

***In order to provide the best service, ATOSA  
Please clean the filter frequently!  
Requests that please register your warranty online  
Please do not overload unit!  
At [www.atosausa.com](http://www.atosausa.com)  
For any service issues, please kindly contact us at  
Email: [warranty@atosausa.com](mailto:warranty@atosausa.com)  
Or Toll Free: +1-800-683-8660***

## **Operation Instruction for Display Cabinet**



Please read the user's manual before you use this product.  
If you request unnecessary services, you may waste money.

## Contents

|   |    |
|---|----|
| Precaution .....                        | 2  |
| Transportation and handling .....       | 4  |
| Installation and operation .....        | 4  |
| Maintenance .....                       | 5  |
| Structure diagram .....                 | 7  |
| Troubleshooting .....                   | 8  |
| Circuit diagram .....                   | 9  |
| Setting of the digital controller ..... | 10 |
| Major technical parameters .....        | 12 |
| TERMS AND CONDITIONS: .....             | 13 |

## **Precaution**

- 1 Please read the manual carefully before using the cabinet. For any doubt, please contact our company.
- 2 This series of products are mainly applicable to refrigeration and display cakes and relevant food. During normal operation, the temperature inside the cabinet is 35.6 ~ 53.6°F (for DSRC series and DSRS series). Do not use this equipment for other purposes in case of serious accidents.
- 3 The equipment is suitable to be placed in supermarket, cake store and hotels.
- 4 The equipment shall be put at dry place with good ventilation. Don't put it near any heat source or dust. Don't place it directly under the sunshine.
- 5 Put the equipment on a flat and solid place. The distance from the wall or other objects shall not be less than 10cm.
- 6 It is a kind of electrical equipment. Please pay attention to the safety.
  - Independently single-phase three-pole socket shall be used. The earth wire port (E) of the socket shall be reliably grounded.
  - The power supply shall be 115V/60Hz. Otherwise, power supply stabilizer with capacity matching with the equipment power shall be installed to ensure smooth operation of the equipment.
  - The power cord of the equipment shall not be directly placed in the aisle. Avoid heavy weight and sharp objects.
  - Do not operate the equipment with wet or naked hand or foot.
  - Please cut off the power supply if the equipment is not to be used for long time.
  - Please cut off the power supply before installation or dismantling the parts.
  - Never flush the equipment directly with water; otherwise the parts will get wet and current leakage might be resulted.
  - In case of electrical or refrigeration failure, service agent authorized by the manufacturer or professional maintenance staff shall be responsible for the maintenance work in case of danger or expanded failure.
- 7 Do not store explosive substances such as aerosol cans with a flammable propellant inside the appliance.
- 8 **WARNING** – Keep clear of obstruction all ventilation openings in

the appliance enclosure or in the structure for building-in.

- 9 WARNING – Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
- 10 WARNING – Do not damage the refrigerant circuit.
- 11 WARNING – Do not use electrical appliances inside the food storage compartments of the appliance, unless they are of the type recommended by the manufacturer.
- 12 Please according to local regulations regarding disposal of the appliance for its flammable blowing gas. Before you scrap the appliance, please take off the doors to prevent children trapped.



Warning: Risk of fire / flammable materials

CAUTION: RISK OF FIRE AND EXPLOSION WITH  
FLAMMABLE REFRIGERANT R290.

- 13 If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.
- 14 The maximum loading of every shelf is 22 lb (for DSRC series and DSRS series).
- 15 This appliance can be used by children aged from 8 years old and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- 16 Children shall not play with the appliance.
- 17 Cleaning and user maintenance shall not be made by children

without supervision.

### Transportation and handling

- 1 Special package box will be used for the equipment for delivery. Keep the equipment erect during transportation and handling.
- 2 Please carefully check the package box after receiving the product to ensure that the equipment is not damaged during transportation.
- 3 When removing the package box, carefully move away the wood plate in case of scratch the equipment.
- 4 In case that the equipment tilts during the transportation and handling, the lubricant in the compressor may flow into the cooling loop. Therefore, in order to ensure the lubricant flows back to the compressor, it is necessary to keep the equipment erect for 24 hours before it starts to work.
- 5 Do not throw away the package removed randomly. Please dispose as per relevant local rules and regulations.

### Installation and operation

- 1 Adjust the height of the four adjustable feet to the right position , and adjust the foot slowly until the level. After the equipment is installed, please carefully clean parts in the cabinet .Then wipe clean the bottom cover plate and shelf, put them on corresponding place, close the cabinet door and get it connected to the power supply.
- 2 Turn on the lighting switch, check light on each shelf is normal.
- 3 The controller is delivered with default parameters. Do not alter the parameters casually except for special need.
- 4 When running for the first time, it should run without load for 2 hours to ensure the refrigeration system is working normally. Only when the temperature within the cabinet is reduced within the indicated scope can the food be put into the cabinet.
- 5 Don't put too much over-hot food in the cabinet to prevent instantaneous high load. The food shall not block the air outlet and air inlet. Nor shall it be close to side glass. Otherwise it will lead to condensation.
- 6 To save electricity, the heating wire switch is defaulted to be closed. If the environment humidity is large, and there is

condensation on the front glass, please open it for defogging.

