RH-Pro11 | RH-Pro9

HIGH-VELOCITY HOT AIR STERILIZERS | HIGH-VELOCITY HOT AIR STERILIZERS

RAPIDHEAT™ HVHA STERILIZERS

Cutting-Edge High-Velocity Hot Air

FEATURING

High/Low Temperature Sterilization and Decontamination in a Single Unit!

CPAC
ENVIRONMENTAL SOLUTIONS

NO WATER • NO DRYING • NO CORROSION • NO MAINTENANCE

The RH-Pro9 and RH-Pro11 Features:

Low-Temperature sterilization and N95 Mask Decontamination Cycle options add significant flexibility to any practice's sterilization process.

Recognizing the need for low-temperature cycles for both sterilization of high heat-sensitive medical devices and the decontamination of N95 FFR Masks during pandemic shortages, CPAC has incorporated universal processing versatility into its standard RH-Pro11 and RH-Pro9 Sterilizers.

Low-Temperature Cycle Options

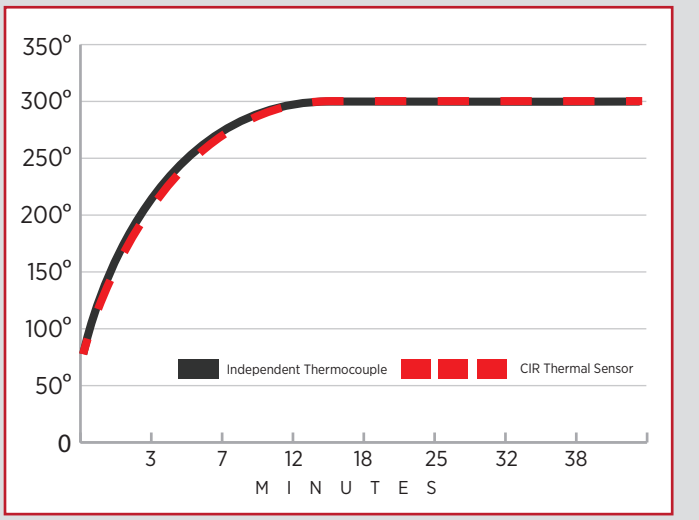
CPAC has created low-temperature cycles to process devices/instruments that are known or could potentially become degraded by RapidHeat's standard High-Temperature cycle of 375°F.

- Allows user to validate and verify 12-log kill sterilization
- Choice of three low-temperature cycles
- Eliminates heat-sensitive device concerns
- Time/temperature profiles equivalent to steam

Mask Decontamination Cycle Resolves N95 FFR Mask Shortages

Under FDA's EUA granted during the recent COVID-19 pandemic, CPAC created a special cycle to decontaminate N95 masks that are in critical shortage.

- 34-minute cycle @ 175°F
- Assures mask returns to original user
- Maintains mask performance/function over multiple cycles
- No drying or aeration required



CPAC's CIR™ Thermal Sensor has been validated through thermocouple comparisons to be within 0.5 degrees F as measured on stainless steel instruments during sterilization cycle trials.

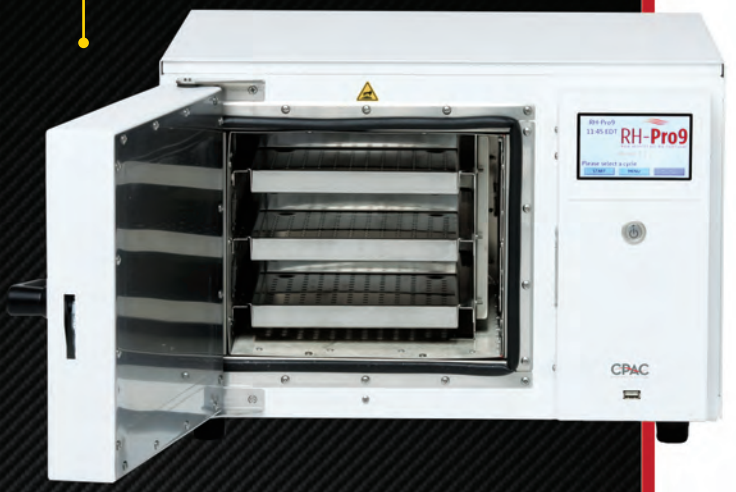
CIR™ Thermal Sensor Replaces Chemical Indicators

To independently measure and confirm load exposure to the conditions required for all RapidHeat cycles, CPAC provides with each sterilizer a CPAC CIR™ Thermal Sensor. The CIR Thermal Sensor has been designed to replace often unreliable and inaccurate chemical indicators.

