

Instruction Manual

Savant[®] SPD111V SpeedVac[®] Concentrator



197-3001-00 Rev. C

Analyze • Detect • Measure • Control™

Thermo
ELECTRON CORPORATION

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1.0 Overview of the SPD111V Unit

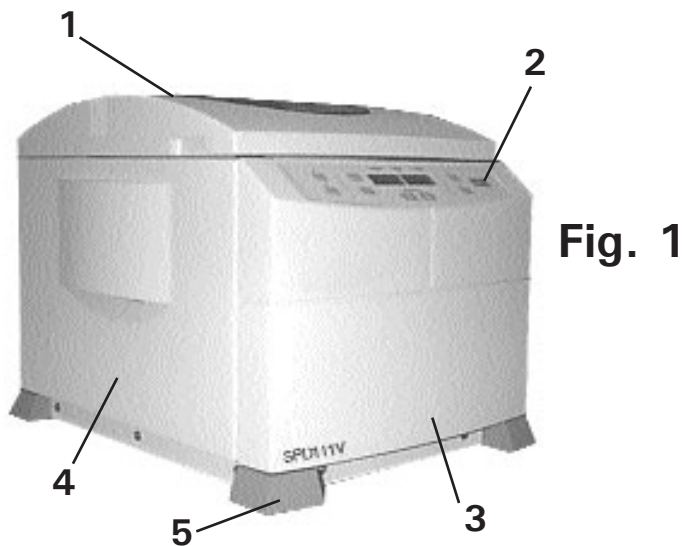


Fig. 1

Figure 1 = Front View

Figure 2 = Side View

Figure 3 = Back View

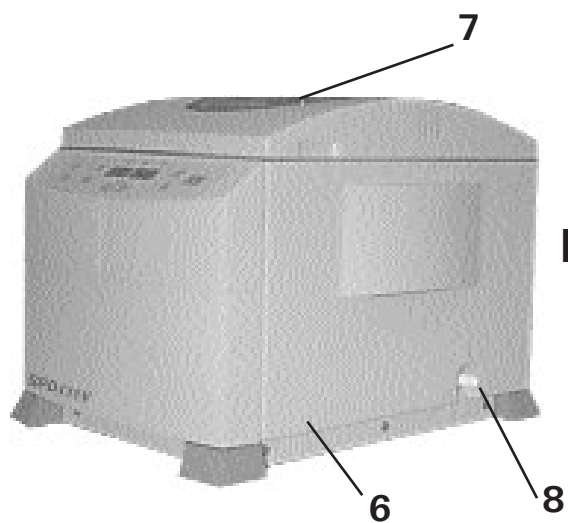


Fig. 2

1. Top Cover (Radiant Cover Optional)
2. Control Panel
3. Front Panel
4. Left Side Panel
5. Anti Skid/Vibration
6. Right Side Panel
7. Chamber View Window
8. Vacuum Port
9. AC Socket
10. Main On/Off Switch
11. Manual Cover Lock Release
12. Rear Access Panel

