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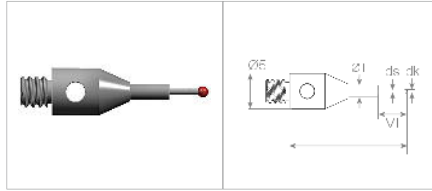
Pins

Reference Spheres

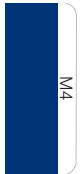
Centerline Locators

M4

Ruby Ball Styli, Carbide Shank



- ⊕ Ball: Ruby
- ⊕ Shank: Carbide, reduced
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel



Ruby Ball Styli
 © 2008 Paul W. Marino Gages, Inc.

| Order Number | dk | ds | L | ML | Wt. |
|-------------------|------|------|------|-----|-----|
| STY-N0.2-13-4NTA | 0.2 | 0.15 | 13.0 | 1.5 | 0.4 |
| STY-N0.25-13-4NTA | 0.25 | 0.2 | 13.0 | 2.5 | 0.4 |
| STY-N0.3-13-4NTA | 0.3 | 0.2 | 13.0 | 2.5 | 0.4 |
| STY-N0.4-13-4NTA | 0.4 | 0.3 | 13.0 | 2.5 | 0.4 |
| STY-N0.5-13-4NTA | 0.5 | 0.3 | 13.0 | 2.5 | 0.4 |
| STY-N0.6-13-4NTA | 0.6 | 0.4 | 13.0 | 2.5 | 0.4 |
| STY-N0.6-15-4NTA | 0.6 | 0.4 | 15.0 | 4.5 | 0.4 |
| STY-N0.7-13-4NTA | 0.7 | 0.4 | 13.0 | 2.5 | 0.4 |
| STY-N0.7-15-4NTA | 0.7 | 0.4 | 15.0 | 4.5 | 0.4 |
| STY-N0.8-13-4NTA | 0.8 | 0.6 | 13.0 | 2.5 | 0.4 |
| STY-N0.8-15-4NTA | 0.8 | 0.6 | 15.0 | 4.5 | 0.4 |
| STY-N0.9-13-4NTA | 0.9 | 0.6 | 13.0 | 2.5 | 0.4 |
| STY-N0.9-15-4NTA | 0.9 | 0.6 | 15.0 | 4.5 | 0.4 |
| STY-N1.0-13-4NTA | 1.0 | 0.8 | 13.0 | 2.5 | 0.4 |
| STY-N1.0-15-4NTA | 1.0 | 0.8 | 15.0 | 4.5 | 0.4 |

SOLUTIONS®
 "How it works"

"Tungsten Carbide"

Tungsten is a rare metallic element with a bright gray color, metallic luster and a high melting point. It is used to manufacture high speed cutting tools, lamp elements and tooling products.

Carbide is a compound metal.

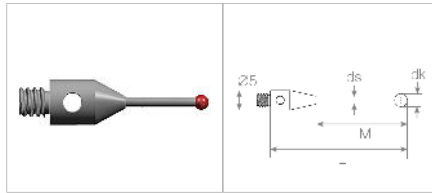


"Specials are our specialty"®

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Ruby Ball Styli, Carbide Shank

M4



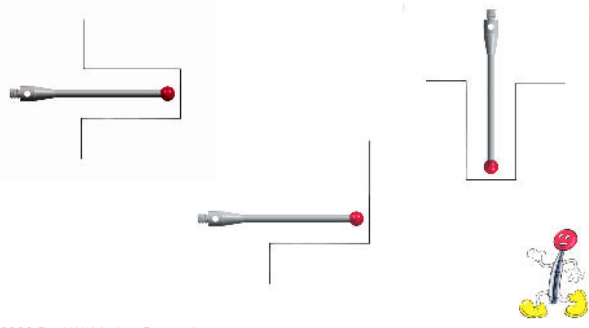
- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

| Order Number | dk | ds | L | ML | Wt. |
|--------------------|-----|-----|------|------|-----|
| STY-N1.0-15.5-4NTB | 1.0 | 0.7 | 15.5 | 7.5 | 1.7 |
| STY-N1.0-20.5-4NTB | 1.0 | 0.7 | 20.5 | 12.5 | 1.7 |
| STY-N2.0-16-4NTB | 2.0 | 1.2 | 16.0 | 8.0 | 1.7 |
| STY-N2.0-26-4NTB | 2.0 | 1.2 | 26.0 | 18.0 | 1.8 |
| STY-N2.0-36-4NTB | 2.0 | 1.2 | 36.0 | 28.0 | 1.9 |
| STY-N2.0-41-4NTB | 2.0 | 1.2 | 41.0 | 33.0 | 2.0 |
| STY-N3.0-31.5-4NTB | 3.0 | 2.0 | 31.5 | 23.5 | 2.4 |
| STY-N3.0-41.5-4NTB | 3.0 | 2.0 | 41.5 | 33.5 | 2.6 |
| STY-N3.0-51.5-4NTB | 3.0 | 2.0 | 51.5 | 43.5 | 2.9 |
| STY-N4.0-32-4NTB | 4.0 | 2.5 | 32.0 | 24.0 | 2.9 |
| STY-N4.0-42-4NTB | 4.0 | 2.5 | 42.0 | 34.0 | 3.4 |
| STY-N4.0-52-4NTB | 4.0 | 2.5 | 52.0 | 44.0 | 3.8 |
| STY-N5.0-32.5-4NTB | 5.0 | 2.5 | 32.5 | 24.5 | 3.0 |
| STY-N5.0-42.5-4NTB | 5.0 | 2.5 | 42.5 | 34.5 | 3.5 |
| STY-N5.0-52.5-4NTB | 5.0 | 2.5 | 52.5 | 44.5 | 3.9 |
| STY-N6.0-33-4NTB | 6.0 | 3.0 | 33.0 | 25.0 | 3.2 |
| STY-N6.0-43-4NTB | 6.0 | 3.0 | 43.0 | 35.0 | 3.7 |
| STY-N6.0-53-4NTB | 6.0 | 3.0 | 53.0 | 45.0 | 4.1 |

M4
Ruby Ball Styli
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SOLUTIONS®
"How it Works"

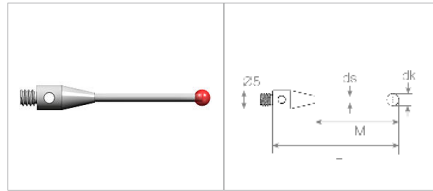
Long shanks at work



© 2008 Paul W. Marino Gages, Inc.

