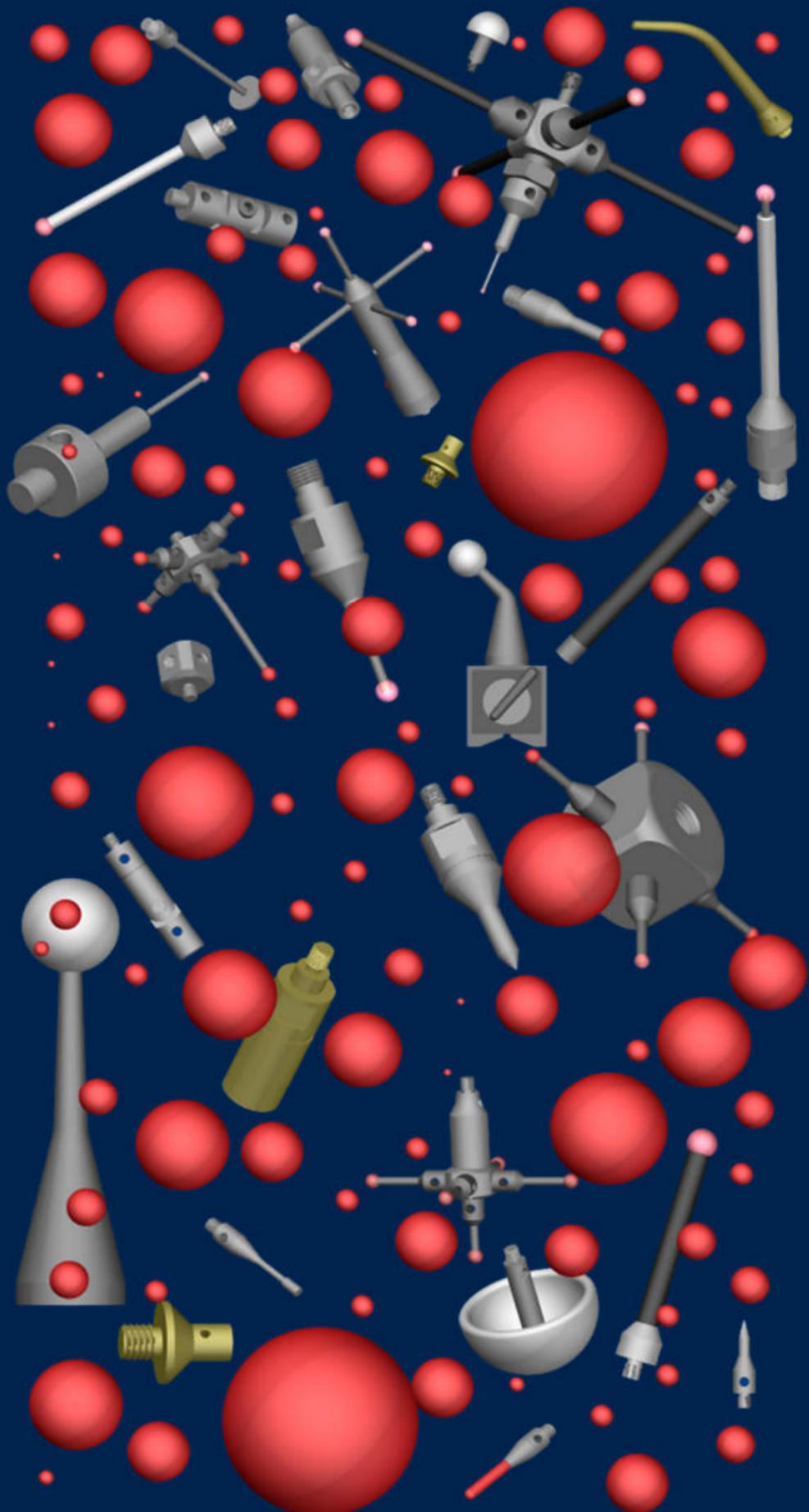




PAUL W. MARINO GAGES, INC.

Styli and Accessories



About Us

- ⊕ Established in 1991, Paul W. Marino Gages, Inc. is dedicated to offering the finest quality products and professional services to our customers.
- ⊕ Our 40,000 square foot facility, located in Warren Michigan, is home to our sales, design and manufacturing groups.
- ⊕ Our customer service and sales group is knowledgeable, professional and ready to assist you.
- ⊕ Our design group are specialists in several fields of design and support all typical file formats.
- ⊕ Our manufacturing and quality groups consist of knee mills, lathes, two coordinate measuring systems and all associated equipment required for manufacturing with the future in mind.



Paul W. Marino Gages, Inc.,
Warren, Michigan

Widespread Acceptance

- | | | |
|------------------|-------------------|-----------------|
| ⊕ Aerospace | ⊕ Electrical | ⊕ Medical |
| ⊕ Aircraft | ⊕ Electronics | ⊕ Plastics |
| ⊕ Aluminum | ⊕ Furniture | ⊕ Plumbing |
| ⊕ Automotive | ⊕ Glass | ⊕ Ship Building |
| ⊕ Communications | ⊕ Housewares | ⊕ Steel |
| ⊕ Defense | ⊕ Instrumentation | ⊕ Tooling |
| ⊕ Die Casting | ⊕ Machine Tool | ⊕ OEM |

Our Other Products

American Modular Tooling®
The ultimate modular system
for fast CMM parts fixturing.

Measurement and Standards®
World standard measuring
instruments & metrology artifacts.



- ⊕ Table of Contents
- ⊕ Stylus Anatomy 101
- ⊕ Technical Data
- ⊕ Quality Control

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Styli and CMM Accessories at a glance

- ⊕ We catalog nearly 1400 standard size styli and accessories.
- ⊕ Made in Switzerland or the United States of the highest quality materials
- ⊕ Precision drilled ruby balls of grade 10, or better
- ⊕ Shanks may be carbide, stainless steel, ceramic, carbon fiber or sapphire.
- ⊕ Styli and accessories meet or exceed manufacturer's requirements.
- ⊕ Point, cylinder, disc and ball styli are available, as well as custom builds to your specifications.
- ⊕ Accessories include swivels, knuckles, adapters, cases, tools and more.
- ⊕ Replacement styli and accessories available for all major probing systems.
- ⊕ Buy online at www.shoppwm.com

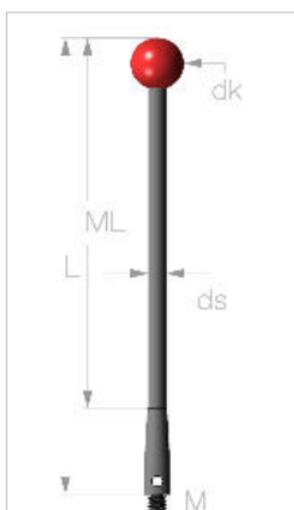


Stylus Anatomy 101

Contents

M2

M3



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

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

Ball Data

M4

- ⊕ 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 (Al_2O_3 monocrystalline)
 2. Ceramic (Al_2O_3 polycrystalline)
 3. Silicone Nitride available on request
 4. Other materials are available

M5

Ball / Shank Assembly

M6 and 1 1/4-20



Pivot Mount: A drilled ruby is glued to the reduced tip end of the pivot at shank end.

3/8-24



Solid Ball Mount: An undrilled ruby is glued directly to the end of the shank.

Pins

- ⊕ 0.4 mm and smaller diameter balls cannot be drilled for pivot.
- ⊕ Drilled ball / pivot mount designs are recommended for 0.5 mm and larger diameters for long life and durability.

Reference Spheres

Quick reference ball diameter conversion chart

Metric (nominal)	1.5 mm	3 mm	6 mm	12 mm	25 mm
Decimal	.062"	.125"	.250"	.500"	1.00"
Fraction	1/16"	1/8"	1/4"	1/2"	1"

Centerline Locators

Shank Materials

Carbide:

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

Ceramic:

- ⊕ Zero deflection
- ⊕ Light weight
- ⊕ Easy to see
- ⊕ Same Coefficient of Thermal Expansion as balls
- ⊕ Non-magnetic

Sapphire:

- ⊕ Light weight
- ⊕ Maximum strength
- ⊕ Highest accuracy
- ⊕ Same Coefficient of Thermal Expansion as balls

Stainless Steel:

- ⊕ Durable
- ⊕ Lowest cost
- ⊕ Wide-spread acceptance

Carbon Fiber:

- ⊕ Great for high speed machines
- ⊕ Light weight minimizes false triggering
- ⊕ Use for long configurations
- ⊕ Non-magnetic

Standard Ferrule Designs

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

PWM's diverse designs maximize strength, working length and accessibility according to your requirements.

Hi, I'm the Tipster, your personal guide to tips, short cuts and quick references including "Solutions[®]," "How it works[®]," and "Be Creative[®]" and the "IDent-O-Sphere[®]" (all registered trademarks of PWM). Look to me for advice and creative applications for PWM styli and accessories.

Thank you



Technical Data

Contents

Item	Material	Form Deviation	Diameter Tolerance	Hardness (Vickers)	Density g/cm ³	Surface Finish
Ruby ball	Synthetic ruby Al ₂ O ₃ monocrystalline	<0.25µm	±0.25µm	1800	3.9	0.015µm
Hollow ceramic ball	Alumina Al ₂ O ₃ ceramic polycrystalline	<0.6µm	±0.6µm	1650	3.9	0.1µm
Cylinder, SST	Stainless Steel	<2µm	±10µm	250	7.9	0.4µm
Cylinder, Ruby	Synthetic ruby Al ₂ O ₃ monocrystalline	<1µm	±1µm	1800	3.9	0.05µm
Cylinder, TC	Tungsten Carbide	<1µm	±1µm	1550	15.0	0.2µm
Ball Disc, Ceramic	Alumina Al ₂ O ₃ ceramic polycrystalline	<0.6µm	±0.6µm	1650	3.9	0.1µm
Ball Disc, Steel	Stainless Steel	<3µm	±10µm	250	7.9	0.4µm
Disc Styli, Steel	Hardened Steel	<2µm	±10µm	720	7.9	0.2µm
Shank and Extension, SST	Stainless Steel	—	—	—	7.9	—
Shank and Extension, Ceramic	Alumina Al ₂ O ₃ ceramic polycrystalline	—	—	—	3.9	—
Shank and Extension, CF	Carbon Fiber	—	—	—	1.5	—
Shank, TC	Tungsten Carbide	—	—	—	15.0	—
Extension, Alu7075	7075 high strength Aluminum	Hard coat anodized surface with PTFE inserts			2.8	—

Pins

SOLUTIONS®
 “How it works”

Technical data is supplied to assist you in understanding our products. If you require additional information please call us (800) 528-9785

Reference Spheres



Centerline Locators

Quality Control

A.F.B.M.A. Grade Tolerances and Terminology



Contents

A.F.B.M.A Grade	Diameter Tolerance per Ball Sphericity	Diameter Tolerance per Unit Container	Basic Diameter Tolerance	Marking Increments
	Inch	Inch	Inch	Inch
3	.000003	.000005	±.00003	.000003
5	.000005	.00001	±.00005	.000005
10	.000010	.00002	±.0001	.000010
15	.000015	.00003	±.0001	.000015
25	.000025	.00005	±.0001	.000025
50	.00005	.0001	±.0002	.00005
100	.0001	.0002	±.0005	.0001
200	.0002	.0004	±.0010	.0002

M2

M3

- Grade:** The numerical value of the Diameter Tolerance per Ball expressed in millionths of an inch.
- Diameter Tolerance per Ball** The permissible difference between the largest diameter and the smallest diameter measurable on one ball.
- Diameter Tolerance per Unit Container** The permissible range of the average diameters of the individual balls within any one unit container.
- Basic Diameter** The size ordered which is the basis to which the basic diameter tolerances apply. The Basic Diameter is specified by a fraction plus a decimal or a decimal only to the sixth place, e.g. 1/4" +.0002" or .02502", 15/64" + .0003" or .234675".
- Basic Diameter Tolerance** The maximum allowable deviation of any ball diameter from the basic diameter, in any shipments to fill orders for that basic diameter.
- Marking Increments** The standard unit steps in millionths of an inch used to express the Specific Diameter.

M4

M5

M6 and 1 1/4-20

ISO Certification

This logo indicates that the manufacturer is certified for compliance with ISO procedures. All of our suppliers have been selected because of their accuracy, reliability and consistency.

**CERTIFIED
QUALITY SYSTEM**
SQS
ISO 9001:2000
REG. NR. 13987

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3/8-24

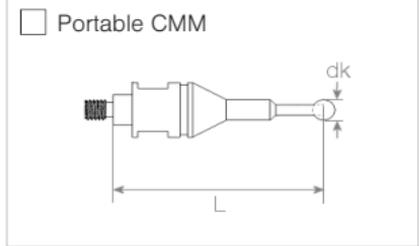
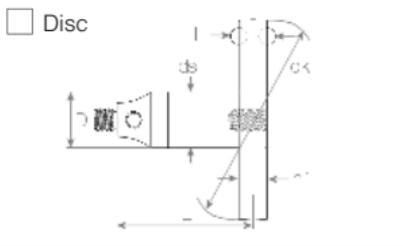
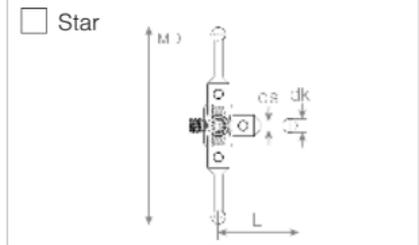
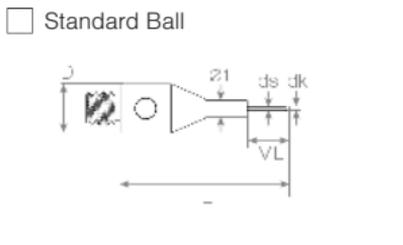
Pins

Reference Spheres

Centerline Locators

Specification Form for Special Styli

Check box for the style needed:



Enter Dimensions (fill out as completely as possible, not all will apply)

dk mm	ds mm	L mm	ML mm	H mm	MD mm	D mm	Thread	Qty
CMM				Head				

Ball Material	Shank Material	Ferrule Material
Ruby	Stainless Steel	Stainless Steel
Carbide	Carbide	Aluminum
Ceramic	Ceramic	
Sapphire	Carbon Fiber	

Notes:

Contact Information:

Company _____

Contact _____

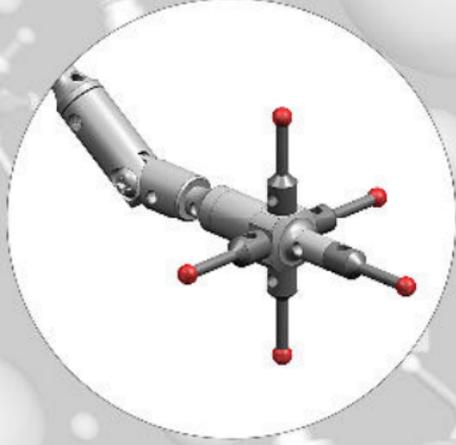
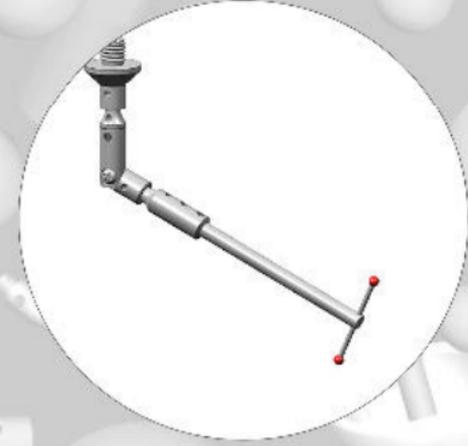
Phone _____

Fax _____

Email _____

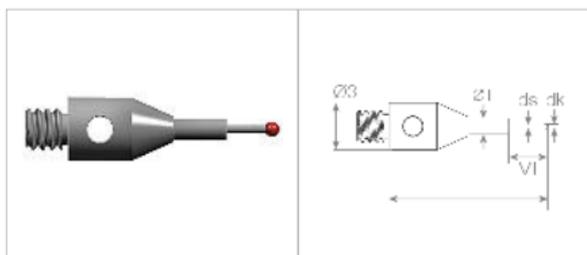
Reqd. Dely. _____

Please fill out this form as completely as possible and return to the fax number below. This form is also available at our website. Please make copies as needed.



M2

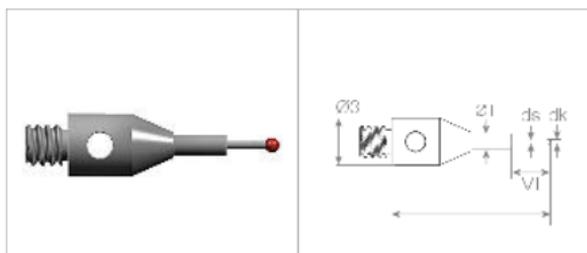
Ruby Ball Styli, Carbide Shank



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

Order Number	dk	ds	L	ML	Wt.
STY-N0.2-10-2NTA	0.2	0.15	10.0	1.5	0.3
STY-N0.25-10-2NTA	0.25	0.2	10.0	2.5	0.3
STY-N0.3-10-2NTA	0.3	0.2	10.0	2.5	0.3
STY-N0.4-10-2NTA	0.4	0.3	10.0	2.5	0.3
STY-N0.5-10-2NTA	0.5	0.3	10.0	2.5	0.3
STY-N0.6-10-2NTA	0.6	0.4	10.0	2.5	0.3
STY-N0.6-12-2NTA	0.6	0.4	12.2	4.5	0.3
STY-N0.7-10-2NTA	0.7	0.4	10.0	2.5	0.3
STY-N0.7-12-2NTA	0.7	0.4	12.2	4.5	0.3
STY-N0.8-10-2NTA	0.8	0.6	10.0	2.5	0.3
STY-N0.8-12-2NTA	0.8	0.6	12.2	4.5	0.3
STY-N0.9-10-2NTA	0.9	0.6	10.0	2.5	0.3
STY-N0.9-12-2NTA	0.9	0.6	12.2	4.5	0.3
STY-N1.0-10-2NTA	1.0	0.8	10.0	2.5	0.3
STY-N1.0-12-2NTA	1.0	0.8	12.2	4.5	0.3

Ruby Ball / Carbide Shank, "R" Type



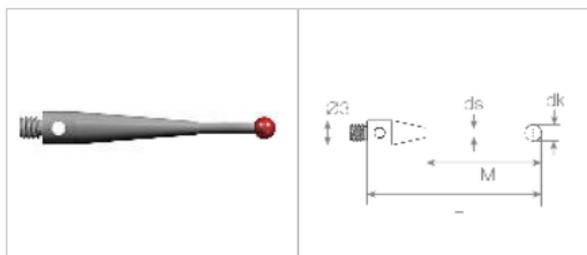
- ⊕ Ball: Ruby
- ⊕ Shank: Carbide, reduced
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

Order Number	dk	ds	L	ML	Wt.
STY-R7029	0.3	0.2	10.0	2.5	0.3
STY-R7010	0.5	0.4	10.0	2.5	0.3

"Specials are our specialty"®

Ruby Ball Styli, Carbide Shank

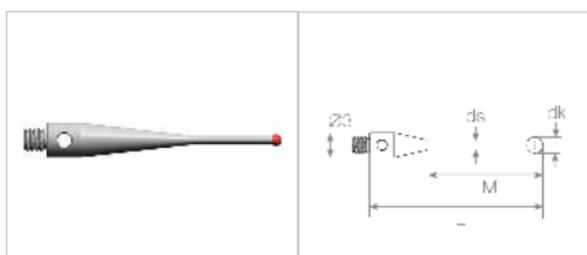
M2



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

Order Number	dk	ds	L	ML	Wt.
STY-N0.5-20-2NTBS	0.5	0.3	20.0	7.0	0.5
STY-N0.5-21-2NTBS	0.5	0.3	21.0	2.5	0.6
STY-N1.0-20.5-2NTBS	1.0	0.7	20.5	6.5	0.6
STY-N1.5-21-2NTBS	1.5	0.7	21.0	7.0	0.6
STY-N2.0-21-2NTBS	2.0	1.0	21.0	7.0	0.7

Ruby Ball / Carbide Shank, "R" Type



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

Order Number	dk	ds	L	ML	Wt.
STY-R7023	1.0	0.7	20.0	7.0	0.60
STY-R7048	1.0	0.8	20.0	15.0	0.41
STY-R7049	1.5	1.0	20.0	15.0	0.46
STY-R7050	5.0	2.5	20.0	15.0	1.98

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PWM "R" Type



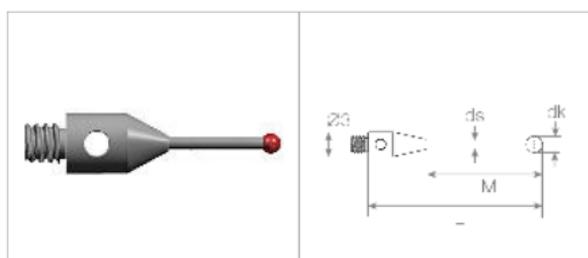
R Type probes use the original stylus shank and ferrule configuration from many years ago. PWM manufactures this style to carry on the tradition. See many diverse stylus designs in this catalog to get the working length and diameter you need.



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M2

Ruby Ball Styli, Carbide Shank



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

Order Number	dk	ds	L	ML	Wt.
STY-N0.7-20-2NTB	0.7	0.5	20.0	12.0	0.3
STY-N1.0-10.5-2NTB	1.0	0.7	10.5	5.5	0.3
STY-N1.0-15.5-2NTB	1.0	0.7	15.5	10.5	0.3
STY-N1.0-20.5-2NTB	1.0	0.7	20.5	15.5	0.3
STY-N1.0-27.5-2NTB	1.0	0.7	27.5	20.5	0.4
STY-N1.0-30.5-2NTB	1.0	0.7	30.5	23.5	0.3
STY-N1.5-11-2NTB	1.5	0.7	11.0	6.0	0.3
STY-N1.5-16-2NTB	1.5	0.7	16.0	11.0	0.3
STY-N1.5-21-2NTB	1.5	0.7	21.0	16.0	0.3
STY-N1.5-31-2NTB	1.5	0.7	31.0	24.0	0.3
STY-N2.0-16-2NTB	2.0	1.0	16.0	9.0	0.4
STY-N2.0-21-2NTB	2.0	1.0	21.0	14.0	0.4
STY-N2.0-26-2NTB	2.0	1.0	26.0	19.0	0.5
STY-N2.0-31-2NTB	2.0	1.0	31.0	24.0	0.5
STY-N2.0-36-2NTB	2.0	1.0	36.0	29.0	0.6
STY-N2.0-41-2NTB	2.0	1.0	41.0	34.0	0.6
STY-N2.5-11-2NTB	2.5	1.0	11.0	4.0	0.3
STY-N2.5-16-2NTB	2.5	1.0	16.0	9.0	0.4
STY-N2.5-21-2NTB	2.5	1.0	21.0	14.0	0.4
STY-N2.5-31-2NTB	2.5	1.5	31.0	24.0	1.0
STY-N2.5-41-2NTB	2.5	1.5	41.0	34.0	1.2
STY-N3.0-11.5-2NTB	3.0	1.5	11.5	6.5	0.7
STY-N3.0-21.5-2NTB	3.0	1.5	21.5	14.5	0.9
STY-N3.0-31.5-2NTB	3.0	1.5	31.5	24.5	1.1
STY-N3.0-36.5-2NTB	3.0	1.5	36.5	29.5	1.2
STY-N3.0-41.5-2NTB	3.0	1.5	41.5	31.5	1.3
STY-N3.0-46.5-2NTB	3.0	1.5	46.5	36.5	1.5
STY-N3.0-51.5-2NTB	3.0	1.5	51.5	41.5	1.6

Continued on next page

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"How it works"

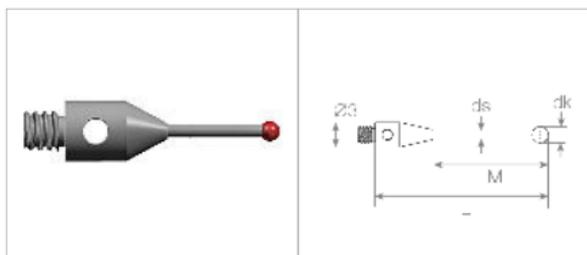
Use these tools to properly assemble your styli configurations. See more on pages 40-42.



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Ruby Ball Styli, Carbide Shank

M2



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

Continued from previous page

Order Number	dk	ds	L	ML	Wt.
STY-N4.0-22-2NTB	4.0	2.0	22.0	12.0	1.1
STY-N4.0-32-2NTB	4.0	2.0	32.0	22.0	1.6
STY-N4.0-37-2NTB	4.0	2.0	37.0	27.0	1.8
STY-N4.0-42-2NTB	4.0	2.0	42.0	32.0	2.1
STY-N4.0-47-2NTB	4.0	2.0	47.0	37.0	2.3
STY-N4.0-52-2NTB	4.0	2.0	52.0	52.0	2.5
STY-N5.0-22.5-2NTB	5.0	2.0	22.5	12.5	1.3
STY-N5.0-32.5-2NTB	5.0	2.0	32.5	22.5	1.7
STY-N5.0-37.5-2NTB	5.0	2.0	37.5	27.5	2.0
STY-N5.0-42.5-2NTB	5.0	2.0	42.5	32.5	2.2
STY-N5.0-47.5-2NTB	5.0	2.0	47.5	37.5	2.4
STY-N5.0-52.5-2NTB	5.0	2.0	52.5	42.5	2.6
STY-N6.0-33-2NTB	6.0	2.0	33.0	23.0	1.9
STY-N6.0-38-2NTB	6.0	2.0	38.0	28.0	2.1
STY-N6.0-43-2NTB	6.0	2.0	43.0	33.0	2.4
STY-N6.0-48-2NTB	6.0	2.0	48.0	38.0	2.6
STY-N6.0-53-2NTB	6.0	2.0	53.0	43.0	2.8

M2

Ruby Ball Styli
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SOLUTIONS®
"How it Works"

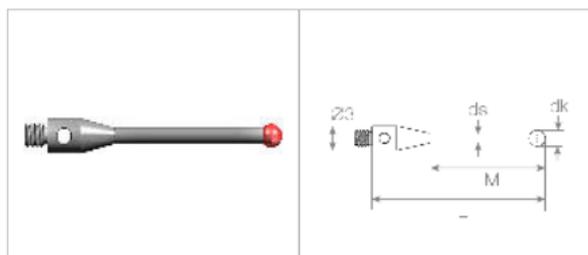
Long shanks at work



© 2008 Paul W. Marino Gages, Inc.

M2

Ruby Ball / Carbide Shank, "R" Type



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

M2

Ruby Ball Styli

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Order Number	dk	ds	L	ML	Wt.
STY-R7027	2.5	1.0	20.0	14.0	0.4
STY-R7016	3.0	1.5	20.0	17.5	0.5
STY-R7017	4.0	2.0	20.0	20.2	0.6
STY-R7051	1.0	0.7	30.0	20.5	0.40
STY-R7052	1.5	1.0	30.0	25.0	0.58
STY-R7053	2.0	1.5	30.0	25.0	0.99
STY-R7054	2.5	2.0	30.0	25.0	1.48
STY-R7055	3.0	2.0	30.0	25.0	1.49
STY-R7056	4.0	2.0	30.0	25.0	1.57
STY-R7057	5.0	2.5	30.0	25.0	2.57
STY-R7058	2.0	1.5	40.0	35.0	1.29
STY-R7059	2.5	2.0	40.0	35.0	1.95
STY-R7060	3.0	2.0	40.0	35.0	1.97
STY-R7061	4.0	2.0	40.0	35.0	2.04
STY-R7062	5.0	2.5	40.0	35.0	3.17
STY-R7063	3.0	2.0	50.0	42.5	2.44
STY-R7064	4.0	2.0	50.0	42.5	2.52
STY-R7065	5.0	2.5	50.0	50.0	3.75

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.

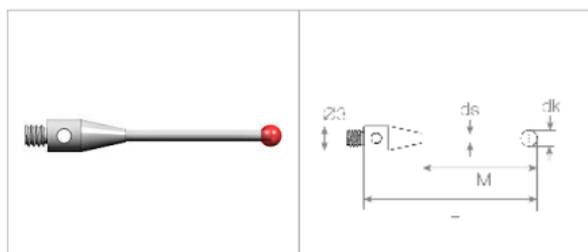
Carbide is a compound metal.



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Ruby Ball Styli, Steel Shank

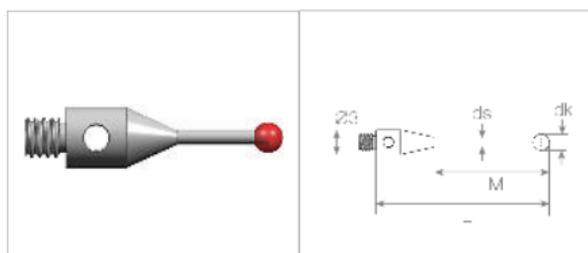
M2



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

Order Number	dk	ds	L	ML	Wt.
STY-N1.0-10.5-2NTC	1.0	0.7	10.5	5.0	0.3
STY-N1.5-11-2NTC	1.5	1.0	11.0	6.0	0.3
STY-N2.0-11-2NTC	2.0	1.2	11.0	7.0	0.3
STY-N2.0-16-2NTC	2.0	1.2	16.0	12.0	0.3
STY-N2.0-21-2NTC	2.0	1.4	21.0	15.0	0.3
STY-N2.5-11-2NTC	2.5	1.5	11.0	7.0	0.3
STY-N2.5-21-2NTC	2.5	1.5	21.0	12.0	0.4
STY-N3.0-11.5-2NTC	3.0	2.0	11.5	8.0	0.4
STY-N3.0-21.5-2NTC	3.0	2.0	21.5	18.0	0.6
STY-N4.0-12-2NTC	4.0	2.4	12.0	9.0	0.5
STY-N4.0-22-2NTC	4.0	2.4	22.0	19.0	0.9

Ruby Ball / Steel Shank, "R" Type



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

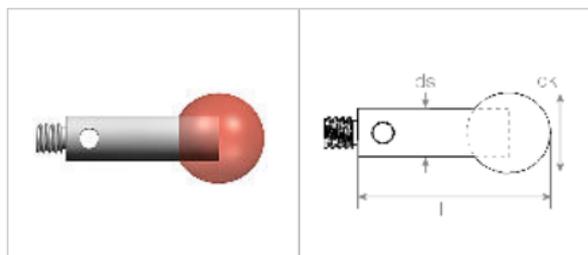
Order Number	dk	ds	L	ML	Wt.
STY-R709	1.0	0.7	10.0	4.5	0.3
STY-R7024	1.5	0.7	10.0	4.5	0.3
STY-R708	2.0	1.0	10.0	6.0	0.3
STY-R702	2.0	1.4	20.0	14.0	0.4
STY-R7026	2.5	1.0	10.0	6.0	0.3
STY-R701	3.0	1.5	10.0	7.5	1.4
STY-R7012	4.0	1.5	10.0	10.0	0.4
STY-R7013	5.0	2.5	10.0	10.0	0.7
STY-R7014	6.0	2.5	10.0	10.0	0.9
STY-R7015	8.0	2.5	11.0	11.0	1.5

M2

Ruby Ball Styli
© 2006 Paul W. Mairno Gages, Inc.

M2

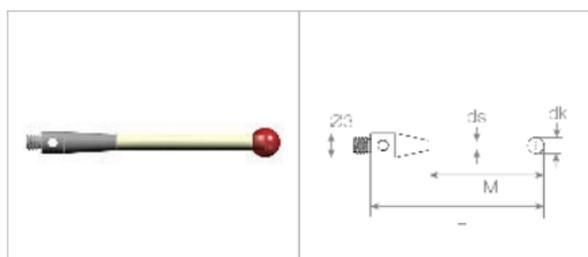
Ruby Ball Styli, Steel Shank



- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: None

Order Number	dk	ds	L	ML	Wt.
STY-N5.0-12.5-2NTD	5.0	3.0	12.5	—	0.7
STY-N5.0-27.5-2NTD	5.0	3.0	27.5	—	1.6
STY-N6.0-13-2NTD	6.0	3.0	13.0	—	0.9
STY-N6.0-28-2NTD	6.0	3.0	28.0	—	1.7
STY-N8.0-14-2NTD	8.0	3.0	14.0	—	1.3
STY-N8.0-28-2NTD	8.0	3.0	28.0	—	1.9

Ruby Ball Styli, Ceramic Shank



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

Order Number	dk	ds	L	ML	Wt.
STY-N3.0-51.5-2NTKE	3.0	2.0	51.5	41.5	1.4
STY-N4.0-32-2NTKE	4.0	2.0	32.0	22.0	1.4
STY-N4.0-42-2NTKE	4.0	2.0	42.0	32.0	1.5
STY-N4.0-52-2NTKE	4.0	2.0	52.0	42.0	1.6
STY-N5.0-32.5-2NTKE	5.0	2.0	32.5	22.5	1.5
STY-N5.0-42.5-2NTKE	5.0	2.0	42.5	32.5	1.6
STY-N5.0-52.5-2NTKE	5.0	2.0	52.5	42.5	1.6
STY-N6.0-33-2NTKE	6.0	2.0	33.0	23.0	1.6
STY-N6.0-43-2NTKE	6.0	2.0	43.0	33.0	1.8
STY-N6.0-53-2NTKE	6.0	2.0	53.0	43.0	1.8

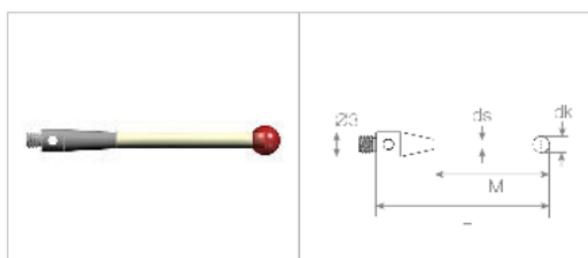
SOLUTIONS®
"How it works"



Styli with ceramic and carbon fiber shanks are non-magnetic, feature minimal deflection and are ideal for use on high speed CMMs.

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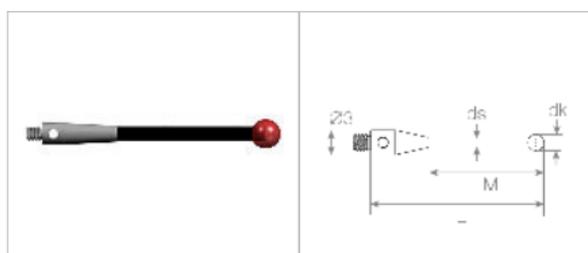
Ruby Ball / Ceramic Shank, "R" Type M2



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

Order Number	dk	ds	L	ML	Wt.
STY-R7066	3.0	2.0	50.0	42.5	0.83
STY-R7067	4.0	2.0	50.0	42.5	0.91
STY-R7069	5.0	2.5	50.0	50.0	1.0

Ruby Ball Styli, Carbon Fiber Shank



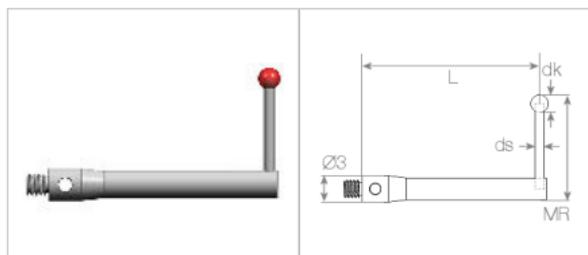
- ⊕ Ball: Ruby
- ⊕ Shank: Carbon Fiber
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

Order Number	dk	ds	L	ML	Wt.
STY-N4.0-32-2NTCA	4.0	3.0	32.0	22.0	0.6
STY-N4.0-42-2NTCA	4.0	3.0	42.0	32.0	0.7
STY-N4.0-52-2NTCA	4.0	3.0	52.0	42.0	0.7
STY-N4.0-77-2NTCA	4.0	3.0	77.0	67.0	1.0
STY-N4.0-102-2NTCA	4.0	3.0	102.0	92.0	1.3
STY-N5.0-32.5-2NTCA	5.0	3.0	32.5	22.5	0.7
STY-N5.0-42.5-2NTCA	5.0	3.0	42.5	32.5	0.7
STY-N5.0-52.5-2NTCA	5.0	3.0	52.5	42.5	0.9
STY-N5.0-77.5-2NTCA	5.0	3.0	77.5	67.5	1.2
STY-N5.0-102.5-2NTCA	5.0	3.0	102.5	92.5	1.4
STY-N6.0-33-2NTCA	6.0	3.0	33.0	23.0	0.9
STY-N6.0-43-2NTCA	6.0	3.0	43.0	33.0	1.0
STY-N6.0-53-2NTCA	6.0	3.0	53.0	43.0	1.0
STY-N6.0-78-2NTCA	6.0	3.0	78.0	68.0	1.3
STY-N6.0-103-2NTCA	6.0	3.0	103.0	93.0	1.6

Buy online at www.shopppwm.com

M2

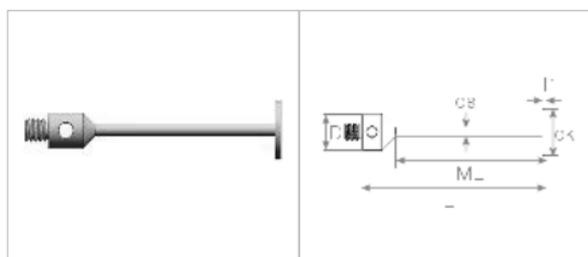
"L" Style, Carbide, Ruby Ball



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

Order Number	dk	ds	L	MR	Wt.
STY-N1.0-6-2NLT	1.0	0.6	15.0	6.0	0.4
STY-N2.0-12-2NLT	2.0	1.0	20.0	12.0	0.4

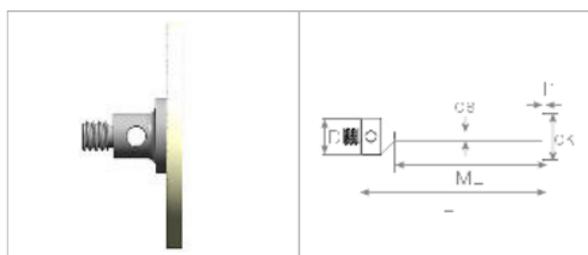
Disc Styli, Ceramic



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

Order Number	L	H1	dk	ds	D	Wt.
STY-N5.0-20NKSK	20.0	0.5	5.0	1.0	3.0	0.6
STY-N10.0-25NKSK	25.0	0.8	10.0	1.5	3.0	1.5
STY-N14.0-25NKSK	25.0	1.0	14.0	1.5	3.0	3.0

Disc Styli, Ceramic



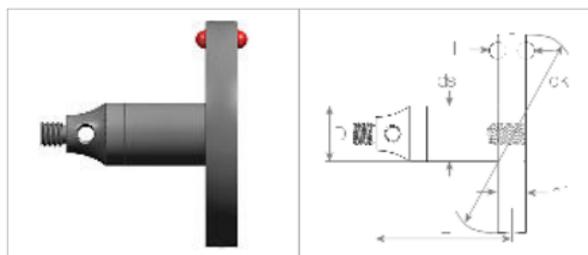
- ⊕ Disc: Ceramic
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

Order Number	L	H1	dk	ds	D	Wt.
STY-N15.0-4-2NKSE	4.0	1.0	15.0	—	5.0	0.9
STY-N20.0-4-2NKSE	4.0	1.0	20.0	—	5.0	1.4

Buy online at www.shoppwm.com

Disc Styli, Steel / Ruby

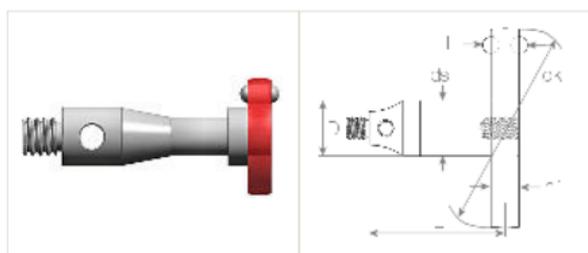
M2



- ⊕ Ball: Ruby
- ⊕ Disc: Stainless Steel
- ⊕ Ferrule: Rotary
- ⊕ Ferrule: Stainless Steel

Order Number	L	H	h1	dk	D	Wt.
STY-N18.0-12NKSD	12.0	4.0	2.5	18.0	5.0	2.8
STY-N25.0-12NKSD	12.0	4.0	2.5	25.0	5.0	3.9
STY-N40.0-12NKSD	12.0	6.0	4.0	40.0	5.0	11.0

Disc Styli, Ruby, "R" Type

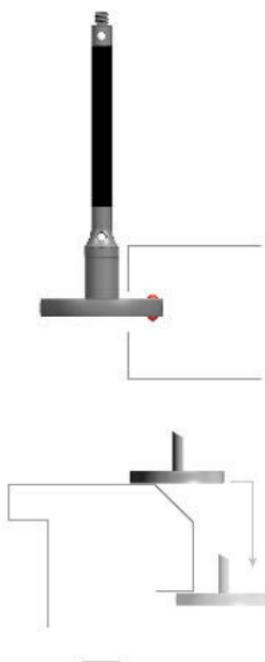


- ⊕ Ball: Carbide
- ⊕ Disc: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

Order Number	L	H1	H	dk	D	Wt.
STY-R703	10.0	2.0	6.0	1.2	—	0.6

SOLUTIONS®
"How it Works"

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



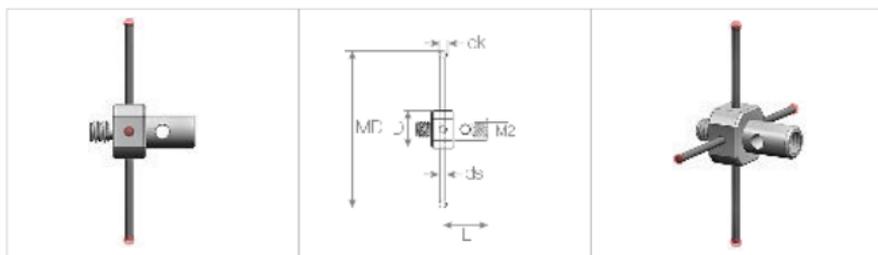
"Be Creative"



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M2

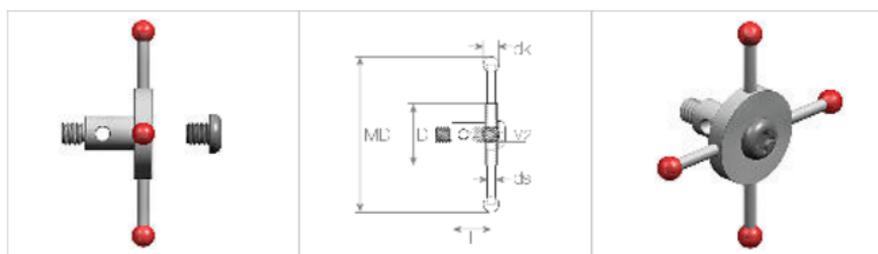
Star Styli, Carbide / Ruby



- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ Ferrule: Stainless Steel, Rotary
- ⊕ M2 thread in center accepts stylus.

Order Number	dk	ds	D	MD	Wt.
STY-N0.5-10.5-2NSTF	0.5	0.3	5.0	10.5	0.9
STY-N0.5-20.5-2NSTF	0.5	0.3	5.0	20.5	1.0
STY-N1.0-11-2NSTF	1.0	0.7	5.0	11.0	1.2
STY-N1.0-21-2NSTF	1.0	0.7	5.0	21.0	1.4

Star Styli, Carbide / Ruby



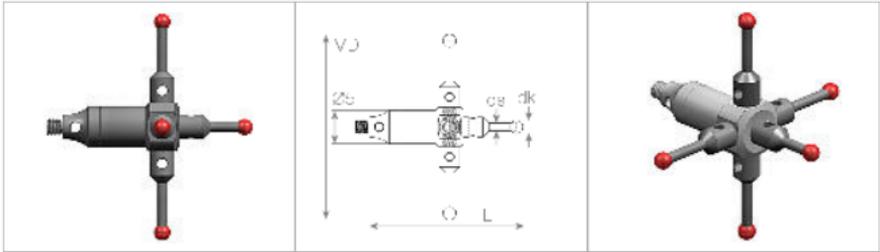
- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ Ferrule: Stainless Steel, Rotary
- ⊕ M2 thread in center accepts stylus.

