

Optional Accessories

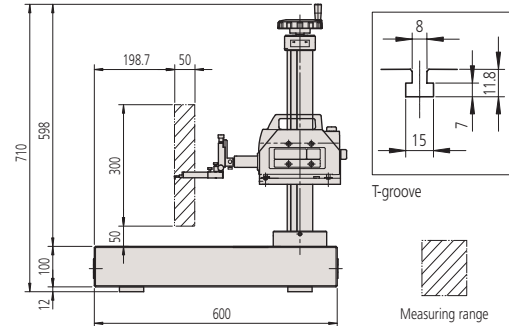
Manual column stand: 178-085 (for SJ-500)

Suitable for desktop use in inspection rooms and such.

No.178-085 * Except measuring unit
Vertical adjustment range: 11.8" (300mm)
Dimension (W x D x H): 23.6" x 17.7" x 28"
(600 x 450 x 710mm)
Weight: 242 lbs (110kg)



Dimensions of SJ-500 with manual column stand Unit: mm



Auto-leveling table: 178-081 (for SJ-500 / SV-2100M4), 178-083 (for SV-2100S4 / H4 / W4)

This is a stage that performs fully automatic leveling as measurement starts, freeing the user from this tedious operation. Fully automatic leveling can be done quickly by anyone. In addition, the operation is easy and reliable.



Inclination adjustment angle	±2°
Maximum load	15.4 lbs (7kg)
Table dimensions	5.12" x 3.94" (130x100mm)
Mass	7.7lbs (3.5kg)



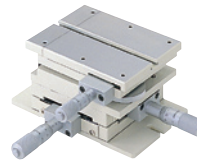
DAT leveling table: 178-048



Inclination adjustment angle	±1.5°
Maximum load	15.4 lbs (7kg)
Table dimensions	5.12" x 3.94" (130x100mm)

This table can be used by itself or in conjunction with other leveling tables.

Leveling table: 178-043-1 (with analog heads) 178-042-1 (with digital heads)



No.178-043-1



No.178-042-1

Order No.	178-043-1	178-042-1
Table dimensions	5.12" x 3.94" (130x100mm)	
Maximum load	33 lbs (15kg)	
Inclination adjustmnt. angle	±1.5°	
Swiveling angle	±3°	
X/Y-axis travel range	±0.49" (±12.5mm)	
Resolution	0.01mm	0.001mm
Dimensions	8.66" x 7.4" x 3.27" (220x189x83mm)	10.3" x 9.17 x 3.27" (262x233x83mm)
Mass	13.2 lbs (6Kg)	13.9 lbs (6.3Kg)

Quick chuck: 211-032

This chuck is useful when measuring small workpieces. The knurled ring makes clamping very easy.



Retention range	Inner latch	OD: ø 0.039" - 1.42" (1 - 36mm)
	Inner latch	ID: ø 0.55" - 2.76" (14 - ø70mm)
	Outer latch	OD: ø 0.039 - 2.95" (1 - ø75mm)
Dimensions	ø 4.64 x 1.61" (118x41mm)	
Mass	2.65 lbs (1.2kg)	

Micro-chuck: 211-031

This chuck is suitable for clamping extra-small diameter workpieces (ø1mm or less), which cannot be clamped with the centering chuck.



Clamping range	OD: ø 0 - 0.06" (0 - 1.5mm)
Dimensions	ø 4.64" - 1.91" (118x48.5mm)
Mass	1.32 lbs (0.6kg)

