

# Translation Stage | VT-21L

The low cost VT-21L 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-21L 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-21L is compatible with the MMC-200 controller.

## KEY FEATURES

- Travel range of 26 mm
- 50 nm closed loop resolution
- Load capacity up to 1 kg
- Steel ball slide
- Integrated mechanical limit switches
- Vacuum versions available

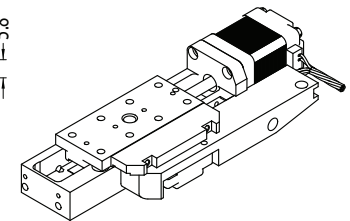
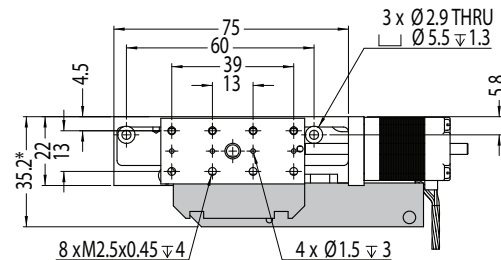
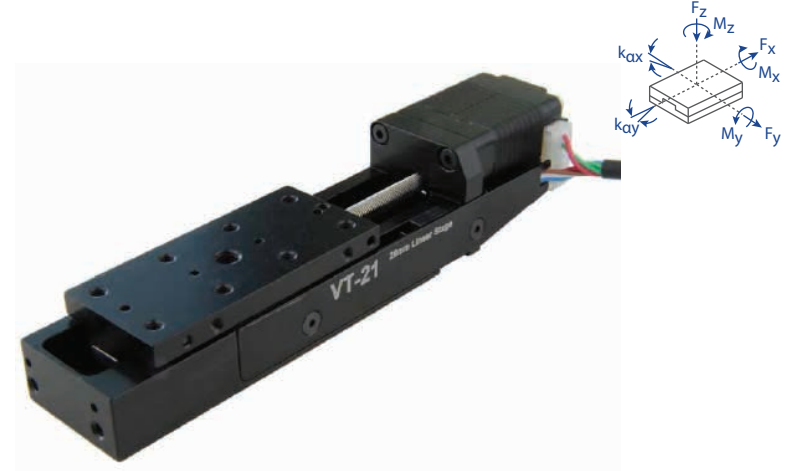
## TECHNICAL DATA

Travel range [mm]	26		
Straightness / Flatness [ $\mu\text{m}$ ]	$\pm 3$		
Pitch [ $\mu\text{rad}$ ]	$\pm 180$		
Yaw [ $\mu\text{rad}$ ]	$\pm 180$		
Weight [g]	120		
Motor option	2-Phase Stepper Motor		
Speed, max [mm/s]	5		
Encoder option	None (open loop)	Analog (1 V <sub>pp</sub> )	Digital (RS-422)
Resolution, typical [ $\mu\text{m}$ ]	0.5	0.05	0.05
Repeatability, bi-directional [ $\mu\text{m}$ ]	$\pm 4$	$\pm 0.2$	$\pm 0.2$
Repeatability, uni-directional [ $\mu\text{m}$ ]	0.5	0.2	0.2
Accuracy [ $\mu\text{m}$ ]	$\pm 10$	$\pm 1$	$\pm 1$
Materials	aluminum body, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)		

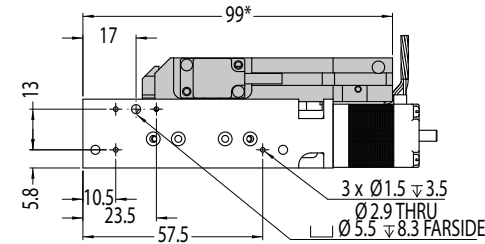
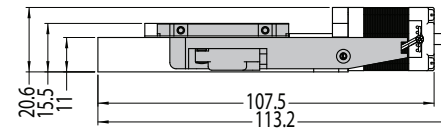
## ORDERING INFORMATION

	VT-21-	1	2	1
<b>DRIVE</b>	Stepper Motor, SM-001 .....	1		
<b>TRAVEL</b>	26 mm .....		2	
<b>ENCODER</b>	None .....			0
	Analog (1 V <sub>pp</sub> ) .....			2
	Digital (RS-422) .....			3
	Digital low cost, 0.5 $\mu\text{m}$ .....			4
<b>LIMIT SWITCH</b>	Mechanical .....			1
<b>ENVIRONMENT</b>	Atmospheric .....			0
	High Vacuum, $10^{-6}$ mbar .....			6

Load, max	F <sub>x</sub> [N]	F <sub>y</sub> [N]	F <sub>z</sub> [N]	M <sub>x</sub> [N-m]	M <sub>y</sub> [N-m]	M <sub>z</sub> [N-m]	k <sub>ax</sub> [ $\mu\text{rad}/\text{N-m}$ ]	k <sub>ay</sub> [ $\mu\text{rad}/\text{N-m}$ ]
SM-001	10	10	10	0.4	0.6	0.5	-	-



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



Specifications are subject to change without notice.