

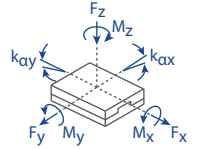
Micro Pusher | MP-21S/MP-21L

The MP-21 linear actuator is designed for applications with very limited space conditions. Typical applications include actuation of manual drive stages and mirror mounts. It utilizes a 2-phase stepper motor and a mechanical limit switch for homing. Versions capable of operation in vacuum (10^{-6} mbar) are available. The MP-21 is compatible with the MMC-200 controller.

KEY FEATURES

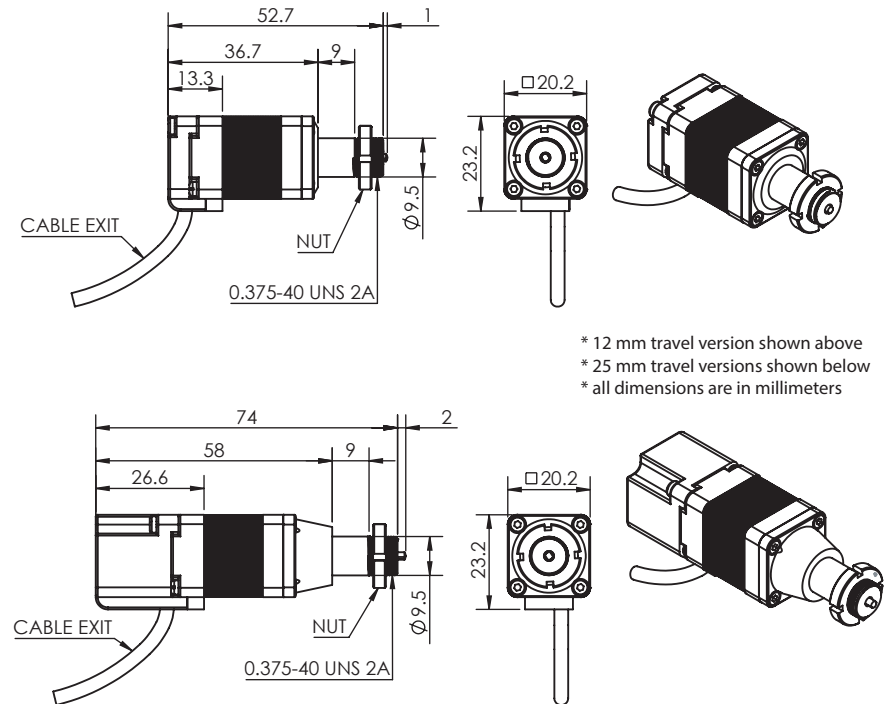
- Travel range of 12 and 25 mm
- 0.1 μm open loop resolution
- Maximum force of 20 N
- Ball spline with zero backlash, non-rotating tip
- Integrated mechanical limit switch
- Vacuum versions available
- Optional encoder available

| Load, max | F_x [N] | F_y [N] | F_z [N] | M_x [N-m] | M_y [N-m] | M_z [N-m] | k_{ax} [$\mu\text{rad/N-m}$] | k_{ay} [$\mu\text{rad/N-m}$] |
|-----------|-----------|-----------|-----------|-------------|-------------|-------------|----------------------------------|----------------------------------|
| SM-001 | 20 | 0 | 0 | - | - | - | - | - |



TECHNICAL DATA

| | MP-21S | MP-21L |
|--|---|--------|
| Travel range [mm] | 12 | 25 |
| Straightness / Flatness [μm] | - | - |
| Pitch [μrad] | - | - |
| Yaw [μrad] | - | - |
| Weight [g] | 60 | 70 |
| Motor option | 2-Phase Stepper Motor | |
| Speed, max [mm/s] | 5 | |
| Encoder option | None (open loop) | |
| Resolution, typical [μm] | 0.1 | |
| Repeatability, bi-directional [μm] | ± 0.5 | |
| Repeatability, uni-directional [μm] | 0.4 | |
| Materials | aluminum body, stainless steel ball spline (other materials i.e. stainless steel, titanium, etc. available upon request) | |



* 12 mm travel version shown above
 * 25 mm travel versions shown below
 * all dimensions are in millimeters

ORDERING INFORMATION

| | MP-21- | 1 | 0 | 1 |
|---------------------|-----------------------------------|---|---|---|
| DRIVE | Stepper Motor, SM-001 | 1 | | |
| TRAVEL | 12 mm | 1 | | |
| | 25 mm | | 2 | |
| ENCODER | Optional | | 0 | |
| LIMIT SWITCH | Mechanical | | | 1 |
| ENVIRONMENT | Atmospheric | | | 0 |
| | High Vacuum, 10^{-6} mbar | | | 6 |

Specifications are subject to change without notice.