HUMIDITY CHAMBER

SCO26H SCO26H-2

PREVIOUSLY DESIGNATED
2428H 2428H-2

WITH MICRO PROCESSOR CONTROL

INSTALLATION AND OPERATION INSTRUCTIONS

Revised 01/2014
4861693

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These units are TUV CUE listed as CO_2 incubators for professional, industrial, or educational use where the preparation or testing of materials is done at approximately atmospheric pressure and no flammable, volatile, or combustible materials are being heated.

These units have been tested to the following requirements:

CAN/CSA C22.2 No. 61010-1:2012
CA N/CSA C22.2 No. 61010-2-010 + R:2009
UL 61010-1:2004 + R:2005-07 + R:2008-10
UL 61010A-2-010:2002
UL 61010-1:2012
EN 61010-1:2010
EN 61010-2-010:2003

IEC 61010-1:2010
IEC 61010-2-010:2003

Section 1

INTRODUCTION

Thank you for choosing a humidity testing incubator. These units are not intended for use at hazardous or household locations.

Before you use the unit, read this entire manual carefully to understand how to install, operate, and maintain the unit in a safe manner. Your satisfaction with the unit will be maximized as you read about its safety and operational features.

Keep this manual for use by all operators of the unit. Ensure that all operators of the unit are given appropriate training before you put the unit in service.

Note: Use the unit only in the way described in this manual. Failure to follow the guidelines and instructions in this manual may be dangerous and illegal.

General Safety Considerations

Your incubator and its recommended accessories have been designed and tested to meet strict safety requirements.

For continued safe operation of your incubator, always follow basic safety precautions including:

Read this entire manual before using the incubator.

Be sure you follow any city, county, or other ordinances in your area regarding the use of this unit.

Use only approved accessories. Do not modify system components. Any alterations or modifications to your incubator may be dangerous and will void your warranty.

Always plug the unit's power cord into a grounded electrical outlet that conforms to national and local electrical codes. If the unit is not grounded, parts such as knobs and controls may conduct electricity and cause serious injury.

Do not connect the unit to a power source of any other voltage or frequency beyond the range stated on the data plate at the rear of the unit.

Do not modify the power cord provided with the unit. If the plug does not fit an outlet, have a proper outlet installed by a qualified electrician.

Avoid damaging the power cord. Do not bend it excessively, step on it, place heavy objects on it. A damaged cord can easily become a shock or fire hazard. Never use a power cord after it has become damaged.

Section 2

RECEIVING AND INSPECTION

Your satisfaction and safety require a complete understanding of this unit, including its proper function and operational characteristics. Read the instructions thoroughly and be sure that all operators are given adequate training before attempting to put the unit into service. NOTE: This equipment must be used only for its intended application; any alterations or modifications will void your warranty.

1.1 **Inspection:** The carrier, when accepting shipment, also accepts the responsibility for safe delivery and is liable for loss or damage claims. On delivery, inspect for visible exterior damage, note and describe on the freight bill any damage found, and enter your claim on the form supplied by the carrier.

1.2 Inspect for concealed loss or damage on the unit itself both interior and exterior. If any, the carrier will arrange for official inspection to substantiate your claim.

1.3 **Return Shipment:** Save the shipping crate until you're sure all is well. If for any reason you must return the unit, first contact your dealer for authorization and supply nameplate data, including the serial number. For information on where to contact Customer Service please see the manual cover.

1.4 **Accessories:** Make sure all of the equipment indicated on the packing slip is included with the unit. Carefully check all packaging before discarding. All models are equipped with 6 shelves, 24 shelf clips and 4 leveling feet.

Section 3

INSTALLATION

Local city, county or other ordinances may govern the use of this equipment. If you have any questions about local requirements, please contact the appropriate local agency. Installation may be performed by the end user. It is unnecessary for this unit to be installed by a technician.

Under normal circumstances this unit is intended for use inside, at room temperatures between 5°C and 30°C, at no greater than 75% relative humidity (at 25°C) and with a supply voltage that does not vary by more than 10%. Customer Service should be contacted for operating conditions outside of these limits.

3.1 Power Source: See the unit's serial data plate for voltage, cycle, wattage and ampere requirements. If matched to your power source, plug the power cord into a grounded outlet. VOLTAGE SHOULD NOT VARY MORE THAN 10% FROM THE SERIAL PLATE RATING. These units are intended for 50/60 Hz application. A separate circuit is recommended to preclude loss of product due to overloading or circuit failure. Note that electrical supply to the unit must conform to all local and national electrical codes.

3.2 Location: In selecting a site, consider all conditions which may affect performance, such as extreme heat from steam radiators, stoves, ovens, autoclaves, etc. Avoid direct sun, fast moving air currents, heating/cooling ducts and high-traffic areas. To ensure air circulation around the unit, allow a minimum of 5cm between the unit and any walls or partitions which might obstruct free air flow.

Caution: Position and level the apparatus before connecting to water supply.

3.3 Lifting and Handling: These units are heavy and care should be taken to use appropriate lifting devices that are sufficiently rated for these loads. Units should only be lifted from their bottom surfaces. Doors, handles and knobs are not adequate for lifting or stabilization. The unit should be completely restrained from tipping during lifting or transport. All moving parts, such as shelves and trays should be removed and doors need to be positively locked in the closed position during transfer to prevent shifting and damage.

