

SINCE 1889



# LAB FREEZER / REFRIGERATOR COMBINATION


## RFC201 / RFC301

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### MODEL

## INSTRUCTION MANUAL

- FIRST EDITION –

- Thank you for purchasing RFC201/301 Laboratory Freezer / Refrigerator Combination of Yamato Scientific.
  - To use this unit properly, read this "Instruction Manual" thoroughly before using this unit. Keep this instruction manual around this unit for referring at any time.
-  **WARNING:** Carefully read and thoroughly understand the important warning items described in this manual before using this unit.

**Yamato Scientific America Inc.**  
**Santa Clara, CA**

# IMPORTANT SAFEGUARDS

**WARNING:** Keep ventilation openings in the appliance's cabinet or in the built-in structure clear of obstruction.

**WARNING:** Do not use other **mechanical devices** or other means to accelerate the defrosting process than those recommended by the manufacturer.

**WARNING:** Do not damage the refrigerant system.

**WARNING:** Do not use **electrical appliances** inside the refrigerated storage compartment unless they are of a type recommended by the manufacturer.

**WARNING:** Do not expose the appliance to rain.

**WARNING:** This appliance is not intended for use by young children or infirm persons unless they have been adequately supervised by a responsible person to ensure that they can use the appliance safely. Young children should be supervised to ensure that they do not play with the appliance.

**WARNING:** *Risk of child entrapment.*

Before you throw away your old refrigerator or freezer:

Take off the doors.

Leave the shelves in place so that children may not easily climb inside.

Always keep the keys in a separate place and out of reach of children.

Before servicing or cleaning the appliance, disconnect the electrical power supply.

If the power supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid a hazard.

Frost formation on the interior evaporator wall and upper parts is a natural phenomenon. Therefore, the appliance should be defrosted during normal cleaning or maintenance.

Directions for replacing the light bulb are included in the instructions.

Please note that changes to the appliance construction will cancel all warranty and product liability.

## **Before your first use**

**This appliance is for indoor use only.**

On receipt, check to ensure that the appliance has not been damaged during transport. Transport damage should be reported to the local distributor before the appliance is put to use.

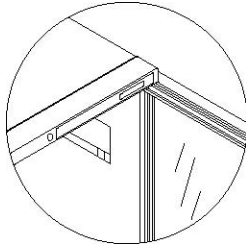
Wash the cabinet and inner lining with a mild unscented detergent and wipe it dry. Do not use scouring powder, steel wool or similar abrasive material.

Before operating your new appliance, please read the following instructions carefully as they contain important information on safety, installation, operation and maintenance. Keep the instructions for future reference.

If during transport the appliance has been laid down, or if it has been stored in cold surroundings (colder than 41°F, or 5°C), it must be allowed to stabilize in an upright position for at least an hour before being switched on.

## Electrical Connection

The technical information for the appliance can be seen on the rating plate on the right inner wall of the refrigerator compartment.



**Important:** Wiring and connections in power supply systems must be in accordance with all applicable (local and national) electrical codes. Consult these code lengths and sizes prior to cabinet installation.

Power supply: (Grounded through 3 wire power supply cord) 115V ac, 60 Hz single phase

Maximum fuse size: 10 amps

This appliance is equipped with a three-prong (ANSI type 5-15P grounded) plug for your protection against shock hazards. The appliance should be plugged into a properly grounded three-prong receptacle

Do not under any circumstances cut or remove the round grounding prong from the appliance plug.

Do not under any circumstances use extension cords.

## **Installation and Start-up**

### **Placement**

For safety and operational reasons, the appliance must not be installed outdoors. The appliance should be placed on a level surface in a dry, well ventilated room (max. 75% relative air humidity). Never place the appliance close to sources of heat such as ovens or radiators, and avoid placing it in direct sunlight.

### **Installation**

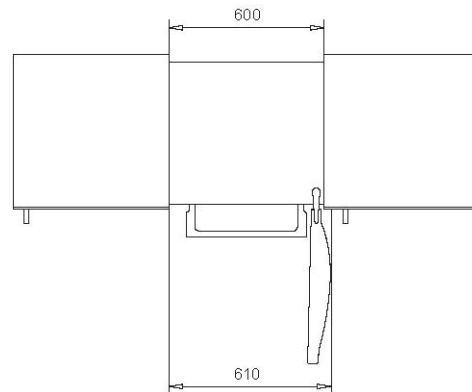
The surface on which the appliance is to be placed must be level.

