 micron (1/16 microstep) *
Repeatability	5 micron *
Straight line accuracy	10 micron *
Parallelism	5 micron (total travel)
	Assembly 10 micron
	Full travel 5 micron
Maximum Speed	8 mm / sec *
Minimum continuous speed	12.5 micron / sec *
Feedback	Nil
Linear Guide way	Pre-loaded roller bearing
Material Construction	
	Main body Aluminum 6061
	Lead screw Steel hardened
	Nut Brass / Bronze
Load Capacity	10 - 15 kg
Motor	Stepper Motor
Lead screw	
	Lead screw pitch 2 mm (can be modify on request)
	Lead screw type Precision ground lead screw
Coupling	Directing coupling (coupling not included)
Bearings	SKF or Equivalent
Lubricants	Grease
Finish	Black Anodized
Mounting holes	
	Top Plate M6 Mounting holes on 25mm grid
	Bottom plat M6 Clear Holes
Operating temperature	5 - 80 degree centigrade
Accessories	Nil
Electrical connector	9 pin brass connector
Limit switches	Optical limit switch
Controller	Single axis controller
Hand held controller	Optional handheld controller on request

Stepper Motor

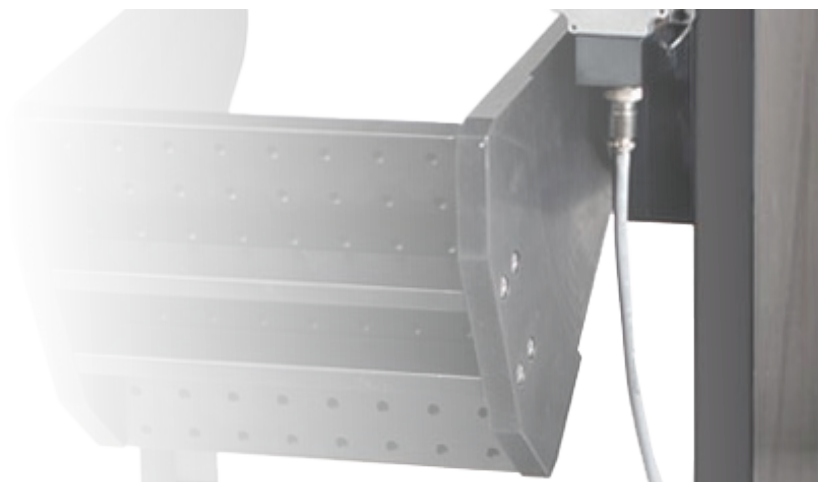
Brand	M-tork , manufactured by Holmarc
Vacuum compatibility	Ultra high vacuum compatible Stepper Motor
Vacuum range	$\leq 1 \times 10^{-7}$ mbar
Bake able temperature	200°C
Core material	Stainless steel, Grade - SS430
Shaft material	Stainless steel - 304
Bearings	Stainless steel - 304
Side plates	Aluminium - 6061
Winding	Class heavy film Polyester over coated with polyamideimide enameled copper wire, 200°C thermal cla
Plastic parts	Teflon
Size of motor	56 x 56 x 52 mm

Model No.	L (mm)	B (mm)	H (min, max) (mm)	Travel (mm)	Load capacity
HVC-MVTS-125-10	125	125	100 - 110	10	15 Kg
HVC-MVTS-125-25	125	125	120 - 145	25	15 Kg
HVC-MVTS-125-50	125	125	150 - 200	50	10 Kg
HVC-MVTS-125180-10	125	180	100 - 110	10	15 Kg
HVC-MVTS-125180-25	125	180	120 - 145	25	15 Kg
HVC-MVTS-125180-50	125	180	150 - 200	50	10 Kg
HVC-MVTS-200200-10	200	200	100 - 110	10	12 Kg
HVC-MVTS-200200-25	200	200	120 - 145	25	10 Kg
HVC-MVTS-200200-50	200	200	150 - 200	50	8 Kg



Motorized Two Axes Gimbal Stage

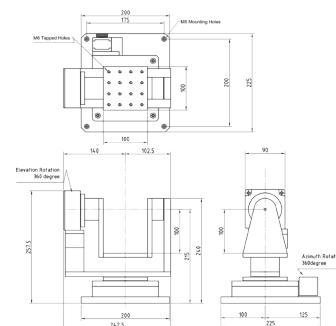
- Off Axis Platform
- On Axis Platform



HO-MGS Series

Specifications

Number of Axes	Two (Azimuth and Elevation)
Travel	360 Degree Continuous
Minimum mounting platform size	100 mm x 100 mm
Maximum mounting platform size	200 mm x 200 mm
Platform type	Option - 1 : Off axis gimbal platform Option - 2 : On axis gimbal platform
Load capacity	0.5 to 4 Kg
Positioning accuracy	0.1 degree
Backlash	0.1 degree
Home positioning accuracy	0.01 degree



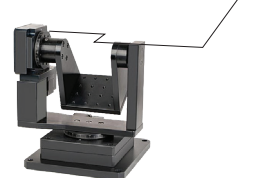
Off Axis Platform

MGS-1000A

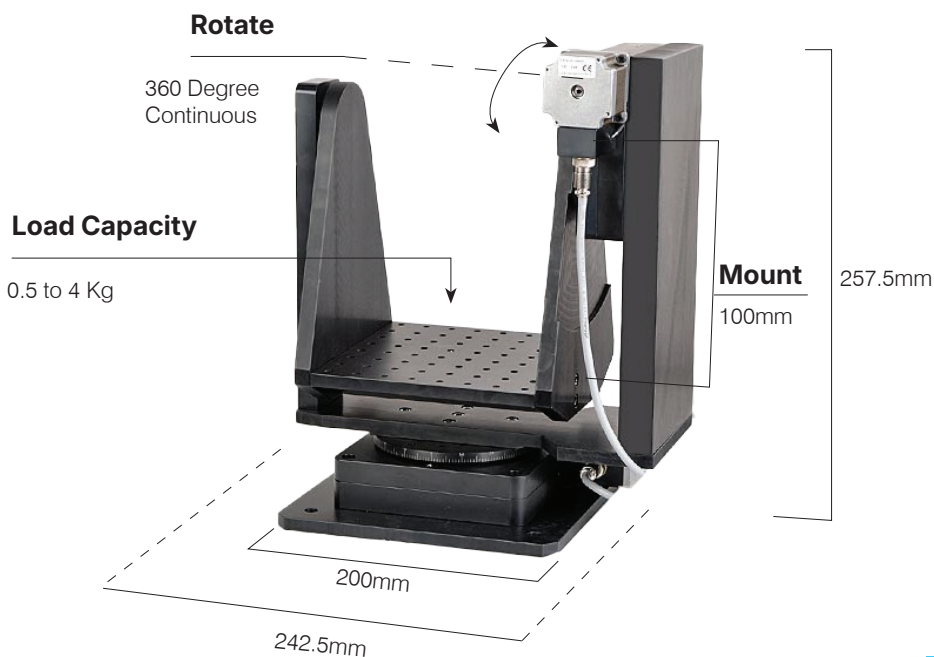


On Axis Platform

MGS-2000A



360° Continuous Travel
Load capacity up to 4Kg



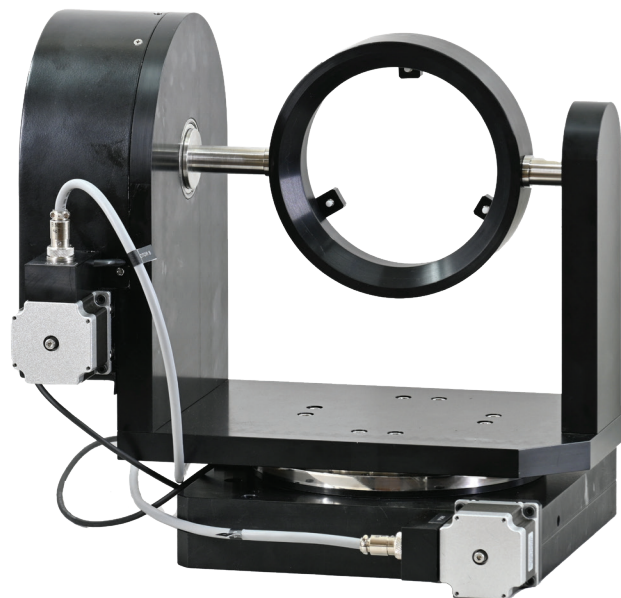


Model No.		MGS-100A	MGS-100-OA	MGS-200A	MGS-200-OA
Type		On axis platform	Off axis platform	On axis platform	Off axis platform
Platform Size		100x100mm	100x100mm	200x200mm	200x200mm
Depth of platform from axis		0	100	0	200
Load Capacity		1 Kg	1 Kg	3 Kg	3 Kg
Gear Ratio	Azimuth	180:1	180:1	240:1	240:1
	Elevation	90:1	90:1	180:1	180:1
Degree / 1 full rotation of motor	Azimuth	2°	2°	1.5°	1.5
	Elevation	4°	4°	2°	2°
Maximum speed *	Azimuth	8°	8°	6°	6°
	Elevation	16°	16°	8°	8°
Positioning accuracy		0.01°	0.01°	0.01°	0.01°

Custom motorized Gimbal (Including controller and software)

Specifications

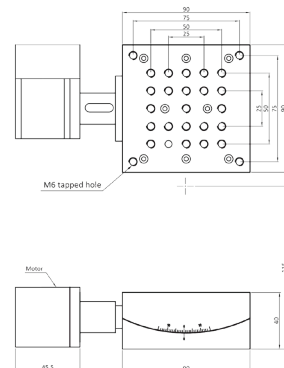
Clear Aperture Diameter	140 mm
Accuracy	$\pm 24 \mu\text{rad}$ (± 5 arc sec)
Repeatability	5 arc sec
Resolution	$0.50 \mu\text{rad}$
Max Pay load (kg)	2.5 kg
Max Speed	60 rpm
Move profile	60° Continuous, AZ/E



Motorized Goniometer

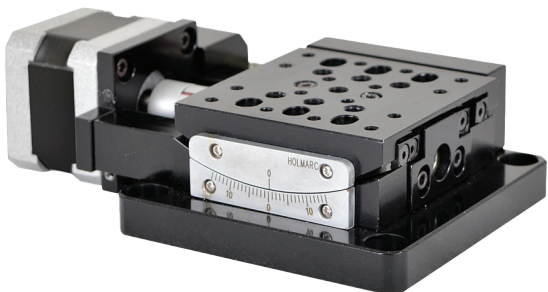
MGM Series

Holmarc's goniometers use rolling contact guides with balls rolling on precision curved 'V' grooves for friction less and stick-slip free movements. Pre-loading of the ball guides ensure play less positioning and long term stability. Drive is achieved by a worm and gear mechanism. Graduations are marked on one side of the stage for measurements and repeatable positioning. Construction material of the goniometer is chosen as aluminium alloy for keeping the self weight of the device as minimum as possible. Black anodized finish is given to make the goniometer optics lab compatible. Holmarc makes goniometers for custom applications as well. Please contact our sales engineers for more details.



Specifications 1

Model	MGM-65-75
Travel	+/- 10°
Positioning Accuracy	0.1 degree
Readout (dial)	1 degree
Resolution	0.00046875 degree (microstep)
Drive mechanism	Worm gear and worm shaft
Gear ratio	240:1
Construction	Aluminium
Coupling	Flexible coupling
Guideway	Radial 'v' grooved
Drive	Stepper motor
Load capacity	6 Kg



Specifications 2

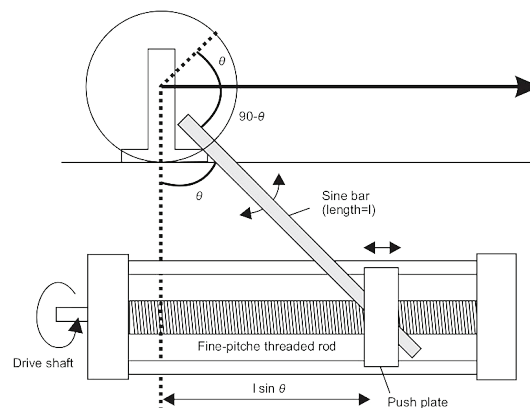
Model	MGM-90-100
Travel	+/- 15°
Pay-Load	Axial 10 Kg
Gear Ratio	180 : 1 (reduction)
Rotation of top disc / rotation of worm shaft	2 degree
Absolute positioning accuracy	0.1 degree
Repeatability	0.06 degree
Resolution	0.005 degree (Half step) 0.000625 degree (micro step - 1/16)
Maximum speed	8 degree / sec (4 rps)
Feedback	Optional (on request)
Top plate size	90 mm x 90mm
Mounting holes	M6 Tapped holes
Construction	Aluminum alloy
Finish	Black anodized
Guide way system	Radial V grooved ball guide way
Drive	Precision worm gear and shaft assembly
Actuator	Stepper motor
Limit switch	Optical limit switch
Connector	Brass connector with junction box

controller sold separately

Model No.	MGM-35-55	MGM-50-63	MGM-65-75	MGM 90-100
Travel	+/- 5°	+/- 7.5°	+/- 10°	+/- 15°
Central Height	55 mm	63 mm	75 mm	100 mm
Load Capacity	1 Kg	2 Kg	6 Kg	10 Kg
Base Plate				
Model No.	BP-MGM-35	BP-MGM-63	BP-MGM75	BP-MGM-90

Sine Drive Angular Stage

Sin216R Series



**0.000069 Degree Accuracy
Precision High-Performance**

The Sin216R series are ultra-precision computer controlled angular stages developed for accurate positioning applications. Sine-bar mechanism is employed in this device for higher resolution angular positioning. A precision linear translation stage with a high resolution optical encoder is used in the mechanism for achieving angular tilt of the sine bar. The absolute encoder allows instant initialization at the time of power up and eliminates the need for a home cycle. The stepper motor turns the drive lead screw which moves the drive block which in turn pushes the sine bar to rotate the platform, providing stable and excellent performances in angular positioning.

The principle of sine drive mechanism is shown schematically in Fig. When a lever of length L is rotated through an angle θ about one end, the other end moves through a distance $X = L \sin \theta$ perpendicular to the initial position of the lever. Standard metric M4 mounting holes patterns are provided on the top plate of these stages. Top plate can be used to position manually large optical and other components through with accuracy of 1° . Custom mounting patterns can be provided for easy integration with other systems / components. The Sin216R series stages are perfect for rotary positioner testing, laser pointing, optical calibration systems and metrology systems. Other specific applications include optical encoder accuracy testing, missile seeker testing, photonic component alignment and precision wafer inspection.

- Angle Calibration
- Laser Nano Scanning
- X-Ray Mirror Deflection
- Nano Probe Positioning

controller sold separately

Sine drive rotation stages are also offered in high vacuum and ultra high vacuum configurations. Please contact us for details.

