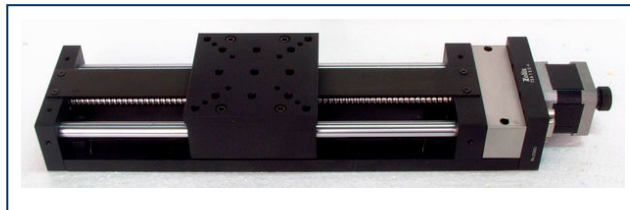


TSA Motorized Stages

(Version 1.2 2009-12-21)

Operation Manual



Zolix Instruments Co., Ltd.

Thanks for using Zolix products !

Please read this introduction carefully before using. And kindly please contact Zolix office in Beijing or local office if you have any questions and suggestions.

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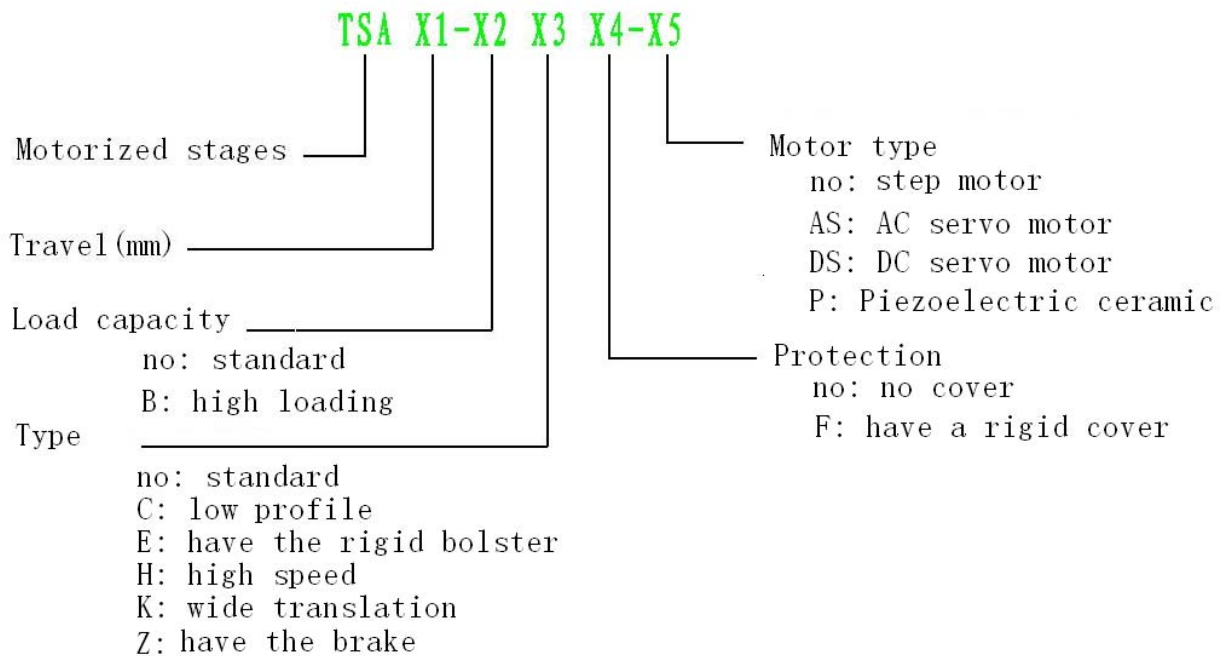
1. TSA Series Motorized Stages

1.1. Description

TSA series motorized stages have the motion system that is droved by the step motor. The key components are: ball bearing screw, linear bearing guide, linear slide guide, and flexible clutch.

The limit switch can protect the stage. This series stages all have the manual wheel near the motor in order to move the table by hand.

1.2. Model Explain



1.3. Products List

Travel mm \ Type	30	50	100	150	200	300	400	500
Standard		TSA50	TSA100	TSA150	TSA200	TSA300		
High load-B				TSA150-B	TSA200-B	TSA300-B	TSA400-B	
Wide translation -K				TSA150-K	TSA200-K			
High load and wide translation -BK						TSA300-BK		
Low profile-C	TSA30-C	TSA50-C						
Rigid bolster-E		TSA50-E	TSA100-E	TSA150-E	TSA200-E			
Bolster&cover-EF		TSA50-EF		TSA150-E F	TSA200-EF	TSA300-EF		

