

Motorized Linear Stages

- Five-phase stepping motor
- Low profile, high load capacity
- High rigidity, hardened steel, unibody-shaped rail
- Easy to use - plug & play
- Travel range 20-1500mm



The SGSP Series of motorized stages incorporate unique five-phase stepping motor and high-precision guide actuators to provide precise movements. The stages are available in a range of travels lengths and load capacities to meet your demanding requirements.

The five-phase stepper motor enables the SGSP Series stages to be light weight, compact and have less vibration than a standard stepping motor. The five-phase motor improves accuracy by increasing the number of steps. The result is finer mechanical resolution for precision micron stepping controlled motion.

The unibody shaped construction with integrated rail is precision honed to provide maximum stability. The construction results in a structure that resists the effects of pitch and yaw to provide the stability required for many applications.

The stages are available in X, XY, Z configurations with range of travel from 20-1500mm. Depending on the product you select the load capacity ranges from 5kg to 50kg. OptoSigma also offers additional stepper motor products including rotation and ZF stages.

OptoSigma offers a large variety of motorized positioning solutions. Our positioning stages are suitable for laboratory and OEM applications. If you would like help in selecting the most appropriate positioning device for your application please call. Our experienced Applications Engineers are ready to help in any way they can.

Piezo Stages

Linear Stages

Rotation Stages

ZF Stages

Motorized Optics Holders

Goniometers

GS Closed Loop Stages

Controllers & Drivers

Cables & Accessories

Software

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 OptoSigma®

Piezo Stages

Linear Stages

Rotation Stages

ZF Stages

Motorized Optics Holders

Goniometers

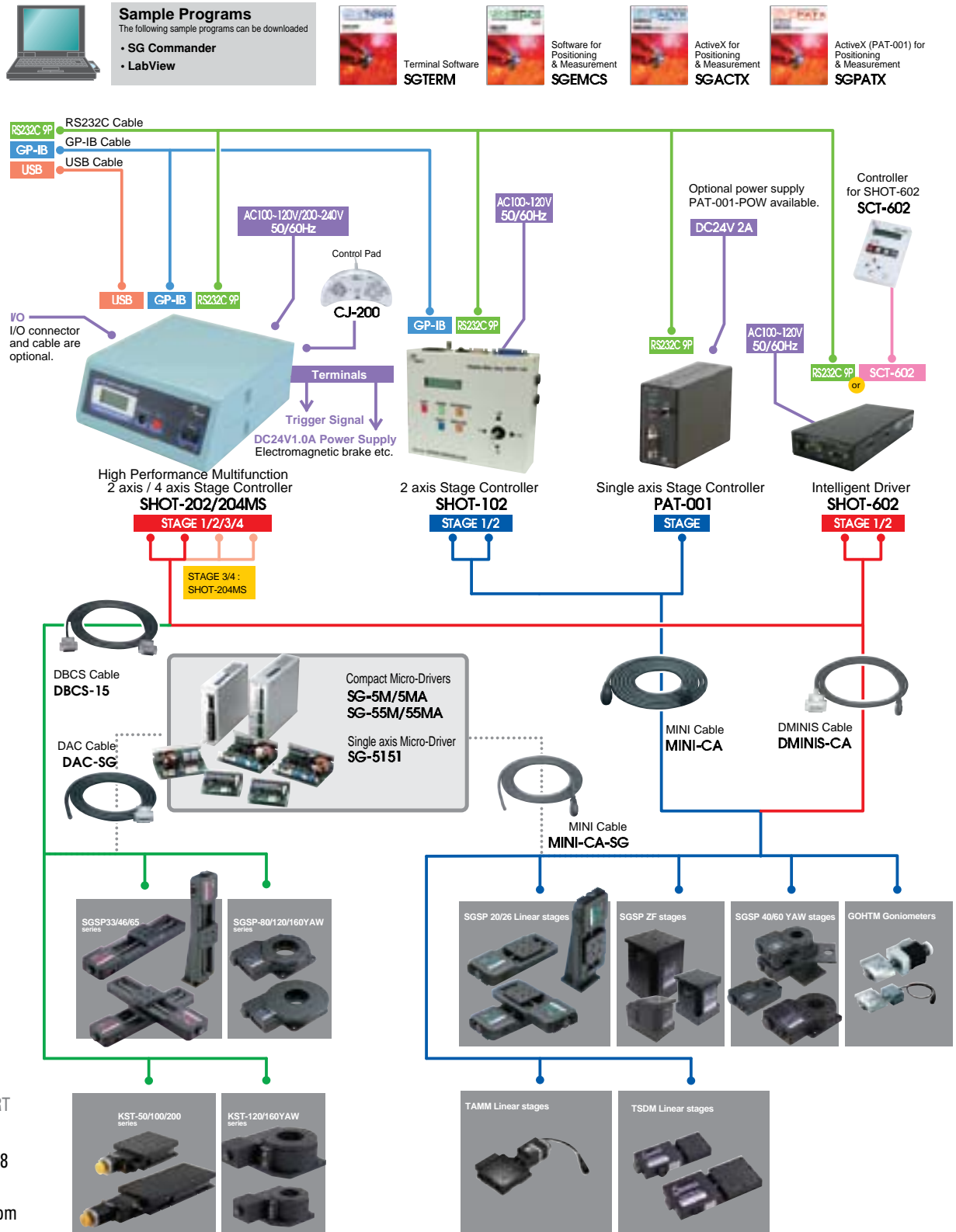
GS Closed Loop Stages

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SGSP series System Diagram



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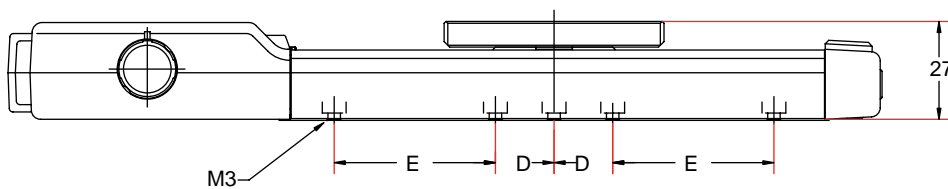
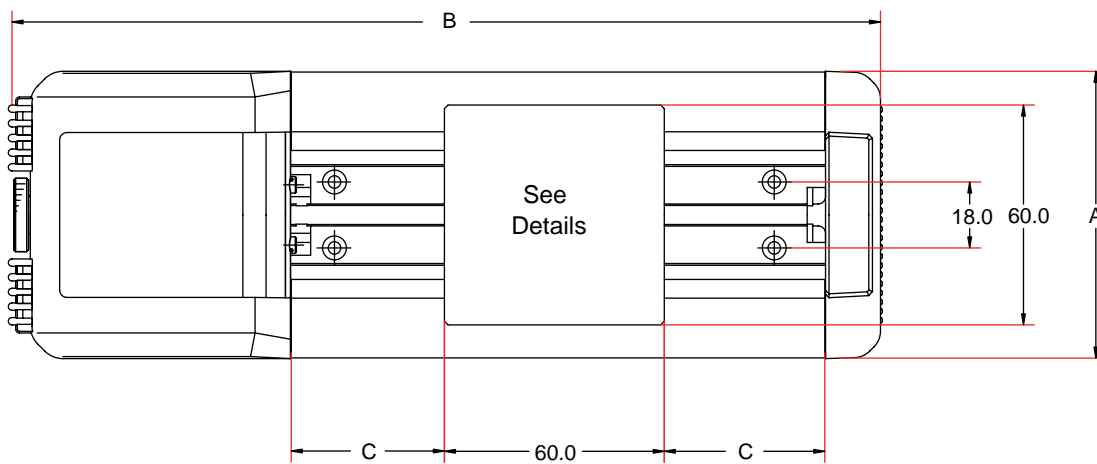
SGSP 20 Series Linear Stages

- Five-phase stepper motor
- Travel 20mm to 85mm
- Table 60mm x 60mm with inch or metric hole pattern
- Positional repeatability to $\leq 0.003\text{mm}$
- X, XY and Z configurations

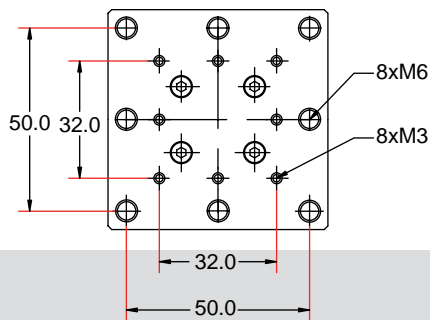
- Piezo Stages
- Linear Stages**
- Rotation Stages
- ZF Stages
- Motorized Optics Holders
- Goniometers
- GS Closed Loop Stages
- Controllers & Drivers
- Cables & Accessories
- Software

Part No.	Dimensions (mm)				
	A	B	C	D	E
SGSP20-20	61.5	124.5	10.0	*30.0	0
SGSP20-35	78.4	188.5	17.5	*16.0	14.0
SGSP20-85	78.4	238.5	42.5	16.0	44.0

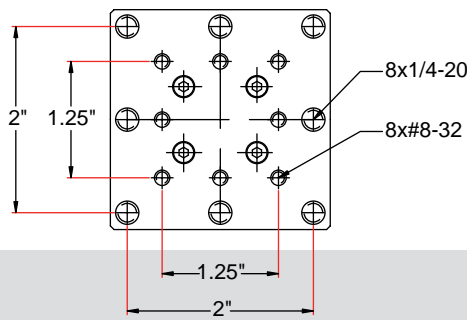
Note: *no mounting hole present between D-D



METRIC (-M6)