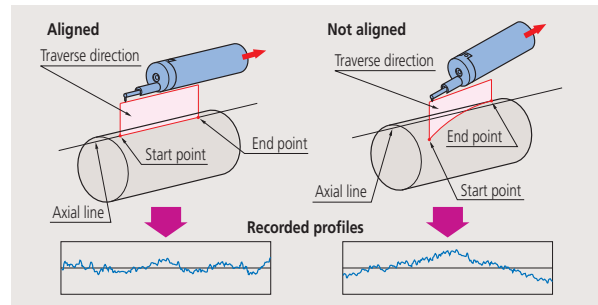
Optional Accessories

3-axis adjustment table: 178-047

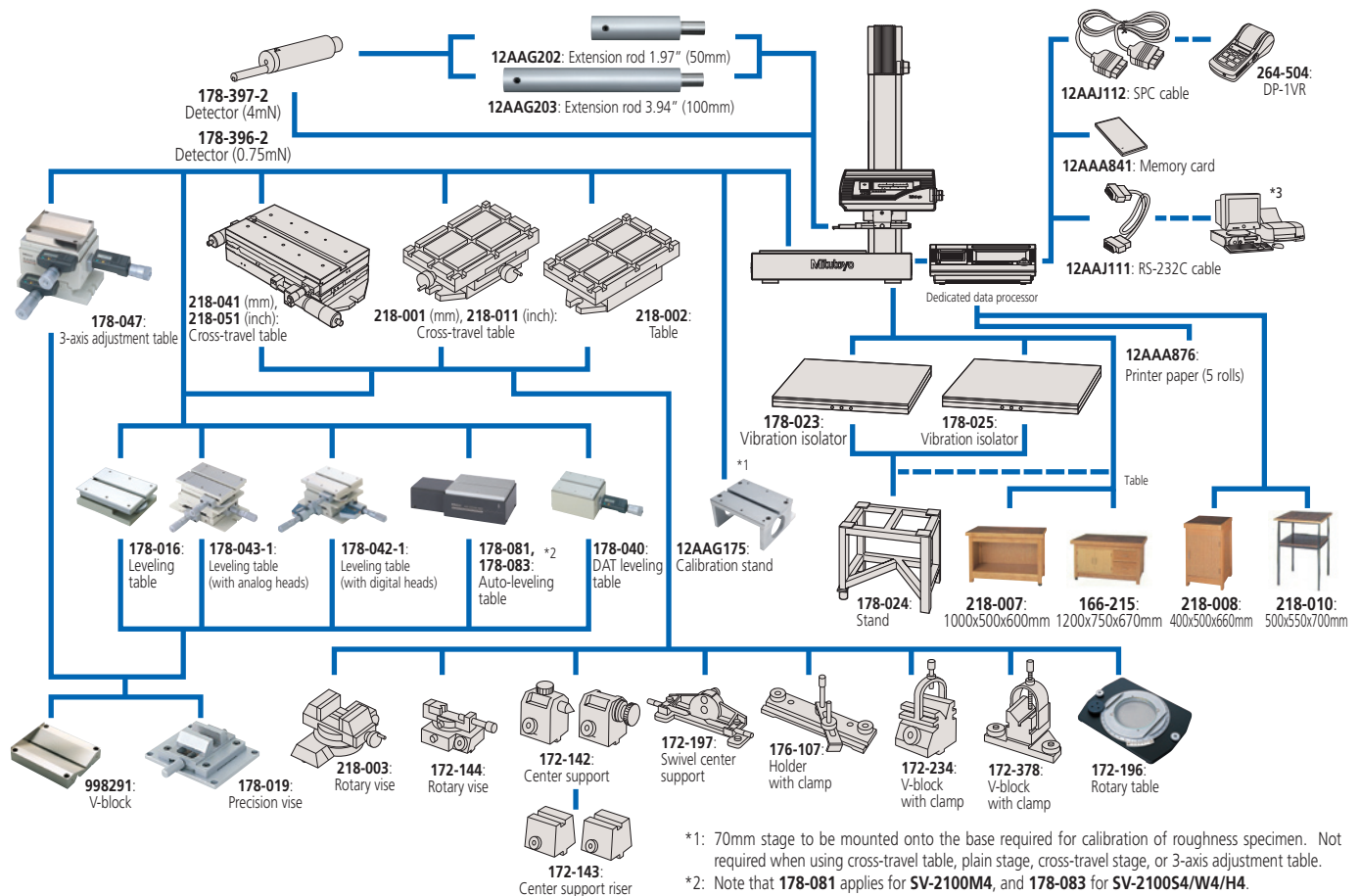
This table helps make the alignment adjustments required when measuring cylindrical surfaces. The corrections for the pitch angle and the swivel angle are determined from a preliminary measurement and the Digimatic micrometers are adjusted accordingly. A flat-surfaced workpiece can also be leveled with this table.