M4

Ruby Ball Styli, Steel Shank



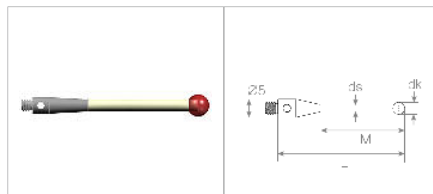
- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

| Order Number | dk | ds | L | ML | Wt. |
|--------------------|-----|-----|------|------|-----|
| STY-N2.0-16-4NTC | 2.0 | 1.3 | 16.0 | 10.0 | 1.3 |
| STY-N2.5-21-4NTC | 2.5 | 1.5 | 21.0 | 15.0 | 1.3 |
| STY-N3.0-21.5-4NTC | 3.0 | 2.0 | 21.5 | 15.5 | 1.5 |
| STY-N4.0-22-4NTC | 4.0 | 2.4 | 22.0 | 16.0 | 1.7 |
| STY-N6.0-28-4NTC | 6.0 | 3.0 | 28.0 | 22.0 | 2.6 |



Ruby Ball Styli
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Ruby Ball Styli, Ceramic Shank



- ⊕ Ball: Ruby
- ⊕ Shank: Ceramic
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

| Order Number | dk | ds | L | ML | Wt. |
|---------------------|-----|-----|------|------|-----|
| STY-N4.0-32-4NTKE | 4.0 | 2.0 | 32.0 | 22.0 | 2.4 |
| STY-N4.0-42-4NTKE | 4.0 | 2.0 | 42.0 | 32.0 | 2.6 |
| STY-N4.0-52-4NTKE | 4.0 | 2.0 | 52.0 | 42.0 | 2.7 |
| STY-N5.0-42.5-4NTKE | 5.0 | 3.0 | 42.5 | 32.5 | 3.1 |
| STY-N5.0-52.5-4NTKE | 5.0 | 3.0 | 52.5 | 42.5 | 3.3 |
| STY-N5.0-62.5-4NTKE | 5.0 | 3.0 | 62.5 | 52.5 | 3.5 |
| STY-N6.0-43-4NTKE | 6.0 | 3.0 | 43.0 | 33.0 | 3.2 |
| STY-N6.0-53-4NTKE | 6.0 | 3.0 | 53.0 | 43.0 | 3.5 |
| STY-N6.0-63-4NTKE | 6.0 | 3.0 | 63.0 | 53.0 | 3.7 |

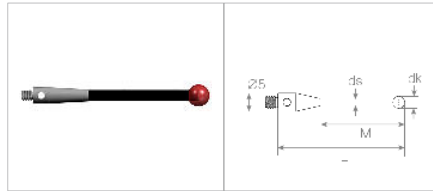
SOLUTIONS®
"How it works"

Use these tools to properly assemble your styli configurations. See more tools on pages 93-95.



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Ruby Ball Styli, Carbon Fiber Shank M4



- ⊕ Ball: Ruby
- ⊕ Shank: Carbon Fiber
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

| Order Number | dk | ds | L | ML | Wt. |
|---------------------|-----|-----|------|------|-----|
| STY-N4.0-32-4NTCA | 4.0 | 3.0 | 32.0 | 22.0 | 1.7 |
| STY-N4.0-42-4NTCA | 4.0 | 3.0 | 42.0 | 32.0 | 1.7 |
| STY-N4.0-52-4NTCA | 4.0 | 3.0 | 52.0 | 42.0 | 1.9 |
| STY-N5.0-42.5-4NTCA | 5.0 | 3.0 | 42.5 | 32.5 | 1.9 |
| STY-N5.0-52.5-4NTCA | 5.0 | 3.0 | 52.5 | 42.5 | 1.9 |
| STY-N5.0-62.5-4NTCA | 5.0 | 3.0 | 62.5 | 52.5 | 2.0 |
| STY-N6.0-43-4NTCA | 6.0 | 3.0 | 43.0 | 33.0 | 1.9 |
| STY-N6.0-53-4NTCA | 6.0 | 3.0 | 53.0 | 43.0 | 2.1 |
| STY-N6.0-63-4NTCA | 6.0 | 3.0 | 63.0 | 53.0 | 2.4 |

M4
 Ruby Ball Styli
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SOLUTIONS® “How it works”

Carbide:

- ⊕ Sub-micron deflection
- ⊕ Small diameters
- ⊕ Non-magnetic

Stainless Steel:

- ⊕ Durable
- ⊕ Low cost
- ⊕ Wide-spread acceptance

Ceramic:

- ⊕ Light weight
- ⊕ Easy to see
- ⊕ Same Coefficient of Thermal Expansion as balls

Carbon Fiber:

- ⊕ Light weight
- ⊕ Ideal for long configurations
- ⊕ Great for high speed machines

Standard Ferrule Designs:

- ⊕ Short
- ⊕ Extended
- ⊕ Short, conical
- ⊕ Extended, conical
- ⊕ No ferrule

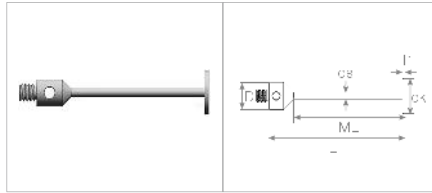
Diverse designs maximize strength, working length and accessibility.