3.4 Leveling: The unit must sit level and solidly. Leveling feet (supplied) are to be installed at the holes in the base of the unit. Turn them counterclockwise to raise level. If the unit must be moved, turn the leveling feet in all the way to prevent damage.

3.5 Cleaning: The incubator was cleaned at the factory, but not sterilized. It should be disinfected prior to use. Remove all interior parts including shelves and shelf assembles. Clean the chamber with a disinfectant that is appropriate to your application. Similar periodic cleaning is strongly recommended. DO NOT USE chlorine-based bleaches or abrasives as this will damage the stainless steel interior. DO NOT USE spray cleaners that might leak through openings and cracks and get on electrical parts or that may contain solvents that will harm the coatings. A similar periodic cleaning is recommended.

WARNING: Never clean the unit with alcohol or flammable cleaners with the unit connected to the electrical supply. Always disconnect the unit form the electrical service when cleaning and assure all volatile or flammable cleaners are evaporated and dry before reattaching the unit to the power supply.

3.6 **Humidification Water Supply:** On the back of the body there is a 1/4" compression fitting marked WATER IN. This fitting should only be plumbed to a DISTILLED WATER supply source. Please note that when attaching the water supply line to the fitting on the unit, two wrenches must be used: one to hold the fitting from turning in the panel, while using the other to tighten the compression fitting. The supply source should be gravity fed or pressure can be regulated to no more than 2 psi with a water pressure regulator valve. **Deionized or tap water should NOT be used. They will have a detrimental effect on the unit causing corrosion or obstructions and premature failure of this assembly, and VOID your warranty.**

3.7 **Fill the Vapor Generator:** It takes approximately 880cc (0.88 Liter) to initially fill the vapor generator, after that a continuous supply is required to maintain the operating level. If the supply is disconnected or in some other manner cut off from the vapor generator, the level will drop and the float switch in the vapor generator will shut the vapor generator off and the low water indicator light on the front panel will be lit.

3.8 **Water Drain Line:** On the external back of the test chamber, at the bottom, there is a copper drain line for excess condensation to drain from the bottom of the chamber. Ideally, this line would be run into a floor drain, but could be run to a shallow pan with an automatic sump pump. Under no circumstances should this line be plugged. If the line is plugged the condensation will pool on the floor of the test chamber and flow out when the door is opened.

3.9 **Vapor Trap:** Located in the water drain line, this trap consists of a solenoid valve controlled by a timer. The timer is set to open and allow condensate to be removed from the unit on a regular basis. This will prevent the chamber humidity and CO_2 from escaping and still allow any condensation to drain away.

3.10 **Pressure Relief Valve:** Marked RELIEF, this valve is located just to the right of the WATER IN fitting at the back of the unit. It provides pressure relief for the vapor generator system. The cracking pressure is 5. psi. The protective shipping cap must be removed before operation as this valve should never be plugged or covered.

Section 4

GRAPHIC SYMBOLS

Your incubator has been provided with a display of graphic symbols which is designed to help in identifying the use and function of the available user adjustable components.

Symbol	Identification
	Indicates that you should consult your operator's manual for further instructions. *Indique que l'opérateur doit consulter le manuel d'utilisation pour y trouver les instructions complémentaires.*
	Indicates "Temperature" *Repère "température"*
°C	Indicates "Degrees Centigrade" *Repère* "Degrés Centigrades"
	Indicates "Relative Humidity" *Repère* "Humidité Relative"
	Indicates "Over Temperature Protection" *Signale un "dépassement de température"*
	Indicates "AC Power" *Repère "secteur AC"*
I	Indicates the power is "ON" *Repère de la position "MARCHE" de l'interrupteur d'alimentation*
O	Indicates the power is "OFF" *Repère de la position "ARRÊT" de l'interrupteur d'alimentation*
	Indicates "Protective Earthground" *Repère de la "terre de protection"*
	Indicates "Manually Adjustable" *Signale un élément "réglable manuellement"*
	Indicates "Potential Shock Hazard" behind partition *Signale un "risque potentiel d'électrocution" au-delà de la cloison.*
	Indicates "**Unit should be recycled"** (Not disposed of in land-fill) *Indique "**l'appareil doit être recyclé**" (Ne pas jeter dans une décharge)*

Section

5

CONTROL OVERVIEW

4.1 **Power Switch:** The main power I/O (On/Off) switch controls all power to the unit, and must be in the I/On position before any systems are operational.

4.2 **Over Temperature Limit:** This control is marked "**Set Over Temp**" and is adjacent to the power switch. It is completely independent of the Main Temperature Controller and guards against any failure which would allow the temperature to drastically rise past set point. If the temperature rises to the Set Over Temp Limit set point, the Limit takes control of the heating element and allows temporary use of the unit until the problem can be resolved or service can be arranged. Please note that it is not recommended that the unit be allowed to operate using only the Over Temp Limit thermostat as temperature uniformity will suffer.

4.3 **Over Temp Indicator Light:** This pilot light, located on the Main Control Panel just above the word "**Over Temp Activated",** comes ON when the Over Temperature Limit thermostat is activated. Under normal operating conditions this pilot light should not be lit.

