General Information

Americas

Crimp Tooling

Asia Pacific North

Crimp Tooling

Visit www.molex.com to access more part numbers and product information, download sales drawings, product specifications, 3D models, place sample requests, and more.

molex®
one company › a world of innovation

General Information

Introduction to Crimp Technology

Website: Please visit the Molex website to view the most current Application Tooling information. The Molex website is continuously updated with the latest information. (www.molex.com)

Terminology

Bellmouth (Flare)
The flare that is formed on the edge of the conductor crimp acts as a funnel for the wire strands. This funnel reduces the possibility that a sharp edge on the conductor crimp will cut or nick the wire strands. As a general guideline, the conductor bellmouth needs to be approximately 1 to 2x the thickness of the terminal material.*

Conductor Brush
The conductor brush is made up of the wire strands that extend past the conductor crimp on the contact side of the terminal. This helps ensure that mechanical compression occurs over the full length of the conductor crimp. The conductor brush should not extend into the contact area.

Conductor Crimp
This is for the metallurgical compression of a terminal around the wire's conductor. This connection creates a common electrical path with low resistance and high current carrying capabilities.

Conductor Crimp Height
The conductor crimp height is measured from the top surface of the formed crimp to the bottom most radial surface. Do not include the extrusion points in this measurement (See Figure 2). Measuring crimp height is a quick, non-destructive way to help ensure the correct metallurgical compression of a terminal around the wire's conductor and is an excellent attribute for process control. The crimp height specification is typically set as a balance between electrical and mechanical performance over the complete range of wire stranding and coatings, and terminal materials and platings. Although it is possible to optimize a crimp height to individual wire strandings and terminal platings, one crimp height specification is normally created.

Cut-off Tab Length
This is the material that protrudes outside the insulation crimp after the terminal is separated from the carrier strip. As a general rule, the cut-off tab is approximately 1.0 by 1.5x terminal material thickness.* A cut-off tab that is too long may expose a terminal outside the housing or it may fail electrical spacing requirements. In most situations, a tool is setup to provide a cut-off tab that is flush to one material thickness.

*Consult individual terminal specifications

Developed to replace the need to solder terminations, crimping technology provides a high quality connection between a terminal and a wire at a relatively low applied cost. The methods for applying crimp terminations depend on the application and volume, and range from hand-held devices to fully-automated systems. The application methods include a basic hand tool, a press and die set, a stripper crimper or a fully automatic wire processing system. But no matter what method is used, the setup of each tool is critical for achieving a quality crimp.

Conductor Brush

Bellmouth

Conductor Crimp Height

Cut-off Tab Length

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Introduction to Crimp Technology

Terminology (Continued)

Extrusions (Flash)

These are the small flares that form on the bottom of the conductor crimp resulting from the clearance between the punch and anvil tooling. If the anvil is worn or the terminal is over-crimped, excessive extrusion results. An uneven extrusion may also result if the punch and anvil alignment is not correct, if the feed adjustment is off, or if there is insufficient/excessive terminal drag.
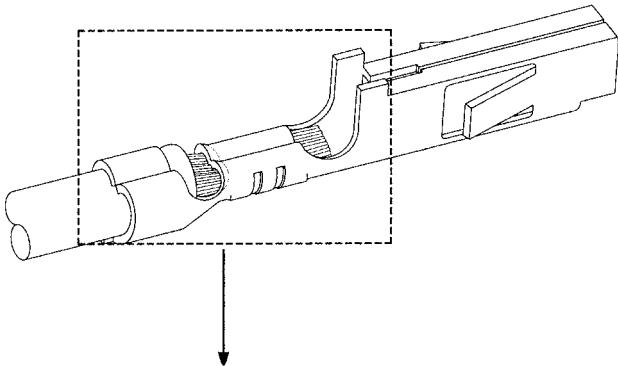
Insulation Crimp (Strain Relief)

This is the part of the terminal that provides both wire support for insertion into the housing and allows the terminal to withstand shock and vibration. The terminal needs to hold the wire as firmly as possible without cutting through to the conductor strands. The acceptability of an insulation crimp is subjective and depends on the application. A bend test is recommended to determine whether or not the strain relief is acceptable for each particular application.

Insulation Crimp Height

Molex does not specify insulation crimp heights because of the wide variety of insulation thickness, material, and hardness. Most terminals are designed to accommodate multiple wire ranges. Within the terminals range, an insulation diameter may not completely surround the wire or fully surround the diameter of the wire. This condition will still provide an acceptable insulation crimp for most applications.

- A large insulation should firmly grip at least 88% of the wire
- A smaller insulation should firmly grip at least 50% of the wire and firmly hold the top of the wire

To evaluate the insulation section cut the wire flush with the back of the terminal. Once the optimum setting for the application is determined it is important to document the insulation crimp height. Then, as part of the setup procedure the operator can check the crimp height.
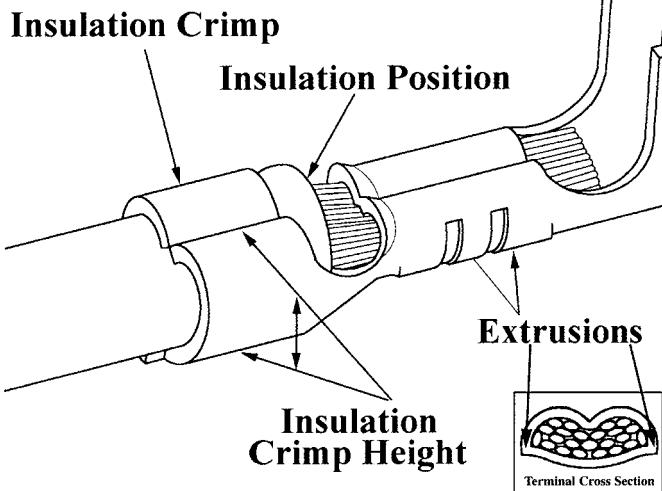
Insulation Position

This is the location of the insulation in relation to the transition area between the conductor and insulation crimps. Equal amounts of the conductor strands and insulation needs to be visible in the transition area. The insulation position ensures that the insulation is crimped along the full length of the insulation crimp, and that no insulation gets crimped under the conductor crimp. The insulation position is set by the wire stop and strip length for bench applications. For automatic wire processing applications the insulation position is set by the in/out press adjustment.

Strip Length

The strip length is determined by measuring the exposed conductor strands after the insulation is removed. The strip length determines the conductor brush length when the insulation position is centered.
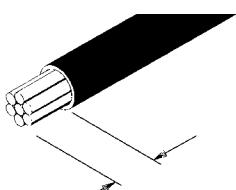
Process

The combination of people, equipment, tooling, materials, methods and procedures needed to produce a crimp termination. Process control is used to track attributes over time to aid in the detection of change to the process. Detecting a process change when it happens helps prevent many thousands of bad crimps.
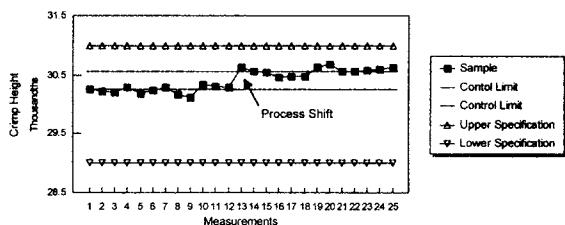
Pull Force Testing

Pull Force Testing is a quick, destructive way to evaluate the mechanical properties of a crimp termination. When making a crimp, enough pressure must be applied to breakdown the oxides th at build up on the stripped conductor and the tin plating on the inside of the terminal grip. This is necessary to provide a good metal-to-metal contact. If this does not occur, resistance can increase. Over crimping a crimp termination will reduce the circular area of the conductor and increase resistance.

Pull Force Testing is also a good indicator of problems in the process. Cut or nicked strands in the stripping operation, lack of bellmouth or conductor brush, or incorrect crimp height or tooling will reduce pull force. Wire properties and stranding, and terminal design (material thickness and serration design), also can increase or decrease pull force levels.

Application Tooling
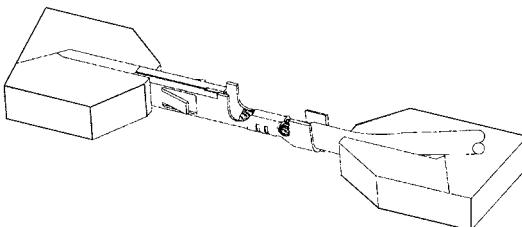
Introduction to Crimp Technology

Shut Height

The distance, at bottom dead center on a press, from the tooling mounting base plate to the tooling connection point on the ram of the press.
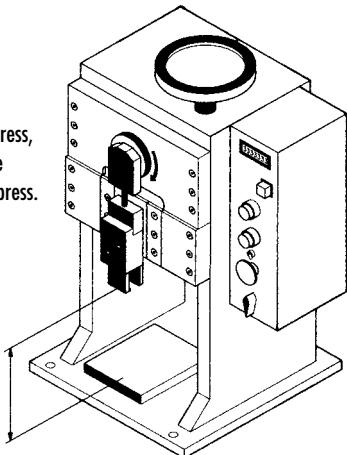
Terminal Position

The terminal position is set by the alignment of the terminal to the forming punch and anvils, and the carrier strip cut-off tooling. The tool set-up determines conductor bellmouth, cut-off tab length, and terminal extrusions.

*Consult individual terminal spcifications
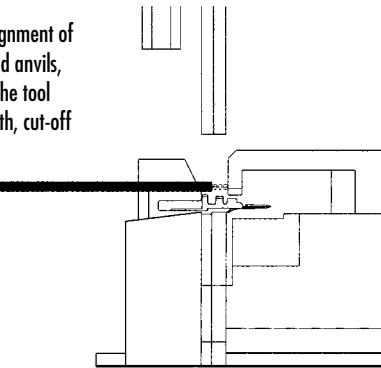
Associated Materials

Caliper

A gauge, consisting of two opposing opposing blades, for measuring linear dimensional attributes.

Ruler (Pocket Scale)

This is used to estimate the five-piece measurement of bellmouth, cut-off tab, conductor brush, wire position, and strip length. The recommended maximum resolution is .5mm (.020 in).

Eye Loop

A magnification tool, normally 10x power or greater, which is used to aid visual evaluation of a crimp termination.
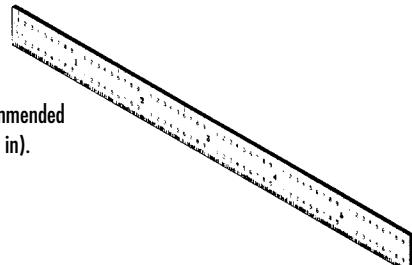
Pull Tester (Reference Figure 5)

A device used to determine the mechanical strength of a crimp termination. Most pull testing is done with a device that clamps the wire, pulls at a set speed and measures force by means of a load cell. A pull tester also can be as simple as hanging fixed weights on the wire for a minimum of one minute.
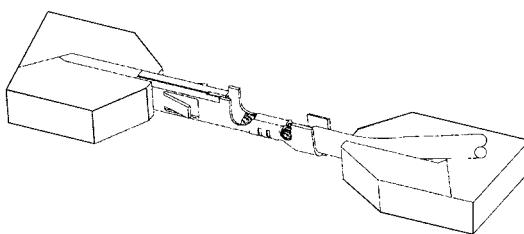
Crimp Micrometer

This is a micrometer specifically designed to measure crimp height. The measurement is taken in the center of the crimp so it is not influenced by the conductor bellmouth. It has a thin blade that supports the top of the crimp while a pointed section determines the bottom-most radial surface.
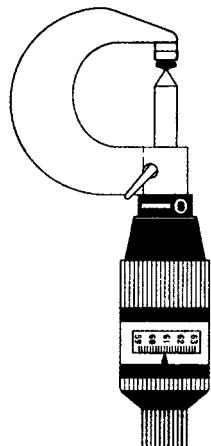
Toolmaker's Microscope

This is used for close visual evaluation and statistical measurement of bellmouth, cut-off tab, conductor brush, wire position and strip length.

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Application Tooling

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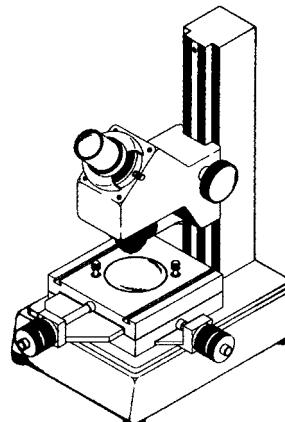
Insulation Displacement Technology Tooling Introduction

Insulation Displacement Technology (IDT) is a wire termination technique in which an insulated wire is pressed into a terminal slot smaller than the conductor diameter, displacing the insulation and forming an electrical contact between the terminal and conductor.

Insulation displacement offers 3 major advantages over other termination techniques:

- Electrical connectors are supplied to the customer with the terminals loaded into their final positions. This feature results in customer labor savings as additional operations are not required to complete the assembly.
- Hourly production rates are maximized through the simultaneous mass insertion of wires into multiple connectors.
- IDT allows for multiple connectors to be placed along a harness assembly (daisy chain) without the need to double terminate circuits.

Molex offers a full line of IDT terminating equipment ranging from simple hand tools to fully-automatic cable and discrete wire harness assembly machines. All tools are designed and manufactured using the latest technologies to ensure high quality in tool performance and in the product they produce.

Hand Tools

Low-volume users can choose from a range of snap-on modules that mount to a common pistol or bench mounted holder. These modules can be easily changed to accommodate various connector styles. Typically, these tools yield production rates of approximately 300 terminations per hour.

Manual Press Tools

For medium production volumes, Molex offers a variety of manual press bench tools designed to process cable or discrete wire to further increase productivity. For tools in this category, production rates of up to 250 assemblies per hour for cable or 500 terminations per hour for discrete wire are not uncommon.

Semi-Automatic Bench Tools

For higher production volumes, Molex offers a variety of semi-automatic bench tools to increase the end users' productivity. For tools in this category, production rates of up to 900 assemblies per hour for cable or 1200 terminations per hour for discrete wire are normally realized. In addition to inserting wires into terminals, selected machine models are already equipped to:

- Automatically unload connectors from packaging such as extruded tubes, mylar film, etc.
- Perform secondary operations, for example, carrier strip breakoff, terminal insertion, product marking, etc.

Fully-Automatic Machines

For large production requirements, Molex offers its customers fully-automatic modular assembly machines. This modular concept allows machines to be designed and built to meet exact customer requirements. Additionally, this concept enables customers to add options at a future date as production needs change. In general, machines in this category produce 10,000 terminations per hour or better. All machines are designed with fully-integrated PLC controls that include "user-friendly" self-diagnostic software features to minimize set-up time and maximize machine uptime and system utilization.

Special Machines

Molex can quote special machines upon request with optional features that parallel the Phoenix™/Eagle™ Series. In general, these machines differ by the manner in which connector termination and wire handling is accomplished. Additionally, daisy chain and different connector orientations can be accomplished.

Application Tooling

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Molex Crimp Tooling

*Within the family of Molex Crimp Tooling there are three levels:*
- Manual Crimp Hand Tools
- Semi-Automatic Crimp Presses and Tools
- Fully-Automatic Crimp Wire Processor Tools

Manual Crimp Hand Tools
These products are used for prototype and field repair work. These tools are not designed for production work.

Type 1
- Improved ergonomic design which improves comfort and grip
- Small handle spread which make this style tool ideally suited for end users
- Ratchet with safety release that ensures consistent performance
- This tool type reduces work-related injuries
- CR prefix for Molex-US
- 63811 prefix for Molex-US

Type 1

Type 2
- Advanced ergonomic design with superior mechanical gain and lower handle forces which increases productivity
- High-strength, through-hardened alloy steel construction
- Ratchet with safety release that ensures consistent performance
- This tool type reduces work related injuries
- CR prefix for Molex-US
- 63811 prefix for Molex-US

Type 2

Type 3
- Simple trouble-free full-cycle mechanism assures consistent terminations
- Each tool is precisely engineered
- All crimp cavities are fully machined in high-carbon steel, then heat treated
- HT prefix for Molex-US

Type 3

Type 4
- Ergonomically designed soft handles
- Precisely designed crimping profiles with simple contact positioning
- Easy handling due to outstanding force ratio
- This tool type reduces work related injuries
- 63811 prefix for Molex-US

Type 4

Type 5
- Molded grips and an easy reach frame minimize user fatigue
- Compact lightweight design for wire and contact handling convenience
- Positive ratcheting assembly with emergency release
- This tool type reduces work related injuries

Type 5

Type 6*
- Inexpensive crimp tool for open barrel terminals
- Accepts wire range of 14-24 AWG
- Accepts material thickness of 0.15-0.40mm and conductor barrel length of 2.00-3.50mm
- Small handle spread design
- Insulated handles
- Ideal for field repair and prototyping
- Available in custom packaging for customer resale
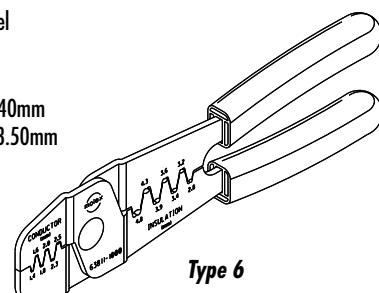
* Available through distribution only

Type 6

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Application Tooling

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Semi-Automatic Bench Top Crimping Presses

TM-3000™ Universal Press

Industry standard air-feed crimp press is ideal for descrete wire and cable applications

Molex's TM-3000 Universal Crimp Press provides an effective method of applying a wide range of side and rear-feed terminals to pre-stipped discrete wire and cable. The TM-3000 press is an inexpensive, electrically-controlled, direct-drive press designed for mid-volume, semi-automatic bench operations. This industry standard press will accept the most common industry standard applicators in the market place, thereby reducing tooling costs and providing production flexibility. This Molex air-feed crimp press will also accept Molex air-feed applicators that process product mounted on Mylar* tape.

*Mylar is a registered trademark of E.I. du Pont de Nemours and Company

Features
- Accepts FineAdjust™ and Mini-Mac applicators with side and rear feeds; uses most industry standard applicators reducing tool costs and providing production flexibility
- Direct-drive, split-cycle press accepts Molex air-feed applicators for terminals mounted on tape
- Shut-height adjustment level pre-set to industry standard 135.80mm (5.45") to accept industry standard applicators and allow for adjustment to hit the crimp height target
- Re-settable count provides accurate batch counting
- Meets OSHA safety and noise requirements reducing risk of injury
- Safety interlock switch is attached to guard preventing press from cycling if guard is open during operation

Electrical
Voltage: 63800-8300—115V AC, 1 Ph, 60Hz, 5.8A
         63800-8400—230V AC, 1 Ph, 50Hz, 2.9A

Mechanical
Dimensions (with reel mounting):
   Height—1,260mm (49")
   Width—560mm (22")
   Depth—686mm (27"
Dimensions (without reel mounting):
   Height—1,044mm (41.00")
   Width—350.00mm (13.70")
   Depth—686.00mm (27.00")
Weight: Gross—159kg (350 lb)
        Unpacked—145kg (320 lb)
Mechanics: Stroke 38.10mm (1.50")
Rate: 2500 terminations per hour, depending on operator's skill and application; up to 10 AWG (5.0mm²) of copper conductor

Description	Order No.	Volts	Used With
TM-3000™	63801-7200	115V	FineAdjust and Mini-Mac Applicators
	63801-7300	230V	

TM-42 Crimp Press

The TM-42 Crimping Press provides an effective method of applying a wide range of side feed terminals to a pre-stripped discrete wire and cable. The TM-42 is an inexpensive, electrically controlled, single cycle flywheel press designed for mid-volume, semi-automatic bench operation.

The TM-42 exclusively uses Molex T2 Terminator Dies and Molex Terminator Dies. These two types of dies are very inexpensive and make this crimping system economical.

Features
- Utilizes the Molex T2 and Terminator Die Tooling
- Independent conductor and insulation adjustments with position indicators for quick and accurate adjustments
- Can terminate most terminals from the Molex product line
- TM-42 has tooling available which allows for the termination of FFC and IDT connectors
- Quick release tooling feature for fast, simple changeover that will increase productivity
- Ability to remove upper crimp tooling without the need to remove lower die
- Meets OSHA safety and noise standards plus this press is CE approved for use in Europe
- Totally enclosed for operator safety, including power shut-off if guard is not properly in place
- Complete press designed to metric standards

Electrical
Voltage: 69002-5001—115V AC, 1 Ph, 60Hz, 5.8A
         69002-5000—230V AC, 1 Ph, 50Hz, 2.9A

Mechanical
Dimensions (with reel mounted):
   Height—1,150mm (45.00")
   Width—540mm (21.20")
   Depth—330mm (13.00")
Dimensions (without reel mounted):
   Height—950mm (36")
   Width—330mm (13")
   Depth—330mm (13")
Weight: Gross—110kg (242 lb)
        Unpacked—100kg (220 lb)
Processing Capability: 2500 terminations per hour, depending on operator's skill and application; up to 10 AWG (4.0mm²)

Description	Order No.	Volts	Used With
TM-42	69002-5001	115V	Molex T2 and Terminator Die Tooling
	69002-5000	230V	

Semi-Automatic Bench Top Crimping Presses

3BF Bench Press*

Features

- Utilizes Molex Base Unit and TM-40/42 Terminator Dies and notching dies
- Meets OSHA safety and noise requirements
- Includes external work lamp
- Minimum electrical and mechanical maintenance
- Used 3BF Presses can be purchased on a rebuild basis only and are subject to availability

Specifications

Size without Reel Arm: Width—711mm (28")
                Depth—457mm (18")
                Height—787mm (31")
Size with Reel Arm: Width—940mm (37")
               Depth—457mm (18")
               Height—1016mm (40")
Weight: 79.5kg (175 lb)
Electrical: Voltage—110V AC, 60 Hz
         Current—5.5A
Tonnage: 26.7kN (3 tons) 10 AWG
Stroke Length: 38.10mm (1.500")
Shut Height: Adjustable
Rate: Up to 2500 terminations per hour, dependent on operator speed and application
Note: 3BF replacement parts available from:
      Benchmaster Products, Inc.
      12981 E. 166th St.
      Cerritos, CA 90701 (USA)
      (310) 926-6906 or (800) 421-5225

Base Unit Terminator
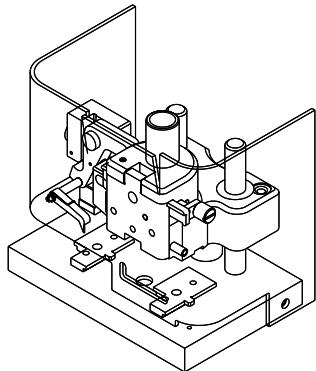
Features

- Adapts to the Molex 3BF Press to accommodate TM-40/42 Terminator Dies
- Low cost method of achieving flexibility in terminating various contact configurations in the same press
- Adjustable positive feed positioning
- Quick insulation and conductor crimp height adjustments
- No press ram adjustments after initial set-up
- Safety guard included with each unit

Specifications

Size: Width—190mm (7.5")
     Depth—127mm (5")
     Height—7.2mm (6.5")
Weight: 7.2kg (16 lb)
Adjustments: Conductor Crimp Height—0.025mm (.001")
           Total Adjustments—0.625mm (.025")
           Insulation Crimp Height—0.203mm (.008")
   Total Adjustment—1.626mm (.064")

| Description	Order No.	Used With
Base Unit Terminator for Molex 3BF Press	11-19-3001	T2 and Terminator Dies

*This press is not available for purchase

Application Tooling

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Semi-Automatic Bench Top
Crimp Press Tooling Matrix

Active Semi-Automatic Press and Active Tooling Matrix

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┌─────────────────────────┐                    ┌─────────────────────────┐
│         TM-42™          │                    │        TM-3000™         │
└─────────────────────────┘                    └─────────────────────────┘

┌──────────────┐  ┌──────────────┐    ┌──────────────────┐  ┌──────────────────┐
│    Molex     │  │    Molex     │    │      Molex       │  │      Molex       │
│ T2 Terminator│  │  Terminator  │    │FineAdjust        │  │Mini-Mac          │
│    Active    │  │    Active    │    │Applicators Active│  │Applicators Active│
└──────────────┘  └──────────────┘    └──────────────────┘  └──────────────────┘

                                       ┌──────────────────┐
                                       │ Industry Standard│
                                       │   Applicators    │
                                       └──────────────────┘
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Inactive Semi-Automatic Press and Active Tooling Matrix

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┌─────────────────────────┐                    ┌─────────────────────────┐
│        TM-40*           │                    │        3BF††            │
│       Inactive          │                    │       Inactive          │
└─────────────────────────┘                    └─────────────────────────┘

┌──────────────┐  ┌──────────────┐    ┌──────────────┐  ┌──────────────┐
│    Molex     │  │    Molex     │    │   Molex†     │  │    Molex     │
│ T2 Terminator│  │  Terminator  │    │ Standard Die │  │Base Unit     │
│    Active    │  │    Active    │    │   Inactive   │  │Adapter Active│
└──────────────┘  └──────────────┘    └──────────────┘  └──────────────┘

┌─────────────────────────┐                              ┌──────────────┐
│        TM-2000™         │                              │    Molex     │
└─────────────────────────┘                              │ T2 Terminator│
                                                         │    Active    │
┌──────────────────┐  ┌──────────────────┐               └──────────────┘
│      Molex       │  │      Molex        │
│FineAdjust        │  │Mini-Mac           │
│Applicators Active│  │Applicators Active │
└──────────────────┘  └──────────────────┘

┌──────────────────┐
│ Industry Standard│
│   Applicators    │
└──────────────────┘
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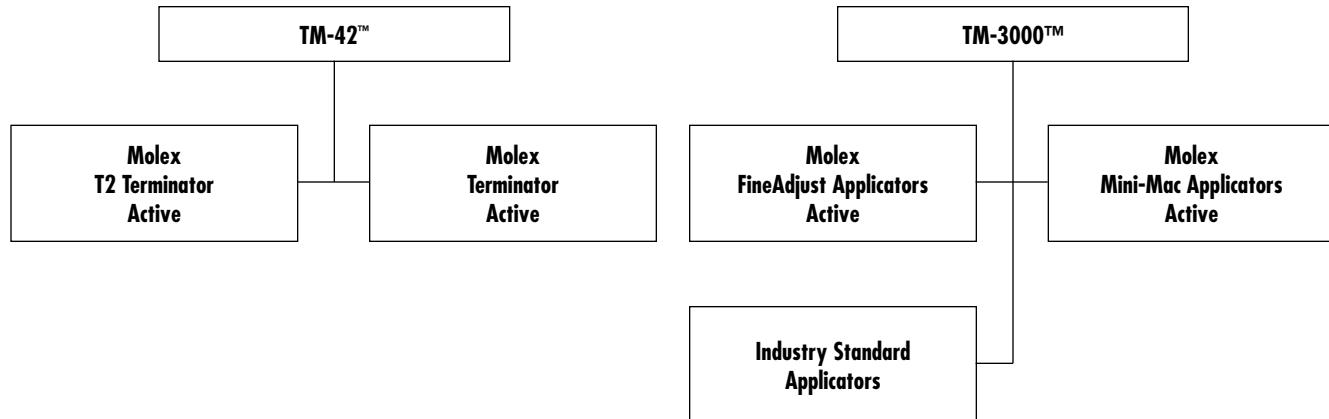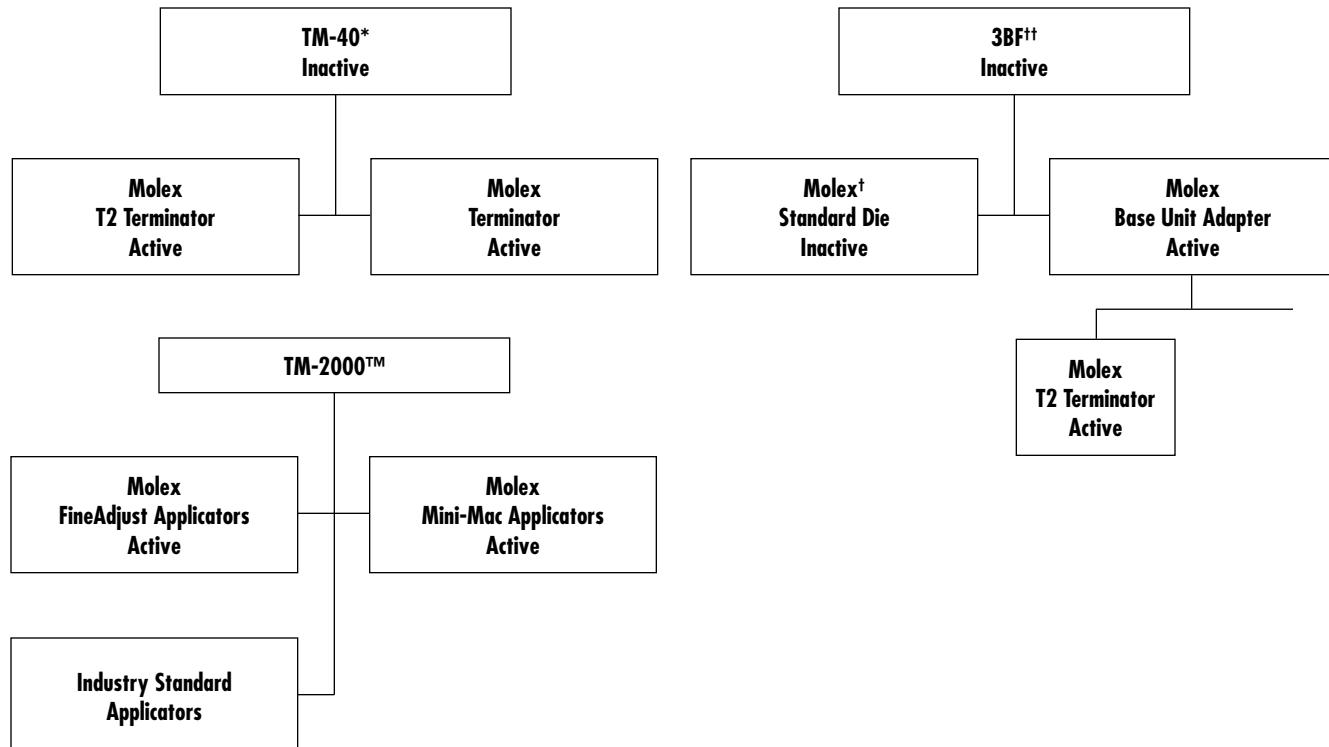
*Inactive means Molex no longer manufactures that press; however, we still provide crimp tooling for customers who have those presses
†Repair parts are not available for the Standard Die
††On the 3BF press, Molex no longer supplies spare parts. Contact Benchmaster.

