

Micrometer Head

The origin of Mitutoyo's trustworthy brand of small tool instruments

Micrometer Heads

SERIES 148 — Fine Spindle Feed of 0.1 mm/rev

- Highly accurate 0.1 mm pitch thread is only one-fifth of that used for a standard-pitch head (0.5 mm).
- External dimensions are compatible with standard 0.5 mm pitch heads.

DIMENSIONS

Plain Stem

Unit: mm

Plain stem Spherical face

148-142 Mass: 31 g

Stem Locknut

Stem locknut Spherical face

• Fixture thickness: 6 mm
148-143 Mass: 34 g

Sleeve marker

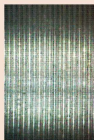
SPECIFICATIONS

Metric								
Order No.	Stroke (mm)	Graduation (mm)	Stem dia. (mm)	Stem	Spindle end	Spindle pitch (mm)	Maximum permissible error J_{MPE} (μm)	Special features
148-142	6.5	0.002	9.5	Plain	Spherical (SR4)	0.1	±2	—
148-143				W/clamp nut				
148-342				Plain				
148-343				W/clamp nut				Thicker & shorter thimble
148-242			6	Plain	Spherical (SR3)		±5	
148-243				W/clamp nut				
148-244	5	0.004	3.5	Plain	Spherical (SR1.5)			
148-245				W/clamp nut				

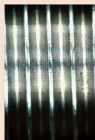
Technical Data

- Measuring face
 - Material: Alloy tool steel
 - Hardness: 60 HRC or more
 - Lapped
- Scale finishing:
 - Satin-chrome plated

Spindle Pitch



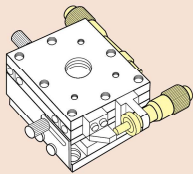
Pitch=0.1 mm



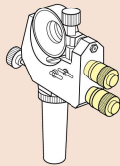
Pitch=0.5 mm

Typical Applications

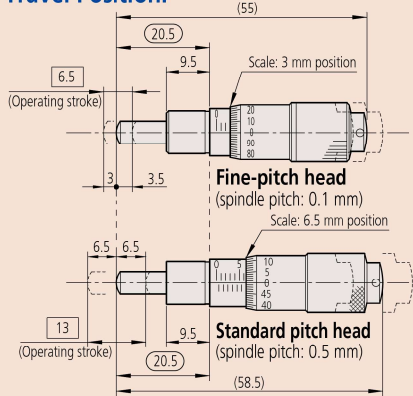
- Semiconductor-wafer positioning machinery and optical component alignment units, etc.
- Precision X-Y table positioning



- Precision adjustment of mirror in holder



Comparison of Mounting Dimensions Between a Fine-pitch Head and a Standard-pitch Head at the Midstroke Travel Position.



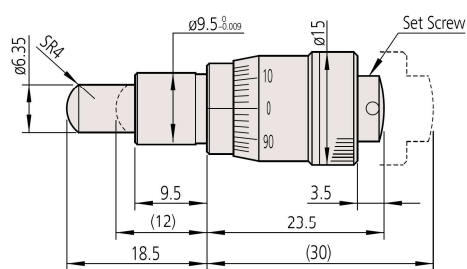
Note: While the fine-pitch micrometer head has a measuring stroke of 6.5 mm, the standard head has a larger range of 13 mm. When replacing a standard head, the fine-pitch type can use the common stroke in the middle of the spindle travel. The standard and compact types of fine-pitch head are otherwise completely interchangeable.

Micrometer Heads SERIES 148 — Fine Spindle Feed of 0.1 mm/rev

DIMENSIONS

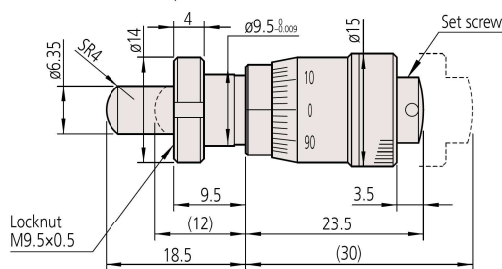
Unit: mm

Plain Stem

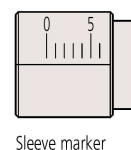


148-342 Mass: 29 g

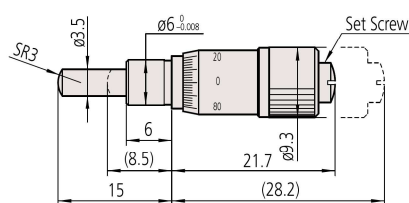
Stem Locknut



• Fixture thickness: 6 mm
148-343 Mass: 31 g

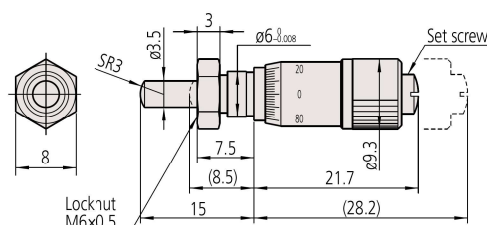


Plain Stem

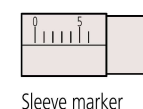


148-242 Mass: 10 g

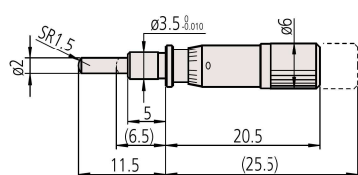
Stem Locknut



• Fixture thickness: 4 mm
148-243 Mass: 10 g

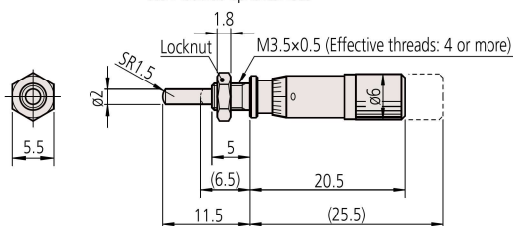


Plain Stem

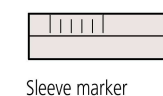


148-244 Mass: 4 g

Stem Locknut



• Fixture thickness: 3 mm
148-245 Mass: 5 g



(): with spindle fully retracted.