4.4 **Main Temperature Controller:** This control is marked "**Set Temperature °C"** and indicates the internal incubator temperature in 0.1^{0}C increments. The UP/DOWN buttons are used to input the set point, calibrating the display, and muting or unmuting the audible alarm. The HIGH and LOW alarm indicators will light whenever there is an alarm condition associated with the internal incubator temperature.. The MUTE indicator will light whenever the audible alarm has been deactivated.

4.5 **Heating Indicator Light:** This pilot light is marked "**Heating Activated**" and is on when the heating elements have been activated to reach and maintain the desired set point.

4.6 **CO2 Controller:** This controller is labeled "**SET CO2 %"** and indicates the percentage of CO2 content within the chamber to 0.1%. The UP/DOWN buttons are used to input the set point, calibrating the display, and muting or unmuting the audible alarm. The HIGH and LOW alarm indicators will light whenever there is an alarm condition associated with the CO2% within the chamber. The MUTE indicator will light whenever the audible alarm has been deactivated.

4.7 **CO2 Indicator Light**: This pilot light is labeled "**CO2 Injecting**" and is on whenever the Carbon Dioxide control has been activated and is actively injecting CO2 gas via the solenoid valve.

4.8 **Relative Humidity Controller:** This control is marked **"Set Humidity Level"**, and consists of the analog scale knob for setting the RH set. The Relative Humidity Controller maintains internal humidity through a proportional solid state control. The controller utilizes a solid state thin film capacitive humidity sensor to sense the humidity within the chamber.

4.9 **Humidity Injection Indicator:** This pilot light is marked "**HUMIDITY INJECTING**" and is on when water vapor is being injected into the chamber from the vapor generator.

4.10 **Water Low Indicator Light:** This pilot light is marked "**WATER LOW**" and is on when the water level drops in the vapor generator. The float switch is tripped, the vapor generator is turned off, and water is released from the supply. When the vapor generator becomes full, the float switch is tripped again, the vapor generator is turned on, and the pilot light turns off. Intermittent flashing of this light is expected under normal operating conditions.

Section 6

THEORY OF OPERATION

These humidity chambers are designed to maintain temperature and relative humidity at set points controllable by the operator at the front panel. Air is constantly being circulated through the chamber, monitored for comparison to set points and controlled as necessary.

On all units, heating is done by electric resistance heaters that turn off and on for temperature control

Chamber humidification is achieved by means of a low-pressure vapor generator that injects water vapor into the chamber through a small orifice. The water vapor is introduced into the chamber at the blower discharge.

It should be noted that the unit has no way of achieving humidity lower than that the level present in the ambient environment.

Section 7

OPERATION

It is recommended that your unit be allowed to reach operating temperature before engaging the humidifying system. This requires setting the RH set point to the farthest counterclockwise position until the unit is at operating temperature. See Section 6.6 for changing the RH set point.

7.1 Turn the power switch to the I/ON position. Turn the Over Temp Limit thermostat to its maximum position, clockwise and place the shelves in the chamber.

7.2 Place a reference thermometer in the chamber where it can be easily viewed, and so that it is not touching any shelves or chamber walls. Taping the thermometer to a petri dish is a method that works well.

7.3 **Set Main Temperature Control:** To enter the set point on the control, push and release either the UP or DOWN arrow pad one time and the digital display will start to blink from bright to dim. While blinking, the display is showing the set point, which can be changed to the desired temperature by pushing the UP or DOWN arrow pads. If the arrow pads are not pushed within five (5) seconds, the display will stop blinking and will read the temperature in the chamber. Allow at least twenty- four (24) hours for the temperature to stabilize. It is recommended that set point adjustments are made again after the calibration procedure is completed.

7.4 **Calibrating Temperature Control:** Compare the reading on the reference thermometer with the digital display. If there is an unacceptable difference, put the display into calibrate mode by pressing both the UP and DOWN arrow pads at the same time and holding them in until the two outside decimal points start to flash (approximately 5 seconds). When the decimal points are flashing, the display can be calibrated to match the reference thermometer by pressing the UP or DOWN arrow pad until the display reads the correct reference value. Allow the unit to stabilize again overnight before re-calibrating.

7.5 **Set the Over Temp Limit Thermostat:** After the Main Temperature Control is set and calibrated the Over Temp Limit needs to be set. First turn the control knob counterclockwise just until the Safety Indicator light comes on. Then very slowly turn the knob clockwise just until the Over Temp Indicator light goes off. The Limit thermostat should now be set approximately 1.0 degree above the Main Temperature Control set point.

7.6 **Set Humidity Control:** First, place a reference hygrometer in the chamber where it can be easily viewed. To adjust the internal humidity level turn the humidity control knob clockwise from LOW to HIGH until the desired setpoint is reached. The low value on the scale is approximately 40% RH. The high value on the scale is dependent on the internal temperature setpoint. See Section 11 for a graph of the achievable humidity values with reference to internal temperature setpoint and the dewpoint. Allow at least twenty four (24) hours for the unit to stabilize.