Application Tooling

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Semi-Automatic Bench Top Crimp Press Tooling

FineAdjust Applicator

Insulation Cam
Conductor Cam
Drag Frame
Feed Finger
Punches
Track Adjustment
Base Plate
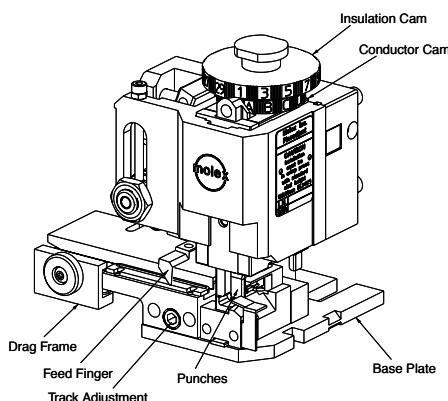
The Molex FineAdjust Applicator is an improved version of the Molex Mini-Mac Applicator. The FineAdjust will be replacing the Mini-Mac where possible. Most 14 AWG and lower (16, 18, 20, etc.) will be designed into the FineAdjust Applicator over time.

The Molex FineAdjust Applicator is designed to provide an effective method of applying a wide range of side feed terminals to a prestripped discrete wire and cable. It is the most advanced version of a "universal" crimping tool available. This applicator works in the Molex TM-3000™ and TM-2000 Universal Press and in most industry standard presses. The FineAdjust applicator offers minimal setup time without the need for shimming, is versatile, reliable, easy to install, and is designed for mid- to high-volume, semi- or fully-automatic operations.

Features

- Fine adjustment allows users to achieve target with little effort by adjusting on increments of 0.15mm (.0006") for conductor crimp height and .063mm (.0025") for insulation height
- Independent adjustment rings allow users to quickly adjust the conductor or insulation crimp height without affecting each other
- Quick tooling removal with the push of a button for fast and easy tooling change
- Track adjustment for bellmouth and cut-off tab is adjusted while the applicator is in the press for fast and easy setup
- Compatible with the Molex TM-3000™ and TM-2000 Universal Press and most industry standard presses, however, it does not fit into Molex TM-40/42 press
- Directly adapts to most automatic wire processing machines
- Quick set-up time; plus the crimp height, track and feed adjustments can be preset in applicator
- Applicator designed to industry standard mounting and shut height 135.80mm (5.346")
- FineAdjust available for most Molex brand terminals

Mechanical

Dimensions: Height—152mm (6.00")
Width—132mm (5.20")
Depth—101mm (4.00")
Weight: Gross—5.4kg (12 lb)
Unpacked—4.1kg (9 lb)
Mechanics: Stroke 28.5mm (1.125") and 41.3mm (1.625")
Shut Height: 135.8mm (5.346")
Processing Capability: 2500 terminations per hour, depending on operator's skill and application

Mini-Mac Applicator

Conductor Cam
Insulation Cam
Drag Frame
Feed Finger
Track Adjustment
Punches
Anvils
Base Plate
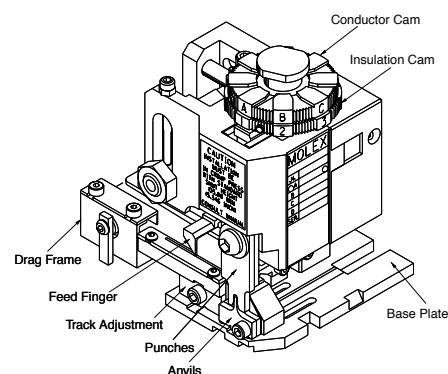
The Molex Mini-Mac Applicator is designed to provide an effective method of applying a wide range of side feed terminals to a pre-stripped discrete wire and cable. This applicator works in the Molex TM-3000™ and TM-2000 Universal Press and in most industry standard presses. The Mini-Mac Applicator is versatile, reliable, easy to install, and is designed for mid- to high-volume, semi- or fully-automatic operations.

Terminals that are 12 AWG and larger (10, 8, etc.) will continue to be designed into the Molex Mini-Mac applicator. Terminals that arre 14 AWG and smaller (16, 18, 20, etc.) will eventually be designed into the Molex FineAdjust applicator, where possible.

Mechanical

Dimensions: Height—152mm (6.00")
Width—132mm (5.20")
Depth—101mm (4.00")
Weight: Gross—5.4kg (12 lb)
Unpacked—4.1kg (9 lb)
Mechanics: Stroke 28.5mm (1.125") and 41.3mm (1.625")
Shut Height: 135.8mm (5.346")
Processing Capability: 2500 terminations per hour, depending on operator's skill and application

Features

- Conductor and insulation rings allow quick adjustment for conductor and insulation diameter change
- Quick set-up time; plus the crimp height, track and feed adjustments can be preset in applicator
- Compatible with the Molex TM-3000™ and TM-2000 Universal Press and most industry standard presses, however, it does not fit into the Molex TM-40™ or TM-42™ presses
- Applicator designed to industry standard mounting and shut height 135.80mm (5.346")
- Directly adapts to most automatic wire processing machines
- Mini-Mac available for most Molex brand terminals

molex

Semi-Automatic Bench Top Crimp Press Tooling

T2 Terminator Dies
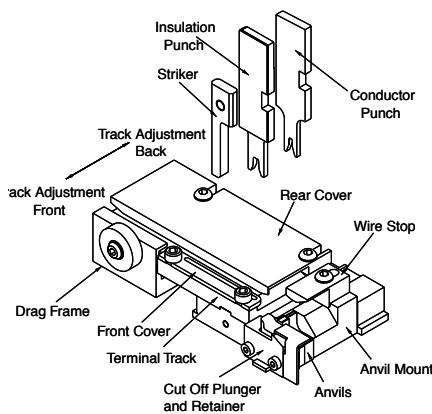
The Molex T2 Terminator is the newer version tool that allows for track adjustment. It contains the identical perishable tooling as the Molex FineAdjust applicator. (Center carrier excluded.) The Molex T2 Terminator will be replacing the Molex Terminator where possible. Most 14 AWG and lower (16, 18, 20, etc.) will eventually be designed into the T2 over time.

The Molex T2 Terminator is an easy to use tool for the termination of a variety of Molex crimp terminals. Production flexibility is obtained through the use of simple interchangeable tooling. The tooling is inexpensive, and unlike a modular applicator, all crimp height and terminal feed adjustments are located in the press. The terminator die can be installed in the TM-42, TM-40 presses or Base Unit adaptor, and is ideally suited for mid-volume bench operation.

Features
- Flexible and inexpensive
- Enhanced crimping productivity
- Simple installation
- Quick release punches
- T2 terminator has standardized tooling with Molex FineAdjust Applicator
- Track adjustment capabilities in the T2 Terminators for improved control of the bellmouth size and cutoff tab length
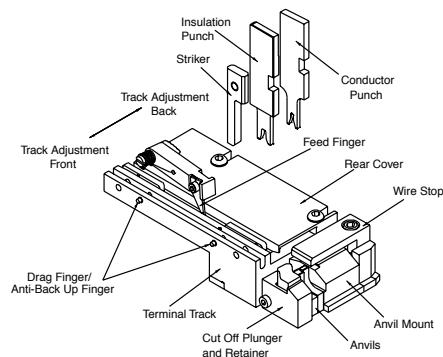
Mechanical
Dimensions: Height—25mm (1.0")
Width—127mm (5.0")
Depth—44mm (1.8")
Weight: 1.4kg (3.0 lb)

Terminator Dies

The Molex Terminator is an easy to use tool for the termination of a variety of Molex crimp terminals. Production flexibility is obtained through the use of simple interchangeable tooling. The tooling is inexpensive, and unlike a modular applicator, all crimp height and terminal feed adjustments are located in the press. The terminator die can be installed in the TM-42, TM-40 presses or Base Unit adaptor, and is ideally suited for mid-volume bench operation.

Features
- Flexible and inexpensive
- Enhanced crimping productivity
- Simple installation
- Quick release punches

Mechanical
Dimensions: Height—25mm (1.0")
Width—127mm (5.0")
Depth—44mm (1.8")
Weight: 1.4kg (3.0 lb)


Base Unit Terminator
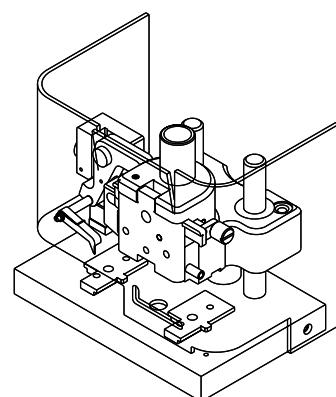
Features
- Adapts to the Molex 3BF Press to accommodate TM-40, TM-42 Terminator Dies
- Low cost method of achieving flexibility in terminating various contact configurations in the same press
- Adjustable positive feed positioning
- Quick insulation and conductor crimp height adjustments
- No press ram adjustments after initial set-up
- Safety guard included with each unit

Specifications
Size: Width—190mm (7.5")
Depth—127mm (5")
Height—7.2mm (6.5")
Weight: 7.2kg (16 lb)
Adjustments: Conductor Crimp Height—0.025mm (.001")
Total Adjustments—0.625mm (.025")
Insulation Crimp Height—0.203mm (.008")
Total Adjustment—1.626mm (.064")

Application Tooling

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Fully Automatic Wire Process Machines
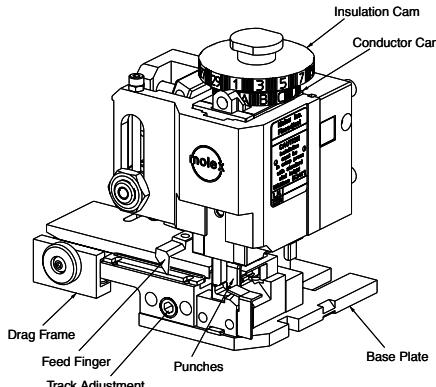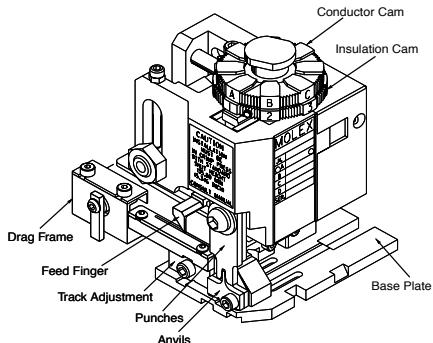
Molex does not offer a line of wire process machines. However, our FineAdjust and Mini-Mac Applicators are designed to work in most standard wire process machines. These applicators can be quickly changed over from pre-feed to post-feed for a wire processor. Contact Molex (1-800-786-6539) and ask for Application Tooling. We can answer questions and provide recommendations for wire processor machines.

How to Order Crimp Tooling

*You need to answer the following questions:*

1. Verify you are using Molex Terminals and write down the product order number

   • Molex Application Tooling designs its tooling (hand tools, applicators, and dies) specifically for Molex terminals. If you are using non-Molex terminals, those terminals have not been qualified in our tooling. Therefore, we can not guarantee its performance.

2. Volume—You need to determine your volume requirement

   • Hand Tool—Prototyping and/or field repair

   • Semi-Automatic Tooling—Low to medium production volumes

   • Fully-Automatic—High product volumes

3. Wire Gauge—Verify the gauge wire you are using (For example, 16 AWG, 18-24 AWG)

4. Insulation Diameter—Verify the insulation diameter of the wire you will be using

5. What type of tooling are you currently using

   • This will help determine what type of tooling package is needed. For example, if you are using hand tools only and are inquiring about applicators, you will also need a press (TM-2000—Applicators, TM-42—Terminator Dies). If you are using applicators your production requirements may or may not require that you purchase another press.

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Wire Gauge Classifications*

AWG	(Stranding/AWG)	Diameter	Circular Mils	Area
4/0	(2107/30)	13.26 (0.522)	210700	106.764 (0.16548)
3/0	(1672/30)	11.79 (0.464)	167200	84.722 (0.13132)
2/0	(1330/30)	10.52 (0.414)	133000	67.392 (0.10446)
1/0	(1045/30)	9.35 (0.368)	104500	52.951 (0.08207)
2	(665/30)	7.42 (0.292)	66500	33.696 (0.05223)
4	(420/30)	5.89 (0.232)	42000	21.282 (0.03299)
6	(266/30)	4.67 (0.184)	26600	13.478 (0.02089)
8	(1/30)	3.25 (0.128)	16384	8.302 (0.01287)
	(19/21)	3.68 (0.145)	15433	7.820 (0.01212)
	(49/25)		15700	7.955 (0.01233)
	(133/29)	3.73 (0.147)	16983	8.605 (0.01334)
	(168/32)		16800	8.513 (0.01319)
	(665/36)		16625	8.424 (0.01306)
10	(1)	2.59 (0.102)	10384	5.261 (0.00816)
	(37/26)	2.92 (0.115)	9354	4.740 (0.00735)
	(49/27)	2.95 (0.116)	9880	5.006 (0.00776)
	(105/30)		10500	5.320 (0.00825)
12	(1)	2.06 (0.081)	6529	3.308 (0.00513)
	(7/20)	2.44 (0.096)	7168	3.632 (0.00563)
	(19/25)	2.36 (0.093)	6088	3.085 (0.00478)
	(37/28)	2.29 (0.090)	5874	2.976 (0.00461)
	(65/30)	2.41 (0.095)	6500	3.294 (0.00511)
	(165/34)		6549	3.318 (0.00514)
14	(1)	1.63 (0.064)	4109	2.082 (0.00323)
	(7/22)	1.85 (0.073)	4481	2.270 (0.00352)
	(19/27)		3831	1.941 (0.00301)
	(41/30)		4100	2.078 (0.00322)
	(105/34)		4167	2.112 (0.00327)
16	(1)	1.29 (0.051)	2581	1.308 (0.00203)
	(7/24)	1.52 (0.060)	2828	1.433 (0.00222)
	(19/29)	1.47 (0.058)	2426	1.229 (0.00191)
	(26/30)	1.50 (0.059)	2600	1.317 (0.00204)
	(65/34)		2580	1.307 (0.00203)
	(105/36)	1.47 (0.058)	2625	1.330 (0.00206)
18	(1)	1.02 (0.040)	1624	0.823 (0.00128)
	(7/26)	1.22 (0.048)	1770	0.897 (0.00139)
	(16/30)	1.19 (0.047)	1600	0.811 (0.00126)
	(19/30)	1.24 (0.049)	1900	0.963 (0.00149)
	(41/34)	1.19 (0.047)	1627	0.825 (0.00128)
	(65/36)		1625	0.823 (0.00128)

AWG	(Stranding/AWG)	Diameter	Circular Mils	Area
20	(1)	0.81 (0.032)	1024	0.5189 (0.00080)
	(7/28)	0.97 (0.038)	1111	0.5631 (0.000873)
	(10/30)	0.89 (0.035)	1000	0.5067 (0.000785)
	(19/32)	0.94 (0.037)	1216	0.6162 (0.000955)
	(26/34)	0.91 (0.036)	1032	0.5229 (0.000810)
	(41/36)		1025	0.5194 (0.000805)
22	(1)	0.64 (0.025)	640.1	0.3243 (0.000503)
	(7/30)	0.76 (0.030)	700.0	0.3547 (0.000550)
	(19/34)	0.79 (0.031)	754.1	0.3821 (0.000592)
	(26/36)	0.76 (0.030)	650.0	0.3294 (0.000511)
24	(1)	0.51 (0.020)	404.0	0.2047 (0.000317)
	(7/32)	0.58 (0.023)	442.4	0.2242 (0.000347)
	(10/34)	0.61 (0.024)	396.9	0.2011 (0.000312)
	(19/36)	0.58 (0.023)	475.0	0.2407 (0.000373)
	(41/40)		404.2	0.2048 (0.000317)
26	(1)	0.40 (0.016)	252.8	0.1281 (0.000199)
	(7/34)	0.53 (0.021)	277.8	0.1408 (0.000218)
	(10/36)	0.51 (0.020)	250.0	0.1267 (0.000196)
	(19/38)	0.48 (0.019)	298.0	0.1510 (0.000234)
28	(1)	0.32 (0.013)	158.8	0.0804 (0.000125)
	(7/36)	0.33 (0.013)	175.0	0.0887 (0.000137)
	(19/40)	0.38 (0.015)	187.3	0.0949 (0.000147)
30	(1)	0.25 (0.010)	100.0	0.0507 (0.000079)
	(7/38)	0.30 (0.012)	109.8	0.0556 (0.000086)
	(19/42)		117.8	0.0597 (0.000093)
32	(1)	0.20 (0.008)	63.20	0.0320 (0.000050)
	(7/40)		67.27	0.0341 (0.000053)
	(19/44)	0.23 (0.009)	76.00	0.0385 (0.000060)
34	(1)	0.160 (0.0063)	39.69	0.0201 (0.000031)
	(7/42)	0.191 (0.0075)	43.40	0.0220 (0.000034)
36	(1)	0.127 (0.0050)	25.00	0.0127 (0.000020)
	(7/44)	0.152 (0.0060)	27.44	0.0139 (********)
38		0.102 (0.0040)	15.68	0.0079 (********)
40		0.079 (0.0031)	9.86	0.0050 (********)
42		0.064 (0.0025)	6.20	0.0031 (********)
44	(1)	0.051 (0.0020)	3.92	0.0020 (********)
46		0.041 (0.0016)	2.46	0.0012 (********)
48		0.030 (0.0012)	1.54	0.0008 (********)
50		0.025 (0.0010)	0.98	0.0005 (********)

*Classifications of insulated round Copper conductors

Application Tooling

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Application Tooling
Hand Crimp Tools

Features and Benefits
- Full-cycle ratcheting hand tool ensures complete crimps
- Long handles for comfortable crimping with reduced crimping force
- Precision user-friendly terminal locator wire stop holds terminals in the proper crimping position where required
- Insulation crimp adjustment allows a precise insulation crimp to meet or exceed the requirement of UL, CSA and Military Class II
- Three-nested tool available, which eliminates the need for additional tools in many applications

Description	Order No.	Used With
Crimp Hand Tools	Dependent on terminal. See website for details.	Molex terminals, splices, quick disconnects and vital relay terminals

19279-0001
Air Tool Crimper*

19078-0307
Bench Adapter Assembly

Features and Benefits
- Pneumatic tool weighing less than 2 pounds produces a higher output with less operator fatigue than standard ratchet-style hand tools
- Consistent, high-quality crimped terminals with die changeover in less than 2 minutes, which increases production output
- Multiple AT-200 die heads available, which provide for production flexibility for a wide range of terminals from 8 to 26 AWG
- All AT-200 crimp heads meet or exceed UL and CSA standards
- Operated on standard shop air (85.95 psi) and is perfect for assembly line operation

Description	Order No.	Used With
Air Tool	19279-0001	Air Tool Heads
*Air Tool Head	Dependent on terminal. See website for details.	Air Tool
†Air Tool Bench Adapter	19078-0307	Air Tool

* Crimp head sold separately
† Air Tool Bench Adaptor sold separately

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Application Tooling Battery Terminals

Hand-Held and Bench Mount Crimpers
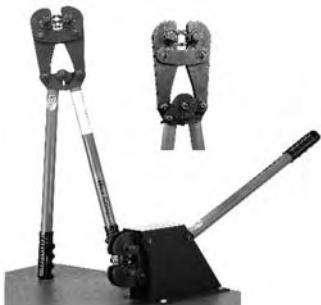
Features and Benefits
- Diamond, Hex and Metric crimping available in hand-held and bench mount models
- Bench mount also attaches to wall, service truck, etc.
- Bench mount tool is easier to use, safer and less likely to get damaged or lost
- Patented features
- Made in U.S.A.
- Connector cable range: 8 AWG through 250 MCM
- System of measurement: SAE
- UL listed when applied with Molex HexCrimp tools 19078-0007 and 19078-0008

Description	Order No.
Hand-Held Crimper 8 AWG-250 MCM	19078-0007
Bench Mounted Crimper 8 AWG-250 MCM	19078-0008
Replacement Dies	Contact Molex

HexCrimp, Jr.
19078-0006

Features and Benefits
- Lever-style crimping tool
- Designed for light- and medium-duty applications
- Crimp connectors 1 through 8 gauge
- Crimps all major brands of battery connectors, copper lugs and splices
- Adjustable crimp dies permanently attached
- Comfortable insulated handle

Description	Order No.
HexCrimp Jr. for 8-1 AWG	19078-0006

19294-0008

Features and Benefits
- Used for lower-volume production and maintenance jobs
- For non-insulated wire range 8 AWG through 4/0
- Excellent performance for the lowest cost

Description	Order No.
Manual compact maintenance tool for non-insulated 6-4/0 AWG	19294-0008

19286-0065

Features and Benefits
- Air Powered hydraulic crimper with a dieless head
- For crimping 8 AWG through 500 MCM non-insulated, and 8 AWG through 4/0 insulated ring tongue terminals and splices
- Compact and lightweight

Description	Order No.
Putt Pump Dieless Head System for 8 AWG-500 MCM non-insulated and 8 AWG-4/0 insulated	19286-0065

Application Tooling

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Application Tooling

19286-0065

Putt Pump
Dieless Head Crimper for Insulated and Non-Insulated Terminals and Splices

Features and Benefits

- Crimps a wide range of products and does not require die set changes, which reduces the overall cost and provides production flexibility
- Swivel base and terminal locator included to provide the operator with a user-friendly tool to increase productivity
- Complete lightweight system that allows the tool to be moved and stored easily

Specifications

Pneumatic: Supply Pressure—100 psi
          Air Pressure—125 psi max.
Cycle Time: 15 seconds

Tool Order No.	Wire Gauge (AWG)	Operating Pressure
19286-0065	8	40 psi
	6	45 psi
	4	50 psi
	2	55 psi
	1	65 psi
	1/0	65 psi
	2/0	70 psi
	3/0	75 psi
	4/0	75 psi
	250 MCM	85 psi
	300 MCM	90 psi
	350 MCM	90 psi
	400 MCM	100 psi
	500 MCM	100 psi

Description	Order No.	Used With
Hydraulic Hand Crimp Tool	19286-0065	Insulated and non-insulated terminals and splices 8 AWG-4/0

Note: The pressure settings shown in the chart refer to the SPX power team pump that is currently shipped with the PPDLH tool. Please review the instructions sent with your specific tool.

Application Tooling
Manual PPHHLS

19286-0117

Putt Pump
Hydraulic Head Crimper for Insulated and Non-Insulated Terminals and Splice

Features and Benefits

- Multiple crimping dies available for a wide wire range, which provides production flexibility
- Crimping dies are easily and quickly interchanged to reduce production downtime
- Lightweight system that allows the tool to be moved and stored easily

Specifications

Pneumatic: Supply Pressure—100 psi
          Air Pressure—125 psi max.
Cycle Time: 15 seconds

Tool Order No.	Wire Gauge (AWG)	Die Set for the PPDLH 19286-0117	
		VersaKrimp™ Terminals and Splices	NylaKrimp™/InsulKrimp™ Terminals and Splices
19286-0117	8	19290-0001	19289-0001
	6	19290-0004	19289-0004
	4	19290-0007	19289-0007
	2	19290-0010	19289-0010
	1		
	1/0	19290-0011	19289-0011
	2/0	19290-0012	19289-0025
	3/0	19290-0028	19289-0028
	4/0	19290-0031	19289-0031

Description	Order No.	Used With
Hydraulic Hand Crimp Tool	19286-0117	Insulated and non-insulated terminals and splices 8 AWG-4/0
Bench Adapter	19286-0051	PPHHLS

Application Tooling

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Application Tooling

19286-0107
DDLH Manual Crimp Hand Tool
Dieless

Features and Benefits
- Hand-held tool with 360˚ swivel head that permits use in confined areas
- Crimps a wide range of terminals for production flexibility
- External pressure adjustment allows operator to change setting easily
- Insulated fiberglass handles reduce shock hazard
- Steel carrying case included to prevent damage to the tool

Mechanical
Dimensions: Width—146mm (5.75")
               Length—554mm (22.00")
Weight: 5.22kg (11.50 lb)
Force Output: 6.2 tons at 10,000 psi

Tool Order No.	Wire Gauge (AWG)	Pressure Setting
19286-0107	8	3.0
	6	3.5
	4	4.0
	2	4.5
	1	6.0
	1/0	6.0
	2/0	6.5
	3/0	7.0
	4/0	7.0

Description	Order No.	Used With
Hand Crimp Tool	19286-0107	Insulated and non-insulated terminals and splices 8 AWG-4/0

Application Tooling

64001-3900
Heavy-duty Crimper

Features and Benefits
- Heavy-duty cable crimping tool with hand-held precision
- Handles insulated and non-insulated terminals in wire sizes 2 to 8 AWG
- Perfect for maintenance and lower-volume requirements
- A ratchet feature is standard
- Long handles give maximum mechanical advantage

Description	Order No.	Used With
Crimp Hand Tool	64001-3900	Insulated and non-insulated terminals, 2-8 AWG

Application Tooling

19284-0034
E-406
Manual Crimp Hand Tool

Features and Benefits
- Three interchangeable die sets come with the tool and are stored on the handle when not in use, which provides flexibility
- High-quality construction will provide longevity with proper care of the hand tool

Specifications
Weight: 1.81kg (4.0 lb)
Size: Height: 457mm (18.0")

Tool Order No.	Wire Gauge (AWG)	Die Insert
19284-0034	8	Insert A
	6	
	4	
	2	Insert C
	1	
	1/0	Insert B
	2/0	
	3/0	No Insert
	4/0	

Description	Order No.	Used With
Hand Crimp Tool	19284-0034	Insulated and non-insulated terminals and splices 8 AWG-4/0

Note: On some standard and minimum gauge cables, recrimping the assembly with the next smaller insert may be advisable for maximum circuit efficiency.

ATP-301
Air Tape Press

19228-0030

The ATP-301 air crimping press is an economical, electrically-controlled, air-powered termination machine. It is designed to provide an effective method for low cost, high-quality terminations of all Molex mylar tape carried products, sizes 8 to 26 AWG. It is extremely versatile and works in many manufacturing environments.

Features and Benefits

- Accepts multiple, inexpensive die sets, which provides production flexibility
- Die set and product changeovers are quick and easy, reducing production down time
- Compact design and light weight make this unit ideal for a production environment
- Double index feature allows products with double spacing to process through this unit with the proper die set
- Meets ISO standards

Specifications

Air Pressure: 95-100 psi (at the press)
6.55 / 7.58 Bar
Air Volume: 1 Press 1.5 scfm (.00071m³/s)

Electrical
Voltage: 120V AC, 60 Hz

Mechanical
Dimensions (With 24" Reel Mounting):
Height—889.00mm (35.00")
Width—1009.60mm (39.75")
Dimensions (Without Reel Mounting):
Height—355.60mm (14.00")
Width—355.60mm (14.00")
Depth—279.40mm (11.00")
Weight: Gross—115kg (52 lb)
Unpacked—97kg (44 lb)
Tape Reel Sizes: 355.60mm (24.00")
635.00mm (24.00")

Production Rate
Dependent on terminal product selection and operator skill
Single Index—2800 per hour
Double Index—2500 per hour

Description	Order No.	Used With
ATP-301 Air Crimp Press	19228-0030	Tape Carried Product, 8-26 AWG*

*Some tool kits available for 6 AWG product; however, the press is recommended to 10 AWG. 6 AWG and 8 AWG product should be for small prototype runs only—not production. Proceed at your own risk. For 4 to 8 AWG insulated and non-insulated terminal production runs, please see the 19047-0001 (ATP-201) Air Tape Press.

ATP-201™ Air Tape Press
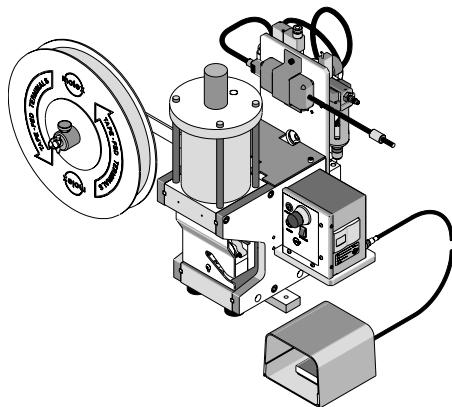
19047-0001

The ATP-201 (19047-0001) Air Tape Press is an economical, electrically controlled, air powered termination machine. It is designed to provide an effective method for low cost, high quality terminations of Molex tape carried products including 4 to 8 AWG insulated and non-insulated terminals and 2 to 8 AWG non-insulated BCL series lugs.

Features and Benefits

- Accepts multiple, inexpensive die sets, which provide production flexibility
- Die set and product changeovers are quick and easy, reducing production down time
- Compact design and light weight make this unit ideal for a production environment
- Double index feature allows products with double spacing to process through this unit with the proper die set
- Meets ISO standards

Electrical
Voltage: 120V AC, 60 Hz

Air Pressure
95-110PSI (At the press)
6.55/7.58 Bar

Air Volume
1 Press 1.5 scfm (.00071m³/s)

Mechanical
Dimensions (With 24" Reel Mounting):
Height—889.00mm (35.00")
Width—1009.60mm (39.75")
Dimensions (Without Reel Mounting):
Height—491.50mm (19.35")
Width—355.60mm (14.00")
Depth—279.40mm (11.00")
Weight: Gross—220.4kg (100 lbs.)
Unpacked—165.4kg (75 lbs.)
Tape Reel Sizes: 355.60mm (14.00")
635.00mm (24.00")

Production Rate
Dependent on terminal product selection and operator skill
Single Index—2800 per hour
Double Index—2500 per hour

Description	Order No.	Used With
*ATP-201 Air Tape Press	19047-0001	Tape Carried Product, 4-8 AWG insulated and non-insulated terminals and 2-8 AWG non-insulated BCL lugs

*Press accepts multiple die sets (not ATP-301 die sets). Review Molex tape product part number on Molex website to see the proper die set for ATP-201 that is linked. If unable to find the proper die set, please call 1-800-786-6539 and speak with a Molex Inside Sales representative

Application Tooling

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MagKrimp™ Application Tooling

19286
Hydraulic Pump

Features and Benefits
- Air-driven hydraulic pump with foot actuator
- Pump, hold and release modes of operation
- Equipped with pioneer male hydraulic coupler
- Torqued for 6.35mm (.250") NPT air hose fitting (not supplied)
- For light- to medium-duty OEM applications
- Operates all hydraulic installing heads

Specfications
Pressure: 10,000 psi max.
Recommended Operation Pressure: 9600 to 10,000 psi at 90 to 95 psi
Minimum Air Operating Pressure: 90 psi
Maximum Air Operating Pressure: 120 psi
Reservoir Capicity: 17 lb
Size: 10" L by 5" W by 7-3/4"
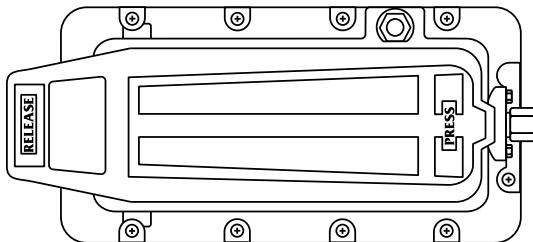
Description	Order No.
Hydraulic Putt Pump	19286-0059
6 Foot Hydraulic Hose	19286-0041
10 Foot Hydraulic Hose	19286-0042

Electric Hydraulic Pump

19078-0160
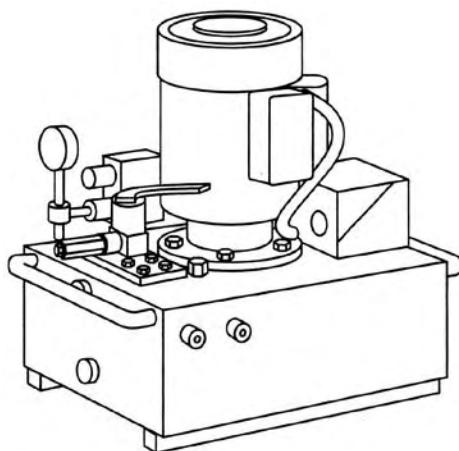
This high-pressure, heavy-duty hydraulic pump is used with single action cylinders and tools rated for 10,000 PSI operation. This pump is equipped with a special control circuit that requires full hydraulic pressure to be developed before the crimping will open. This assures that a proper crimp is made independent of operator judgment.