- Independent confirmation of each cycle time-temperature profile
- Eliminates dependency on fallible chemical indicators
- Confirms the time-temperature required to achieve spore inactivation
- Demonstrates correlation with sterilizer-controlled time-temperature

RH-Pro9

- Compact design
- Three large trays
- Fits in most cabinets



RH-Pro11

- High-volume capacity
- Four large trays
- Handles large instrument cassettes

THE HIGH-VELOCITY HOT AIR (HVHA)

ADVANTAGE

RAPIDHEAT HVHA STERILIZER

Features:

- Rectangular chambers with more uniform capacity
- Easy and simple touch screen operation
- Non-corrosive waterless environment
- Quiet operation with **NO** emissions
- Uses 85% less energy than steam

RAPIDHEAT HVHA STERILIZER

Benefits:

- Faster sterilization reduces workarounds
- No drying cycle means no short-cuts or delays
- No more wet wraps and instruments
- Saves $$ on instrument replacement from corrosion
- Eliminates high sterilizer maintenance and repair costs

CONSIDERATIONS FOR

Choosing the Right Size

- Need to conserve counter space – **RH-Pro9**
- Require larger single load capacity – **RH-Pro11**
- Need ease of mobility and handling – **RH-Pro9**
- Using large cassettes and packs – **RH-Pro11**

Both units are extremely low-maintenence and feature the same “fast” instrument turn-around that has become the hallmark of RapidHeat™ Sterilization.

IT'S NOT JUST DRY HEAT!

Unlike traditional Dry Heat, RapidHeat™ is an advanced thermal sterilization technology circulating high velocity hot air in a sealed chamber at 200 to 300 air exchanges per minute. RapidHeat sterilization technology is designed with features to improve the efficiency of all dental and healthcare practices where tabletop sterilizers play a critical role in the sterilization of medical devices.

Compare RapidHeat™ Processing with Steam

Pre-Programed Cycle	Sterilization Temperature		Hot Cycle Time: (Fill Time, Heat-up and Vent -Minutes)		Sterilization Process Time (Minutes)		Default Dry Time (Minutes)		Total Process Time (Minutes)	
	M11	Pro11	M11	Pro11	M11	Pro11	M11	Pro11	M11	Pro11
Unwrapped	270°F	375°F	15	0	3	14	30	0	48	14
Handpieces	270°F	375°F	16	0	6	16	30	0	52	16
Wrapped	270°F	375°F	17	0	5	21	30	0	52	21
Packs	250°F	375°F	14	0	30	40	30	0	74	40

NOTES:

- M11 Ultraclave® is a registered trademark of Midmark Corporation
- Wrapped is defined as sterilization pouches commonly used to wrap instruments
- Packs are defined as wrapped trays & wrapped cassettes
- Hot Cycle & Dry Time sequence is not applicable to RapidHeat
- M11 data extracted from Midmark published documents
- Default Dry Time for M11 may need to be increased to insure a complete dry load is achieved

RapidHeat™ Sterilization

RapidHeat Sterilization Technology has evolved from NASA's early space exploration requiring an environmentally and ecologically safe and efficient method to decontaminate space vehicles. NASA considers Dry Heat as the "gold standard" for microbial reduction and encapsulated bioburden. Today, dry heat technology has been augmented with rapidly moving air, described as "High-Velocity Hot Air" (HVHA™). This technology has been applied to tabletop sterilization systems that provide fast, waterless, chemical-free, maintenance-free processing of medical instruments.

