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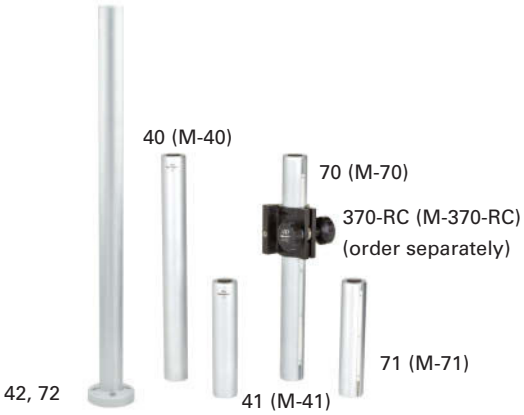
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Find the *Newport M-VPB* at our website: *Click HERE*

Heavy Duty Rod Systems



- **Ideal for mounting heavy components**
- **Standard and vibration damped versions**
- **Available with gear rack to assist in vertical positioning**

The rods are made round to 0.0005 in. (12 µm) to mate repeatedly with the bore of every Newport rod-mounted component. A chromed finish is applied for a low-reflectivity surface that, unlike aluminum, is resistant to gouging, scratching and corrosion, allowing for many years of service.

Standard Rods

Models 40 and 70 rods have the sturdiness suitable for the majority of general laboratory applications. Both models are 14 in. (356 mm) tall. Model 70 has a nylon gear rack set into the rod for rack-and-pinion control over component elevation.

Models 41 and 71 short rods are 7 in. (178 mm) tall and have a smaller resonant vibration amplitude than the longer rods. Their low profile makes them ideal for compact experimental setups. Models 42 and 72 rods, which have integrated bases, are a full 24 in. (610 mm) tall for use in experimental setups requiring extra height such as laser beam routing for microscopy applications.

Damped Rods

Models 45 and 75 Damped Rods are the most sophisticated rods available for critical applications where acoustical and vibrational forces are a concern. These rods incorporate cylindrical masses constrained by damping layers, concentrated in the upper portion of the rod where they are most effective in dissipating vibrational energy. This construction is the result of extensive computer modeling, dynamic testing and structural analysis.

Newport's patented internal damping system provides unmatched vibrational immunity. Compared to the best alternative designs, Newport damped rods exhibit 60% higher resonant frequency, 100% faster vibration decay and 160% better peak compliance. These 14 in. (356 mm) long rods mount to tables and breadboards with four bolts through a special ring base. Model 75 has a nylon gear rack for rack-and-pinion control over component elevation.

Precision, Heavy-Duty Construction

Model VPB Adjustable Base is a stiff, low-profile adjustable platform designed for stable mounting of Newport rods and components anywhere on our optical tables and breadboards.

Model VPB has XY sliding adjustments for complete positioning freedom on any mounting surface with a standard pattern of 1/4-20 (or M6) mounting holes on 1 in. (25 mm) centers.



A custom Newport rod wrench is provided with each standard rod for easy attachment.

VPB (M-VPB)





340-RC (M-340-RC) 370-RC (M-370-RC)



34 (M-34) 300-P (M-300-P)



670-RCT and 670-RCB



45 75

Model 45 (left) and Model 75 shown with 370-RC Clamp (right)

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Damped Rod Performance

The time-domain responses shown in Figures 1 and 2 dramatically illustrate the difference between the Newport approach and alternative damping implementations when the rod is supporting a load.

Newport's Model 40 undamped steel rod has a single resonance peak at 240 Hz corresponding to the first bending mode of a cantilevered beam.

The alternative, lead-shot damped rod has a single resonance peak roughly 1/4 the amplitude of the undamped rod. This peak is lower in frequency (~105 Hz) because of the lower stiffness-to-mass ratio of this construction, which makes it more likely to couple to vibrations from nearby mechanical and electrical components.

Newport's Model 45 damped rod is so highly damped that the 240 Hz resonance is split into subpeaks at 170 and 210 Hz whose amplitudes are 40 times less than the undamped response peak and 5 times less than the alternative rod.

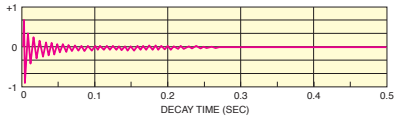


Fig. 1: Time response of a Newport Model 45 Damped Rod supporting a 2.5 lb (1.1 kg) load.