1.4. Specifications

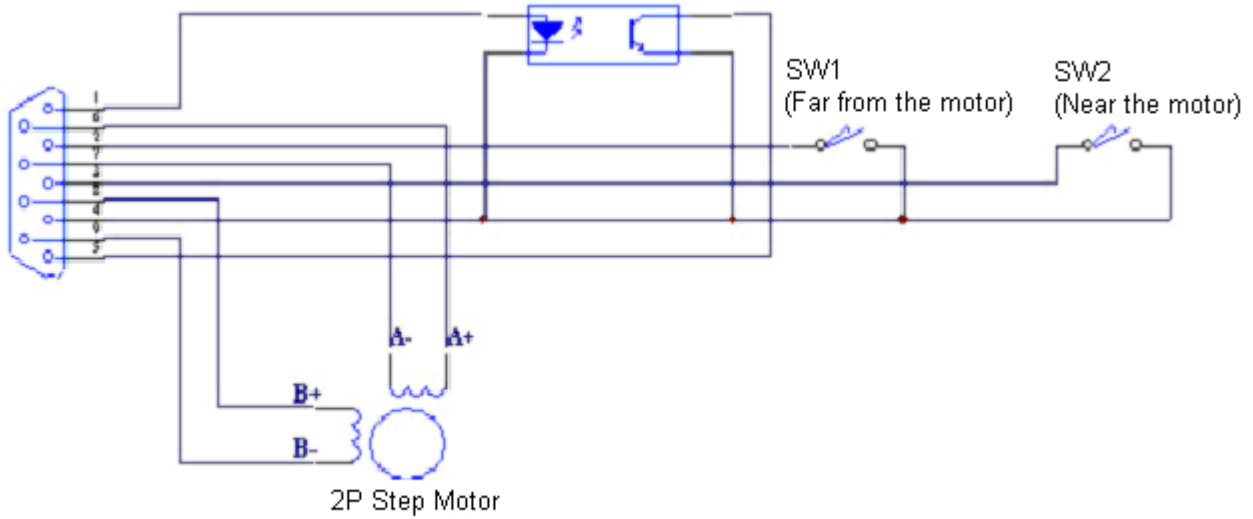
	TSA50	TSA100	TSA150	TSA200
Table dimension	90x90 mm			120x120 mm
Travel	4 mm			
Resolution	1.25 μ			2.5 μ
Maxim speed	20 mm/sec			40 mm/sec
Repeatability	<5 μ ; (-A<3 μ)			
Step motor	42M-0.9D			42M-1.8D
Maxim torque	40Ncm			
Operating current	1.7 A			
Load capacity	15 Kg		10 Kg	7 Kg
Weight	2.75 Kg	3 Kg	3.3 Kg	3.8 Kg

	TSA150-B	TSA200-B	TSA300-B	TSA400-B
Table dimension	120x120mm			160x160mm
Travel	4mm			5mm
Resolution	1.25 μ	2.5 μ		3.125 μ
Maxim speed	20mm/sec	40mm/sec		
Repeatability	<5 μ ;(-AB<3 μ)			
Step motor	42M-0.9D	42M-1.8D		57M-1.8D
Maxim torque	40Ncm			80Ncm
Operating current	1.7A			1.5A
Load capacity	30Kg			50Kg
Weight	4.8Kg		5.75Kg	11.5Kg

	TSA30-C	TSA50-C
Table dimension	90x90mm	90x110mm
Travel	1mm	
Resolution (Subdivision=8)	6.25 μ	
Maxim speed	10mm/sec	
Repeatability	<5 μ	
Step motor	42M-1.8D	
Maxim torque	40Ncm	
Operating current	1.7A	
Load capacity	10Kg	
Weight	1.25 Kg	1.4 Kg

	TSA200-EF-LM
Table dimension	100x150 mm
Travel	2 mm
Resolution (Subdivision=8)	1.25 μ
Maxim speed	20 mm/sec
Repeatability	<5 μ
Step motor	42M-1.8D
Maxim torque	40Ncm
Operating current	1.7 A
Load capacity	20Kg
Weight	5.2Kg

1.5. Wiring Diagram



Note: The diode of the photocoupler must connect a resistance to limit the current through it within 20mA .

2. TSAW Series Motorized X-Y Integrated Stages

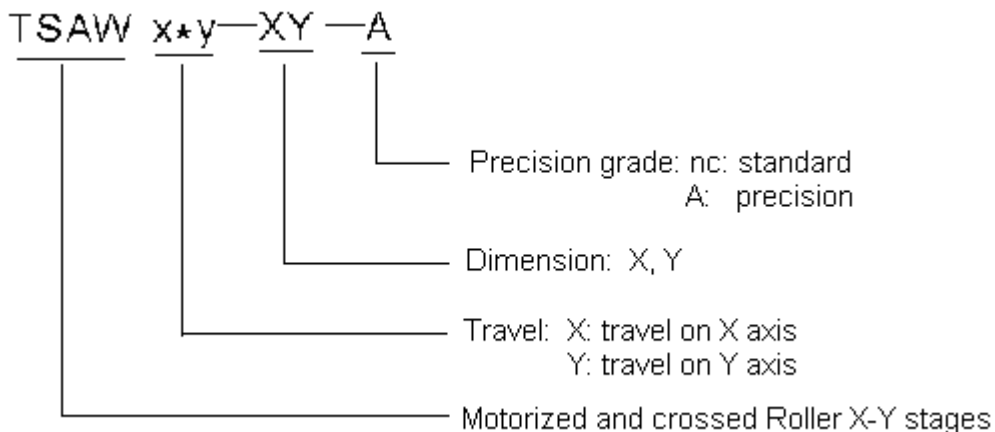
2.1. Description

They are the crossed roller X-Y integrated stages. The key components are: precision ball bearing screw and the flexible clutch which are all import and have the high performance. The flexible clutch connects the motor and the ball bearing screw.

