Dry-Heat Convection Oven

Art. No. 35121/230EU
35121/230UK
35121/120US

Read this entire manual including notes and warnings before proceeding to install or operate this equipment.

Introduction
This document gives all the information needed for the normal use and maintenance of the Dry-Heat Convection Oven.
It addresses any member of the medical team who uses or manipulates the device.

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ENVIRONMENTAL CONDITIONS

Altitude 0 to 10,000 feet (0 to 3048 meters) (operating)

Ambient temperature: +50°F (+10°C) to +80°F (+27°C) (operating)

Ambient temperature: -4F° (-20°C) to +122°F (+50°C) (shipping, storage)

Relative Humidity: 0 to 85% Non condensing (operating)

Relative Humidity: 0 to 85% Non condensing (shipping, storage)

SAFETY MARKING

Read this entire manual including notes and warnings before proceeding to install or operate this equipment.

Indicates an IMPORTANT message for the reader.

⚠ DANGER Indicates a hazard that can cause death if the instructions are not followed.

⚠ WARNING Indicates a hazard that may cause serious injury or death if the instructions are not followed.

⚠ CAUTION Indicates a hazard that may cause injury if the instructions are not followed.

PRECAUTIONS 

⚠ CAUTION

Damage to the equipment or personal injury could result if the following precautions are not followed:

1. **DO** read this entire manual including notes and warnings before proceeding to install or operate this equipment.
2. **DO NOT** attempt to operate the Dry-Heat Convection Oven with the drawer open or attempt to defeat the drawer closed sensor.
3. **DO** position the Dry-Heat Convection Oven so that the power cord is easily accessible.
4. **DO** position the Dry-Heat Convection Oven on a sturdy, flat level counter top that provides solid footing for all four (4) bottom feet.
5. **DO NOT** operate the Dry-Heat Convection Oven if it is damaged in any way.
6. **DO NOT** place any object in excess of 10 pounds on the open drawer.
7. **DO** consult the HEATING INSTRUCTIONS LEAFLET.
8. **DO** obtain assistance when lifting or moving this equipment. Weight is approximately 100 Ibs (45 kg).

SAFETY INSTRUCTIONS

⚠WARNING

Risk of electric shock or equipment damage which could lead to serious injury or death if the following precautions are not followed:

1. Read this entire manual including notes and warnings before proceeding to install or operate this equipment.
2. No user serviceable parts inside. Do not open or otherwise disassemble the equipment.
3. This equipment must be grounded and is supplied with an appropriately grounded power cord. Do not modify the power cord or substitute and unapproved power cord.
4. Connect the equipment to the appropriate MAINS power as indicated on the information label on the rear panel next to the Power Entry Module.
    a. Model 35121/120US; 115VAC, 50/60 Hz, 15 Amp receptacle.
    b. Models 35121/230EU & 35121/230UK; 220 VAC, 50/60 Hz, 8 Amp receptacle.
5. Do not attempt to use this equipment as a cooking device.
6. Do not place containers (cups, pans, etc.) that could potentially spill or pour liquids on the top of the equipment.
7. **IN CASE OF EMERGENCY DISCONNECT THE POWER CORD FROM MAINS POWER RECEPTACLE!**

DESCRIPTION

The Dry-Heat Convection Oven is designed to soften patient immobilisation thermoplastics (masks and cushions) that are compatible with dry heat processing. Intended operating range is 150 °F (65°C) to 170 °F (76°C). All models breakdowns are as follows:

- Model 35121/120US; 120 VAC digital temperature control.
- Models 35121/230EU & 35121/230UK; 220 VAC digital temperature control.