Model No.	HO-Sin216R	HO-Sin216R8	HO-Sin216R4
Angular Measurement System	Sin bar	Sin bar	Sin bar
Travel Range	$16^\circ (\pm 8^\circ)$	$8^\circ (\pm 4^\circ)$	$4^\circ (\pm 2^\circ)$
Platform Size	150 mm Dia	150 mm Dia	150 mm Dia
Rotation Axis Height	80 mm	80 mm	80 mm
Speed max. (Degree / sec.)	2	2	2
Stepper Resolution	0.125 Arc Sec (0.00003477 Degree)	0.0625 Arc Sec (0.0000174 Degree)	0.0625 Arc Sec (0.0000087 Degree)
Accuracy	Arc Sec (0.00027780 Degree)	0.5 Arc Sec (0.000138 Degree)	0.25 Arc Sec (0.000069 Degree)
Repeatability	1 Arc Sec (0.0002778 Degree)	0.5 Arc Sec (0.000138 Degree)	0.25 Arc Sec (0.000069 Degree)
Tapped Holes on Carriage M6	M4	M4	M4
Interface	USB 2.0 & RS 232	USB 2.0 & RS 232	USB 2.0 & RS 232
Size (L x W x H)	310 x 250 x 80 mm	520 x 250 x 85 mm	750 x 250 x 90 mm

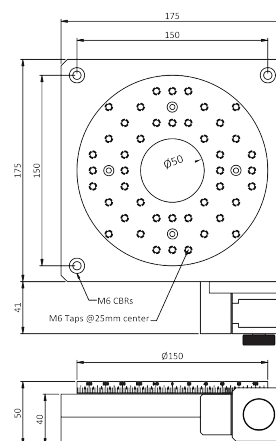
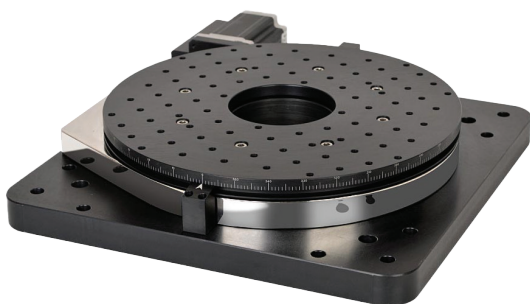
Motorized Rotation Stage MRSC Series

These stages are suitable for applications where positioning needs to be automated. The drive mechanism consists of worm and gear assembly perfectly matched to minimize play and backlash. There is an access hole through the center of the stage for illumination from underneath or for similar purposes. Radial play is eliminated by the use of preloaded thrust bearings. Stepper motor is used as the electrical actuator and is connected to the worm. Shaft of the stepper motor is connected to a rotating knob for manual adjustments, whenever required. Top surface of the stage is provided with tapped holes and base with counter bored holes for mounting. Standard stages are manufactured in aluminium alloy and finished by black anodizing. The stage can be manufactured in stainless steel and mild steel with the required finish.

Specifications

- 360° rotatable
- Fine rotation < 1 arc min.
- Up to 500 Kg load capacity
- Double bearing design
- Precision worm gears
- M6 / M8 mounting holes
- M6 / M8 / M12 C'bored holes
- Aluminium / steel material

Double bearing design
Precision worm gears



MRSC-150

- Pre loaded rolling contact bearings are used to minimize friction and to eliminate play
- Driven by precision worm gear assembly
- Graduated rotary scales are provided for visual reference of positions
- Can be fitted to our motorized linear stages for multi axis configurations
- Custom stages can be constructed out of aluminium, steel and SS depending on the application
- Custom mounting patterns are available for easy integration with other devices



Model No.	MRSC 40	MRSC 50	MRSC 75	MRSC 100	MRSC 150
Top Disc Dia.	40 mm	50 mm	75 mm	100 mm	150 mm
Through Hole Dia.	12 mm	12 mm	12 mm	30 mm	50 mm
Load Capacity	2 Kg	5 Kg	8 Kg	50 Kg	100 Kg
Gear Ratio	60 : 1	72 : 1	90 : 1	180 : 1	240 : 1
Maximum speed	24 deg / sec	20 deg / sec	16 deg / sec	8 deg / sec	6 deg / sec
Half Step Resolution	0.015 deg	0.0125 deg	0.01 deg	0.005 deg	0.0035 deg

Model No.	MRSC 200	MRSC 300	MRSC 400	MRSC 500
Top Disc Dia.	200 mm	300 mm	400 mm	460 mm
Through Hole Dia.	65 mm	65 mm	65 mm	65 mm
Load Capacity	150 Kg	200 Kg	300 Kg	500 Kg
Gear Ratio	225 : 1	225 : 1	150 : 1	180 : 1
Maximum speed	6.4 deg / sec	6.4 deg / sec	9.6 deg / sec	8 deg / sec
* Half Step Resolution	0.004 deg	0.004 deg	0.006 deg	0.005 deg

MRSC Series Motorized Rotation Stage with XY Positioner

Application Idea : MRSC series rotation stage can be assembled along with XY stage. It can be used to position the rotation stage precisely in X and Y directions. Feel free to contact our engineers,
E-mail : sales@holmarc.com

controller sold separately

Motorized Rotation Stage MRS Series

MRS series motorized rotation stages are designed and manufactured for automated positioning applications. Since perfectly matched worm gear assembly is used as drive mechanism, play and back-lash is minimal in these stages. The top rotating part which is plane in this case, is provided with rotary graduations on the periphery throughout 360 degree.

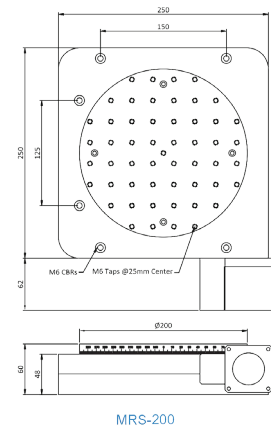
Radial play is eliminated by the use of preloaded thrust bearings with balls as rolling elements. Stepper motor is used as the electrical actuator and is connected to the worm. Shaft of the stepper motor is connected to a rotating knob as well for manual adjustments, whenever required. Top surface of the stage is provided with tapped holes and base with counter bored holes for mounting. Standard stages are manufactured in aluminium alloy and finished by black anodizing. The stage can be manufactured in stainless steel and mild steel as well with required finish.

controller sold separately



Specifications

360° rotatable
Fine rotation < 1 arc min.
Up to 300 Kg load capacity
Double bearing design
Precision worm gears
M6 / M8 mounting holes
M6 / M8 / M12 C'bored holes
Aluminium / steel material



- Pre loaded rolling contact bearings are used to minimize friction and to eliminate play
- Driven by precision worm gear assembly
- Graduated rotary scales are provided for visual reference of positions
- Can be fitted to our motorized linear stages for multi axis configurations
- Custom stages can be constructed out of aluminium, steel and SS depending on the application
- Holmarc can provide custom mounting pattern on request

Model No.	D (mm)	W (mm)	H (mm)	Load Capacity	Gear Ratio	Maximum speed *	Half Step Resolution
MRS 50	50	65	45	5 Kg	72 : 1	20 deg / sec	0.0125 deg
MRS 75	75	90	45	8 Kg	90 : 1	16 deg / sec	0.01 deg
MRS 100	100	150	50	50 Kg	180 : 1	8 deg / sec	0.005 deg
MRS 150	150	175	50	100 Kg	240 : 1	6 deg / sec	0.0035 deg
MRS 200	200	250	65	150 Kg	180 : 1	8 deg / se	0.005 deg

* (4 RPS of motor)

Motorized Heavy Duty Rotation Stages MRSH Series

These are heavy duty stages which can take axial loads beyond 400 kg's. Perfectly matched worm and gear assembly to minimize play and back-lash. The top rotating part which is plane in this case, is provided with rotary graduations on the periphery throughout 360 degree.

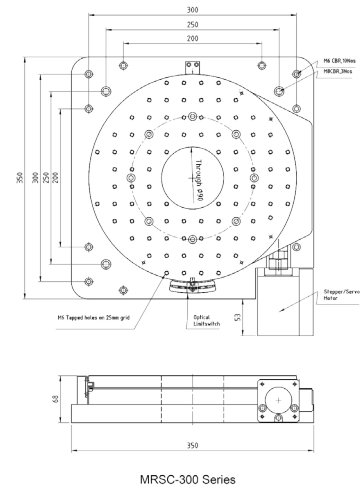
Radial play is eliminated by the use of preloaded thrust bearings using balls as rolling elements. Stepper motor which is connected to the worm is used as an electrical actuator. Shaft of the stepper motor or servo motor is connected to the rotating knob as well for manual adjustments, when ever required. Top surface of the stage is provided with tapped holes and base with counter bored holes for mounting. Standard stages are manufactured in aluminium alloy with black anodizing finish. The stage can be manufactured in stainless steel and mild steel as well with the required finish.

To meet the most critical positioning demands, rotary encoder is used. It converts the angular position of a shaft to digital code, making it an angle transducer.

controller sold separately

Specifications

Material	Aluminium / SS
Turn table dimension	up to 500 X 500mm
Load Capacity	up to 400 Kg
Maximum Speed	10 degree / sec
Traverse	360 °
Actuator	Stepper motor
Control Type	Closed loop using rotary encoder
Encoder resolution	200 ppr



- Pre loaded rolling contact bearings are used to minimize friction and to eliminate play
- Driven by precision worm gear assembly
- Graduated rotary scales are provided for visual reference of positions
- Can be fitted to our motorized linear stages for multi axis configurations
- The stages can be constructed out of aluminium, steel or SS depending on the application

Pay-Load

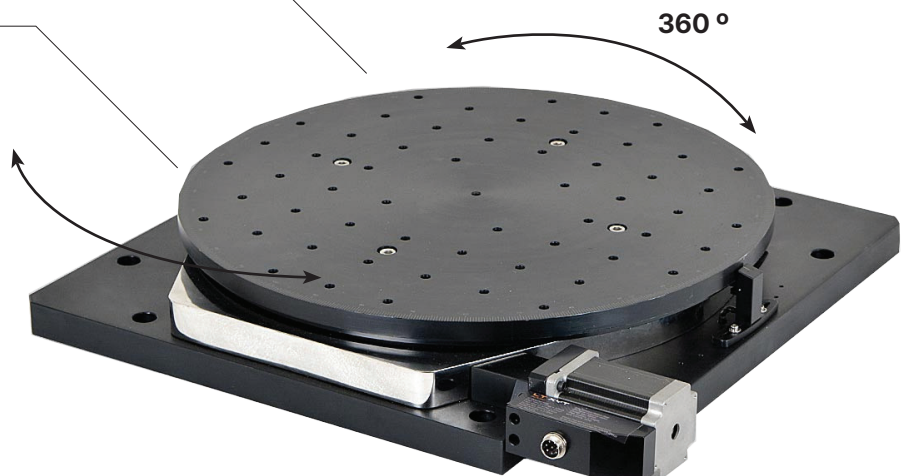
300 - 400 Kg
(Choose from Table)

Control Software



360 ° Traverse

Stepper motor Actuator



Stepper motor drive Rotation stages

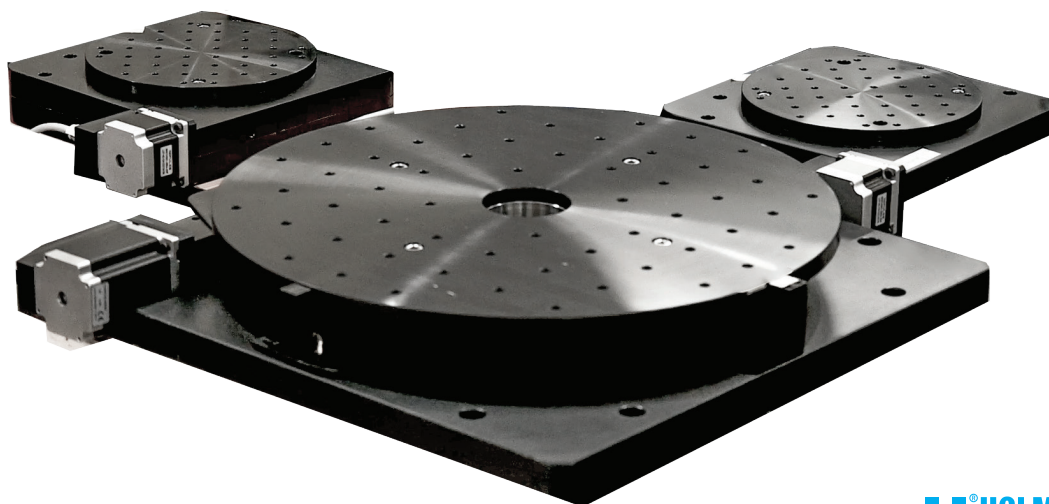


Model No.	MRSH 300	MRSH 400	MRSH 500
Foot print (length x width)	300 x 350	400x 450	500x500
Rotating Disc Dia	300	400	460
H (mm)	68	80	80
Load Capacity	300 Kg	350 Kg	400 Kg
Gear Ratio	225 : 1'	150 : 1'	180 : 1'
Degree/1 full rotation of motor	1.6°	2.4°	2°
Maximum speed *	6.4°	9.6°	8°
Positioning accuracy	0.1°	0.1°	0.1°
Half Step Resolution	0.004°	0.006°	0.02
# Available micro stepping 1/8, 1/16, 1/256		* (4 RPS of motor)	

AC Servo motor drive Rotation stages

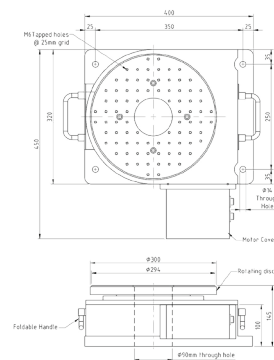
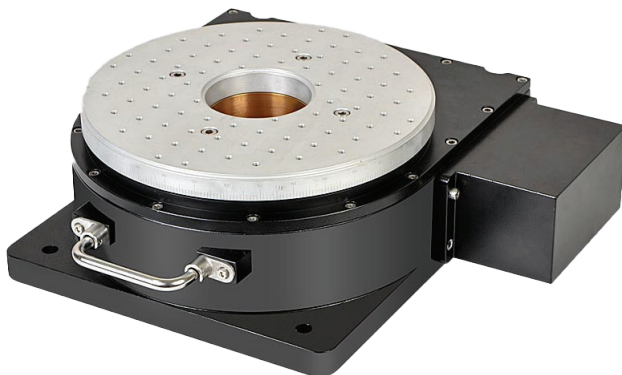
Model No:	MRSH 300-ACS	MRSH 400-ACS	MRSH 500-ACS
Foot print (length x width)	300x350	400x450	500x500
Rotating Disc Dia	300	400	460
H (mm)	68	80	82
Load Capacity	300 Kg	350 Kg	400 Kg
Gear Ratio	225 : 1'	150 : 1'	180 : 1'
Degree/1 full rotation of motor	1.6°	2.4°	2°
Maximum speed *	32°	48°	40°
Positioning accuracy	0.1°	0.1°	0.1°
Half Step Resolution	0.00016°	0.00024°	0.0002°
		* (20 RPS of motor)	

- 360° rotatable
- Fine rotation 0.1 degree
- Up to 400 Kg load capacity
- Stepper motor or AC servo motor drive options
- Double bearing design
- Precision worm gears
- m6 / M8 mounting holes
- M6 / M8 / M12 C'bored holes
- Aluminium and SS construction
- Encoder on request only
- Controller sold separately



Rotation stage with IP65 rating

controller sold separately



Specifications

Water proof rating	IP65
Travel	360 degree (Continues)
Drive	Stepper motor or Servo motor
Load capacity	300 Kg
Gear mechanism	Precision worm gear mechanism
Center Hole	90 mm
Mounting holes	M6 Tapped holes on rotating disc, dia-10 holes on base
Material	Aluminium painted



Stepper motor drive Rotation stages

Model No.	MRSH -IP65-300	MRSH -IP65-500
Foot print (length x width)	350x350	500x500
Rotating Disc Dia	300	460
H (mm)	145	195
Center bore	90 mm	90 mm
Load Capacity	300 Kg	400 Kg
Gear Ratio	225:1'	180:1'
Degree/1 full rotation of motor	1.6°	2°
Maximum speed *	6.4°	8°
Positioning accuracy	0.1°	0.1°
Half Step Resolution	0.004°	0.02°
# Available micro stepping 1/8, 1/16, 1/256		* (4 RPS of motor)

