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## HL1910E/HL2010E

### Light Duty Heating Tool

#### Product Facts

- Light duty, portable hot air heater



The HL2010E and HL1910E hot air heat guns are designed to work with a standard line voltage (120V) on a wide variety of Raychem heat-shrinkable products. These tools are suitable for occasional use and are not recommended for applications requiring high duty cycles. Both tools supply forced hot air with an adjustable heat setting to meet the requirements of many different installation situations. A three position switch controls the air flow (150/300/500 l/min)

The HL2010E tool is switched on and off at the three-stage switch and the temperature can be continuously adjusted over a range of 50°C-630°C by the pushbuttons. The temperature can be increased or reduced by 10°C steps. An LCD display shows the actual temperature.

The HL1910E tool is switched on and off at the two-stage switch and the temperature can be continuously adjusted over a range of 50°C-600°C at the thumbwheel (the numbers on it serve as guide only, 1 means 50°C and max. temperature of 600°C is attained at 9).

A bench stand allowing use of both the HL2010E and the HL1910E as a bench tool is available as an option. Only two reflectors are required to cover most applications of heat-shrinkable tubing and Solder Sleeve terminations.

There is an adaptor available, which allows the use of PR type reflectors.

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

## HL1910E/HL2010E (Continued)

### Technical Specifications

|          |                 |
|----------|-----------------|
| Voltage  | 120V AC         |
| Power    | 2000W           |
| Air flow | 150 - 500 l/min |
| Weight   | 920g            |
| Length   | 280 mm          |
| Noise    | <70dB           |

### Ordering Information

|                              | Description                                         | Part Number |
|------------------------------|-----------------------------------------------------|-------------|
| HL2010E-120V tool:           | HL2010E-KIT-120V                                    | CJ2087-000  |
| HL1910E-120V tool:           | HL1910E-KIT-120V                                    | CJ2086-000  |
| HL2010E/HL1910E Accessories: | HL1802E-074616 - SolderSleeve Terminators Reflector | 832011-000  |
|                              | HL1802E-070519 - Heat-Shrinkable Tubings Reflector  | 022611-000  |
|                              | HL1802E-ADAPT-PR Adaptor for PR Series Reflector    | 444817-000  |
|                              | PR-13C-REFLECTOR                                    | 991974-000  |
|                              | PR-25D-REFLECTOR                                    | 989523-000  |
|                              | HL2010E-BENCH-STD                                   | CJ2085-000  |

## ThermoGun HG

### Medium Duty Heating Tool

#### Product Facts

- Stand-mounted or handheld, rugged unit for heavy-duty use
- Built-in stand and turbo-fan-driven blower
- Adjustable side vents
- Adjustable temperature
- 1680 to 2160 watts
- Large reflector size
- High heat output for fast installation



#### Applications

Used for installing molded parts onto adapters or harnesses and installing a broad range of heat-shrinkable products, including boots and tubing up to three inches in diameter.

#### Specifications

| Model     | Power Requirements   | Input Watts | Temperature Range          | CFM* | RPM** |
|-----------|----------------------|-------------|----------------------------|------|-------|
| HG-501A   | 120 V, 60 Hz, 14 A   | 1680        | 260°C–399°C [500°F–750°F]  | 23   | 1700  |
| HG-502A   | 230 V, 50/60 Hz, 7 A | 1680        | 260°C–399°C [500°F–750°F]  | 23   | 1700  |
| HG-751A-C | 120 V, 60 Hz, 18 A   | 2160        | 399°C–538°C [750°F–1000°F] | 23   | 1700  |
| HG-752A   | 230 V, 50/60 Hz, 9 A | 1740        | 399°C–538°C [750°F–1000°F] | 23   | 1700  |

\*CFM = Cubic feet per minute.

\*\*RPM = Revolutions per minute.

Available in:

Americas

Europe

Asia Pacific

## ThermoGun HG (Continued)

### Accessories



**A-160-HG reflector (P/N 991017)** for short lengths of tubing up to 19.05 [.75] in diameter. Must be ordered separately.



**A-170-HG reflector (P/N 991018)** for short lengths of tubing 19.05–50.8 [.75–2] in diameter. Must be ordered separately.



**TG-23 reflector (P/N 991026)** for boots up to 44.45 [.75] in diameter. Must be ordered separately.

### Ordering Information

| Model*                          | Housing Color                    | Part No.   |
|---------------------------------|----------------------------------|------------|
| HG-501A                         | Red                              | 462047-000 |
| HG-502A                         | Red                              | 389363-000 |
| HG-751A-C                       | Red                              | 926935-000 |
| HG-752A                         | Red                              | 026239-000 |
| Accessories                     | Tubing Application               | Part No.   |
| A-160-HG standard reflector     | Diameters up to 19.05 [0.75]     | 991017-000 |
| A-170-HG large tubing reflector | Diameters of 19.05–50.8 [0.75–2] | 991018-000 |
| TG-23 small boot reflector      | Diameters up to 44.5 [1.75]      | 991026-000 |
| TG-24 large boot reflector      | —                                | 991027-000 |

\*Complete with bench stand.

## CV-1981 and CV-1983

### Heavy Duty Hot-Air Heating Tool

#### 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 Solder Sleeve devices. Closed loop version (PID) also available.