INSTRUCTIONS FOR USE

1. Attach supplied power cord to IEC power entry module on the back of the device.
2. Connect the power cord to appropriate 120 VAC 15 AMP or 220 VAC 8 AMP MAINS power.
3. Before turning on the device for the first time and any time thereafter, make sure there are no foreign or flammable objects inside the device.
4. Press the switch on the power input module to the ON position.
    a. The power switch on the front panel has 2 positions: OFF (standby); ON (Run).
5. INDICATOR LAMPS – The front panel is equipped with 2 indicators (BLUE & AMBER).
    a. When the unit is OFF (standby), the temperature display (or controller) and indicators will be off, however, as long as the power entry module switch is ON there is live power inside the equipment.
    b. When the unit is powered ON, the temperature display (or controller) will illuminate indicating the internal temperature. The BLUE indicator lamp will be ON.
6. The Dry-Heat Convection Ovens utilize a highly accurate PID control system. In operation, the AMBER indicator will pulse as the temperature reaches the desired set point. The heaters are being pulsed on and off to maintain accurate temperature and minimize overshoot.
7. All models are restricted to a MAXIMUM temperature set point of 180 °F (82 °C).
8. Adjust the set point as desired.
9. Refer to control panel figures for set point key location.
10. To start the heating cycle, press the toggle switch fully to the right to the ON position.

11. A mask may be loaded once the device is pre-heated. Consult the HEATING INSTRUCTIONS LEAFLET to verify the heating times of different masks.
12. Remove the mask and follow the mask moulding instructions.
13. The Dry-Heat Convection Ovens can remain powered, ready for the next use, or powered down as desired.

CONTROL PANEL SYMBOLS

Stand-by (OFF) Symbol [Power switch]

ON Symbol [Power switch]

Heater Indicator Symbol

AC Power Indicator Symbol (Time active)