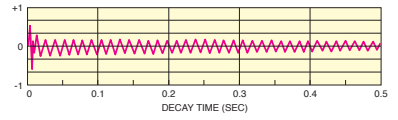


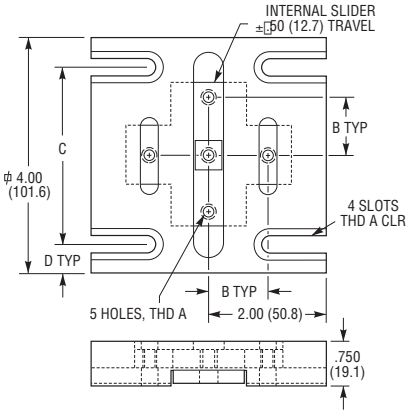
Fig. 2: Time response of an alternative, lead-shot damped rod with the same 2.5 lb (1.1 kg) load as Fig. 1.

Ordering Information

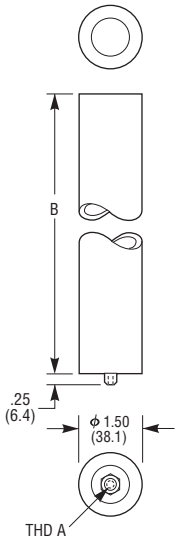
Model (Metric)	Description	Height [in. (mm)]
45	Damped Rod with Mounting Base	14.0 (355.6)
75	Damped Rod with Rack and Mounting Base	14.0 (355.6)
42	Standard Rod with Base	24.0 (610)
72	Standard Rod with Rack and Base	24.0 (610)
40 (M-40)	Standard Rod, 1/4-20 (M6) Thread	14.0 (355.6)
70 (M-70)	Standard Rod, 1/4-20 (M6) Thread	14.0 (355.6)
41 (M-41)	Standard Rod, 1/4-20 (M6) Thread	7.0 (177.8)
71 (M-71)	Standard Rod, 1/4-20 (M6) Thread	7.0 (177.8)
2998	Solid Rod, 1/4-20 Threaded Both Ends	14 (355.6)
14828-01 (16636-01)	Rod Wrench for Standard Rods	
VPB (M-VPB)	XY Platform, 1/4-20 (M6) Thread	

U.S. Patent 4,050,665

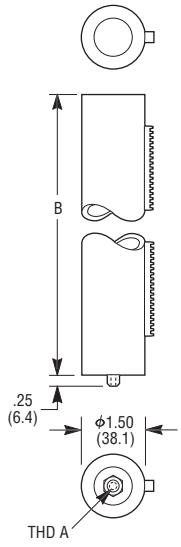
Model VPB



Model 40, 41

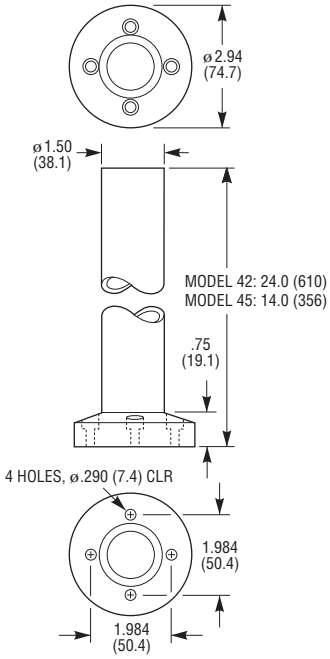


Model 70, 71



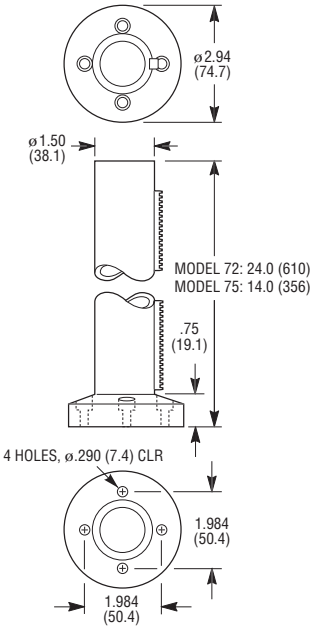
Model (Metric)	Thread A	Dimensions [in. (mm)] B
40 (M-40)	1/4-20 (M6)	14.00 (355.6)
41 (M-41)	1/4-20 (M6)	7.00 (177.8)
70 (M-70)	1/4-20 (M6)	14.00 (355.6)
71 (M-71)	1/4-20 (M6)	7.00 (177.8)

Models 42 and 45



CAD *See our website for CAD files*

Models 72 and 75



Model (Metric)	Thread A	Dimensions [in. (mm)] B	C	D
VPB (M-VPB)	1/4-20 (M6)	1.000 (25.0)	3.000 (75.0)	0.50 (13.3)

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