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M4

Disc Styli, Ceramic



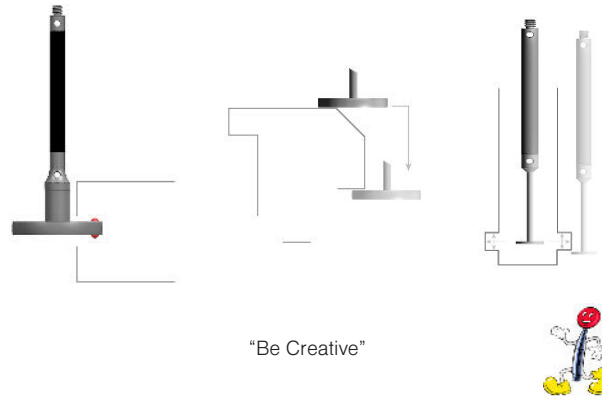
- ⊕ Disc: Ceramic
- ⊕ Shank: Carbide
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

| Order Number | L | H1 | dk | ds | D | Wt. |
|--------------------|------|-----|------|-----|-----|-----|
| STY-N5.0-20-4NKSK | 20.0 | 0.5 | 5.0 | 1.5 | 5.0 | 1.3 |
| STY-N10.0-25-4NKSK | 25.0 | 0.8 | 10.0 | 2.0 | 5.0 | 2.2 |
| STY-N14.0-25-4NKSK | 25.0 | 1.0 | 14.0 | 2.0 | 5.0 | 3.7 |

M4
 Disc and Point Styli
 © 2006 Paul W. Marino Gages, Inc.

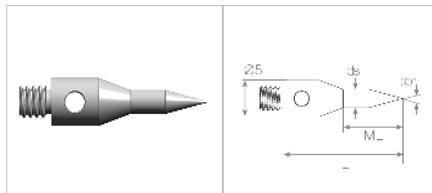
SOLUTIONS*
"How it Works"

Select disc styli for notches and grooves. Use a lightweight extension and a knuckle for difficult to access bores.



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Point Styli, Carbide



- ⊕ Tip: Point
- ⊕ Tip: Carbide
- ⊕ Shank: Steel, hardened

| Order Number | L | ML | ds | β | Wt. |
|-----------------|------|-----|-----|-----|-----|
| STY-N30-13-4NTS | 13.0 | 5.0 | 1.5 | 30° | 1.2 |
| STY-N60-13-4NTS | 13.0 | 5.0 | 1.5 | 60° | 1.2 |

Phone (586) 759-2400
www.pmarginc.com

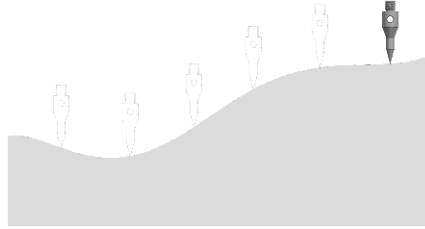
Fax: (586) 759-2423
pwminc@covad.net

Point Styli, Carbide

M4

SOLUTIONS® How it Works

Popular inspection applications for point styli are points on surface measurements, scribe lines and thread root depth. Ideal for reducing vector errors and when taking points manually.



Choose PWM carbide pointer designs for rugged, prolonged use. Check for wear and replace often for best results.



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M4
Point Styli
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IDent-O-Sphere® Quick Reference

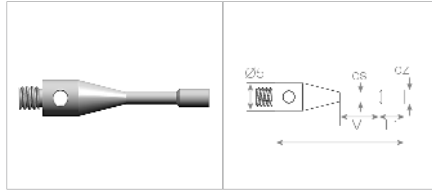
Buy online at www.shoppwm.com



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M4

Cylinder Styli, Carbide



- ⊕ Cylinder: Carbide
- ⊕ Shank: Carbide
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

| Order Number | L | ML | L1 | dz | ds | Wt. |
|-------------------|------|-----|-----|-----|-----|-----|
| STY-N1.5-14-4NZTH | 14.0 | 6.0 | 2.5 | 1.5 | 1.0 | 1.5 |
| STY-N3.0-16-4NZTH | 16.0 | 8.0 | 3.5 | 3.0 | 1.5 | 1.7 |

M4
 Cylinder Styli
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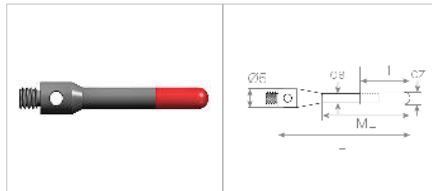
SOLUTIONS®
How it Works

Cylinder styli are great for measuring pierced sheet metal, cut-outs and edges.



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Cylinder Styli, Steel / Ruby

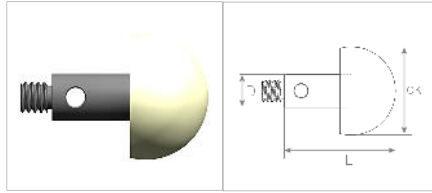


- ⊕ Radius: Ruby
- ⊕ Cylinder: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

| Order Number | L | ML | L1 | dz | Wt. |
|-------------------|------|------|------|-----|-----|
| STY-N2.0-16-4NZRA | 16.0 | 8.0 | 5.0 | 2.0 | 1.3 |
| STY-N3.0-22-4NZRA | 22.0 | 14.0 | 10.0 | 3.0 | 1.5 |
| STY-N4.0-22-4NZRB | 22.0 | 14.0 | 10.0 | 4.0 | 2.2 |