Specfications
Motor Rating: 1-1/2 H.P. 115 Volts - 60 Hz - 23 Amps
Maximum Pressure: 10,000 psi
Pumping Capacity: 235 cu. in/min. at 200 psi
61 cu. in/min. at 8,000 psi
Reservoir Volume: 2 gal (1-1/4 gal useable) hydraulic oil (ASTM1 viscosity grade of 215)
Overall Dimensions: Four 1/2-20NF mounting holes, 10" by 8"
Pump is equipped with casters which snap into mounting holes to permit easy movement.
Weight: 60 lb without oil
Applications: Pump is suitable for use with all Molex hydraulic tools

Description	Order No.
Electric Hydraulic Pump	19078-0160
6 Foot Hydraulic Hose	19286-0041
10 Foot Hydraulic Hose	19286-0042
Rebutt Electric Hydraulic Pump	64001-0081
Accessories: Hand Switch	19078-0197
Accessories: Foot Switch	19078-0196

MagKrimp™ Application Tooling

19078
Hydraulic Head (Open Yoke) 12 Ton
14 AWG to 230,000 CMA

Features and Benefits
- Crimp taps, butt and parallel splices and terminals
- Can be hand-held, suspended from above or bench mounted

Physical
Overall Length: 11-1/2"
Width: 4-1/4"
Operating Pressure: 10,000 psi max.
Weight: 10 lb
Output: 24,000 lb nominal
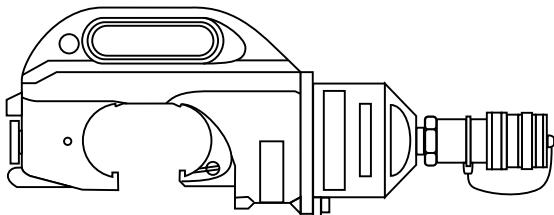
Description	Order No.
Includes Head 19078-0129, Pump 19253-0079 and Hoses. Light to medium duty applications.	19078-0122
Includes Head 19078-0129, Heavy Duty Electric Hydraulic Pump 19078-0160 Hoses and Foot Pedal. Heavy duty applications.	19078-0192
Accessories: Optional Bench Mount Bracket	19286-0051
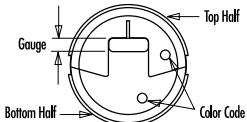
Fig. 1

Fig. 2

Die Order No.	Fig.	Color Code	Terminal Order No.	Die Gauging	
				Maximum	Minimum
19078-0130		Red	19195-1012 19195-1006 19195-1022 19195-1002 19195-1115	.174	.162
19078-0131	1	Blue	19195-1004 19195-1007 19195-1035 19195-1021 19195-1037 19195-1011 19195-1019	.246	.234

Die Order No.	Fig.	Color Code	Terminal Order No.	Die Gauging	
				Maximum	Minimum
19078-0132	1	Green	19195-1027 19195-1056 19195-1085 19195-1136 19195-1138	.470	.464
19078-0133		White	19195-1018	.112	.097
19078-0134		Yellow	19195-1005	.194	.179
19078-0176		Orange	19195-1032	.374	.359
19078-0135	2	None	19195-1023, 1034, 1031, 1040, 1041, 1044, 1047	*	

* Dies do not bottom. Gauge height will depend on number and size of wires in barrel. Pump must deliver 9800 psi.

Adapter Sets
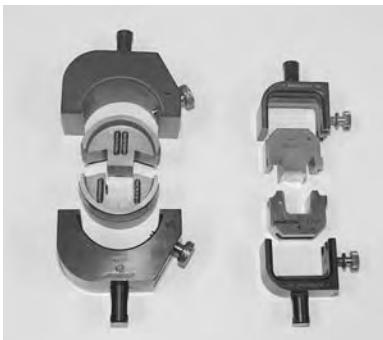
Molex adapter die sets consists of two nests, upper and lower, which are interchangeable. One set is to be used only with AMP's hydraulic tool 69082. The dies fit into the AMP tool the same way as AMP's dies fit into the 69082 crimp head. The second set is for AMP's tool 69099.

Die Order No.	Description	AMP Tool No.
19078-0818 19078-0819	Adapter die set Individual upper/lower die set	69082
19078-0825 19078-0826		69099

The Molex adapter die sets are designed for the following MagKrimp dies only.

Die Order No.	Description	AMP Tool No.
19078-0130	Red	
19078-0131	Blue	
19078-0132	Green	
19078-0133	White	69082
19078-0134	Yellow	
19078-0135	None	
19078-0176	Orange	
19078-0800	Red	
19078-0803	Blue	
19078-0806	White	69099
19078-0809	Yellow	

Application Tooling

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MagKrimp™ Application Tooling

19078
Hydraulic Head (Closed Yoke)
12 Ton
14 AWG to 215,000 CMA
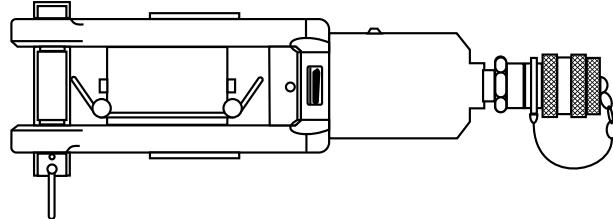
Features and Benefits
- Crimps butt splices, parallel splices and terminals
- Can be hand held or bench mounted
- Offers maximum clearance for crimping short leads or tight spaces

Physical
Overall Length: 14-1/2"
Width: 3-5/16"
Operating Pressure: 10,000 psi max.
Weight: 15 lb
Output: 24,000 lb nominal

Description	Order No.
Includes Head 19078-0136, Pump 19253-0079 and Hoses Light to medium duty applications	19078-0123
Includes Head 19078-0136, Heavy Duty Electric Hydraulic Pump 19078-0160, Hoses and Foot Pedal Heavy duty applications.	19078-0194

A
Die Fastener (Male)
Die Retainer (Remo
Die Gauge
Color Code
Top Half
Bottom Half
Color Code

Gaugings Section A-A
for 19078-0141
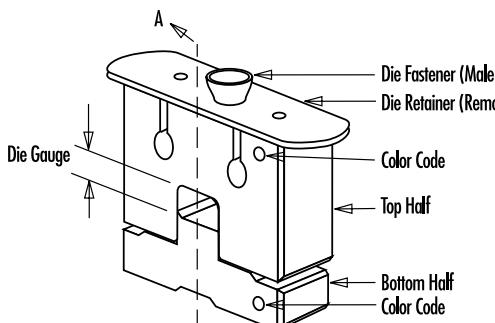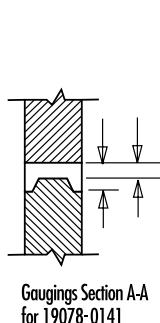
Die Order No.	Color Code	Terminal Order No.	Die Gauging	
			Maximum	Minimum
19078-0137	Red	19195-1022	.174	.162
		19195-1006		
		19195-1012		
		19195-1115		
		19195-1002		
19078-0138	Blue	19195-1004	.246	.234
		19195-1019		
		19195-1011		
		19195-1007		
		19195-1035		
		19195-1021		
		19195-1037		
19078-0139	Green	19195-1056	.470	.464
		19195-1085		
		19195-1136		
		19195-1138		
19078-0140	Yellow	19195-1005	.190	.183
19078-0141	White	19195-1018	A.108	.102
			B.122	.114

Application Tooling

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MagKrimp™ Application Tooling

19078
Hydraulic Head (Open Yoke) 6 Ton

Description	Order No
Open Yoke 6 Ton Head	19078-0789

Die Order No.	Color Code	Terminal Order No.	Die Gauging	
			Maximum	Minimum
19078-0800	Red	19195-1012	.174	.162
		19195-1006		
		19195-1022		
		19195-1002		
19078-0803	Blue	19195-1004	.246	.234
		19195-1007		
		19195-1035		
		19195-1021		
		19195-1037		
		19195-1011		
		19195-1019		
19078-0806	White	19195-1018	.112	.097
19078-0809	Yellow	19195-1005	.194	.179

Application Tooling

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Application Tooling
Commercial Micro-D Crimp Tooling for Contact

Insulation Cam

Conductor Cam

Drag Frame

Feed Finger

Punches

Track Adjustment

Base Plate
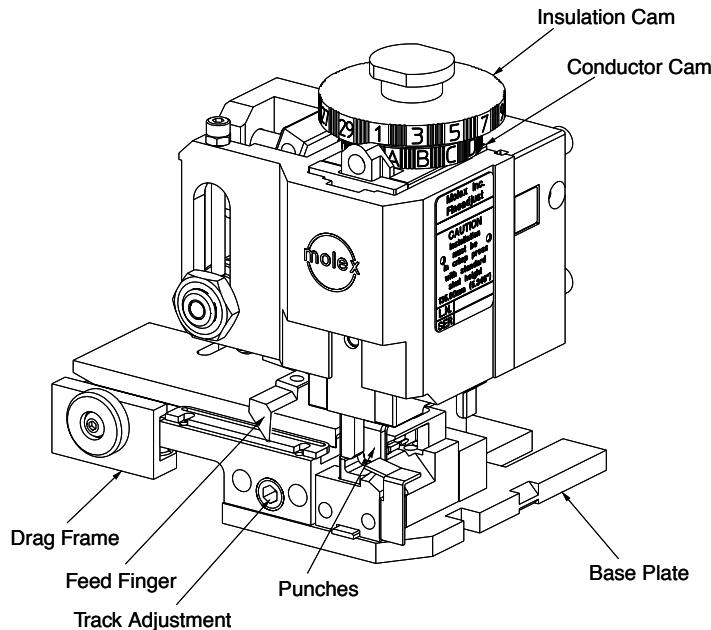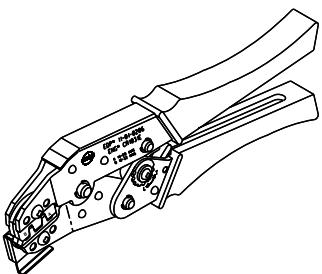
Description	Order No.	Product No.
Hand Tool	63811-4800	
FineAdjust Applicator	63862-2000	83000
TL Terminator Die	63852-2000	

Commercial Micro-D Strain Relief Crimp Tooling

MOLEX STANDARD MANUAL PRESS 11-31-6356

BACKSHELL CRIMP TOOL KIT
62200-9000
62201-9900
62202-0100
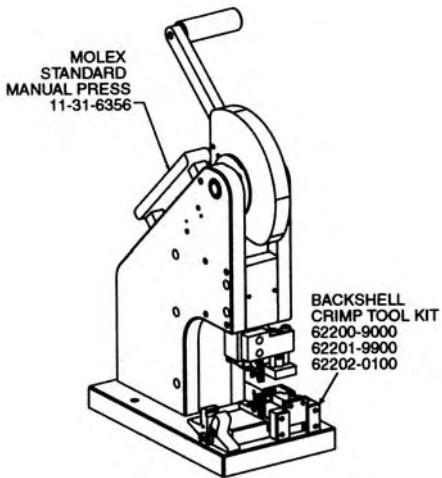
Circuits	Description	Order No.	Product No.
9	Hand Tool	62100-0900	83421
15		62100-4100	83442
25		62100-4200	83424
9	Press and Tool Kit	62200-8900	83421
15		62201-9800	83442
25		62202-0000	83424
9	Tool Kit Only	62200-9000	83421
15		62201-9900	83442
25		62202-0100	83424
All	Press Only	11-31-6356	All

Application Tooling

U

Insulation Displacement Technology (IDT) Tooling Hand Tools

Manual RF Coaxial and Ferrule Hand Tool

- For low-volume or portable applications
- Common tool frame with interchangeable dies
- High-quality, high-leverage tool frame
- Eccentric adjustment for closing force
- Full-cycle ratchet for complete crimp
- Ferrule crimp tools have 2 positions, 1 for large diameter and 1 for small diameter requiring 2 actuations to complete a ferrule crimp

Handle

Complete Tool

RF Dies

Ferrule Crimp Die

Description	Order No.		Connector Series	Ferrule Part No.	Ferrule Size (OD)
	Complete Tool	Dies Only			
Hand Tool Frame Only	11-31-6379				
Hand Tool for RF	Order dies and frame separately	11-31-9025	BNC, TNC, for RG/U 55, 58, 141A, 142B	RF Connector	
		11-31-9026	BNC, TNC, for RG/U 59, 62		
		11-31-9027	BNC for RG/U Cable 174, 188, 316		
Ferrule Crimp Hand Tool	Order dies and frame separately	11-32-4152	SEMCONN™ 4 circuit	89-00-3104	7.72/6.45 (.304/.254)
		11-32-4153	SEMCONN 6 circuit	89-00-3106	8.36/7.09 (.329/.279)
		11-32-4154	SEMCONN 8 circuit	89-00-3108	8.86/7.57 (.349/.298)
		11-32-4155	SEMCONN 16 circuit	89-00-3116	10.47/9.19 (.412/.362)
	62100-0100	62100-0101	LFH™	71256-0001	12.17/6.96 (.479/.274)
	62100-0200	62100-0201	LFH	71256-0002	12.17/10.64 (.479/.419)

Application Tooling

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Insulation Displacement Technology Tooling

Modular Discrete Wire and Ribbon Cable Hand Tools

- Single tool handle with series of snap-on modules for a variety of connectors
- Most modules for discrete wire automatically index to the next position
- A complete tool requires that both a handle and a module be ordered
- Full cycle ratchet feature to assure complete terminations
- For low volume, prototyping and repair
- Pneumatic adapters available

Modular System

A—Hand Tool Handle

Complete Tool

B

C

C

E

F

G

H

Description	Order No.	Type	Use With
Hand Tool Handle	63600-0478	A	Required for all modules

Discrete Wire, Feed-To Only, Self-Indexing

Description	Order No.	Type	Use with Molex Connector
Module for 2.00mm	11-39-0273	B	30452
Module for 2.50mm SPOX™	69008-0290		42219, 42254
Module for 2.50mm "User Friendly"			90650, 90652
Module for 2.50mm (.098") and 2.54mm (.100")	69008-0225	C	7720, 7720S, 7745, 8951, 40555, 40775, 40798, 40922
Module for 2.54mm (.100")	11-21-5196		7674, 7675, 8633, 40119, 40749, 40791, 40915, 41101
Module for 3.96mm (.156")			
Module for 5.00mm (.197") and 5.08mm (.200")	69008-0270		6952, 7823, 7933, 7935
Module for 2.54mm (.100")	62100-0700	B	70400, 70475, 90187
	62100-0300		71178

* Module power adapter includes 2 bottom bars to accommodate all ribbon cable modules

Discrete Wire, Feed-To and Feed-Through, Self-Indexing

Description	Order No.	Type	Use with Molex Connector
Module for 4.19mm (.165")	11-39-0303	B	71690, 71694
Module for 3.96mm (.156")	62100-0400	D	7674, 7675

Discrete Wire, Mass Terminate, No Index

Description	Order No.	Type	Use with Molex Connector
Module for 5.08mm (.200")	11-21-9756	E	70156
	11-32-6027	E	71156

Ribbon Cable, Mass Terminate, No Index

Description	Order No.	Type	Use with Molex Connector
Module Power Adapter and Table Clamp*	11-31-3337	F	Required for all ribbon cable modules
Module for 1.27mm (.050") MX50™/QF50™ Connectors	69008-0250	G	5320, 5321, 40312
Module for 1.27mm (.050") MX50 Connectors	11-31-3339		70121, 71898
Module, Cable Shear	11-31-3340	H	Cable Shear
Module, Milligrid	62100-2000	Not Shown	87568

Insulation Displacement Technology Tooling Pneumatic Hand Tool Adapters

Low Force for Single Wire Feed-To Modules
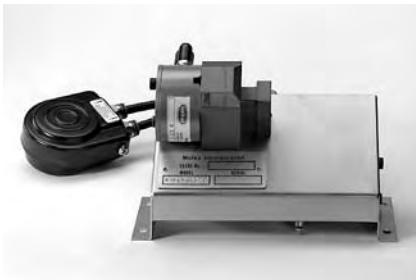
Features
- For low-volume users
- Utilizes modules from Molex hand tool
- Includes foot pedal and filter for air supply line

Specifications
Size: Width—180mm (7")
      Depth—75mm (3")
      Height—100mm (4")
Weight: 0.9kg (2 lb)
Pneumatics: Pressure—4 BAR (60psig)
      Consumption—2.8L per minute (0.1 CFM)
Rate: Up to 750 cycles per hour, dependent on operator speed and application

Description	Order No.		Use with Molex Connector
	Module	Adapter	
For 2.50mm (.098") and 2.54mm (.100") pitch connectors	69008-0225		7720, 7745, 7795, 8951, 40775, 40798, 40922
For 2.50mm (.098") pitch connectors	69008-0290		42219, 42254
For 2.54mm (.100") pitch connectors	11-21-5196	11-20-0739	40555
For 3.96mm (.156") pitch connectors			7674, 7675, 8633, 40119, 40749, 40791, 40915, 41101
For 5.00mm (.197") and 5.08mm (.200") pitch connectors	69008-0270		7823, 7933, 7935

High Force for Ribbon Cable, Mass Terminating and Feed Through Modules

Features
- For low-volume users
- Utilizes modules from Molex hand tool that require high force and/or feed-through terminations
- Allows user to position module in various orientations
- Clamps to workbench (up to 3" thick)

Specifications
Size: Width—130mm (5")
      Depth—180mm (7")
      Height—330mm (13")
Weight: 3.2kg (7 lb)
Pneumatics: Pressure—4 BAR (60psig)
      Consumption—6L per minute (0.2 CFM)
Rate: Up to 750 cycles per hour, dependent on operator speed and application

Description	Order No.		Use with Molex Connector
	Module	Adapter	
For 2.54mm (.100") pitch connectors	62100-0700		70400, 70475, 90187
Module for 5.08mm (.200") pitch connector	11-21-9756	11-31-1570	70156
	11-32-6027		71156
Module for Mini-Fit IDT	11-39-0303		71694, 71690

Application Tooling

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Insulation Displacement Technology Tooling
Low Force Manual Presses

For Ribbon Cable

Features
- For medium-volume users
- Feed-through or feed-to assembly
- Lightweight and portable

Specifications
Size: Width—152mm (6")
      Depth—305mm (12")
      Height—254mm (10")
Weight: 8.1kg (18 lb)

Description	Order No.	Use with Molex Connector
.100" Pitch Manual Press	11-20-0179	7720, 40555
.156" Pitch Manual Press	11-20-0314	7674, 7675
.098" Pitch Manual Press*	11-20-0436	8160
.156" Pitch Manual Press	11-20-0815	7660/7664

*For use with connector 8160—up to 20 circuits (terminates feed-to only)

Manual Low Force Press and Interchangeable Tool Kits for QF-50™ for Ribbon Cable

Features
- For medium volume users
- Feed-through or feed-to assembly
- Lightweight and portable
- Cable shearing capabilities
- Interchangeable tooling that is compatible with most competitive presses

Specifications
Size: Width—203mm (8")
      Depth—305mm (12")
      Height—360mm (14")
Weight: 6.9kg (15 lb)

Description	Order No.	Tool Change Kit Order No.	Use with Molex Connector
Manual Press (Press Only)	11-21-0679		All .050" pitch Molex connectors
Universal Adapter Plate*	11-31-2176		70121, 70625, 71247, 71891
		11-31-2187	5360 Qik Flecs™
		11-31-2335	5320 Qik Flecs

*If customer already has Universal Adapter Plate Assembly, all that is required for each above connector is the appropriate tool change kit
Customer Application Note: If application requires terminating the 71007, 70121, 40312 or 5320 connector above 60 circuits, the customer is advised to check the manual press platen length. All new manual presses are shipped with extended platens measuring 3.75". However, if the customer already has a manual press, it is possible the platen length is 3.25". The platen is a black aluminum "T" shaped piece located at the bottom end of the manual press ram. If the customer expects to terminate 64 circuit connectors, the extended platen (3.75") may be ordered using rder No. 11-10-1055.

Application Tooling

U

Insulation Displacement
Technology Tooling
Low Force Manual Presses

Modular Euro Manual Press

Features
- For medium-volume users
- Feed-through or feed-to assembly
- Lightweight and portable

Specifications
Size: Width—152mm (6")
     Depth—305mm (12")
     Height—457mm (18")
Weight: 7.8kg (17.2 lb)

Description	Order No.	Use with Molex Connector
Manual Press	69020-0660	All equipment listed below
Cable Shear Module	69020-0900	To shear ribbon cable of all sizes
Assembly Module	69020-0680	5320
	69020-0710	5350, 5360, 5370, 5380 QF50
Termination Fixture	69020-0320	7720, 7720S
	69020-0770	7674, 7675
	69020-0785	7790
	69020-1902	90327, 90584
	69020-1908	91577

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Insulation Displacement Technology Tooling High Force Manual Press

High Force Manual Press

Features
- For medium-volume users
- Low handle force to reduce operator fatigue
- Portable
- Accepts a large number of connector-type tool kits
- Full-cycle ratchet
- Quick tooling changeover
- Termination height fine adjustment with lock screw

Specifications
Size: Width—152mm (6")
  Depth—533mm (10.5")
  Height—267mm (21")
Weight: 23kg (50 lb)
Maximum Force: 13.3kN (3000 lb)
Shut Height: 42.00mm (1.650")
Stroke Length: 43.00mm (1.690")

Description	Order No.
Manual Press Only (No Tooling)	11-31-6356

Tooling Kits for High Force Manual Press

Single Termination Discrete Wire

A

B

Connector	Description	Order No. Complete Manual Press	Order No. Tool Kit	Figure
30452—2.00mm	Feed-To Only, Manual Index	11-20-1298		A
2.50mm—SPOX™		11-20-1278	11-39-0001	B
2.50mm—"User Friendly"		11-21-9963	11-21-9998	B

Mass Termination Discrete Wire Tooling

C

D

Connector	Description	Order No. Complete Manual Press	Order No. Tool Kit	Figure
71156	Feed-To or Feed-Trough, No Index—4 Wire	11-20-1286	11-39-0034	C
70156		11-20-1317	11-39-0119	C
71690, 71694	Feed-To or Feed-Trough, No Index	11-20-1328	11-39-0277	D

Insulation Displacement Technology Tooling
Tooling Kits for High Force Manual Press

Mass Termination
Ribbon Cable

E

F

Connector	Description	Order No.		Figure
		Complete Manual Press	Tool Kit	
30452—2.00mm		11-20-1327		E
2.50mm—SPOX	Feed-To Only	11-21-9757	11-32-1956	F
2.50mm—"User Friendly"		11-20-1277	11-39-0002	
87568 MilliGrid 2.00mm	Feed-To and Feed-Through		62100-3200	Not Shown

Mass Termination
Ribbon Cable .050 and .025"

A

D

C   B

E
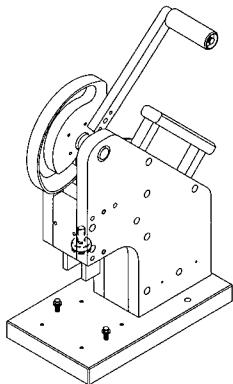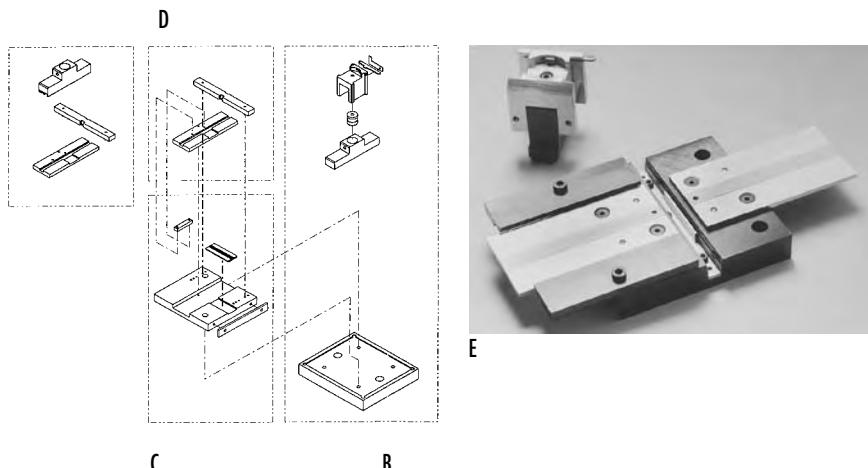
Tooling Accessories		
Description	Order No.	Figure
Universal Adapter Plate	11-31-2176	C
Ribbon Cable Tooling Adapter	11-20-0947	B
Manual Press with Tooling Adapter	11-20-1170	A + B
Universal Adapter Plate and Ribbon Cable Adapter	11-21-9933	B + C

Connector	Description	Order No.		Tool Kit Figure
		Complete Manual Press	Tool Kit Only*	
71522 DL50 Plug		11-20-1163		
71521 DL50 Receptacle		11-20-1164		
71527, 71528, 71530, 71531 D-Sub	1.27mm (.050") Ribbon Cable Feed-To, Feed-Through	11-20-1165	11-21-9391	D
5360 QF50™		11-20-1168	11-31-2187	
5320 QF50		11-20-1169	11-31-2335	
70720, 70721 DL50			11-21-9746	
79058 SCSI+				
70498 SCSI+	0.63mm (.025") Ribbon Cable Feed-To, Feed-Through	62200-5500	62200-4600	E
EBBI 71660				

* If you already own a press, only tool kit is necessary

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Insulation Displacement Technology Tooling

PB13 Pneumatic Terminator
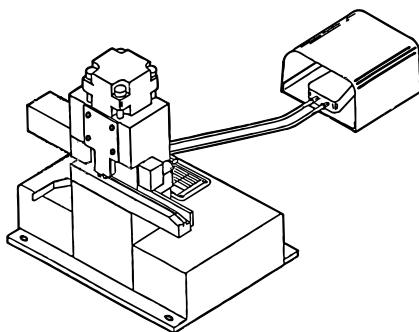
Features

- For processing hand-placed connectors, discrete wire
- Automatic connector indexing after termination
- Pneumatically operated cycle timer ensures stroke completion
- Leaves operator free to work with both hands

Specifications

Size: Width—250mm (9.8")
      Depth—150mm (5.9")
      Height—215mm (8.5")
Weight: 11kg (24.3 lb) approx.
Pressure: 6 BAR (90psig)

Description	Module Order No.	Use with Molex Connector
Hand Placed Connectors	69012-0750	7675
Side Loader	69012-0600	7720
Hand-Placed Connectors	69012-0700	
	69012-0350	52051
	69012-0280	90153, 90154, 90175

Manual Telephone Plug Tooling

A

B

C

D

E

F
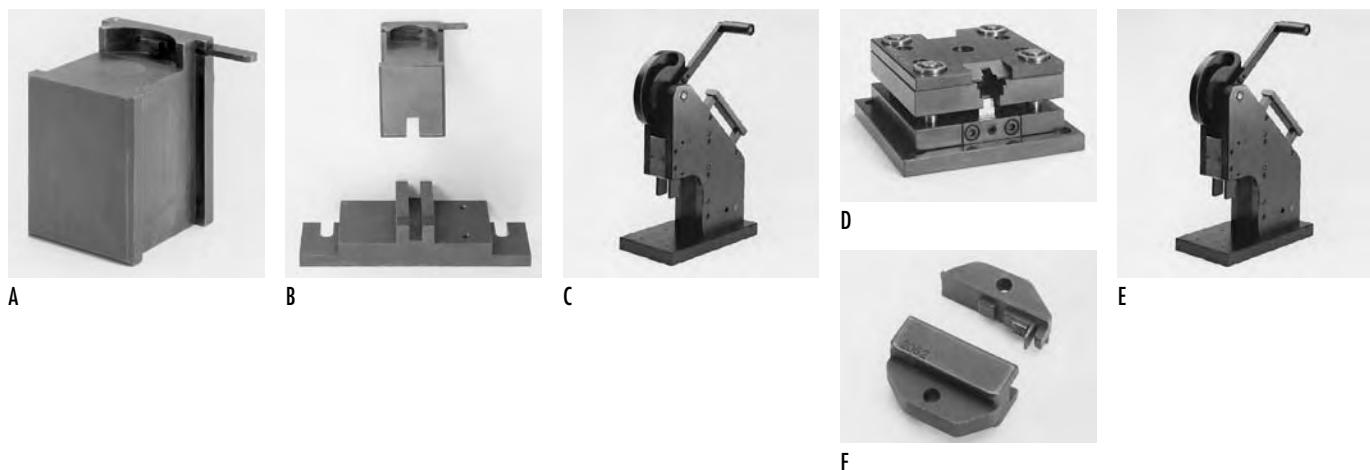
Description	Order No.	Figure
Adapter for 90075	11-21-9933	A
Adapter for 87031	11-31-7559	B

Connector	Size	Order No.	
		Complete Manual Press	Dies Only
		Figure C	Figure D
90075	4/4-6/6	11-20-1273	
	8/6-8/8	11-20-1274	69020-0140
		Figure E	Figure F
87031	4/4	11-20-1270	11-32-4767
	6/6	11-20-1271	11-32-4768
	6/2-6/4	11-20-1272	

Note: The above listed tools require loose piece telephone plugs

Insulation Displacement Technology Tooling Semi-Automatic Terminators

Semi-Automatic Mini-Cam for Discrete Wire
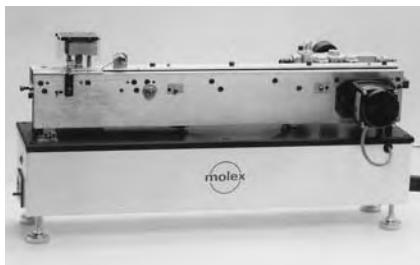
Features
- Can terminate feed-to, feed-thru or reverse feed-to*
- Quick and easy tooling change from feed-to to feed-thru
- Feed-to configuration has positive wire stop
- Adjustable wire length stop for daisy chain applications
- "CE" certified for Europe

Specifications
Size: Width—605mm (23.81")
     Depth—138mm (5.43")
     Height—307mm (12.12")
Weight: 21.0kg (46.3 lb)
Pneumatic: 5 to 6 BAR (80 to 90psi)
     7L per minute (0.25 CFM)
Electrical: 110V, 60 Hz or 220V, 50 Hz
Connector to Connector Spacing: 38mm (1.5") for daisy chain
Rate: Up to 1200 terminations per hour dependent on operator speed and application

Description	Order No.	Use with Molex Connector
Mini-Cam IV Semi-Automatic Termination Machine for .156" KK	62300-0156	7674, 7675 and 40590
Mini-Cam IV Semi-Automatic Termination Machine for .100" KK	62300-0100	7720, 7795, 40555 and 41162
Mini-Cam IV Semi-Automatic Termination Machine for Mini-Fit IDT	62300-0200	71690, 71694

*Caution: For reverse feed-to configuration on either KK product families it is necessary for the terminated wires to protrude outside of the connector.
If your application does not allow for this condition, do not use the reverse feed-to termination.