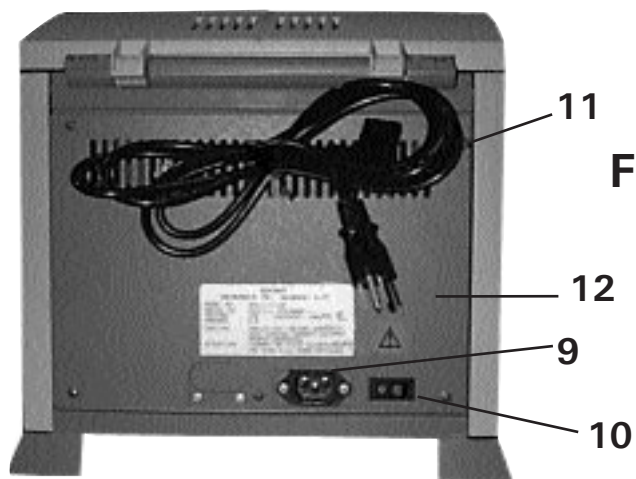
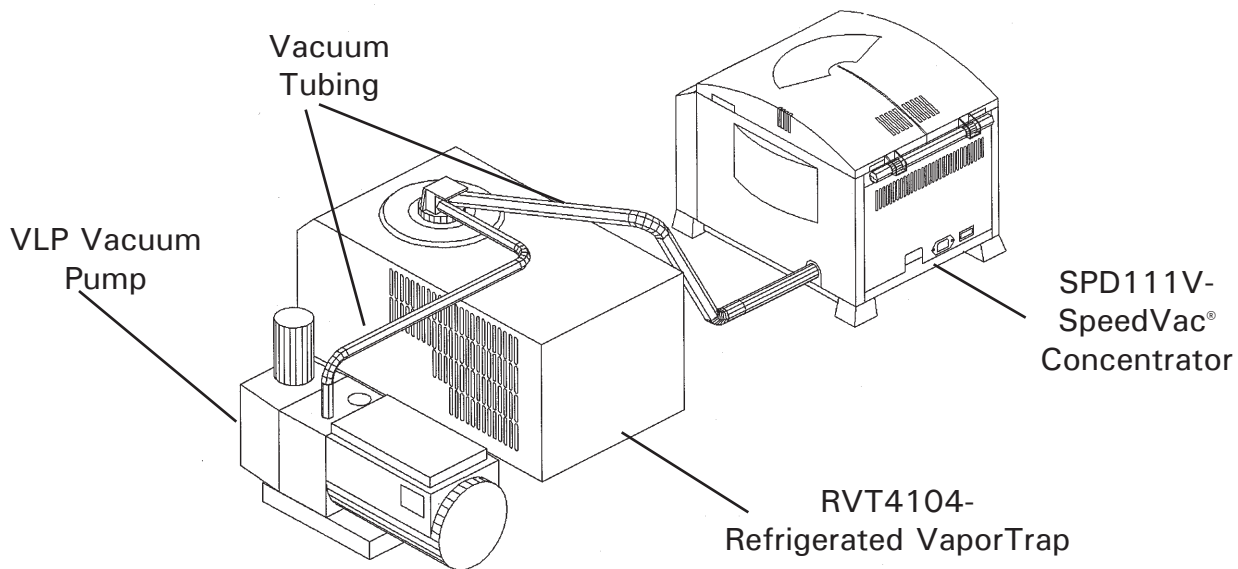


Fig. 3

1.1 INSTALLATION OF THE SPD111V

Figure 4-Rear View of System

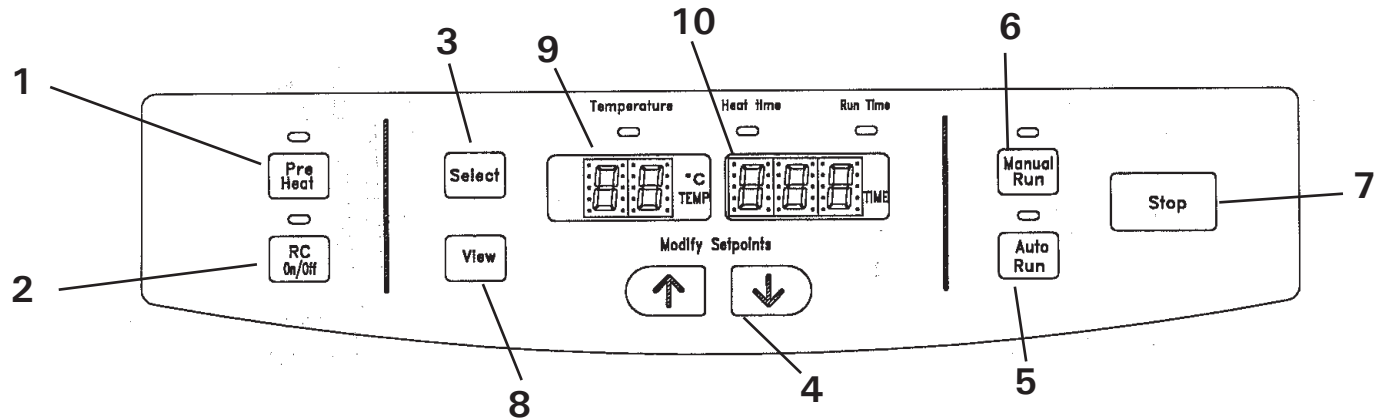


1.2 HOW TO HOOK UP THE SPD111V SPEEDVAC® SYSTEM

1. Unpack unit from the box and verify that all the parts match packing list.
2. Read instruction manual carefully! If assistance is required, contact Thermo
3. If the unit is part of a larger system, use the vacuum tubing supplied to hook up unit (See Figure 4).
4. Vacuum clamps must be put on vacuum ports of pump and SPD unit (See item 8 on Figure 2 and Figure 4).
5. If being hooked up to existing system, simply attach vacuum tubing to port on side of unit (See item 8, figure 2-vacuum port).