If two appliances are placed side by side, there must be at least 30 mm (just over 1") clearance between them.

After installation, the plug should be accessible.

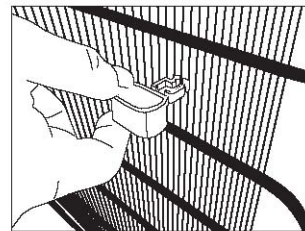
## The appliance viewed from above

If the appliance is placed beside a wall, there must be sufficient room for the freezer door to be opened wide enough to allow the drawers to be pulled out



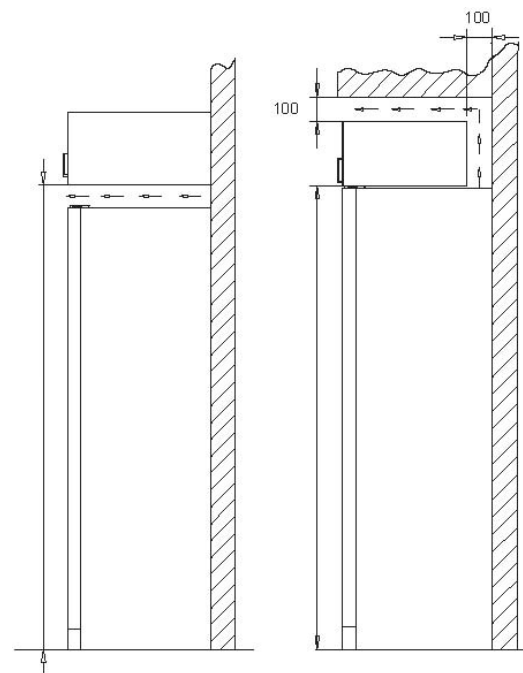
## Spacers

The spacers on the rear of the appliance ensure sufficient air circulation. Fit the two spacers supplied with the appliance as



## Ventilation

It is important that the appliance be well ventilated and that air can circulate unhindered above, below and around it. The figures to the right illustrate how the necessary air circulation can be ensured.

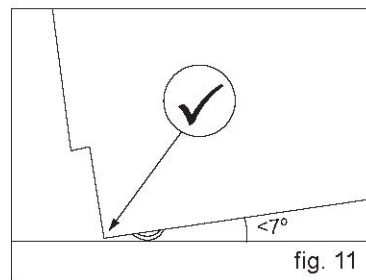
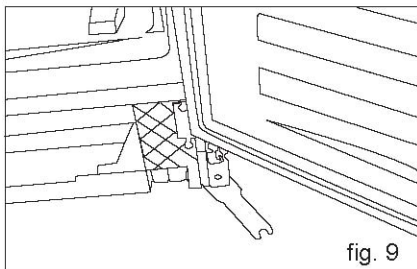
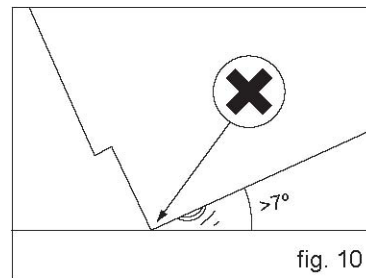
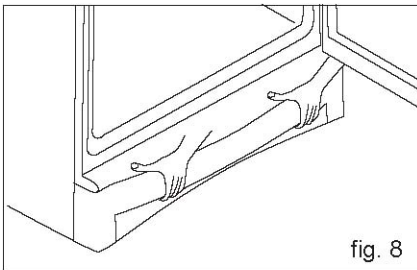


## Setting up

It is important that the appliance be absolutely level. To level the appliance, remove the kick plate below the door and screw the adjustable feet up or down (figs. 8 and 9). If necessary, it is possible to adjust the back feet before the upright is installed. Use a spirit level to check that the appliance is absolutely level.

