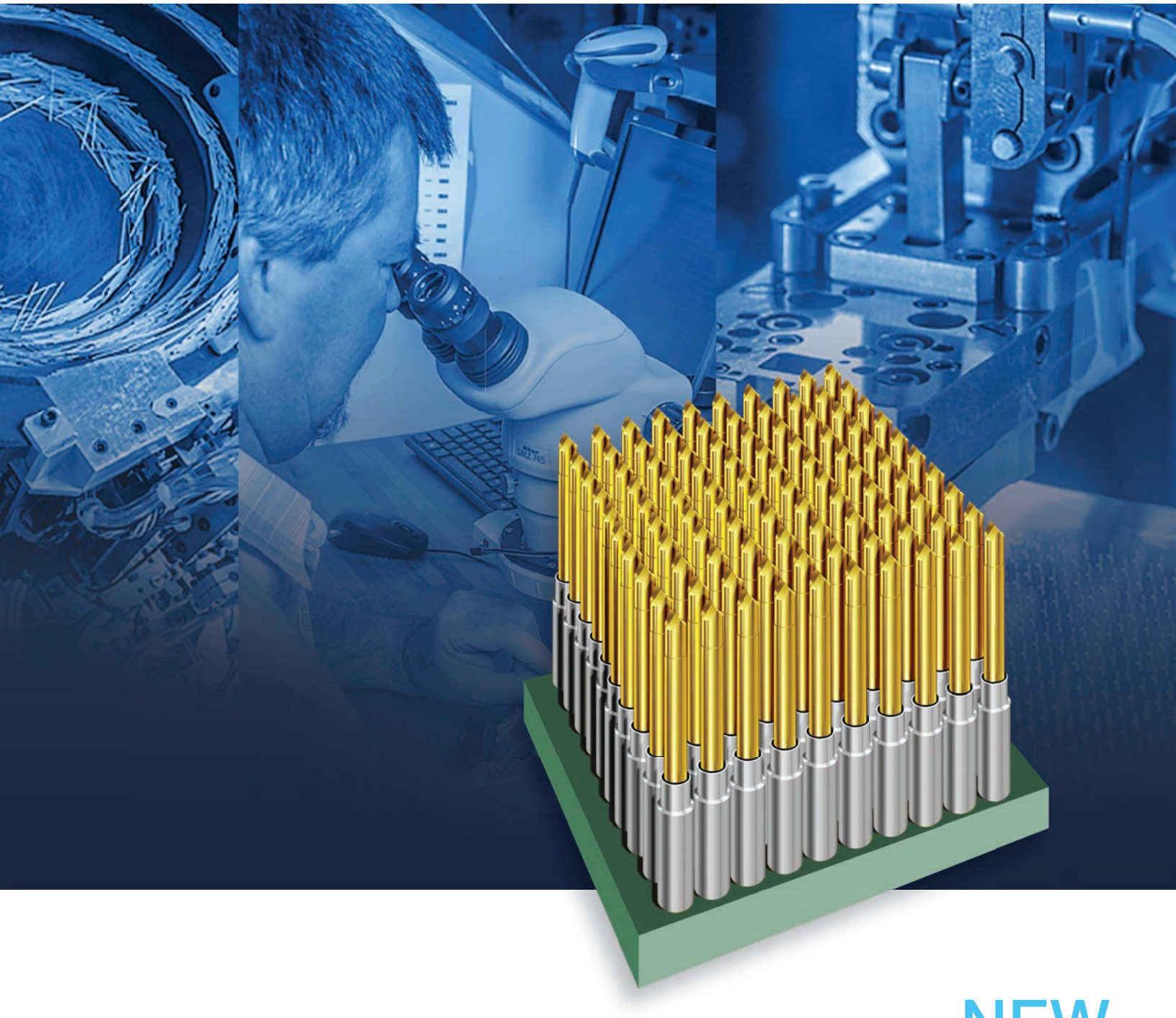
QA® Technology Company, Inc.



NEW

Low Profile **X PROBE®** Socketless Series

PROBE® SOCKETLESS SERIES

Low Profile Socketless X Probe Series

Lighter, simpler, lower cost fixtures.

As miniaturization and functional densification in electronics products continues to move at a breathtaking pace, balancing the needs of designers and manufacturers grows ever more complicated. Designers & OEM's want more components in less space. Test Engineers & CM's want the largest possible test probes for durability and the best electrical contact.

QA Technology's X Probes Socketless Series, introduced in 2001, met this challenge head on and set the industry standard for testing smaller and closer targets. Its patented design mounts a larger more robust probe on closer centers than a conventional probe and socket system, while maintaining the same accuracy, performance, current ratings and low electrical resistance.

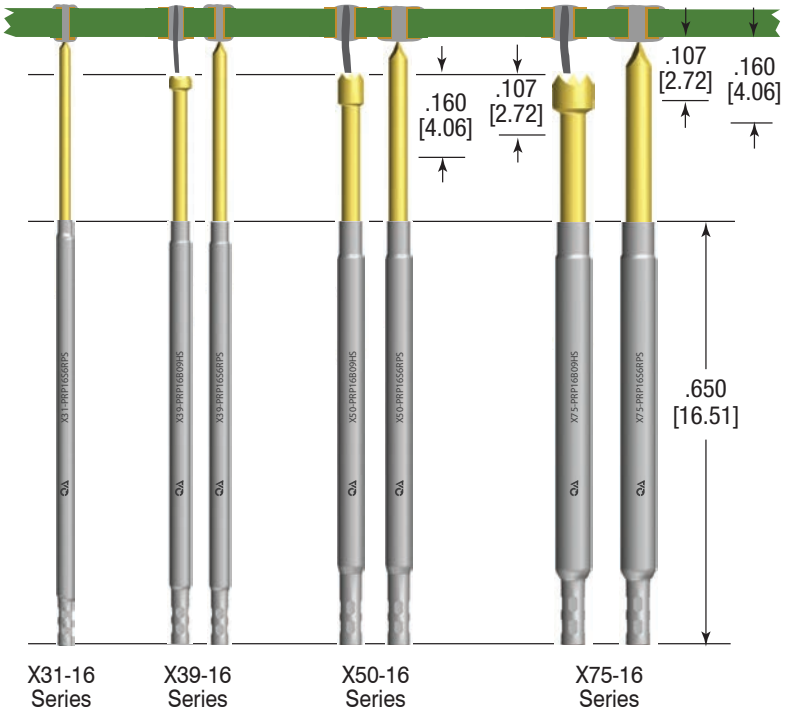
Our new low profile X Probe Series deliver the same proven benefits of the existing Socketless series, while reducing weight, simplifying build, and lowering costs for any fixture using them:

Lower Cost Socketless Fixtures

- Shorter, lower cost termination pins
- Reduced plate thicknesses
- Eliminates the need for a Spacer Plate
- Removes the need for a Spacer & Back Plate in fixtures for Single Plate Test Fixtures
- Simplified ECNs

Product Features

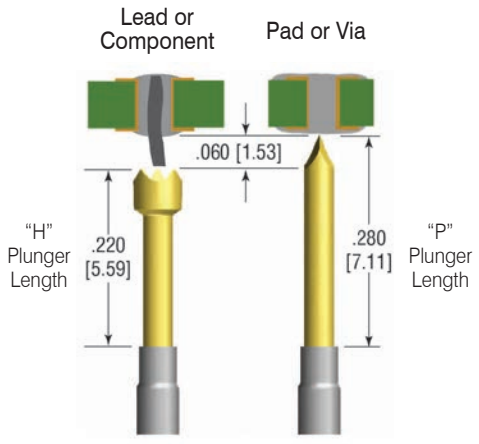
- .160 [4.06] full stroke
- .107 [2.72] working stroke
- Same probe tube length across all sizes .650 [16.51]
- Termination pins can be set at the same height for ALL target types (pads, vias, leads, etc.)
- Tip style length difference for variable height test targets



Tip Style Length Difference

An innovative approach to accommodating variable height test targets has been implemented in this new Low Profile Socketless X Probe Series. Probe plungers are offered in 2 different lengths. The longer plungers are available in tip styles that are intended for target types that are flush with the Unit Under Test (UUT) such as pads & vias. Shorter plungers are offered in tip styles that are better suited for thru-hole leads, posts, etc. which protrude downwards from the PCB. This novel approach of varying the plunger length, simplifies the fixture build process by allowing all termination pins to be set at the same height, regardless of size.