AC Servo motor drive Rotation stages

Model No:	MRSH -IP65-300-ACS	MRSH -IP65-500-ACS
Foot print (length x width)	350x350	500x500
Rotating Disc Dia	300	460
H (mm)	145	195
Center bore	90 mm	90 mm
Load Capacity	300 Kg	400 Kg
Gear Ratio	225:1'	180:1'
Degree/1 full rotation of motor	1.6°	2°
Maximum speed *	32°	40°
Positioning accuracy	0.1°	0.1°
Half Step Resolution	0.00016°	0.0002°
		* (20 RPS of motor)

3 Axis Precision Positioning System with Optional CNC Software (XY & Independent Z)

Motorized 3-Axis linear positioning system is a high precision positioning device can be used in industrial and scientific automated motion applications. The X, Y, and Z axis produce linear motion in three mutually orthogonal directions. Secondary linear axis & rotational axis can be provided optionally. A range of system configurations are possible and options including automated CNC operation. We also offer vacuum compatible and all steel construction motorized linear translation stages.

controller sold separately

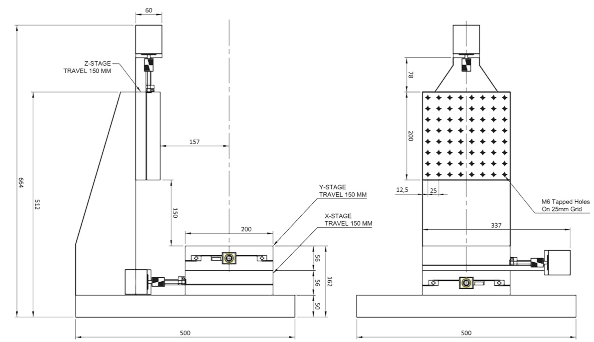


Fig. Model MXYMZ-150

Model No.	Travel Range X, Y, Z	Load Capacity X Y & Z	Resolution	Max. Speed	Work platform size
MXY-MZ-100	100 x 100 x 25mm	25 & 8 Kg	0.000625 mm	8 mm / sec	150 x 150 mm
MXY-MZ-100-A	100 x 100 x 50mm	20 & 10 Kg	0.000625 mm	8 mm / sec	150 x 150 mm
MXY-MZ-100-25	100 x 100 x 25mm	25 & 5 Kg	0.000625mm	8 mm / sec	150 x 150 mm
MXY-MZ-150	150 x 150 x 50mm	25 & 20 Kg	0.000625 mm	8 mm / sec	200 x 200 mm
MXY-MZ-150-A	150 x 100 x 50mm	25 & 8 Kg	0.000625 mm	8 mm / sec	200 x 150 mm
MXY-MZ-200	200 x 200 x 50mm	25 & 20 Kg	0.000625 mm	8 mm / sec	270 x 270 mm
MXY-MZ-200-A	200 x 150 x 50mm	25 & 20 Kg	0.000625 mm	8 mm / sec	270 x 170 mm
MXY-MZ-200-B	200 x 200 x 50mm	35 & 25 Kg	0.000625 mm	8 mm / sec	300 x 300 mm

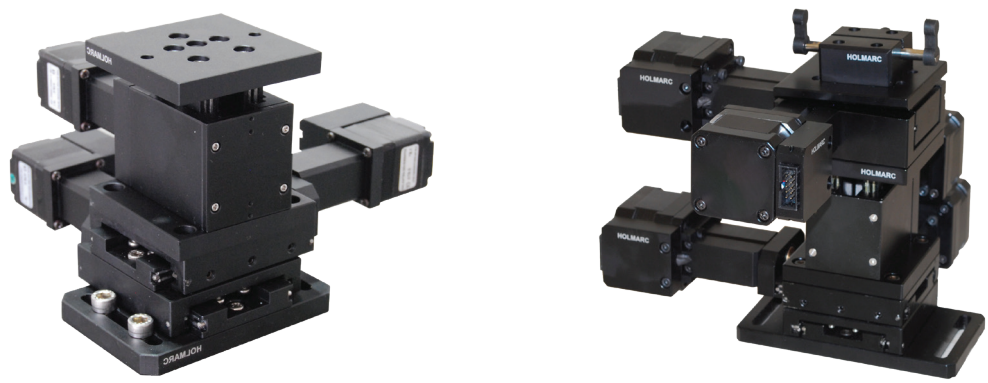
0.625 micron resolution

5 micron positioning accuracy



- Suitable for Micromachining applications
- Precision roller slides
- 100 - 200 mm travel
- 5 micron positioning accuracy
- 0.625 micron resolution
- 2 mm pitch backlash free lead screw and nut
- Optional CNC software
- Up to 50 Kg load capacity
- Stepper motor for computer control movement
- Optional Servo motor control
- Controller with software for computer controlling
- Additional handheld unit or joysticks available as per request

Motorized Multi Axis Stage



(Linear & Rotary Configuration)

Most of the linear and rotary stages manufactured by Holmarc are modular in design that these can be assembled with suitable angle brackets and adapter plates to obtain multi-axes stages. Three of the linear and rotary combination stages are described in this section.

Compact XYZ Stage

Model: MXYZCTS-80

Specifications	
Top plate size	80 x 80 mm
X Travel	10 mm
Y Travel	5 mm
Z Travel	5 mm
Minimum Stage Height	52.5
Maximum stage height	57.5
Leadscrew pitch	0.4 mm
Resolution	0.125 micron (@ 1/16 microstep)
Maximum Speed	1.6 mm / sec (@ 4 RPS)
Minimum Continues Speed	2.5 micron / sec
Motor used	FL42STH38-1684AF
Load Capacity	3 Kg
Positioning Accuacy	20 micron



0.125 micron resolution
Load Capacity 3 Kg

controller sold separately

XYZ Theta Stage 500

Model: HO-MXYZR-500

In this model, theta stage is fixed to carriage of the Z stage with an bracket so that top surface of the theta stage is horizontal. As shown in the photograph, one side of the theta stage is obstructed by Z axis. All linear stages are given bellows protection.

controller sold separately

Absolute positioning accuracy	Linear stages (XYZ) : ± 0.025 mm or better
	Theta stage : 0.1 degree
Repeatability	Linear stage (XYZ) : ± 0.05 mm or better
	Theta stage : 0.1 degree
Straight line accuracy	Linear stage (XYZ) $\pm 5 \mu\text{m}$ / 25 mm or better
Construction	Aluminum alloy on any rust free
Finish	Black anodized
Travel	Linear stages (XYZ) : 500 mm
	Theta stage : 360 degree
Feedback	Nil
Resolution	Linear stages : $20 \mu\text{m}$ (full Step)
	Theta stage : 0.1 degree (full Step)
Linear guide and Rotary stage bearing system	Recirculation block and rail
	Double bearing system including preloaded roller thrust bearing
Drive	Linear stage (XY Stage) : Rolled ballscrew, pitch 4 mm
	Linear stage (Z Stage) : Rolled ballscrew with magnetic brake
	Rotation Stage : Precision worm gear and shaft assembly
Actuator	Stepper motor
Maximum speed	Linear stages (XY Stage) : 16mm / sec (4 rps)
	Linear stages (Z Stage) : 16 mm / sec (4 rps)
	Theta stage : 8 degree / sec (4 rps)
Limit switches	Linear stages : Optical Limitswitch in both ends
	Theta stage : Optical home sensing limitswitch
Mounting Holes	Linear stages : M6 tapped holes
	Theta stage : M6 Tapped holes on top disc
Pay-Load	25 kg

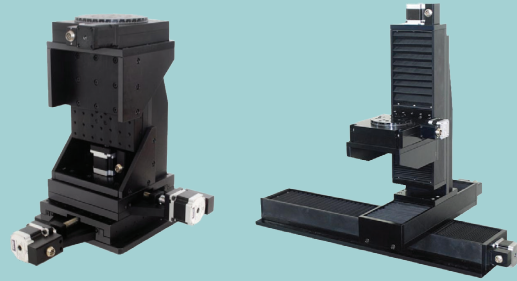
Theta stage : 360 degree

Stepper Motor Actuator

XYZ Theta Stage 50

Model: HO-MXYZR-500

In this configuration, theta stage is fixed on top of Z stage with the help of an L bracket. This configuration helps to mount components on top of the theta stage without obstructions from any sides. All four axes are motorized with stepper.



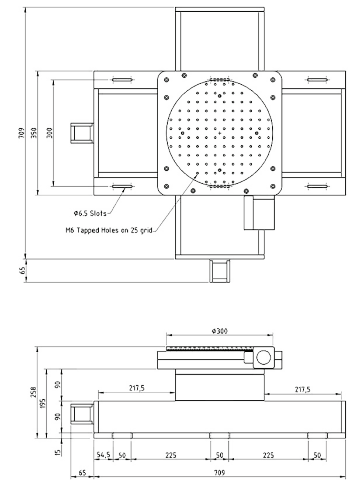
Absolute positioning accuracy	Linear stages (XYZ) : $\pm 5 \mu\text{m}$
	Theta stage : 0.1 degree
Repeatability	Linear stage (XYZ) : $\pm 5 \mu\text{m}$
	Theta stage : 0.1 degree
Straight line accuracy	Linear stage (XYZ) $\pm 5 \mu\text{m}$ / 25 mm or better
Construction	Aluminum alloy on any rust free
Finish	Black anodized
Travel	Linear stages (XYZ) : 50 mm
	Theta stage : 360 degree
Feedback	Nil
Resolution	Linear stages : $0.625 \mu\text{m}$ (micro step)
	Theta stage : 0.01 degree (micro Step)
Linear guide and Rotary stage bearing system	Recirculation block and rail
	Double bearing system including preloaded roller thrust bearing
Drive	Linear stage (XYZ Stage) : Leadscrew, pitch 2 mm
	Rotation Stage : Precision worm gear and shaft assembly
Actuator	Stepper motor
Maximum Speed	Linear stages (XY Stage) : 8mm / sec (4 rps)
	Linear stages (Z Stage) : 8 mm / sec (4 rps)
	Theta stage : 12 degree / sec (4 rps)
Limit switches	Linear stages : Optical Limit switch in both ends
	Theta stage : Optical home sensing limit switch
Mounting Holes	Linear stages : M6 tapped holes
	Theta stage : M6 Tapped holes on top disc
Pay-Load	25 kg

XY Theta Stage

Model: HO-MXYR-300

As evident from the photograph, theta stage is placed on top of X-Y stages. All three axes are motorized, still hand knobs are given behind each motor for manual adjustments if required. X and Y stages have bellows protection. Top surface of theta stage is provided with tapped holes for mounting.

controller sold separately



Controller and Software



Linear Stage

16mm / sec (4 rps)
Maximum Speed
 ± 0.20 mm positioning
accuracy with ± 0.20
Repeatability

M6 Tapped Holes

M6 tapped holes, Theta stage

Pay-Load 250 Kg

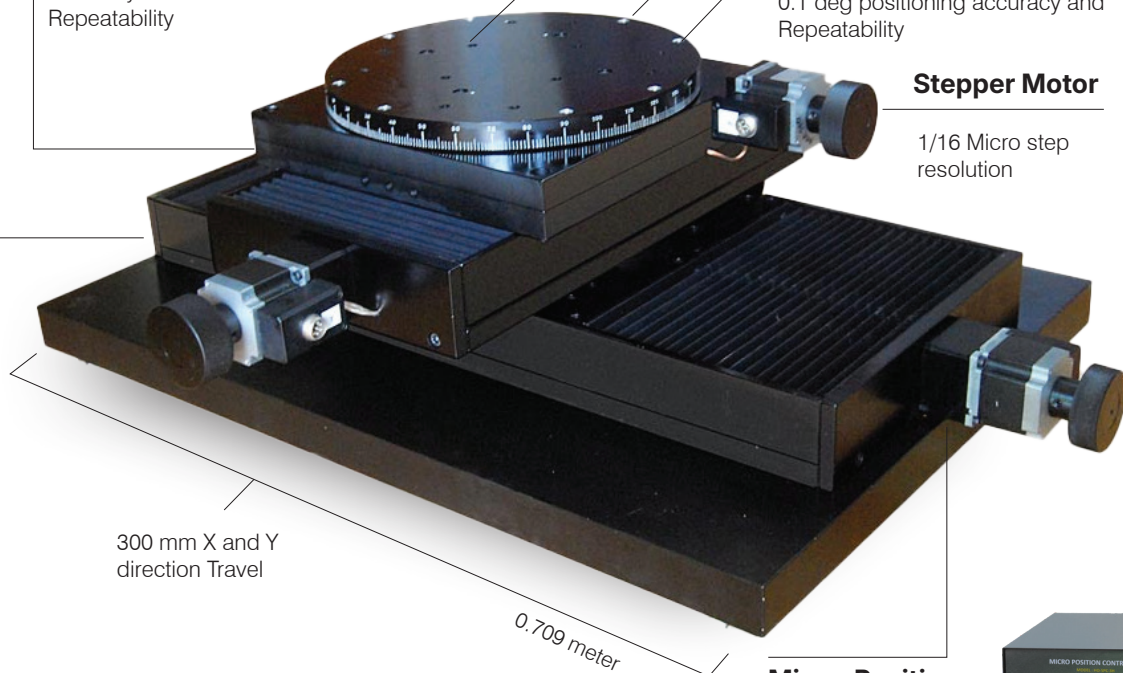
Aluminium alloy B51S
Construction

Theta Stage

8 degree / sec (4 rps)
0.1 deg positioning accuracy and
Repeatability

Stepper Motor

1/16 Micro step
resolution



300 mm X and Y
direction Travel

0.709 meter

Micro-Position Controller



Specifications

Absolute positioning accuracy	Linear stages (XY) : ± 0.20 mm or better
	Theta stage : 0.1 deg
Repeatability	Linear stage (XY) : ± 0.20 mm or better
	Theta stage : 0.1 deg
Straight line accuracy	Linear stage (XY) $\pm 25 \mu\text{m}$
Construction	Aluminum alloy on any rust free
Finish	Black anodized
Travel	Linear stage X Axis : 300 mm
	Linear stage Y Axis : 300 mm
	Theta stage : 360 degree
Feedback	Linear stage : NIL
	Theta stage : NIL
Resolution	Linear stages : $10 \mu\text{m}$ (Half step)
	Theta stage : 0.1 degree (Full step)
Linear guide & Rotary stage bearing system	Recirculation block and rail
	Double bearing system including preloaded roller thrust bearing
Drive	Linear stage (XY Stage) : Rolled ballscrew, pitch 4 mm
	Theta Stage : Precision worm gear and shaft assembly
Actuator	Stepper motor
Maximum speed	Linear stages (XY Stage) : 16mm / sec (4 rps)
	Theta stage : 8 degree / sec (4 rps)
Limit switches	Linear stages : Optical Limit switch in both ends
	Theta stage : Optical home sensing limit switch
Pay-Load	250 kg
Mounting Holes	Linear stages : M6 tapped holes, Theta stage : M6 Tapped holes on top disc



Controller and Software specifications

Motor Type	Stepper
Drive	Bipolar stepper motor drive
	Micro step resolution : 1/16
Encoder Feedback	Optional