Section

8

MAINTENANCE

Warning: *Prior to any maintenance or service on this unit, disconnect the power cord from the power source. Before reattaching the unit to its power source, be sure all volatile and flammable cleaners are evaporated and dry.*

Avertissement: *Avant d'effectuer toute maintenance ou entretien de cet appareil, débrancher le cordon secteur de la source d'alimentation. Avant de reconnecter l'appareil sur le secteur, s'assurer que tous les produits de nettoyage volatiles et inflammables sont complètement évaporés.*

The design of the chamber is such that periodic maintenance is kept to a minimum. No lubrication or adjustments of components is needed.

Note: The unit chamber should be cleaned and disinfected prior to use.

8.1 **Cleaning:** Periodic cleaning is required. To clean the incubator, perform the following steps:

8.1.1. Remove all of the interior parts, if assembled.

8.1.2. Clean the incubator with a mild soap and water solution, including all corners. DO NOT USE spray cleaners that might leak through openings and cracks and get on electrical components, or that may contain solvents that will harm coatings. DO NOT USE chlorine-based bleaches or abrasives, as they will damage the painted interior.

8.1.3. Rinse with distilled water and wipe dry with a soft cloth.

8.1.4. Special care should be taken when cleaning around the sensing heads to prevent damage.

8.2 **Disinfecting:** Disinfect the incubator on a regular basis. To disinfect the incubator, perform the following steps.

8.2.1. Remove all of the interior parts, if assembled.

8.2.2. Disinfect the incubator, including all corners, using a suitable disinfectant. Shelves and shelf clips are autoclaveable. DO NOT USE spray disinfectants that might leak through openings and cracks and get on electrical components, or that may contain solvents, corrosives, or abrasives that will harm the painted coatings. Special care should be taken when cleaning around sensing heads to prevent damage and around the door gasket so as not to impair the positive seal.

8.2.3. If a hazardous material/substance has been damaged in the unit, immediately initiate your site's Hazardous Material Spill Containment protocol. Contact your local Site Safety Officer and follow instructions per the policy and procedures established for your site.

8.2.4. There are many commercially available disinfectants available that are non-corrosive and non-abrasive and suitable for use on painted surfaces. Contact your local Site Safety Officer for detailed information for the proper disinfectants suitable for your operation.

Warning: *Never clean the unit with alcohol or flammable cleaners and assure all volatile or flammable cleaners are evaporated and dry before reattaching the unit to the power supply.*

Avertissement: *Ne jamais nettoyer l'appareil à l'alcool ou avec des nettoyants inflammables et veiller à ce que les produits volatils ou inflammables soient entièrement évaporés avant de rebrancher le content d'alimentation de l'appareil.*

Periodically inspect the door latch, trim, catch and gasket for signs of deterioration. Failure to maintain the integrity of the door system will shorten the life span of the incubator.

Section 9

TROUBLESHOOTING and SERVICE

Always make a visual inspection of the unit and control console when troubleshooting. Look for loose or disconnected wires which may be the source of the trouble.

The incubator is designed so that no internal electrical servicing should be required under normal conditions. If electrical servicing is necessary, it should be performed by qualified service personnel. For information on where to reach technical service please see the manual cover. FOR PERSONAL SAFETY, ALWAYS DISCONNECT THE POWER BEFORE SERVICING.

TEMPERATURE

Temperature too high – display and actual match	
	1/ controller set too high-see see section 6.3 2/ controller failed on – call Customer Service 3/ wiring error – call Customer Service 4/ Peltier condensate collector failure
DISPLAY reads "HI" or "400"+	
	probe is unplugged, is broken or wire to sensor is broken – trace wire from display to probe; move wire and watch display to see intermittent problems
Chamber temp goes way over set point and then settles to set point	
	Recalibrate – see section 6.4
Temperature too low – display and actual match	
	1/ high limit set too low – see section 6.5 2/ controller set too low – see section 6.3 3/ unit not recovered from door opening – wait for display to stop changing 4/ unit not recovered from power failure or being turned off – incubators will need 24 hours to warm up and stabilize 5/ element failure – see if heating light is on; compare current draw to data plate 6/ controller failure – confirm with front panel lights that controller is calling for heat 7/ high limit failure – confirm with front panel lights that Over Temp Limit is operating correctly 8/ wiring problem – check all functions and compare wiring to users manual - especially around any areas recently worked on 9/ loose connection – check shadow box for loose connections
Display reads "LO"	
	1/ sensor is plugged in backwards – reverse sensor wires to controller 2/ if ambient temperature is lower than range of unit – compare set points and ambient temperature to rated specifications in users manual
Unit will not heat over some temperature that is below set point	
	1/ confirm that fan is moving and that amperage and voltage match data plate – check fan motor motion in shadow box and feel for air movement in chamber 2/ confirm that set point is set high enough –turn Over Temp Limit Thermostat all the way clockwise and see if heating light or safety light comes on 3/ check connections to sensor 4/ check calibration – using independent thermometer, follow instructions in section 6.4
Unit will not heat up at all	
	1/ verify that controller is asking for heat by looking for Heating light – if pilot light is not on continuously, there is a problem with the controller 2/ check amperage – amperage should be virtually at maximum rated (data plate) amperage 3/ do all controller functions work?