- The tip length is determined by the test target type
- For Leads & Components, use plunger length “H” .220 [5.59]
- For Vias & Pads, use plunger length “P” .280 [7.11]



New Part Numbering Scheme

With the introduction of the new Low Profile Socketless X Probes, we have reconfigured our part number scheme for this product series. The part number now details the variable lengths of the plunger as well as the plunger material type. The prefix of our numbers remain the same. Below is an example of the new part numbers.

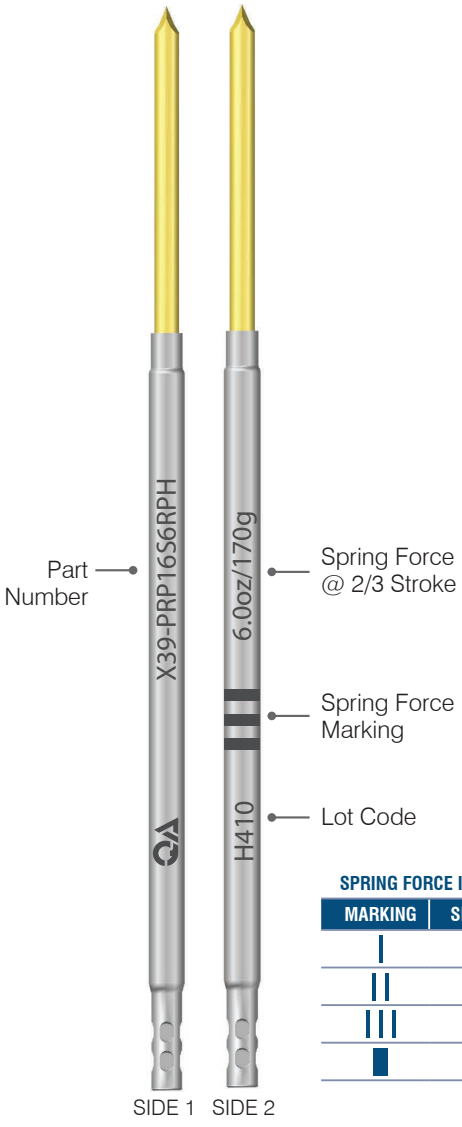
EXISTING Part Numbering Scheme: X39-PRP256RH-NS

NEW Part Numbering Scheme: X39-PRP16S6RPHN

SIZE	TUBE	FULL STROKE	TIP MATERIAL	TIP STYLE	PLUNGER LENGTH	SPRING FORCE	OPTION
X39 -	PRP	16	S (Steel) B (BeCu)	6R	P .280 [7.11] H .220 [5.59]	H	N

New Probe Identification

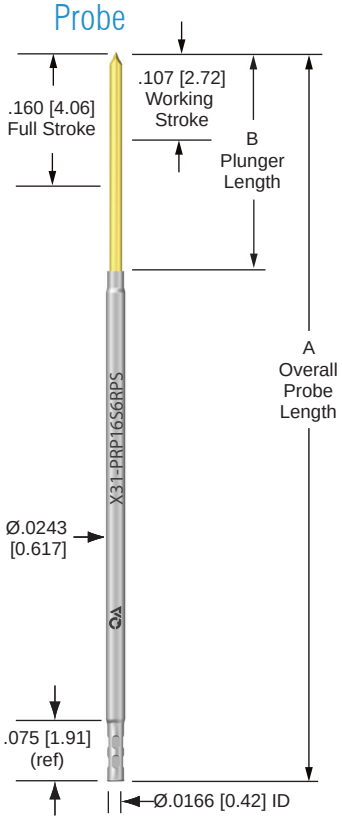
QA Technology probes offer a wide range of spring forces allowing the Test Engineer or Fixture Fabricator to custom-tune their test probe applications. For ease of selection and to identify the proper replacement probe, QA Technology has executed a new laser-marked probe identification system. This system will easily identify the exact part number for probe replacement during regular scheduled maintenance. This identification includes QA’s complete part number, spring force (oz/g) and our signature banded codes. It also includes our manufacturing lot code for traceability.

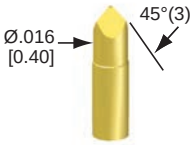


SPRING FORCE IDENTIFICATION

MARKING	SPRING FORCE
	L - Low
	S - Standard
	H - High
	Y - Elevated

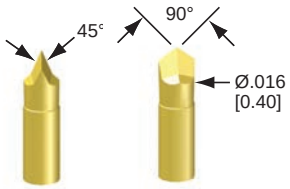
Probe



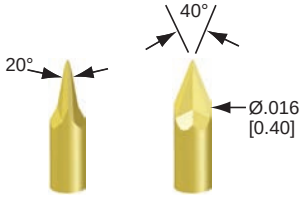


S43P $ - Chisel

Razor Sharp Tip Styles



S6RP $ - Razor



S9RP $ - Razor

Probe P/N

X31-PRP16 ■■■■■■ example: X31-PRP16S6RPL

	Letter	Material/Finish	Average Resistance	Current Rating[1] SS @ 204°C
Tube	P	Nickel silver/ID precious metal clad	< 64mOhms	4.7 Amps

	Letter	Material/Finish
Tip Material	S	$ Heat treated steel/gold plated over nickel

	Digits	Description
Tip Style	See Tips	Tip style geometry based on target type

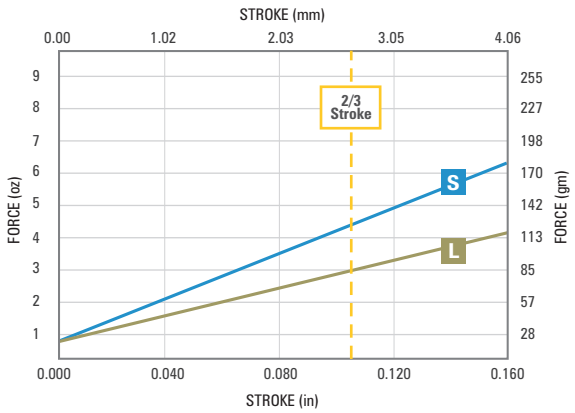
	Letter	Tip Style Availability	Overall Probe Length (A)	Plunger Length (B)
Plunger Length	P	43, 6R, 9R	.930 [23.62]	.280 [7.11]

	Letter	Spring Force	Preload	@ 2/3 Stroke	Material	Cycle Life @ Stroke
Spring	L	Low	0.7 [20]	3.0 [85]	SS	300K @ .107 [2.72]
	S	Standard	0.7 [20]	4.5 [128]	SS	25K @ .107 [2.72]

	Digit	Description
Option	N	No probe lubrication. Removing probe lubrication greatly reduces cycle life and should only be used in applications requiring operating temperatures below -45°C.
	(Blank)	No option required

[1] Current Rating is affected by spring material and lubrication choices. Standard lubrication has a 204°C maximum operating temperature limit. Before using probes near these current limits, please refer to Current Carrying Capacity and Operating Temperature Application Notes.

