TE CONNECTIVITY® APPLICATION TOOLING PRODUCT LINE CARD
A COMPLETE LINE OF QUALITY TOOLING SOLUTIONS
PORTABLE WIRE PROCESSING

SELECTION GUIDE

<table>
<thead>
<tr>
<th>Flexibility</th>
<th>Value</th>
<th>Ergonomic</th>
<th>Hydraulic</th>
<th>Pneumatic</th>
<th>Semi-automatic</th>
<th>Battery</th>
<th>Cycle count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual</td>
<td>Portable</td>
<td>30 crimps/hr.</td>
<td>60 crimps/hr.</td>
<td>90 crimps/hr.</td>
<td>Electric</td>
<td>Safety</td>
<td></td>
</tr>
</tbody>
</table>

INSERTION/EXTRACTION

Select Your Die Platform

**Standard Die Envelope - SDE (Commercial)**

Standard Die Envelope (SDE) technology is a flexible approach to crimp tooling that allows use of the same TE dies on tooling across a range of application platforms. Dies are interchangeable in tools from manual, battery, pneumatic, and electrically powered tools it is a family of tools that you can take from bench to production or into the field, without the need for dies fitted to each kind of tool. They are suited for R & D, networking applications and on-site maintenance work.

32-8 AWG

**CERTI-CRIMP (Premium)**

The CERTI-CRIMP family consists of reliable, repeatable and certified crimping tools to handle a variety of industry mandated specifications. Their interchangeable head designs allow users to easily upgrade their manual CERTI-CRIMP tools to battery or electric powered alternatives.

32-8 AWG

**Hydraulic Dies & Crimp Heads**

Our line of quality hydraulic tooling includes industry-standard 10,000 psi [68,950 kPa] and 8,200 psi [56,540 kPa] tool systems. The basic hydraulic tool system requires a pump, hose (multiple lengths are available with all configurations), crimp head, and crimp die. U-dies for a 10,000 psi hydraulic system are well suited for applications requiring a crimp force of up to 14 tons [125 kN]. For wire sizes requiring up to 33 tons [294 kN], TE offers crimp heads that are compatible with shank dies 8 AWG - 1000 MCM.

- **8 - 4/0 AWG**: 22 ton output force, 16 lbs
- **4/0 AWG - 1000 MCM**: 26 ton output force, 29 lbs
- **8 - 4/0 AWG**: 33 ton output force, 28 lbs
- **12-10 AWG - 350 MCM**: 18 ton output force, 13 lbs

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Making terminal extractions is as easy as 1, 2, 3.
SELECT YOUR POWER SOURCE

**Portable Tooling - Manual (Hand)**

<table>
<thead>
<tr>
<th>SDE (Commercial)</th>
<th>CERTI-CRIMP (Premium)</th>
<th>Hydraulic Assist</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Flexible standard die envelope design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Adjustable ratchet control system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ergonomic design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Designed to exacting specifications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Requires minimum skill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Meets military, UL and CSA requirements as applicable</td>
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<td></td>
</tr>
<tr>
<td>• 8,200 &amp; 10,000 psi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Shank &amp; U-dies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Heads, pumps &amp; hoses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Among industry leaders in reliability</td>
<td></td>
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</tbody>
</table>

**Portable Tooling Battery**

<table>
<thead>
<tr>
<th>SDE (Commercial)</th>
<th>CERTI-CRIMP (Premium)</th>
<th>U &amp; Shank Dies</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lithium-Ion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ergonomic design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Short charge times</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Completely portable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 3,400 - 3,500 lb crimp force</td>
<td></td>
<td></td>
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<tr>
<td>• Large range of die options</td>
<td></td>
<td></td>
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<tr>
<td>• Lithium-Ion</td>
<td></td>
<td></td>
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<tr>
<td>• Ergonomic design</td>
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<tr>
<td>• Short charge times</td>
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<td></td>
<td></td>
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<tr>
<td>• 3,500 lb crimp force</td>
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<tr>
<td>• Lithium-Ion</td>
<td></td>
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<tr>
<td>• Ergonomic design</td>
<td></td>
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<tr>
<td>• Short charge times</td>
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<td></td>
</tr>
<tr>
<td>• Completely portable</td>
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<td></td>
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<tr>
<td>• 12,000 - 24,000 lb crimp force</td>
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</table>