- 7 To keep the taste of the food, please have the equipment running 24 hours a day.
- 8 During the frosting process, the temperature of the cabinet may rise slightly. When the frosting end, it will return to normal .

### Maintenance

- 1 In order to ensure food health and quality, please ensure to that the equipment is cleaned frequently.
- 2 Before cleaning, plug off the power supply.
- 3 Use neutral detergent and mild water to clean the cabinet. To get rid of the residual of the detergent, please use clean cloth to wipe repeatedly.
- 4 Do not use any organize solvent (gasoline or alcohol etc.) to clean the equipment. Parts inside the equipment may be damaged. Besides, explosive gas may be generated.
- 5 Wet towel may be used to wipe the equipment surface. However, do not have it contact with water directly.
- 6 After cleaning the equipment, please ensure it is completely dried before using.
- 7 Handle with care. Unplug the wall socket first. Never tilt it over 45 degree during handling.
- 8 Sufficient space .Keep the rear unit no less than 10cm (4inch) from wall or other elements which will interfere with air flow.
- 9 Well environment. Always locate the refrigerator in a location with Ambient Temperature 16-32°C/60.8-89.6F The refrigerator may not work properly if the temperature is higher or lower than this range. For the first time use, wait for 2 hours before starting.
- 10 Far from heat source. Never place the refrigerator in direct sunlight. Do not locate near heat source that might affect performance
- 11 Do not load. Do not store materials or product on top of unit.
- 12 Altering Unit. Do not drill, cut or alter the unit as this will terminate warranty.
- 13 Stable location. Unpack and locate the refrigerator on a flat and solid place. It is better to service the refrigerator over a counter.
- 14 Exclusive power socket. Normally, the power supply should be 115V/60Hz single phase AC with exclusive single phase three

pin receptacle

- 15 Do not share sockets. Never let the refrigerator share the common socket with other appliance. This might overload circuit causing fire or terminate warranty
- 16 Protect cables. Never break, alter, or damage the cables which might result in fire or damage.
- 17 No water splashes. Never splash water directly to the refrigerator. There is a risk of fire or electric shock.
- 18 Prevent from flammables and explosives. Never put any flammable or explosive products inside the refrigerator such as ether, gasoline alcohol, adhesive and explosive. Never put dangerous product nearby the refrigerator.
- 19 Flammable materials. Do not use paint or other flammable materials that might cause fire or damage.
- 20 Power failure. If power is interrupted to unit, please turn off and re-start in five (5) minutes.
- 21 Medical application. Never put medicine into refrigerator. This unit is designed exclusively for merchandising food. Do not use to store medicine or non-food products.
- 22 Rack. The rack is adjustable. Please follow instructions for adjustment.
  - Take out the rack.
  - Move the rack support on suitable height.
  - Place rack on the support.
  - To get an even temperature between top and bottom, please adjust to equal heights between each rack

## 23 Cautions

Shorten the door opening time and reduced opening frequency will help maintain consistent temperature.

Never block the air suction and outlet. Keep air circulation and refrigeration capability.

Do not overload unit or this will effect cooling efficiency.

Adjust the height of rack for proper food storage.

Food should be room temperature before loading in unit

This unit is designed for indoor applications only

Only authorized technicians approved by ATOSA can make repairs.

Never touch compressor to avoid injury.

This equipment is intended for the storage and display of items that are not potentially-hazardous such as bottle, can, securely packaged products.

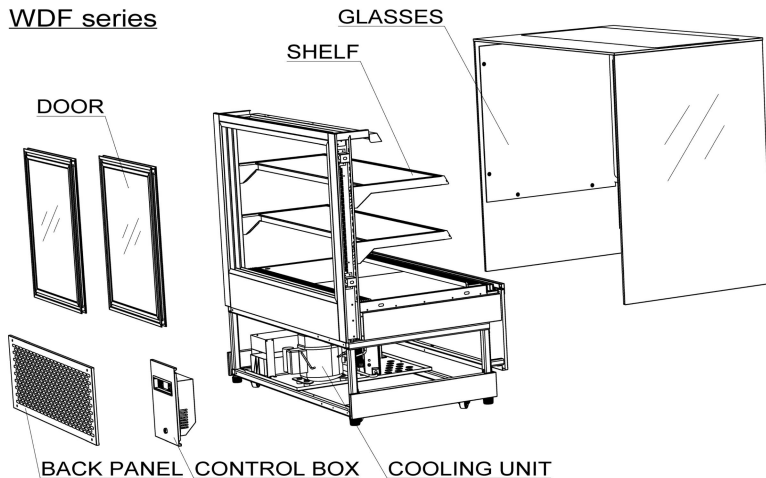
24 Shut down refrigerator for extended time.