#### Specifications

| 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 mm [13.4 in] |
| CV-1983                                              | 320 mm [12.6 in] |
| CV-1981 PID                                          | 350 mm [13.8 in] |
| 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 Raychem products , contact TE.             |                  |

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

**CV-1981 and CV-1983** (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-1981-230V1600W-MK2      | 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 in–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 in–1.38 in]                                             | 991964-000 |
| PR-24A reflector                          | Tubing/molded parts: 34.93–60.33 mm [1.38 in–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 in–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 in–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 in–0.79 in]                                         | 989111-000 |
| PR-51                                     | Special narrow reflector for molded part transitions [21.5 x 3.5 mm nozzle] [.85 in x .14 in] | 113069-000 |

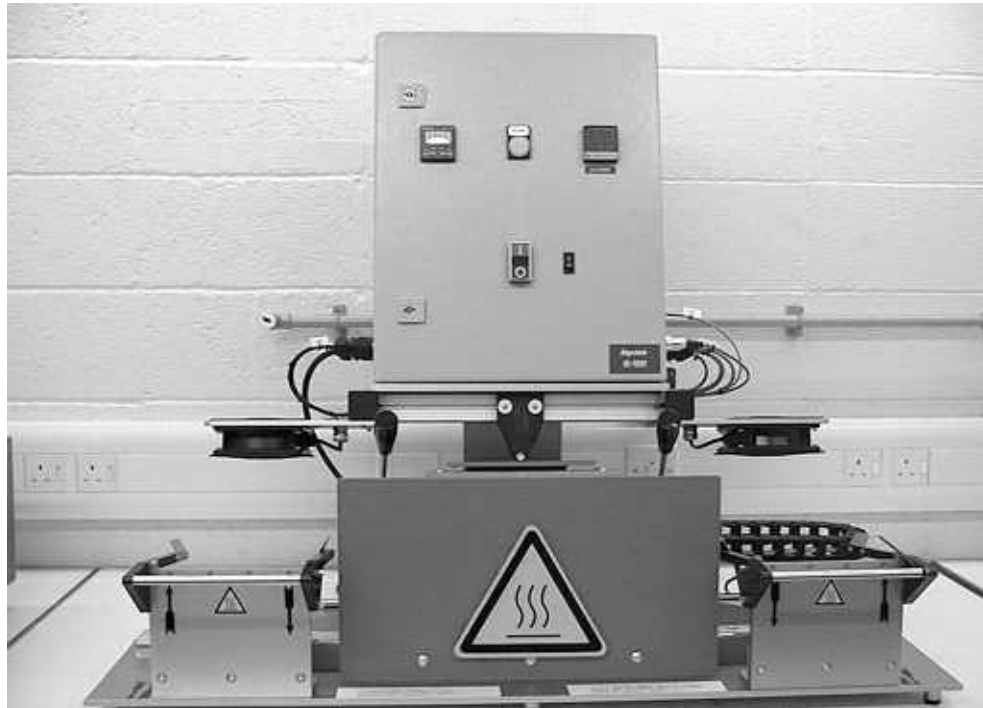
\*Note: A42716 supersedes and replaces 538005  
340970 supersedes and replaces 923002

## IR-1891

### Heating Work Station for Short Length Tubing

#### 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 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-Retrn 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 and 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

## IR-1891 (Continued)

### Technical Specifications

|                                                   |                                                           |
|---------------------------------------------------|-----------------------------------------------------------|
| 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 30 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]                            |
| Base Plate Dimensions 613148-000                  | L1040 x D397 mm [L41 x D16 in]                            |

### Product Range

Wide range of Raychem 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-1891-220V-Shuttle-Retrn | 289588-000 |
| *IR-1891-220V-Retrn-Syl     | 613148-000 |

**\*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.                                  |
|---------------------------|-------------------------------------------|
| <b>Grippers:</b>          |                                           |
| IR-1891-SI-GRP-165-RD-1mm | Red Gripper with 1mm hole<br>629602-000   |
| IR-1891-SI-GRP-165-CL-2mm | Clear Gripper with 2mm hole<br>112676-000 |
| IR-1891-SI-GRP-165-BK-3mm | Black Gripper with 3mm hole<br>F83221-000 |
| IR-1891-SI-GRP-165-WT-6mm | White Gripper with 6mm hole<br>629602-000 |
| <b>Fixtures:</b>          |                                           |
| IR-1891-Quick-Rel-ESS-6/1 | ESS Cap (6/1) Fixture<br>096735-000       |
| IR-1891-Quick-Rel-ESS-8/2 | ESS Cap (8/2) Fixture<br>148597-000       |
| IR-1891-Tool-Fixt-Bas-ESS | Base Unit for Fixtures<br>760221-000      |

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

## Model 81CE

### Discrete Heater for Heat-Shrinkable Tubing Products

#### Product Facts

- Closed-loop time and temperature control
- Controlled process
- Adaptable for different applications
- Bench top design
- CE approved for worldwide use
- Heater operation and over temperature alarm lights



#### Applications

The Model 81CE is a CE Certified discrete-type table top heater which provides a controlled process for recovering a wide variety of Raychem heat-shrinkable products onto wire assemblies or other suitable substrates.

Assemblies are loaded into spring loaded jaws on either side of the heating chamber which takes the assemblies into the oven for a pre-set number of seconds, then returns them to the home position for removal.

#### Controlled Heating Zone

The Model 81 CE processor has two stamped foil heating elements that are manufactured to a strict wattage specification. Consistent temperatures are controlled by a thermocouple embedded

into the upper heating element connected to a closed loop temperature controller. An alarm light illuminates whenever the actual heating element temperature varies from the set point temperature.

#### Controlled Oven Dwell Time

The oven dwell time is selected using a 3-digit thumb wheel digital timer. The time can be set between 1 and 999 seconds for precise heating ensuring each assembly being processed sees the same precise amount of heat.

