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Find the *Newport VM4PP* at our website: ***Click HERE***

NEW FROM NEWPORT

Precision Motorized Actuators

Key Features

- *Precision, backlash-free motion ideal for alignment purposes*
- *Exceptional high load capacity of 120 N*
- *Low friction design enables high sensitivity with 0.3 µm minimum incremental motion*
- *Vacuum-compatible versions up to 10^{-6} Torr*



VM series precision actuators offer backlash-free motion with high load capacity and up to 25 mm travel range. They feature a M12 mounting interface and are the recommended choice to motorize our UMR8 and MVN80 linear stages, or SL and SK series optical mounts (see page 838, 846, 629, and 632 respectively).

Precision motion is accomplished by a miniature DC servo or stepper motor with rotary encoder providing 50 nm position feedback. A sophisticated, preloaded belt drive system converts the rotation of the motor shaft into linear travel while avoiding any backlash inside the system. This allows very responsive motion ideal for alignment purposes. An exceptional high load capacity of 120 N is achieved by a low friction design and precision guidance of the actuators tip.

VM actuators are offered with three different travel ranges allowing exact match with the travel of your manual component. To protect your investment, fixed limit switches are included, which are also used as reference home position.

Design Details

Base Material	Aluminum
Drive Mechanism	Rolled lead screw
Drive Screw Pitch	0.5 mm
Reduction Gear	211.5:1
Feedback	Motor mounted rotary encoder, 48 pts/rev.
Limit Switches	Mechanical, both ends
Origin	Mechanical, at motor side, typical <30 µm repeatability
Motor	VMCC: DC servo motor UE17CC VMPP: 2-phase stepper motor UE16PP, 1 Full step = 2 encoder pulses
Cable Length	1.5 m
Vacuum Compatibility	Vacuum compatible versions are available up to 10^{-6} Torr using stepper motor (PP)

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Specifications

Travel	4 mm; 12.7 mm; 25.4 mm
Resolution	0.05 µm
Minimum Incremental Motion	0.3 µm
Bi-directional Repeatability	1.5 µm
Reversal Value (Hysteresis)	3 µm
Linear Accuracy	6 µm
Maximum Speed	0.2 mm/s
Load Capacity	120 N

Ordering Information

Series	Travel Range (mm)	Drive	Vacuum Preparation [1]
VM	4 12.7 25.4	PP CC	V6

PP: Stepper CC: DC

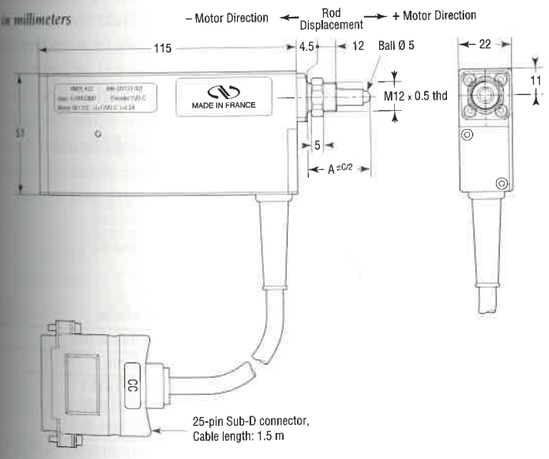
Example
The **VM25.4PP** *is an actuator with 25.4 mm travel range and a stepper motor drive.*

[1] *Vacuum compatible to* 10^{-6} *Torr. In this case max. speed and load capacity have to be divided by two.*

Dimensions

Model VM25.4CC

Dimensions in millimeters



Travel C	A
4	21.5
12.7	19.5
25.4	26

Motion Controller Options

For optimum performance and seamless compatibility, we recommend using one of the following Motion Controllers/Drivers:

ESP7000 (*page* 1084)
Except V6 *versions*



MM4006 (*page* 1088)



ESP6000 *with* UNIDRIV6000 (*page* 1094)
Except V6 *versions*



ESP6000 *with* DCIB (*page* 1101)
Only VMCC



ESP300 (*page* 1104)
Except V6 *versions*



ESP100 (*page* 1107)
Except V6 *versions*

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