Half Sphere Styli, Steel / Ceramic

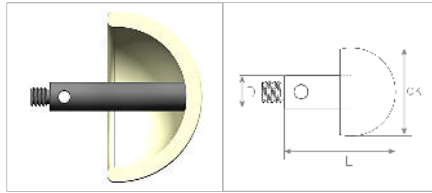
M4



- ⊕ Sphere: Ceramic, Solid
- ⊕ Shank: Stainless Steel

| Order Number | L | ML | L1 | dk | D | Wt. |
|-------------------|------|----|----|------|-----|-----|
| STY-N8.0-10-4NKK | 10.0 | — | — | 8.0 | 5.0 | 1.8 |
| STY-N10.0-11-4NKK | 11.0 | — | — | 10.0 | 5.0 | 2.4 |

Sphere Styli, Hollow, Steel / Ceramic



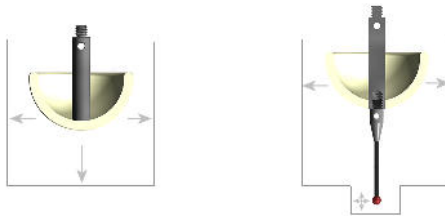
- ⊕ Sphere, Ceramic, hollow
- ⊕ Shank: Stainless Steel

| Order Number | L | ML | L1 | dk | D | Wt. |
|--------------------|------|----|----|------|-----|------|
| STY-N18.0-16-4NHKE | 16.0 | — | — | 18.0 | 5.0 | 5.3 |
| STY-N24.0-19-4NHKE | 19.0 | — | — | 24.0 | 5.0 | 19.0 |
| STY-N30.0-22-4NHKE | 22.0 | — | — | 30.0 | 5.0 | 22.0 |

M4
 Half Sphere Styli
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SOLUTIONS®
"How it works"

Lightweight, non-magnetic hollow ceramic spheres are great for large, deep bores.



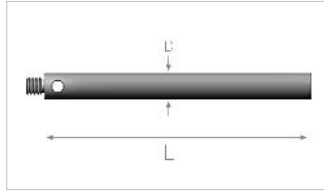
Buy online at www.shoppwm.com



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M4

Extensions, Stainless Steel



- ⊕ Shank: Stainless Steel
- ⊕ Threads: Stainless Steel
- ⊕ Standard lengths shown

| Order Number | L | ML | ds | D | Wt. |
|--------------|------|----|----|-----|-----|
| STY-N10-4NV | 10.0 | — | — | 5.0 | 1.8 |
| STY-N20-4NV | 20.0 | — | — | 5.0 | 3.6 |
| STY-N35-4NV | 35.0 | — | — | 5.0 | 6.3 |

M4
 Extensions
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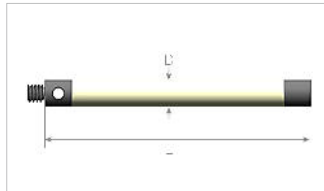
SOLUTIONS®
"How it works"



Choose ceramic for light weight and stable performance — carbon fiber saves even more weight but is not as stable.

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Extensions, Ceramic



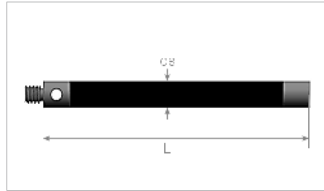
- ⊕ Shank: Ceramic
- ⊕ Threads: Stainless Steel
- ⊕ Non-magnetic shank

| Order Number | L | ML | ds | D | Wt. |
|---------------|-------|----|----|-----|-----|
| STY-N50-4NVK | 50.0 | — | — | 5.0 | 4.8 |
| STY-N60-4NVK | 60.0 | — | — | 5.0 | 5.4 |
| STY-N70-4NVK | 70.0 | — | — | 5.0 | 5.5 |
| STY-N80-4NVK | 80.0 | — | — | 5.0 | 5.7 |
| STY-N90-4NVK | 90.0 | — | — | 5.0 | 5.9 |
| STY-N100-4NVK | 100.0 | — | — | 5.0 | 6.2 |

"Specials are our specialty"®

Extensions, Carbon Fiber

M4



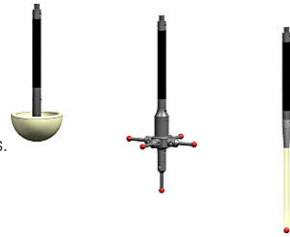
- ⊕ Shanks: Carbon Fiber
- ⊕ Threads: Stainless Steel
- ⊕ Non-magnetic shank

| Order Number | L | ML | ds | D | Wt. |
|---------------|-------|----|----|-----|-----|
| STY-N50-4NVCA | 50.0 | — | — | 5.0 | 2.9 |
| STY-N60-4NVCA | 60.0 | — | — | 5.0 | 3.4 |
| STY-N70-4NVCA | 70.0 | — | — | 5.0 | 3.8 |
| STY-N80-4NVCA | 80.0 | — | — | 5.0 | 4.0 |
| STY-N90-4NVCA | 90.0 | — | — | 5.0 | 4.6 |
| STY-N100-4NCA | 100.0 | — | — | 5.0 | 5.5 |

M4

SOLUTIONS®
How it works

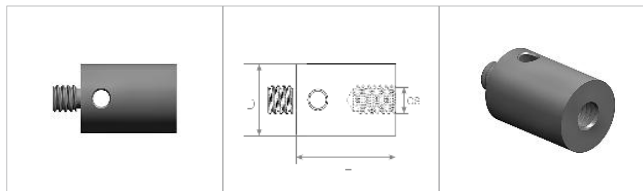
Lightweight extensions allow longer probe access on high speed CMMs, are non-magnetic and increase the life of probe heads.



