Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Table of Contents

TE Connectivity application equipment is designed and engineered specifically for installation of Raychem brand heat-shrinkable products. These tools provide the optimal heating temperatures, performance, and control features for maximum production efficiency.

Note: Users should independently evaluate the suitability of the product for their application. Before ordering, check with TE for most current data.

Steinel is a trademark of Steinel GmbH.

AA-400 Super Heater Compressed-Air Heating Tool

Product Facts

- Automatic power cut-off switch to protect heating element if air flow is interrupted

- Pressure regulator and gauge for adjusting air flow and temperature

- Indicator light that goes on when power is applied to heating element

- Very focused heat

- Wide variety of reflectors available

- Excellent tool for small items and confined areas

Applications

Used for installing heat-shrinkable tubing in multiple applications. Excellent for installing SolderSleeve devices (wire-to-pin applications) and SolderTacts contacts.

Specifications

Utility Requirements

Electrical	120-V model: 120 Vac, 4 A, 50–60 Hz 240-V model: 240 Vac, 2 A, 50–60 Hz
Air (oil free)	60 psig minimum, 5 cfm

Ordering Information

Model	Voltage	Description	Part No.
AA-400 Super Heater with stand, needlepoint tip,	120 Vac	AA-400-32-Mk3 (110V)	582602-000
Mini SolderSleeve reflector, and input air filter	240 Vac (CE version)	AA-400-200-CE-SUPERHTR	281917-000

Accessories and Replacement Parts*	Part No.	Description	NSN Stock No.
SolderSleeve reflector	979646-000	AA-400-94-SLD-SLV-TIP-KIT	4940-00-609-4993
Needlepoint tip	979647-000	AA-400-96	4940-00-148-9847
Boot and tubing tip	979691-000	AA-400-101	4940-00-148-9848
Mini SolderSleeve reflector	979663-000	AA-400-102	4940-01-043-7634
Low-flow tip	979672-000	AA-400-103	3439-01-173-8810
Heating Element replacement kit, 120 V	013750-000	AA-400-128	—
Heating Element replacement kit, 240 V (CE)	444179-000	AA-400-228-EL-KT-240V-CE	—
Stand	979649-000	AA-400-09	—
Input air filter	979673-000	AA-400-P-Y-92-Filter	—
Air hose replacement kit	156553-000	AA-400-136	—
Gun and air hose replacement kit	238231-000	AA-400-229-Gun-Hse-Kit	—

*Controller is not sold separately.

Non CE Approved.
Cannot be sold in Europe.

Available in:	Americas	Europe	Asia Pacific
	■		■

![TE connectivity logo]

Holding Fixture Tool AD-1319-9

Product Facts

- AD-1319-9 comes with two lateral wire clamps as standard

- Secures wire or cable, enabling easy installation of products

Applications

Simplifies and speeds installation of Raychem brand SolderSleeve terminators or splices and SolderTacts shielded contacts.

Specifications and Dimensions

Dimensions	18 cm [7.07 in] W x 15 cm [5.91 in] L
Weight	300 g [.67 lb]

Product Range Covered

SolderSleeve splices	MiniSeal, CWT-9XXX, D-1744, D-110
Shield terminators	D-100-XX
SolderTacts contacts	D-602-XX

Ordering Information

Model	Description	Part No.
Holding fixture	AD-1319-9	993850-000
38999 size 8 SolderTacts adapter	AT-1319-22	395241-000
38999 size 16 SolderTacts adapter	AT-1319-78	413186-000
Submin SolderTacts adapter	AT-1319-12	993872-000
748 SolderTacts adapter	AT-1319-14	993877-000
723 SolderTacts adapter	AT-1319-19	993938-000
482 size 16 SolderTacts adapter	AT-1319-17	993917-000

Note: Additional tooling for SolderTacts can be found under SolderTacts contacts, see section 8.

Available in:	Americas	Europe	Asia Pacific
	■	■	■

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Application Equipment

Hand-Operated Crimp Tools AD-1377, AD-1522, AD-1381

AD-1377, AD-1522, AD1381

AD-1377 Crimp Tool

The AD-1377 crimp tool fits all MiniSeal crimp barrels. It also meets MIL specification M22520/37-01. A calibration verification gauge, AD-1386, is also available for the AD-1377. The gauge meets MIL specification M22520/39-01.

AD-1522 Crimp Tool

The AD-1522 crimp tool crimps all DuraSeal crimp and PolyCrimp products. It has a preset crimp depth that provides the optimum combination of tensile strength and insulation integrity in the finished splice.
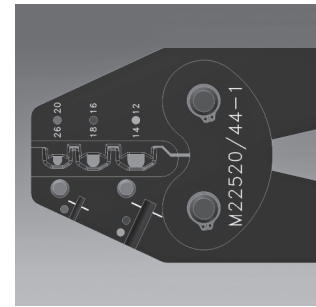
AD-1381 Crimp Tool

The AD-1381 crimp tool is used in conjunction with our cold applied gel filled crimp splices. The AD-1381 is currently under qualification per M22520/44-01. A calibration verification gauge AD-1382 is also available for the AD-1381. The gauge is currently under qualification per M22520/39-03.

AD-1381 crimp tool **must be** used for proper installation of the Cold Applied Crimp Devices.

Ordering Information

| Model	Description	Part No.
AD-1377 MiniSeal crimp tool	AD-1377-CRIMP-TOOL	992008-000
AD-1386 Calibration gauge	AD-1386-CALIBRATION-GAUGE	992013-000
AD-1522 DuraSeal crimp tool	AD-1522-1-CRIMPING TOOL	047011-000
AD-1381 Crimp tool	AD-1381-CRIMP-TOOL-3-CVTY	CS1660-000

Available in:	Americas	Europe	Asia Pacific
	■	■	■

AD-3050-SEAL-TEST-EQUIP

Seal Test Equipment Splice Sealing and Connector Sealing Evaluation – Various Products