Inclination adjustment angle	$\pm 1.5^\circ$
Swiveling angle	$\pm 2^\circ$
Y-axis range	0.49" $\pm$ (12.5mm)
Resolution of heads	0.001mm
Table dimensions	5.12" x 3.94" (130x100mm)
Maximum load	33 lbs (15kg)



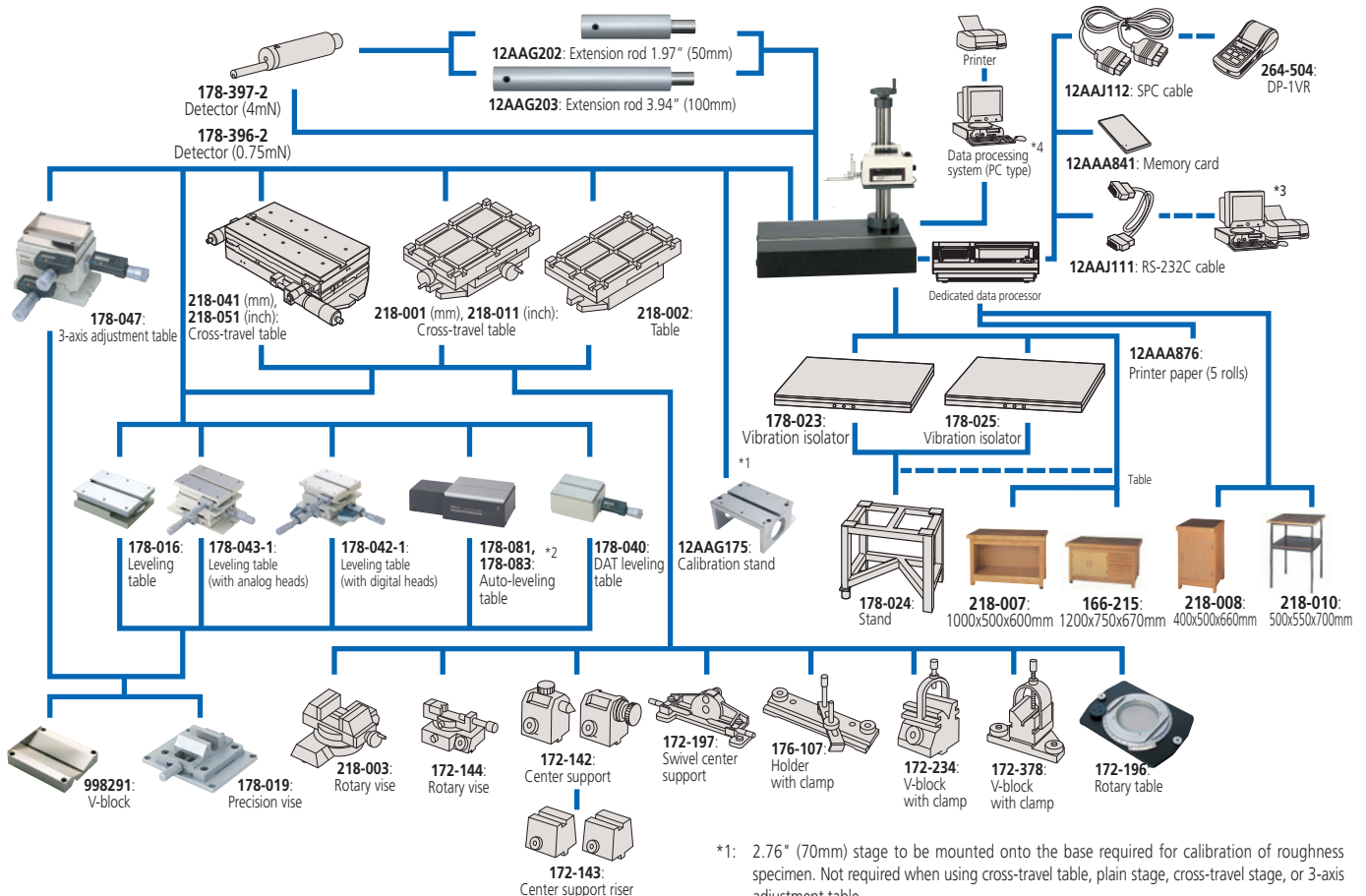
System configuration including optional accessories (for SV-2100M4 / S4 / H4 / W4)