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Extensions and Crossover Adapters
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Crossover Adapters

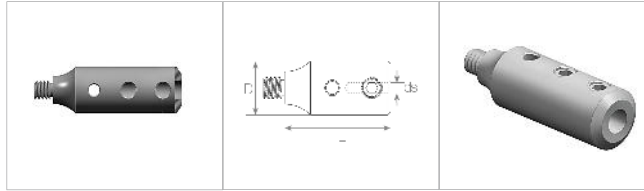


- ⊕ Crossover adapter
- ⊕ Stainless Steel
- ⊕ Use styli of differing threads on M2 probes.

| Order Number | Male | ds | L | D | Wt. |
|--------------|------|----|------|-----|-----|
| STY-NAR1 | Ø4.5 | M2 | 12.0 | 5.0 | 1.5 |
| STY-NAR7B | M4 | M2 | 8.0 | 5.0 | 1.1 |
| STY-NAR7-2 | M4 | M2 | 5.0 | 7.0 | 1.4 |
| STY-NAR7-3 | M4 | M3 | 9.0 | 5.0 | 1.1 |

M4

Crossover Adapters



- ⊕ Adapter, Pin to M4
- ⊕ Stainless Steel
- ⊕ For use with Type F, Type N or Type H pin styli (pages 140–142)
- ⊕ Ideal for long pin styli: features two set screws for secure fastening

| Order Number | dk | ds | L | D | Wt. |
|---------------|----|-----|------|-----|-----|
| STY-N1.0-4NHZ | — | 1.0 | 14.0 | 5.0 | 1.7 |
| STY-N1.5-4NHZ | — | 1.5 | 14.0 | 5.0 | 1.7 |
| STY-N2.0-4NHZ | — | 2.0 | 14.0 | 5.0 | 1.6 |

M4

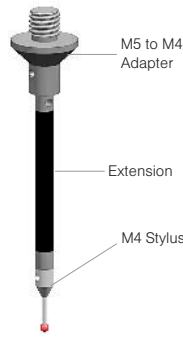
Adapters, Crossover

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Use crossover adapters to convert styli for use on systems designed for other threads.

Not sure which one to use?
Contact us for help building a custom configuration from standard components.



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Notes:

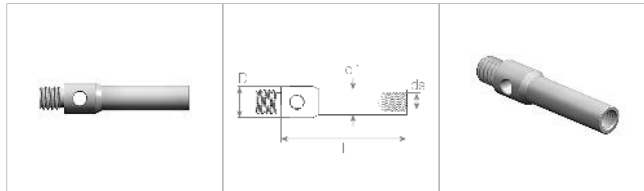
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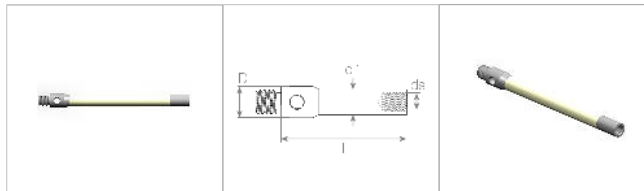
Crossover Adapters

M4



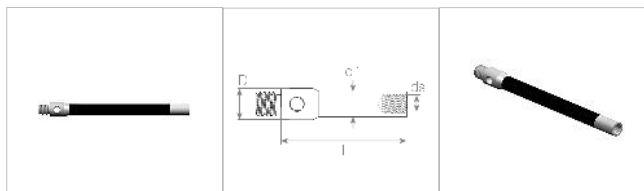
- ⊕ Adapter, M4 to M3
- ⊕ Stainless Steel

| Order Number | ds | L | d1 | D | Wt. |
|---------------|----|------|-----|-----|-----|
| STY-N20-4-3NV | M3 | 20.0 | 4.0 | 5.0 | 2.0 |



- ⊕ Adapter, M4 to M3
- ⊕ Ceramic

| Order Number | ds | L | d1 | D | Wt. |
|-----------------|----|-------|-----|-----|-----|
| STY-N50-4-3NVK | M3 | 50.0 | 4.0 | 5.0 | 3.6 |
| STY-N75-4-3NVK | M3 | 75.0 | 4.0 | 5.0 | 5.2 |
| STY-N100-4-3NVK | M3 | 100.0 | 4.0 | 5.0 | 6.7 |



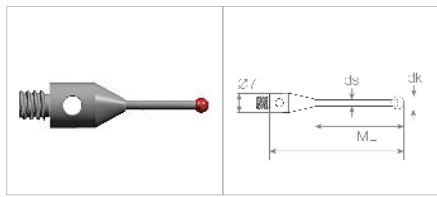
- ⊕ Adapter, M4 to M3
- ⊕ Carbon Fiber

| Order Number | ds | L | d1 | D | Wt. |
|------------------|----|-------|-----|-----|-----|
| STY-N50-4-3NVCA | M3 | 50.0 | 4.0 | 5.0 | 2.3 |
| STY-N75-4-3NVCA | M3 | 75.0 | 4.0 | 5.0 | 3.0 |
| STY-N100-4-3NVCA | M3 | 100.0 | 4.0 | 5.0 | 3.7 |

M4
 Adapters, Crossover
 © 2006 Paul W. Marnic Gages, Inc.