Product Facts

- **Simple fixture design allows fast sealing test result assisting determination of installation conditions for splice sealing products**
- **Connector fixture adapter allows connector sealing verification**
- **Strong portable container allows use in various locations**
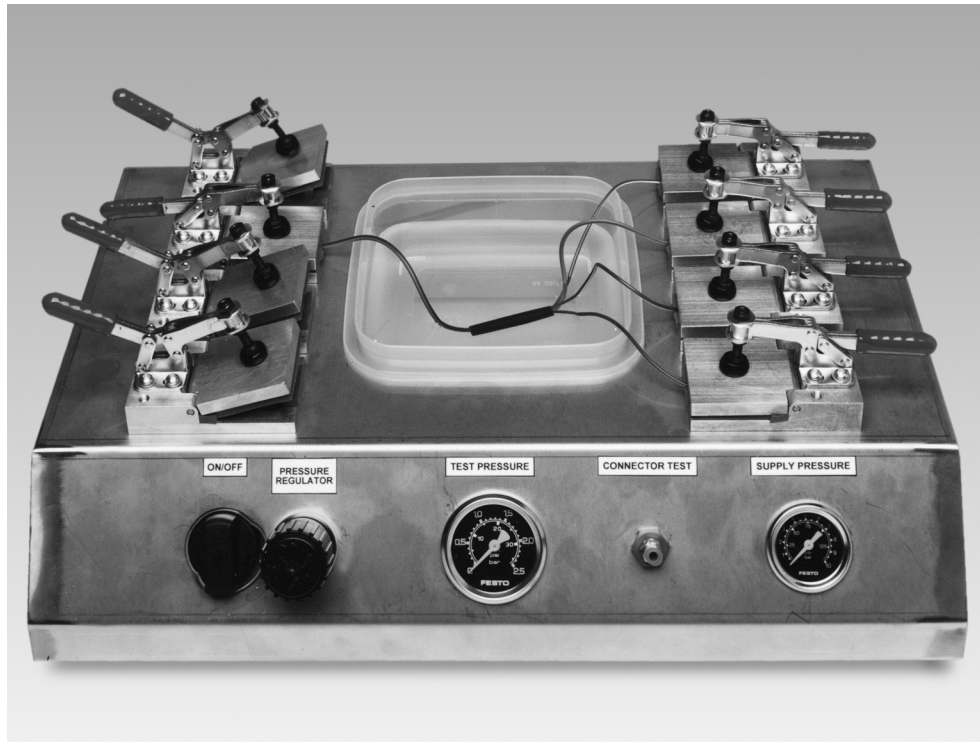
Applications

The AD-3050-SEAL-TEST-EQ-NC is a manually operated pneumatic device, intended for use as a convenient 'in-process' sampling technique for checking sealed splices. Different combinations of in-line or stub splices can be pressure tested in any of the combination of fixtures (8 in total). There is also a facility to allow leak testing of various connectors.

TE UK has seen good correlation between results obtained with the AD-3050 and those obtained through water immersion testing. However testing in accordance with the OEM specification is the only guaranteed way of confirming that the OEM spec is being met. The splice products are located in clamps which deliver the test pressure. The product is immersed in water and pressure is delivered down the wire(s) to the sealed area. The test result is determined visually by looking for bubbles in the area of the sealing product.

Use of this equipment is described in TE UK procedure, reference No. PIP/017/95. This equipment can also check for poke through i.e. where individual wire strands poke through the installed heat-shrinkable sleeve by using the AD-3050-SEAL-POKE-IND. Poke through is eliminated by ensuring correct welding and subsequent handling conditions.

Available in:	Americas	Europe	Asia Pacific
	■	■	■

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Catalog 1654025
Revised 3-13

www.te.com

Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

USA: +1 800 522 6752
Asia Pacific: +86 0 400 820 6015
UK: +44 800 267 666

For additional support numbers please visit www.te.com

AD-3050-SEAL-TEST-EQUIP (Continued)

Seal Test Equipment Splice Sealing and Connector Sealing Evaluation – Various Products
(Continued)

Technical Specification

Pneumatic Supply	6 bar maximum, filtered supply. 2 bar test pressure maximum. (Test pressure typically 0.5 bar)
Machine Cycle Times for seal testing:	Typically 1 minute
Total System Noise:	Negligible noise from air test
Dimensions:	550 x 350 x 215 [22 x 14 x 8 in] (Excludes packing case)
Weight:	4 Kg (8.80 lb) (Excludes packing case)
	9.6 Kg (21.20 lb) (Includes packing case)

Ordering Information

	Description	Part No.
Seal Test Equipment	AD-3050-SEAL-TEST-EQ-NC	C82893-000

Accessories

	Description	Part No.
Tool Case	AD-3050-SEAL-TEST-CASE-ONLY	F66989-000
Splice Poke-through Indicator	AD-3050-SEAL-POKE-IND	E63259-000

Recommended Spares

	Description	Part No.
Set of 8 Seals**	AD-3050-SEAL-8-KIT	299155-000
Clamp assembly including seals	AD-3050-SEAL-CLAMP-ASSY	168927-000
Sealing tape	EPDM foam, 6 mm x 9 mm, with acrylic adhesive backing.	—

** Full set of seals

AD-5000 and RH-396X Tinel-Lock Installation Tool
Tinel-Lock Screened Termination Products
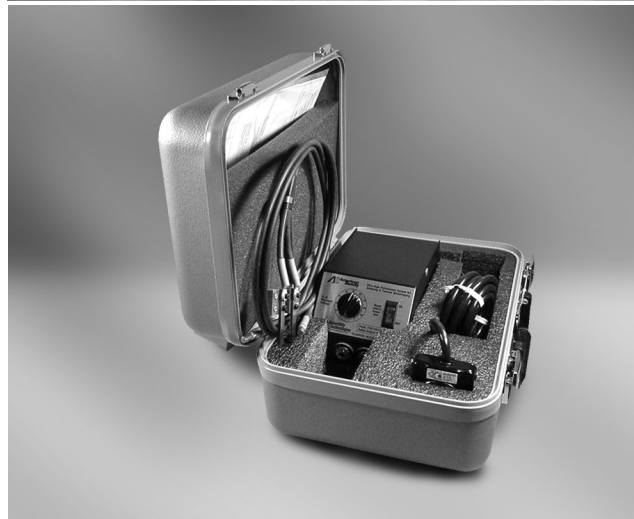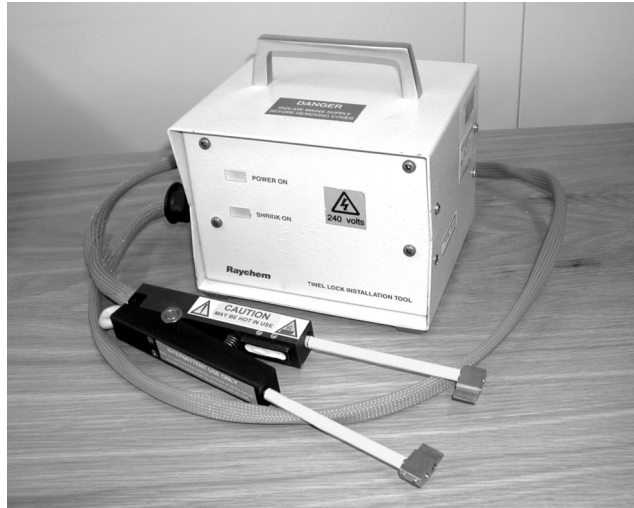
Applications

The AD-5000-TINEL-ASSY is a manually operated resistance heating tool designed specifically to install Tinel-Lock ring screened terminations in small batches. Recommended maximum continuous batch is 15, 6 second installations. The standard tool accommodates Tinel Rings from size TR04 to TR24 inclusive.

