

QM 1 - Long Mount

The QM 1, for which Questar Corporation received an IR-100 award in 1983, was the first of a new series of long-distance microscopes.

It has a working range of 560 mm to 1520mm inches, a 30 to 1 variability in field of view, and remarkable depth of field, linearity and chromatic correction which make it an indispensable tool for a wide variety of laboratory and industrial applications.

The QM 1 Long Mount includes two selectable ports, a semi-rugged tube design with integrated full length mount for system stability and is compatible with standard eyepieces, 35 mm, and video formats.



QM 1 - Long Mount

Questar Long-Distance Microscope

Datasheet



Technical data

Type	Maksutov Cassegrain Catadioptric		
Working range	560 mm to 1 520 mm, subject plane to front element		
Clear aperture	89 mm		
Entrance Pupil	Primary Mirror 96 mm		
Relative Aperture/ Numerical Aperture	Working Distance	N.A.	f/no
	1400 mm	.0288	16.8
	1020 mm	.0385	12.9
	700 mm	.0511	10
	560 mm	.0580	8.7
Resolution	Better than 3 microns at 560 mm		
Magnification	To 125 times visual, to 12 times at image plane		
Format	Diffraction limited field 12 mm, 18 mm nearly diffraction limited		
Back Focal Distance	70 mm minimum measured from back plate		

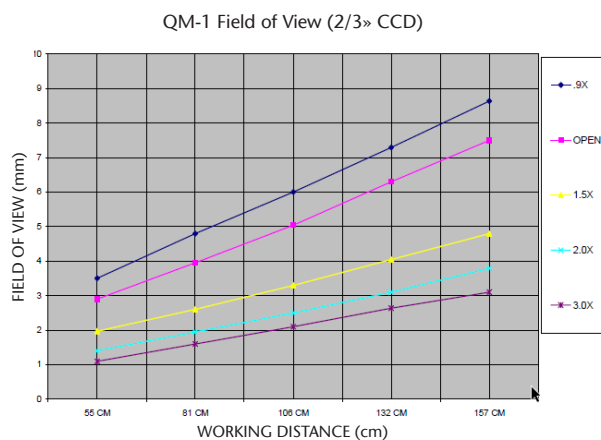
Optics

Corrector	BK7, Magnesium Fluoride Coated, 89 mm diameter
Primary Mirror	Pyrex, Aluminum Coated, SiO overcoated, 96 mm diameter
Secondary Mirror	Aluminum Coated, R1 surface of corrector, 22 mm diameter
Baffling	Helix in central tube, all interior surfaces black anti-reflection coated

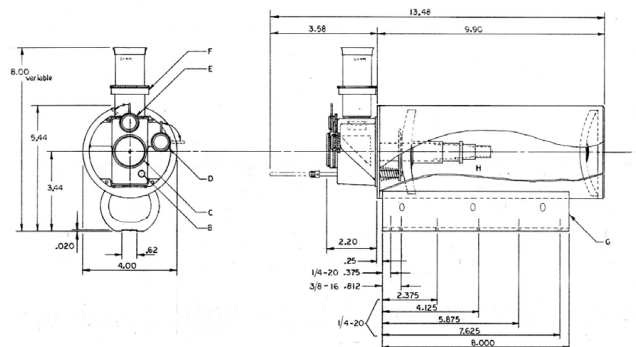
Mechanical

Barrel	Aluminum Hollow Bar, machined full length, with integrated lens cell and out, black anodized exterior finish Length (with control box) 30.5 cm; Outside diameter 10.8 cm; Weight 3.7 pounds
Rear Closure Plate	With stainless steel central tube - precision machining and alignment after assembly
Focusing Mechanism	Mirror thimble integral with stainless steel sliding tube. Slides on fixed, stainless steel light baffle tube (centerless ground)
Control Box	Cast Aluminum, selectable axial or 90° port. Internally mounted 1.5X Barlow selectable for 90° port, flick knob controlled.
Knobs	Aluminum 24S-T4, corrosion-resistant, hand-turned on turret lathe, stainless steel shafts and levers

*Specifications subject to change without notice



QM-1 Long Mount



B – Main System Focus Rod
 C – Axial Photographic Port
 D – Main System Prism Actuation Knob
 E – Internal Barlow Actuation Knob
 F – Diopter Adapter Fine Focus, Top Port
 G – Mount Bracket – Standard Rotating Mount
 H – Internal Main System Optics and Baffle System