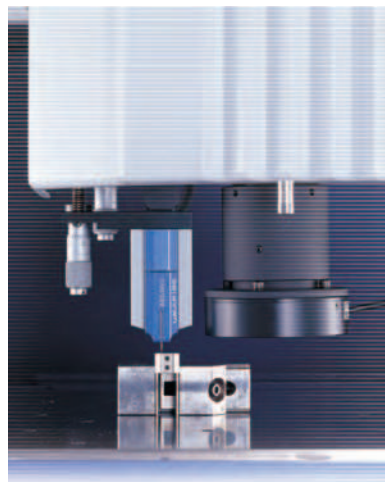


UMAP

UMAP : Ultra Micro Accurate Probe

Micro-form Measuring System

- Dual functions of high-accuracy contact and non-contact measurement in one machine.
- Contact (micro-stylus UMAP probe) and non-contact (vision probe) measuring probes are installed.
- UMAP allows you to measure micro-features of parts previously impossible to reach.
- Several diameters of micro-stylus are available from 15 μm to 300 μm .



Ultra Micro Accurate Probe



Touch Probe option
(only for UMAP type 1)

Type 1 - MCOSMOS : (CCD or TP) + UMAP Probe + MCOSMOS + VISIONPAK

Type	Hyper UMAP 302 Type 1	Hyper UMAP 350 Type 1
No.	Hyper UMAP302 - T1	Ultra UMAP350 - T1
Range (X-, Y-axis) ⁽¹⁾	245 x 200 mm	295 x 350 mm
Range (Z-axis) ⁽¹⁾	- UMAP 101/103 : 175 mm - UMAP 107/110 : 180 mm - UMAP 130 : 185 mm	- UMAP 101/103 : 125 mm - UMAP 107/110 : 130 mm - UMAP 130 : 135 mm
Accuracy ⁽²⁾	$E_{1(x,y)} = (0,8+0,2L/100) \mu\text{m}$ $E_{1(z)} = (3+0,2L/100) \mu\text{m}$	$E_{1(x,y)} = (0,5+0,2L/100) \mu\text{m}$ $E_{1(z)} = (3+0,2L/100) \mu\text{m}$
Repeatability (σ)	- UMAP 101/103/107 : 0,1 μm - UMAP 110/130 : 0,15 μm	- UMAP 101/103/107 : 0,1 μm - UMAP 110/130 : 0,15 μm

Type 2 - QVPAK : CCD + UMAP Probe + QVPAK

Type	Hyper UMAP 302 Type 2	Ultra UMAP 404 Type 2
No.	Hyper UMAP302 - T2	Ultra UMAP404 - T2
Range (X-, Y-axis) ⁽¹⁾	245 x 200 mm	285 x 400 mm
Range (Z-axis) ⁽¹⁾	- UMAP 101/103 : 175 mm - UMAP 107/110 : 180 mm - UMAP 130 : 185 mm	- UMAP 101/103 : 175 mm - UMAP 107/110 : 180 mm - UMAP 130 : 185 mm
Accuracy ⁽²⁾	$E_{1(x,y)} = (0,8+0,2L/100) \mu\text{m}$ $E_{1(z)} = (1,5+0,2L/100) \mu\text{m}$	$E_{1(x,y)} = (0,25+0,2L/100) \mu\text{m}$ $E_{1(z)} = (1,5+0,2L/100) \mu\text{m}$
Repeatability (σ)	- UMAP 101/103/107 : 0,1 μm - UMAP 110/130 : 0,15 μm	- UMAP 101/103/107 : 0,08 μm - UMAP 110/130 : 0,12 μm

⁽¹⁾ When using the UMAP system

⁽²⁾ According to Mitutoyo inspection method

L = measured length (mm)

Specifications

Factory option

- Touch Probe



Ball-tip stylus

UMAP Probes

(ultrasonic micro stylus probes)

Stylus ultrasonic micro-vibration and its amplitude-sensing enable UMAP probe to perform contact measurement of micro-features of parts.

5 choices of stylus tip diameter are available from 15 μm to 300 μm .



UMAP 101
 $\phi 15 \mu\text{m}$
L = 0.2 mm



UMAP 103
 $\phi 30 \mu\text{m}$
L = 2 mm



UMAP 107
 $\phi 70 \mu\text{m}$
L = 5 mm



UMAP 110
 $\phi 100 \mu\text{m}$
L = 10 mm



UMAP 130
 $\phi 300 \mu\text{m}$
L = 16 mm



Refer to the UMAP Vision system brochure