	4/ is the Over Temp Limit Thermostat set high enough? – for diagnostics, should be turned fully CCW with the pilot light never on 5/ has the fuse/circuit breaker blown?
Indicated chamber temperature unstable	
	1/ ±0.1 may be normal 2/ is fan working? – remove top panel and verify movement of cooling fan in center of shadow box 3/ is ambient radically changing – either door opening or room airflow from heaters or air conditioning? – stabilize ambient conditions 4/ sensor miss-located, damaged or wires may be damaged - check mounts for control and Over Temp Limit Thermostat sensors, then trace wires or tubing between sensors and controls 5/ calibration sensitivity – call Customer Service 6/ high limit set too low – be sure that Safety is more than 5 degrees over desired set point; check if Over Temp Limit pilot light is on continuously; turn controller knob completely clock-wise to see if problem solved then follow instructions in section 6.4 7/ electrical noise – remove nearby sources of RFI including motors, arcing relays or radio transmitters 8/ bad connection on temperature sensor or faulty sensor – check connectors for continuity and mechanical soundness while watching display for erratic behavior; check sensor and wiring for mechanical damage 9/ bad connections or faulty solid state relay – check connectors for mechanical soundness and look for corrosion around terminals or signs of arcing or other visible deterioration 10/ Water jacket empty or low – check indicator warning light or water level at fill port in back of unit. 11/ Peltier condensate collector failure
Will not maintain set point	
	1/ assure that set point is at least 5 degrees over ambient 2/ see if ambient is fluctuating
Display and actual (from reference thermometer) don't match	
	1/ calibration error – see operator's manual 2/ temperature sensor failure – evaluate if pilot light is operating correctly 3/ controller failure – evaluate if pilot light is operating correctly 4/ allow at least two hours to stabilize 5/ see if reference thermometer is certified
Reference thermometer does not match digital display	
	See Temp Calibration in Section 10
Can't adjust set points or calibration	
	1/ turn entire unit off and on to reset 2/ if repeatedly happens, call Customer Service
Calibrated at one temperature, but not at another	
	This can be a normal condition when operating temperature varies widely, e.g., >30C° difference between setpoints. For maximum accuracy, calibration should be done at close to the set point temperature.

HUMIDITY LEVEL

Can't achieve rated humidity/temp	
	1/ relative humidity sensor or controller failure 2/ check for bad door seal 3/ check for leaking water around steamer 4/ confirm a sufficient and distilled water source 5/ calibrate humidity sensor with independent reference 6/ assure that pressure relief valve is closed 7/ assure that steamer is working (see Humidity Section-4)
Can't adjust set points or calibration	
	1/ confirm all wire connections 2/ confirm software revision 3/ call Customer Service
Steam generator not working	
	1/ check if fill solenoid, injection valve, relief valve, float switch and relays are working – see schematic in manual 2/ check for water leaks around steamer

	3/ verify that relays are working 4/ verify that float switch is working 5/ confirm that heater is working a- power to coil b- is unit burned/shorted out 6/ pressure switch is working 7/ plumbing leak
Humidity unstable	
	1/ circulating fan failure a- motor failure or no voltage to motor b- fan not turning c- ducts blocked 2/ relative humidity is lower than the unit can achieve at that operating temperature 3/ chamber leaks a- motor shaft seals b- door seal c- air intake flapper
MECHANICAL	
Door not sealing	
	1/ adjust hinge blocks or twist the door. 2/ Confirm that unit has not been damaged and body is not square.
Motor doesn't move	
	1/ if shaft spins freely: check connections to motor and check voltage to motor; 2/ if shaft rubs or is frozen, relieve binding and retest
Motor makes noise	
	1) Make sure that the fan or blower wheel is not contacting its housing. Adjust the motor mounting bracket position to re-center the fan or blower wheel, if necessary. 2) Check the fan or blower wheel for damage or out of balance condition. Replace the fan or blower wheel if it is damaged or out of balance. 3) Turn the motor shaft to make sure that it spins freely. If it binds or the bearings make a rubbing or scrapping sound then replace the motor.
Water leaking	
	1/ If leaking inside: dry chamber, run at temperature with door open. Check all seams with flashlight including front face. 2/ If leaking outside: dry out and see if leak repeats and find source of leak. Sources may include: fittings that need tightening, condensation due to missing insulation or a leak developed in humidity generator.
OTHER	
Controller on at all times - "locked-up"	
	1/ Adjust set point to room temperature. If the light goes out but is still heating, replace the solid state relay. 2/ turn unit off and on to reset 3/ if cannot change any condition on the front panel, call Customer Service
Front panel displays are all off	
	1/ Check for wire damage.
Unit or wall fuse/circuit breaker is blown	
	1/ check wall power source 2/ compare current draw and compare to specs on data plate 3/ see what other loads are on the wall circuit
Unit will not turn on	
	1/ check wall power source 2/ check fuse/circuit breaker on unit or in wall 3/ see if unit is on, e.g., fan or heater, and just controller is off 4/ check all wiring connections, esp. around the on/off switch
Condensate appears on interior chamber walls	
	1/ Some condensation may be normal 2/ Minimize the movement of air around the unit and reduce the number of door openings 3/ Turn the humidity control counterclockwise until the condensation level is acceptable
Condensate appears on interior glass door surface	

	1/ Some condensation may be normal 2/ Minimize the movement of air around the unit and reduce the number of door openings 3/ Turn the humidity control counterclockwise until the condensation level is acceptable
Contamination in chamber	
	1/ see cleaning procedure in operator's manual 2/ develop and follow SOP for specific application; include definition of cleaning technique and maintenance schedule

Service

If none of the suggestions listed above in the Troubleshooting guide have solved the problem Customer Service should be contacted for assistance.