Various electrode (jaws) types can be used to install other Tinel-Lock ring sizes and types. The operator uses the hand-held tool to install the Tinel-Lock ring in its correct position on screened terminations. The Tinel-Lock ring has two patches of thermochromic paint on the Tinel-Lock ring.

The operator positions the Tinel-Lock ring on the terminations, with at least one of the patches of thermochromic paint visible. The Tinel-Lock ring is then clamped in the jaws to start the installation. Installation is complete when the thermochromic paint turns black.

AD-5000 available in:	Americas	Europe	Asia Pacific
	■	■	■

RH-396X available in:	Americas	Europe	Asia Pacific
	■		■

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Application Equipment

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Catalog 1654025
Revised 3-13

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Dimensions are in millimeters unless otherwise specified.

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UK: +44 800 267 666

For additional support numbers please visit www.te.com

AD-5000 and RH-396X Tinel-Lock Installation Tool
Tinel-Lock Screened Termination Products (Continued)

Technical Specification

Electrical Supply	220V-240V-50Hz
Machine Cycle Times for Tinel-Lock rings used on typical range of harnesses:	5 to 15 Seconds depending on ring size and braid type on the termination.
Mains Fuse	240 V 2 Amp (Type T anti - surge)
Total System Noise	Silent Operation
Dimensions	340 x 320 x 170 mm [13.4 x 13 x 6.7 in]
Weight	4.2 Kg

Product Range

	Tinel-Lock Rings
STANDARD ELECTRODES FITTED :	Sizes TRO4 to TR24
Conduit Electrodes Fitted	Conduit systems / TR rings on double braid
Square Profile Electrodes Fitted	TC02-TC03 RINGS

Ordering Information

	Description	Part No.
Tinel installation tool (220V-240V)	AD-5000-TINEL-ASSY	411993-000
Also available in the US and Asia Pacific: Resistance heating tool: 915088-01. Use with American Beauty Transformer - #105-A12 (110V) or #105-A12-220V (220V) and foot switch #10519		
Tinel installation tool (120 VAC)	RH-3960-1-TINEL-KIT-120V	173643-000
Tinel installation tool (220 VAC)	RH-3965-1-TINEL-KIT-220V	859855-000

Recommended Spares — AD-5000

Hand Tool Assembly	AD-5000-TINEL-HAND-TOOL	795257-000
Standard Electrodes (TR04 to TR24 RINGS)	AD-5000-TINEL-STD-ELECT	180245-000
Conduit Electrodes (Conduit systems or TR rings on double braid)	AD-5000-TINEL-COND-ELECT	747235-000
Square Profile Electrodes (TC02-TC03 RINGS)	AD-5000-TINEL-SQ-EXT-ELEC	065583-000

Recommended Spares — RH-396X

Hand Tool Assembly	915088-01-TINI-RING-HEATR	170224-000
Foot Switch	IR-500-P-FOOT-SWITCH	993702-000
120 VAC Transformer	AES-RH3960-TRNSFMR-120V	9951119-000
220 VAC Transformer	TRNSFMR-220V-105-A12-250W	574557-000

N.B. Electrodes are two per P.C.N.

AD-5010-Tinel Bench-230V Tinel-Lock Installation Tool
Tinel-Lock Screened Termination Products

Applications

The AD-5010-TINEL-BENCH-230V is a manually operated resistance heating tool designed specifically to install Tinel-Lock ring screened terminations in large batches, in continuous operation. The tool accommodates Tinel Rings from size TR04 to TR24 inclusive. Various electrode (jaws) types can be used to install other Tinel-Lock ring sizes and types.

The operator uses the tool to install the Tinel-Lock ring in its correct position on screened terminations. The Tinel-Lock ring has two patches of thermochromic paint to ensure consistent installation.

The operator positions the Tinel-Lock ring on the termination, with at least one of the patches of thermochromic paint visible, and operates the push-button (or footswitch if fitted).

The Tinel-Lock ring is then located in spring-loaded jaws (it is not necessary to clamp the ring manually). The push button or footswitch (if fitted) is then operated to start the cycle, the cable is held in position for the duration of the installation. This is complete when the thermochromic paint turns black. This normally takes between 3 to 12 seconds, depending on ring size, braid type etc. An

ammeter on the front panel shows installation current used. A needle file is provided for periodic cleaning of the electrodes.

Available in:	Americas	Europe	Asia Pacific
	■	■	■

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Application Equipment

AD-5010-Tinel Bench-230V Tinel-Lock Installation Tool
Tinel-Lock Screened Termination Products (Continued)

Technical Specification

Electrical Supply	230 V 50 Hz
Machine Cycle Times for Tinel-Lock rings used on typical range of harnesses:	3 to 12 Seconds depending on ring size and braid type on the termination.
Mains Fuses (2)	240 V 2 Amp (Type T anti - surge)
Total System Noise	Silent Operation
Dimensions	245 x 305 x 290 mm [10 x 12 x 11 in]
Weight	24 Kg

Product Range

	Tinel-Lock rings
STANDARD ELECTRODES FITTED :	Sizes TRO4 to TR24, conduit systems and TR rings on double braid
Square Profile Electrodes Fitted	TC02-TC03 RINGS

Accessories

	Description	Part No.
Footswitch Kit	AD-5010-BENCH-FOOTSW-KIT	072845-000

Recommended Spares

	Description	Part No.
Standard Electrodes (TR04-TR24 RINGS)	AD-5010-BENCH-STD-ELECT	222899-000
Square Profile Electrodes (TC02-TC03 RINGS)	AD-5010-BENCH-SQ-ELECT	727799-000
Mechanism Assembly (Including electrode set)	AD-5010-BENCH-MECH	924079-000

N.B Electrodes are two per P.C.N.

Ordering Information

	Description	Part No.
Tinel installation tool	AD-5000-TINEL-ASSY	411993-000

CV-1981 and CV-1983 Heavy-Duty Hot-Air Heating Tools

Product Facts

- **Robust, double-insulated, heavy-duty unit**
- **Highest-wattage unit (1600–2260 watts)**
- **Integral stand that allows use as bench tool**
- **Safe, quiet operation**
- **Precisely variable temperature**
- **Variety of reflectors available**
- **Easy fixturing for dual opposing heating**

Applications

Used for installing dual wall or single wall tubing up to three inches in diameter and for installing SolderSleeve devices. Closed loop version (PID) also available.

Technical Specification

Electrical Supply	
CV-1981-MK2	120 V and 230 V
CV-1983	120 V and 230 V
CV-1981 PID	120 V and 230 V

Power Consumption	
CV-1981-MK2	1600 W
CV-1983	2260 W/3060 W
CV-1981 PID	1600 W

Total System Noise	
CV-1981-MK2	65dB
CV-1983	65dB
CV-1981 PID	>70dB

Length	
CV-1981-MK2	340 [13]
CV-1983	320 [13]
CV-1981 PID	350 [13]

Weight	
CV-1981-MK2	1.3 Kg [2.90 lb]
CV-1983	1.5 Kg [3.30 lb]
CV-1981 PID	1.4 Kg [3.10 lb]

Air Flow	
CV-1981-MK2	Max 230 l/min
CV-1983	Max 500 l/min
CV-1981 PID	230 l/min

Product Range
All dual wall, single wall and molded part products.
Various devices products.
For other products , contact TE.

