

ML 17

Miniature Translation Stages for Ultra Low Temperatures with piezo electric inertial drive



Specifications

- Piezo driven step motor with low hysteresis
- holds reached position without current
- for use at ultra low temperatures up to 4 K
- step width about 200 nm
- positioning accuracy better than 1 μm
- velocity up to 1.0 mm/s
- travels up to 5 mm
- xy or xyz combinations possible (L-bracket ML.017.9001 for xyz needed)
- CNC-machined aluminium body
- precision linear bearings
- no limit switches necessary
- vacuum preparation optionally
- customized designs possible
- driven by USB controller (CU.017.0003)

Technical Data

Travel:	5 mm
Max. speed:	0.5 mm/s (with controller CU 17 LT)
Electrical connections:	2 solder points for piezo 2 solder points for temperature sensor (in preparation)
Mass:	25 g

Load characteristics

Max. load	
M_x	3.0 Ncm
M_y, M_z	1.5 Ncm
F_x (blocking force)	1.0 (1.5) N
F_y, F_z	1.0 N

Resolution (calculated)

Single step	
with 22 V (at 4.2 K)	~ 200 nm
with 42 V (at 4.2 K)	~ 500 nm
with 82 V (at 4.2 K)	~ 1 μm

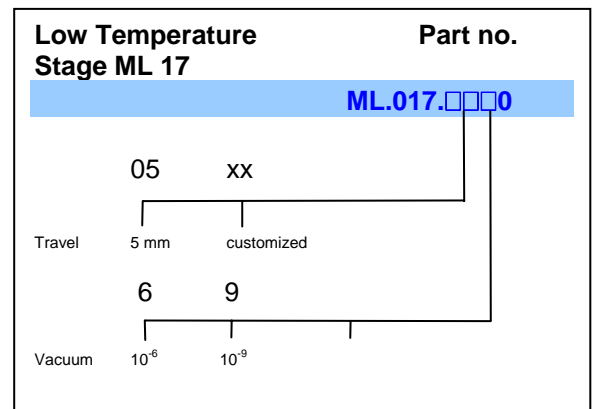
(with controller CU 17 LT)

Guidance accuracy (without load)

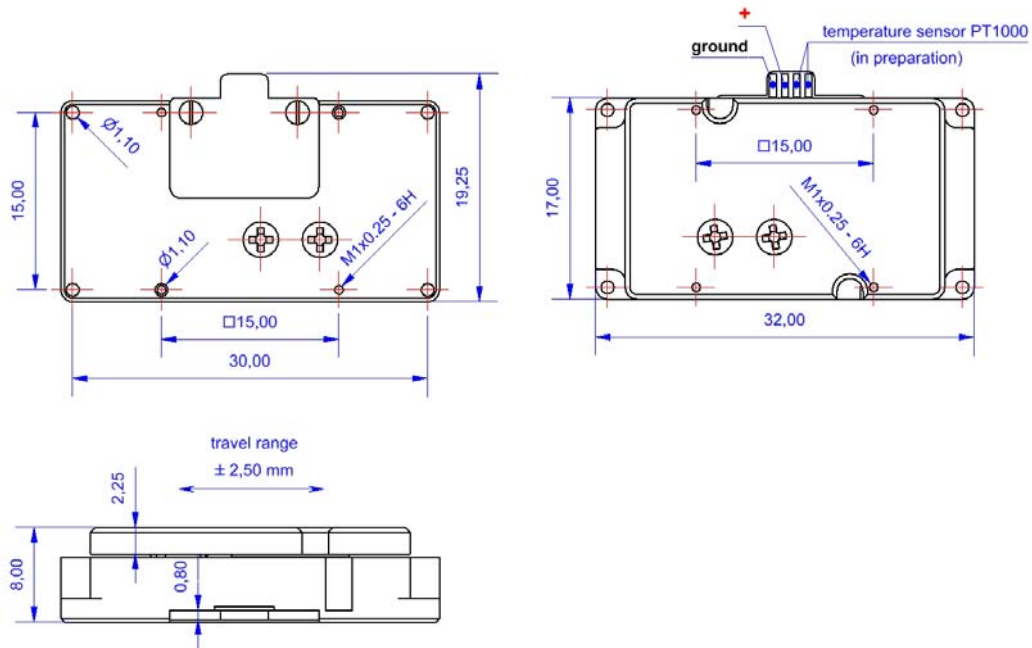
For 5 mm travel:	
Vertical deviation	< 2 μm
Lateral deviation	< 2 μm

Application Examples

- Cryo - applications
- Micro-/Nano Technology
- Bio Technology
- Microscopy
- Quality Control
- Metrology
- R & D



Dimensions of the ML 17



xyz – combination of ML 17