#### 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, then the tubing,

and load it into the spring loaded jaws on either side of the heating chamber. The jaws grip and carry the assembly into the heating chamber and back to the home position when the time has expired. A protection circuit prevents the cycle from being initiated if the oven is not at the desired set point, preventing assemblies from being processed incorrectly. The small footprint allows the processor to be placed in close proximity to a welder, allowing a single operator to accomplish two tasks.

#### Versatility

The processor is designed to process a broad range of Raychem heat-shrinkable tubing products up to 25 mm [1.0 in] in diameter and 127 mm [5.0 in] in length. The infrared energy source is well-suited to effi-

cient processing of either single-wall or adhesive-lined tubing. Temperature and time can be controlled to accommodate a wide variety of products and substrates.

#### Safety Features:

- Circuit breaker for current surges
- Emergency Stop
- Pinch points eliminated by the housing design
- An over-temperature switch that shuts off all power in the event of an overheat condition
- Automatic cool-down circuit to prevent heat damage to integral components
- Circuit to prevent cycle initiation until the oven is up to temperature

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

## Specifications and Dimensions

### Model 81CE (Continued)

| Electrical                     | Part No. 071965                                                         | Part No. 704393-000             |
|--------------------------------|-------------------------------------------------------------------------|---------------------------------|
| Power Requirements             | 120 VAC, 1Ø, 50/60 Hz, 15 A                                             | 220 VAC, 1 Ø, 208-240 VAC, 15 A |
| Heating elements               | 2 ea. 400 watt stamped foil with quartz face infrared, one top & bottom |                                 |
| Timing System                  | Eagle Digital Timer, 1 to 999 seconds                                   |                                 |
|                                |                                                                         |                                 |
| Mechanical                     |                                                                         |                                 |
| Pneumatic cylinder requirement | 30 - 40 PSI clean shop air for jaw traversing                           |                                 |
|                                |                                                                         |                                 |
| Dimensions cm [in.]            |                                                                         |                                 |
| Control box dimensions         | 43.2 cm [17 in] L x 21.6 cm [8.5 in] W x 16.5 cm [6.5 in] H             |                                 |
| Control box weight             | 7.7 Kg [17 lb]                                                          |                                 |
| Heating chamber dimensions     | 38 cm [15 in] L x 24 cm [9.5 in] W x 34.3 cm [13.5 in] H                |                                 |
| Heating chamber weight         | 18 Kg [40 lbs]                                                          |                                 |
| Shipping dimensions            | 61 cm [24 in] x 61 cm [24 in] x 53 cm [21 in]                           |                                 |
| Shipping weight                | 41 Kg [90 lbs]                                                          |                                 |
|                                |                                                                         |                                 |
| Tubing sizes                   |                                                                         |                                 |
| Inside diameter                | Up to 25 mm [1 in]                                                      |                                 |
| Length                         | Up to 127 mm [5 in]                                                     |                                 |
|                                |                                                                         |                                 |
| Version                        | Description                                                             | Part No.                        |
| Model 81CE -120 Volt           | CLTEQ-M81CE-120V-HTR                                                    | 071965-000                      |
| Model 81CE - 220 Volt          | CLTEQ-M81CE-240V-HTR                                                    | 704393-000                      |

## RBK-ILS-Processor MkII

### Installation of Splice Sealing Products Adjacent to Ultrasonic Welder

#### Product Facts

- Increased heating element life
- Installation times, temperatures and product size information (individual selection)
- Sequenced installations
- Operator key lock/password protection levels
- Automatic heater retraction on mains failure
- Automatic calibration (single cycle)
- RS232 interface allows time, temperature and product sizes for the next installation to be transferred from a remote machine (e.g. an ultrasonic welding tool)
- Machine hours and installation cycle counters
- Software upgradeable to support special applications
- Air cooling can be provided to an optional stub splice fixture in the RBK-Proc-Mk2-Proc-Aircool version



#### Applications

The RBK-ILS-Processor MkII is a semi-automatic unit designed specifically to install splice sealing products onto ultrasonically welded or crimped splice joints used in automotive harnesses.

The tool can operate in several modes:

- Stand-alone — operator sets time and temperature.
- Sequenced — preset times and temperatures can be sequenced automatically (and can also be randomly selected from sequence stored.)

- Automatic communication with upstream ultrasonic welder can allow time and temperature to be automatically set without operator intervention.

The operator is able to efficiently load both machines and so minimize 'dead time'. Installing Raychem splice sealing products immediately after welding gives reduced installation time and earliest possible mechanical protection for the welded joint. The operator positions the splice sealing product centrally over the splice joint and then locates the assembly into the gripper mechanism.

The wire assembly is automatically ejected, with the splice sealing product installed and the joint area sealed, insulated and strain relieved. In-line or stub-type splices can be installed.

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

## RBK-ILS-Processor MkII (Continued)

### Technical Specifications

|                                                                                             |                                                                     |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Electrical Supply                                                                           | 220V-240V-50Hz                                                      |
| Power Consumption                                                                           | 1.7 Amps (Max)                                                      |
| Operating Temperature                                                                       | 550°C [1022°F] (Max)<br>(500°C [932°F] recommended)                 |
| Machine Cycle Times for splice sealing products used on typical range of automotive splices | 6 to 20 seconds depending on wire size and the number of wires used |
| Total System Noise                                                                          | <80dB                                                               |
| Dimensions                                                                                  | 390 x 365 x 225 mm [15 x 14 x 9 in]                                 |
| Weight                                                                                      | 18 Kg [40 lb]                                                       |