**Portable Tooling Pneumatic**

<table>
<thead>
<tr>
<th>626</th>
<th>AT SC MKII</th>
<th>Kits</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lightweight designs</td>
<td></td>
<td></td>
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<tr>
<td>• Hand or foot operated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ratcheted control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Rotating heads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Accepts SDE die sets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Straight action machine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Pneumatic crimping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Safe, ergonomic design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insertion &amp; Extraction Kits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Compatible with most manufacturers’ wiring harnesses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Tool kits &amp; individual tools available</td>
<td></td>
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</tr>
</tbody>
</table>

**Portable Tooling Electric**

<table>
<thead>
<tr>
<th>AT 300</th>
<th>AT-66 Hydraulic</th>
<th>Manual (Hand) Tools Kits</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Compatible with over 100 SDE die sets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Accommodates CERTI-CRIMP tool heads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Small footprint</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Foot actuated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Programmable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Adaptive crimp force</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Fast changeover times</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Compact design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Customizable kits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Includes sample terminals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cost effective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Portable</td>
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</tr>
</tbody>
</table>
**Spare Tooling**
- Precision ground, chrome plated
- Engineered for compliance to meet OEM specifications
- UL Listed
- CSA certified

**Mid Size**
- Wire range: > 10.0 - 25.0 mm²
- Can fit on presses that accept traditional applicators
- Robust casting frames

**Large Wire**
- Wire range: 25.0 - 50.0 mm²
- Fine adjustment
- Press stroke: 40.0 mm
- Shut height: 135.78 mm

**Splice**
- Wire Range: 0.5 - 25 mm²
- Fine adjustment
- Press stroke: 40.0 mm
- Shut height: 135.78 mm
- Side feed splice terminals up to 45.0 mm

**OCEAN Mechanical**
- Mechanical feed
- Excellent repeatability
- Atlantic & Pacific style ram configurations available

**OCEAN Pneumatic**
- Single piece piston and rod assembly
- Atlantic & Pacific style ram configurations available
- Self actuated

**OCEAN Servo**
- Maximum feed repeatability
- Automatic setup
- Modular feed stays with terminator

**Center Line & Applicator Alignment Gauges**
- Ideal instrument to assure correct positioning of all TE applicators
- Compatible with TE & commercially available crimping presses, using quick changes style applicators

**CrimpData App**
- Provides compatibility verification between terminals and tooling
- Scans and looks up applicator and terminal information
- Enables you to record cycles on the applicator spare parts
- Scan this QR code to download from the APP store

**Collars**
- Designed to protect applicators from unwanted motion and damage during transport
- Available in three colors to help differentiate between active and inactive applicators
### Semi & Fully Automatic

#### Semi-Automatic Terminators

<table>
<thead>
<tr>
<th>Model</th>
<th>Features</th>
</tr>
</thead>
</table>
| 3K    | • Small footprint  
      | • Open architecture for design flexibility  
      | • Fast, quiet design |
| 5K    | • Small footprint  
      | • Open architecture for design flexibility  
      | • Fast, quiet design  
      | • Optional stripping module available |
| GII   | • Improved lighting and safety features  
      | • Open architecture for design flexibility  
      | • Fast, quiet design  
      | • Optional stripping module available |

**GII** (coming soon)  
- Versatile crimping press for large conductor cross-sections up to 21mm²  
- LED lighting and safety features

#### CQM II

- Effective for monitoring the crimp of open barrel, uninsulated contacts and terminals.  
- CQM II monitors the entire crimp

#### FFC

- Number of pins can be programmed  
- Pitches between 1.27mm and 5.08mm can be programmed  
- Interchangeable applicators available for different products

