

*Cat. 53*

# **EXCELTA<sup>®</sup>**

## **CORPORATION**



*Leaders in Tool Technology*



## OVER 50 YEARS OF EXPERTISE

Excelta began by introducing watchmaker tools to the aerospace industry in the mid 1950's. Today we manufacture and market tweezers, forceps, pliers, cutters, and small precision tools through our distribution network to the Military, Consumer Electronic, Medical Device Manufacturing and Electronic Assembly and Repair industries.



Excelta's expertise provides assembly solutions for customers involved with precision hand assembly. Our product offering has evolved from simple chain nose pliers and a few tweezers to over 1,200 assembly aids. Through our "Specials Department" we are able to adapt tools to the specific needs of our customers. Excelta maintains a position of highest quality while delivering innovative solutions. We pride ourselves on staying one step ahead in providing quality tools for tomorrow's needs.

**Excelta's precision hand tools are *Precisely Right* for your critical application.**



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[www.excelta.com](http://www.excelta.com)

### **Limited Warranty:**

There are no express warranties or implied warranties including, but not limited to, merchantability and fitness for a particular purpose.

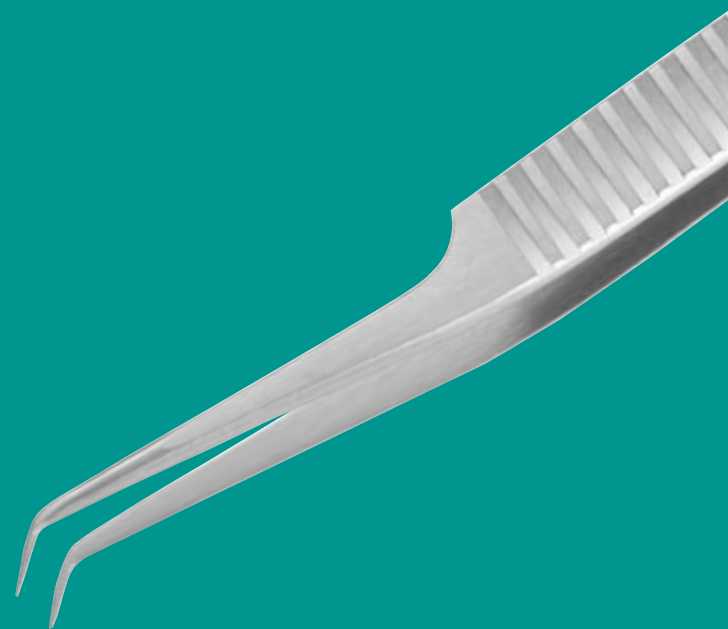
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Produced by Cory Ryan. Photography by Theresa Barnes Photography and Daniel Motyer.





***Precisely Right***



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**Excelta Corporation has made it easy  
to find the tool that is Precisely Right for the job.**



**Our FIVE STAR SYSTEM takes the guesswork  
out of selecting the right tool.**

★ **5 Levels of Quality**

★ **5 Levels of Pricing**

**A range of materials and designs for any application  
*Precisely Right***



For the most critical applications, the Excelta Five Star line offers ultra-precision with the most advanced materials available.



For demanding applications, the Excelta Four Star line meets and exceeds high precision requirements.



The Excelta Three Star line offers the widest range of products designed for Military, Semiconductor and Electronic assembly.



When precision is required and price is a concern, the Excelta Two Star line fills most requirements for consumer electronics.



The Excelta One Star line offers quality products at our most economical price.

Call us at Excelta Corporation or contact your local  
Excelta Sales Representative to find the tools that are precisely right for you.

**Simply Look for the Stars.**



# FIVE STAR LEVELS OF QUALITY

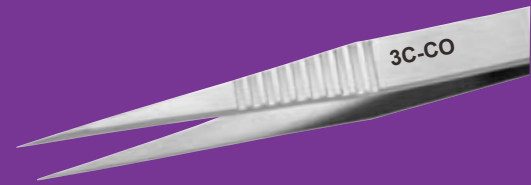


## FIVE STAR

### COBALTIMA® SERIES



Made in Switzerland from 40% cobalt alloy steel, harder than stainless steel, antimagnetic, excellent resistance to corrosion and resistant to temperatures up to 500° C (932° F). Used with very high magnification.



## FOUR STAR

### MP MEDICAL



Made in Switzerland from medical grade stainless steel, mirror polished tips for safe handling of even the most delicate parts, antimagnetic and anti-acid. Used with high magnification.



## THREE STAR

### HIGH PRECISION



Precision grade tweezers are manufactured in Switzerland with high precision points. The perfect choice when working under 5x to 10x magnification.



## TWO STAR

### FINE PRECISION



Standard Grade "PI" tweezers are manufactured in Italy with fine precision points at a lower cost. Used with low magnification.



## ONE STAR

### GENERAL PRECISION



General Precision Grade "SE" tweezers are manufactured for general purpose work when magnification is not required.



# AVAILABLE ALLOYS FOR TWEEZERS AND FORCEPS

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## NEVERUST®

Suffix code “SA” 300-series antimagnetic stainless steel which provides excellent resistance to many acids because of the high concentration of molybdenum. “SA” material is our most popular material sold. Suitable for autoclave sterilization up to 270° C (518° F).

## STAINLESS STEEL

Suffix code “S” 400-series stainless steel contains a slightly higher carbon content than NEVERUST® which produces a harder tip but could rust under extreme conditions. Not recommended for autoclave sterilization.

## CARBON STEEL

Carbon steel was the first material used for watchmaking tweezers and has no suffix code. The flame-hardened tips provide for long life, but are highly magnetic and have low rust resistance. Not to be used for autoclave sterilization.

## COBALTIMA® ALLOY

Suffix code “CO” is a special alloy containing cobalt for added strength and corrosion resistance to acids. Cobaltima® is harder than stainless steel and is antimagnetic. Resistant to temperatures up to 500° C (932° F). Highly recommended for autoclave sterilization.

## TITANIUM

Suffix code “TA” is highly resistant to corrosion from nitric acid, chloride, salt water and many other mineral and organic acids. Titanium is 40% lighter than stainless steel, non-magnetic and temperature resistant up to 430° C (806° F).

# EXCELTA ADDITIONAL FEATURES

## Tweezer Codes

**TC – Teflon Coating** is applied to the first 1 ½" of the tips to help prevent nicking and scratching when handling parts. This green coating can be applied in 1.5 mil, 3.0 mil and 5.0 mil thickness. It is acid and heat resistant to 500 F. Excelta recommends this coating only be added to the stainless steel tweezers, and not recommended for carbon steel tweezers. Teflon coating has a 12 pc. minimum order.

When ordering Teflon coating add the suffix "TC" and the thickness to the end of the part number. (Example: 3C-SA TC 1.5)

**CTC – Conductive Black Teflon Coating** can be applied in the same 3 thicknesses as regular teflon coating. 1.5 mil, 3.0 mil and 5.0 mil. Tweezers are coated 1 ½" from the tip, back. Conductive Teflon Coating has a 24 pc. minimum order.

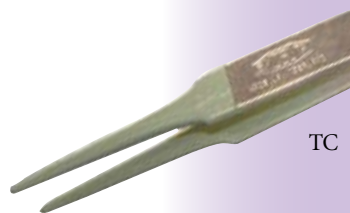
**MW – Micro Handling** tweezers have radiused edges and polished inside jaws to prevent nicking and scratching when handling delicate parts. When ordering this feature, add the prefix "MW" to the beginning of the part number. (Example: MW-7-SA)

**D – Single Cut Serrations** can be added to the inside jaws of most tweezers and pliers. Serrations help hold parts when handling and manipulating. When ordering, add the suffix "D" to the end of the part number. (Example: 2A-SA-D)

**DX – Double Cut Serrations** or Diamond serrations can be added to the inside jaws of most tweezers and pliers. Diamond serrations are finer and should be used when handling small parts and wires. When ordering, add the suffix "DX" to the end of the part number. (Example: 000-SA-DX)

### ET – Ergonomic Foam Cushion

**Padding** for tweezers. The soft cushion grip helps to relieve the "PINCH GRIP" when using tweezers for long periods of time. Many standard style "ET" tweezers are in stock and available for immediate delivery.



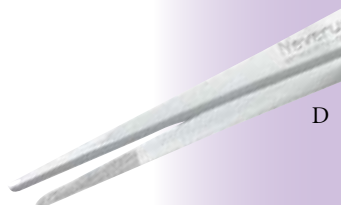
TC



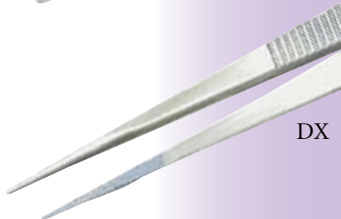
CTC



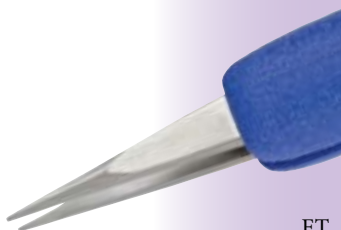
MW



D



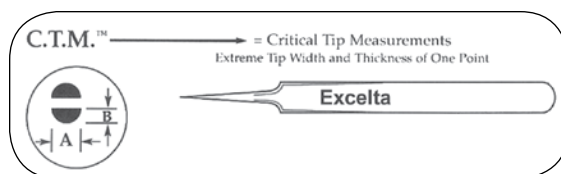
DX



ET

## Critical Tip Measurement

CTM stands for Critical Tip Measurement. This measurement is used to describe the size of the point on a pair of tweezers. The CTM is equal to the height and width of one point. This measurement is guaranteed on all Excelta Five, Four and Three Star quality tweezers. The Excelta One and Two Star quality tweezers are not covered by this guarantee.



### ★★★ 3 STAR QUALITY

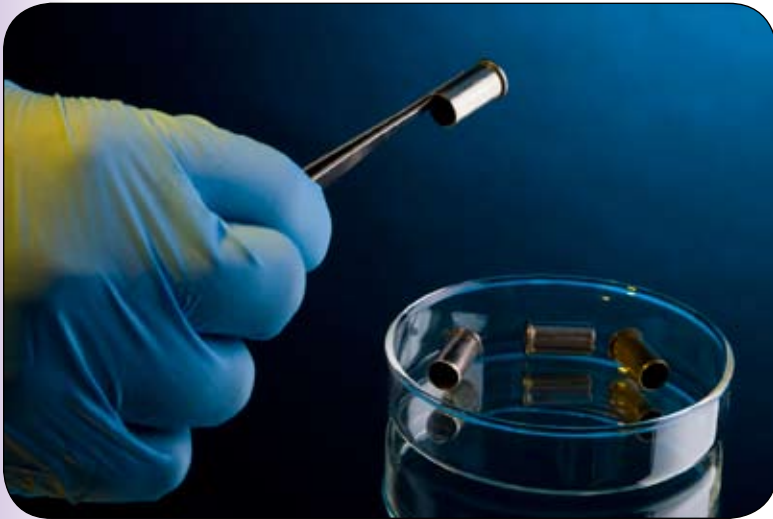
Part Number	A	B
O	.0067" X	.0039"
OO	.0177" X	.0098"
OOO	.0177" X	.0098"
OOB	.0177" X	.0098"
OOC	.0177" X	.0098"
OOD	.0177" X	.0098"
OC	.0067" X	.0039"
1	.0078" X	.0047"
2	.0133" X	.0055"
2A	.0591" X	.0078"
3	.0066" X	.0039"
3C	.0066" X	.0039"
4	.0051" X	.0031"
5	.0039" X	.0024"
5A	.0051" X	.0031"
5B	.0039" X	.0023"
51	.0039" X	.0023"
6	.0066" X	.0039"
7	.0066" X	.0039"
7A	.0094" X	.0062"
7B	.0066" X	.0039"
A	.0236" X	.0137"
AC	.0236" X	.0137"
SS	.0078" X	.0047"



# COBALTIMA® TWEEZERS/FORCEPS

★★★★★ Made in Switzerland

## Extreme Precision Points for Medical Design and Lab Technicians



- Super Neverust®
- Cobalt alloy steel
- Tips: harder than stainless steel
- Antimagnetic
- Excellent resistance to corrosion
- Resistant to temperatures up to 500°C
- Airflow finger grooves for better handling
- 1mm Softouch™ body thickness
- Radius inside edges are standard

### Why Cobaltima®?

COBALTIMA® tweezers are made entirely from a patented alloy. They have tips that are insensitive to fatigue and never lose their elasticity. The hardness of the tips is progressive; it reaches its peak in the deployment-zone where we have measured a Rockwell C hardness of 63/64 for model 5-CO.

#### Main Features:

- Non-corrosive
- Antimagnetic: on a 0.2mm strip cold-hammered to 80%  
Bs – H at 20°C = 105 G  
For H max – 8000°C  
Bs – H at 196°C = 640 G
- Resistant to fatigue, modulus of elasticity 210,000 MPA
- Hardness about 720 Vickers 63 / 64 Rockwell C on the tips
- Resistance to high temperatures 500°C maximum
- Excellent resistance to corrosion: sea water, HCL, H3PO4, HN03, H2S04  
Cobaltima's resistance is superior to that of the best stainless steel.



5-CO

Chemical Composition	CO	Ni	Mo	Cr	Ti	Nb	Al	Fe
	40	16	7	20	–	–	–	Bal
Temperature of Fusion	(°C)						450–1460	
Volume Mass	(g.cm <sup>3</sup> )						8.3	
Electrical Resistivity at 20°	{}. Cm						90/95	
Thermo Coefficient Between 0 and 3000°C	softened						(°C) <sup>-1</sup> 4.10 <sup>-4</sup>	
	crushed						(°C) <sup>-1</sup> 20,8.10 <sup>-3</sup>	
Magnetic Properties							antimagnetic	

# ★★★★★ Cobaltima® Tweezers/Forceps Extreme Precision Points

**MADE IN  
SWITZERLAND**

Our special Cobalt Steel is harder than stainless steel, antimagnetic and has excellent resistance to corrosion and temperatures up to 500°C. The radiused inside edges protect parts from scratching, while the outside finger grooves provide extra grip and feel when handling very small parts.

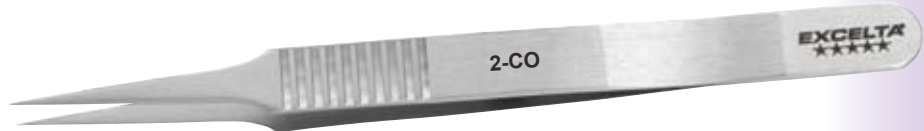
## 2-CO ★★★★★

4 ¾" long

**Five Star Cobaltima® tweezers with tapered tips and strong fine points.**

The stronger points on this design can be used to bend small wires and components.

CTM = .0098" wide  
.0039" high



## 3C-CO ★★★★★

4 ¼" long

**Five Star Cobaltima® tweezers with straight tips and very fine points.** Very popular design for handling and placing of small parts.

CTM = .0031" wide  
.0016" high

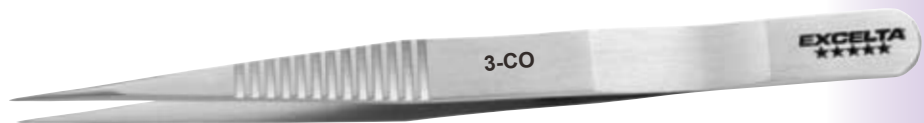


## 3-CO ★★★★★

4 ¾" long

**Five Star Cobaltima® tweezers with straight tips and very fine points.** Our most popular design for all types of micro assembly.

CTM = .0031" wide  
.0016" high



## 4-CO ★★★★★

4 ⅝" long

**Five Star Cobaltima® tweezers with tapered tips and extra fine points.** The tapered tips on this design provide a long reach into limited access areas.

CTM = .0024" wide  
.0008" high



## 5-CO ★★★★★

4 ⅜" long

**Five Star Cobaltima® tweezers with tapered tips and micro fine points.**

This design has our finest points for handling the smallest parts.

CTM = .0020" wide  
.0004" high



# ★★★★★ Cobaltima® Tweezers/Forceps

## Extreme Precision Points

Our special Cobalt Steel is harder than stainless steel, antimagnetic and has excellent resistance to corrosion and temperatures up to 500°C. The radiused inside edges protect parts from scratching, while the outside finger grooves provide extra grip and feel when handling very small parts.



### 5A-CO ★★★★★

4 ½" long

**Five Star Cobaltima® tweezers with offset tips and micro fine points.** The offset design offers better visibility in dense areas.

CTM = .0024" wide  
.0008" high



### 7-CO ★★★★★

4 ½" long

**Five Star Cobaltima® tweezers with curved tips and very fine points.**

Our most popular design for working under high magnification.

CTM = .0027" wide  
.0012" high



### 7B-CO ★★★★★

4 ½" long

**Five Star Cobaltima® tweezers with curved tips and very fine serrated points.** The added serrations provide additional grip when handling small parts.

CTM = .0027" wide  
.0012" high



### 51-CO ★★★★★

4 ½" long

**Five Star Cobaltima® tweezers with bent tips and micro fine points.** The bent tips are helpful when reaching into confined areas.

CTM = .0020" wide  
.0004" high





# ★★★★★ Miniature Cobaltima® Tweezers Extreme Precision Points

**MADE IN  
SWITZERLAND**

Our 3 1/8" long tweezers were specifically designed for work under a microscope and engineered to fit small hands. The radiused inside edges protect parts from scratching, while finger grooves provide extra grip and feel when handling very small parts.

**M-2A-CO** ★★★★★ 3 1/8" long

**Miniature tweezers with  
flat tips and round points.**

CTM = .0400" wide  
.0040" high



**M-3-CO** ★★★★★ 3 1/8" long

**Miniature tweezers with  
straight tips and fine points.**

CTM = .0030" wide  
.0016" high



**M-5-CO** ★★★★★ 3 1/8" long

**Miniature tweezers with tapered  
tips and very fine points.**

CTM = .0020" wide  
.0004" high



**M-6-CO** ★★★★★ 3 1/8" long

**Miniature tweezers with  
angle tips and sharp points.**

CTM = .0027" wide  
.0012" high



**M-7-CO** ★★★★★ 3 1/8" long

**Miniature tweezers with  
curved tips and very fine  
points.**

CTM = .0027" wide  
.0012" high



**M-51-CO** ★★★★★ 3 1/8" long

**Miniature tweezers with  
angle tips and very fine points.**

CTM = .0020" wide  
.0004" high



**MN-OC-CO** ★★★★★ 3 1/8" long

**Reverse action tweezers  
with straight tips  
and fine points.**

CTM = .0051" wide  
.0031" thick



**MN-2A-CO** ★★★★★ 3 1/8" long

**Reverse action tweezers  
with flat tips and round points.**

CTM = .0600" wide  
.0040" thick



# “MP” MEDICAL FORCEPS

★★★★ Mirror Polish Tips Prevent Nicking and Scratching  
**Made in Switzerland**

NEVERUST® Stainless Steel



## Why High Polish?

- Designed to handle delicate parts without scratching
- Smoother than standard radius edged Forceps
- Antimagnetic, Anti-Acid
- Stainless Steel
- Neverust®

Our “Mirror Polish” series of forceps are Made in Switzerland by highly skilled craftsmen who produce the finest tip tweezers in the world.

Forged from medical grade stainless steel these forceps are antimagnetic and anti-acid.

Special mirror polish on the tips removes any sharp edges for safe handling of even the most delicate parts.

\* Actual forceps are now produced with high polish inside tips and matte finish outside to eliminate glare and distraction.





★★★★★ **“MP” Medical Forceps**  
**Mirror Polish Tips Prevent Nicking and Scratching**  
**Made in Switzerland**  
 NEVERUST®

**1-SA-MP ★★★★★**

4 ½" long

**Mirror polish straight tips  
with fine slender points.**

Designed for delicate applications. Finely honed and polished tips for flaw-free edges. Neverust® Stainless Steel Antimagnetic.

CTM = .0067" wide  
.0039" thick



**2A-SA-MP ★★★★★**

4 ¾" long

**Mirror polish flat tips  
with round points.**

Special polishing process ensures edge quality and promotes durability. Neverust® Stainless Steel Antimagnetic.

CTM = .0591" wide  
.0078" thick



**3C-SA-MP ★★★★★**

4 ¼" long

**Mirror polish straight tips  
with fine points.**

The shorter body helps when working under magnification. Neverust® Stainless Steel Antimagnetic.

CTM = .0051" wide  
.0031" thick



**5-SA-MP ★★★★★**

4 ¼" long

**Mirror polish tapered tips  
with very fine points.**

High polished superfine tips and superb balance make these forceps an excellent addition to any dissection kit. Neverust® Stainless Steel Antimagnetic.

CTM = .0030" wide  
.0015" thick



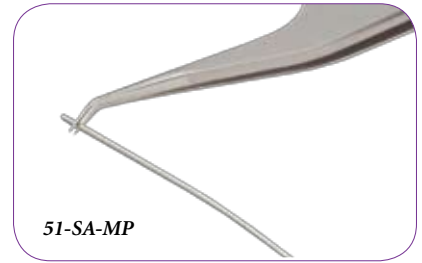


# ★★★★★ “MP” Medical Forceps

**Mirror Polish Tips Prevent Nicking and Scratching**

**Made in Switzerland**

NEVERUST® Stainless Steel



## 5A-SA-MP ★★★★★

4 ½" long

**Mirror polish offset tips with very fine points.**

The offset design offers easy access in confined areas. Neverust® Antimagnetic Stainless Steel.

CTM = .0039" wide  
.0023" thick



## 51-SA-MP ★★★★★

4 ½" long

**Mirror polish angled tips with very fine points.**

The most popular design used for delicate manipulation of ultra small parts. The tip angle provides excellent visibility under a microscope. Neverust® Antimagnetic Stainless Steel.

CTM = .0030" wide  
.0015" thick



## 7-SA-MP ★★★★★

4 ½" long

**Mirror polish curved tips with fine points.**

Curved tips allow for maximum visibility under magnification. Neverust® Antimagnetic Stainless Steel.

CTM = .0051" wide  
.0031" thick



## SS-SA-MP ★★★★★

5 ½" long

**Mirror polish long straight tips with fine points.**

The extra long length and slimmer body is useful when working in a limited access area. Neverust® Antimagnetic Stainless Steel.

CTM = .0055" wide  
.0039" thick





# Miniature Tweezers

Miniature size is useful when working under a microscope.  
Available in NEVERUST®, Stainless Steel, S/S Antimagnetic, Carbon Steel.

CTM Applies to 3 Star Tweezers

## M-AC ★★★

3 ¼"

### Straight, smooth inside tips with medium points.

Designed to reduce nicking or marring of delicate components. Outside finger serrations for added gripping. Made of Carbon Steel.

CTM = .0149" wide  
.0079" high



## M-OOD-SA ★★★

3 ⅜"

## M-OOD ★★★

### Straight tips with medium points.

The inside tip serrations provide a positive gripping surface. Designed for general assembly use. Choose from Neverust® (M-OOD-SA) or Carbon Steel (M-OOD).

CTM = .0129" wide  
.0039" high



## M-H-SA ★★★

3 ½"

## M-H-S ★★★

3 ½"

## M-H-SA-PI ★★★

3 ½"

### Tapered tips with strong blunt points.

The wider body provides for easy handling. Smooth inside tips. Choose from Neverust® (M-H-SA) S/S Antimagnetic (M-H-SA-PI) or Stainless Steel (M-H-S).

CTM = .0118" wide  
.0039" high



## M-HD ★★★

3 ½"

### Tapered tips with strong blunt points.

The wider body has outside finger serrations and inside tip serrations for improved handling and positive gripping. Made of Carbon Steel.

CTM = .0059" wide  
.0047" high



## M-2-SA ★★★

3 ½"

### Tapered tips with round sharp points.

The smaller size helps when working under a microscope. Stainless Steel Antimagnetic.

CTM = .0080" wide  
.0050" high



## M-2A-SA ★★★

2 ¾"

### Tapered tips with round flat points.

This style is excellent for handling various micro-components. Neverust®

CTM = .0492" wide  
.0079" high



## M-3-S ★★★

2 ¾"

### Straight tips with fine precision points.

Our most popular design for micro-electronic assembly. Made of Stainless Steel.

CTM = .0067" wide  
.0039" high



## M-4-S ★★★

2 ¾"

### Tapered precision tips with extra fine points.

The long tapered shank and finely ground points make it suitable for handling extremely small parts. Made of Stainless Steel.

CTM = .0051 wide  
.0031 high



## M-4A-S ★★★

3 ½"

### Tapered fine precision tips with medium fine points.

Uniquely designed tweezers can handle extremely fine parts. Made of Stainless Steel.

CTM = .0094" wide  
.0063" high



## M-5-SA ★★★

3 ¼"

## M-5-S ★★★

3 ¼"

### Straight precision tips with very fine points.

Very popular design for micro-electronic assembly. Choose from Stainless Steel Antimagnetic (M-5-SA) or Stainless Steel (M-5-S).

CTM = .0039" wide  
.0023" high



# Reverse Action Tweezers

## Holds Parts Without Finger Strain

Available in NEVERUST®, Stainless Steel, S/S Antimagnetic, Carbon Steel.

CTM applies to 3 Star and 4 Star tweezers only.



### 31-SA-C ★★★★★

4 ¾"

**Reverse Action tweezers for general purpose assembly.** The tips are bent at a 45-degree angle for better visibility when handling small parts.

CTM = .0118" wide  
.0078" high



### 29-SA ★★★★★ 29-S-SE ★

6"

**Stainless Steel Reverse Action tweezers with fiber handles.**

These tweezers have straight tips and are smooth on the inside. The constant tension aids in holding various small parts.

CTM = .090" wide  
.070" high



### 30-SA ★★★★★ 30-S-SE ★

6"

**Stainless Steel Reverse Action tweezers with fiber handles.**

The tips are angled and smooth on the inside. They are very useful for component handling or sorting parts.

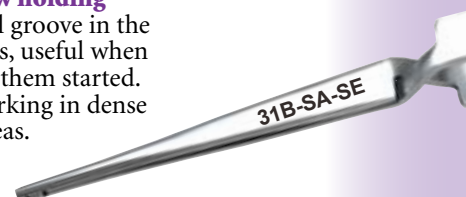
CTM = .030" wide  
.060" high



### 31B-SA-SE ★

6 ½"

**Reverse Action screw holding tweezers.** The special groove in the tips hold small screws, useful when needing help getting them started. Also useful when working in dense and hard to reach areas.



### DN-1-SN ★★★★★

4 ¾"

### DN-3C-SA-SE ★

4 ¼"

**Reverse Action tweezers with straight tips and slender points.** The light tension is great for holding parts without added finger strain.

CTM = .0060" wide  
.0039" high



### DN-2A-SN ★★★★★

4 ¾"

### DN-2A-SA-SE ★

**Reverse Action tweezers with tapered tips and flat round points.**

Used for handling fine wires and components.

CTM = .0591" wide  
.0079" high



### DN-5-SN ★★★★★

4 ¼"

**Reverse Action tweezers with tapered tips and extra fine points.**

Excellent for use in die attaching and wire bonding for micro-electronic assembly.

CTM = .0031" wide  
.0015" high



### DN-7-SN ★★★★★

4 ½"

### DN-7-SA-SE ★

**Reverse Action tweezers with curved tips and fine points.**

This design allows maximum visibility under magnification.

CTM = .0051" wide  
.0031" high



### 31-SA ★★★★★

4 ¾"

**Reverse Action tweezers for general-purpose assembly.**

This style is useful when sorting and handling various components.

CTM = .0118" wide  
.0078" high







# ★★★★★ Titanium Alloy Tweezers

Made in Switzerland

- Made from lightweight Titanium Alloy
- Great for all solder applications, solder will not adhere to the tip
- Non-Magnetic – zero magnetic retentivity
- Non-Corrosive – high resistance to most acids
- Heat resistant – up to 430°C (806°F)

## 3C-TA★★★★★

4 ¼"

### Four Star Titanium Alloy tweezers with straight tips and fine points.

Very popular design used for micro assembly. Titanium tweezers are lightweight, non-magnetic, non-corrosive and heat resistant. Made in Switzerland.

CTM= .0051" wide  
.0031" thick



## 5-TA★★★★★

4 ½"

### Four Star Titanium Alloy tweezers with tapered tips and extra fine points.

The very fine tips are great when working under high magnification. Titanium tweezers are lightweight non-magnetic, non-corrosive and heat resistant. Made in Switzerland.