Call 1-800-322-4897, and have the model number, serial number and voltage (listed on the date plate on the side of the incubator) as your service representative will require it.

Section 10

PARTS LIST

DESCRIPTION	SCO26H (2428H) 115V	SCO26H-2 (2428H-2) 220V
Adjustable Feet	2700500	2700500
Blower Wheel, Aluminum	2600535	2600535
Blower Wheel, Plastic	2600544	2600544
Circuit Breaker	1100500	1100500
Element	2350563	2350554
Fan Blade	2600551	2600551
Fan Motor	4880564	4880563
Float Switch	7850563	7850563
Humidity Control	1750553	17560554
Humidity Sensor	4100504	4100504
Motor U.E.C.	4880512	4880512
ON/OFF Switch	7850570	7850570
Pilot Light, Green	4650554	4650554
Pilot Light, Red	4650553	4650553
Power Cord	1800516	1800537
Power Cord - European	NA	1800541
Power Exhaust Assembly	9990559	9990562
Pressure Relief Valve	8600567	8600567
Pressure Switch	7850574	7850574
Relay	7030536	7030528
Shelf	5120525	5120525
Shelf Clip (4/Shelf)	1250512	1250512
Solenoid Valve	8600576	8600578
Temperature Controller	1750549	1750550
Thermostat, High Limit	1750861	1750861
Vapor Generator Assembly	9990663	9990664
Vapor Generator Element	2350520	2350521

Section 11

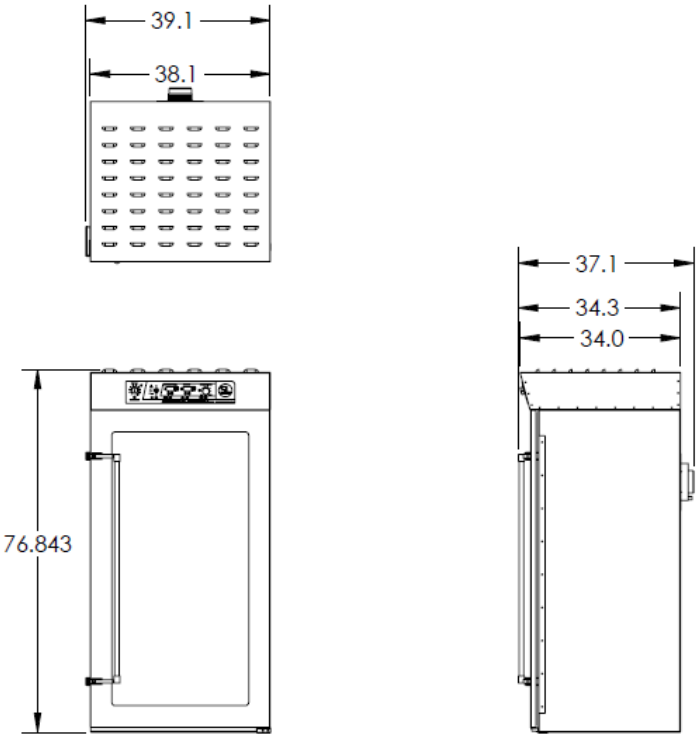
UNIT SPECIFICATIONS

Weight	Shipping	Net
All Models	480 lbs.	341 lbs.

Dimensions	Exterior WxDxH (in.)	Interior WxDxH (in.)
All Models	44 x 32.75 x 57	28 x 20.25 x 26