### Product Range

|                                                      |                   |
|------------------------------------------------------|-------------------|
| RBK-ILS-125 Products                                 | Sizes 1 to 3A     |
| RBK-ILS-85 Products                                  | Sizes 6/1 to 12/3 |
| For Other Raychem Products (eg RBK-VWS, RBK-ESS....) | Contact TE        |

### Ordering Information

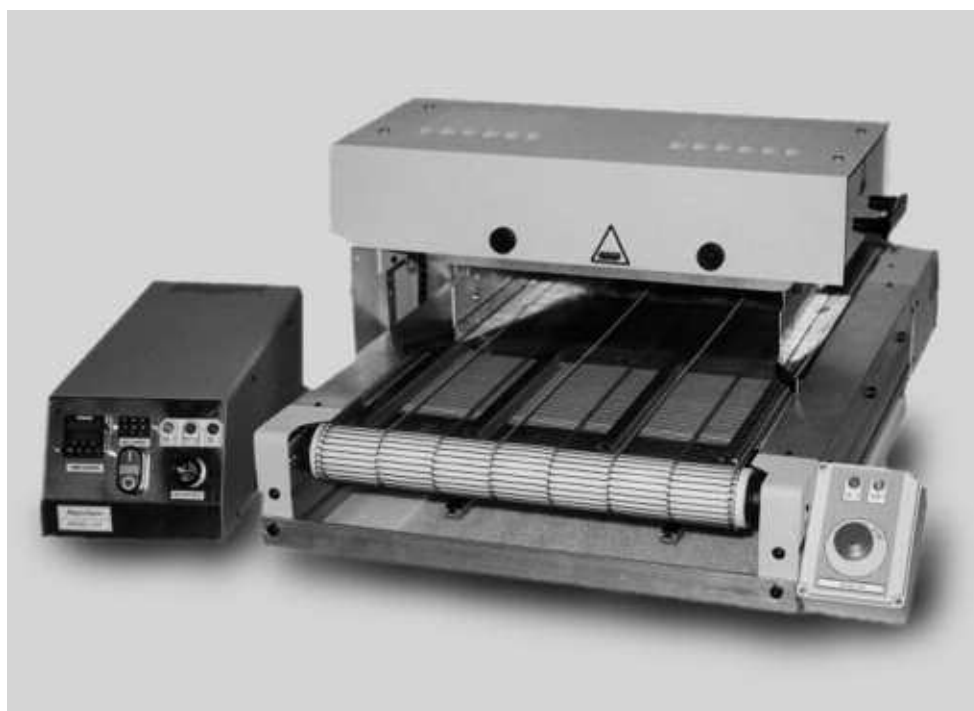
|             | Description                                                | Part No.   |
|-------------|------------------------------------------------------------|------------|
| Equipment   | RBK-Proc-Mk2-Processor                                     | 740331-000 |
|             | RBK-Proc-Mk2-Proc-Aircool                                  | A96930-000 |
| Accessories | Stub splice fixture - RBK-ILS-Proc-Stub-Sp-Fix             | 981721-000 |
|             | Air cooled stub splice fixture - RBK-ILS-Proc-Air-Cool-Kit | 843800-000 |
|             | 8 mm ring terminal fixture - RBK-ILS-Proc-Termfix-08mm     | 049857-000 |

## Model 105

### Tabletop Tunnel Oven

#### Product Facts

- Closed-loop speed and temperature control
- Continuous controlled process
- Adaptable for different applications
- CE approved for worldwide use
- Heater operation and over-temperature alarm lights



#### Applications

The Model 105 Tunnel Oven is a reliable and versatile process heater which provides a controlled process for a wide variety of heat-shrinkable products.

The M105 is designed as an integrated modular unit. Assemblies are placed on the entry section of a mesh conveyor belt, transported through the heating chamber, across a bank of cooling fans then discharged from the rear of the conveyor.

The M105 has two upper heating chamber height positions, 54 mm [2.11 in] and 98 mm [3.86 in]. The position is adjusted by removing the pivot pins and relocating them in the bearing stands.

The upper chamber is cantilevered to permit processing of assemblies that require only a portion of the assembly to pass through

the heat zone. The upper chamber is equipped with adjustable heat shields to maximize the oven heating efficiency for various applications.

#### Controlled Heating Zone

The Model 105 Tunnel Oven has two stamped foil heating elements that are manufactured to a strict wattage specification. Consistent temperatures (ambient to 700°C) are controlled by a thermocouple embedded into the upper heating element connected to a closed-loop temperature controller. An alarm light illuminates whenever the actual heating element temperature varies from the set point temperature.

#### Conveyor Speed Control

The conveyor speed is precisely set by a 3-digit potentiometer. The SCR

drive controller and DC drive motor ensure constant conveyor speed at any potentiometer setting from 100 to 999 [0.2 to 5.0 feet per minute], for precise heating of assemblies.

#### Minimal Skill Requirements

The open loading area of the entry section of the M105 requires that the operator simply place an assembly on the mesh conveyor belt within the effective width of the heat zone and collect it at the opposite end.

#### Versatility

The processor is designed to process a broad range of heat-shrinkable products up to 76.2 mm [3 in] in diameter and infinite length. The infrared energy source is well-suited to efficient processing of either single-wall

or adhesive-lined tubing. Heat output and drive speed can be controlled to accommodate a wide variety of products and substrates.