Temperature Control Symbol

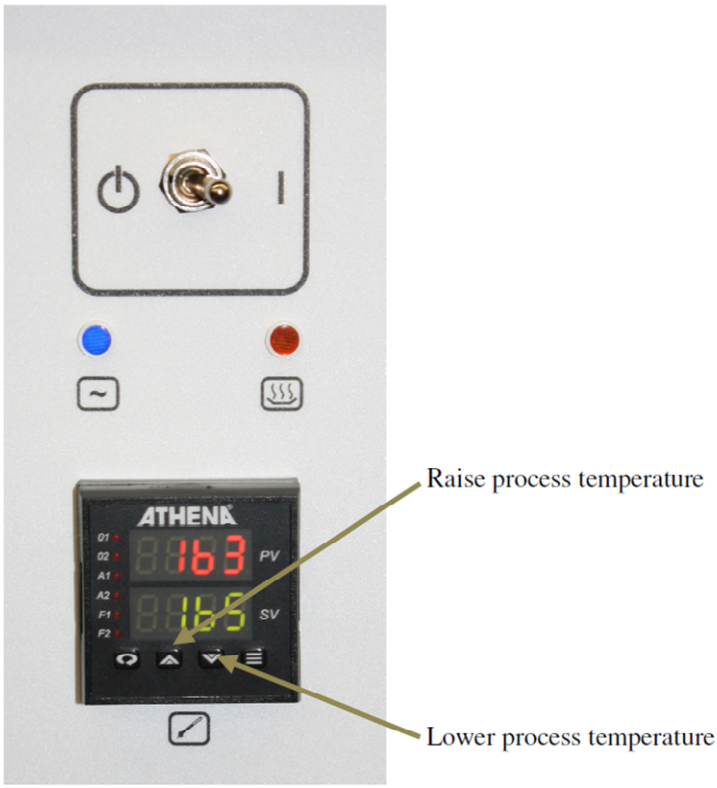


Figure 1 – Digital Control Panel

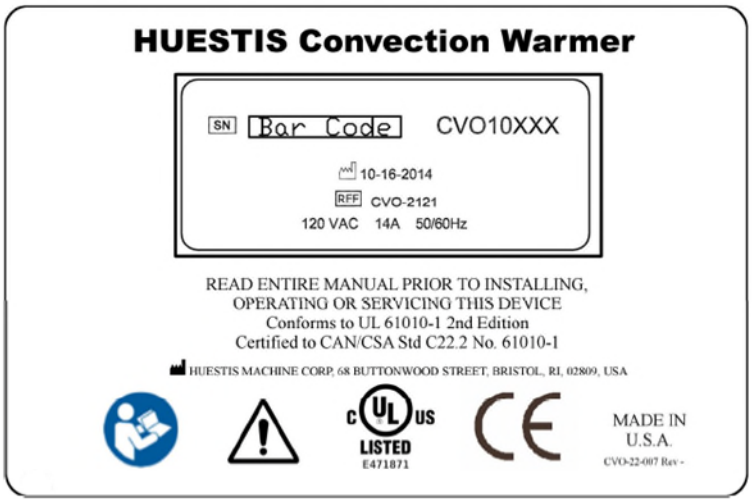


Figure 2 – Label: Serial Number, Model, and Power Rating

CLEANING INSTRUCTIONS

- Turn off equipment power and disconnect from MAINS supply before cleaning.
- Never use strong solvents such as Paint thinner, Benzene, Abrasive cleaner, and Spray-type cleaner, Wax, Acid or Alkaline solvent.
- Housing: Use only a soft cloth lightly moistened with a mild detergent soap.
- Drawer internals: Use only a soft cloth lightly moistened with a mild detergent soap or with 70% isopropyl alcohol dampened and allow to air dry.
- Disinfect control and contact surfaces with a 70% isopropyl alcohol dampened soft cloth and allow to air dry.
- Allow equipment to dry completely before use.

SPECIFICATIONS

	35121/120US	**35121/230EU** **35121/230UK**
MAINS	120VAC 50/60 Hz	220VAC 50/60 Hz
POWER Consumption	14 AMPS	8 AMPS
Heating Power	1725 WATTS	
Outside Dimensions	31.8” (80.6 cm) x 24” (61 cm) x 11” (28 cm)	
Process Cavity Dimensions	24.7” (62.8 cm) x 21” (53.3 cm) x 3.75” (9.5 cm)	
Net Weight	100 lbs (45 kg)	

TROUBLESHOOTING

Oven will not turn on	Power cord is not properly inserted into MAINS receptacle.	Check that the power cord is securely inserted into the proper MAINS receptacle.
	Power cord is disconnected from power entry module.	Check that the power cord is securely inserted into the Power Entry Module receptacle.
	Power entry module switch is OFF.	Push the switch to the ON position.
	Power entry module circuit breaker has tripped.	Push the switch to the OFF position to reset then to the ON position.
	No power at MAINS receptacle.	Check that MAINS circuit breaker is functioning properly.
Oven on but not heating	Drawer not fully closed.	Close drawer fully and insure that there are no obstructions preventing the drawer from closing fully.
Oven stops heating	MAINS circuit breaker tripped.	Check MAINS circuit breaker and insure that the MAINS circuit meets the power requirements of the device.
Amber light is flashing	Normal operation for PID 'Digital' controller.	No action required.

HOW TO CHANGE THE TEMPERATURE DISPLAY UNITS

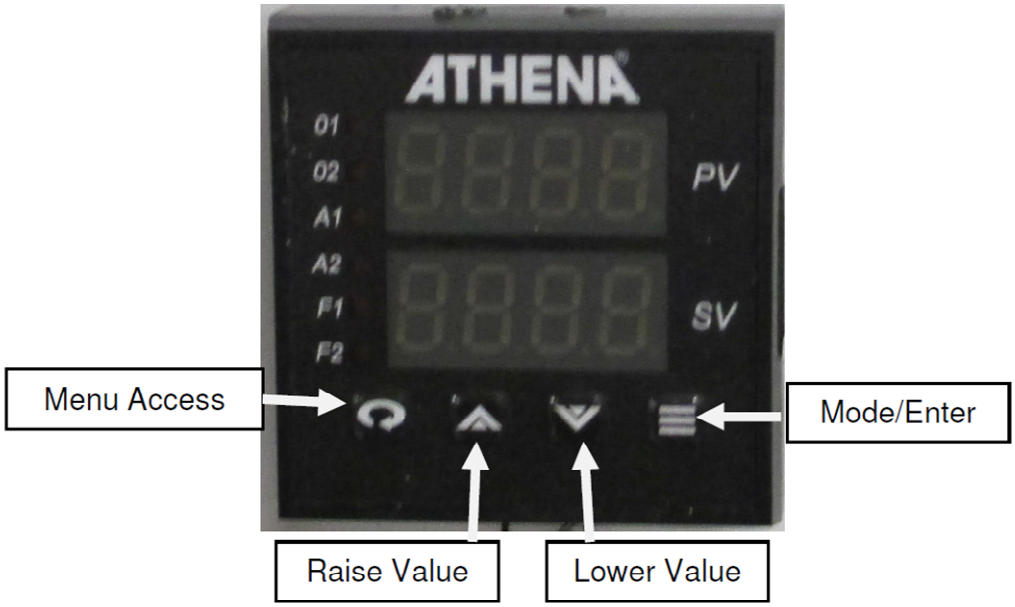
TEMPERATURE CONTROLLER UNITS SETUP PROCEDURE
FOLLOW INSTRUCTIONS FOR UNIT DISPLAY (°F or °C) AS REQUIRED BY CUSTOMER ORDER
Note: Items shown in bold text require attention