Optional Accessories

WILLRICH PRECISION
Ph 866-945-5742
sales@willrich.com

System configuration including optional accessories (for SJ-500 with optional manual column stand)



*1: 2.76" (70mm) stage to be mounted onto the base required for calibration of roughness specimen. Not required when using cross-travel table, plain stage, cross-travel stage, or 3-axis adjustment table.

*3: PC for managing the analysis result externally output from the dedicated data processor.

*3: Only SJ-500P can be connected. Use a USB cable when connecting the **SJ-500P** main unit and a PC. A USB cable is a standard accessory of the **SJ-500P**.

Roughness specimen (standard accessory): 178-601

Display	Ra = about 3 μm
Material	Ni (TiN surface coating)

Reference step specimen: 178-611 (mm), 178-612 (inch)

For sensitivity calibration of detector

Nominal value of step	2μm 10μm, 79μin 394μin
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Roughness specimen: 178-604

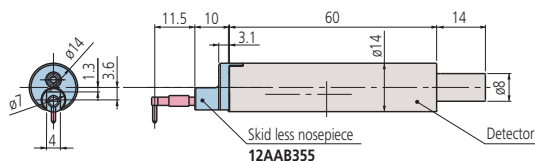
For checking stylus tip

Display	Ra = about 3 μm, about 0.4 μm
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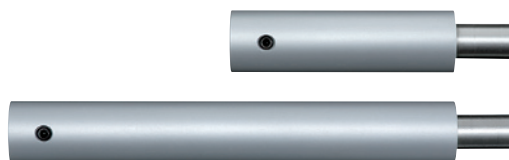
Op

Detectors



Detector (0.75mN): **178-396-2**
 Detector (4mN): **178-397-2**

Extension rods



Extension rods
(**12AAG202**: 1.97" (50mm), **12AAG203**: 3.94" (100mm))

Standard stylus

Detail-A

Color coding

44.7

37.7

0.9

7.6

5.2

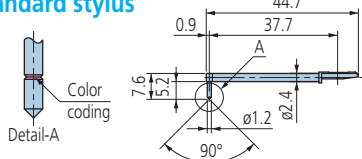
A

90°

1.2

0.4

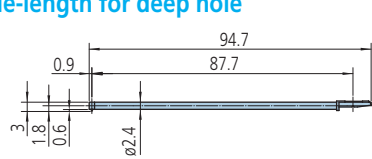
12AAE882 (1μm)*
12AAE924 (1μm)**
12AAC731 (2μm)*
12AAB403 (5μm)**
12AAB415 (10μm)**
12AAE883 (250μm)
 () : Tip radius
 *Tip angle: 60° **Tip angle: 90°



12AAE882 (1μm)*
12AAE924 (1μm)**
12AAC731 (2μm)*
12AAB403 (5μm)**
12AAB415 (10μm)**
12AAE883 (250μm)
(): Tip radius
*Tip angle: 60° **Tip angle: 90°