Ease of Operation

HVHA Sterilization is activated by a simple push of a cycle button. Since there is no steam pressure, the complete cycle from door closed to door open is 21 minutes for wrapped instruments. Each cycle is documented with internal storage for easy retrieval at any time via a USB Flash Drive. Since HVHA sterilization operates at very low wattage, you can leave the system running all day with very little energy cost.

RapidHeat vs. Steam

FEATURE COMPARISON

RH-Pro11
HIGH-VELOCITY HOT AIR STERILIZERS

RH-Pro9
HIGH-VELOCITY HOT AIR STERILIZERS

USES NO WATER COMPLETELY DRY CYCLE

MADE IN THE USA

Notable Feature	RapidHeat™	Steam
Sterilizer Preparation & Operation	Simple	Complex
Steam Source	N/A	Distilled Water
Performance Testing	CI, BI & CIR Sensor	CI & BI Only
Cycle Documentation	Optional Printer & USB	Optional Printer
Instrument Drying Cycle	N/A	FDA Required
Potential for Instrument Corrosion	None	High
Energy Use (kWh/cycle)	11¢/cycle	74¢/cycle
Preventative & Corrective Maintenance	$200-$300/Year	$3000-$4000/Year

NOTES:

- Sterilizer Preparation & Operation is defined as the level of preparation and management required for instrument processing.
- Potential for Instrument Corrosion is absent in the dry environment of a RapidHeat sterilizer and high for instruments in a steam environment.
- Energy Use represents kilowatts of power used per hour when operating a sterilizer cycle. This study was conducted by the Rochester Institute of Technology comparing RapidHeat HVHA to 2 popular tabletop steam sterilizers.
- Preventative & Corrective Maintenance (averaged over sterilizer useful life) includes the time-cost of user employees performing routine sterilizer maintenance at regular intervals and the cost of engaging outside contractors to provide technical service and correct sterilizer failures.

QUESTIONS & ANSWERS

RapidHeat™ Low-Temperature Sterilization Cycles

Why have you created low-temperature cycles?

Low-Temperature cycles were created to expand the RapidHeat Sterilizer's ability to process instruments at lower temperatures that manufacturers have only validated for steam sterilization.

Does that mean I can use a RapidHeat low temperature cycle on the same plastic devices I have been sterilizing in an autoclave?

Yes! Many reusable medical devices are manufactured from inexpensive, temperature-sensitive plastics such as Polypropylene (PP). Traditionally, these instruments have only been compatible with autoclave temperatures.

How do I know which of the three cycles to choose?

Selection can be based on the instrument manufacturer's maximum temperature recommendation. You can also consult with us or use your discretion in choosing the appropriate temperature setting.

Are there load limitations for low-temperature cycles and can I mix instruments?