Order Number	dk	ds	D	MD	Wt.
STY-N1.0-12NSTK	1.0	0.6	6.0	12.0	0.5g
STY-N1.0-16NSTK	1.0	0.6	6.0	16.0	0.6
STY-N2.0-20NSTK	2.0	1.0	8.0	20.0	1.1
STY-N2.0-30NSTK	2.0	1.0	8.0	30.0	1.2

Buy online at www.shoppwm.com

Star Styli, Steel / Ruby

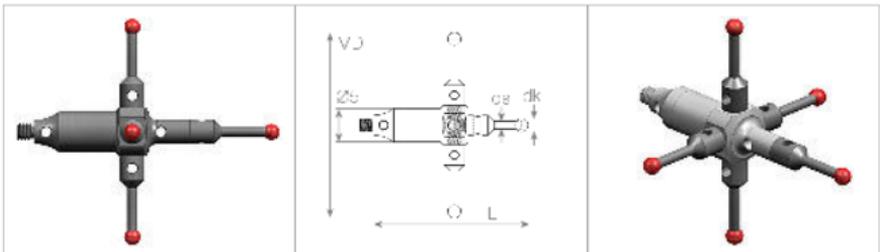
M2



- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Stainless Steel, Rotary

Order Number	L	dk	ds	MD	Wt.
STY-N2.0-28NSTB	23.0	2.0	1.2	28.0	3.2
STY-N2.0-38NSTB	23.0	2.0	1.2	38.0	3.2

Star Styli, Steel / Ruby

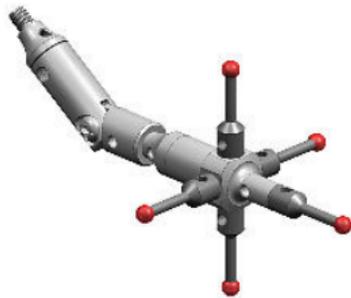


- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Stainless Steel, Rotary

Order Number	L	dk	ds	MD	Wt.
STY-N2.0-28NSTD	30.0	2.0	1.2	28.0	3.5
STY-N2.0-38NSTD	35.0	2.0	1.2	38.0	3.6

SOLUTIONS®
"Be Creative"

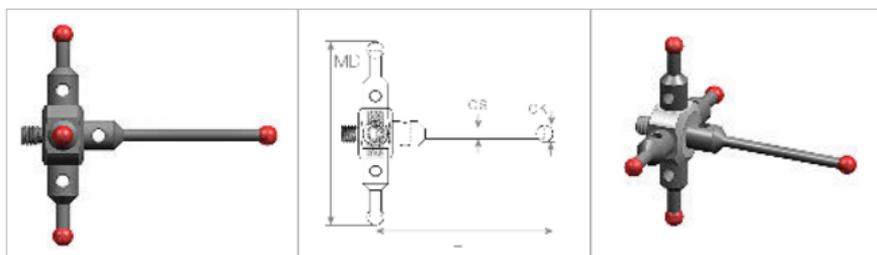
PWM star styli are available with standard fixed arms or create your own custom design with a star adapter on pages 37-39 and any combination of M2 styli. Add a knuckle adapter shown on pages 25-26 for angled access.



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M2

Star Styli, Steel / Ruby



- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Stainless Steel, Rotary
- ⊕ Set your probe and lock in on orientation.

Order Number	L	dk	ds	MD	Wt.
STY-N2.0-22-2NSTE	21.0	2.0	1.4	22.0	2.2
STY-N2.0-32-2NSTE	21.0	2.0	1.4	32.0	2.5

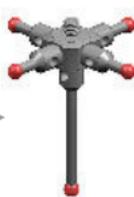
SOLUTIONS®
"How it works"

Select a standard, fixed arm star configuration or be creative and customize your own with reusable PWM adapters on pages 37-39 and up to five standard M2 styli.



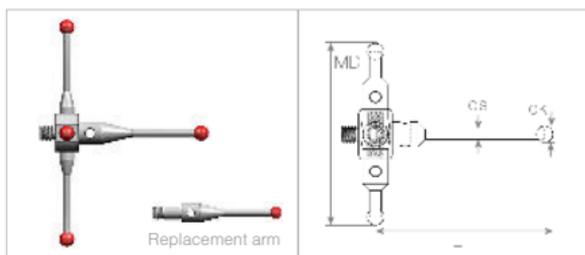
Fixed arm, rotary star stylus (left).

Reusable star adapters allow for easy reconfiguration (below).



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Star Styli, "R" Type

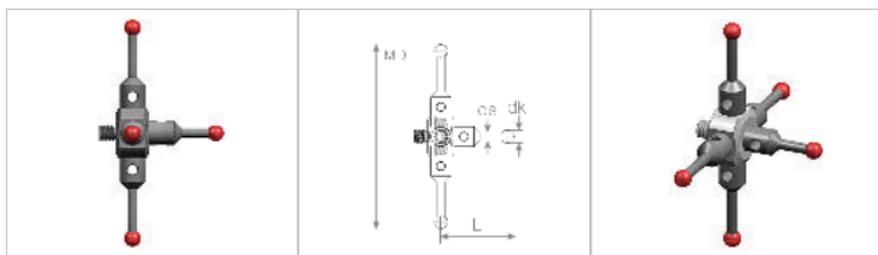


- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Stainless Steel

Order Number	L	dk	ds	MD	Wt.
STY-R706	20.0	2.0	1.4	20.0	—
STY-R707	20.0	2.0	1.4	30.0	2.38
Replacement arms:					
STY-R707CTR	20.0	2.0	1.4	—	—

Star Styli, Steel / Ruby

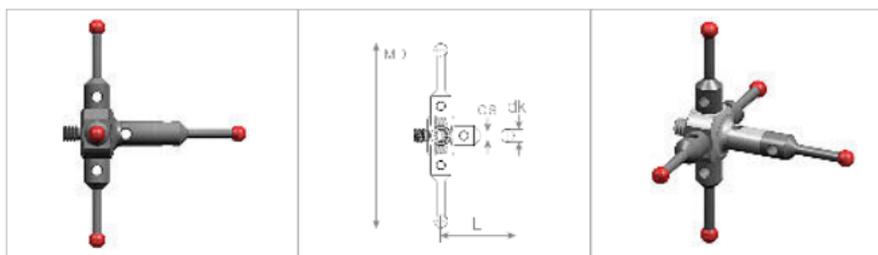
M2



- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Stainless Steel, Non-rotary

Order Number	dk	ds	L	MD	Wt.
STY-N2.0-28NSTA	2.0	1.2	11.0	28.0	2.2
STY-N2.0-38NSTA	2.0	1.2	18.0	38.0	2.3

Star Styli, Steel / Ruby



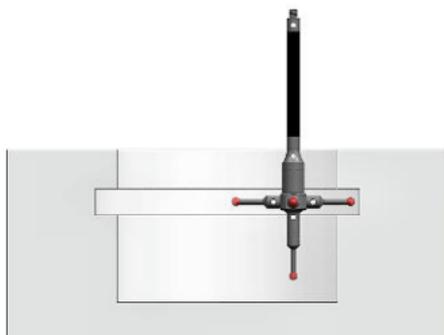
- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Stainless Steel, Non-rotary

Order Number	L	dk	ds	MD	Wt.
STY-N2.0-28NSTC	18.0	2.0	1.2	28.0	2.5
STY-N2.0-38NSTC	23.0	2.0	1.2	38.0	2.6

SOLUTIONS® "How it works"

Star styli are great for bores with undercuts and ideal for fixed position probe heads.

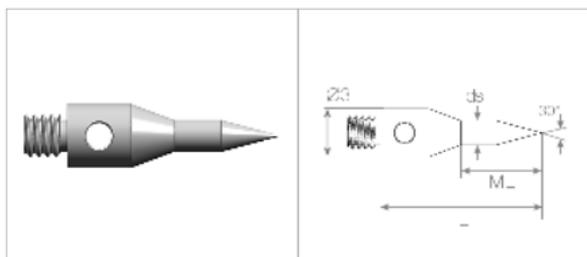
Avoid having to reposition your probe.



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M2

Point Styli, Carbide



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

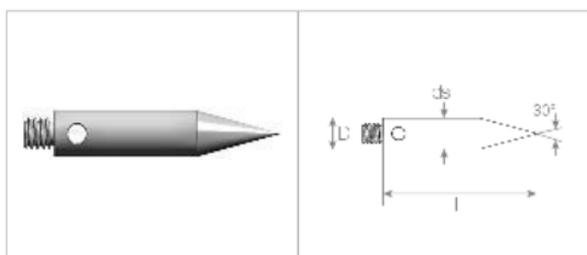
M2

Point Styli

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Order Number	L	ML	ds	β	Wt.
STY-N30-10NTS	10.0	5.0	1.5	30°	0.3
STY-N60-10NTS	10.0	5.0	1.5	60°	0.3

Point Stylus / Carbide, "R" Type



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

Order Number	L	ds	D	β	Wt.
STY-R7020	15.0	3.0	3.0	30°	0.7

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.



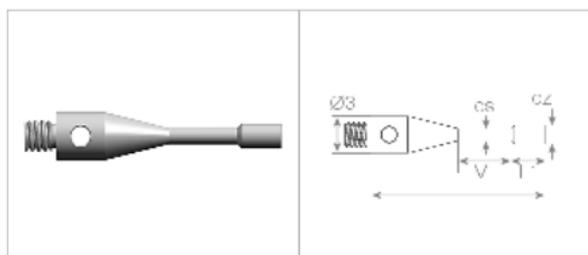
Choose PWM carbide pointer designs for rugged, prolonged use. Check for wear and replace often for best results.



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Cylinder Styli, Carbide

M2



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

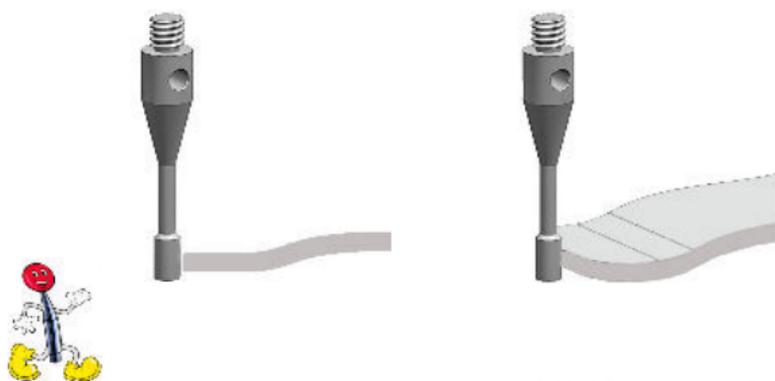
Order Number	L	ML	L1	dz	ds	Wt.
STY-N1.5-14NZT	14.0	7.0	2.5	1.5	1.0	0.4
STY-N3.0-16NZT	16.0	9.0	3.5	3.0	1.5	0.6

M2

Cylinder
© 2006 Paul W. Marino Gages, Inc.

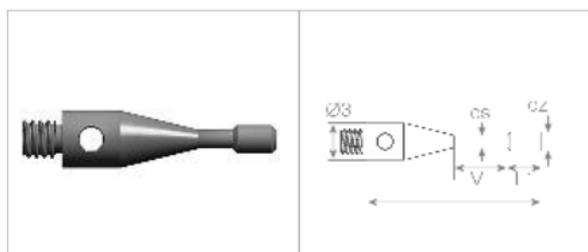
SOLUTIONS®
How it Works

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



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Cylinder Styli, Steel

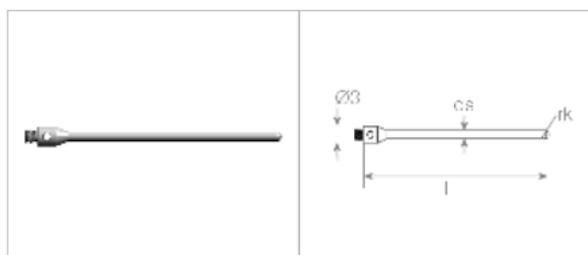


- ⊕ Cylinder: Stainless Steel
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

Order Number	L	ML	L1	dz	ds	Wt.
STY-N15.11NZTS	11.0	4.0	2.0	1.5	1.0	0.3
STY-N2.0-11NZTS	11.0	4.0	2.5	2.0	1.5	0.3
STY-N2.5-13NZTS	13.0	5.5	2.5	2.5	2.0	0.5
STY-N3.0-13NZTS	13.0	5.5	3.0	3.0	2.0	0.5

Order Number	L	ML	L1	dz	ds	Wt.
STY-R7018	11.0	1.5	—	1.5	—	0.3
STY-R7019	13.0	3.8	—	3.0	—	0.6

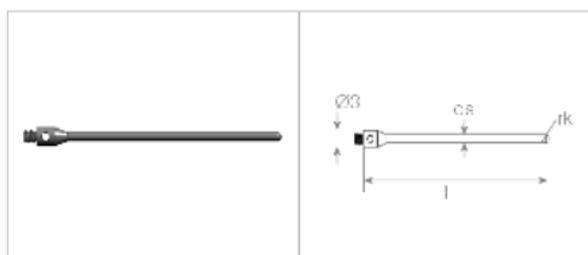
Cylinder Styli, Carbide, Long



- ⊕ Radius: Carbide,
- ⊕ Shank: Carbide
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

Order Number	L	ML	rk	ds	Wt.
STY-N1.0-20-2NZHD	20.0	—	0.5	1.0	0.4
STY-N1.0-35.5-2NZHD	35.5	—	0.5	1.0	0.4
STY-N1.0-40-2NZHD	40.0	—	0.5	1.0	0.7
STY-N1.5-15.8-2NZHD	15.8	—	0.75	1.5	0.7
STY-N1.5-20-2NZHD	20.0	—	0.75	1.5	0.8
STY-N1.5-40-2NZHD	40.0	—	0.75	1.5	1.3
STY-N2.0-16-2NZHD	16.0	—	1.0	2.0	0.6
STY-N2.0-20-2NZHD	20.0	—	1.0	2.0	0.7
STY-N2.0-40-2NZHD	40.0	—	1.0	2.0	1.3

Cylinder Styli, Stainless Steel, Long



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

Order Number	L	ML	rk	ds	Wt.
STY-N1.0-20-2NZSD	20.0	—	0.5	1.0	0.4
STY-N1.0-40-2NZSD	40.0	—	0.5	1.0	0.7
STY-N1.5-20-2NZSD	20.0	—	0.75	1.5	0.5
STY-N1.5-40-2NZSD	40.0	—	0.75	1.5	1.0
STY-N2.0-20-2NZSD	20.0	—	1.0	2.0	0.6
STY-N2.0-40-2NZSD	40.0	—	1.0	2.0	1.2

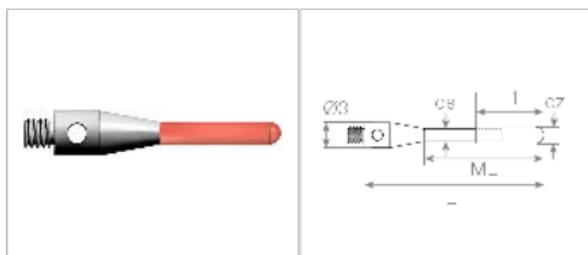
Cylinder styli are designed for sheet metal edge and surface measurements.

See page 45 for special sheet metal kits and save.



Cylinder Styli, Steel / Ruby

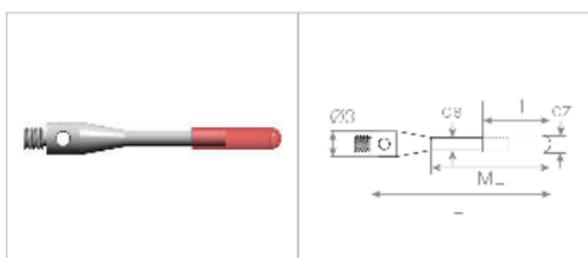
M2



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

Order Number	L	ML	dz	D	Wt.
STY-N1.0-15-2NZRC	15.0	8.0	1.0	3.0	0.3
STY-N1.5-15-2NZRC	15.0	8.0	1.5	3.0	0.3

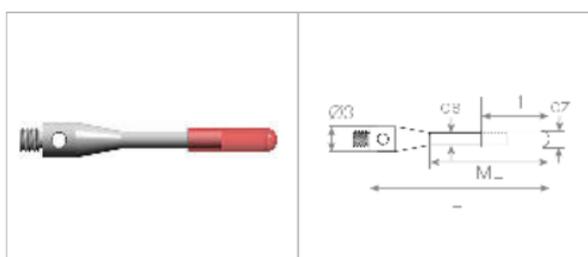
Cylinder Styli, Steel / Ruby



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

Order Number	L	ML	L1	dz	ds	D	Wt.
STY-N1.0-16NZRA	16.0	12.0	5.0	1.0	1.0	3.0	0.3
STY-N2.0-16NZRA	16.0	12.0	5.0	2.0	2.0	3.0	0.4
STY-N3.0-22NZRA	22.0	18.0	10.0	3.0	3.0	3.0	0.6

Cylinder Styli, Steel / Ruby



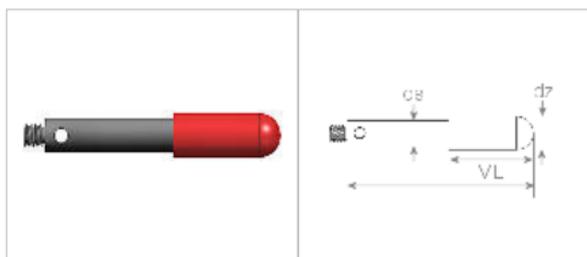
- ⊕ Radius: Ruby
- ⊕ Cylinder: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

Order Number	L	ML	L1	dz	ds	Wt.
STY-R7035R	20.0	—	7.2	2.0	2.0	0.4

Buy online at www.shopwpm.com

M2

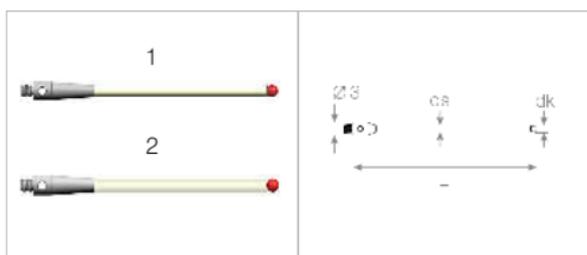
Cylinder Styli, Steel / Ruby



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

Order Number	L	ML	L1	dz	ds	Wt.
STY-N4.0-22NZRB	22.0	10.0	—	4.0	3.0	1.2

Cylinder Styli, Ceramic or Sapphire / Ruby



- ⊕ Ball: Ruby, solid
- ⊕ Shank1: Ceramic
- ⊕ Shank2: Sapphire
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel
- ⊕ Concentricity: 2.5 μ m / .00012"

Order Number	L	ML	L1	dk	ds	Wt.
STY-R7047 (ceramic shank)	40.0	32.0	—	2.0	2.0	—
STY-R707108 (sapphire shank)	40.0	32.0	—	2.0	2.0	—

SOLUTIONS®

How it Works



Cylindrical ceramic or sapphire styli are the ultimate sheet metal styli. Great for measuring sheet metal cut-outs. Use the non-magnetic cylindrical shank on edges and the spherical tip for surface measurement.

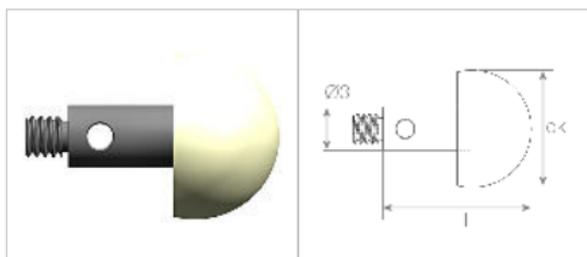
Select opaque or clear design for best visibility—both are easy to qualify and nearly indestructible.



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Half Sphere Styli, Steel / Ceramic

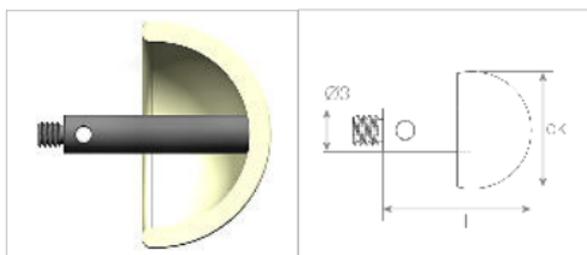
M2



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

Order Number	L	ML	L1	dk	ds	Wt.
STY-N8.0-10NKK	10.0	—	—	8.0	—	1.1
STY-N10.0-11NKK	11.0	—	—	10.0	—	1.7

Sphere Styli, Hollow, Steel / Ceramic

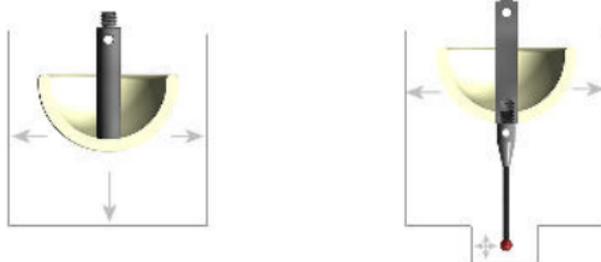


- ⊕ Sphere, Ceramic, hollow
- ⊕ Shank: Stainless Steel

Order Number	L	ML	L1	dk	ds	Wt.
STY-N18.0-16NHKE	16.0	—	—	18.0	—	4.6
STY-N24.0-19NHKE	19.0	—	—	24.0	—	8.9
STY-N30.0-22NHKE	22.0	—	—	30.0	—	13.1

SOLUTIONS®
"How it works"

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



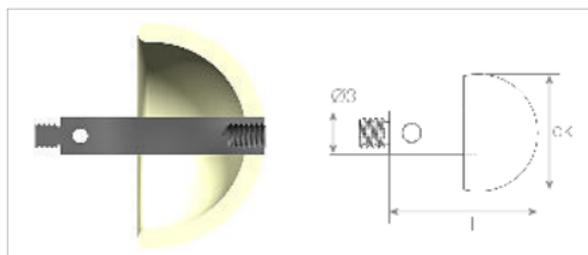
Buy online at www.shopppwm.com



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M2

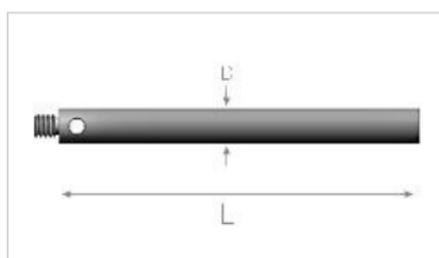
Sphere Styli, Hollow, Steel / Ceramic



- ⊕ Sphere: Ceramic, hollow
- ⊕ Shank: Stainless Steel
- ⊕ M2 female thread accepts any stylus or accessory.

Order Number	L	ML	dk	D	Wt.
STY-N18.0-7NHKZ	16.0	—	18.0	3.0	4.6
STY-N30.0-7NHKZ	22.0	—	30.0	3.0	13.1

Extensions, Steel



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

Order Number	L	ML	ds	D	Wt.
STY-N5NV	5.0	—	—	3.0	0.2
STY-N10NV	10.0	—	—	3.0	0.4
STY-N20NV	20.0	—	—	3.0	0.9
STY-N30NV	30.0	—	—	3.0	1.5
STY-N40NV	40.0	—	—	3.0	2.0
STY-N50NV	50.0	—	—	3.0	2.6
STY-N60NV	60.0	—	—	3.0	3.2
STY-N70NV	70.0	—	—	3.0	3.7
STY-N80NV	80.0	—	—	3.0	4.3
STY-N90NV	90.0	—	—	3.0	4.8
STY-N100NV	100.0	—	—	3.0	5.4

SOLUTIONS®
How it works

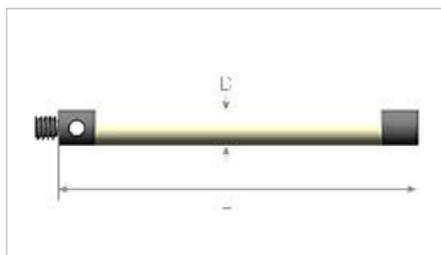
Lightweight extensions allow longer probe access on high speed CMMs, are non-magnetic and increase the life of probe heads.



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Extensions, Ceramic

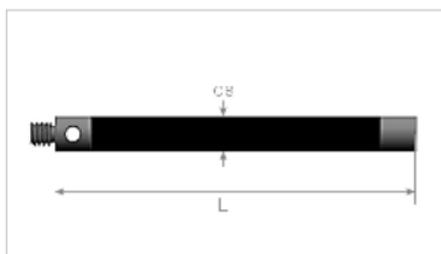
M2



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

Order Number	L	ML	ds	D	Wt.
STY-N30NVK	30.0	—	—	3.0	1.3
STY-N40NVK	40.0	—	—	3.0	1.5
STY-N50NVK	50.0	—	—	3.0	1.6
STY-N60NVK	60.0	—	—	3.0	1.7
STY-N70NVK	70.0	—	—	3.0	2.0
STY-N80NVK	80.0	—	—	3.0	2.2
STY-N90NVK	90.0	—	—	3.0	2.4
STY-N100NVK	100.0	—	—	3.0	2.6

Extensions, Carbon Fiber



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

Order Number	L	ML	ds	D	Wt.
STY-N30NVCA	30.0	—	—	3.0	0.7
STY-N40NVCA	40.0	—	—	3.0	0.8
STY-N50NVCA	50.0	—	—	3.0	0.9
STY-N60NVCA	60.0	—	—	3.0	1.0
STY-N70NVCA	70.0	—	—	3.0	1.1
STY-N80NVCA	80.0	—	—	3.0	1.2
STY-N90NVCA	90.0	—	—	3.0	1.3
STY-N100NCA	100.0	—	—	3.0	1.4

SOLUTIONS® "How it works"

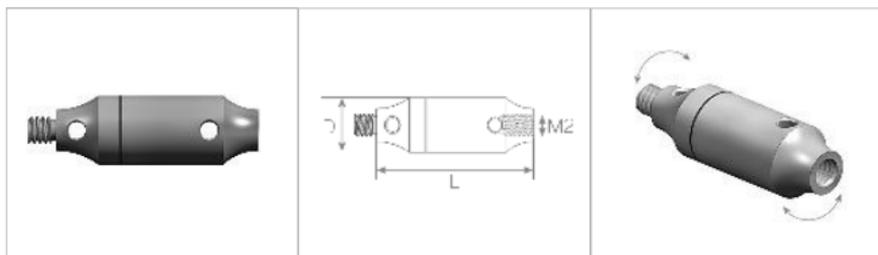
Choose ceramic for light weight and stable performance – carbon fiber saves even more weight but is not as stable.



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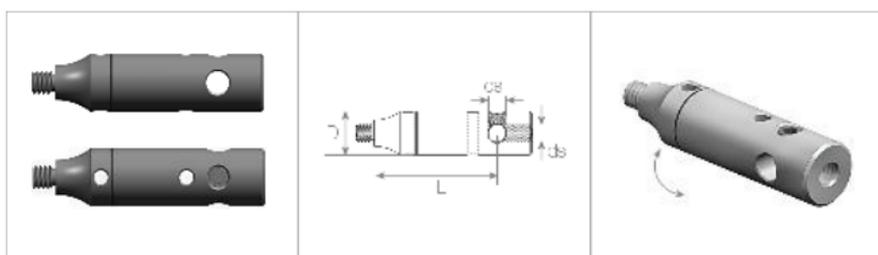
M2

Adapters, Rotary



- ⊕ Adapter, Rotary, M2 to M2
- ⊕ Stainless Steel
- ⊕ For use with M2 styli

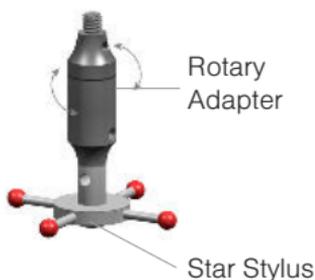
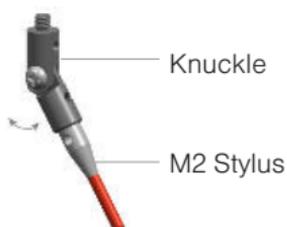
Order Number	dk	ds	L	D	Wt.
STY-N5.0-15NDS	—	—	15.0	5.0	1.4



- ⊕ Adapter, Rotary, M2 male to M2 and Pin Female
- ⊕ Stainless Steel
- ⊕ Screws are replaceable
- ⊕ Nylon washers for long life

Order Number	dk	ds	L	D	Wt.
STY-N1.0-2NHED	—	1.0	14.0	5.0	2.0
STY-N1.5-2NHED	—	1.5	14.0	5.0	2.0
STY-N2.0-2NHED	—	2.0	14.0	5.0	1.9

Solutions®
"Be Creative!"



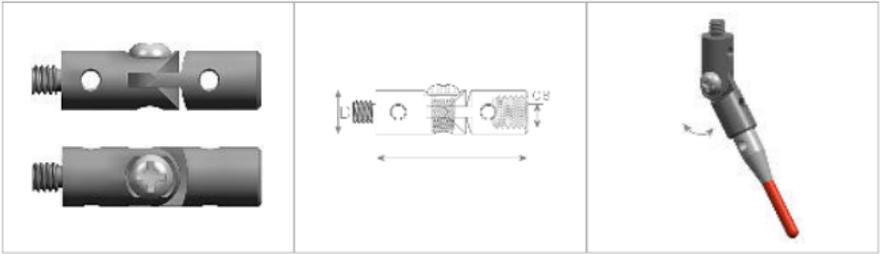
Save time and avoid repositioning
your probe head.



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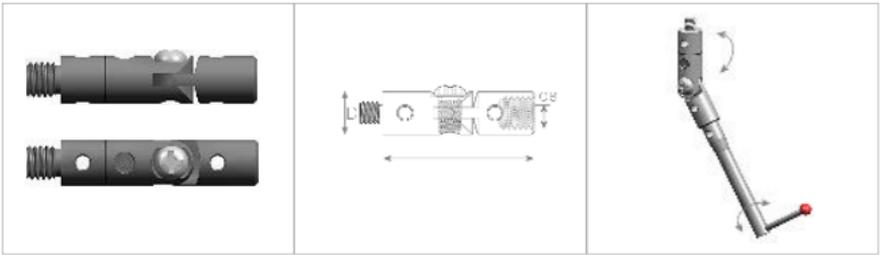
Knuckles

M2



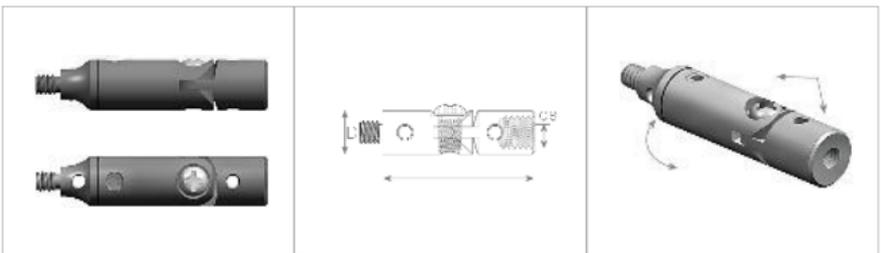
- ⊕ Knuckle joint
- ⊕ Stainless Steel
- ⊕ Screws are replaceable, stainless steel Phillips type

Order Number	dk	ds	L	D	Wt.
STY-N4.0-13.5NGBA	—	—	13.5	4.0	1.1



- ⊕ Knuckle joint, rotary
- ⊕ Stainless Steel
- ⊕ Screws are replaceable, stainless steel Phillips type
- ⊕ Nylon washers for long life

Order Number	dk	ds	L	D	Wt.
STY-N4.0-16NGBD	—	M2	16	4.0	1.4



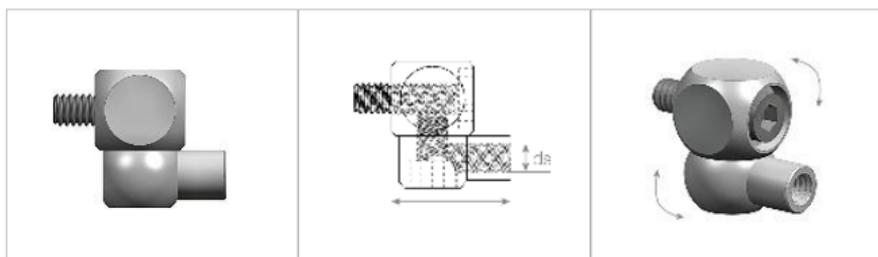
- ⊕ Knuckle joint, rotary
- ⊕ Stainless Steel
- ⊕ Screws are replaceable, stainless steel Phillips type
- ⊕ Nylon washers for long life

Order Number	dk	ds	L	D	Wt.
STY-N5.0-21INGBD	—	M2	21	5.0	2.3

M2
Adapters, Knuckles
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M2

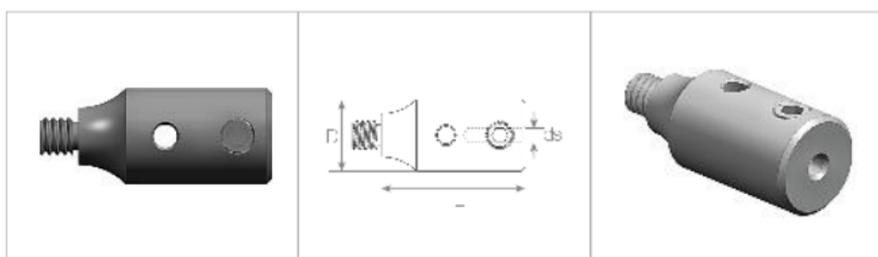
Adapter, Swivel, "R" Type



- ⊕ Stainless Steel
- ⊕ Swivel joint adapter
- ⊕ M2 male to M2 female threads

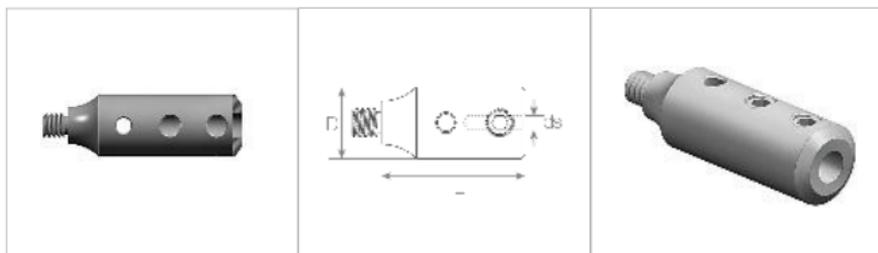
Order Number	L	Male	ds	Wt.
STY-R70K2	8.0	M2	M2	1.6

Crossover Adapters



- ⊕ Adapter, Pin to M2
- ⊕ Stainless Steel
- ⊕ For use with Type F, Type N or Type H pin styli (pages 142-144)

Order Number	dk	ds	L	D	Wt.
STY-N1.0NHZK	—	1.0	10.0	4.0	0.8

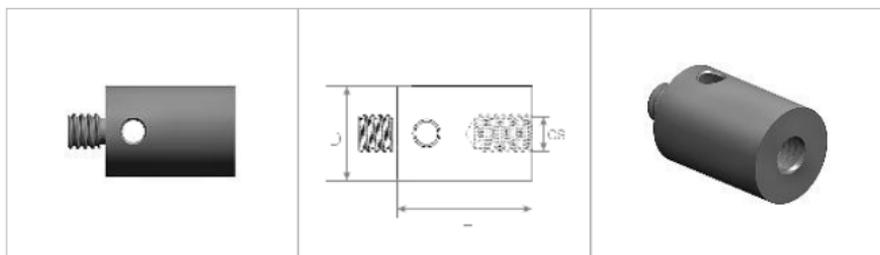


- ⊕ Adapter, Pin to M2
- ⊕ Stainless Steel
- ⊕ For use with Type F, Type N or Type H pin styli (pages 140–142)
- ⊕ Ideal for long pin styli: features two set screws for secure fastening

Order Number	dk	ds	L	D	Wt.
STY-N1.0NHZ	—	1.0	14.0	5.0	1.7
STY-N1.5NHZ	—	1.5	14.0	5.0	1.7
STY-N2.0NHZ	—	2.0	14.0	5.0	1.6
STY-N3.0NHZ	—	3.0	10.0	4.0	0.8

Crossover Adapters

M2



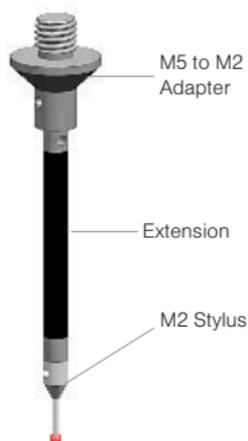
- ⊕ Crossover adapter
- ⊕ Stainless Steel
- ⊕ Use styli of differing threads on M2 probes.

Order Number	Male	ds	L	D	Wt.
STY-NAR25	M2	M2	7.0	5.0	1.0
STY-NAR25-3	M2	M3	7.0	5.0	1.0
STY-NAR26	M2	M2	5.0	5.0	0.7

SOLUTIONS® "How it Works"

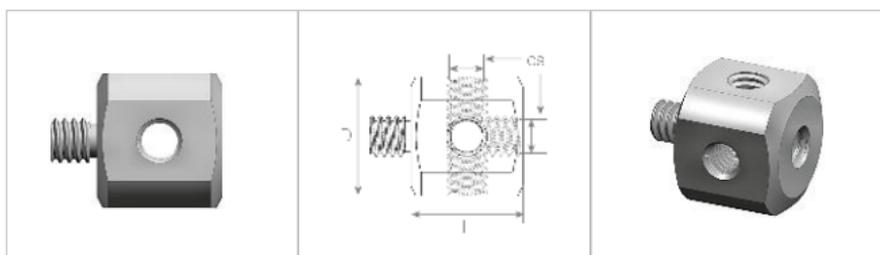
Use crossover adapters to convert styli for use on systems designed for other threads.

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



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Star Adapters

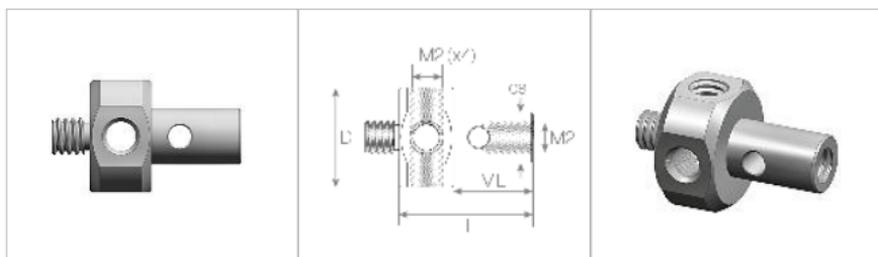


- ⊕ Star adapter
- ⊕ Stainless Steel
- ⊕ Use up to five M2 styli

Order Number	dk	ds	L	D	Wt.
STY-N6.0-5.5-2NTHD	—	M2	5.5	6.0	0.9

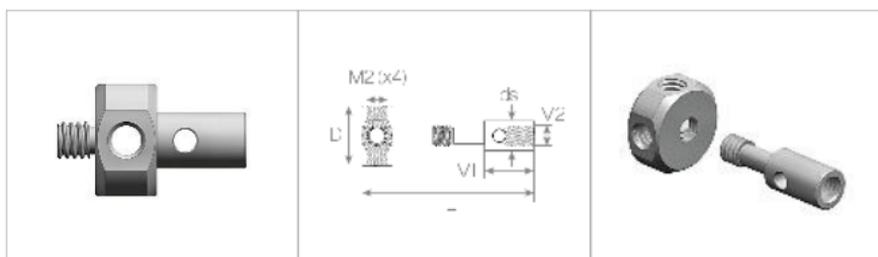
M2

Star Adapters



- ⊕ Adapter, non-rotary
- ⊕ Stainless Steel
- ⊕ Use up to five M2 styli

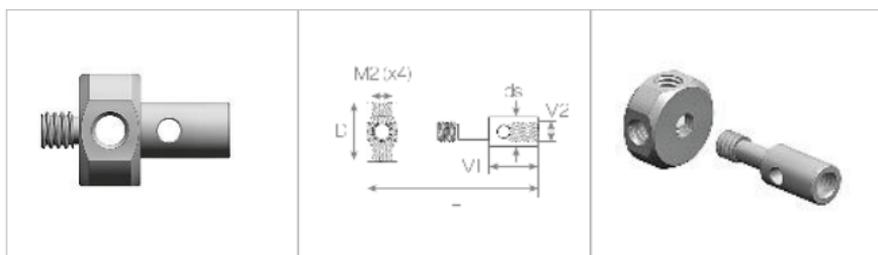
Order Number	ds	L	ML	D	Wt.
STY-N6.0-9NTHA	3.0	9.0	5.0	3.0	1.0



- ⊕ Adapter, rotary
- ⊕ Stainless Steel
- ⊕ Use up to five M2 styli

Order Number	ds	L	ML	D	Wt.
STY-N7.0-8-2NTHF (5 Styli max.)	3.0	8.0	4.5	7.0	1.0
STY-N7.5-8-2NTHG (4 Styli max.)	3.0	8.0	4.5	7.5	1.0

Star Adapters, "R" Type

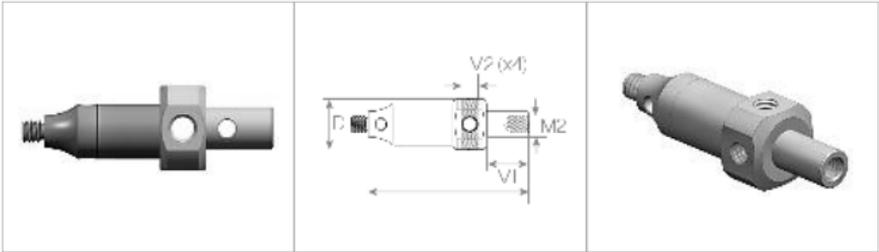


- ⊕ Adapter, rotary
- ⊕ Stainless Steel
- ⊕ Make custom configurations with up to five M2 styli

Order Number	dk	ds	L	D	Wt.
STY-R70C2ROTY	—	—	8.0	5.0	0.8

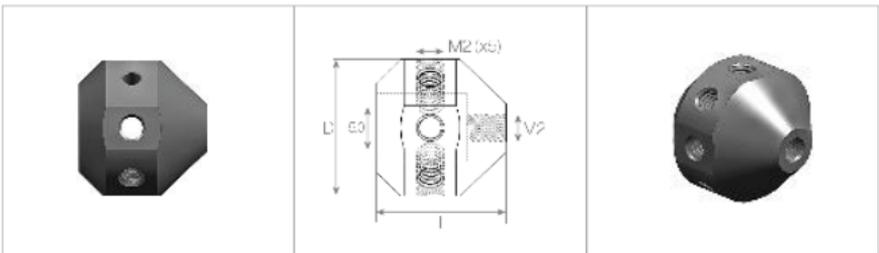
Star Adapters

M2



- ⊕ Adapter, rotary
- ⊕ Stainless Steel
- ⊕ Use up to five M2 styli

Order Number	dk	ds	L	D	ML	Wt.
STY-N6.0-19NTHB	—	—	19.0	5.0	5.0	2.0

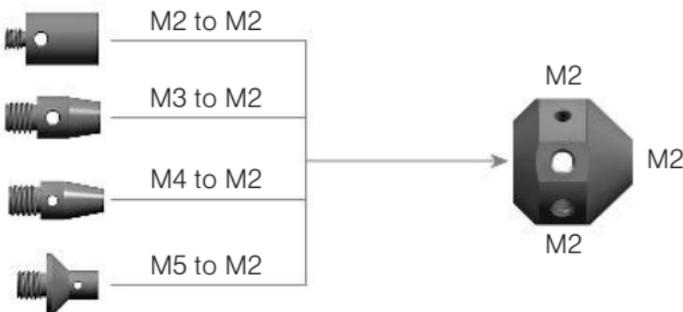


- ⊕ Adapter, rotary
- ⊕ Stainless Steel
- ⊕ Use up to five M2 styli

Order Number	dk	ds	L	D	Wt.
STY-N9.5-9NTHC	—	—	9.0	9.5	2.8

SOLUTIONS® How it Works

Create star configurations that adapt and rotate using crossover adapters on rotary star adapter NTHC. You can position the arms of your star and tighten in desired position. Select the adapter with a thread matching your system.