INCH



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SGSP 20 SERIES MOTOR STAGE

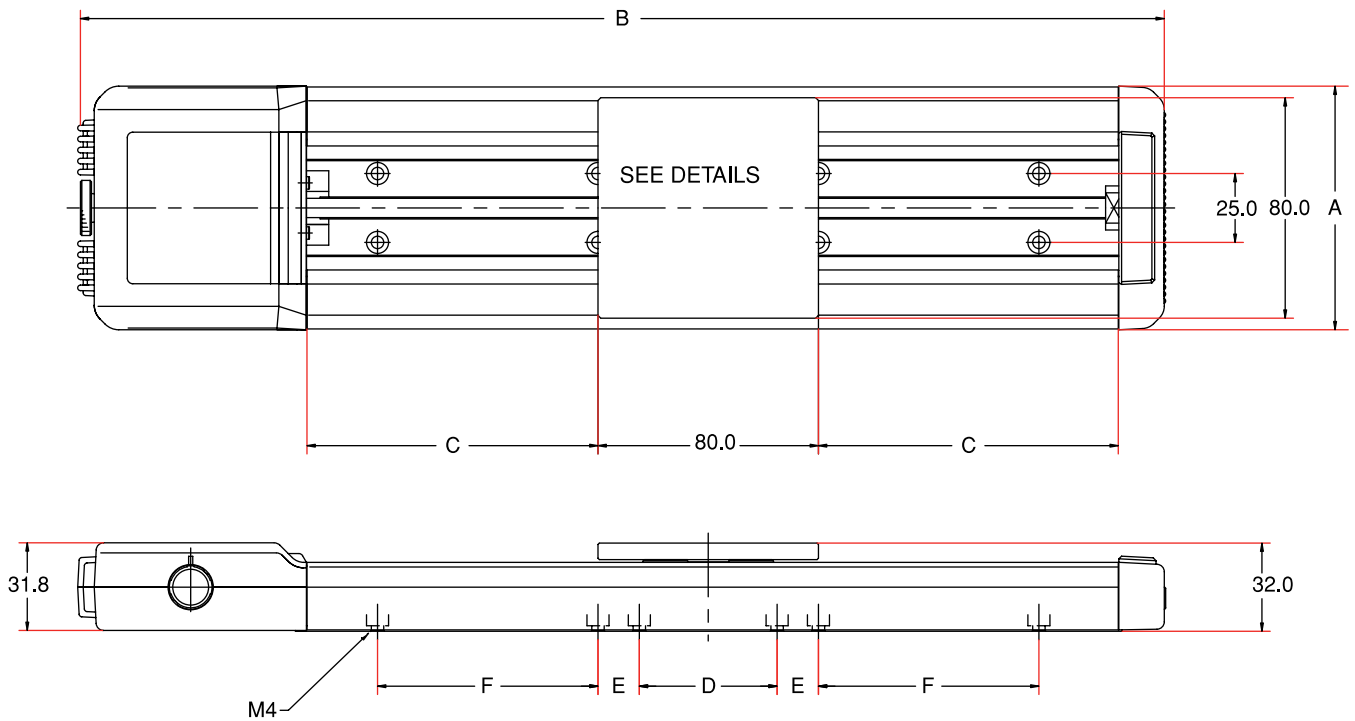


SGSP 26 Series Linear Stages

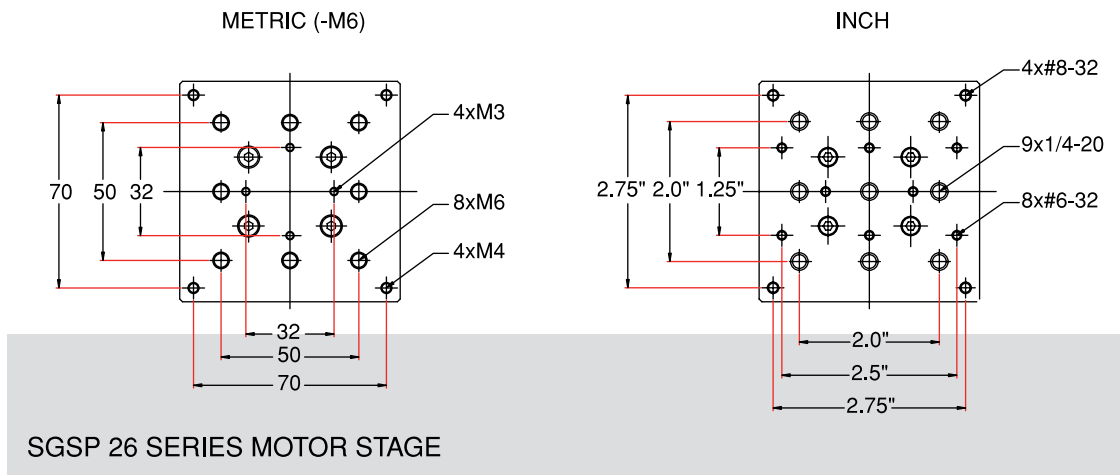
- Five-phase stepper motor
- Travel 50mm to 200mm
- Table 80mm x 80mm with inch or metric hole pattern
- Positional repeatability to <0.003mm
- X, XY and Z configurations

Part No.	Dimensions (mm)					
	A	B	C	D	E	F
SGSP26-50	88.4	245.0	25.0	50.0	15.0	0
SGSP26-100	88.4	295.0	50.0	*50.0	55.0	0
SGSP26-150	88.4	345.0	75.0	50.0	15.0	0
SGSP26-200	88.4	395.0	100.0	50.0	15.0	80.0