Semi-Automatic IDT Machine for Discrete Wire or Ribbon Cable 2.00mm and 2.50mm
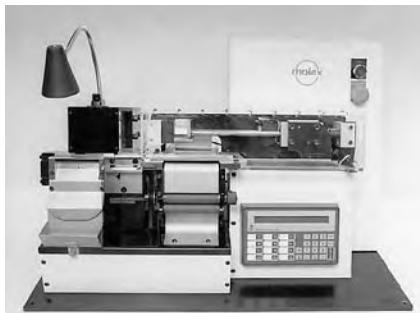
Features
- "CE" Certified
- Assembles either discrete wire or cable
- Connector packaged in "Ammo-Pak" and linked together by terminal carrier strips
- Automatic connector loading
- Automatic carrier break off
- Programmable void capability
- Foot-pedal operated
- Tooling supplied for both ribbon cable and discrete wire (2 cable blades supplied for largest circuit size require alteration to your specific application circuit size, see machine manual for ordering information on specific circuit size tools)

Specifications
Size: Width—760mm (30")
     Depth—480mm (19")
     Height—480mm (19")
Weight: 70kg (150 lb)
Pneumatics: Pressure—5 BAR (80psig)
     Consumption—28L per minute (1 CFM)
Electrical: Voltage—120V AC, 60 Hz or 220V AC, 50 Hz
     Current—2A at 120V or 1A at 220V
Rate: Up to 1200 terminations per hour (discrete) and 350 assemblies per hour (cable), dependent on operator speed and wire length

Description	Order No.	Use with Molex Connector
Hawk Terminator for SPOX™—Discrete Wire or Ribbon Cable	62300-0700	42219, 42254
Hawk Terminator for "User Friendly"—Discrete Wire or Ribbon Cable	62300-0500	90650, 90652
Hawk Terminator for 2.00mm—Discrete Wire or Ribbon Cable	11-20-1293	30452

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Insulation Displacement Technology Tooling Semi-Automatic Terminators

Semi-Automatic Ribbon Cable Terminator for PCB Connectors

Features

- Terminates prenotched cable to pre-assembled connectors
- Bench mounted and operator controlled
- Feeding of connectors from machine's magazine
- Pneumatically operated
- Feed-to or feed-through capabilities

Specifications

Size: Width—203mm (8")
      Depth—305mm (12")
      Height—432mm (17")
Weight: 13.5kg (30 lb)
Pneumatics: Pressure—5 BAR (80psig)
      Consumption—14L per minute (0.5 CFM)
Rate: Up to 550 assemblies per hour, dependent on operator speed and application

Description	Order No.	Use with Molex Connector
.100" Pitch Cable Terminator	11-20-0412	7720
.100" Pitch Cable Terminator with Backwalls	11-20-0771	7720, 40555
.100" Pitch Cable Terminator	11-20-1004	7720S
.100" Pitch Cable Terminator (Edge Card)	11-20-0411	7822
.156" Pitch Cable Terminator	11-20-0418	7674, 7675
.098" Pitch Cable Terminator	11-20-0498	8160
.098" Pitch Cable Terminator (Edge Card)	Contact Molex	
Terminator for 77955 Connector	11-20-0435	77955

Insulation Displacement Technology Tooling

Special Machines 62900-0000

Molex can quote special machines upon request with optional features that parallel the Phoenix/Eagle Series. In general, these machines differ by the manner in which connector termination and wire handling are accomplished. Additionally, daisy chain and different connector orientations can be accomplished.

Insulation Displacement Technology Tooling Fully Automatic Harness Assembly Machines

Eagle™ Series
62600-0000

Contact Molex to Order

Features

- Fully-automatic mass terminating machines for high-volume applications (minimum estimated annual usage of 10 million terminations)
- Dereel systems for discrete wire or cable available
- Double end having single-ended harness capabilities without strip
- Full strip for discrete wire
- Strip and retain for cable
- Single-ended harness capability with strip (38mm/1.5" max.) (Harness length of 76mm/3" min. to 610mm/24" max.)
- Up to 64 terminations per cycle (dependent on circuit size)
- User friendly solid state controller
- Self-diagnostic with program storage
- Large variety of value-added options (maximum of 2 secondary operation stations)

Specifications

Size: Width—1800mm (71")
     Depth—915mm (36")
     Height—1500mm (59")
Weight: 1370kg (2800 lb)
Pneumatics: Pressure—5 BAR (80psig)
     Consumption—142L per minute (5 CFM)
Electrical: Voltage—220V AC, 50 Hz or 240V AC, 60 Hz
     Current—40.0A (dependent on wire feed option)
Rate: 300 cycles per hour average, dependent on harness length

The Eagle machine is defined in this series by having wire length capability up to 610mm (24") max. and up to 2 secondary operator stations.

Phoenix™ Series
62700-0000
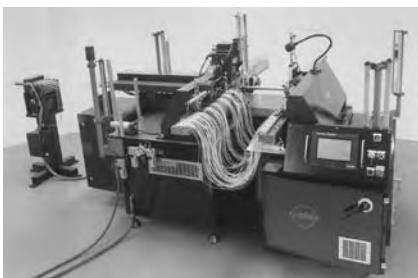
Contact Molex to Order

Features

- Fully-automatic mass terminating machines for high-volume applications
- Dereel systems for discrete wire or cable availability
- Double end having single-ended harness capabilities without strip
- Single-ended harness capability with strip (38mm/1.5" max.)
- Full strip for discrete wire
- Strip and retain for cable
- Up to 64 terminations per cycle (dependent on circuit size)
- Discrete wire with equal wire length capability (Harness length of 76mm/3" min. to 3048mm/120" max.)
- Various connector packaging options
- User friendly solid state controller (touch screen)
- Self-diagnostic with program storage
- Large variety of value-added options

Specifications

Size: Width—2300mm (91")
     Depth—1800mm (71")
     Height—1500mm (59")
Weight: 1800kg (4000 lb)
Pneumatics: Pressure—5 BAR (80psig)
     Consumption—142L per minute (5 CFM)
Electrical: Voltage—220V AC, 50 Hz or 240V AC, 60 Hz
     Current—40.0A (dependent on wire feed option)
Rate: 300 cycles per hour average, dependent on harness length

The Phoenix machine is defined in this series by having wire length capability up to 3048mm (120") and/or more than 2 secondary operator stations.

Optional Features for Eagle and Phoenix Series

- Wire dereeler systems: Up to 32 barrel capacity and up to 32 reel capacity
- Missing wire detection
- Wire splice detection
- Full strip for discrete wire
- Variable wire length capability: For single-end Eagle series: 76mm (3") min. to 610mm (24") max. For double-end Eagle series: 152mm (6") min. to 610mm (24") max.
- Discrete wire with variable wire length capability:
  —For single-end Phoenix series: Harness length of 152mm (6") min. to 3048mm (120") max. and maximum wire length within harness equal to approximately 4 times minimum length
  —For double-end Phoenix series: Harness length of 152mm (6") min. to 3048mm (120") max.
- Single or multiple notching or slitting for ribbon cable applications

Housing load:
    —Magazine style for bulk packaging
    —Single detuber for extruded tube packaging
    —Manual track for operator loading
    —Welded film dereeler for mylar reel packaging
    —Welded film unloader for mylar "Ammo Pak"
    —Vibratory or centrifugal bowl feeding for continuous loading
    —Tape dereeler for continuous tape packaging
Full strip and strip/retain for discrete wire and ribbon cable
Terminal insertion into housings (SL)
Continuity testing for double-ended assemblies

Product marking:
    —Hot stamping
    —Ink pad printing
    —Ink jet printing
    —Automatic labeling
Data storage for recall on floppy disk media through a personal computer

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Technical Wire Information

Definitions

CMA — Circular Mil Area is a unit of area equal to that of a circle whose diameter is one Mil.

MIL — One mil equals .001 inches.

.001 inch = 1 mil
.030 inch = 30 mils
.125 inch = 125 mils

Changing Inches to Mils

1. Multiply inches by 1000
2. Move decimal point 3 places to right
3. Change terminology,
   i.e. .032 in. = 32 thousandths or 32 mils

Computation of CMA

Round Solid Conductor: Change diameter from inches to mils, then multiply the diameter in mils by itself.

$$CMA = D \text{ mils} \times D \text{ mils}$$

Stranded Conductor: Find CMA of a single strand and multiply the result by the total number of strands.

$$CMA = (D \times D) \times \text{Number of Strands of one Strand}$$

AWG-CMA Table	
Terminal Size	CMA Range
22-26	202-810
20-24	320-1,020
18-22	509-2,600
16-22	509-3,260
14-16	2,050-5,180
12-14	3,260-8,213
10-12	5,180-13,100
8	13,100-20,800

AWG-CMA Table	
Terminal Size	CMA Range
6	20,800-33,100
4	33,100-52,600
2	52,600-83,700
1/0	83,700-119,500
2/0	119,500-150,500
3/0	150,500-190,000
4/0	190,000-231,100

Application Tooling

FPC Insertion Tool
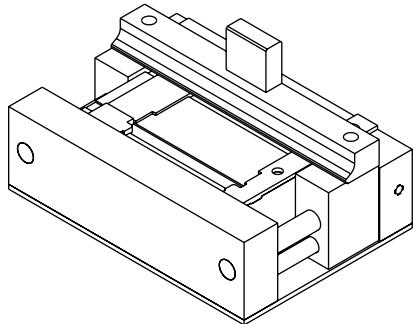
Features

- Easily adjustable from 6 to 30 circuits
- Tooling assures proper orientation of components for quality assembly
- Hand-operated tool which requires no air or electric

Specifications

Height: 50mm (2.00")
Weight: 1kg (2.2 lb)

Description	Order No.	Product No.
FPC Insertion Tool	62100-0800	54281

Application Tooling

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Application Tooling

Manual Hand Tool Handle for Milli-Grid 2.0
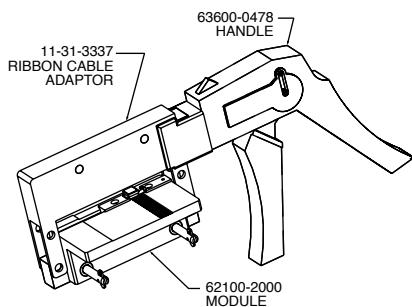
63600-0478 HANDLE

11-31-3337 RIBBON CABLE ADAPTOR

62100-2000 MODULE

Manual Hand Tool Module for Milli-Grid 2.0

62100-2000 HAND TOOL MODULE
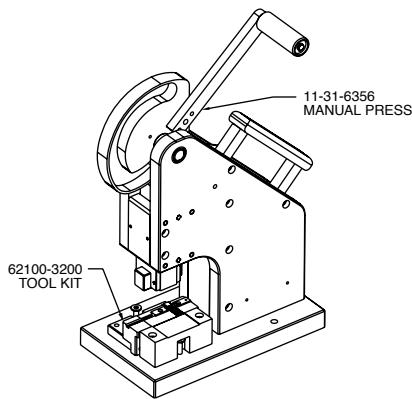
Features
- Terminates Milli-Grid 2.0mm dual row connectors
- Full-cycle ratchet
- Provides easy termination of flat ribbon cable
- Adjustable for circuit sizes from 10 to 50
- Adjustable cable stop
- Designed to produce feed-to or feed-through harnesses
- For low-volume, prototype and field repair

Description	Order No.	Used with Molex Connectors
Hand Tool Module	62100-2000	
Hand Tool Handle	63600-0478	87568
Ribbon Cable Power Adapter	11-31-3337	

If a complete tool is required, both of the parts above must be ordered.

Specifications
Rate: Approximately 150 terminations per hour, dependent on operator skill and application
Wire: Accepts 1mm pitch, flat cable

Manual Standard Press

11-31-6356 MANUAL PRESS

62100-3200 TOOL KIT

Manual Hand Tool Module for Milli-Grid 2.0

Features
- Terminates Milli-Grid 2.0mm dual row connectors
- Full-cycle ratchet
- Provides easy termination of flat ribbon cable
- Adjustable for circuit sizes from 10 to 50
- Adjustable cable stop
- Designed to produce feed-to or feed-through harnesses
- For low-volume, prototype and field repair

Description	Order No.	Used with Molex Connectors
Standard Manual Press	11-31-6356	
Tool Kit Only	62100-3200	87568

If a complete tool is required, both of the parts above must be ordered.

Specifications
Rate: Approximately 150 terminations per hour, dependent on operator skill and application
Wire: Accepts 1mm pitch, flat cable

Application Tooling

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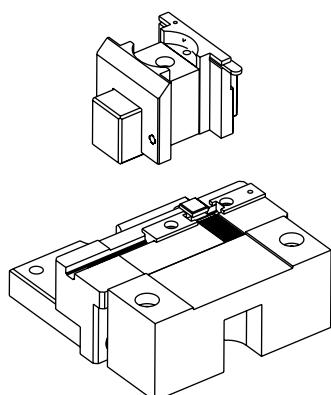
Application Tooling

Manual IDT Hand Tool for Mi II™

Features
- Manually terminates discrete wire into Mi II IDT terminals
- Primarily for prototype work
- Tool complete with change parts for 3 connector styles

Description	Order No.	Product No.
Manual IDT Tool	57325-5000	52484, 52478, 52693
	57834-5000	54596

Semi-Automatic Pneumatic Bench Top Machine for Mi II™

Features
- Pneumatic press coupled with die set for specific product designed for low- to medium-volume IDT terminations
- Nest holds up to 30 circuits allowing smaller circuit sizes to be run in multiples
- Best for ribbon cable and jacketed cable applications
- Die sets are field interchangeable

Specifications
Size: Width—390mm (15.3")
　　　Depth—435mm (17.1")
　　　Height—424mm (16.7")
　　　Weight—60kg (132.2 lb)
Electrical: Voltage—110V AC, 50 or 60 Hz
　　　　　Current—1A at 110V AC
Pneumatics: 4.4 BAR (71psi) at 10L per minute (.35 CFM)
Rate: 2 Circuit—Approximately 150 assemblies per hour depending on operator skill
　　　15 Circuit—Approximately 200 assemblies per hour depending on operator skill

Description	Order No.	Product No.
Press	57222-7000	
Die Set	57226-7000	52691
	57225-7000	52484, 52478, 52693
Press with Die Set	57827-7100	54596

Application Tooling

Semi-Automatic Electrical Bench-Top Air Press for Mi II™
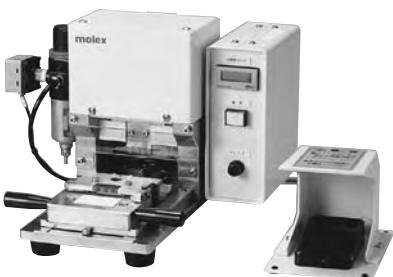
Features
- Can terminate up to 15 discrete wires
- Easily fits on small desktop for space savings
- Stable cut-and-terminate process

Specifications
Size: Width—320mm (12.60")
    Depth—240mm (9.45")
    Height—270mm (10.63")
Weight: Approximately 16kgf (35.3 lb)
Rate: Approximately 28 harnesses (15 circuits each end) per hour

Description	Order No.	Product No.
Electrical Bench-Top Air Press Terminator	57225-7100	52484

Semi-Automatic Electrical Bench-Top Air Press for Mini Mi II™
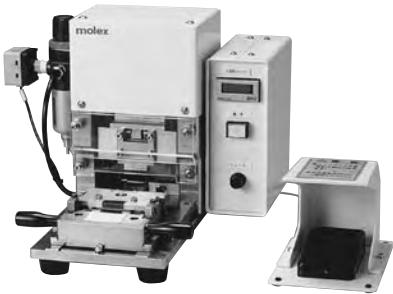
Features
- Can terminate up to 20 discrete wires
- Easily fits on small desktop for space savings
- Stable cut-and-terminate process

Specifications
Size (Machine): Width—320mm (12.60")
    Depth—240mm (9.45")
    Height—270mm (10.63")
Weight: Approximately 18kgf (39.7 lb)
Rate: Approximately 20 wires per shot every 2 seconds

Description	Order No.	Product No.
Electrical Bench-Top Air Press Terminator	57827-7100	54596

SA-XELOM Mini Mi II™ and Mi II Semi-Automatic IDT Harness Machine

Features
- Termination options: 1.25-1.25mm pitch; 1.25-2.00mm pitch; 2.00-1.25mm pitch; 2.00-2.00mm pitch
- Automatically measures discrete wire to specified lengths and terminates both ends of wire
- Can accommodate 170 to 3,000mm length harnesses
- Can terminate various multi-harness options

Specifications
Size (Machine): Width—4050mm (159.45")
    Depth—1900mm (74.80")
    Height—1600mm (63.00")
Weight: Approximately 960kgf (38.80 lb)
Rate: Approximately one 20-wire connector (1000mm wire) every 15 seconds

Description	Order No.	Product No.
Semi-Automatic IDT Harness Machine	57894-7000	54596, 52484

Application Tooling

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Application Tooling

Manual IDT Discrete Wire Hand Tool for Spox™ and User-Friendly 2.50mm Pitch Connectors

Features
- Full cycle ratchet to assure complete termination
- For prototype and repair
- Automatic indexing to next position after insertion of discrete wire

Pistol

Module

Description	Order No.	Use with Molex Connector
Pistol	63600-0478	
Module for 2.50mm SPOX	69008-0290	42219
Module for 2.50mm "User Friendly"	69008-0290	90650, 90652

Manual IDT Discrete Wire Standard Press for Spox™ and User-Friendly 2.50mm Pitch Connectors

Features
- Full-cycle ratchet to assure complete termination
- For low-volume requirements
- Manual index to next position after termination

Description	Order No.		Use with Molex Connector
	Press Assembly	Tooling Only	
Manual Press for 2.50mm SPOX	11-20-1278	11-39-0001	42219
Manual Press for 2.50mm "User-Friendly"	11-21-9963	11-21-9998	90650, 90652

Manual IDT Ribbon Cable Standard Press for Spox™ and User-Friendly 2.50mm Pitch Connectors

Features
- Full-cycle ratchet to assure complete termination
- For low- to mid-volume needs
- Mass termination of prepared cable-to-connector

Description	Order No.		Use with Molex Connector
	Press Assembly	Tooling Only	
Manual Press for 2.50mm SPOX	11-21-9757	11-32-1956	42219
Manual Press for 2.50mm "User-Friendly"	11-20-1277	11-39-0002	90650, 90652

See Application Tooling section for additional information on these tools

www.molex.com/product/apptool/

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Application Tooling

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Application Tooling

Fully Automatic IDT Harness Assembly Machine for Spox™ and User-Friendly 2.50mm Pitch Connectors*
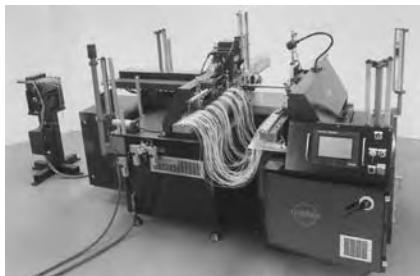
Features
- Dereel system for discrete wire or cable available
- Double- or single-ended harness capabilities without strip
- Single-ended harness capabilities with strip (38.00mm/1.15" max.)
- Full strip for discrete wire
- Strip and retain for cable
- Discrete wire with variable-wire length capability (Harness length of 152mm/6" min. to 2400mm/95" max.)
- Missing wire and splice detector
- Welded-film unloader for mylar ammo pack
- Carrier strip break off
- Continuity testing (double-ended assemblies)
- Hot stamp marking
- Reject station to segregate rejected assemblies
- "CE" certified

Specifications
Pneumatics: Pressure—5 BAR (80psig)
              Consumption—142L per minute (5 CFM)
Electrical: Voltage—120V AC, 60 Hz or 220V AC, 50 Hz
          Current—30A at 120V or 15A at 220V
Rate: 300 cycles per hour average, dependent on harness length, up to 60 terminations per cycle, dependent on circuit size

Description	Order No.	Use with Molex Connector
Fully Automatic Mass Terminator for Discrete Wire and Ribbon Cable	Contact Molex	42219, 90650, 90652

*Due to the special nature of these machines, contact Molex for information related to specific harness requirements

Application Tooling

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Application Tooling

Manual IDT Discrete Wire "T" Handle Insertion Hand Tool for PCB Connectors

Features
- For prototype and repair

Description	Order No.	Connector
"T" Tool for 2.50mm (.098") and 2.54mm (.100") pitch connectors	11-02-0016	7720, 7720S, 40555
"T" Tool for 3.96mm (.156"), 5.00mm (.197") and 5.08mm (.200") pitch connectors	11-02-0015	7674, 7675
Manual termination hand tool for mini-fit® IDT	11-02-0023	71690, 71694

Manual IDT Discrete Wire Hand Tool for PCB Connectors

Features
- For prototype and repair
- Auto indexing to next position after insertion of discrete wire

Description	Order No.	Connector
Pistol	63600-0478	
Module for 3.96mm (.156") pitch connectors, feed-to only	11-21-5196	7674, 7675
Module for 3.96mm (.156") pitch connectors, feed-to or feed-through	62100-0400	7674, 7675
Module for 2.50mm (.098") and 2.54mm (.100") pitch connectors, feed-to only	69008-0225	7720, 7720S, 40555

Application Tooling

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Application Tooling

Semi-Automatic Discrete Wire Machine for SL™
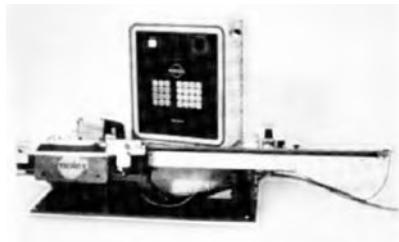
Features

- Terminates C-Grid SL 70400 and 70475 product
- Connectors are fed from preloaded tubes; no manual handling
- Automatically inserts terminals into connector
- Automatic carrier removal system
- Simple setting for different circuit sizes
- Programmable setting for running voids
- Display prompting operator for wire color sequence
- Electronic controller for machine operation
- Foot pedal operated
- CE certified

Specifications

Size: Width—965mm (38.00")
     Depth—457mm (18.00")
     Height—432mm (17.00")
Weight: 47kg (103 lb)
Pneumatics: Pressure—5 BAR (80psig)
     Consumption—14L per minute (0.5 CFM)
Electrical: Voltage—120V, 60 Hz or 220V, 50 Hz
     Current—2.0A at 120 or 1.0A at 220
Insulation Diameter: 0.80 to 1.35mm (.032 to .053")
Rate: Up to 1000 terminations per hour, dependent on operator speed and application

Description	Order No.	Use with Molex Connector
Discrete Wire Terminator (Tube Feed)	62300-3100	70400, 70475
Rebuilt US only*	11-20-1337	
Rebuilt CE approved*	62300-4900	

* Subject to availability

Fully-Automatic Discrete Wire Harness Assembly Machines for SL™
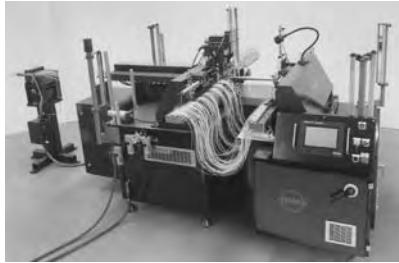
Features

- Terminates C-Grid SL 70400 and 70475 product
- Fully-automatic mass terminating machines for high-volume applications (minimum estimated annual usage of 10 million terminations)
- Double end having single-ended harness capabilities without strip
- Full strip for discrete wire
- Strip and retain for cable
- Single-ended harness capability with strip (38mm/1.5" max.); harness length of 76mm (3") min. to 610mm (24") max.
- Discrete wire with variable wire length capability; harness length of 152mm (6") min. to 2400mm (95") max.
- Up to 64 terminations per cycle, dependent on circuit size
- Terminal insertion into connector
- Carrier break off

Specifications

Pneumatics: Pressure—5 BAR (80psig)
     Consumption—142L per minute (5 CFM)
Electrical: Voltage—220V AC, 50 Hz or 240V AC, 60 Hz
     Current—40.0A (dependent on wire feed options)
Rate: 300 cycles per hour average, dependent on harness length

Description	Order No.	Use with Molex Connector
Fully-Automatic Mass Terminator for Discrete Wire and Ribbon Cable	Contact Molex	70400, 70475

Note: Due to the special nature of these machines, contact Molex for information related to specific harness requirements

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Application Tooling

Manual Ribbon Cable Standard Press and Tool Kit for SL™

Description	Order No.
Tool Kit for Molex Manual Standard Press	62201-6600
Molex Manual Standard Press	11-31-6356

Semi-Automatic Ribbon Cable Machine

70400

70475

Description	Order No.	Header Series	Voltage/Hz
Ribbon Cable Terminator	62300-3000	70400, 70475	110/220V AC 50/60 Hz
Ribbon Cable Terminator with Breakoff	62300-5300		

Application Tooling

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Application Tooling

Fully-Automatic Ribbon Cable Harness Assembly Machines for SL™

Features
- Terminates C-Grid SL 70400 and 70475 product
- Fully-automatic mass terminating machines for high-volume applications (minimum estimated annual usage of 10 million terminations)
- Double end having single-ended harness capabilities without strip
- Full strip for discrete wire
- Strip and retain for cable
- Single-ended harness capability with strip 38mm (1.50") max., harness length of 76mm (3.00") min. to 610mm (24.00") max.
- Discrete wire with variable wire length capability, harness length of 152mm (6.00") min. to 2400mm (95.00") max.
- Up to 64 terminations per cycle, dependent on circuit size
- Terminal insertion into connector
- Carrier break off

Specifications
Pneumatics: Pressure—5 BAR (80psig)
            Consumption—142L per minute (5 CFM)
Electrical: Voltage—220V AC, 50 Hz or 240V AC, 60 Hz
          Current—40.0A (dependent on wire feed options)
Rate: 300 cycles per hour average, dependent on harness length

Description	Order No.	Use with Molex Connector
Fully-Automatic Mass Terminator for Discrete Wire and Ribbon Cable	Contact Molex	70400, 70475

Note: Due to the special nature of these machines, contact Molex for information related to specific harness requirements

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Manual Hand Header Cutting Tool for SL™

Features
- Manually operated
- Interchangeable nests included for various header types

Description	Order No.	Header Series
Tool Assembly	69008-0350	8624, 42375, 42377, 70203, 70216, 70260, 70268, 70287, 70289, 70345, 70524
Replacement Blade—Upper	69008-0078	

## Manual Bench Top Header Cutting Tool for SL™

Features
- Bench tool for 2.54mm (.100") pitch header cutting to length
- Incorporates a graduated slideway and stop for presetting of required header length; maximum length of header that can be cut is 40 position

Description	Order No.	Header Series
Tool Assembly	11-20-1230	8624, 42375, 42377, 70203, 70216, 70260, 70268, 70287, 70289, 70345, 70524, 79168, 71308
Replacement Blade—Upper	11-32-4306	
Replacement Blade—Lower	11-32-4307	

molex

Application Tooling

Fully Automatic Harness Assembly Machine for KK Series IDT Connectors

Description	Order No.	Connector
Fully Automatic Mass Terminator for Discrete Wire and Ribbon Cable	Contact Molex	KK® Series IDT

*Due to the special nature of these machines, contact Molex for information related to specific harness requirements

Features
- Dereel system for discrete wire or cable available
- Double- or single-ended harness capabilities without strip
- Single-ended harness capabilities with strip; 38mm (1.150")
- Full strip for discrete wire
- Strip and retain for cable
- Up to 56 terminations per cycle (dependent on circuit size)
- Discrete wire with variable length capability; harness length of 152mm (6") min. to 2400mm (95") max.
- Missing wire and splice detector
- Magazine feed for connector loading
- Continuity testing (double-ended assemblies)
- Hot stamp marking
- Reject station to segregate rejected assemblies
- "CE" certified

Specifications
Pneumatic: Pressure—5 BAR (80psig)
        Consumption—142L per minute (5 CFM)
Electrical: Voltage—120V, 60 Hz or 220V, 50 Hz
        Current—30A at 120V or 15A at 220V
Rate: 300 cycles per hour average, dependent on harness length

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Fully Automatic Harness Assembly Machine for KK Series IDT Connectors

Description	Order No.	Connector
Fully Automatic Mass Terminator for Discrete Wire and Ribbon Cable	Contact Molex	KK® Series IDT

Due to the special nature of these machines, contact Molex for information related to specific harness requirements

Features
- Dereel system for discrete wire or cable available
- Double- or single-ended harness capabilities without strip
- Single ended harness capabilities with strip; 38mm (1.150")
- Full strip for discrete wire
- Strip and retain for cable
- Up to 56 terminations per cycle (dependent on circuit size)
- Discrete wire with variable length capability; harness length of 152mm (6") min. to 2400mm (95") max.
- Missing wire and splice detector
- Magazine feed for connector loading
- Continuity testing (double-ended assemblies)
- Hot stamp marking
- Reject station to segregate rejected assemblies
- "CE" certified

Specifications
Pneumatic: Pressure—5 BAR (80psig)
        Consumption—142L per minute (5 CFM)
Electrical: Voltage—120V, 60 Hz or 220V, 50 Hz
        Current—30A at 120V or 15A at 220V
Rate: 300 cycles per hour average, dependent on harness length

Application Tooling

U

Application Tooling

Manual .156" Pitch Cutter for Breakaway Headers

Features
- Manually operated
- Tool indexes and cuts parts to variable lengths with simple set-up adjustment

Description	Order No.	Header Series
Tool Assembly	11-20-0901	41661, 41662, 41671, 41672, 41681, 41682, 41701, 41711, 41721
Replacement Blade	11-31-7504	

## Manual Hand Cutting Tool for Breakaway Headers

Features
- Hand tool for 2.54mm (.100") and 3.96mm (.156") pitch header cutting to length
- Incorporates a graduated slideway and stop for presetting of required header length. Maximum length of header which can be cut is 40 position.