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M2

Adapters, Star
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M2

Stylus Tools

M2

TOOLS

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- ⊕ Hex wrench for set screws
- ⊕ Steel

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
- ⊕ Used to tighten accessories and set screws.

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



- ⊕ Philips head tool
- ⊕ Used to tighten accessories and set screws.

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

Buy online at www.shopppwm.com



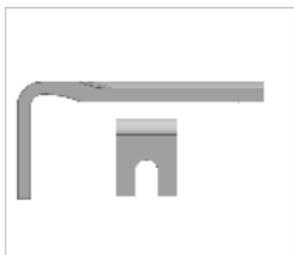
- ⊕ Pin Tool
- ⊕ Used to tighten styli and accessories
- ⊕ Sold in packages of two

Order Number	ds	L	D
STY-N1.0NWST	1.0	40.0	3.0



- ⊕ Pin tool for styli and accessories
- ⊕ Steel

Order Number	ds	L
STY-R70S7	1.18	23.0



- ⊕ Probe spanner wrench
- ⊕ Stainless Steel

Order Number	L
STY-R70S8	21.0



- ⊕ C Spanner wrench
- ⊕ Stainless steel
- ⊕ Used to tighten probe extensions

Order Number	L
STY-13.0NWHA	57.0

M2

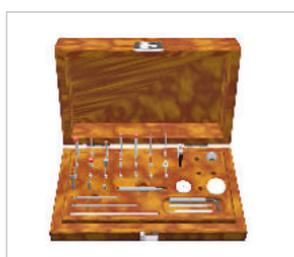
Stylus Tools



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

Order Number	L
STY-R70S1	20.0

Storage Cases



- ⊕ Holds up to 38 (or 93) M2 components
- ⊕ Create a custom kit as your stylus collection grows.

Order Number	Description
STY-N38-2NHSA	Wood storage case with M2 threaded plate holds 38 pieces.
STY-N93-2NHSD	Wood storage case with M2 threaded plate holds 93 pieces.

Storage Plates



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

Order Number	Description
STY-PWMSPM2ALU	Storage plate for M2 styli and accessories

SOLUTIONS®
"How it Works"

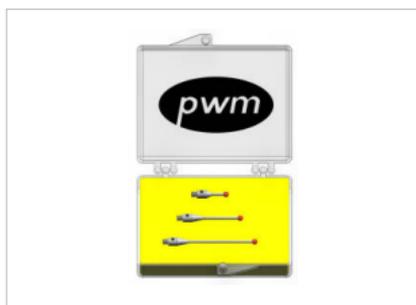
Tighten gently and properly with a set of tools and extend the life of your components. See more tools on pages 40–42.



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3 Piece Kits, Ruby Ball, M2

M2



- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel or Carbide
- ⊕ Plastic case

M2

Stylus Kits
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PWM Order Number STY-KM2-2.0NTBC, 2.0 mm kit, M2

Contents	Qty	Description	Shank
STY-N2.0-11-2NTC	1	Stylus 11 mm x 2.0 mm	SST
STY-N2.0-21-2NTB	1	Stylus 21 mm x 2.0 mm	TC
STY-N2.0-31-2NTB	1	Stylus 31 mm x 2.0 mm	TC



- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel or Carbide
- ⊕ Plastic case

PWM Order Number STY-KM2-3.0NTBC, 3.0 mm kit, M2

Contents	Qty	Description	Shank
STY-N3.0-11.5-2NTC	1	Stylus 11.5 mm x 3.0 mm	SST
STY-N3.0-21.5-2NTC	1	Stylus 21.5 mm x 3.0 mm	SST
STY-N3.0-31.5-2NTB	1	Stylus 31.5 mm x 3.0 mm	TC

SOLUTIONS® "How it works"

All styli sold in kits are the same items as our high quality individual components. Small kits ship in a protective, clear plastic storage case with a foam insert. Items may be replaced individually if lost or damaged.

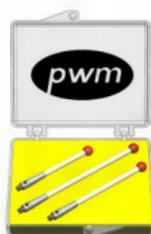
Buy kits and save money.



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M2

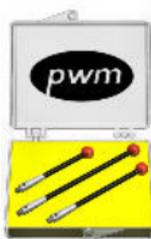
3 Piece Kits, Ruby Ball, M2



- ⊕ Ball: Ruby
- ⊕ Shank: Ceramic
- ⊕ Plastic case

PWM Order Number STY-KM2-4.0NTKE, 4.0 mm kit, M2

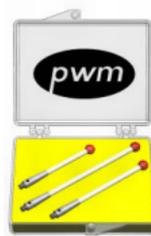
Contents	Qty	Description
STY-N4.0-32-2NTKE	1	Stylus 32 mm x 4.0 mm
STY-N4.0-42-2NTKE	1	Stylus 42 mm x 4.0 mm
STY-N4.0-52-2NTKE	1	Stylus 52 mm x 4.0 mm



- ⊕ Ball: Ruby
- ⊕ Shank: Carbon Fiber
- ⊕ Plastic case

PWM Order Number STY-KM2-4.0NTCA, 4.0 mm kit, M2

Contents	Qty	Description
STY-N4.0-32-2NTCA	1	Stylus 32 mm x 4.0 mm
STY-N4.0-42-2NTCA	1	Stylus 42 mm x 4.0 mm
STY-N4.0-52-2NTCA	1	Stylus 52 mm x 4.0 mm



- ⊕ Ball: Ruby
- ⊕ Shank: Ceramic
- ⊕ Plastic case

PWM Order Number STY-KM2-5.0NTKE, 5.0 mm kit, M2

Contents	Qty	Description
STY-N5.0-32.5-2NTKE	1	Stylus 32.5 mm x 5.0 mm
STY-N5.0-42.5-2NTKE	1	Stylus 42.5 mm x 5.0 mm
STY-N5.0-52.5-2NTKE	1	Stylus 52.5 mm x 5.0 mm

3 Piece Kits, Ruby Ball, M2

M2



- ⊕ Ball: Ruby
- ⊕ Shank: Carbon Fiber
- ⊕ Plastic case

PWM Order Number STY-KM2-5.0NTCA, 5.0 mm kit, M2

Contents	Qty	Description
STY-N5.0-32.5-2NTCA	1	Stylus 32.5 mm x 5.0 mm
STY-N5.0-42.5-2NTCA	1	Stylus 42.5 mm x 5.0 mm
STY-N5.0-52.5-2NTCA	1	Stylus 52.5 mm x 5.0 mm

4 Piece Kit, Sheet Metal, M2



- ⊕ Tip: Stainless Steel, Carbide or Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Plastic case

PWM Order Number STY-KM2NZSD, sheet metal kit, M2

Contents	Qty	Description
STY-N2.0-11NZTS	1	Cylinder, 11 mm x 2.0 mm, SST
STY-N2.0-40NZSD	1	Cylinder, 40 mm x 2.0 mm, SST
STY-N30-10NTS	1	Pointer, 10 mm x 30° point, TC
STY-R7035R	1	Stylus, 20 mm x 3.0 mm, ruby

See more sheet metal and cylinder styli on pages 27–30.



Carbide and Stainless Steel Cylinders



Ruby Cylinders



Ceramic or Sapphire Cylinders

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- ⊕ Shank: Stainless Steel
- ⊕ Plastic case

PWM Order Number STY-KM2NV, extension kit, SST, M2

Contents	Qty	Description
STY-N10-2NV	1	Extension, 10 mm long
STY-N20-2NV	1	Extension, 20 mm long
STY-N30-2NV	1	Extension, 30 mm long



- ⊕ Shank: Ceramic
- ⊕ Plastic case

PWM Order Number STY-KM2NVKE, extension kit, SST, M2

Contents	Qty	Description
STY-N30-2NVKE	1	Extension, 30 mm long
STY-N40-2NVKE	1	Extension, 40 mm long
STY-N60-2NVKE	1	Extension, 60 mm long



- ⊕ Shank: Carbon Fiber
- ⊕ Plastic case

PWM Order Number STY-KM2NVCA, extension kit, SST, M2

Contents	Qty	Description
STY-N30-2NVCA	1	Extension, 30 mm long
STY-N40-2NVCA	1	Extension, 40 mm long
STY-N60-2NVCA	1	Extension, 60 mm long



- ⊕ Basic tool selection for new users
- ⊕ Economical designs
- ⊕ Great for training

PWM Order Number STY-KM2-TOOL, tool kit		
Contents	Qty	Description
STY-HW1.5	1	Hex key, 1.5 mm
STY-HW2.0	1	Hex key, 2.0 mm
STY-R70S1	1	C spanner, single ended
STY-R70S7	2	Stylus tightening tool
STY-R70S8	1	Probe spanner

Solutions®
“How it works”

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



Hex Keys, for tightening set screws



Pin Keys, for tightening stylus and accessory assemblies



Philips Head, for tightening set screws and accessories



Probe spanner, for tightening extensions into probes



See more tools on pages 40–42.

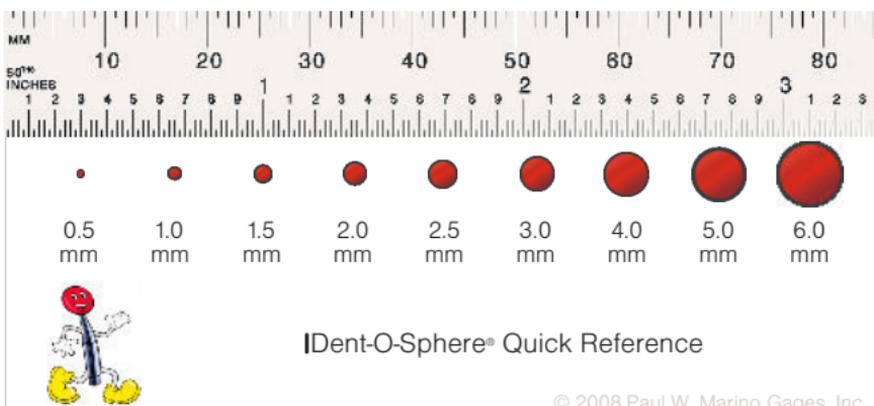
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- ⊕ Kit features our most requested styli and accessories
- ⊕ Kit contents: 8 ruby styli, 1 point, 5 extensions, 2 adapters, 4 tools, 1 wooden case

PWM Order Number: STY-N20-2NTA, 21 piece stylus kit in wooden case

Contents	Qty	Description
STY-N1.0-10.5-2NTB	1	Stylus 10.5mm x 1.0mm
STY-N1.0-15.5-2NTB	1	Stylus 15.5mm x 1.0mm
STY-N2.0-11-2NTB	1	Stylus 11mm x 2.0mm
STY-N2.0-16-2NTB	1	Stylus 16mm x 2.0mm
STY-N4.0-12-2NTC	1	Stylus 12mm x 4.0mm
STY-N4.0-22-2NTC	1	Stylus 22mm x 4.0mm
STY-N6.0-13-2NTD	1	Stylus 13mm x 6.0mm
STY-N6.0-28-2NTD	1	Stylus 28mm x 6.0mm
STY-N30-10NTS	1	Stylus point 10mm x 30°
STY-N5NV	1	Extension 5mm
STY-N10NV	1	Extension 10mm
STY-N20NV	1	Extension 20mm
STY-N40NV	1	Extension 40mm
STY-N60NV	1	Extension 60mm
STY-N4.0-16-2NGBD	1	Knuckle joint 16mm x 4.0mm
STY-N10.0-9-2NTHC	1	Stylus holder for 5 M2 Styli
STY-N0.9NWSE	1	Hexagon key 0.9mm
STY-N1.0NWST	2	Pin key, 1.0mm
STY-N2.5-NWKR	1	Cross-point key, 2.5mm
STY-N38-2NHSA	1	Wooden case for 38 pieces



M2 Stylus Kit, 41 Pieces

M2



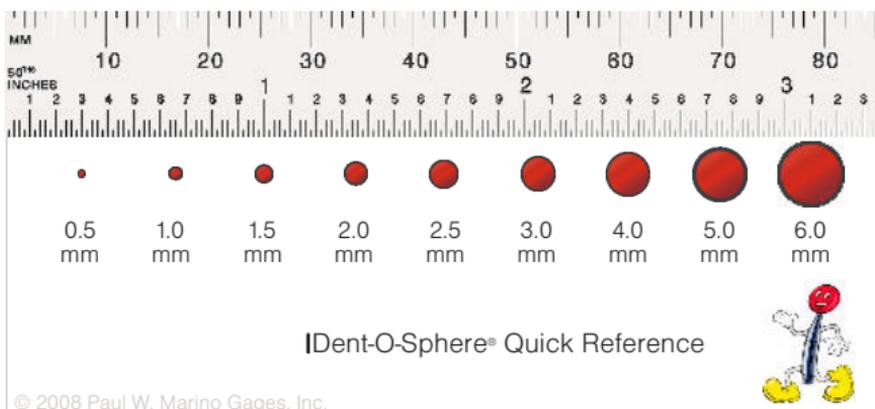
- ⊕ Kit features our most requested styli and accessories
- ⊕ Kit contents: 24 ruby styli, 1 point, 9 extensions, 2 adapters, 4 tools, 1 wooden case

M2

Stylus Kits
© 2006 Paul W. Marino Gages, Inc.

PWM Order Number STY-N40-2NTB, 41 piece stylus kit in wooden box

Contents	Qty	Description
STY-N1.0-10.5-2NTB	3	Stylus 10.5mm x 1.0mm
STY-N1.0-15.5-2NTB	3	Stylus 15.5mm x 1.0mm
STY-N2.0-11-2NTC	3	Stylus 11mm x 2.0mm
STY-N2.0-16-2NTC	3	Stylus 16mm x 2.0mm
STY-N4.0-12-2NTC	3	Stylus 12mm x 4.0mm
STY-N4.0-22-2NTC	3	Stylus 22mm x 4.0mm
STY-N6.0-13-2NTD	3	Stylus 13mm x 6.0mm
STY-N6.0-28-2NTD	3	Stylus 28 mm x 6.0 mm
STY-N30-10-2NTS	1	Stylus point 10mm x 30°
STY-N10NV	3	Extension 10mm
STY-N20NV	3	Extension 20mm
STY-N40NV	1	Extension 40mm
STY-N60NV	1	Extension 60mm
STY-N80NV	1	Extension 80mm
STY-N4.0-16-2NGBD	1	Knuckle joint 16mm x 4.0mm
STY-N7.0-8-2NTHF	1	Stylus holder, rotary for 5 Styli
STY-N0.9NWSE	1	Hexagon key, 0.9mm
STY-N1.0NWST	2	Pin key 1.0mm
STY-N2.5NWKR	1	Cross-point key 2.5mm
STY-N93-2NHSD	1	Wooden case for 93 pieces



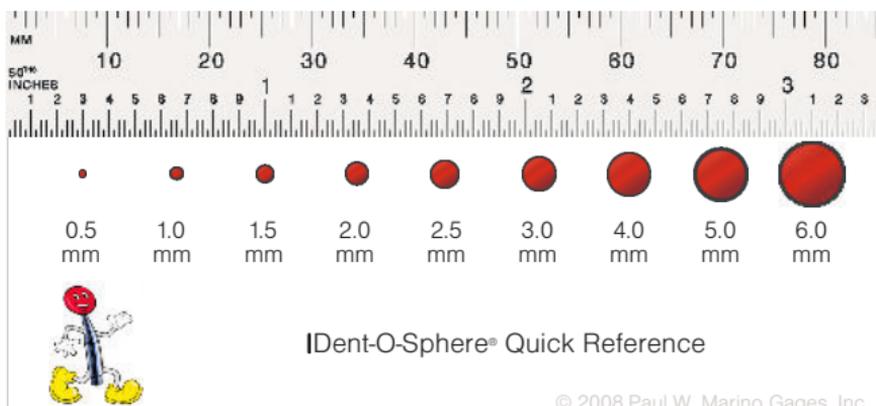


- ⊕ Kit features our most requested styli and accessories
- ⊕ Kit contents: 37 ruby styli, 2 cylinder styli, 2 discs, 2 stars, 1 point, 13 extensions, 3 adapters, 4 tools, 1 wooden case

PWM Order Number STY-N63NTBC, 65 piece stylus kit in wooden case

Contents	Qty	Description
STY-N0.5-10-2NTA	1	Stylus 10mm x 0.5mm
STY-N1.0-10.5-2NTB	4	Stylus 10.5mm x 1.0mm
STY-N1.0-15.5-2NTB	4	Stylus 15.5mm x 1.0mm
STY-N1.5-16-2NTB	1	Stylus 16mm x 1.5mm
STY-N2.5-21-2NTB	1	Stylus 21mm x 2.5mm
STY-N2.0-11-2NTC	4	Stylus 11mm x 2.0mm
STY-N2.0-16-2NTC	4	Stylus 16mm x 2.0mm
STY-N3.0-21.5-2NTC	1	Stylus 21.5mm x 3.0mm
STY-N4.0-12-2NTC	4	Stylus 12mm x 4.0mm
STY-N4.0-22-2NTC	4	Stylus 22mm x 4.0mm
STY-N5.0-27.5-2NTD	1	Stylus 27.5mm x 5.0mm
STY-N6.0-13-2NTD	4	Stylus 13mm x 6.0mm
STY-N6.0-28-2NTD	4	Stylus 28mm x 6.0mm
STY-N4.0-22-2NZRB	1	Stylus cylinder 22mm x 4.0mm
STY-N1.5-14-2NZTH	1	Stylus cylinder 14mm x 1.5mm
STY-N10.0-25-2NKSK	1	Stylus ball/disc 25mm x 10.0mm
STY-N25.0-12-2NKSD	1	Stylus ball/disc 12mm x 25.0mm
STY-N1.0-12-2NSTK	1	Stylus star 12mm x 1.0mm
STY-N2.0-22-2NTSE	1	Stylus star 22mm x 2.0mm
STY-N30-10-2NTS	1	Stylus point 10mm x 30°

Continued on next page



PWM Order Number STY-N63NTBC continued from previous page

Contents	Qty	Description
STY-N10NV	4	Extension 10mm
STY-N20NV	4	Extension 20mm
STY-N30NV	1	Extension 30mm
STY-N40NV	1	Extension 40mm
STY-N60NV	1	Extension 60mm
STY-N80NV	1	Extension 80mm
STY-N100NV	1	Extension 100mm
STY-N4.0-12-2NDS	1	Adapter rotary
STY-N7.0-8-2NTHF	1	Adapter rotary for 5 styli
STY-N4.0-16-2NGBD	1	Knuckle joint rotary
STY-N0.9NWSE	1	Hex key 0.9mm
STY-N1.0NWST	2	Pin key 1.0mm
STY-N2.5NWKR	1	Cross-point key 2.5mm
STY-N93-2NHSD	1	Wooden case for 93 pieces

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.

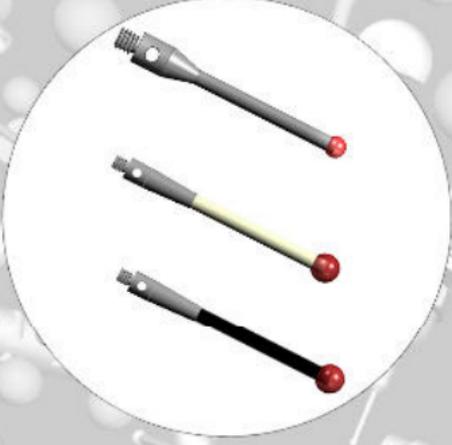
The threaded storage plate contains several extra recesses allowing for the expansion or customization of standard kits.

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



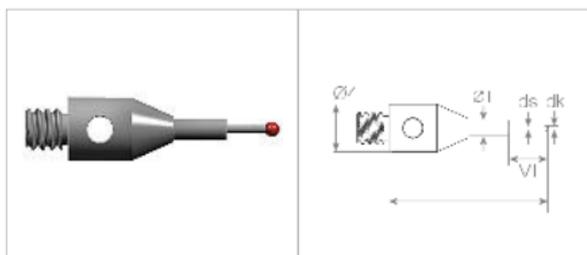
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Buy online at www.shop_pwm.com



M3

Ruby Ball Styli, Carbide Shank



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

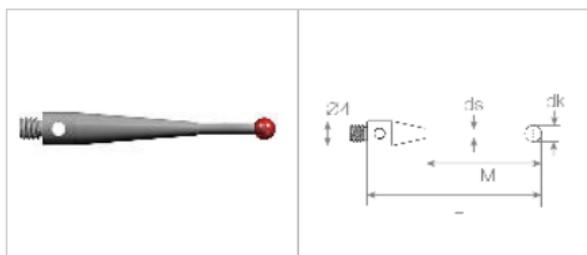
M3

Ruby Ball Styli

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Order Number	dk	ds	L	ML	Wt.
STY-N0.2-11-3NTA	0.2	0.15	10.0	1.5	0.4
STY-N0.25-11-3NTA	0.25	0.2	10.0	2.5	0.4
STY-N0.3-11-3NTA	0.3	0.2	10.0	2.5	0.4
STY-N0.4-11-3NTA	0.4	0.3	10.0	2.5	0.4
STY-N0.5-11-3NTA	0.5	0.3	10.0	2.5	0.4
STY-N0.6-11-3NTA	0.6	0.4	10.0	2.5	0.4
STY-N0.6-13-3NTA	0.6	0.4	12.2	4.5	0.4
STY-N0.7-11-3NTA	0.7	0.4	10.0	2.5	0.4
STY-N0.7-13-3NTA	0.7	0.4	12.2	4.5	0.4
STY-N0.8-11-3NTA	0.8	0.6	10.0	2.5	0.4
STY-N0.8-13-3NTA	0.8	0.6	12.2	4.5	0.4
STY-N0.9-11-3NTA	0.9	0.6	10.0	2.5	0.4
STY-N0.9-13-3NTA	0.9	0.6	12.2	4.5	0.4
STY-N1.0-11-3NTA	1.0	0.8	10.0	2.5	0.7
STY-N1.0-13-3NTA	1.0	0.8	12.2	4.5	0.7

Ruby Ball Styli, Carbide Shank



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

Order Number	dk	ds	L	ML	Wt.
STY-N0.5-21-3NTBS	0.5	0.3	21.0	2.5	1.0

SOLUTIONS®
"How it

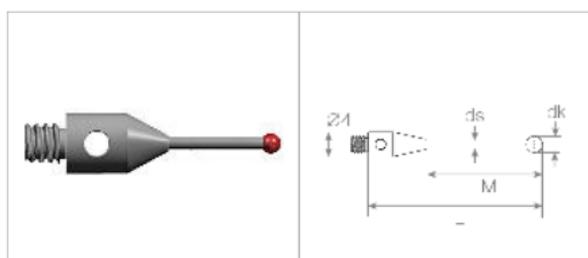
Use these tools to properly assemble your styli configurations. See more on pages 70-72.



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Ruby Ball Styli, Carbide Shank

M3



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

Order Number	dk	ds	L	ML	Wt.
STY-N1.0-10.5-3NTB	1.0	0.7	10.5	4.5	0.7
STY-N1.0-15.5-3NTB	1.0	0.7	15.5	7.5	0.7
STY-N1.0-20.5-3NTB	1.0	0.7	20.5	12.5	0.7
STY-N1.5-16-3NTB	1.5	0.7	16.0	8.0	0.6
STY-N1.5-21-3NTB	1.5	0.7	21.0	13.0	0.6
STY-N1.5-31-3NTB	1.5	0.7	31.0	23.0	1.0
STY-N2.0-16-3NTB	2.0	1.0	16.0	8.0	0.7
STY-N2.0-21-3NTB	2.0	1.0	21.0	13.0	0.7
STY-N2.0-26-3NTB	2.0	1.0	26.0	18.0	0.8
STY-N2.0-31-3NTB	2.0	1.0	31.0	23.0	0.9
STY-N2.0-36-3NTB	2.0	1.0	36.0	28.0	0.9
STY-N2.0-41-3NTB	2.0	1.0	41.0	33.0	1.0
STY-N2.5-16-3NTB	2.5	1.0	16.0	8.0	0.7
STY-N2.5-21-3NTB	2.5	1.0	21.0	13.0	0.7
STY-N2.5-31-3NTB	2.5	1.5	31.0	23.0	1.3
STY-N2.5-41-3NTB	2.5	1.5	41.0	33.0	1.5
STY-N3.0-31.5-3NTB	3.0	1.5	31.5	23.5	1.4
STY-N3.0-36.5-3NTB	3.0	1.5	36.5	28.5	1.5
STY-N3.0-41.5-3NTB	3.0	1.5	41.5	33.5	1.6
STY-N3.0-46.5-3NTB	3.0	1.5	46.5	38.5	1.8
STY-N3.0-51.5-3NTB	3.0	1.5	51.5	43.5	1.9

Continued on next page

SOLUTIONS®
"How it works"

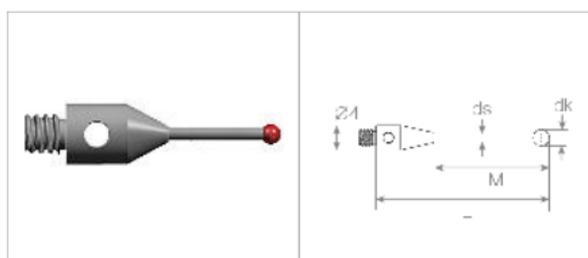
"Tungsten Carbide"

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.



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

Continued from previous page

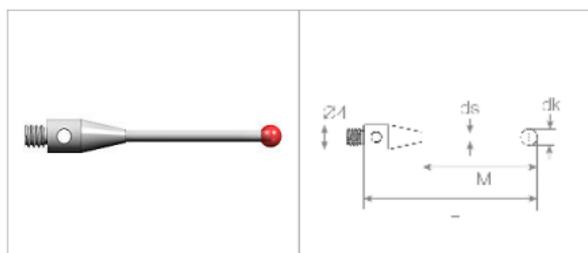
Order Number	dk	ds	L	ML	Wt.
STY-N4.0-32-3NTB	4.0	2.0	32.0	24.0	1.9
STY-N4.0-37-3NTB	4.0	2.0	37.0	29.0	2.1
STY-N4.0-42-3NTB	4.0	2.0	42.0	34.0	2.4
STY-N4.0-47-3NTB	4.0	2.0	47.0	39.0	2.6
STY-N4.0-52-3NTB	4.0	2.0	52.0	44.0	2.8
STY-N5.0-32.5-3NTB	5.0	2.0	32.5	24.5	2.0
STY-N5.0-37.5-3NTB	5.0	2.0	37.5	29.5	2.3
STY-N5.0-42.5-3NTB	5.0	2.0	42.5	34.5	2.5
STY-N5.0-47.5-3NTB	5.0	2.0	47.5	39.5	2.7
STY-N5.0-52.5-3NTB	5.0	2.0	52.5	44.5	2.9
STY-N6.0-33-3NTB	6.0	2.0	33.0	25.0	2.2
STY-N6.0-38-3NTB	6.0	2.0	38.0	33.0	2.4
STY-N6.0-43-3NTB	6.0	2.0	43.0	35.0	2.7
STY-N6.0-48-3NTB	6.0	2.0	48.0	40.0	2.9
STY-N6.0-53-3NTB	6.0	2.0	53.0	45.0	3.1

SOLUTIONS® "How it Works"

Long shanks at work



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

Order Number	dk	ds	L	ML	Wt.
STY-N1.0-21.5-3NTC	1.0	0.7	21.5	5.0	1.0
STY-N2.0-11-3NTC	2.0	1.2	11.0	5.0	0.6
STY-N2.0-16-3NTC	2.0	1.2	16.0	10.0	0.6
STY-N2.0-22-3NTC	2.0	1.4	22.0	8.0	1.0
STY-N2.5-21-3NTC	2.5	1.5	21.0	15.0	0.6
STY-N3.0-11.5-3NTC	3.0	2.0	11.5	5.5	0.7
STY-N3.0-21.5-3NTC	3.0	2.0	21.5	15.5	0.8
STY-N3.0-22.5-3NTC	3.0	2.0	22.5	16.5	0.8
STY-N4.0-12-3NTC	4.0	2.4	12.0	6.0	0.8
STY-N4.0-22-3NTC	4.0	2.4	22.0	16.0	1.1
STY-N4.0-23-3NTC	4.0	2.4	23.0	17.0	1.1
STY-N4.0-33-3NTC	4.0	2.5	33.0	27.0	1.4
STY-N5.0-23.5-3NTC	5.0	3.0	23.5	17.5	1.5
STY-N5.0-33.5-3NTC	5.0	3.0	33.5	29.5	2.5
STY-N6.0-13-3NTC	6.0	2.8	13.0	7.0	1.2
STY-N6.0-28-3NTC	6.0	3.0	28.0	22.0	2.0

M3

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

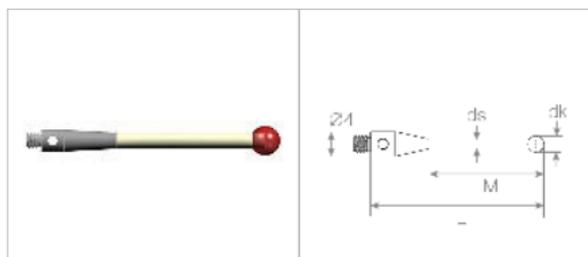
Carbon Fiber:

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

Buy online at www.shoppwm.com



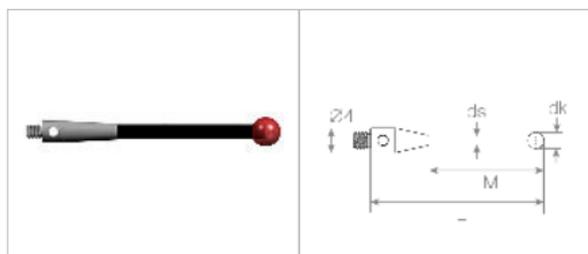
Ruby Ball Styli, Ceramic Shank



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

Order Number	dk	ds	L	ML	Wt.
STY-N3.0-51.5-3NTKE	3.0	2.0	51.5	41.5	1.3
STY-N4.0-32-3NTKE	4.0	2.0	32.0	22.0	1.7
STY-N4.0-42-3NTKE	4.0	2.0	42.0	32.0	1.8
STY-N4.0-52-3NTKE	4.0	2.0	52.0	42.0	1.9
STY-N5.0-42.5-3NTKE	5.0	3.0	42.5	32.5	2.2
STY-N5.0-52.5-3NTKE	5.0	3.0	52.5	42.5	2.5
STY-N5.0-62.5-3NTKE	5.0	3.0	62.5	52.5	2.7
STY-N6.0-43-3NTKE	6.0	3.0	43.0	33.0	2.5
STY-N6.0-53-3NTKE	6.0	3.0	53.0	43.0	2.7
STY-N6.0-63-3NTKE	6.0	3.0	63.0	53.0	3.0

Ruby Ball Styli, Carbon Fiber Shank



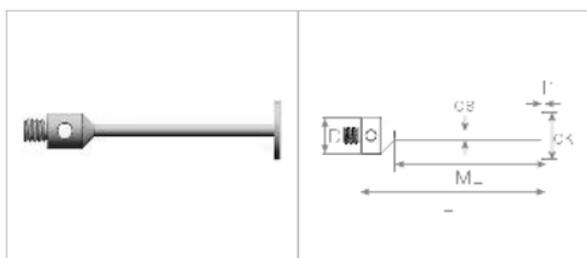
- ⊕ Ball: Ruby
- ⊕ Shank: Carbon Fiber
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

Order Number	dk	ds	L	ML	Wt.
STY-N4.0-32-3NTCA	4.0	3.0	32.0	22.0	1.1
STY-N4.0-42-3NTCA	4.0	3.0	42.0	32.0	1.2
STY-N4.0-52-3NTCA	4.0	3.0	52.0	42.0	1.2
STY-N5.0-42.5-3NTCA	5.0	3.0	42.5	32.5	1.4
STY-N5.0-52.5-3NTCA	5.0	3.0	52.5	42.5	1.5
STY-N5.0-62.5-3NTCA	5.0	3.0	62.5	52.5	1.6
STY-N6.0-43-3NTCA	6.0	3.0	43.0	33.0	1.6
STY-N6.0-53-3NTCA	6.0	3.0	53.0	43.0	1.7
STY-N6.0-63-3NTCA	6.0	3.0	63.0	53.0	1.8

"Specials are our specialty"®

Disc Styli, Ceramic

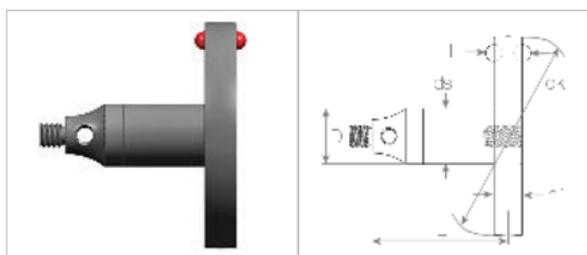
M3



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

Order Number	L	H1	dk	ds	D	Wt.
STY-N5.0-20-3NKSK	20.0	0.5	5.0	1.5	4.0	0.9
STY-N10.0-25-3NKSK	25.0	0.8	10.0	2.0	4.0	1.8
STY-N14.0-25-3NKSK	25.0	1.0	14.0	2.0	4.0	3.3

Disc Styli, Steel / Ruby

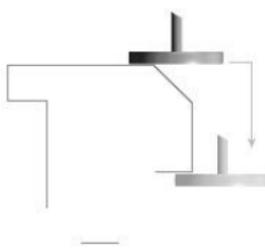
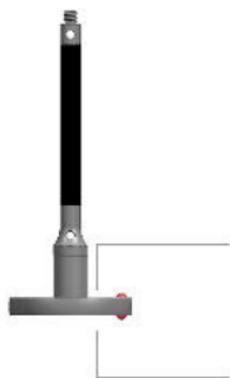


- ⊕ Ball: Ruby
- ⊕ Disc: Stainless Steel
- ⊕ Ferrule: Rotary
- ⊕ Ferrule: Stainless Steel

Order Number	L	H1	H	dk	D	Wt.
STY-N18.0-12-3NKSD	12.0	4.0	2.5	18.0	5.0	3.1
STY-N25.0-12-3NKSD	12.0	4.0	2.5	25.0	5.0	4.2
STY-N40.0-12-3NKSD	12.0	6.0	4.0	40.0	5.0	11.3

SOLUTIONS®
"How it Works"

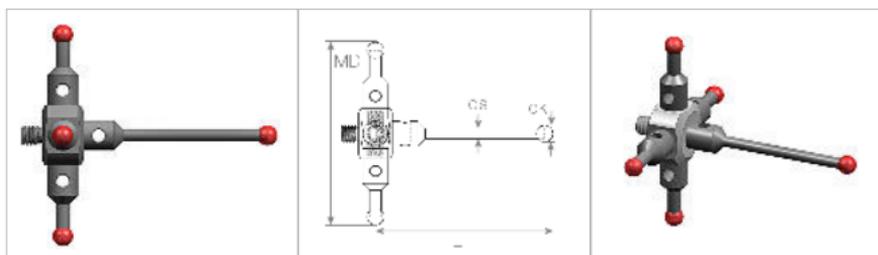
Select disc styli for notches and grooves. Use a lightweight extension and a knuckle for difficult to access bores.



"Be Creative"



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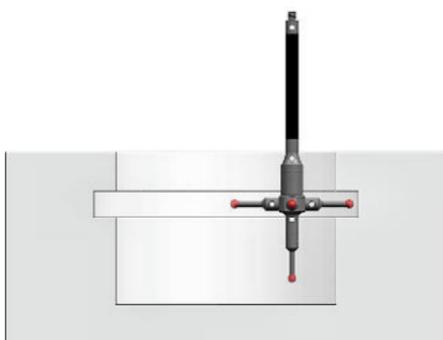


- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Stainless Steel, Rotary
- ⊕ Set your probe and lock in on orientation.

Order Number	L	dk	ds	MD	Wt.
STY-N2.0-32-3NSTE	21.0	2.0	1.4	32.0	7.8
STY-N2.0-52-3NSTE	31.0	2.0	1.4	52.0	8.4

SOLUTIONS® "Be Creative"

PWM star styli are available with standard fixed arms or create your own custom design with a star adapter on pages 68-69 and any combination of M2 styli. Add a knuckle adapter shown on pages 66-67 for angled access.



Star styli are great for bores with undercuts and ideal for fixed position probe heads.

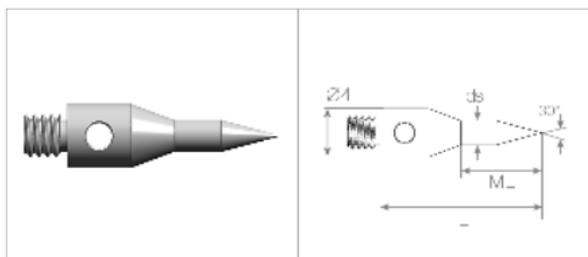
Avoid having to reposition your probe.



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Point Styli, Carbide

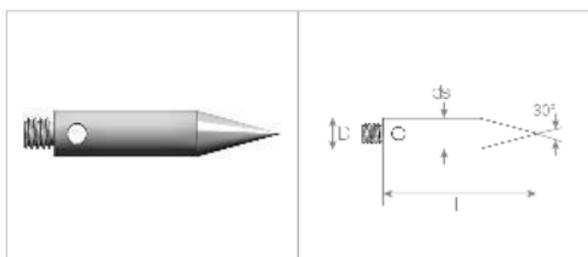
M3



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

Order Number	L	ML	ds	Point	Wt.
STY-N30-13-3NTS	13.0	5.0	1.5	30°	0.7
STY-N60-13-3NTS	13.0	5.0	1.5	60°	0.7

Point Stylus / Carbide, "R" Type



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

Order Number	L	ds	D	Point	Wt.
STY-R7020-M3	15.0	3.0	3.0	30°	0.7

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.



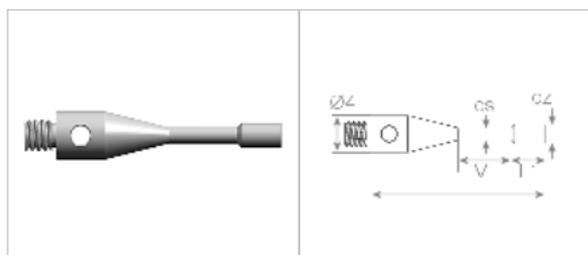
Choose PWM carbide pointer designs for rugged, prolonged use. Check for wear and replace often for best results.



Point Styli
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M3

Cylinder Styli, Carbide

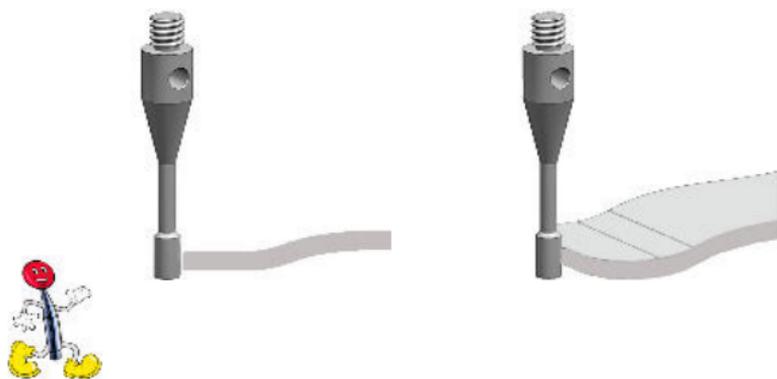


- ⊕ Cylinder: Carbide
- ⊕ Shank: Carbide
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

Order Number	L	ML	L1	dz	ds	Wt.
STY-N1.5-14-3NZTH	14.0	6.0	2.5	1.5	1.0	0.9
STY-N3.0-16-3NZTH	16.0	8.0	3.5	3.0	1.5	1.1

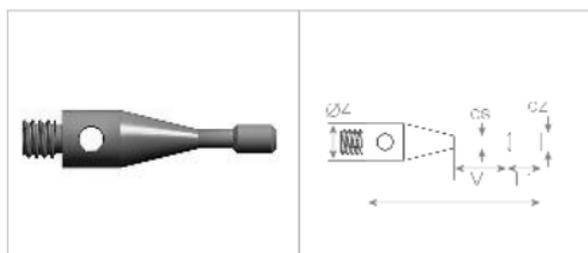
SOLUTIONS®
How it Works

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



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Cylinder Styli, Steel

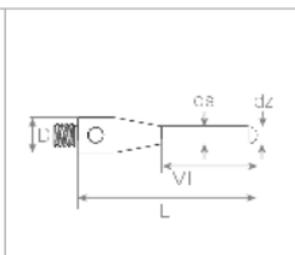


- ⊕ Cylinder: Stainless Steel
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

Order Number	L	ML	L1	dz	ds	Wt.
STY-N1.5-3NZTS	13.0	4.0	1.5	1.5	1.0	0.7
STY-N2.0-13-3NZTS	13.0	4.0	2.0	2.0	1.5	0.8
STY-N2.5-15-3NZTS	15.0	5.5	2.5	2.5	1.7	0.9
STY-N3.0-15-3NZTS	15.0	5.5	4.0	3.0	2.0	1.0

Cylinder Styli, Steel / Ruby

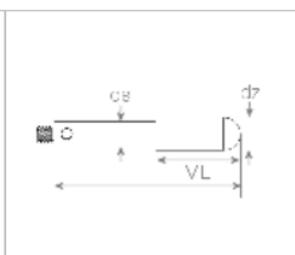
M3



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

Order Number	L	ML	L1	dz	ds	Wt.
STY-N2.0-16-3NZRA	16.0	8.0	5.0	2.0	—	0.7
STY-N3.0-22-3NZRA	22.0	14.0	10.0	3.0	—	0.9

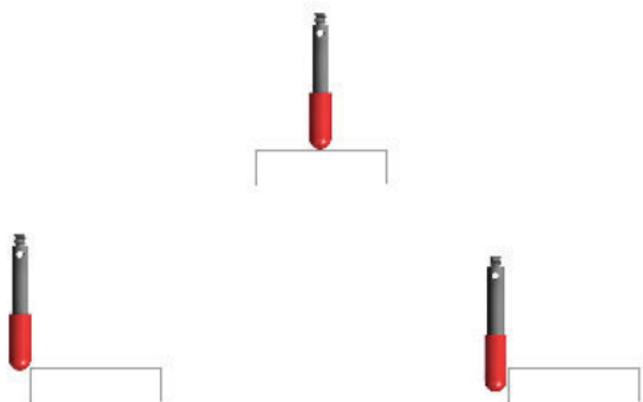
Cylinder Styli, Steel / Ruby



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

Order Number	L	ML	L1	dk	ds	Wt.
STY-N4.0-22-3NZRB	22.0	10.0	—	4.0	4.0	1.6

SOLUTIONS®
"How it Works"



Cylinder styli are designed for sheet metal edge and surface measurements.

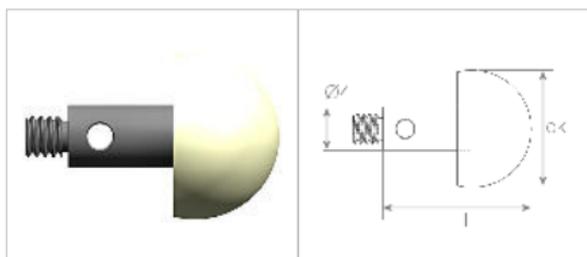
See page 45 for special sheet metal kits and save.