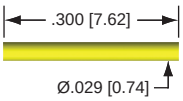
Spring Force



Suggested mounting holes and drill sizes in AT7000, G10/FR4 or similar materials should be gauged at:

Plates	Hole Size	Drill Size
Probe Plate	.0250 / .0260 [0.635 / 0.660]	#71 or .65mm
Back Plate	.0217 / .0225 [0.551 / 0.572]	#74 or .57mm

Wire Grip Sleeve



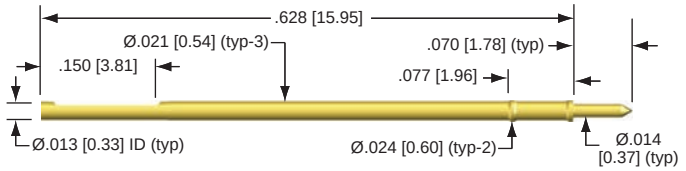
WG31

For use with G termination pins

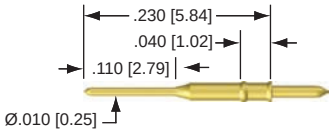
Wire Grip Sleeve P/N: WG31

	Digit	Description
Size	WG31	To accept customer supplied 30AWG Kynar solid insulated wire, stripped at .120 [3.05] Nylon sleeve, yellow

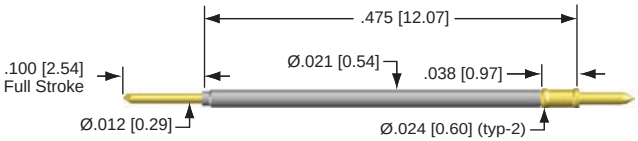
Termination Pin



X31-TG-2G



X31-TR-0G



X31-TDS3-00

X31-16 probes are also compatible with all standard X31-25 termination pins.

Tools & Accessories

Pin Gauge: PG-X31-P (for Probe Plate)
PG-X31-T (for Back Plate)

Termination Installation*: ITRX31-FL, ITRX31 SET -.435, -.060 -.010, .010, .020, .030, .040
ITRX31 SET -.150 to .050 [-3.81 to 1.27]
ITRX31E SET -.435 to -.150 [11.05 to 3.81]

Termination Extraction: ETRX31 or ETRX31E (when Probe Plate is installed) ETRX31-KIT (includes ITRX31-FL and ETRX31)

Probe Installation: PT50/39

Damaged Probe Tube Extraction: TERX31/039

Wire Grip Installation: GTR31

* See page 14-15 or set height calculations

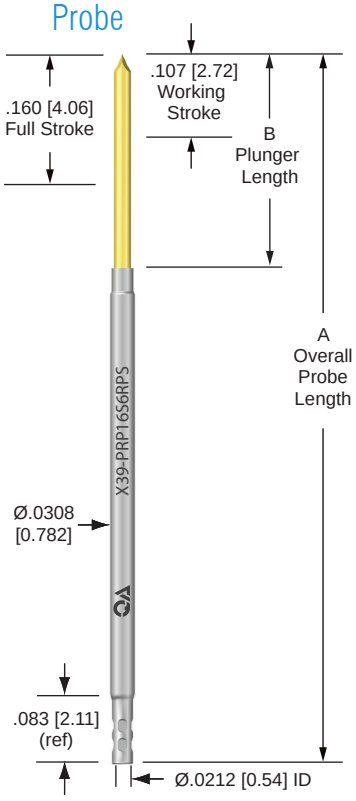
Termination Pin P/N

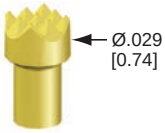
X31-T■-■G-■ example: X31-TG-2G

	Letter	Material/Finish
Termination	DS3	Double-Ended for wireless testing. Order by part number above.
	G	Wire Grip: Heat treated BeCu/gold plated, accepts wire grip sleeve.
	R	Round Post. Heat treated Becu/gold plated over nickel.
Body	**Digit**	**Description**
	0	Only available in TR
	2	Only available in TG
Option	**Digit**	**Description**
	1	X31-TG-2G with WG31 wire grip sleeve
	(Blank)	No option required

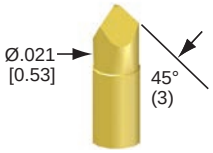
US Patent No. 6,570,399 & 4,885,533

Probe



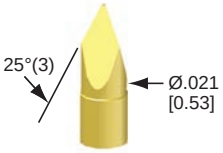


B39H - Serrated



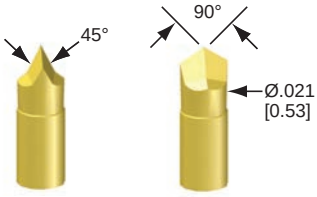
S43P - Chisel

S44H - Crown

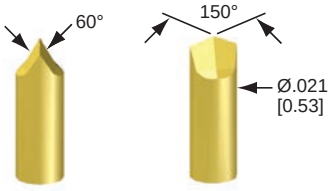


S63P - Chisel

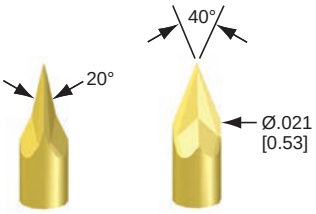
Razor Sharp Tip Styles



S6RP - Razor



S8RP - Razor



S9RP - Razor

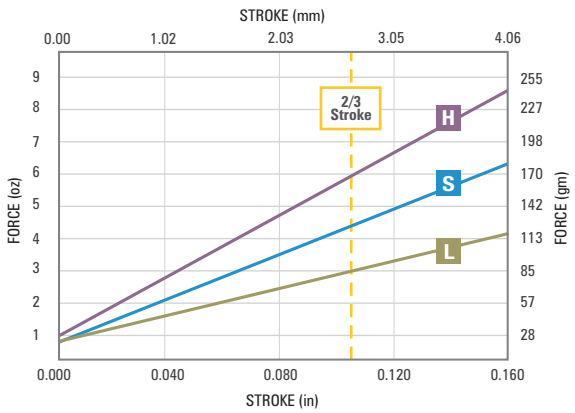
Probe P/N

X39-PRP16 ■■■■■■ example: X39-PRP16S43PS

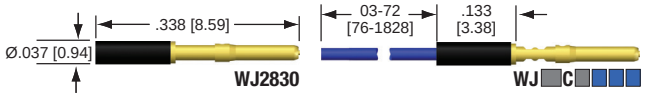
	Letter	Material/Finish	Average Resistance	Current Rating[1] SS @ 204°C
Tube	P	Nickel silver/ID precious metal clad	< 42 mOhms	6.2 Amps
Tip Material	Letter	Material/Finish		
	S	Heat treated steel/gold plated over nickel		
	B	Heat treated BeCu/gold plated over nickel		
Tip Style	Digits	Description		
	See Tips	Tip style geometry based on target type		
Plunger Length	Letter	Tip Style Availability	Overall Probe Length (A)	Plunger Length (B)
	H	39, 44	.870 [22.10]	.220 [5.59]
	P	43, 63, 6R, 8R, 9R	.930 [23.62]	.280 [7.11]
Spring	Letter	Spring Force	Preload	@ 2/3 Stroke
	L	Low	0.8 [22]	3.0 [85]
	S	Standard	0.8 [22]	4.5 [128]
	H	High	1.0 [28]	6.0 [170]
Option	Digit	Description		
	N	No probe lubrication. Removing probe lubrication greatly reduces cycle life and should only be used in applications requiring operating temperatures below -45°C.		
	(Blank)	No option required		

[1] Current Rating is affected by spring material and lubrication choices. Standard lubrication has a 204°C maximum operating temperature limit. Before using probes near these current limits, please refer to Current Carrying Capacity and Operating Temperature Application Notes.