---

#### Fully Automatic Lead-Makers

<table>
<thead>
<tr>
<th>Model</th>
<th>Features</th>
</tr>
</thead>
</table>
| UNIQA PRO      | • Single ended wire processor  
                 | • 20% smaller footprint than traditional lead makers  
                 | • 4x faster throughput than standard wire prep and benchtop units |
| Alpha 355      | • Equipped with up to three processing stations, enabling crimping of both ends of the wire, double-crimp connections with three different contacts, single-ended seal applications, tinning, or ink-jet marking |
| Alpha 530      | • Solid and reliable processing of wire cross sections 0.13mm² to 4mm²  
                 | • Manifold configuration possibilities on 4 stations for industrial production |

**Alpha 550**  
- Precise and reliable processing of wire cross sections 0.13mm² to 6mm  
- Integrated conductor detection (ACD) for high quality stripping

**Gamma 263**  
- Equipped with up to three processing stations, enabling crimping of both ends of the wire, double-crimp connections with three different contacts, single-ended seal applications, tinning, or ink-jet marking

**Gamma 333**  
- Handles double-crimp connections involving varying lengths  
- Dual channel cuthead allows for a large range of wire sizes without blade changes
Determine Your Processing Type

Achieving crimp quality starts with prepping the wire strand. Our tooling portfolio covers almost all processing requirements. We offer processing solutions for both standard, as well as specialized stripping and cutting challenges for demanding insulation materials.

Measure, Cut & Strip

Kappa 310
- Compact, high-speed machine
- Can handle wire sizes from 0.02mm² to 6mm²
- Intuitive, flexible, and simple touch-screen operation

Kappa 315
- Compact, high-speed machine
- Can handle wire sizes from 0.05mm² to 10mm²
- Intuitive, flexible, and simple touch-screen operation

Kappa 320
- Wire sizes from 0.05 mm² to 10 mm²
- Innovative sensors to aid in setup and to monitor processing
- TopWin software for connecting inkjet, part list production and network solutions

Kappa 322
- Designed for a wide variety of special applications or the separation and processing of inside wires in multi-pole cables
- TopWin software for connecting inkjet, part list production and network solutions

Kappa 330
- For processing cables with a cross section of up to 35 mm², multi-core conductors with an outside diameter of up to 16 mm or flat cables with a width of up to 40 mm
- Belt drive or various double-roller drives
- TopWin interface

Kappa 350
- Designed for processing round conductors with a cross section of up to 120 mm² and a maximum outside diameter of up to 35 mm
- Minimal wire loss thanks to sensor monitoring
- TopWin interface
# WIRE PREPARATION EQUIPMENT

## Wire Strip Only

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cosmic 32M</td>
<td>High-speed electric wire stripper. Operates anywhere in the world with AC 100 V – 240 V compatibility.</td>
<td>- Wide strip range of AWG 12 – 32&lt;br&gt;- For ultra-micro coaxial cables&lt;br&gt;- Repeatable high precision&lt;br&gt;- Equipped with waste vacuum system&lt;br&gt;- Stores up to 1,000 sets of data</td>
</tr>
<tr>
<td>Cosmic 42R</td>
<td>Micro-cable stripping machine. AWG 36 – to 10 (0.11 mm to 3.5 mm).</td>
<td>- Ideal for multi-conductor processing&lt;br&gt;- Large processing range up to 8 mm² / AWG 8&lt;br&gt;- Unique scope of functions, including sequence processing</td>
</tr>
<tr>
<td>Cosmic 48R</td>
<td>Ideal for multi-conductor processing.</td>
<td>- For stripping coaxial or standard wire&lt;br&gt;- Can store up to 1,000 different sets of data&lt;br&gt;- Stripping up to 9 steps</td>
</tr>
</tbody>
</table>

## Spare Parts

- **Wire Guides**
- **Blades**
- **Belts**
- **Rollers**

## Multi-conductor processing in a single work operation

Its unique ability to sequence makes the Mira 230 the first pick for processing multi-conductor cables. In consecutive steps, it strips and cuts the inner conductors with a variety of parameters and without a program change.