M3
Cylinder Styli
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M3

Half Sphere Styli, Steel / Ceramic

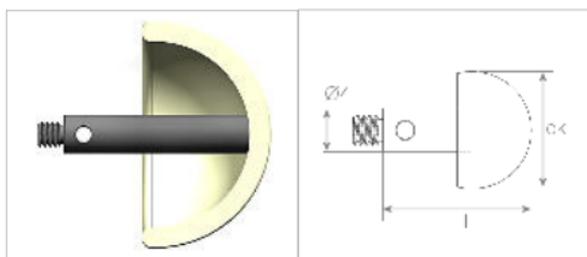


- ⊕ Sphere: Ceramic, Solid
- ⊕ Shank: Stainless Steel

M3

Order Number	L	ML	L1	dk	ds	Wt.
STY-N8.0-10-3NKK	10.0	—	—	8.0	—	1.4
STY-N10.0-11-3NKK	11.0	—	—	10.0	—	2.0

Sphere Styli, Hollow, Steel / Ceramic

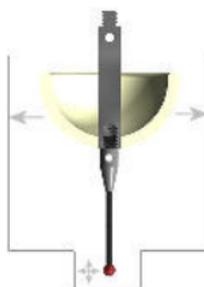
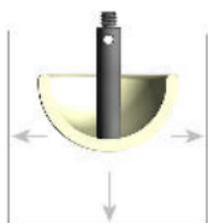


- ⊕ Sphere, Ceramic, hollow
- ⊕ Shank: Stainless Steel

Order Number	L	ML	L1	dk	ds	Wt.
STY-N18.0-16-3NHKE	16.0	—	—	18.0	—	4.9
STY-N24.0-19-3NHKE	19.0	—	—	24.0	—	9.2
STY-N30.0-22-3NHKE	22.0	—	—	30.0	—	13.4

SOLUTIONS®
"How it works"

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

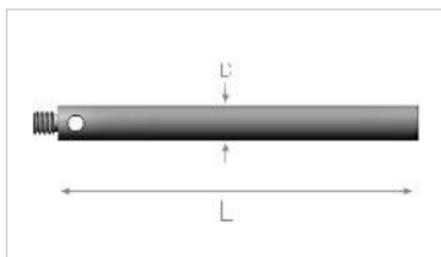


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Extensions, Stainless Steel

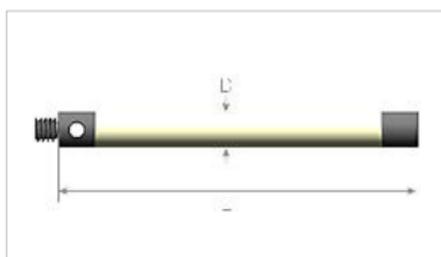
M3



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

Order Number	L	ML	ds	D	Wt.
STY-N10-3NV	10.0	—	—	4.0	0.7
STY-N20-3NV	20.0	—	—	4.0	1.3
STY-N30-3NV	30.0	—	—	4.0	1.8
STY-N35-3NV	35.0	—	—	4.0	2.2
STY-N40-3NV	40.0	—	—	4.0	2.4
STY-N50-3NV	50.0	—	—	4.0	2.9

Extensions, Ceramic



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

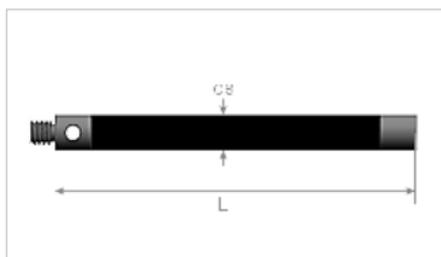
Order Number	L	ML	ds	D	Wt.
STY-N40-3NVK	40.0	—	—	4.0	3.4
STY-N50-3NVK	50.0	—	—	4.0	3.6
STY-N60-3NVK	60.0	—	—	4.0	4.1
STY-N70-3NVK	70.0	—	—	4.0	4.4
STY-N80-3NVK	80.0	—	—	4.0	4.6
STY-N90-3NVK	90.0	—	—	4.0	5.6
STY-N100-3NVK	100.0	—	—	4.0	7.1

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

Order Number	L	ML	ds	D	Wt.
STY-N40-3NVCA	40.0	—	—	4.0	1.4
STY-N50-3NVCA	50.0	—	—	4.0	1.7
STY-N60-3NVCA	60.0	—	—	4.0	1.8
STY-N70-3NVCA	70.0	—	—	4.0	2.1
STY-N80-3NVCA	80.0	—	—	4.0	2.2
STY-N90-3NVCA	90.0	—	—	4.0	2.3
STY-N100-3NCA	100.0	—	—	4.0	2.5

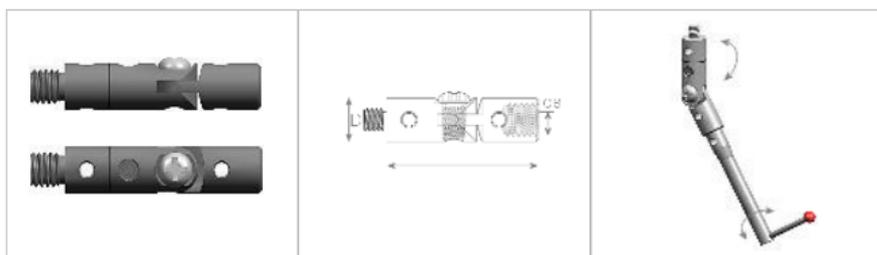
SOLUTIONS® "How it works"



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

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Knuckles

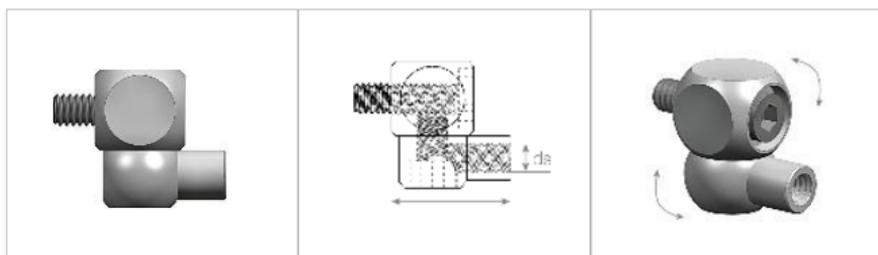


- ⊕ Knuckle joint, rotary
- ⊕ Stainless Steel
- ⊕ Screws are replaceable, stainless steel Phillips type
- ⊕ Nylon washers for long life

Order Number	dk	ds	L	D	Wt.
STY-N4.0-17-3NGBD	—	M3	18.0	4.0	1.5

Adapter, Swivel, "R" Type

M3



- ⊕ Stainless Steel
- ⊕ Swivel joint adapter
- ⊕ M3 male to M3 female threads

Order Number	L	Male	ds	Wt.
STY-R70K3	11.85	M3	M3	3.7

M3

Adapters, Swivel and Crossover
© 2006 Paul W. Marino Gages, Inc.

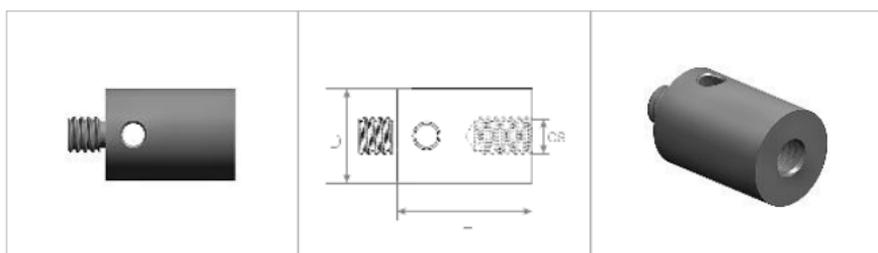
Solutions®
"Be Creative!"

Knuckle
M3 Stylus
Rotary Adapter
Star Stylus

Save time and avoid repositioning your probe head.

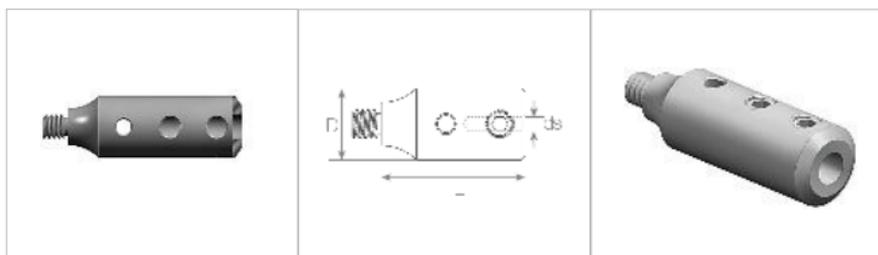
© 2008 Paul W. Marino Gages, Inc.

Crossover Adapters



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

Order Number	Male	ds	L	D	Wt.
STY-NAR6A	M3	M2	5.0	5.0	0.8
STY-NAR6B	M3	M3	6.0	4.0	0.8



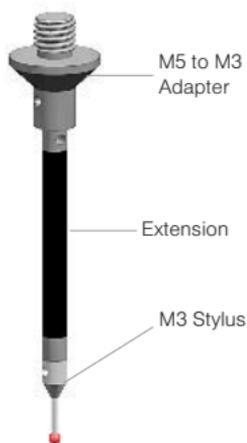
- ⊕ Adapter, Pin to M3
- ⊕ Stainless Steel
- ⊕ For use with Type F, Type N or Type H pin styli (pages 140–142)
- ⊕ Ideal for long pin styli: features two set screws for secure fastening

Order Number	dk	ds	L	D	Wt.
STY-N1.0-3NHZ	—	1.0	14.0	5.0	1.7
STY-N1.5-3NHZ	—	1.5	14.0	5.0	1.7
STY-N2.0-3NHZ	—	2.0	14.0	5.0	2.0

SOLUTIONS® "How it Works"

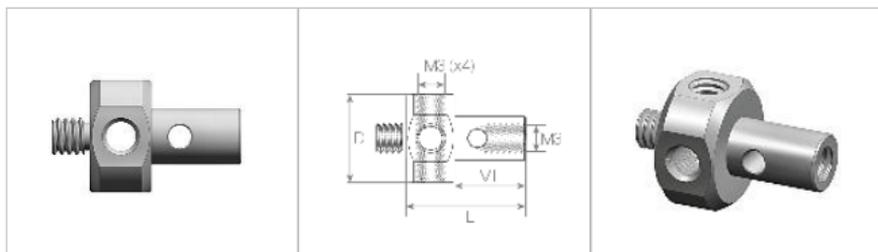
Use crossover adapters to convert styli for use on systems designed for other threads.

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



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Star Adapters

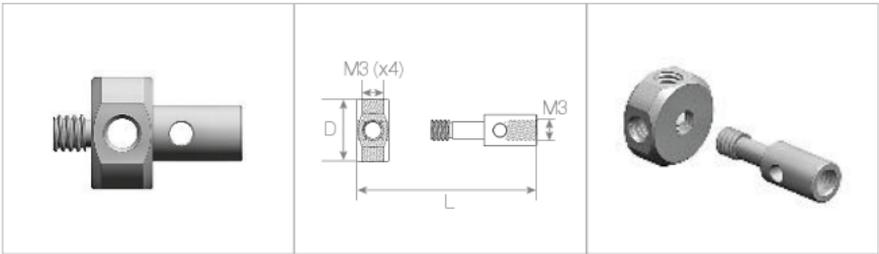


- ⊕ Adapter, non-rotary
- ⊕ Stainless Steel
- ⊕ Use up to five M3 styli

Order Number	ds	L	ML	D	Wt.
STY-N9.0-11-3NTHA	M3	11.0	6.0	9.0	2.6

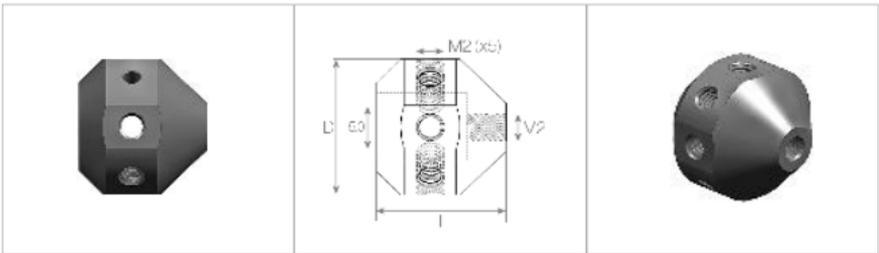
Star Adapters

M3



- ⊕ Adapter, rotary
- ⊕ Stainless Steel
- ⊕ Use up to five M3 styli

Order Number	ds	L	ML	D	Wt.
STY-N10.0-13-3NTHF	M3	13.0	5.5	10.0	3.3

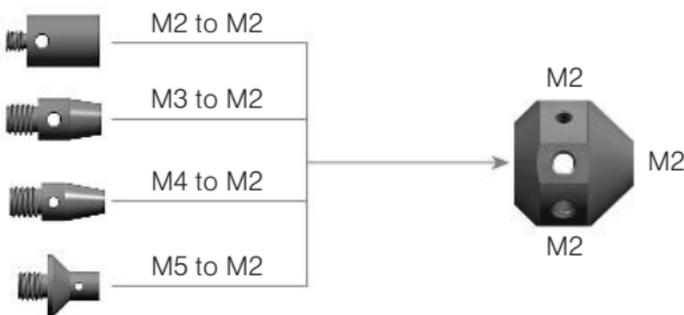


- ⊕ Adapter, rotary
- ⊕ Stainless Steel
- ⊕ Use up to five M2 styli
- ⊕ Use M3 crossover adapters on page 67-68

Order Number	dk	ds	L	D	Wt.
STY-N9.5-9NTHC	—	—	9.0	9.5	2.8

SOLUTIONS® How it Works

Create star configurations that adapt and rotate using crossover adapters on rotary star adapter NTHC. You can position the arms of your star and tighten in desired position. See M2 section for styli that are compatible with this adapter.



M3

Stylus Tools



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

M3

Tools

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 to tighten 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



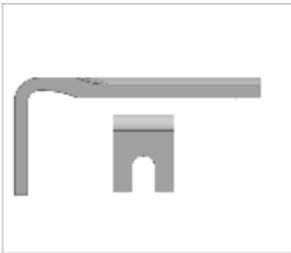
- ⊕ Pin Tool
- ⊕ Steel
- ⊕ Knurled handle
- ⊕ Sold in packs of two
- ⊕ Used to tighten styli and accessories

Order Number	ds	L	D
STY-N1.3NWST	1.3	40.0	3.0



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

Order Number	ds	L
STY-R70S7	1.18	23.0



- ⊕ Spanner wrench
- ⊕ Stainless steel
- ⊕ Holds 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 70-72..

Buy online at www.shoppwm.com





- ⊕ 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

Solutions® "How it works"

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



Hex Keys,
for tightening
set screws



Pin Keys,
for tightening stylus and
accessory assemblies



Philips Head,
for tightening set screws
and accessories



Probe spanner,
for tightening extensions
into probes



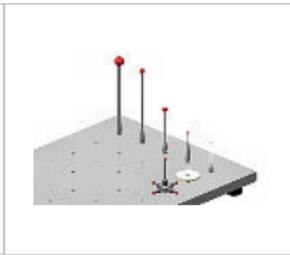
See more tools on
pages 70-72.



- ⊕ Holds up to 24 M3 components
- ⊕ Create a custom kit as your stylus collection grows.

Order Number	Description
STY-N24-3NHSB	Wood storage case with M3 threaded plate holds 24 pieces.

Storage Plates



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

Order Number	Description
STY-PWMSPM3ALU	Storage plate for M3 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.

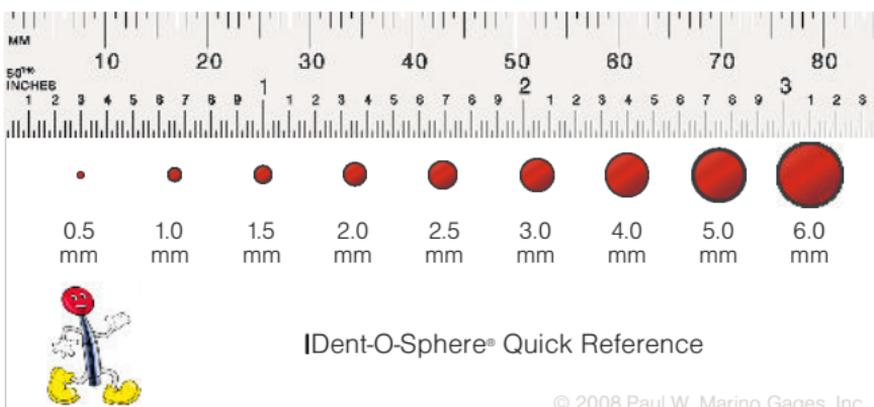


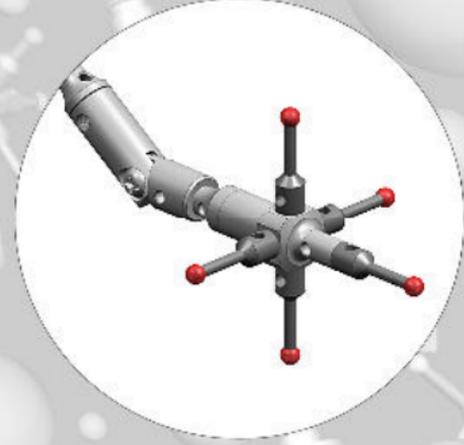


- ⊕ Kit features our most requested styli and accessories
- ⊕ Kit contents: 11 ruby styli, 3 extensions, 2 adapters, 4 tools, 1 wooden case

PWM Order Number: STY-N20-3NTA, 21 piece stylus kit in wooden case

Contents	Qty	Description
STY-N1.0-10.5-3NTB	1	Stylus 10.5mm x 1.0mm
STY-N1.0-20.5-3NTB	1	Stylus 20.5mm x 1.0mm
STY-N2.0-16-3NTB	1	Stylus 16mm x 2.0mm
STY-N2.0-36-3NTB	1	Stylus 36mm x 2.0mm
STY-N3.0-31.5-3NTB	1	Stylus 31.5mm x 3.0mm
STY-N3.0-41.5-3NTB	1	Stylus 41.5mm x 3.0mm
STY-N4.0-32-3NTC	1	Stylus 32mm x 4.0mm
STY-N4.0-42-3NTB	1	Stylus 42mm x 4.0mm
STY-N4.0-52-3NTCA	1	Stylus 52mm x 4.0mm
STY-N5.0-52.5-3NTKE	1	Stylus 52.5mm x 5.0mm
STY-N6.0-63-3NTCA	1	Stylus 63mm x 6.0mm
STY-N10-3NV	1	Extension 10mm
STY-N20-3NV	1	Extension 20mm
STY-N30-3NV	1	Extension 30mm
STY-N4.0-17-3NGBD	1	Knuckle joint 18mm x 4.0mm
STY-N10.0-13-3NTHF	1	Stylus holder for 5 M3 Styli
STY-N0.9NWSE	1	Hexagon key 0.9mm
STY-N1.3NWST	2	Pin key, 1.3mm
STY-N2.5-NWKR	1	Cross-point key, 2.5mm
STY-N24-3NHSB	1	Wooden case for 24 pieces





Centerline Locators

Reference Spheres

Pins

3/8-24

M6 and 1/4-20

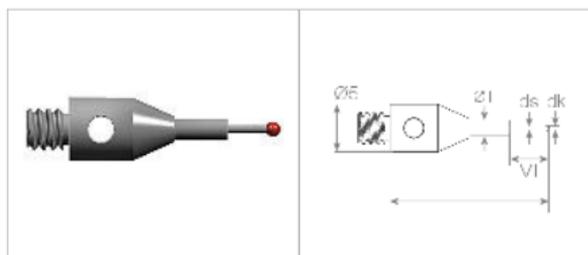
M5

M4

M3

M2

Contents



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

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.

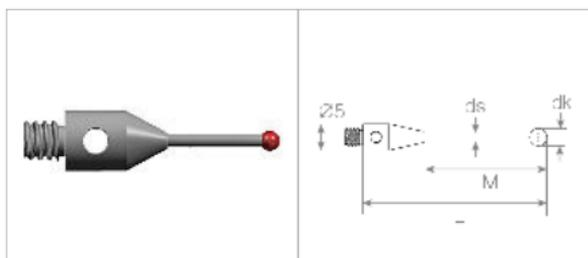


"Specials are our specialty"®

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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

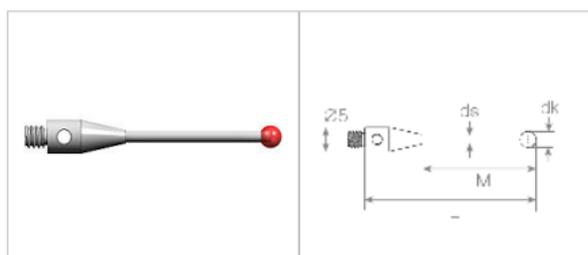
M4
Ruby Ball Styli
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SOLUTIONS®
"How it Works"

Long shanks at work

© 2008 Paul W. Marino Gages, Inc.

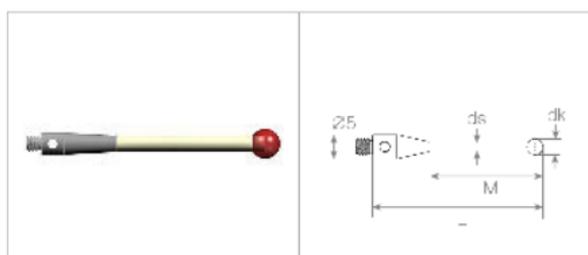
Ruby Ball Styli, Steel Shank



- ⊕ 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, 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"

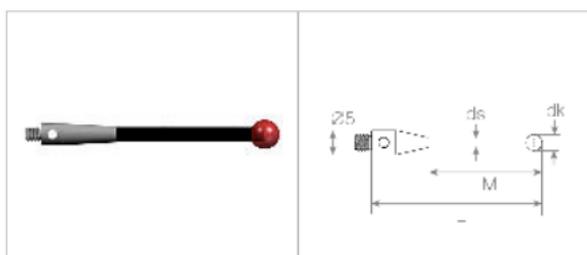
Use these tools to properly assemble your styli configurations. See more tools on pages 93-95.



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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:

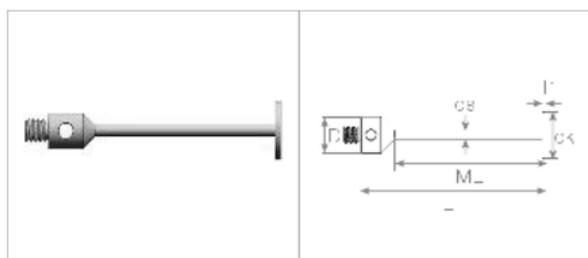
- ⊕ Short
- ⊕ Extended
- ⊕ Short, conical
- ⊕ Extended, conical
- ⊕ No ferrule

Diverse designs maximize strength, working length and accessibility.



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Disc Styli, Ceramic

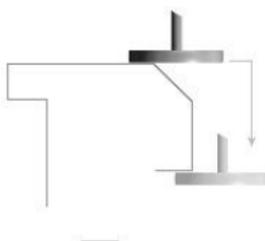
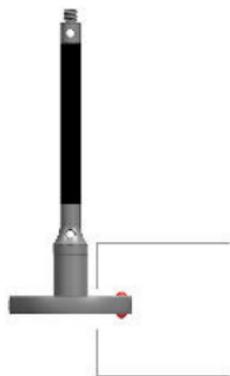


- ⊕ Disc: Ceramic
- ⊕ Shank: Carbide
- ⊕ Ferrule; Conical
- ⊕ Ferrule: Stainless Steel

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

SOLUTIONS®
"How it Works"

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

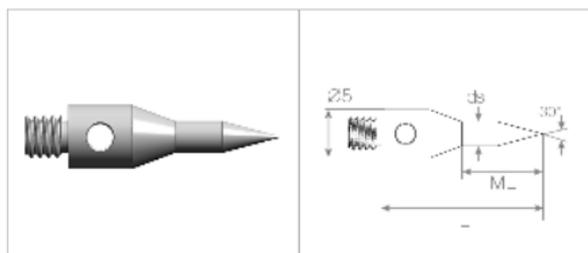


"Be Creative"



© 2008 Paul W. Marino Gages, Inc.

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

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
© 2006 Paul W. Marino Gages, Inc.



0.5 mm 1.0 mm 1.5 mm 2.0 mm 2.5 mm 3.0 mm 4.0 mm 5.0 mm 6.0 mm

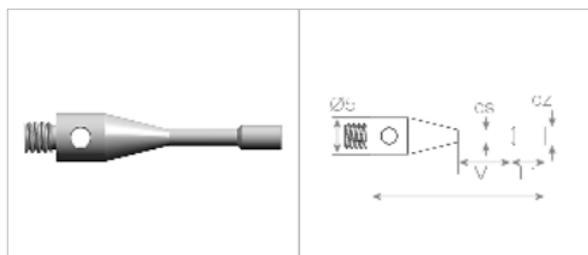
Ident-O-Sphere® Quick Reference

Buy online at www.shopPWM.com



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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

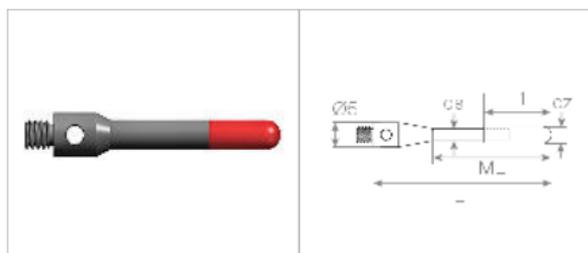
SOLUTIONS®
How it Works

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



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Cylinder Styli, Steel / Ruby

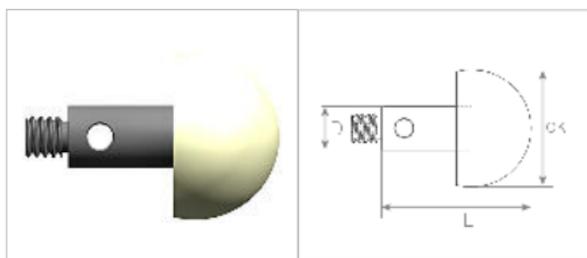


- ⊕ Radius: Ruby
- ⊕ Cylinder: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

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

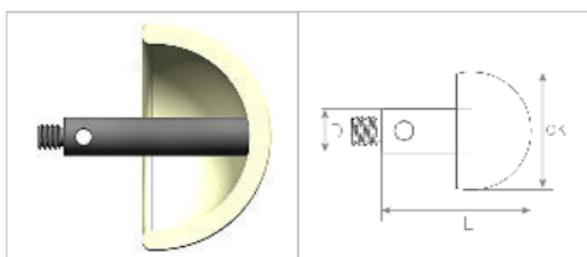
M4



- ⊕ 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

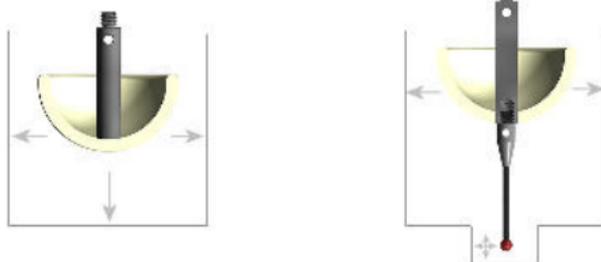
Order Number	L	ML	L1	dk	D	Wt.
STY-N18.0-16-4NHKE	16.0	—	—	18.0	5.0	5.3
STY-N24.0-19-4NHKE	19.0	—	—	24.0	5.0	19.0
STY-N30.0-22-4NHKE	22.0	—	—	30.0	5.0	22.0

M4

Half Sphere Styli
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SOLUTIONS®
"How it works"

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

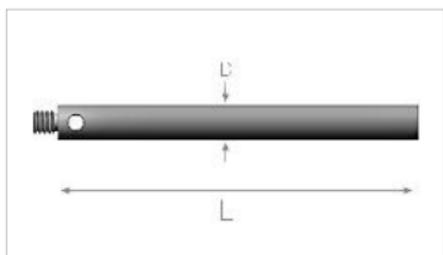


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Extensions, Stainless Steel



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

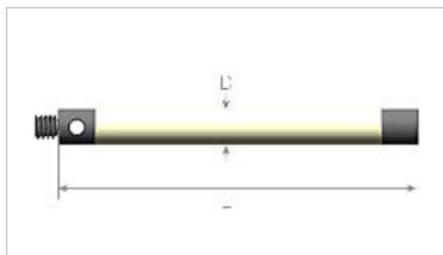
Order Number	L	ML	ds	D	Wt.
STY-N10-4NV	10.0	—	—	5.0	1.8
STY-N20-4NV	20.0	—	—	5.0	3.6
STY-N35-4NV	35.0	—	—	5.0	6.3

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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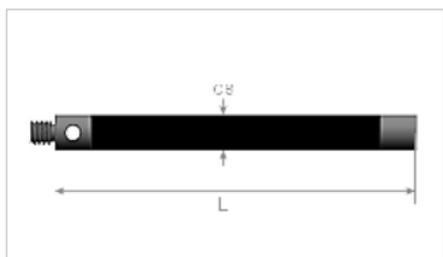
Extensions, Ceramic



- ⊕ 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”®



- ⊕ 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

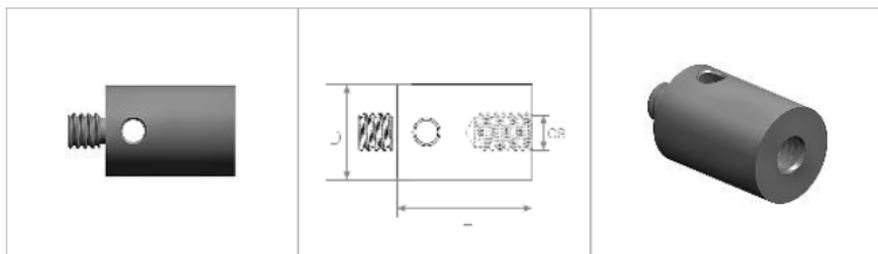
Lightweight extensions allow longer probe access on high speed CMMs, are non-magnetic and increase the life of probe heads.



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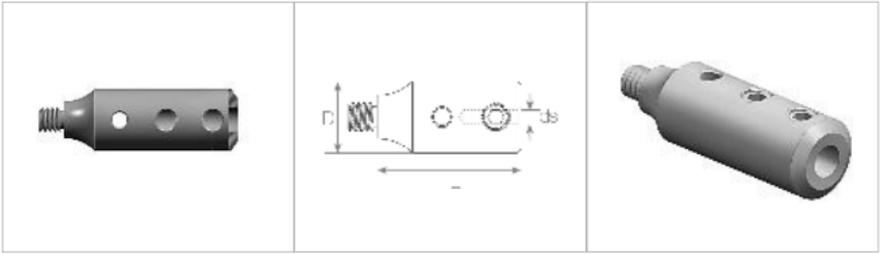
Extensions and Crossover Adapters
© 2006 Paul W. Marino Gages, Inc.

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



- ⊕ 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

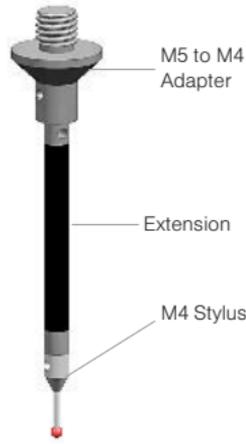
Order Number	dk	ds	L	D	Wt.
STY-N1.0-4NHZ	—	1.0	14.0	5.0	1.7
STY-N1.5-4NHZ	—	1.5	14.0	5.0	1.7
STY-N2.0-4NHZ	—	2.0	14.0	5.0	1.6

M4

SOLUTIONS®
"How it Works"

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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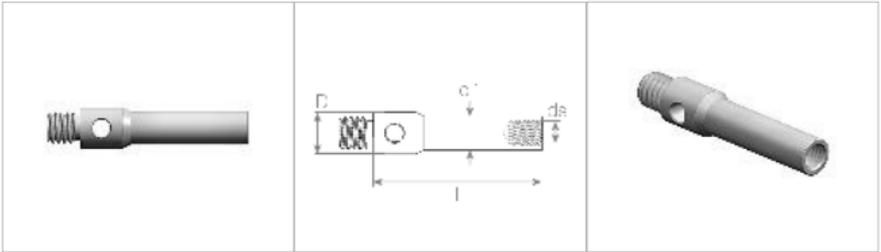
Notes:

Buy online at www.shoppwm.com

Adapters, Crossover
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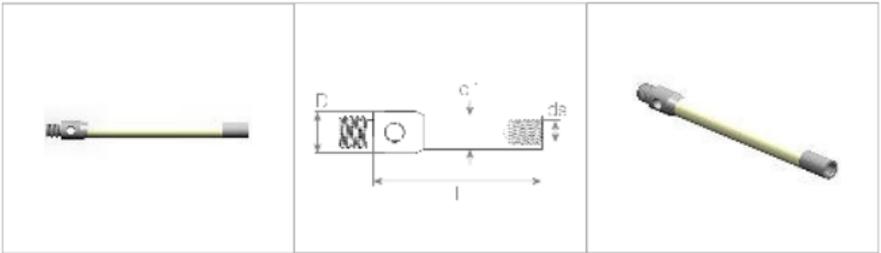
Crossover Adapters

M4



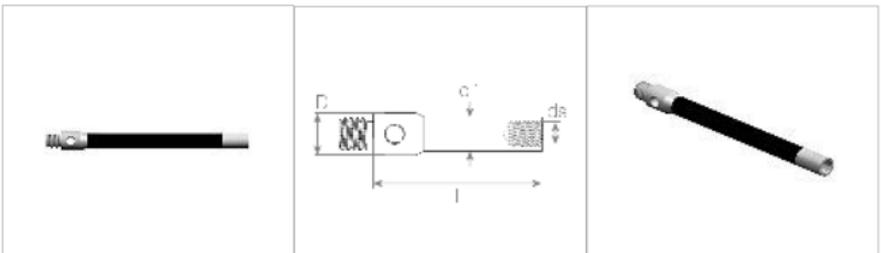
- ⊕ Adapter, M4 to M3
- ⊕ Stainless Steel

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

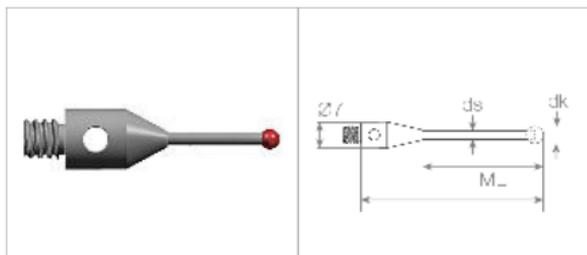
Order Number	ds	L	d1	D	Wt.
STY-N50-4-3NVCA	M3	50.0	4.0	5.0	2.3
STY-N75-4-3NVCA	M3	75.0	4.0	5.0	3.0
STY-N100-4-3NVCA	M3	100.0	4.0	5.0	3.7

M4

Adapters, Crossover
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M4x.7

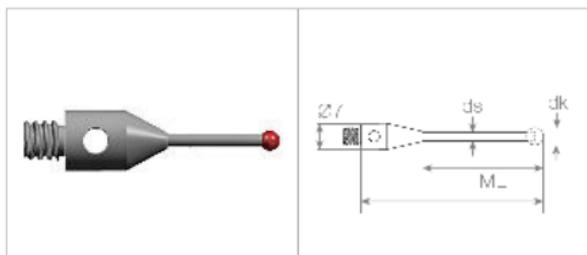
Ruby Ball Styli, Carbide Shank



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

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

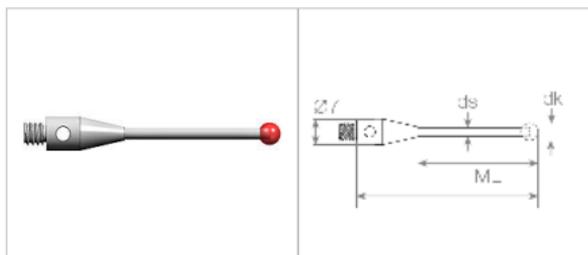
Order Number	dk	ds	L	ML	Wt.
STY-N0.5-20-7NTBS	0.5	0.3	20.0	2.5	2.8
STY-N1.0-20-7NTBS	1.0	0.8	20.0	5.0	2.9

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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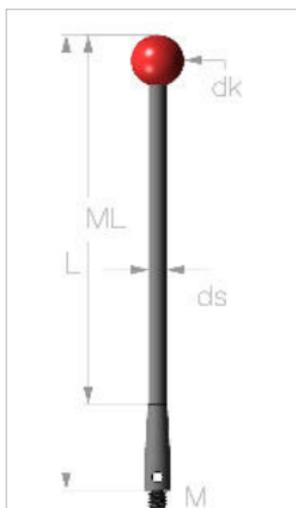


- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

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

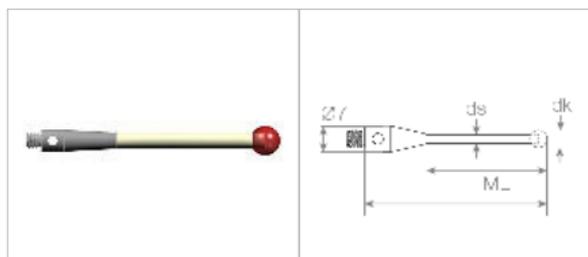
- ⊕ Balls are grade 6 to 10, depending on diameter. Refer to the Technical Data on page 8 for more complete information.
- ⊕ Available ball materials

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



M4x.7

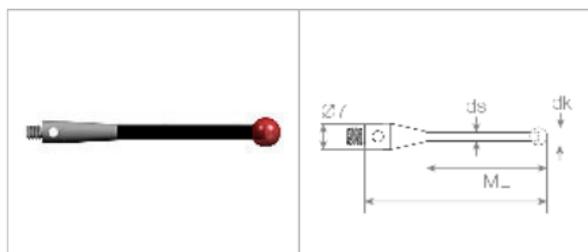
Ruby Ball Styli, Ceramic Shank



- ⊕ 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

Ruby Ball Styli, Carbon Fiber Shank

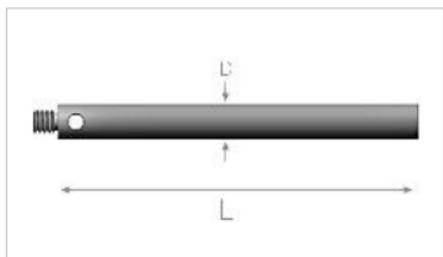


- ⊕ Ball: Ruby
- ⊕ Shank: Carbon Fiber
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

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

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

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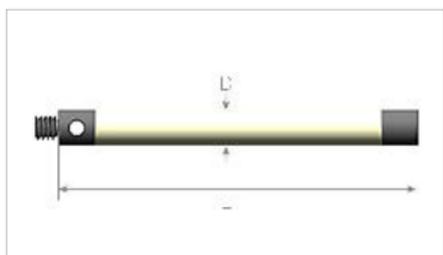


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Extensions for Machine Tools
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M4

Extensions, Ceramic

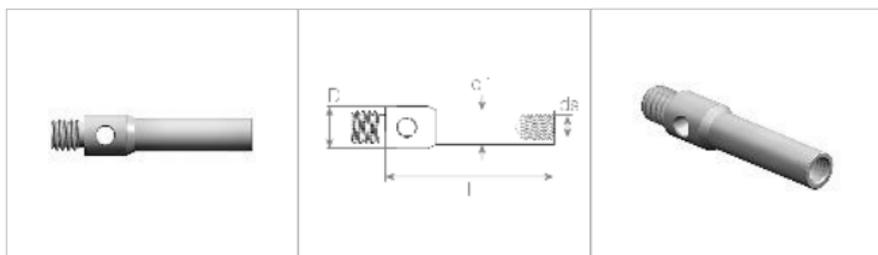


- ⊕ Shank: Ceramic
- ⊕ Threads: Stainless Steel
- ⊕ Non-magnetic shank

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

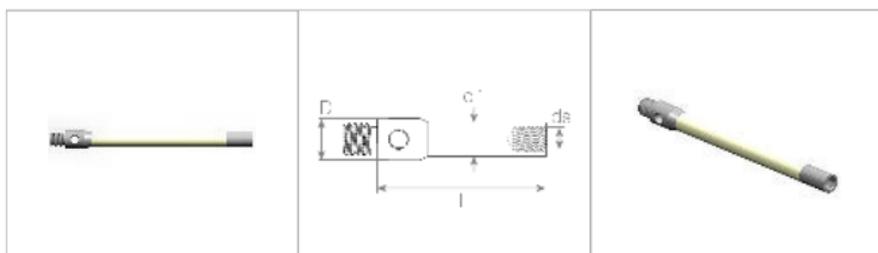
Adapters, Crossover



- ⊕ 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

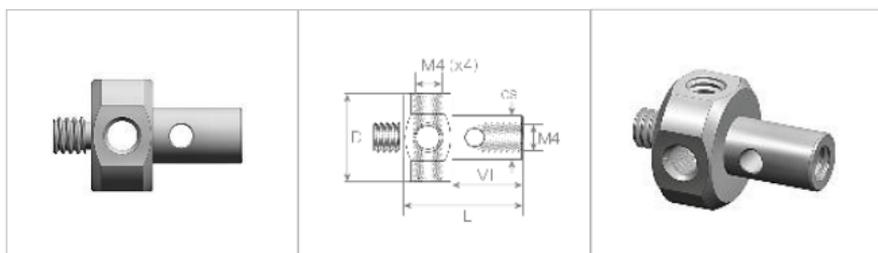
M4



- ⊕ 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



- ⊕ 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

Tools M4

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- ⊕ 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

Buy online at www.shopppwm.com

M4x.7

Stylus Tools



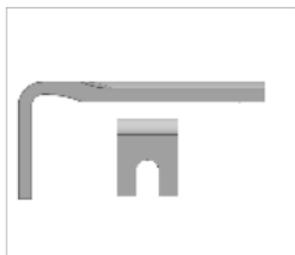
- ⊕ Pin Tool
- ⊕ Steel
- ⊕ Knurled handle
- ⊕ Sold in packs of two
- ⊕ Used to tighten styli and accessories

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



- ⊕ 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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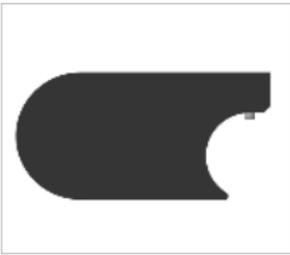
Stylus Tools

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

Tools M4
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Solutions® "How it works"

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



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



See more tools on pages 93-95.

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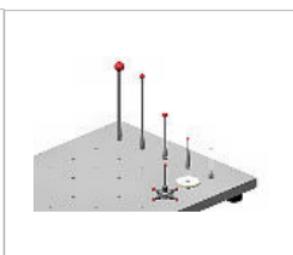
Storage Cases



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

Order Number	Description
STY-N24-4NH5B	Wood storage case with M4x.5 threaded plate, holds 24 pieces.
STY-N43-7NH5G	Wood storage case with M4x.7 threaded plate, holds 43 pieces

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

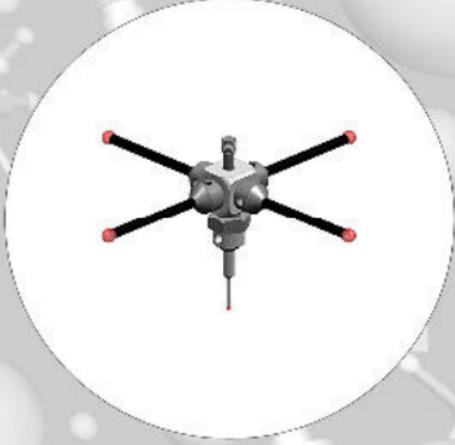
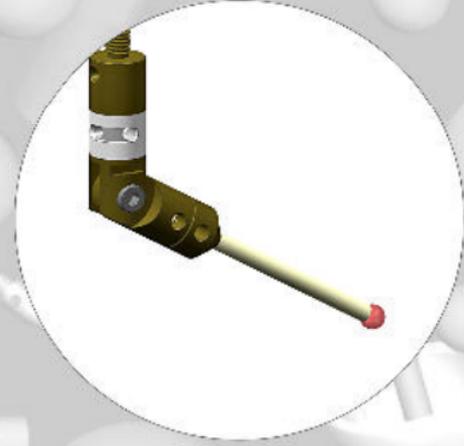
SOLUTIONS® "How it works"

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.





