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Application Equipment

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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 SolderSleeve terminations.

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

Available in:	Americas	Europe	Asia Pacific
	■	■	■

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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

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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
	■		■

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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 [1.75] 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.

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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 SolderSleeve 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
	■	■	■

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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-1981-230V1600WMK2	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 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

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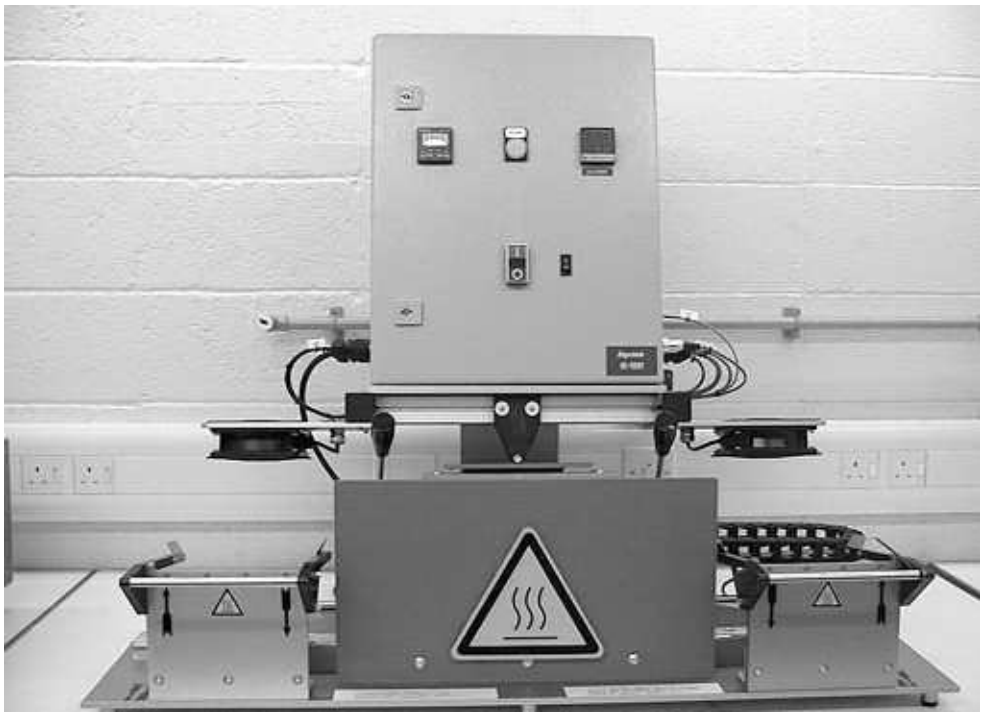
IR-1891

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-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 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 infrared 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
		■	

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UK: 44-800-267-666

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-Retn	289588-000
*IR-1891-220V-Retn-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.
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	629602-000
Fixtures:		
IR-1891-Quick-Rel-ESS-6/1	ESS Cap (6/1) Fixture	096735-000
IR-1891-Quick-Rel-ESS-8/2	ESS Cap (8/2) Fixture	148597-000
IR-1891-Tool-Fixt-Bas-ESS	Base Unit for Fixtures	760221-000

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

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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 efficient 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
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Model 81CE (Continued)

Specifications and Dimensions

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

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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
	■	■	■

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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) (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 or 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 RBK-Proc-Mk2-Proc-Aircool	740331-000 A96930-000
Accessories	Stub splice fixture - RBK-ILS-Proc-Stub-Sp-Fix Air cooled stub splice fixture - RBK-ILS-Proc-Air-Cool-Kit 8 mm ring terminal fixture - RBK-ILS-Proc-Termfix-08mm	981721-000 843800-000 049857-000

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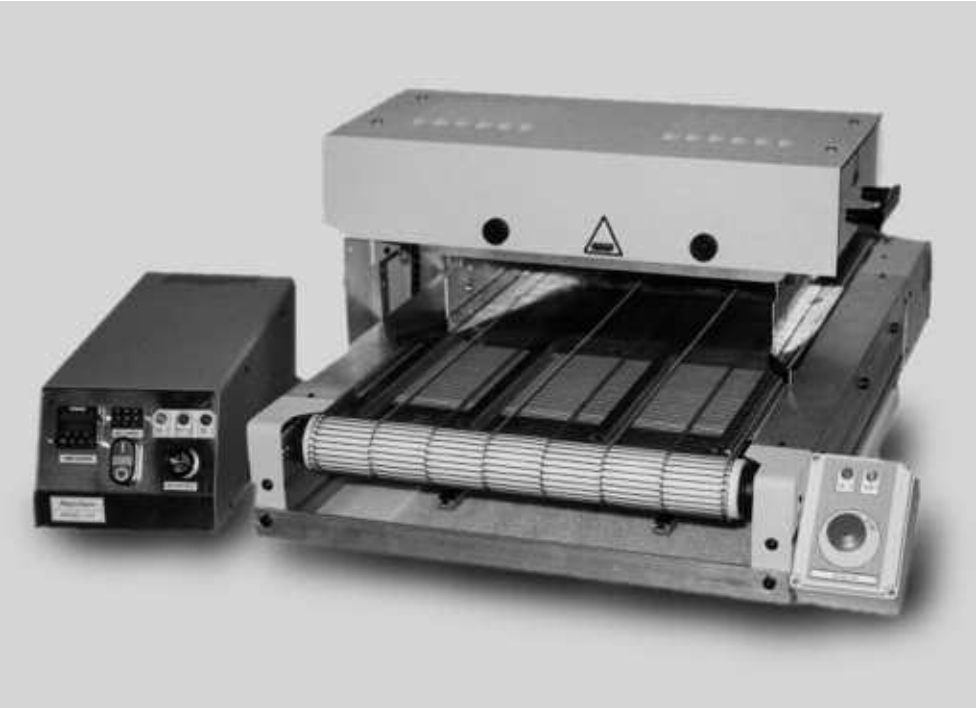
Model 105

