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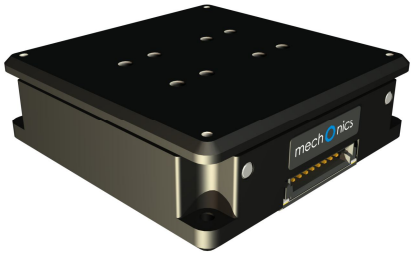
NDS 40 Miniature Translation Stages with piezo electric inertial drive for NOVA system



Specifications

- Piezo driven step motor with low hysteresis
- holds reached position without current
- step width about 20 nm
- positioning accuracy better than 50 nm
- velocity up to 1.2 mm/s
- only open-loop application
- xy combinations
- CNC-machined aluminium body
- precision ball bearing guides
- no limit switches necessary
- vacuum preparation optionally
- customized designs possible
- driven by NOVA controller (NC.00x.x000)

Technical Data

Travel:	11 mm
Max. speed:	1.5 mm/s
Mass:	70 g
Electrical connector:	8pin SRC-MiniBridge

Load characteristics

Max. load	
M_x, M_y, M_z	0.5 Nm
F_x (blocking force)	4.5 (5) N
F_y, F_z	30 N

Resolution (calculated)

Single step	~ 450 nm
1/64-step	~ 10 nm

Guidance accuracy (without load)

Yaw angle	< 20 arc sec
Pitch angle	< 60 arc sec
Vertical deviation	< 1 µm
Lateral deviation	< 2 µm

Application Examples

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

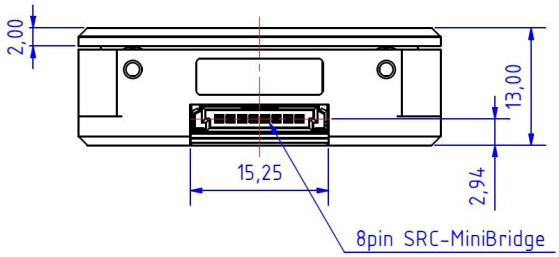
Miniature Translation Stage NDS 40 NOVA	Part no.
	NDS.040.11□0

0	6	9
Vacuum	no	10^{-6}	10^{-9}

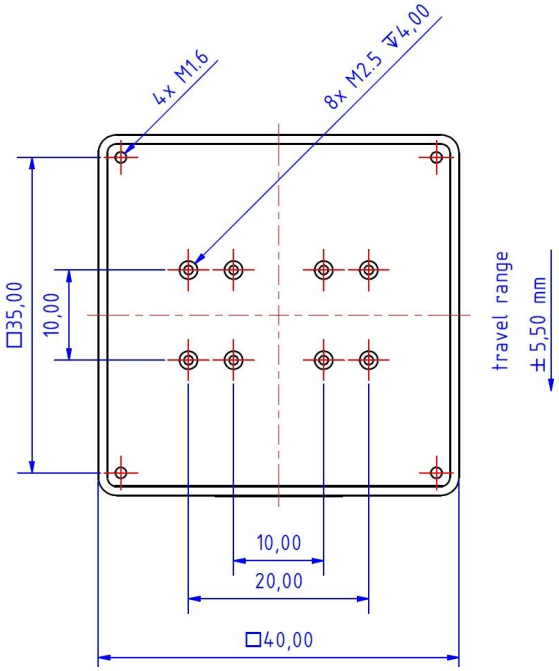
Remarks:
Vacuum application is possible only without electrical circuit. You need the electronic module NDEM 3 as driving unit.