Centerline Locators

Reference Spheres

Pins

3/8-24

M6 and 1 $\frac{1}{4}$ -20

M5

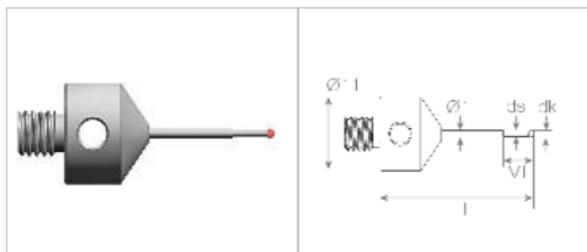
M4

M3

M2

Contents

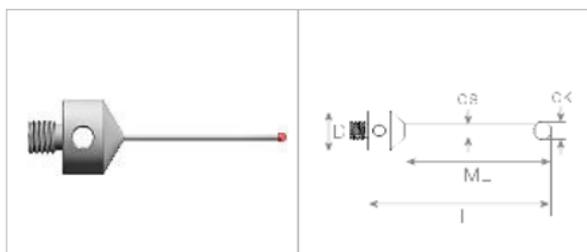
Ruby Ball Styli, Carbide Shank



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

Order Number	dk	ds	L	ML	Wt.
STY-N0.2-21.8-11NTS	0.2	0.15	21.8	1.5	6.0
STY-N0.25-21.8-11NTS	0.25	0.2	21.8	2.5	6.0
STY-N0.3-21.8-11NTS	0.3	0.2	21.8	2.5	6.0
STY-N0.4-21.9-11NTS	0.4	0.3	21.9	2.5	6.0
STY-N0.5-22-11NTS	0.5	0.3	22.0	2.5	6.0
STY-N0.6-22.1-11NTS	0.6	0.4	22.1	4.5	6.0
STY-N0.7-22-2-11NTS	0.7	0.4	22.2	4.5	6.0
STY-N0.8-22.3-11NTS	0.8	0.6	22.3	4.5	6.0
STY-N0.9-22.4-11NTS	0.9	0.6	22.4	4.5	6.0
STY-N1.0-22.5-11NTS	1.0	0.8	22.5	4.5	6.0

Ruby Ball Styli, Carbide Shank



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

Order Number	dk	ds	L	ML	D	Wt.
STY-N1.35-32.9-11NTS	1.35	1.0	32.9	23.9	11.0	6.0
STY-N1.5-33-11NTS	1.5	1.0	33.0	24.0	11.0	6.0
STY-N2.0-33.5-11NTS	2.0	1.5	33.5	24.5	11.0	7.0
STY-N2.5-34-11NTS	2.5	1.5	34.0	25.0	11.0	7.0
STY-N3.0-34.5-18NTS	3.0	2.0	34.5	16.5	18.0	8.0
STY-N5.0-43.5-18NTS	5.0	3.5	43.5	25.5	18.0	11.0

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"Be Creative"



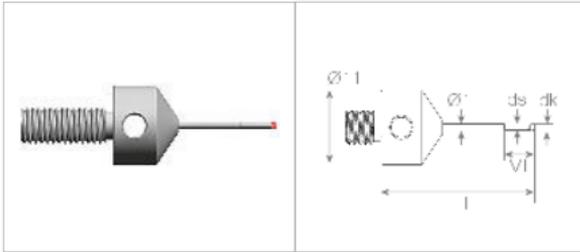
"Specials are our specialty"®

Many styli and accessories are available with titanium ferrules by special order.

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Ruby Ball Styli, Carbide Shank,

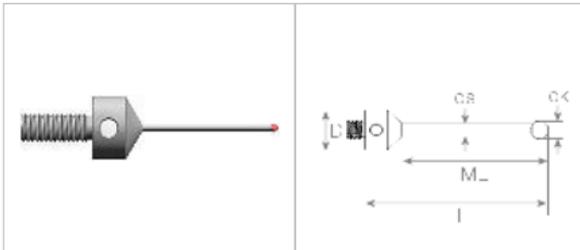
M5



- ⊕ Ball: Ruby
- ⊕ Shank: Carbide, reduced
- ⊕ Ferrule: Stainless Steel, Conical
- ⊕ Extended thread for use with discs NTSG on page 107.

Order Number	dk	ds	L	ML	Wt.
STY-N0.2-21.8-11NTSL	0.2	0.15	21.8	1.5	6.0
STY-N0.25-21.8-11NTSL	0.25	0.2	21.8	2.5	6.0
STY-N0.3-21.8-11NTSL	0.3	0.2	21.8	2.5	6.0
STY-N0.4-21.9-11NTSL	0.4	0.3	21.9	2.5	6.0
STY-N0.5-22.0-11NTSL	0.5	0.3	22.0	2.5	6.0
STY-N0.6-22.1-11NTSL	0.6	0.4	22.1	4.5	6.0
STY-N0.7-22.2-11NTSL	0.7	0.4	22.2	4.5	6.0
STY-N0.8-22.3-11NTSL	0.8	0.6	22.3	4.5	6.0
STY-N0.9-22.4-11NTSL	0.9	0.6	22.4	4.5	6.0
STY-N1.0-22.5-11NTSL	1.0	0.8	22.5	4.5	6.0

Ruby Ball Styli, Carbide Shank



- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ Ferrule: Stainless Steel, Conical
- ⊕ Extended thread for use with discs NTSG on page 107.

Order Number	dk	ds	L	ML	D	Wt.
STY-N1.35-32.9-11NTSL	1.35	1.0	32.9	23.9	11.0	6.0
STY-N1.5-33-11NTSL	1.5	1.0	33.0	24.0	11.0	6.0
STY-N2.0-33.5-11NTSL	2.0	1.5	33.5	24.5	11.0	7.0
STY-N2.5-34-11NTSL	2.5	1.5	34.0	25.0	11.0	7.0
STY-N3.0-34.5-18NTSL	3.0	2.0	34.5	16.5	18.0	8.0
STY-N5.0-43.5-18NTSL	5.0	3.5	43.5	25.5	18.0	11.0

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"How it works"

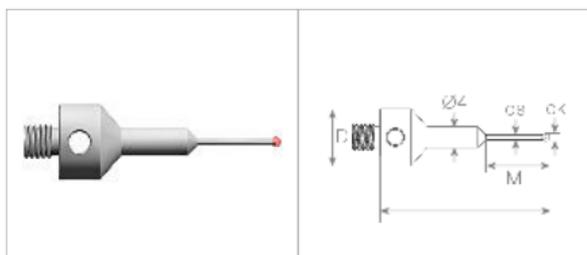
Use these tools to properly assemble your styli configurations. See more tools on pages 121-122.



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M5

Ruby Ball Styli, Carbide Shank



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

Order Number	dk	ds	L	ML	Wt.
STY-N0.2-32-11NTB	0.2	0.15	32.0	1.5	7.0
STY-N0.25-32-11NTB	0.25	0.2	32.0	2.5	7.0
STY-N0.3-32-11NTB	0.3	0.2	32.0	2.5	7.0
STY-N0.4-32-11NTB	0.4	0.3	32.0	2.5	7.0
STY-N0.5-32-11NTB	0.5	0.3	32.0	2.5	7.0
STY-N0.6-32-11NTB	0.6	0.4	32.0	4.5	7.0
STY-N0.7-32-11NTB	0.7	0.4	32.0	4.5	7.0
STY-N0.8-32-11NTB	0.8	0.6	32.0	12.0	7.0
STY-N0.9-32-11NTB	0.9	0.6	32.0	12.0	7.0
STY-N1.0-32-11NTB	1.0	0.8	32.0	12.0	7.0
STY-N1.35-32-11NTB	1.35	1.0	32.0	12.0	7.0
STY-N1.35-44-11NTB	1.35	1.0	44.0	19.0	7.0
STY-N1.5-32-11NTB	1.5	1.0	32.0	12.0	7.0
STY-N1.5-44-11NTB	1.5	1.0	44.0	19.0	7.0
STY-N2.0-32-11NTB	2.0	1.5	32.0	12.0	7.0
STY-N2.0-44-11NTB	2.0	1.5	44.0	19.0	8.0
STY-N2.0-58-11NTB	2.0	1.5	58.0	33.0	8.0
STY-N2.5-32-11NTB	2.5	1.5	32.0	12.0	7.0
STY-N2.5-44-11NTB	2.5	1.5	44.0	19.0	8.0
STY-N2.5-58-11NTB	2.5	1.5	58.0	33.0	8.0

M5

Ruby Ball Styli

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0.5 mm 1.0 mm 1.5 mm 2.0 mm 2.5 mm 3.0 mm 4.0 mm 5.0 mm 6.0 mm

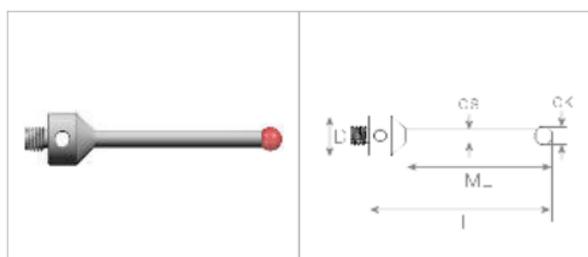


Ident-O-Sphere® Quick Reference

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Ruby Ball Styli, Carbide Shank

M5



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

Order Number	dk	ds	L	ML	D	Wt.
STY-N3.0-22-11NTB	3.0	2.0	22.0	12.0	11.0	6.0
STY-N3.0-25-11NTB	3.0	2.0	25.0	15.0	11.0	6.0
STY-N3.0-33.5-11NTB	3.0	2.0	33.5	23.5	11.0	6.0
STY-N3.0-50-11NTB	3.0	2.0	50.0	40.0	11.0	7.0
STY-N3.0-58-11NTB	3.0	2.0	58.0	48.0	11.0	8.0
STY-N4.0-33.5-11NTB	4.0	2.0	33.5	23.5	11.0	7.0
STY-N4.0-64-11NTB	4.0	2.0	64.0	54.0	11.0	8.0
STY-N5.0-50-11NTB	5.0	3.5	50.0	40.0	11.0	11.0
STY-N5.0-53-11NTB	5.0	3.5	53.0	43.0	11.0	12.0
STY-N5.0-75-11NTB	5.0	3.5	75.0	65.0	11.0	15.0
STY-N6.0-22-11NTB	6.0	3.5	22.0	12.0	11.0	12.0
STY-N6.0-54-11NTB	6.0	3.5	54.0	44.0	11.0	12.0
STY-N7.0-55-11NTB	7.0	3.5	55.0	45.0	11.0	13.0
STY-N8.0-63.5-11NTB	8.0	6.0	63.5	50.5	11.0	26.0
STY-N8.0-74-11NTB	8.0	6.0	74.0	61.0	11.0	32.0
STY-N8.0-75-11NTB	8.0	6.0	75.0	62.0	11.0	32.0
STY-N8.0-100-11NTB	8.0	6.0	100.0	87.0	11.0	42.0
STY-N8.0-114.5-11NTB	8.0	6.0	114.5	101.5	11.0	46.0
STY-N9.0-64.5-11NTB	9.0	6.0	64.5	51.5	11.0	27.0
STY-N10.0-65.5-11NTB	10.0	6.0	65.5	60.0	11.0	27.0
STY-N10.0-118-11NTB	10.0	6.0	118.0	105.0	11.0	49.0
STY-N8.0-63.5-18NTB	8.0	6.0	63.5	41.5	18.0	42.0
STY-N8.0-114.5-18NTB	8.0	6.0	114.5	92.5	18.0	63.0
STY-N9.0-64.5-18NTB	9.0	6.0	64.5	42.5	18.0	42.0
STY-N10.0-65.5-18NTB	10.0	6.0	65.5	43.5	18.0	43.0

M5

Ruby Ball Styli

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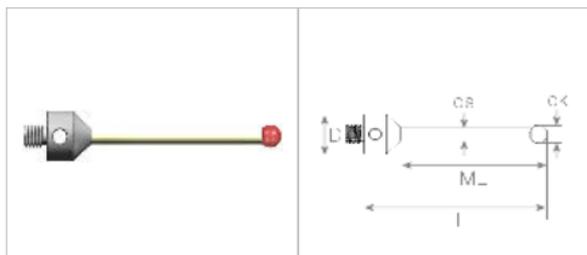
Tighten gently and properly with the correct tools and extend the life of your components.



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M5

Ruby Ball Styli, Ceramic Shank



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

Order Number	dk	ds	L	ML	D	Wt.
STY-N5.0-53-11NTKE	5.0	3.5	53.0	43.0	11.0	7.0
STY-N6.0-54-11NTKE	6.0	3.5	54.0	44.0	11.0	7.0
STY-N7.0-55-11NTKE	7.0	3.5	55.0	45.0	11.0	8.0
STY-N8.0-63.5-11NTKE	8.0	6.0	63.5	50.5	11.0	12.0
STY-N8.0-63.5-18NTKE	8.0	6.0	63.5	41.5	18.0	32.0
STY-N8.0-114.5-11NTKE	8.0	6.0	114.5	101.5	11.0	18.0
STY-N8.0-114.5-18NTKE	8.0	6.0	114.5	92.5	18.0	38.0
STY-N9.0-64.5-11NTKE	9.0	6.0	64.5	51.5	11.0	13.0
STY-N9.0-64.5-18NTKE	9.0	6.0	64.5	42.5	18.0	32.0
STY-N10.0-65.5-11NTKE	10.0	6.0	65.5	52.5	11.0	13.0
STY-N10.0-65.5-18NTKE	10.0	6.0	65.5	43.5	18.0	33.0

M5

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"How it works"

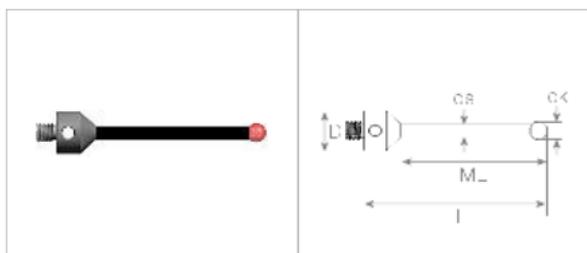


Use these tools to properly assemble your styli configurations. See more on pages 121-122



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Ruby Ball Styli, Carbon Shank



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

Order Number	dk	ds	L	ML	D	Wt.
STY-N4.0-33.5-11NTCA	4.0	3.0	33.5	23.5	11.0	5.0
STY-N5.0-53-11NTCA	5.0	3.5	53.0	43.0	11.0	6.0
STY-N6.0-54-11NTCA	6.0	3.5	54.0	44.0	11.0	6.0

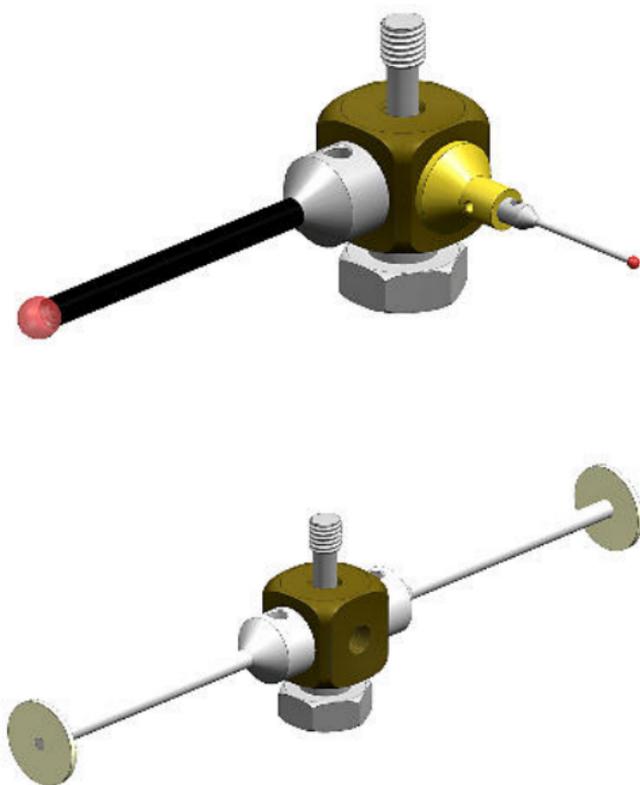
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Order Number	dk	ds	L	ML	D	Wt.
STY-N7.0-55-11NTCA	7.0	3.5	55.0	45.0	11.0	7.0
STY-N8.0-63.5-11NTCA	8.0	6.0	63.5	50.5	11.0	8.0
STY-N8.0-63.5-18NTCA	8.0	6.0	63.5	41.5	18.0	29.0
STY-N8.0-114.5-11NTCA	8.0	6.0	114.5	101.5	11.0	11.0
STY-N8.0-114.5-18NTCA	8.0	6.0	114.5	92.5	18.0	92.5
STY-N8.0-200-11NTCA	8.0	6.0	200.0	187.0	11.0	13.0
STY-N9.0-64.5-11NTCA	9.0	6.0	64.5	51.5	11.0	9.0
STY-N9.0-64.5-18NTCA	9.0	6.0	64.5	42.5	18.0	29.0
STY-N10.0-65.5-11NTCA	10.0	6.0	65.5	52.5	11.0	9.0
STY-N10.0-65.5-18NTCA	10.0	6.0	65.5	43.5	18.0	30.0

SOLUTIONS®
"Be Creative"

Pre-make assemblies for your most common parts and keep them on hand for quick access.



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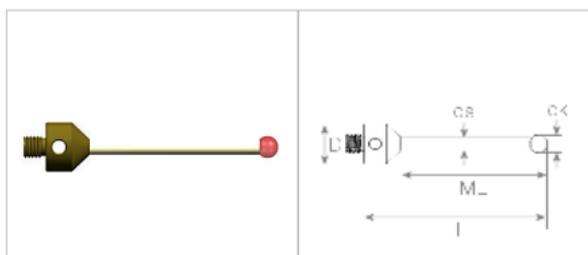
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M5

Ruby Ball Styli
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M5

Ruby Ball Styli, Ceramic Shank, Light Weight



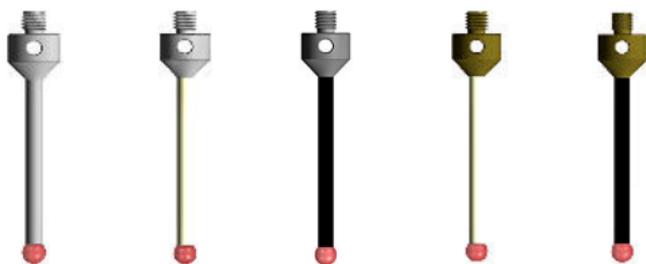
- ⊕ Ball: Ruby
- ⊕ Shank: Ceramic
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Alu 7075
- ⊕ Reduced weight

Order Number	dk	ds	L	ML	D	Wt.
STY-N5.0-53-11NTPK	5.0	3.5	53.0	43.0	11.0	4.0
STY-N6.0-54-11NTPK	6.0	3.5	54.0	44.0	11.0	4.0
STY-N7.0-55-11NTPK	7.0	3.5	55.0	45.0	11.0	5.0
STY-N8.0-63.5-11NTPK	8.0	6.0	63.5	50.5	11.0	9.0
STY-N8.0-63.5-18NTPK	8.0	6.0	63.5	41.5	18.0	15.0
STY-N8.0-114.5-11NTPK	8.0	6.0	114.5	101.5	11.0	15.0
STY-N8.0-114.5-18NTPK	8.0	6.0	114.5	92.5	18.0	21.0
STY-N9.0-64.5-11NTPK	9.0	6.0	64.5	51.5	11.0	10.0
STY-N9.0-64.5-18NTPK	9.0	6.0	64.5	42.5	18.0	15.0
STY-N10.0-65.5-11NTPK	10.0	6.0	65.5	52.5	11.0	10.0
STY-N10.0-65.5-18NTPK	10.0	6.0	65.5	43.5	18.0	16.0

M5

SOLUTIONS® "How it works"

Lightweight ceramic and carbon fiber styli save even more weight because of their aluminum ferrules. Comparison of 5.0 mm ruby x 53.0 mm shank, M5 thread



Shank / Ferrule	Carbide / SST	Ceramic / SST	Carbon / SST	Ceramic / Aluminum	Carbon / Aluminum
Weight	12.0g	7.0g	6.0g	4.0g	3.0g

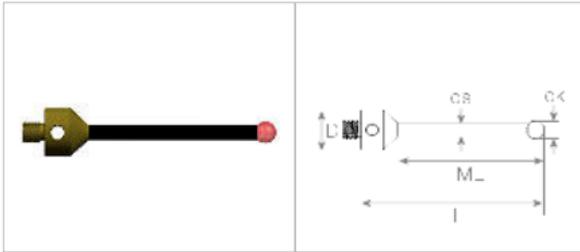


Most styli are also available with titanium ferrules by special order.

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Ruby Ball Styli, Carbon Shank, Light Weight

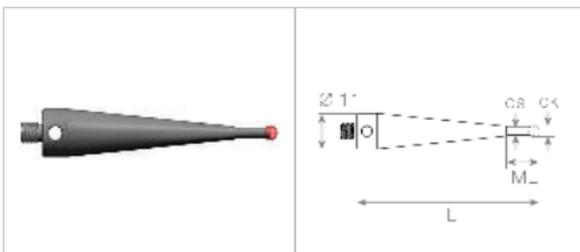
M5



- ⊕ Ball: Ruby
- ⊕ Shank: Carbon Fiber
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Alu 7075
- ⊕ Reduced weight

Order Number	dk	ds	L	ML	D	Wt.
STY-N4.0-33.5-11NTCP	4.0	3.0	33.5	23.5	11.0	2.0
STY-N5.0-53-11NTCP	5.0	3.5	53.0	43.0	11.0	3.0
STY-N6.0-54-11NTCP	6.0	3.5	54.0	44.0	11.0	3.0
STY-N7.0-55-11NTCP	7.0	3.5	55.0	45.0	11.0	4.0
STY-N8.0-63.5-11NTCP	8.0	6.0	63.5	50.5	11.0	5.0
STY-N8.0-63.5-18NTCP	8.0	6.0	63.5	41.5	18.0	12.0
STY-N8.0-114.5-11NTCP	8.0	6.0	114.5	101.5	11.0	8.0
STY-N8.0-114.5-18NTCP	8.0	6.0	114.5	92.5	18.0	14.0
STY-N9.0-64.5-11NTCP	9.0	6.0	64.5	51.5	11.0	6.0
STY-N9.0-64.5-18NTCP	9.0	6.0	64.5	42.5	18.0	12.0
STY-N10.0-65.5-11NTCP	10.0	6.0	65.5	52.5	11.0	6.0
STY-N10.0-65.5-18NTCP	10.0	6.0	65.5	43.5	18.0	13.0

Precision Probe Ruby Ball / Carbide Shank



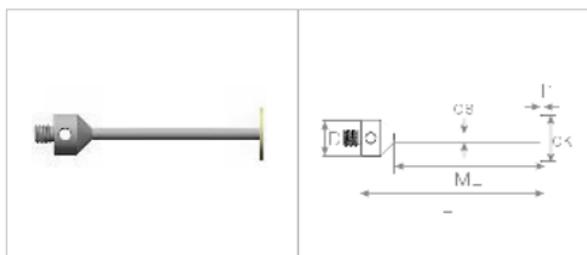
- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel

Order Number	dk	ds	L	ML	Wt.
STY-N1.0-55-11NTF	1.0	0.8	55.0	4.0	17.0
STY-N1.5-55-11NTF	1.5	1.0	55.0	5.0	17.0
STY-N2.0-55-11NTF	2.0	1.5	55.0	5.0	18.0
STY-N2.5-55-11NTF	2.5	1.5	55.0	5.0	18.0
STY-N3.5-55-11NTF	3.5	2.0	55.0	10.0	18.0

M5
Ruby Ball Styli
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M5

Disc Styli, Ceramic



- ⊕ Disc: Ceramic
- ⊕ Shank: Carbide
- ⊕ Ferrule: Conical
- ⊕ Ferrule: Stainless Steel
- ⊕ Non-magnetic disc

Order Number	dk	H1	L	ds	D	Wt.
STY-N5.0-45-11NKSK	5.0	0.5	45.0	2.0	11.0	7.0
STY-N10.0-55-11NKSK	10.0	0.8	55.0	3.0	11.0	11.0
STY-N14.0-55-11NKSK	14.0	1.0	55.0	3.0	11.0	11.0

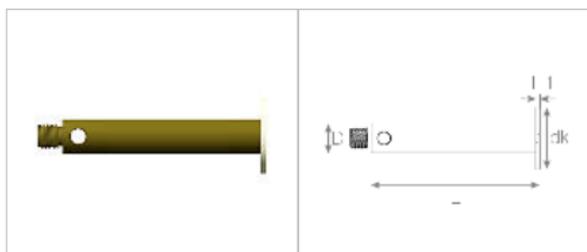
SOLUTIONS®
"How it works"

Select disc styli for notches and grooves. Add a lightweight extension, a knuckle, or both, for difficult to access bores.



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Disc Styli, Ceramic

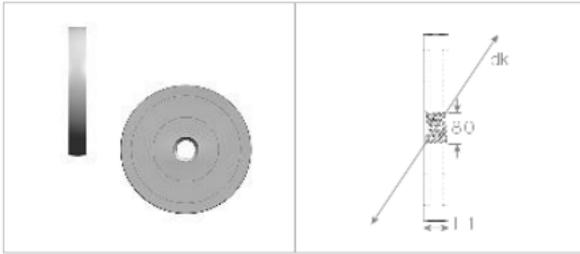


- ⊕ Disc: Ceramic
- ⊕ Shank: Alu 7075
- ⊕ Non-magnetic disc

Order Number	dk	H1	L	D	Wt.
STY-N15-40NKSK	15.0	1.0	40.0	7.0	5.0
STY-N20-60NKSK	20.0	1.0	60.0	7.0	8.0

Disc Styli, Steel

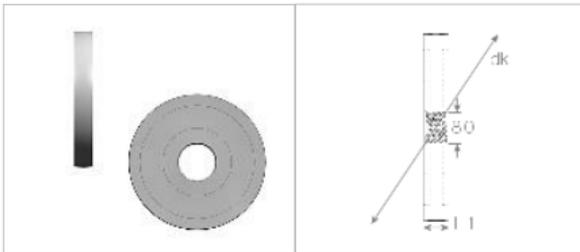
M5



- ⊕ Disc: Stainless Steel
- ⊕ Features M5 center hole
- ⊕ For use with extended thread probes or NSL screws

Order Number	dk	H1	Wt.
STY-N10-4NTSG	10.0	4.0	2.0
STY-N15-4NTSG	15.0	4.0	5.0
STY-N20-4NTSG	20.0	4.0	11.0
STY-N30-4NTSG	30.0	4.0	22.0
STY-N40-4NTSG	40.0	4.0	33.0
STY-N50-5NTSG	50.0	5.0	65.0
STY-N60-6NTSG	60.0	6.0	115.0

Disc Styli, Steel



- ⊕ Disc: Stainless Steel
- ⊕ Features 8.0 mm diameter center hole
- ⊕ For use with NST screws

Order Number	dk	H1	Wt.
STY-N15-4NTSA	15.0	4.0	4.0
STY-N20-2NTSA	20.0	2.0	4.0
STY-N20-4NTSA	20.0	4.0	8.0
STY-N30-4NTSA	30.0	4.0	21.0
STY-N40-4NTSA	40.0	4.0	32.0
STY-N50-5NTSA	50.0	5.0	64.0
STY-N60-6NTSA	60.0	6.0	112.0

SOLUTIONS®
"How it works"

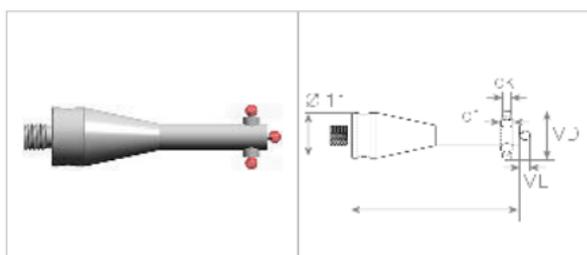
Make your own disc styli with standard extensions, discs and screws on pages 122-123.



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M5

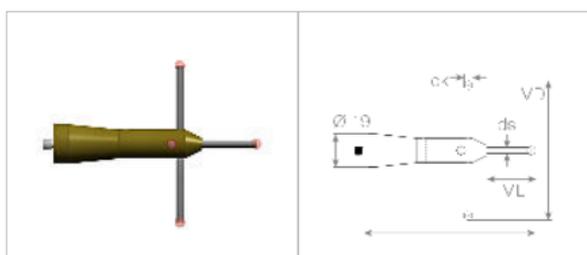
Star Styli, Ruby / Carbide



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

Order Number	dk	L	ML	MD	ds	Wt.
STY-N0.5-40-11NSTG	0.5	40.0	1.9	3.5	0.4	7.0
STY-N0.8-40-11NSTG	0.8	40.0	1.9	5.0	0.6	7.0
STY-N1.35-40-11NSTG	1.35	40.0	2.0	9.0	1.0	11.0
STY-N1.8-40-11NSTG	1.8	40.0	2.0	10.0	1.5	12.0
STY-N2.3-40-11NSTG	2.3	40.0	2.5	12.0	1.8	13.0

Star Styli, Ruby / Carbide



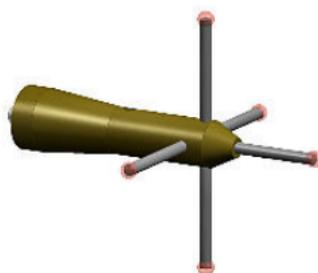
- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ Ferrule: Conical
- ⊕ Body: Alu 7075

Order Number	dk	L	ML	MD	ds	Wt.
STY-N5.0-80-19NST	5.0	98.0	28.0	80.0	3.5	65.0

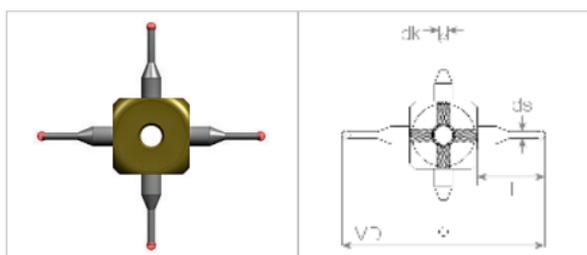
SOLUTIONS®
"How it works"

PWM star styli are available in diverse designs with fixed arms, or create your own custom design with a cube adapter (see next page) and any combination of styli, extensions, knuckles or crossover adapters.

"Be creative"



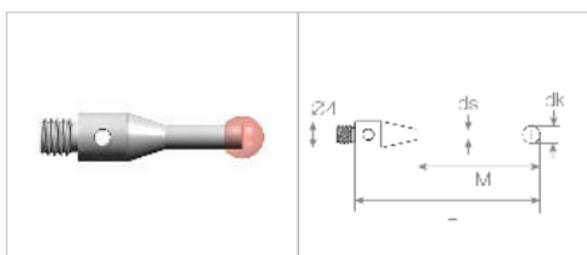
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- ⊕ Ball: Ruby
- ⊕ Cube: Alu 7075
- ⊕ Arms can be replaced with styli below.
- ⊕ Replacement cubes are on page 114.

Order Number	dk	L	MD	ds	Wt.
STY-N1.0-45NWST	1.0	15.0	45.0	0.7	10.0
STY-N1.5-45NWST	1.5	15.0	45.0	1.1	10.0
STY-N2.0-45NWST	2.0	15.0	45.0	1.5	11.0
STY-N2.5-45NWST	2.5	15.0	45.0	1.8	11.0
STY-N3.5-45NWST	3.5	15.0	45.0	2.2	12.0

Replacement Arms for Star Cubes



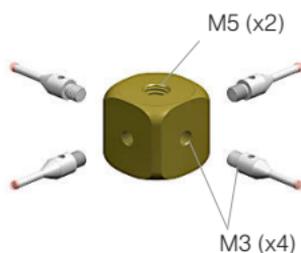
- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Replacement arms for cubes shown above.

Order Number	dk	L	ML	ds	Wt.
STY-N1.0-15-3NTC	1.0	15.0	7.5	0.7	1.0
STY-N1.5-15-3NTC	1.5	15.0	—	1.1	1.0
STY-N2.0-15-3NTC	2.0	15.0	—	1.5	1.0
STY-N2.5-15-3NTC	2.5	15.0	—	1.8	1.0
STY-N3.5-15-3NTC	3.5	15.0	—	2.2	1.0

SOLUTIONS® "How it works"

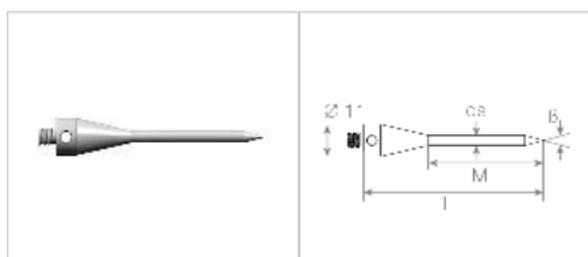
Build lightweight stars and special configurations with cubes, styli, extensions and accessories of all types.

Think Modular



M5

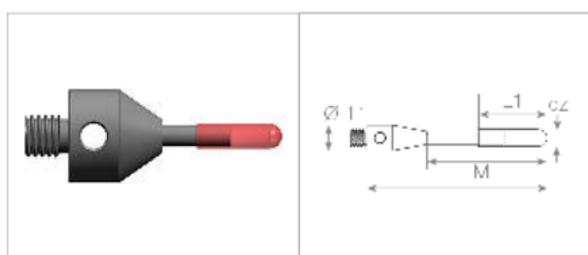
Pointed Styli, Carbide



- ⊕ Tip: Carbide
- ⊕ Shank: Carbide
- ⊕ Ferrule: Stainless Steel

Order Number	β	L	ML	ds	Wt.
STY-N30-61-11NTS	30°	61.0	39.0	3.5	12.0

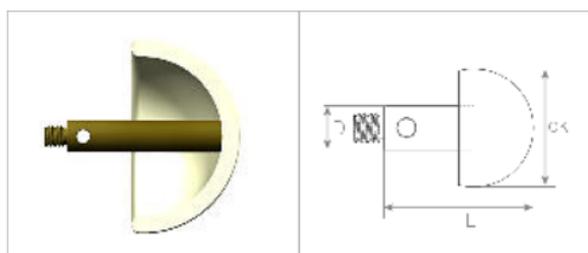
Cylinder Styli, Ruby / Stainless Steel



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

Order Number	dz	L	ML	L1	Wt.
STY-N2.0-25-11NZRA	2.0	25.0	14.0	5.0	6.0
STY-N3.0-25-11NZRA	3.0	25.0	14.0	10.0	6.0
STY-N4.0-30-11NZRA	4.0	30.0	21.0	10.0	7.0

Hollow Ceramic Ball Styli



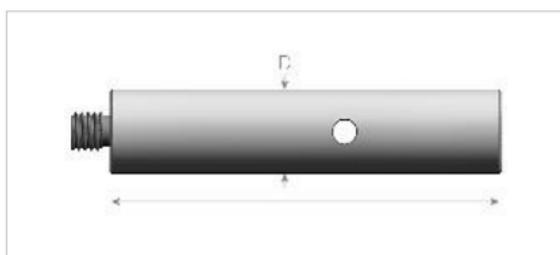
- ⊕ Ball: Ceramic, Hollow
- ⊕ Shank: Alu 7075

Order Number	dk	L	D	Wt.
STY-N18.0-16-11NHKE	18.0	16.0	11.0	8.0
STY-N24.0-19-11NHKE	24.0	19.0	11.0	11.0
STY-N30.0-22-11NHKE	30.0	22.0	11.0	14.0

Buy online at www.shopppwm.com

Extensions, Aluminum, Solid

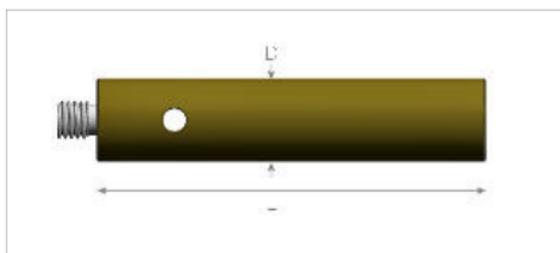
M5



- ⊕ Shank: Aluminum
- ⊕ Threads: Stainless Steel
- ⊕ Solid body

Order Number	D	L	Wt.
STY-N25-11NVAL	11.0	25.0	6.0
STY-N40-11NVAL	11.0	40.0	10.0
STY-N50-11NVAL	11.0	50.0	13.0
STY-N60-11NVAL	11.0	60.0	15.0
STY-N80-11NVAL	11.0	80.0	20.0
STY-N100-11NVAL	11.0	100.0	25.0
STY-N120-11NVAL	11.0	120.0	30.0

Extensions, Aluminum 7075, Solid



- ⊕ Shank: Alu 7075
- ⊕ Threads: Stainless Steel
- ⊕ Solid body

Order Number	D	L	Wt.
STY-N10-11NVPE	11.0	10.0	2.0
STY-N15-11NVPE	11.0	15.0	3.0
STY-N20-11NVPE	11.0	20.0	5.0
STY-N25-11NVPE	11.0	25.0	6.0
STY-N40-11NVPE	11.0	40.0	10.0
STY-N50-11NVPE	11.0	50.0	13.0
STY-N15-18NVPE	18.0	15.0	10.0
STY-N25-18NVPE	18.0	25.0	17.0
STY-N40-18NVPE	18.0	40.0	28.0
STY-N50-18NVPE	18.0	50.0	35.0

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Titanium extensions and accessories
are available by special order.



M5

Extensions
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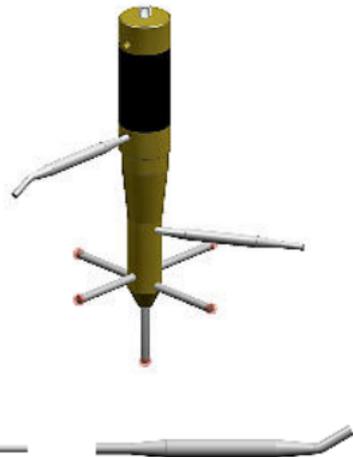
- ⊕ Shank: Alu 7075
- ⊕ Threads: Aluminum
- ⊕ Hollow body

Order Number	D	L	Wt.
STY-N60-11NVPE	11.0	60.0	11.0
STY-N60-18NVPE	18.0	60.0	31.0
STY-N75-11NVPE	11.0	75.0	12.0
STY-N75-18NVPE	18.0	75.0	36.0
STY-N80-11NVPE	11.0	80.0	13.0
STY-N80-18NVPE	18.0	80.0	37.0
STY-N90-11NVPE	11.0	90.0	14.0
STY-N90-18NVPE	18.0	90.0	40.0
STY-N100-11NVPE	11.0	100.0	15.0
STY-N100-18NVPE	18.0	100.0	42.0
STY-N120-11NVPE	11.0	120.0	16.0
STY-N120-18NVPE	18.0	120.0	49.0
STY-N150-11NVPE	11.0	150.0	19.0
STY-N150-18NVPE	18.0	150.0	58.0
STY-N200-18NVPE	18.0	200.0	73.0
STY-N250-18NVPE	18.0	250.0	89.0
STY-N300-18NVPE	18.0	300.0	103.0

SOLUTIONS® "How it works"

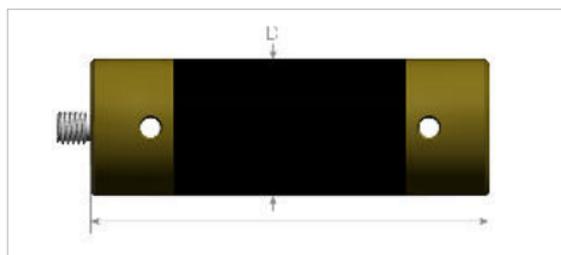
Tighten gently and properly with a set of tools and extend the life of your components.

See more tools on pages 121-122



Extensions, Carbon Fiber, Hollow

M5



- ⊕ Shank: Carbon Fiber
- ⊕ Threads: Stainless Steel
- ⊕ Hollow body

Order Number	D	L	Wt.
STY-N40-11NVCA	11.0	40.0	6.8
STY-N50-11NVCA	11.0	50.0	8.4
STY-N50-18NVCA	18.0	50.0	23.0
STY-N60-11NVCA	11.0	60.0	9.0
STY-N60-18NVCA	18.0	60.0	24.0
STY-N75-11NVCA	11.0	75.0	10.0
STY-N80-11NVCA	11.0	80.0	10.0
STY-N80-18NVCA	18.0	80.0	27.0
STY-N90-11NVCA	11.0	90.0	10.0
STY-N100-11NVCA	11.0	100.0	11.0
STY-N100-18NVCA	18.0	100.0	30.0
STY-N120-11NVCA	11.0	120.0	12.0
STY-N120-18NVCA	18.0	120.0	33.0
STY-N150-11NVCA	11.0	150.0	13.0
STY-N150-18NVCA	18.0	150.0	36.0
STY-N160-11NVCA	11.0	160.0	14.0
STY-N200-11NVCA	11.0	200.0	16.0
STY-N200-18NVCA	18.0	200.0	43.0
STY-N210-11NVCA	11.0	210.0	17.0
STY-N250-11NVCA	11.0	250.0	19.0
STY-N250-18NVCA	18.0	250.0	50.0
STY-N300-11NVCA	11.0	300.0	22.0
STY-N300-18NVCA	18.0	300.0	57.0
STY-N400-18NVCA	18.0	400.0	72.0
STY-N500-18NVCA	18.0	500.0	87.0

M5

Extensions
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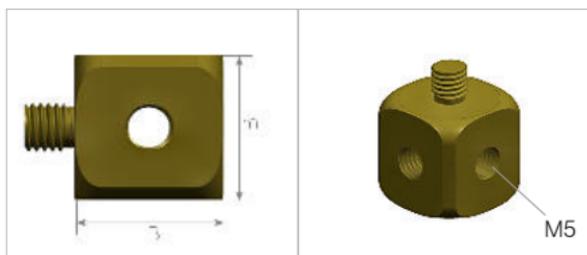
Extensions are also available in titanium. Contact us for details.



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M5

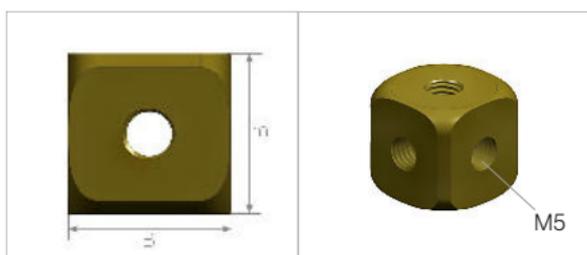
Cubes, Aluminum 7075



- ⊕ Cube: Aluminum 7075
- ⊕ Threads: Stainless Steel
- ⊕ Threads: One M5 Male, Five M5 female

Order Number	B	Wt.	Use with screw
STY-N15-15NWA	15.0	8.0	N5-20NSWA
STY-N20-20NWA	20.0	20.0	N5-25NSWA

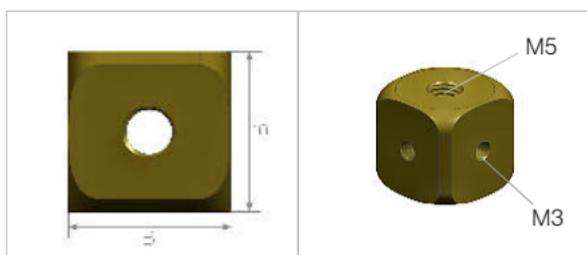
Cubes, Aluminum 7075



- ⊕ Cube: Aluminum 7075
- ⊕ Threads: Stainless Steel
- ⊕ Threads: Six M5 female
- ⊕ Use with screws

Order Number	B	Wt.	Use with screw
STY-N15-15NWB	15.0	7.0	N5-20NSWA / B
STY-N20-20NWB	20.0	20.0	N5-25NSWA / B

Cubes, Aluminum 7075



- ⊕ Cube: Aluminum 7075
- ⊕ Threads: Stainless Steel
- ⊕ Threads: Four M3 female, two M5 female

Order Number	B	Wt.	Use with screw
STY-N15-15NWST	15.0	8.0	N5-20NWSA / B
STY-N20-20NWST	20.0	20.0	N5-25NWSA / B



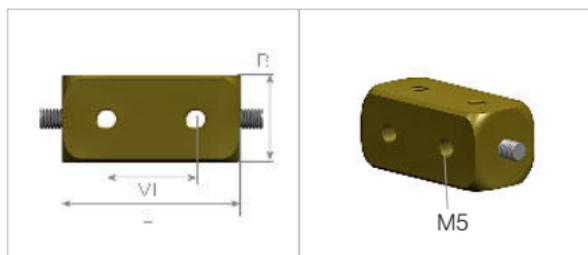
Combine with screws on pages 122-123 and make offset arms by rotating the cube.