Available in:	Americas	Europe	Asia Pacific
	■	■	■

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Application Equipment

CV-1981 and CV-1983 Heavy-Duty Hot-Air Heating Tools (Continued)

Ordering Information

Equipment	Description	Part No.	Voltage	Hz
CV-1981-MK2	CV-1981-120V1600W-CANMK2	A42716-000	120V	50/60 Hz
	CV-1981-120V1600W-UKMK2	E95798-000	120V	50/60 Hz
	CV-1981-230V1600WMK2	813914-000	230V	50/60 Hz
	CV-1981-230V1600W-SEVMK2	F25836-000	230V	50/60 Hz
	CV-1981-230V1600-UKMK2	340970-000	230V	50/60 Hz
CV-1983	CV-1983-110V-2260W-UK	441753-000	120V	50/60 Hz
	CV-1983-220V-2260W	773898-000	230V	50/60 Hz
	CV-1983-220V-2260W-UK	985426-000	230V	50/60 Hz
	CV-1983-220V-3060W	538361-000	230V	50/60 Hz
	CV-1983-220V-3060W-UK	231866-000	230V	50/60 Hz
CV-1981-PID	CV-1981-120V-1600W-CANPIDF	839218-000	120V	50/60 Hz
	CV-1981-120V-1600W-UKPID	928826-000	120V	50/60 Hz
	CV-1981-230V-1600WPID	958770-000	230V	50/60 Hz
	CV-1981-230V-1600W-SEVPIDF	434366-000	230V	50/60 Hz
	CV-1981-230V-1600W-UKPIDF	385828-000	230V	50/60 Hz
CV-1983 Barrel Adapter	AD-1962	989172-000	—	—

Accessories

	Application	Part No.
PR-12 reflector	Tubing: 6.3–25.4 mm [0.25–1 in]	991973-000
PR-13 reflector	Tubing: Up to 6 mm [0.25 in]	991963-000
PR-13C reflector	Large SolderSleeve products	991974-000
PR-21 reflector	Tubing: Up to 25.4 mm [1 in]	991984-000
PR-24 reflector	Tubing/molded parts: 25.4–34.93 mm [1–1.38 in]	991964-000
PR-24A reflector	Tubing/molded parts: 34.93–60.33 mm [1.38–2.38 in]	991989-000
PR-25 reflector	SolderSleeve products: Up to 7 mm [0.28 in]	991965-000
PR-25D reflector	SolderSleeve products: 6.3–12.7 mm [0.25–0.50 in]	989523-000
PR-26 reflector	Small SolderSleeve products	991967-000
PR-33 reflector	SolderSleeve products: 19.05–25.4 mm [0.75–1 in]	997768-000
AD-1962 adapter for larger-barrel CV-1983	—	989172-000
PR-34 reflector	SolderSleeve products: 12.0–20.0 mm [0.47–0.79 in]	989111-000
PR-51	Special narrow reflector for molded part transitions (21.5 x 3.5 mm nozzle) [.85 x .14 in]	113069-000

*Note: A42716 supersedes and replaces 538005
        340970 supersedes and replaces 923002

Dimensions are shown for
reference purposes only.
Specifications subject
to change.

Dimensions are in millimeters
unless otherwise specified.

USA: +1 800 522 6752
Asia Pacific: +86 0 400 820 6015
UK: +44 800 267 666

For additional support numbers
please visit www.te.com

HL1910E and HL2010E Steinel® General Purpose Hot-Air Heating Tool

Products Facts

■ **Light weight**

■ **Easy, quiet operation**

■ **Precise variable temperature**

■ **1500 watts**

■ **Reflectors and stand (optional)**

■ **Wide variety of applications**

■ **CE approved (230 V only)**

Applications

Used for installing heat-shrinkable tubings and molded parts, SolderSleeve devices, and SolderTacts contacts.

Specifications

Steinel® (120 V) power requirement	120 V, 60 Hz, 12.5 A
Steinel® (230 V) power requirement	230 V, 50 Hz, 8.7 A
Rated heater element power	110V - 2000 W/230V-2000W
Weight	920 g [2.0 lb]
Cord length	Approx. 3 m [approx. 8 ft]
Typical temperature output*	49°C to 593°C [120°F to 1100°F]

*The Steinel® heating tool is equipped with a variable temperature control. The correct temperature setting of the tool will vary, depending on application characteristics. The recommended procedure is to experiment with scrap materials and start with the lowest temperature range.

Steinel is a trademark of Steinel GmbH.

Available in:	Americas	Europe	Asia Pacific
	■	■	■

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Application Equipment

HL1910EE and HL2010E Steinel® General Purpose Hot-Air Heating Tool (Continued)

Ordering Information

Model /Description	Part No.
HL1910E-KIT-120	CJ2086-000
HL2010E-KIT-120	CJ2087-000
HL1910E-230V-EURO	F30529-000
HL1910E-230V-UK	F11734-000
HL1910E-KIT-230V-EURO	A93538-000
HL2010E-230V-EURO	C99451-000
HL2010E-230V-UK	A22932-000
HL2010E-KIT-230V-EURO	A23120-000

Accessories and Replacement Parts	Description	Part No.
SolderSleeve reflector	HL1802E-074616	832011-000
HL1802E-ADAPT for use with PR reflectors***	HL1802E-ADAPT-PR	444817-000
Tubing reflector	HL1802E-070519	022611-000
Bench stand	HL2010E-BENCH-STD	CJ2085-000
9-mm-diameter reduction nozzle	HL1802E-070618	930321-000

**Complete with SolderSleeve reflector.
***Selection of PR reflectors can be found in CV-1981/CV-1983 section.

Accessories

Clip-on bench stand (P/N CJ2085-000) for heating tool. Must be ordered separately.

SolderSleeve reflector (P/N 832011-000) for SolderSleeve terminators, SolderTacts contacts, and small-diameter tubing. Comes standard with Steinel® heating tool.

Optional tubing reflector (P/N 022611-000) for larger tubing and molded parts. Must be ordered separately.

Steinel is a trademark of Steinel GmbH.