#### Safety Features:

- Emergency Stop
- Automatic cool-down circuit to extend the life of the components
- Over-temperature switch that shuts off all power in the event of an overheat condition
- Lockout on temperature and speed controllers to prevent unauthorized changes
- Audible alarm indication of a heater failure
- Circuit breaker for current overload

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

## Specifications and Dimensions

### Model 105 (Continued)

#### Electrical

|                       |                                                                              |
|-----------------------|------------------------------------------------------------------------------|
| Power requirements    | 210-240 VAC, 20A, 1Ø, 50/60 Hz                                               |
| Heating elements      | (2) 1500 watt infrared stamped foil with black quartz face, one top & bottom |
| Drive system          | DC gear motor with closed loop motor controller, 3-digit thumbwheel          |
| Air flow (cooling)    | 4 – 100 CFM fans, 2 - for upper heater housing, 2 – for product cooling      |
| Operating temperature | Set Point (Heater Surface) - Ambient to 700°C, Throughput = 50° to 200°C     |

#### Mechanical

|                      |                                                  |
|----------------------|--------------------------------------------------|
| Conveyor belt system | Wire mesh 70% open, with optional Teflon coating |
| Belt Speed           | 6.1 cm [0.2 ft] to 152 cm [5.0 ft] per minute    |

#### Dimensions cm [in]

|                        |                                                                 |
|------------------------|-----------------------------------------------------------------|
| Processor dimensions   | 99 cm [39 in] L x 68.5 cm [27 in] W x 41.7 cm [16.5 in] H       |
| Processor weight       | 68 Kg [150 lb]                                                  |
| Control box dimensions | 51.5 cm [20.25 in] L x 21.0 cm [8.25 in] W x 17.8 cm [7.0 in] H |
| Control box weight     | 7.7 Kg [17 lb]                                                  |
| Shipping dimensions    | 134.6 cm [53 in] L x 116.8 cm [46 in] W x 63.5 cm [25 in] H     |
| Shipping weight        | 146 Kg [320 lbs]                                                |

#### Tubing sizes

|                       |                                                                                       |
|-----------------------|---------------------------------------------------------------------------------------|
| Tubing diameter (max) | Up to 76.2 mm [3.0 in]                                                                |
| Tubing length (max)   | 356 mm [14 in] perpendicular to belt travel, unlimited length parallel to belt travel |

| Version               | Description            | Part No.   |
|-----------------------|------------------------|------------|
| Model 105 Tunnel Oven | CLTEQ-M105-TUNNEL-OVEN | 955018-000 |

## Model 16B

### Tabletop Belt Heater

#### Product Facts

- Closed-loop speed and temperature control
- Continuous controlled process
- Adaptable for different applications
- Bench top design
- Heater operation and over-temperature alarm lights



#### Applications

The Model 16B is our smallest (tabletop) conveyor type processor which provides a controlled process for a wide variety of heat-shrinkable tubing products.

Double-sided timing belts on the top and bottom of the processing chamber draw the assemblies through a thermally controlled infrared heat zone and then through a fan-cooled cooling zone before depositing them into the unloading bin.

#### Controlled Heating Zone

The Model 16B processor has two stamped foil heat-ing elements that are manu-factured to a strict wattage specification. Consistent temperatures (ambient to 650° C) are controlled by a thermocouple embedded into the upper heating element connected to a

closed-loop temperature controller. An alarm light illuminates whenever the actual heating element tem-perature varies from the set point temperature.

#### Speed Control

The belt speed is selected using a 3-digit thumbwheel via a closed-loop motor controller and DC gear motor.

#### 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 then the tubing and slide it into the belts. The belts grip and carry the assembly through the heat-ing and cooling zone, depositing them into the unloading bin.

Labor costs are reduced significantly because once an operator loads an assembly, that operator can begin preparing another assembly. The throughput rate is usually limited by the rate at which the operator can load assemblies into the processor.

#### Versatility

The processor is designed to process a broad range of heat-shrinkable products up to 19 mm [0.75 in] in diam-eter and 90 mm [3.5 in] in length. The infrared energy source is well-suited to effi-cient processing of either single-wall or adhesive-lined tubing. Heat output can be controlled to accommodate a wide vari-ety of products and sub-strates.

#### Safety Features:

- Circuit breaker for current surges
- Pinch points protected by the housing
- Belts that do not pinch with significant force
- An over-temperature switch that kills power in the event of an overheat condition
- Automatic cool-down circuit to prevent heat damage to components

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        |        | ■            |

## Specifications and Dimensions

### Model 16B (Continued)

| Electrical                                          | Part No. 827429-000                                                                    | Part No. 584313-000, 047143-000  |
|-----------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------|
| Power Requirements                                  | 120 VAC, 1 Ø, 50/60 Hz, 20 A                                                           | 220 VAC, 1 Ø, 208-240 VAC, 15 A. |
| Heating elements                                    | 2 ea. 1000 watt stamped foil infrared with quartz face                                 |                                  |
| Drive system                                        | DC gear motor with closed loop motor controller, 3-digit thumbwheel                    |                                  |
| Air flow (cooling)                                  | 2 – 100 CFM fans in the upper heater housing                                           |                                  |
|                                                     |                                                                                        |                                  |
| Mechanical                                          |                                                                                        |                                  |
| Conveyor belt system                                | Double sided timing belts; two on each side of the processor – pitch 9.5 mm [0.375 in] |                                  |
| Belt Speed                                          | Up to 288 cm / min [7.5 ft / min]                                                      |                                  |
|                                                     |                                                                                        |                                  |
| Dimensions cm [in]                                  |                                                                                        |                                  |
| Processor dimensions                                | 48 cm [19 in] W x 109 cm [43 in] L x 33 cm [13 in] H                                   |                                  |
| Processor weight                                    | 41 Kg [90 lbs]                                                                         |                                  |
| Shipping dimensions                                 | 61 cm [24 in] W x 112 cm [43 in] L x 56 cm [22 in] H                                   |                                  |
| Shipping weight                                     | 68 Kg [150 lbs]                                                                        |                                  |
|                                                     |                                                                                        |                                  |
| Tubing sizes                                        |                                                                                        |                                  |
| Tubing diameter (max)                               | Up to 19 mm [0.75 in]                                                                  |                                  |
| Tubing length (max)                                 | Up to 90 mm [3.5 in]                                                                   |                                  |
|                                                     |                                                                                        |                                  |
| Version                                             | Description                                                                            | Part No.                         |
| Model 16B - 120 volt                                | CLTEQ-M16B-120V-3WIR                                                                   | 827429-000                       |
| Model 16B - 220 volt (4-wire)                       | CLTEQ-M16B-220V-4-WR                                                                   | 584313-000                       |
| Model 16B - 220 volt Mod. (3 wire with Transformer) | CLTEQ-M16B-220V-3W-M                                                                   | 047143-000                       |

