

Stepping motor driven stages, ideal for positioning of measuring instruments or inspection tools for which high stiffness and high precision are required.



- U-shaped rail offers light weight, and minimized deflection to achieve high stiffness.

#### Guide

- Contact our Sales Division if you desire to change motors, etc.  
[Reference](#) G017, G123 (Motorized Stage System Question Sheet)  
[WEB Reference](#) [Catalog Code](#) W9500
- Grease change is optionally available.  
[Reference](#) G122 [WEB Reference](#) [Catalog Code](#) W9006

#### Specifications

| Part Number               |                                           | OSMS20-35(Z)                                          | OSMS20-85(Z)                                          |
|---------------------------|-------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|
| Part Number (-M6)         |                                           | OSMS20-35(Z)-M6                                       | OSMS20-85(Z)-M6                                       |
| Part Number (-INCH)       |                                           | OSMS20-35(Z)-INCH                                     | OSMS20-85(Z)-INCH                                     |
| Mechanical Specifications | Travel [mm]                               | 35                                                    | 85                                                    |
|                           | Stage Size [mm]                           | 85x85                                                 | 85x85                                                 |
|                           | Feed Screw                                | Ball screw diameter $\phi 6$ mm, 1mm lead             | Ball screw diameter $\phi 6$ mm, 1mm lead             |
|                           | Positioning Slide                         | Outer rail structure                                  | Outer rail structure                                  |
|                           | Stage Material                            | Aluminum                                              | Aluminum                                              |
|                           | Finish                                    | Black anodized                                        | Black anodized                                        |
|                           | Weight [kg]                               | 2.3                                                   | 2.5                                                   |
| Accuracy Specifications   | Resolution                                | (Full) [ $\mu$ m/pulse]                               | 2                                                     |
|                           |                                           | (Half) [ $\mu$ m/pulse]                               | 1                                                     |
|                           | MAX Speed [mm/sec]                        |                                                       | 5                                                     |
|                           | Positioning Accuracy [ $\mu$ m]           |                                                       | 10                                                    |
|                           | Positional Repeatability [ $\mu$ m]       |                                                       | 3                                                     |
|                           | Load Capacity [N]                         |                                                       | 29.4 (3.0kgf)*1                                       |
|                           | Moment Stiffness                          | Pitch [ $^{\circ}$ /N·cm]                             | 0.8                                                   |
|                           |                                           | Yaw [ $^{\circ}$ /N·cm]                               | 0.5                                                   |
|                           |                                           | Roll [ $^{\circ}$ /N·cm]                              | 0.7                                                   |
|                           | Lost Motion [ $\mu$ m]                    |                                                       | 3                                                     |
|                           | Backlash [ $\mu$ m]                       |                                                       | 3                                                     |
|                           | Orthogonality of Motion [ $\mu$ m]        |                                                       | 25                                                    |
| Sensor                    | Pitch [ $^{\circ}$ ] / Yaw [ $^{\circ}$ ] |                                                       | 45/20                                                 |
|                           | Sensor Part Number                        | Micro photo sensor : GP1S097HCZ0F (Sharp Corporation) | Micro photo sensor : GP1S092HCPIF (Sharp Corporation) |
|                           | Limit Sensor                              | Equipped (NORMAL CLOSE)                               | Equipped (NORMAL CLOSE)                               |
|                           | Origin Sensor                             | Equipped (NORMAL OPEN)                                | Equipped (NORMAL OPEN)                                |
|                           | Proximity Origin Sensor                   | None                                                  | Equipped (NORMAL OPEN)                                |

\*1 If you use the controller of ②.

#### Motor / Sensor Specifications

|        |                     |                                                                                                                                                             |                                                       |
|--------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Motor  | Type                | 5-phase stepping motor 0.75A/phase (Tamagawa Seiki Co., Ltd.)                                                                                               |                                                       |
|        | Motor Part Number   | TS3664N4E10(□24mm)                                                                                                                                          |                                                       |
|        | Step Angle          | 0.72°                                                                                                                                                       |                                                       |
| Sensor | Power Voltage       | DC5 - 24V $\pm$ 10%                                                                                                                                         |                                                       |
|        | Current Consumption | 60mA or lower a per axis (20mA or lower per a sensor)                                                                                                       | 80mA or lower a per axis (20mA or lower per a sensor) |
|        | Control Output      | NPN open collector output DC30V or lower, 50mA or lower                                                                                                     |                                                       |
|        | Output Logic        | When shaded: Output transistor OFF (no conduction) : Limit Sensor<br>When shaded: Output transistor ON (conduction): Origin sensor, Proximity Origin Sensor |                                                       |

#### Compatible Driver / Controller

|                |                       |                                                                                                |
|----------------|-----------------------|------------------------------------------------------------------------------------------------|
| Control System | Compatible Driver     | ①: SG-5M, SG-5MA ②: MC-S0514ZU, SG-514MSC, MC-7514PCL                                          |
|                | Compatible Controller | ①: GSC-01, GSC-02 ②: SHOT-702, GIP-101, HSC-103, SHOT-302GS, SHOT-304GS, HIT-M-HIT-S, PGC-04-U |