CAUTION - Cold trap should be in line between the vacuum source and the SPD Unit.

2.0 SPD111V CONTROL PANEL



2.1 DESCRIPTION OF SPD111V CONTROL PANEL

1. **PRE-HEAT** - use to pre-heat chamber to 45 °C prior to or between runs. Once run is initiated the pre-heat stops.
2. **RC ON/OFF** - Use to add radiant heat to chamber. Manual activation ON/OFF at any point during run. Also will turn off at end of run.
3. **SELECT** - (located above temperature/time indicator), press this button to select the parameters to be modified. Selection is from left to right. GREEN light indicates the parameter to be modified.
4. **MODIFY SETPOINT UP/DOWN** - Modifies selected parameter.
5. **AUTO RUN** - Starts an automated run (See page 5).
6. **MANUAL RUN** - Starts a manual run (See page 4).
7. **STOP** - Terminates manual or auto run.
8. **VIEW** - Press to view. Displays preset parameters (during a run), displays actual values when not running.
9. **TEMPERATURE DISPLAY (GREEN DISPLAY)** - Indicates set temperature or actual temperature during a run in °C.
10. **TIME DISPLAY (GREEN DISPLAY)** - Indicates heat timer or run timer setpoints. If in the process of a run it indicates elapsed time or time left.

3.0 THE MANUAL RUN

This type of run will allow continuous running of the unit until it is turned off by the user. The heat timer is activate and can be set to a user defined time.

1. Connect the unit to its required voltage.
2. Turn the power switch to ON, located on the back of the unit. The cover lock, unlocks, allowing the top cover to be opened.

The display lights up, showing the following default values:

Temperature: 35 °C

Run Time: 2.00 HRS

Press "SELECT" to "HEAT TIME": 1.00 HR default.

3. Place sample tubes in rotor so load is balanced. Secure it with rotor supplied knob (hand tight). Close cover.
4. Using the "SELECT" button and the up/down keys, set temperature between 35-80 °C, or "no", for no heat.
5. Using the "SELECT" button and the up/down keys, select and modify "HEAT TIME" to between 0.01 and 9.59 hours or CCC (for continual heating). When the heat timer expires, the heater will shut off, no matter what the temperature setpoint is (except if CCC).
6. Press the "MANUAL RUN" button. The cover locks and rotor starts turning. The decimal point blinks and the time display begins counting up. The temperature rises to the set temperature. The "HEAT TIME" will count down, and the SAV valve will actuate, applying vacuum to the chamber.

NOTE: If the cover is not closed, the display will show "LID" and the run will not start.

7. Press R/C for radiant cover heat. (Optional)
Press at any time to turn OFF and ON.
8. To end the manual run press "STOP" button. The display will show "End", the SAV valve will click allowing air to bleed into the chamber.
9. After the rotor stops spinning, the cover lock unlocks and the display reverts to last set parameters.
10. Open cover and remove samples.

3.1 THE AUTO RUN

An automated run will run the unit for a pre-defined time as selected by the user.

1. Refer to the "MANUAL RUN" section for start up.
2. Place sample tubes in rotor so load is balanced. Secure it with rotor supplied knob (hand tight). Close cover
3. To execute "AUTO RUN" perform the following steps:
 - a) Use "SELECT" button and up/down keys to select and modify "TEMPERATURE, "HEAT TIME, "RUN TIME" parameters. "RUN and HEAT TIME" can be set from 0.01 to 9.59 hours (HEAT TIME also has CCC").
 - b) Press "AUTO RUN" button to start the run. GREEN light above "Auto Run" is on. The cover locks, and the rotor starts turning. The time display is counting down in 1 minute intervals and the decimal point blinks. The heat time is counting down (use select button to view "HEAT TIME"). The temperature rises in 1 °C increments to the set temperature. The SAV valve will actuate, applying vacuum to the chamber.
 - c) Press R/C for radiant cover heat. (optional*)
Press at any time to turn OFF and ON.





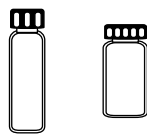


NOTE: If the cover is not closed, the display will show "Lid" and the run will not start.

- d) Once the time decrements to 0.00 HRS. the run will automatically stop, the display will show "End". The SAV valve will click allowing air to bleed into the chamber.
- e) After the rotor stops spinning, the cover unlocks and the display reverts to last set parameters.
- f) Open the cover and remove samples.