Note: *no mounting holes present at center line of D



Note: * 2 Mounting holes present at center line of D



SGSP 26 SERIES MOTOR STAGE

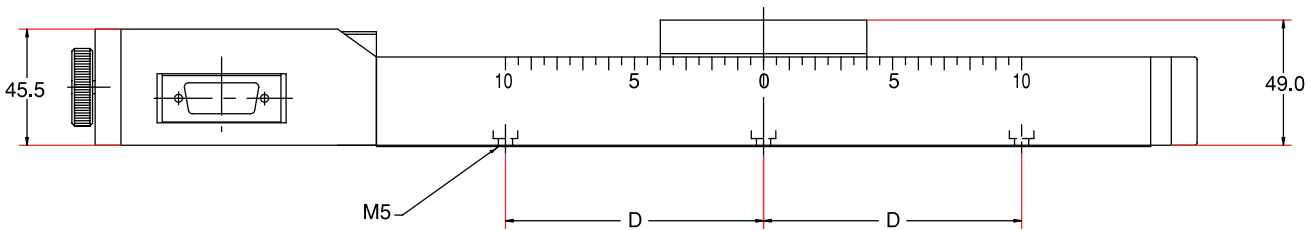
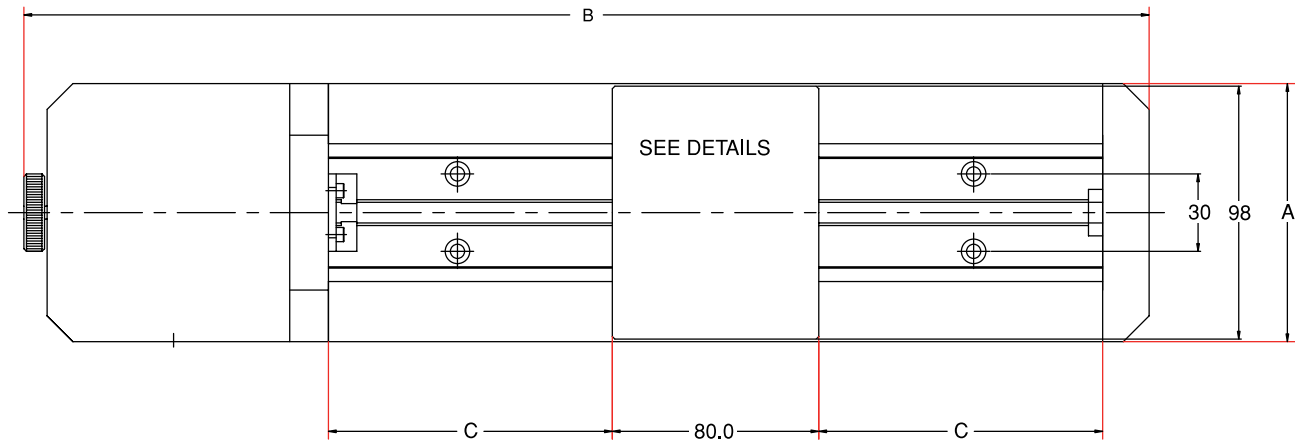
SGSP 33 Series Linear Stages

- Five-phase stepper motor
- Travel 50mm to 200mm
- Table 98mm x 80mm with inch or metric hole pattern
- Positional repeatability to <0.006mm
- X, XY and Z configurations

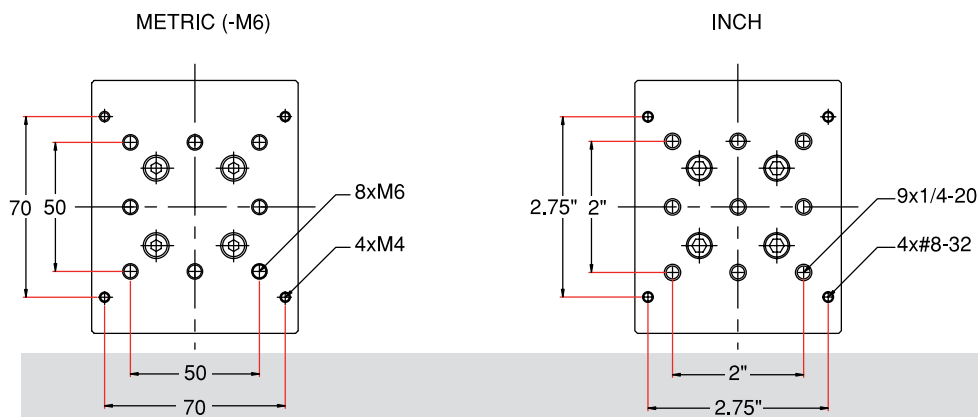
Part No.	Dimensions (mm)			
	A	B	C	D
SGSP33-50	100.00	286.0	25.0	50.0
SGSP33-100	100.00	336.0	50.0	50.0
SGSP33-200	100.00	436.0	100.0	*100.0

Note: *2 mounting holes present at center line of D

- Piezo Stages
- Linear Stages**
- Rotation Stages
- ZF Stages
- Motorized Optics Holders
- Goniometers
- GS Closed Loop Stages
- Controllers & Drivers
- Cables & Accessories
- Software