Description	Order No.	Header Series
Tool Assembly	69008-0350	8624, 70203, 70343, 70344, 42225, 42226, 42227, 42228, 42375, 42376, 42377, 42624, 41661, 41662, 41671, 41672, 41681, 41682
Replacement Blade—Upper	69008-0078	

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Application Tooling

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Application Tooling

43879
Manual Standard Press and Insertion Tool for Mini-Fit CPI™

Manual Standard Press and Tool Kit

Tool Kit Only

Description	Order No.
Manual Standard Press and Tool Kit	62200-6900
Tool Kit Only	62200-5800
Flatrock Press Tool (Not Shown)*	62200-9400

*For backplane applications in industry standard presses

Features
- Accommodates 4 to 24 circuits
- Tool rotates to allow four separate connector orientations
- Laser locator included for accurate board positioning
- Accommodates left- and right-handed operators
- Full-cycle ratchet insures proper seating
- Fits in Molex Standard Manual Press (11-31-6356)
- Adjustable for PCB thickness of 2.3mm (.090") to 6.3mm (.250")

Specifications
Weight: Including press 24.1kg (53 lb)
Size: Including press
    Height—498mm (19.6")
    Length—269mm (10.6")
    Depth—152.4mm (6.0")
Rate: 120 connectors per hour dependent on operator skill

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Terminal Activation Unit

For Sabre Terminals 43375 and 43178

Contact Molex for ordering information
Full harness testing activation equipment available through:
    TSK Innovations Co.
    1057 Doniphan Park Circle
    Suite H
    El Paso, TX 79922
    (915) 581-9718
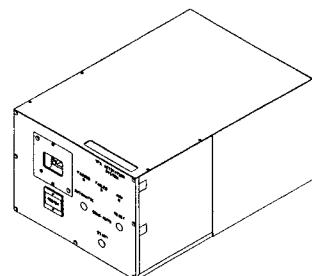
Features
- Automatic cycle when housing is present
- 100% terminal push out test
- Available in bench top design or TSK test board integratable modules
- Dip switch control panel allows users to customize the machine to select voided circuits
- Each circuit size requires one unit

Specifications
Size (Bench/Board):
    Width—317mm (12.5")/100mm (4.0")
    Depth—556mm (22.3")/270mm (10.7")
    Height—254mm (10.0")/100mm (4.0")
Weight (Bench/Board): 16.8kg (37 lb)/7.9kg (17.5 lb)
Pneumatics: 5.9 BAR (85psi) at 2.8L per minute (.100 CFM)
Electric: 110V, 50/60 Hz, 1A
Rate: Up to 360 terminal activations per hour, dependent on operator skill

Application Tooling

Manual Termination and Extraction Hand Tool for Mini-Fit IDT™
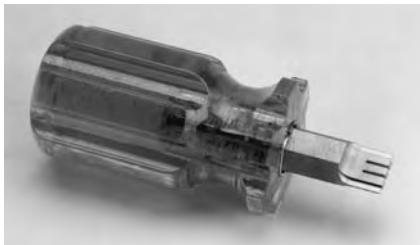
Description	Order No.	Connector
Manual Termination Hand Tool for Mini-Fit IDT	11-02-0023	71690, 71694
Extraction Tool*	11-03-0044	

*Not shown

Features
- For prototype and repairs

Manual Standard Press for Mass Termination of Discrete Wire for Mini-Fit IDT™

Description	Order No.	Connector
Manual Standard Press	11-31-6356	
Tool Kit for Mini-Fit IDT	11-39-0277	71690, 71694
Complete Press Assembly	11-20-1328	

Features
- Mass termination for discrete wires
- Feed-to or feed-through capability
- Full-cycle ratchet to assure complete termination

Specifications
Size: Width—270mm (10.5")
     Depth—150mm (6.0")
     Height—530mm (21.0")
Weight: 18kg (40 lb)
Rate: Up to 700 terminations per hour, dependent on operator speed and application

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Application Tooling

62700-XXXX
Fully-Automatic Termination Machine for Mini-Fit IDT*

Description	Order No.	Connector
Fully-Automatic Mass Terminator for Discrete Wire	Contact Molex	71690, 71694

*Due to the special nature of these machines, contact Molex for information related to specific harness requirements
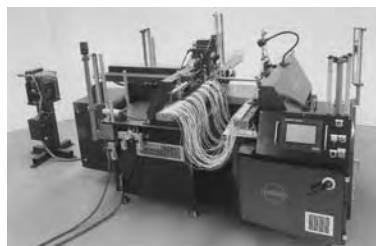
Features
- Dereel or debarrel systems for discrete wire available
- Double- or single-ended harness capabilities without strip
- Single-ended harness capabilities with full or partial strip
- Up to 48 terminations per cycle, dependent on circuit size (multi-up on smaller circuit sizes)
- Discrete wire with variable length capability
- Missing wire and splice detector
- Vibratory bowl feed for connector loading
- Continuity testing (double-ended assemblies)
- Ink Jet programmable marking
- Reject station to segregate assemblies
- "CE" certified for Europe

Specifications
Pneumatics: Pressure—5 BAR (80psig)
     Consumption—142L per minute (5 CFM)
Electrical: 120V, 60 Hz or 220V, 50 Hz
Rate: 300 cycles per hour average, dependent on harness length

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Application Tooling

Manual Standard Press Tool Kit for FFC and FPC Connectors

Features
- Adjustable for 2 to 16 circuits for all connector styles
- Tool kit installs in all 11-31-6356 Molex standard presses
- Full-cycle ratchet assures quality termination
- Adjustable cable guides and stop for repeatable cable/connector alignment
- Feature to assure proper connector position
- Feature to assist with insertion of terminals and carrier strip break-off to complete assembly

Specifications
Weight (With Press): 24.1kg (53 lb)
Size (With Press): Height—498mm (19.6")
                Width—269mm (10.6")
                Depth—152.4mm (6")
Weight (Tooling Only): 1.8kg (4 lb)
Size (Tooling Only): Height—45mm (1.77")
                Width—114mm (4.48")
                Depth—237mm (9.33")

Rate: Up to 180 terminations per hour, dependent on operator skill

Description	Order No.
Tool Kit with Molex Manual Standard Press	62200-7800
Tool Kit for Molex Manual Standard Press	62200-7400
Molex Manual Standard Press	11-31-6356

## Semi-Automatic TM42™ Press for FFC and FPC Connectors

Features
- Adjustable for 2 to 20 circuits for all connector styles
- Tool kit installs in all TM42 presses*
- Press may be easily converted back to standard crimp mode
- Adjustable cable guides and stop for repeatable cable/connector alignment
- Feature to assure proper connector position
- Feature to assist with insertion of terminals and carrier strip break-off to complete assembly
- Adjustable cable guides and stop for repeatable cable/connector alignment
- New guard included
- Powered press reduces operator fatigue

Specifications
Weight (With Press): 100kg (220 lb)
Size (With Press): Height—1150mm (45")
                Width—540mm (21.2")
                Depth—330mm (13")
Weight (Tooling Only): 1.8kg (4 lb)
Size (Tooling Only): Height—45mm (1.77")
                Width—114mm (4.48")
                Depth—237mm (9.33")

Rate: Up to 240 terminations per hour, dependent on operator skill

Description	Order No.
Tool Kit with TM42 Press	62202-0800
Tool Kit for TM42 Press	62201-8700
TM42 Press	69002-5001

*Not adaptable to Model TM40™ presses

www.molex.com/product/apptool/

Application Tooling

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Application Tooling

Flat Flexible Cable Machine
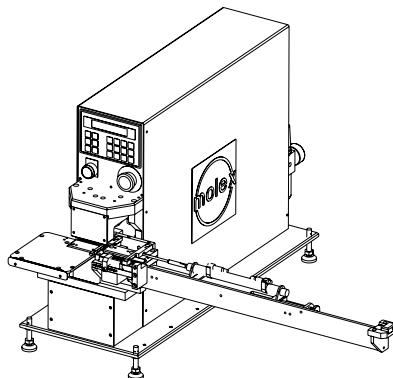
Features

- Can be used with flat flexible cable and pre-notched ribbon cable, allowing for production flexibility and lowering overall cost
- Automatic loading of connectors from tube packaging, reducing operator handling and increasing production output
- Operator interface keypad for data entry, such as setting batch size or displaying an operator fault message, to help ensure proper operation
- Automatic carrier strip breakoff available, which can be factory ordered or field installed and will reduce operator's handling of product
- Meets OSHA safety requirements and is totally enclosed for operator safety
- Available in 220V and has been CE certified for use in Europe

Specifications

Voltage: 110/220 VAC, 50/60 Hz, 1.0A
Size: Width—945mm (37.25")
     Depth—914mm (36")
     Height—494mm (19.50") (without feet)
Weight: 48.10kg (103 lb) (unpacked)
Pneumatics: 5 BAR (80psig) at 14L per minute (0.5 CFM)
Rate: 750 connectors per hour, dependent on operator skill. Up to 950 connectors per hour with special order magazine tube loader. Consult factory for more information.

Description	Order No.	For Use With	Voltage/Hz
FFC Terminator	62300-2900		
FFC Terminator with Breakoff	62300-5200	70430, 70431, 40556	110/220V AC 50/60 Hz
FFC Tooling required for changeover from ribbon cable	62300-5100		

Air-Operated Punch
For 4850

Features

- Punches 3 slots at each cycle
- Adjustable punch locations
- Adjustable edge guide
- Processes FFC/FPC cable or switch tails

Specifications

Size: Width—203mm (8")
     Depth—102mm (4")
     Height—152mm (6")
Weight: 6.75kg (15 lb)
Pneumatics: 5 BAR (80psig) at 5.6L per minute (0.2 CFM)
Rate: Up to 650 cables per hour, dependent on operator skill

Description	Order No.
Multiple Hole Punch Bench Tool	11-10-1044

Application Tooling

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Application Tooling

Manual Extraction Tool for Picoflex™
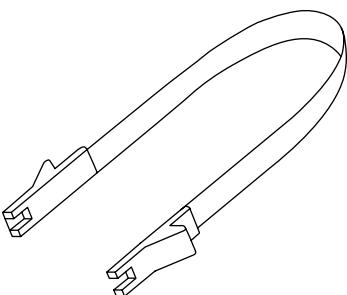
This extraction tool is used to unmate the Picoflex connector 90327 from its header

Features
- Steel and plastic construction with moulded heads
- Long life spring steel handle
- Designed for "in the field" use, will help prevent damage to termination area and to connectors
- Suitable for all circuit sizes 4 to 26

Specifications
Size: (open) 105 by 110 by 12mm
Weight: 0.05kg approximate

| Description	Order No.	Used with Molex Connector
Extraction Tool for 4 to 26 circuits	69008-1070	90327

Manual Handtool for Picoflex™
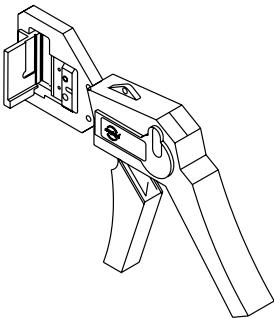
Features
- Terminates Molex connectors 90327 and 90584, 4 to 26 circuits
- Designed for prototype: small batch and field repair applications
- Daisy chain and jumper harnesses can be made on this handtool with a small amount of adjustment
- Parallel Action Handtool with cable guide

Specifications
Size: 260 by 150 by 50mm
Weight: 0.75kg
Working Services: None
Engineering Number: 69008-1080

Description	Order No.	Used with Molex Connector
Picoflex Hand Tool for 4 to 26 circuits	69008-1090	90327, 90584

Manual Press Tool Kit for Picoflex™
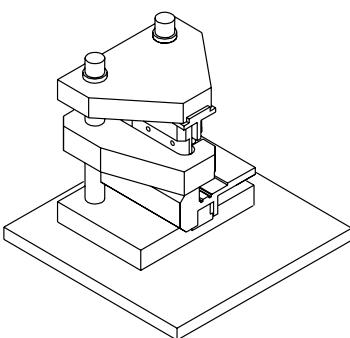
Allows manual termination of pre-cut ribbon cable in an Arbor press

Features
- Fully-manual operation—requires no electrical or air supply
- Hand loading of connector and cable
- Cable guide
- Fits into Arbor press number 69020-0660
- Optional connector clamp 69020-1935
- Feed-to and feed-through application
- Suitable for all circuit sizes 4 to 26
- Terminates 90327 and 90584 series

Specifications
Weight: 1kg
Dimensions: 15.5 by 110 by 90mm
Working Services: None
Engineering Number: 69020-1902

Description	Order No.	Used with Molex Connector
Tool Kit 4 to 26 circuits	69020-1902	
Manual Press for Tool Kit	69020-0660	90327, 90584
Optional Connector Clamp	69020-1935	

Application Tooling

Semi-Automatic PB14 Pneumatic Machine for Picoflex™
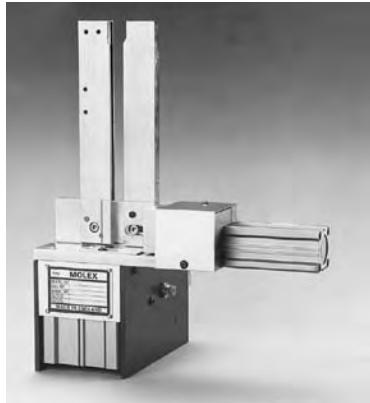
Features
- For Picoflex 90327 connector (4 to 26 circuits)
- Fully pneumatic
- Cable triggers termination
- Production rate: 520 per hour
- Magazine feed
- Cable guidance
- Quick adjustment for different circuit sizes

Specifications
Weight: 12kg (26.45 lb)
Pneumatics: Pressure—6 BAR
Size: Width—210mm (8.26")
      Depth—30mm (1.18")
      Length—330mm (12.99")

Description	Order No.	Connector
PB14 Terminator for 4 to 26 circuits	69127-1001	90327

Semi-Automatic PB14T Tape Feed Machine for Picoflex™

Features
- Automatic tape feed which increases the production capabilities of the PB14 terminator
- Cable entry triggers termination
- Quick adjustment between circuit sizes
- Sensor automatically keeps magazine track full, allowing the operator to concentrate on production

Specifications
Weight: 25kg (55.12 lb)
Pneumatics: Pressure—6 BAR
Size: Width—280mm (11.00")
      Depth—330mm (12.99")
      Height—500mm (19.69")
Electrical: 220V—50 Hz
            120V—60 Hz
Rate: Up to 2100 connectors per hour, dependent on operator speed and cable length

Description	Order No.	Connector
PB14 Terminator (220V) for 4 to 26 circuits	69127-1004	90327
PB14 Terminator (120V) for 4 to 26 circuits	69127-1024	

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Application Tooling

## Semi-Automatic PB16 Tube Feed Pneumatic Machine for Picoflex™
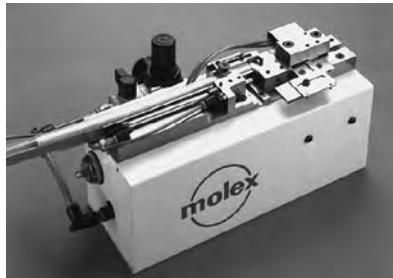
Features
- For Picoflex 90584
- Fully pneumatic
- Automatic connector reloading
- Tube feed with connector orientation
- Timer to ensure complete termination
- Cable entry triggers termination

Specifications
Weight: 25kg (55.12 lb)
Pneumatics: Pressure—6 BAR (90psig)
Size: Width—125mm (4.92")
 Depth—175mm (6.89")
 Length—700mm (27.56")

Description	Order No.	Connector
PB16 Terminator	69127-1010	90584

Automatic Desktop (PDT) Machine for Picoflex™
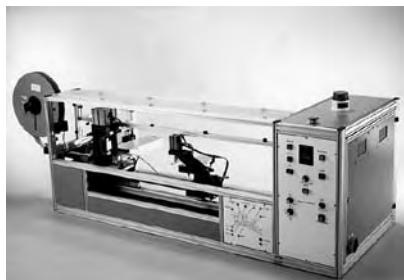
Features
- Medium volume, with fully-automatic means of termination
- Pneumatically actuated
- Continuity testing built in
- Wire straightener
- PLC control
- Harness collection tray

Specifications
Weight: 140kg (308 lb)
Electrical: 240V, 50 Hz single phase
Pneumatics: Pressure—6 BAR (90psig)
 Consumption—6L per minute (0.22 CFM)
Rate: Up to 360 harnesses per hour, dependent on operator speed and application

Description	Order No.	Connector
Picoflex Desktop Machine	Contact Molex	90327, 90584

Application Tooling

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Application Tooling

Manual High Force Standard Press and Interchangeable Tool Kits for QF-50™ Ribbon Cable
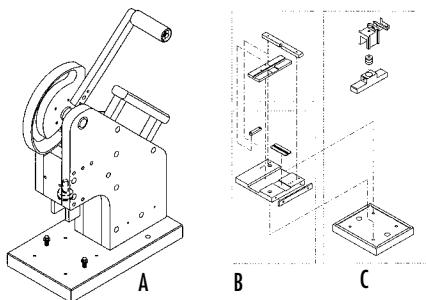
Features
- Modular interchangeable tooling
- Quick tooling changeovers
- Ratchet terminator assures completion of full cycle
- Lightweight and portable

Specifications
Size: Width—152mm (6")
     Depth—533mm (10.5")
     Height—267mm (21")
Weight: 23kg (50 lb)
Max. Force: 13.3kw (3000 lb)
Shut Height 42.00mm (1.650")
Stroke Length: 43.00mm (1.690")

Basic Press and Tooling Order No.	Press Tool Kits Order No.	Tool Change Kits Order No.	Terminates Connector
11-20-1168	11-21-9652	11-31-2187	5360 QF 50™
11-20-1169	11-21-9653	11-31-2335	5320 QF 50

Description	Order No.	Reference
Basic Manual Press	11-31-6356	A
Ribbon Cable Tooling Adapter	11-20-0947	B
Basic Press with Tooling Adapter	11-20-1170	A, B
Universal Adapter Plate	11-31-2176	C

Semi-Automatic PB15 Pneumatic Machine for QF-50 Ribbon Cable

Features
- Automatic connector reloading
- Magazine feed with connector orientation
- Timer to ensure complete termination
- Cable guide
- Quick adjustment between circuit sizes
- Foot pedal operation
- Automatic tape feed—optional

Specifications
Weight: 28kg
Pneumatics: Pressure—6 BAR (90psig)
     Consumption—14L per minute (0.5 CFM)

Description	Order No.	Connector
PB15 Magazine	69127-1050	90635, 40312
PB15 Tape	69127-1100	

Application Tooling

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Application Tooling

Modular Euro Arbor Press for Ribbon Cable Connectors

- Lightweight, portable, reliable assembly
- Cable shearing capabilities
- Feed-to or feed-through

Specifications
Size: Width—153mm (6")
     Depth—305mm (12")
     Height—457mm (18")
Weight: 7.8kg (17.2 lb)
Rate: Up to 110 assemblies per hour, dependent on operator
     speed and cable length

Description	Order No.	Type	For Use With
Manual Press	69020-0660	Manual Press Modular System	All equipment listed below
Cable Shear Module	69020-0900	Cable Preparation	To shear ribbon cable of all sizes
Arbor Press Fixture	69020-0680	Termination Tooling	Connectors 5320, 90635
	69020-0710		Connectors 5350, 5370 and 5380 QF 50
	69020-1902		Connectors 90327, 90584
			Custom 91577

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Application Tooling

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Application Tooling
VHDM®

Ordering Instructions

In order to insert a typical row of connectors (excluding the daughtercard modules), it is necessary to select the individual insertion tools and then pick the appropriate tooling holder (See also examples below):

1. Determine the combination of signal modules and power modules to be inserted.
2. Select the proper insertion modules from the tooling list and descriptions that appear before the repair tools in this section. Remember to include the appropriate alignment block(s).
3. In the description of each tool is the tool length; write down the length of each tool selected (IF YOU REQUIRE 4 OF A PARTICULAR TOOL, MAKE SURE YOU WRITE DOWN ITS LENGTH 4 TIMES).
4. Total up these lengths.
5. Using the length just calculated, select the next largest tooling holder. The tooling holder can be shorter than the total tooling but not more than 0.50mm (.020") per side.
6. All of the tools selected above must be ordered separately.

Ordering Daughtercard Tooling
1. Do steps 1, 3 and 4 above.
2. Using the total length just calculated, select the next longest daughtercard insertion tool.


## Examples
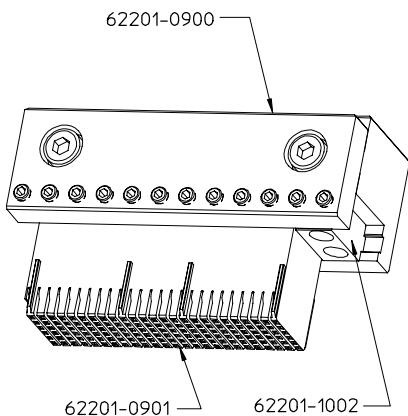
Figure A
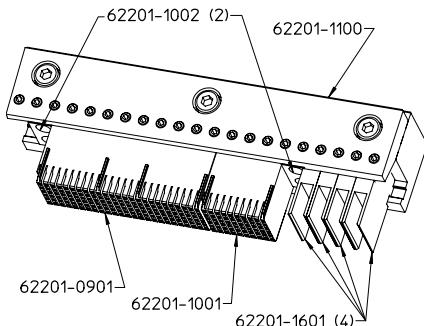
Figure B

The following are some examples showing how to select the proper tooling:

Example 1
To be inserted: 1 No. 74059-2501 6 by 25 backplane signal module (with locating pins on one end).

1. Look at the tooling list that appears before the repair tools in this section and find the required tool. In this case it would be 62201-0901.
2. Since the connector has locating pins on one end, an alignment block will also be required. From the list, pick the 6 row alignment block, Order No. 62201-1002.
3. From the descriptions of these tools get the lengths; 62201-0901 = 50.00mm (1.968") and 62201-1002 = 7.00mm (.275")
4. Add these two values for a total of 57.00mm (2.244")
5. From the 6 Row Tooling Holder description pick the 65.00mm (2.559") long holder, Order No. 62201-0900.
6. The order to Molex should thus include the following:

Quantity	Order No.	Description
1	62201-0901	6 by 25 Header Insertion Module
	62201-1002	6 Row Alignment Block
	62201-0900	6 Row 65.00mm (2.559") Long Tooling Holder

Figure A shows the assembled unit.

Example 2
The following combination is to be inserted:

1	74058-2501	6 by 25 Signal Module, locating pins on left
1	74059-1001	6 by 10 Signal Module, locating pins on right
4	74029-6000	6 Row Power Modules.

1. From the tooling list pick two 62201-1002, one for each signal module since both have locating pins.
2. Next pick a 62201-0901 for the first module.
3. A 62201-1001 will be needed for the second module.
4. Now pick four (4) 62201-1601 power module tools.
5. Get the length information from the descriptions.
6. Total up the lengths:

62201-1002	7.00mm (.276")	Total = 105.60mm (4.157")
62201-0901	50.00mm (1.968")	
62201-1001	20.00mm (.787")	
62201-1002	7.00mm (.276")	
62201-1601	5.40mm (.213")	
62201-1601	5.40mm (.213")	
62201-1601	5.40mm (.213")	
62201-1601	5.40mm (.213")	

7. Using this total length, pick the 62201-1100 Tooling Holder, as this is 115.00mm (4.528") long.
8. Therefore the purchase order should contain the following:

Quantity	Order No.	Description
2	62201-1002	6 Row Alignment Block
1	62201-0901	6 by 25 Header Insertion Module
	62201-1001	6 by 10 Header Insertion Module
4	62201-1601	6 Row Power Module Inserter
1	62201-1100	6 Row, 115.00mm (4.528") Long Tooling Holder

Figure B shows the assembled insertion tooling.

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Application Tooling
VHDM®

6 by 10 Header Insertion Module
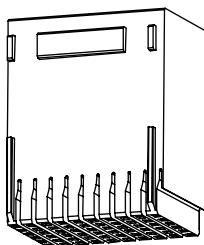
Features
- This tool is for inserting the 74057, 74058 and 74059 series, 6 row, 10 terminals to a row, connector into a printed circuit board

Specifications
Length: 20.00mm (.787")

Order No.	Description
62202-0207	6 by 10 Header Insertion module, low profile
62202-0216	HSD only 6 by 10 male press-in module

Note: This tool module is to be used with a suitable tooling holder.
      See ordering instructions.

6 by 25 Header Insertion Module
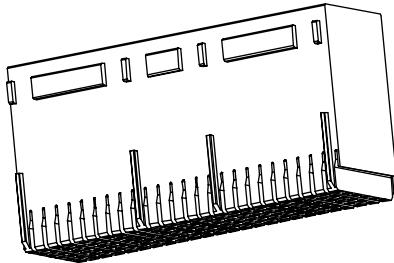
Features
- This tool is for inserting the 74057, 74058 and 74059 series, 6 row, 25 terminals to a row, connector into a printed circuit board

Specifications
Length: 50.00mm (1.970")

Order No.	Description
62202-0208	6 by 25 Header Insertion module
62202-0217	HSD only 6 by 25 male press in module

Note: This tool module is to be used with a suitable tooling holder.
      See ordering instructions.

6 Row Power Module Inserter
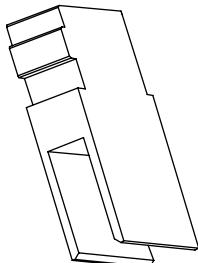
Features
- This module is used for inserting the 74029-6XXX series 6 row power modules into a printed circuit board

Specifications
Length: 5.40mm (.213")

Order No.	Description
62202-0211	6 and 8 Row Power Module Inserter

Note: This tool module is to be used with a suitable tooling holder.
      See ordering instructions.

Note: VHDM is a registered trademark of Amphenol Corporation

Application Tooling

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Application Tooling
VHDM®

6 Row Alignment Block
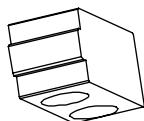
Features
- This module is used together with a 6 row module above for inserting the 74058 and 74059 series 6 row connectors with locating pins, into a printed circuit board

Specifications
Length: 7.00mm (.276")

Order No.	Description
62202-0212	Universal Alignment Block

6 Row Tooling for Header Insertion Modules

Features
- These holders are used to hold the various insertion modules required for a particular application. See below for more detail.

Order No.	Description	Dimension (L)
62201-9502	6 Row Module Holder	72.00
62201-9503		156.00
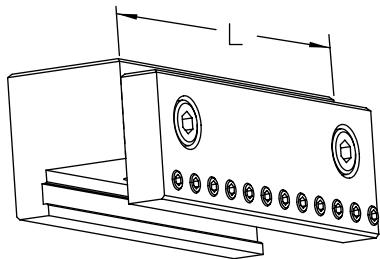
6 Row Daughtercard Press-In Tool

Features
- This tool is used to press in 74030-XXXX daughtercard assemblies (composed of 74031 wafers, 74037 guidance and 74026 power modules) to a printed circuit board

Order No.	Description	Dimension (L)
62202-0213	5 and 6 Row Daughtercard Press Tool	100.00

Application Tooling

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molex
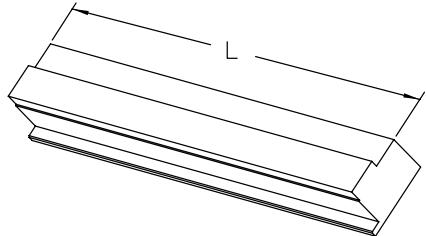
Application Tooling
# VHDM®

8 by 10 Header Insertion Module

Features
- This tool is for inserting the 74060, 74061 and 74062 series, 8 row, 10 terminals to a row, connector into a printed circuit board

Specifications
Length: 20.00mm (.787")
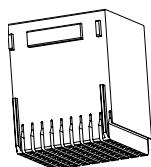
Order No.	Description
62202-0209	8 by 10 Header low-profile insertion module

Note: This tool module is to be used with a suitable tooling holder.
See ordering instructions.

8 by 25 Header Insertion Module

Features
- This tool is for inserting the 74060, 74061 and 74062 series, 8 row, 25 terminals to a row, connector into a printed circuit board

Specifications
Length: 50.00mm (1.970")
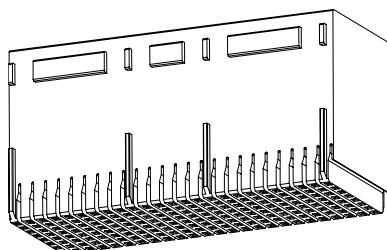
Order No.	Description
62202-0210	8 by 25 Header low-profile insertion module

Note: This tool module is to be used with a suitable tooling holder.
See ordering instructions.

8 Row Power Module Inserter

Features
- This module is for inserting the 74029-8XXX series 8 row power modules into a printed circuit board

Specifications
Length: 5.40mm (.213")
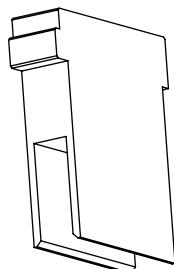
Order No.	Description
62202-0211	8 Row Power Module Inserter

Note: This tool module is to be used with a suitable tooling holder.
See ordering instructions

## 8 Row Alignment Block

Features
- This module is used together with an 8 row tool above for inserting the 74061 and 74062 series 8 row connectors with locating pins, into a printed circuit board

Specifications
Length: 7.00mm (.276")

Order No.	Description
62202-0212	8 Row Alignment Block

Note: This tool module is to be used with a suitable tooling holder.
See ordering instructions

Note: VHDM is a registered trademark of Amphenol Corporation

www.molex.com/product/apptool/

Application Tooling

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Application Tooling
## VHDM®

8 Row Tooling for Header Insertion Modules
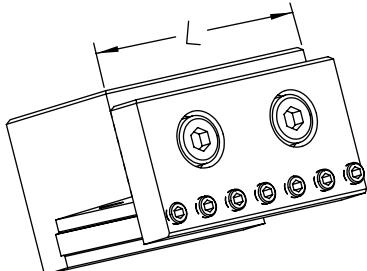
Features
- These tools are used to hold the various insertion tools required for a particular application. See below for more detail.

| Order No.	Description	Dimension (L)
62201-9502	Tooling Holder	72.00
62201-9503		156.00

8 Row Tooling for Header Insertion Modules
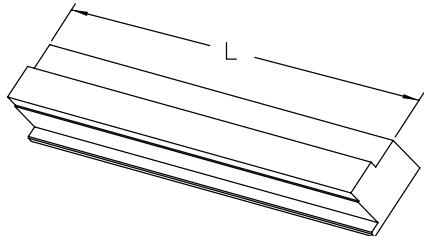
Features
- These tools are used to press in 74040-XXXX daughtercard assemblies (composed of 74041 wafers, 74039 guidance and 74026 power modules) to a printed circuit board

Order No.	Description	Dimension (L)
62202-0214	8 Row Daughtercard Insertion Module	100.00

Manual Insertion Tooling for VHDM Joiner Modules
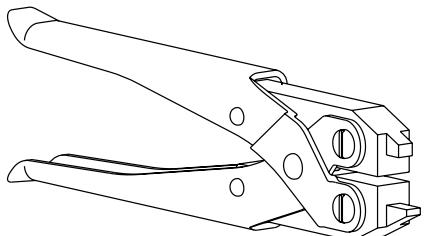
Features
- These tools are used to insert joiner modules onto the daughtercards after they have been pressed into a printed circuit board.