Spring Force



Wire Jack



For use with J termination pins.

Wire Jack P/N:

WJ■■■■■■■■-■ example: WJ28C8230

	Digit	Description
Size	2830	Wire Jack only (customer to crimp wire) brass/gold plated with nylon insulator.
	28C8	28 AWG Kynar insulated solid wire, pre-attached, specify color and length.
	30C3	30 AWG Kynar insulated solid wire, pre-attached, specify color and length.

Wire	Colors Available for 28C & 30C Termination								
	0	Black	2	Red	4	Yellow	6	Blue	8	Gray
	1	Brown	3	Orange	5	Green	7	Violet	9	White

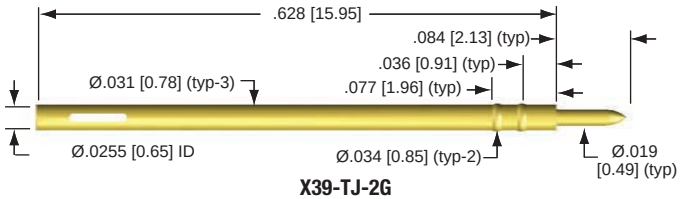
Wire	Wire Length Available for 28C & 30C Termination
	Specify Length: 03 – 72 [76-1828]

Option	Letter	Description
	S	Strip Length 0.000/.669 [0.00/16.99]; Customer to specify Strip Length

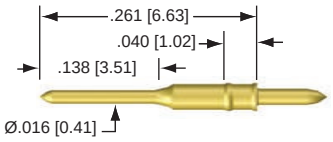
Suggested mounting holes and drill sizes in AT7000, G10/FR4 or similar materials should be gauged at:

Plates	Hole Size	Drill Size
Probe Plate	.0315 / .0325 [0.800 / 0.826]	#66 or .82mm
Back Plate	.0315 / .0325 [0.800 / 0.826]	#66 or .82mm

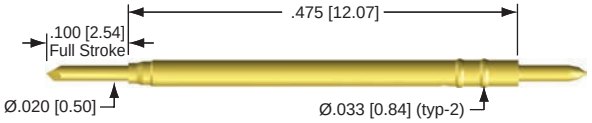
Termination Pin



X39-TJ-2G



X39-TR-0G



X39-TDS3-00

X39-16 probes are also compatible with all standard X39-25 termination pins.

Tools & Accessories

Pin Gauge: PG-X39

Termination Installation*: ITRX39-FL
ITRX39 SET -.150 to .100 [-3.81 to 2.54]
ITRX39E SET -.435 to -.150 [-11.05 to -3.81]

Termination Extraction: ETRX39 or ETRX39E (when Probe Plate is installed) ETRX39-KIT (includes ITRX39-FL and ETRX39)

Probe Installation: PT50/39

Damaged Probe Tube Extraction: TERX39/050

Wire Jack Installation: JTR2830

Indicator Probes: IPX39-16S43P or IPX39-16S44H

* See page 14-15 or set height calculations

Termination Pin P/N

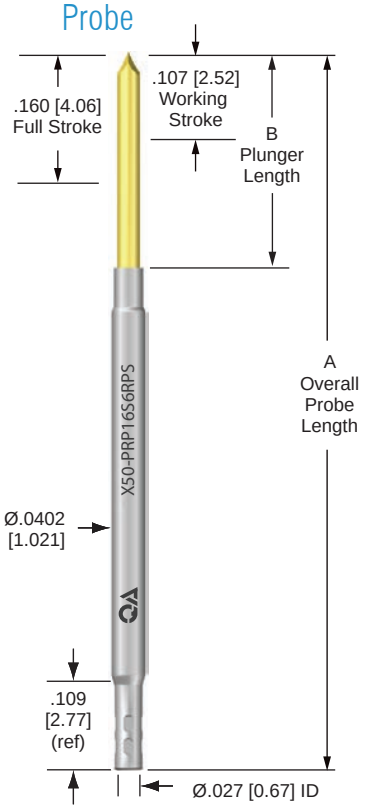
X39-T■-■G example: X39-TJ-2G

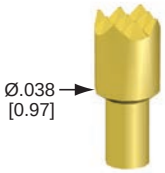
Termination	Letter	Material/Finish
	DS3	Double-Ended for wireless testing. Order by part number above.
	J	Wire Jack. Heat treated BeCu/gold plated over nickel, accepts wire jack.
	R	Round Post. Heat treated BeCu/gold plated over nickel.