IR-1891 Shuttle Machine — Twin Workstation Heater for Multiple Installation of Short Length Tubing Products

Product Facts

■ Automatic cycle start once heater is manually positioned over product, which gives improved process control (recommended for adhesive lined heat-shrinkable tubing e.g. sealing applications)

■ Automatic heating head retraction at end of cycle prevents damage to components

■ Multiple product fixture assemblies give increased process rates

■ Cooling fan above each fixture assembly maintains holding fixture at an acceptable temperature
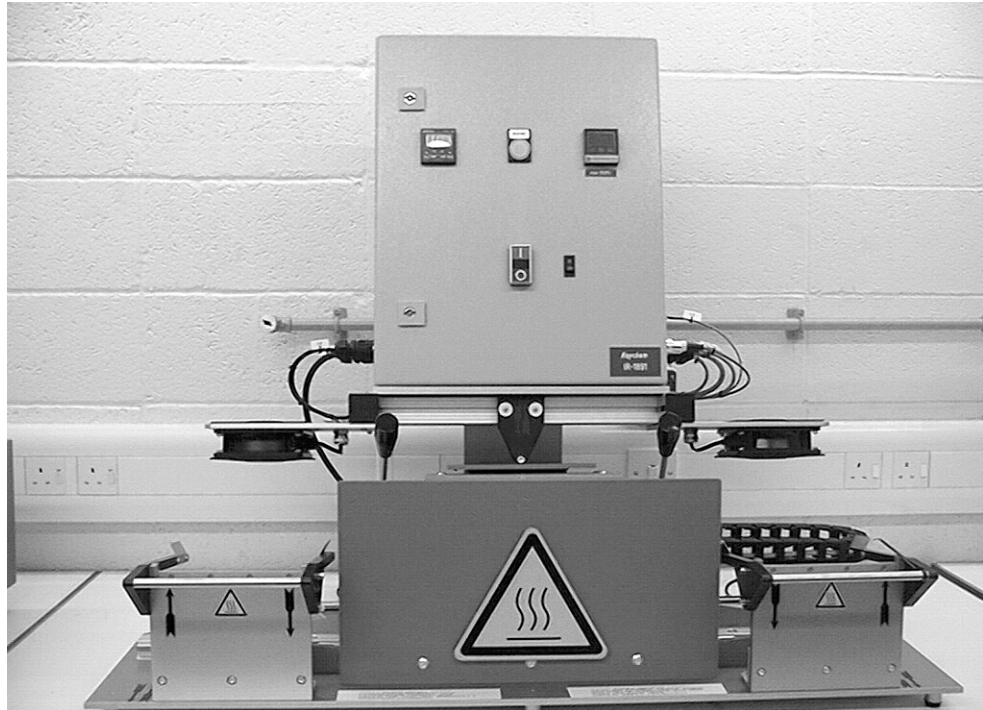
Applications

The IR-1891 is suitable for the installation of a range of Raychem brand heat-shrinkable tubing products onto a variety of small components, e.g. ring terminals, FASTON terminals and small connectors etc. The machine is provided with two work stations and a moveable heating head.

Each workstation is provided with supports for tooling fixtures (which must be specified and ordered separately). These support the workpieces and locate the tubing products. The operator loads the workpieces into the fixtures at one of the workstations, ensures that the tubing product is correctly positioned and then slides the heat head into position

before initiating the heating cycle. The operator then continues with loading/ unloading the other work station whilst the heating cycle is taking place.

The IR-1891-220V-Shuttle-Retn is provided with closed loop temperature control and in addition the heat head is 'locked' into position by use of an electromagnet during the heating cycle.

Once the other workstation has been loaded and the first installation is complete, the heat head is moved into position over the product and the next heating cycle initiated. Heating times vary typically from 3 to 30 seconds depending on the size and type of tubing product. Process rates up to 1200 pieces/hour can be

achieved depending on the heating time and the time taken by the operator to load unload the workpieces. The installation temperature/power can be varied according to product type/size and required cycle times.

The heating elements, which are continuously energized, are of the infra-red medium wave length type and consist of a coiled resistance wire contained in quartz glass tubes. The closed loop temperature control uses similar elements but having integral thermocouple sensors.

Available in:	Americas	Europe	Asia Pacific
		■	

10

Application Equipment

10-15

Catalog 1654025
Revised 3-13

www.te.com

Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

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For additional support numbers please visit www.te.com

IR-1891 Shuttle Machine — Twin Workstation Heater for Multiple Installation of Short Length Tubing Products (Continued)

Technical Specification

Electrical Supply	230 V Single Phase
Power Consumption	1600 W
Operating Temperature	650°C max
Process Rate	1200 / hour maximum depending on application and operator
Heating Times	3 to 20 seconds depending on application
System Noise	< 70 dB
Dimensions – 508636-000	L1100 x H650 x D500 mm [L43 x H25 x D20 in]
Dimensions – 613148-000 / 167309-000 / 289588-000	L1100 x H900 x D500 mm [L43 x H35 x D20 in]
Base Plate Dimensions 289588-000 / 167309-000	L1040 x D450 mm [L41 x D18 in]

Product Range

Wide range of TE tubing products in particular LSTT, RNF-3000, RNF-100, HTAT, ATUM.
Maximum diameter 20 mm [0.8 in] and maximum length 60 mm [2.0 in]

Ordering Information

Description	Part No.
* IR-1891-220VShttle-Retn	289588-000

*Note: The descriptions given here DO NOT include the supply of the necessary tooling fixtures. These are designed for each individual application.

Accessories

	Description	Part No.
Grippers:		
IR-1891-SI-GRP-165-RD-1mm	Red Gripper with 1mm hole	629602-000
IR-1891-SI-GRP-165-CL-2mm	Clear Gripper with 2mm hole	112676-000
IR-1891-SI-GRP-165-BK-3mm	Black Gripper with 3mm hole	F83221-000
IR-1891-SI-GRP-165-WT-6mm	White Gripper with 6mm hole	554196-000

Note: A wider range of tooling grippers designed for previous applications are available. Please contact TE for details.

Infrared Heating Tool IR-550 Mark II

Product Facts

- **Lightweight, portable unit with pedestal base for benchtop operation**
- **Foot switch, so both hands can be free to hold parts**
- **Commercially available tungsten-halogen lamp**
- **Fan-cooled housing**
- **Instant on/off heat**
- **Viewing window that allows parts to be inspected during installation**
- **Quiet, focused IR operation**

Applications

Used for installing small and large SolderSleeve devices and SolderTacts contacts.