CTM= .0030" wide  
.0015" thick



## 7-TA★★★★★

4 ½"

### Four Star Titanium Alloy tweezers with curved tips and very fine points.

The curved tips allow for better visibility when working in tight areas. Titanium tweezers are lightweight non-magnetic, non-corrosive and heat resistant. Made in Switzerland.

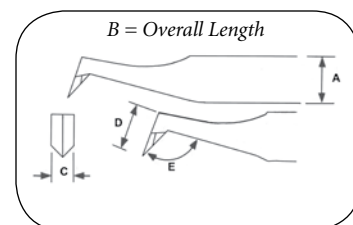
CTM= .0051" wide  
.0031" thick



# ★★★★ Lightweight Cutting Tweezers

## Made In Switzerland

High-Grade Carbon Steel



### 14A-GW ★★★

4 3/8"

#### Three Star Slim High Precision Cutting Tweezers .

New thinner body designed for lightweight and easy handling. Cutting capacity .010" (0,25mm) soft wire.

A:	0.375"	(9.5 mm)
B:	4.375"	(111 mm)
C:	0.210"	(5.4 mm)
D:	0.285"	(7.2 mm)
E:	80°	



### 14A-N ★★★

4 1/2"

#### Three Star Long Thin Precision Cutting Blades.

Angled Tips can be used horizontally or vertically. Cutting capacity .005" (0,12mm) soft wire.

A:	0.375"	(9.5 mm)
B:	4.500"	(115 mm)
C:	0.138"	(3.5 mm)
D:	0.492"	(12.5 mm)
E:	75°	



### 52-MW ★★★

4 1/2"

#### Three Star High Precision Micro Straight Tips.

ESD safe epoxy handle. Excellent for working in dense access areas. Cutting capacity .005" (0,12mm) soft wire.

A:	0.375"	(9.5 mm)
B:	4.500"	(115 mm)
C:	0.149"	(3.8 mm)
D:	0.276"	(5.2 mm)
E:	40°	



### 54-MW ★★★

4 1/4"

#### Three Star High Precision Micro Angled Tips.

ESD safe epoxy handle. Designed for maximum visibility when working under magnification. Cutting capacity .008" (0,2mm) soft wire.

A:	0.375"	(9.5 mm)
B:	4.250"	(108 mm)
C:	0.122"	(3.1 mm)
D:	0.303"	(7.7 mm)
E:	80°	



# ★★ Traditional Cutting Tweezers

### 15A-RW-PI ★★

4 1/2"

**Fine radius face tip cutting tweezers** with flush cutting blades. For use on .010" or smaller soft wire.

A:	0.393"	(10 mm)
B:	4.500"	(115 mm)
C:	0.095"	(2.5 mm)
D:	0.200"	(5.2 mm)
E:	70°	



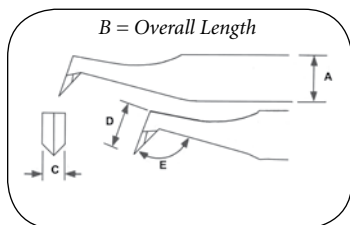
### 15A-GW-PI ★★

4 1/2"

**General purpose cutting tweezers** for use on .010" or smaller soft wire.

A:	0.393"	(10 mm)
B:	4.500"	(115 mm)
C:	0.215"	(5.5 mm)
D:	0.375"	(9.5 mm)
E:	70°	





# ★★★★ Traditional Cutting Tweezers

**Super Sharp Flush Cutting Blades  
Made In Switzerland**

High-Grade Carbon Steel

## 15A-GW ★★★★★ 4 ½"

**General purpose cutting tweezers** with ESD safe epoxy handle for use on .010" or smaller soft wire.

### 15A-GW-PB

Parallel Cutting Blades

### 15A-GW-OF

Optimum Flush Cutting Blades

A:	0.393	(10 mm)
B:	4.500"	(115 mm)
C:	0.215"	(5.5 mm)
D:	0.375"	(9.5 mm)
E:	70°	



**NEW** suffix "-OF"  
Special **Optimum Flush**  
available on select models.

## 15A-RW ★★★★★ 4 ½"

**Fine round tip cutting tweezers** with ESD safe epoxy handle for use on .010" or smaller soft wire.

### 15A-RW-OF

Same as above with Optimum Flush Cutting Blades

A:	0.393"	(10 mm)
B:	4.500"	(115 mm)
C:	0.095"	(2.5 mm)
D:	0.200"	(5.2 mm)
E:	70°	



## 15A-C ★★★★★ 4 ½"

**Short fine blade cutting tweezers** with ESD safe epoxy handle. Cutting capacity .010" soft wire.

A:	0.393"	(10 mm)
B:	4.500"	(115 mm)
C:	0.215"	(5.5 mm)
D:	0.275"	(7.8 mm)
E:	70°	



## 15A-SW ★★★★★ 4 ½"

**Radius face cutting tweezers** with ESD safe epoxy handle provide greater visibility. Designed for cutting soft wire. Cutting capacity .010" soft wire.

### 15A-SW-OF

Same as above with Optimum Flush Cutting Blades

A:	0.393"	(10 mm)
B:	4.500"	(115 mm)
C:	0.095"	(2.5 mm)
D:	0.375"	(9.5 mm)
E:	70°	



## 15 ★★★★★ 4 ½"

**Transverse end cutting tweezers** with narrow head design. Cutting capacity .010" soft wire.

A:	0.393"	(10 mm)
B:	4.500"	(115 mm)
C:	0.098"	(2.5 mm)
D:	0.157"	(2.0 mm)
E:		



# ELECTRONIC STYLE TWEEZERS

## ★★★★ High Precision

## ★★ Fine Precision ★ General Precision

Available in Stainless Steel, S/S Antimagnetic, Carbon Steel.

The following pages feature our electronic style tweezers. Most styles are available in three quality levels and materials. The stars are used to designate the quality level.

### When ordering:

- Select the part number or design you require
- Choose the quality level required by the number of Stars
- Find the material or type of metal
- Order by the part number shown

## ★★★★ Three Star High Precision Grade

Three Star High Precision Grade tweezers are manufactured in Switzerland, with high precision points, the perfect choice when working under 5x to 10x magnification.



## ★★ Two Star "PI" Fine Precision Grade

Two Star Fine Precision Grade "PI" tweezers are manufactured in Italy, with fine precision points at a lower cost.



## ★ One Star "SE" General Precision Grade

One Star General Precision Grade "SE" tweezers are manufactured for general-purpose use when magnification is not required.



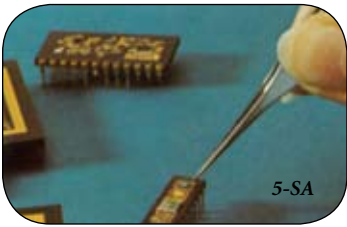
## Materials

**S/S Antimagnetic** – Part number code "SA" NEVERUST® tweezers have superior antimagnetic, anti-acid and corrosion properties. "SA" material is the most popular material used for electronic assembly.

**Stainless Steel** – Part number code "S" stainless steel tweezers have a higher carbon content and will produce a harder tip than the "SA" series. "S" series can rust under extreme exposure.

**Carbon Steel** – Part number code not applicable. The tips are flame hardened for long life and are highly magnetic with low rust resistance.





# Micro Tip Electronic Style Tweezers

★★★★ High Precision

★★ Fine Precision ★ General Precision

Available in NEVERUST®, Stainless Steel, S/S Antimagnetic, Carbon Steel.

## #4 Design 4 ¼" long Tapered tips with very fine points.

PART #	MATERIAL	STARS
4-SA	NEVERUST®	★★★★
4-SA-PI	S/S Antimagnetic	★★
4-SA-SE	S/S Antimagnetic	★



## #5 Design 4 ¼" long Micro fine tips with high precision points.

PART #	MATERIAL	STARS
5-SA	NEVERUST®	★★★★
5-S	Stainless Steel	★★★★
5	Carbon Steel	★★★★
5-SA-PI	S/S Antimagnetic	★★
5-S-PI	Stainless Steel	★★
5-SA-SE	S/S Antimagnetic	★
5-S-SE	Stainless Steel	★



## #5A Design 4 ½" long Offset fine tips with high precision points.

PART #	MATERIAL	STARS
5A-SA	NEVERUST®	★★★★
5A-S	Stainless Steel	★★★★
5A-SA-PI	S/S Antimagnetic	★★
5A-SA-SE	S/S Antimagnetic	★
5A-S-SE	Stainless Steel	★



## #5B Design 4 ¼" long Oblique angle tips with high precision points.

PART #	MATERIAL	STARS
5B-SA	NEVERUST®	★★★★
5B-SA-PI	S/S Antimagnetic	★★



## #5C Design 4 ¼" long Oblique angle circumvented tips with high precision points.

PART #	MATERIAL	STARS
5C-SA	NEVERUST®	★★★★



## #51 Design 4 ½" long Offset oblique angle tips with micro fine points.

PART #	MATERIAL	STARS
51-SA	NEVERUST®	★★★★
51-S	Stainless Steel	★★★★



# Fine Tip Electronic Style Tweezers

★★★ High Precision

★★ Fine Precision ★ General Precision

Available in NEVERUST®, Stainless Steel, S/S Antimagnetic, Carbon Steel.



## #1 Design 4 1/2" long Slender tips with fine points.

PART #	MATERIAL	STARS
1-SA	NEVERUST®	★★★
1-S	Stainless Steel	★★★
1-SA-PI	S/S Antimagnetic	★★
1-PI	Carbon Steel	★★
1-SA-SE	S/S Antimagnetic	★
1-S-SE	Stainless Steel	★



## #2 Design 4 3/4" long Tapered tips with medium points.

PART #	MATERIAL	STARS
2-SA	NEVERUST®	★★★
2-S	Stainless Steel	★★★
2-SA-PI	S/S Antimagnetic	★★
2-SA-SE	S/S Antimagnetic	★
2-S-SE	Stainless Steel	★



## #3 Design 4 3/4" long Very fine tips with precision points.

PART #	MATERIAL	STARS
3-SA	NEVERUST®	★★★
3-S	Stainless Steel	★★★
3-SA-PI	S/S Antimagnetic	★★
3-S-PI	Stainless Steel	★★
3-SA-SE	S/S Antimagnetic	★
3-S-SE	Stainless Steel	★



## #3C Design 4 1/4" long Very fine tips with precision points.

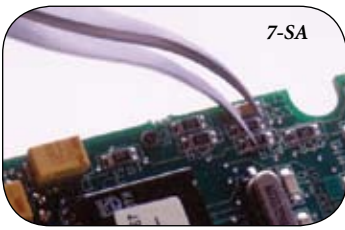
PART #	MATERIAL	STARS
3C-SA	NEVERUST®	★★★
3C-S	Stainless Steel	★★★
3C	Carbon Steel	★★★
3C-SA-PI	S/S Antimagnetic	★★
3C-S-PI	Stainless Steel	★★
3C-PI	Carbon Steel	★★
3C-SA-SE	S/S Antimagnetic	★
3C-S-SE	Stainless Steel	★
3C-SE	Carbon Steel	★



## #SS Design 5 1/2" long Long straight tips with precision points.

PART #	MATERIAL	STARS
SS-SA	NEVERUST®	★★★
SS-S	Stainless Steel	★★★
SS-SA-PI	S/S Antimagnetic	★★
SS-SA-SE	S/S Antimagnetic	★
SS-S-SE	Stainless Steel	★





# Curved Electronic Style Tweezers

★★★★ High Precision

★★ Fine Precision ★ General Precision

Available in NEVERUST®, Stainless Steel, S/S Antimagnetic, Carbon Steel.

## #7 Design 4 ½" long Curved tips with high precision points.

PART #	MATERIAL	STARS
7-SA	NEVERUST®	★★★★
7-S	Stainless Steel	★★★★
7-SA-PI	S/S Antimagnetic	★★
7-S-PI	Stainless Steel	★★
7-PI	Carbon Steel	★★
7-SA-SE	S/S Antimagnetic	★
7-S-SE	Stainless Steel	★



## #7B Design 4 ½" long Curved tips with fine serrated points.

PART #	MATERIAL	STARS
7B-SA	NEVERUST®	★★★★
7B-S	Stainless Steel	★★★★
7B-SA-PI	S/S Antimagnetic	★★
7B-SA-SE	S/S Antimagnetic	★



## #6 Design 4 ½" long Angled tips with flat sharp points.

PART #	MATERIAL	STARS
6-SA	NEVERUST®	★★★★
6-S	Stainless Steel	★★★★
6-SA-PI	S/S Antimagnetic	★★
6-PI	Carbon Steel	★★
6-SA-SE	S/S Antimagnetic	★
6-S-SE	Stainless Steel	★



## #3CB Design 4 ¼" long Angled tip tweezers with fine precision points.

PART #	MATERIAL	STARS
3CB-S	Stainless Steel	★★★★



## #66 Design 5 ½" long Long oblique angle tips with precision points.

PART #	MATERIAL	STARS
66-SA	NEVERUST®	★★★★



## #65A Design 5 ½" long Circumvented angled tips with precision points.

PART #	MATERIAL	STARS
65A-SA	NEVERUST®	★★★★



# Flat Tip Electronic Style Tweezers

★★★★ High Precision

★★ Fine Precision ★ General Precision

Available in NEVERUST®, Stainless Steel, S/S Antimagnetic, Carbon Steel.

52A-SA



#2A Design 4 ¾" long  
Tapered tips with flat round points.

PART #	MATERIAL	STARS
2A-SA	NEVERUST®	★★★★
2A-S	Stainless Steel	★★★★
2A	Carbon Steel	★★★★
2A-SA-PI	S/S Antimagnetic	★★★
2A-SA-SE	S/S Antimagnetic	★
2A-S-SE	Stainless Steel	★



#52A Design 4 ¾" long  
Tapered tips with flat round points  
and anti-crush feature.

PART #	MATERIAL	STARS
52A-SA	NEVERUST®	★★★★



#F Design 4 ¾" long  
Tapered tips with flat square points.

PART #	MATERIAL	STARS
F-SA	NEVERUST®	★★★★
F-SA-PI	S/S Antimagnetic	★★★



#2AB Design 4 ½" long  
Curved tips with flat round points.

PART #	MATERIAL	STARS
2AB-N	Nickel	★★★★
2AB-SA-PI	S/S Antimagnetic	★★★
2AB-SA-SE	S/S Antimagnetic	★



#12A Design 4 ½" long  
Tapered tips with flat round points.

PART #	MATERIAL	STARS
12A-SA	NEVERUST®	★★★★

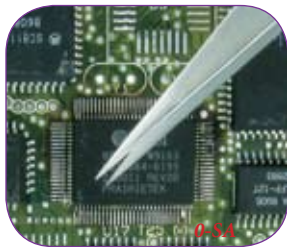


#25 Design 4 ½" long  
Straight tips with large flat round points.

PART #	MATERIAL	STARS
25-SA	NEVERUST®	★★★★







# Strong Tip Electronic Style Tweezers

★★★★ High Precision

★★★ Fine Precision ★ General Precision

Available in NEVERUST®, Stainless Steel, S/S Antimagnetic, Carbon Steel.

## #0 Design 4 ¾" long Strong tips with precision points.

PART #	MATERIAL	STARS
0-SA	NEVERUST®	★★★★
0	Carbon Steel	★★★★
0-SA-SE	S/S Antimagnetic	★



## #00 Design 4 ½" long Medium tips with strong straight points.

PART #	MATERIAL	STARS
00-SA	NEVERUST®	★★★★
00-S	Stainless Steel	★★★★
00	Carbon Steel	★★★★
00-SA-PI	S/S Antimagnetic	★★
00-PI	Carbon Steel	★★
00-SA-SE	S/S Antimagnetic	★
00-SE	Carbon Steel	★



## #000 Design 4 ½" long Medium tips with strong straight points with inside radiused edges.

PART #	MATERIAL	STARS
000-SA	NEVERUST®	★★★★
000-SA-PI	S/S Antimagnetic	★★



## #0C Design 3 ½" long Straight precision tips with fine points.

PART #	MATERIAL	STARS
0C-SA	NEVERUST®	★★★★
0C	Carbon Steel	★★★★
0C-SA-PI	S/S Antimagnetic	★★
00-SA-SE	S/S Antimagnetic	★



## #00C Design 4 ¼" long Semi-fine tips with sturdy points.

PART #	MATERIAL	STARS
00C-SA	NEVERUST®	★★★★
00C	Carbon Steel	★★★★
00C-SA-SE	S/S Antimagnetic	★



# Strong Tip Tweezers with Finger Serrations

★★★★ High Precision

★★ Fine Precision ★ General Precision

Available in NEVERUST®, Stainless Steel, S/S Antimagnetic, Carbon Steel.

**#AC Design** 4 ¼" long  
Straight strong tips with medium fine points.

PART #	MATERIAL	STARS
AC-SA	NEVERUST®	★★★★
AC	Carbon Steel	★★★★
AC-SA-PI	S/S Antimagnetic	★★
AC-PI	Carbon Steel	★★
AC-SA-SE	S/S Antimagnetic	★



**#00B Design** 4 ¾" long  
Straight strong tips with fine points.

PART #	MATERIAL	STARS
00B-SA	NEVERUST®	★★★★
00B-SA-PI	S/S Antimagnetic	★★
00B-SA-SE	S/S Antimagnetic	★



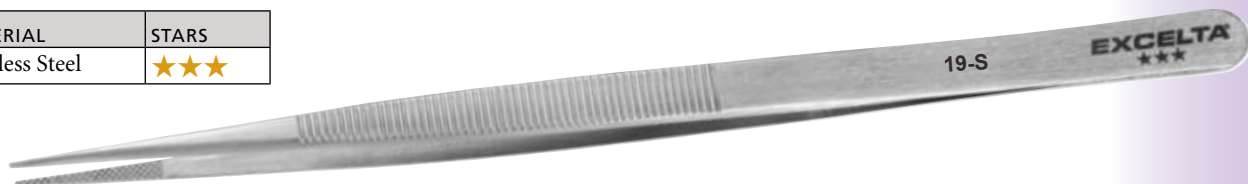
**#00D Design** 4 ¾" long  
Straight strong tips with serrated points.

PART #	MATERIAL	STARS
00D-SA	NEVERUST®	★★★★
00D	Carbon Steel	★★★★
00D-SA-PI	S/S Antimagnetic	★★
00D-SA-SE	S/S Antimagnetic	★



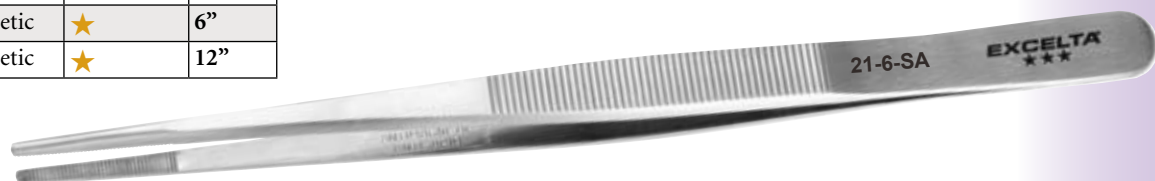
**#19 Design** 6 ½" long  
Long straight tips with medium serrated points.

PART #	MATERIAL	STARS
19-S	Stainless Steel	★★★★



**#21 Design** 6", 8" or 12" long  
Straight strong tips with broad serrated points.

PART #	MATERIAL	STARS	LENGTH
21-6-SA	NEVERUST®	★★★★	6"
21-8-SA	NEVERUST®	★★★★	8"
21-SA-PI	S/S Antimagnetic	★★	6"
21-SA-SE	S/S Antimagnetic	★	6"
21-SA-SE-12	S/S Antimagnetic	★	12"





# Strong Tip General Purpose Tweezers

★★★★ High Precision

★★ Fine Precision ★ General Precision

Available in NEVERUST®, Stainless Steel, S/S Antimagnetic, Carbon Steel.

**#22 Design** 5 ½" long  
Angle tips with medium fine serrated points.

PART #	MATERIAL	STARS
22-SA	NEVERUST®	★★★★
22*	Carbon Steel	★★★★

\*Part number 22 is Nickel-Plated



**#24 Design** 6" or 8" long  
Angle tips with broad serrated points.

PART #	MATERIAL	STARS	LENGTH
24-6-SA	NEVERUST®	★★★★	6"
24-8-SA	NEVERUST®	★★★★	8"
24-SA-PI	S/S Antimagnetic	★★	6"
24-SA-SE	S/S Antimagnetic	★	6"



**#20 Design** 5 ½" long  
Straight tips with medium serrated points.

PART #	MATERIAL	STARS
20-S	Stainless Steel	★★★★
20-SA-PI	S/S Antimagnetic	★★



**#24A Design** 4 ½" long  
Curved tips with medium serrated points.

PART #	MATERIAL	STARS
24A-S-SE	S/S Antimagnetic	★



**#20A Design** 4 ½" long  
Straight tips with medium serrated points.

PART #	MATERIAL	STARS
20A-S-SE	Stainless Steel	★



# Strong Tip General Purpose Tweezers

★★★★ High Precision

★★ Fine Precision ★ General Precision

Available in NEVERUST®, S/S Antimagnetic, Carbon Steel.

## #10G Design

4 3/8" long

Tapered tips with medium serrated points.

PART #	MATERIAL	STARS
10G-SA	NEVERUST®	★★★★



## #8 Design

4 1/4" long

Straight wide body tweezers with flat sharp points.

PART #	MATERIAL	STARS
8-SA-PI	S/S Antimagnetic	★★



## #AH Design

5" long

Wide diamond shape tips with sharp serrated points.

PART #	MATERIAL	STARS
AH-SA-SE	S/S Antimagnetic	★



## #AA Design

5" long

Straight tips with medium points and vinyl grips.

PART #	MATERIAL	STARS
AA-SA-SE-PH	S/S Antimagnetic	★



## #24 Design

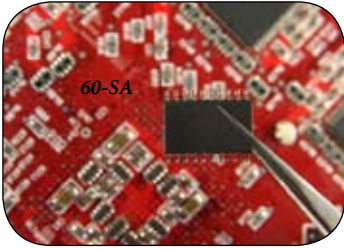
6 1/2" long

Angled tips with blunt serrated points and vinyl grips.

PART #	MATERIAL	STARS
24-SA-SE-PH	S/S Antimagnetic	★







# Strong Precision Tip Tweezers

★★★ High Precision ★ General Precision

Available in NEVERUST®, Stainless Steel, S/S Antimagnetic, Carbon Steel.

**#0A Design** 4 ¾" long  
Straight round tip tweezers with fine sharp points.

PART #	MATERIAL	STARS
0A	Carbon Steel	★★★



**#60 Design** 5 ¼" long  
Long straight tip tweezers with parallel points.

PART #	MATERIAL	STARS
60-SA	NEVERUST®	★★★



**#P Design** 4 ¾" long  
Straight tip tweezers with fine precision points.

PART #	MATERIAL	STARS
P-S	Stainless Steel	★★★



**#64 Design** 4 ¾" long  
Straight tip tweezers with fine precision points.

PART #	MATERIAL	STARS
64-SA	NEVERUST®	★★★



**#231 Design** 4 ¾" long  
Straight tips with medium points.

PART #	MATERIAL	STARS	JAW
231A-SA-SE	S/S Antimagnetic	★	Serrated
231-SA-SE	S/S Antimagnetic	★	Smooth



# Boley Style Electronic Tweezers

★★★★ High Precision

★★ Fine Precision ★ General Precision

Available in NEVERUST®, Stainless Steel, S/S Antimagnetic, Nickel-Plated Carbon Steel.



#AA Design 5" long  
Straight tips with medium points.

PART #	MATERIAL	STARS
AA-SA	NEVERUST®	★★★★
AA-S	Stainless Steel	★★★★
AA*	Carbon Steel	★★★★
AA-SA-PI	S/S Antimagnetic	★★
AA-SA-SE	S/S Antimagnetic	★
AA-S-SE	Stainless Steel	★
AA-SE	Carbon Steel	★

\*Part number AA is Nickel-Plated



#MM Design 5" long  
Straight tips with sturdy points.

PART #	MATERIAL	STARS
MM*	Carbon Steel	★★★★
MM-SA-PI	S/S Antimagnetic	★★
MM-SA-SE	S/S Antimagnetic	★
MM-SE	Carbon Steel	★

\*Part number MM is Nickel-Plated



#GG Design 5" long  
Tapered tip tweezers with medium points.

PART #	MATERIAL	STARS
GG-SA	NEVERUST®	★★★★

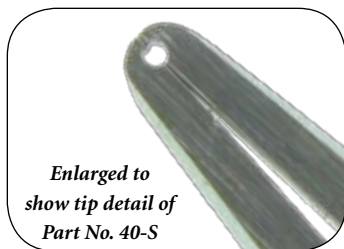


#RR Design 5 1/2" long  
Straight tip tweezers with blunt points.

PART #	MATERIAL	STARS
RR*	Carbon Steel	★★★★

\*Part number RR is Nickel-Plated





Enlarged to  
show tip detail of  
Part No. 40-S

# Small Parts Handling Tweezers

## Round Tips – Flat Tips – Broad Tips

Specially designed tips for handling small wires and chips.  
Available in NEVERUST®, Stainless Steel, S/S Antimagnetic, Carbon Steel.

**Small tip tweezers** with a very fine hole in the extreme tips. Available in three hole sizes. Hole sizes are as follows:

PART #	MATERIAL	STARS	HOLE SIZE
38	Carbon Steel	★★★★	.008"
39	Carbon Steel	★★★★	.012"
40	Carbon Steel	★★★★	.015"
40-S	Stainless Steel	★★★★	.015"



**35A-SA** ★★★★★  
**35A-SA-SE** ★

4 3/4"  
4 3/4"

### Broad tip tweezers

Useful for handling delicate electronic parts. NEVERUST® (35A-SA) or S/S Antimagnetic (35A-SA-SE)



**815-SA-SE** ★

4 1/2"

### Round tip tweezers

These tweezers can handle many types of round components and electronic devices. The inside hole diameter is 0.060" (1.5mm). S/S Antimagnetic.



**135A-SA** ★★★★★

4 3/4"

### Broad tip tweezers

Used for picking up delicate parts by the edges from a flat surface. NEVERUST®. Tips close parallel at .750"



**32A-SA** ★★★★★

4 1/2"

### Round tip tweezers

Holds components firmly, offering easy positioning on many types of resistors and diodes. The 45 degree angle allows maximum surface clearance. In a closed position, the inside diameter is .156" (4.0 mm.) NEVERUST®.



**42A-SA** ★★★★★

4 1/2"

### Round tip tweezers

Holds components firmly, offering easy positioning. Can be used on many types of cylindrical components. The 45 degree angle allows maximum surface clearance. In a closed position, the inside diameter is .253" (6.5mm). NEVERUST®.



**27-SA** ★★★★★

4 1/4"

### Flat tip tweezers

Very useful when straightening components or lead wires. NEVERUST®.

Tip = .247" wide  
.016" high



**36A-SA** ★★★★★

4 3/4"

**36A-SA-SE** ★

4 3/4"

### Broad tip tweezers

The 45 degree offset angle on the tips is useful for picking up parts from flat surfaces. NEVERUST® (36A-SA) or S/S Antimagnetic (36A-SA-SE)

Tip = .247" wide  
.016" high



# Surface Mount Handling Tweezers

★★★★ High Precision ★★ Fine Precision

## Paddle Tip Design for Placing Components Quickly and Easily

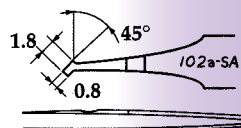
Available in NEVERUST®, S/S Antimagnetic. Line Drawing Dimensions are Metric.