Body	Digit	Description
	0	Only available in TR
	2	Only available in TJ

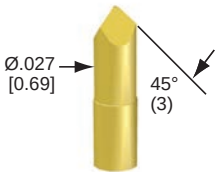
US Patent No. 6,570,399 & 4,885,533

Probe



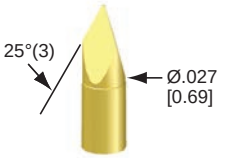


B39H - Serrated



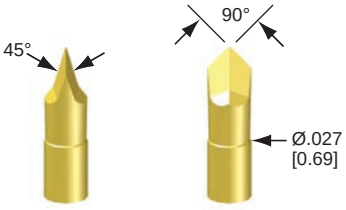
S43P - Chisel

S44H - Crown

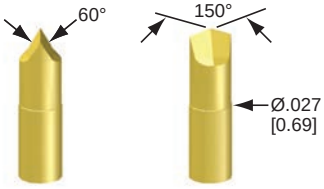


S63P - Chisel

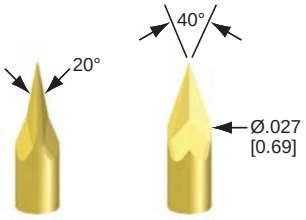
Razor Sharp Tip Styles



S6RP - Razor



S8RP - Razor



S9RP - Razor

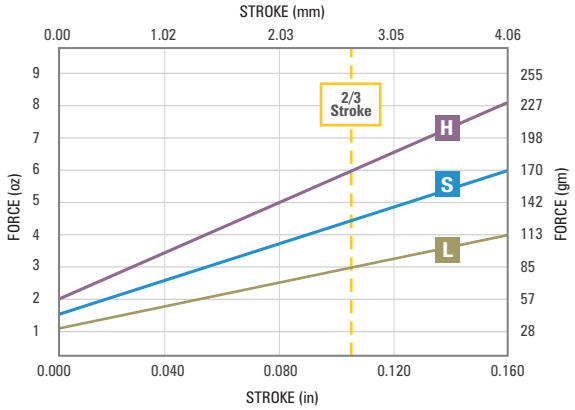
Probe P/N

X50-PRP16 ■■■■■■ example: X50-PRP16S43PS

	Letter	Material/Finish	Average Resistance	Current Rating[1] SS @ 204°C
Tube	P	Nickel silver/ID precious metal clad	< 41 mOhms	7.8 Amps
Tip Material	**Letter**	**Material/Finish**		
	S	Heat treated steel/gold plated over nickel		
	B	Heat treated BeCu/gold plated over nickel		
Tip Style	**Digits**	**Description**		
	See Tips	Tip style geometry based on target type		
Plunger Length	**Letter**	**Tip Style Availability**	**Overall Probe Length (A)**	**Plunger Length (B)**
	H	39, 44	.870 [22.10]	.220 [5.59]
	P	43, 63, 6R, 8R, 9R	.930 [23.62]	.280 [7.11]
Spring	**Letter**	**Spring Force**	**Preload**	**@ 2/3 Stroke**	**Material**	**Cycle Life @ Stroke**
	L	Low	1.1 [31]	3.0 [85]	SS	300K @ .107 [2.72]
	S	Standard	1.5 [43]	4.5 [128]	SS	300K @ .107 [2.72]
	H	High	2.0 [57]	6.0 [170]	SS	100K @ .107 [2.72]
Option	**Digit**	**Description**				
	N	No probe lubrication. Removing probe lubrication greatly reduces cycle life and should only be used in applications requiring operating temperatures below -45°C.				
	(Blank)	No option required				

[1] Current Rating is affected by spring material and lubrication choices. Standard lubrication has a 204°C maximum operating temperature limit. Before using probes near these current limits, please refer to Current Carrying Capacity and Operating Temperature Application Notes.

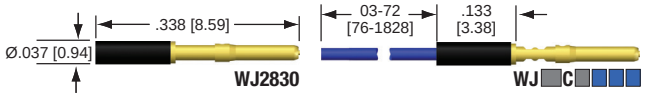
Spring Force



Suggested mounting holes and drill sizes in AT7000, G10/FR4 or similar materials should be gauged at:

Plates	Hole Size	Drill Size
Probe Plate	.0415 / .0430 [1.054 / 1.092]	#57
Back Plate	.0380 / .0390 [0.965 / 0.990]	#61 or 1.0mm

Wire Jack



For use with J termination pins.

Wire Jack P/N:

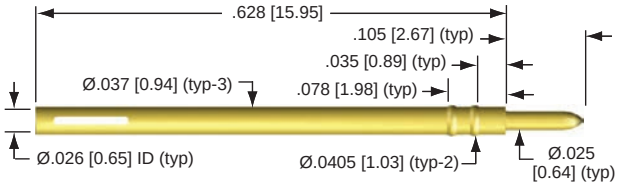
WJ■■■■■■■■-■ example: WJ28C8230

	Digit	Description
Size	2830	Wire Jack only (customer to crimp wire) brass/gold plated with nylon insulator.
	28C8	28 AWG Kynar insulated solid wire, pre-attached, specify color and length.
	30C3	30 AWG Kynar insulated solid wire, pre-attached, specify color and length.

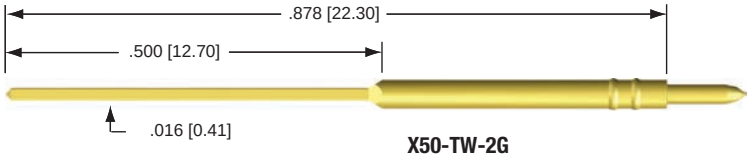
Wire	Colors Available for 28C & 30C Termination								
	0	Black	2	Red	4	Yellow	6	Blue	8	Gray
	1	Brown	3	Orange	5	Green	7	Violet	9	White
	Wire Length Available for 28C & 30C Termination									
		Specify Length: 03 – 72 [76-1828]								

Option	Letter	Description
	S	Strip Length 0.000/.669 [0.00/16.99]; Customer to specify Strip Length

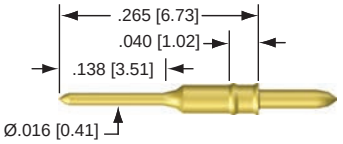
Termination Pin



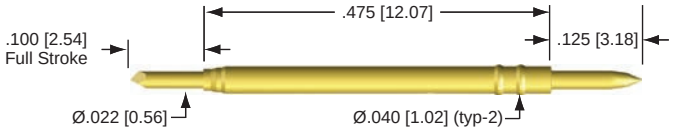
X50-TJ-2G



X50-TW-2G



X50-TR-0G



XTDS3-00

X50-16 probes are also compatible with all standard X50-25 termination pins.

Tools & Accessories

Pin Gauge: PG-X50-P (for Probe Plate)
PG-X50-T (for Back Plate)

Termination Installation*: ITRX50-FL
ITRX50 SET -.150 to .140 [-3.81 to 3.56]
ITRX50E SET -.435 to -.150 [-11.05 to -3.81]

Termination Extraction: ETRX50 or ETRX50E (when Probe Plate is installed) ETRX50-KIT (includes ITRX50-FL and ETRX50)

Probe Installation: PT100/75

Damaged Probe Tube Extraction: TERX50/075

Wire Jack Installation: JTR2830

Indicator Probes: IPX50-16S43P or IPX50-16S44H

* See page 14-15 or set height calculations

Termination Pin P/N

X50-T■-■G example: X50-TW-2G

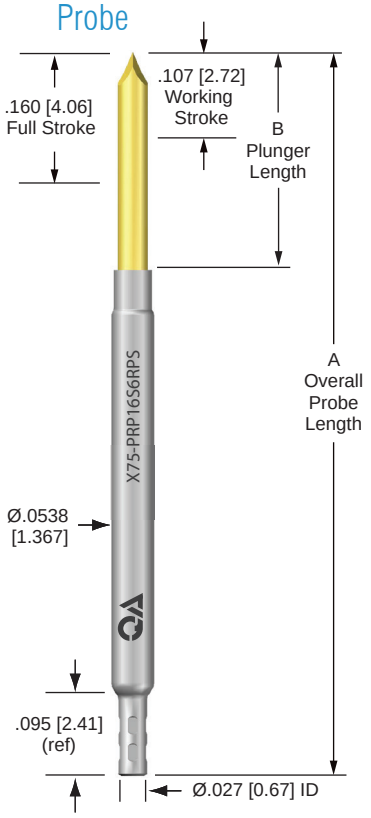
	Letter	Material/Finish
Termination	DS3	Double-Ended for wireless testing. Order by part number above.
	J	Wire Jack: Heat treated Becu/gold plated, accepts wire jacks.
	R	Round Post. Heat treated BeCu/gold plated over nickel.
	W	Wire Wrap. Heat treated BeCu/gold plated over nickel.