M4x.7

Ruby Ball Styli, Carbide Shank



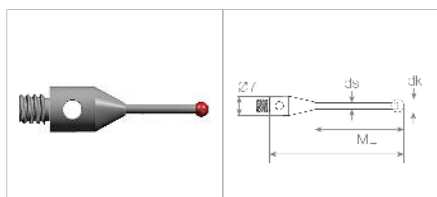
- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

M4

Ruby Ball Styli for Machine Tools
© 2008 Paul W. Marino Gages, Inc.

| Order Number | dk | ds | L | ML | Wt. |
|--------------------|-----|-----|------|------|-----|
| STY-N1.0-20.5-7NTB | 1.0 | 0.7 | 20.5 | 10.0 | 2.0 |
| STY-N2.0-21-7NTB | 2.0 | 1.5 | 21.0 | 11.0 | 2.5 |
| STY-N2.0-51-7NTB | 2.0 | 1.5 | 51.0 | 41.0 | 3.3 |
| STY-N3.0-21.5-7NTB | 3.0 | 1.5 | 21.5 | 11.5 | 2.5 |
| STY-N3.0-51.5-7NTB | 3.0 | 2.0 | 51.5 | 39.5 | 4.4 |
| STY-N4.0-22-7NTB | 4.0 | 2.0 | 22.0 | 10.0 | 2.9 |
| STY-N4.0-52-7NTB | 4.0 | 2.0 | 52.0 | 40.0 | 4.2 |
| STY-N5.0-22.5-7NTB | 5.0 | 2.5 | 22.5 | 8.5 | 3.4 |
| STY-N5.0-52.5-7NTB | 5.0 | 2.5 | 52.5 | 38.5 | 5.4 |
| STY-N6.0-23-7NTB | 6.0 | 2.5 | 23.0 | 9.0 | 3.6 |
| STY-N6.0-53-7NTB | 6.0 | 2.5 | 53.0 | 39.0 | 5.5 |

Ruby Ball Styli, Carbide Shank



- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

| Order Number | dk | ds | L | ML | Wt. |
|-------------------|-----|-----|------|-----|-----|
| STY-N0.5-20-7NTBS | 0.5 | 0.3 | 20.0 | 2.5 | 2.8 |
| STY-N1.0-20-7NTBS | 1.0 | 0.8 | 20.0 | 5.0 | 2.9 |

SOLUTIONS@
"How it works"

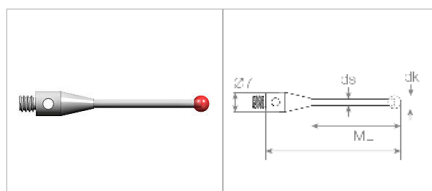


PWM styli bring new accuracies to your machine tool probing system. We offer more CNC styli in ceramic or carbon fiber shanks with popular 4.0 mm to 8.0 mm ruby balls for use on machine tool probing systems (see page 90).

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Ruby Ball Styli, Steel Shank

M4x.7



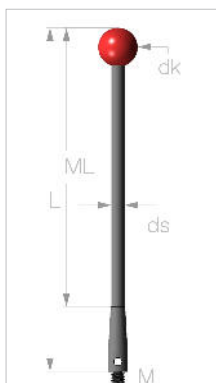
- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

| Order Number | dk | ds | L | ML | Wt. |
|---------------------|-----|-----|-------|------|------|
| STY-N2.0-20-7NTC | 2.0 | 1.5 | 20.0 | 9.0 | 2.3 |
| STY-N3.0-20-7NTC | 3.0 | 2.3 | 20.0 | 15.0 | 2.0 |
| STY-N4.0-20-7NTC | 4.0 | 3.0 | 20.0 | 15.0 | 2.2 |
| STY-N5.0-20-7NTC | 5.0 | 3.5 | 20.0 | 15.0 | 2.5 |
| STY-N5.0-22.5-7NTC | 5.0 | 3.0 | 22.5 | 17.5 | 2.5 |
| STY-N5.0-32.5-7NTC | 5.0 | 3.0 | 32.5 | 27.5 | 3.0 |
| STY-N5.0-52.5-7NTC | 5.0 | 4.0 | 52.5 | 36.5 | 7.1 |
| STY-N5.0-102.5-7NTC | 5.0 | 4.0 | 102.5 | 86.5 | 12.0 |
| STY-N6.0-20-7NTC | 6.0 | 4.5 | 20.0 | 15.5 | 3.1 |
| STY-N6.0-28-7NTC | 6.0 | 4.0 | 28.0 | 23.0 | 3.8 |
| STY-N8.0-20-7NTC | 8.0 | 5.5 | 20.0 | 15.5 | 4.1 |

M4

Ruby Ball Styli for Machine Tools
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SOLUTIONS® "How it works"



| Call Out | Description |
|----------|------------------|
| dk | Ball diameter |
| ds | Shank diameter |
| D | Ferrule diameter |
| L | Overall length |
| ML | Working length |
| M | Thread |
| Wt. | Weight, in grams |

Drawings are not to scale.
Consult charts for actual dimensions.

Ball Data

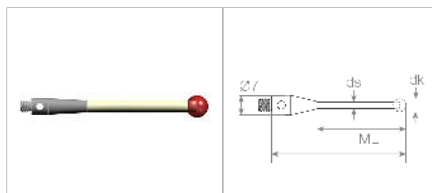
- ⊕ Balls are grade 6 to 10, depending on diameter. Refer to the Technical Data on page 8 for more complete information.
- ⊕ Available ball materials

- | | |
|----------------------|-------------|
| 1. Ruby and Sapphire | 3. Silicon |
| 2. Ceramic | 4. Zirconia |



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M4x.7 Ruby Ball Styli, Ceramic Shank