### 102A-SA-PI ★★

4 1/2"

#### Chip handling paddle tip tweezers

The wider tip has been designed for easy manipulation of most chips and miniature components. Anti-crush device has been added to reduce chip breakage. S/S Antimagnetic

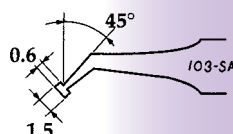


### 103-SA-PI ★★

4 1/4"

#### S.M.D. paddle tip tweezers

The 45° angle tips are very helpful for placing SOT-23 and SOT-89 packages. S/S Antimagnetic

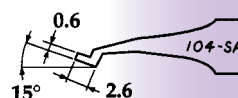


### 104-SA-PI ★★

4 1/2"

#### S.M.D. paddle tip tweezers

The wide paddle tips provide perfect control when manipulating and placing SOT-89 transistors and monolithic chip capacitors. S/S Antimagnetic

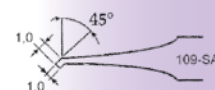


### 109-SA-PI ★★

4 1/4"

#### S.M.D. paddle tip tweezers

The small tips are set at a 45° angle for working in dense areas. S/S Antimagnetic

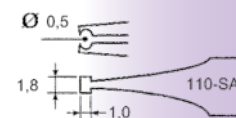


### 110-SA-PI ★★

4 1/4"

#### S.M.D. paddle tip tweezers

The small groove on the inside of the tips provides better control when placing small parts and wires. S/S Antimagnetic

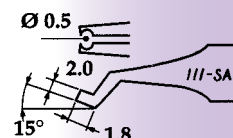


### 111-SA ★★

4 1/2"

#### S.M.D. paddle tip tweezers

The angle of the tips and the small 0.5mm hole will firmly hold many types of SMD components. NEVERUST®

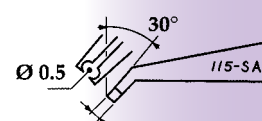


### 115-SA ★★

4 1/4"

#### S.M.D. paddle tip tweezers

The 0.5mm groove on the inside of the tip is designed on a 30° angle, for holding and placing cylindrical devices. NEVERUST®







# Surface Mount Handling Tweezers

★★★★ High Precision - Made In Switzerland

**Paddle Tip Design for Placing Components Quickly and Easily**

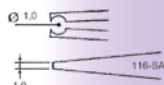
Available in NEVERUST®, S/S Antimagnetic. Line Drawing Dimensions are Metric.

## 116-SA ★★★★★

4 ¼"

### S.M.D. paddle tip tweezers

Tips have a 1mm groove for handling small cylindrical devices. NEVERUST®



## 117-SA ★★★★★

4 ½"

### S.M.D. paddle tip tweezers

The tip design will firmly hold 3mm and larger parts. NEVERUST®



## 121-SA ★★★★★

5 ½"

### S.M.D. paddle tip tweezers

The thin flat tips are cut at 45° making these tweezers useful when picking parts from a "Gel Pak". NEVERUST®



## 122-SA ★★★★★

4 ½"

### Chip handling paddle tip tweezers

The strong flat tips will firmly hold components when de-soldering. NEVERUST®



## 123-SA ★★★★★

4 ½"

### Chip handling paddle tip tweezers

The smaller size tips will handle many types of S.M.D. resistors and capacitors. NEVERUST®



## 124-SA ★★★★★

4 ¼"

### S.M.D. paddle tip tweezers

The unique shape tips on these tweezers are helpful in placing SOT-23 and TO-236 packages. NEVERUST®



## 125-SA ★★★★★

4 ¼"

### S.M.D. paddle tip tweezers

The tips on these tweezers have a 0.5mm slot in the end. This slot is great for picking and placing of 402 resistors. NEVERUST®



## 126-SA ★★★★★

4 ¼"

### S.M.D. fine tip tweezers

The fine tip and parallel closing jaws are very useful for routing jumper wires on PC boards. NEVERUST®



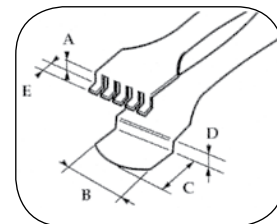
# Wafer Handling Tweezers

★★★★ High Precision – Made in Switzerland

★★ Fine Precision – Made in Italy

Includes special engaging slot for easy handling of wafers.

Available in NEVERUST® or S/S Antimagnetic.



## 300 Series Wafer Tweezers

Designed to handle 3" wafers

**390-SA**★★★★ 4 ¾"  
**390-SA-PI**★★ 4 ¾"

### Fine Tip

A	4,0 mm	.157"
B	6,5 mm	.257"
C	5,0 mm	.197"
D	3,5 mm	.138"

**390B-SA**★★★★ 4 ¾"  
**390B-SA-PI**★★ 4 ¾"

### Bent Handle

A	4,0 mm	.157"
B	6,5 mm	.257"
C	5,0 mm	.197"
D	3,5 mm	.138"
E	1,5 mm	.060"

**390L-SA**★★★★ 4 ¾"  
**390L-SA-PI**★★ 4 ¾"

### Top Lip

A	4,0 mm	.157"
B	6,5 mm	.257"
C	5,0 mm	.197"
D	3,5 mm	.138"
E	1,5 mm	.060"

**390T-SA**★★★★ 4 ¾"  
**390T-SA-PI**★★ 4 ¾"

### Teflon Pad

A	7,2 mm	.285"
B	6,5 mm	.257"
C	5,0 mm	.197"
D	3,5 mm	.138"

**391-SA**★★★★ 4 ¾"  
**391-SA-PI**★★ 4 ¾"

### Three Teeth

A	4,0 mm	.157"
B	6,5 mm	.257"
C	5,0 mm	.197"
D	3,5 mm	.138"
E	1,5 mm	.060"

## 400 Series Wafer Tweezers

Designed to handle 4" wafers

**490-SA**★★★★ 4 ⅞"  
**490-SA-PI**★★ 4 ⅞"

### Fine Tip

A	4,0 mm	.157"
B	12,0 mm	.472"
C	7,0 mm	.275"
D	3,1 mm	.125"

**490B-SA**★★★★ 4 ⅞"  
**490B-SA-PI**★★ 4 ⅞"

### Bent Handle

A	4,0 mm	.157"
B	12,0 mm	.472"
C	7,0 mm	.275"
D	3,5 mm	.138"
E	3,1 mm	.125"

**490L-SA**★★★★ 4 ⅞"  
**490L-SA-PI**★★ 4 ⅞"

### Top Lip

A	4,0 mm	.157"
B	12,0 mm	.472"
C	7,0 mm	.275"
D	3,5 mm	.138"
E	3,1 mm	.125"

**490T-SA**★★★★ 4 ⅞"  
**490T-SA-PI**★★ 4 ⅞"

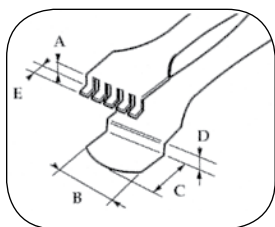
### Teflon Pad

A	4,0 mm	.157"
B	12,0 mm	.472"
C	7,0 mm	.275"
D	3,5 mm	.138"

**491-SA**★★★★ 4 ⅞"  
**491-SA-PI**★★ 4 ⅞"

### Four Teeth

A	4,0 mm	.157"
B	12,0 mm	.472"
C	7,0 mm	.275"
D	3,5 mm	.138"
E	3,1 mm	.125"



# Wafer Handling Tweezers

★★★★ High Precision – Made in Switzerland

★★ Fine Precision – Made in Italy

Includes special engaging slot for easy handling of wafers.

Available in NEVERUST® or S/S Antimagnetic.

## 500 Series Wafer Tweezers

Designed to handle 5" wafers

**590-SA** ★★★★★ 5"  
**590-SA-PI** ★★ 5"

### Fine Tip

A	4,0 mm	.157"
B	16,2 mm	.638"
C	9,0 mm	.355"
D	2,7 mm	.106"

**591B-SA** ★★★★★ 5"  
**591B-SA-PI** ★★ 5"

### Bent Handle

A	3,0 mm	.118"
B	16,2 mm	.638"
C	9,0 mm	.355"
D	2,7 mm	.106"
E	3,1 mm	.125"

**590L-SA** ★★★★★ 5"  
**590L-SA-PI** ★★ 5"

### Top Lip

A	4,5 mm	.180"
B	16,2 mm	.638"
C	9,0 mm	.355"
D	2,7 mm	.106"
E	3,1 mm	.125"

**590T-SA** ★★★★★ 5"  
**590T-SA-PI** ★★ 5"

### Teflon Pad

A	6,5 mm	.257"
B	16,2 mm	.638"
C	9,0 mm	.355"
D	2,7 mm	.106"

**591-SA** ★★★★★ 5"  
**591-SA-PI** ★★ 5"

### Five Teeth

A	3,0 mm	.118"
B	16,2 mm	.638"
C	9,0 mm	.355"
D	2,7 mm	.106"
E	3,1 mm	.125"

## 600 Series Wafer Tweezers

Designed to handle 6" wafers

**690-SA** ★★★★★ 5"  
**690-SA-PI** ★★ 5"

### Fine Tip

A	3,8 mm	.150"
B	19,8 mm	.780"
C	9,0 mm	.355"
D	2,7 mm	.106"

**691B-SA** ★★★★★ 5"  
**691B-SA-PI** ★★ 5"

### Bent Handle

A	3,0 mm	.118"
B	19,8 mm	.780"
C	9,0 mm	.355"
D	2,2 mm	.106"
E	2,3 mm	.125"

**690L-SA** ★★★★★ 5"  
**690L-SA-PI** ★★ 5"

### Top Lip

A	3,5 mm	.140"
B	19,8 mm	.780"
C	9,0 mm	.355"
D	2,7 mm	.106"
E	3,0 mm	.120"

**690T-SA** ★★★★★ 5"  
**690T-SA-PI** ★★ 5"

### Teflon Pad

A	6,5 mm	.257"
B	19,8 mm	.780"
C	9,0 mm	.355"
D	2,7 mm	.106"

**691-SA** ★★★★★ 5"  
**691-SA-PI** ★★ 5"

### Six Teeth

A	3,0 mm	.118"
B	19,8 mm	.780"
C	9,0 mm	.355"
D	2,7 mm	.106"
E	2,3– mm	.125"

## 800 Series Wafer Tweezers

Designed to handle 300mm wafers

**891-SA** ★★★★★ 7"

### Eight Teeth

A	3,8 mm	.150"
B	28,5 mm	1.120"
C	11,5 mm	.450"
E	2,15 mm	.100"

**890L-SA** ★★★★★ 7"

### Top Lip

A	3,8 mm	.150"
B	28,5 mm	1.120"
C	11,5 mm	.450"
E	2,15 mm	.100"

# Custom Tweezers

★★★★★ Ultra-High Precision

**Custom tweezers are manufactured in our Special Design Shop for unique & critical applications.**



Other designs are available upon request.  
Call (866) 392-3582 for information.

## 116-CF ★★★★★

### S.M.D. Carbofib Tweezer

Carbofib tips mounted on a Stainless Steel body featuring a .039" (1,0mm) hole in the tip. Excellent in handling cylindrical devices without scratching or nicking.



## 0-SA-WO ★★★★★

### Wide-Opening Parallel Jaw Tweezer

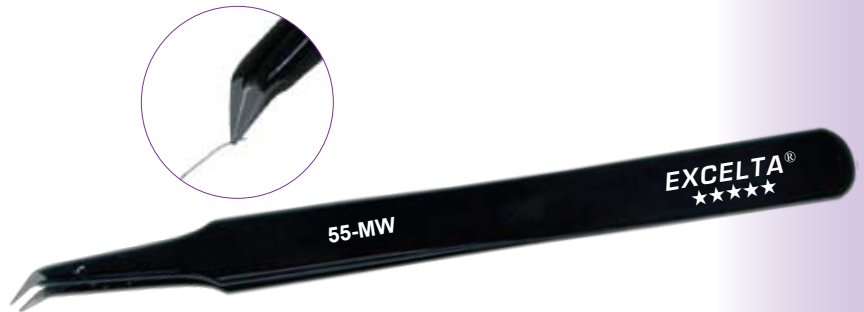
These tweezers feature blades that are parallel at 1/2". Makes for a sure grip when handling larger objects.



## 55-MW ★★★★★

### Ultra-Fine Blade Cutting Tweezer

The very finest cutting blades available. The 40° tip angle enables cutter to be used either vertically or horizontally. Cutting Capacity .005" (0,12mm) soft wire.



## 15A-ST-PE ★★★★★

### Stripping Tweezer

Designed to strip Teflon® and other coated wire exactly to the AWG size without nicking. Available in sizes 30AWG and smaller. When ordering indicate wire gauge at the end of catalog part number. (Example 15A-ST-PE-36)



## TRISISTA 3 ★★★★★

## TRISISTA 7 ★★★★★

### Jewelers Tweezer

6 1/2" Tweezers feature double serrated inside tips. Trisista 3 has a matte black finish to eliminate glare.

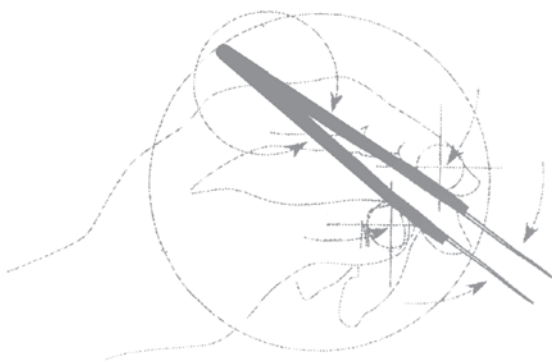




# ESD SAFE ERGO-TWEEZ®



**High Precision**  
MADE IN SWITZERLAND



**Fine Precision**  
MADE IN ITALY



*Wider, Softer,  
Better Control.  
Designed With You In Mind.*

**It's more than meets the eye.**

- A soft foam cushion grip specially designed to combat operator fatigue and Carpel Tunnel Syndrome.
- Acts as a heat shield.
- Great for die attaching.



# ★★★ High Precision "ET" Tweezers

## Ergonomic Tweezers Made in Switzerland

ESD Safe (10<sup>10</sup>) Foam cushion grips help provide relief from hand fatigue.

NEVERUST®.



### AA-SA-ET ★★★

Straight tip tweezers with medium points.  
CTM = .0080" wide  
.0080" high

5"



### 1-SA-ET ★★★

Straight tip tweezers with fine points.  
CTM = .0078" wide  
.0047" high

4 1/2"



### 2-SA-ET ★★★

Tapered tip tweezers with medium points.  
CTM = .0078" wide  
.0047" high

4 3/4"



### 2A-SA-ET ★★★

Tapered tip tweezers with flat round points.  
CTM = .0590" wide  
.0078" high

4 3/4"



### 3-SA-ET ★★★

Straight tip tweezers with very fine points.  
CTM = .0066" wide  
.0039" high-

4 3/4"



### 3C-SA-ET ★★★

Straight tip tweezers with very fine points.  
CTM = .0066" wide  
.0039" high

4 1/4"



### 5-SA-ET ★★★

Tapered tip tweezers with high precision points.  
CTM = .0039" wide  
.0024" high

4 1/4"



### 5A-SA-ET ★★★

Off-set tip tweezers with high precision fine points.  
CTM = .0051" wide  
.0031" high

4 1/2"



### 5B-SA-ET ★★★

Bent tip tweezers with high precision fine points.  
CTM = .0039" wide  
.0023" high

4 1/4"



### 6-SA-ET ★★★

Angled tip tweezers with flat sharp points.  
CTM = .0066" wide  
.0039" high

4 1/2"



### 7-SA-ET ★★★

Curved tip tweezers with extra fine points.  
CTM = .0066" wide  
.0039" high

4 1/2"



### SS-SA-ET ★★★

Straight long tip tweezers with precision points.  
CTM = .0078" wide  
.0047" high

5 1/2"



### 00-SA-ET ★★★

Strong tip tweezers with medium points.  
CTM = .0177" wide  
.0098" high

4 1/2"



### 00D-SA-ET ★★★

Strong serrated tip tweezers with medium points.  
CTM = .0177" wide  
.0098" high

4 3/4"





## ★★ Fine Precision “ET” Tweezers

### Ergonomic Tweezers Made in Italy

ESD Safe (10<sup>10</sup>) Foam cushion grips help provide relief from hand fatigue.

S/S Antimagnetic.

#### AA-SA-PI-ET ★★

Straight tip tweezers  
with medium points.

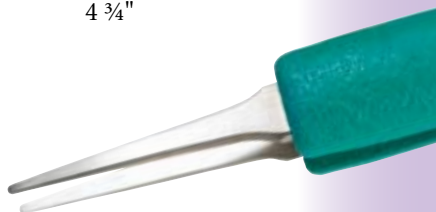
5"



#### 2A-SA-PI-ET ★★

Tapered tip tweezers  
with flat round points.

4 ¾"



#### 3-SA-PI-ET ★★

Straight tip tweezers  
with fine points.

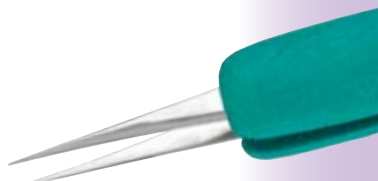
4 ¾"



#### 3C-SA-PI-ET ★★

Straight tip tweezers  
with fine points.

4 ¼"



#### 5-SA-PI-ET ★★

Tapered tip tweezers  
with extra fine points.

4 ¼"



#### 5A-SA-PI-ET ★★

Off-set tip tweezers  
with very fine points.

4 ½"



#### 5B-SA-PI-ET ★★

Bent tip tweezers  
with very fine points.

4 ¼"



#### 6-SA-PI-ET ★★

Angled tip tweezers  
with flat sharp points.

4 ½"



#### 7-SA-PI-ET ★★

Curved Tip tweezers  
with very fine points.

4 ½"



#### 00-SA-PI-ET ★★

Strong tip tweezers  
with medium points.

4 ½"



#### 00D-SA-PI-ET ★★

Strong serrated tip tweezers  
with medium points.

4 ¾"



# Replaceable Tips Tweezers

**Will not leave metal marks, free from metal contamination.**

## ★★★★★ Ceramic Tip Tweezers

### Made in Switzerland

Zirconia ceramic is six-times harder than stainless steel, non-magnetic and chemically inert. Solder will not adhere to the surface. Working temperature of over 1090° C (2000° F). Stainless steel body with replaceable tips. Non-metal tips for safe handling of delicate parts. Clean room safe, also available in static dissipative tips.



A-275A-CE

## ★★★★★ PEEK Tip Tweezers

### Made in Switzerland

PEEK – Polyetheretherketon is high temperature thermoplastic with excellent chemical resistance. Inert to all common solvents, it resists a wide range of inorganic liquids, and is widely used with semi-conductors. It has a working temperature of 249° C (480° F). Lightweight, non-magnetic aluminum body.



161A-RT

## ★★★★★ Copolymer Tip Tweezers

### Made in Switzerland

Copolymer tips are a special blend of static dissipative plastics without the use of carbon fibers. Surface resistivity of  $10^{10}$  Ohm cm, temperature resistant to 90° C (195° F) and are silicon and chloride free. Stainless steel antimagnetic body with screw on replaceable tips. ESD and clean room safe.



179A-RT

## ★★★★ White Delrin Tip Tweezers

### Made in Italy

Delrin tips have outstanding resistant to chemicals and solvents. They are electrically insulative and resistant to temperatures up to 85° C (185° F). Stainless steel antimagnetic body with screw on replaceable tips. Excellent for clean room use.



159B-RTW

## ★★★★ Carbofib Tip Tweezers

### Made in Italy

Carbofib is a teflon base material with carbon fibers added. Carbofib is conductive with a surface resistivity of  $10^3$  Ohm cm, and temperature resistant up to 121° C (249° F). Stainless steel antimagnetic body with screw on replaceable tips.



159B-RT



# Ceramic Tip Tweezers

**Made in Switzerland**

NEVERUST® body with non-metal tips for safe handling of delicate parts.

Clean room safe, also available in Static Dissipative tips.



## A-275A-CE ★★★★★

4 ¾"

**Dissipative Ceramic tips** screwed onto NEVERUST® body.  
Tip size .012" wide.



## A-275-RTX Replacement Tip Kit

Kit Includes 2 replacement ceramic tips, 4 screws, 4 nuts and a screwdriver.



## D-275A-CE ★★★★★

4 ¾"

**White Ceramic tips** screwed onto NEVERUST® body.  
Tip size .012" wide.



## D-275-RTX Replacement Tip Kit

Kit Includes 2 replacement ceramic tips, 4 screws, 4 nuts and a screwdriver.



## 277-CE ★★★

5"

**White Ceramic tips** with nickel silver non-magnetic body.  
Tip size .040" wide.



## DN-277-CE ★★★★★

4 ¾"

**White Ceramic tips** NEVERUST®  
Reverse Action body.  
Tip size .020" wide.



# ★★★★★ PEEK Tip Tweezers

## New Snap-On Replaceable Tip Rivet System

### Made in Switzerland

Widely used in Clean Rooms.



**PEEK – Polyetheretherketon is high temperature thermoplastic with excellent chemical resistance. Inert to all common solvents, it resists a wide range of inorganic liquids, and is widely used with semi-conductors. It has a working temperature of 249° C (480°F).**

- All new and improved “snap-on” tip system. Easily replace worn out tips.
- High temperature resistance 249° C (480°F) Softip material.
- Lightweight aluminum body with easy grip finger serrations.

#### 161A-RT ★★★★★

5"

**PEEK snap-on replaceable tip tweezers** on lightweight aluminum body with easy grip finger serrations. Tip size is .020" wide.

#### 161A-RTX Replacement Tips

#### 161B-RT ★★★★★

5"

**PEEK snap-on replaceable tip tweezers** on lightweight aluminum body with easy grip finger serrations. Tip size is .040" wide.

#### 161B-RTX Replacement Tips

#### 161C-RT ★★★★★

5"

**PEEK snap-on replaceable tip tweezers** on lightweight aluminum body with easy grip finger serrations. Tip size is .080" wide.

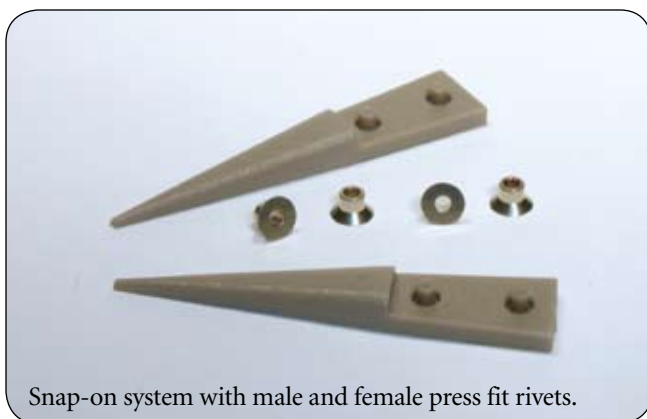
#### 161C-RTX Replacement Tips

#### 761A-RT ★★★★★

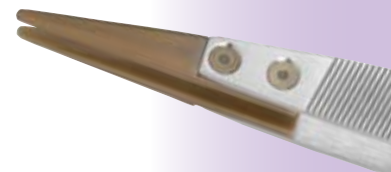
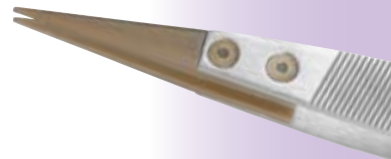
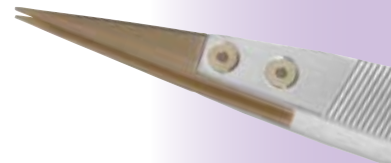
5"

**PEEK snap-on replaceable curved tip tweezers** on lightweight aluminum body with easy grip finger serrations. Tip size is .020" wide.

#### 761A-RTX Replacement Tips



Snap-on system with male and female press fit rivets.



MADE IN  
SWITZERLAND

# ★★★★★ Copolymer Tip Tweezers

Screw on Replaceable Tips on Stainless Steel Body.  
ESD and Clean Room Safe.

## Copolymer Tips

- ESD Safe tips – Surface Resistivity  $10^{10}$  Ohm
- Temperature resistance to 90° C (185° F)
- Acetone and alcohol resistant
- Silicon and chloride free

Protect Against:  
ESD damage  
Nicking, Scratching, Marring

# ESD SAFE

### 179A-RT ★★★★★

5"

**Copolymer fine tip** tweezers on stainless steel body. Screw on replaceable tips. ESD and Clean Room safe.  
Tip size .020" wide.

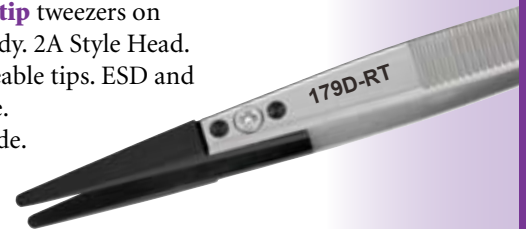


### 179A-RTX Replacement Tips

### 179D-RT ★★★★★

5"

**Copolymer flat tip** tweezers on stainless steel body. 2A Style Head. Screw on replaceable tips. ESD and Clean Room safe.  
Tip size .080" wide.



### 179D-RTX Replacement Tips

### 179DN-RT ★★★★★

5 1/2"

**Copolymer flat tip** reverse action tweezers on stainless steel body. Screw on replaceable tips. ESD and Clean Room safe.  
Tip size .080" wide.



### 179D-RTX Replacement Tips



Replacement Tip Kit

# ★★★★ Delrin Tip Tweezers

## Made in Italy

Screw on Replaceable Tips on Stainless Steel Body.



## Delrin Tips

- Electrically insulative
- Temperature resistance to 85° C (185° F)
- Outstanding resistance to chemicals and solvents
- Replaceable screw on tips



Replacement Tip Kit

### 159B-RTW ★★★★★

5"

**White Delrin tip** tweezers on stainless steel body. Screw on replaceable tips. Good for Clean Rooms. Electrically insulative. Tip size .040" wide.



### 159B-RTWX Replacement Tips

### 159C-RTW ★★★★★

5"

**White Delrin medium tip** tweezers on stainless steel body. Screw on replaceable tips. Good for Clean Rooms. Electrically insulative. Tip size .080" wide.



### 159C-RTWX Replacement Tips

### 159D-RTW ★★★★★

5"

**White Delrin flat tip** tweezers on stainless steel body. Screw on replaceable tips. Good for clean rooms. Electrically insulative. Tip size .060" wide.



### 159D-RTWX Replacement Tips





# ★★★★ Carbofib Tip Tweezers

**Made in Italy**

Safe Handling of Delicate Parts, ESD Safe.  
Screw on Replaceable Tips on Stainless Steel Body.

## Carbofib Tips

- Choose from seven new styles
- Screw on replaceable tips
- Softip tweezers - safe handling of delicate parts
- Conductive tips - Surface Resistivity  $10^3$  Ohm
- Carbon fiber (30%) added for stiffness
- Temperature resistance to  $121^\circ\text{C}$  ( $249^\circ\text{F}$ )

### 159-RT ★★★

5"

**Extra Fine Carbofib tip** tweezers on stainless steel body. Screw on replaceable tips.  
Tip size .012" wide.



### 159-RTX Replacement Tips

### 159A-RT ★★★

5"

**Fine Carbofib tip** tweezers on stainless steel body. Screw on replaceable tips.  
Tip size .020" wide.



### 159A-RTX Replacement Tips

### 159B-RT ★★★

5"

**Small Carbofib tip** tweezers on stainless steel body. Screw on replaceable tips.  
Tip size .040" wide.



### 159B-RTX Replacement Tips

### 159C-RT ★★★

5"

**Medium Carbofib tip** tweezers on stainless steel body. Screw on replaceable tips.  
Tip size .080" wide.



### 159C-RTX Replacement Tips

### 159D-RT ★★★

5"

**Flat Round Carbofib tip** tweezers on stainless steel body. Screw on replaceable tips.  
Tip size .060" wide.



### 159D-RTX Replacement Tips

### 159E-RT ★★★

5"

**Large Carbofib tip** tweezers on stainless steel body. Screw on replaceable tips.  
Tip size .120" wide.



### 159E-RTX Replacement Tips

### 759-RT ★★★

5"

**Curved Carbofib tip** tweezers on stainless steel body. Screw on replaceable tips.  
Tip size .017" wide.



### 759-RTX Replacement Tips



Replacement Tip Kit

# Plastic Handling Tweezers

Sharp tips, Flat tips, Round tips, Wide Angle tips.  
General precision handling without metal contact.



7-LER ★

4 1/2"

**Glass filled** Delrin tweezers with sharp pointed tips.



7A-LER ★

4 1/2"

**ACETAL** Clean room safe, anti-static tweezers, sharp pointed tips.



808 ★

4 1/2"

**Glass filled Delrin** tweezers with sharp pointed angle tips.



609 ★

4 1/2"

**Glass filled Delrin** tweezers with 1/8" wide tips.



609A ★

4 1/2"

**ACETAL** Clean room safe, anti-static tweezers, 1/8" wide tips.



61 ★

4 5/8"

**Glass filled Delrin** tweezers with 9/32" wide tips.



300 ★

4 5/8"

**Glass filled Delrin** tweezers with 3/32" wide tips.



P2A ★

4 5/8"

**Glass filled Delrin** tweezers with 7/64" flat tips.



3C-ESD ★★

4 5/8"

**Conductive Plastic** tweezers with sharp pointed tips. Surface resistivity of  $10^5$  Ohm.



609-ESD ★★

4 5/8"

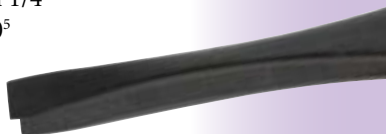
**Conductive Plastic** tweezers with 1/8" wide tips. Surface resistivity of  $10^5$  Ohm.