Micro-Position Controller

Type of processor	Micro-controller
Lab-View compatibility	Optional (A command set will be provided which can be used to communicate with the controller using Lab VIEW or any other programming language through RS232 port.)
PC interface	RS232 (USB / RS485) 5 meter cable
I / O port	1 input & 1 output
Power supply	Built-in SMPS (24 VDC)
Input voltage	230V AC / 50Hz

Micro-Motion (Software)

Independent motion	Every stage can be operated independently
Displacement	Command to move the stage to a specified distance in Microns (Deg.)
Speed	Command to Set the speed of motion of the stage
Trigger I / O	Command to make the Controller to wait for a trigger pulse from an external source
	Command to make the controller to generate a pulse used for triggering external devices
Delay	Command to make controller to wait a specified time in milli seconds without doing operation
Motion programs	Sets of commands can be saved as a single program and can be executed by a single click
Position indication	Position counter is updated after the completion of each movement

XYZ Stage

Model: HO-MXYZ-100

In this HO-MXYZ-100 design, a long travel Z stage is fixed on top of 250mm travel XY stage. 200 x 200mm area angle bracket is placed on the Z stage for mounting components. All three axes are motorized with stepper.

controller sold separately

Model No.	Travel X	Travel Y	Travel Z	Load Capacity	Construction	Finish
HO-MXYZ-100	250 mm	250 mm	800 mm	25 Kg	Aluminium alloy B51S	Black anodized
HO-MXYZ-100B	300 mm	300 mm	300 mm	50 Kg	Aluminium alloy B51S	Black anodized
HO-MXYZ-100C	500 mm	500 mm	500 mm	50 Kg	Aluminium alloy B51S	Black anodized
HO-MXYZ-100D	200 mm	200 mm	500 mm	30 Kg	Aluminium alloy B51S	Black anodized
HO-MXYZ-100E	750 mm	250 mm	750 mm	75 Kg	Aluminium alloy B51S	Black anodized
HO-MXYZ-10F	1000 mm	1000mm	1000mm	10 - 50 Kg	Aluminium alloy B51S	Black anodized
HO-MXYZ-100F-ACS	1000 mm	1000 mm	1000 mm	10 - 50 Kg	Aluminium alloy B51S	Black anodized

SPEED

16mm / sec (4 rps)

Z Travel

800 to 1000mm

Y Travel

250 to 1000mm

X Travel

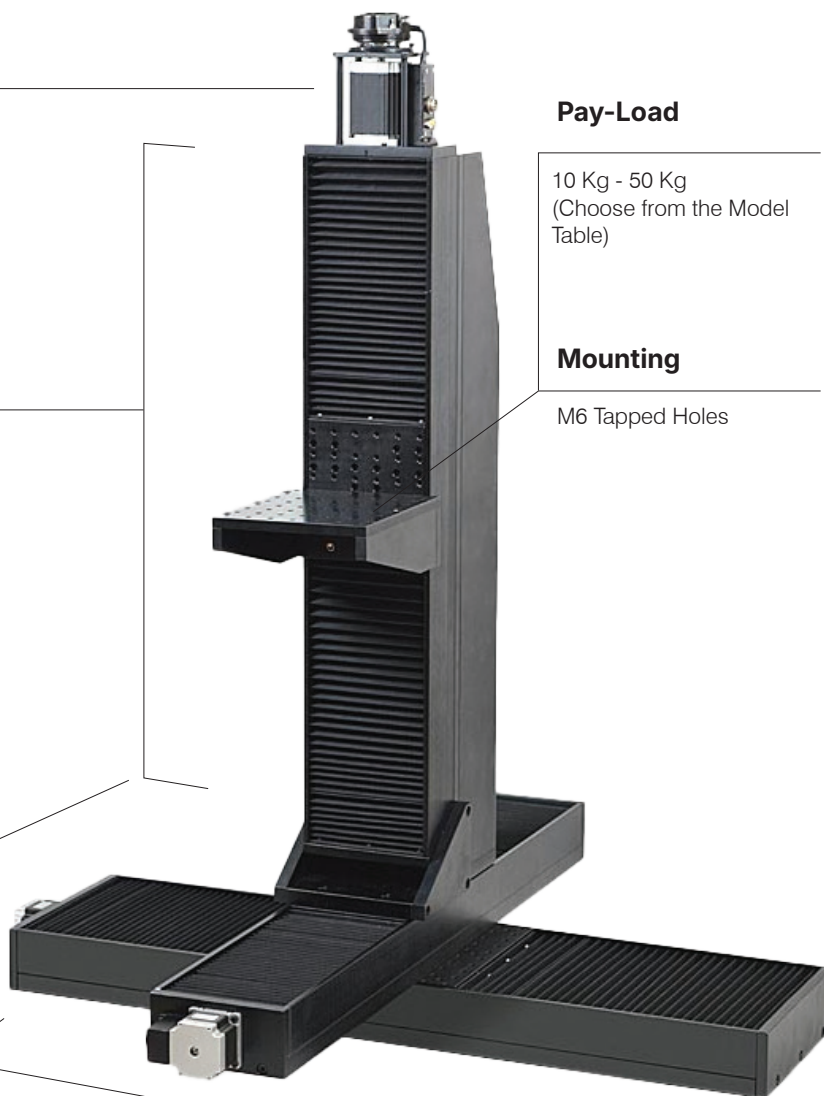
250 to 1000mm

Pay-Load

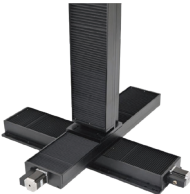
10 Kg - 50 Kg
(Choose from the Model Table)

Mounting

M6 Tapped Holes



Specifications	HO-MXYZ-100B	HO-MXYZ-100C
		
Absolute positioning accuracy	Linear stages (XYZ) : ± 0.025 mm or better	Linear stages (XYZ) : ± 0.05 mm or better
Repeatability	Linear stage (XYZ) : ± 0.05 mm or better	Linear stage (XYZ) : ± 0.05 mm or better
Straight line accuracy	Linear stage (XYZ) : $\pm 5 \mu\text{m}$ / 25 mm or better	Linear stage (XYZ) : $\pm 5 \mu\text{m}$ / 25 mm or better
Construction	Aluminum alloy on any rust free	Aluminum alloy on any rust free
Finish	Black anodized	Black anodized
Travel	Linear stages (XYZ) : 300 mm	Linear stages (XYZ) : 500 mm
Feedback	Nil	Nil
Resolution	Linear stages : $20 \mu\text{m}$ (full Step)	Linear stages : $20 \mu\text{m}$ (full Step)
Linear guide	Recirculation block and rail	Recirculation block and rail
	Linear stage (XY Stage) : Rolled ballscrew, pitch 4 mm	Linear stage (XY Stage) : Rolled ballscrew, pitch 4 mm
Drive	Linear stage (Z Stage) : Rolled ballscrew with magnetic brake	Linear stage (Z Stage) : Rolled ballscrew with magnetic brake
Actuator	Stepper motor	Stepper motor
Maximum speed	Linear stages (XY Stage) : 16 mm / sec (4 rps)	Linear stages (XY Stage) : 16 mm / sec (4 rps)
	Linear stages (Z Stage) : 16 mm / sec (4 rps)	Linear stages (Z Stage) : 16 mm / sec (4 rps)
Limit switch	Linear stages : Optical Limitswitch in both ends	Linear stages : Optical Limitswitch in both ends
	Theta stage : Optical home sensing limit switch	Theta stage : Optical home sensing limit switch
Mounting Holes	Linear stages : M6 tapped holes	Linear stages : M6 tapped holes
Pay-Load	25 Kg	50 Kg
Mounting carriage size		200 x 200mm

Specifications	HO-MXYZ-100F	HO-MXYZ-100F-ACS
		
Travel - X	1000 mm	1000 mm
Travel - Y	1000 mm	1000 mm
Travel - Z	1000 mm	1000 mm
Positioning accuracy	50 microns	50 microns
Straight line accuracy	100 micron (over 500 mm)	100 micron (over 500 mm)
Minimum incremental motion	1.25 micron	0.4 micron
Maximum speed	16mm / sec (4 RPS)	80mm / sec (20 RPS)
Drive	Stepper motor	Servo motor
Load capacity	10 - 50 Kg	10 - 50 Kg
Moving platform size	200 x 200 mm	200 x 200 mm
Footprint	1600 x 1600 mm	1600 x 1600 mm

5 axis Stage

Model: HO-XYZCA-100

Rotary stage giving C movement will be mounted on the rotary stage giving A movement. Rotary stage (giving A movement) will be mounted on Z stage. Z stage will be mounted perpendicularly on Y-stage and Y stage will be further mounted on X stage. Therefore, all the stages should be able to carry the total weight of the work stations which are mounted above it along with a working load of 5 Kg (max). These stages are modular in design and construction.

controller sold separately

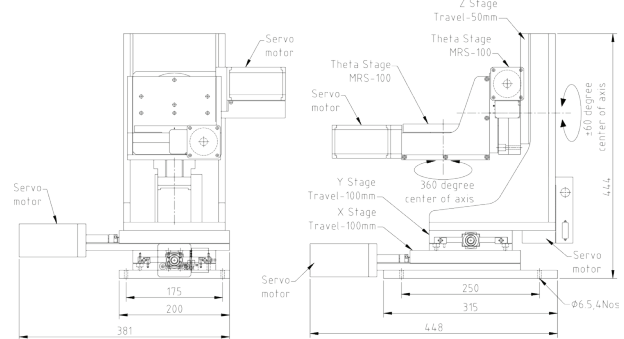
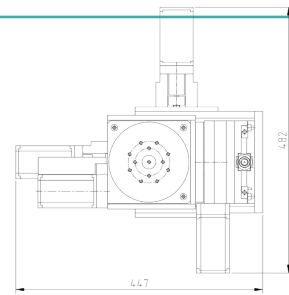
Z Stage Travel - 50mm

Z Stage MRS 100

+/- 60 degree
center of Axis

Servo Motor

250 mm



360° Continuous rotation

Pay-Load 5 kg

360°
Center of
Axis

Servo Motor

Y Stage Travel 100mm

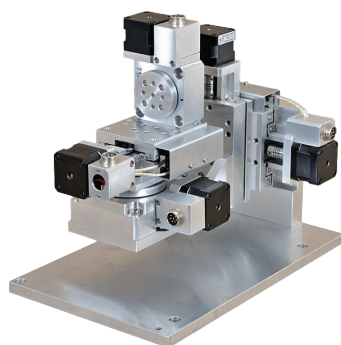
X Stage Travel 100mm

175 mm

Specifications	HO-XYZCA-100-ZZ	HO-XYZCA-100-SM
Drive	AC servo motor	Stepper motor
Absolute positioning accuracy		
Linear stages (XYZ)	10 μm	10 μm
Theta stage	0.05 degree	0.05 degree
Repeatability		
Linear stage (XYZ)	5 μm	5 μm
Theta stage	0.05 degree	0.05 degree
Straight line accuracy	Linear stage (XYZ) 10 μm	Linear stage (XYZ) 10 μm
Construction	Aluminum alloy on any rust free	Aluminum alloy on any rust free
Finish	Black anodized	Black anodized
Travel		
Linear stage X Axis	100 mm	100 mm
Linear stage Y Axis	100 mm	100 mm
Linear stage Z Axis	50 mm	50 mm
Theta stage C axis	+/- 60 degree	+/- 60 degree
Theta stage A axis	360 degree	360 degree
Feedback		
Linear stage	Optional fitting on request	Optional fitting on request
Theta stage	Optional fitting on request	Optional fitting on request
Resolution		
Linear stages	0.2 μm (1/10000 step)	0.3125 μm (1/10000 step)
Theta stage	0.01 degree (1/10000 step)	0.01 degree (1/10000 step)
Linear guide and Rotary stage bearing system	Precision V guidway and roller	Precision V guidway and roller
	Double bearing system including preloaded roller thrust bearing	Double bearing system including preloaded roller thrust bearing
Drive mechanism		
Linear stage (XY Stage)	Ground leadscrew , Pitch 2 mm	Ground leadscrew , Pitch 2 mm
Theta stage	Precision worm gear and shaft assembly	Precision worm gear and shaft assembly
Speed		
Minimum speed	Linear stages (XYZ Stage) : 300 micron / min Theta stage : 8 degree / sec	Linear stages (XYZ Stage) : 300 micron / min Theta stage : 8 degree / sec
Maximum speed	Linear stages (XY Stage) : 1000 mm / min Theta stage : 8 degree / sec	Linear stages (XY Stage) : 480 mm / min Theta stage : 8 degree / sec
Limit switches		
Linear stages	Optical limit switch in both ends	Optical limit switch in both ends
Theta stage	Optical home sensing limit switch	Optical home sensing limit switch
Pay-Load	5 kg	5 kg
Mounting Holes	M6 Mounting holes	M6 Mounting holes

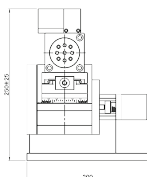
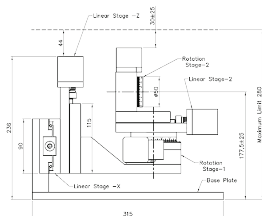
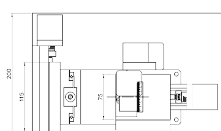
Vacuum Compatible Motorized 5 Axis Stage

Model: HO-MXYZCA-50VC



Vacuum Compatibility : $\leq 1 \times 10^{-6}$ mbar

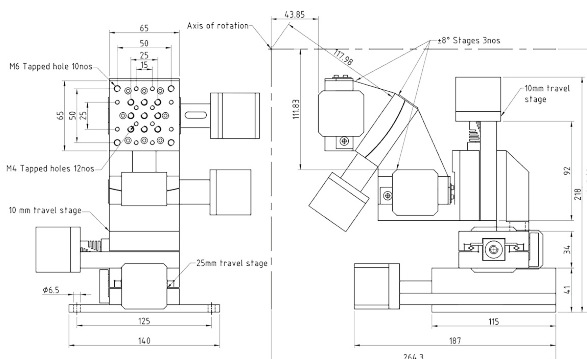
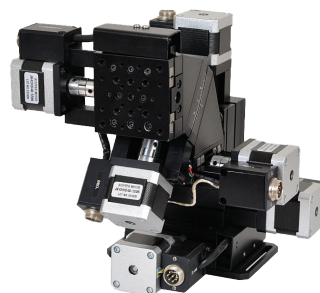
Aluminium alloy Construction



Parameters	Linear Stage	Rotational Stage
Vacuum Compatibility	$\leq 1 \times 10^{-6}$ mbar	$\leq 1 \times 10^{-6}$ mbar
Construction (Material)	Aluminum Alloy	Aluminum Alloy
Finish	Without Anodizing (Desirable for Vacuum)	Without Anodizing (Desirable for Vacuum)
Actuator	Stepper Motor	Stepper Motor
Absolute positioning accuracy	$2.5 \mu\text{m} \pm 0.25 \mu\text{m}$	$0.2 \text{ degree} \pm 0.02 \text{ degree}$
Repeatability	$\pm 0.20 \text{ mm}$	$\pm 0.1 \text{ degree}$
Straight line accuracy	$\pm 25 \mu\text{m}$	
Wobble	0.02 mm	
Travel	(X,Y & Z) : 50 mm	360 degree
Resolution	$2.5 \mu\text{m}$ (Half Step)	0.01 degree (half step)
Drive	Ground leadscrew, pitch 1mm	Precision worm gear and shaft assembly
Maximum speed	Linear stages (XY Stage) : 4 mm / sec (4 rps)	4 rps
Limit switches	Optical Limit switch in both ends	Optical home sensing limit switch
Pay-Load	2 Kg	2 Kg