## Model 19

### Belt Heater for Heat-Shrinkable Tubing Products

#### Product Facts

- Closed-loop speed and temperature control
- Continuous controlled process
- Adaptable for different applications
- CE approved for worldwide use
- Self-diagnostic circuitry
- Parts counter and hour meter



#### Applications

The Model 19 conveyor type processor is a reliable and versatile process heater which provides a controlled process for a wide variety of heat-shrinkable products.

Double-sided timing belts on either side of the upper and lower heating chambers draw the assemblies through a thermally controlled infrared heat zone, then through a fan-cooled zone before depositing them into the unloading bin.

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

#### Control Heating Zone

The Model 19 processor has two stamped foil heating elements that are manufactured to a strict wattage specification.

Consistent temperatures (ambient to 700°C) are controlled by a thermocouple embedded into the upper heating element connected to a closed loop temperature controller. An alarm light illuminates whenever the actual heating element temperature varies from the set point temperature.

#### Speed Control

The belt speed is selected using a 3-digit thumbwheel (on the front panel) via a closed loop motor controller and DC gear motor.

#### Minimal Skill Requirements

There are clearly marked guides for aligning the assemblies as well as the tubing or device being processed. The operator only has to center the assembly, then the tubing and slide it into the belts. The belts grip and carry the assemblies through the heating and cooling zones, depositing them into the unloading bin.

#### Versatility

The processor is designed to process a broad range of Raychem heat-shrinkable products up to 25 mm [1 in] in diameter and 178 mm [7 in] in length. The infrared energy source is well-suited to efficient processing of either single wall or adhesive-lined

tubing. Temperature and speed can be controlled to accommodate a wide variety of products and substrates.

#### Safety Features:

- Emergency Stop
- Automatic cool-down circuit to extend the life of the components
- Over-temperature switch that shuts off all power in the event of an overheat condition
- Lockout on temperature and speed controllers to prevent unauthorized changes

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

## Specifications and Dimensions

### Model 19 (Continued)

#### Electrical

|                       |                                                                           |
|-----------------------|---------------------------------------------------------------------------|
| Power requirements    | 210-240 VAC, 20A, 1Ø, 50/60 Hz                                            |
| Heating elements      | 2 X Standard = 1580W, Wide = 1660W, Narrow = 880W                         |
| Drive system          | DC gear motor with closed loop motor controller; 3-digit thumbwheel       |
| Air flow (cooling)    | 2 – 100 CFM fans in the upper heater housing                              |
| Operating temperature | Set Point (Heater Surface) - Ambient to 700°C, Through-put = 50° to 200°C |

#### Mechanical

|                      |                                                                                        |
|----------------------|----------------------------------------------------------------------------------------|
| Conveyor belt system | Double sided timing belts; two on each side of the processor – pitch 9.5 mm [0.375 in] |
| Belt Speed           | Up to 152 cm / min [5.0 ft / min]                                                      |

#### Dimensions cm [in]

|                      |                                                      |
|----------------------|------------------------------------------------------|
| Processor dimensions | 53 cm [21 in] W x 135 cm [53 in] L x 45 cm [18 in] H |
| Shipping dimensions  | 66 cm [26 in] W x 147 cm [58 in] L x 58 cm [23 in] H |
| Processor weight     | 56 Kg [120 lbs]                                      |
| Shipping weight      | 86 Kg [190 lbs]                                      |

#### Tubing sizes

|                       |                                                                         |
|-----------------------|-------------------------------------------------------------------------|
| Tubing diameter (max) | Up to 2.5 cm [1.0 in]                                                   |
| Tubing length (max)   | Up to 12.7 cm [4.0 in] Standard or 178 mm [7.0 in] with Model 19 - Wide |

| Version                                 | Description            | Part No.   |
|-----------------------------------------|------------------------|------------|
| Model 19 - Standard (3.75 in. Elements) | CLTEQ-M19-BELT-HTR     | 714529-000 |
| Model 19 - Wide (6 in. Elements)        | CLTEQ-M19-BELT-HTR-6IN | 075135-000 |
| Model 19 - Narrow (1.5 in. Elements)    | CLTEQ-M19-BELT-HTR-SS  | D43037-000 |

#### Optional Attachments

|                         |                     |            |
|-------------------------|---------------------|------------|
| Floor Stand with wheels | IR-1900-FLOOR-STAND | 889664-000 |
|-------------------------|---------------------|------------|

## Model 20

### Belt Heater for Heat-Shrinkable Tubing Products

#### Product Facts

- Closed-loop speed and temperature control
- Continuous controlled process
- Adaptable for different applications
- CE approved for worldwide use
- Heater operation and over-temperature alarm lights



#### Applications

The Model 20 conveyor type processor is a reliable and versatile process heater, which provides a controlled process for a wide variety of heat-shrinkable products.