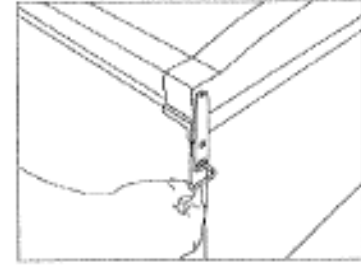
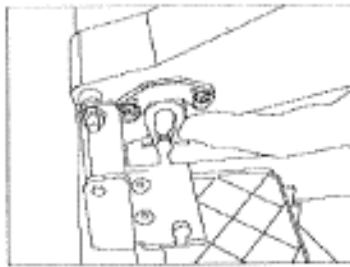
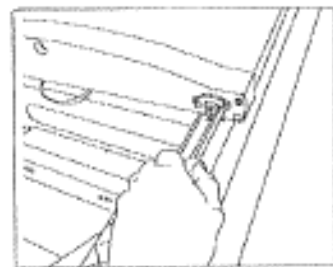
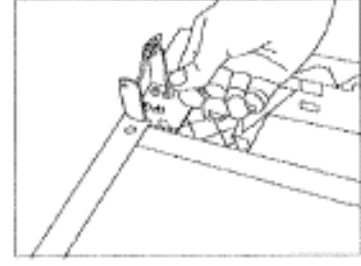
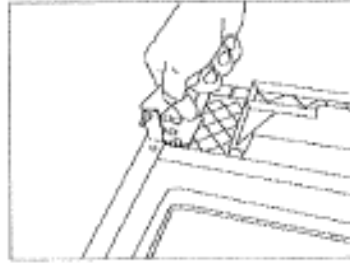
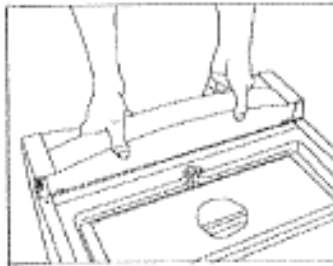
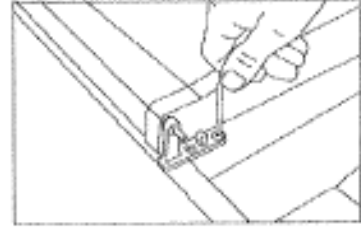
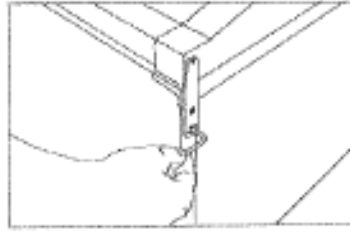
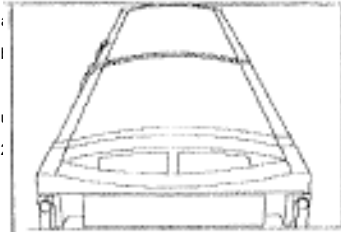
If the appliance is to be placed on a soft surface, e.g. floorboards or a carpet, it is best to recheck whether the appliance is still level after a period of time as the underlying surface may give under the weight of the appliance.

Do not tilt the upright more than 7 degrees to avoid damaging the floor (figs. 10 and 11).



## Reversing the Doors

The doors can be changed from right-hinged to left-hinged and vice versa as follows:





## Operation and Function

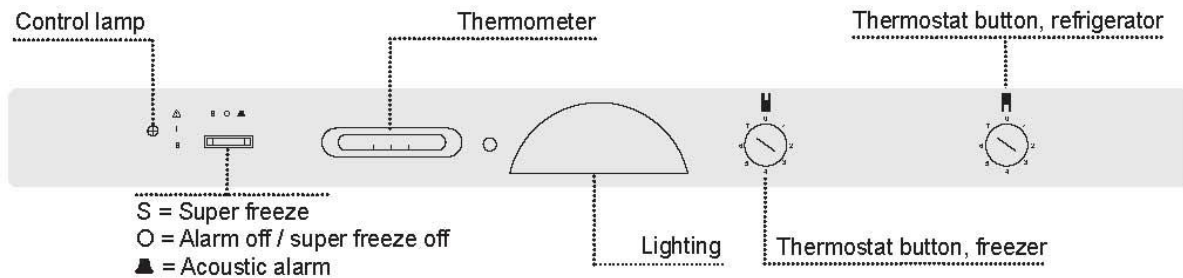


fig. 12

### Refrigerator section

The thermostat button can be set from **1** (min.) to **7** (max.). A suitable setting must be found by trial and error. Start by setting the button to **4**. Check the temperature, then adjust the setting upwards or downwards as required. Usually, a temperature of 41°F (5°C) is recommended for items stored in a refrigerator. To check the temperature, place a thermometer in a glass of water positioned in the center of the cabinet for 12 hours. An average temperature of 41°F should be found in the center of the cabinet.