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Options

40 x 40 mm

60 x 60 mm

80 x 80 mm

85 x 85 mm

100 x 100 mm

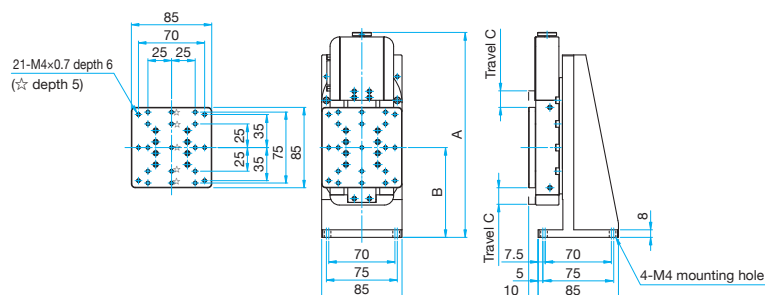
120 x 120 mm

Others



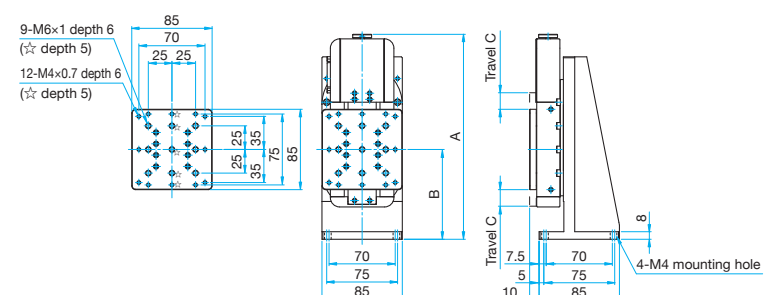
## Outline Drawing

**OSMS20-\*(Z)** Hexagon socket head cap screw M4x12...4 screws



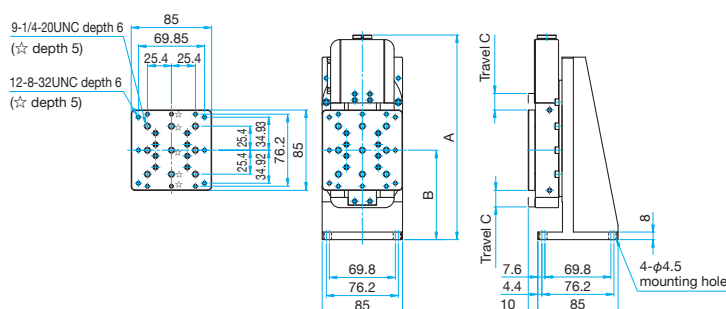
| Part Number         | A     | B   | C    |
|---------------------|-------|-----|------|
| <b>OSMS20-35(Z)</b> | 216.8 | 95  | 17.5 |
| <b>OSMS20-85(Z)</b> | 266.8 | 120 | 42.5 |

**OSMS20-\*(Z)-M6** Hexagon socket head cap screw M4x12...4 screws



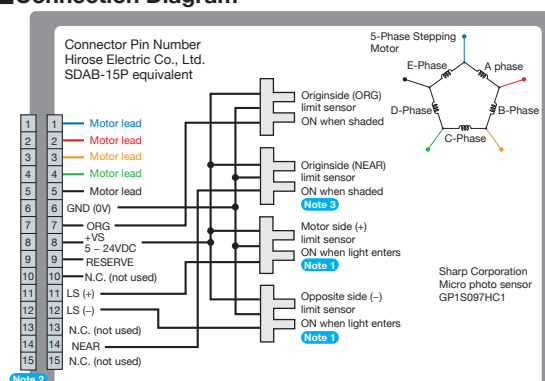
| Part Number            | A     | B   | C    |
|------------------------|-------|-----|------|
| <b>OSMS20-35(Z)-M6</b> | 216.8 | 95  | 17.5 |
| <b>OSMS20-85(Z)-M6</b> | 266.8 | 120 | 42.5 |

**OSMS20-\*(Z)-INCH** Hexagon socket head cap screw 8/32UNCx1/2...4 screws

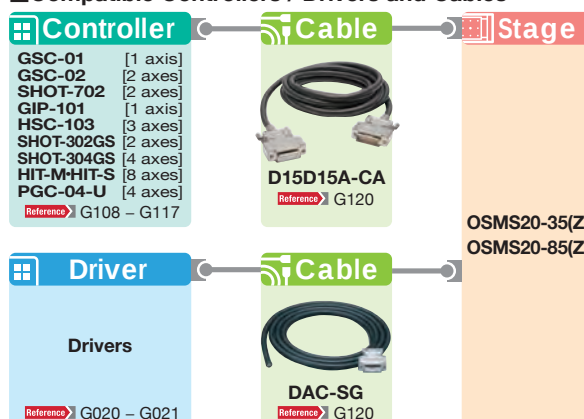


| Part Number              | A     | B    | C    |
|--------------------------|-------|------|------|
| <b>OSMS20-35(Z)-INCH</b> | 216.8 | 94.6 | 17.5 |
| <b>OSMS20-85(Z)-INCH</b> | 266.8 | 120  | 42.5 |

## Connection Diagram



## Compatible Controllers / Drivers and Cables



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