Note: * 2 Mounting holes present at center line of D



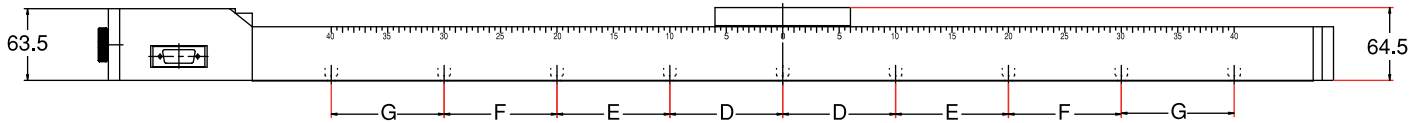
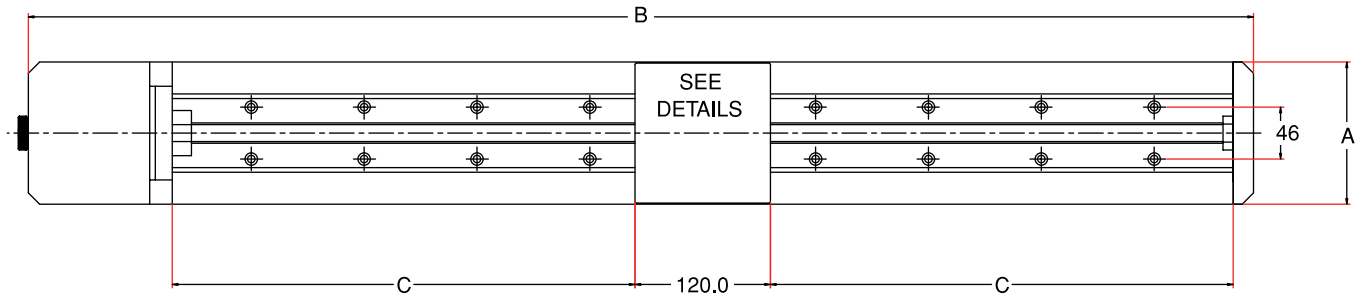
SGSP 33 SERIES MOTOR STAGE

SGSP 46 Series Linear Stages

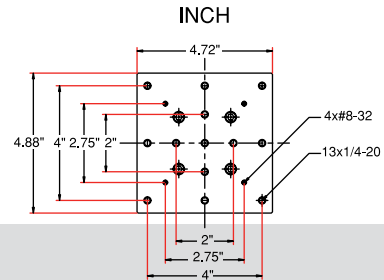
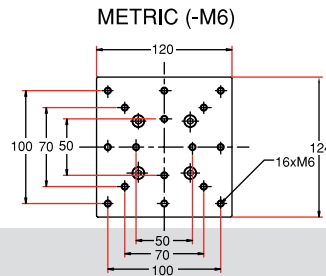
- Five-phase stepper motor
- Travel 300mm to 800mm
- Table 120mm x 124mm with inch or metric hole pattern
- Positional repeatability to <0.006mm
- X, XY and Z configurations

Part No.	Dimensions (mm)						
	A	B	C	D	E	F	G
SGSP46-300	126.00	604.5	150.0	* 50.0	100.00	0	0
SGSP46-400	126.00	704.5	200.0	100.0	100.00	0	0
SGSP46-500	126.00	804.5	250.0	* 50.0	100.00	100.0	0
SGSP46-800	126.00	1104.5	400.0	100.0	100.00	100.0	100.0

Note: *no mounting hole present between D-D



Note: * No Mounting holes present between D-D



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Controller & Cables

Stage	PAT-001	SHOT-602	SHOT-102	SHOT-202	SHOT-204MS
SGSP20	MINI	DMINIS	MINI	DMINIS	DMINIS
SGSP26	MINI	DMINIS	MINI	DMINIS	DMINIS
SGSP33	-	-	-	DBCS	DBCS
SGSP46	-	-	-	DBCS	DBCS



Specifications & Tolerances

Stage	Travel (mm)	Positional Unidirectional Repeatability (mm)	Backlash (mm)
SGSP20	20 - 85	<0.003	<0.003
SGSP26	50 - 100	<0.003	<0.003
SGSP26	150 - 200	<0.006	<0.006
SGSP33	50 - 200	<0.006	<0.005
SGSP46	300 - 500	<0.006	<0.006
SGSP46	800	<0.01	<0.02

- Piezo Stages
- Linear Stages**
- Rotation Stages
- ZF Stages
- Motorized Optics Holders
- Goniometers
- GS Closed Loop Stages
- Controllers & Drivers
- Cables & Accessories
- Software