This series stages all have the manual wheel near the motor in order to move the table by hand.



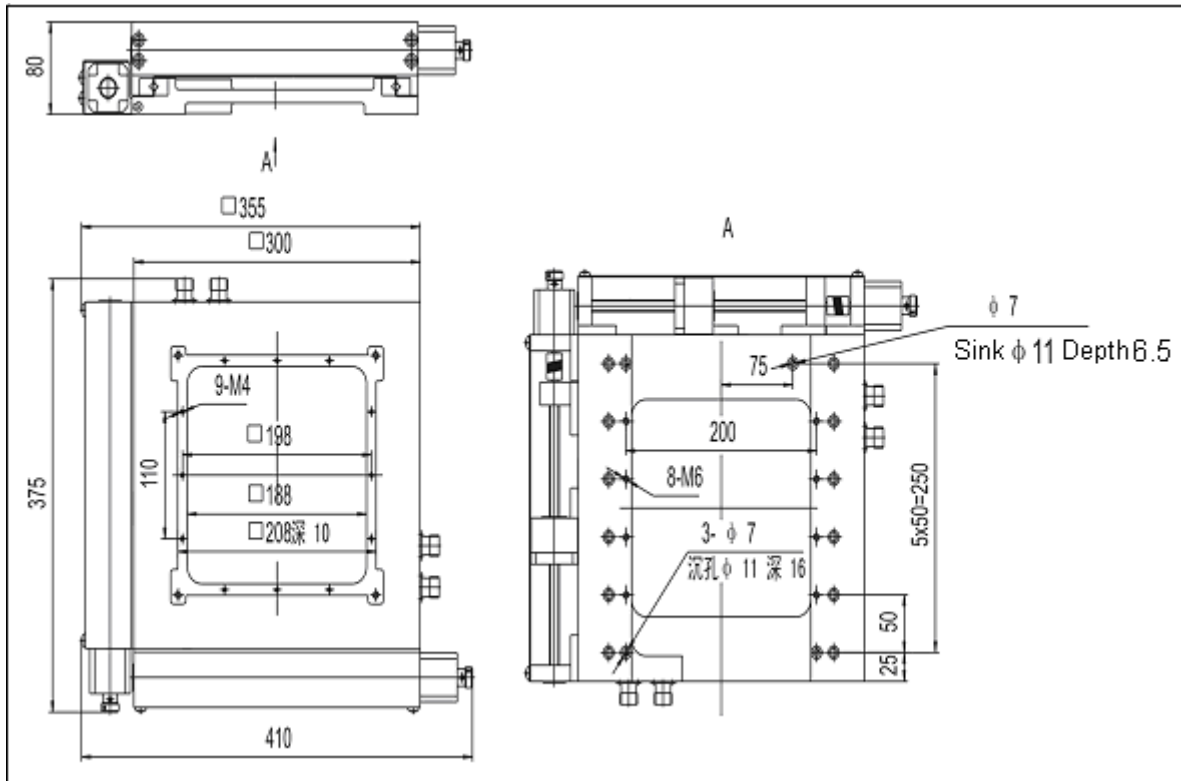
2.2. Model Explain



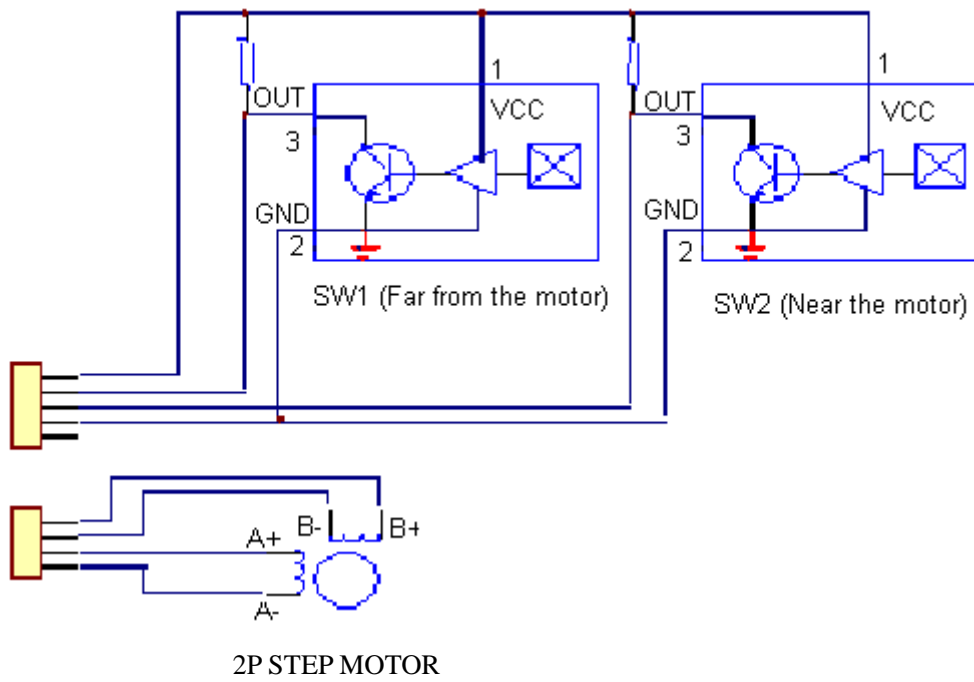
2.3. Specifications

	TSAW100x100-XY- (A)	
Travel (X*Y)	100mm x 100mm	
Measuring Range (X*Y)	138mm x 138mm	