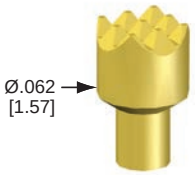
Body	Digit	Description
	0	Only available in TR
	2	Only available in TJ or TW

US Patent No. 6,570,399 & 4,885,533

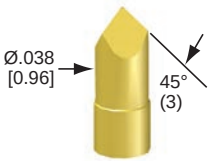
X75-16 SERIES | .075 [1.91] Centers | .160 [4.06] Full Stroke

Probe



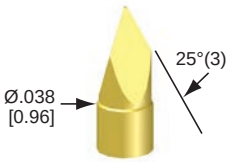


B09H - Serrated



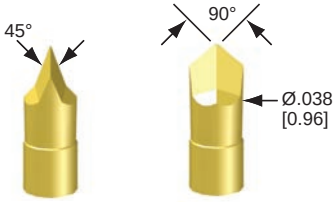
S43P - Chisel

S44H - Crown

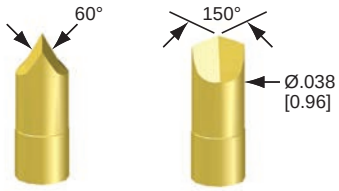


S63P - Chisel

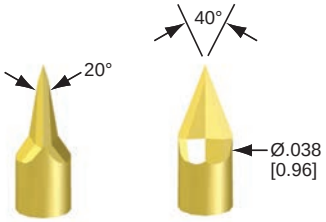
Razor Sharp Tip Styles



S6RP - Razor



S8RP - Razor



S9RP - Razor

Probe P/N

X75-PRP16 ■■■■■■ example: X75-PRP16S63PS

	Letter	Material/Finish	Average Resistance	Current Rating[1] SS @ 204°C
Tube	P	Nickel silver/ID precious metal clad	< 26 mOhms	9.5 Amps

	Letter	Material/Finish
Tip Material	S	S Heat treated steel/gold plated over nickel
	B	Heat treated BeCu/gold plated over nickel

	Digits	Description
Tip Style	See Tips	Tip style geometry based on target type

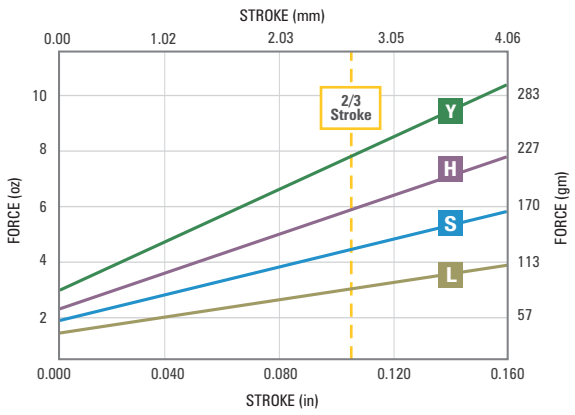
	Letter	Tip Style Availability	Overall Probe Length (A)	Plunger Length (B)
Plunger Length	H	09, 44	.870 [22.10]	.220 [5.59]
	P	43, 63, 6R, 8R, 9R	.930 [23.62]	.280 [7.11]

	Letter	Spring Force	Preload	@ 2/3 Stroke	Material	Cycle Life @ Stroke
Spring	L	Low	1.3 [37]	3.0 [85]	SS	300K @ .107 [2.72]
	S	Standard	1.9 [54]	4.5 [128]	SS	300K @ .107 [2.72]
	H	High	2.3 [65]	6.0 [170]	SS	300K @ .107 [2.72]
	Y	Elevated	3.0 [85]	8.0 [227]	SS	100K @ .107 [2.72]

	Digit	Description
Option	N	No probe lubrication. Removing probe lubrication greatly reduces cycle life and should only be used in applications requiring operating temperatures below -45°C.
	(Blank)	No option required

[1] Current Rating is affected by spring material and lubrication choices. Standard lubrication has a 204°C maximum operating temperature limit. Before using probes near these current limits, please refer to Current Carrying Capacity and Operating Temperature Application Notes.

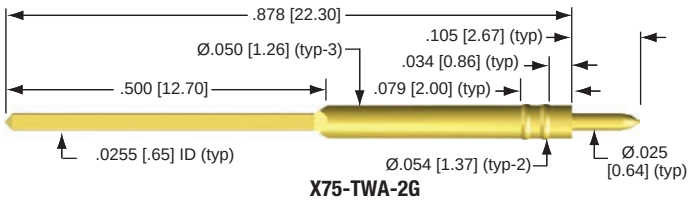
Spring Force



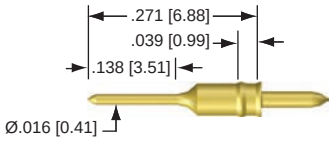
Suggested mounting holes and drill sizes in AT7000, G10/FR4 or similar materials should be gauged at:

Plates	Hole Size	Drill Size
Probe Plate	.0545 / .0560 [1.384 / 1.422]	#54 or 1.40mm
Wired Back Plate	.0515 / .0525 [1.308 / 1.333]	#55 or 1.35mm
Wireless Back Plate	.0380 / .0390 [0.965 / 0.990]	#61 or 1.0mm

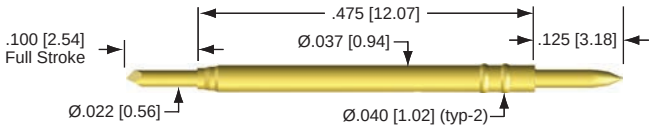
Termination Pin



X75-TWA-2G



X75-TR-0G



XTDS3-00

X75-16 probes are also compatible with all standard X75-25 termination pins.

Tools & Accessories

Pin Gauge: PG-X75A-P (for Probe Plate)
PG-X75A-T (for Back Plate)

Termination Installation*: ITRX75-FL
ITRX75 SET -.150 to .140 [-3.81 to 3.56],
ITRX75E SET -.435 to -.150 [-11.05 to -3.81]

Termination Extraction: ETRX75 or ETRX75E (when Probe Plate is installed) ETRX75-KIT (includes ITRX75-FL and ETRX75)

Probe Installation: PT100/75

Damaged Probe Tube Extraction: TERX75/100

Indicator Probes: IPX75-16S43P or IPX75-16S44H

* See page 14-15 or set height calculations

Termination Pin P/N

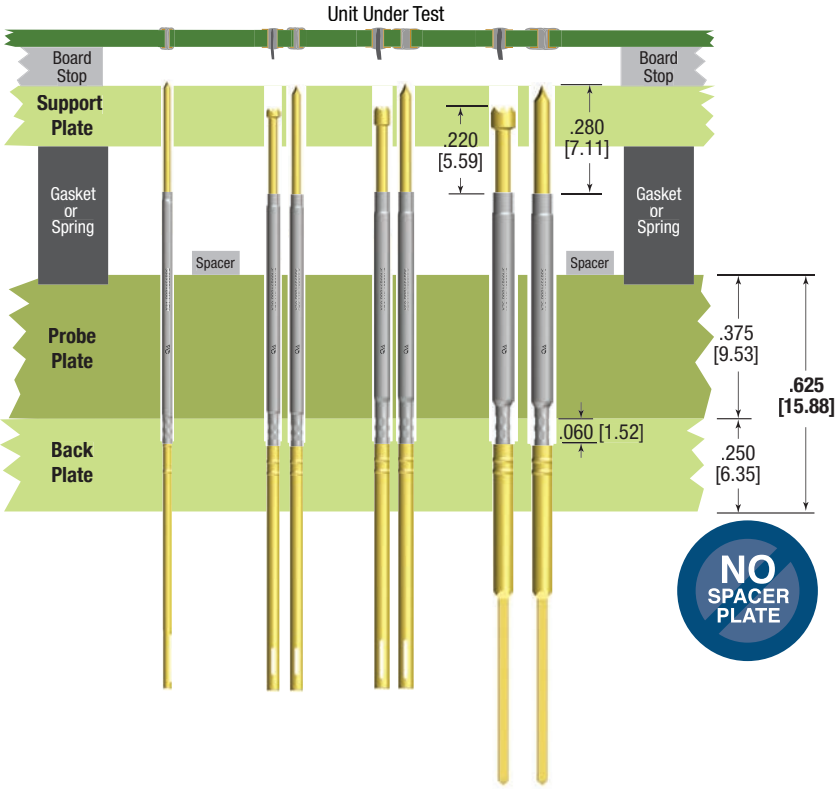
X75-T■-■G example: X75-TWA-2G

	Letter	Material/Finish
Termination	DS3	Double-Ended for wireless testing. Order by part number above.
	R	Round Post. Heat treated BeCu/gold plated over nickel.
	WA	Wire Wrap. Heat treated BeCu/gold plated over nickel.
Body	**Digit**	**Description**
	0	Only available in TR
	2	Only available in TWA