Every cable and every sequence can be stored for reproduction at any time. All recorded articles (cables and sequences) are stored in the library. That way, the operator can retrieve the processing parameters at any time using search and filter functions.
HEAT SHRINK EQUIPMENT

SELECTION GUIDE

- **Manual**
  - **RBK MK IV Model 17**
    - Bar code scanning option
    - Automatic calibration
    - PC controlled with touchscreen monitor
    - Adaptable for different applications
  - Closed-loop temperature and belt speed control
  - Suitable for continuous running
  - Tubing diameter up to 19 mm
  - Tubing length up to 90 mm

- **Semi-Automatic**
  - **Model 19**
    - Can handle tubing up to 25 mm diameter and 102 mm long
    - Tubing up to 178 mm long can be handled with the use of the wide heating element tool
  - Can handle unlimited tubing lengths and large substrate diameters if run parallel to belt travel
  - **Model 105**
    - Can handle tubing

- **CV-OBHAT IR-1891 Shuttle AD-3050 Seal Test**
  - Lightweight, portable hot air tool, used to install TE’s Raychem escap stub splice sealing products
  - Twin workstation heater for multiple installation of short length tubing products
  - Multiple product fixture assemblies give increased process rates
  - CE approved
  - Fast determination of sealing integrity
  - Multiple test fixtures
  - Easy load and release of test samples

- **Heat Gun**
  - Manual Machine
  - Belt Drive
  - 500/hr
  - 120/hr
  - 60/hr

**Power of Automation**

*Crimps per hour is estimated based on 4-wire splices with 2-inch heat shrink tubing. Actual run rates may vary based on tubing length and diameter.*
MAGNET WIRE EQUIPMENT

Select Your Terminal Type

<table>
<thead>
<tr>
<th>MAG-MATE</th>
<th>Mini MAG-MATE</th>
<th>SIAMESE</th>
<th>Leadlok</th>
<th>AMPLIVAR</th>
<th>Power Splice</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="MAG-MATE" /></td>
<td><img src="image2" alt="Mini MAG-MATE" /></td>
<td><img src="image3" alt="SIAMESE" /></td>
<td><img src="image4" alt="Leadlok" /></td>
<td><img src="image5" alt="AMPLIVAR" /></td>
<td><img src="image6" alt="Power Splice" /></td>
</tr>
</tbody>
</table>

**Manual**

- **Manual Arbor Press**
  - Ideal for repair, service and prototype work

- **MPT Head**
  - For manual SIAMESE and Leadlok terminal applications
  - Can be integrated into custom automatic production line

**Semi-Automatic**

- **MK I & II**
  - Single, dual, triple and quadruple insertion capabilities
  - Cycle time: 0.9 - 1.3 sec depending on terminal type
  - Force distance control available on MARK II

- **MPT-5 Bench Machine**
  - Available as a horizontal or vertical bench machine
  - Inserts a SIAMESE terminal into a customer-designed cavity in the coil bobbin or similar magnet wire housing

- **MARK Workstation**
  - Standardized and customized work stations to meet customer demands
  - Designed to automatically insert terminals into cavities of coil bodies

**Semi-Automatic**

- **APT-5**
  - Fast, efficient system with no need to strip mag-wire insulation
  - CQM II controlled
  - CE Approved
  - Connects up to 3 wires in 1 splice

- **Power Splice**
  - Reliable pigtail splice termination of magnet wire and solid or stranded lead wire

- **Thru-Splice**
  - Includes fine crimp height adjustment, full guarding with interlocks, total and batch counter and capabilities for jog and split-cycle operation
## Select Your Processing Type

### Pin Insertion

All of our insertion machines can be supplied with a rotary insertion finger that can apply products at different angles without decreasing the insertion rate. This eliminates costly lost production time associated with rotating the PCB.

### Conversion Kit

The P50/P100/P300/P350 machines can be supplied with modular insertion tools that allow the tooling to be quickly changed on the insertion head. A wide range of conversion kits for various TE Connectivity and non-TE Connectivity products is available.