NDS 40, 11 mm travel

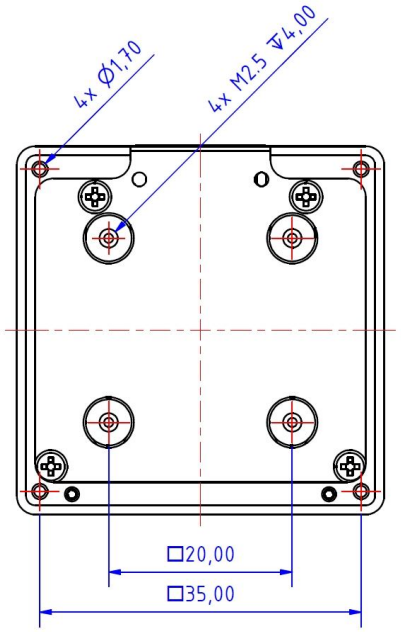
Front view:



Top view:



Rear view:



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NDS 70 Miniature Translation Stages with piezo electric inertial drive for NOVA system

Specifications

- Piezo driven step motor with low hysteresis
- holds reached position without current
- step width about 20 nm
- positioning accuracy better than 50 nm
- velocity up to 1.2 mm/s
- only closed-loop application
- xy combinations
- CNC-machined aluminium body
- precision ball bearing guides
- no limit switches necessary
- vacuum preparation optionally
- customized designs possible
- driven by NOVA controller (NC.00x.x000)

Application Examples

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

Technical Data

Travel:	15 mm
Max. speed:	1.5 mm/s
Mass:	120 g
Electrical connector:	8pin SRC-MiniBridge

Load characteristics

Max. load	
M_x, M_y, M_z	0.5 Nm
F_x (blocking force)	9 (10) N
F_y, F_z	30 N

Resolution

Standard	1 µm
Premium	0.5 µm
High End	0.1 µm
Excellence	0.05 µm

(other resolutions on request)

Scale tape

Material	Steel
Grating period	20 µm
Length of scale	measuring length + 22 mm
Reference mark	at the center of the scale
Linear expansion coefficient	23.8 x 10^{-6} grd^{-1}
Accuracy class	± 1 µm/m

Electrical Data

Scanning frequency	max. 400 kHz
Output signal	RS 422 with interpolation
Supply voltage	5 V DC +/- 10%
Power consumption	150 mA
Cable length	1.5 m
Operating temperature	0° – 55° C
Vibration (50 – 2,000 Hz)	< 200 ms^{-2}
Shock (11 ms)	< 400 ms^{-2}

Miniature Translation Stage NDS 70 NOVA — **Part no.** NDS.070.15□□

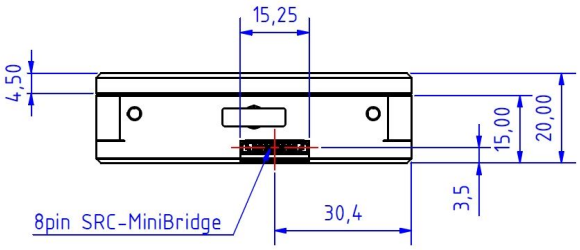
	0	6	9
Vacuum	no	10^{-6}	10^{-9}

	2	3	5	6
Resolution	1 µm	0.5 µm	0.1 µm	0.05 µm

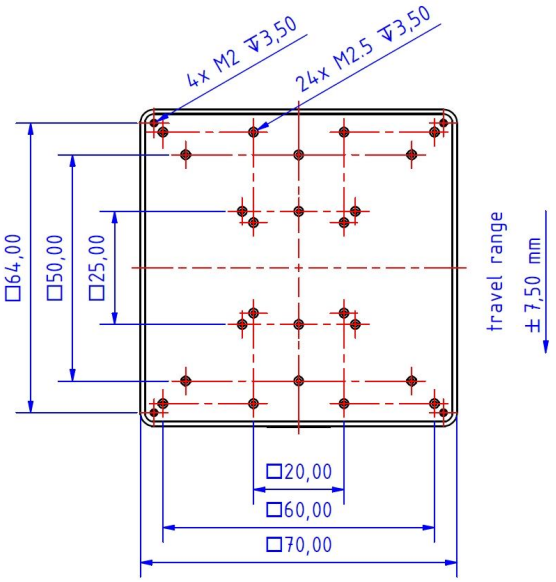
Remarks:
Vacuum application is possible only without electrical circuit. You need the electronic module NDEM 3 for closed loop application as driving unit.

NDS 70, 15 mm travel

Front view:



Top view:



Rear view: