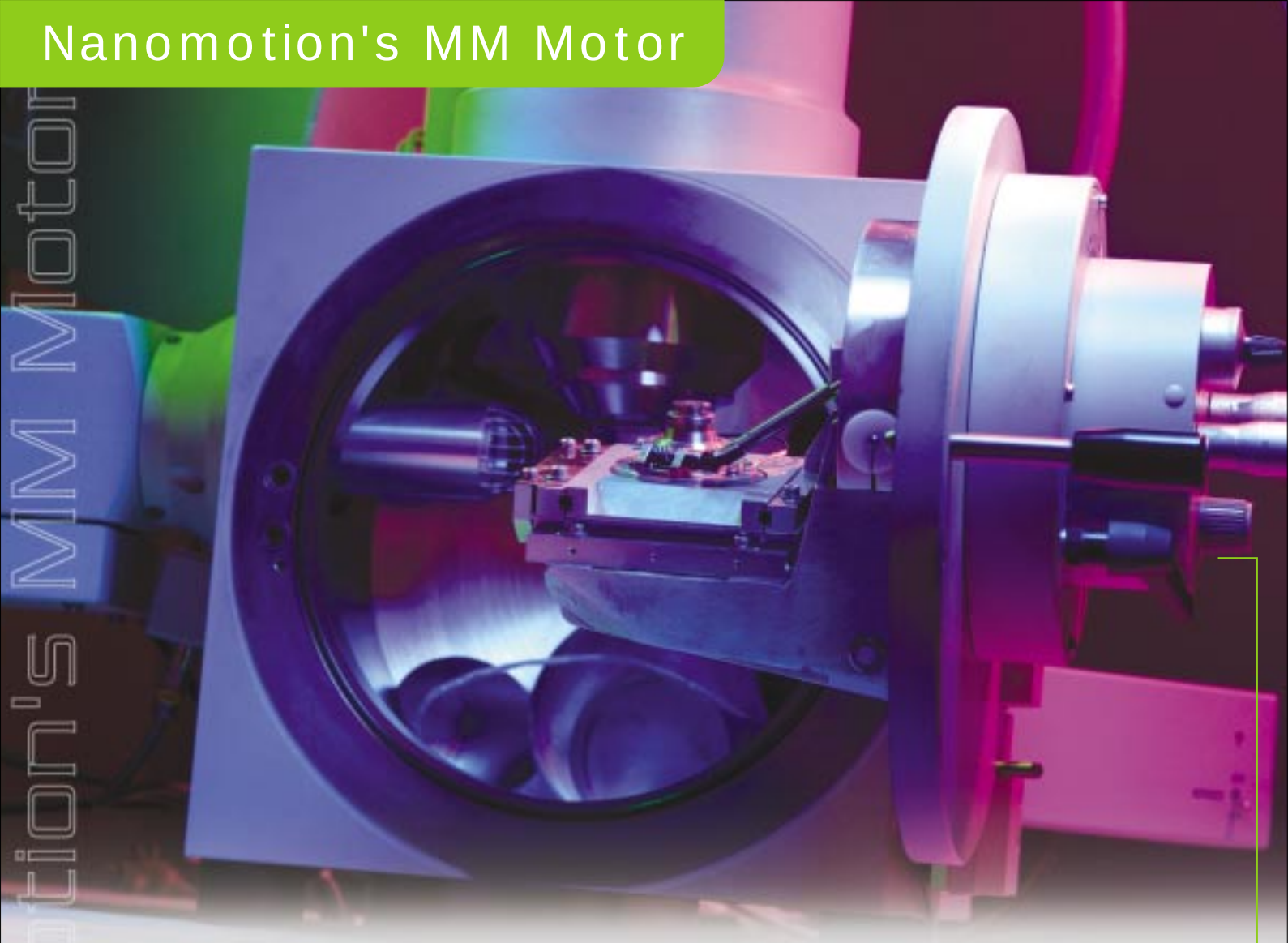
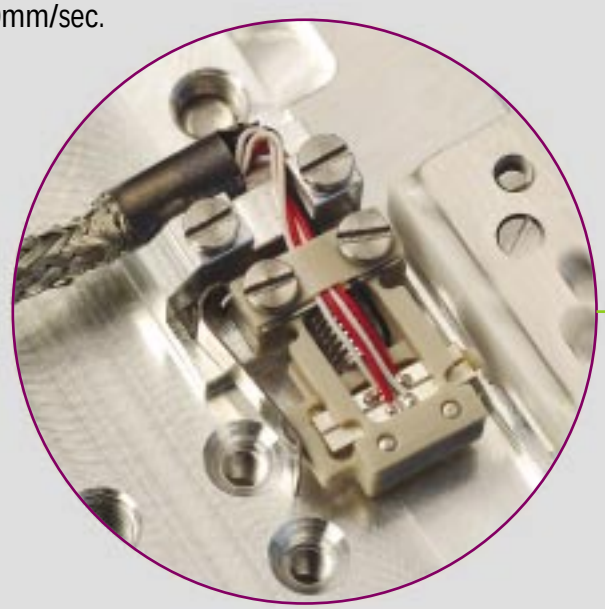
Nanomotion's MM Motor



Nanomotion's MM motor is the smallest industrial motor of its kind that provides unlimited linear or rotary motion, with 0.17N of driving force and velocity up to 220mm/sec.

The MM motor works with Nanomotion's standard driver amplifiers and any servo controller, and can be integrated into most bearing structures.



Key MM Motor Features:

- Exceptionally small dimensions
- Excellent move and settle characteristics
- Suitable for high vacuum environments
- Inherent brake at power off
- Unlimited travel
- Wide dynamic velocity range – from 100 microns/sec to 220 mm/sec
- No intrinsic magnetic field
- High resolution

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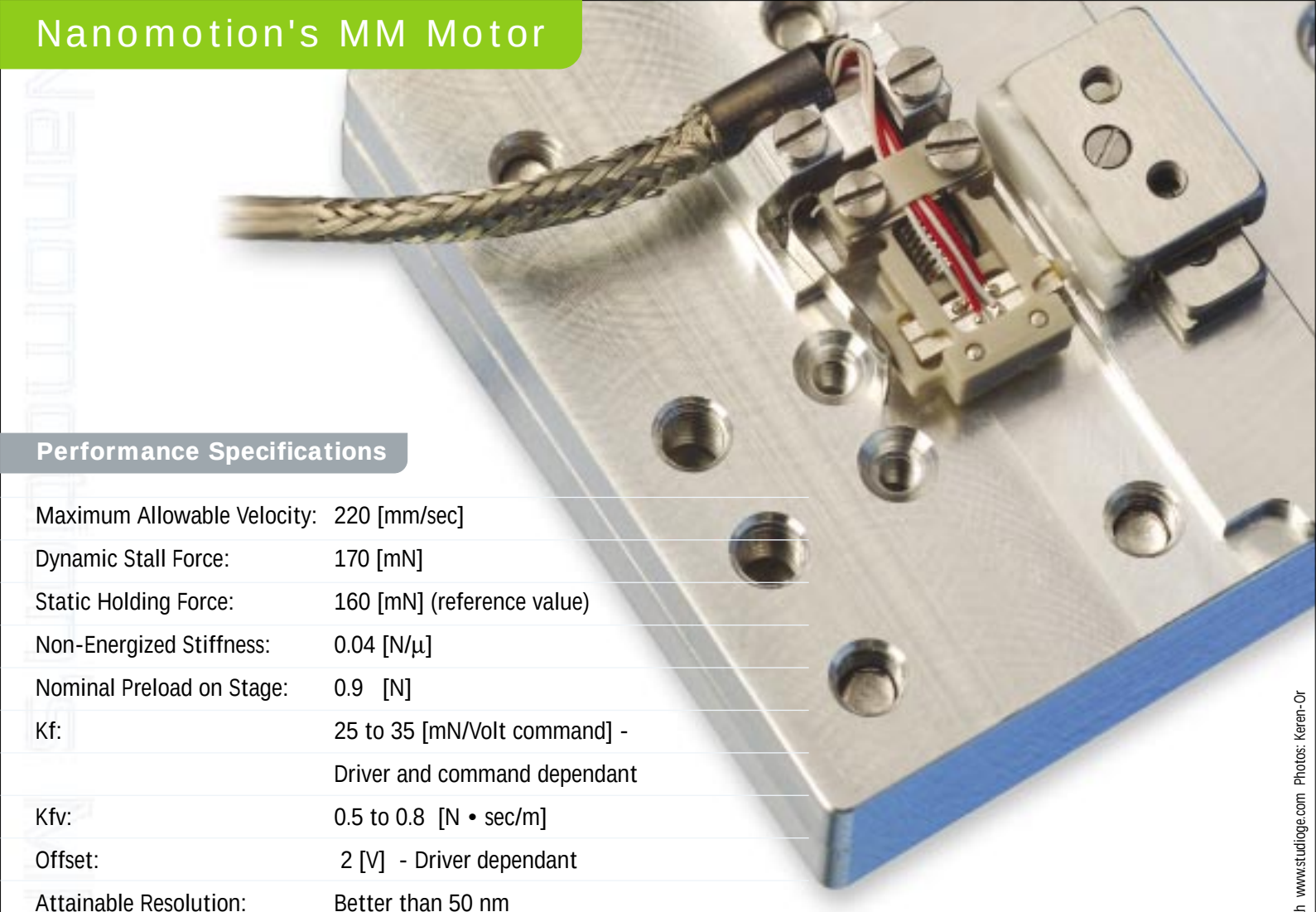
Nanomotion's MM Motor



Performance Specifications

Maximum Allowable Velocity:	220 [mm/sec]
Dynamic Stall Force:	170 [mN]
Static Holding Force:	160 [mN] (reference value)
Non-Energized Stiffness:	0.04 [N/µ]
Nominal Preload on Stage:	0.9 [N]
Kf:	25 to 35 [mN/Volt command] -
	Driver and command dependant
Kfv:	0.5 to 0.8 [N • sec/m]
Offset:	2 [V] - Driver dependant
Attainable Resolution:	Better than 50 nm
Nominal Lifetime:	20,000 hours under nominal operating conditions

Physical

Physical dimensions:	9mm x 17mm x 5mm
Motor weight:	5 grams

Electrical

Maximal Voltage:	70 Vrms, sine wave
Maximal Current Consumption:	18 mA rms
Maximal Power Consumption:	350 mW

Environmental

Ambient Temperature:	0 - 50ºC
Storage:	-40ºC - +70ºC
Humidity:	0 - 80% non condensing
Residual Magnetism:	0.27 nT
Vacuum compatibility:	1E-7 Torr. Guaranteed after baking
Bake-Out:	Max 24Hr @ 120ºC

Envelop of Performance

Maximum continues operation	
at 3.5-10V command:	4 sec
Maximum Duty Cycle at	
10V command:	10%

NANOMOTION

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