

Frederick National Laboratory for Cancer Research <small>sponsored by the National Cancer Institute</small>	HPV Serology Laboratory Standard Operating Procedure	
Use and Maintenance of the Combination Medical Unit		
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1. PURPOSE

- 1.1. The purpose of this procedure is to describe the use and maintenance of the Sanyo Combination Refrigerator with Freezer Unit.

2. SCOPE

- 2.1. This procedure applies to the HPV Serology Laboratory located at the Advanced Technology Research Facility, Room C2007.

3. REFERENCES

- 3.1. HSL_EQ_025.01: Combination Medical Unit Maintenance Form
- 3.2. User Manual for the Sanyo MPR-414F Pharmaceutical Refrigerator with Freezer
- 3.3. HSL_GL_001: Waste Disposal at the Advanced Technology Research Facility
- 3.4. HSL_GL_002: Equipment Qualification and Calibration in the HPV Serology Laboratory
- 3.5. HSL_GL_003: Good Documentation Practices for the HPV Serology Laboratory
- 3.6. HSL_GL_007: Reagent and Chemical Expiry in the HPV Serology Laboratory
- 3.7. HSL_GL_008: Laboratory Flow and Gowning Procedures for the HPV Serology Laboratory
- 3.8. HSL_GL_009: HPV Serology Laboratory BSL-2 Procedures
- 3.9. HSL_GL_010: Control and Request of Documents in the HPV Serology Laboratory

4. RESPONSIBILITIES

- 4.1. The Research Associate, hereafter referred to as analyst, is responsible for reviewing and following this procedure.
- 4.2. The Scientific Manager or designee is responsible for training personnel in this procedure and reviewing associated documentation.
- 4.3. The Quality Assurance Specialist is responsible for quality oversight and approval of this procedure.

5. REAGENTS, CHEMICALS AND EQUIPMENT

- 5.1. Sanyo Combination Refrigerator and Freezer Unit, Model MPR-414F
- 5.2. Ster-ahol (VWR, Cat # 14003-358 or equivalent)

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- 5.3. Wypalls paper towel (Warehouse, Cat # 79300335 or equivalent)
- 5.4. Incandescent Bulb, T22 E17 (GE, Cat # WB36X10003 or equivalent)

6. HEALTH AND SAFETY CONSIDERATIONS

- 6.1. Proper safety precautions should be taken while working in a laboratory setting. This includes, but is not limited to, proper protective equipment such as lab coats, safety glasses, closed-toe shoes, and non-latex gloves.
- 6.2. Refer to the respective SDS when working with any chemicals.
- 6.3. Refer to "HSL_GL_001: Waste Disposal at the Advanced Technology Research Facility" regarding waste disposal processes at the ATRF.

7. DEFINITIONS

Term	Definition
ATRF	Advanced Technology Research Facility
FME	Facilities, Maintenance and Engineering
HPV	Human Papillomavirus
HSL	HPV Serology Laboratory
SDS	Safety Data Sheets
SOP	Standard Operating Procedure

8. START-UP

- 8.1. Plug in the power cord. Press the alarm buzzer stop key if the buzzer sounds.
- 8.2. Insert the key in the switch and turn the power on.
- 8.3. Rotate the power switch to the ALARM ON position when the temperature drops below the warm alarm set-point.
- 8.4. Set the refrigerator set point to 4°C and the freezer set point to -20°C. Allow the unit to reach operating temperature before loading it with any product. To stabilize the temperature profile, a 24-hour waiting period is recommended. See Attachment 1: Temperature Setting for instructions on how to set the unit's temperature.

Note: The unit is set-up with the Rees alarm system, which is maintained by ATRF FME.

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9. USE

- 9.1. Do not leave doors open for extended periods of time.
- 9.2. If a spill occurs, wipe down and clean with appropriate cleaner.
- 9.3. When placing items in the unit, monitor temperature to avoid causing the temperatures to go too far outside of range.
- 9.4. When being used, make an entry on HSL_EQ_025.01: Combination Medical Unit Maintenance Form, if the unit goes out of temperature range and an alarm is triggered. This will assist in any investigation that may occur relating to the temperature deviance.