Capacity	Cubic Feet
All Models	28.5

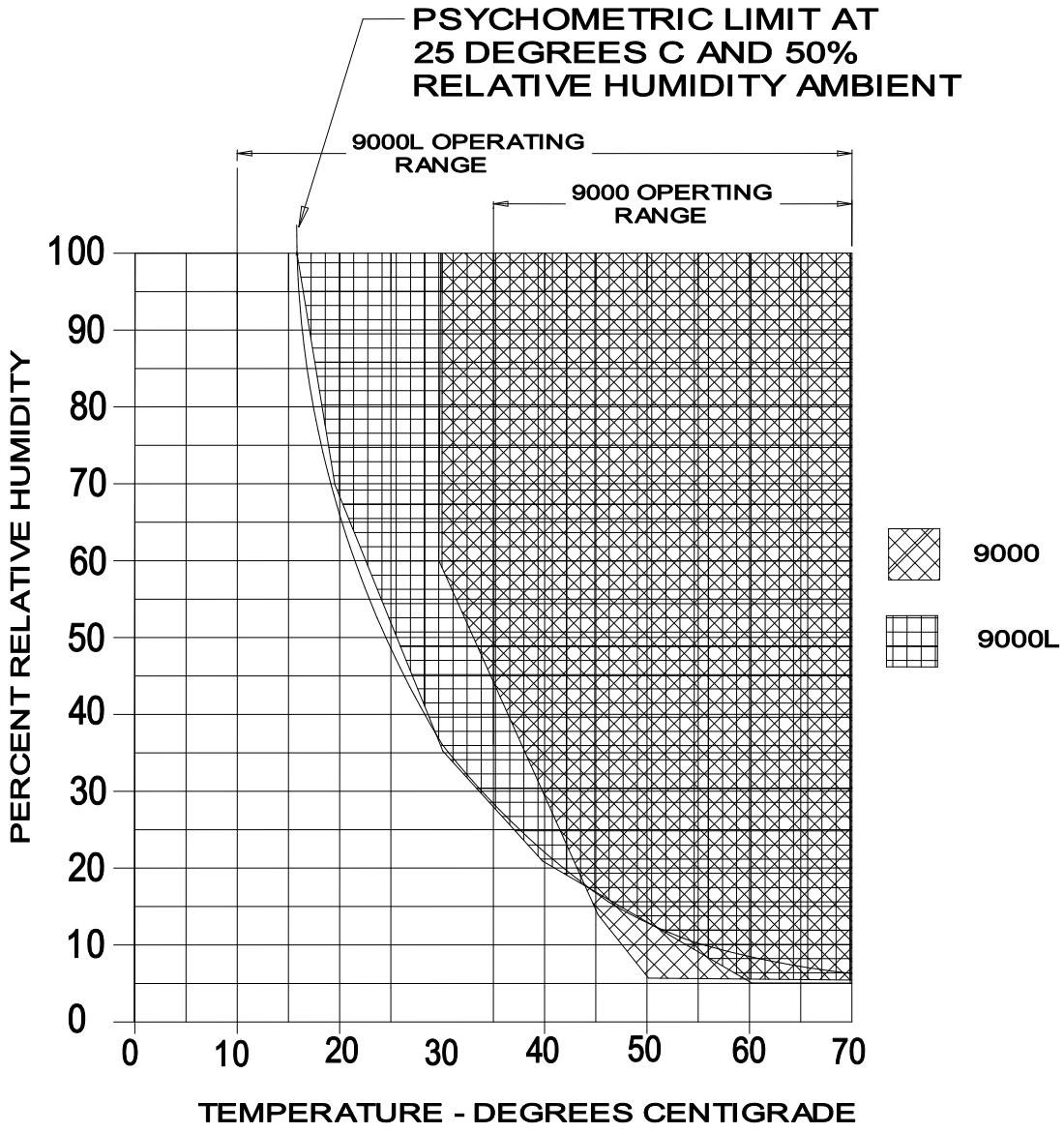
Temperature	Range	Humidity
All Models	15° to 50°	40-95%