Order No.
62100-3800

Connector Order No.	Description	Insertion Tool
74057, 74058 and 74059	6 by 10 Signal Module	62202-0207
74073	6 by 11 Signal Module (Special)	62201-1101
74057, 74058 and 74059	6 by 25 Signal Module	62202-0208
74060, 74061, 74062	8 by 10 Signal Module	62202-0209
	8 by 25 Signal Module	62202-0210
74029-6XXX	6 Row Power Module	62202-0211
74029-8XXX	8 Row Power Module	
74058 and 74059 with Pins	6 Row Alignment Block	62202-0212
74061 and 74062 with Pins	8 Row Alignment Block	

Note: VHDM is a registered trademark of Amphenol Corporation

Application Tooling

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Application Tooling
VHDM®

VHDM Repair Tools

Molex has developed a line of VHDM repair tools. These repair tools are used to remove and replace individual VHDM parts that may have been damaged at any point in the board assembly and/or handling process. With these repair tools, a VHDM user will not have to reject an entire connector and/or PC board. Users will have the ability to repair an individual connector, which will reduce scrap, plus save time and money.

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6 Row Power Insulation Inserter Repair Tool
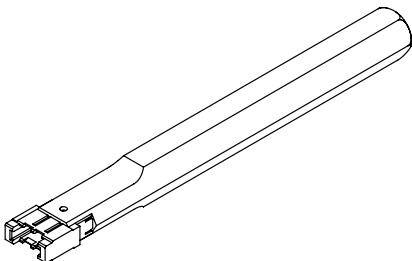
Features

This repair tool is used to insert a 74029 series, 6 row, 2 circuit, backplane power module insulator onto pins, on a printed circuit board.

Note: Plastic hammer and slip joint pliers required to properly replace and repair a power insulator. These products are readily available through your local industrial supplier and are not supplied by Molex.

Order No.	Description
62100-3500	6 Row Power Insulator Repair Tool

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8 Row Power Insulation Inserter Repair Tool
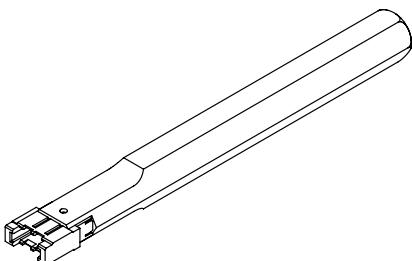
Features

This repair tool is used to insert a 74029 series, 8 row, 3 circuit, backplane power module insulator onto pins, on a printed circuit board.

Note: Plastic hammer and slip joint pliers required to properly replace and repair a power insulator. These products are readily available through your local industrial supplier and are not supplied by Molex.

Order No.	Description
62100-3600	8 Row Power Insulator Repair Tool

Note: VHDM is a registered trademark of Amphenol Corporation

Application Tooling
# VHDM®

Single Pin Inserter Repair Tool
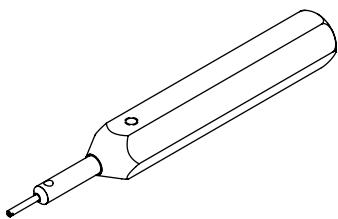
Features

This repair tool is used to insert an individual signal pin into a VHDM backplane header.

Note: Miniature needle nose pliers and tweezers required to properly replace and repair single pins. These products are readily available through your local industrial supplier and are not supplied by Molex.

Order No.	Description
62201-5700	Single Pin Insulator Repair Tool

6 Row Pin and Shield Repair Tool
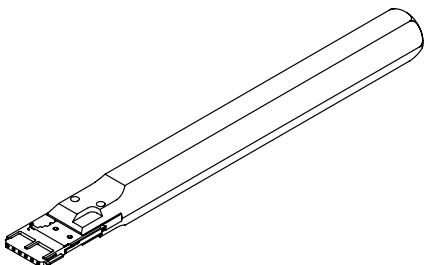
Features

This repair tool is used to insert multiple signal pins and/or individual shields into a 6 row VHDM backplane header.

Note: Plastic hammer required to properly insert shields. This product is readily available through your local industrial supplier and is not supplied by Molex.

Order No.	Description
62201-5800	6 Row Pin and Shield Repair Tool

## 8 Row Pin and Shield Repair Tool
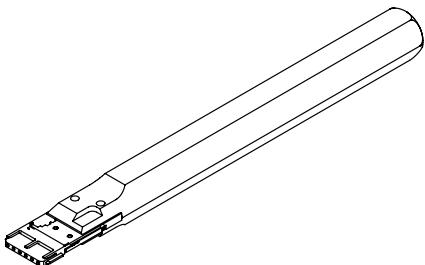
Features

This repair tool is used to insert multiple signal pins and/or individual shields into a 8 row VHDM backplane header.

Note: Plastic hammer required to properly insert shields. This product is readily available through your local industrial supplier and is not supplied by Molex.

Order No.	Description
62201-5900	8 Row Pin and Shield Repair Tool

Application Tooling

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Note: VHDM is a registered trademark of Amphenol Corporation

molex

Application Tooling
VHDM®

6 Row Shield Extraction Repair Tool

Features

This repair tool is used to remove damaged shields from 6 row VHDM backplane headers.
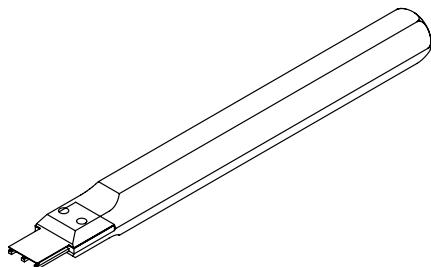
Order No.	Description
62201-6000	6 Row Shield Extraction Repair Tool

8 Row Shield Extraction Repair Tool

Features

This repair tool is used to remove damaged shields from 8 row VHDM backplane headers.
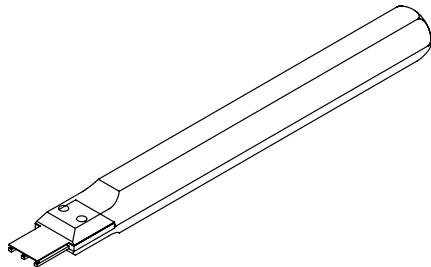
Order No.	Description
62201-6100	8 Row Shield Extraction Repair Tool

Stiffener Press Repair Tool
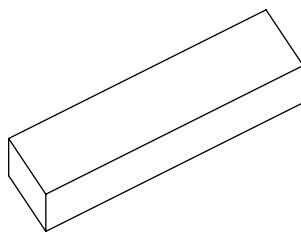
Features

These repair tools are used to remove and replace the stiffener from, and repair the VHDM daughtercard and power module receptacles assemblies.

Note: Plastic hammer, miniature needle nose pliers, two starrett feeler gauges .004 thick by 4" long and a pallet to support the PC board are required to properly repair a single wafer and power module. These products are readily available through your local industrial supplier and are not supplied by Molex.

Press Block Repair Tool

Order No.	Description
62201-6200	Stiffener Press Repair Tool
62201-6250	Press Block Repair Tool

Note: VHDM is a registered trademark of Amphenol Corporation

www.molex.com/product/apptool/

Application Tooling

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Application Tooling

Manual Backplane Single Contact Insertion Tool for HDM®
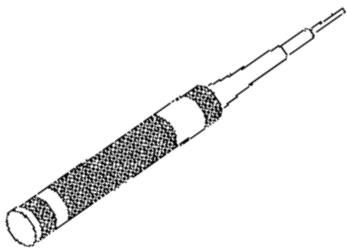
Features
- Inserts a single HDM backplane signal contact into a backplane module mounted to a PC board
- Intended use for field repairs of damaged backplane contacts

Specifications
Size: Diameter—15.00mm (.590")
      Length—122.02mm (4.80")
Weight: .4kg (1 lb)

| Description	Order No.	Product No.
Single Contact Insertion Tool	62100-1400	73642, 73643, 73644, 73942, 73943, 73944, 73770

Manual Daughtercard Module Removal Tool for HDM
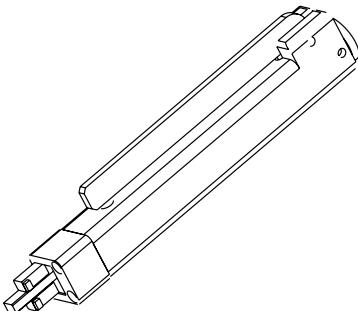
Features
- Separates modules from the stiffener assembly

Specifications
Size: Diameter—19.00mm (.750")
      Length—150.00mm (6.00")
      Height—32.00mm (1.25")
Weight: .7kg (1.5 lb)

Description	Order No.	Product No.
Daughtercard Module Removal Tool	62100-1300	73670

Manual Backplane Signal Pin Knockout Tool for HDM
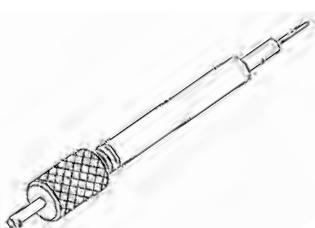
Features
- For the removal of backplane signal contacts from the PC board

Specifications
Size: Diameter—8.00mm (.300")
      Length—80.00mm (3.00")
Weight: .1kg (.2 lb)

Description	Order No.	Product No.
Single Pin Knockout Tool	62100-1000	73642, 73643, 73644, 73942, 73943, 73944, 73770

Application Tooling

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Note: VHDM is a registered trademark of Amphenol Corporation

molex

Application Tooling

Manual Backplane Power Module Removal Tool for HDM®
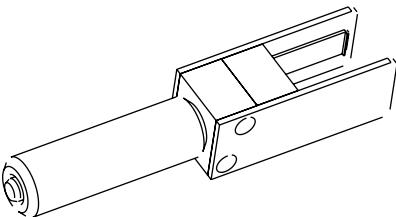
Features
- For removal of the backplane power module insulator

Specifications
Size: Length—83.00mm (3.20")
      Width—15.00mm (.600")
      Height—18.00mm (.700")
Weight: .2kg (.4 lb)

Description	Order No.	Product No.
Power Module Removal Tool	62100-1100	73656

Manual Backplane Power Contact Removal Tool for HDM
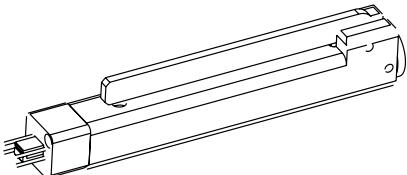
Features
- Removes the backplane power contact after the insulator is removed

Specifications
Size: Length—150.00mm (6.00")
      Width—19.00mm (.750")
      Height—32.00mm (1.25")
Weight: 7kg (1.5 lb)

Description	Order No.	Product No.
Power Contact Removal Tool	62100-1200	73656

Manual Shroud Removal Tool for HDM

Features
- Hand-operated repair tool designed to remove shrouds from damaged HDM connectors so that repairs can be made to the connector

GRIPPER PAWLS
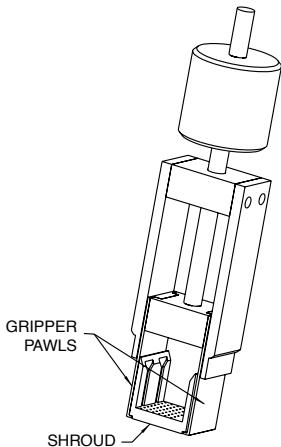
SHROUD

Description	Order No.	Product No.
48 Position Shroud Removal Tool	62100-3300	73087-0
72 Position Shroud Removal Tool	62100-3400	

Note: VHDM is a registered trademark of Amphenol Corporation

Application Tooling

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Application Tooling

Backplane Insertion Tools

62200-5703

62200-5704
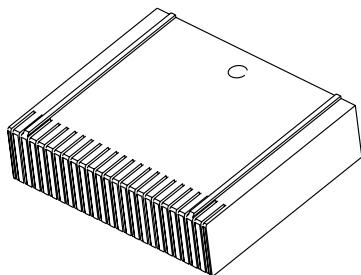
62200-5705

62200-5711

Features
- Inserts HDM connector to PC board
- For use with Press 62200-6400, 62200-8200, 62201-3800 or standard Arbor press
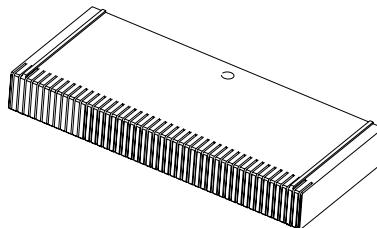
Specifications
Size: Length—100.00mm (4.00")
      Width—14.00mm (.550")
      Height—41.00mm (1.60")
Weight: .9kg (2 lb)
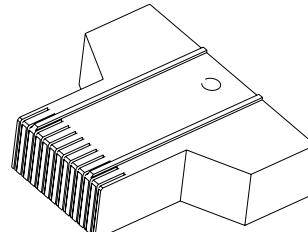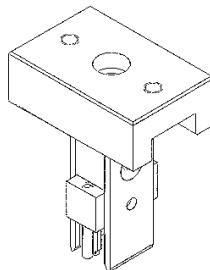
Description	Order No.	For Use with Product No.
Power Module Insertion Tool	62200-5711	73642, 73643, 73644, 73656,
288 Position Insertion Tool	62200-5705	73942, 73943, 73944, 73797,
144 Position Insertion Tool	62200-5703	73798, 73799, 73769, 73770,
72 Position Insertion Tool	62200-8502	73771, 73781, 73782, 73783, 738800, 73801, 73802

Electric Press for HDM®

Features
- Variable speed AC drive
- Accommodates PCB sizes 600 by 760mm
- Handles board thickness from 1.27 (.050") to 6mm (.236")
- Accuracy within 0.05mm
- Touch screen control system
- PCB surface sensor to prevent board damage
- Optional features available: position sensing controls, data acquisition interface, load sensing controls, x-table or x-y table

Specifications
Size: Length—2006.00mm (79.00")
      Width—965.00mm (38.00")
      Height—2235.00mm (88.00")
Weight: 2497kg (5500 lb)
Electrical: 240V AC, 3-Phase, 50/60 Hz, 30A
Rate: 240 terminations per hour depending on operator skill

Description	Order No.
Electric Press—15 Ton	Contact Molex

Pneumatic Press for HDM

Features
- Ram guide for upper tooling plate
- Anti-rotation feature
- Mounting holes tapped for Molex tooling options
- Anti-tie down feature
- "CE" certified

Specifications
Size: Length—762.00mm (30.00")
      Width—762.00mm (30.00")
      Height—1676.00mm (66.00")
Weight: 1589kg (3500 lb)
Electrical: 110V AC
Air: 6.3kgf/cm² (90psi), 6 BAR
Rate: 240 terminations per hour depending on operator skill
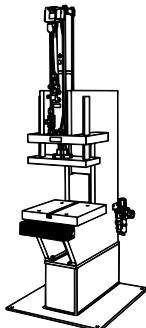
Description	Order No.
Pneumatic Press—8 Ton	62200-8200
HDM Tool Kit	62201-3700
Press with Tool Kit	62201-3800

Note: VHDM is a registered trademark of Amphenol Corporation

Air: 6.3kgf/cm^2 (90psi), 6 BAR

Application Tooling

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molex

Application Tooling

Manual Insertion Tooling for HDM® Joiner Modules
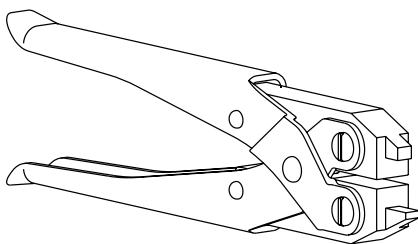
Features

These tools are used to insert joiner modules onto the daughtercards after they have been pressed into a printed circuit board

Order No.
62100-3800

Manual Stiffener Placement Tool for HDM
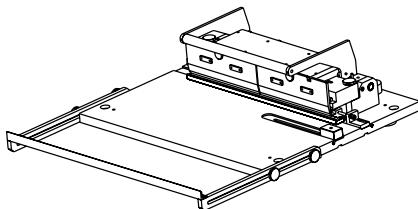
Features

- The Stiffener Repair Tool will remove and replace a stiffener rail on a PCB, which requires an operator to obtain and use one tool, plus reduces their overall cost and learning curve
- Accommodates printed circuit boards up to 457.00 by 457.00mm (18.00 by 18.00") allowing for a wide range of repair capability
- Can remove and replace rails up to 406.40mm (16.00") long, providing repair flexibility
- All operations are manual and require no air or electric feeds—this provides energy savings and requires no machine installation, which lowers costs
- Lightweight design—this provides for easy storage and relocation

Specifications

Size: Height—254.00mm (10.00") fully open
Width—584.00mm (23.00")
Depth—445.00mm (17.50") base plate
635.00mm (25.00") with support rail fully extended
Unpacked Weight: 21.30kg (47 lb)

Description	Order No.	For Use with Product No.
HDM Stiffener Repair Tool	62201-5600	73670

Application Tooling
MFB™ (Futurebus+)

Header Insertion Modules
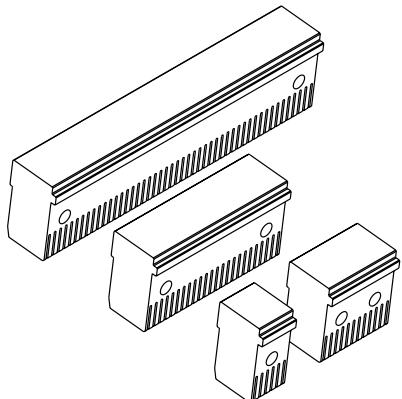
Description	Length	Order No.	Product No.
5 by 6 (30 circuit)	12.00mm (.480)	62201-9505	
5 by 12 (60 circuit)	24.00mm (.940)	62201-9506	54884
5 by 24 (120 circuit)	48.00mm (1.890)	62201-9507	
5 by 48 (240 circuit)	96.00mm (3.780)	62201-9508	

Module Holders

Description	Length	Order No.
60 circuit max.	24.00mm (.940)	62201-9501
180 circuit max.	72.00mm (2.830)	62201-9502
390 circuit max.	156.00mm (6.140)	62201-9503
540 circuit max.	216.00mm (8.500)	62201-9504

Application Tooling

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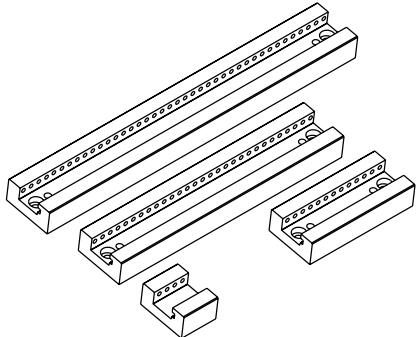
Application Tooling

Semi-Automatic Press Tooling for SCA-2
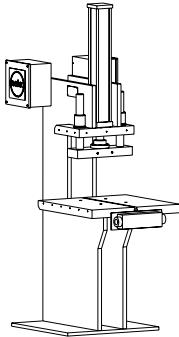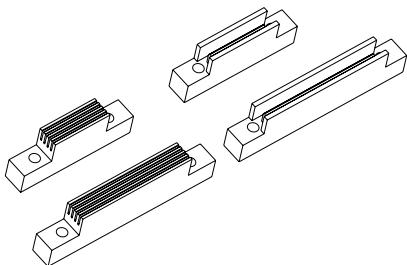
Features
- Tooling is simple to use
- Tooling can be purchased individually, allowing customization
- Tooling available for 40 and 80 circuit Molex connectors
- Tooling requires no lubrication

Description	Order No.	Use with Molex Connector
Lower Support for 40 circuit	62100-2501	73826-0002, 73829-0002
Top Aligner for 40 circuit	62100-2502	
Lower Support for 80 circuit	62100-2601	73826-0003, 73826-0001, 73829-0001
Top Aligner for 80 circuit	62100-2602	
Mounting Plate	62100-2900	All above connectors
Pneumatic Press only	62200-8200	
Pneumatic Press with Adapter Kit installed	62201-3800	
Pneumatic Press Adapter Kit only	62201-3700	

Manual Standard Press and Tool Kit for EBBI™ 50D Ribbon Cable

Complete Manual Press

Tool Kit

Features
- Connector accurately nested
- Feed-through or feed-to capability
- Termination has antibackup ratchet to ensure full termination cycle
- Accurate cable location
- Includes all change parts necessary to run EBBI IDT, 79058 and 70498 SCSI+ IDT plug in all circuit sizes

Specifications
Size: Width—230mm (9")
     Depth—457mm (18")
     Height—457mm (18")
Weight: 27kg (60 lb)
Rate: Approximately 250 connectors per hour, dependent on operator speed and application

Description	Order No.	Use with Molex Connector
Ribbon Cable Manual Press and Tool Kit	62200-5500	15-92-3XXX, 71660-35XX
Tool Kit only	62200-4600	

Application Tooling

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Application Tooling

Manual Bench Tool Double-Sided for Modular IC Socket System
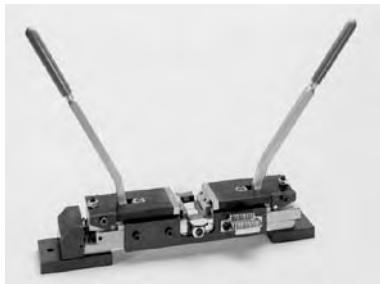
Features
- Forms both sides of IC chip to carrier in 1 cycle
- Provisions for static grounding
- Interchangeable inserts for 24, 28 and 32 circuit carriers
- Compact and lightweight
- Minimal operator effort required

Specifications
Size: Width—114mm (4.5")
      Depth—330mm (13")
      Height—165mm (6.5")
Weight: 2.63kg (5 lb)
Rate: Up to 400 assemblies per hour, dependent on operator speed and application. Annual capacity of 800,000 assemblies.

IC Size	Order No.		
	Base Machine with Tool Kit	Tool Kit Only	Base Machine Only
24 Circuit	11-20-0976	11-20-0662	
28 Circuit	11-20-0977	11-20-0663	11-20-0647
32 Circuit	11-20-0978	11-20-0951	
40 Circuit	11-20-1353	11-20-0664	

Customer must supply 12 ICs with order to assure proper operation

Semi-Automatic Terminal Cutter for 50020 and 50002 Terminals

Order No.	Description	Terminal No.
11-20-1219	Terminal Cutter	50002, 50020

www.molex.com/product/apptool/

Application Tooling

Sealing Fixture for PC, CF and CardBus Cards

Features
- Tooling holds all card kit parts in alignment for sealing
- Automatic control of termperature and dwell time for optimal sealing
- Change tooling for all card configurations

Specifications
Size: Width—279mm (11.0")
    Depth—279mm (11.0")
    Height—472mm (18.6")
Weight: 18.6kg (41 lb)
Electrical: 110V AC, 10A
Pneumatic: 3 BAR (80psig), 6L per second (.2 CFM)
Rate: 180 sealed cards per hour dependent on operator skill

Order No.	Description
67084-0111	Upper Die for Frame—89434, Cover—89436
67084-0112	Lower Die for Frame—89434, Cover—89436
67084-0211	Upper Die for Frame—89201, Cover—89248
67084-0212	Lower Die for Frame—89201, Cover—89248
67084-0311	Upper Die for CardBus Card Kit
67084-0312	Lower Die for CardBus Card Kit
67084-0411	Upper Die for CF Card Kits Frame—67045, Cover—67046
67084-0412	Lower Die for CF Card Kits Frame—67045, Cover—67046

Cooling Fixture for PC, CF and CardBus Cards

Features
- Quick cooling of sealed cards
- Automatic cooling cycle
- Change tooling for all card configurations

Specifications
Size: Width—279mm (11.0")
    Depth—279mm (11.0")
    Height—432mm (17.0")
Weight: 18.6kg (41 lb)
Electrical: 110V AC, 10A
Pneumatic: 3 BAR (80psig), 8L per second (.3 CFM)
Rate: 200 per hour dependent on operator skill

Order No.	Description
67084-0121	Upper Die for Frame—89434, Cover—89436
67084-0122	Lower Die for Frame—89434, Cover—89436
67084-0221	Upper Die for Frame—89201, Cover—89248
67084-0222	Lower Die for Frame—89201, Cover—89248
67084-0321	Upper Die for CardBus Card Kit
67084-0322	Lower Die for CardBus Card Kit
67084-0421	Upper Die for CF Card Kits Frame—67045, Cover—67046
67084-0422	Lower Die for CF Card Kits Frame—67045, Cover—67046

Application Tooling

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Application Tooling

Separating Fixture for PC, CF and CardBus Cards

Features
- Used for repair or rework
- Process assists in removing card covers
- Change tooling for all card configurations

Specifications
Size: Width—305mm (12.0")
　　　Depth—269mm (10.6")
　　　Height—610mm (24.0")
Weight: 18.2kg (40 lb)
Electrical: 110V AC, 10A
Pneumatic: 3 BAR (80psig), 6L per second (.2 CFM)

Order No.	Description
67084-0131	Upper Die for Frame—89434, Cover—89436
67084-0132	Lower Die for Frame—89434, Cover—89436
67084-0231	Upper Die for Frame—89201, Cover—89248
67084-0232	Lower Die for Frame—89201, Cover—89248
67084-0331	Upper Die for CardBus Card Kit
67084-0332	Lower Die for CardBus Card Kit
67084-0431	Upper Die for CF Card Kits Frame—67045, Cover—67046
67084-0432	Lower Die for CF Card Kits Frame—67045, Cover—67046

Memory Card Manual Press For Cover 71139

Features
- Closes cover and crimps in 1 operation
- Adjustable closing force
- Audible "click" indicates cycle completion
- Card cover crimping nest slides out of press for easy loading

Specifications
Size: Width—150mm (6")
　　　Depth—330mm (13")
　　　Height—450mm (18")
Weight: 15kg (33 lb)
Rate: Up to 100 assemblies per hour, dependent on operator speed and application

Order No.	Description	Product
62200-1400	Manual Press for Memory Card Cover	71139

Application Tooling

Manual 2-Circuit Stick Trim Fixture for MicroCross™ 71197 Series
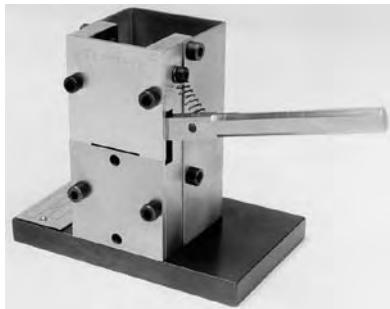
Features
- Stand-alone unit
- Separates 2-circuit strips from carrier stick
- Cutoff blades have multiple cutting edges for extended life
- Easily converts for right or left hand operators

Specifications
Size: Width—125mm (4.90")
     Depth—75mm (3.00")
     Height—112.7mm (4.48")
Weight: 1.8kg (4 lb)
Rate: Approximately 700 parts per hour dependent on operator skill

Order No.	Product No.	Description
62200-3400	71197-9001	2-Circuit Stick Trim Fixture

Manual Ground Blade Shear Fixture for MicroCross™ 71198 Series
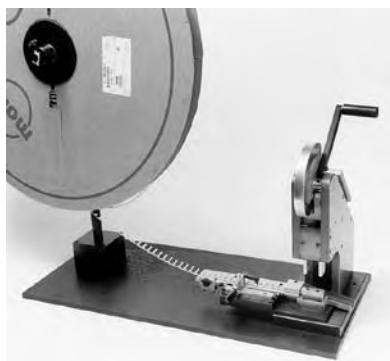
Features
- Separates ground blades (4) from carrier strip
- Adjustable stop for precise positioning
- For use in standard press Part #11-31-6356
- Full-cycle ratchet assures quality
- Tool kit includes: fixture, reel support and base plate

Specifications*
Size: Width—800mm (31.50")
     Depth—381mm (15.00")
     Height—610mm (24.00")
Weight: 40.9kg (90 lb)
Rate: Approximately 900 parts per hour dependent on operator skill

Order No.	Description
11-31-6356	Manual Standard Press
62200-3350	Ground Blade Shear Fixture and Press

*Specifications are for complete set, including tool kit and press

Application Tooling

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Application Tooling

Manual Ground Blade Crimp Fixture for MicroCross™ 71198 Series
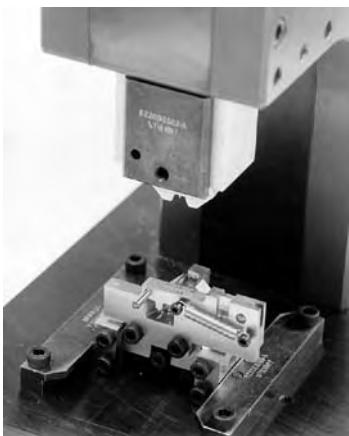
Features
- Crimps 3 to 4 coax style conductors onto MicroCross ground blade
- Crimps upper and lower braid clips simultaneously
- Built-in guides for loading and positioning coax wires before terminating
- For use in standard press Part #11-31-6356
- Full-cycle ratchet assures quality

Specifications*
Size: Width—270mm (10.63")
     Depth—150mm (5.90")
     Length—530mm (21.00")
Weight: 23.1kg (51 lb)
Rate: Approximately 130 parts per hour dependent on operator skill

Order No.	Description
11-31-6356	Manual Standard Press
62200-3850	Ground Blade Crimp Fixture and Press

*Specifications are for complete set, including Ground Blade Crimp Fixture and press

Manual 10-Circuit Soldering Fixture for MicroCross™ 73623
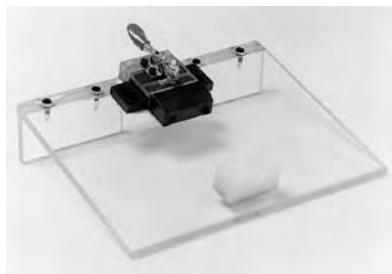
Features
- Holds 10-circuit P&D-A/P&D contact stick
- Easy setup and operation

Specifications
Size: Width—250mm (9.80")
     Depth—197mm (7.75")
     Length—100mm (3.90")
Weight: 0.9kg (2 lb)
Rate: Approximately 30 assemblies per hour dependent on operator skill

Order No.	Description
62200-6200	10-Circuit Sticks

*Specifications are for complete set, including Ground Blade Crimp Fixture and press

Manual 2-Circuit and Ground Blade Soldering Fixture for MicroCross™ 71198 and 71197 Series
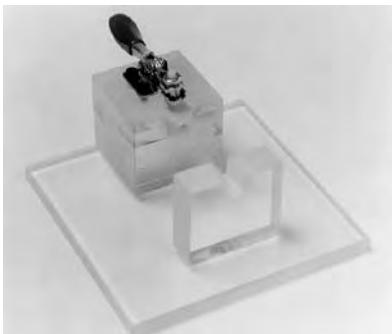
Features
- Holds MicroCross ground blade and 2-circuit stick
- Assists users in easily soldering wires in reversible holder to MicroCross ground blade and 2-circuit sticks

Specifications
Size: Width—250mm (9.80")
     Depth—197mm (7.75")
     Height—100mm (3.90")
Weight: 0.9kg (2 lb)
Rate: Approximately 30 assemblies per hour dependent on operator skill

Order No.	Description
62200-6300	MicroCross Ground Blade and 2 Circuit

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Application Tooling

Stick Insertion Fixture for MicroCross™

Features
- Pneumatic operation
- Available as three P&D-A/P&D 10-circuit sticks, or a MicroCross ground blade and 2-circuit stick
- Assembles into P&D-A plug assembly

Specifications
Size: Width—257mm (10.10")
      Depth—230mm (9.10")
      Height—150mm (5.90")
Weight: 8kg (17.6 lb)
Air: Pressure—5.6 BAR (80psig)
    Consumption—2.8L per minute (0.1 CFM)
Rate: Approximately 50 plug assemblies per hour dependent on operator skill

Order No.	Product No.	Description
62200-6600	71754-2000	10-circuit sticks

MicroCross™ Continuity and Hi-pot Tester
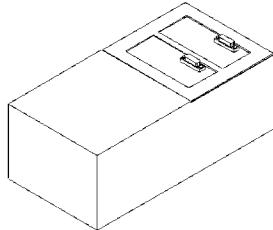
Features
Molex MicroCross tooling offers a tester kit which includes a standard commercial tester and two custom adapters. This tester is a Cirris model 1000H+ and the adapter model is a DVI-30. The adapter card supports DVI-A, DVI-D and DVI-I. The continuity and hipot test automatically perform a connection resistance test and an insulation resistance/dielectric test on harness and cables. Test results are given audibly, visually and can be printed. DVI is an interface standard which provides an industry specification for a digital visual/video interface between a host device and a display device. Molex MicroCross is the industry standard for digital video. The rate of this tester is approximately 100 assemblies per hour.