Drive Mechanism	Crossed Roller	
Guide	4mm	
Repeatability	5 μ	3 μ (A)
Resolution (Subdivision=8)	0.00125mm	
Step motor	42M-0.9D	
Operating current	1.7A	
Maxim torque	40Ncm	
Load capacity	20Kg	

2.4. Outline and Demission (Unit: mm)



2.5. Wiring Diagram

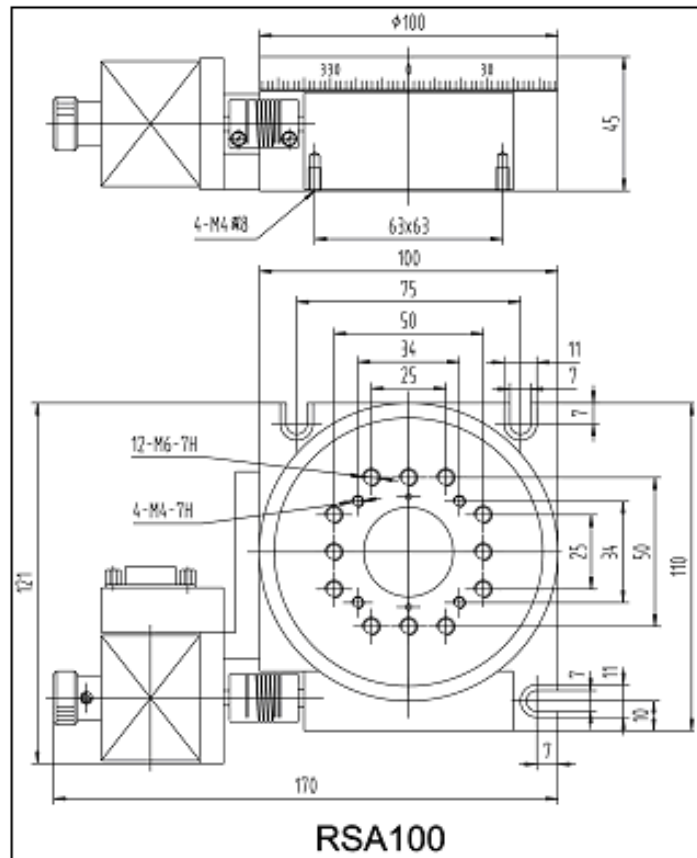
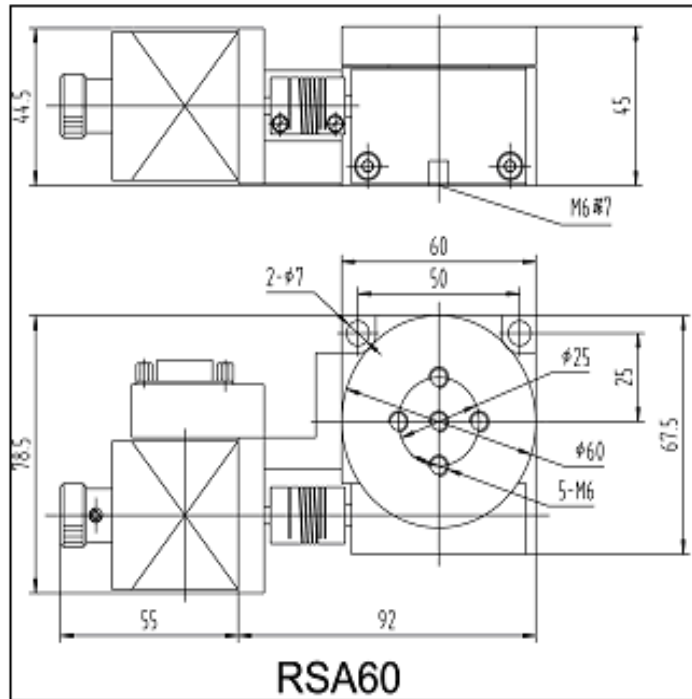