GENERAL: During the run, display shows actual parameters. To check set parameters, press "VIEW" button and "SELECT". The display will revert temporarily to set points.

*only units fitted with RCSPD.

4.0 ROTOR SELECTION GUIDE

	Working Volume (ml)	Number of Tubes	Description	Rotor Model
MICROCENTRIFUGE TUBES 	1.2 - 1.6	40	1.5 - 2.0 ml	RH40-11
	1.2 - 1.6	64	1.5 - 2.0 ml	RH64-11
	1.2 - 1.6	120	1.5 - 2.0 ml	RH120-11
GLASS AND PLASTIC TUBES 	0.3	100	0.5ml (8 x 29mm)	RH100-8
	0.3	40	0.4ml (6x 50mm)	RH40-6
	0.3	100	0.4ml (6 x 50mm)	RH100-6
	4	20	12 x 75mm	RH20-12
	4	40	1.5 - 2.0 (12 x 75mm)	RH40-12
	4	72	12 x 75mm	RH72-12
	8	10	13 x 100mm	RH20-12
	8	32	13 x 100mm	RH32-13
	10	8	18 x 100mm, 17 x 95, 16 x 100	RH8-18
CENTRIFUGE TUBES 	12	10	15ml conical (16 x 120mm)	RH10-15
	40	6	50ml conical (28 x 115mm)	RH6-50
FLASKS 	35	8	50ml pear shaped flask	RH8-50
	80	4	100ml pear shaped flask	RH4-100
VIALS 	2	60	12 x 32mm	RH60-12-40
	2.0	60	12 x 40mm vials	RH60-12-40
	2.4	12	20 x 47mm v-vials	RH12-20
	3	24	1 dram vials (15 x 45mm), 4ml	RH24-15
	4	12	20 x 60mm v-vials	RH12-20
	5.6	24	18 x 52mm mini-scintillation vials	RH24-18
	16	12	28 x 60mm scintillation vials	RH12-28
MICROTITER PLATES (Shallow) 	0.3	2 plates	Microplates	RH2MP
	0.3	6 plates	Microplates	RHSW6M6
DEEPWELL PLATES 	2.0	2 plates	Deepwell Microplates	RHDW2MP

5.0 GUIDELINES FOR SOLVENT CHOICE

Part I: Solvents suited for the SPD111V unit

- Ethanol
- Methanol
- Water
- Acetonitrile

Part II: Solvents NOT suited for the SPD111V unit

- Methylene Chloride
- Chloroform
- Ethyl Acetate
- Hydrochloric Acid
- Trifluoroacetic Acid (TFA)
- Dimethyl Sulfoxide (DMSO)

Part III: All other solvents not listed above

Call Thermo application specialists to see if your solvent can be used in the SPD111V concentrator.

*The SPD units (SPD121P and SPD111V with a radiant cover) are better suited for limited intermittent use of the solvents listed in Part II. Use of these solvents with the SPD111V (without a radiant cover) and SPD101B may cause the lid material to become discolored and cause potential damage. For additional technical assistance with respect to your solvent choice, please contact the Applications Support Specialists at Thermo.

6.0 MAINTENANCE/SERVICE

1. Maintenance: The SPD111V SpeedVac® requires no scheduled maintenance.
2. Cleaning: The SPD111V SpeedVac® should be cleaned if solvents spill on or inside the unit. Always clean up any spills immediately using absorbent paper towels.

Always wear gloves when cleaning and dispose of paper towel in appropriate designated refuse containers.

3. Replace chamber seal if cracked (Part number is 197-6020-00).
4. Outside of unit can be cleaned with dilute solution of soap and water.
5. For any other maintenance or service issues or service problems, please contact Thermo.

7.0 SPECIFICATIONS/WARRANTY

Model:	SPD111V
Bleeder Valve:	Integrated Automatic Bleeder Valve
Temperature Range:	35 °C-80 °C
Volume Range/Tube:	18 x 150 mm
Maximum Tube Capacity:	6
Maximum Carrier Capacity:	2 (96-deepwell plates) see chart on page 6
Dimensions: (W x D x H) in.:	14 x 18 x 13
cm:	36 x 45 x 33
Weight: lbs. (kg)	31 (14)
Power requirements:	115 VAC/60Hz, 5.0A (Part number SPD111V-115) or 230 VAC/50Hz, 3.0A (Part number SPD111V-230)

All Thermo products mentioned in this manual (except glassware) are warranted against defects in material and workmanship for one year after the date of delivery to the original purchaser. Thermo's warranty is limited to defective materials and workmanship, and does not cover incidental or consequential damages. Warranty work is subject to our inspection of the unit.