Cubes are also available in titanium.

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Cube, Double, Aluminum 7075

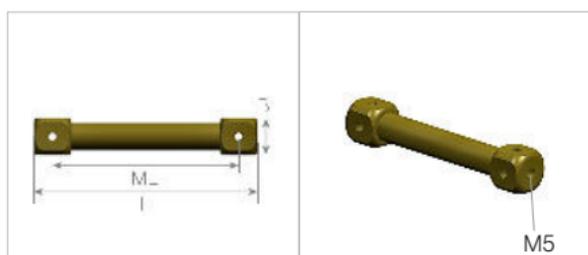
M5



- ⊕ Cube: Aluminum 7075
- ⊕ Threads: Stainless Steel
- ⊕ Threads: Eight M5 female threads for use with any M5 component

Order Number	B	L	ML	Wt.
STY-N20-20NDW	20.0	40.0	20.0	40.0

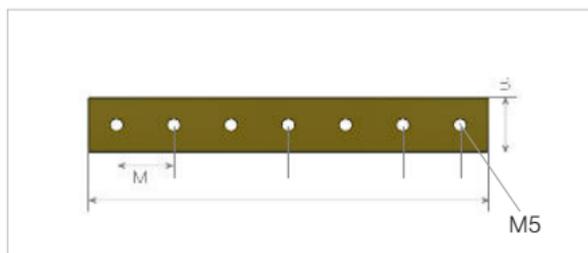
Cube, Extension, Aluminum 7075



- ⊕ Cube: Aluminum 7075
- ⊕ Threads: Stainless Steel
- ⊕ Threads: Eight M5 female

Order Number	B	L	ML	Wt.
STY-N20-20NWV	20.0	120.0	100.0	55.0

Multi-Cube, Aluminum 7075



- ⊕ Cube: Aluminum 7075
- ⊕ Threads: Stainless Steel
- ⊕ Threads: M5 female

Order Number	B	L	ML	Wt.
STY-N20-20NMW	20.0	140.0	20.0	144.0

SOLUTIONS® "How it works"

Make your own star configurations by combining styli, extensions and adapters – think modular.

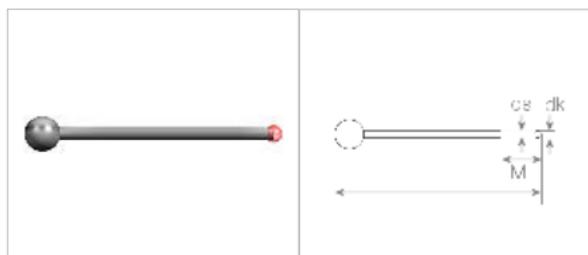
Most cubes are also available in titanium. Contact us for details.



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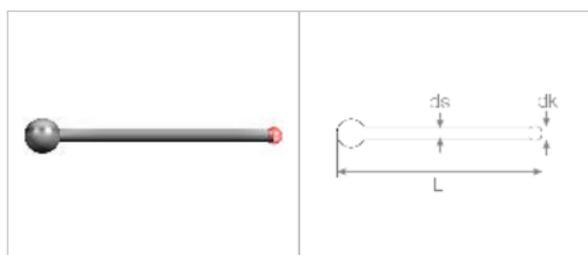
M5

Swivel Styli, Ruby Ball / Carbide



- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ For use with Type NHTS holder shown below

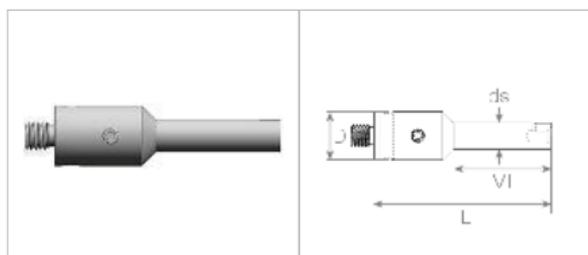
Order Number	dk	ds	L	ML	Wt.
STY-N1.0-17.5NTES	1.0	0.8	17.5	5.0	1.0



- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ For use with Type NHTS holder shown below

Order Number	dk	ds	L	ML	Wt.
STY-N2.0-28.5NTES	2.0	1.5	28.5	—	1.0

Holder for Pin Styli (Type NTES)

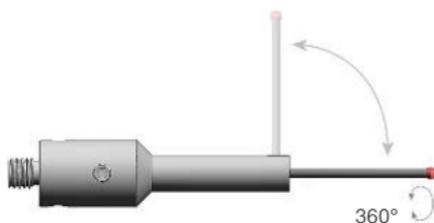


- ⊕ Shank: Stainless Steel
- ⊕ For use with Type NTES swivel styli shown above.
- ⊕ Roll, pivot and lock in place

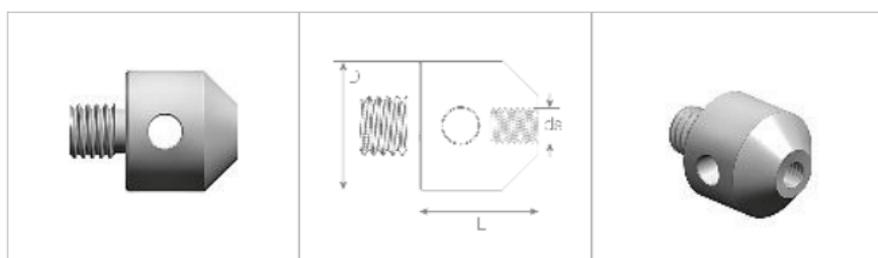
Order Number	D	ds	L	ML	Wt.
STY-N1.0-40-11NHTS	11.0	6.0	40.0	22.0	15.0

SOLUTIONS®
"How it works"

NHTS holders allow swivel styli, Type NTES, to rotate 360° at any angle up to 110°.



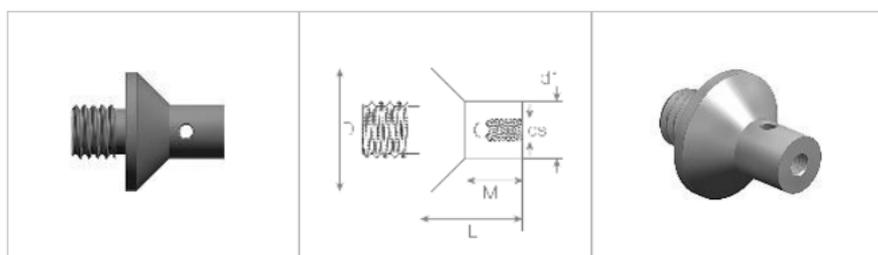
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- ⊕ Shank: Stainless Steel
- ⊕ Convert any M2, M3 or M4 stylus or accessory for use on an M5 system.

Order Number	ds	L	D	Wt.
STY-N5-2NAZ	M2	10.0	11.0	5.7
STY-N5-3NAZ	M3	10.0	11.0	5.7
STY-N5-4NAZ	M4	10.0	11.0	5.7

Adapters, Crossover, SST



- ⊕ Shank: Stainless Steel
- ⊕ Convert any M2, M3 or M4 stylus or accessory for use on an M5 system.

Order Number	ds	L	ML	d1	D	Wt.
STY-NAZ11-2	M2	9.0	5.0	5.0	11.0	3.1
STY-NAL12-2	M2	9.0	5.0	5.0	12.0	3.1
STY-NAZ11-3	M3	11.0	7.0	5.0	11.0	3.2
STY-NAL12-3	M3	11.0	7.0	5.0	12.0	3.2
STY-NAZ11-4	M4	11.0	7.0	5.0	11.0	3.2
STY-NAL12-4	M4	11.0	7.0	5.0	12.0	3.2

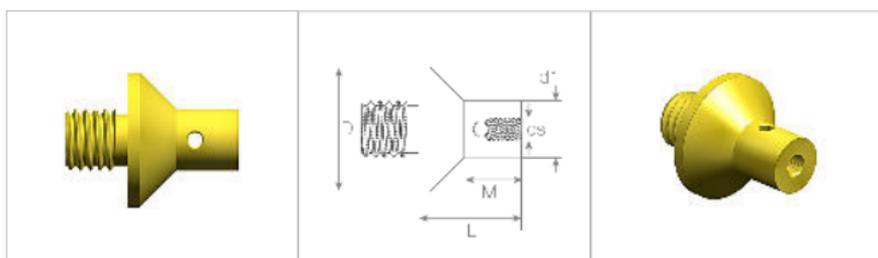
SOLUTIONS®
"How it works"

Crossover adapters convert styli for use on systems designed for other threads. Not sure which to use? Contact us for help building a custom configuration from standard components.

M5 to M2
Adapter

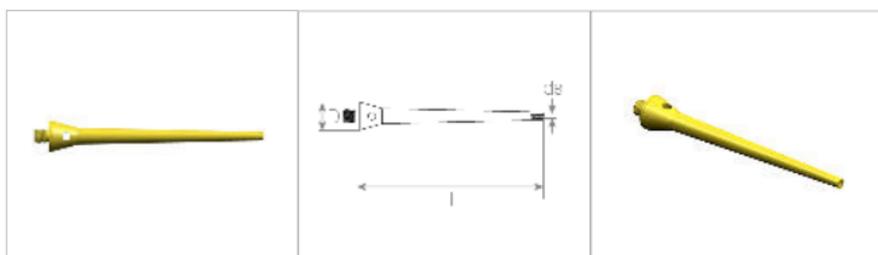
M2 Extension

M2
Stylus



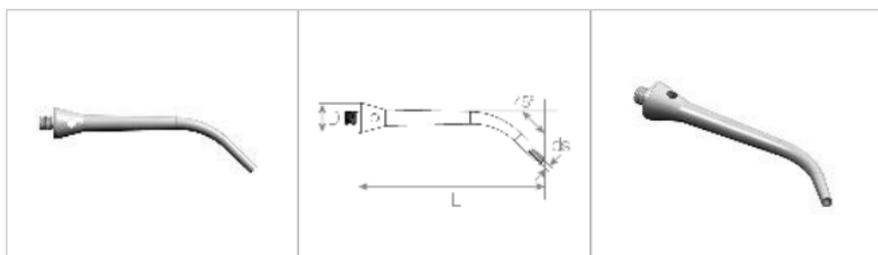
- ⊕ Shank: Alu 7075
- ⊕ Convert any M2, M3 or M4 stylus or accessory for use on an M5 system.

Order Number	ds	L	ML	d1	D	Wt.
STY-NAZ11-2P	M2	9.0	5.0	5.0	11.0	3.1
STY-NAZ11-3P	M3	11.0	7.0	5.0	11.0	3.2
STY-NAZ11-4P	M4	11.0	7.0	5.0	11.0	3.2



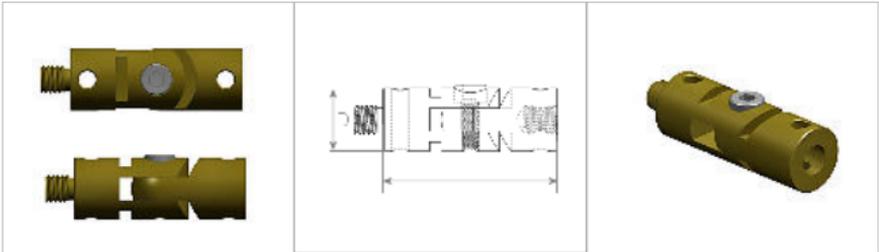
- ⊕ Shank: Alu 7075
- ⊕ Convert any M2, M3 or M4 stylus or accessory for use on an M5 system.
- ⊕ Extended length provides greater access to tight spaces

Order Number	ds	L	D	Wt.
STY-PAM5-M2STR-A	M2	74.0	11.0	—
STY-PAM5-M3STR-A	M3	74.0	11.0	—
STY-PAM5-M4STR-A	M4	74.0	11.0	—



- ⊕ Shank: Stainless Steel
- ⊕ Convert any M2, M3 or M4 stylus or accessory for use on an M5 system.
- ⊕ Also available in 90° angle design

Order Number	ds	L	D	Wt.
STY-PAM5-M2ANG-45SST	M2	69.0	11.0	—
STY-PAM5-M3ANG-45SST	M3	69.0	11.0	—
STY-PAM5-M4ANG-45SST	M4	69.0	11.0	—



- ⊕ Knuckle
- ⊕ Alu 7075
- ⊕ M5 male and M5 female threads
- ⊕ Basic hex wrench included

Order Number	L	D	Wt.
STY-N30-11NGA	30.0	11.0	7.0
STY-N36-18NGA	36.0	11.0	24.0

SOLUTIONS®
"How it works"

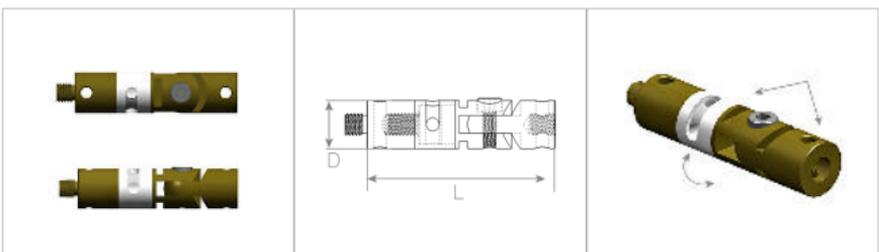
Use adapters or knuckles to measure hard to reach places. Many adapters are also available in titanium.

See tools on pages 121–122.

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M5
Adapters, Knuckle
© 2006 Paul W. Marino Gages, Inc.

Adapters, Knuckle, Rotary

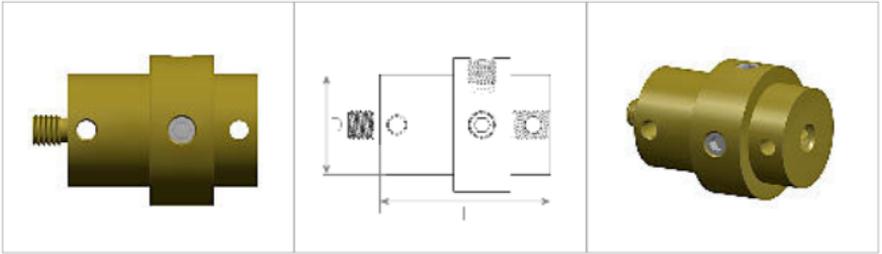


- ⊕ Knuckle, rotary
- ⊕ Alu 7075
- ⊕ M5 male and M5 female threads
- ⊕ Basic hex wrench included

Order Number	L	D	Wt.
STY-N43-11NGD	43.0	11.0	13.0
STY-N55-18NDG	55.0	18.0	38.0

M5

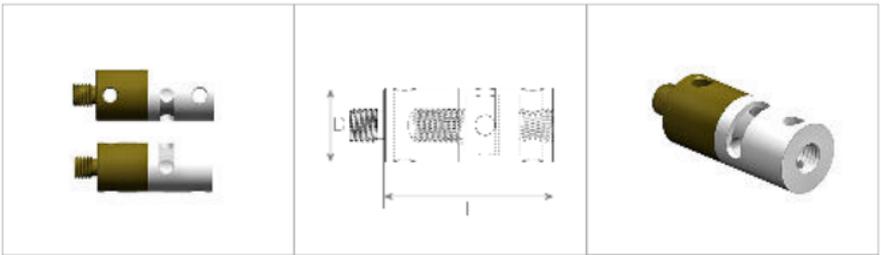
Adapters, Rotary



- ⊕ Threads: M5
- ⊕ Body: Alu 7075
- ⊕ Body: Rotate and lock

Order Number	L	D	Wt.
STY-N30-18NDS	30.0	18.0	28.0

Adapters, Rotary with Piezo



- ⊕ Threads: M5
- ⊕ Body: Alu 7075
- ⊕ Body: Rotate and lock

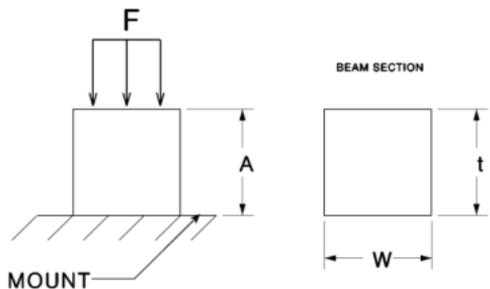
Order Number	L	D	Wt.
STY-N25-11NDSP	25.0	11.0	9.0
STY-N25-18NDSP	25.0	18.0	21.0

SOLUTIONS®
"How it works"

Piezo—from the Greek, meaning "to press or squeeze"

Mechanical compliance, which is the inverse of spring constant, is a function of the shape, modulus and type of load.

Example: Simple beam—Uniform load.



$$C_u = \frac{A}{AY_t} = \frac{A}{\rho A W t}$$

C_u = MECHANICAL COMPLIANCE
 L_u = MASS



Tools

M5



- ⊕ Pin key, single
- ⊕ Material: Steel
- ⊕ Straight pin

Order Number	ds	d1	L	D	Wt.
STY-N1.7NWST	2.9	1.7	70.0	5.0	—

Tools



- ⊕ Pin key, dual
- ⊕ Material: Steel
- ⊕ One angled end and one straight end

Order Number	ds	d1	L	D	Wt.
STY-N2.9NWST	2.9	2.9	70.0	5.0	—

Tools



- ⊕ Pin key set
- ⊕ Material: Steel
- ⊕ 1 each: straight and angled pin

Order Number	Description
STY-N1.7-2.9NWST	1 each: straight and angled pin

SOLUTIONS®
“How it works”

Tighten gently and properly with a set of tools and extend the life of your components.



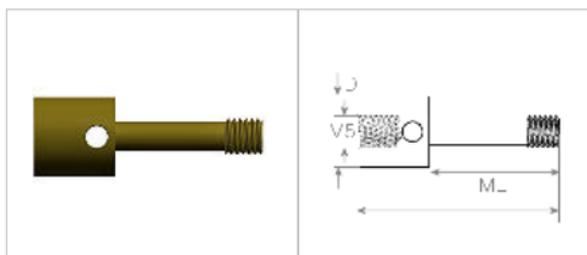
© 2008 Paul W. Marino Gages, Inc.



- ⊕ Hex wrench
- ⊕ Steel
- ⊕ Used to tighten set screws

Order Number	ds	L	Wt.
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	—
STY-HW4.0	4.0	70.0	—

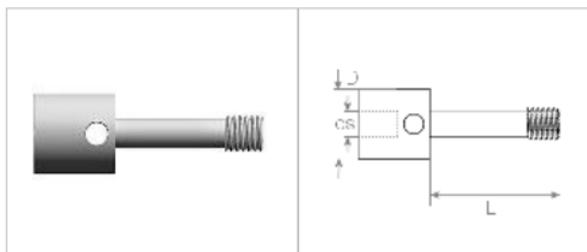
Screws, Type "A", for Cubes



- ⊕ Alu 7075
- ⊕ Used with cubes shown on pages 114-115 and M5 styli

Order Number	ds	L	ML	D	Wt.
STY-N5-20NSWA	M5	31.0	20.0	11.0	3.0
STY-N5-25NSWA	M5	36.0	25.0	11.0	3.0

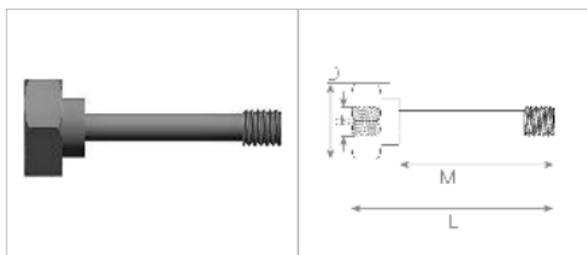
Screws, Type "B", for Cubes



- ⊕ Stainless Steel
- ⊕ Used with cubes shown on pages 114-115

Order Number	ds	L	D	Wt.
STY-N5-20NSWB	4.0	20.0	—	3.0
STY-N5-25NSWB	4.0	25.0	—	4.0

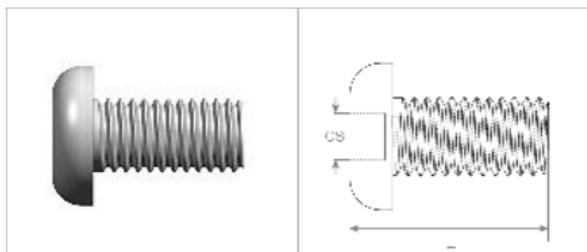
Screws, Type "B", for Discs and Cubes M5



- ⊕ Stainless Steel
- ⊕ Used with Type A discs on page 107 and M5 cubes on pages 114-115

Order Number	ds	L	ML	D	Wt.
STY-N5-15.5NST	M5	15.5	8.0	8.0	7.0
STY-N5-30NST	M5	30.0	21.0	8.0	9.0
STY-N5-35NST	M5	35.0	26.0	8.0	9.0

Screws, Type "L"

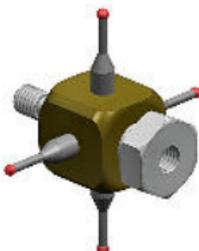
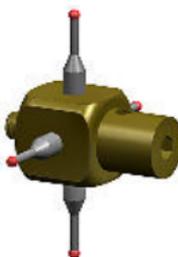


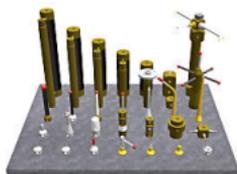
- ⊕ Stainless Steel
- ⊕ Used with Type G discs on page 107

Order Number	ds	L	Wt.
STY-N5-10NSL	3.0	10.0	2.0
STY-N5-12NSL	3.0	12.0	2.0

SOLUTIONS® "How it works"

Create custom star and disc assemblies using any combination of styli and accessories in this catalog.

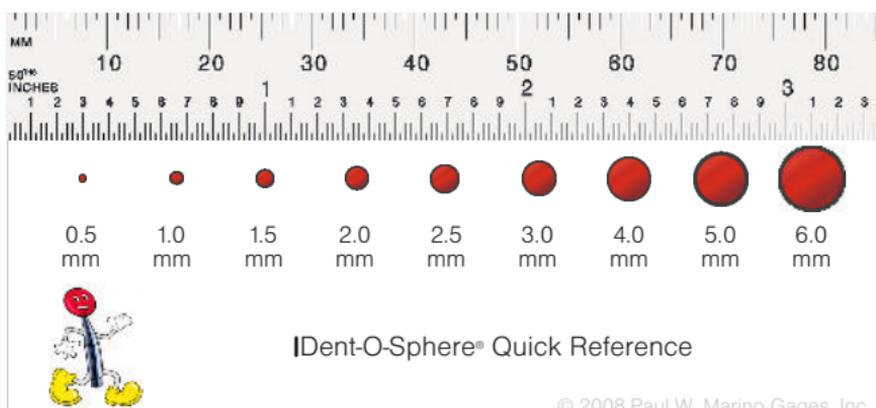


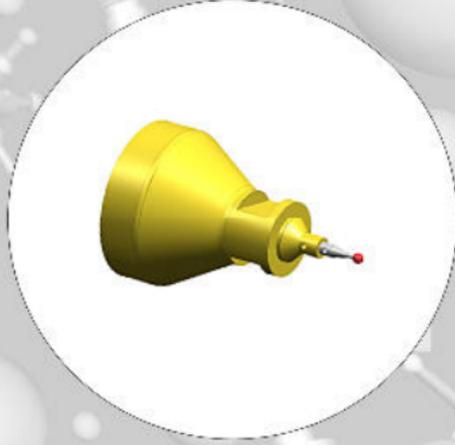
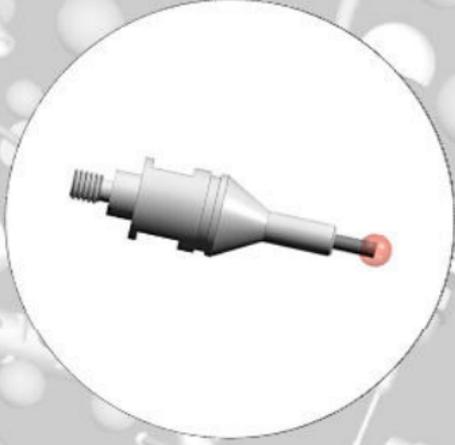


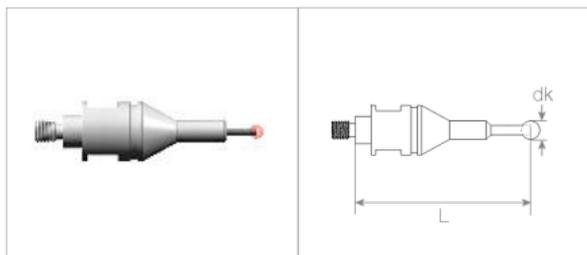
- ⊕ Kit features our most requested styli and accessories
- ⊕ Kit contents: 11 ruby styli, 7 extensions, 7 adapters, 4 screws, 1 tool set and 1 stand

PWM Order Number: STY-N30-11NTA, 30 piece stylus kit with stand

Contents	Qty	Description
STY-N3.0-33.5-11NTB	4	Stylus 3.0 x 33.5 mm M5
STY-N3.0-58-11NTB	2	Stylus 3.0 x 58 mm M5
STY-N5.0-53-11NTB	1	Stylus 5.0 x 53 mm M5
STY-N8.0-63.5-11NTB	1	Stylus 8.0 x 63.5 mm M5
STY-N8.0-114.5-11NTKE	1	Stylus 8.0 x 114.5 mm M5
STY-N2.0-55-11NTF	1	Stylus 2.0 x 55 mm M5
STY-N1.5-26.5-11NTN	1	Stylus 1.5 x 26.5 mm Pin
STY-N40-11NVPE	2	Extension 40 mm Alu7075
STY-N60-11NVPE	2	Extension 60 mm Alu7075
STY-N100-11NVPE	1	Extension 100 mm Alu7075
STY-N120-11NVPE	2	Extension 120 mm Alu7075
STY-N1.0-10-11NHT	1	Holder for 1.0 mm pin styli
STY-N25-11NDSP	1	Adapter, rotary
STY-N15-15NWA	2	Cube 15 mm
STY-N15-15NWB	2	Cube 15 mm
STY-N30-11NGA	1	Knuckle
STY-N5-20NSWA	2	Screw
STY-N5-20NSWB	2	Screw
STY-N1.7-2.9NWST	1	Tool set
STY-PLATE-M5	1	Stand for M5 accessories







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

Order Number	dk	L
STY-FBP001-RM6	1/4"	1-13/16"
STY-FBP002-RM6	1/16"	1-13/16"
STY-FBP003-RM6	.236"	2"
STY-FBP004-RM6	1/8"	1-13/16"
STY-FBP006-RM6	.150"	1-13/16"

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.



Carbide here for added stability,
strength and sub-micron deflection

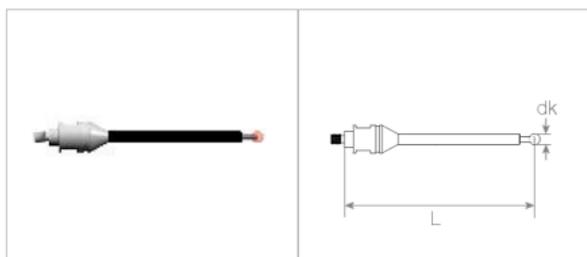
Need help — call our technical specialists.



Buy online at www.shoppwm.com

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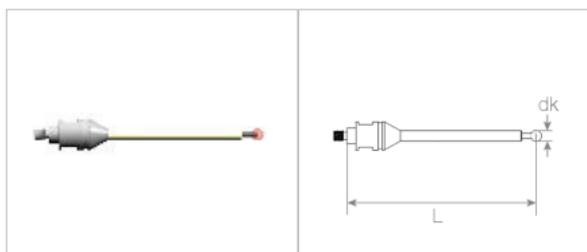
Ruby Ball Styli, Carbon Fiber Shank M6



- ⊕ Ball: Ruby
- ⊕ Shank: Carbon fiber with carbide insert
- ⊕ Ferrule: Stainless Steel

Order Number	dk	L
STY-FBP009-CFRM6	1/4"	4"

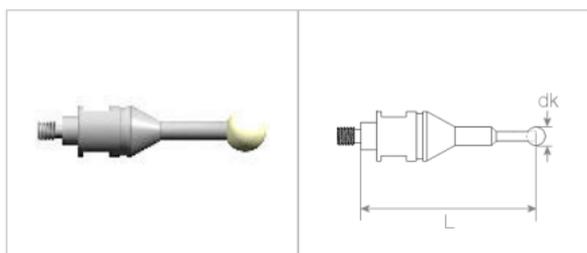
Ruby Ball Styli, Ceramic Shank



- ⊕ Ball: Ruby
- ⊕ Shank: Ceramic with carbide insert
- ⊕ Ferrule: Stainless Steel

Order Number	dk	L
STY-FBP009-KRM6	1/4"	4"

Ceramic Ball Styli, SST Shank



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

Order Number	dk	L
STY-FBP008-KM6	1/2"	2"

SOLUTIONS® "How it works"

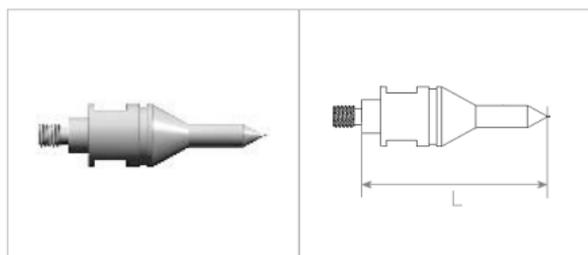
Use this tool, AMT-10057, to properly assembly your stylus configurations.



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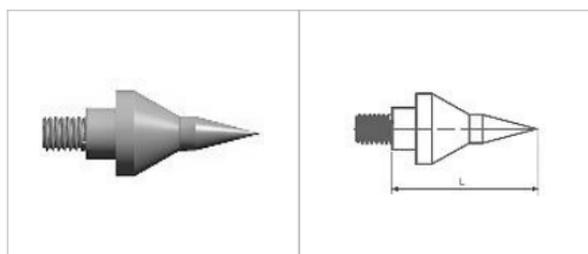
M6

Pointer Styli, Carbide



- ⊕ Tip: Carbide
- ⊕ Shank: Carbide
- ⊕ Ferrule: Stainless Steel

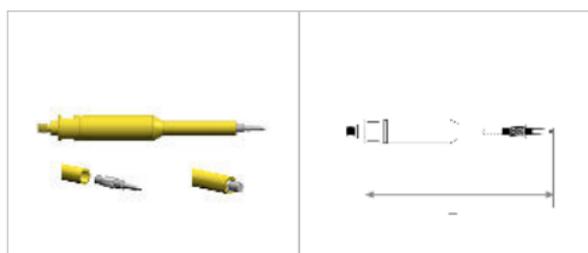
Order Number	β	L
STY-FBP010-TCM6	1/64"	1-3/4"



- ⊕ Tip: Alu 7075
- ⊕ Finish: Hard coat anodized

Order Number	β	L
STY-FPP0071-PAM6		26

Scriber, PWM Gold Series



- ⊕ Tip: Carbide
- ⊕ Shank: Alu 7075
- ⊕ Ferrule: Alu 7075
- ⊕ Point stores inside shank for safety

Order Number	L
STY-FSP001-M6	5"
STY-FSP001-TIP (replacement scriber tip)	NA

IDent-O-Sphere[®] / Quick reference ball diameter conversion chart

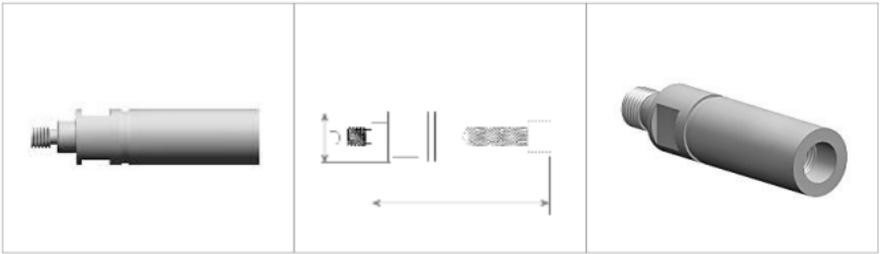
Metric (nominal)	1.5 mm	3 mm	6 mm	12 mm	25 mm
Decimal	.062"	.125"	.250"	.500"	1.00"
Fraction	1/16"	1/8"	1/4"	1/2"	1"

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Extensions

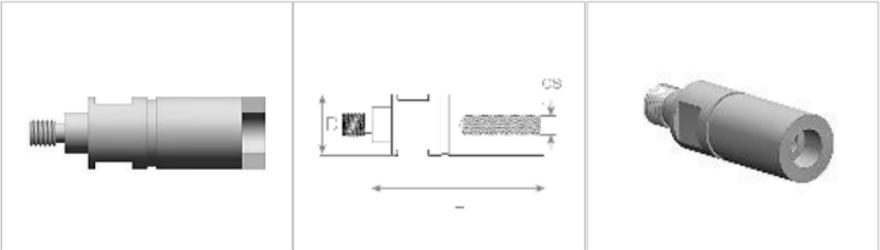
M6



⊕ Stainless Steel

Order Number	D	L
STY-FE50-6NV-SP	.625"	2"
STY-FE76-6NV-SP	.625"	3"
STY-FE101-6NV-SP	.625"	4"
STY-FE152-6NV-SP	.625"	6"
STY-FE304-6NV-SP	.625"	12"

Adapters, Crossover, SST



⊕ Adapter, M6 to M2, M3, M4, M5 or M8

⊕ Stainless Steel

Order Number	ds	D	L
STY-FAM6-M2S	M2	.625"	1.5"
STY-FAM6-M3S	M3	.625"	1.5"
STY-FAM6-M4-S	M4	.625"	1.5"
STY-FAM6-M5-S	M5	.625"	1.5"
STY-FAM6-M8-S	M8	.625"	1.5"

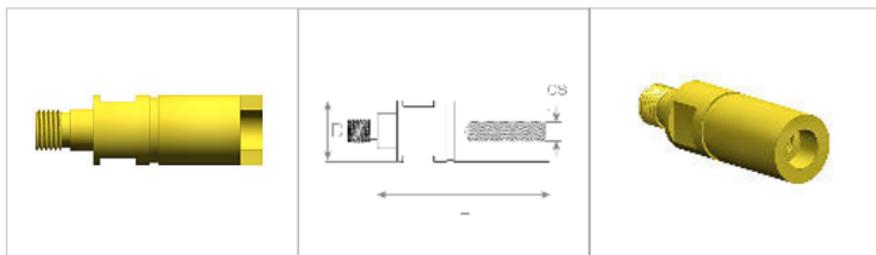
SOLUTIONS®
"How it works"

Use this tool, AMT-10057,
to properly assembly your
stylus configurations.



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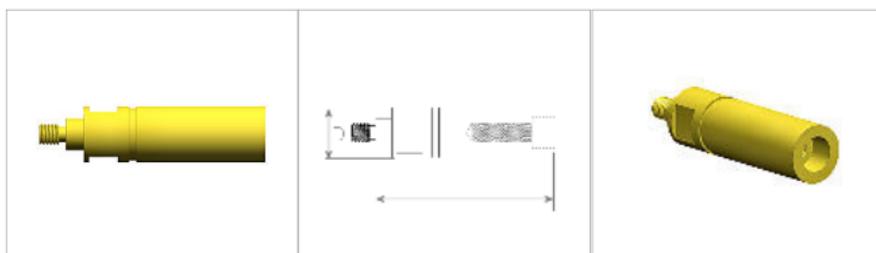
M6 Adapters, Crossover, PWM Gold Series



- ⊕ Aluminum 7075
- ⊕ Finish: Hard coat anodized, gold

Order Number	ds	D	L
STY-FAM6-M2-AP	M2	.625"	1.5"
STY-FAM6-M3-AP	M3	.625"	1.5"
STY-FAM6-M4-AP	M4	.625"	1.5"
STY-FAM6-M5-AP	M5	.625"	1.5"
STY-FAM6-M8-AP	M8	.625"	1.5"

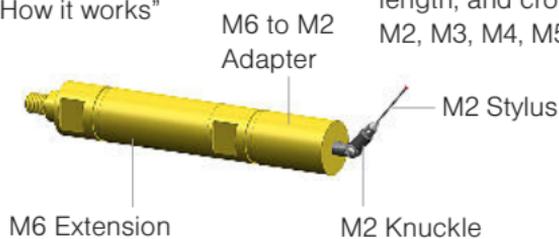
Extensions, PWM Gold Series



- ⊕ Aluminum 7075
- ⊕ Finish: Hard coat anodized, gold

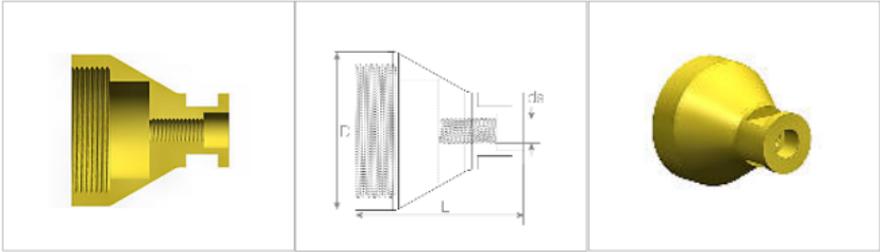
Order Number	D	L
STY-FE50-6NV-AP	.625"	2"
STY-FE76-6NV-AP	.625"	3"
STY-FE101-6NV-AP	.625"	4"
STY-FE152-6NV-AP	.625"	6"
STY-FE304-6NV-AP	.625"	12"

SOLUTIONS®
"How it works"



Add an extension to increase working length, and crossover adapters to use M2, M3, M4, M5 or M8 thread styli.

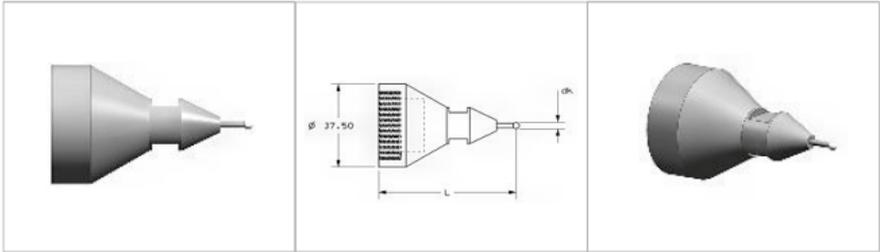
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- ⊕ Aluminum 7075
- ⊕ Finish: Hard coat anodized, gold

Order Number	ds	D mm	L mm
STY-FA2712-M5-AP	M5	15.88	15.88
STY-FA2712-M6-AP	M6	15.88	15.88
STY-FA2712-M8-AP	M8	15.88	15.88
STY-FA2712-3/8-AP	3/8-24 UNF	15.88	15.88

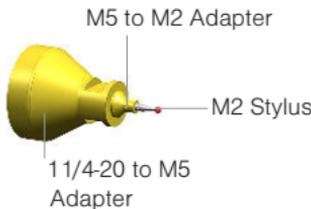
Mounted Ball Styli, 1 1/4-20



- ⊕ Ball: See chart
- ⊕ Shank: Carbide
- ⊕ Ferrule: Stainless steel

Order Number	Ball	dk mm	D mm	L mm
STY-FBP2712-3R	Ruby	3.0	37.50	60.0
STY-FBP2712-3Z	Zircon	3.0	37.50	60.0
STY-FBP2712-3TC	Carbide	3.0	37.50	60.0
STY-FBP2712-6R	Ruby	6.0	37.50	60.0
STY-FBP2712-6Z	Zircon	6.0	37.50	60.0
STY-FBP2712-6TC	Carbide	6.0	37.50	60.0

Adapters convert styli of different threads for use on M6 systems.



SOLUTIONS®
 "How it works"

American Modular Tooling



"Think Modular": Enhance the capabilities of your portable arm system with American Modular Tooling® vees, cones, edges and large spherical tips. PWM M6 to M8 adapters work with all AMT® components with an M8 thread. Ask for a comprehensive catalog to see our complete line.



AMT-15010
Single point



AMT-15020
Cone



AMT-15026
Vee, rotate
and lock



AMT-15027
Vee
element



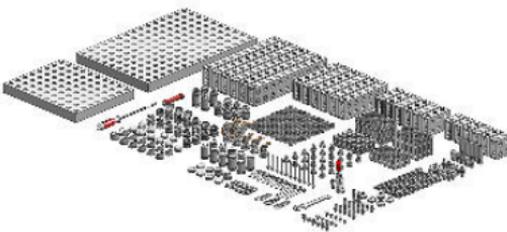
AMT-15037
Wall, 50%



AMT-15060
Tube
element

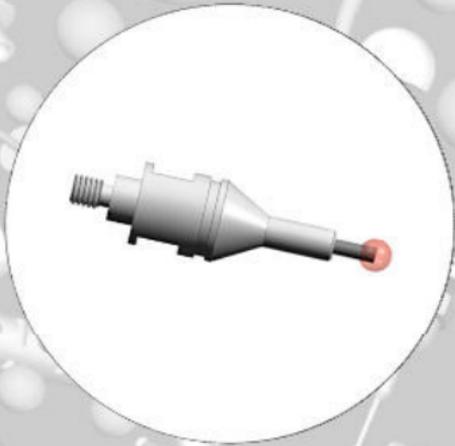


AMT-15064
Extension



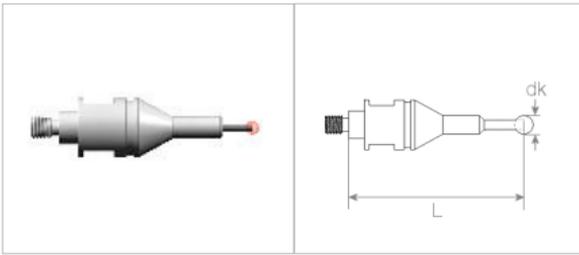
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3/8-24

Ruby Ball Styli, Carbide Shank



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

Order Number	dk	L
STY-FBP001-R	1/4"	1-13/16"
STY-FBP002-R	1/16"	1-13/16"
STY-FBP003-R	.236"	2"
STY-FBP004-R	1/8"	1-13/16"
STY-FBP006-R	.150"	1-13/16"

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.



Carbide here for added stability, strength and sub-micron deflection.

IDent-O-Sphere® / Quick reference ball diameter conversion chart

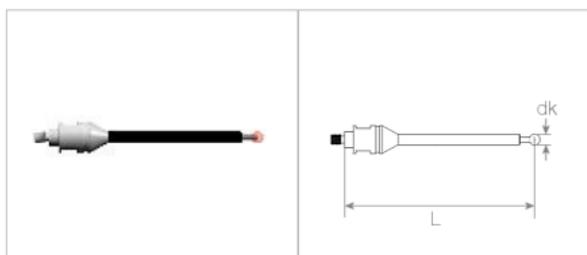
Metric (nominal)	1.5 mm	4 mm	6 mm	12 mm	25 mm
Decimal	.062"	.125"	.250"	.500"	1.00"
Fraction	1/16"	1/8"	1/4"	1/2"	1"

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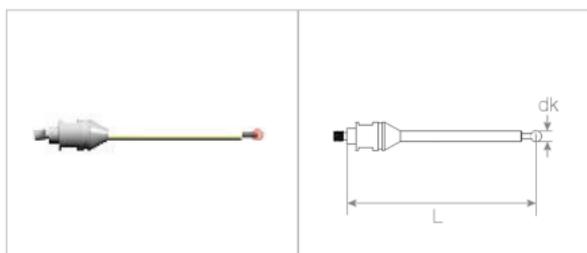
Ruby Ball Styli, Carbon Fiber Shank 3/8-24



- ⊕ Ball: Ruby
- ⊕ Shank: Carbon fiber with carbide insert
- ⊕ Ferrule: Stainless Steel

Order Number	dk	L
STY-FBP009-CFR	1/4"	4"

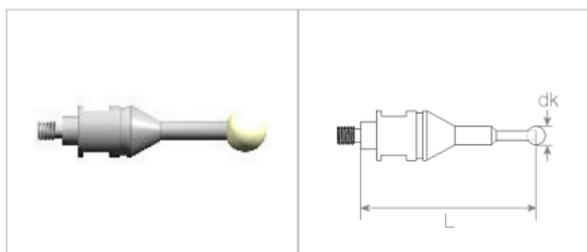
Ruby Ball Styli, Ceramic Shank



- ⊕ Ball: Ruby
- ⊕ Shank: Ceramic with carbide insert
- ⊕ Ferrule: Stainless Steel

Order Number	dk	L
STY-FBP009-KR	1/4"	4"

Ceramic Ball Styli, SST Shank



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

Order Number	dk	L
STY-FBP008-K	1/2"	2"

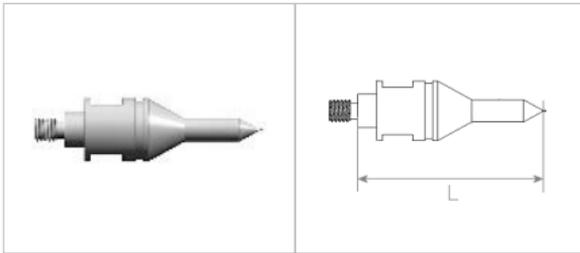
SOLUTIONS® "How it works"

Use this tool, AMT-10057, to properly assembly your stylus configurations.