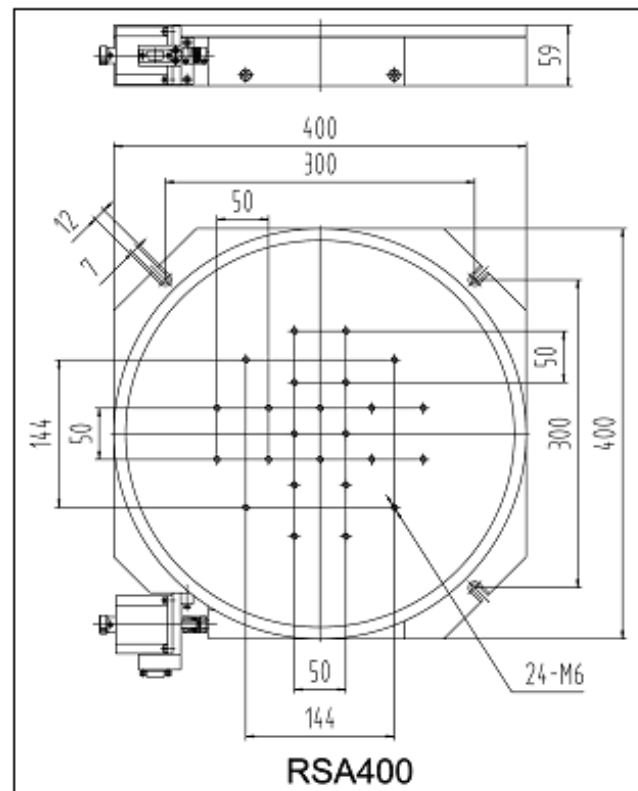
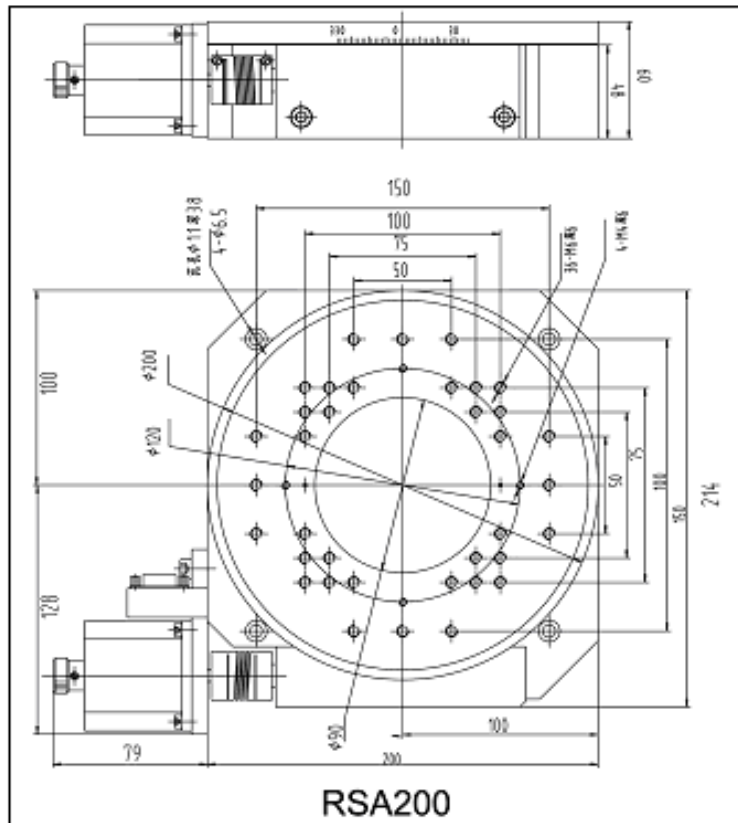
VCC: 5V~24V