### Pin Insertion - Repair

- **P10**
  - Convenient and easy operation due to a touch screen monitor
  - Single pins can be interchanged on a complete equipped PCB
  - High insertion quality due to press cycle monitoring with PQM

### Pin Insertion - Manual

- **P50**
  - Manually loaded bench top machine
  - PCB size: 350 x 300 mm max.
  - PCB thickness: 1.0 – 3.5 mm
  - Applies reeled products, press-fit terminals, solder terminals and others

### Pin Insertion - Semi Auto

- **P100**
  - Discrete pin insertion into PCB board applications
  - Manual and semi-automatic designs
  - Simple operator interface
  - Multiple quality tools available

### Pin Insertion - Fully Auto

- **P300**
  - Board capacity up to 400 x 600 mm (15.5 x 23.5 in) 370 x 480 mm (14.5 x 19 in) when in-line
  - Repeatability: ± 0.01 mm
  - Insertion rate up to 3 cycles per second at 5.08 mm (0.2 in) pitch
  - Optional automatic tool changer can apply up to 4 different products

- **P350**
  - Board capacity up to 450 x 450 mm (17.5 x 17.5 in)
  - Repeatability: ± 0.01 mm
  - Insertion rate up to 5 cycles per second at 5.08 mm (0.2 in) pitch
  - Automatic tool changer to apply up to 4 different products on one machine

- **P360**
  - Board capacity up to 450 x 450 mm (17.5 x 17.5 in)
  - Repeatability: ± 0.01 mm
  - Insertion rate up to 5 cycles per second at 5.08 mm (0.2 in) pitch
Connector Press Fit

TE Connectivity offers a wide range of servo presses that mass terminate compliant pin connectors. So there’s one that is perfectly suited for your product needs. And each model leverages the simple, field-proven, solder-free manufacturing offered by the entire product line.

CBP-5T
- Servo electric press
- PCB capacity of 460 x 610 mm (18 x 24 in)
- Press force capacity of 44 kN (5 tons)
- Small footprint for low to medium volume product levels

CSP-5T
- Shuttle system for product location under press ram
- Housing capacity of 75 x 150 mm (3 x 6 in)
- Manual & Pneumatic option
- Small footprint

CMP-6T
- 53 kN force (6 tons) CMP-6T
- Board capacity of 610 x 915 mm (24 x 36 in) CMP-6T
- Wide range of insertion heads for TE Connectivity and non TE Connectivity products available

CMP-12T
- 107 kN force (12 tons) CMP-12T
- Board capacity of 610 x 915 mm (24 x 36 in) CMP-6T
- Wide range of insertion heads for TE Connectivity and non TE Connectivity products available

CAP-6T
- Automatic pressing capabilities help improve quality, lower rework and helps prevent rejects
- Board capacity of 760 x 910 mm (30 x 36 in)
- 53 kN force (6 tons)
- Manual loading drawer for simple loading and unloading of PCBs

CAPI-6T
- Automatic pressing capabilities help improve quality, lower rework and helps prevent rejects
- Board capacity of 760 x 910 mm (30 x 36 in)
- 53 kN force (6 tons)
- Inline system SMEMA compatible

Board Processing Accessories

Board Processing Accessories

Dedicated support fixture for quick product changeover

Process flat-rock and header type products from TE Connectivity and other suppliers
Let’s Connect
Learn more about our comprehensive line of tooling solutions at www.tooling.te.com.
To find the right TE tooling for your needs, call us at 717-810-2082 or email toolingSales@te.com.

TE Connectivity Technical Support Center

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Netherlands: +31.73.624.6999
China: +86.400.820.6015

Waste Not. Want Not.
Whether it’s time or scrap, in manufacturing everyone knows that waste costs money. With our on-site certification and consultation services, we can help you:

• Reduce downtime
• Reduce scrap
• Maintain crimp quality
• Improve manufacturing efficiency

Time is Money.
In manufacturing downtime can be expensive. That’s why TE is constantly working to improve product availability and delivery rates. With a strong global footprint, short lead times and a strong distribution channel, TE has the equipment and the accessories to keep production online.

To check distributor stock and availability for your tooling needs go to: www.te.com/commerce/sck/cdl.do

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