SGSP Series Linear Stages

Travel (mm)	Table Size (mm)	Load Capacity	Axes of travel	Maximum Travel Speed (mm/sec)	Weight (kg)	Price	Model	PART NUMBER
20	60 x 60	5	X	15	0.5	\$ 960.00	SGSP20-20(X)	511-2011
20	60 x 60	4	XY	15	1	\$ 1,920.00	SGSP20-20(XY)	511-2012
20	60 x 60	1	Z	15	1.1	\$ 1,080.00	SGSP20-20(Z)	511-2013
35	60 x 60	8	X	25	0.7	\$ 1,080.00	SGSP20-35(X)	511-2021
35	60 x 60	7	XY	25	1.4	\$ 2,160.00	SGSP20-35(XY)	511-2022
35	60 x 60	3	Z	25	1.5	\$ 1,240.00	SGSP20-35(Z)	511-2023
50	80 x 80	12	X	30	1.4	\$ 1,280.00	SGSP26-50(X)	511-2621
50	80 x 80	10	XY	30	2.8	\$ 2,560.00	SGSP26-50(XY)	511-2622
50	80 x 80	4	Z	30	2.5	\$ 1,480.00	SGSP26-50(Z)	511-2623
50	98 x 80	20	X	80	3	\$ 1,760.00	SGSP33-50(X)	511-3321
50	98 x 80	17	XY	80	6	\$ 3,520.00	SGSP33-50(XY)	511-3322
50	98 x 80	7	Z	80	4.8	\$ 2,040.00	SGSP33-50(Z)	511-3323
85	60 x 60	8	X	25	1	\$ 1,200.00	SGSP20-85(X)	511-2051
85	60 x 60	7	XY	25	2	\$ 2,400.00	SGSP20-85(XY)	511-2052
85	60 x 60	3	Z	25	1.8	\$ 1,360.00	SGSP20-85(Z)	511-2053
100	80 x 80	12	X	30	1.7	\$ 1,400.00	SGSP26-100(X)	511-2641
100	80 x 80	10	XY	30	3.4	\$ 2,800.00	SGSP26-100(XY)	511-2642
100	80 x 80	4	Z	30	3.1	\$ 1,600.00	SGSP26-100(Z)	511-2643
100	98 x 80	20	X	80	3.4	\$ 1,840.00	SGSP33-100(X)	511-3341
100	98 x 80	16	XY	80	6.8	\$ 3,680.00	SGSP33-100(XY)	511-3342
100	98 x 80	7	Z	80	5.2	\$ 2,120.00	SGSP33-100(Z)	511-3343
150	80 x 80	12	X	30	2	\$ 1,480.00	SGSP26-150(X)	511-2661
150	80 x 80	10	XY	30	4	\$ 2,960.00	SGSP26-150(XY)	511-2662
150	80 x 80	4	Z	30	3.5	\$ 1,720.00	SGSP26-150(Z)	511-2663
200	80 x 80	12	X	30	2.5	\$ 1,560.00	SGSP26-200(X)	511-2681
200	80 x 80	10	XY	30	5	\$ 3,120.00	SGSP26-200(XY)	511-2682
200	80 x 80	4	Z	30	4	\$ 1,800.00	SGSP26-200(Z)	511-2683
200	98 x 80	20	X	80	4.2	\$ 1,920.00	SGSP33-200(X)	511-3371
200	98 x 80	15	XY	80	8.4	\$ 3,840.00	SGSP33-200(XY)	511-3372
200	98 x 80	7	Z	80	6	\$ 2,200.00	SGSP33-200(Z)	511-3373
300	120 x 124	30	X	120	10.8	\$ 3,520.00	SGSP46-300(60)(X)	511-4621
300	120 x 124	19	XY	120	21.6	\$ 7,040.00	SGSP46-300(60)(XY)	511-4622
300	120 x 124	7	Z	120	16.8	\$ 3,920.00	SGSP46-300(60)(Z)	511-4623
400	120 x 124	60	X	120	12.4	\$ 3,600.00	SGSP46-400(60)(X)	511-4641
400	120 x 124	15	XY	120	24.8	\$ 7,200.00	SGSP46-400(60)(XY)	511-4642
400	120 x 124	7	Z	120	18.4	\$ 4,000.00	SGSP46-400(60)(Z)	511-4643
500	120 x 124	30	X	120	14	\$ 3,680.00	SGSP46-500(60)(X)	511-4661
500	120 x 124	15	XY	120	28	\$ 7,360.00	SGSP46-500(60)(XY)	511-4662
500	120 x 124	7	Z	120	20	\$ 4,080.00	SGSP46-500(60)(Z)	511-4663
800	120 x 124	30	X	120	19	\$ 4,800.00	SGSP46-800(X)	511-4681

KST Precision Motorized Rotation Stages

- High load capacity
- High stiffness
- Angular repeatability less than 0.01°
- 5-phase stepper motor for easy setup and compatibility with our SHOT-200 and SHOT300 series controllers.



Piezo Stages

Linear Stages

Rotation Stages

ZF Stages

Motorized Optics Holders

Goniometers

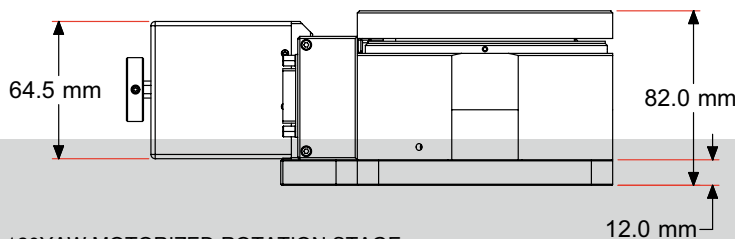
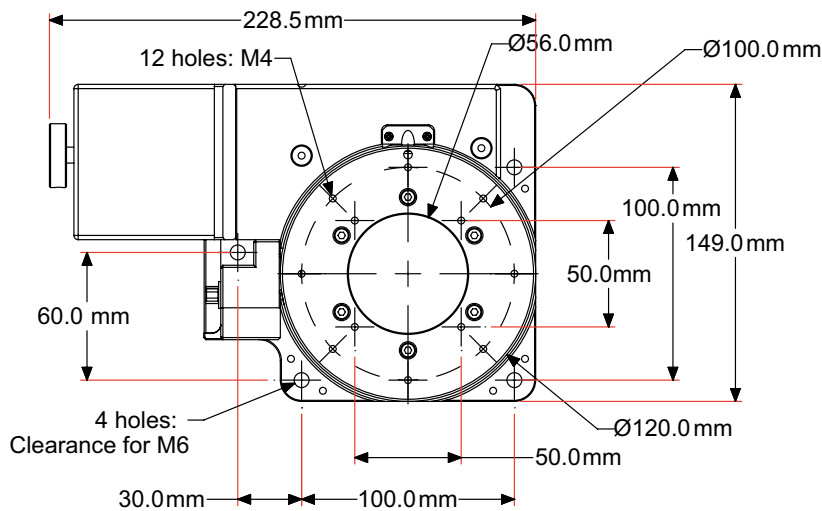
GS Closed Loop Stages