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
	■	■	■

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

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

USA: 1-800-522-6752
Canada: 1-905-475-6222
Mexico: 52-55-1106-0800
L. & S. America: 54-11-4733-2200

Germany: 49-6251-133-1999
China: 86-400-820-6015
Japan: 81-44-844-8013
UK: 44-800-267-666

Model 105 (Continued)

Specifications and Dimensions

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

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UK: 44-800-267-666

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 heating elements that are manufactured 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 temperature 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 heating 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 diameter and 90 mm [3.5 in] in length. The infrared energy source is well-suited to efficient processing of either single-wall or adhesive-lined tubing. Heat output can be controlled to accommodate a wide variety of products and substrates.

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
	■		■

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

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China: 86-400-820-6015
Japan: 81-44-844-8013
UK: 44-800-267-666

Model 16B (Continued)

Specifications and Dimensions

Electrical	Part No. 827429-000	Part No. 584313-000, 047143-000
Power Requirements	120 VAC, 1Ø, 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

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UK: 44-800-267-666

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
	■	■	■

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Japan: 81-44-844-8013
UK: 44-800-267-666

Model 19 (Continued)

Specifications and Dimensions

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-BELTHTR-SS	D43037-000

Optional Attachments		
Floor Stand with wheels	IR-1900-FLOOR-STAND	889664-000

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China: 86-400-820-6015
Japan: 81-44-844-8013
UK: 44-800-267-666

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
	■		■

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L. & S. America: 54-11-4733-2200

Germany: 49-6251-133-1999
China: 86-400-820-6015
Japan: 81-44-844-8013
UK: 44-800-267-666

Model 20 (Continued)

Specifications and Dimensions

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

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USA: 1-800-522-6752
Canada: 1-905-475-6222
Mexico: 52-55-1106-0800
L. & S. America: 54-11-4733-2200

Germany: 49-6251-133-1999
China: 86-400-820-6015
Japan: 81-44-844-8013
UK: 44-800-267-666

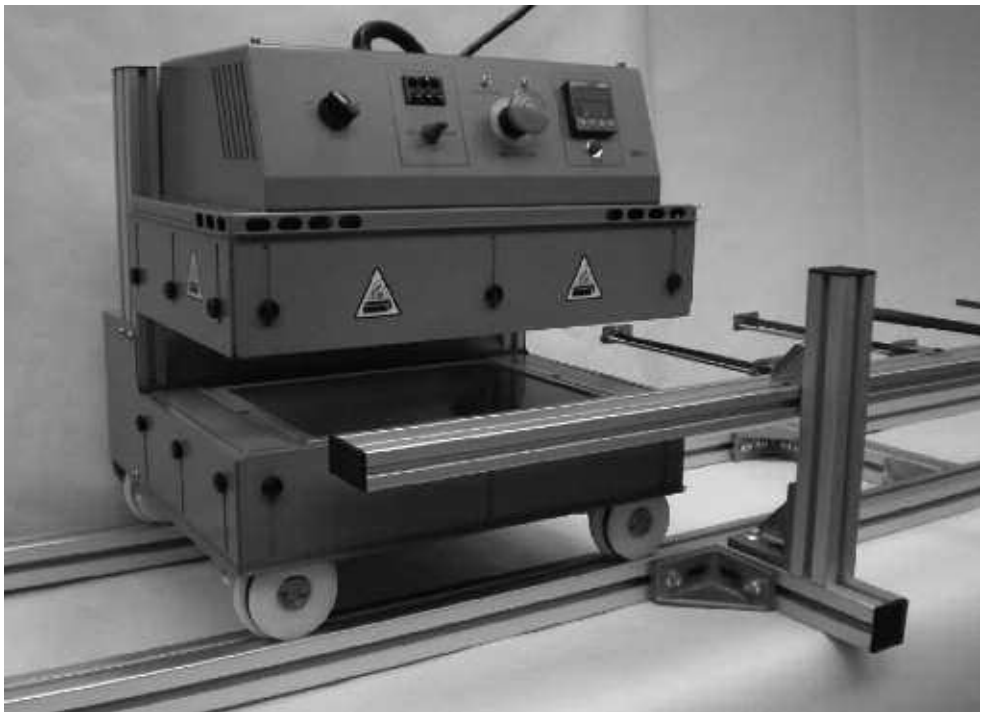
VBH-1

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 seperately. 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
	■		■

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UK: 44-800-267-666

VBH-1 (Continued)

Specifications and Dimensions

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

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