3/8-24

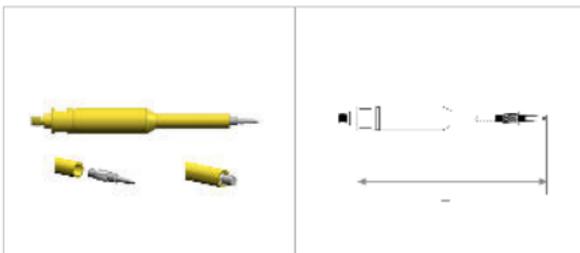
Pointer Styli, Carbide



- ⊕ Tip: Carbide
- ⊕ Shank: Carbide
- ⊕ Ferrule: Stainless Steel

Order Number	B	L
STY-FBP010-TC	1/64"	1.75"

Scriber, PWM Gold Series



- ⊕ Tip: Carbide
- ⊕ Shank: Alu 7075
- ⊕ Ferrule: Alu 7075
- ⊕ Point stores inside shank for safety

Order Number	L
STY-FSP001	5"
STY-FSP001-TIP (replacement scriber tip)	

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
 2. Ceramic
 3. Silicon
 4. Carbide
 5. Zirconia

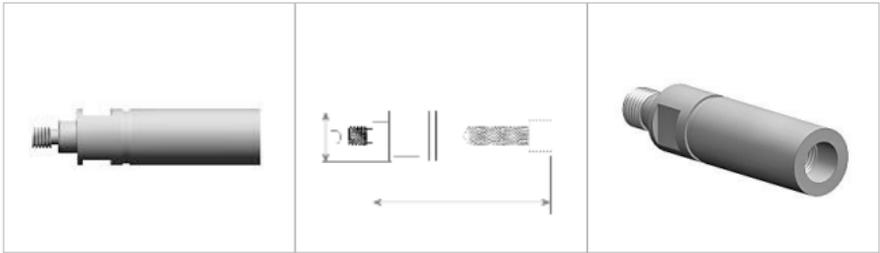
IDent-O-Sphere® / Quick reference ball diameter chart

Metric (nominal)	1.5 mm	3 mm	6 mm	12 mm
Decimal	.062"	.125"	.250"	.500"
Fraction	1/16"	1/8"	1/4"	1/2"



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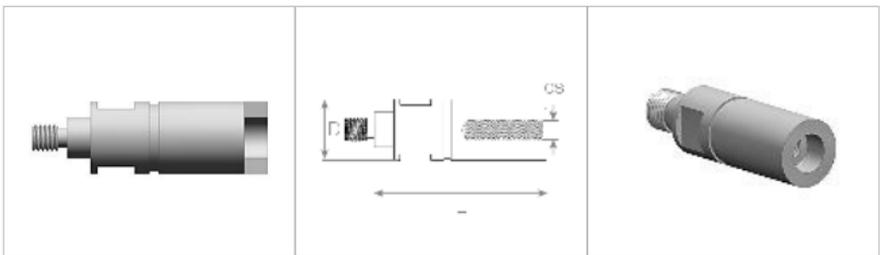
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⊕ Stainless Steel

Order Number	D	L
STY-FE50-3/8NV-SP	.625"	2"
STY-FE76-3/8NV-SP	.625"	3"
STY-FE101-3/8NV-SP	.625"	4"
STY-FE152-3/8NV-SP	.625"	6"
STY-FE304-3/8NV-SP	.625"	12"

Adapters, Crossover, SST



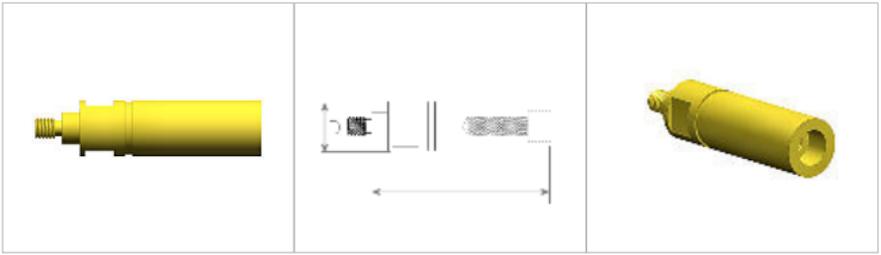
⊕ Adapter, 3/8-24 to M2, M3, M4, M5 or M8
 ⊕ Stainless Steel

Order Number	ds	D	L
STY-FA3/8-M2-S	M2	.625"	1.5"
STY-FA3/8-M3-S	M3	.625"	1.5"
STY-FA3/8-M4-S	M4	.625"	1.5"
STY-FA3/8-M5-S	M5	.625"	1.5"
STY-FA3/8-M8-S	M8	.625"	1.5"

SOLUTIONS®
 "How it works"

Use this tool, AMT-10057,
 to properly assembly your
 stylus configurations.

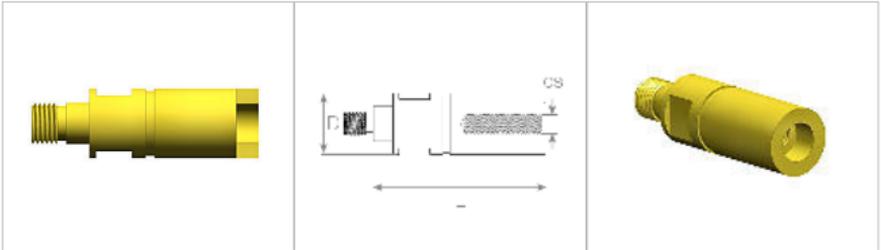




- ⊕ Aluminum 7075
- ⊕ Finish: Hard coat anodized, gold

Order Number	D	L
STY-FE50-3/8NV-AP	.625"	2"
STY-FE76-3/8NV-AP	.625"	3"
STY-FE101-3/8NV-AP	.625"	4"
STY-FE152-3/8NV-AP	.625"	6"
STY-FE304-3/8NV-AP	.625"	12"

Adapters, Crossover, PWM Gold Series

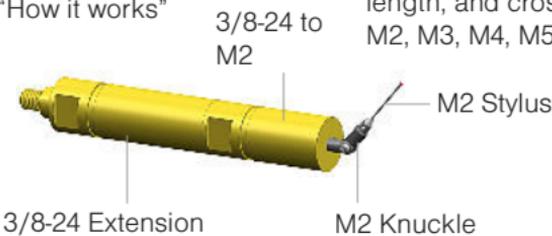


- ⊕ Aluminum 7075
- ⊕ Finish: Hard coat anodized, gold

Order Number	ds	D	L
STY-FA3/8-M2-AP	M2	.625"	1.5"
STY-FA3/8-M3-AP	M3	.625"	1.5"
STY-FA3/8-M4-AP	M4	.625"	1.5"
STY-FA3/8-M5-AP	M5	.625"	1.5"
STY-FA3/8-M8-AP	M8	.625"	1.5"

SOLUTIONS®
"How it works"

Add an extension to increase working length, and crossover adapters to use M2, M3, M4, M5 or M8 thread styli.

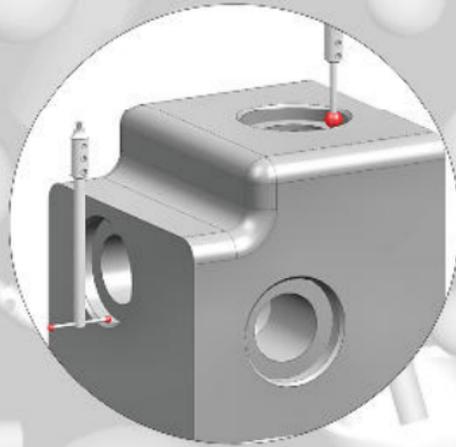
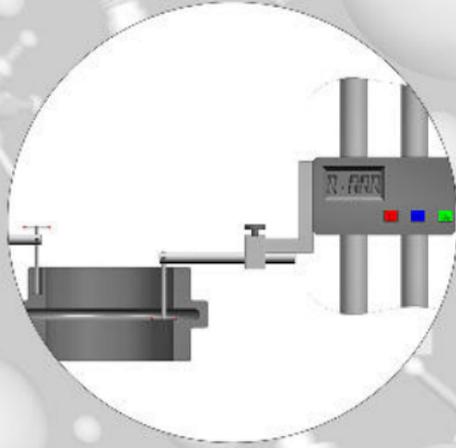
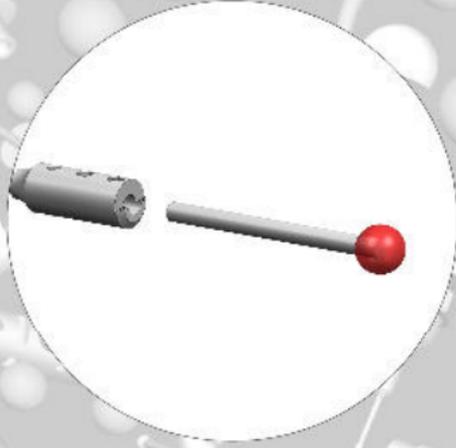


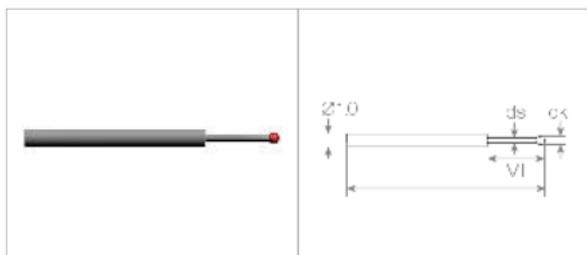
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Extensions and Adapters, Crossover

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3/8-24





- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel, reduced
- ⊕ Used with adapters on pages 143–144

Order Number	dk	ds	L	ML	Wt.
STY-N0.25-15.3-1NTF	0.25	0.2	15.3	2.5	0.2
STY-N0.3-15.3-1NTF	0.3	0.2	15.3	2.5	0.2
STY-N0.4-15.4-1NTF	0.4	0.3	15.4	2.5	0.2
STY-N0.5-15.5-1NTF	0.5	0.3	15.5	2.5	0.2
STY-N0.6-15.6-1NTF	0.6	0.4	15.6	4.5	0.3
STY-N0.7-15.7-1NTF	0.7	0.4	15.7	4.5	0.3
STY-N0.8-15.8-1NTF	0.8	0.6	15.8	4.5	0.3
STY-N0.9-15.9-1NTF	0.9	0.6	15.9	4.5	0.3
STY-N1.0-16-1NTF	1.0	0.8	16.0	4.5	0.4

SOLUTIONS® How it Works

Pin styli are a great alternative to custom probes. Used with holders on pages 143–144.



Modular pin / adapter stylus assembly



Standard mounted stylus

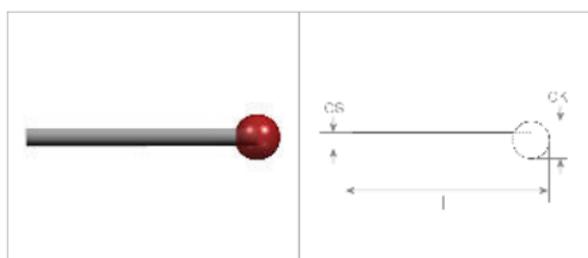
- ⊕ Feature – modularity
- ⊕ Benefit – interchangeability

Use the tools on pages 40-42 to properly assemble your styli configurations



Pin Styli, Carbide, Ruby ball

PIN



- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ Use with adapters on pages 143–144

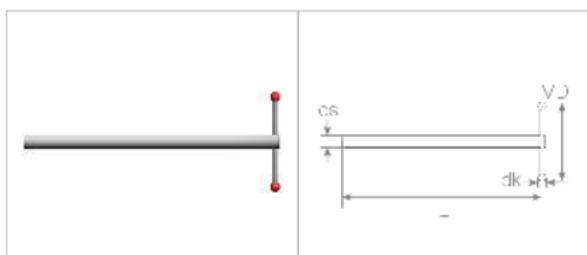
Order Number	dk	ds	L	ML	Wt.
STY-N1.35-26.4-1NTN	1.35	1.0	26.4	—	0.3
STY-N1.5-26.5-1NTN	1.5	1.0	26.5	—	0.3
STY-N2.0-26-1NTN	2.0	1.0	26.0	—	0.3
STY-N2.0-27-1.5NTN	2.0	1.5	27.0	—	0.6
STY-N2.0-45-1NTN	2.0	1.0	45.0	—	0.5
STY-N2.0-61-1NTN	2.0	1.0	61.0	—	0.7
STY-N2.0-81-1NTN	2.0	1.0	81.0	—	1.0
STY-N2.0-101-1NTN	2.0	1.0	101.0	—	1.3
STY-N2.5-27.5-1.5NTN	2.5	1.5	27.5	—	0.6
STY-N3.0-26.5-1.5NTN	3.0	1.5	26.5	—	0.7
STY-N3.0-38-2NTN	3.0	2.0	38.0	—	2.0
STY-N3.0-45-1.5NTN	3.0	1.5	45.0	—	1.0
STY-N3.0-61.5-1.5NTN	3.0	1.5	61.5	—	1.6
STY-N3.0-81.5-1.5NTN	3.0	1.5	81.5	—	2.2
STY-N4.0-27-2NTN	4.0	2.0	27.0	—	1.3
STY-N4.0-45-2NTN	4.0	2.0	45.0	—	2.1
STY-N4.0-62-2NTN	4.0	2.0	62.0	—	2.9
STY-N4.0-82-2NTN	4.0	2.0	82.0	—	3.9
STY-N4.0-102-2NTN	4.0	2.0	102.0	—	4.9
STY-N5.0-27.5-2NTN	5.0	2.0	27.5	—	1.4
STY-N5.0-42.5-2NTN	5.0	2.0	42.5	—	2.3
STY-N5.0-45-3NTN	5.0	3.0	45.0	—	6.0
STY-N5.0-62.5-2NTN	5.0	2.0	62.5	—	3.1
STY-N5.0-82.5-2NTN	5.0	2.0	82.5	—	4.0
STY-N5.0-102.5-2NTN	5.0	2.0	102.5	—	5.0
STY-N6.0-28-2NTN	6.0	2.0	28.0	—	1.6
STY-N6.0-43-2NTN	6.0	2.0	43.0	—	2.2
STY-N6.0-63-2NTN	6.0	2.0	63.0	—	3.2
STY-N6.0-83-2NTN	6.0	2.0	83.0	—	4.2
STY-N6.0-103-2NTN	6.0	2.0	103.0	—	4.9
STY-N6.0-103-3NTN	6.0	3.0	103.0	—	10.5

Continued on next page

Continued from previous page

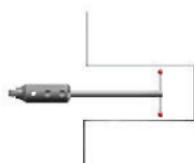
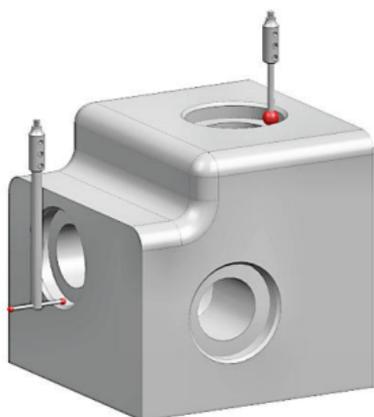
Order Number	dk	ds	L	ML	Wt.
STY-N8.0-29-2NTN	8.0	2.0	29.0	—	2.0
STY-N8.0-44-3NTN	8.0	3.0	44.0	—	6.5
STY-N8.0-64-2NTN	8.0	2.0	64.0	—	3.6
STY-N8.0-73-3NTN	8.0	3.0	73.0	—	7.5
STY-N8.0-84-2NTN	8.0	2.0	84.0	—	4.5
STY-N8.0-103-3NTN	8.0	3.0	103.0	—	10.5

Pin Styli, "T"-Style, Carbide, Ruby Ball



- ⊕ Ball: Ruby
- ⊕ Shank: Carbide.
- ⊕ Use with adapt-ers on pages 143-144

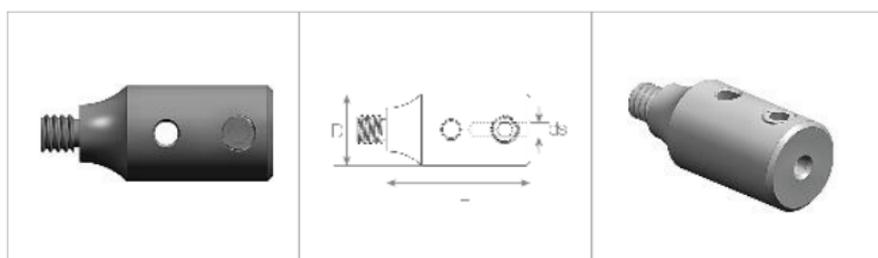
Order Number	dk	ds	L	MD	Wt.
STY-N1.0-50-2NTTH	1.0	2.0	50.0	10.0	3
STY-N1.0-100-2NTTH	1.0	2.0	100.0	10.0	5
STY-N2.0-50-2NTTH	2.0	2.0	50.0	20.0	3
STY-N2.0-100-2NTTH	2.0	2.0	100.0	20.0	5

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"How it works"

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Adapters for Pin Styli

PIN



- ⊕ Adapter, Pin to M2
- ⊕ Stainless Steel
- ⊕ For use with Type F, Type N or Type H pin styli

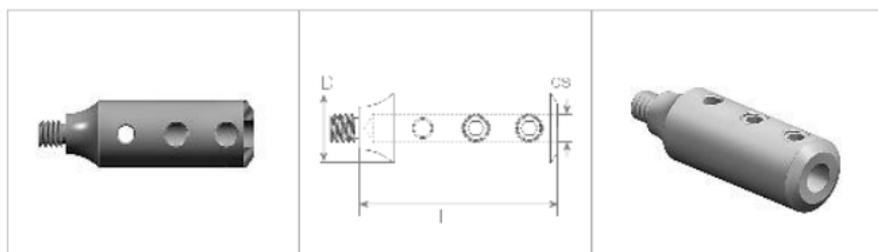
Order Number	ds	L	D	Wt.
STY-N1.0NHZK	1.0	10.0	4.0	0.8

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Use the tools on pages 40-42 to properly assemble your styli configurations

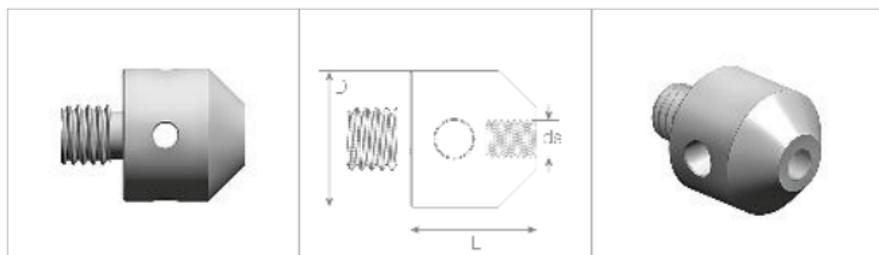


Adapters for Pin Styli



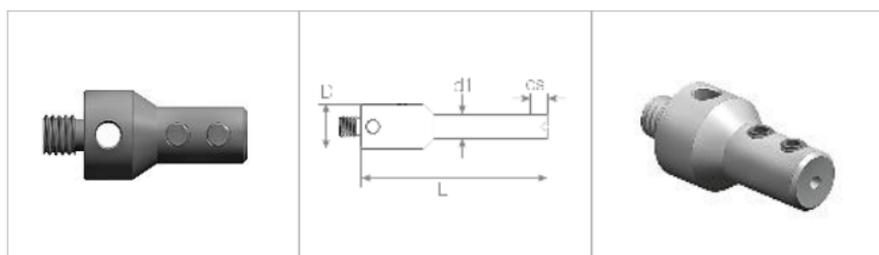
- ⊕ Adapter, Pin to M2, M3 or M4
- ⊕ Stainless Steel
- ⊕ For use with Type F, Type N or Type H pin styli
- ⊕ Ideal for long pin styli: features two set screws for secure fastening

Order Number	Thread	ds	L	D	Wt.
STY-N1.0NHZ	M2	1.0	14.0	5.0	1.7
STY-N1.5NHZ	M2	1.5	14.0	5.0	1.7
STY-N2.0NHZ	M2	2.0	14.0	5.0	1.6
STY-N3.0NHZ	M2	3.0	10.0	5.0	0.8
STY-N1.0-3NHZ	M3	1.0	14.0	5.0	1.7
STY-N1.5-3NHZ	M3	1.5	14.0	5.0	1.7
STY-N2.0-3NHZ	M3	2.0	14.0	5.0	1.6
STY-N1.0-4NHZ	M4	1.0	14.0	5.0	1.7
STY-N1.5-4NHZ	M4	1.5	14.0	5.0	1.7
STY-N2.0-4NHZ	M4	2.0	14.0	5.0	1.6



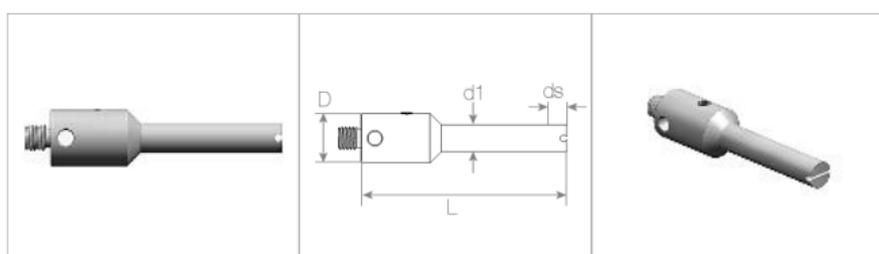
- ⊕ Adapter, Pin to M5
- ⊕ Stainless Steel
- ⊕ Use with up to 5 Type F, Type N or Type H pin styli to make a star.

Order Number	Thread	ds	L	D	Wt.
STY-N1.0-10-11NHT	M5	1.0	10.0	11.0	6.0
STY-N1.5-10-11NHT	M5	1.5	10.0	11.0	6.0
STY-N2.0-10-11NHT	M5	2.0	10.0	11.0	6.0



- ⊕ Adapter, Pin to M5
- ⊕ Stainless Steel
- ⊕ Use with Type F, Type N or Type H pin styli
- ⊕ Ideal for long pin styli: features two set screws for secure fastening

Order Number	Thread	ds	L	D	Wt.
STY-N1.0-20-11NHT	M5	1.0	20.0	11.0	9.0
STY-N1.5-20-11NHT	M5	1.5	20.0	11.0	9.0
STY-N2.0-20-11NHT	M5	2.0	20.0	11.0	9.0
STY-N3.0-20-11NHT	M5	3.0	20.0	11.0	9.0

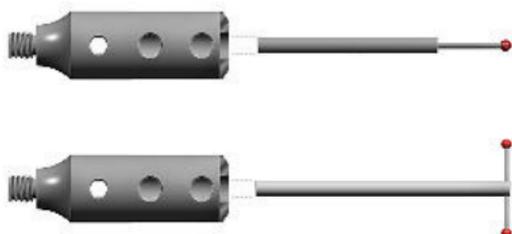


- ⊕ Adapter, right angle, Pin to M5
- ⊕ Stainless Steel
- ⊕ For use with pin styli with 1.0 mm diameter shank

Order Number	Thread	ds	L	D	Wt.
STY-N1.0-45-11NHT	M5	1.0	45.0	11.0	16.0

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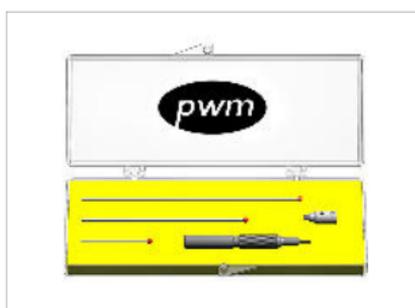
All pin styli can be used with the adapters and holders shown on pages 143–144 to create custom configurations specific to your needs



Buy online at www.shoppwm.com



5 Piece Kit, Pin Styli

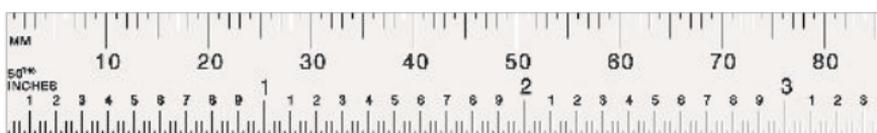


- ⊕ Ball: Ruby
- ⊕ Shank: Stainless Steel
- ⊕ Plastic case

PWM Order Number STY-KM2-2.0NTN, 5 piece pin styli kit		
Contents	Qty	Description
STY-N2.0-26NTN	1	Stylus 26 mm x 2.0 mm
STY-N2.0-61NTN	1	Stylus 61 mm x 2.0 mm
STY-N2.0-81NTN	1	Stylus 81 mm x 2.0 mm
STY-N1.0NHZ	1	Holder M2, for 1.0 mm shank pins
STY-N0.9NWSE	1	Hex key for holder set screws

Adapters, Crossover and Pin Stylus Kit
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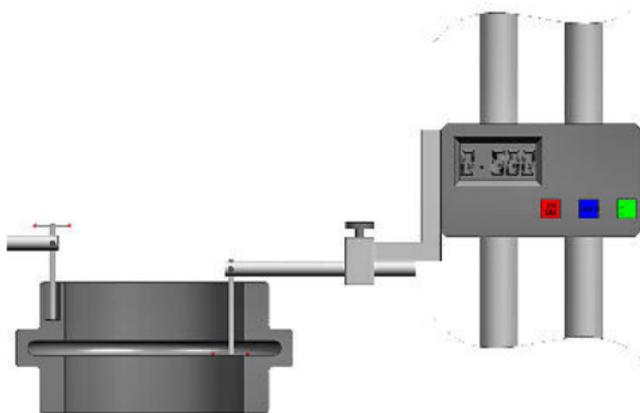
Pins



IDent-O-Sphere® Quick Reference

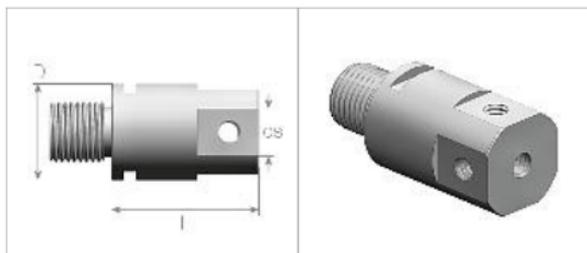
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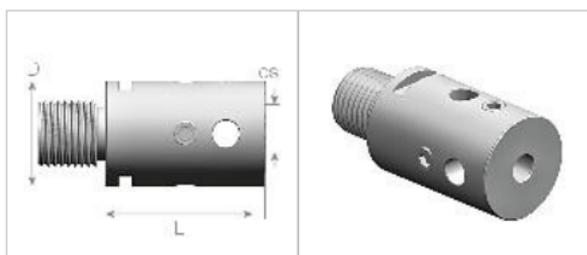
Universal Holder for M2 Styli



- ⊕ Stainless Steel
- ⊕ Use with any M2 stylus
- ⊕ Used with Type A or B shanks on page 147.

Order No.	L	D	ds	Wt.
STY-N7.0NHS	12.0	8.0	M2	5.0

Universal Holder for Pin Styli

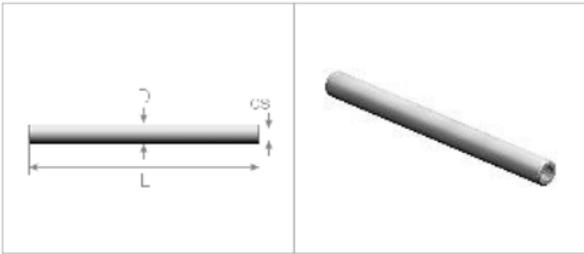


- ⊕ Stainless Steel
- ⊕ Use with Type F, N and T pin styli
- ⊕ Used with Type A or B shanks on page 147.

Order No.	L	D	ds	Wt.
STY-N1.0NHH	12.0	8.0	1.0	4.0
STY-N2.0NHH	12.0	8.0	2.0	4.0
STY-N3.0NHH	12.0	8.0	3.0	3.0

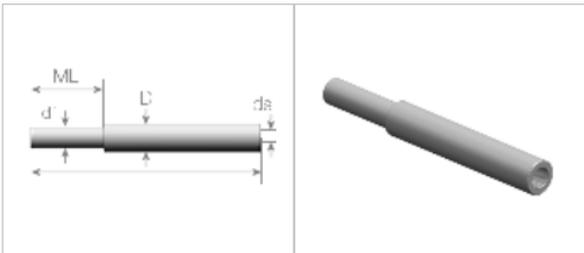
Universal Shanks

PIN



- ⊕ Stainless Steel
- ⊕ Trimos, Wenzel, Mahr, Vertex and Mitutoyo Electronic Height Gages.
- ⊕ Used with holders on page 146

Order No.	L	ML	ds	D	d1	Wt.
STY-N8.0-90NSA	90.0	—	M5x.5	8.0	—	24.0



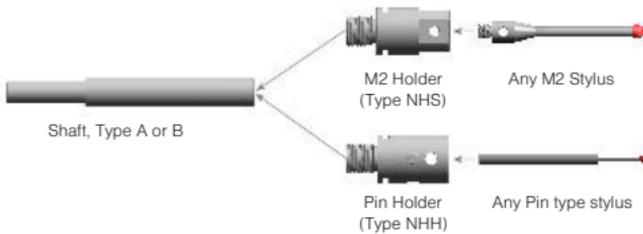
- ⊕ Stainless Steel
- ⊕ Tesa Electronic Height Gages.
- ⊕ Used with holders on page 146

Order No.	L	ML	ds	D	d1	Wt.
STY-N6.0-63NSB	63.0	50.0	M5x.5	6.0	6.0	19.0

SOLUTIONS® “How it works”

Purchase a Type A or B shaft, a pin stylus holder and an M2 stylus holder and build a complete modular set for any measuring need. Just add styli — be creative and add knuckles, adapters or other accessories.

Shanks are compatible with Mahr, Mitutoyo, Tesa, Trimos, Vertex and Wenzel Electronic Height Gages.



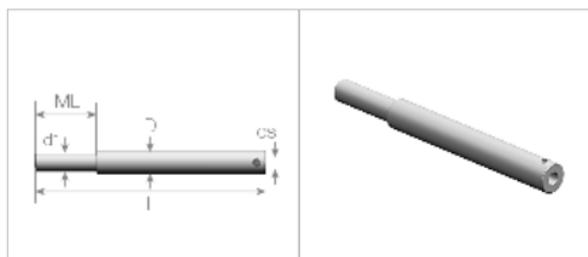
Buy online at www.shoppwm.com



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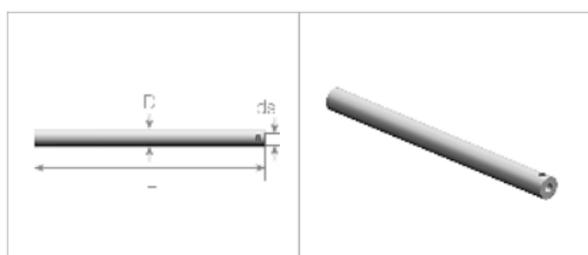
Shanks for Height Gages
© 2008 Paul W. Marino Gages, Inc.

Pins



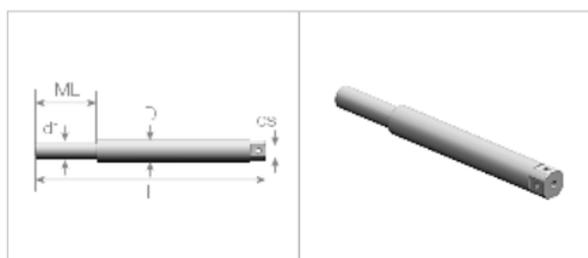
- ⊕ Stainless Steel
- ⊕ One piece shank and holder
- ⊕ Use with pin styli with a 3.0 mm shank
- ⊕ Tesa Electronic Height Gages

Order No.	L	ML	ds	D	d1	Wt.
STY-N6.0-75NHC	75.0	20.0	3.0	8.0	6.0	20.0



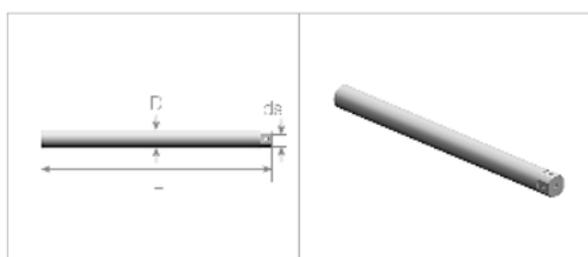
- ⊕ Stainless Steel
- ⊕ One piece shank and holder
- ⊕ Use with pin styli with a 3.0 mm shank
- ⊕ Mahr, Mitutoyo, Trimos, Vertex, Wenzel, and Electronic Height Gages

Order No.	L	ML	ds	D	d1	Wt.
STY-N8.0-100NHD	100.0	—	3.0	8.0	—	25.0



- ⊕ Stainless Steel
- ⊕ One piece shank and holder
- ⊕ Use with any M2 stylus
- ⊕ Tesa Electronic Height Gages

Order No.	L	ML	ds	D	d1	Wt.
STY-N6.0-75NHE	75.0	20.0	M2	8.0	6.0	20.0



- ⊕ Stainless Steel
- ⊕ One piece shank and holder
- ⊕ Use with any M2 stylus
- ⊕ Mahr, Mitutoyo, Trimos, Vertex, Wenzel, and Electronic Height Gages

Order No.	L	ML	ds	D	d1	Wt.
STY-N8.0-100NHF	100.0	—	M2	8.0	—	25.0

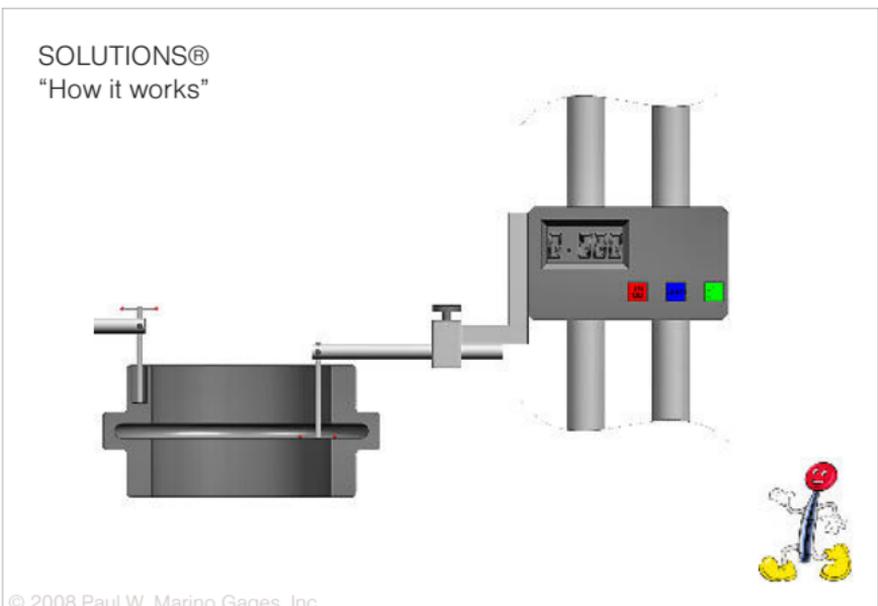
Electronic Height Gage Kit

PIN



- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ Comprehensive accessory kit for electronic height gages.
- ⊕ Plastic case

PWM Order Number					
STY-N8.0NHSA	Shank diameter, 8.0 mm				
STY-N6.0NHSA	Shank diameter, 6.0 mm				
Both kits include:					
Contents	Description	L	dk	ds	Wt.
STY-N1.0-100-3NTTH	T Stylus	100.0	1.0	—	10.0
STY-N2.0-100-3NTTH	T Stylus	100.0	2.0	—	10.3
STY-N2.0-.81-1NTN	Pin Stylus	81.0	2.0	—	1.0
STY-N4.0-42-2NTN	Pin Stylus	42.0	4.0	—	
STY-N6.0-103-3NTN	Pin Stylus	103.0	6.0	—	4.9
STY-N1.0NHH	Stylus Holder	12.0	—	1.0	4
STY-N2.0NHH	Stylus Holder	12.0	—	2.0	4
STY-N3.0NHH	Stylus Holder	12.0	—	3.0	4
STY-N7.0NHS	Stylus Holder	12.0	—	M2	5
STY-N1.5NWSK	Wrench, 1.5 mm for Type C, D and H Holders				
STY-N6.5NWGA	Wrench, 6.5 mm for Type H and S Holders				



Kits for Height Gages
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Pins

Electronic Height Gage Kit



- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ T Stylus kit for electronic height gages.
- ⊕ Plastic case

PWM Order Number STY-N6.0NHSC, 3 piece kit

Contents	Description	L	dk	ds	D	Wt.
STY-N1.0-100-3NTTH	T Stylus	100.0	1.0	3.0	—	—
STY-N6.0-75NHC	Stylus Holder	75.0	—	3.0	6.0	20
STY-N1.5NWSK	Hex Wrench	55.0	—	—	—	—



- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ T Stylus kit for electronic height gages.
- ⊕ Plastic case

PWM Order Number STY-N6.0NHSD, 3 piece kit

Contents	Description	L	dk	ds	D	Wt.
STY-N2.0-100-3NTTH	T Stylus	100.0	2.0	3.0	—	—
STY-N6.0-75NHC	Stylus Holder	100.0	—	3.0	6.0	20
STY-N1.5NWSK	Hex Wrench	55.0	—	—	—	—

Buy online at www.shoppwm.com

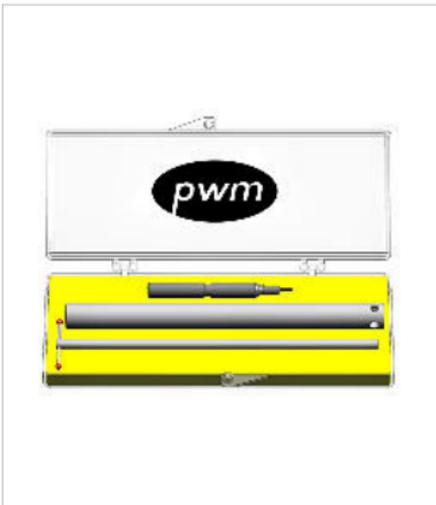
Electronic Height Gage Kit

PIN



- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ T Stylus kit for electronic height gages.
- ⊕ Plastic case

PWM Order Number STY-N8.0NHSE, 3 piece kit						
Contents	Description	L	dk	ds	D	Wt.
STY-N1.0-100-3NTTH	T Stylus	100.0	1.0	3.0	—	—
STY-N8.0-100NHD	Stylus Holder	100.0	—	3.0	8.0	20
STY-N1.5NWSK	Hex Wrench	55.0	—	—	—	—



- ⊕ Ball: Ruby
- ⊕ Shank: Carbide
- ⊕ T Stylus kit for electronic height gages.
- ⊕ Plastic case

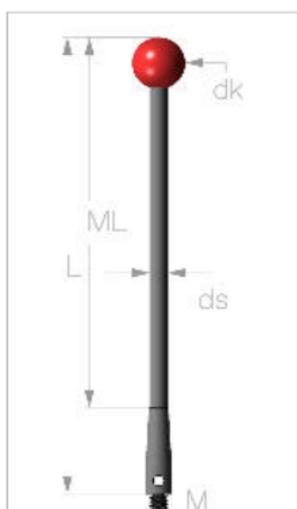
PWM Order Number STY-N8.0NHSEF, 3 piece kit						
Contents	Description	L	dk	ds	D	Wt.
STY-N2.0-100-3NTTH	T Stylus	100.0	2.0	3.0	—	—
STY-N8.0-100NHD	Stylus Holder	100.0	—	3.0	8.0	20
STY-N1.5NWSK	Hex Wrench	55.0	—	—	—	—

Kits for Height Gages
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Pins

Notes:

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.	Approximate 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 (Al_2O_3 monocrystalline)
 2. Ceramic (Al_2O_3 polycrystalline)
 3. Silicone Nitride available on request
 4. Other materials are available





RS

Reference Sphere, Type "A"

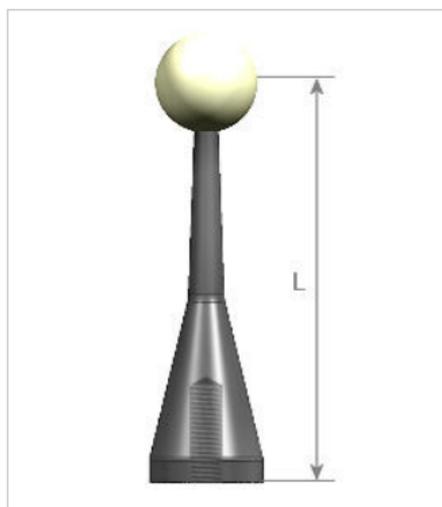


- ⊕ Ball: Ceramic or Stainless Steel
- ⊕ Shank: Stainless Steel
- ⊕ 70 mm extension, base plate and fastening bolts (1 each: M6, M8 and M10) included.