Controllers & Drivers

Cables & Accessories

Software

Part No. 513-2120

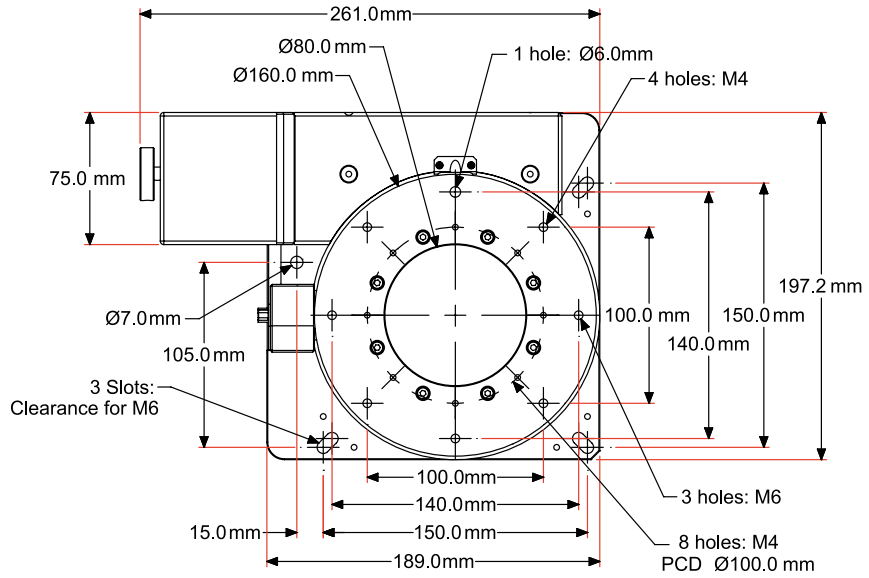


KST-120YAW MOTORIZED ROTATION STAGE

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Part No. 513-2120



KST-160YAW MOTORIZED ROTATION STAGE

Specifications & Tolerances

Dimensions:	±0.2mm
Max travel speed:	30 degrees/sec
Positional Repeatability:	<0.01 degrees
Position accuracy:	<0.06 degrees
Backlash:	<0.01 degrees
Wobble:	<0.01mm

KST Precision Motorized Rotation Stages

Table Size	Axis	Load Capacity (kg)	Weight (kg)	Price	Model Number	PART NUMBER
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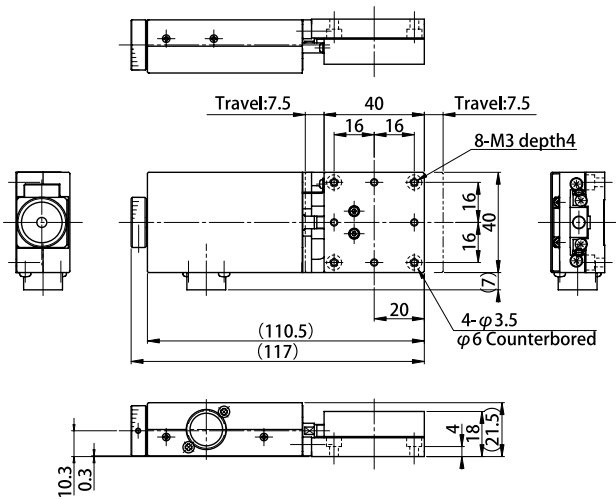
120mm	1	35	5	\$ 4,500.00	KST-120YAW	513-2120
160mm	1	40	8.5	\$ 5,000.00	KST-160YAW	513-2160

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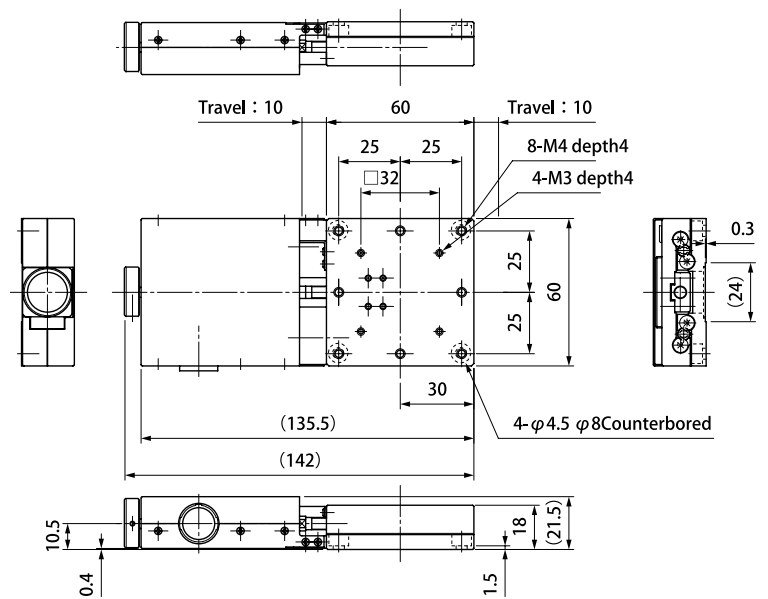