35A-ESD ★★

4 1/2"

**Conductive Plastic** tweezers with 1/4" wide tips. Surface resistivity of  $10^5$  Ohm.



6-ESD ★★

4 3/4"

**Conductive Plastic** tweezers with angled tips and sharp points. Surface resistivity of  $10^5$  Ohm.



2A-ESD ★★

4 5/8"

**Conductive Plastic** tweezers with tapered tips 1/16" flat points. Surface resistivity of  $10^5$  Ohm.





# PLIERS AND CUTTERS

★★★★★ **The Star System** ★★★★★

**Choose the quality and price that's right for you.**

## When choosing a hand tool you should consider...

**The Shape** of the cutting head will determine the expected life you get from a cutter. A round head cutter will outlast a tapered or tapered relieved head cutter of the same size. The more material behind the cutting edge, the longer the life of the tool.

**The "Type of Cut"** refers to the outside angle of the cutting blades. A semi-flush cutter will produce more cuts than a maximum flush cutter, and a maximum flush cutter will produce more cuts than an optimum flush cutter. Be sure to choose the type of cut to suit your cutting needs.

**The Size** of the tool should correctly fit the hand of the person using it. Excelta manufactures tools in many head styles and handle lengths. Your local Excelta Certified Representative will be happy to recommend the proper size tool for your applications.

**The Grip** on a hand tool should fit comfortably in your hand. You can choose from our soft foam cushion grips or molded grips, both ergonomically designed and ESD Safe.

★★★★★ **Five Star** 7000 series cutters, 9000 series cutters and 700 series pliers are made in the USA from the highest quality tool steel. Our cutting edges are induction hardened to 63-65 Rockwell C. Stainless steel leaf springs provide smooth operation. Available in two handle sizes and three types of cuts.

**7100 series cutters** - Long Handle, Soft Foam Grips

**7200 series cutters** - Short Handle, Molded Plastic Grips

**9200 series cutters** - Short Handle, Molded Plastic Grips

**7000EH series cutters** - Short Handle

**7000EHT series cutters** - Short Handle, Molded Plastic Grips

**700 series pliers** - Long Handle, Soft Foam Grips

ALL  
CUTTERS  
FEATURE ESD  
SAFE GRIPS

★★★★★ **Four Star** 8000 series cutters are forged tool steel with an anti-glare black finish. Available in three head sizes and two types of cuts, with molded teal grips.

★★★ **Three Star** cutters and pliers are the standard line of the industry. Forged in Italy from Chrome Vanadium tool steel, which offers the most head shapes and handle sizes to choose from.

**"EI" series cutters** – ESD Safe, soft foam cushion grips are standard.

**"I" series pliers** – ESD Safe, soft foam cushion grips are standard.

★★ **Two Star** 2000 series pliers and cutters are manufactured from hardened stainless steel and feature a precision lap joint.

**2900 series pliers** – 6 1/2" with ESD Safe soft foam cushion grips and stainless steel leaf springs.

**2800 series cutters** – ESD Safe soft foam cushion grips.

**2800 series pliers** – 5" with ESD Safe molded teal grips and stainless steel leaf springs.

**2600 series pliers** – 4 1/2" with ESD Safe soft foam cushion grips and stainless steel leaf springs.

★ **One Star** SE series cutters are stamped tools made of carbon steel. They have a black phosphate anti-glare finish and ESD Safe molded grips.



★★★★★  
Five Star



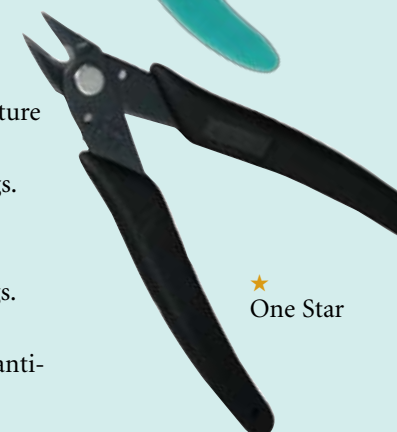
★★★★  
Four Star



★★★  
Three Star



★★  
Two Star



★  
One Star

# AVAILABLE GRIPS

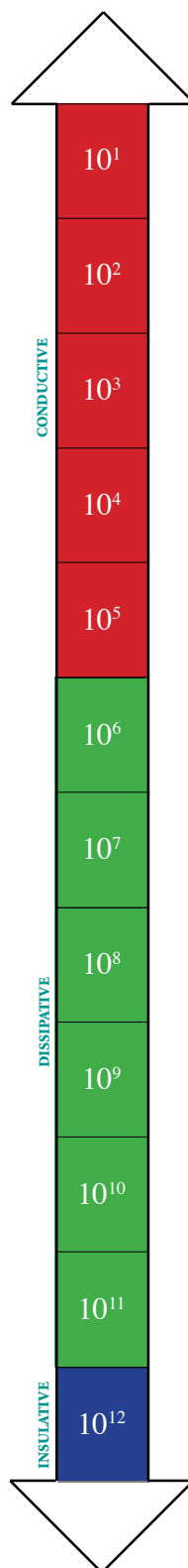
**We have a grip available to suit every application.**

## ESD, Insulative, Conductive, Dissipative or Anti-Static, What do these terms mean?

ESD is an acronym for electrostatic discharge. Many times it is used incorrectly as a term for something that is “electrostatic discharge safe.” The terms Anti-Static, Conductive, and Dissipative are all terms that subdivide ESD into more detail.

- Something insulative is NOT considered ESD Safe. Materials are divided into these terms based on their individual surface resistance. Surface resistance is a measurement of how easily an electric charge can travel across a medium.
- Conductive materials are materials that have a surface resistance of less than  $1 \times 10^5$  ohms/square.
- Dissipative items have a surface resistance of more than  $1 \times 10^5$  ohms/square but less than  $1 \times 10^{11}$  ohms/square.
- Anti-static materials are generally referred to as any material which inhibits triboelectric charging. This kind of charging is the buildup of an electric charge by the rubbing or contact with another material.
- An insulative material is one that has a surface resistance of greater than  $1 \times 10^{12}$  ohms/square.

Contact EXCELTA® if you have any questions at (866) 392-3582 or [sales@excelta.com](mailto:sales@excelta.com)



Black Molded Grip -  $10^6$   
Excelta Part No. BDG



Teal Molded Grip -  $10^9$   
Excelta Part No. GP-TEAL5



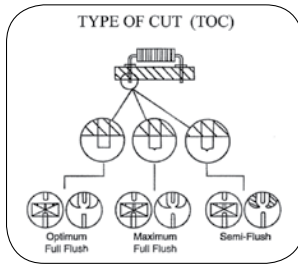
Soft Foam Grip -  $10^{10}$   
Excelta Part No. GP-FOAM



Double Dip Grip -  $10^{10}$   
Excelta Part No. GP-DDLP







# CUTTER CORRELATION CHART

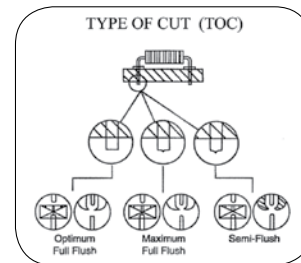
Reference #	Cut	Wire Type	.010"	.012"	.016"	.020"	.025"	.032"	.040"	.050"	.064"
			30 AWG	28 AWG	26 AWG	24 AWG	22 AWG	20 AWG	18 AWG	16 AWG	14 AWG
84E-I	MF	Soft									
86E-I-5	MF	Soft									
95E-I	MF	Soft									
97E-I	SF	Soft									
2876EHT	SF	Soft									
		Hard									
2896EHT	SF	Soft									
		Hard									
2897EHT	SF	Soft									
		Hard									
2899EHT	SF	Soft									
		Hard									
7104E / 7204E	MF	Soft									
7130E / 7230E	SF	Soft									
7230EH	SF	Hard									
7131E / 7231E	MF	Soft									
7231EH	MF	Hard									
7132E / 7232E	OF	Soft									
7134E / 7234E	MF	Soft									
7135E / 7235E	OF	Soft									
7137E / 7237E	MF	Soft									
7237EH	MF	Hard									
7138E / 7238E	OF	Soft									
7140E / 7240E	SF	Soft									
7141E / 7241E	MF	Soft									
7241EHT	MF	Hard									
7142E / 7242E	OF	Soft									
7143E / 7243E	SF	Soft									
7144E / 7244E	MF	Soft									
7145E / 7245E	OF	Soft									
7146E / 7246E	SF	Soft									
7147E / 7247E	MF	Soft									
7247EHT	MF	Hard									
7148E / 7248E	OF	Soft									
7150E / 7250E	SF	Soft									
7151E / 7251E	MF	Soft									
7152E / 7252E	OF	Soft									
7170E / 7270E	OF	Soft									
7171E / 7271E	OF	Soft									
7172E / 7272E	MF	Soft									
7174E / 7274E	OF	Soft									
7175E / 7275E	MF	Soft									
7182E / 7282E	MF	Soft									
7282EH	MF	Hard									
7282EHT	MF	Hard									
7183E / 7283E	OF	Soft									
7149E / 7249E	OF	Soft									
8150E-I	SF	Soft									
8151E-I	MF	Soft									
8160E-I	SF	Soft									
8161E-I	MF	Soft									
9240E	SF	Soft									
9241E	MF	Soft									
9242E	OF	Soft									
9243E	SF	Soft									
9244E	MF	Soft									
9245E	OF	Soft									
9246E	SF	Soft									
9247E	MF	Soft									
9248E	OF	Soft									

# ★★★★★ 7000 Series Hard Wire Cutters

## Made in the U.S.A.

Carbide insert & tungsten alloy cutters.

Precision alignment for clean, crisp cutting.

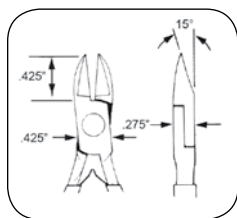


## Carbide Insert Cutters

- Edge hardness of 79 - 81 HRC
- Static dissipative grips
- Maximum flush cutting edge
- Designed to cut most types of medical wires

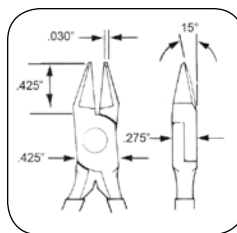
### 5" Tapered/Relieved Head Carbide Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7241EHT	Max flush	.008" - .020" <b>Hard</b>



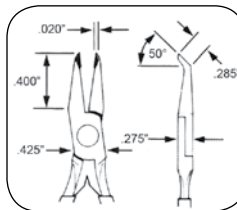
### 5" Tapered/Relieved Head Carbide Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7247EHT	Max flush	.008" - .020" <b>Hard</b>



### 5" Angulated Head Tungsten Alloy Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7282EHT	Max flush	.005" - .020" <b>Hard</b>

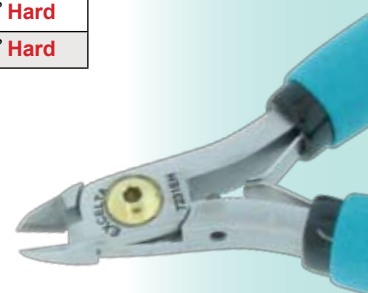
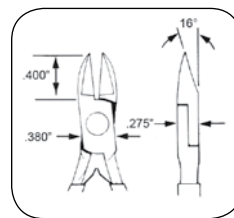


## Tungsten Alloy Cutters

- Alloy steel - tungsten, cobalt, vanadium and chromium
- Unique heat-treating process makes a very hard, tough cutting edge (66 - 68 HRC)
- Precision alignment for clean crisp cutting

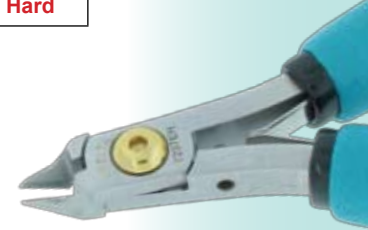
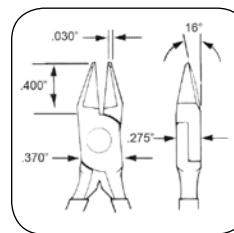
### 4 3/4" Miniature Head Tungsten Alloy Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7230EH	Semi-flush	.001" - .020" <b>Hard</b>
7231EH	Max flush	.003" - .010" <b>Hard</b>



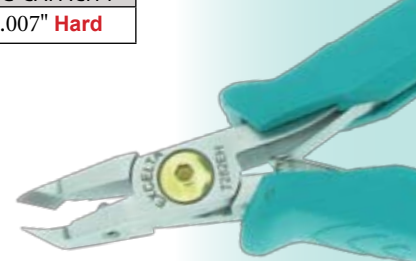
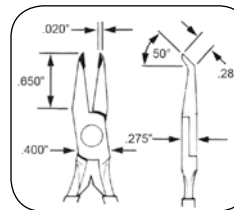
### 4 3/4" Miniature Tapered/Relieved Tungsten Alloy Cutter

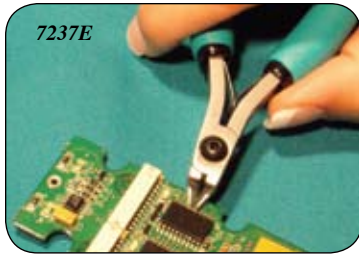
PART #	CUT TYPE	CUTTING CAPACITY
7237EH	Max flush	.003" - .010" <b>Hard</b>



### 5" Angulated Head Tungsten Alloy Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7282EH	Max flush	.003" - .007" <b>Hard</b>





# ★★★★★ 7000 Series Small Head Cutters

**Made in the U.S.A.**

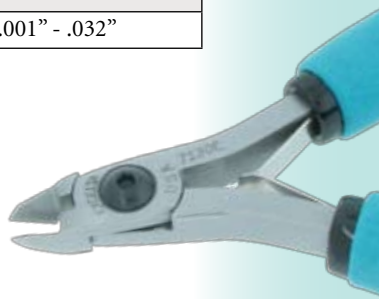
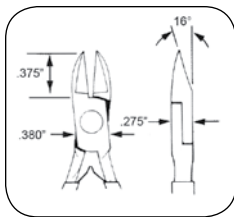
Edge hardened to 63/65 Rockwell "C".

Stainless steel leaf springs – our most popular series of cutters.

## 7100 Series Small Head Cutters with Long Foam Cushion Grips

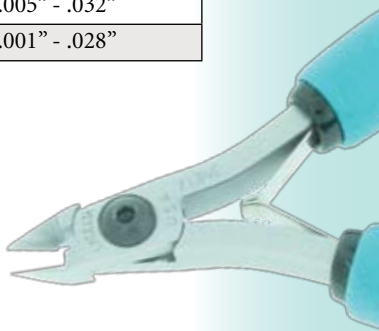
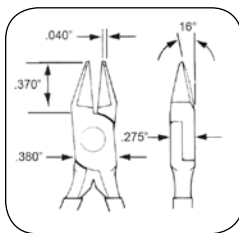
### 5 3/4" Small Round Head Cutters

PART #	CUT TYPE	CUTTING CAPACITY
7130E	Semi-flush	.008" - .040"
7131E	Max flush	.005" - .040"
7132E	Opti-flush	.001" - .032"



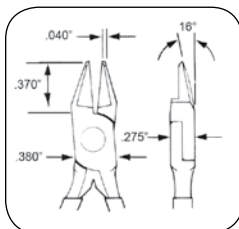
### 5 3/4" Small Tapered Head Cutters

PART #	CUT TYPE	CUTTING CAPACITY
7134E	Max flush	.005" - .032"
7135E	Opti-flush	.001" - .028"



### 5 3/4" Small Tapered/Relieved Cutters

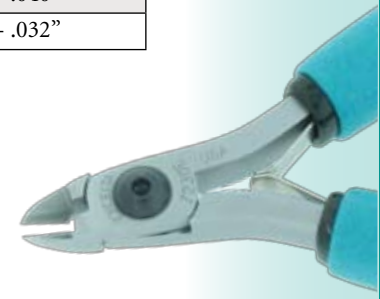
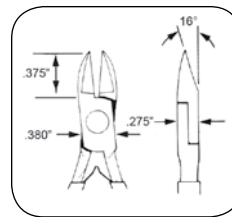
PART #	CUT TYPE	CUTTING CAPACITY
7137E	Max flush	.005" - .028"
7138E	Opti-flush	.001" - .020"



## 7200 Series Small Head Cutters with Foam Cushion Grips

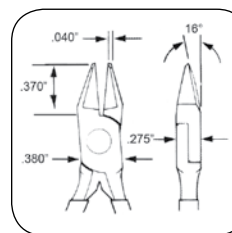
### 5" Small Round Head Cutters

PART #	CUT TYPE	CUTTING CAPACITY
7230E	Semi-flush	.008" - .040"
7231E	Max flush	.005" - .040"
7232E	Opti-flush	.001" - .032"



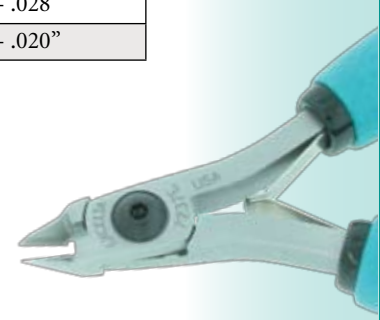
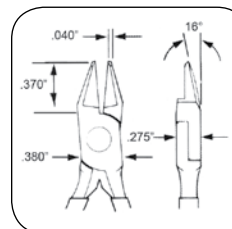
### 5" Small Tapered Head Cutters

PART #	CUT TYPE	CUTTING CAPACITY
7234E	Max flush	.005" - .032"
7235E	Opti-flush	.001" - .028"



### 5" Small Tapered/Relieved Cutters

PART #	CUT TYPE	CUTTING CAPACITY
7237E	Max flush	.005" - .028"
7238E	Opti-flush	.001" - .020"



# ★★★★★ Five Star 7000 Series Medium Head Cutters

## Made in the U.S.A.

Edge hardened to 63/65 Rockwell "C".

Stainless steel leaf springs – fine cutting of small leads and wires.

**WIRE CATCH**

add suffix **-W**

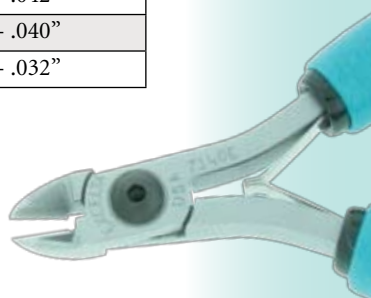
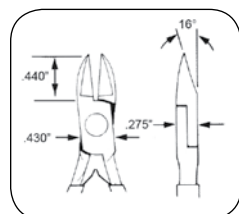


7240EW shown

## 7100 Series Medium Head Cutters with Long Foam Cushion Grips

### 5 3/4" Medium Round Head Cutters

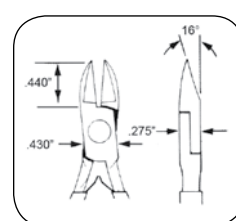
PART #	CUT TYPE	CUTTING CAPACITY
7140E	Semi-flush	.008" - .042"
7141E	Max flush	.005" - .040"
7142E	Opti-flush	.003" - .032"



## 7200 Series Medium Head Cutters with ESD Safe Molded Grips

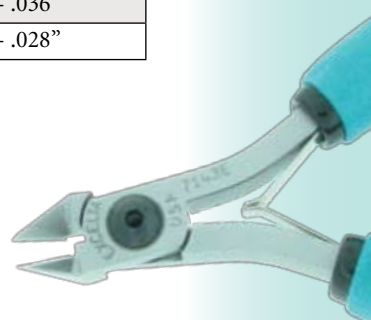
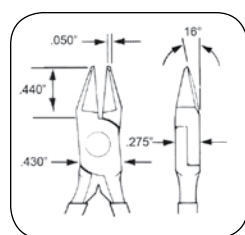
### 5" Medium Round Head Cutters

PART #	CUT TYPE	CUTTING CAPACITY
7240E	Semi-flush	.008" - .042"
7241E	Max flush	.005" - .040"
7242E	Opti-flush	.003" - .032"



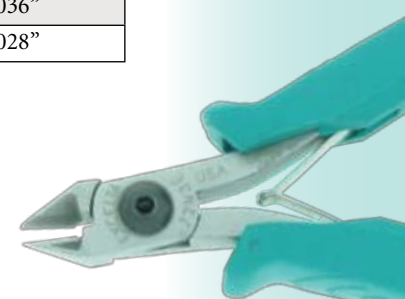
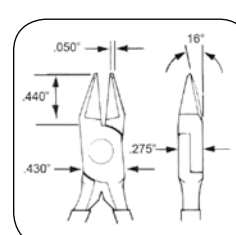
### 5 3/4" Medium Tapered Head Cutters

PART #	CUT TYPE	CUTTING CAPACITY
7143E	Semi-flush	.008" - .036"
7144E	Max flush	.005" - .036"
7145E	Opti-flush	.002" - .028"



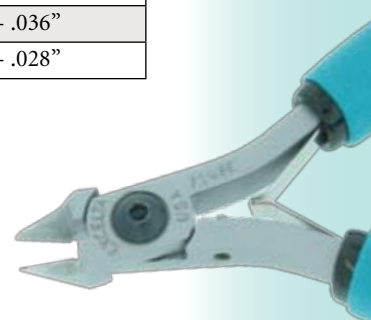
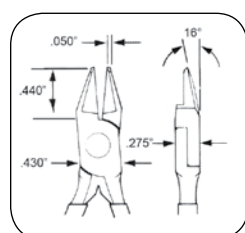
### 5" Medium Tapered Head Cutters

PART #	CUT TYPE	CUTTING CAPACITY
7243E	Semi-flush	.008" - .036"
7244E	Max flush	.005" - .036"
7245E	Opti-flush	.002" - .028"



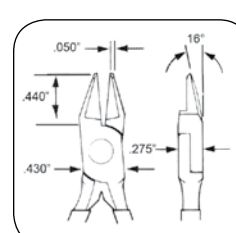
### 5 3/4" Medium Tapered/Relieved Cutters

PART #	CUT TYPE	CUTTING CAPACITY
7146E	Semi-flush	.008" - .036"
7147E	Max flush	.005" - .036"
7148E	Opti-flush	.002" - .028"

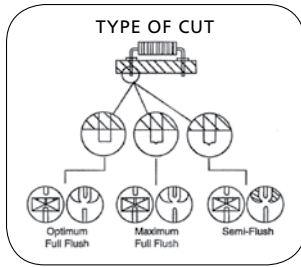


### 5" Medium Tapered/Relieved Cutters

PART #	CUT TYPE	CUTTING CAPACITY
7246E	Semi-flush	.008" - .036"
7247E	Max flush	.005" - .036"
7248E	Opti-flush	.002" - .028"







# ★★★★★ 7000 Series Angulated Head Cutters

**Made in the U.S.A.**

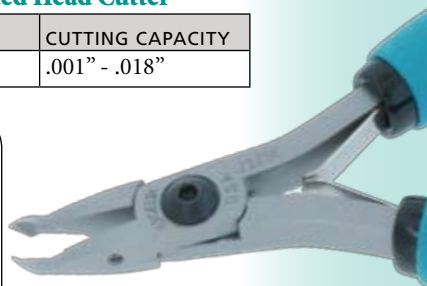
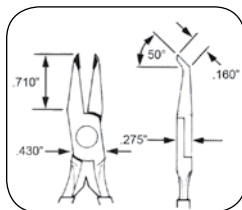
Edge hardened to 63/65 Rockwell "C".

Stainless steel leaf springs – angulated head for cutting in dense areas.

## 7100 Series Angulated Head Cutters with Long Foam Cushion Grips

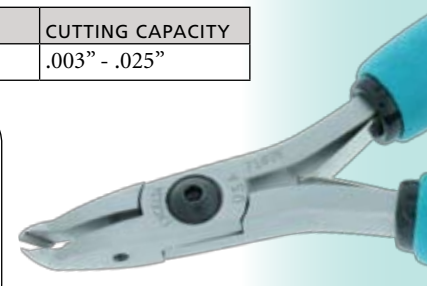
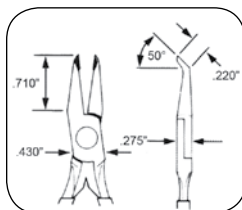
### 6" Miniature Angulated Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7175E	Max flush	.001" - .018"



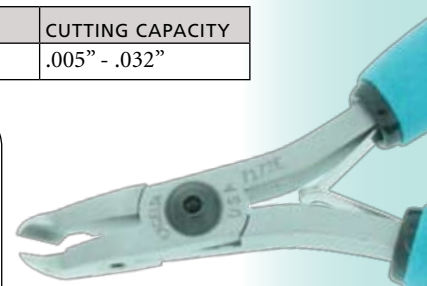
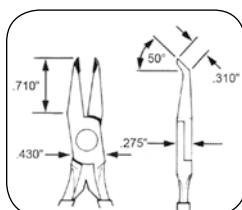
### 6" Medium Angulated Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7182E	Max flush	.003" - .025"



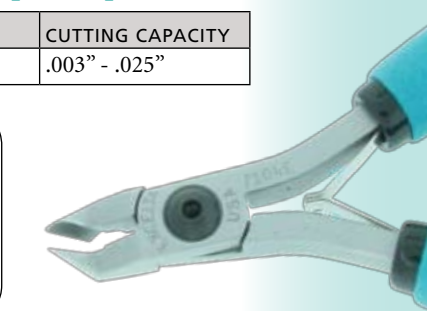
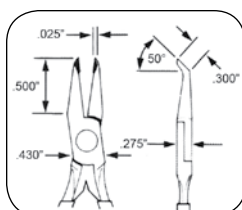
### 6" Large Angulated Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7172E	Max flush	.005" - .032"



### 6" Large Angulated/Tapered Tip Cutter

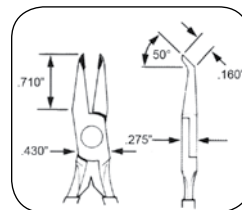
PART #	CUT TYPE	CUTTING CAPACITY
7104E	Max flush	.003" - .025"



## 7200 Series Angulated Head Cutters with ESD Safe Molded Grips

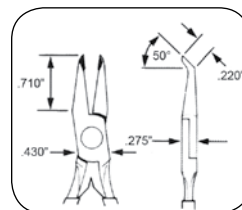
### 5 1/4" Miniature Angulated Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7275E	Max flush	.001" - .018"



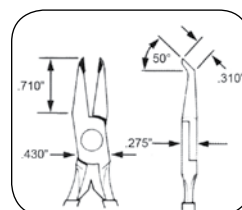
### 5 1/4" Medium Angulated Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7282E	Max flush	.003" - .025"



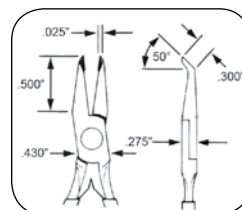
### 5 1/4" Large Angulated Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7272E	Max flush	.005" - .032"



### 5 1/4" Large Angulated/Tapered Tip Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7204E	Max flush	.003" - .025"



# ★★★★★ 7000 Series Fine Tip Cutters

## Made in the U.S.A.

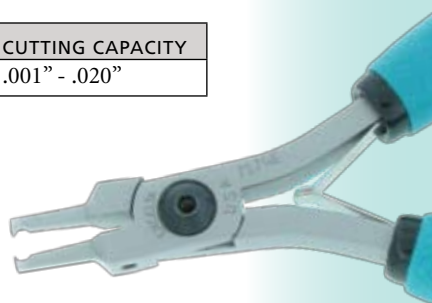
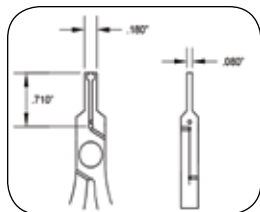
Edge hardened to 63/65 Rockwell "C".

Stainless steel leaf springs – ESD Safe grips.