Order No.	Ball	dk	L	D	Deviation
STY-N15NRKA	Ceramic	15.0	85.0	80.0	<0.25μm
STY-N20NRKA	Ceramic	20.0	85.0	80.0	<0.25μm
STY-N25NRKA	Ceramic	25.0	85.0	80.0	<0.25μm
STY-N30NRKA	Ceramic	30.0	85.0	80.0	<0.25μm
STY-N25NRSA	Steel	25.0	85.0	80.0	<0.25μm

Reference Sphere, Type "B"

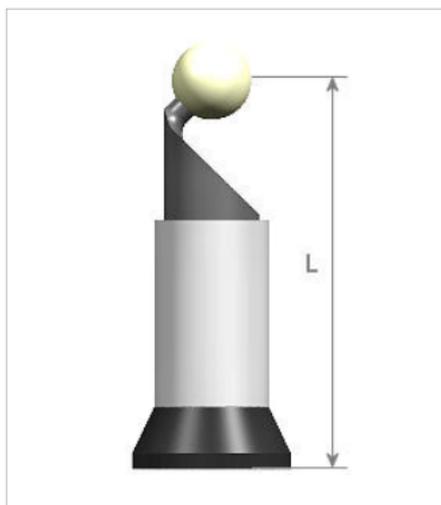


- ⊕ Ball: Ceramic or Stainless Steel
- ⊕ Shank: Stainless Steel, with M8 female thread
- ⊕ Compatible with N70NVR extension on page 159
- ⊕ Optional fastening bolts and mounting base available, see pages 160–161

Order No.	Ball	dk	L	D	Deviation
STY-N15NRKB	Ceramic	15.0	100.0	28.0	<0.25μm
STY-N20NRKB	Ceramic	20.0	100.0	28.0	<0.25μm
STY-N25NRKB	Ceramic	25.0	100.0	28.0	<0.25μm
STY-N30NRKB	Ceramic	30.0	100.0	28.0	<0.25μm
STY-N25NRSB	Steel	25.0	100.0	28.0	<0.25μm

Reference Sphere, Type "C"

RS



- ⊕ Ball: Ceramic or Stainless Steel
- ⊕ Shank: Stainless Steel
- ⊕ Includes 50 mm extension
- ⊕ Protective sleeve

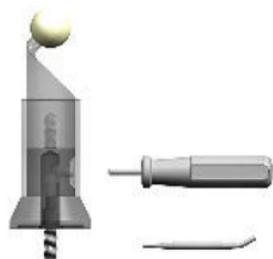
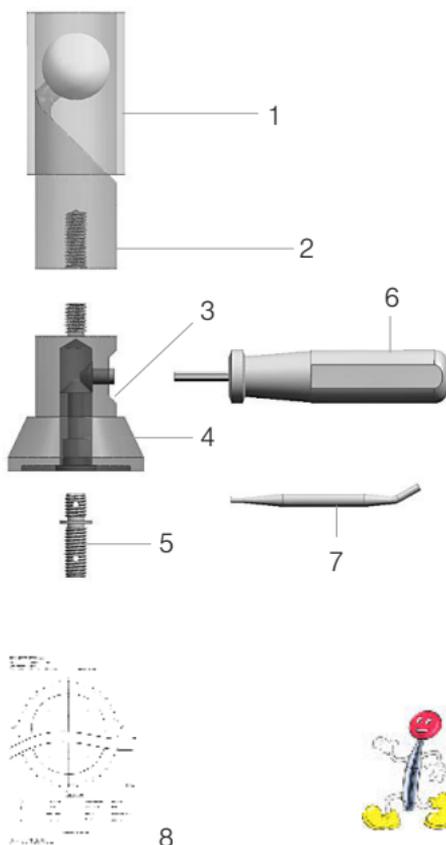
Order No.	Ball	dk	L	D	Deviation
STY-N15NRKC	Ceramic	15.0	125.0	50.0	<0.25μm
STY-N20NRKC	Ceramic	20.0	125.0	50.0	<0.25μm
STY-N25NRKC	Ceramic	25.0	125.0	50.0	<0.25μm
STY-N30NRKC	Ceramic	30.0	125.0	50.0	<0.25μm
STY-N25NRSC	Steel	25.0	125.0	50.0	<0.25μm

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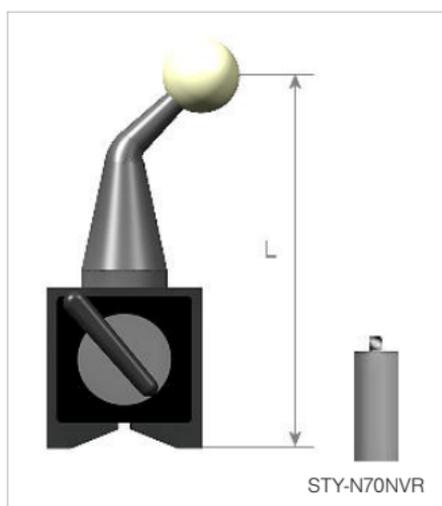
How it works

Contents:

1. Protective sleeve for sphere
2. Shank, angled at 30°
3. Extension, 50 mm
4. Base
5. Fastening bolts, 1 each: M6, M8 and M10, other sizes available.
6. Hex key 3.0 mm
7. Pin key 2.0 mm
8. Certification



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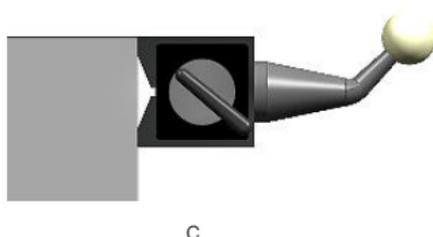
- ⊕ Ball: Ceramic or Stainless Steel
- ⊕ Shank: Stainless Steel
- ⊕ Magnetic base is on / off switchable
- ⊕ 70 mm extension included.
- ⊕ Wooden storage case included.
- ⊕ Ideal for portable machines.

Order No.	Ball	dk	L	Deviation
STY-N15NRKD	Ceramic	15.0	125.0	<0.25 μ m
STY-N20NRKD	Ceramic	20.0	125.0	<0.25 μ m
STY-N25NRKD	Ceramic	25.0	125.0	<0.25 μ m
STY-N30NRKD	Ceramic	30.0	125.0	<0.25 μ m
STY-N25NRSD	Steel	25.0	125.0	<0.25 μ m

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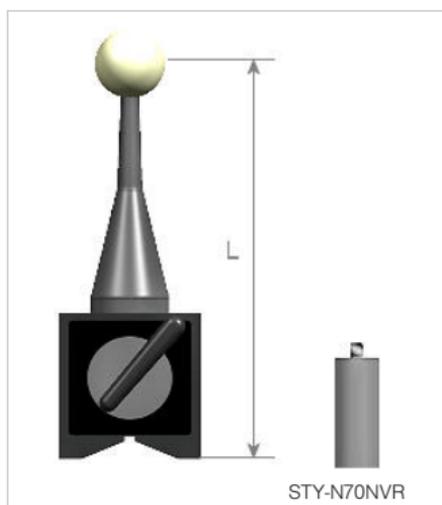
How it works

Reference spheres with magnetic bases can be attached to tubular parts (a), base plates (b), the side of a part (c) or anywhere, in any orientation, the magnetic base will hold.



Reference Sphere, Type "E"

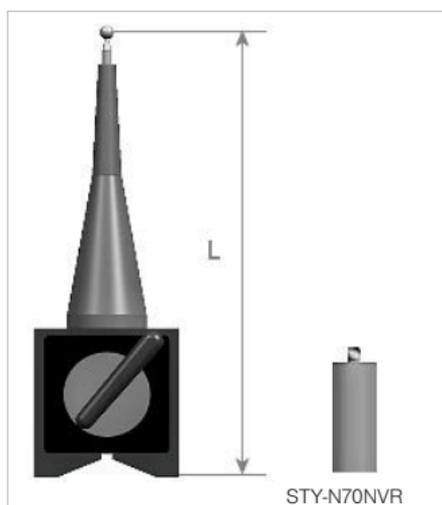
RS



- ⊕ Ball: Ceramic or Stainless Steel
- ⊕ Shank: Stainless Steel
- ⊕ Magnetic base is on / off switchable
- ⊕ 70 mm extension and wooden storage case are included.

Order No.	Ball	dk	L	Deviation
STY-N15NRKE	Ceramic	15.0	140.0	<0.25μm
STY-N20NRKE	Ceramic	20.0	140.0	<0.25μm
STY-N25NRKE	Ceramic	25.0	140.0	<0.25μm
STY-N30NRKE	Ceramic	30.0	140.0	<0.25μm
STY-N25NRSE	Steel	25.0	140.0	<0.25μm

Reference Sphere, Type "F"



- ⊕ Ball: Carbide
- ⊕ Shank: Stainless Steel
- ⊕ 3 interchangeable carbide balls: 2.0 mm, 4.0 mm and 5.0 mm
- ⊕ Magnetic base is on / off switchable
- ⊕ 70 mm extension and wooden storage case included.

Order No.	Ball	dk	L	Deviation
STY-N245NRKF	Carbide	2 / 4 / 5	155.0	<0.25μm

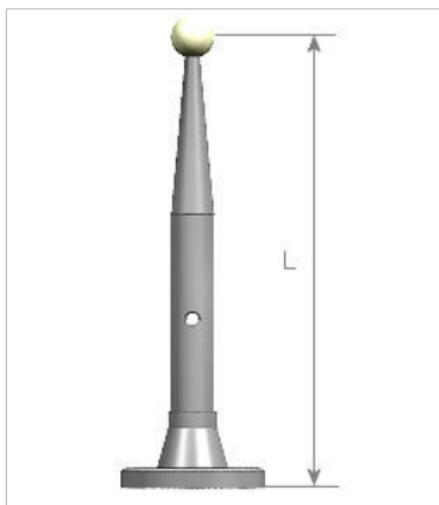
SOLUTIONS®
"How it works"

Reference spheres with magnetic bases are great for portable machines.



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Reference Sphere, Type "G"



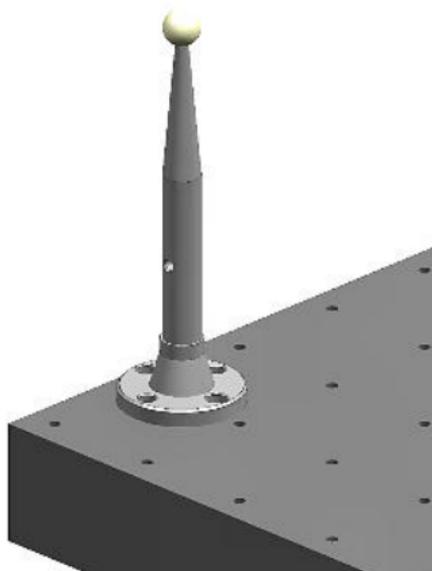
- ⊕ Ball: Ceramic or Stainless Steel
- ⊕ Shank: Stainless Steel
- ⊕ Shown with included 200 mm extension and base
- ⊕ 3 fastening bolts included: 1 each, M6, M8 and M10, other sizes available

Order No.	Ball	dk	L	Deviation
STY-N20NRKG	Ceramic	20.0	320.0	<0.25 μ m
STY-N25NRKG	Ceramic	25.0	320.0	<0.25 μ m
STY-N30NRKG	Ceramic	30.0	320.0	<0.25 μ m
STY-N50NRKG	Ceramic	50.0	320.0	<0.25 μ m
STY-N25NRSG	Steel	25.0	320.0	<0.25 μ m

SOLUTIONS®

How it works

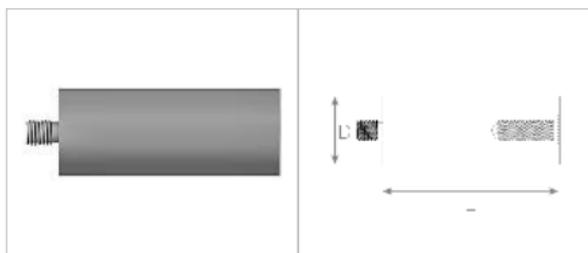
Extended height spheres are ideal for large machines and special duty applications

Buy online at www.shoppwm.com

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Reference Sphere Extension

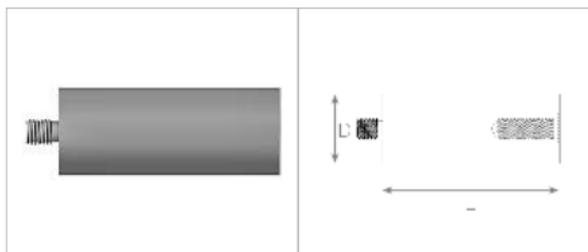
RS



- ⊕ Stainless Steel
- ⊕ For use with Type A, B, D, E or F reference spheres

Order No.	L	D	Material	For Sphere
STY-N70NVR	70.0	28.0	Steel	A, B, D, E, F

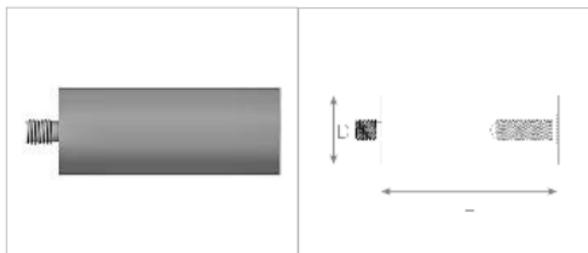
Reference Sphere Extension



- ⊕ Stainless Steel
- ⊕ For use with Type G reference spheres

Order No.	L	D	Material	For Sphere
STY-N200NVRG	200.0	30.0	Steel	G

Reference Sphere Extension



- ⊕ Aluminum, Anodized
- ⊕ For use with Type C reference spheres

Order No.	L	D	Material	For Sphere
STY-N50NVRC	50.0	30.0	Aluminum	C
STY-N100NVRC	100.0	30.0	Aluminum	C

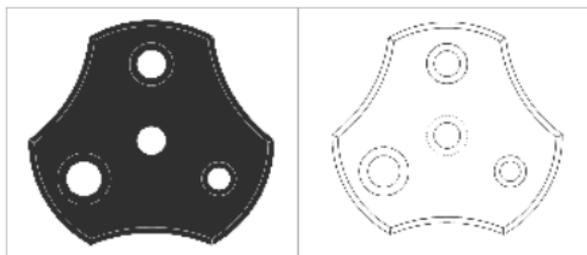
SOLUTIONS®
"How it works"

All reference spheres include a 70 mm extension, except where noted.



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RS Mounting Base for Reference Spheres



- ⊕ Aluminum
- ⊕ Fits Type A or B reference spheres
- ⊕ Includes one each: M6, M8 or M10 fastening bolts (see page 161)

Order No.	H	D
STY-N80NGRA	14.0	80.0

Magnetic Base for Reference Spheres



- ⊕ Aluminum
- ⊕ Fits Type A or B reference spheres
- ⊕ Use Cup point set screw (page 161) to secure reference sphere to base

Order No.	
STY-MABA659P	Available by special order

SOLUTIONS® "How it works"

Diverse base plate designs provide modularity and versatility when mounting reference spheres



Attach sphere directly to surface plate



Attach sphere to base plate

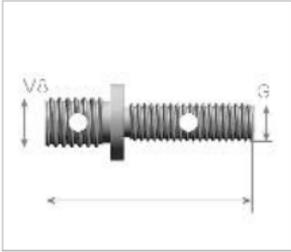


Attach sphere to magnetic base



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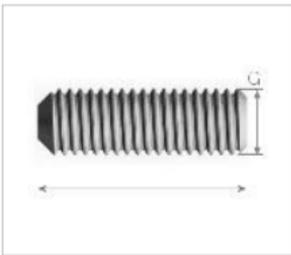
Fastening Bolts for Reference Spheres RS



- ⊕ Stainless Steel
- ⊕ Used to mount reference sphere base plate to surface plate

Order No.	L	G
STY-N60-6NBB	32.0	M6
STY-N60-8NBB	32.0	M8
STY-N60-10NBB	32.0	M10
STY-N60-1/4NBB	32.0	1/4-20 UNC
STY-N60-3/8NBB	32.0	3/8-16UNC

Cup Point Set Screws for Reference Spheres

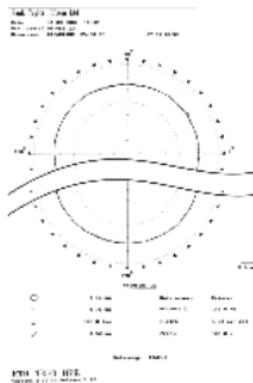


- ⊕ Stainless Steel
- ⊕ M8 or M10
- ⊕ Used to mount reference sphere to base plate or surface plate

Order No.	L	G
STY-CPSM8X25	25.0	M8 x 1.25
STY-CPSM10X25	25.0	M10 x 1.5

SOLUTIONS® "How it works"

Each PWM Reference Sphere includes certification that lists it's exact diameter and tolerance.



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RS OEM M2 Stylus/Sphere Kit, 24 Pieces



- ⊕ Kit features our most requested styli and accessories
- ⊕ Kit contents: 1 reference sphere, 8 ruby styli, 1 point, 4 extensions, 2 adapters, 3 screws, 4 tools and 1 wooden case

PWM Order Number	Size of Sphere	
STY-N15-2NTRK	Reference Sphere 15mm dia. Ceramic	
STY-N20-2NTRK	Reference Sphere 20mm dia. Ceramic	
STY-N25-2NTRK	Reference Sphere 25mm dia. Ceramic	
STY-N30-2NTRK	Reference Sphere 30mm dia. Ceramic	
Contents (Includes choice of one sphere from chart above)		
Item Number	Qty	Description
STY-N1.0-10.5-2NTB	1	Stylus 10.5mm x 1.0mm
STY-N1.0-15.5-2NTB	1	Stylus 15.5mm x 1.0mm
STY-N2.0-11-2NTC	1	Stylus 11mm x 2.0mm
STY-N2.0-16-2NTC	1	Stylus 16mm x 2.0mm
STY-N4.0-12-2NTC	1	Stylus 12mm x 4.0mm
STY-N4.0-22-2NTC	1	Stylus 22mm x 4.0mm
STY-N6.0-13-2NTD	1	Stylus 13mm x 6.0mm
STY-N6.0-28-2NTD	1	Stylus 28mm x 6.0mm
STY-N30-10NTS	1	Stylus point 10mm x 30°
STY-N5NV	1	Extension 5mm
STY-N10NV	1	Extension 10mm
STY-N20NV	1	Extension 20mm
STY-N40NV	1	Extension 40mm
STY-N4.0-16-2NGBD	1	Knuckle Joint 16mm x 4.0mm
STY-N10.0-9-2NTHC	1	Holder for 5 M2 Styli
STY-N0.9NWSE	1	Hexagon Key 0.9mm
STY-N1.0NWST	2	Pin Key 1.0mm
STY-N2.5NWKR	1	Cross-Point Key 2.5mm
STY-N60-6NBB	1	Screw M6
STY-N60-8NBB	1	Screw M8
STY-N60-10NBB	1	Screw M10
Each reference sphere includes a certificate indicating its exact diameter and tolerance.		

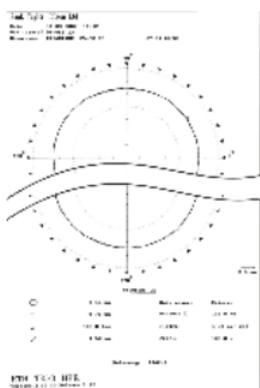
SOLUTIONS®
"How it works"

OEM stylus kits include one Type B reference sphere in your choice of diameter and 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.

A well-built wooden case that protects your collection from dust or damage is also included.

M3, M4 and M5 kits are also available. Contact us for details.



Each reference sphere includes a certificate indicating its exact diameter and tolerance.

IDent-O-Sphere® Quick Reference

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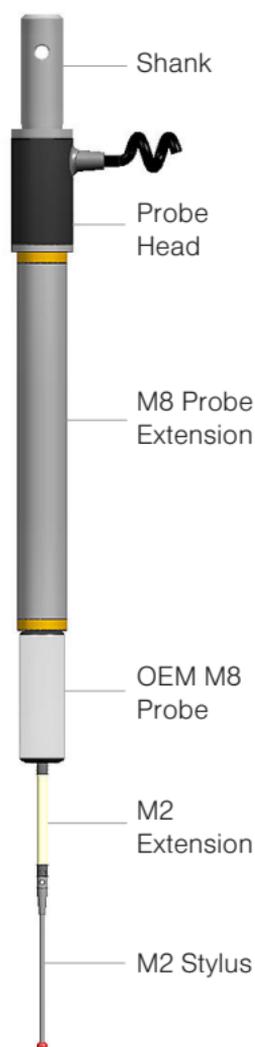
- ⊕ Probe Head
- ⊕ Cables are mounted
- ⊕ Order the holding shaft of your choice from page 165.

Order No.	Type	Cable Range
STY-N100ANTK16	A	100-300 mm
STY-N250ANTK16	A	250-750 mm
STY-N500ANTK16	A	500-1500 mm

SOLUTIONS® "How it works"

Be creative and add probe extensions, stylus extensions, knuckles, adapters and styli to design a configuration that meets your requirements.

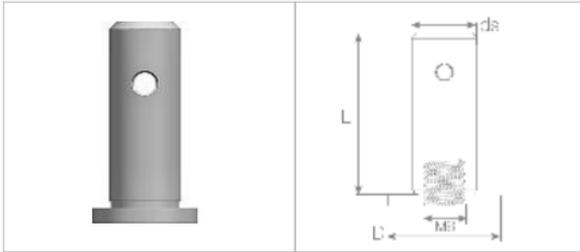
Shanks, shown on the next page, hold the probe head in the CMM. Probe head cables are fixed. Please order the correct length cable and the correct diameter shank for your CMM.



Buy online at www.shoppwm.com

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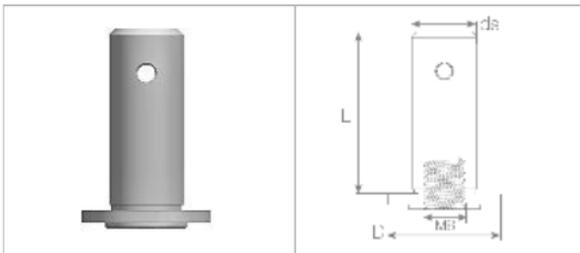
Mounting Shank / Probe Heads Type "A" RS



- ⊕ Probe head shank adapters
- ⊕ Stainless Steel
- ⊕ Specify shank diameter (see "ds" column below)

Order No.	L	ds	D
STY-N9.5-25.4NASA	25.4	9.5	14.0
STY-N9.5-43.9NASA	43.9	9.5	14.0
STY-N10.0-36.7NASA	36.7	10.0	14.0
STY-N10.0-45.6NASA	45.6	10.0	14.0

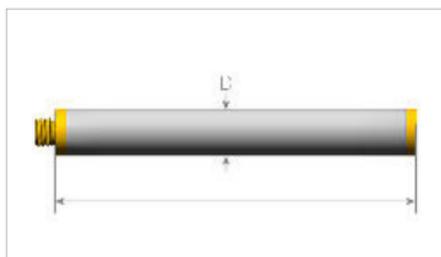
Mounting Shank / Probe Head Type "B"



- ⊕ Probe head shank adapters
- ⊕ Stainless Steel
- ⊕ Specify shank diameter (see "ds" column below)

Order No.	L	ds	D
STY-N12.0-50.0NASB	50.0	12.0	22.0
STY-N12.7-31.7NASB	31.7	12.7	22.0
STY-N12.7-38.1NASB	38.1	12.7	22.0
STY-N14.0-40.0NASB	40.0	14.0	22.0
STY-N14.0-50.0NASB	50.0	14.0	22.0
STY-N15.0-26.0NASB	26.0	15.0	22.0
STY-N15.0-56.0NASB	56.0	15.0	22.0
STY-N16.0-35.0NASB	35.0	16.0	22.0
STY-N20.0-25.0NASB	25.0	20.0	33.0
STY-N20.0-45.0NASB	45.0	20.0	33.0
STY-N25.0-32.0NASB	32.0	25.0	33.0
STY-N25.0-50.8NASB	50.8	25.0	33.0
STY-N25.0-85.0NASB	85.0	25.0	33.0

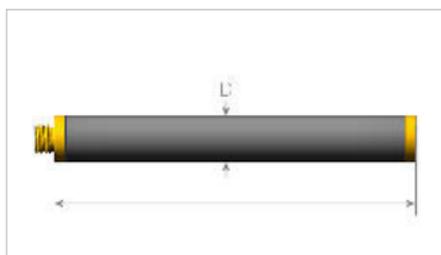
Probe Extensions, Aluminum



- ⊕ Aluminum
- ⊕ Thread: M8

Order No.	L	D	Wt.
STY-N50NVMA	50.0	13.0	22g
STY-N100NVMA	100.0	13.0	30g
STY-N150NVMA	150.0	13.0	35g
STY-N200NVMA	200.0	13.0	45g
STY-N300NVMA	300.0	13.0	58g

Probe Extensions, Stainless Steel



- ⊕ Stainless Steel
- ⊕ Thread: M8

Order No.	L	D	Wt.
STY-N50NVMS	50.0	13.0	30g
STY-N100NVMS	100.0	13.0	50g
STY-N150NVMS	150.0	13.0	75g
STY-N200NVMS	200.0	13.0	95g

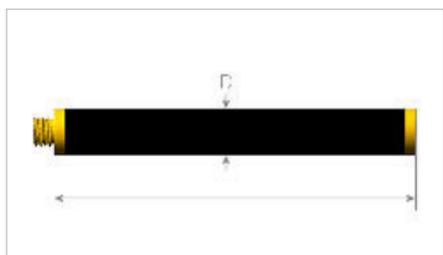
SOLUTIONS®
How it works

Slim lines provide unobstructed access.



Buy online at www.shoppwm.com

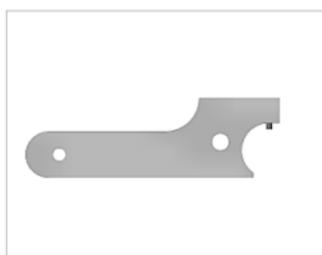
© 2008 Paul W. Marino Gages, Inc.



- ⊕ Carbon Fiber
- ⊕ Thread: M8
- ⊕ Used with small or large diameter probes

Order No.	L	D	Wt.
STY-N50NVMC	50.0	13.0	20g
STY-N100NVMC	100.0	13.0	22g
STY-N150NVMC	150.0	13.0	24g
STY-N200NVMC	200.0	13.0	26g
STY-N300NVMC	300.0	13.0	32g
STY-N300-20NVMC	300.0	20.0	39g
STY-N400NVMC	400.0	13.0	95g
STY-N400-20NVMC	400.0	20.0	105g
STY-N500-20NVMC	500.0	20.0	115g

Tools for Probe Extensions



- ⊕ Hook spanner
- ⊕ Used to tighten probe extensions
- ⊕ Supplied in packs of two spanners

Order No.	L	Diameter
STY-N13.0NWHA	57.0	13.0

SOLUTIONS® "How it works"

Use proper tools for proper assembly and extend the life of your probes and styli. More tools can be found on pages 40-42.



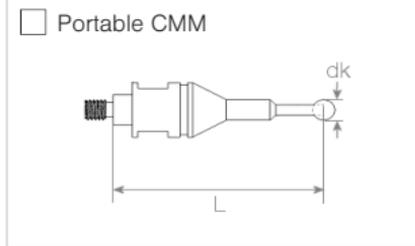
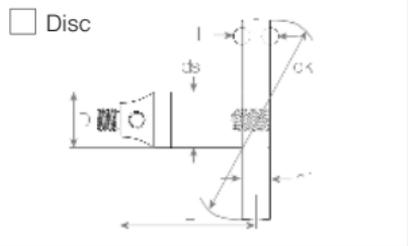
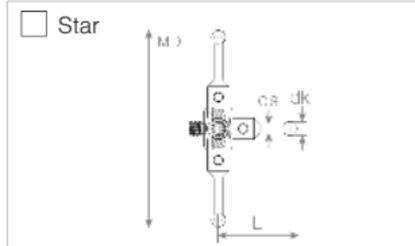
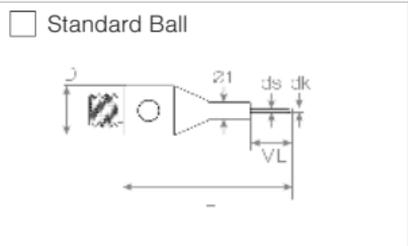
STY-R70S8



STY-N1.0NWST



Check box for the style needed:



Enter Dimensions (fill out as completely as possible, not all will apply)

dk mm	ds mm	L mm	ML mm	H mm	MD mm	D mm	Thread	Qty
CMM				Head				

Ball Material	Shank Material	Ferrule Material
Ruby	Stainless Steel	Stainless Steel
Carbide	Carbide	Aluminum
Ceramic	Ceramic	
Sapphire	Carbon Fiber	

Notes:

Contact Information:

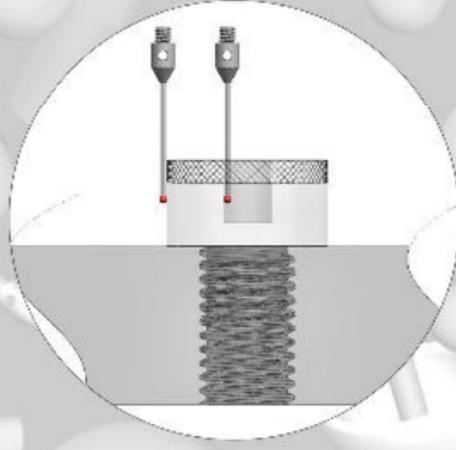
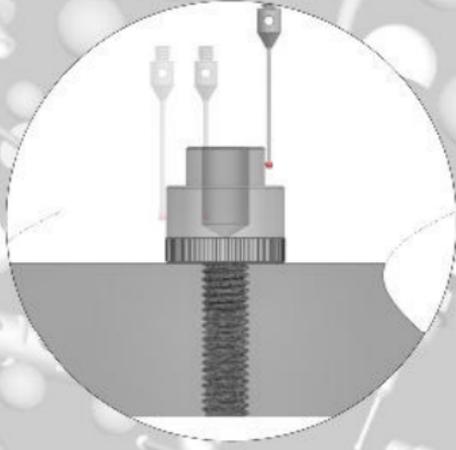
Company _____

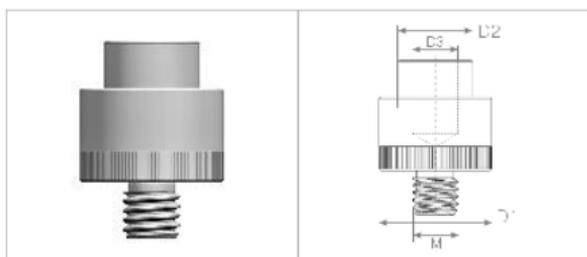
Contact _____

Phone _____ Fax _____

Email _____ Req'd. Dely. _____

Please fill out this form as completely as possible and return to the fax number below. This form is also available at our website. Please make copies as needed, or attach your own drawing.





- ⊕ Material: 7075-T6 Aluminum
- ⊕ Finish: Hard coat anodized
- ⊕ Tolerances: all held to 0.001" / 0.025 mm

Group 1

Order No.	M	D1	D2	D3
CLL-P10-24UNC	10-24UNC	5/8", 0.625"	3/8", 0.375"	1/4", 0.250"
CLL-P10-32UNF	10-32UNF	5/8", 0.625"	3/8", 0.375"	1/4", 0.250"
CLL-P1/4-20UNC	1/4-20UNC	5/8", 0.625"	3/8", 0.375"	1/4", 0.250"
CLL-P1/4-28UNF	1/4-28UNF	5/8", 0.625"	3/8", 0.375"	1/4", 0.250"
CLL-P5/16-18UNC	5/16-18UNC	5/8", 0.625"	3/8", 0.375"	1/4", 0.250"
CLL-P5/16-24UNF	5/16-24UNF	5/8", 0.625"	3/8", 0.375"	1/4", 0.250"

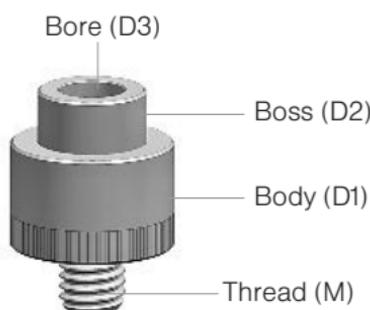
Group 2

Order No.	M	D1	D2	D3
CLL-P3/8-16UNC	3/8-16UNC	3/4", 0.750"	5/8", 0.625"	3/8", 0.375"
CLL-P3/8-24UNF	3/8-24UNF	3/4", 0.750"	5/8", 0.625"	3/8", 0.375"
CLL-P7/16-14UNC	7/16-14UNC	3/4", 0.750"	5/8", 0.625"	3/8", 0.375"
CLL-P7/16-20UNF	7/16-20UNF	3/4", 0.750"	5/8", 0.625"	3/8", 0.375"
CLL-P1/2-13UNC	1/2-13UNC	3/4", 0.750"	5/8", 0.625"	3/8", 0.375"
CLL-P1/2-20UNF	1/2-20UNF	3/4", 0.750"	5/8", 0.625"	3/8", 0.375"

Group 3

Order No.	M	D1	D2	D3
CLL-P5/8-11UNC	5/8-11UNC	1-1/4", 1.250"	3/4", 0.750"	5/8", 0.625"
CLL-P5/8-18UNF	5/8-18UNF	1-1/4", 1.250"	3/4", 0.750"	5/8", 0.625"
CLL-P3/4-10UNC	3/4-10UNC	1-1/4", 1.250"	3/4", 0.750"	5/8", 0.625"
CLL-P3/4-16UNF	3/4-16UNF	1-1/4", 1.250"	3/4", 0.750"	5/8", 0.625"
CLL-P1"/1-8UNC	1"-8UNC	1-1/4", 1.250"	3/4", 0.750"	5/8", 0.625"
CLL-P1"/1-12UNF	1"-12UNF	1-1/4", 1.250"	3/4", 0.750"	5/8", 0.625"

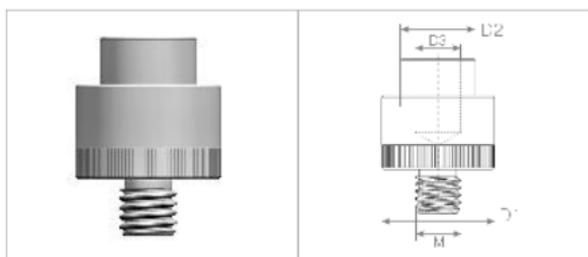
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"How it works"



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PWM Centerline Locator

CLL



- ⊕ Material: 7075T6 Aluminum
- ⊕ Finish: Hard coat anodize
- ⊕ Tolerances: all held to 0.001" / 0.025 mm

Group 1

Order No.	M	D1	D2	D3
CLL-PM4x0.7	M4 x 0.7	15.0 mm	10.0 mm	6.0 mm
CLL-PM6x1.0	M6 x 1.0	15.0 mm	10.0 mm	6.0 mm
CLL-PM8x1.25	M8 x 1.25	15.0 mm	10.0 mm	6.0 mm

Group 2

Order No.	M	D1	D2	D3
CLL-PM10x1.5	M10 x 1.5	20.0 mm	15.0 mm	10.0 mm
CLL-PM12x1.75	M12 x 1.75	20.0 mm	15.0 mm	10.0 mm

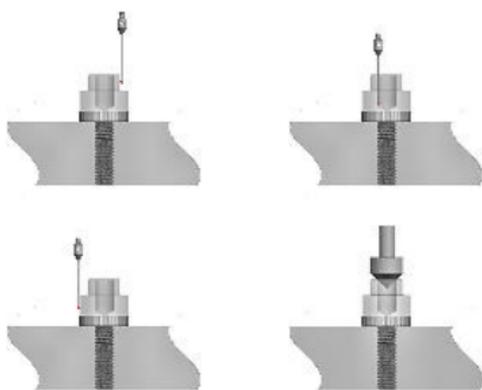
Group 3

Order No.	M	D1	D2	D3
CLL-PM16x2.0	M16 x 2.0	30.0 mm	20.0 mm	15.0 mm
CLL-PM20x2.5	M20 x 2.5	30.0 mm	20.0 mm	15.0 mm
CLL-PM24x3.0	M24 x 3.0	30.0 mm	20.0 mm	15.0 mm

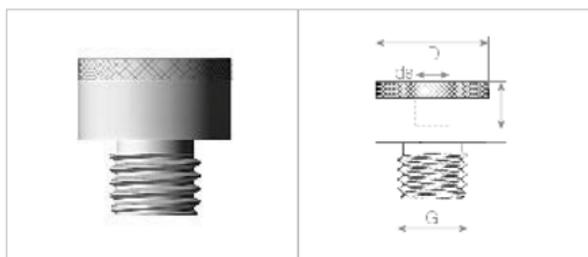
SOLUTIONS® "How it works"

PWM Centerline Locators are sold in cost-effective packs of 10, 25 or 100 pieces. Custom sizes are available in minimum orders of 25 pieces.

All Centerline Locators are available by special order in 303 Stainless Steel. Contact us for details.



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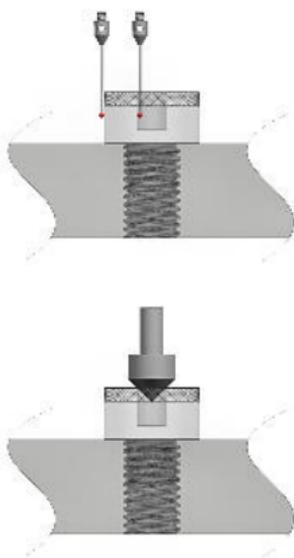


⊕ Stainless Steel

Order No.	L	D	G	ds
TPI-N2.0-0.4NGP	8.0	8.0	M2x.4	3.0
TPI-N2.5-0.45NGP	8.0	8.0	M2.5x.45	3.0
TPI-N3.0-0.5NGP	8.0	8.0	M3x.5	3.0
TPI-N4.0-0.7NGP	8.0	8.0	M4x.7	3.0
TPI-N5.0-0.8NGP	9.0	14.0	M5x.8	4.0
TPI-N6.0-1.0NGP	9.0	14.0	M6x1.0	4.0
TPI-N7.0-1.0NGP	9.0	14.0	M7x1.0	4.0
TPI-N8.0-1.25NGP	9.0	14.0	M8x1.25	4.0
TPI-N9.0-1.25NGP	9.0	14.0	M9x1.25	4.0
TPI-N10.0-1.5NGP	9.0	14.0	M10x1.5	4.0
TPI-N11.0-1.5NGP	11.0	20.0	M11x1.5	6.0
TPI-N12.0-1.75NGP	11.0	20.0	M12x1.75	6.0
TPI-N14.0-2.0NGP	11.0	20.0	M14x2.0	6.0
TPI-N16.0-2.0NGP	11.0	20.0	M16x2.0	6.0
TPI-N18.0-2.5NGP	15.0	28.0	M18x2.5	6.0
TPI-N20.0-2.5NGP	15.0	28.0	M20x2.5	6.0
TPI-N24.0-3.0NGP	15.0	28.0	M24x3.0	6.0

SOLUTIONS® "How it works"

Select thread where you need to measure, screw in a threaded position insert and measure the outside or inside diameters for coordinates.



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Thread Positioning Inserts Kits

CLL



- ⊕ Stainless Steel
- ⊕ Includes wooden case

PWM Order Number TPI-N2-10NGSA, 24 piece set

Contents	G	Qty.
TPI-N2.0-0.4NGP	M2 x 0.4	3
TPI-N2.5-.45NGP	M2.5 x .45	3
TPI-N3.0-0.5NGP	M3 x 0.5	3
TPI-N4.0-0.7NGP	M4 x 0.7	3
TPI-N5.0-0.8NGP	M5 x 0.8	3
TPI-N6.0-1.0NGP	M6 x 1.0	3
TPI-N8.0-1.25NGP	M8 x 1.25	3
TPI-N10.0-1.5NGP	M10 x 1.5	3



- ⊕ Stainless Steel
- ⊕ Includes wood case

PWM Order Number TPI-N12-24NGSB, 12 piece set

Contents	G	Qty.
TPI-N12.0-1.75NGP	M12 x 1.75	3
TPI-N16.0-2.0NGP	M16 x 2.0	3
TPI-N20.0-2.5NGP	M20 x 2.5	3
TPI-N24.0-3.0NGP	M24 x 3.0	3

SOLUTIONS®
"How it works"

Thread Positioning Insert kits include a well-built wooden case that protects your collection from dust and damage.

Buy online at www.shoppwm.com



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MM	INCHES	MM	INCHES	MM	INCHES	MM	INCHES	MM	INCHES
1	0.0394	61	2.4016	121	4.7638	181	7.1260	241	9.4882
2	0.0787	62	2.4409	122	4.8031	182	7.1654	242	9.5276
3	0.1181	63	2.4803	123	4.8425	183	7.2047	243	9.5669
4	0.1575	64	2.5197	124	4.8819	184	7.2441	244	9.6063
5	0.1969	65	2.5591	125	4.9213	185	7.2835	245	9.6457
6	0.2362	66	2.5984	126	4.9606	186	7.3228	246	9.6850
7	0.2756	67	2.6378	127	5.0000	187	7.3622	247	9.7244
8	0.3150	68	2.6772	128	5.0394	188	7.4016	248	9.7638
9	0.3543	69	2.7165	129	5.0787	189	7.4409	249	9.8031
10	0.3937	70	2.7559	130	5.1181	190	7.4803	250	9.8425
11	0.4331	71	2.7953	131	5.1575	191	7.5197	251	9.8819
12	0.4724	72	2.8346	132	5.1969	192	7.5591	252	9.9213
13	0.5118	73	2.8740	133	5.2362	193	7.5984	253	9.9606
14	0.5512	74	2.9134	134	5.2756	194	7.6378	254	10.0000
15	0.5906	75	2.9528	135	5.3150	195	7.6772	255	10.0394
16	0.6299	76	2.9921	136	5.3543	196	7.7165	256	10.0787
17	0.6693	77	3.0315	137	5.3937	197	7.7559	257	10.1181
18	0.7087	78	3.0709	138	5.4331	198	7.7953	258	10.1575
19	0.7480	79	3.1102	139	5.4724	199	7.8346	259	10.1969
20	0.7874	80	3.1496	140	5.5118	200	7.8740	260	10.2362
21	0.8268	81	3.1890	141	5.5512	201	7.9134	261	10.2756
22	0.8661	82	3.2283	142	5.5906	202	7.9528	262	10.3150
23	0.9055	83	3.2677	143	5.6299	203	7.9921	263	10.3543
24	0.9449	84	3.3071	144	5.6693	204	8.0315	264	10.3937
25	0.9843	85	3.3465	145	5.7087	205	8.0709	265	10.4331
26	1.0236	86	3.3858	146	5.7480	206	8.1102	266	10.4724
27	1.0630	87	3.4252	147	5.7874	207	8.1496	267	10.5118
28	1.1024	88	3.4646	148	5.8268	208	8.1890	268	10.5512
29	1.1417	89	3.5039	149	5.8661	209	8.2283	269	10.5906
30	1.1811	90	3.5433	150	5.9055	210	8.2677	270	10.6299
31	1.2205	91	3.5827	151	5.9449	211	8.3071	271	10.6693
32	1.2598	92	3.6220	152	5.9843	212	8.3465	272	10.7087
33	1.2992	93	3.6614	153	6.0236	213	8.3858	273	10.7480
34	1.3386	94	3.7008	154	6.0630	214	8.4252	274	10.7874
35	1.3780	95	3.7402	155	6.1024	215	8.4646	275	10.8268
36	1.4173	96	3.7795	156	6.1417	216	8.5039	276	10.8661
37	1.4567	97	3.8189	157	6.1811	217	8.5433	277	10.9055
38	1.4961	98	3.8583	158	6.2205	218	8.5827	278	10.9449
39	1.5354	99	3.8976	159	6.2598	219	8.6220	279	10.9843
40	1.5748	100	3.9370	160	6.2992	220	8.6614	280	11.0236
41	1.6142	101	3.9764	161	6.3386	221	8.7008	281	11.0630
42	1.6535	102	4.0157	162	6.3780	222	8.7402	282	11.1024
43	1.6929	103	4.0551	163	6.4173	223	8.7795	283	11.1417
44	1.7323	104	4.0945	164	6.4567	224	8.8189	284	11.1811
45	1.7717	105	4.1339	165	6.4961	225	8.8583	285	11.2205
46	1.8110	106	4.1732	166	6.5354	226	8.8976	286	11.2598
47	1.8504	107	4.2126	167	6.5748	227	8.9370	287	11.2992
48	1.8898	108	4.2520	168	6.6142	228	8.9764	288	11.3386
49	1.9291	109	4.2913	169	6.6535	229	9.0157	289	11.3780
50	1.9685	110	4.3307	170	6.6929	230	9.0551	290	11.4173
51	2.0079	111	4.3701	171	6.7323	231	9.0945	291	11.4567
52	2.0472	112	4.4094	172	6.7717	232	9.1339	292	11.4961
53	2.0866	113	4.4488	173	6.8110	233	9.1732	293	11.5354
54	2.1260	114	4.4882	174	6.8504	234	9.2126	294	11.5748
55	2.1654	115	4.5276	175	6.8898	235	9.2520	295	11.6142
56	2.2047	116	4.5669	176	6.9291	236	9.2913	296	11.6535
57	2.2441	117	4.6063	177	6.9685	237	9.3307	297	11.6929
58	2.2835	118	4.6457	178	7.0079	238	9.3701	298	11.7323
59	2.3228	119	4.6850	179	7.0472	239	9.4094	299	11.7717
60	2.3622	120	4.7244	180	7.0866	240	9.4488	300	11.8110



About Us

We are dedicated to presenting the finest quality products to industry while providing reliability and service. Our mission is to supply the technological advances that enable the manufacturing process to work faster, with higher precision, than past practices. We utilize agile methods that recognize global economic, ergonomic and ecological considerations.

Over the years, consistency in service, quality and innovative ideas has proven to be our greatest asset.

Distributor Network

PWM products are sold through our highly valued distributor network, world-wide. We make all efforts to protect these relationships and are seeking additional qualified distribution networks in many areas of the world.

If you are unable to locate a distributor in your area, or are interested in becoming a distributor, please contact us at the numbers below.

Contact Us:

Paul W. Marino Gages, Inc.
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