Translation Stage | VT-21S

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The low cost VT-21S linear stage excels in applications with very limited space due to its compact design. The stage utilizes a 2-phase stepper motor and is equipped with two mechanical limit switches. A pre-loaded ball slide creates high stiffness and superior performance. The VT-21S is available with an optional linear encoder with 50 nm resolution. The stages can be mounted in XY or XYZ configuration in a space-saving arrangement. Versions capable of operation in vacuum (10^{-6} mbar) are available. The VT-21S is compatible with the MMC-200 controller.

KEY FEATURES

- Travel range of 10 mm
- 50 nm closed loop resolution
- Load capacity up to 1 kg
- Steel ball slide
- Integrated mechanical limit switches
- Vacuum versions available

TECHNICAL DATA

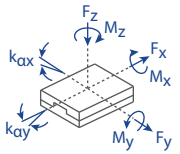
Travel range [mm]	**10**		
Straightness / Flatness [µm]	± 2.5		
Pitch [µrad]	± 150		
Yaw [µrad]	± 150		
Weight [g]	100		
Motor option	**2-Phase Stepper Motor**		
Speed, max [mm/s]	5		
Encoder option	**None (open loop)**	**Analog (1 V_{pp})**	**Digital (RS-422)**
Resolution, typical [µm]	0.5	0.05	0.05
Repeatability, bi-directional [µm]	± 4	± 0.2	± 0.2
Repeatability, uni-directional [µm]	0.5	0.2	0.2
Accuracy [µm]	± 10	± 1	± 1
Materials	aluminum body, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)		

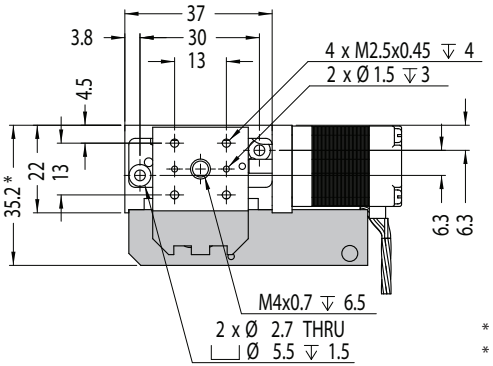
ORDERING INFORMATION

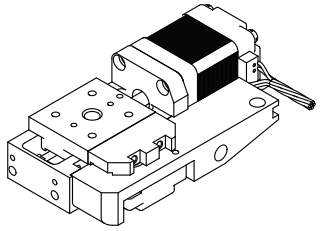
VT-21- [1] [1] [ ] [1] [ ]

DRIVE	Stepper Motor, SM-001	1
TRAVEL	10 mm	1
ENCODER	None	0
	Analog (1 V_{pp})	2
	Digital (RS-422)	3
	Digital low cost, 0.5 µm	4
LIMIT SWITCH	Mechanical	1
ENVIRONMENT	Atmospheric	0
	High Vacuum, 10^{-6} mbar	6

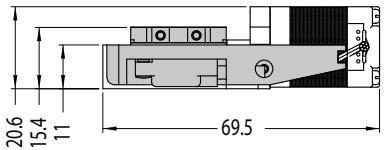
Load, max	F_x [N]	F_y [N]	F_z [N]	M_x [N-m]	M_y [N-m]	M_z [N-m]	$k_{\alpha x}$ [µrad/N-m]	$k_{\alpha y}$ [µrad/N-m]
SM-001	10	10	10	0.4	0.6	0.5	-	-

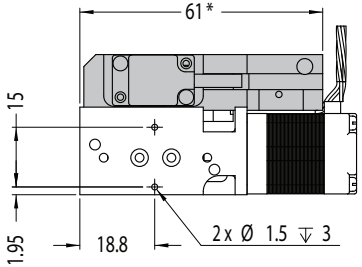






* grey parts for closed loop version only
* all dimensions are in millimeters





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