3.3. Specifications

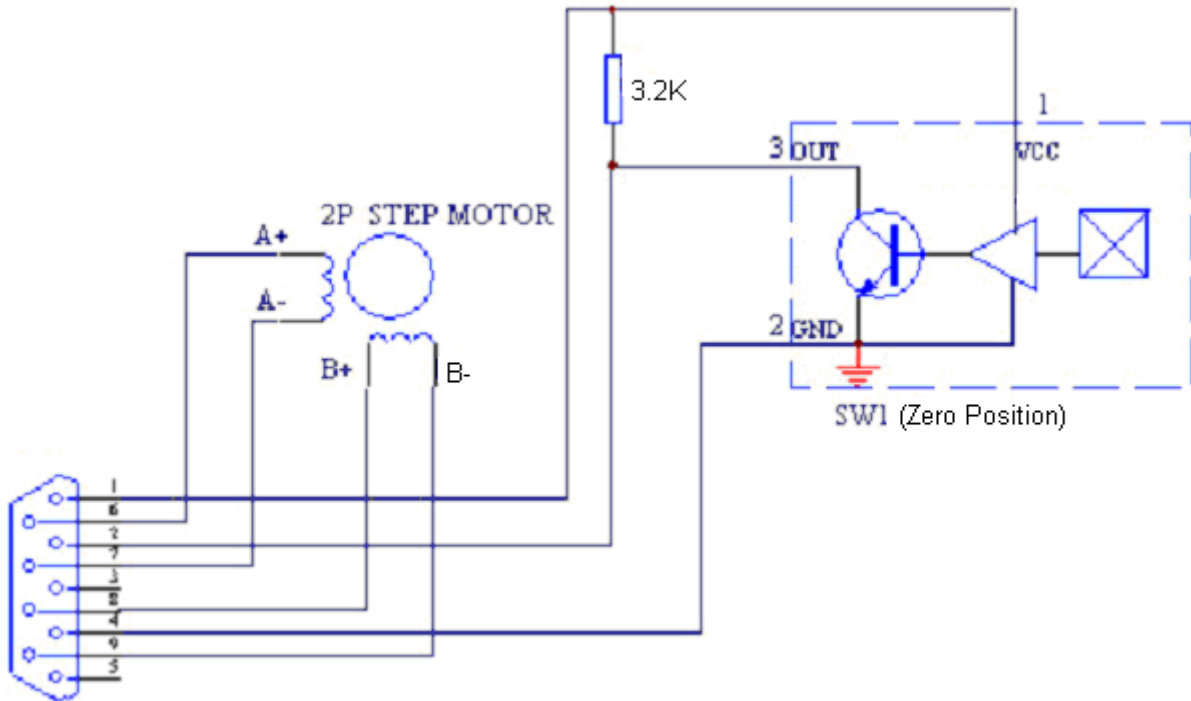
	RSA60	RSA100	RSA200	RSA400
Diameter (mm)	60	100	200	400
Reduction Gear	90: 1	180: 1		720: 1
Resolution	0.0025°	0.00125°		0.0003125°
Repeatability	<0.01°	<0.005°		<0.003°
Maxim Speed	40°/sec	20°/sec		5°/sec
Step Motor	42M-1.8D		57M-1.8D	
Maxim torque (Ncm)	40		80	
Operating Current	1.7A		2.4A	
Load Capacity (Kg)	30	50	60	80
Weight (Kg)	1	1.54	7.7	19.75

3.4. Outline and Dimension (Unit: mm)





3.5. Wiring Diagram

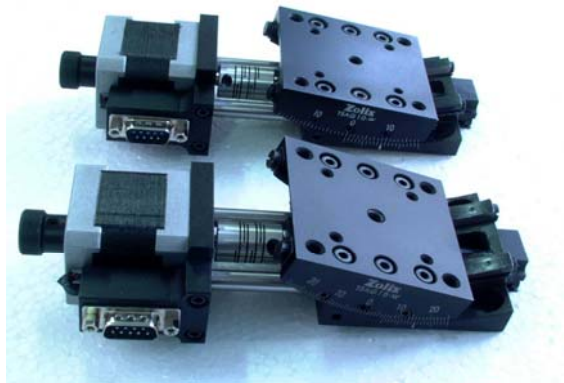


4. TSAG Series Motorized Goniometric Stages

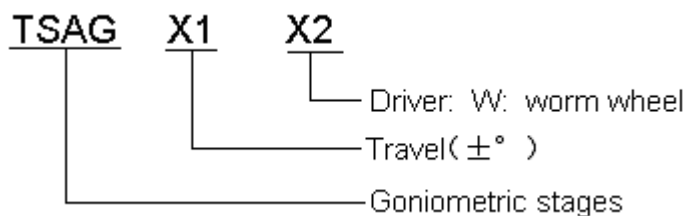
4.1. Description

TSAG series stages rotate about a transverse axis above the platform. They offer maximum free access to the rotating part and allow construction of very compact multi-axis rotation assemblies. They are designed so that orthogonal mounting of two adjacent-size stages provides two perpendicular axes of rotation about the same point in space. Mounting a rotation stage under the assembly adds a third orthogonal rotation axis through the same point.

The flexible clutch, which is import product, connects the motor and the ball bearing screw. It ensures the high performance. The motion system is the worm and the screw. The relative motion construction has the arc guide. They all have the limit switch.