Double-length for deep hole

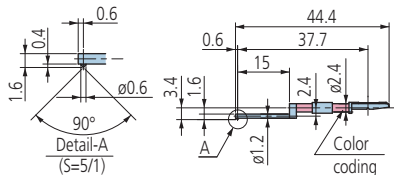
12AAE898 ($2\mu\text{m}$)*
12AAE914 ($5\mu\text{m}$)**
() : Tip radius
*Tip angle: 60°
**Tip angle: 90°



12AAE898 (2 μ m)*
12AAE914 (5 μ m)**
 (): Tip radius
 *Tip angle: 60°
 **Tip angle: 90°

For small hole

12AAC732 (2μm)*
12AAB404 (5μm)**
12AAB416 (10μm)**
() : Tip radius
*Tip angle: 60° **Tip angle: 90°

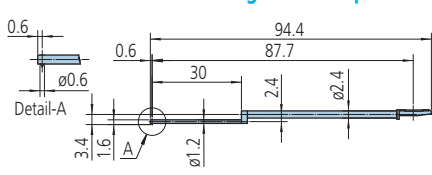


12AAC732 (2 μ m)*
12AAB404 (5 μ m)**
12AAB416 (10 μ m)**
 (): Tip radius
 *Tip angle: 60° **Tip angle: 90°

For small hole/Double-length for deep hole

12AAE892 (2 μ m)*
12AAE908 (5 μ m)**

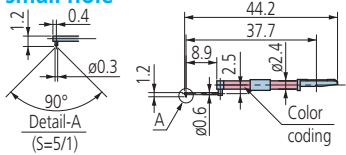
() : Tip radius
*Tip angle: 60°
**Tip angle: 90°



12AAE892 (2μm)*
12AAE908 (5μm)**
 (): Tip radius
 *Tip angle: 60°
 **Tip angle: 90°

For very small hole

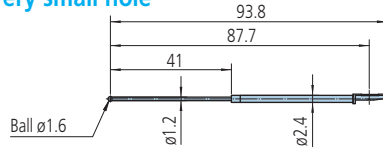
12AAC733 (2μm)*
12AAB405 (5μm)**
12AAB417 (10μm)**
() : Tip radius
*Tip angle: 60° **Tip angle: 90°



12AAC733 (2μm)*
12AAB405 (5μm)**
12AAB417 (10μm)**
 (): Tip radius
 *Tip angle: 60° **Tip angle: 90°

For very small hole

93.8
87.7
41
1.2
1.6
12AAE884 (0.8mm)
(): Tip radius

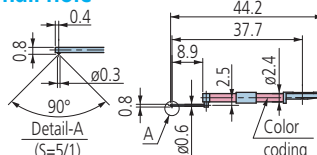


12AAE884 (0.8mm)
(): Tip radius

For extra small hole

12AAC734 (2μm)*
12AAB406 (5μm)**
12AAB418 (10μm)**

() : Tip radius
*Tip angle: 60° **Tip angle: 90°



12AAC734 (2μm)*
12AAB406 (5μm)**
12AAB418 (10μm)**
 (): Tip radius
 *Tip angle: 60° **Tip angle: 90°

For ultra small hole

Ball $\phi 0.5$

Detail-A

12AAJ662 (0.25mm)
(): Tip radius

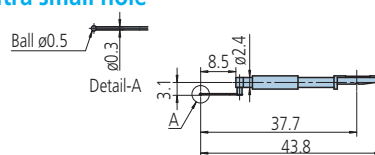
3.1

1.9

$\phi 0.4$

37.7

43.8



12AAJ662 (0.25mm)
(): Tip radius

For deep hole (double-length and triple-length)

Detail A

2X stylus

12AAC740 (2μm)*
12AAB413 (5μm)**
12AAB425 (10μm)**

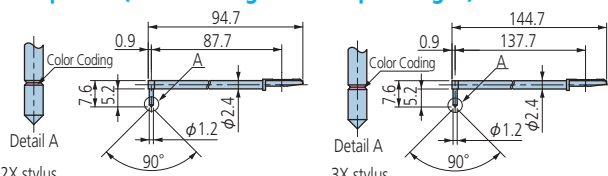
(): Tip radius
 *Tip angle: 60°
 **Tip angle: 90°