US Patent No. 6,570,399 & 4,885,533

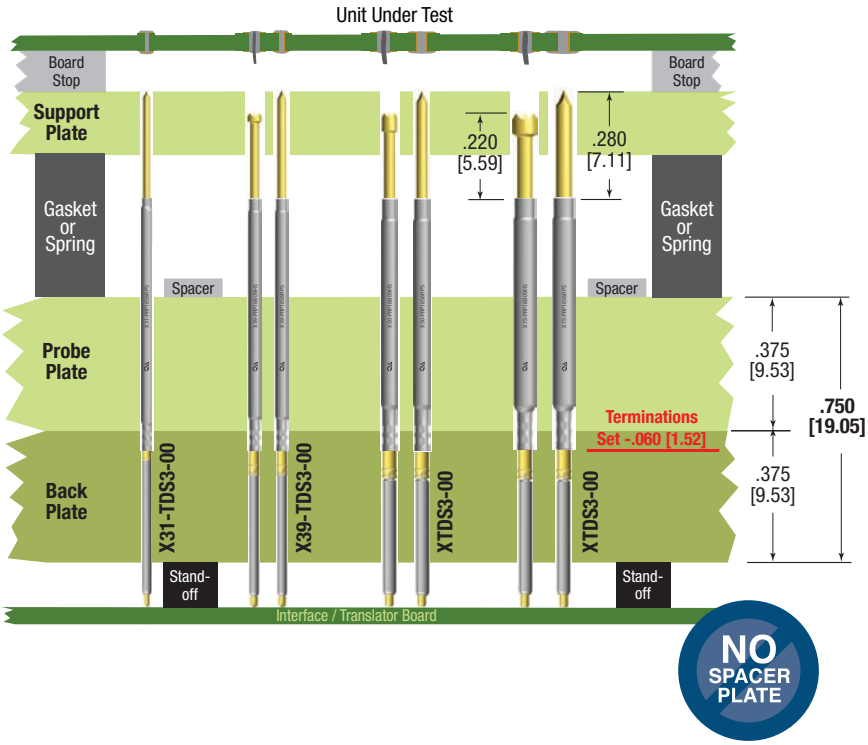
Fixture Design Examples

QA Technology is a manufacturer of test probes and we strive to offer the best suitable products for advanced state of the art technology in the ATE industry. Below are some fixture examples of how our new Low Profile X Probe Socketless Series might be used in different tester configurations. Actual fixture designs may vary, please consult with your fixture fabricator to help determine the best layout based on the individual application.



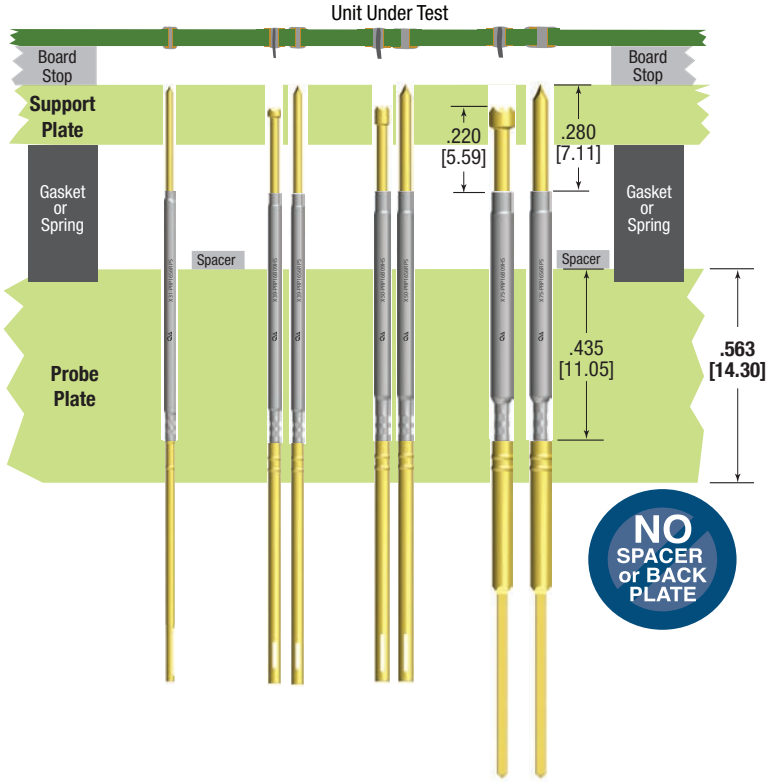
Multi Plate Wired Fixture Design

The advantage to the shorter X-16 Probe Series is that the Probe Plate and Back Plate can be mounted directly together without the use of a spacer plate. This design reduces the fixture height and weight but more importantly, allows for easier ECOs (Engineering Change Orders). These fixtures can utilize the same Board Stop, Support Plate and Spacers currently used in other fixture designs.



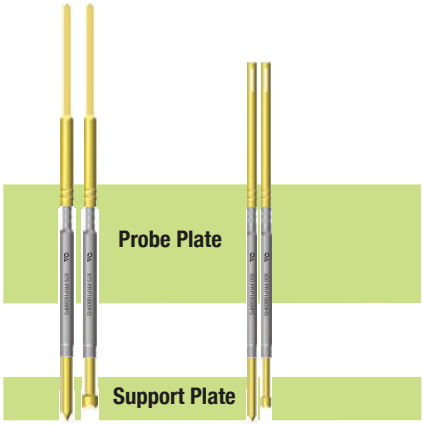
Multi Plate Wireless Fixture Design

By using the available shorter wireless termination pins, the fixture designer can produce a compact test fixture that utilizes standard mounting plate thicknesses and fixture components with the ability to perform ECOs in the field. Since all the wireless termination pins mount at the same set height across all Series for a given fixture design, installing the termination pin is an easy process. Variable termination set heights are not required, simplifying the fixture build process.



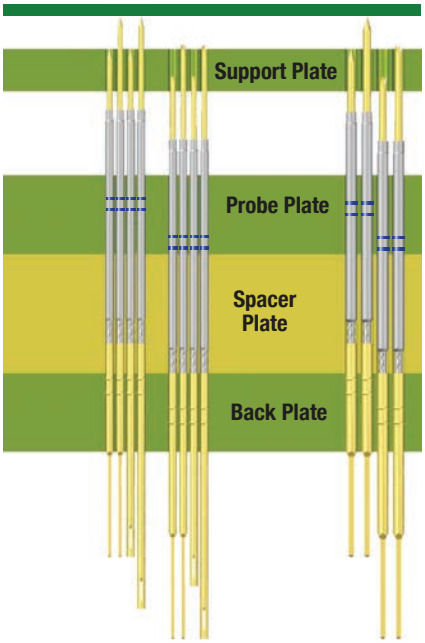
Single Plate Wired Fixture Design

When using the X-16 Series with a single plate, the fixture design is similar to a conventional probe and socket fixture. The standard 9/16" (14.30mm) fixture plate is used and drilled with stepped holes to accommodate both the X Probe termination pin and X Probe. ECOs can be performed from the top of the Probe Plate with long flute drill bits. The termination pin is installed from the top of the Probe Plate with negative set ITRX Tools.