### 7100 Series Fine Tip Cutters with Long Foam Cushion Grips

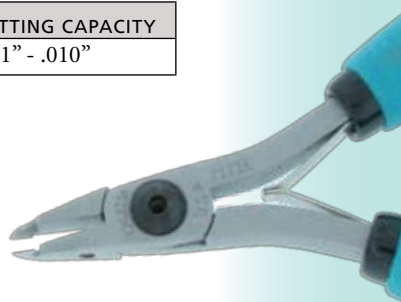
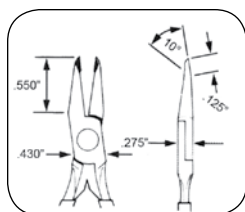
#### 6" Transverse End Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7174E	Opti-flush	.001" - .020"



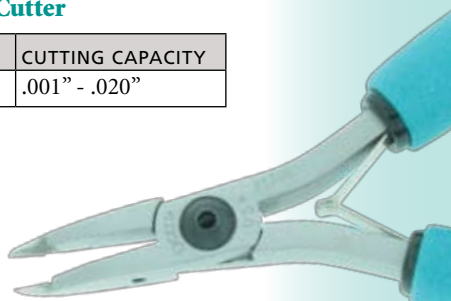
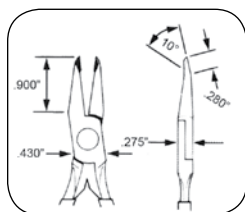
#### 5 3/4" Small Fine Tip Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7171E	Opti-flush	.001" - .010"



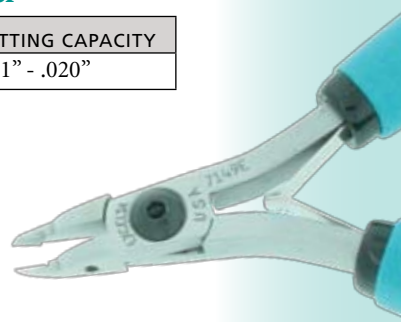
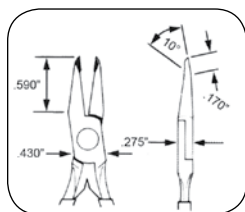
#### 6 1/4" Medium Fine Tip Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7170E	Opti-flush	.001" - .020"



#### 5 3/4" Relieved Fine Tip Cutter

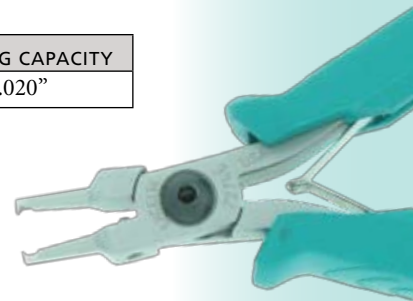
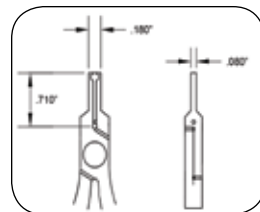
PART #	CUT TYPE	CUTTING CAPACITY
7149E	Opti-flush	.001" - .020"



### 7200 Series Fine Tip Cutters with ESD Safe Molded Grips

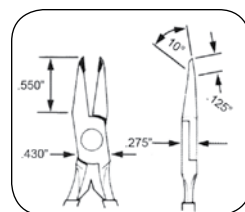
#### 5 1/2" Transverse End Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7274E	Opti-flush	.001" - .020"



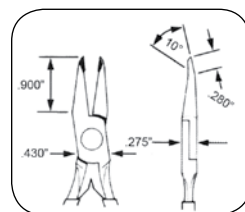
#### 5 1/4" Small Fine Tip Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7271E	Opti-flush	.001" - .010"



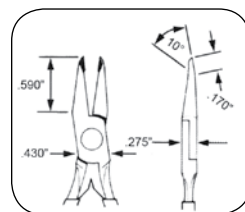
#### 5 3/4" Medium Fine Tip Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7270E	Opti-flush	.001" - .020"



#### 5 1/2" Relieved Fine Tip Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7249E	Opti-flush	.001" - .020"



# ★★★★★ 7000 Series Large Head Cutters

**Made in the U.S.A.**

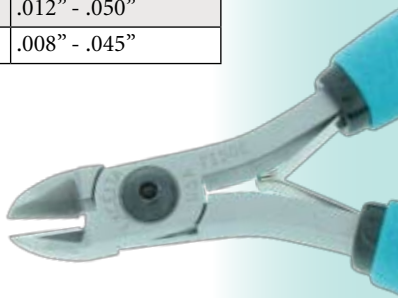
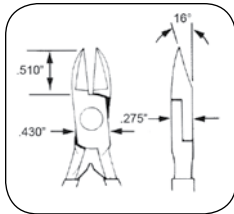
Edge hardened to 63/65 Rockwell "C"

Stainless steel leaf springs – Fine cutting of medium leads and wires

## 7100 Series Large Head Cutters with Long Foam Cushion Grips

### 6" Large Round Head Cutter

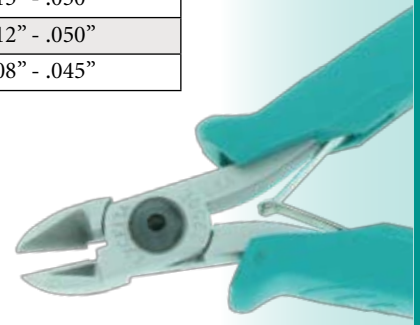
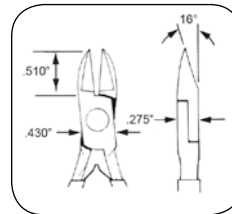
PART #	CUT TYPE	CUTTING CAPACITY
7150E	Semi-flush	.015" - .050"
7151E	Max flush	.012" - .050"
7152E	Opti-flush	.008" - .045"



## 7200 Series Large Head Cutters with ESD Safe Molded Grips

### 5 1/4" Large Round Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7250E	Semi-flush	.015" - .050"
7251E	Max flush	.012" - .050"
7252E	Opti-flush	.008" - .045"



# ★★★★★ 7000 Series Parallel Jaw Cutters

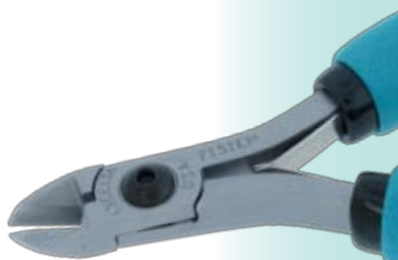
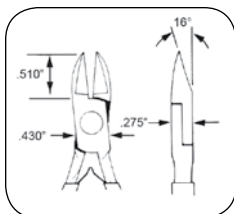
**Made in the U.S.A.**

Parallel jaw for cutting multiple leads and wires.

## 7100 Series Parallel Jaw Cutters with Long Foam Cushion Grips

### 6" Large Round Head Cutter

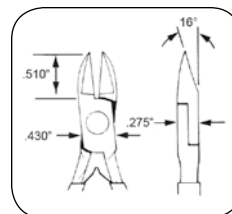
PART #	CUT TYPE	CUTTING CAPACITY
7150EM	Semi-flush	.015" - .050"
7151EM	Max flush	.012" - .050"
7152EM	Opti-flush	.008" - .045"



## 7200 Series Parallel Jaw Cutters with ESD Safe Molded Grips

### 5 1/4" Large Round Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
7250EM	Semi-flush	.015" - .050"
7251EM	Max flush	.012" - .050"
7252EM	Opti-flush	.008" - .045"





## ★★★★★ 9000 Series Medium Head Cutters

**Made in the U.S.A.**

Edge hardened to 64/65 Rockwell "C" – stainless steel leaf springs – ESD Safe grips.



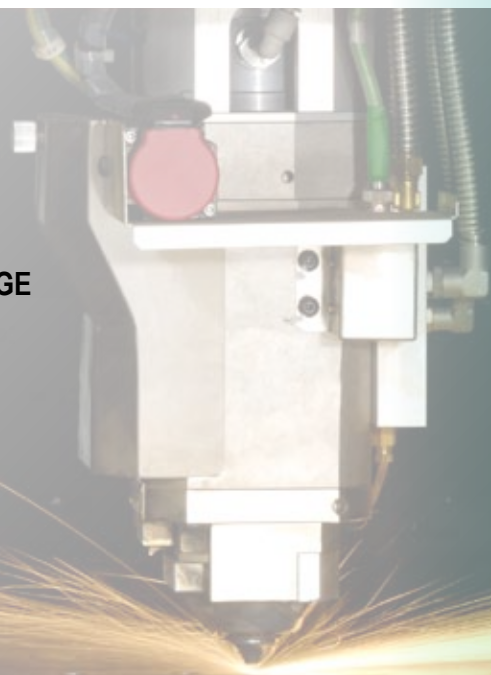
**EXCELTA®**  
MANUFACTURING

**LAZER  
LINE™**



Introducing **LAZER LINE™** by Excelta Manufacturing. Excelta has pioneered the combined use of Laser technology with the most advanced CNC machining to produce the finest grade premium cutter available. We start with ball bearing steel made in the USA, laser cut for consistency and CNC machined to exact specifications. The cutting blades are induction hardened to 64 - 65 RHC for durability and precision hard-milled for sharpness to produce state of the art tools, *Precisely Right* for all your cutting needs.

- ESD SAFE ERGO-COMFORT GRIPS ARE STANDARD
- EDGES HARDENED TO 64 - 65 RHC FOR LONG-LASTING CUTTING EDGE
- SUPER-DUTY STAINLESS STEEL LEAF SPRINGS
- MANUFACTURED FROM PREMIUM AMERICAN BALL BEARING STEEL
- 100% MANUFACTURED IN THE U.S.A.
- FEATURES NEW LAZERLOK™ FASTENER SYSTEM







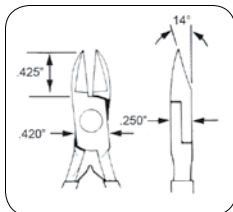
# ★★★★★ 9000 Series Medium Head Cutters

**Made in the U.S.A.**

Edge hardened to 64/65 Rockwell "C" – stainless steel leaf springs – ESD Safe grips.

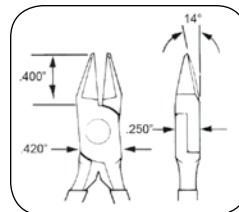
## 5" Medium Round Head Cutters

PART #	CUT TYPE	CUTTING CAPACITY	BLADE BEVEL
9240E	Semi-flush	.010" - .050"	.010" - .012"
9241E	Max flush	.005" - .040"	.003" - .005"
9242E	Opti-flush	.002" - .032"	.001" - .003"



## 5" Medium Tapered Head Cutters

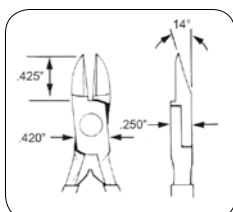
PART #	CUT TYPE	CUTTING CAPACITY	BLADE BEVEL
9243E	Semi-flush	.010" - .040"	.010" - .012"
9244E	Max flush	.005" - .032"	.003" - .005"
9245E	Opti-flush	.002" - .025"	.001" - .003"



# LAZER LINE™

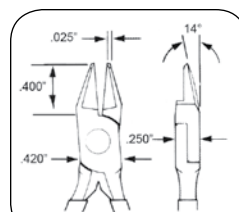
## 5" Medium Round/Relieved Head Cutters

PART #	CUT TYPE	CUTTING CAPACITY	BLADE BEVEL
9210E	Semi-flush	.010" - .050"	.010" - .012"
9211E	Max flush	.005" - .040"	.003" - .005"
9212E	Opti-flush	.002" - .032"	.001" - .003"



## 5" Medium Tapered/Relieved Cutters

PART #	CUT TYPE	CUTTING CAPACITY	BLADE BEVEL
9246E	Semi-flush	.010" - .040"	.010" - .012"
9247E	Max flush	.005" - .032"	.003" - .005"
9248E	Opti-flush	.002" - .025"	.001" - .003"



## ★★★★★ Cutters

### Made in Italy

Forged carbon steel, anti-glare finish  
with stainless steel leaf springs.

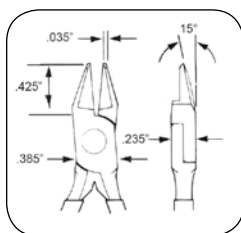
## ★★★★★ Cutters

### Made in Italy

Chrome vanadium steel.  
ESD Safe foam cushion grips.

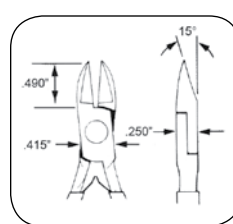
#### 4 3/4" Small Tapered/Relieved Head Cutters

PART #	CUT TYPE	CUTTING CAPACITY
8147E-I	Max flush	.008" - .028"



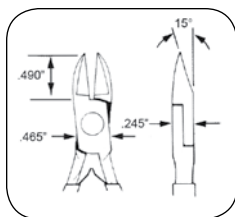
#### 4 1/4" Medium Round Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
97E-I	Semi-flush	.008" - .025"



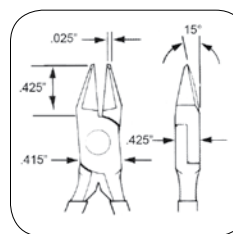
#### 4 3/4" Medium Round Head Cutters

PART #	CUT TYPE	CUTTING CAPACITY
8150E-I	Semi-flush	.016" - .050"
8151E-I	Max flush	.012" - .040"



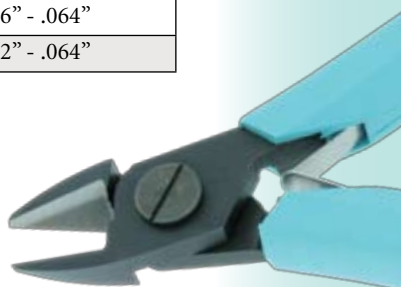
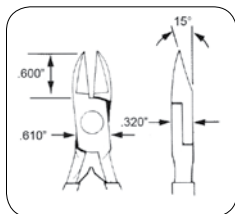
#### 4 1/4" Medium Tapered Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
95E-I	Max flush	.008" - .025"



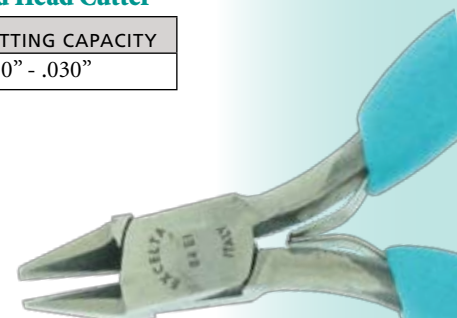
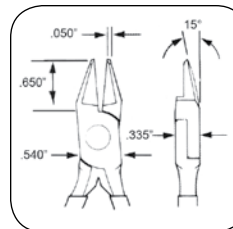
#### 5" Large Round Head Cutters

PART #	CUT TYPE	CUTTING CAPACITY
8160E-I	Semi-flush	.016" - .064"
8161E-I	Max flush	.012" - .064"



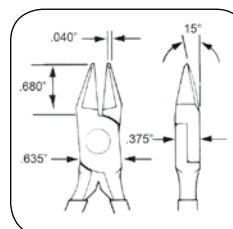
#### 4 3/4" Large Tapered/Relieved Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
84E-I	Max flush	.010" - .030"

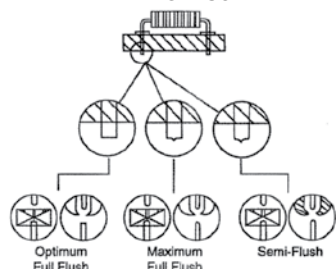


#### 5 1/4" Large Tapered Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
86E-I-5	Max flush	.010" - .030"



#### TYPE OF CUT



# ★★ Multi-Purpose Wire Cutters

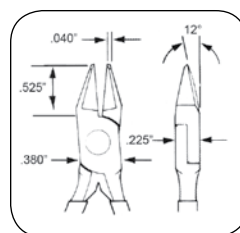
Stainless steel with carbide inserts.

ESD Safe foam cushion grips.



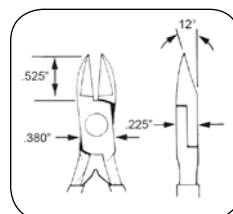
## 4 1/4" Small Tapered Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
2876EHT	Semi-flush	.010" - .025" Soft
		.008" - .010" <b>Hard</b>



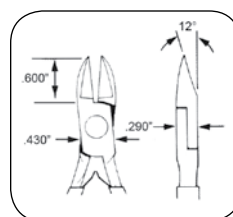
## 4 1/2" Small Round Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
2899EHT	Semi-flush	.010" - .030" Soft
		.008" - .012" <b>Hard</b>



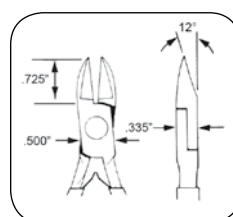
## 4 1/2" Medium Round Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
2897EHT	Semi-flush	.010" - .032" Soft
		.010" - .020" <b>Hard</b>



## 5 1/2" Large Round Head Cutter

PART #	CUT TYPE	CUTTING CAPACITY
2896EHT	Semi-flush	.012" - .064" Soft
		.012" - .032" <b>Hard</b>



## Fine Precision Wire Cutters with Carbide Inserts

The new Excelta 2-Star precision Multi-Purpose Cutters are made from the finest materials and are designed with quality and value in mind. These tools feature Stainless Steel construction for excellent corrosion resistance and carbide inserts for maximum blade life. Semi-Flush Cut with ESD Safe soft foam cushion grips.



2876EHT Carbide Insert  
(actual size)

# Cable & Tube Cutters

# ★ One Star Cutters

## Made in the U.S.A.

Micro shears with anti-glare finish.

Made from carbon steel. ESD safe grips.

### 51-T ★★

#### 7" Tube and Cable Cutter

Stainless steel cutting blades provide a smooth clean cut on plastic tubing and soft cables. Shear Cut, Cutting Capacity 3/8"



### 51-I-6 ★★★

#### 6" Precision Cable Cutter

Recommended for cutting stranded cables and wires up to 1/2". Locking device keeps cutting jaws in closed position when not in use. Shear Cut, Cutting Capacity 1/2"



### 51-I-6DP ★★★

#### 6" Depanelizing Tool

The thin jaws on these cutters are designed to cut the tabs on PC boards. The longer handles provide more leverage when cutting. Designed to fit a 1/16" or larger slot.



### 51-I-6DP



### SE-25

#### 5" Small Micro Shear with Tapered Head

Lightweight and easy to handle. Shear cutting action reduces both cutting effort and mechanical shock transmitted to the component. Cutting capacity is soft wire up to 20 AWG.



### SE-25A

#### 5" Small Micro Shear with Lead Catch

Lightweight and easy to handle cutter with the added cut and hold wire catch. Cutting capacity is soft wire up to 20 AWG.



### SE-30L

#### 6" Micro Shear with Ergonomic Handles

The tapered head allows positioning even on fine pitch components. Cutting capacity on soft wire up to 16 AWG. Available with cut and hold wire catch. Use reference number SE-30LA.





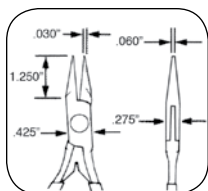
# ★★★★★ High Precision Pliers

**Made in the U.S.A.**

Chain nose and round nose, 1% carbon tool steel. Raised bearing plate and stainless steel dual leaf springs provide for easy operation.  
ESD Safe molded grips.

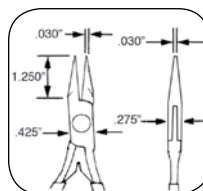
## 5" Chain Nose Pliers

PART #	JAW FINISH
744	Smooth
744D	Serrated



## 5" Round Nose Pliers

PART #	JAW FINISH
743	Smooth



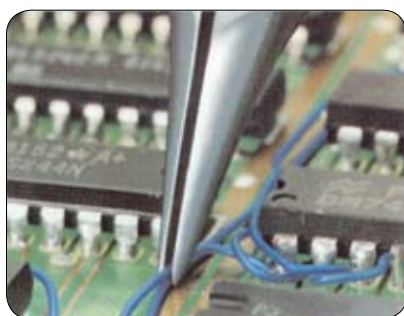
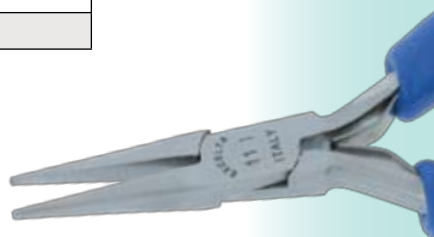
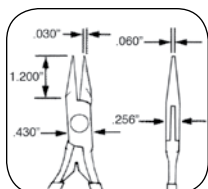
# ★★★★ EXCELTA Line Pliers

**Made in Italy**

Chrome vanadium steel, precision lap joint, ESD Safe foam cushion grips.

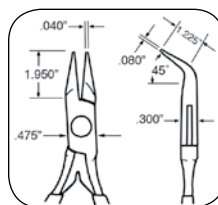
## 4 3/4" Medium Chain Nose Pliers

PART #	JAW FINISH
111	Smooth
111D	Serrated



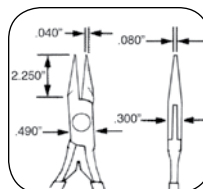
## 6 1/2" Bent Needle Nose Pliers

PART #	JAW FINISH
13A-I	Smooth



## 6" Needle Nose Pliers

PART #	JAW FINISH
14I-6	Smooth



# ★★ Ergonomic “S” Handle Pliers

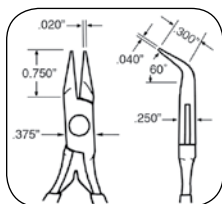
## Small Head Design

Stainless steel, ESD Safe foam cushion grips.



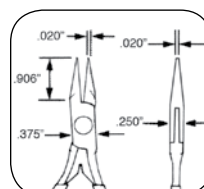
### 6" Curved Tip Chain Nose Pliers

PART #	JAW FINISH
2629S	Smooth



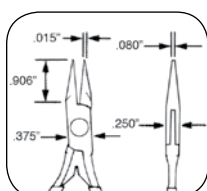
### 6" Round Nose Pliers

PART #	JAW FINISH
2643S	Smooth



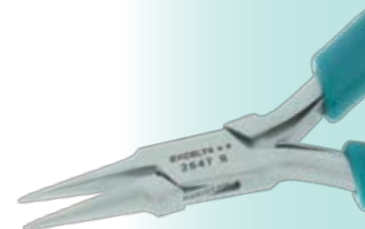
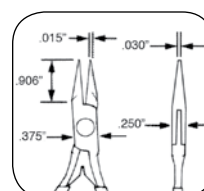
### 6" Flat Tip “Duck Bill” Pliers

PART #	JAW FINISH
2642S	Smooth



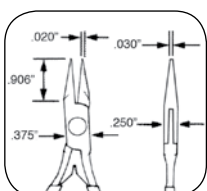
### 6" Needle Nose Pliers

PART #	JAW FINISH
2647S	Smooth

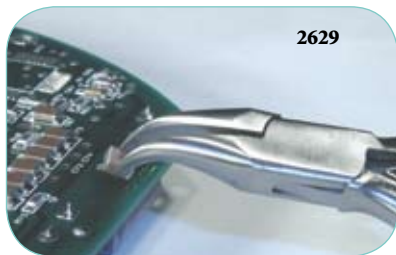


### 6" Chain Nose Pliers

PART #	JAW FINISH
2644S	Smooth



**Ergonomic Design  
for Comfort & Safety**



2629

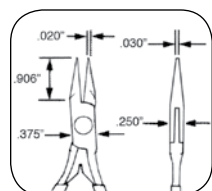
# ★★ Stainless Steel Pliers

## Small Head Design

Forged stainless steel, Smooth or serrated inside jaws.

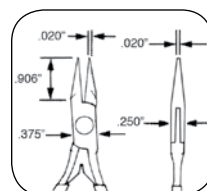
### 4 3/4" Stainless Steel Chain Nose Pliers

PART #	JAW FINISH
2644	Smooth
2644D	Serrated



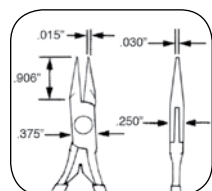
### 4 3/4" Stainless Steel Round Nose Pliers

PART #	JAW FINISH
2643	Smooth



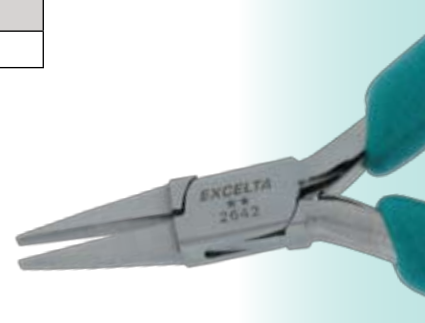
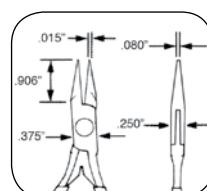
### 4 3/4" Stainless Steel Needle Nose Pliers

PART #	JAW FINISH
2647	Smooth



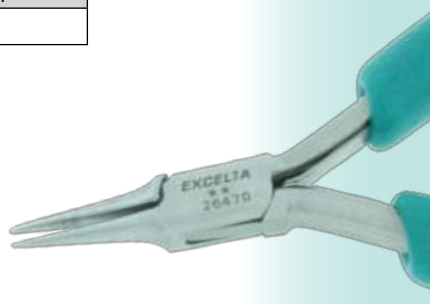
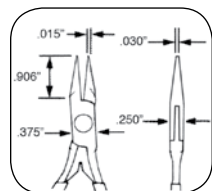
### 4 3/4" Stainless Steel Flat Nose Pliers

PART #	JAW FINISH
2642	Smooth



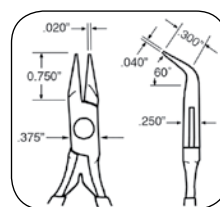
### 4 3/4" Stainless Steel Needle Nose Pliers

PART #	JAW FINISH
2647D	Serrated



### 4 1/2" Stainless Steel Bent Nose Pliers

PART #	JAW FINISH
2629	Smooth



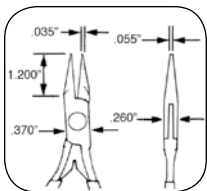
# ★★ Stainless Steel Pliers

## Medium Head Design

Forged stainless steel, ESD Safe molded grips, smooth or serrated inside jaws.

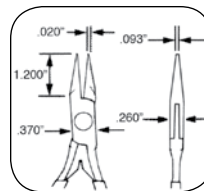
### 5 3/4" Stainless Steel Chain Nose Pliers

PART #	JAW FINISH
2844	Smooth
2844D	Serrated



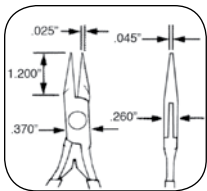
### 5 3/4" Stainless Steel Flat Nose Pliers

PART #	JAW FINISH
2842	Smooth
2842D	Serrated



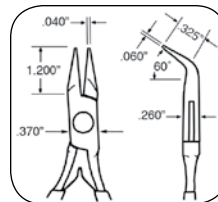
### 5 1/2" Stainless Steel Needle Nose Pliers

PART #	JAW FINISH
2847	Smooth
2847D	Serrated



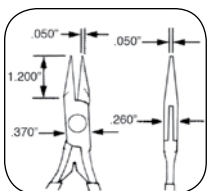
### 5 3/4" Stainless Steel Bent Nose Pliers

PART #	JAW FINISH
2829	Smooth



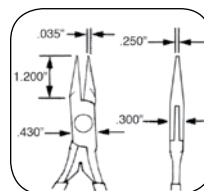
### 5 3/4" Stainless Steel Round Nose Pliers

PART #	JAW FINISH
2843	Smooth



### 5 3/4" Stainless Steel "Duck Bill" Pliers

PART #	JAW FINISH
2818	Smooth





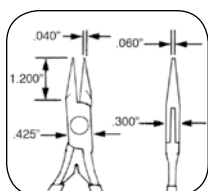
# ★★ Stainless Steel Pliers

## Medium Head Design

Forged stainless steel, Long foam cushion grips, smooth inside jaws.