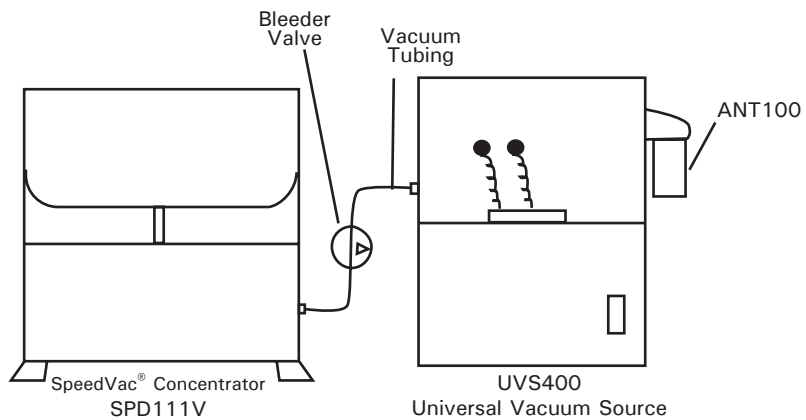
No instruments, equipment, or accessories will be accepted without a Return Material Authorization (RMA) number issued by Thermo. Costs of shipping the unit are not covered under warranty.

The warranty obliges you to follow the precautions in this manual. It is the responsibility of the user to dispose of ALL materials in a manner in accordance with all federal, state and local regulations. ALL RETURNED UNITS MUST BE DECONTAMINATED AND FREE OF RADIOACTIVITY AND SHOULD BE ACCOMPANIED WITH A DECONTAMINATION FORM. PLEASE CONTACT THERMO TO HAVE THIS FORM FAXED TO YOU!

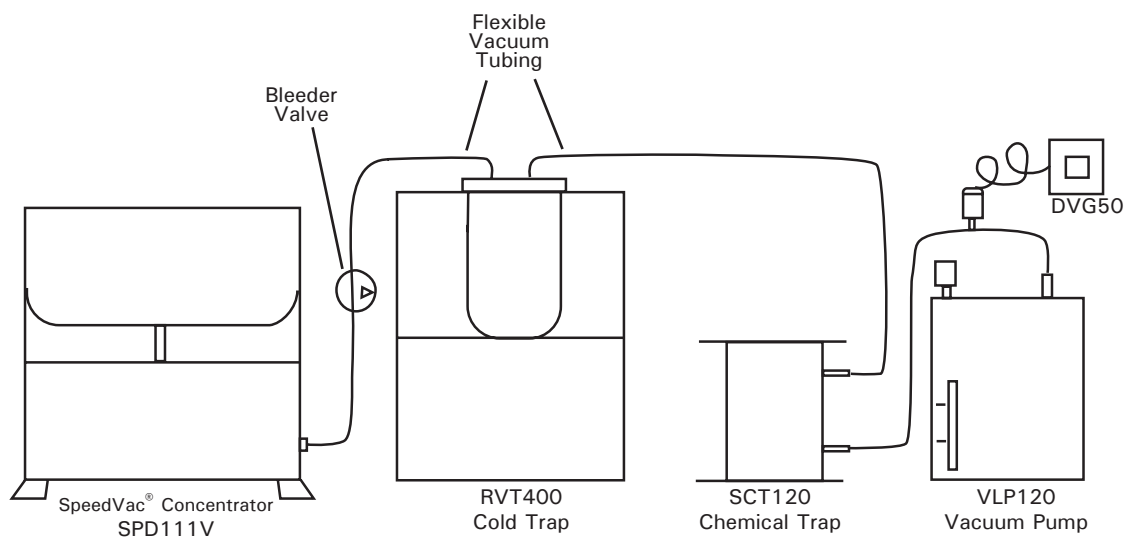
Under no circumstances shall Thermo be liable for damages due to the improper handling or use of its products. Thermo assumes no liability, express or implied, for your use of this equipment.

APPENDIX 1

Additional SPD111V System Set-ups



SEMI-INTEGRATED SYSTEM



COMPONENT HIGH VACUUM SYSTEM

SPD-SERIES SPEEDVAC® FAMILY



SPD101B



SPD111V



SPD121P

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