Section

12

RELATIVE HUMIDITY CHART

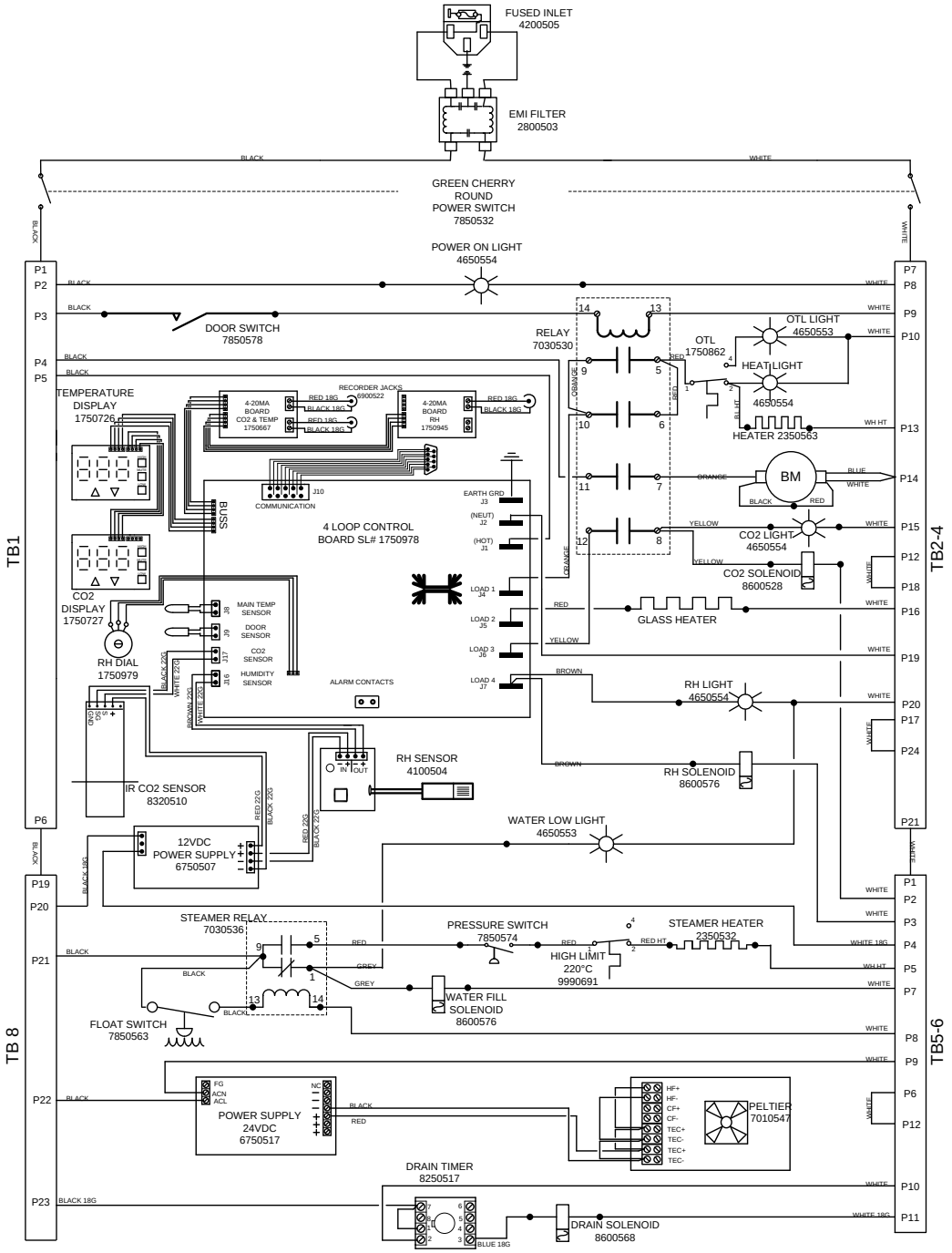


OPERATING CHARACTERISTICS FOR
AMBIENT AT 25 DEGREES C AND 50% RELATIVE HUMIDITY

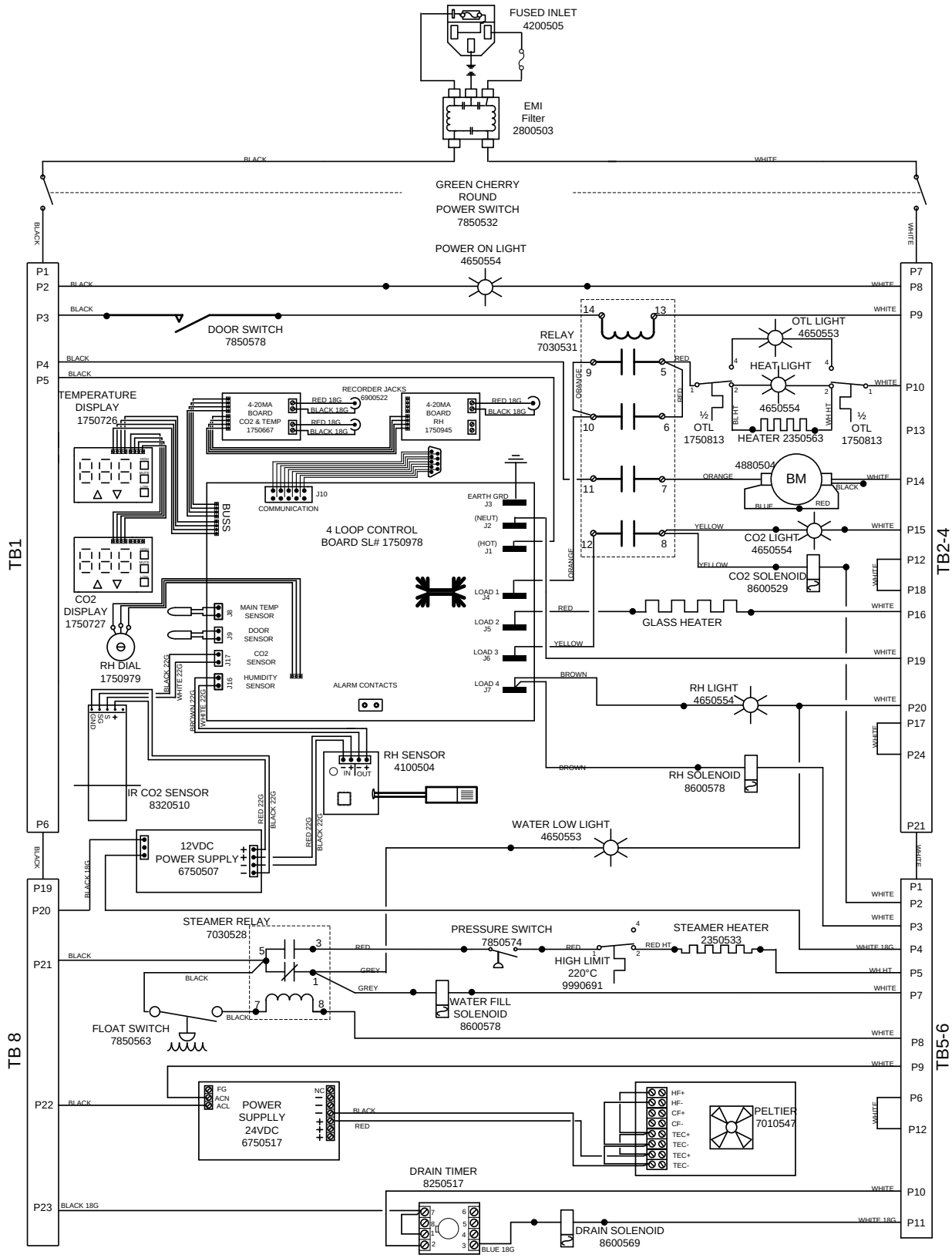
Section

13

WIRING DIAGRAM
SCO26H (2428H)
(9851429)



WIRING DIAGRAM
SCO26H-2 (2428H-2)
(9851430)



Section

14

PLUMBING DIAGRAM