

## SGF-33 - Goniometer Stage

Traditional goniometer stages are based on steel contact bearings, which limit their adaptability for extreme environments such as ultra-high vacuum (UHV), cryogenic temperatures, or applications requiring non-magnetic materials. The SmarAct SGF series goniometers overcome these limitations by utilizing a flexure-based hinge mechanism as a guideway. This allows for excellent adaptability to diverse environments while minimizing parasitic motion across a deflection range of up to ±2.8°. Additionally, the pivot point height can be fully customized within a range of 25 to 100 mm above the top plate, available upon request.

With a footprint of just 32 x 32 mm², the SGF-33 goniometer seamlessly integrates with SmarAct's CLS-32 series stages, allowing for versatile multi-axis systems that combine linear, rotational, and goniometer motion. SmarAct's goniometer stages can be operated by any of our control units and are also available with integrated positioning sensors for closed-loop operation.
The ultra-compact SGF-33 goniometer stage is based on a flexure guideway and has a center of rotation 33 mm above the working platform.

| | Mechanical |
|---|---|
| Travel [°] | > ± 2.8 |
| Blocking Torque [Ncm] | 18 |
| Max. Normal Force [N] | 1 |
| Dimensions [mm] | 32 x 32 x 25 |
| Weight [g] | ~ 52 |
| Center of Rotation [mm] | 33 (above working platform) |
| | **Open-loop** |
| Angular Velocity [°/s] | > 20 |
| Open-Loop Resolution [µ°] | <1 |
| | **Closed-Loop** |
| Sensor Types | S, L |


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| | |
|---|---|
| Sensor Resolution [µ°] | 2 (S), 8 (L) |
| Uni-Directional Repeatability MCS2 [µ°] | > 40 (S,L) |
| | **Options** |
| Material Options | Aluminum as standard; Titanium (-TI) |
| Cryogenic Option | Yes |
| Vacuum Options | HV (1E-6 mbar); UHV (1E-11 mbar) |
| Non-Magnetic Option | Yes |

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