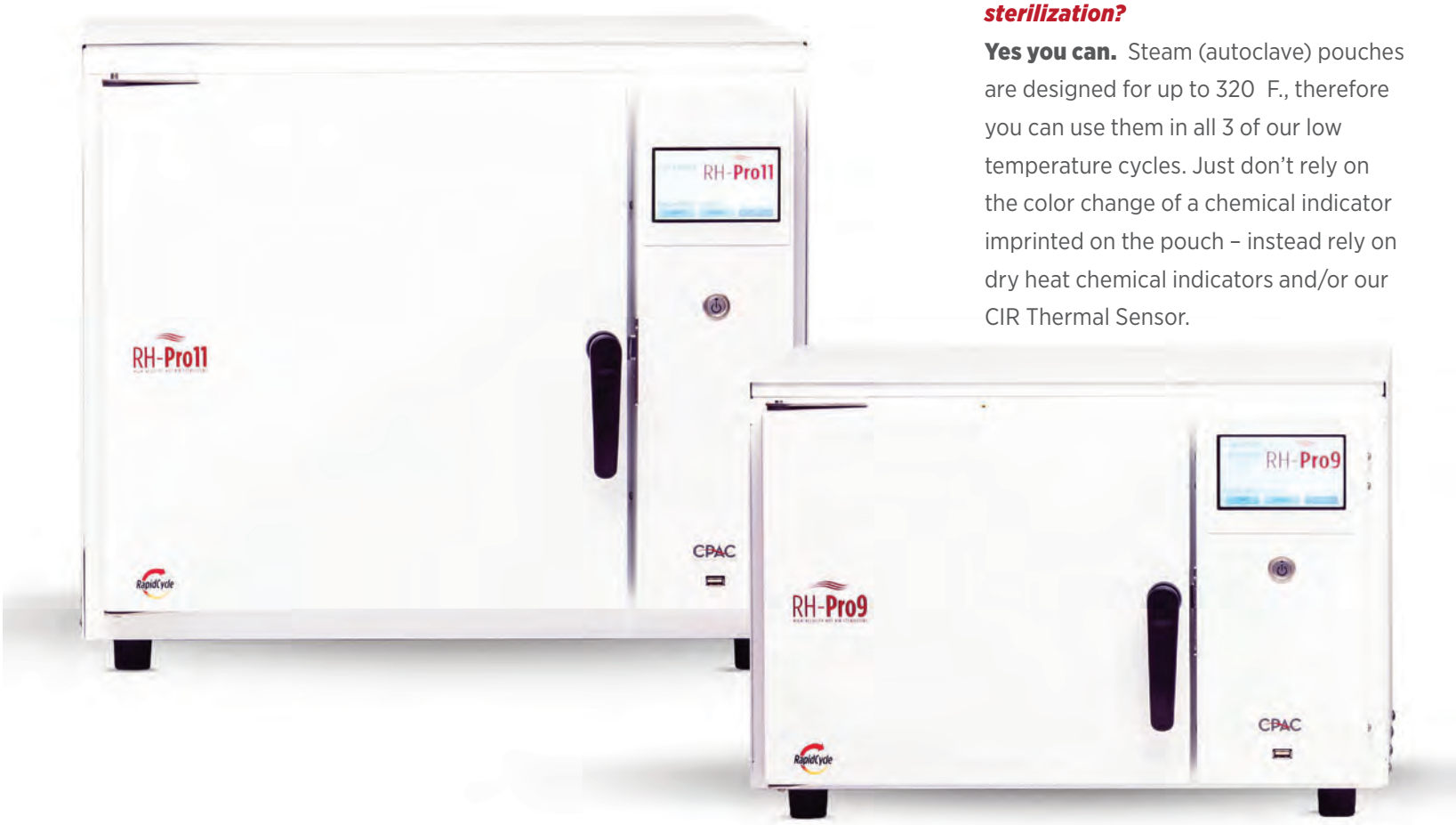
Yes, as with an autoclave there are load limitations, BUT you don't have to worry about mixing instruments as you would with an autoclave. For example, there's no problem sterilizing a carbon and stainless steel instrument in the same pouch.

Can I use the same chemical indicator that I use in my autoclave to validate that my load has been exposed to the time-temperature cycle required for sterilization?

NO, Chemical Indicators used for steam cannot be used in our sterilizers. Use only dry heat chemical indicators that are supplied with the nylon pouches required for use at our standard high-temperature 375 F. degree cycle. In the absence of a chemical indicator you can use our CIR™ Thermal Sensor that independently documents the load time-temperature profile.

Can I use the same sterilization pouches that I used for my autoclave for RapidHeat Low-Temperature sterilization?

Yes you can. Steam (autoclave) pouches are designed for up to 320 F., therefore you can use them in all 3 of our low temperature cycles. Just don't rely on the color change of a chemical indicator imprinted on the pouch – instead rely on dry heat chemical indicators and/or our CIR Thermal Sensor.



For other questions, please call CPAC Customer Service at 800-828-6011, or visit CPAC.com.