Specifications

Input power	105–120 V, 50–60 Hz, 4.5 A
Normal lamp life	More than 1000 hours of intermittent use
Weight	Approximately 2.5 Kg [5.5 lb]
Duty cycle	80%, 90-second max. heating times

Ordering Information

Model	Description	Part No.
IR-550 heating tool* (120 V) with RG-2 reflector, viewing window, and foot switch	IR-550-50-MARKII-HT-TOOL	994350-000
230V Tool CE Approved	IR-550-300-MARKIII-CE	C66438-000

Accessories and Replacement Parts

IR-550 foot switch (included with tool assembly 994350)	IR-550-216	994375-000
RG-6 reflector for large-diameter SolderSleeve terminations; aperture is 25.4 mm [1.0 in] wide	IR-550-19	994590-000
RG-11 reflector; aperture is 12.7 mm [.5 in] wide	IR-550-41	993695-000
RG-9 reflector; aperture is 9.525 mm [.375 in] wide	IR-550-39	993693-000
RG-2 reflector, included with 994350; aperture is 19.05 mm [.75 in] wide	IR-550-24	993770-000
Lamp (120 V)	IR-1000-P-N-13	993020-000
Optical filter	IR-550-237	118902-000
Viewing window (frame not included)	IR-550-238	007510-000
IR-550 upgrade kit: filter, viewing window, inner reflector, outer reflector	IR-550-240-Refurb	529600-000

Available in:	Americas	Europe	Asia Pacific
	■	■	■

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Application Equipment

IR-1759 MiniRay Infrared Heating Tool

Product Facts

- **Small, lightweight, fan-cooled unit**
- **Small profile for installation where space is restricted**
- **Handheld operation**
- **Focused heat**
- **Quiet, efficient IR operation**
- **CE approved**
- **RoHS compliant**

Applications

Used for installing SolderSleeve devices and SolderTacts contacts.

* Control box not shown

The MiniRay tool is a hand held Infrared heating tool designed for installing shield terminators, splices and approved IR repair and tubing products.*

The tool is portable, light-weight and is convenient for use where work space is restricted. The hand tool is fan cooled and has low heat emission as the lamp is only energized on demand. A duty cycle up to 50% is permissible with a maximum heating time of 30 seconds.

Two versions of the hand tool are available:

- IR-1759-MK4/A Standard aperture recommended for products up to 6 mm diameter.

- IR-3104-MK4/A Large aperture for products up to 9 mm diameter.

Both versions of the tool will accept larger diameter components but uniform heating is then not assured.

The battery box controller is designed for remote areas, where more portability is required. This battery-powered controller can install approximately 50, 30 second installations before recharging is required. The ED-7-001-MK4-230V-50HZ and ED-7-002-MK4-110V-60HZ Control units provide controls for both power and time and are suitable where the use of pre-set installation conditions is required. Up to 20 memory locations are available for the storage of time/power values. A trigger switch is used to initiate each cycle. The controller can also be used in a manual mode with the operator controlling the duration of the heating cycle via the trigger switch.

The ED-7-CONT-230/110V-MK4 controller is a more simpler unit, with no variable time, or variable power memory functions, and maintains power to the lamp for as long as the trigger switch remains depressed. The tool can be used with either 230V or 110V (nominal) voltage supply.

The product being installed is visible during the heating cycle. An optical filter eliminates the unwanted UV emissions and excess visible light reducing the glare for the operator.

A product kit is available, see page 10-19 for ordering information.

*Contact your local TE representative for details.

[1] Approved by the U.S. Navy for use on fueled aircraft.

Available in:	Americas[1]	Europe	Asia Pacific
	■	■	■

IR-1759 MiniRay Infrared Heating Tool (Continued)

Technical Specifications

IR-1759 / IR-3104 HAND TOOLS

Supply Voltage	21.5 VAC nominal
Weight	1.1 kg
Typical Operating Temperature	500˚C
Typical Heating Time	15 seconds
Lamp Type, Power & Life - Typical values	250 W Tungsten Halogen average life 10,000 cycles @ 50% duty cycle
Noise	51 dB (A)
Power Cord Length	3.1 m

ED-7-CONT-230/110V-MK4 / ED-7-001-MK4-230V-50HZ / ED-7-002-MK4-110V-60HZ and ED-7-BATTBOX-MK4-230/110V

Supply Voltage:

ED-7-001 & 002	230 VAC 50 Hz & 110 V 50/60 Hz
ED-7-CONT-230/110V-MK4	230 VAC 50 Hz or 110 V 50/60 Hz
ED-7-BATTBOX-MK4-230/110V	2 x 12V batteries

Input Current:

ED-7-001 & 002	4 A & 10 A
ED-7-CON-230/110V-MK4	6.3 A
Dimensions WxHxL	160 x 120 x 250 mm

Weight:

ED-7-001 & 002	6.2 kg
ED-7-CONT-230/110V-MK4	8.0 kg
ED-7-BATTBOX-MK4-230/110V	8.5 kg

Timer Adjustment (ED-7-001/002 only)	1-250 seconds

Output Voltage:

ED-7-001 & 002	16-24 VAC (dependent on program)
ED-7-CONT-230/110V-MK4	21.5 VAC
ED-7-BATTBOX-MK4-230/110V	24V DC nominal

Voltage Output Control Accuracy (with ± 10% input variation):

ED-7-001 & 002	± 3%
ED-7-CONT-230/110V-MK4	± 0.5V (120V/230V supply)
ED-7-BATTBOX-MK4-230/110V	N/A (dependent upon charge)

Lamp "Hold-On" Voltage:

ED-7-001 & 002	3.5 VAC
ED-7-CONT-230/110V-MK4	N/A
ED-7-BATTBOX-MK4-230/110V	N/A

Memory Locations (ED-7-001&002 only)	20

Product Range

Shield Terminators	D-10X, SO63, SO96
For Other TE Products	Discuss with Product Management

Ordering Information

Description	Kit Part Number
IR heater, reflector to fit standard aperture, Standard V-block plus a Non-Timed Control Box 230V or 110V supply	**IR1759-MK4-AT3130-EDCONT**

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Application Equipment

IR-1759 MiniRay Infrared Heating Tool (Continued)

**Parts, Accessories and Spare
Parts List**

Description	Part Number	Guideline	Comments
IR1759-Mk4/A /IR1759-Mk3/A	CF0025-000	Infra Red Heater Standard Aperture	RoHS compliant. Replaces 986899-000
IR1759-Mk4-At3130-EDCont	CF0024-000	Infra Red Heater, Reflector to fit standard aperture, standard vee block, none timed control	RoHS compliant. Replaces 898738-000/IR1759-Mk3-At3130-EDCont
IR3104-Mk4/A	CF5497-000	Infra Red Heater Large Aperture	RoHS compliant. Replaces 035343-000-000 / IR3104-Mk3/A

ACCESSORIES			
AT-3191	588701-000	Reflector to fit Standard Aperture, Special Vee Block	
AT-3134	988303-000	Reflector to fit Large Aperture, Standard Vee Block	
AE-897	966953-000	Conversion kit from Standard to Large Aperture	
AD-7-100	176247-000	External Viewing Window	
AT-3147	988328-000	Reflector to fit Large Aperture with Clamps	
AT-3132-Mk31/1	879865-000	Reflector to fit Standard Aperture with Clamps and with 5 mm wide mask	Aerospatiale "special" reflector.
AT-3131	988300-000	Reflector to fit Standard Aperture	Reflector for IR1759 for SolderTact products with a vee block at one end
AT-3132	988301-000	Reflector to fit Standard Aperture with Clamps	Reflector for IR1759 for SolderSleeve products using clamps to hold wire in place
AT-3130	988299-000	Reflector to fit Standard Aperture, Standard	Reflector for IR1759 for SolderSleeve products using Vee Block gravity to hold wire in place

