

Precision Linear Stage

500 MM TRAVEL WITH HIGH GUIDING ACCURACY



M-417

- High duty cycles and velocity to 100 mm/s
- Low crosstalk, $\pm 100 \mu\text{rad}$ over the entire travel range
- Efficient ActiveDrive DC servo motor
- Direction-sensing reference point switch

Precision-class linear translation stage

Recirculating ball bearings for high guiding accuracy and load capacity. Precision ball screws with 2 mm thread pitch. Stress-relieved aluminum base for highest stability

Drive types and position metrology

ActiveDrive DC motor for high velocity: The motor is controlled via PWM signals, the operating voltage is obtained with an amplifier integrated in the motor case

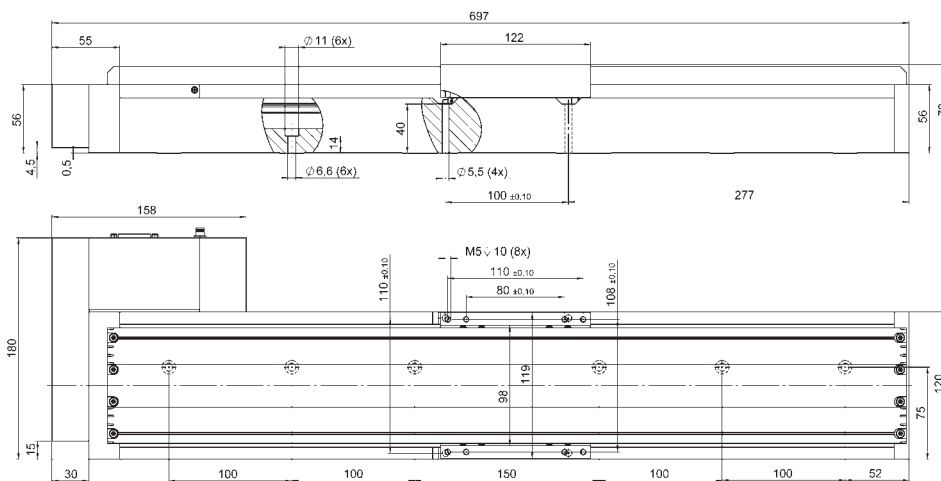
Noncontact limit switches. Noncontact direction-sensing reference point switches in the middle of the travel range. Incremental rotary encoder, mounted to motor shaft

Fields of application

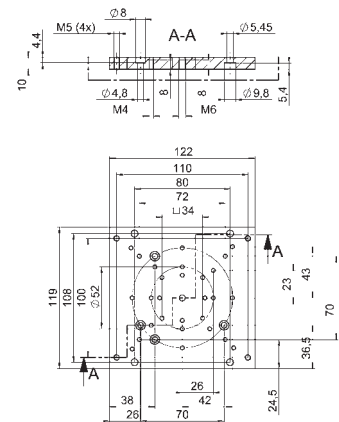
Precision positioning for science and industry, high duty-cycles

Preliminary data	M-417.2PD	Unit
Motion and positioning		
Travel range	500	mm
Integrated sensor	Rotary encoder	
Sensor resolution	4000	cts./rev.
Design resolution	0.5	µm
Min. incremental motion	0.5	µm
Unidirectional repeatability	0.5	µm
Backlash	2	µm
Crosstalk, angular error	±100	µrad
Max. velocity	100	mm/s
Mechanical properties		
Thread pitch	2	mm
Gear ratio	-	
Max. load	500	N
Max. push / pull force	200	N
Max. lateral force	200	N
Drive properties		
Motor type	DC motor with PWM control	
Operating voltage	24 (PWM)	V
Motor power	70	W
Reference point and limit switches	Hall-effect	
Miscellaneous		
Operating temperature range	-20 to 65	°C
Material	Aluminum, steel	
Mass	10.5	kg
Connector	Sub-D 15-pin, 3 m cable incl.	
Recommended controller/driver	C-863 (single-axis), C-884 (up to 4 axes)	

Ask about custom designs!



M-417, dimensions in mm



Mounting platform for M-417, removable