### Freezer section

Always maintain a correct storage temperature.

The thermostat button can be set from **1** (min.) to **7** (max.). A temperature of 0°F (-18°C) is recommended for items stored in a freezer. (Maintaining a temperature lower than this consumes additional energy.) The temperature in the freezer is displayed on the thermometer.

- The control lamp lights green when the power supply is connected correctly.
- The control lamp lights yellow when Super Freeze is activated.
- The indicator lamp lights red and the acoustic alarm sounds if the temperature in the freezer is too high. To switch off the acoustic alarm, set the freeze button to **O** (see fig. 12). The indicator lamp continues to light red as long as the temperature in the freezer remains too high.

When starting the freezer for the first time, switch off the acoustic alarm by setting the freeze button to **O**. Once the recommended temperature (0°F, or -18°C) has been achieved in the freezer, set the freeze button to the **▲** symbol. This will allow the acoustic alarm to sound if the temperature in the freezer becomes too high.

It is normal that the indicator lamp lights red when the freezer is started for the first time. It will also occasionally light red when large quantities of fresh material are put in the freezer simultaneously.

**Glass shelves**

The shelves are made of tempered glass and can be repositioned within the cabinet. To move the shelves, the door must be opened 90°. To remove a shelf, pull it forwards and lower it. The shelf can then be removed and placed in the desired position. From the top and downwards.

**Storage boxes**

The storage boxes can either be placed in the door or on the glass shelves. Their tight-fitting lids prevent the products stored in them from drying out and saves the need for further packaging.

**Bottle rack**

The bottle rack is ideal for both large and small bottles.

**Bins**

The shelf above the bins functions as a lid, maintaining humidity and preventing the items stored in the bins from drying out.

**Glass shelf with slide damper**

The slide damper above the crisper bins allows the temperature and humidity in the bins to be regulated.

Opening the damper reduces the temperature and humidity.

Closing the damper increases the temperature and humidity.

**Shelves in the door**

The shelves in the door are practically positioned with the box shelf at the top and door shelves at the bottom. They provide ample space for storing large and small items.

## Defrosting

### Automatic defrosting of refrigerator section

The refrigerator is defrosted automatically. Defrost water runs through a pipe and is collected in a tray above the compressor where the heat generated by the compressor causes it to evaporate. The defrost water tray should be cleaned at intervals.

### Defrosting the freezer

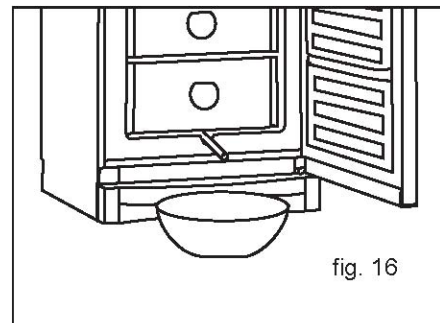
The items stored and the humidity of the air gradually cause frost and ice to form in the freezer. A thin layer of frost or ice does not affect freezer performance, but the thicker the layer, the higher the energy consumption. Loose frost can be removed using a plastic or wooden scraper.

*Never use a knife or other sharp implement that might damage the inside of the freezer.*

When the layer of frost and ice exceeds 1/4 inch, the freezer should be completely defrosted.

Proceed as follows:

1. Switch the freezer off.
2. Pull out the drain spout at the bottom of the cabinet and place a bowl under it to collect defrost water (fig. 16). If the spout is frozen in place, lay a cloth which has been soaked in hot water over it for a few minutes.
3. Remove the items.
4. Place a bowl of hot (but not boiling) water in the freezer.
5. To prevent the floor from becoming wet during defrosting, check progress from time to time and lay towels around the bowl on the floor to protect against ice and splashes. When all the frost and ice have melted, clean the inside of the cabinet with a mild detergent solution. Dry the freezer with a soft cloth.
6. Restart the freezer.



## Cleaning and Maintenance

### Cleaning

Disconnect the power supply before cleaning the inside of the cabinet.

The cabinet is best cleaned using warm water (max. 150°F) with a little mild detergent. Never use cleaning agents that scour. Use a soft cloth. Rinse with clean water and dry thoroughly. It is important to prevent water from entering the control panel.