Power the Oven unit ON with appropriate MAINS power as manufactured.
Allow the temperature controller to complete its boot up sequence.
Press and hold the Mode/Enter key until a menu label appears in the upper display (approximately 3-5 seconds).
Press the Raise or Lower key until 'StbY' appears in the lower display.
Press Mode/Enter key. The upper display will alternate between 'StbY' and process value (PV).

TO CHANGE THE UNITS SETTING

Press the Menu Access key for approximately 3-5 seconds until a menu label ('InP') appears in the upper display.
Press the Menu Access key to display 'dSPL'.
Press the Mode/Enter key to scroll to the 'UNIT' is displayed.

Using the 'raise value/lower value' keys set 'Unit' = Set for 'F' or 'C' as required.
Press and HOLD the Menu Access key approximately 3-5 seconds to exit the Menu Setting mode.
Press and HOLD Mode/Enter key approximately 3-5 seconds to return to 'CtrL' mode.
'StbY' will be displayed below 'CtrL'
Press the Raise or Lower key until 'nor' appears in the lower display.
Press Mode/Enter key to select.
The device is now in normal operating mode with the updates UNITS displayed.



HOW TO HEAT AN ORFIT THERMOPLASTIC MASK IN A DRY-HEAT OVEN

Heating Time: The approximate time that the mask needs to remain in the oven.
Moulding Time: The maximum time you have to mould the mask over the patient and to make adjustments to it, such as moulding the nose and chin.
Hardening Time: The minimum time the mask needs to harden out on the patient. You start counting from the minute you take the mask out of the oven.

These timings apply to the Orfit Dry-Heat Convection Oven when set at 75°C (167°F). Heating times may vary when using another type of oven. The mask can stay in the oven for a maximum of 30 minutes.

	Heating Time (approximate)	Moulding Time (maximum)	Hardening Time (minimum)
3-pts mask: Efficast 2 mm maxi	10 min	3.5 min	10 min
5-pts mask: Efficast 2 mm maxi	10 min	3.5 min	10 min
3-pts mask: Efficast 1.6 mm micro	8 min	3 min	10 min
5-pts mask: Efficast 1.6 mm micro	8 min	3 min	10 min
3-pts mask: Nanor 1.6 mm micro+	8 min	2 min	10 min
5-pts mask: Nanor 2.0 mm micro+	8 min	3 min	10 min
3-pts hybrid mask: Efficast 2 mm maxi and Nanor 1.2 mm micro+	13 min	4 min	10 min
5-pts hybrid mask: Efficast 2 mm maxi and Nanor 1.2 mm micro+	13 min	4 min	10 min
3-pts hybrid open face mask: Efficast 1.6 mm micro and Nanor 1.2 mm micro+	11 min	4 min	10 min
5-pts hybrid open face mask: Efficast 1.6 mm micro and Nanor 1.2 mm micro+	11 min	4 min	10 min
DUON Head mask: U-Plast 2.4mm	13 min	4 min	10 min
DUON HNS mask: U-Plast 2.4mm	13 min	4 min	10 min
DUON Head mask: U-Plast 3.2mm	14 min	4 min	10 min
DUON HNS mask: U-Plast 3.2mm	16 min	5 min	10 min
DUON open face Head mask: U-Plast 2.4 mm and Nanor 1.2 mm	15 min	6 min	10 min
Extracranial mask: Efficast 3.2mm maxi	14 min	5 min	10 min
4-pts thorax supine mask: Efficast 2 mm maxi	14 min	3.5 min	10 min

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