Double-sided timing belts on either side of the upper and lower heating chambers draw the assemblies through a thermally controlled infrared heat zone, then through a fan-cooled zone before depositing them into the unloading bin.

#### Controlled Heating Zone

The Model 20 processor has two stamped foil heating elements that are manufactured to a strict wattage specification. Consistent temperatures (ambient to 700°C) are controlled by a thermocouple embedded

into the upper heating element connected to a closed loop temperature controller. An alarm light illuminates whenever the actual heating element temperature varies from the set point temperature.

#### Speed Control

The belt speed is selected using a 3-digit thumbwheel (on the front panel) via a closed-loop motor controller and DC gear motor.

#### Minimal Skill Requirements

There are clearly marked guides for aligning the assemblies as well as the tubing or device being processed. The operator only has to center the substrate, then align the tubing and slide the assembly into the belts. The belts grip and carry the assemblies

through the heating and cooling zones, depositing them into the unloading bin.

#### Versatility

The processor is designed to process a broad range of Raychem heat-shrinkable products up to 25 mm [1 in] in diameter and 127 mm [4 in] in length. The infrared energy source is well-suited to efficient processing of either single wall or adhesive-lined tubing. Temperature and speed can be controlled to accommodate a wide variety of products and substrates.

#### Safety Features:

- Emergency Stop
- Automatic cool-down circuit to extend the life of the components

- Over-temperature switch that shuts off all power in the event of an overheat condition
- Lockout on temperature and speed controllers to prevent unauthorized changes

#### New Features

- Self-locking support post in the upper heating chamber for servicing, maintenance and emergency cool down
- Reversing motor relay which runs the timing belts in reverse until the Set Point temperature has been reached, preventing the operator from loading assemblies into the machine
- Hinged lower side panels for access to components, making routine service and maintenance much easier

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        |        | ■            |

## Specifications and Dimensions

### Model 20 (Continued)

#### Electrical

|                       |                                                                           |
|-----------------------|---------------------------------------------------------------------------|
| Power requirements    | 210-240 VAC, 20A, 1Ø, 50/60 Hz                                            |
| Heating elements      | 2 X Standard = 1580W, Wide = 1660W, Narrow = 880W                         |
| Drive system          | DC gear motor with closed loop motor controller; 3-digit thumbwheel       |
| Air flow (cooling)    | 2 – 100 CFM fans in the upper heater housing                              |
| Operating temperature | Set Point (Heater Surface) - Ambient to 700°C, Through-put = 50° to 200°C |

#### Mechanical

|                      |                                                                                        |
|----------------------|----------------------------------------------------------------------------------------|
| Conveyor belt system | Double sided timing belts; two on each side of the processor – pitch 9.5 mm [0.375 in] |
| Belt Speed           | Up to 152 cm / min [5.0 ft / min]                                                      |

#### Dimensions cm [in]

|                      |                                                      |
|----------------------|------------------------------------------------------|
| Processor dimensions | 53 cm [21 in] W x 135 cm [53 in] L x 45 cm [18 in] H |
| Shipping dimensions  | 66 cm [26 in] W x 147 cm [58 in] L x 58 cm [23 in] H |
| Processor weight     | 56 Kg [120 lbs]                                      |
| Shipping weight      | 86 Kg [190 lbs]                                      |

#### Tubing sizes

|                        |                             |
|------------------------|-----------------------------|
| Tubing diameter (max.) | Up to 25 mm [1.0 in]        |
| Tubing length (max.)   | Up to 104 mm [4.0 in] stand |

| Version                                 | Description           | Part No.   |
|-----------------------------------------|-----------------------|------------|
| Model 20 - Standard (3.75 in. Elements) | MODEL20CE-BELT-HEATER | CB8546-000 |

#### Optional Attachments

|                         |                     |            |
|-------------------------|---------------------|------------|
| Floor Stand with wheels | IR-1900-FLOOR-STAND | 889664-000 |
|-------------------------|---------------------|------------|