The defrost water channel, in which condensation from the evaporator runs, is located on the rear wall of the cabinet and must be kept clean. Add a few drops of disinfectant to the defrost water drain a couple of times a year, and clean the drain using a pipe cleaner or the like. Never use sharp or pointed implements.

The sealing strip around the doors must be cleaned regularly to prevent discoloration and prolong service life. Use clean water. After cleaning the sealing strip, check that it continues to provide a tight seal.

Dust collecting on the compressor and in the compressor compartment is best removed using a vacuum cleaner. It is possible to clean beneath the appliance by removing the kick plate.

Stainless steel or aluminum doors are best cleaned using a soft cloth with a spray made for cleaning metallic surfaces. Various suitable products are available from most household appliance distributors.

If the appliance is not to be used for any length of time, switch it off, empty it, clean the cabinet and fittings, and leave the doors slightly open to allow air circulation and prevent smells.

### Replacing the light bulb

Unscrew the bulb without removing the shade.  
Bulbs with an output of more than 12 W must not be used.

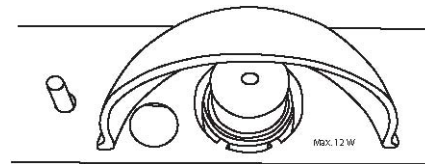


fig. 17

## Disposal

Environmental regulations on disposal must also be observed. When disposing of the appliance you should contact your local authority technical department who will inform you of how collection and recycling of such units take place in your area. By ensuring that this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. Disposal must be carried out in accordance with local environmental regulations for waste disposal.

For more detailed information about treatment, recovery and recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

# WARRANTY INFORMATION

## WARRANTY POLICY

Yamato Scientific America warrants, from the date of shipment from warehouse in Cincinnati, Ohio, U.S.A., for a period of one (1) year. All products, parts and materials shall be free of defects in material and workmanship under normal use consistent with the product instructions. This product warranty does not apply to products purchased from unauthorized resellers/distributors.

Yamato reserves the right to inspect the product under claim before having an obligation to repair or replace the defective unit covered by this warranty. All costs of shipping to Yamato for inspection shall be borne solely by the purchaser. Products repaired or replaced under the terms of the warranty may be refurbished or new product will be provided at the discretion of Yamato.

### **Warranty Conditions**

This warranty shall have force and effect only if all items are used with proper circuits, voltages, and frequencies and the operation thereof is in accordance with instructions furnished by the manufacturer.

This warranty shall not extend to such parts as refrigerants, finishes, belts, and dryers.

This warranty shall not extend to ordinary wear and tear, or ordinary refrigeration service and refrigeration adjustments, unless specifically included in the equipment purchase contract.

This warranty does not apply to equipment or parts which fail because of abuse, accident, alteration, misuse, erosion, improper installation, or improper replacement of a repaired item.

The buyer assumes all risks for results obtained from these products, whether used alone or in combination with other items. It is expressly understood that we are not responsible and will not be held liable for damage and/or injury caused using our products.

# WARRANTY INFORMATION

## WARRANTY POLICY CONTINUED

### Product Return Policy

If you are not satisfied with your purchase and wish to make a return, contact our customer service to inquire about a Return of Merchandise Authorization Number (RMA). Merchandise returned without an RMA number will not be accepted and will be returned to the sender. Return requests must be made within 15 days of the customer's receipt of the merchandise.

All returns must be unused and in unopened original packaging and include all items and manuals originally shipped.

The purchaser is responsible for the shipping cost of return shipment. Insurance on the return shipment is required. Damage or loss of merchandise during shipping is the responsibility of the sender. Returned shipments that arrive damaged will be returned to the sender, and credit will not be rendered.

All returned products, parts and materials are subject to a 25% restocking fee. Shipping and handling cost are non-refundable. All retrofitted, customized and special order item sales are final and non-returnable.

### In Case of Request for Repair

If the failure occurs, stop the operation, turn OFF the power switch, and unplug the power plug. Please contact the sales agency that this unit was purchased, or Yamato Scientific's sales office.

### < Check following items before contact >

- ◆ Model Name of Product
- ◆ Serial Number
- ◆ Purchase Date
- ◆ Issue (as detailed as possible)

### Responsibility

Please follow instructions in this document when using this unit. Yamato Scientific has no responsibility for accidents or breakdown of device due to failure to comply. Never conduct what this document forbids as unexpected accidents or breakdown may result.

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