Top Side Probe Fixture
Shorter Stack Up and Lower Cost

When using the X-16 Series for top side probing, the fixture designer has the advantage of a shorter overall fixture height which is advantageous when converting a conventional fixture design to an X Probe design. The X Probe design allows more robust probes to be mounted on closer center compared to a conventional probe and socket assembly.



The low profile X-16 Socketless Probe Series is designed to mount in fixture plates without the need for a Spacer Plate or gap between the Probe Plate and the Back Plate. When used with multi plate fixtures, only a Probe Plate and Back Plate is required, while some fixture designs may require only a single Probe Plate utilizing a stepped hole for both the Termination Pin and X Probe. To calculate the proper set heights for both configurations, follow these steps:

STEP 1: Make a cross-sectional sketch of the fixture in the actuated/compressed position. The shown sketches are typical of many vacuum and mechanical fixtures. The numbers below represent a hypothetical fixture design. Please refer to your individual design for actual numbers.

STEP 2: Calculate the following dimensions for A, B C and D to complete the set height configuration.

(B) The thickness of the items that stack up on the top surface of the Probe Plate when the fixture is in its actuated/compressed state. Includes Spacer, Support Plate and Board Stop.

SPACER	+ .063 [1.60]
SUPPORT PLATE	+ .200 [5.08]
BOARD STOP	+ .125 [3.18]
B	**=.388 [9.86]**

(A) Distance from the UUT to the top of the Back Plate for a multi plate design or Probe Plate for a single plate design. In a single plate design (A) and (B) are the same dimension.

PROBE PLATE	+.375 [9.53] (or per your design)
B	+.388 [9.86]
A	**=.763 [19.39]**

(C) Probe tube length is **.650 [16.51]** for all X-16 Probe Series

(D) Distance from the bottom of the UUT to the top of the probe tube when actuated/compressed at its recommended 2/3 working or test stroke of .107 [2.72].

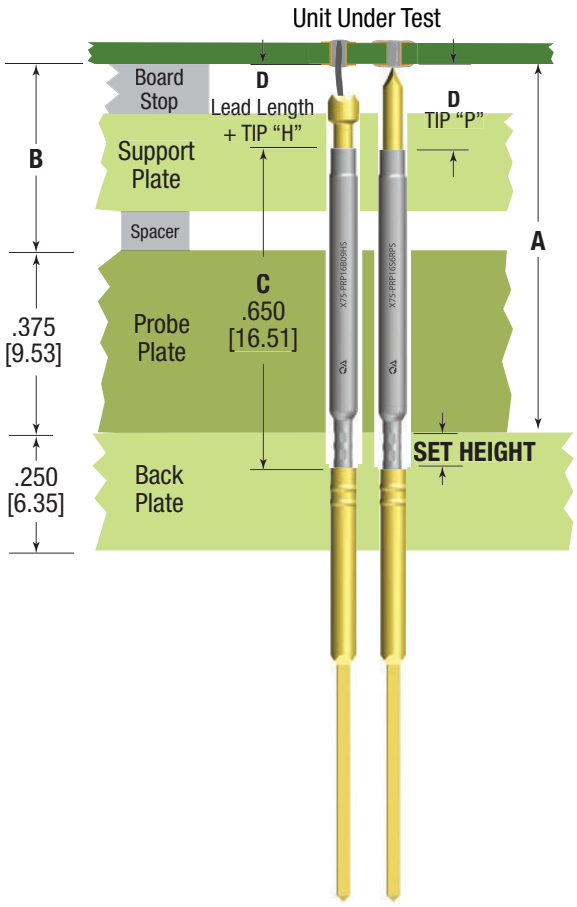
	TIP H *For Leads/Post*	TIP P *For Pads/Vias*
PLUNGER LENGTH*	+.220 [5.59]	+.280 [7.11]
LEAD LENGTH (IF ANY)	+.060 [1.52]	N/A
TEST STROKE	-.107 [2.72]	-.107 [2.72]
D	**=.173 [4.39]**	**=.173 [4.39]**

** Dimensions from **QA Catalog** or **www.qatech.com** product series.*

Related Notes:

- Fixtures utilizing a single plate design will require a stepped hole to contain both clearance for the X Probe tube and press fit for the Termination Pin. See Applications Note X Probe Drill Sizes for proper hole diameters.
- The Set Height calculations for the multi-plate fixture are based on the Termination Pin being installed directly into the Back Plate with the Probe Plate removed. If the Probe Plate is installed as would be case with ECOs, use the calculations for the single plate fixture design.
- To account for diameter irregularities at the hole ends, a margin of at least .020 [0.51] is recommended between the press rings and the closest plate surface.

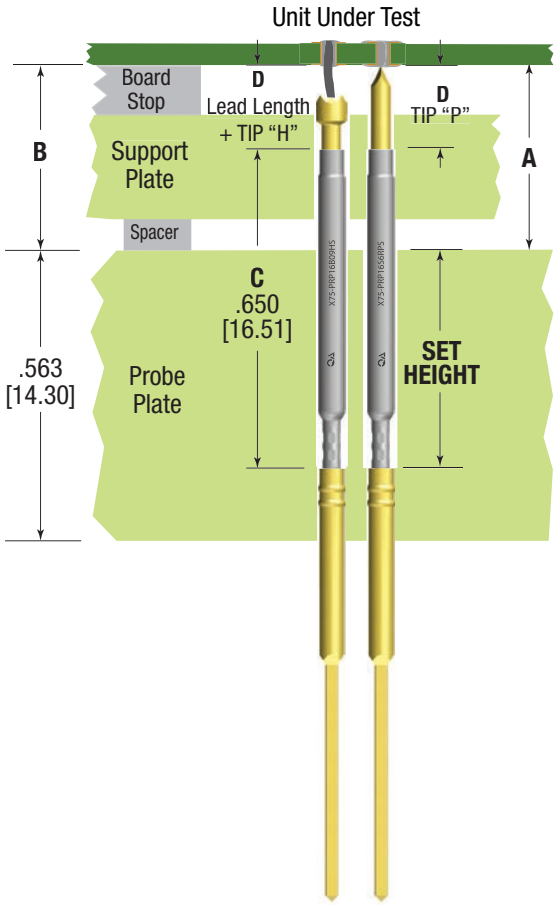
Multi Plate Fixture



SET HEIGHT example for **multi plate design**	
A	+.763 [19.39]
C	- .650 [16.51]
D	- .173 [4.39]
SET HEIGHT	**- .060 [-1.51]**

Example Tool part number:
ITRX75 SET -.060
(Negative set height)

Single Plate Fixture



SET HEIGHT example for **single plate design**	
A	+.388 [9.86]
C	- .650 [16.51]
D	- .173 [4.39]
SET HEIGHT	**-.435 [-11.05]**

Example Tool part number:
ITRX75 SET -.435
(Negative set height)

About QA

The world's most recognized technology companies trust QA Technology's testing and interconnect products to meet demands for higher quality, tighter delivery schedules, and greater production yields.

QA Technology Company, Inc.

110 Towle Farm Rd, Hampton, NH 03842 | 603.926.1193 | sales@qatech.com | www.qatech.com