SPARE PARTS			
AE-226	988314-000	Outer Reflector Mirror for AT-3134/AT-3147	
AE-424	547918-000	Inner Reflector for Standard Aperture	
AE-1367	338605-000	Hook	
NAE-143-3	988208-000	Bulb 250W/24V	
AE-153	988285-000	Inner Reflector for Large Aperture	
AD-1360	106503-000	Standard Thermal Shield	
AE-205	988596-000	Outer Reflector Mirror for AT-3130/AT3131/AT-3132	
NAE-109-2	988382-000	Lamp Holder	
AES-IR1759-100-Filter-Dul	431468-000	Filter for Standard Aperture	
IR1759/3104-Cable-Asy	585643-000	Trigger PCB, Cable Assembly, Includes Lamp Holder and Fan	
AE-770	747525-000	Optic Bloc for IR1759	
AE-900	277774-000	Filter Spring IR1759	
NAE-152-1	988204-000	Fan	
AT-3130-AE204-AE203-10SET	481321-000	Replacement for Vs for AT3130 V Block	AE-203 & AE-204 are two halves of AT-3130 V Block, supplied in quantities of 10 sets
AES-IR1759-300-FLTR-LRG	F52511-000	Filter for Large Aperture Heatgun	

**IR-1759 MiniRay Infrared Heating Tool** (Continued)

Parts, Accessories and Spare
Parts List (continued)

Description	Part Number	Guideline	Comments
ED-7-CONT-230/110V-Mk4	CF0026-000	None Timed Control Box - 230V or 110V Supply	Replaces ED-7-Cont-230/110V 684886-000
ED-7-BATTBOX-MK4-230/110V	CF0200-000	Battery Powered Controlled for IR-1759 (230V or 110V Supply) - RoHS compliant version	Replaces ED-7-BatteryBox-230/110V/448969-000. Batteries not included. When purchasing the controller, order ED-7-Batt-Battery 755928-000 also.
ED-7-001-MK4-230V-50HZA	CF0199-000	Control Box 230V, with Timer	Replaces Ed-7-001-Mk2-230V-50Hz/869233-000
ED-7-002-MK4-110V-60HZA	CF0201-000	Control Box 110V, with Timer	Replaces Ed-7-002-Mk2-110V-60Hz/903553-000

ACCESSORIES

ED-7-Cont-Front-Panel	619690-000	Front Panel and Display PCB including Triac and Inductor	
ED-7-Cont-Transformer	139128-000	Transformer	
ED-7-Batt-Battery	755928-000	Battery Pack	
ED-7-Batt-Front-Panel	132692-000	Front Panel and Display PCB with Logic PCB and Power PCB	
ED-7-001/2-Transformer	584781-000	ED-7-001 & ED-7-002 Transformer	
ED-7-001/2-Front-Panel	524325-000	ED-7-001 & ED-7-002 Front Panel	

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Application Equipment

Model 16B Belt Heater

Product Facts

■ **Controlled heating for installation of Raychem brand heat-shrinkable tubing at rates required for mass production**

■ **Controlled repeatable heating: time and temperature settings can be fixed to maintain repeatable installation parameters**

■ **Part positioning that is clearly defined and easy to maintain**

■ **Operation that requires only minimal skill**

■ **Efficient and economical operation, which greatly reduces labor costs. In most cases the throughput rate is limited only by the rate at which an operator can load parts into the heater**
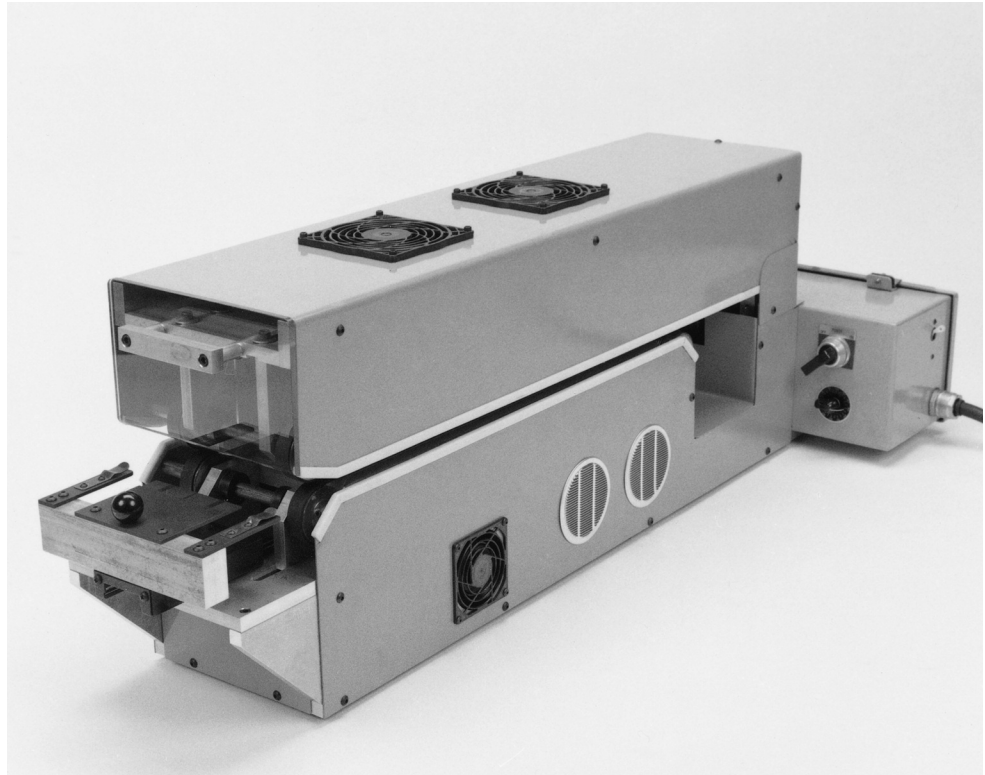
Applications

Designed for processing a broad range of heat-shrink-able tubing products up to 19 [75] in diameter and 101 [4.0] long. Suitable for either single-wall or adhe-sive-lined tubing. Heating-element temperature is adjustable up to 600°C [1112°F] and the belt speed is adjustable to 2.28 [7.5] per minute. Operator simply positions the heat-shrink tubing over the assembly and feeds it into the process chamber. Heating and cooling take place automatically with the cables or wires securely fixed.