RH-Pro9 and RH-Pro11 Specifications

ELECTRICAL RATING	
RH-Pro9/Pro11 115 VAC	120 VAC +/- 10%, 60Hz, 12 Amps • 1400 Watts warm-up, 300 Watts operating Transient Over-Voltage Category II Applies
RH-Pro9/Pro11 230 VAC	230 VAC +/- 10%, 60Hz, 6 Amps • 1400 Watts warm-up, 300 Watts operating Transient Over-Voltage Category II Applies
Instrument/Material Compatibility	Identical Compatibility of Materials and Instruments for RH-Pro9 and RH-Pro11 Instrument Sterilization

DIMENSIONS	PRO 9	PRO 11
Weight	68.2 pounds (31 kg)	90 pounds (41 kg)
Width (OD)	19.63" (572mm)	21.5" (546mm)
Depth (OD)	20.00" (508mm)	22.5" (572mm)
Height (OD)	13.75" (349mm)	19.5" (495mm)
Chamber Dimension	9.5" (241mm) W • 15.6" (396mm) D 7.85" (199mm) H	11" (279mm) W • 17.75" (433mm) D 11.75 (299mm) H
Chamber Capacity	1163 cubic inches • (5 gal/19 liters)	2294 cubic inches • (10 gal/38 liters)
Instrument Tray (ID)	7.3" (76mm) W • 12" (305mm) D • 0.85" (22mm) H	9" (229mm) W • 15" (381mm) D • 1" (28mm) H
Instrument Tray Capacity (Total)	223 sq. inches (3 Trays)	540 sq. inches (4 Trays)

TOTAL PROCESSING CYCLE TIMES STANDARD HIGH-TEMPERATURE	PRO 9	PRO 11
Unwrapped	14-Minute Cycle	14-Minute Cycle
Handpieces	16-Minute Cycle	16-Minute Cycle
Wrapped/Pouched	21-Minute Cycle	21-Minute Cycle
Wrapped Trays & Cassettes	36-Minute Cycle	40-Minute Cycle

TOTAL PROCESSING CYCLE TIMES LOW-TEMPERATURE STERILIZATION	PRO 9	PRO 11
320°F (160°C)	36-Minute Cycle	42-Minute Cycle
300°F (149°C)	56-Minute Cycle	58-Minute Cycle
280°F (138°C)	126-Minute Cycle	126-Minute Cycle

N95 FFR MASK DECONTAMINATION	PRO 9	PRO 11
175°F (79.5°C)	34-Minute Cycle	34-Minute Cycle

INSTRUMENT CAPACITY	PRO 9	PRO 11
Unwrapped	2.4 kg; 120 Dental Instruments	3.2 kg; 160 Dental Instruments
Handpieces (Unwrapped)	15 Handpieces; 5 per Tray	24 Handpieces; 6 per Tray
Wrapped Instruments	2 kg; 8 Dental Instruments/Pouch; 4 Pouches/Tray; 3 Trays/Load Total Instruments/Load: 96	3.2 kg; 8 Dental Instruments/Pouch; 5 Pouches/Tray; 4 Trays/Load Total Instruments/Load: 160

WRAPPED CASSETTES	PRO 9	PRO 11
5.5" x 8" x 1.5"	3 Cassettes (Total: 24 Instruments)	8 Cassettes (Total: 64 Instruments)
6" x 8" x 1.5" (2-Tier)	3 Cassettes (Total: 54 Instruments)	4 Cassettes (Total: 72 Instruments)
8" x 11" x 1.5"	Cassette size prohibits use in Pro9	4 Cassettes (Total: 80 Instruments)

ENVIRONMENTAL OPERATING CONDITIONS (INDOOR) - STANDARD STERILIZATION CYCLES
Temperature Range of 5°C to 40° C (41°F to 104°F) • Operating Temperature of 375°F (190°C) • Maximum Relative Humidity of 80% up to 31°C (88°F). Decreasing linearly to 50% at 40°C (104°F) • Pollution Degree 2 applies in accordance with IEC 664 • Maximum altitude of 2000 meters (6562 ft.)

CERTIFICATIONS	
Markings	UL, CE, US FC
FDA 510(k)	K872643A; K881371
Warranty	3-Years (Parts & Labor)
Patents Pending	

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