Detail A

3X stylus

12AAC741 (2μm)*
12AAB414 (5μm)**
12AAB426 (10μm)**

(): Tip radius
 *Tip angle: 60°
 **Tip angle: 90°



2X stylus

12AAC740 (2μm)* (): Tip radius

12AAB413 (5μm)** *Tip angle: 60°

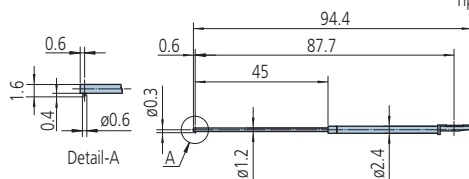
12AAB425 (10μm)** **Tip angle: 90°

3X stylus
12AAC741 (2μm)* (): Tip radius
12AAB414 (5μm)** *Tip angle: 60°
12AAB426 (10μm)** **Tip angle: 90°

For small slotted hole

12AAE938 (2 μ m)*
12AAE940 (5 μ m)**
() : Tip radius
*Tip angle: 60° **Tip angle: 90°

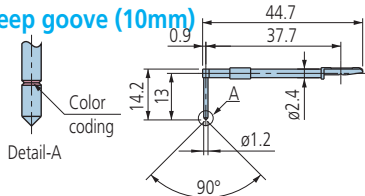
Technical drawing of a probe tip for a small slotted hole. The drawing shows a side view of the probe tip with dimensions: total length 94.4, distance from tip to start of slot 87.7, slot length 45, and slot width 0.6. The probe has a diameter of 0.6. A detail view 'Detail-A' shows a cross-section of the slot with dimensions: slot width 0.6, slot depth 0.4, and a fillet radius of 1.6. The probe has a tip radius of 0.03 and a diameter of 0.12 at the base of the slot. The slot is located at a distance of 0.6 from the tip.



12AAE938 (2 μ m)*
12AAE940 (5 μ m)**
 (): Tip radius
 *Tip angle: 60° **Tip angle: 90°

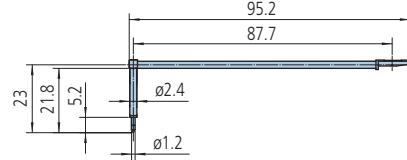
Styli

For deep groove (10mm)



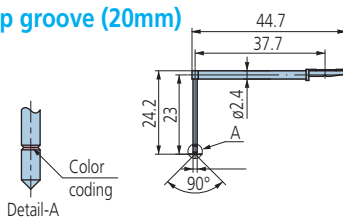
12AAC735 (2μm)*
12AAB409 (5μm)**
12AAB421 (10μm)**
 (): Tip radius
 *Tip angle: 60°
 **Tip angle: 90°

For deep groove (20mm)/Double-length for deep hole



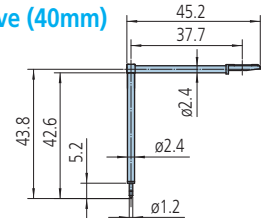
12AAE893 (2μm)*
12AAE909 (5μm)**
 (): Tip radius
 *Tip angle: 60°
 **Tip angle: 90°

For deep groove (20mm)



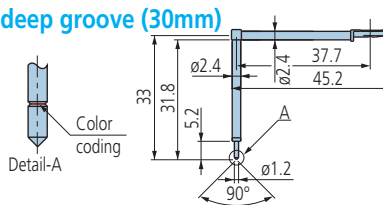
12AAC736 (2μm)*
12AAB408 (5μm)**
12AAB420 (10μm)**
 (): Tip radius
 *Tip angle: 60°
 **Tip angle: 90°

For deep groove (40mm)