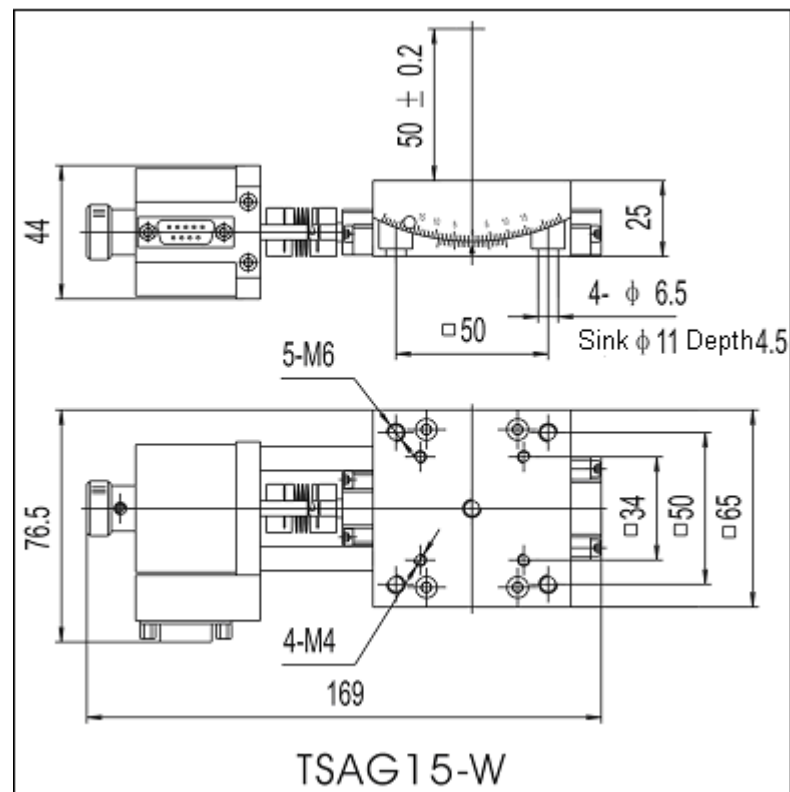
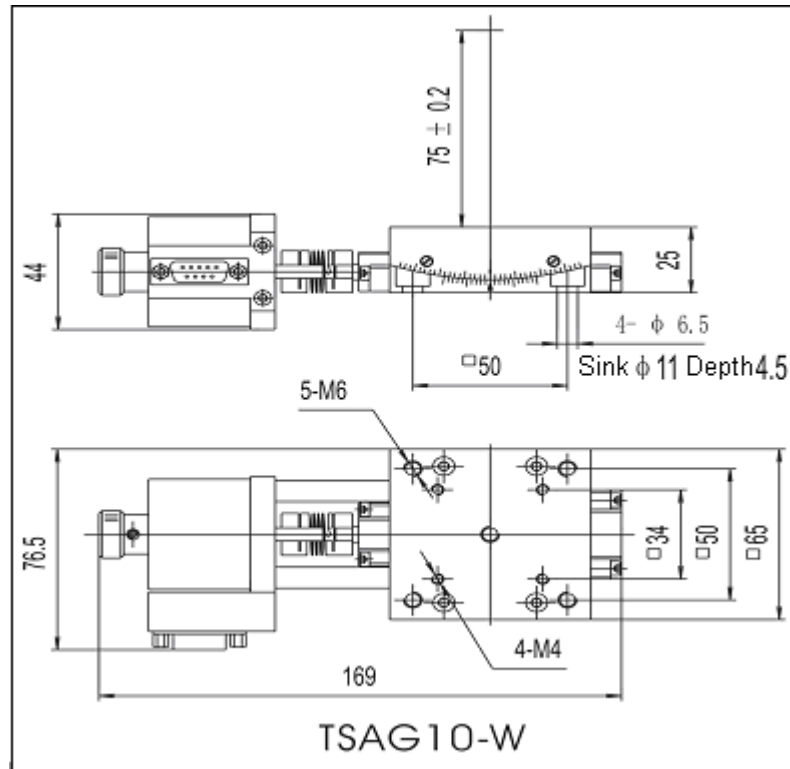
4.2. Model Explain