10. ANNUAL MAINTENANCE

- 10.1. Turn off the unit.
- 10.2. Remove all contents of the unit.
- 10.3. Spray the outside of the unit with Ster-ahol and wipe with a clean low-lint wipe.
- 10.4. Spray the internal unit with Ster-ahol and wipe with a clean low-lint wipe. See Attachment 2: MPR-414F Diagram for components.
- 10.5. Turn unit on and allow it to stabilize then return contents to the unit.
- 10.6. If a light bulb needs to be replaced, see Attachment 3: Replacement of Lamp, for instructions.
- 10.7. Document maintenance performed on HSL_EQ_025.01: Combination Medical Unit Maintenance Form.

11. ANNUAL CALIBRATION

- 11.1. Facilities, Maintenance and Engineering (FME) or a contracted vendor shall perform annual calibration of the unit.
- 11.2. Document calibration performed on HSL_EQ_025.01: Combination Medical Unit Maintenance Form.

12. ATTACHMENTS

- 12.1. Attachment 1: Temperature Setting
- 12.2. Attachment 2: MPR-414F Diagram
- 12.3. Attachment 3: Replacement of Lamp

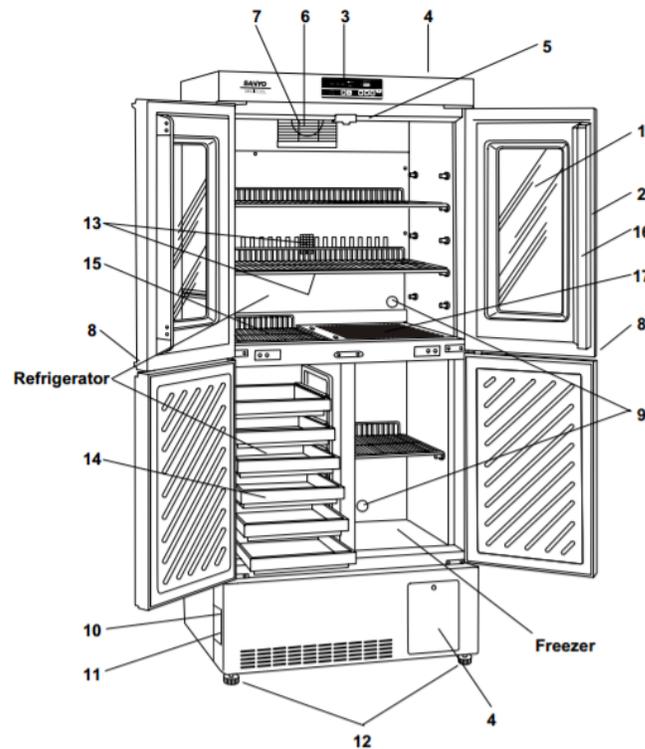
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Attachment 1: Temperature Setting

	Operation	Key operated	Indication after operation
1	Connect to the power source and turn on the power switch.	----	The current refrigerator or freezer temperature is displayed. 20
2	Select refrigerator (REF.) by pressing display select key.	REF. FREEZ.	The refrigerator indicator lights and the current refrigerator temperature is displayed. 20
3	Press SET key.	SET	The current set temperature is displayed and the second digit of the temperature display flashes. 005
4	Set to 004 by using digit shift key and numerical value shift key.	▶▶	Pressing the key leads the flash of the first digit. 005
		▲	Pressing the key shifts up the figure of the current digit. 004
5	Press SET key.	SET	The value is stored in memory and the current refrigerator temperature is displayed. 20
6	Select freezer (FREEZ.) by pressing display select key.	REF. FREEZ.	The freezer indicator lights and the current freezer temperature is displayed.
7	Press SET key.	SET	The current set temperature is displayed and the second digit of the temperature display flashes. -20
8	Set to -25 by using digit shift key and numerical value shift key.	▶▶	Pressing the key leads the flash of the first digit. -20
		▲	Pressing the key shifts up the figure of the current digit. -25
9	Press SET key.	SET	The value is stored in memory and the current refrigerator temperature is displayed.