6 axis Stage

Model: HO-XYZ6A-65



Travel

X, Y, Z axis	10 mm
Yaw	10 degree
Roll	10 degree
Pitch	10 degree

Resolution

Linear stage	0.125 micron
Theta stage	0.001 degree

Positioning accuracy

Linear stage	1 micron
Theta stage	0.1 degree

Speed

Linear stage	1.6 mm / sec
Theta stage	5.6 degree / sec

controller sold separately



Motorized Theta 2 Theta Stage

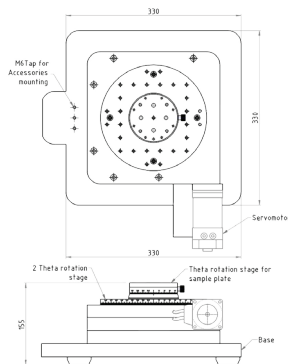
Model : MRS-T2T-200

Holmarc's theta 2 theta stage consists of two rotation stages arranged in such a way that axis of rotation for both the stages are same. Both stages have preloaded ball bearing guides for wobble free rotation and positioning. 360° limitless movement is possible for inner and outer stages. Holmarc manufactures these stages with manual as well as motorized drive configurations. Rotary graduations are provided in 1°/ 2° with appropriate vernier graduations depending on the size of the stage. For motorized rotation stage, worm and gear is our standard drive mechanism. Surfaces of both stages are provided with M6 tapped holes for mounting components and subassemblies. Holmarc manufactures custom theta 2 theta stages to suit specific applications as well.

controller sold separately

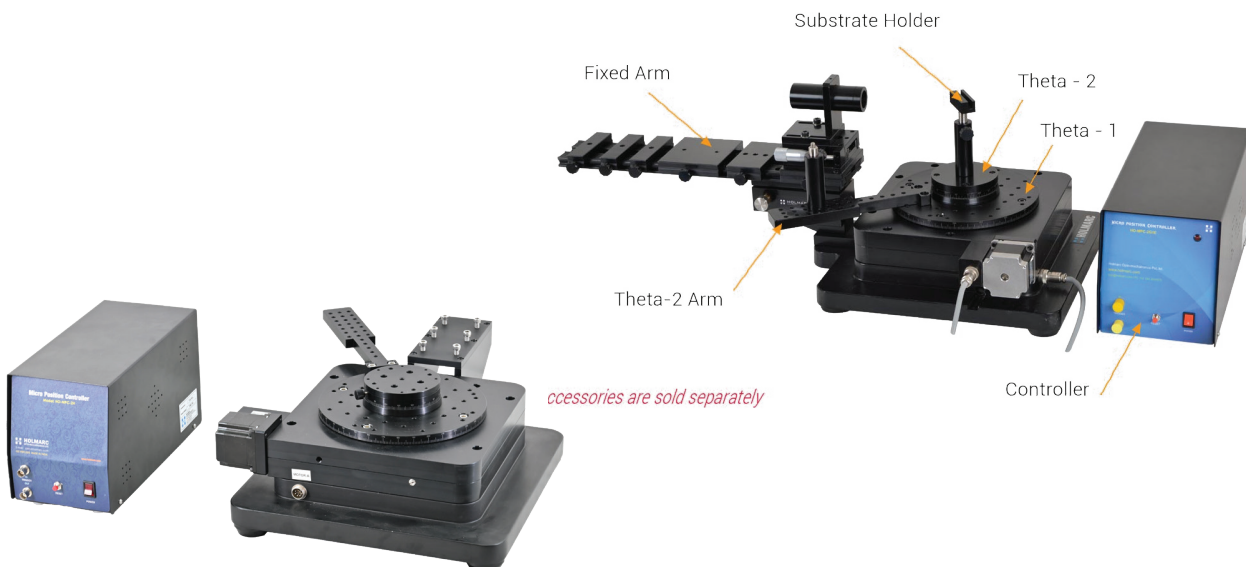
360° limitless movement

Preloaded ball bearing guides



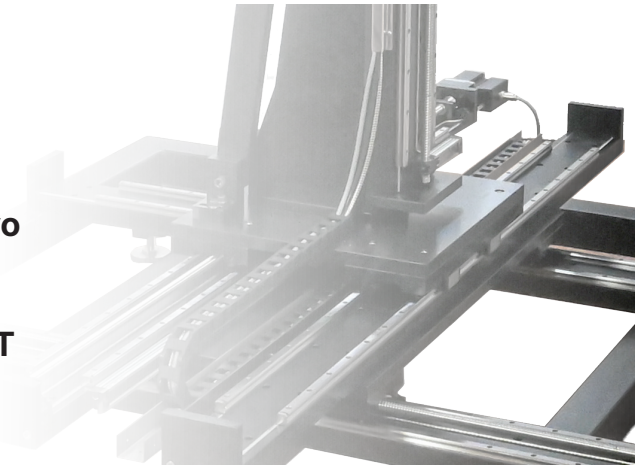
Specifications

Absolute positioning accuracy	Theta-1 : 0.05 degree
	Theta-2 : 0.05 degree
Repeatability	Theta-1 : 0.1 degree
	Theta-2 : 0.1 degree
Resolution	Theta-1 : 0.000625 degree
	Theta-2 : 0.000625 degree
Construction	Aluminum alloy on any rust free
Finish	Black anodized
Travel	Theta-1 : 360 degree continues
	Theta-2 : 300 degree
Feedback	Nil
Drive	Theta-1 : Stepper Motor
	Theta-2 : Stepper Motor
Maximum speed	Theta-1 : 8 degree / sec
	Theta-2 : 8 degree / sec
Limit switches	Theta-1 : Optical home sensing limit switch
	Theta-2 : Optical limit switches @ 300 degree apart
Mounting holes	Linear stages : M6 tapped holes
Pay-Load	Theta-1 : 5 Kg
Mounting holes	Theta-2 Arm : 8 kg
Finish	Fixed Arm : 5kg
Accessories	Accessories sold separately
Approximate Size	400 x 425 x 155 mm
Controller	2 axis stepper motor controller



Design Stage

- Customizable gantry and Cartesian stage designs
- Supports stepper, BLDC, or AC servo motors
- Six-axis manipulators for X-ray & CT imaging



Gantry Design Stage GTNDT Series

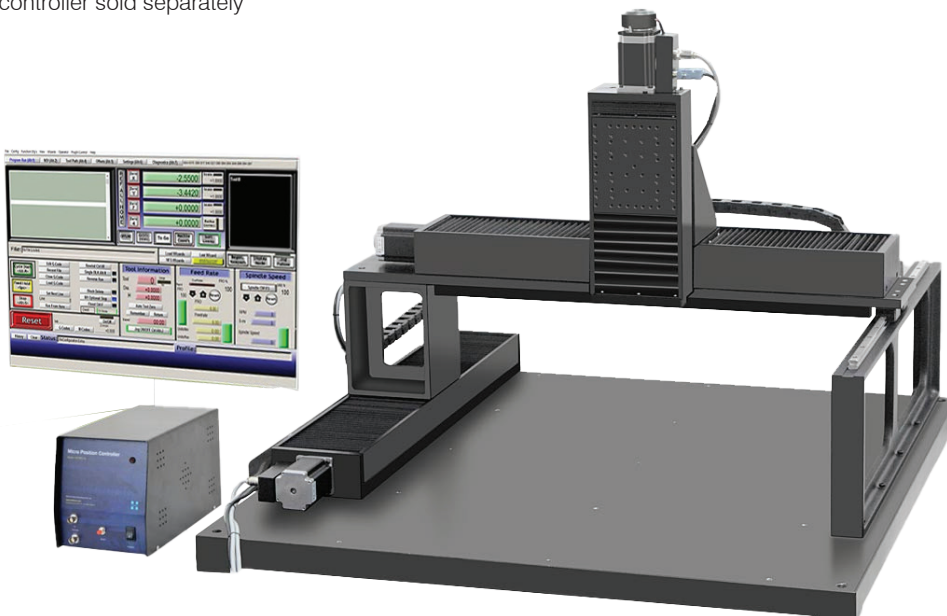
GTNDT Series

In gantry configuration, Z axis which is fixed to Y axis moves over a fixed platform / surface. Length and width of this platform covered by Z movement are limited to traverses in X and Y axes. Holmarc manufactures standard and custom stages in gantry configurations. Driver motors can be either stepper, BLDC or AC servo depending on the application. Holmarc provides control hardware and software for gantry stages with or without linear and circular interpolations. Standard stages are manufactured in aluminium alloy which is well suited for clean room environment. For rugged applications, construction material can be steel as well. Re-circulating ball bearing guides are used for X and Y axes. For Z axes, guideways can be either re-circulating or non-recirculating depending on the traverse and load conditions.

controller sold separately

**Specially developed
control software**

**Standard and customized
designs are available**



Specifications

Model	GTNDT Series
Straight line accuracy	300 micron over 1000 mm
Drive	Stepper motor / AC-Servo motor
Leadscrew	Leadscrew or ballscrew
Material construction	Aluminium, Cast iron, MS, SS
Base surface flatness	0.3 mm over 300 x 300 mm
Base mounting	
Table top mounting for up to GTNDT-500 series	
Base structure with caster wheel and leveling bolt for GTNDT 500-1000-ACS, GTNDT 500-1200-ACS, GTNDT 800-1500-ACS	

Stepper motor Drive

Model No.	X (mm)	Y (mm)	Z (mm)	Resolution	Load capacity Working surface	XYZ stage
GTNDT 100	100	100	25	0.625 μ m	50 Kg	5 Kg
GTNDT 200	200	200	50	1.25 μ m	50 Kg	5 Kg
GTNDT 300	300	300	75	1.25 μ m	50 Kg	10 Kg
GTNDT 500	500	500	100	1.25 μ m	75 Kg	20 Kg
GTNDT 500-1000	1000	500	200	3.125 μ m	100 Kg	25 Kg
GTNDT 500-1200	1200	600	200	3.125 μ m	100 Kg	30 Kg
GTNDT 800-1500	1500	750	200	3.125 μ m	100 Kg	30 Kg

Positioning accuracy				Maximum speed		
Model No:	X (mm)	Y (mm)	Z (mm)	X (mm)	Y (mm)	Z (mm)
GTNDT 100	5 μ m	5 μ m	5 μ m	8 mm / sec	8 mm / sec	8 mm / sec
GTNDT 200	10 μ m	10 μ m	5 μ m	16 mm / sec	16 mm / sec	8 mm / sec
GTNDT 300	20 μ m	20 μ m	5 μ m	16 mm / sec	16 mm / sec	8 mm / sec
GTNDT 500	50 μ m	50 μ m	10 μ m	16 mm / sec	16 mm / sec	16 mm / sec
GTNDT 500-1000	100 μ m	50 μ m	30 μ m	20 mm / sec	20 mm / sec	16 mm / sec
GTNDT 500-1200	100 μ m	50 μ m	30 μ m	20 mm / sec	20 mm / sec	16 mm / sec
GTNDT 800-1500	100 μ m	50 μ m	30 μ m	20 mm / sec	20 mm / sec	16 mm / sec

Servo motor Drive

Model No:	X (mm)	Y (mm)	Z (mm)	Resolution	Load capacity Working surface	XYZ stage
GTNDT 200-ACS	200	200	50	1.25 μ m	50 Kg	5 Kg
GTNDT 300-ACS	300	300	75	1.25 μ m	50 Kg	10 Kg
GTNDT 500-ACS	500	500	100	1.25 μ m	75 Kg	20 Kg
GTNDT 500-1000-ACS	1000	500	200	3.125 μ m	100 Kg	25 Kg
GTNDT 500-1200-ACS	1200	600	200	3.125 μ m	100 Kg	30 Kg
GTNDT 800-1500-ACS	1500	750	200	3.125 μ m	100 Kg	30 Kg

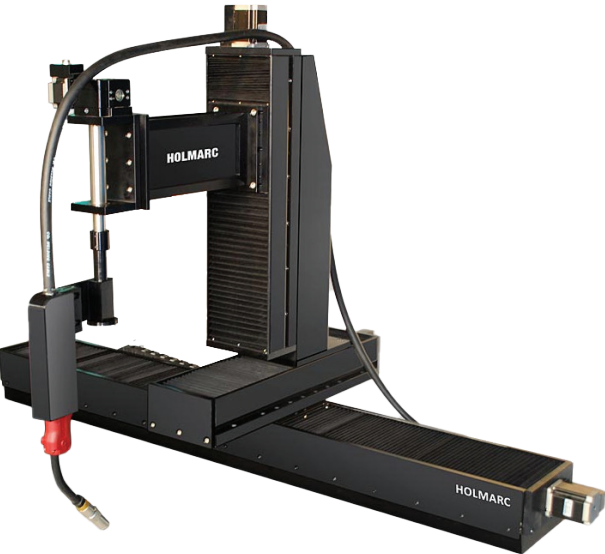
Positioning accuracy				Maximum speed		
Model No.	X (mm)	Y (mm)	Z (mm)	X (mm)	Y (mm)	Z (mm)
GTNDT 200-ACS	10 μ m	10 μ m	5 μ m	40 mm / sec	40 mm / sec	20 mm / sec
GTNDT 300-ACS	20 μ m	20 μ m	5 μ m	40 mm / sec	40 mm / sec	20 mm / sec
GTNDT 500-ACS	50 μ m	50 μ m	10 μ m	40 mm / sec	40 mm / sec	20 mm / sec
GTNDT 500-1000-ACS	100 μ m	50 μ m	30 μ m	100 mm / sec	100 mm / sec	40 mm / sec
GTNDT 500-1200-ACS	100 μ m	50 μ m	30 μ m	100 mm / sec	100 mm / sec	40 mm / sec
GTNDT 800-1500-ACS	100 μ m	50 μ m	30 μ m	100 mm / sec	100 mm / sec	40 mm / sec

Cartesian Design Stage SGTS Series

In Cartesian configuration, Y axis is fixed to the carriage of X axis and the Z axis is fixed to the carriage of Y axis. The stage is fixed to a suitable base structure depending on the application. As in the case of our standard motorized stages, drive motors can be stepper, BLDC or AC servo. Holmarc manufactures control electronics and software to go with these stages which can be standard as well as custom.

Customization with respect to size of the stages, traverse, load capacity, drive motor selection, ball screw pitch, speed, etc are offered by holmarc at the price of standard products. Our customers are welcome to discuss application needs with our engineers.

controller sold separately



Model No.	X (mm)	Y (mm)	Z (mm)
SGTS 200	200	200	50
SGTS 300	300	300	50
SGTS 400	400	400	50
SGTS 500	500	500	50

Automated XYZ Transverse System

Specifications



X axis travel	1200 mm
Y axis travel	1200 mm
Z axis travel	1200 mm
Lead screw pitch	10 mm
Speed	40 mm per second approximately
Positioning accuracy	50 microns
Load capacity	35 Kg
Communication	using RS232 as well as USB
Traverse positioning using handheld remote as well as using computer	



Multi Axis Manipulator

Model: HO-APS-300R2

Conventional and digital radiography techniques with multi axis manipulator have been widely used by industries for routine and in-service inspection for non destructive testing (NDT). Automated positioning and movement systems (manipulators) enable quality radiography images with minimum number of exposures. Holmarc manufactures six axes manipulators for X-ray & CT applications as standard products. The system is equipped with six motorized axis and two / three manual stages. On one of the arms, X-ray source (100kgs approx.) can be mounted while flat panel with lead mask (200kgs approx.) can be mounted on the other arm. Both these arms have X-Z movement (300 mm) with accuracy of 50 micron and option to have two more additional motorized axes. At the center of these two arms, the sample stage is mounted with motorized X, Y, Z and rotation stages. The manipulator makes the alignment of the source, detector and sample easy and precise. The position (rotation) of sample and automatically acquired radiography images for each are used to create computed tomogram of objects. Optional features such as motorized shutters, mounts for additional sources and detector etc. are available. We can tailor the system to our customers needs as well.