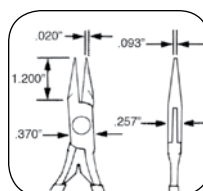
### 6" Stainless Steel Chain Nose Pliers

PART #	JAW FINISH
2844L	Smooth



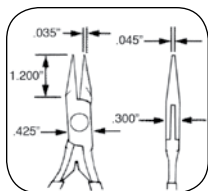
### 6" Stainless Steel Flat Nose Pliers

PART #	JAW FINISH
2842L	Smooth



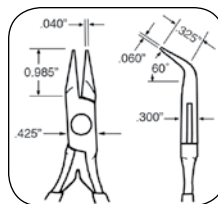
### 6" Stainless Steel Needle Nose Pliers

PART #	JAW FINISH
2847L	Smooth



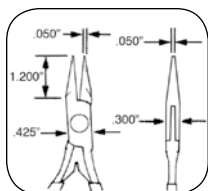
### 6" Stainless Steel Bent Nose Pliers

PART #	JAW FINISH
2829L	Smooth



### 6" Stainless Steel Round Nose Pliers

PART #	JAW FINISH
2843L	Smooth



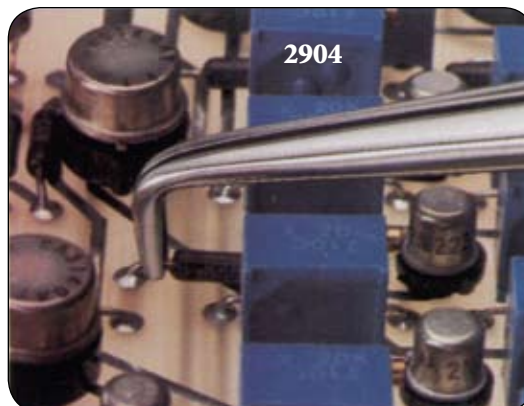
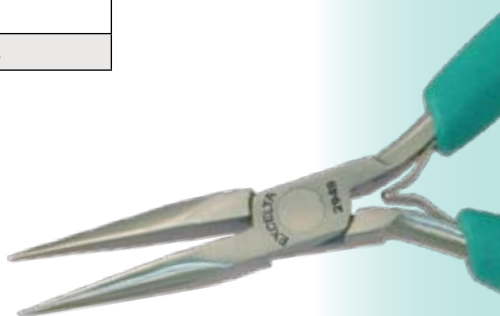
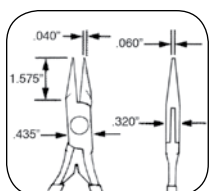
# ★★ 2900 Series Pliers

## Large Head Design

Forged stainless steel, Ergonomic foam cushion ESD Safe grips. Smooth or serrated inside jaws.

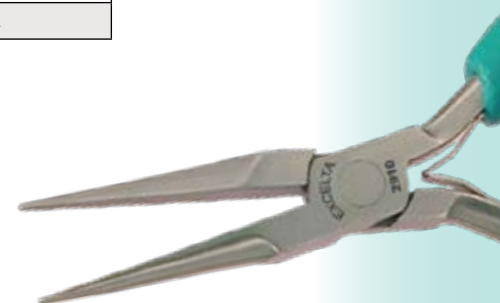
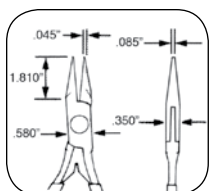
### 6 1/4" Large Chain Nose Pliers

PART #	JAW FINISH
2949	Smooth
2949D	Serrated



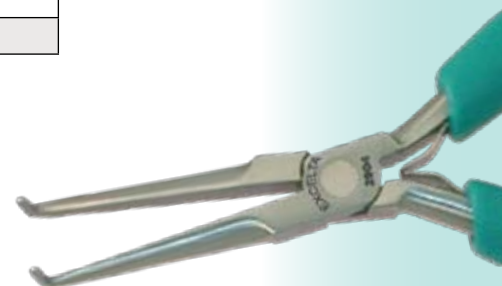
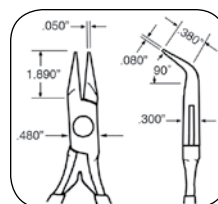
### 6 1/2" Large Needle Nose Pliers

PART #	JAW FINISH
2910	Smooth
2910D	Serrated



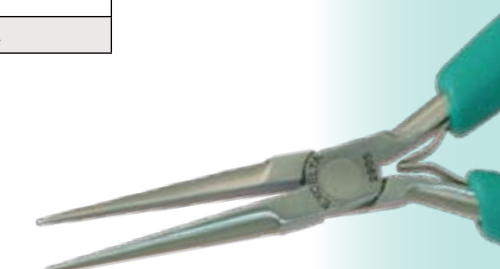
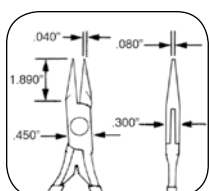
### 6 1/2" 90° Bent Nose Pliers

PART #	JAW FINISH
2904	Smooth
2904D	Serrated



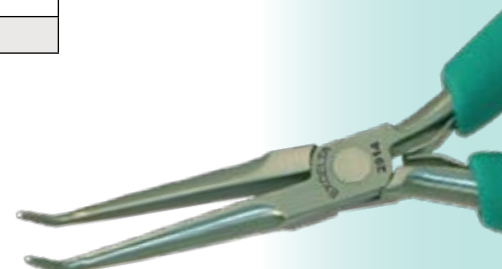
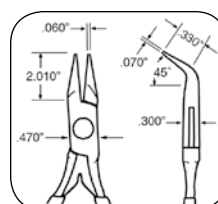
### 6 1/2" Needle Nose Pliers

PART #	JAW FINISH
2905	Smooth
2905D	Serrated



### 6 5/8" 45° Bent Nose Pliers

PART #	JAW FINISH
2914	Smooth
2914D	Serrated



# CUSTOM DESIGNS FROM EXCELTA

## Experienced In-House Design Team and Production Facility



**As the leader in tool technology,** Excelta knows that every application is unique. Our Custom Design facility can work from your schematic to manufacture any tool to your specifications. Or, if you prefer, our experienced designers can diagnose your needs and design the tool that is precisely right for your unique application.



Whether you need a single tool to handle special parts under unique conditions, or a supply of custom tools to crimp, cut, place or extract parts, Excelta's Custom Design Service has the experience, ingenuity and capability to meet your needs.



The following pages include Excelta tools that have been designed with a very special application in mind. If you don't see the tool you're looking for, contact our Custom Design Department at 1-866-EXCELTA (1-866-392-3582) or log on at [www.excelta.com](http://www.excelta.com) and we will design the custom tool to fit your application.

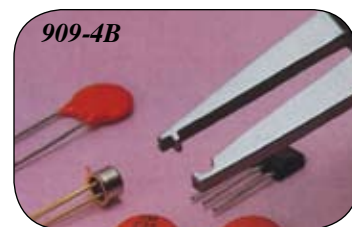


# Custom Designed Forming Pliers

## Radial Lead Component Forming Pliers

Stand-Off Forming Pliers, Made From High-Carbon Tool Steel

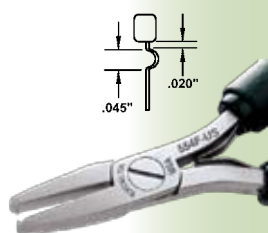
Static Safe Grips, Made in the U.S.A.



### 554F-US ★★★★★ 5"

#### Stress Relief Forming Pliers

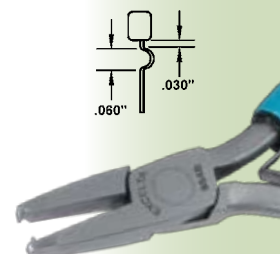
Our smallest forming pliers used to form a stand-off on component leads of .020" diameter or smaller.



### 954B ★★★★★ 6"

#### Stress Relief Forming Pliers

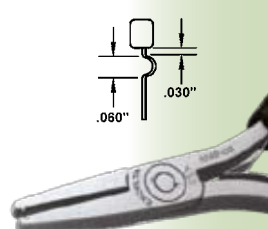
Designed to form a consistent stand off in a variety of components. Similar to the 554A-US, made on a larger frame these pliers can form leads and wires up to .035" diameter.



### 554B-US ★★★★★ 5"

#### Stress Relief Forming Pliers

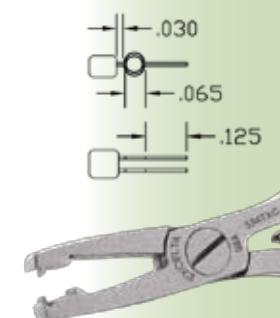
Tool design will form a consistent stress relief in a variety of components. Recommended for .020" or smaller diameter wire.



### 554TXC-US ★★★★★ 5"

#### Shear Cutting and Forming Pliers

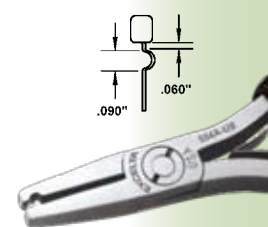
These pliers will form one lead in and one lead out at the same time on most Radial type components. The added shear cutter saves component prep time. Recommended for .025" diameter or smaller leads and wires.



### 554A-US ★★★★★ 5"

#### Stress Relief Forming Pliers

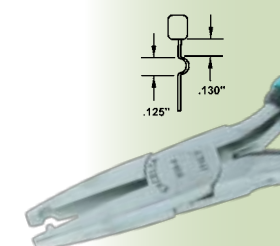
Designed to form stress relief for transistor and resistor leads. Tool design will make consistent stand-off in a variety of components. Recommended for .025" diameter or smaller wire.



### 909-4 ★★★★★ 5 3/4"

#### Stress Relief Forming Pliers

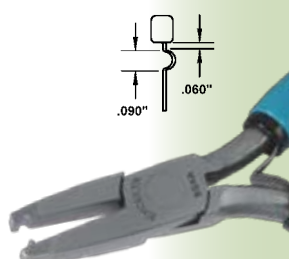
Stress relief forming pliers for transistors and resistor leads. Tool design is versatile in a variety of applications. Recommended for .035" wire or smaller.



### 954A ★★★★★ 6"

#### Stress Relief Forming Pliers

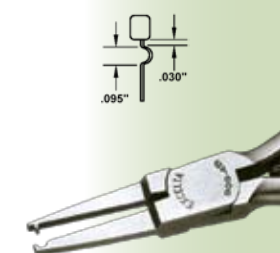
Designed to form a consistent stress relief in a variety of components. Similar to the 554A-US, made on a larger frame these pliers can form leads and wires up to .030" diameter.



### 909-4B ★★★★★ 6 1/4"

#### Stress Relief Forming Pliers

May be used for many types of components. The smaller dimensions keep components close to P.C. board. Recommended for .030" or smaller leads and wires.







# Custom Designed Forming Pliers

## Radial and Axial Lead Component Forming Pliers

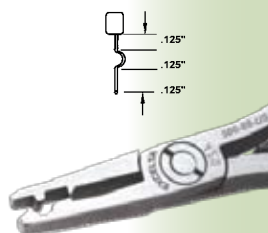
Stand-Off and Lock-In Forming Pliers, Made From High-Carbon Tool Steel

Static Safe Grips, Made in the U.S.A.

**500-88-US ★★★★★ 5"**

### Forming pliers with Shear Cutter

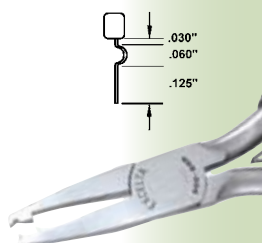
Designed to form a consistent stand off and cut the lead to length on most popular radial lead components. Recommended for .025" diameter or smaller leads and wires.



**900-88B ★★★★★ 5 3/4"**

### Stress Relief Forming Pliers with Shear Cutter

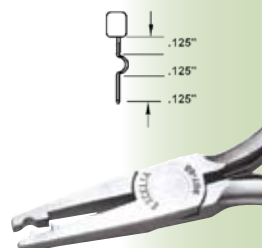
Tool designed to form stress relief and cut lead to specific dimension in one easy step. Recommended for .020" diameter or smaller leads and wires.



**907-88 ★★★★★ 5 3/4"**

### Stress Relief Forming Pliers with Shear Cutter

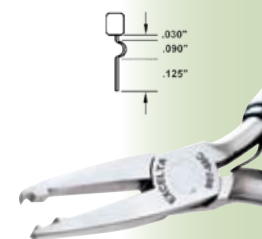
Designed to form a "Stand-Off" and cut lead to length on most popular radial lead components. Recommended for .030" diameter or smaller leads and wires.



**907-88C ★★★★★ 6"**

### Stress Relief Forming Pliers with Shear Cutter

The smaller design of this tool will "Stand-Off" the component closer to the P.C. Board. The added shear cutter saves on component prep time. Recommended for .025" diameter or smaller leads and wires.



**500-92-US ★★★★★**

### TO-92 Lead Forming Pliers

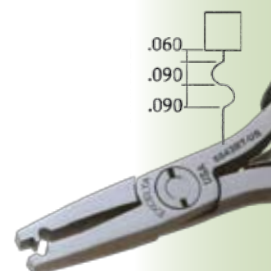
The slots on the outside jaw helps these pliers fit between the leads of a TO-92 and flare them out .050" forming a "Stand-Off" in the lead wires.



**554-3RT-US ★★★★★ 5 1/4"**

### Lock-In Lead Forming Pliers

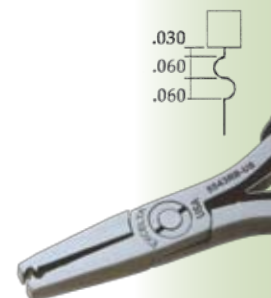
Pliers will form an "S" bend on a component lead, enabling the component to stay in place when soldering. Recommended for .025" diameter or smaller leads and wires.



**554-3RB-US ★★★★★ 5 1/4"**

### Lock-In Lead Forming Pliers

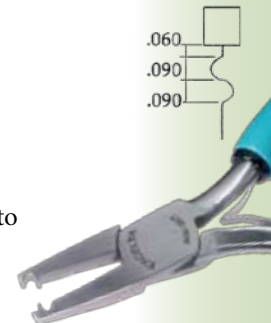
Pliers will form an "S" bend on a component lead, enabling the component to stay in place when soldering. Recommended for .025" diameter or smaller leads and wires.



**900-3RT ★★★★★ 6"**

### Lock-In Lead Forming Pliers

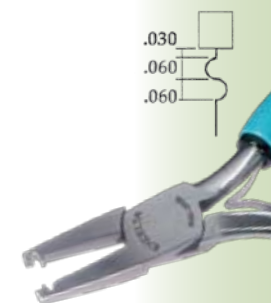
Pliers will form an "S" bend on a component lead, enabling the component to stay in place when soldering. These pliers are recommended for leads and wires up to .035" in diameter.



**900-3RB ★★★★★ 6"**

### Lock-In Lead Forming Pliers

Pliers will form an "S" bend on a component lead, enabling the component to stay in place when soldering. These pliers are recommended for leads and wires up to .035" in diameter.



**900-11 ★★★★★**

### Individual Lead Forming Pliers

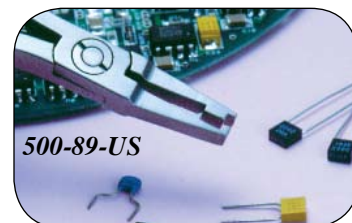
This tool is used to form an individual lead of a TO-220 or TO-247 type transistor with a .200" offset at .075" from the component body.



# Custom Designed Forming Pliers

## "Flat Packs" and Multiple Lead Components

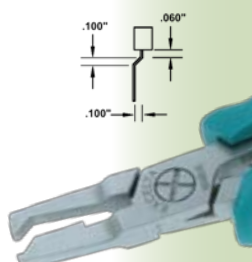
"Dog Leg" And "Gull Wing" Forming Pliers, Made From High-Carbon Tool Steel  
Static Safe Grips, Made In The U.S.A.



### 500-95B-US ★★★★★ 5"

#### Dog Leg Lead Forming Pliers

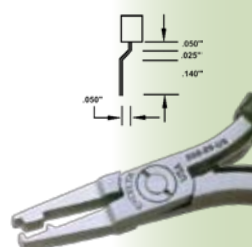
The design of this tool will form a "Dog Leg" bend in the lead wire. This tool can be used to increase or decrease the center dimensions of the radial lead components. Recommended for .030" or smaller leads and wires.



### 500-89-US ★★★★★ 5 1/4"

#### Dog Leg Lead Forming Pliers with Shear cutter

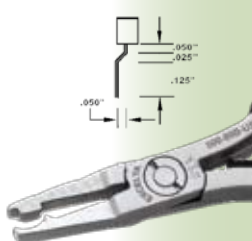
Designed to increase or decrease the center dimension on radial lead components. The added shear cutter saves component prep time. Recommended for .025" or smaller leads and wires.



### 500-89B-US ★★★★★ 5 1/4"

#### Dog Leg Lead Forming Pliers with Shear cutter

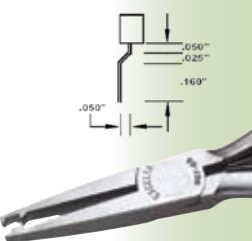
Designed to increase or decrease the center dimension on radial lead components. The added shear cutter saves component prep time. Recommended for .025" or smaller leads and wires.



### 907-89 ★★★★★ 5 3/4"

#### Dog Leg Lead Forming Pliers with Shear cutter

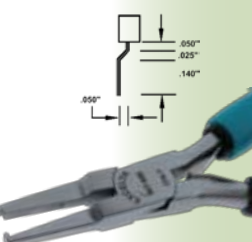
Heavy-duty pliers designed to increase or decrease the center dimension on radial lead components. The added shear cutter saves component prep time. Recommended for .030" or smaller leads and wires.



### 907-89B ★★★★★ 5 3/4"

#### Lead Forming Pliers

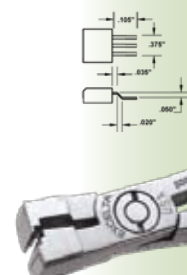
Heavy-duty pliers designed to increase or decrease the center dimension on radial lead components.



### 500-13A-US ★★★★★ 5"

#### Flat Pack Forming Pliers with Shear cutter

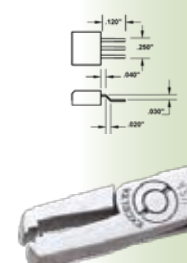
Tool will form a "Gull Wing" and cut multiple leads to length on various types of flat packs. Recommended for .010" or smaller lead thickness. Contact us for quotes on special sizes.



### 500-13B-US ★★★★★ 5"

#### Flat Pack Forming Pliers with Shear cutter

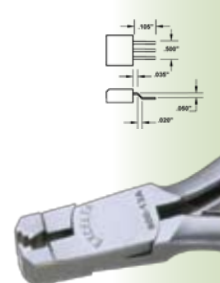
Tool will form a "Gull Wing" and cut multiple leads to length on various types of QFP and SOIC packages. Recommended for .010" or smaller lead thickness.



### 907-13A ★★★★★ 5 1/2"

#### Flat Pack Forming Pliers with Shear cutter

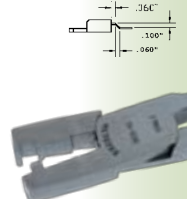
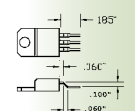
Heavy-duty tool will form a "Gull Wing" and cut multiple leads to length on various types of Flat Packs. Recommended for .010" or smaller lead thickness. Contact us for quotes on special sizes.



### 900-10 ★★★★★ 5 1/2"

#### Power Transistor Forming Pliers with Shear cutter

This tool will cut and form 3 or 5 leads on a TO-220 style component. Leads will be formed to the bottom of component body for surface mounting.





500-103-US

# Custom Designed Forming Pliers

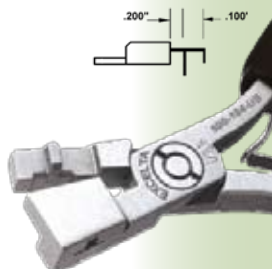
## Multiple Lead Through-Hole Power Transistors

Single And Multiple Lead Forming Pliers, Made From High-Carbon Tool Steel

Static Safe Grips, Made In The U.S.A.

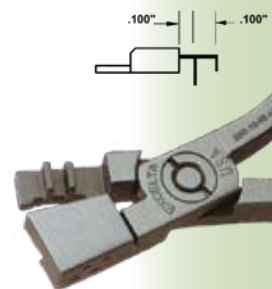
### 500-104-US ★★★★★ 5" Through-Hole Power Transistor Forming Pliers

Used in forming 3 leads on a TO-220 style transistor. The two outside leads will be bent .200", while the center lead is bent .300" from the body of the component.



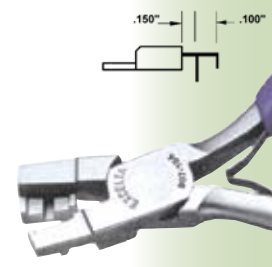
### 500-104B-US ★★★★★ 5" Through-Hole Power Transistor Forming Pliers

An elaborate design for forming 5 leads on a TO-220 component in one easy operation. Tool will ensure uniformity of difficult lead alignment.



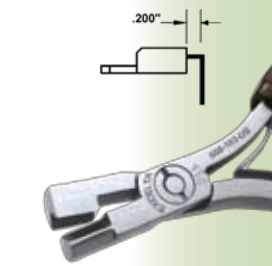
### 907-104 ★★★★★ 5 1/2" Through-Hole Power Transistor Forming Pliers

Used in forming 3 leads on a TO-220 style transistor. The two outside leads will be bent .150", while the center lead is bent .250" from the body of the component.



### 500-103-US ★★★★★ 5 1/2" Through-Hole Power Transistor Forming Pliers

Designed to form TO-220 style transistors with 3 or 5 leads. Component leads are formed .200" from the body of component.



### 500-103B-US ★★★★★ 5 1/2" Through-Hole Power Transistor Forming Pliers

Same as above but with a longer (.600") forming area for wider components.

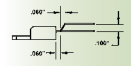
### 00-11-US ★★★★★ 5 1/4" "Off Set" lead Forming Pliers

Used to form a single lead on TO-220 style transistor. The lead can be formed .100" up or down to "Off Set" the lead. Great when components are mounted vertically on P.C. boards.



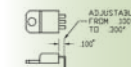
### 500-12-US ★★★★★ 5 1/4" Multiple Lead Power Transistor Forming Pliers

Used to form an "Off Set" in the 2nd and 4th lead on TO-220-5 (5 leads) transistors. This "Off Set" is useful when standing up components mounted vertically on P.C. Boards.



### 500-210A-US ★★★★★ 4 3/4" Adjustable Multiple Lead Forming Pliers

Designed to form transistor leads with .100" center spacing. Leads are formed at 90-degree for through-hole mounting. The distance from the component body to the bend is adjustable from .100" to .300".



### 500-210-US ★★★★★ 4 3/4" Multiple Lead Forming Pliers

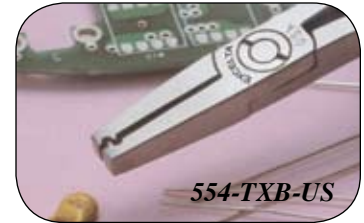
Designed to bend the leads on LED and other multiple lead components. Leads are formed to 90-degree, and .100" from the component body without damage. Recommended on .025" diameter leads and wires.



# Custom Designed Forming Pliers

## Multiple Lead Forming - Insertion/Extraction Pliers

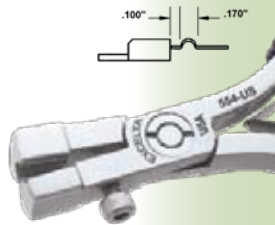
Forming, Cutting And Handling Pliers, Made From High-Carbon Tool Steel  
Static Safe Grips.



### 554-US ★★★★★ 4 3/4"

#### Multiple Lead Forming Pliers

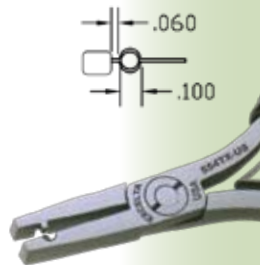
Stress relief forming pliers for multiple leads on resistors and transistors. Opening stop is adjustable for wire diameter.



### 554TX-US ★★★★★ 5"

#### Stress Relief Forming Pliers

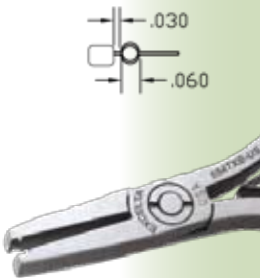
Tool will form stress relief in most radial lead components. Designed to form one lead in and one lead out in a single operation. Recommended for .025" diameter or smaller wire.



### 554TXB-US ★★★★★ 5"

#### Stress Relief Forming Pliers

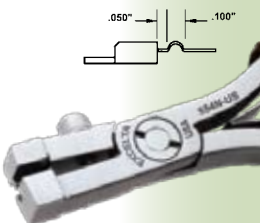
Tool will form stress relief in most radial lead components. Designed to form one lead in and one lead out in a single operation. Recommended for .025" diameter or smaller leads and wires.



### 554N-US ★★★★★ 4 3/4"

#### Multiple Lead Forming Pliers

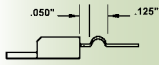
Stress relief forming pliers for multiple lead components. The "Off Set" design makes this tool versatile for many types of components. Opening stop is adjustable for wire diameter.



### 554AJ-US ★★★★★ 4 3/4"

#### Stress Relief Forming Pliers

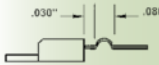
Designed to form "Stand-Off" on 3 or 5 leads of TO-220 transistors. The angle of the head allows for longer leads to be formed. Recommended for .030" or smaller leads and wires.



### 554BJ-US ★★★★★ 4 3/4"

#### Stress Relief Forming Pliers

Designed to form "Stand-Off" on 3 or 5 leads of TO-220 transistor. The angle of the head allows for longer leads to be formed. Recommended for .025" or smaller leads and wires.

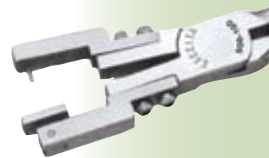


### 900-100 ★★★★★ 6 1/2" Insertion

### 900-100A ★★★★★ 6 1/2" Extraction

#### Roll Pin Pliers

Designed to insert or extract the card key roll pin, thus reducing production time.



### 907-101 ★★★★★ 6"

#### Terminal Plug Handling Pliers

Designed to insert or extract the hard to reach terminal plugs. The inside jaw has a cutout to prevent nicking or pulling on the lead wire.







# Custom Designed Forming Pliers

## Anti-Shock Shear Cutters

Long Jaw - Angulated Head, Made From High-Carbon Tool Steel

Static Safe Grips, Made In The U.S.A.

### 530E-US ★★★★★ 5"

#### Anti-shock Shear Cutter

The shear action cut reduces shock on delicate components and solder connections. The "Stand-Off" keeps the cutting blade from cutting into the solder connections. Tip width .140". Recommended cutting capacity 22 AWG (.025" diameter).

**Standard Cut Length .040"**

#### ALSO AVAILABLE

### 530EA-US ★★★★★ 5"

Same as above with .050" tip width.

### 530E-5-US ★★★★★ 5"

Same as above with .090" tip width.

### 530E-5-USL ★★★★★ 6"

Same as part 530E-5-US with an Ergonomic long handle.

### 530E-4-US ★★★★★ 5 ½"

#### Long Jaw Anti-Shock Shear Cutter

The shear action cut reduces shock, designed with a long thinner tip to fit between connector pins. Tip width is .100". Recommended cutting capacity 24 AWG (.020" diameter).

**Standard Cut Length .040"**

### 549E-US ★★★★★ 5"

#### Angulated Head Anti-Shock Shear cutter

The shear action cut reduces shock on delicate solder connections or components. The angle of the cutting head helps to increase visibility. Recommended cutting capacity 22 AWG (.025" diameter).

**Standard Cut Length .040"**

### 530E-15-US ★★★★★ 5 ½"

#### Adjustable Anti-Shock Shear Cutter

The "Stand-Off" length can be adjusted from .040" to .250".

Recommended cutting capacity 22 AWG (.025" diameter).

### 500-108-US ★★★★★ 5"

#### Shear Cutting and Bending Pliers.

Designed to bend leads to 45 degrees, then cut the lead to .060" keeping component in place when soldering.

Recommended cutting capacity 22 AWG (.025" diameter).

### 530E-1-US ★★★★★ 5"

#### Shear Cutter and Bending Pliers

Designed to cut leads .060" from the P.C. board, then bend the lead to 30 degrees keeping components in place when soldering. Recommended cutting capacity 22 AWG (.025" diameter).

### 907-42A ★★★★★ 6"

#### Multi Lead Shear Cutter

This tool will cut up to 8 leads in one easy motion. Anti-Shock shear cut will not damage solder fillet.

**Standard Cut Length .040"**

### 509-42A ★★★★★ 5"

#### Multi Lead Shear Cutter

This tool is designed to cut one complete row of D.I.P./I.C. leads in one motion.

**Standard Cut Length .040"**

# Custom Designed Shear Cutters

## Anti-Shock Shear Cutters

Long Jaw - Angulated Head - Thin Tip, Made From High-Carbon Tool Steel

Static Safe Grips, Made In The U.S.A.



**907-1 ★★★★★ 6"**

### Large Anti-Shock Shear Cutter

Reduces shock on delicate solder connections and sensitive components.

Tip width .170". Recommended cutting capacity 20 AWG (.032" diameter).

**Standard Cut Length .040"**



**903 ★★★★★ 5 1/2"**

### Heavy-Duty Anti-Shock Shear Cutter

Shear cutter designed for heavy-duty cutting of connector pins and large component leads. Tip width .180". Recommended cutting capacity 18 AWG (.040" diameter).