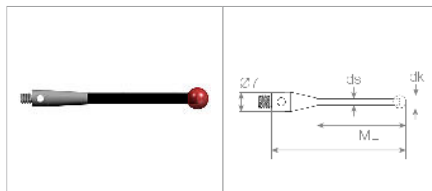
- ⊕ Ball: Ruby
- ⊕ Shank: Ceramic
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

| Order Number | dk | ds | L | ML | Wt. |
|----------------------|-----|-----|-------|-------|------|
| STY-N4.0-52-7NTKE | 4.0 | 3.0 | 52.0 | 36.0 | 4.3 |
| STY-N5.0-52.5-7NTKE | 5.0 | 3.5 | 52.5 | 36.5 | 4.5 |
| STY-N5.0-77.5-7NTKE | 5.0 | 3.5 | 77.5 | 61.5 | 5.6 |
| STY-N5.0-102.5-7NTKE | 5.0 | 3.5 | 102.5 | 86.5 | 6.5 |
| STY-N6.0-50-7NTKE | 6.0 | 4.5 | 50.0 | 34.0 | 5.4 |
| STY-N6.0-53-7NTKE | 6.0 | 4.5 | 53.0 | 37.0 | 5.6 |
| STY-N6.0-78-7NTKE | 6.0 | 4.5 | 78.0 | 62.0 | 5.5 |
| STY-N6.0-100-7NTKE | 6.0 | 4.5 | 100.0 | 84.0 | 8.5 |
| STY-N6.0-103-7NTKE | 6.0 | 4.5 | 103.0 | 87.0 | 8.7 |
| STY-N8.0-54-7NTKE | 8.0 | 4.5 | 54.0 | 38.0 | 6.1 |
| STY-N8.0-79-7NTKE | 8.0 | 4.5 | 79.0 | 63.0 | 7.7 |
| STY-N8.0-104-7NTKE | 8.0 | 4.5 | 104.0 | 88.0 | 9.2 |
| STY-N8.0-154-7NTKE | 8.0 | 4.5 | 154.0 | 138.0 | 12.4 |
| STY-N8.0-204-7NTKE | 8.0 | 4.5 | 204.0 | 188.0 | 15.5 |

M4

Ruby Ball Styli for Machine Tools
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Ruby Ball Styli, Carbon Fiber Shank

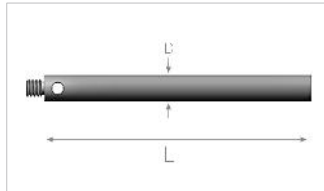


- ⊕ Ball: Ruby
- ⊕ Shank: Carbon Fiber
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

| Order Number | dk | ds | L | ML | Wt. |
|--------------------|-----|-----|-------|-------|-----|
| STY-N4.0-52-7NTCA | 4.0 | 3.0 | 52.0 | 36.0 | 3.4 |
| STY-N6.0-53-7NTCA | 6.0 | 4.0 | 53.0 | 37.0 | 3.8 |
| STY-N6.0-103-7NTCA | 6.0 | 4.0 | 103.0 | 87.0 | 4.8 |
| STY-N6.0-153-7NTCA | 6.0 | 4.0 | 153.0 | 137.0 | 5.7 |
| STY-N6.0-203-7NTCA | 6.0 | 4.0 | 203.0 | 187.0 | 6.5 |
| STY-N6.0-303-7NTCA | 6.0 | 4.0 | 303.0 | 287.0 | 8.2 |

Extensions, Stainless Steel

M4x.7



- ⊕ Shank: Stainless Steel
- ⊕ Threads: Stainless Steel
- ⊕ Standard lengths shown

| Order Number | L | ML | ds | D | Wt. |
|--------------|------|----|----|-----|------|
| STY-N10-7NV | 10.0 | — | — | 7.0 | 2.5 |
| STY-N15-7NV | 15.0 | — | — | 7.0 | 3.9 |
| STY-N20-7NV | 20.0 | — | — | 7.0 | 5.4 |
| STY-N30-7NV | 30.0 | — | — | 7.0 | 8.4 |
| STY-N35-7NV | 35.0 | — | — | 7.0 | 9.9 |
| STY-N50-7NV | 50.0 | — | — | 7.0 | 14.0 |

M4

SOLUTIONS®
"How it works"

Choose ceramic for light weight and stable performance — carbon fiber saves even more weight but is not as stable.

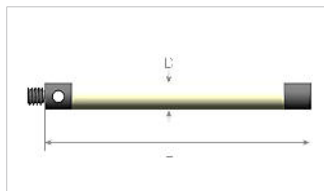
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Extensions for Machine Tools
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Extensions, Ceramic

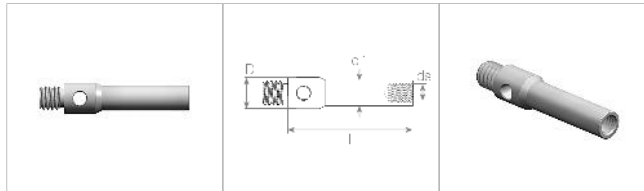


- ⊕ Shank: Ceramic
- ⊕ Threads: Stainless Steel
- ⊕ Non-magnetic shank

| Order Number | L | ML | ds | D | Wt. |
|---------------|-------|----|----|-----|------|
| STY-N30-7NVK | 30.0 | — | — | 7.0 | 6.7 |
| STY-N50-7NVK | 50.0 | — | — | 7.0 | 8.9 |
| STY-N100-7NVK | 100.0 | — | — | 7.0 | 13.8 |

M4x.7

Adapters, Crossover

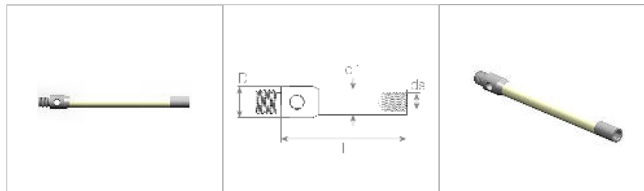


- ⊕ Adapter, M4 to M3
- ⊕ Stainless Steel

| Order Number | ds | L | d1 | D | Wt. |
|---------------|----|------|-----|-----|-----|
| STY-N20-7-3NV | M3 | 20.0 | 4.0 | 7.0 | 2.8 |