Available in:	Americas	Europe	Asia Pacific
	■		■

Model 16B Belt Heater (Continued)

Specifications and Dimensions

Electrical	Part No. 827429-000	Part No. 047143-000	Part No. 584313-000
Power requirements	120 Vac, 1 Ø, 50/60 Hz, 20 A	220 Vac, 1 Ø, 50/60 Hz, 15 A, 3-wire	230 Vac, 1 Ø, 50/60 Hz, 15 A, 4-wire
Heating elements	875 W (upper and lower)	875 W (upper and lower)	875 W (upper and lower)

Mechanical	
Conveyor belt system	Two sets of pinch belts right and left, four belts total
Machine dimensions	48 cm [19 in] W x 110 cm [43 in] L x 33 cm [13 in] H
Shipping dimensions	61 cm [24 in] W x 111 cm [44 in] L x 56 cm [42 in] H
Machine weight without crate	55 Kg [120 lb]
Shipping weight with crate	91 Kg [200 lb]

Tubing Sizes	
Inside diameter before recovery	Up to 19 mm [0.75 in]
Length	Up to 101mm [4.0 in]

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Application Equipment

Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

USA: +1 800 522 6752
Asia Pacific: +86 0 400 820 6015
UK: +44 800 267 666

For additional support numbers please visit www.te.com

Model 19 Conveyor Heater for Processing Raychem Brand Heat-Shrinkable Tubing and Termination Devices

Product Facts

- **Closed-loop speed and temperature control**
- **CE approved for worldwide use**
- **Adaptable for different applications**
- **Continuous controlled process**

Available in:

Americas	■
Europe	■
Asia Pacific	■
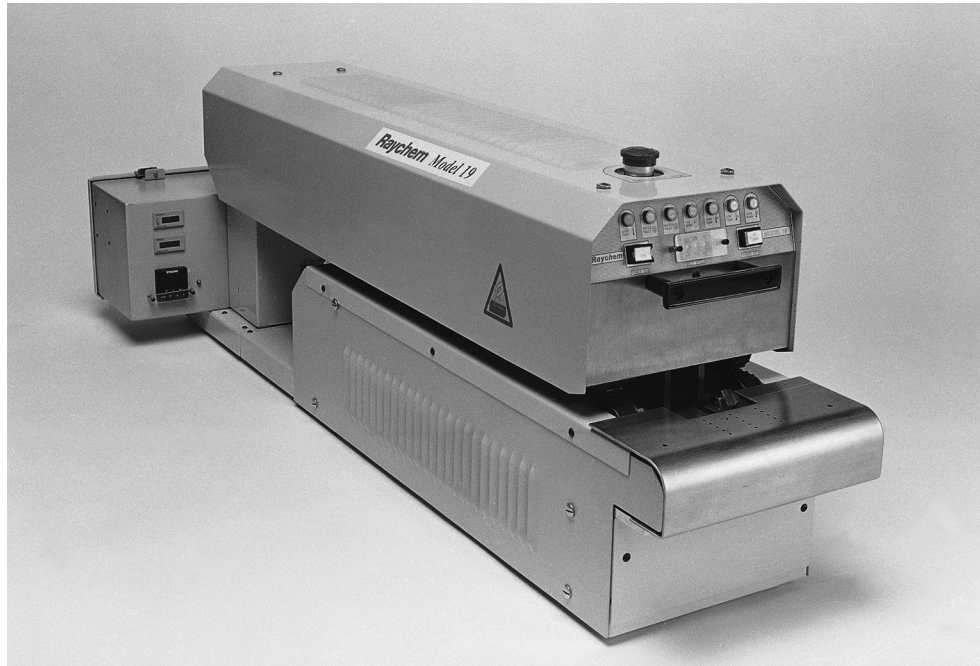
Applications

The Model 19 conveyor heater is the latest genera-tion of reliable and versatile process heaters for a wide variety of heat-shrinkable products.

Two sets of timing belts grip the individual assemblies and carry them through a closed-loop infrared heating zone, then through a cool-ing zone, and deposit the completed assemblies in a collection bin.

The processor was designed to meet the requirements of the European Safety Directives and is CE approved, allow-ing for worldwide use.

The processor is designed to operate on the following line voltages: 210 to 240 Vac, 20 A, 1 Ø, 50/60 Hz.

Options for this processor include:

- Powered or unpowered extension tables to support long or heavy harnesses.

- Kit for processing ring terminals and end termi-nations.
- Floor stand with wheels.
- Wider heating elements for tubing up to 178 [7.0] long.
- Narrow heating elements for SolderSleeve devices up to 10 [0.4] diameter and 45 [1.8] long or short length tubing less than 50 mm [2.0].

Product Features
Controlled Heating Zone

The Model 19 has two etched- foil heating ele-ments mounted under a quartz face. Consistent heating chamber tempera-tures are obtained with a closed-loop temperature controller. There is a lock-out on the controller to pre-vent unauthorized changes.

Speed Control

Consistent speed is obtained with a closed-loop speed controller. The speed is adjusted using a 3-digit thumbwheel on the front control panel. There is

a lockout on the thumb-wheel to prevent unautho-rized changes.

Minimal Skill Requirements

There are clearly marked guides for aligning the assembly as well as the tubing or device being processed. The operator only has to center the assembly; the grippers carry it through the heating and cooling zone and deposit it into the unloading bin.

Economical Production

The throughput rate is determined by the rate at which an operator can load the processor.

Self-Diagnostic Circuitry

There are several "self-diagnostic" circuits that alert the operator if any major component fails or if an unsafe processing condition occurs. A light will turn on and a lockout gate will lift in the entry zone, preventing the operator from loading assemblies until the situation has been corrected.

Other Features Include:

- Emergency stop.
- Automatic cool-down circuit to extend the life of components.
- Lockout on temperature and speed controllers to prevent unauthorized changes.

Model 19 Conveyor Heater for Processing Raychem Brand Heat-Shrinkable Tubing and Termination Devices (Continued)

Specifications and Dimensions

Electrical

Power requirements	210–240 Vac, 20 A, 1 Ø, 50/60 Hz
Heating elements	Std = 3160 W/Wide = 3320 W/Narrow = 1760 W

Mechanical

Conveyor belt system	Double-sided timing belts, pitch - 9.5 [0.375]
Belt speed	Up to 152 cm/min [5.0/min]
Processor dimensions	53 cm [21 in] W, 135 cm [53 in] L, 45 cm [18 in] H
Shipping dimensions	66 cm [26 in] W, 147 cm [58 in] L, 58 cm [23 in] H
Shipping weight with crate	86 Kg [190 lb]

Tubing sizes

Tubing diameter (max)	25 mm [1.0 in]
Tubing length (max)	102 mm [4.0 in] 178 mm [7.0 in] wide heating element tool 50 mm [2.0 in] narrow heating element tool
Work-piece length (min)	240 mm [9.5 in]

Version	Part No.
Model 19 Standard	714529-000
Model 19 Wide	075131-000

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Application Equipment