Useful for both X-ray & CT applications

Automated positioning & alignment of source, detector & sample



Radiography Multi Axis Manipulator

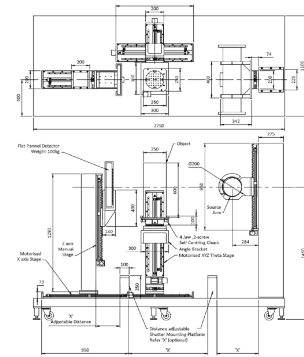
Conventional, Digital & CT
Model: HO-RGMAM-600R

Conventional and digital radiography techniques have been widely used by industries for routine and in-service inspection for non destructive testing (NDT).

Automated positioning and movement systems (manipulators) enable quality radiography images with minimum number of exposures.

Holmarc manufactures six axis manipulators for X-ray & CT applications as standard products. The system is equipped with six motorized axis and two / three manual stages. On one of the arms, X-ray source (100 kgs approx.) can be mounted while flat panel with lead mask (200 kgs approx.) can be mounted on the other arm. Both these arms have X-Z-movement (300 mm) with accuracy of 50 micron and option to have two more additional motorized axis. At the center of these two arms, the sample stage is mounted with motorized X, Y, Z and (rotation) stages. The manipulator makes the alignment of the source, detector and sample easy and precise. The position (rotation) of sample and automatically acquired radiography images for each are used to create computed tomogram of objects.

Optional features such as motorized shutters, mounts for additional sources and detector etc. are available. We can tailor the system to our customers needs as well.



Features

- Remote operation of the X-ray or CT system with reduced operator intervention
- Fast, precise and efficient positioning of samples, source and detector.
- Easy alignment
- Quality X-ray images with minimum number of exposures
- Faster CT with reduced artifacts
- Low cost and easy maintenance

Object Arm

4 axis with 600mm x, 300mm y, 600mm z travel and 360 degree Theta Travel

4 Jaw, 2 Screw Self Centering Chuck

Distance Adjustable Shutter Mounting Platform Refer 'X' (Optional)

Detector Arm

600mm Height Adjustment

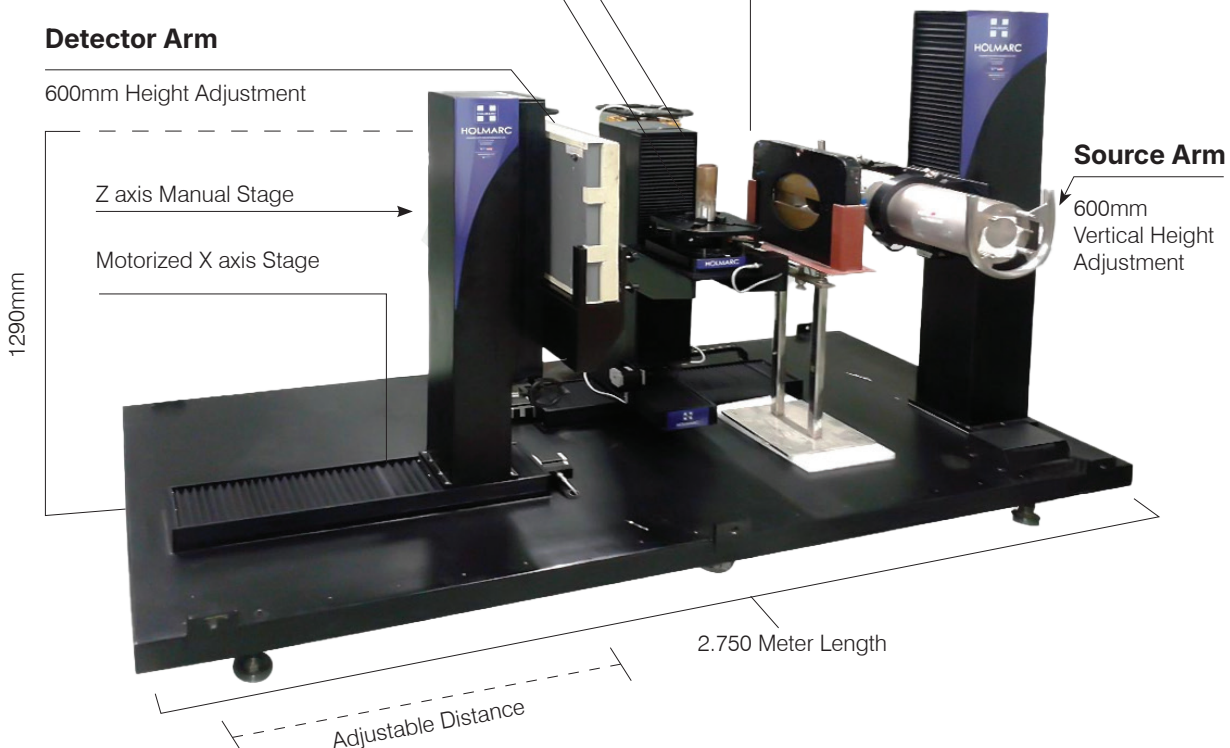
Z axis Manual Stage

Motorized X axis Stage

1290mm

Source Arm

600mm Vertical Height Adjustment



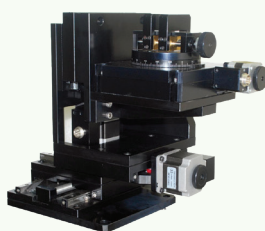
Model: HO-RGMAM-600R

Specifications	Source Arm	Detector Arm
Vertical height adjustment	600 mm	600 mm
Positioning Accuracy	1 mm	1 mm
Drive	Ball screw with manual gear box	Ball screw with manual gear box
Linear axis travel		600 mm
Positioning accuracy		0.05 mm

Specifications	Object Arm
Number of axis	4 (X,Y, Z, θ)
Positioning Accuracy	0.05 mm
X stage travel	600 mm
Y stage travel	300 mm
Z stage travel	600 mm
Theta stage travel	360 degree
Accuracy	0.1 degree
Drive	All axis motorized
Maximum object size	250 x 600 mm
Objects held by	Self centering chuck

Object Manipulator

Holmarc manufactures multi-axes linear and rotary stages for manipulating objects for NDT and other applications. Two standard models are described in this section. Both the models have four axes of freedom, three linear and one rotary. There are hand knobs fitted behind the motors for manual adjustments when ever required. Though fitted with stepper motors in standard models, brush less DC motors can as well be supplied along with rotary or linear encoder depending on the application needs.

Motorized X, Y, Z & θ Stage

Model No.	HO-RGMAM-COM3AR	HO-RGMAM-OM3AR
X Travel	25 mm	25 mm
Y Travel	25 mm	25 mm
Z Travel	25 mm	25 mm
Theta Travel	360 °	360 °
Positioning accuracy	0.05 mm	0.05 mm
Maximum object size	100 x 100 x 100 mm	100 x 100 x 100 mm
Object Locking Mechanism	Self centering Jaw	Self centering Jaw

Positioner



Pitch & Yaw Positioning Mechanism for Subsonic Wind Tunnel

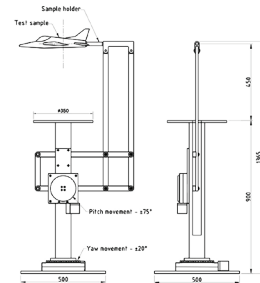
Model: HO-PY-WT01

Holmarc's Pitch & Yaw Positioning Mechanism for Subsonic Wind Tunnel. Test section size is 600 mm x 600 mm x 1200 mm. Maximum load due to the test model and instrumentations will not exceed 1.5 kgs during the test run. Blockage ratio will be less than 2% due to the mechanism. # controller sold separately

Specifications

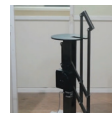


Pitching Angle	0 to 75 degrees
Yaw Angle	+/- 20 degrees
Speed range	2 to 35 m/s
Electronic controller for pitching and yawing	



Pitch Movement

+/- 75 degrees



Yaw Movement

+/- 20 degrees

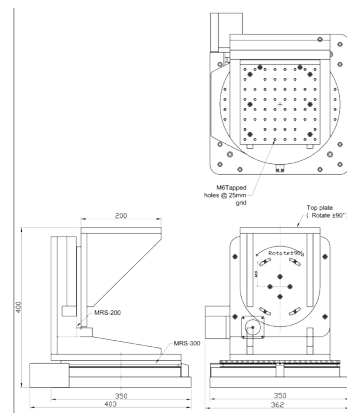
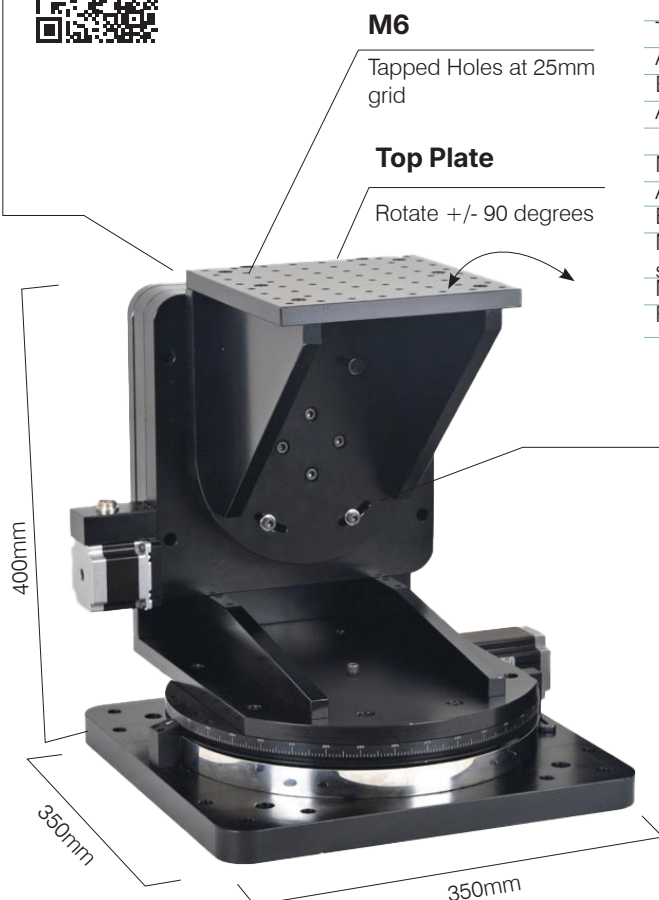


Antenna Positioner

Model: APS 300 Series

Holmarc's azimuth antenna positioner consists of horizontal heavy duty rotation stage driven by stepper/servo motor mounted horizontally. Antenna can be positioned at 1 meter height from the surface of the positioner using antenna mast made in wood or plastic. We provide suitable antenna mast along with the system as per customer specifications. There are two standard models having 300 mm diameter (medium duty) and 500 mm diameter (heavy duty) mounting area. Construction material is aluminium alloy for medium duty positioner and steel for heavy duty positioner. Stepper motor or BLDC servo motor is used as actuator. Manual positioning facility is provided by a hand wheel fixed to worm shaft. Rotary graduations in degree with one degree resolution is marked on the rotating surface for visual reference.

controller sold separately

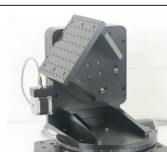


Antenna Positioner-Azimuth & Elevation



Model No.	HO-APS-300R2	HO-APS-300R2-ZZ
Payload	12 kg	12 kg
Drive	Stepper motor	AC servo motor
Travel range		
Azimuth	360° continuous	360° continuous
Elevation	+/- 90°	+/- 90°
Accuracy	0.1 Degree	0.1 Degree
Maximum Speed		
Azimuth	6.4 Degree / sec	80 Degree / sec
Elevation	8 Degree / sec	100 Degree / sec
Mounting platform size	200 x 200 mm	200 x 200 mm
Material	Aluminium	Aluminium
Finish	Black anodised	Black anodised

Rotate 90°



360° continuous travel range

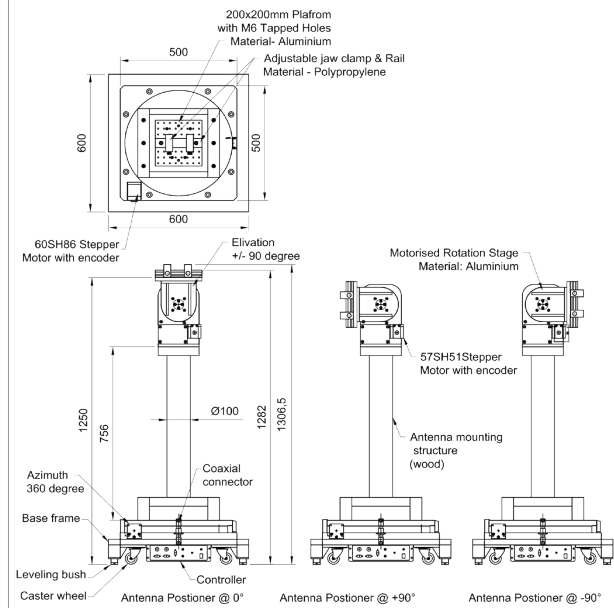
Having medium and heavy duty applications

Antenna Positioner

Model: APS 500 Series

Holmarc's azimuth antenna positioner consists of horizontal heavy duty rotation stage driven by stepper/servo motor mounted horizontally. Antenna can be positioned at 1 meter height from the surface of the positioner using antenna mast made in wood or plastic. We provide suitable antenna mast along with the system as per customer specifications. There are two standard models having 300 mm diameter (medium duty) and 500 mm diameter (heavy duty) mounting area. Construction material is aluminium alloy for medium duty positioner and steel for heavy duty positioner. Stepper motor or BLDC servo motor is used as actuator. Manual positioning facility is provided by a hand wheel fixed to worm shaft. Rotary graduations in degree with one degree resolution is marked on the rotating surface for visual reference.

controller sold separately



360° continuous travel range

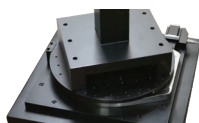
Having medium and heavy duty applications