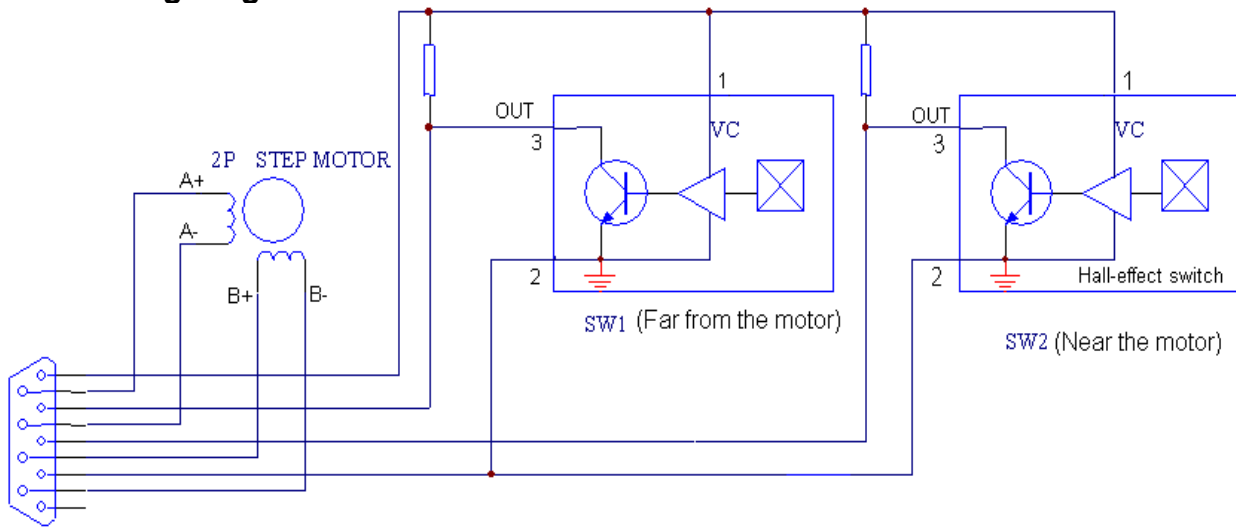
4.3. Specifications

Model	TSAG10-W	TSAG15-W
Specifications		
Travel range	±10°	±15°
Table dimension	65 mm x 65 mm	
High of Rotation Center	75 mm	50 mm
Guide	Arc	
Reduction Gear	352:1	252:1
Resolution (Subdivision=8)	0.00032°	0.00045°
Repeatability	0.0043°	0.0047°
Motor Model	42M-1.8D	
Operating Current	1.7 A	
Maxim whist torque	0.42 N m	
Load Capacity	4 Kg	
Weight	0.75 Kg	

4.4. Outline and dimensions (Unit: mm)



4.5. Wiring Diagram



Wiring Diagram

5. Unpacking Procedures

(1) Visual examination

Please do the following inspection for all packing box

Check whether the packaging is intact outside the equipment, there are situations, such as damage, soaks, out of shape, etc..

Have above-mentioned situation please report immediately to Zolix. Or Representatives

(2) Unpacking procedures

Please open the packing box and make sure Do-Not uses the heavy-duty tool or opens rudely. With the proper tool according to the direction shown on the packing box so as not to cause inside equipment to be damaged.

(3) After un packs

Please check equipment have appearance damage or corrosion, etc..

Based on contract and packing list, check specification, mode, and quantity.

Have above-mentioned situation please report immediately to Zolix or representatives

Please keep the packing box at least half year in order to return and transport needing.

6. Warning

Warning!!!

Never touch the stage when it is in operation expect under manual!

7. Certifications and Warranty

Zolix Instruments Corporation (Zolix) certifies that this instrument was thoroughly tested and inspected and found to meet the specifications furnished by Zolix when it was shipped from the factory.

Zolix Instruments Corporation (Zolix) instruments and accessories are warranted for a period of one full year from date of delivery to be free from defects in material and to conform to the specifications furnished by Zolix. The corporation's obligation under this warranty is limited to servicing or adjusting an instrument returned to the factory, prepaid, and to repairing at the factory any part or parts thereof. All purchased items carry the original manufacturers' warranty.

Zolix Corporation shall not be liable for consequential damages resulting from accident, alteration, and improper installation, operation on low or excessive voltages or use in violation of the operating instructions furnished by Zolix.

If any defect appears within the warranty period, the purchaser shall promptly notify Zolix. No material will be accepted for repair or replacement without prior authorization from Zolix. Upon such authorization and in accordance with instructions of Zolix, parts, materials or equipment for which repair or replacement is requested shall be returned to Zolix for examination, with shipping charges prepaid by the purchaser. Final determination as to whether a product or part is actually defective rests with Zolix Instruments Corporation,

In such cases where necessary repairs are not covered by this warranty, an estimate of repair charges will be submitted to the purchaser before servicing the equipment.

Zolix Instrument Corporation reserves the right to make changes or improvement upon its products without imposing any obligations upon it to install the same upon its products previously manufactured.

This warranty is expressly in lieu of all other obligations or liabilities on the part of Zolix, and Zolix neither assumes, nor authorizes any other person to assume for then other obligations or liability in connection with the sale of equipment manufactured by Zolix Instruments Corporation.

8. CE Declaration of Conformity

Manufactured by: Zolix Instrument Co., Ltd

Applicable Standards:	Generic Immunity	EN 50082-1 : 1992
	Generic Emission	EN 50081-1 : 1992
	Electrical Safety Standards	EN 61010-1 : 1993

Zolix Instrument Co., Ltd **certifies that this equipment conforms to the protection requirements of the above Directives.**

9. Package List

Model: TSA_____ TSAW_____

RSA_____ TSAG_____

Name: **Motorized Stage**

Serial Number: _____

Products List

No.	Product Name	Amount
1	<input type="checkbox"/> TSA_____ <input type="checkbox"/> TSAW_____ <input type="checkbox"/> RSA_____ <input type="checkbox"/> TSAG_____ Motorized stage	1
No.	Accessories	Amount
No.	Tools and Facilities	Amount
No.	Documents	Amount
1	TSA Motor Stages Operation Manual	1
2	Conformity certificate	1

Checker Name and Checking Date:

Zolix Instruments Co., Ltd.

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