M4

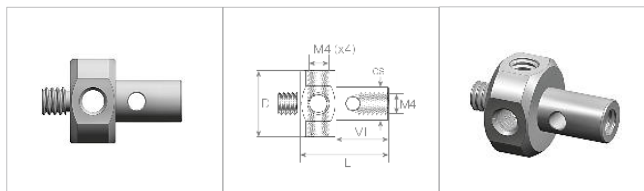
Adapters, Crossover and Star, for Machine Tools
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- ⊕ Adapter, M4 to M3
- ⊕ Ceramic

| Order Number | ds | L | d1 | D | Wt. |
|-----------------|----|-------|-----|-----|-----|
| STY-N50-7-3NVK | M3 | 50.0 | 4.0 | 7.0 | 5.2 |
| STY-N75-7-3NVK | M3 | 75.0 | 4.0 | 7.0 | 6.6 |
| STY-N100-7-3NVK | M3 | 100.0 | 4.0 | 7.0 | 8.4 |

Adapter, Star



- ⊕ Adapter, rotary
- ⊕ Stainless Steel
- ⊕ Use up to five M4 styli

| Order Number | ds | L | d1 | D | Wt. |
|--------------------|----|------|-----|------|------|
| STY-N15.0-18-7NTHF | M4 | 18.0 | 0.7 | 15.0 | 11.9 |

Stylus Tools

M4x.7



- ⊕ Hex wrench
- ⊕ Steel
- ⊕ Used for set screws

| Order Number | ds | L |
|--------------|------|------|
| STY-HW0.7 | 0.7 | 33.0 |
| STY-HW0.8 | 0.8 | 69.0 |
| STY-HW0.9 | 0.9 | 39.0 |
| STY-HW1.25 | 1.25 | 92.0 |
| STY-HW1.5 | 1.5 | 45.0 |
| STY-HW2.0 | 2.0 | 51.0 |
| STY-HW2.5 | 2.5 | 56.0 |
| STY-HW3.0 | 3.0 | 65.0 |



- ⊕ Hex wrench
- ⊕ Steel
- ⊕ Knurled handle
- ⊕ Used for set screws and accessories

| Order Number | ds | L | D |
|--------------|-----|------|-----|
| STY-N0.9NWSE | 0.9 | 46.0 | 5.0 |



- ⊕ Screw driver
- ⊕ Steel
- ⊕ Phillips, 90°
- ⊕ Used for set screws

| Order Number | ds | L | D |
|--------------|-----|------|-----|
| STY-N2.5NWKR | 2.5 | 45.0 | 5.0 |

TOOLS

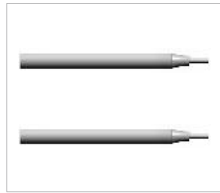
M4
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M4x.7

Stylus Tools



- ⊕ Pin Tool
- ⊕ Steel
- ⊕ Knurled handle
- ⊕ Sold in packs of two
- ⊕ Used to tighten styli and accessories

| Order Number | ds | L | D |
|---------------|------|------|-----|
| STY-N1.95NWST | 1.95 | 40.0 | 3.0 |



TOOLS

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- ⊕ Pin tool
- ⊕ Steel
- ⊕ Used to tighten styli and accessories

| Order Number | ds | L |
|--------------|------|------|
| STY-R70S7 | 1.18 | 23.0 |



- ⊕ Spanner wrench
- ⊕ Stainless Steel
- ⊕ Hold probe while tightening styli

| Order Number | L |
|--------------|------|
| STY-R70S8 | 21.0 |

SOLUTIONS-
"How it Works"

Tighten gently and properly with a set of tools and extend the life of your components. See more tools on pages 93-95.




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Stylus Tools

M4x.7



- ⊕ C Spanner Wrench
- ⊕ Stainless Steel
- ⊕ Used to tighten probe extensions

| Order Number | L |
|--------------|------|
| STY-13.0NWHA | 60.0 |



- ⊕ C Spanner wrench
- ⊕ Steel
- ⊕ Single ended

| Order Number | L |
|--------------|------|
| STY-R70S1 | 20.0 |

M4

TOOLS
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Solutions®
"How it works"

Save your probes by always using the proper tools to install adapters.



See more tools on pages 93-95.



Hex wrench, for tightening set screws



Pin tool, for tightening stylus and accessory assemblies



Philips head, for tightening set screws and accessories



Probe spanner, for tightening extensions into probes

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M4

Storage Cases

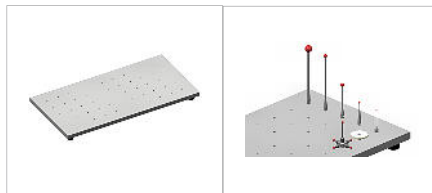


- ⊕ Holds up to 24 (or 43) M4 components
- ⊕ Create a custom kit as your stylus collection grows.

| Order Number | Description |
|---------------|---|
| STY-N24-4NHSB | Wood storage case with M4x.5 threaded plate, holds 24 pieces. |
| STY-N43-7NHSG | Wood storage case with M4x.7 threaded plate, holds 43 pieces |

M4
 Storage
 © 2008 Paul W. Marino Gages, Inc.

Storage Plates



- ⊕ Storage plates
- ⊕ Anodized aluminum finish
- ⊕ Upright storage in threaded holes
- ⊕ Special order

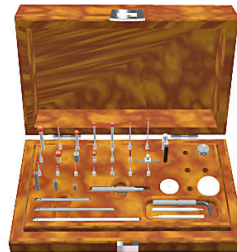
| Order Number | Description |
|-------------------|---|
| STY-PWMSPM4X.7ALU | Storage plate for M4x.7 styli and accessories |

SOLUTIONS® "How it works"

PWM stylus kits offer a diverse selection of the most requested styli and accessories needed to carry out even the most complicated measurements.

The threaded storage plate contains several extra recesses allowing for the expansion or customization of standard kits.

All 21 piece and larger kits include a well-built wooden case that protects your collection from dust or damage.



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