Antenna mounting Structure

Wood

Coaxial Connector

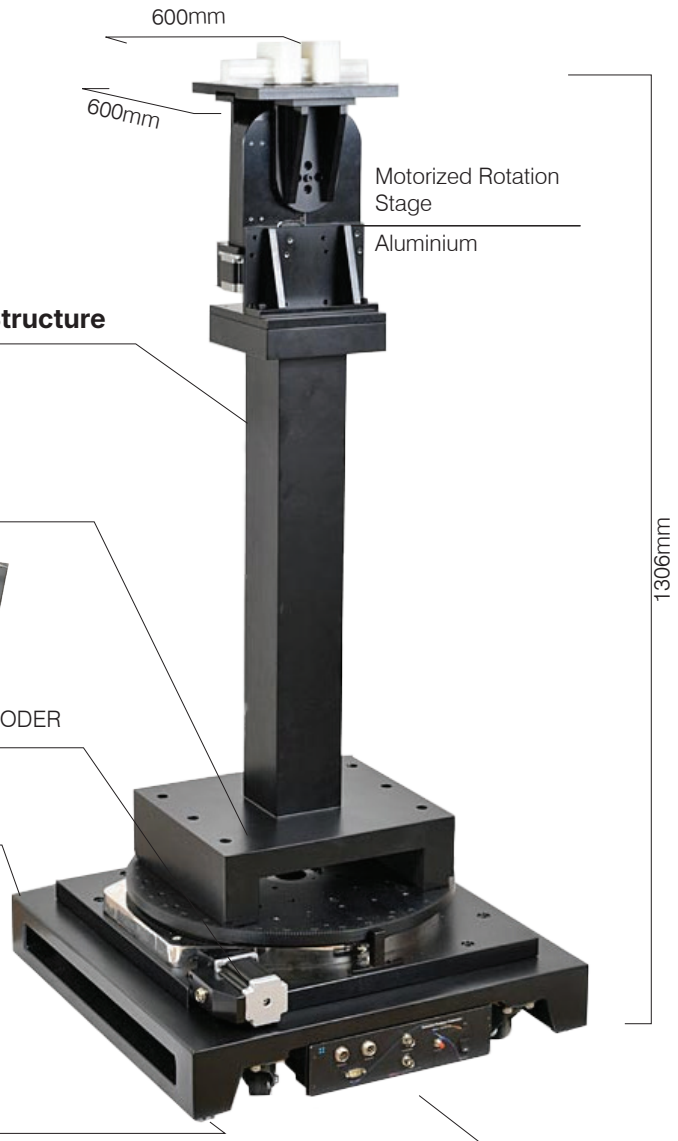


60SH86 STEPPER MOTOR WITH ENCODER

Base Frame

Leveling Bush

Controller



Antenna Positioner-Azimuth & Elevation



Model No.	HO-APS-500	HO-APS-500-ZZ
Payload	350 kg (without antenna mast)	350 kg (without antenna mast)
Payload	30 kg (with antenna mast)	30 kg (with antenna mast)
Drive	Stepper motor	AC servo motor
Travel range	360° continuous	360° continuous
Accuracy	0.1 Degree	0.1 Degree
Speed	Maximum 8 Degree / sec	100 Degree / sec
Material	Aluminium	Aluminium
Finish	Black anodised	Black anodised

Accessories

Model	Antenna mast	Antenna Jaw adjustable clamp
Material	Wood	Delrin / Poly propylene
Height	1 meter	
Finish	Painted	

Model	Mounting frame with leveling foot and caster wheel :
Material	MS
Finish	black painted

Antenna Positioner-Azimuth & Elevation



Model No	HO-APS-500R2	HO-APS-500R2-ZZ
Payload	12 kg (with antenna mast)	12 kg (with antenna mast)
Drive	Stepper motor	AC Servo Motor
Travel range		
Azimuth	360° continuous	360° continuous
Elevation	+/- 90°	+/- 90°
Accuracy	0.1 Degree	0.1 Degree

Maximum Speed		
Azimuth	8 Degree / sec	100 Degree / sec
Elevation	6 Degree / sec	75 Degree / sec
75 Degree / sec	200 x 200 mm	200 x 200 mm
Material	Aluminium	Aluminium
Finish	Black anodised	Black anodised

Antenna mast :		
Material	Wood	Wood
Finish	Painted	Painted

Accessories

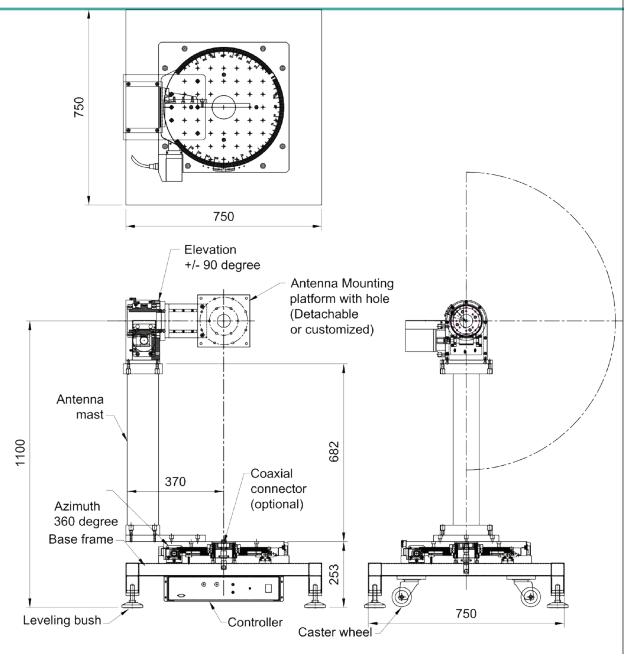
Model	Antenna clamp	Mounting frame
Type	Jaw adjustable	with leveling foot and caster wheel :
Material	Delrin / Poly propylene	MS
Finish		black painted

Dual Axis Antenna Positioner with Azimuth and Elevation Control

APS 500-D Series

Holmarc's azimuth antenna positioner consists of horizontal heavy duty rotation stage driven by stepper/servo motor mounted horizontally. Antenna can be positioned at 1 meter height from the surface of the positioner using antenna mast made in wood or plastic. We provide suitable antenna mast along with the system as per customer specifications. There are two standard models having 300 mm diameter (medium duty) and 500 mm diameter (heavy duty) mounting area. Construction material is aluminium alloy for medium duty positioner and steel for heavy duty positioner. Stepper motor or BLDC servo motor is used as actuator. Manual positioning facility is provided by a hand wheel fixed to worm shaft. Rotary graduations in degree with one degree resolution is marked on the rotating surface for visual reference.

controller sold separately



Antenna Mounting Platform

with hole detachable or customized



Load Capacity

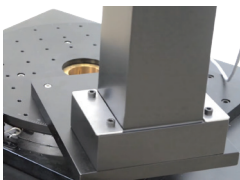
15 Kg

Antenna Mast

Wooden with 1 meter Length

Coaxial Connector (Optional)

Mounting Frame



Leveling Bush

Controller

Caster Wheel

Azimuth
+/-175 degree

1100mm

750mm

Specifications



Azimuth travel	+/-175 degree with limit sensors to prevent movement beyond travel range
Elevation travel	+/-90 degree (Zero position towards horizon, limit sensors to prevent movement beyond travel range)
Accuracy	0.1 degree (Azimuth & Elevation)
Maximum speed	8 degree/s (Azimuth), 12 degree/s (Elevation)
Load capacity	15 kg (At a distance of 20 cm from the elevation axis of rotation)
Actuators	Stepper motor
Mounting platform size	150 x 150 mm
Material	Aluminium Alloy
Surface finish	Black anodized
Foot print	750 x 750 mm

Antenna Mast

Length	1 meter
Material of construction	Wood
Surface finish	Painted

Antenna clamp

Detachable clamp with M6 tapped holes	
Material of construction	Aluminium Alloy

Mounting frame

With levelling foot and caster wheel	
Material of construction	Mild Steel
Surface finish	Painted
Foot print	750 x 750 mm

Dual axis position controller

Two stepper motor drives, controller card and power supply in a single enclosure	
Controls both the azimuth and elevation stages according to the user program	
Programmable motion profile using Windows software	
PC interface	RS232C or USB

1/16 microstepping stepper motor drives

Home and limit sensor interface	
Motor cables, RS232 cable and USB to serial converter included	
Power input	230V 50Hz
Power consumption	100W

Lab Jacks

- Lifts assemblies like lasers and stages
- Provides rugged height-adjustable platform
- Remote control via PC or handheld unit



Manual Labjack

LJ SERIES

This is a labjack that offers excellent rigidity and positioning accuracy. These labjacks can be used to lift assemblies like Lasers, Stages etc. This model uses scissors type design.



Specifications

Vertical height adjustment by 1 mm pitch lead screw

Parallelism : 0.1mm for the entire travel

M6 tapped holes on the top at 25 mm grid.

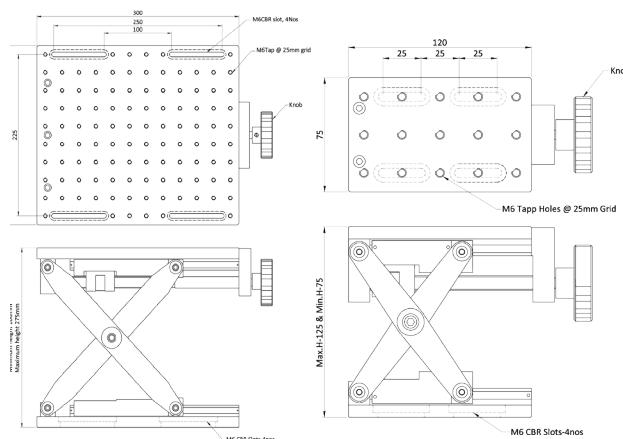
M6 tapped holes on the top at 25 mm grid.

Aluminium alloy & stainless steel construction

Black anodized

Smooth and stable vertical adjustment

Scissors type design



MODEL LJSS300-250

MODEL LJ120-75

Vacuum Compatible Labjack



Smooth and stable
vertical adjustment

Scissors type design

Vacuum compatible lab jacks are used in applications where the height adjustment is required inside vacuum environment. The gear ratio is made in 8:1 which ensures smooth movement. The gear materials are made in bronze which itself is lubricating and require very little grease. There is also an option to move the stage manually using a knob provided in the motor. High vacuum grade cables and motors are used in this series. We have also provided an option to adopt the vacuum series in manual lab jacks also. To select the required model, please add 'V' on the model while choosing. For eg: For opting vacuum compatibility in the manual model labjack : LJSS 300-150, the model number will be V-LJSS 300-150.

Model No	L (mm)	B (mm)	H (min, max) (mm)	Load Capacity
LJ120 - 75	120	75	75, 125	5
LJ150 - 100	150	100	75, 150	10
LJ180 - 100	180	100	75, 150	15
LJSS250 - 150	250	150	100, 200	10
LJSS250 - 200	250	200	100, 200	10
LJSS250 - 250	250	250	100, 200	12
LJSS300 - 150	300	150	100, 270	25
LJSS300 - 250	300	250	100, 270	30
LJSS300 - 300	300	300	100, 270	30
LJSS300 - 350	350	350	100, 270	30

Motorized Labjack

MLJ SERIES



Labjacks combine precision height adjustment in a stable design with high load capacity. These Motorized Labjacks provide a rugged height adjustable platform ideal for mounting optomechanical sub assemblies requiring height adjustments. It can be controlled remotely by using a PC or a hand held unit.

The upper and lower mounting plates have M6 tapped holes and clearance slots respectively for general mounting requirements.

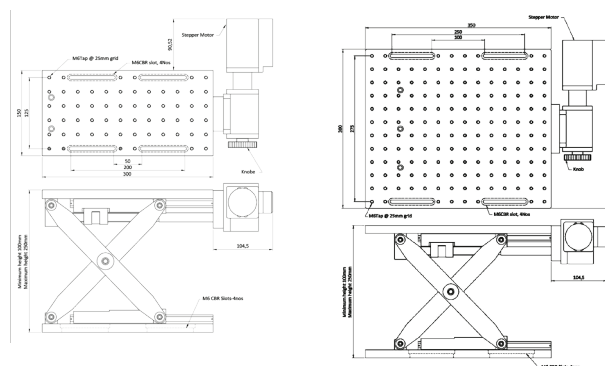
Specifications

- Load capacity : Up to 20 kg
- Vertical height adjustment by lead screw.
- Precision roller linear guide way
- Actuator : Geared stepper motor
- Parallelism : 0.1mm for entire travel
- M6 tapped holes on the top at 25 mm grid.
- M6 clearance slots at the base
- Aluminium alloy
- Black Anodized

Model No	L (mm)	B (mm)	H (min, max) (mm)	Load Capacity
MLJ300 - 150	300	150	105, 270	20
MLJ300 - 250	300	250	105, 270	20
MLJ300 - 300	300	300	105, 270	20
MLJ350 - 250	350	250	105, 270	20
MLJ350 - 300	350	300	105, 270	20
MLJ350 - 350	350	350	105, 270	20
MLJ550 - 450	550	450	200, 350	20

Vacuum Compatible Labjack

We have also provided an option to adopt the vacuum series in manual lab jacks also. To select the required model, please add 'V' on the model while choosing. For eg: For opting vacuum compatibility in the motorized model labjack : MLJ 300-150, the model number will be V-MLJ 300-150.



MODEL MLJ300 - 150

Excellent rigidity and positioning accuracy

Geared stepper motor driven Actuator

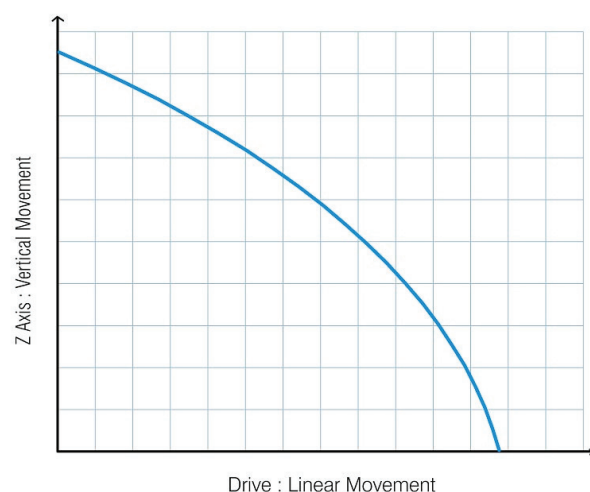
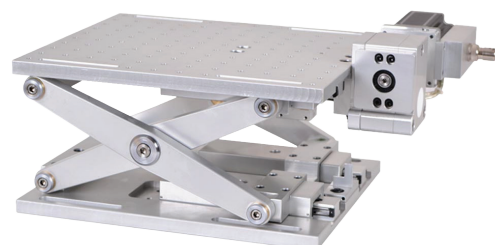
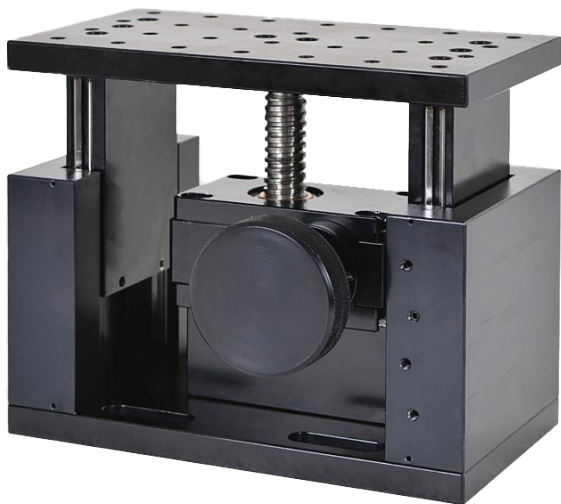


Fig. Motorized Lab Jack Movement Graph
MLJ Series lab jacks offer excellent rigidity and positioning accuracy with high load capacity. It can be used to lift larger assemblies like lasers, microscopes etc. This model uses scissors type design



Heavy Duty Labjack

HDLJ SERIES



A geared screw jack design help our jack lift weight up to 50 - 75kg, lifting platform size various fro 180 x 100 and 200 x 200mm and can raise up to 50 mm from its minimum height, precision roller slides are used to guide the heavy duty labjack in position.