**Standard Cut Length .040"**



**903A ★★★★★ 5 1/2"**

**903A-L ★★★★★ 6 1/2"**

### Thin Tip Shear Cutter with Ergonomic Handle

Heavy-duty shear cutter with thin tips for cutting between component leads. Tip width .100". Recommended cutting capacity 18 AWG (.040" diameter).

**Standard Cut Length .040"**



**907-4 ★★★★★ 6"**

### Thin Jaw Anti-Shock Shear Cutter

The thinner jaw gives greater accessibility into high-density areas. Very useful for cutting connector pins in confined areas. Tip width .100". Recommended cutting capacity 20 AWG (.032" diameter).

**Standard Cut Length .030"**



**907-5 ★★★★★ 5 1/4"**

### Connector Pin Shear Cutting Pliers

This cutter is designed with grooves on the outside of the jaws to fit between connector pins and provide a clean cut.

Tip width .100". Recommended cutting capacity 22 AWG (.025" diameter).

**Standard Cut Length .025"**



**907-59 ★★★★★ 6"**

### Angulated Head Anti-Shock Shear cutter

The shear action cut reduces shock on delicate solder connections or components. The angle of the cutting head helps to increase visibility. Recommended cutting capacity 18 AWG (.040" diameter).

**Standard Cut Length .045"**



**907-7 ★★★★★ 6"**

### Anti-Shock Shear Cutter and Bender

Cuts component leads at .060" then bends the lead keeping the component in place when soldering. Recommended cutting capacity 20 AWG (.032" diameter).



**907 ★★★★★ 6"**

### Anti-Shock Shear Cutter and Swager

Cuts component leads to .030" and swages the end of the lead to prevent it from falling out of P.C. board. Recommended cutting capacity 20 AWG (.032" diameter).



**930E-1 ★★★★★ 5 1/2"**

### Anti-Shock Shear Cutter and Bender

Cuts component leads at .060" then bends the lead keeping the component in place when soldering. Recommended cutting capacity 20 AWG (.032" diameter).





531A-US

# Custom Designed Handling Pliers

## Softip and Metal Jaw Forming Pliers

Nylon And Delrin Replaceable Jaws, Made From High-Carbon Tool Steel

Static Safe Grips, Made In The U.S.A.

**531-US ★★★★★ 5 ¼"**

### "Softip" Nylon Jaw Pliers

Nylon jaws are useful in straightening leads and wires when metal-to-metal contact is not desired. Nylon jaws are screwed on and can be replaced when needed.



**531A-US ★★★★★ 5 ¼"**

### "Softip" Delrin Jaw Pliers

Black Delrin material is ESD safe and temperature resistant up to 175°C. Delrin jaws are screwed on and can be replaced when needed.



**532-US ★★★★★ 5 ½"**

### "Softip" Delrin Thin Jaw Pliers

The tapered jaw with a small tip is useful in areas where space is limited. Black Delrin material is ESD safe and temperature resistant up to 175°C. Delrin jaws are screwed on and can be replaced when needed.



**533-US ★★★★★ 5 ¾"**

### "Softip" Round-Flat Forming Pliers

These pliers have one round metal jaw and one flat Delrin jaw. Excellent for forming leads and wire when scratching and marring cannot be tolerated. The Delrin jaw is screwed on and can be replaced when needed.



**508D-US ★★★★★ 5 ½"**

### "Softip" Delrin Wide Jaw Pliers

Black Delrin heads eliminate scratching and marring of delicate leads. The jaws are ¾" wide, ESD safe and temperature resistant up to 175°C. Delrin jaws are screwed on and can be replaced when needed.



**508-US ★★★★★ 5 ½"**

### Metal Jaw Straightening Pliers

This unique tool will straighten multiple leads in one easy operation. The jaws are .825" wide.



**508C-US ★★★★★ 5 ¼"**

### Metal Jaw Straightening Pliers

The jaws of these pliers are designed to fit between rows of connector pins. The jaws are .825" wide.



**500-101-US ★★★★★ 5 ¼"**

### Small Concave/Convex Forming Pliers

Excellent for forming small wires and leads. The jaw tapers from front to back for forming various lead diameters.



**500-101A-US ★★★★★ 5 ¼"**

### Small Concave/Convex Forming Pliers

Designed for forming a "J Hook" on wires and leads. The jaw tapers from front to back for forming various lead diameters.



## Wire Stripping Pliers

**510E-US ★★★★★ 5"**

### Adjustable "V" Notched Stripper

Precision wire stripper with locking setscrew can be adjusted for stripping 18-30 AWG wire.



**502E-US ★★★★★ 5"**

### High Precision Stripping Pliers

Our most precision pliers for stripping Teflon coated wires. To order, specify the wire gauge size by indicating the gauge at the end of the reference number. (Example 502E-US-30 for 30 AWG) Available in 22, 24, 26, 28, and 30 AWG.





# Custom Designed Handling Pliers

## Tube Expanding, Tube Cutters, IC Handling Pliers

Custom sizes available upon request, made from high-carbon tool steel static safe grips.

379A



### Tube Cutter

2922-18 ★★ 1/8" OD

2922-14 ★★ 1/4" OD

2922-38 ★★ 3/8" OD

Cuts most types of medical tubing including:

Bio-Sil®

Tygon®

Autoprene®

Viton®

Polyethelene

Polypropylene

Polyurethane

Nylon

Vinyl

Rubber

Silicone



- Clean, square cuts for inserting fittings, couplings and quick release valves.
- Available Cutting capacities up to  $\frac{3}{8}$ " OD.
- Replaceable Stainless Steel blade.
- Ergonomic soft cushion grips.

### Tube Expanding Pliers

These stainless steel, reverse action pliers have been specifically designed to expand the end of flexible tubing for inserting into plastic or metal fittings and connections.

379A ★★ 5"

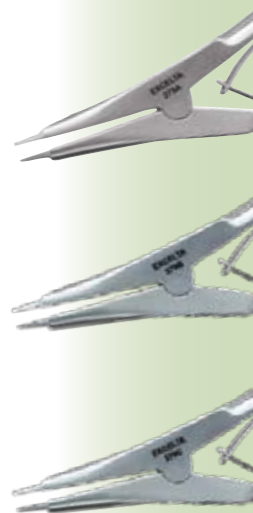
Expands a 1/8" tube to a 3/16" opening.

379B ★★ 5"

Expands a 3/32" tube to a 1/8" opening.

379C ★★ 5"

Expands a 1/16" tube to a 3/32" opening.

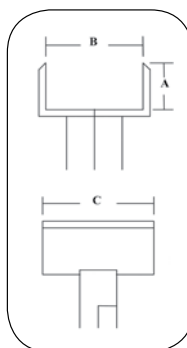


## Insertion/Extraction Pliers

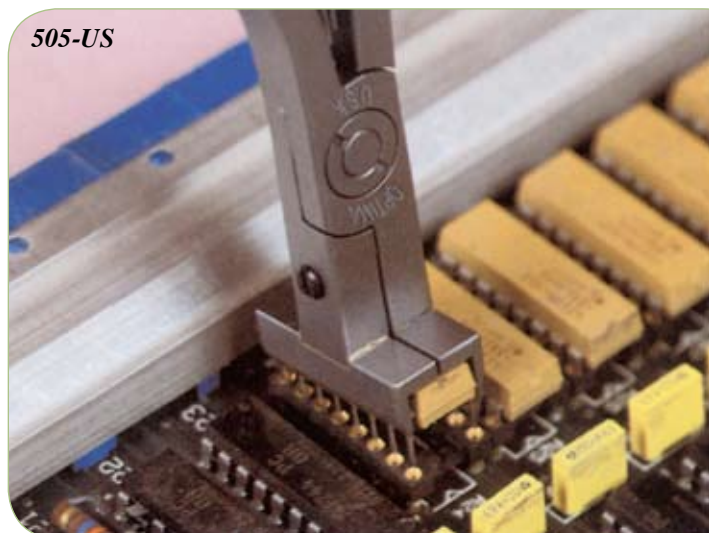
### I.C. Handling Pliers

Our 505 Series pliers have been designed to handle DIP/IC packages. The chart will help you quickly find the size you are looking for. Custom size pliers available upon request.

P/N	A	B	C	PINS
<b>505-US</b>	.180	.400	1.063	18 - 22
<b>505A-US</b>	.180	.600	1.260	24
<b>505B-US</b>	.180	.600	2.080	40
<b>505BG-US</b>	.180	.600	1.398	28
<b>505C-US</b>	.180	.300	.788	14 - 16
<b>505D-US</b>	.180	.300	.358	6 - 8
<b>505E-US</b>	.180	.300	1.260	24
<b>505F-US</b>	.180	.300	.257	4
<b>505G-US</b>	.180	.600	1.660	32
<b>505J-US</b>	.180	.300	.966	20
<b>505K-US</b>	.180	.300	1.398	28



505-US





# Hand Tools and Instruments For Small Parts Assemblies



Optics



IntelliTweezer®



Brushes



Probes



Spatulas



Vacuum  
Handling



Medical Grade  
Scissors

# Scissors – Scalpels

★★★★★ **High Quality Scissors - Medical Grade - Made in Switzerland**

★★★★★ **Scalpel Blades and Handles - Made in Germany**

★★★★★ **Safety Scalpels - Made in United Kingdom**

**361 ★★★★★**

**3 ¼" Extra Fine Blade Medical Scissors.**

Stainless Steel with ¾" Curved Blade.  
Ideal for ultra miniature work and in  
confined areas. Made in Switzerland.



**362 ★★★★★**

**3 ¼" Fine Blade Medical Scissors.**

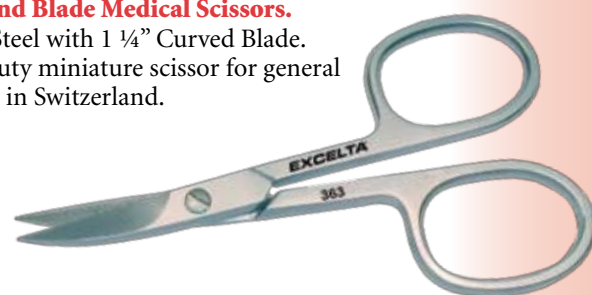
Stainless Steel with 7/8" Curved Blade.  
Thin blades for close tolerance cutting.  
Made in Switzerland.



**363 ★★★★★**

**3 ¾" Round Blade Medical Scissors.**

Stainless Steel with 1 ¼" Curved Blade.  
A heavy duty miniature scissor for general  
use. Made in Switzerland.



**364 ★★★★★**

**3 ¾" Fine Blade Medical Scissors.**

Stainless Steel with 1 ¼" Curved Blade.  
Ideal for delicate applications where  
small strong blades are required. Made in  
Switzerland.

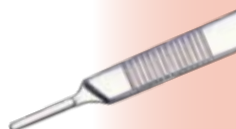


## Medical Scalpels

### Scalpel Handles & Blade Removers

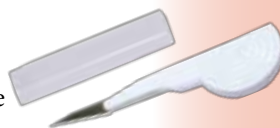
**177 ★★★★★**

**5" Scalpel Handle** made of Stainless Steel  
with outside finger serrations for positive  
gripping and easy use. Cleanroom safe,  
fits scalpel blades numbers **177-10**,  
**177-11**, **177-12**, **177-15**.



**175-11 ★★★★★**

**The Safety Scalpel** has a smaller handle  
to fit between your thumb and index  
finger. It's easy to use and comes with a  
number 11 style blade and safety cover.



**177A ★★★★★**

**Scalpel Blade Remover** is safe and easy  
to use.



### Scalpel Blades

**177-10 ★★★★★**

**Large Round Stainless Steel  
Scalpel Blade.**



**177-11 ★★★★★**

**Angled Stainless Steel  
Scalpel Blade.**



**177-12 ★★★★★**

**Curved Stainless Steel  
Scalpel Blade.**



**177-15 ★★★★★**

**Fine Stainless Steel  
Scalpel Blade.**



For use with 177 Scalpel Handle.



299D-G

# Scissors – Stainless Steel

## ★★ Two Star

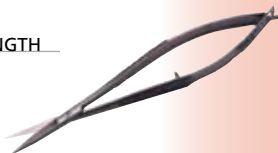
### Straight, Curved, and Angled Blades

Ergonomic and Self-Opening Style Handles

#### Self-Opening Precision Scissors

The precision cutting blades are ideal for delicate cutting applications. Stainless steel blade is hardened to Rockwell C-50.

REF. NO.	OVERALL LENGTH	BLADE LENGTH
346 ★★	4 1/2"	5/8"
346A ★★	3 3/4"	1/2"
346B ★★	3 1/2"	3/8"



#### Self-Opening Precision Scissors

The precision cutting blades angle at 45 degrees, allowing perfect visibility with good clearance.

REF. NO.	OVERALL LENGTH	BLADE LENGTH
349 ★★	4 1/2"	5/8"
349A ★★	3 3/4"	1/2"
349B ★★	3 1/2"	3/8"



#### Long Blade Scissors

Very popular for long cuts

REF. NO.	OVERALL LENGTH	BLADE LENGTH
297 ★★	3 1/2"	1 1/4"
298 ★★	4"	1 1/2"
298A ★★	4 1/2"	1 3/4"
298B ★★	5"	2"



#### 288 ★★ Short Fine Blade Scissors

Short thin cutting blades for delicate work and close tolerance cutting. Overall length is 3 1/4". Blade length is 3/4".



289 ★★ Same as above with curved blades.

#### 290 ★★ Medium Fine Blade Scissors

Most popular precision-made scissors for general use. Overall length is 3 3/4". Blade length is 1".



291 ★★ Same as above with curved blades.

#### 270 ★★ 60° Angle Slim Blade Scissors

Blade angle offers good surface clearance. Overall length is 4 1/2". Blade length is 1 1/4".



#### 271 ★★ Slim Blade Scissors

Straight blades with extra-long handles provide better cutting leverage. Overall length is 4 3/4". Blade length is 1 1/4".



#### 309 ★★ Wire Scissors

Used for cutting soft wire. Overall length is 4". Blade length is 1 1/4".



#### Trimmer Scissors

Used for pattern cutting and general-purpose use. Chrome-plated.

REF. NO.	OVERALL LENGTH	BLADE LENGTH
339 ★★	6"	2 3/4"
340 ★★	7"	3 1/4"
341 ★★	8"	4"



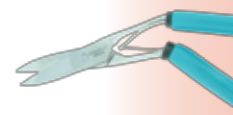
#### 299-P ★★ Ergonomic Kevlar Scissors

Features molded handles with tempered Stainless Steel blades. Serrations on one-edge makes this scissor great for cutting Kevlar. Wider finger holes and smooth opening makes for easy operation. Overall length 5 1/2", blade length 1 3/4".



#### 299D-G ★★ Heavy-Duty Ergonomic Scissors

The Ergonomic design of the handles has no finger holes like traditional scissors. With added return springs and padded grips these scissors can be used for long periods of time without hand fatigue.



#### 299 ★★ Electrician's Scissors

Heavy duty, general-purpose scissors with serrated outside blade edges. Overall length is 5". Blade length is 1 3/4".

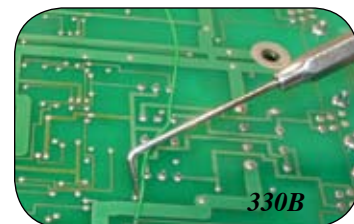


# Small Hand Tools

## Three Stars ★★ ★

### Probes – Scribes

Stainless Steel Probes, Diamond Tip Scribes



#### Micro Tip Stainless Steel Probes Smallest Tip Size Available

REF. NO.	TIP SIZE	STYLE	LENGTH
332A ★★ ★	1 mil	Straight	6 ½"
332B ★★ ★	1 mil	45°	6 ½"
332C ★★ ★	1 mil	25°	6 ½"
332D ★★ ★	1 mil	90°	6 ½"
332E ★★ ★	1 mil	Hook	6 ½"

#### Short Tip Micro Probes, Stainless Steel

REF. NO.	TIP SIZE	STYLE	LENGTH
335A ★★ ★	1 mil	Straight	4 ¾"
335B ★★ ★	1 mil	90°	4 ¾"

#### Fine Tip Stainless Steel Probes 3" Handle for Working Under Magnification

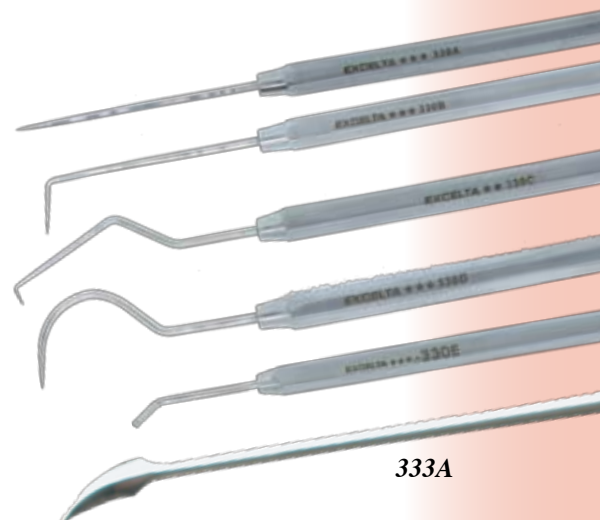
REF. NO.	TIP SIZE	STYLE	LENGTH
331A ★★ ★	10 mil	Straight	3"
331B ★★ ★	10 mil	Angle	3"
331C ★★ ★	10 mil	Curved	3"
331D ★★ ★	10 mil	Hook	3"

#### Fine Tip Stainless Steel Probes General Purpose with Standard Handle

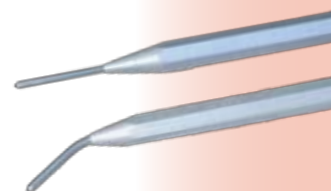
REF. NO.	TIP SIZE	STYLE	LENGTH
330A ★★ ★	10 mil	Straight	6"
330B ★★ ★	10 mil	Angle	6"
330C ★★ ★	10 mil	Curved	6"
330D ★★ ★	10 mil	Hook	6"
330E ★★ ★	10 mil	Angle Chisel	6"
330K Probe Kit		one each 330 A-D	
333A ★★ ★	10 mil	Knife	6"

#### Fine Diamond Tip Scribes Aluminum Handle

REF. NO.	TIP SIZE	STYLE	LENGTH
475A ★★ ★	20 mil	Straight	4 ½"
475B ★★ ★	20 mil	Angle	4 ½"



333A





# Small Hand Tools

## ☆☆☆ Miniature Spatulas – Pin Vises

Miniature Plastic Spatulas, Miniature Aluminum Spatulas, Brass Handle Pin Vises

260A

260B

260C

260D

### Miniature Spatulas 2 1/2" with Plastic Handle

REF. NO.	TIP SIZE	STYLE	LENGTH
260A ☆☆☆	.010"	Black	2 1/2"
260B ☆☆☆	.015"	Blue	2 1/2"
260C ☆☆☆	.020"	Green	2 1/2"
260D ☆☆☆	.025"	Red	2 1/2"

Tip enlarged to  
show detail.

### Miniature Spatulas 2 1/2" with ESD Safe Aluminum Handle

REF. NO.	TIP SIZE	STYLE	LENGTH
260A-ESD ☆☆☆	.010"	Black	2 1/2"
260B-ESD ☆☆☆	.015"	Blue	2 1/2"
260C-ESD ☆☆☆	.020"	Green	2 1/2"
260D-ESD ☆☆☆	.025"	Red	2 1/2"

260A-ESD

260B-ESD

260C-ESD

260D-ESD

## Pin Vises

220 ☆☆☆

**4 1/4" Long Double-Ended Pin Vise.** One end has a square 0 to .025" opening chuck, the other end is a round .035" to .115" opening chuck.



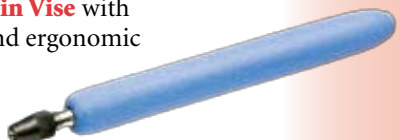
227A ☆☆☆

**3 1/2" Long Brass Handle Pin Vise** with 0 to .015" opening chuck.



227A-ET ☆☆☆

**3 1/2" Long Brass Handle Pin Vise** with 0 to .015" opening chuck and ergonomic foam grip for comfort.



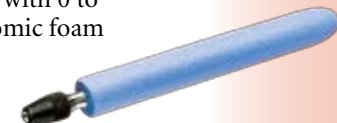
227B ☆☆☆

**4" Long Brass Handle Pin Vise** with 0 to .025" opening chuck.



227B-ET ☆☆☆

**4" Long Brass Handle Pin Vise** with 0 to .025" opening chuck and ergonomic foam grip for comfort.



227C-ET ☆☆☆

**4" Long Brass Handle Pin Vise** with .010" probe tip and ergonomic foam grip for comfort.



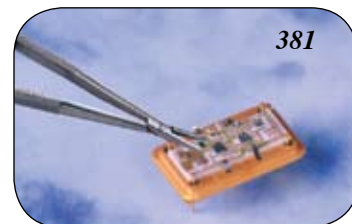
**227C-P  
Replacement Probes**

# Small Hand Tools

## Two Stars ★★

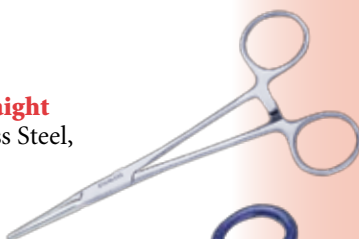
### Miniature Pliers and Hemostats

Stainless Steel, Locking Handles



#### 35-SE ★★

**5" Locking Hemostat with Straight Serrated Jaws.** Made of Stainless Steel, clean room safe.



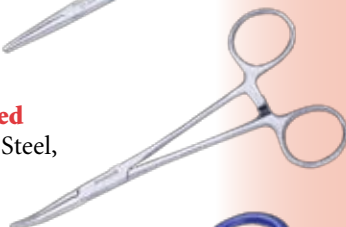
#### 35-PH ★★

**5" Locking Hemostat with Straight Serrated Jaws.** Made of Stainless Steel with vinyl-coated handle.



#### 36-SE ★★

**5" Locking Hemostat with Curved Serrated Jaws.** Made of Stainless Steel, clean room safe.



#### 36-PH ★★

**5" Locking Hemostat with Curved Serrated Jaws.** Made of Stainless Steel with vinyl-coated handle.



#### 37-SE ★★

**6" Locking Hemostat with Straight Serrated Jaws.** Made of Stainless Steel, clean room safe.



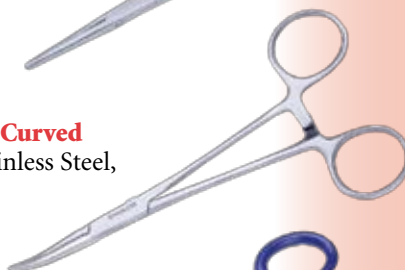
#### 37-PH ★★

**6" Locking Hemostat with Straight Serrated Jaws.** Made of Stainless Steel with vinyl-coated handle.



#### 38-SE ★★

**6" Locking Hemostat with Curved Serrated Jaws.** Made of Stainless Steel, clean room safe.



#### 38-PH ★★

**6" Locking Hemostat with Curved Serrated Jaws.** Made of Stainless Steel with vinyl-coated handle.



#### 381 ★★

**Curved Tip Chain Nose Stainless Steel Micro Pliers.** The curved tips are excellent when working in very difficult and confined areas. Overall length is 3" and jaw length is 1/4".



#### 382 ★★

**Straight Tip Chain Nose Stainless Steel Micro Pliers.** Small fine tips for those very delicate assembly jobs. The overall length is 3" and the jaw length is 1/4".



#### 383 ★★

**Straight Tip Needle Nose Stainless Steel Micro Pliers.** The fine needle nose is designed for light work where space and accessibility are limited. Overall length is 3" and jaw length is 1/4".



#### 384 ★★

**Angulated Tip Needle Nose Stainless Steel Micro Pliers.** The small tip width and thinness enable this tool to work well in confined areas. The overall length is 3" and the jaw length is 1/4".



#### 385 ★★

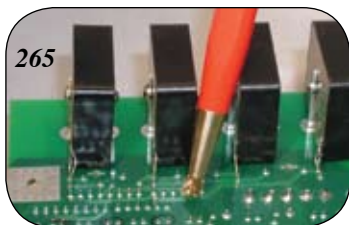
**Round Nose Stainless Steel Micro Pliers.** The round nose can be used to form small wires and leads. Overall length is 3" and the jaw length is 1/4".



#### 386 ★★

**Flat Nose Stainless Steel Micro Pliers.** The flat smooth jaws prevent nicking and marring of delicate component leads. Overall length is 3" and jaw length 1/4".



**264 ★★****Fiberglass Cleaning Brush**

Refillable with long thin handle. Used in very confined areas, which are not accessible with larger diameter brushes. Overall length is 5 ¼" and ½" round. Brush is 1/20" diameter. For fiberglass refill, use reference no. 264A.

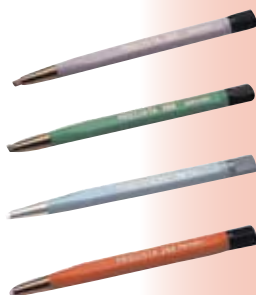
**263 ★★****Fiberglass Scratch Brush**

Retractable and refillable, with plastic handle. Very useful when cleaning and polishing. Overall length is 4 ¼" and 5/8" round. Brush is 5/16" diameter.

Refills available. Use reference no. 263A.

**Scratch Brushes**

Retractable and refillable with plastic handle. Can be used for fine deburring, polishing, rust removal, or cleaning and erasing in chemical etching processes. Excellent for pre-solder and contact cleaning. Overall length is 4 ¾" and 3/8" round. Brush is 1/8" diameter.



REF. NO.	BRUSH MATERIAL	REFILL ONLY REF. NO.
<b>265 ★★</b>	Brass	265A
<b>266 ★★</b>	Steel	266A
<b>267 ★★</b>	Fiberglass	267A
<b>268 ★★</b>	Nylon	268A

**Bench Brushes – Standard ESD Safe**

Made of high grade bristles with a wooden handle. There are four rows of bristles 4 ½" long and ½" wide, which will not shed. Overall length is 10". Available in three degrees of hardness:

**187 ★★** – Soft

**189 ★★** – Half Soft

**190 ★★** – Half Hard



# Small Hand Tools

## ★★ Two Stars

### Scratch Brushes – Bench Brushes

Brass, Steel, Fiberglass and Nylon Bristles

**262 ★★****Brush Kit**

Kit consists of the following:

1 each brush holder, 265A brass refill, 266A steel refill, 267A fiberglass refill, 268A nylon refill. Supplied in plastic case.

**186 ★★****Nylon Bench Brush**

White Nylon bristles with a wooden handle. 4 rows of bristles 3 ¾" long and ½" wide. Overall length is 8 ½".

**214-H ★★****Applicator Brush**

Double-ended applicator brush with a short flat end and an extra stiff chiseled end. Bristles are soft Horse Hair. Handle is 4 1/2" long and 3/16" diameter.

**215-H ★★****Applicator Brush**

Double-ended applicator brush with a short flat end and an extra stiff chiseled end. Bristles are soft Horse Hair. Handle is 4 1/2" long and 3/8" diameter.



# Small Hand Tools

## Four Stars ★★★★★

### Cleaning, Heat Resistant and Cleanroom Brushes

Stainless Steel, Nylon and Natural Fiber Bristles



## Instrument Cleaning Brushes ★★★★★

Designed for general cleaning in tight areas. The handle is 1/4" in diameter, with a tip size of 1/8" wide and 3/16" long. The fibers are mechanically clamped into the Stainless Steel tube and inserted in the Delrin handle. Available with straight or bent tips.



## Heat Resistant Brushes ★★★★★

The Nylon fibers are epoxy set into the Delrin handles with a high temperature adhesive to resist deterioration in an autoclave. The soft non-shedding Nylon fibers are perfect for working on delicate parts. Brushes should be cleaned prior to clean room use.



- 210S-P** 5 3/4" Straight tip with Hog Hair Bristles. (not shown)  
**210B-P** 5 1/2" Bent tip with Hog Hair Bristles. (not shown)  
**210S-H** 5 3/4" Straight tip with Horse Hair Bristles. (not shown)  
**210B-H** 5 1/2" Bent tip with Horse Hair Bristles.  
**210S-N** 5 3/4" Straight tip with Nylon Bristles.  
**210B-N** 5 1/2" Bent tip with Nylon Bristles. (not shown)  
**210S-S** 5 3/4" Straight tip with Stainless Steel Bristles.  
**210B-S** 5 1/2" Bent tip with Stainless Steel Bristles.