Specifications
Voltage: 105-134V AC, 60Hz
Dimensions: Height—127.00mm (05.00")
           Width—330.20mm (13.20")
           Depth—165.10mm (06.50")
Weight: Unpacked—3.4kg (7.5 lb)
Rate: Approximately 100 assemblies per hour, depending on operator skill level

Tester Order Number	Adapter Order Number	Kit and Tester Order Number
63600-0518	63600-0936	62201-7200*

This order number includes two adapter cards, which are required for double end testing

MicroCross™ Soldering Fixture
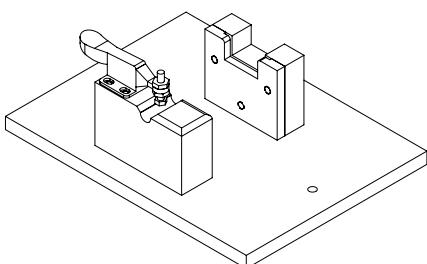
Features
The Molex MicroCross™ Digital Visual Interface soldering fixture supports a male plug and cable for soldering. This process allows the operator to securely place the plug and cable in the fixture and then use both hands to solder the wires to the terminals. This fixture accepts the connector in two orientations for quick soldering of all rows. The cable clamp is adjustable to accommodate all popular cable sizes. This soldering fixture allows for approximately 30 assemblies per hour, depending on operator skill level.

Specifications
Dimensions: Height—81.30mm (3.20")
           Width—200.00mm (07.90")
           Depth—150.00mm (05.90")
Weight: Unpacked—0.9kg (2.0 lb)
Rate: Approximately 30 assemblies per hour, depending on operator skill level

Order No.	Product No.	Description
62100-3700	74323-2001, 74323-2002, 74323-2003, 74323-2004, 74323-2011, 74323-2012, 74323-2031, 74323-2032, 74323-2033, 74323-2034	Soldering Fixture

Application Tooling

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Application Tooling

MicroCross™ Ferrule Crimp Tooling

Features

Molex MicroCross tooling offers a ferrule crimp tool that is designed to crimp both the large and small diameters of the ferrule simultaneously. There are two die sets to cover the two ferrules (see list below). The crimp tool works in conjunction with the Molex Standard Manual Press.

Mechanical

Dimensions (includes Press): Height—530.00mm (21.00")
Width—270.00mm (10.63")
Depth—150.00mm (05.90")
Weight: Unpacked—24.60 kg (55.00 lb)
Rate: Approximately 180 assemblies per hour, depending on operator skill level
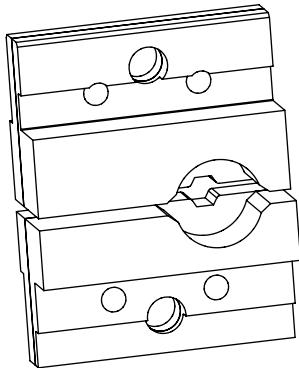
Die Set
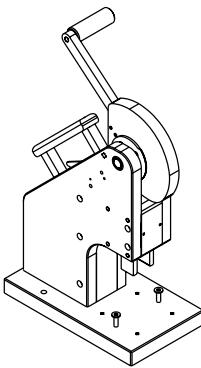
Manual Standard Press
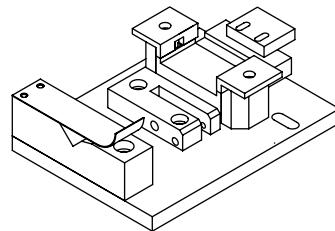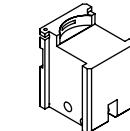
Die Fixture

Order No.	Description
11-31-6356	Manual Standard Press
62200-4401	Die Fixture

Order No.	Cable Range	EMI Can	Description
62200-6700 62200-6701 62200-6702	6.25-7.31 (.246-.288)	88789-9332 88789-9333	Die Set Die Fixture + Die Set Press + Die Fixture + Die Set
62200-4431 62200-4441 62200-4443	8.18-8.99 (.322-.354)	88789-9332 88789-9333	Die Set Die Fixture + Die Set Press + Die Fixture + Die Set

Note: For all other crimp ferrule options contact Molex.

Application Tooling

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Application Tooling

Manual Standard Press for SCSI+ Shielded I/O for 0.63mm (.025") Pitch Ribbon Cable
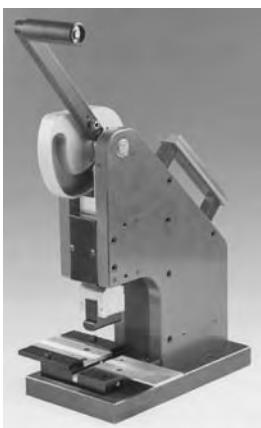
Features
- Cable is located before termination
- Feed-through and feed-to capability
- Press has full-cycle ratchet to ensure complete termination
- Connectors may be spaced as close as 35mm (1.4")

Specifications
Size: Width—230mm (9")
      Depth—457mm (18")
      Height—457mm (18")
Weight: 27kg (60 lb)
Rate: Up to 150 connectors per hour, dependent on operator speed and application
Application Specification: AS70498-001

Order No.		Connector	Description
Press with Tooling	**Tool Kit Only***		
62200-5500	62200-4600	70498-5068	Press for SCSI+ All Circuit Sizes

*If you already own a press, only tool kit is necessary

Manual Discrete Wire Press for SCSI+ Shielded I/O

Features
- Separate loading fixture allows user to load nests off-line to increase productivity
- Tool kits available for 50 and 68 circuit product, minimizing the investment needed to terminate different circuit sizes
- Low force to cut-off wires and terminate the plug
- Safety posts assure the operator cannot terminate unless nests are together reducing the risk of damaging tooling
- Designed to be used either as a complete lace, cut and terminate tool or one cut and terminate press will support up to 5 lacing fixtures

Specifications
Size:
    Width: Press—254mm (10.00")
            Fixture—61mm (2.5")
    Depth: Press—392mm (16.00")
            Fixture—135mm (5.5")
    Height: Press—466mm (19.00")
            Fixture—123mm (5.0")
    Weight: Press—81.4kg (37 lb)
             Fixture—3.3kg (1.5 lb)
Production Rate:
    Loading—Able to load nine 50 circuit housings per hour, dependent on operator skill
    Termination—Able to trim and terminate 60 plug ends per hour, dependent on operator skill
Application Specification: AS79058-001

Order No.	Connector	Description
62200-0000		Manual Press Only*
62200-0100		Manual Press Tooling for 50 Circuit Plug
62200-0200		Manual Press Tooling for 68 Circuit Plug
62200-2800		Complete Press with Tooling for 50 Circuit Plug†
62200-2500		Complete Press with Tooling for 68 Circuit Plug†
62200-0300	71295	Loading Fixture for 50 Circuit Upper Housing
62200-0400		Loading Fixture for 68 Circuit Upper Housing
62200-0500		Transfer Clamp for 50 Circuit Upper Housing
62200-0600		Transfer Clamp for 68 Circuit Upper Housing
62200-2600		Loading Fixture and Transfer Clamp for 50 Circuit
62200-2700		Loading Fixture and Transfer Clamp for 68 Circuit

*Manual press requires specific tooling for corresponding circuit size
†Complete press includes manual press, tooling for one circuit size, loading fixture and transfer clamp

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Application Tooling

Semi-Automatic Terminator for SCSI+ Shielded I/O for Jacketed Multi-Conductor Cable
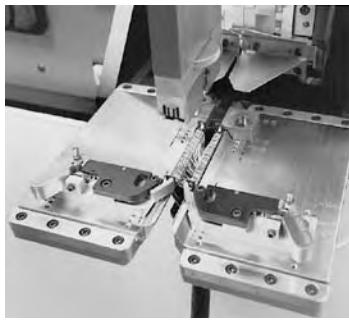
Features
- All-electric operation; no air required
- Easy to set up and operate
- Up to 25 different jobs can be saved in memory
- Optional speech synthesizer to announce wire color
- Keypad with display shows operator connector position, number of connectors made and diagnostic faults messages

Specifications
Size: Width—560mm (22")
      Depth—660mm (26")
      Height—580mm (23")
Weight: 55kg (120 lb)
Electrical: Voltage—110/220V AC, 50/60 Hz
      Current—10.0A at 120V or 5.0A at 220V
Rate: Up to twenty 50 circuit (or fifteen 68 circuit) plugs per hour, dependent on operator speed and application
Application Specification: AS79058-001

Order No.	Connector*	Description
62300-4200†	15-87-1050, 15-87-1068	Semi-Automatic Press for Jacketed Cable

*Terminator is furnished with tooling to process 50 and 68 position connectors
†Unless otherwise specified, terminator will be delivered to operate at 120V AC. If 220V is specified, machine will be delivered with US standard plug.

Application Tooling
Ultra+™ VHDCI

Termination Press

Order No.
62200-4500

Features
The Ultra+ Terminating Press was designed as a stand-alone unit capable of doing all the steps necessary to terminate a VHDCI connector. It is ideally suited for low-volume, manual applications.

Specifications
Size: Width—203mm (8.0")
      Depth—457mm (18.0")
      Height—355mm (14.0")
Weight: 18.0kg (40 lb.)
Rate: 4 complete 68 circuit plugs per hour depending on operator skill

Raptor II Semi-Automatic Termination Machine

Order No.
62300-4100

Features
The Raptor II Machine will do all the steps necessary to terminate a VHDCI connector. The wire holding covers are positioned in the machine and the prepared cable is clamped in place. Then the tool automatically indexes to receive each pair of wires. Each pair of wires, when positioned, is automatically pushed into the covers and cut off. When all the wires are loaded, the plug is manually placed in the tool and terminated by activating the lever on the side of the machine.

Specifications
Size: Width—505mm (19.9")
      Depth—660mm (26.0")
      Height—575mm (22.6")
Weight: 90.8kg (200 lb.)
Electrical: Voltage—110/220V AC
          Current—5/2.5A
Power Supply Current Frequency—50/60 Hz
Rate: 12 complete 68 circuit plugs per hour depending on operator skill

Application Tooling

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Application Tooling

Manual Ferrule Crimp Hand Tool for LFH™

Features
- Crimp die has 2 positions to crimp the large and small diameter in a 2 step operation
- For low volume, prototype or repairs

Order No.	Description
62100-0100	Ferrule Hand Tool with Dies
62100-0200	
11-31-6379	Untooled Hand Tool
62100-0101	Ferrule Crimping Die
62100-0201	

Standard Manual Press for Ferrule Crimp LFH™

- Able to crimp both large and small diameter of the ferrule in 1 step
- Ratchet terminator assures completion of full cycle
- Modularity, able to use same press for stick prep and ferrule crimp with a simple die change
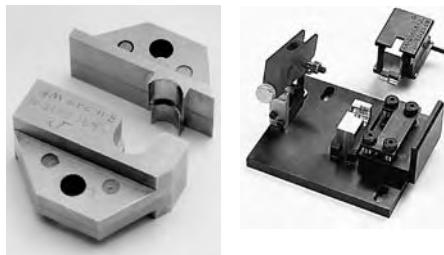
Order No.	Ferrule No.	Description
62200-1295	71256-0001	Ferrule Crimp Manual Press with Fixture and Dies
62200-1395	71256-0002	
62200-1200	71256-0001	Fixture and Dies Only
62200-1300	71256-0002	
62200-1202	71256-0001	Manual Press Ferrule Crimp, Dies Only
62200-1301	71256-0002	

Manual Stick Loading Tool for LFH™

Features
- Used for inserting terminated LFH sticks into LFH connector housing
- All 4 sticks are simultaneously inserted
- Stick-holding nest has feature to prevent loading sticks upside down
- Insertion lever has positive stop for consistent insertions
- Holes provided for mounting to workbench

Specifications
Size: Width—400mm (16")
      Depth—250mm (10")
      Height—130mm (5")
Weight: 11.3kg (25 lb)
Rate: Up to 60 plugs per hour, dependent on operator speed and application
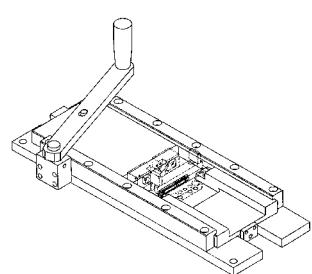
Order No.		Use with Molex Connector	Description
Complete Tool	Tool Kit Only		
62200-1500	62200-0800	70929-2000	Stick Insertion Tool, 60-Circuit Plug
62200-1600	62200-0900	71691-0003	Stick Insertion Tool, 60-Circuit Receptacle
62200-1700	62200-1000	71624-3000	Stick Insertion Tool, 160-Circuit Plug

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Application Tooling

Cable Selector Machine 1.00 and 1.27mm Series for I/O Cable

Features
- Lightweight
- Programmable
- After one end is terminated, machine automatically indicates what circuit other end should be placed in
- Automatically cuts off ends once inserted into nest
- 1.00mm, 120 circuit requires 2 machines to complete

Specifications
Size: Width—310mm (12.20")
      Depth—545mm (21.46")
      Height—220mm (8.66")
Weight: 15kg (33.6 lb)
Electrical: Voltage—100V, 50/60 Hz, Current—3.0A
Rate: 1.00mm series, 10 circuit—22 ends per hour
     1.00mm series, 26 circuit—11 ends per hour
     1.00mm series, to 120 circuit—2 ends per hour
     1.27mm series, 20 circuit—14 ends per hour
     1.27mm series, to 80 circuit—4 ends per hour
     depending on operator skill

Order No.	For Connector Series	Description
57846-7000		1.00mm Cable Selector 10 to 68 Circuits
57868-7000	52316	1.00mm Cable Selector-120P(A)
57869-7000		1.00mm Cable Selector-120P(B)
57847-7000		1.27mm Cable Selector

Manual Wiring Jig 1.00 and 1.27mm I/O Series
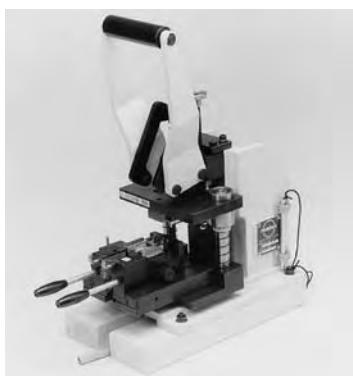
Features
- Presses wires into upper housing and cuts off the ends
- Manual version of the selector machine
- Available in dedicated circuit sizes only

Order No.	For Connector Series	Description
57859-5000		1.00mm Manual Wiring Jig for 10 Circuit
57879-5000		1.00mm Manual Wiring Jig for 20 Circuit
57849-5000		1.00mm Manual Wiring Jig for 26 Circuit
57883-5000		1.00mm Manual Wiring Jig for 50 Circuit
57874-5000		1.00mm Manual Wiring Jig for 68 Circuit
57883-5000	52316	1.00mm Manual Wiring Jig for 80 Circuit
57826-5000		1.27mm Manual Wiring Jig for 20 Circuit
57837-5000		1.27mm Manual Wiring Jig for 26 Circuit
57843-5000		1.27mm Manual Wiring Jig for 36 Circuit
57862-5000		1.27mm Manual Wiring Jig for 50 Circuit
57835-5000		1.27mm Manual Wiring Jig for 68 Circuit
57856-5000		1.27mm Manual Wiring Jig for 80 Circuit

Specifications
Size: Width—180mm (7.09")
      Depth—380mm (14.96")
      Height—440mm (17.32")
Weight: 16kg (35.8 lb)
Rate: 1.00mm series, 10 circuit—15 ends per hour
     1.00mm series, 26 circuit—8 ends per hour
     1.27mm series, 20 circuit—8 ends per hour
     1.27mm series, to 50 circuit—6 ends per hour

Manual Wiring Jig, 1.00mm, 1.20 Circuit for I/O Series
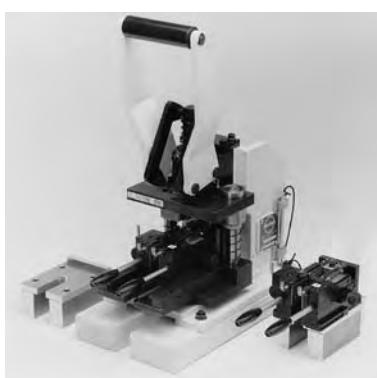
Features
- Manual tool for pressing wires into 120 circuit upper housing and cutting off ends
- Comes with "A" and "B" nests which are loaded outside the press then inserted for trimming

Specifications
Size: Width—180mm (7.09")
      Depth—380mm (14.96")
      Height—440mm (17.32")
Weight: 16kg (35.8 lb)
Rate: 2 ends per hour depending on operator skill

Circuits	Order No.	For Connector Series
120	57832-5000	55032

Application Tooling

Manual Wire Terminator
1.00 and 1.27mm Series

Features
- Presses upper housing into plug assembly
- All wires terminated simultaneously
- Modular and portable
- 1.00mm, 120 circuit requires both an "A" and a "B" tool to complete a cable end

Specifications
Size: Width—180mm (7.09")
    Depth—380mm (14.96")
    Height—440mm (17.32")
Weight: 16kg (35.8 lb)
Rate: 82 ends per hour
    120 circuit—41 ends per hour depending on operator

Order No.	For Shell Body Series	Description
57860-5000	52660	1.00mm Cable Wire Terminator for 10 Circuit
57850-5000		1.00mm Cable Wire Terminator for 26 Circuit
57833-5000	53584	1.00mm Cable Wire Terminator for 120 Circuit (A)
57848-5000		1.00mm Cable Wire Terminator for 120 Circuit (B)
57827-5000	52316	1.27mm Cable Wire Terminator for 20 Circuit
57838-5000		1.27mm Cable Wire Terminator for 26 Circuit
57844-5000		1.27mm Cable Wire Terminator for 36 Circuit
57863-5000		1.27mm Cable Wire Terminator for 50 Circuit
57836-5000		1.27mm Cable Wire Terminator for 68 Circuit
57857-5000		1.27mm Cable Wire Terminator for 80 Circuit

Manual Shell Crimping Press
1.00 and 1.27mm Series

Features
- Modular and portable
- Crimps the shell onto the loaded plug assembly

Specifications
Size: Width—180mm (7.09")
    Depth—380mm (14.96")
    Height—440mm (17.32")
Weight: 16kg (35.8 lb)
Rate: 72 ends per hour depending on operator

Order No.	For Connector Series	Description
57863-5000	52661	1.00mm Cable Wire Shell Crimping Press for 10 Circuit
57851-5000		1.00mm Cable Wire Shell Crimping Press for 26 Circuit
57828-5000	52370	1.27mm Cable Wire Shell Crimping Press for 20 Circuit
57839-5000		1.27mm Cable Wire Shell Crimping Press for 26 Circuit
57845-5000		1.27mm Cable Wire Shell Crimping Press for 36 Circuit
57864-5000		1.27mm Cable Wire Shell Crimping Press for 50 Circuit
57858-5000		1.27mm Cable Wire Shell Crimping Press for 80 Circuit

Application Tooling

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Application Tooling

Manual Plug Hand Tool for 90075 Series

- For prototype and repairs
- Ratchet will not open until crimp action is completed
- Die sets can be changed to accommodate different circuit sizes

Description	Order No.	Plug	Plug Size and No. of Contacts
W.E. Plug, N.K.	69008-1120	90075-0003	4/4
		90075-0027	
	69008-1121	90075-0011	6/4
W.E. Plug, Key	69008-1121	90075-0035	
W.E. Plug, N.K.	69008-1122	90075-0007	6/6
		90075-0031	
	69008-1123	90075-0136/0145	8/6
	69008-1124	90075-0132/0141	8/8

This range of hand tools is for the application of loose part plugs only

Manual Shielded Plug Hand Tool for 95043 Series

- For prototype and repairs
- Ratchet will not open until crimp action is completed
- Die sets can be changed to accommodate different circuit sizes

Description	Order No.	Plug
Shielded 5.40mm Cable	69008-1100	95043-2881
Shielded 6.00mm Cable	69008-1104	95043-5881

Application Tooling

Manual Press and Fixtures for 90075
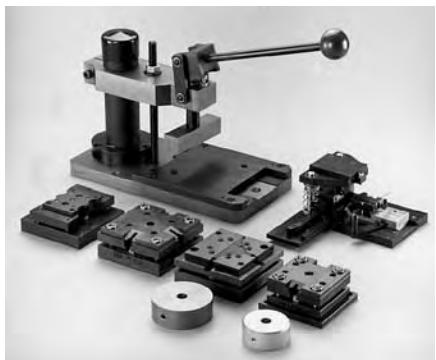
Description	Order No.
Manual Press Only	69020-0660

Description	Order No. Terminator Die	Order No. Terminator Die Spare Tooling	Plug	Plug Size and No. of Contacts
W.E. Plug, N.K.*	69020-0500		90075-0003	4/4
			90075-0027	
W.E. Plug, Key*			90075-0011	6/4
			90075-0035	
			90075-0012	
			90075-0036	
W.E. Plug, N.K.*			90075-0007	6/6
			90075-0031	
W.E. Plug, Key*			90075-0008	
			90075-0032	
W.E. Plug, N.K.*	69020-0140		90075-0128	8/6 S. Body
			90075-0136	
			90075-0145	
			90075-0124	8/8 S. Body
			90075-0132	
			90075-0141	

*These are terminated as loose parts only

Application Tooling

Shielded Modular Plug Auto Termination Machine for 95043 Series

Description	Order No.	Product No.
Shielded Modular Plug Auto-Termination	62300-1400	95043

Features
- High precision
- Easily changeable tooling
- Portable
- All electric operation
- Simple operation

Specifications
Weight: 10.5kg (23.2 lb)
Size: Width—150mm (5.9")
     Depth—305mm (12")
     Height—150mm (5.9")
Electrical: 110V, 60 Hz, 7A
Rate: 600 terminations per hour depending on operator skill

molex

Application Tooling

Semi-Automatic Mini-Mac Applicator For 90075 Series Plugs

US Press			
Description	Order No.	Volts	Used With
TM-3000	63801-7200	110V	FineAdjust and Mini-Mac Applicators
	63801-7300	220V	

Europe Press			
Description	Order No.	Volts	Used With
P100 Bench Press	69014-0135	220V	FineAdjust and Mini-Mac Applicators
P107 Bench Press	69014-0092		

Plug Type	Mini-Mac Applicator	Mini-Mac Spare Tooling
90075 4/4	69037-1213	69037-2213
90075 6/2	69037-1228	69037-2228
90075 6/4	69037-1229	69037-2229
90075 6/6	69037-1183	69037-2183
90075 8/8	69037-1190	69037-2190

Application Tooling

Semi-Automatic TM-40/42 Terminator Dies For 90075 Series

Description	Order No.	Volts	Used With
European TM-42 Press	69002-5000	220V	T2 and Terminator Dies
US TM-42 Press	69002-5001	110V	

Description	Order No.		Plug	Plug Size and No. of Contacts
	Terminator Die	Terminator Die Spare Tooling		
W.E. Plug, N.K.*	69017-0087	69017-0088	90075-0001	4/4
			90075-0025	
			90075-0049	4/3
			90075-0053	
	69017-0069	69017-0067	90075-0057	6/2
W.E. Plug, Key*	69017-0065	69017-0059	90075-0058	
W.E. Plug, N.K.*	69017-0069	69017-0067	90075-0061	6/3
W.E. Plug, Key*	69017-0065	69017-0059	90075-0062	
W.E. Plug, N.K.*	69017-0069	69017-0067	90075-0009	6/4
			90075-0033	
W.E. Plug, Key*	69017-0065	69017-0059	90075-0010	
			90075-0034	
W.E. Plug, N.K.*	69017-0068	69017-0066	90075-0005	6/6
			90075-0029	
W.E. Plug, Key*	69017-0060	69017-0058	90075-0006	
			90075-0030	
W.E. Plug, N.K.*	69017-0096	69017-0044	90075-0126	8/6 S. Body
			90075-0134	
			90075-0143	
	69017-0095	69017-0050	90075-0122	8/8 S. Body
			90075-0130	
			90075-0139	

Application Tooling

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Application Tooling

Manual Standard Press
For RF Coaxial Connectors

Features
- Fullcycle ratchet on manual press
- Employs same crimp dies as hand tools (not included)
- Complete tool requires press, fixture and a die
- Hand tools and die must be ordered separately
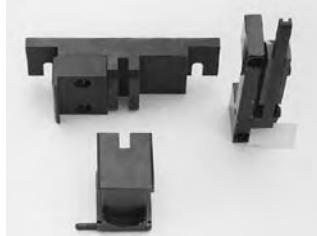
RF Tool Kit

Order No.	Description	RG/U Cable	Series
11-31-6356	Manual Press		
11-31-7559	Die Holder Fixture		
11-21-9507	Manual Standard Press and Fixture		
11-31-9025	Press Die	55, 58, 141A, 142B	BNC, TNC
11-31-9026		59, 62	

molex®

Crimp Application Tooling
Hand Crimpers
Cross Reference

Molex Japan Hand Tools

- Ideal for prototype work, small production volumes and field repair
- Ratchet release action determines correct crimp height repeatability
- Adjustable eccentric to allow for crimp pressure adjustment
- Wire stop and terminal locator on most tools
- Forms both conductor and insulation crimps in one action
- Competitively priced

Preferred Version in Japan—Not Available in the US

Terminal Series No.	Order No.			Modular Crimp Die	Wire Gauge AWG (mm²)	Insulation Diameter	Strip Length
	Hand Tool	Extraction Tool	Insertion Tool				
1189/1190	JHTR1031C	11-26-0029	11-02-0003		14-20 (2.00-0.50)	1.9-3.8 (.075-.150)	3.7-4.2 (.146-.165)
1380/1381	JHTR1031C	11-26-0029	11-02-0003		18-24 (0.80-0.20)	1.5-3.18 (.059-.122)	3.7-4.2 (.146-.165)
1433/1434	JHTR2262	11-26-0029	11-02-0003		24-28 (0.20-0.08)	1.1-1.5 (.043-.059)	3.7-4.2 (.146-.165)
1560/1561	JHTR1719C	11-26-7034	11-02-0001		18-24 (0.80-0.20)	1.5-3.0 (.059-.118)	2.8-3.4 (.110-.134)
1854/1855	JHTR2262A	11-26-7034	11-02-0001		22-26 (0.35-0.12)	1.3-1.5 (.051-.059)	2.6-3.2 (.102-.126)
1854/1855	JHTR2262J	11-26-7034	11-02-0001		26-28 (0.12-0.08)	0.8-1.3 (.031-.051)	2.6-3.2 (.102-.126)
2477/2478	11-26-0010	11-26-0059			18-22 (0.08-0.35)	1.7-2.5 (.067-.098)	3.0-3.5 (.118-.138)
2578	11-26-0010	11-26-0059			24-26 (0.20-0.12)	1.2-1.5 (.047-.059)	3.0-3.5 (.118-.138)
2759	JHTR2262J	J5800-004	11-02-0004		26-28 (0.12-0.08)	0.8-1.3 (.031-.051)	2.8-3.4 (.110-.134)
5005/5006	JHTR1719C	J5800-002	11-02-0005		18-24 (0.80-0.20)	1.5-3.0 (.059-.118)	2.7-3.3 (.106-.130)
5008/5009	JHTR2262A	J5800-002	11-02-0005		24-26 (0.20-0.12)	1.3-1.7 (.051-.067)	2.7-3.3 (.106-.130)
5103	JHTR5907				22-28 (0.35-0.08)	1.2-1.9 (.047-.075)	2.6-3.2 (.102-.126)
5139	JHTR2262J	11-03-0022	11-02-0004		26-28 (0.12-0.08)	0.8-1.3 (.031-.051)	2.8-3.4 (.110-.134)
5159	JHTR2262J	J5800-004	11-02-0004		26-28 (0.12-0.08)	0.8-1.3 (.031-.051)	2.8-3.4 (.110-.134)
5167	JHTR2445A	J5800-004/57092-6000			18-22 (0.08-0.35)	1.7-2.5 (.067-.098)	3.0-3.5 (.118-.138)
5168	JHTR2445A	J5800-004/57092-6000			24-26 (0.20-0.12)	1.2-1.5 (.047-.059)	3.0-3.5 (.118-.138)
5175	JHTR1031C				16-22 (1.30-0.35)	1.7-3.1 (.067-.122)	3.7-4.3 (.146-.169)
5190-1				JM5865A			6.00-6.60 (.236-.260)
5190-01P				JM5865A			6.00-6.60 (.236-.260)
5194	JHTR5904	11-26-0100			18-24 (0.80-0.20)	1.3-3.0 (.051-.118)	3.0-3.5 (.118-.138)
5225	JHTR5906	11-26-0100			22-28 (0.35-0.08)	1.2-2.6 (.047-.102)	3.0-3.5 (.118-.138)
5241	JHTR2262J	11-26-0060			26-28 (0.12-0.08)	0.8-1.3 (.031-.051)	2.6-3.2 (.102-.126)
5263	JHTR5974				22-28 (0.35-0.08)	1.2-1.9 (.047-.075)	2.4-2.9 (.094-.114)
5294	11-26-0101	J5800-009				1.3-1.5 (.051-.059)	2.0-2.5 (.079-.098)
5298				JM5998A			4.70-5.30 (.185-.209)
5298T2				JM5998A			4.70-5.30 (.185-.209)
5378	57050-5000					1.5 (.059) max.	1.7-2.3 (.067-.091)
5394T2	57029-5000				20-22 (0.50-0.35)	2.1 (.083) max.	2.1-2.7 (.083-.106)
5479PBT2	57035-5000	57005-6000	57005-6000		30-34 (0.05-0.02)	0.5-0.9 (.020-.035)	1.2-3.0 (.047-.118)
5556/5558	57027-5000	57031-6000			18-24 (0.80-0.20)	2.3-3.1 (.091-.122)	3.0-3.5 (.118-.138)
5556T2/5558T2	57064-5000	57031-6000			22-28 (0.35-0.08)	0.9-1.8 (.035-.071)	2.8-3.3 (.110-.130)
5659	JHTR5972					1.1-1.7 (.043-.067)	2.5-3.0 (.098-.118)
8980-3C				57102-3000			5.00-5.50 (.197-.217)
8980-3C1				57102-3000			5.00-5.50 (.197-.217)
8980-4C				JM5866A			3.70-4.20 (.146-.165)
8980-4C1				JM5866A			3.70-4.20 (.146-.165)
8980-6C				JM5866A			3.70-4.20 (.146-.165)
50011	57032-5000	57105-6000			24-30 (0.20-0.05)	0.8-1.4 (.031-.055)	1.6-2.1 (.063-.083)
50012/50013	57046-5000				24-28 (0.20-0.08)	1.15 (.045) max.	1.7-2.3 (.067-.091)
50031	57075-5000	57105-6000			30-34 (0.05-0.02)	0.5-0.9 (.020-.035)	1.6-2.1 (.063-.083)
50034	57056-5000	57057-6000			26-30 (0.12-0.05)	0.8-1.4 (.031-.055)	1.4-1.9 (.055-.075)
50038/50039	57085-5000				AVS0.3	1.8 (.071) max.	2.0-2.5 (.079-.098)
50038/50039	57086-5000				CAVS0.5	1.8 (.071) max.	2.0-2.5 (.079-.098)
50051	57053-5000				30-33 (0.05-0.025)	0.56-0.85	1.7-2.3 (.067-.091)
50058	57068-5000	57072-6000			28-32 (0.08-0.03)	1.0 (.039) max.	1.4-1.9 (.055-.075)
50061	57070-5000	57072-6000			28-32 (0.08-0.03)	1.0 (.039) max.	1.4-1.9 (.055-.075)
50065		57094-6000					2.4-2.9 (.094-.114)
50079	57177-5000	57072-6000			26-28 (0.12-0.08)	1.0 (.039) max.	1.4-1.9 (.055-.075)
50080		57072-6000					1.4-1.9 (.055-.075)
50083	57036-5000	57033-6000	57033-6000		24-26 (0.20-0.12)	1.6 (.063) max.	3.0-3.5 (.118-.138)
50084	57036-5000	57033-6000	57033-6000		22-24 (0.35-0.20)	1.6 (.063) max.	3.0-3.5 (.118-.138)
50087	57036-5000	57033-6000	57033-6000		24-26 (0.20-0.12)	1.6 (.063) max.	3.0-3.5 (.118-.138)
50088	57036-5000	57033-6000	57033-6000		22-24 (0.35-0.20)	1.6 (.063) max.	3.0-3.5 (.118-.138)