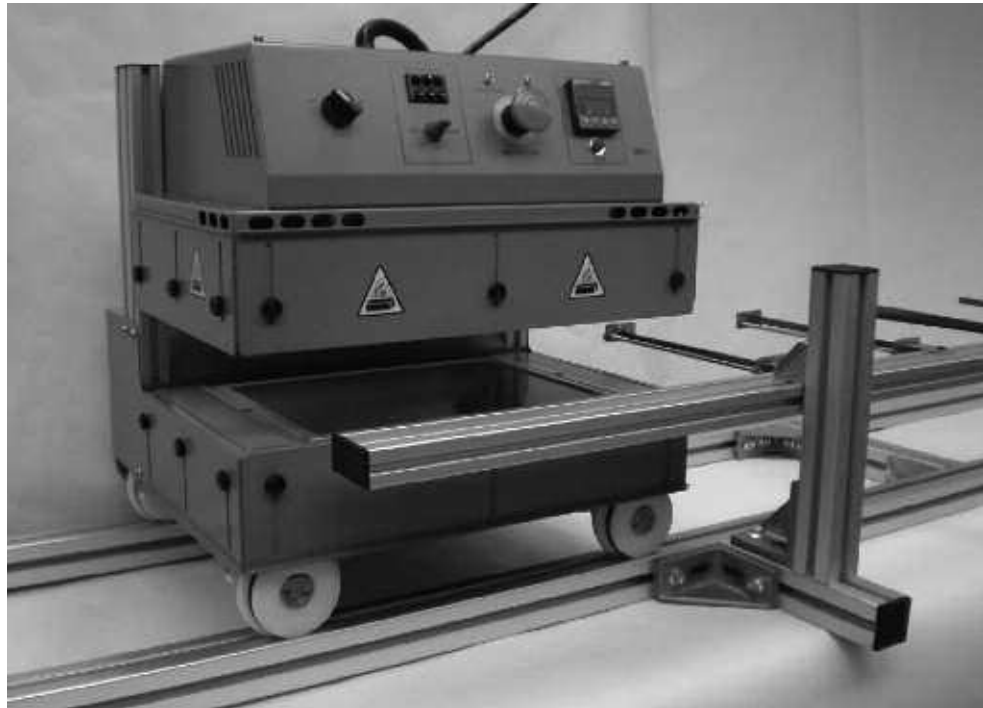
## VBH-1

### Versatile Bed Heater for Large Assemblies and Substrates

#### Product Facts

The Versatile Bed Heater (VBH-1) is the latest generation of reliable and versatile process heaters.

- Closed-loop speed and temperature control
- Controlled process
- Adaptable for a large variety long length and heat sensitive applications
- Heater operation and over-temperature alarm lights
- Heater and track are sold separately. See available track lengths on page 2-24.



#### Applications

The VBH-1 is an integrated modular unit consisting of an upper and lower heater chamber with a transporter base and motorized wheels that are directed through an aluminum track. The heater transporter automatically stops when it reaches the parking station at either end of the process area.

It has been designed to accommodate a large variety of difficult to process applications. With an adjustable upper heating chamber the heater separation can be adjusted from 37 mm [1.5 in] to a 150 mm [6 in] gap enabling the unit to process heat-shrinkable tubing products up to 127 mm [5 in] in diameter. The upper and lower chambers are provided with adjustable heat shields to maximize the oven heating efficiency.

#### Speed Control

The belt speed is selected using a 3-digit thumbwheel (on the front panel) via a closed-loop motor controller and DC gear motor.

#### Controlled Heating Zone

The VBH-1 processor has two stamped foil heating elements that are manufactured to a strict size and wattage specification. Consistent temperatures (ambient to 650°C) are controlled by a thermocouple embedded into the upper heating element connected to a closed loop temperature controller. An alarm light illuminates whenever the actual heating element temperature varies from the set point temperature.

#### Minimal Skill Requirements

The open loading area of the holding fixtures on the VBH-1 requires that the operator simply place the assembly on the holding fixtures within the effective width of the heat zone. The assemblies can be removed once the heater transporter has passed over the assemblies and has come to a complete stop in either the right or left parking stations.

#### Versatility

The traveling heater is designed to process a broad range of heat-shrinkable products up to 127 mm [5 in] in diameter and infinite length.

The infrared energy source is well-suited for efficient processing of either single-wall or adhesive-lined tubing. Heat output and drive speed can be controlled to accommodate a wide variety of products and substrates.

#### Safety Features

- Emergency Stop
- Automatic cool-down circuit to extend the life of the components
- Over-temperature switch that shuts off all power in the event of an overheat condition
- Lockout on temperature and speed controllers to prevent unauthorized changes
- Safety guards to protect operator from moving parts and hot surfaces

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        |        | ■            |

## Specifications and Dimensions

### VBH-1 (Continued)

#### Electrical

|                       |                                                                                   |
|-----------------------|-----------------------------------------------------------------------------------|
| Power Requirements    | 208/240 VAC, 1Ø, 50/60 Hz, 20 A                                                   |
| Heating elements      | 2 X From 600 to1600 watt infrared stamped foil with quartz face                   |
| Drive system          | 1/12 hp DC motor with SCR Drive controller with a 3 digit speed potentiometer     |
| Air flow (Cooling)    | 2 X 100 CFM fans in the upper heater housing / control box and 1 in lower chamber |
| Operating temperature | Set Point (Heater Surface) - Ambient to 650°C, Through-put = 50° to 250°C         |

#### Mechanical

|                          |                                                                |
|--------------------------|----------------------------------------------------------------|
| Moving oven speed        | 12.7 cm [0.50 ft] to 254 cm [10.0 ft] / Minute                 |
| Heater separation        | Adjustable from 37 mm [1.5 in] to 150 mm [6 in] Upper Position |
| Effective heating length | 355 mm [14 in]                                                 |
| Effective heating width  | 254 mm [10 in]                                                 |

#### Dimensions cm [in]

|                            |                                                                         |
|----------------------------|-------------------------------------------------------------------------|
| Control box dimensions     | 407 mm [16 in] L x 305 mm [15 in] W x 125 mm [5 in] H                   |
| Heating Chamber dimensions | 457 mm [18 in] L x 407 mm [16 in] W x 533 mm [21 in] H – Full extension |
| Heating System weight      | 30 Kg [66 lb]                                                           |

#### Tubing sizes

|                 |                                                                                    |
|-----------------|------------------------------------------------------------------------------------|
| Tubing diameter | Up to 127 mm [5 in]                                                                |
| Tubing length   | 255 mm [10 in] perpendicular to heater travel, unlimited length parallel to heater |

#### Heating unit

| Description      | Part No.               |
|------------------|------------------------|
| VBH-1 Bed Heater | VBH-1-BED-HTR-220V-3WR |
|                  | CJ1047-000             |

#### Track

| Description           | Part No.                 |
|-----------------------|--------------------------|
| 10 ft. Aluminum Track | VBH-1-BED-HTR-TRACK-10FT |
|                       | CJ1494-000               |
| 15 ft. Aluminum Track | VBH-1-BED-HTR-TRACK-15FT |
|                       | CM6819-000               |

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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