### Materials

**Hog Hair:** Strong and stiff with natural taper and split end. Water resistant and heat tolerant to 500°F.

**Horse Hair:** Soft and slightly stiff. Used for scratch-free dry brushing. Heat resistant to 370°F.

**Nylon:** Resilient and durable. Impervious to solvents and common chemicals. Resistant to bacteria and heat resistance to 250°F.

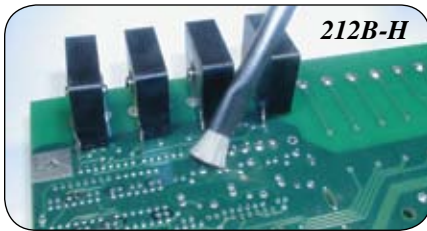
**Stainless Steel:** Resistant to heat, rust and corrosion. Used for wet or dry applications.

- 211A-N** 4 1/2" Long and 3/16" diameter handle with 3/8" long and 3/16" wide bristles.  
**211B-N** 4 1/2" Long and 1/4" diameter handle with 1/2" long and 1/4" wide bristles.  
**211C-N** 4 1/2" Long and 3/8" diameter handle with 3/4" long and 3/8" wide bristles.  
**211D-N** 4 1/2" Long and 1/2" diameter handle with 1" long and 1/2" wide bristles.

### Materials

**Nylon:** Resilient and durable. Impervious to solvents and common chemicals. Resistant to bacteria and heat resistant to 250°F. Nylon 6.12 is FDA approved.





## Small Hand Tools

★★★ Three Stars

### Cleaning, Heat Resistant and Cleanroom Brushes

Stainless Steel, Nylon and Natural Fiber Bristles

#### ESD Safe Brushes ★★★

Made with Stainless Steel handles and Horse Hair bristles to provide ESD protection. The bristles are mechanically clamped into the handle for maximum fiber retention without the use of adhesives that could contaminate the work area.



**212A-H** 3 1/2" Long and 1/8" diameter handle with 1/8" long and 1/8" wide bristles.

**212B-H** 4 3/4" Long and 3/16" diameter handle with 5/16" long and 1/4" wide bristles.

**212C-H** 4 3/4" Long and 5/16" diameter handle with 3/8" long and 3/8" wide bristles.

**212D-H** 6" Long and 3/8" diameter handle with 3/4" long and 7/16" wide bristles.

#### Materials

**Horse Hair:** Soft and slightly stiff. Used for scratch-free dry brushing. Heat resistance to 370°F.

#### Cleanroom Safe Brushes ★★★

Made with Stainless Steel handles and new Statigo9 fiber bristles. The bristles are mechanically clamped into the handle for maximum fiber retention without the use of adhesives that could contaminate the work area. New Statigo9 fibers are similar to Nylon fibers, except they are ESD Safe with a surface resistivity of  $10^6$ .



**213A-N** 3 1/2" Long and 1/8" diameter handle with 1/8" long and 1/8" wide bristles.

**213B-N** 4 3/4" Long and 3/16" diameter handle with 5/16" long and 1/4" wide bristles.

**213C-N** 4 3/4" Long and 5/16" diameter handle with 3/8" long and 3/8" wide bristles.

**213D-N** 6" Long and 3/8" diameter handle with 3/4" long and 7/16" wide bristles.

#### Materials

**Statigo9:** A static dissipative acetal that is as durable as nylon, thick enough to perform mechanical work, does not shed or slough and is clean room compatible.

# Small Hand Tools

## Two Stars ★★

Scribes, Inspection Mirror, Mixing Spatula, ESD Brushes

197-ESD



### 194-ESD ★★

#### 6" Soft Cleaning Brush

Two rows of soft bristles. ESD Safe round plastic handle. Brush head is 1/2" long and 3/16" wide.



### 195-ESD ★★

#### 6 1/2" Stiff Cleaning Brush

Stiff bristles clamped into holder. ESD Safe round plastic handle. Brush head is 3/4" long and 1/8" wide.



### 196-ESD ★★

#### 5 3/4" Soft Cleaning Brush

One row of soft bristles. ESD Safe flat plastic handle. Brush head is 1 1/2" long and 1/8" wide.



### 197-ESD ★★

#### 6 3/4" Toothbrush Style

Three rows of medium stiff bristles. ESD Safe square plastic handle with finger grooves. Brush head is 1 1/4" long and 3/8" wide.



### 342 ★★

#### Mixing Spatula

7" overall length, made of polished Stainless Steel these spatulas are double-ended with a round handle. Both ends have a rounded blade 1 1/8" long and 3/16" wide.



### 343 ★★

#### Mixing Spatula

7" overall length, made of polished Stainless Steel these spatulas are double-ended with a round handle. One end has a rounded blade 1 1/4" long and 5/16" wide, the other end has a square blade 3/8" long and 1/4" wide with a sharp edge for scraping.



### 345 ★★

#### Mixing Spatula

8 1/2" overall length, made of Stainless Steel with a wooden handle. Can be used for mixing and potting. Blade length is 4 3/4" long and 5/8" wide.



## ★★ Ball Joint Inspection Mirrors

Outer surfaces are heavily chrome plated. All models feature insulated vinyl grips. The clear-view mirrors are copper-backed and electro-plated.

PART. NO.	SHAPE	LENGTH	DIAMETER
415	Round	8"	1 1/4"
416	Oval	8 1/2"	1" x 2"
417	Round	7 1/2"	7/8"



415



416



417



## Small Hand Tools

★★★ Three Stars

### Bench Top Magnifiers – 4X to 10X Magnification

Eye Loupes and Illuminating Magnifiers

#### 455A ★★★

**The Super Optivisor** has a magnifying power of 2.2 and can be used for precise viewing with the added 3.3 power lens. The exclusive clear-view lens has no center post to increase viewing. Shatter-resistant precision and optical lens bring the smallest detail up to a larger and sharper image. Comes with an adjustable headband and can be worn over regular glasses.

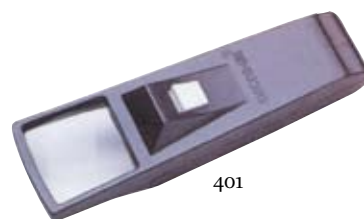


455A

#### 401 ★★★

##### **Magna-Lite Illuminated Optical Magnifier**

5X power hand held magnifier. Lens dimension is 1 ¼" square. Perfect for quality control and inspection personnel. Comes in an unbreakable black plastic case.

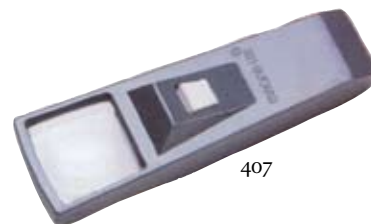


401

#### 407 ★★★

##### **Magna-Lite Illuminating Optical Magnifier**

10X power hand held magnifier. Lens dimension is 1 ¼" square. Perfect for quality control and inspection personnel. Comes in an unbreakable black plastic case.



407

### Eye Loupes

Used for magnification in assembly or inspection. Made with sturdy, lightweight frames and color-coded rings for easy identification.

#### Single Lenses ★★★

REF. NO.	POWER	FOCAL LENGTH	COLOR CODE
<b>207A</b>	2 ¾X	3 ½"	Yellow & White
<b>207B</b>	3 ¼X	3"	Yellow
<b>207C</b>	4X	2 ½"	Blue & White
<b>207D</b>	5X	2"	Blue
<b>207E</b>	6 ½X	1 ½"	Red & White
<b>207F</b>	10X	1"	Red

#### Double Lenses ★★★

REF. NO.	POWER	FOCAL LENGTH	COLOR CODE
<b>208</b>	6 ½X	1 ½"	Red & White



# Vacuum Handling Tools

**Five Stars** ★★★★★

## Roto-Pic System

Vacuum Pump, Probes and Tips



### Roto-Pic Vacuum System

Ref.No	Description
2000A	Roto-Pic Handpiece
2000V	Vacuum Pump
2000C	3' Plastic Hose

### Probes

For use with the Roto-Pic Handpiece (2000A)

Ref.No	Description
2020	45°
2021	60°
2022	45° short
2023	90°
2024	180° straight

### Cup Assemblies

High temperature vacuum cups made of silicon rubber with brass fitting. Use with Roto-Pic Probes and Handpiece.

Ref.No	Description
2050	3/8" Cup
2051	1/2" Cup
2052	1/4" Cup
2060	Circo-Vac Cup
2071	Verto-Vac w/ high temp support

### Small Tip Assemblies

Vacuum Tips for handling small parts, for use with Roto-Pic Probes and Handpiece.

Ref.No	Inside Diameter	Tip Material
2040	.006"	Teflon
2041	.005"	Polyethylene
2043	.012"	Polyethylene
2044	.035"	Polyethylene
2080	.004"	Stainless Steel

## VACUUM KITS

### 2000RK Roto-Pic Vacuum Kit

Complete vacuum handling system includes one each of the following kits - 2000R, 2000P, 2000WP, 2000DA

### 2000P Probe Kit

Contains one each of the following probes, 2020, 2021, 2022, 2023, 2024

### 2000WP Vacuum Cup Kit

Contains one each of the following cup assemblies, 2050, 2051, 2052, 2060, 2071

### 2000DA Vacuum Tip Kit

Contains one each of the following tip assemblies, 2040, 2041, 2043, 2044, 2080

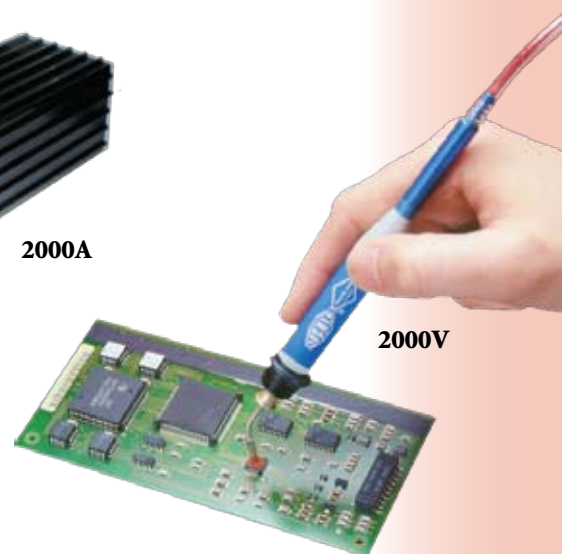
## EXCELTA® Roto-Pic ★★★★★

The most revolutionary vacuum pick-up available. Designed to reduce manual handling of both chips and wafers. Roto-Pic has a smooth, positive hold-and-release slide bar.

Round nose wheel rotates 360° so components can be picked up and aligned with ease. Easily replaceable tips come in a variety of sizes. Silicon rubber cups can be inserted on Roto-Pic for pick-up and manipulation.



2000A



2000V

### Probes



2020

2021

2022

2023

2024

### Cup Assemblies



2050

2051

2052

2060

2071

### Small Tip Assemblies



2040

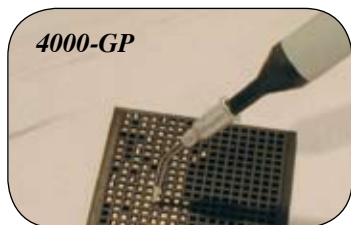
2041

2043

2044

2080





4000-GP

# Vacuum Handling Tools

★★★★ Four Stars

## Continuous Powered Vacuum Systems

High Performance and General-Purpose Pick and Place Tools

### 4000-GP ★★★★★ General Purpose Vacuum System

A general-purpose vacuum handling tool that plugs directly into 110 VAC. This compact unit will handle most of the surface mount components used in industry today. The long life diaphragm vacuum pump generates over six inches of mercury. The unit connects to ground automatically with a three wire power cord.

#### The 4000-GP comes complete with the following features:

- Whisper-quiet operation.
- 4 feet of coiled vacuum hose.
- Vacuum pick-up handpiece.
- No-skid rubber feet.
- Produces vacuum of over six inches of mercury.
- Side mounted handpiece holder.
- Set of nine vacuum tips: **PVS-CB-12, PVS-CB-14, PVS-CB-18, PVS-CB-38, PVB-CB-332, PVB-CB-316, PVB-CB-14, PVB-CB-18, PVB-CB-38.**



4000-GP

### 4000-HP ★★★★★ High Performance Vacuum System

High performance vacuum handling system will handle small to large size components. The precision pump and motor generate over fifteen inches of mercury. The compact tower design takes up a very small footprint on the work surface. An electric eye penholder on the side automatically shuts the unit off when the vacuum pen is placed in it. A jack on the rear of the 4000-HP allows the use of the optional foot switch to control vacuum during pick and place operations.

#### The 4000-HP comes complete with the following features:

- Quiet operation.
- 4 feet of coiled vacuum hose.
- Vacuum pick-up hand piece.
- Automatic vacuum pump ON/OFF control.
- No-skid rubber feet.
- ESD connection on rear of unit.
- Produces vacuum of over fifteen inches of mercury.
- Set of nine vacuum tips: **PVS-CB-12, PVS-CB-14, PVS-CB-18, PVS-CB-38, PVB-CB-332, PVB-CB-316, PVB-CB-14, PVB-CB-18, PVB-CB-38.**



4000-HP

### Individual System Components

**4000-FS** Foot Switch for 4000-HP

**4000-H** Handle for 4000-HP/GP

**4000-RF** Replacement Filter for 4000-HP



4000-H

# Vacuum Handling Tools

## Three Stars ★★ ★★

### Clean Room and ESD Safe Vacuum Tools

Self Contained Pick-up Tools



PV-1A-ESD

#### PV-2A-ESD ★★ ★★ Pen-Vac Standard

This is an excellent tool for pick-and-place of many standard and odd size SMT components. The Pen-Vac Standard is 6" long by ½" round, with a convenient rear storage compartment and pocket clip. The kit contains the following 6 Buna-N static dissipative vacuum cups and probes: **PVB-CB-18, PVB-CB-14, PVB-CB-38, PVS-CB-18, PVS-CB-14, PVS-CB-38.**

#### PV-2-ESD ★★ ★★ Pen-Vac Standard

This Pen-Vac Standard comes with the handpiece and convenient rear storage compartment and pocket clip. The kit contains the following 2 Buna-N static dissipative vacuum cups and probes: **PVB-CB-14, PVB-CB-18.**

#### PV-ST ★★ ★★ Pen-Vac Standard, Handle Only

#### PV-1A-ESD ★★ ★★ Pen-Vac Junior

The soft Buna-N static dissipative vacuum cups will not scratch parts or damage delicate leads. The Pen-Vac Junior is 5" long by ½" round with added pocket clip. The kit contains the following 6 Buna-N static dissipative vacuum cups and probes: **PVB-CB-18, PVB-CB-14, PVB-CB-38, PVS-CB-18, PVS-CB-14, PVS-CB-38.**

#### PV-1-ESD ★★ ★★ Pen-Vac Junior

This Pen-Vac Junior kit comes with the handpiece with added pocket clip. The kit contains the following 2 Buna-N static dissipative vacuum cups and probes: **PVB-CB-14, PVB-CB-18.**

#### PV-JR ★★ ★★ Pen-Vac Junior, Handle Only

#### PV-3A-ESD ★★ ★★ Pen-Vac Pro

The Pen-Vac PRO is 5" long by ½" round. The plastic static dissipative body provides ESD protection at a lower cost. The kit contains the following 6 Buna-N static dissipative vacuum cups and probes: **PVB-CB-18, PVB-CB-14, PVB-CB-38, PVS-CB-18, PVS-CB-14, PVS-CB-38.**

#### PV-HV ★★ ★★ Handi-Vac®

This 3" vacuum-bulb pick-up-tool is simple and easy to use. When the vacuum bulb is squeezed, place the soft suction cup on the part to be handled, then relax your squeeze and the part is firmly gripped. A second squeeze releases the part. The Handi-Vac kit comes with the handpiece, and the following 4 Buna-N static dissipative vacuum cups and probes: **PVB-CB-18, PVB-CB-14, PVS-CB-18, PVS-CB-38.**

#### PV-HV-B ★★ ★★ Handi-Vac Replacement Bulb



PV-2A-ESD



PV-1A-ESD



PV-3A-ESD



PV-HV



# Vacuum Handling Tools

**Cup Sizes 3/32" to 3/4", Tip Sizes down to .005"**

Black Buna-N Static Safe Cups and High Temperature Silicon 250c

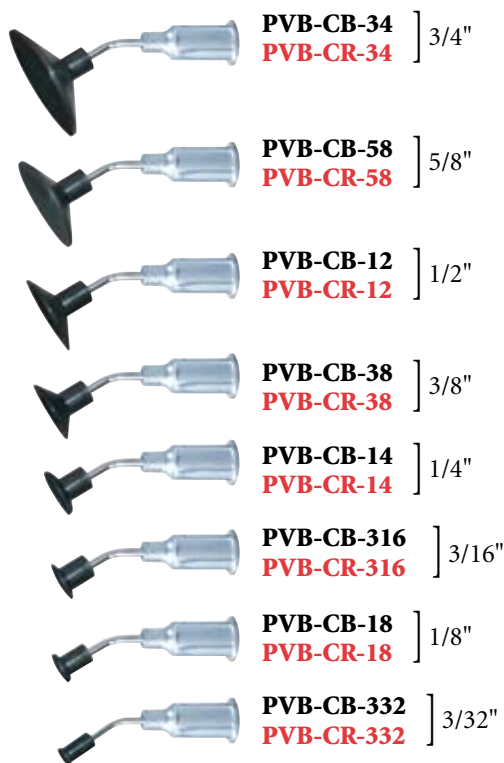
## Finest Quality Replacement Cups + Tips

- Cup Sizes from 3/32" to 3/4"
- Black Cups are Buna-N Static Safe Non-marking (Working Temperature -5° - 250°F)
- Red Cups are High Temperature Silicon Rubber (Working Temperature -65° - 480°F)
- Interchangeable with Pen-Vac Junior, Pen-Vac Standard, Pen-Vac Pro and Handi-Vac

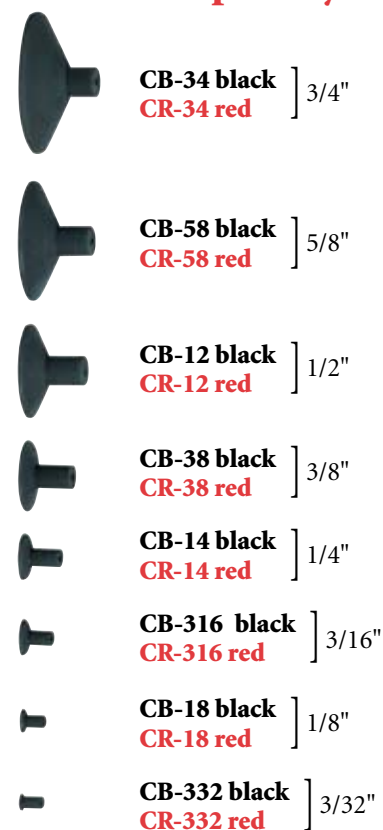
### Straight Probes



### Angulated Probes



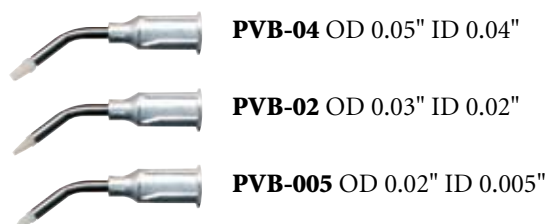
### Vacuum Cups Only



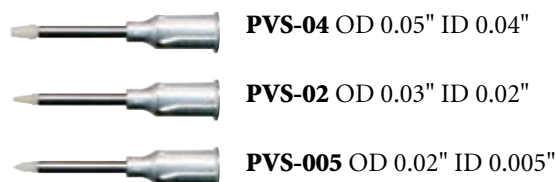
## Small Tips

Designed for handling very small parts. Tips are made in ESD Safe Delrin Plastic so there is no chance of static or mechanical damage. **Small tips should be used with continuous vacuum systems only.**

### Angulated Tips



### Straight Tips



# Vacuum Handling Tools

**Five Stars** ★★★★★

## Clean Room and ESD Safe Vacuum Tools

Handles Wafers up to 12" (300mm)



PV-300-W12



PV-250

## Porta-Vac ★★★★★

### Battery Operated Vacuum Handling Tool

Kit comes with one molded wafer tip as listed below. Ideal for handling wafers, disk media or any item that has a flat hard surface. Easily lifts over 500 grams. A disposable 9V battery is included. Rear exhaust of the pump air is standard on these units. The battery low indicator flashes red when the battery needs to be replaced. A switch setting on the bottom of the unit allows selection of alkaline or NIMH battery discharge characteristics for the battery low indicator. A large on/off switch provides easy on/off control. An internal air filter is replaceable from the front of the tool.

**PV-250-W4 ★★★★★ Kit with 4" Wafer Tip**

**PV-250-W6 ★★★★★ Kit with 6" Wafer Tip**

**PV-250-W8 ★★★★★ Kit with 8" Wafer Tip**

**PV-250-W12 ★★★★★ Kit with 12" Wafer Tip**

## Porta-Wand Elite ★★★★★

### Rechargeable Battery Operated Vacuum Handling Tool

Kit comes with a detachable 9.6V NiMH rechargeable battery pack, an in-stand charger and one wafer tip as listed below. The **detachable battery pack** contains the rear exhaust filter for the entire tool to ensure better than Class 1 performance. The battery pack can be recharged when attached to the tool or when separated from the tool. Ideal for handling wafers, disk media, flat panels, or any item that has a flat hard surface. A power-on indicator flashes when the battery pack needs to be recharged or interchanged with a fully charged battery pack. A push-button provides easy on/off control with a lock-to-on position. An intake air filter is replaceable from the front of the tool. Every Porta-Wand is tested to meet Class 1 clean room particle contamination requirements. A serialized particle counter printout is provided with every tool.

**PV-500-W4 ★★★★★ Kit with 4" Wafer Tip**

**PV-500-W6 ★★★★★ Kit with 6" Wafer Tip**

**PV-500-W8 ★★★★★ Kit with 8" Wafer Tip**

**PV-500-W12 ★★★★★ Kit with 12" Wafer Tip**

## Replacement Molded Wafer Tips (ESD Safe)

**PV-W4 ★★★★★ 4" Replacement Wafer Tip**

**PV-W6 ★★★★★ 6" Replacement Wafer Tip**

**PV-W8 ★★★★★ 8" Replacement Wafer Tip**

**PV-W12 ★★★★★ 12" Replacement Wafer Tip**



PV-500

w/detachable battery pack.



PV-W4

PV-W6

PV-W8

PV-W12



# Test and Measuring

★★★ Three Stars

## Pocket Beeper – Three in One Tester

Continuity – High and Low Voltage

### Stealth-Vac ★★★★★

#### PV-400

The Stealth-Vac operates on compressed air or nitrogen. Simply place the vacuum tip on the part and pick it up and tap the button to release the part. Kit includes the normally open handpiece with a set of nine vacuum tips, 6 feet of 1-16" coiled hose, a 1/8" to 1/16" barb adaptor for the supply line, the vacuum generating handle and a holder for the wand. Operates off 30 to 70 psi compressed air or nitrogen.



PV-400

### Pocket Beeper ★★★★★

#### PB-1

As a continuity tester, Pocket-Beeper affords the operator quick discernment of point-to-point continuity testing by a clear audible tone. As a transistor and diode tester, the Pocket-Beeper analyzes "in circuit" junctions for go/no go normality.

The Model PB-1 indicates leakage, short or open conditions of transistors. Pocket-Beeper's portability, combined with its unique self-contained design and rugged enclosure, makes it ideal for production and field service applications.

#### Applications:

- Point-to-point continuity
- Rapid in-circuit scanning of transistors and diodes
- Detects shorts, open and leakage in components
- Positive go/no go testing
- Field servicing and maintenance

#### Features:

- Automatic power shut-off when not in use
- Audibly indicates conditions
- Low power drain for long life
- Will not harm any solid-state device or delicate circuits

#### Specifications:

- Power (internally supplied) 1.5 VDC "C" dry cell
- Probe signal voltage 1.6 volts peak-to-peak
- Dimensions: 4" high X 1 1/2" deep X 2 7/8" wide.
- Ambient temperature range +10°F to +120°F
- Weight: 12 ounces maximum

#### Replacement Probes: PB-1-L



# Test and Measuring

## IntelliTweeze® R-C-L Meter in a Tweezer

Evaluates all types of SMD Components

### TM-200

★★★★★ IntelliTweeze®

### TM-300 Rechargeable

★★★★★ IntelliTweeze®

**R-C-L TweezerMeter™  
by EXCELTA®**



TM-300



TM-200

The IntelliTweeze® is a quick and easy way of testing and troubleshooting many types of components. With the use of only one hand, this lightweight unit will quickly measure resistance, capacitance, inductance, voltage, continuity and polarity.

## Measures Resistance, Capacitance, and Inductance

The primary display shows the present reading.

The secondary display (above the primary display) shows the present reading of additional parameters when the primary display shows other features (L,C).

The bar graph provides an analog indication of the measure input.

## Measures Voltage

The Auto Mode measures DC voltage from 100uV to 8VDC.

The Trace Mode shows an oscilloscope picture of AC voltage.

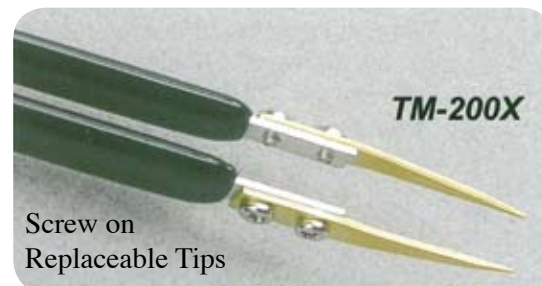
## Measures Continuity

The beeper sounds for resistance below the threshold, or to indicate momentary open circuit.

## Measures Diode Polarity

Manual setting for testing polarity on diodes.

## Replacement Tips



TM-200-BX

Replacement Bent Tips

TM-200-X

Replacement Straight Tips

# Test and Measuring

## IntelliTweeze® R-C-L Meter in a Tweezer

Evaluates all types of SMD Components

### FEATURES

Precision gold plated replaceable tips are specially designed to work with small SMD components. With automatic recognition of measurement modes (R-C-L) and the range of measurement, sorting and evaluation of components becomes more efficient and cost effective.

Replacement Tips      TM-200X  
Replacement Bent Tips   TM-200BX

Dual display read-out dominant and secondary parameter C+D, H+Q, C+R, H+R  
Auto range  
Three test frequencies  
Analog Bar Graph  
Audio Feedback  
Left/Right hand display mode  
DC Voltage measurements  
Trace mode - oscilloscope display  
manual mode settings  
Manual test frequency settings

### QUICK REFERENCE

#### Primary Display

The Primary Display is located in the middle of the display and is the larger of the two displays available. It shows the present reading. For most functions the primary display shows 5 digits.

If **OUT OF RANGE** is displayed, an overload condition is present.

#### Secondary Display

The Secondary Display is located at the top of the display screen and is the smaller of the two displays. It shows the present reading of additional parameters, or measurement conditions when the primary display shows some other feature (e.g. L, C). When multiple features are present, the secondary display shows one of the values. For example, ESR value can appear in the secondary display while capacitor value appears in the primary display.

### GETTING STARTED

To turn ON the IntelliTweeze® push down or rotate the Jog Dial. The symbol in the lower left corner will indicate the device is ON and ready to take measurements. The default mode is AUTO. Rotate or push Jog Dial to activate the Menu Mode. The IntelliTweeze® will automatically shut OFF if no measurements were taken or Jog Dial has not been touched for 30 seconds.

**CAUTION:** Auto Power OFF does not work in the VOLTAGE measurement mode.

### BASIC SPECIFICATIONS

Measurement Functions:      R, L, C, ESR, D, Q, Continuity Check, DC Voltage (optional)

Measurement Ranges:

Accuracy		
Resistance:	0.1 ohm to 9.9 Mohm	<5%
	5 ohm to 999 Kohm	<1%
Capacitance:	10pF to 100uF	<3%
	0.5pF to 4999uF	<5%
Inductance:	10uH to 99mH	<3%
	.5uH to 999mH	<5%
DC Voltage	0V to 8V	<1%

Test Frequencies:      100Hz, 120Hz, 1kHz, 10kHz

Max Test signal level      400-460 mV

Source resistance:      620 Ohm

### BATTERY

The TM-200 IntelliTweeze® uses three 1.4-1.5V alkaline or air-zinc "Button" batteries, size 11.2 x 5.6 mm. The TM-300 has built-in rechargeable batteries.

Alkaline LR44, 357A, SG13, A76, AG13, L1154  
Air-Zinc ZA675, VT675, KL675, 675A

The typical battery life is 70 hours with alkaline batteries.

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