Crimp Application Tooling
Hand Crimpers
Cross Reference

Molex Japan Hand Tools

Terminal Series No.	Order No.			Modular Crimp Die	Wire Gauge AWG (mm²)	Insulation Diameter	Strip Length
	Hand Tool	Extraction Tool	Insertion Tool				
50089		57094-6000					2.4-2.9 (.094-.114)
50095/50096	57097-5000	57120-6000			16 (1.30)	3.1-3.4 (.122-.134)	3.7-4.3 (.146-.169)
50097	57118-5000				20-24 (0.50-0.20)	1.4-2.1 (.055-.083)	2.5-3.0 (.098-.118)
50098	57119-5000				18-22 (0.08-0.35)	1.8-2.6 (.071-.102)	2.5-3.0 (.098-.118)
50099		57072-6000					1.4-1.9 (.055-.075)
50105/50106	57106-5000	57120-6000			22-24 (0.35-0.20)	2.2-2.5 (.087-.098)	3.7-4.3 (.146-.169)
50118/50119	57085-5000				AVS0.3	1.6 (.063) max.	2.0-2.5 (.079-.098)
50118/50119	57086-5000				CAVS0.5		2.0-2.5 (.079-.098)
50125	57140-5000	57072-6000			26-28 (0.12-0.08)	1.6 (.063) max.	1.4-1.9 (.055-.075)
50127/50128	57125-5000	57120-6000			20-24 (0.50-0.20)	1.15-1.87 (.045-.074)	3.7-4.3 (.146-.169)
50133	57139-5000	57072-6000			28-32 (0.08-0.03)	1.0 (.039)max.	1.4-1.9 (.055-.075)
50146	57168-5000	57161-6000				1.4-1.9 (.055-.075)	2.0-2.5 (.079-.098)
50147	57132-5000					1.4-1.9 (.055-.075)	2.0-2.5 (.079-.098)
50148	57132-5000					1.4-1.9 (.055-.075)	2.0-2.5 (.079-.098)
50156	57135-5000				AV-0.5F	2.2-2.3 (.087-.091)	2.0-2.5 (.079-.098)
50200	57174-5000	57105-6000			22 (0.35)	1.4 (.055) max.	1.6-2.1 (.063-.083)
50207	57187-5000						2.0-2.5 (.079-.098)
50212	57176-5000	57105-6000			24-30 (0.20-0.05)	1.1-1.4 (.043-.055)	1.3-1.8 (.051-.071)
50217	57189-5000	J5800-009			18-24 (0.80-0.20)	1.5-2.2 (.059-.087)	3.0-3.5 (.118-.138)
50217	57190-5000	J5800-009			18-24 (0.80-0.20)	2.3-3.0 (.091-.118)	3.0-3.5 (.118-.138)
50351	57295-5000	57309-6000		57293-3000	22-28 (0.35-0.08)	1.10-1.70 (.043-.067)	2.30-2.80 (.091-.110)
50397	57316-5000	57316-6100		57316-3000	22-28 (0.35-0.08)	1.10-1.70 (.043-.067)	2.60-3.10 (.102-.122)
50398	57316-5000	57316-6000		57316-3000	22-28 (0.35-0.08)	1.10-1.70 (.043-.067)	2.60-3.10 (.102-.122)
50419	57328-5000	57316-6000		57328-3000	18-24 (0.80-0.20)	1.50-2.20 (.059-.087)	3.00-3.50 (.118-.138)
50419	57328-5100	57316-6000		57328-3000	18-24 (0.80-0.20)	2.30-3.00 (.091-.118)	3.00-3.50 (.118-.138)
50516	57317-5000	57317-6000			28-32 (0.08-0.03)	1.00 (.040) max.	
50539	57189-5000	57183-6000		57183-3000	18-24 (0.80-0.20)	1.50-2.20 (.059-.087)	3.00-3.50 (.118-.138)
50539	57190-5000	57183-6000		57183-3000	18-24 (0.80-0.20)	2.30-3.00 (.091-.118)	3.00-3.50 (.118-.138)
50597/50599	57347-5200	57347-6000		57347-3000	16-18 (1.30-0.80)	2.00-2.60 (.079-.102)	2.70-3.30 (.106-.130)
50597/50599	57347-5300	57347-6000		57347-3000	16-22 (1.30-0.35)	2.30-3.30 (.091-.130)	2.70-3.30 (.106-.130)
50597/50599	57347-5400	57347-6000		57347-3000	16-20 (1.30-0.50)	2.00-2.50 (.079-.098)	2.70-3.30 (.106-.130)
50598/50600	57347-5000	57347-6000		57347-3000	20-26 (0.50-0.12)	1.20-1.90 (.047-.075)	2.70-3.30 (.106-.130)
50598/50600	57347-5100	57347-6000		57347-3000	24-26 (0.20-0.12)	2.10-2.40 (.083-.095)	2.70-3.30 (.106-.130)
50637/50638	57355-5000	57355-6000/57355-6100			14-16 (2.00-1.30)	3.2-3.8 (.126-.150)	3.9-4.4 (.154-.173)
50641	57352-5000				26-30 (0.12-0.05)	0.50-0.90 (.020-.040)	
50752	57385-5000				22-28 (0.35-0.08)	1.1-1.7 (.043-.067)	2.0-2.5 (.079-.098)
50753	57352-5100				30-32 (0.05-0.03)	0.40-0.55 (.016-.022)	
50802	JHTR5907			JM5857A	22-28 (0.35-0.08)	1.20-1.90 (.047-.075)	2.60-3.20 (.102-.126)
50837	57391-5000			57391-3000	22-28 (0.35-0.08)	1.00-1.80 (.039-.071)	2.30-2.80 (.091-.110)
56035	57399-5000	57399-6000			22-26 (0.35-0.12)	1.2-1.7 (.047-.067)	2.3-2.8 (.091-.110)
56086				57392-3000			1.60-2.10 (.063-.083)
56187		57399-6000		57411-3000	18-20 (0.80-0.50)	1.80-2.30 (.071-.091)	2.80-3.20 (.110-.126)
56265		57399-6000		57411-3000	18-20 (0.80-0.50)	1.80-2.30 (.071-.091)	2.80-3.20 (.110-.126)
59370	57404-5000				22-28 (0.35-0.08)	0.9-1.5 (.035-.059)	1.6-2.1 (.063-.083)
70021-0004/0006	57037-5000	57033-6000	57033-6000		24-30 (0.20-0.05)	1.2 (.047) max.	3.0-3.5 (.118-.138)
70021-0021/0023	57036-5000	57033-6000	57033-6000		22-24 (0.35-0.20)	1.6 (.063) max.	3.0-3.5 (.118-.138)
70058-0004	57036-5000	57033-6000	57033-6000		24-28 (0.20-0.08)	1.15 (.045) max.	
70058-0006	57037-5000	57093-6000	57033-6000		24-28 (0.20-0.08)	1.15 (.045) max.	
70058-0022/0024	57036-5000	57033-6000	57033-6000		22-24 (0.35-0.20)	1.6 (.063) max.	3.0-3.5 (.118-.138)
87115/87116-XXX0	57206-5000						2.8-3.3 (.110-.130)
87115/87116-XXX1	57206-5000						2.8-3.3 (.110-.130)

Application Tooling

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molex®

M211A Crimp Press

Description	Order No.	For Use With
Mini Universal Crimp Press	57275-4000	Modular Crimp Die
Transformer from 110-240V to 110V	M15T-A	Mini Universal Crimp Press

Molex Japan Crimp Tooling
Cross Reference

Preferred Version in Japan—Not Available in the US

Terminal Series No.	Order No.		Modular Crimp Die	Wire Gauge AWG (mm²)	Insulation Diameter	Strip Length
	Hand Tool	Extraction Tool				
1189/1190			11-26-0064	14-20 (2.00-0.50)	1.6-4.1 (.063-.161)	3.7-4.2 (.146-.165)
1380/1381			11-26-0064	18-24 (0.80-0.20)	1.5-3.1 (.059-.122)	3.7-4.2 (.146-.165)
1433/1434			11-26-0064	24-28 (0.20-0.08)	0.8-1.5 (.031-.059)	3.7-4.2 (.146-.165)
1560/1561			11-26-0072	18-24 (0.80-0.20)	1.5-3.1 (.059-.122)	2.8-3.4 (.110-.134)
1854/1855			11-26-0072	22-28 (0.35-0.08)	1.1-1.5 (.043-.059)	2.6-3.2 (.102-.126)
1881-2			JM5866A	16-24 (1.30-0.20)	1.5-3.1 (.059-.122)	3.7-4.2 (.146-.165)
2578			11-26-0092	22-28 (0.35-0.08)	1.2-1.7 (.047-.067)	3.0-3.5 (.118-.138)
2759			11-26-0107	22-28 (0.35-0.08)	1.2-1.7 (.047-.067)	2.8-3.4 (.110-.134)
40641-A			57153-3000	18-24 (0.80-0.20)	1.3-2.5 (.051-.098)	3.0-3.5 (.118-.138)
4809C			57156-3000	22-28 (0.35-0.08)	1.2-1.7 (.047-.067)	2.6-3.2 (.102-.126)
5005/5006			11-26-0034	18-24 (0.80-0.20)	1.3-3.0 (.051-.118)	2.7-3.3 (.106-.130)
5008/5009			11-26-0034	24-28 (0.20-0.08)	1.2-2.4 (.047-.094)	2.7-3.3 (.106-.130)
5103			11-26-0023	22-28 (0.35-0.08)	1.15-1.9 (.045-.075)	2.6-3.2 (.102-.126)
5139			JM5858A	22-28 (0.35-0.08)	1.2-1.7 (.047-.067)	2.8-3.4 (.110-.134)
5159			JM5858A	22-28 (0.35-0.08)	1.2-1.7 (.047-.067)	2.8-3.4 (.110-.134)
5167			JM5868A	18-24 (0.80-0.20)	1.3-2.5 (.051-.098)	3.0-3.5 (.118-.138)
5168			JM5868A	22-28 (0.35-0.08)	1.2-1.7 (.047-.067)	3.0-3.5 (.118-.138)
5175			11-26-0090	16-22 (1.30-0.35)	1.7-3.4 (.067-.134)	3.7-4.3 (.146-.169)
5190-1			JM5865A			6.00-6.60 (.236-.260)
5190-01			11-26-0093	22-26 (0.35-0.12)	1.3-1.7 (.051-.067)	6.0-6.6 (.236-.260)
5190-01P			JM5865A			6.00-6.60 (.236-.260)
5194			11-26-0028	18 (0.80)	1.3-3.2 (.051-.126)	3.0-3.5 (.118-.138)
5194			11-26-0028	20-24 (0.50-0.20)	1.3-3.2 (.051-.126)	3.0-3.5 (.118-.138)
5225			11-26-0028	22-28 (0.35-0.08)	1.2-2.6 (.047-.102)	3.0-3.5 (.118-.138)
5241			11-26-0050	22-28 (0.35-0.08)	1.15-1.9 (.045-.075)	2.6-3.2 (.102-.126)
5263			11-26-0117	22-28 (0.35-0.08)	1.15-1.9 (.045-.075)	2.4-2.9 (.094-.114)
5378			57007-3000	24-28 (0.20-0.08)	0.9-1.5 (.035-.059)	1.7-2.3 (.067-.091)
5298			JM5998A			4.70-5.30 (.185-.209)
5298T2			JM5998A			4.70-5.30 (.185-.209)
5394			11-26-0108	22-28 (0.35-0.08)	1.2-1.9 (.047-.075)	2.1-2.7 (.083-.106)
5479			11-26-0179	26-28 (0.12-0.08)	1.2-1.5 (.047-.059)	1.2-2.0 (.047-.079)
5479PBT2			57034-3000	30-32 (0.05-0.03)	0.6-1.2 (.024-.047)	1.2-3.0 (.047-.118)
5556/5558			57022-3000	18-24 (0.80-0.20)	1.3-2.2 (.051-.087)	3.0-3.5 (.118-.138)
8980-3C			57102-3000			5.00-5.50 (.197-.217)
8980-3C1			57102-3000			5.00-5.50 (.197-.217)
8980-4C			JM5866A			3.70-4.20 (.146-.165)
8980-4C1			JM5866A			3.70-4.20 (.146-.165)
8980-6C			JM5866A			3.70-4.20 (.146-.165)
50011			57030-3000	24-30 (0.20-0.05)	0.8-1.4 (.031-.055)	1.6-2.1 (.063-.083)
50012/50013			57045-3000	24-28 (0.20-0.08)	0.92-1.15 (.036-.045)	1.7-2.3 (.067-.091)
50031	57075-5000	57105-6000		30-34 (0.05-0.02)	0.5-0.9 (.020-.035)	1.6-2.1 (.063-.083)
50034	57056-5000	57057-6000		26-30 (0.12-0.05)	0.8-1.4 (.031-.055)	1.4-1.9 (.055-.075)
50038/50039	57085-5000			AVS0.3	1.8 (.071) max.	2.0-2.5 (.079-.098)
50038/50039	57086-5000			CAVS0.5	1.8 (.071) max.	2.0-2.5 (.079-.098)
50051	57053-5000			30-33 (0.05-0.025)	0.56-0.85	1.7-2.3 (.067-.091)
50058	57068-5000	57072-6000		28-32 (0.08-0.03)	1.0 (.039) max.	1.4-1.9 (.055-.075)
50061	57070-5000	57072-6000		28-32 (0.08-0.03)	1.0 (.039) max.	1.4-1.9 (.055-.075)
50065			57071-3000	22-28 (0.35-0.08)	2.2 (.087) max.	2.4-2.9 (.094-.114)
50079			57067-3000	26-28 (0.12-0.08)	1.0 (.039) max.	1.4-1.9 (.055-.075)
50080			57069-3000	26-28 (0.12-0.08)	1.0 (.039) max.	1.4-1.9 (.055-.075)

Application Tooling

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Crimp Application Tooling
Molex Japan Crimp Tooling
Cross Reference

Terminal Series No.	Order No.		Modular Crimp Die	Wire Gauge AWG (mm²)	Insulation Diameter	Strip Length
	Hand Tool	Extraction Tool				
50083			57014-3000	24-30 (0.20-0.05)	0.8-1.6 (.031-.063)	3.0-3.5 (.118-.138)
50084			57014-3000	22-24 (0.35-0.20)	1.0-1.6 (.039-.063)	3.0-3.5 (.118-.138)
50087			57017-3000	24-30 (0.20-0.05)	0.8-1.6 (.031-.063)	3.0-3.5 (.118-.138)
50088			57017-3000	22-24 (0.35-0.20)	1.0-1.6 (.039-.063)	3.0-3.5 (.118-.138)
50089			57095-3000	22-28 (0.35-0.08)	2.2 (.087) max.	2.4-2.9 (.094-.114)
50095/50096			57096-3000	14-18 (2.00-0.80)	2.8-3.8 (.110-.150)	3.7-4.3 (.146-.169)
50097			57107-3000	20-24 (0.50-0.20)	1.3-2.1 (.051-.082)	2.5-3.0 (.098-.118)
50098			57108-3000	18-22 (0.80-0.35)	1.6-2.6 (.063-.102)	2.5-3.0 (.098-.118)
50105/50106			57110-3000	18-24 (0.80-0.20)	1.75-3.0 (.069-.118)	3.7-4.3 (.146-.169)
50118/50119			57084-3000	AVS0.3	1.5-1.9 (.059-.075)	2.0-2.5 (.079-.098)
50118/50119			57084-3000	CAVS0.5	1.5-1.9 (.059-.075)	2.0-2.5 (.079-.098)
50125			57138-3000	26-28 (0.12-0.08)	1.0 (.039) max.	1.4-1.9 (.055-.075)
50127/50128			57121-3000	20-24 (0.50-0.20)	1.15-1.87 (.045-.074)	3.7-4.3 (.146-.169)
50133			57138-3000	28-32 (0.08-0.03)	1.0 (.039) max.	1.4-1.9 (.055-.075)
50146			57145-3000		1.4-1.9 (.055-.075)	2.0-2.5 (.079-.098)
50147			57144-3000		1.4-1.9 (.055-.075)	2.0-2.5 (.079-.098)
50148			57144-3000		1.4-1.9 (.055-.075)	2.0-2.5 (.079-.098)
50156			57122-3000	AV-0.5F	2.2-2.4 (.087-.094)	2.0-2.5 (.079-.098)
50200			57030-3000	22 (0.35)	1.4 (.055) max.	1.6-2.1 (.063-.083)
50207			57182-3000		1.4-2.2 (.055-.087)	2.0-2.5 (.079-.098)
50212			57175-3000	24-30 (0.20-0.05)	0.8-1.4 (.031-.055)	1.3-1.8 (.051-.071)
50217			57183-3000	18-24 (0.80-0.20)	1.4-2.2 (.055-.087)	3.0-3.5 (.118-.138)
50351	57295-5000	57309-6000	57293-3000	22-28 (0.35-0.08)	1.10-1.70 (.043-.067)	2.30-2.80 (.091-.110)
50397	57316-5000	57316-6100	57316-3000	22-28 (0.35-0.08)	1.10-1.70 (.043-.067)	2.60-3.10 (.102-.122)
50398	57316-5000	57316-6000	57316-3000	22-28 (0.35-0.08)	1.10-1.70 (.043-.067)	2.60-3.10 (.102-.122)
50419	57328-5000	57316-6000	57328-3000	18-24 (0.80-0.20)	1.50-2.20 (.059-.087)	3.00-3.50 (.118-.138)
50419	57328-5100	57316-6000	57328-3000	18-24 (0.80-0.20)	2.30-3.00 (.091-.118)	3.00-3.50 (.118-.138)
50419			57328-3000	18-24 (0.80-0.20)		3.00-3.50 (.118-.138)
50516			57317-3000	28-32 (0.08-0.03)	1.00 (.040) max.	
50539	57189-5000	57183-6000	57183-3000			
50539	57190-5000	57183-6000	57183-3000			
50597/50599	57347-5200	57347-6000	57347-3000	16-18 (1.30-0.80)	2.00-2.60 (.079-.102)	2.70-3.30 (.106-.130)
50597/50599	57347-5300	57347-6000	57347-3000	16-22 (1.30-0.35)	2.30-3.30 (.091-.130)	2.70-3.30 (.106-.130)
50597/50599	57347-5400	57347-6000	57347-3000	16-20 (1.30-0.50)	2.00-2.50 (.079-.098)	2.70-3.30 (.106-.130)
50598/50600	57347-5000	57347-6000	57347-3000	20-26 (0.50-0.12)	1.20-1.90 (.047-.075)	2.70-3.30 (.106-.130)
50598/50600	57347-5100	57347-6000	57347-3000	24-26 (0.20-0.12)	2.10-2.40 (.083-.095)	2.70-3.30 (.106-.130)
50641			57352-3000	26-30 (0.12-0.05)	0.50-0.90 (.020-.040)	
50752			57385-3000	22-28 (0.35-0.08)	1.15-1.80 (.045-.071)	2.0-2.5 (.079-.098)
50753			57352-3000	30-32 (0.05-0.03)	0.4-0.55 (.016-.022)	1.3-1.7 (.051-.066)
50802			JM5857A	22-28 (0.35-0.08)	1.15-1.9 (.045-.075)	2.60-3.20 (.102-.126)
50802	JHTR5907		JM5857A	22-28 (0.35-0.08)	1.20-1.90 (.047-.075)	2.60-3.20 (.102-.126)
50837	57391-5000		57391-3000	22-28 (0.35-0.08)	1.00-1.80 (.039-.071)	2.30-2.80 (.091-.110)
50837			57391-3000	22-28 (0.35-0.08)	1.15-1.80 (.045-.071)	2.30-2.80 (.091-.110)
56035			57399-3000	22-26 (0.35-0.12)	1.25-1.70 (.049-.067)	2.30-2.80 (.091-.110)
56086			57392-3000			1.60-2.10 (.063-083)
56187		57399-6000	57411-3000	18-20 (0.80-0.50)	1.80-2.30 (.071-.091)	2.80-3.20 (.110-.126)
56265		57399-6000	57411-3000	18-20 (0.80-0.50)	1.80-2.30 (.071-.091)	2.80-3.20 (.110-.126)
59370			57404-3000	22-28 (0.35-0.08)	1.5 (.059) max.	1.6-2.1 (.063-.083)
70021-0004/0006			57017-3000	24-30 (0.20-0.05)	0.8-1.6 (.031-.063)	3.0-3.5 (.118-.138)
70021-0021/0023			57017-3000	22-24 (0.35-0.20)	1.0-1.6 (.039-.063)	3.0-3.5 (.118-.138)
70058-0004/0006			57014-3000	24-30 (0.20-0.05)	0.8-1.6 (.031-.063)	3.0-3.5 (.118-.138)
70058-0022/0024			57014-3000	22-24 (0.35-0.20)	1.0-1.6 (.039-.063)	3.0-3.5 (.118-.138)
87003			57090-3000	18-22 (0.80-0.35)	1.7-3.1 (.067-.122)	4.2-4.8 (.165-.189)
87039			57091-3000	24-28 (0.20-0.08)	1.2-1.8 (.047-.071)	2.3-2.9 (.091-.114)
87115/87116-XXX0			57151-3000	24-28 (0.20-0.08)	0.9-1.2 (.035-.047)	2.8-3.3 (.110-.130)
87115/87116-XXX1			57173-3000	28-32 (0.08-0.03)	0.5-0.9 (.020-.035)	2.8-3.3 (.110-.130)
87421			57294-3000	26 (0.12)	1.00-1.30 (.040-.051)	
90119-0111			57198-3000	22-24 (0.35-0.20)	1.02-1.47 (.040-.058)	3.0-3.5 (.118-.138)

Application Tooling

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molex

Application Tooling

J 5930 Series Press and Cutter
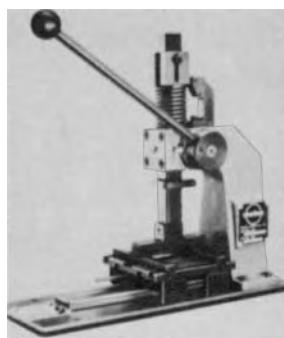
Features
Manually-operated, ratchet type
QF-50™

Specifications
Weight: Bench—7.80kg (17.2 lb)
Space: 153 by 305mm (6 by 12")
Height: 457mm (18")

Preferred Version in the Far East—Not Available in the US

Description	Order No.	Type	For Use With
Press Frame	11-26-0075	Press	All equipment listed in press section
Base Assembly	11-26-0081		Press Frame
Kit QF Female	11-26-0082		Connector 5320
Kit QF 2.54mm (.100") Grid	11-26-0083		Connector 5360
Press Frame	11-26-0075	Cutter	All equipment listed in cutter section
Cutter	11-26-0078		Press Frame

Wire Gauge Classifications*

AWG	(Stranding/AWG)	Diameter	Circular Mils	Area		AWG	(Stranding/AWG)	Diameter	Circular Mils	Area
4/0	(2107/30)	13.26 (0.522)	210700	106.764 (0.16548)			(1)	0.81 (0.032)	1024	0.5189 (0.00080)
3/0	(1672/30)	11.79 (0.464)	167200	84.722 (0.13132)			(7/28)	0.97 (0.038)	1111	0.5631 (0.000873)
2/0	(1330/30)	10.52 (0.414)	133000	67.392 (0.10446)		20	(10/30)	0.89 (0.035)	1000	0.5067 (0.000785)
1/0	(1045/30)	9.35 (0.368)	104500	52.951 (0.08207)			(19/32)	0.94 (0.037)	1216	0.6162 (0.000955)
2	(665/30)	7.42 (0.292)	66500	33.696 (0.05223)			(26/34)	0.91 (0.036)	1032	0.5229 (0.000810)
4	(420/30)	5.89 (0.232)	42000	21.282 (0.03299)			(41/36)		1025	0.5194 (0.000805)
6	(266/30)	4.67 (0.184)	26600	13.478 (0.02089)			(1)	0.64 (0.025)	640.1	0.3243 (0.000503)
8	(1/30)	3.25 (0.128)	16384	8.302 (0.01287)		22	(7/30)	0.76 (0.030)	700.0	0.3547 (0.000550)
	(19/21)	3.68 (0.145)	15433	7.820 (0.01212)			(19/34)	0.79 (0.031)	754.1	0.3821 (0.000592)
	(49/25)	3.73 (0.147)	15700	7.955 (0.01233)			(26/36)	0.76 (0.030)	650.0	0.3294 (0.000511)
	(133/29)		16983	8.605 (0.01334)			(1)	0.51 (0.020)	404.0	0.2047 (0.000317)
	(168/32)		16800	8.513 (0.01319)		24	(7/32)	0.58 (0.023)	442.4	0.2242 (0.000347)
	(665/36)		16625	8.424 (0.01306)			(10/34)	0.61 (0.024)	396.9	0.2011 (0.000312)
10	(1)	2.59 (0.102)	10384	5.261 (0.00816)			(19/36)	0.58 (0.023)	475.0	0.2407 (0.000373)
	(37/26)	2.92 (0.115)	9354	4.740 (0.00735)			(41/40)		404.2	0.2048 (0.000317)
	(49/27)	2.95 (0.116)	9880	5.006 (0.00776)			(1)	0.40 (0.016)	252.8	0.1281 (0.000199)
	(105/30)		10500	5.320 (0.00825)		26	(7/34)	0.53 (0.021)	277.8	0.1408 (0.000218)
12	(1)	2.06 (0.081)	6529	3.308 (0.00513)			(10/36)	0.51 (0.020)	250.0	0.1267 (0.000196)
	(7/20)	2.44 (0.096)	7168	3.632 (0.00563)			(19/38)	0.48 (0.019)	298.0	0.1510 (0.000234)
	(19/25)	2.36 (0.093)	6088	3.085 (0.00478)			(1)	0.32 (0.013)	158.8	0.0804 (0.000125)
	(37/28)	2.29 (0.090)	5874	2.976 (0.00461)		28	(7/36)	0.33 (0.013)	175.0	0.0887 (0.000137)
	(65/30)	2.41 (0.095)	6500	3.294 (0.00511)			(19/40)	0.38 (0.015)	187.3	0.0949 (0.000147)
	(165/34)		6549	3.318 (0.00514)			(1)	0.25 (0.010)	100.0	0.0507 (0.000079)
14	(1)	1.63 (0.064)	4109	2.082 (0.00323)		30	(7/38)	0.30 (0.012)	109.8	0.0556 (0.000086)
	(7/22)	1.52 (0.060)	4481	2.270 (0.00352)			(19/42)		117.8	0.0597 (0.000093)
	(19/27)	1.85 (0.073)	3831	1.941 (0.00301)			(1)	0.20 (0.008)	63.20	0.0320 (0.000050)
	(41/30)		4100	2.078 (0.00322)		32	(7/40)		67.27	0.0341 (0.000053)
	(105/34)		4167	2.112 (0.00327)			(19/44)	0.23 (0.009)	76.00	0.0385 (0.000060)
16	(1)	1.29 (0.051)	2581	1.308 (0.00203)		34	(1)	0.160 (0.0063)	39.69	0.0201 (0.000031)
	(7/24)	1.52 (0.060)	2828	1.433 (0.00222)			(7/42)	0.191 (0.0075)	43.40	0.0220 (0.000034)
	(19/29)	1.47 (0.058)	2426	1.229 (0.00191)		36	(1)	0.127 (0.0050)	25.00	0.0127 (0.000020)
	(26/30)	1.50 (0.059)	2600	1.317 (0.00204)			(7/44)	0.152 (0.0060)	27.44	0.0139 (********)
	(65/34)		2580	1.307 (0.00203)		38		0.102 (0.0040)	15.68	0.0079 (********)
	(105/36)	1.47 (0.058)	2625	1.330 (0.00206)		40		0.079 (0.0031)	9.86	0.0050 (********)
18	(1)	1.02 (0.040)	1624	0.823 (0.00128)		42		0.064 (0.0025)	6.20	0.0031 (********)
	(7/26)	1.22 (0.048)	1770	0.897 (0.00139)		44	(1)	0.051 (0.0020)	3.92	0.0020 (********)
	(16/30)	1.19 (0.047)	1600	0.811 (0.00126)		46		0.041 (0.0016)	2.46	0.0012 (********)
	(19/30)	1.24 (0.049)	1900	0.963 (0.00149)		48		0.030 (0.0012)	1.54	0.0008 (********)
	(41/34)	1.19 (0.047)	1627	0.825 (0.00128)		50		0.025 (0.0010)	0.98	0.0005 (********)
	(65/36)		1625							

*Classifications of insulated round Copper conductors

Application Tooling

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