Mini Translation Motorized Stages - 5 phase stepping motor

- Patented extended contact bearing rail with hardened steel body
- Two-plate, low-profile, high stiffness design
- Compatible with our existing five phase stepping motor stage controllers
- Remote control, manual joy stick control and micro stepping functions available



TSDM40-15X
Attached Screw
M3X8mmX4



TSDM60-20X
Attached Screw
M4X6mmX4

Specifications & Tolerances

Positional Repeatability: 0.010mm
 Backlash: 0.020mm
 Cables: MINI for PAT-001, SHOT-102
 DMINIS for SHOT-602, SHOT-202, SHOT-204MS
 Travel per pulse: 1 micron/0.5micron (Full/Half)

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Travel (mm)	Load Cpty. (Kg)	Axes of Travel	Weight (Kg)	Price	Model	PART NUMBER
15	3	X	0.35	\$ 595.00	TSDM40-15X	507-0040
20	4	X	0.6	\$ 695.00	TSDM60-20X	507-0060



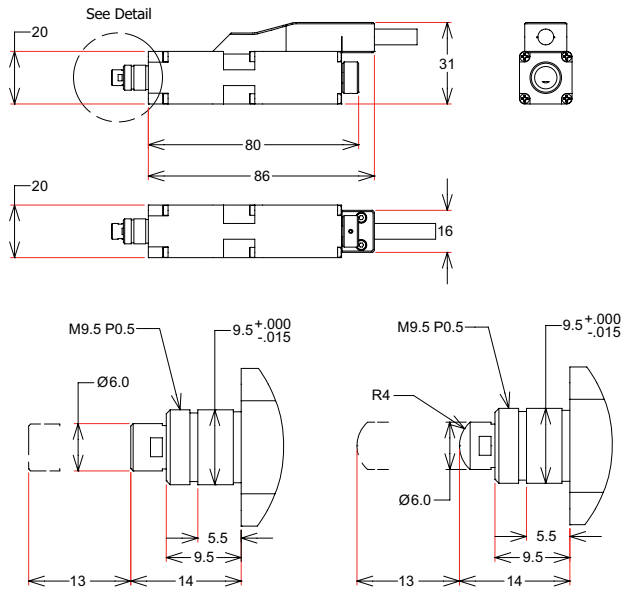
Compact Stepping Motor Actuators

- Compact, High precision 5-phase stepping motor based actuator
- Direct replacement for manual micrometer, 13 and 25mm travel
- Fits wide range of manual stages and mirror mounts
- High resolution with micro-stepping controller
- Seven controllers available (PAT-001, SHOT-602, SHOT-102, SHOT-202/204MS, SHOT302GS/304GS)



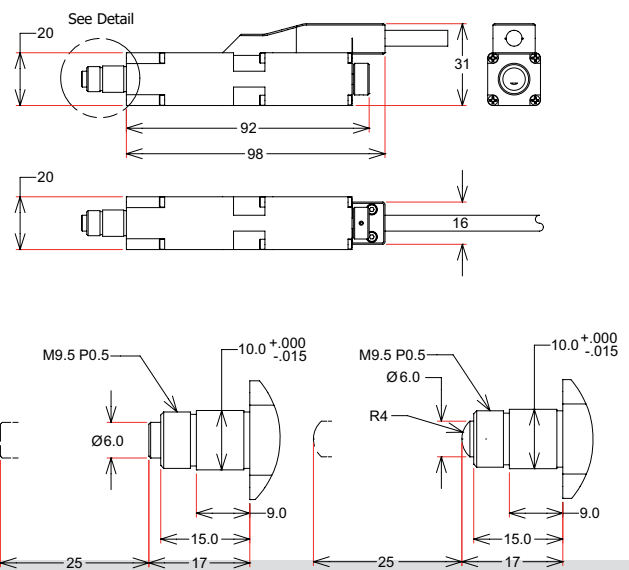
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- Cables & Accessories
- Software

Part No. 505-0013/0013-R



SGSP-13ACT STEPPING MOTOR ACTUATOR

Part No. 505-0025/0025-R



SGSP-25ACT STEPPING MOTOR ACTUATOR

Specifications & Tolerances

Positional Repeatability: 0.010mm
 Maximum Travel Speed: 2mm/sec
 Cables: MINI for PAT-001, SHOT-102
 DMINIS for SHOT-602, SHOT-202, SHOT-204MS, SHOT-302GS, SHOT-304GS
 Travel per pulse: 1 micron (Full step mode)
 0.5 micron (Half step mode)

Travel (mm)	Load Cpty. (Kg)	Tip Shape	Maximum Travel Speed (mm/sec)	Weight (Kg)	Price	Model	PART NUMBER
13	3	Flat	2	0.16	\$ 595.00	SGSP-13ACT	505-0013
13	3	Round	2	0.16	\$ 595.00	SGSP-13ACTR	505-0013-R
25	3	Flat	2	0.18	\$ 775.00	SGSP-25ACT	505-0025
25	3	Round	2	0.18	\$ 775.00	SGSP-25ACTR	505-0025-R

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