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Attachment 2: MPR-414F Diagram



MPR-414F with drawers (optional component)

1. **Glass window:** Water can sometimes condense on the glass in areas of high humidity. Wipe off the condensation with a dry soft cloth.
2. **Magnetic door gasket:** This prevents the cool air from escaping. Always keep clean.
3. **Control panel:** The operation status is displayed on this panel. And the temperature setting is available through this panel.
4. **Mounting space for temperature recorder:** Space for an automatic temperature recorder available separately.
5. **Lamp:** This lamp lights up when the refrigerator door is open to illuminate the chamber.
6. **Air intake vent:** Ensure this vent is never blocked. Failure to do so will result in unstable temperature distribution in the refrigerator.
7. **Circulating fan:** This is for cooling the refrigerator uniformly. Fan is installed inside the enclosure. Do not insert anything into the enclosure. The air exhaust vent is located at the upper of the fan.
8. **Lock:** Turn key clockwise through 180 degree to lock the door. The right-side lock is for the right upper and lower doors and left side lock is for the left upper and lower doors.
9. **Access port (rear):** This port allows cables to be passed into the cabinet.
10. **Power switch** (also functions as a circuit breaker): The power switch also used as a circuit breaker. Normally put a cover on the switch. The round button under the power switch is a leakage

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test button. The operation check of the circuit breaker can be performed by pressing this button. But note the power supply to the unit is disconnected when this button is pressed.

11. **Remote alarm terminal:** This is used to alarm the abnormality to the remote location.
12. **Leveling feet:** Use these bolts to adjust the height and level the unit for installation.
13. **Cool air exhaust vent:** Ensure this vent is never blocked. Note the items exposed to the direct air flow can be frozen.
14. **Drawer:** Drawers are available as an optional component (MPR-41R).
15. **Shelf** (at the opening between upper and lower chamber): Ensure this surface is never blocked by the stored items so that the cool air can be circulated into the lower chamber.
16. **Movable center pillar:** The pillar contact the door gasket firmly when the door is closed and functions as a block between the chamber and outer air. When the door is opened, the pillar angle is changed by 90 degree. Take care not to change the pillar angle.
17. **Protective sheet:** The stored material may be frozen if it is put on the chamber bottom directly. Always put the sheet in the refrigerator compartment (upper and lower left chamber).

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Attachment 3: Replacement of Lamp

Replacement of lamp

Follow the procedure below at the time of replacement of the lamp. The lamp is located at the upper front side of refrigerator chamber.

1. Disconnect the power supply plug.
2. To remove the lamp cover, hold the both sides of the cover with flexure and push it backward.
3. Remove the bulb from the socket by turning it to counterclockwise

Caution: Take care not to injure the fingers as the bulb can be hot!

< Bulb for replacement >

Incandescent lamp (T22E17) 125V, 10W (for AC 110/115V)

4. Mount a new bulb and replace the lamp cover.

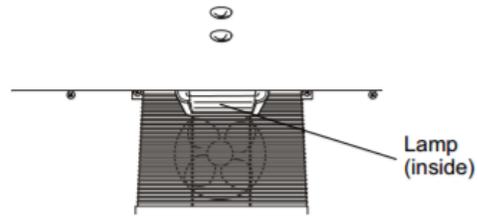


Fig. 1

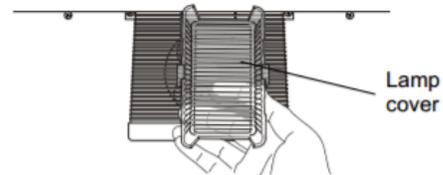


Fig. 2

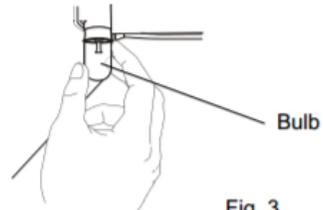


Fig. 3

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13. REVISION HISTORY

Revision Start Date	Version #	Changes	Reasons
06Jun17	New	Create new SOP for the use and maintenance of the combination refrigerator/freezer unit.	New SOP.