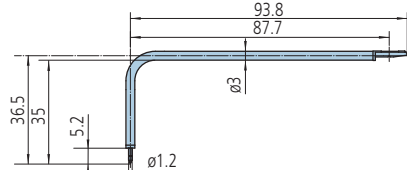
12AAE895 (2μm)*
12AAE911 (5μm)**
 (): Tip radius
 *Tip angle: 60°
 **Tip angle: 90°

For deep groove (30mm)



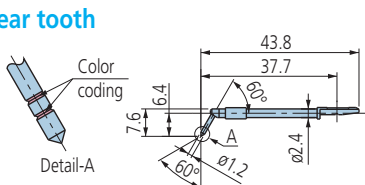
12AAC737 (2μm)*
12AAB407 (5μm)**
12AAB419 (10μm)**
 (): Tip radius
 *Tip angle: 60°
 **Tip angle: 90°

For deep groove (30mm)/Double-length for deep hole



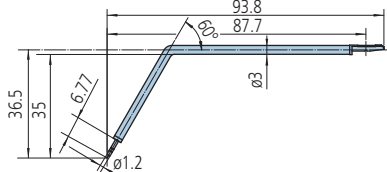
12AAE894 (2μm)*
12AAE910 (5μm)**
 (): Tip radius
 *Tip angle: 60°
 **Tip angle: 90°

For gear tooth



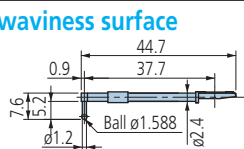
12AAB737 (2μm)*
12AAB410 (5μm)**
12AAB422 (10μm)**
 (): Tip radius
 *Tip angle: 60° **Tip angle: 90°

For gear tooth/Double-length for deep hole



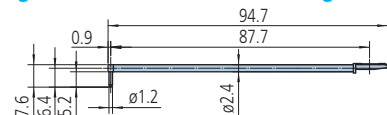
12AAE896 (2μm)*
12AAE912 (5μm)**
 (): Tip radius

For rolling circle waviness surface



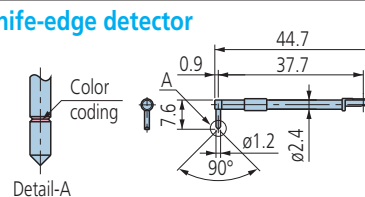
12AAB338 (ø1.588)
 (): Tip radius

For rolling circle waviness/Double-length for deep hole



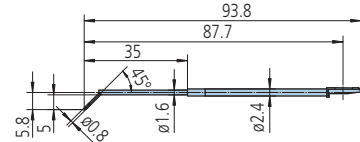
12AAE886 (250μm)
 (): Tip radius

For knife-edge detector



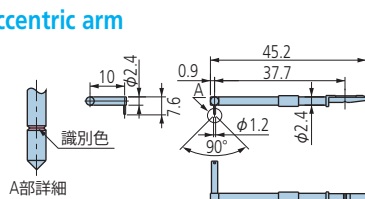
12AAC738 (2μm)*
12AAB411 (5μm)**
12AAB423 (10μm)**
 (): Tip radius
 *Tip angle: 60°
 **Tip angle: 90°

For corner hole/Double-length for deep hole



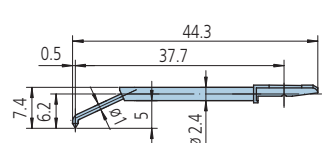
12AAE897 (2μm)*
12AAE913 (5μm)**
 (): Tip radius
 *Tip angle: 60°
 **Tip angle: 90°

For eccentric arm



12AAC739 (2μm)*
12AAB412 (5μm)**
12AAB424 (10μm)**
 (): Tip radius
 *Tip angle: 60°
 **Tip angle: 90°

For bottom surface



12AAE899 (2μm)*
12AAE915 (5μm)**
 (): Tip radius
 *Tip angle: 60°
 **Tip angle: 90°



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