Specifications

Vertical height adjustment by 4 mm pitch lead screw with Gear Box

Parallelism: 0.1 mm for entire travel

Load Capacity : 50 to 75 kg

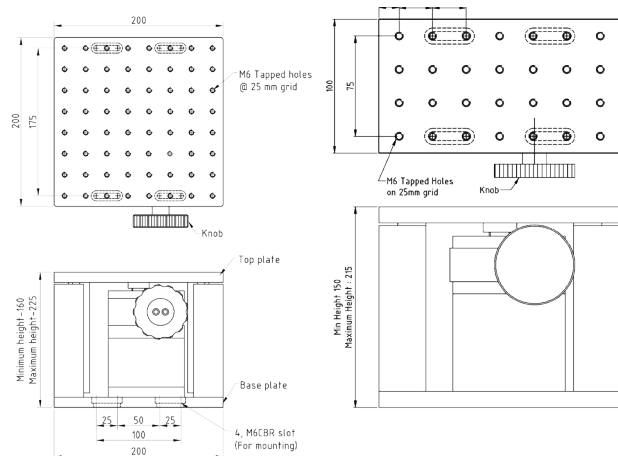
Travel Range : 50 mm

M6 tapped holes at the top at 25 mm grid

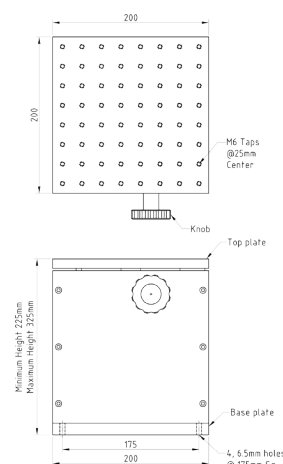
M6 clearance slots at bottom

Aluminium alloy

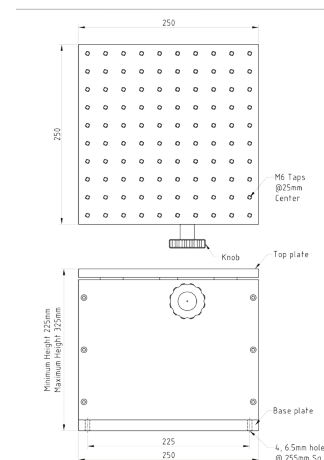
Black anodized



MODEL HD LJ200-200



MODEL HD LJ200-200-A



MODEL HD LJ250-250-A

Model No	L (mm)	B (mm)	H (min, max) (mm)	Travel (mm)	Load Capacity
HD LJ180-100	180	100	150, 215	65	65 Kg
HD LJ200-200	200	200	160, 225	65	75 Kg
HD LJ250-250	250	250	200, 250	50	75 Kg
HD LJ200-200-A	200	200	225, 325	100	50 Kg
HD LJ250-250-A	250	250	225, 325	100	50 Kg
HD LJ300-300-A	300	300	225, 325	100	75 Kg
HD LJ300-300-B	300	300	250, 375	125	75 Kg

High load capacity up to 100 Kg

4 mm pitch lead screw drive

Vacuum Compatible Labjack

Vacuum compatibility in the Heavy duty Labjack : HDLJ 300-250, the model number will be V - HDLJ 300-250.

Motorized Heavy Duty Labjack

A geared screw jack design help our jack lift weight up to 50 - 55kg with help of a stepper motor , lifting platform size various fro 180 x 100 and 200 x 200mm and can raise up to 50 mm from its minimum height, precision roller slides are used to guide the heavy duty labjack in position.

Specifications

Vertical height adjustment by 4mm pitch lead screw with Gear Box

Parallelism: 0.1 mm for entire travel

Positioning Accuracy : 0.1 mm

Load Capacity : 50 to 55 kg

Travel Range : 50 mm

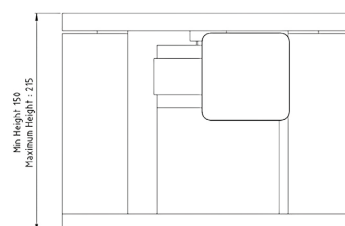
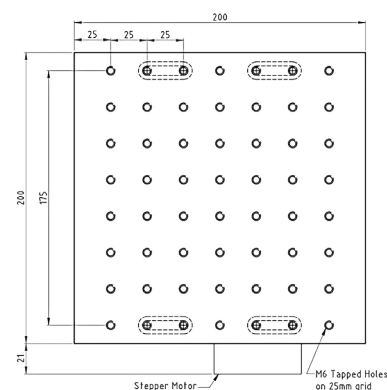
M6 tapped holes at the top at 25 mm grid.

M6 clearance slots at bottom

Aluminium Alloy & Stainless Steel Construction

Black Anodized

Model No	L (mm)	B (mm)	H (min, max) (mm)	Travel (mm)	Load capacity
MHD LJ180-100	180	100	150, 215	65	50 Kg
MHD LJ200-200	200	200	160, 225	65	55 Kg
MHD LJ250-250	250	250	200, 250	50	50 Kg
MHD LJ200-200-A	200	200	225, 325	100	50 Kg
MHD LJ250-250-A	250	250	225, 325	100	50 Kg
MHD LJ300-300-A	300	300	225, 325	100	75 Kg
MHD LJ300-300-B	300	300	250, 375	125	75 Kg
MHD LJ350-250	350	250	200, 220	20	50 Kg



Controller for Motorized Lab jack

Model No : HO-MPC-1HL

This is a simple electronic device which provides up and down motion control to the motorized lab jacks. Holding down the up and down key will move the platform up or down correspondingly and releasing the key will stop the movement.

The speed can be varied using a control knob provided in the box. The LCD display provided in the control box will display the distance travelled. The Box will be separated from the Lab jack using a cable of length 3 meters. The power input can be 120V or 220V AC depending on requirement.

Vacuum Compatible Labjack



Features

- In built motor drives
- PWM current control
- 1 A to 5A Stepper drive
- Up to 1 / 256 micro step
- Microprocessor controlled
- Power down mode
- Position & speed control
- Acceleration / deceleration
- Trigger I / O
- In-built power supply
- Software for PC based operation
- Serial port (RS232C) connectivity
- Optional USB to serial converter
- Optional wireless connectivity (Bluetooth)
- Customized Motion Control and Data Acquisition Systems
- Handheld Motion Control System
- Software (Micro-Motion)
- Manual Mode . Programmable mode

Controller for Motorized Lab jack

MODEL NO : HO-MPC-1H



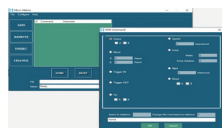
This is a simple electronic device which provides up and down motion control to the motorized lab jacks. Holding down the up and down key will move the platform up or down correspondingly and releasing the key will stop the movement.

knob provided in the box. The LCD display provided in the control box will display the distance travelled. The Box will be separated from the Lab jack using a cable of length 3 meters. The power input can be 120V or 220V AC depending on requirement

The speed can be varied using a control

Micro Motion

Model No:	Number of axis	Motor Type	Motor Torque (kg cm)	Control	Typical Pay load (kg)	Option
MPC-1-ST-OL	1	Stepper	1.5	Open Loop	20	None
MPC-2-SV-OL	2	Servo	7	Closed Loop	35	None
MPC-3-ST-OL	3	Stepper	10	Open Loop	50	None
MPC-4-SV-OL	4	Servo	15	Closed Loop	60	None
MPC-6-ST-OL	6	Stepper	31	Open Loop	80	None
MPC-4-ST-CL-H	4	Stepper	7	Closed Loop	35	Hand Held Unit



Software (Micro-Motion)
Manual Mode/ Programmable mode

Handheld Motion Control System



MODEL NO : HO-MPC-1H

Controller for Motorized Lab jack

Holmarc offers a wide range of high-precision micro positioning devices and systems. Micro-Motion along with a combination of one or more of the MTS, LTMS or MTTS series motorized stages make a high accuracy positioning system for research and industrial applications. The option for selecting any of the various models of motorized translation stages makes it easy to develop a complete position control system involving any or all of the three linear or rotational axes.

Holmarc stepper motor controller has microstep drives offering microstepping down to 16 microsteps per step. Usually stepper motor has 200 steps per revolution. We can increase step per revolution by using drives which can divide a single step in to 16 microstep. This allows much higher resolution up to 3200 micro steps per revolution.

Micro-Motion unit also supports encoder feedback. A built in algorithm counts the incoming pulses from the encoder and compares it with the commanded number of steps to verify the accuracy of movement



Multi Axis Positioning

Holmarc provides positioning controllers up to 6 axes for all motion applications, individually programmable for stepper motor driven stages. Multi axis position controller is recommended for a wide variety of both simple and complex motion applications.

Microstep Configuration	Micro steps per revolution
1 / 2	400
1 / 4	800
1 / 16	3200

Customized Motion Control and Data Acquisition Systems

Holmarc also provides custom motion controllers with graphics LCD and micro switch keyboard which facilitates stand alone operation with a wide range of functions, without interfacing to a PC. The user interface in these systems can be developed according to specific application. Hence, the user is freed from meddling with unwanted features. The short learning curve also allows the user to dedicate more time on actual task. We will help you to develop a complete system

for your motion control and data acquisition application using Holmarc's wide range of standard and custom products. Any third party instruments which have commonly used hardware or software interfaces like RS232, GPIB, DCOM etc can be use with the system.

Handheld Motion Control System

Hand-held stepper motor controller-driver offers up to 4 axes control for actuators, linear stages and rotation stages. The hand held unit features 16X micro stepping ratio for smooth, high resolution positioning. Two primary control modes are available, manual control and computer control.

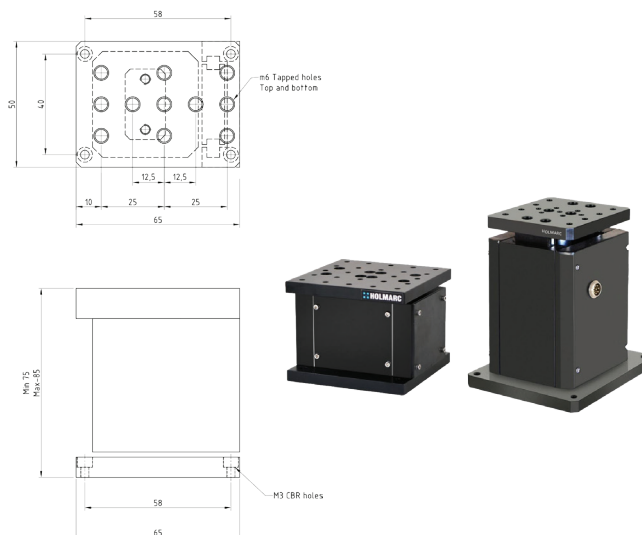
To drive the stage using a PC, a command set will be provided to communicate with the controller using LabVIEW or any other programming language through RS 232 port.



Motorized Vertical Translation Stages

MVTS SERIES

Holmarc's motorized actuator can be used to replace micrometers in translation stages or lead screws in kinematic mounts for making the positioning automated with appropriate control electronics. Drive is achieved by a stepper motor coupled to a precision lead screw-nut mechanism. The spindle of the actuator which moves forward and backward when the motor rotates is made non-rotating to bring in extra precision. Construction material is stainless steel. Our standard position controllers can be used to drive these actuators without any customization. Holmarc can supply kinematic mounts and stages fitted with these actuators for custom applications. You are welcome to discuss your needs with our sales engineers.



Absolute Positioning accuracy	5 micron
Travel	10 - 50 mm
Resolution	0.625 micron (1/16 microstep) *
Repeatability	5 micron *
Straight line accuracy	10 micron *
Parallelism	5 micron (total travel)
Assembly	10 micron
Full travel	5 micron
Maximum Speed	8 mm / sec *
Minimum continuous speed	12.5 micron / sec *
Feedback	Nil
Linear Guide way	Pre-loaded roller bearing
Material Construction	
Main body	Aluminum 6061
Lead screw	Steel hardened
Nut	Brass / Bronze
Load Capacity	10 - 15 kg
Motor	Stepper Motor
Lead screw	
Lead screw pitch	2 mm (can be modify on request)
Lead screw type	Precision ground lead screw
Coupling	Directing coupling (coupling not included)
Bearings	SKF or Equivalent
Lubricants	Grease
Finish	Black Anodized
Mounting holes	
Top Plate	M6 Mounting holes on 25mm grid
Bottom plate	M6 Clear Holes
Operating temperature	5 - 80 degree centigrade
Accessories	Nil
Electrical connector	9 pin brass connector
Limit switches	Optical limit switch
Controller	Single axis controller
Hand held controller	Optional handheld controller on request

0.5mm Pitch Lead Screw

Model No	L (mm)	B (mm)	H (min, max) (mm)	Travel (mm)	Load Capacity
MVTS-5065-10	65	50	75 - 85	10	2 Kg
MVTS-5065-25	65	50	90 - 115	25	2 Kg
MVTS-65-10	65	65	90 - 100	10	5 Kg
MVTS-65-25	65	65	90 - 115	25	5 Kg

1 mm Pitch Lead Screw

Model No	L (mm)	B (mm)	H (min, max) (mm)	Travel (mm)	Load Capacity
MVTS-75-10	75	75	75 - 85	10	5 Kg
MVTS-75-25	75	75	90 - 115	25	5 Kg
MVTS-90-10	90	90	90 - 100	10	5 Kg
MVTS-90-25	90	90	100 - 125	25	5 Kg

2 mm Pitch Lead Screw

Model No	L (mm)	B (mm)	H (min, max) (mm)	Travel (mm)	Load Capacity
MVTS-125-10	125	125	100 - 110	10	15 Kg
MVTS-125-25	125	125	125 - 150	25	15 Kg
MVTS-125-50	125	125	150 - 200	50	10 Kg
MVTS-125125-35	125	125	150 - 185	35	10 Kg
MVTS-125180-10	125	180	100 - 110	10	15 Kg
MVTS-125180-25	125	180	125 - 150	25	15 Kg
MVTS-125180-50	125	180	150 - 200	50	10 Kg
MVTS-200200-10	200	200	100 - 110	10	12 Kg
MVTS-200200-25	200	200	125 - 150	25	10 Kg
MVTS-200200-50	200	200	150 - 200	50	8 Kg

2 mm Pitch Lead Screw

Model No	L (mm)	B (mm)	H (min, max) (mm)	Travel (mm)	Load Capacity
MVTS-150150-35	150	150	200 - 235	35	10 Kg
MVTS-125125-100	125	125	250 - 350	100	10 Kg
MVTS-150150-100	150	150	250 - 350	100	10 Kg

4 mm Pitch Ball Screw

Model No	L (mm)	B (mm)	H (min, max) (mm)	Travel (mm)	Load Capacity
MVTS-200150-250	200	150	475 - 725	250	25 Kg
MVTS-200200-250	200	200	475 - 725	250	25 Kg



Designed @ HOLMARC Design LAB
Cochin, May 2020



State of the art manufacturing Quick turn customization

Holmarc is unique in its ability to design, prototype, and manufacture under one roof .
We have well-developed optic, mechanical & electronics fabrication facilities and thin film coating unit.
Contact us for assistance with your manufacturing needs.

5000+

With more than 5000 products, Holmarc Opto-Mechatronics Ltd. stands at the forefront of scientific and engineering innovation. Our comprehensive range—from precision optics to advanced laboratory instruments—empowers research, education, and industry. With 150–200 new products introduced annually, our commitment to innovation and quality ensures reliable performance and long-term value.

Product Group

Optical Tables, Breadboards & Enclosures | Rail carriers & Accessories | Optomechanics
Positioning Devices | Optics | Analytic Instruments | Imaging Devices
Optical Fibers, Positioners & Accessories | Optical Sources & Detectors | Spectroscopy
Bio-Lab Instruments | Life Science | Thin Film Lab Equipments | Holography | Physics Instruments



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KOCHI - 683 503, KERALA,INDIA

PHONE CONTACTS

Tel: 91-484-2540075 (Off)
91-484-3266603 (Factory)
Fax: 91-484-2540882

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