Take out all food and unplug the wall socket. Clean interior and exterior of the refrigerator thoroughly and open the door to sufficiently air dry. Caution with glass as it can be easily broken.

25 Note: The following conditions might exist during normal operation: The sound of water is heard when the refrigerator is working. It is a normal operation that the coolant is circulating in the system. In wet season, condensation might be found on the exterior of the refrigerator. This is not an issue, this is caused by high humidity. Simply use cloth to wipe it down.

26 This appliance is not intended for use by persons (including children) with reduced physical sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

Structure diagram



Note: refer to the real object in case of change of the product



structure.

## Troubleshooting

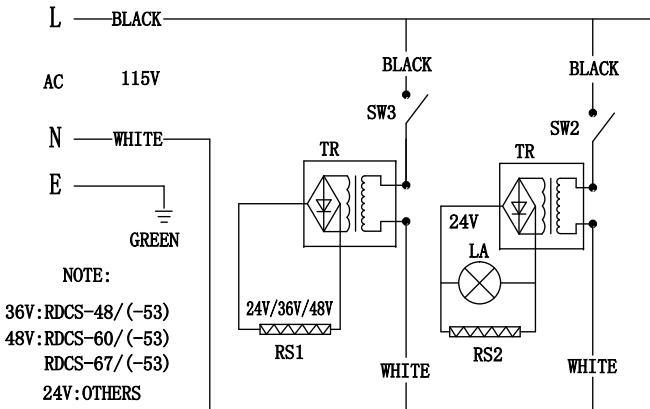
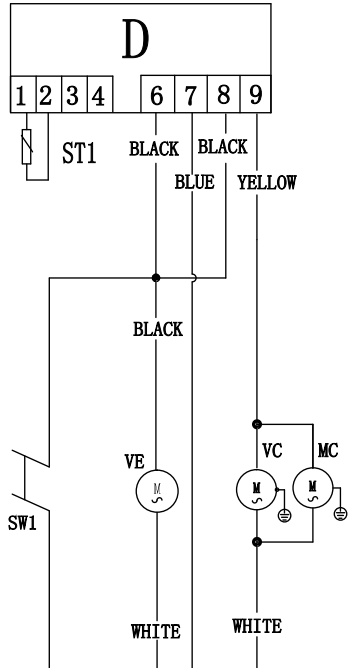
| Troubles                      | Causes  | Solutions  |
|-------------------------------|---|--|
| No power supply input         | Poor socket contact   | Repair or replace the socket   |
|                               | Input control wire failure  | Repair the failure point   |
| High cabinet temperature      | Near a heat source  | Move the counter or the heat source                                      |
|                               | Frost block   | Defrost manually   |
|                               | Over-inventory in the cabinet which blocks the air outlet and inlet | Take out part of the goods, move them away from the air outlet and inlet |
|                               | Refrigerant leaking   | Check the leak and refill refrigerant                                    |
|                               | Condenser contaminated  | Clean the dust-hood  |
|                               | Fan failure   | Repair or replace the fan  |
|                               | Temperature controller failure                                      | Replace the temperature controller                                       |
|                               | Temperature control probe touch the bottom                          | Replace the position of temperature control probe                        |
| Too much noise                | The product is not put smoothly                                     | Adjust the feet  |
|                               | The set screws of fans or compressor are loose                      | Tighten the screws   |
| The compressor is not running | The voltage is beyond the permitted range                           | Use a voltage regulator, and connect with the appropriate power supply   |
|                               | Temperature controller failure                                      | Replace the temperature controller                                       |
|                               | The compressor damage   | Replace the compressor   |
| The light failure             | Switch off or failure   | Turn on the switch   |
|                               | Wire connection is not reliable                                     | Check the plug point   |
|                               | The light power supply damaged                                      | Replace the light power supply   |
|                               | light damaged   | Replace the light  |

Note:

1. For simple troubleshooting, please be sure to disconnect the power supply.
2. For the maintenance and replacement work, please call for professionals or the maintenance staff from the refrigeration factory of the manufacturer.
3. If the above methods could not solve the problem, please call for professionals.

### Circuit diagram

|      |                             |        |      |                     |             |
|------|-----------------------------|--------|------|---------------------|-------------|
| TR   | ACDC ADAPTE FOR FRONT GLASS | 24V    | SW1  | COMPRESSOR SWITCH   |             |
| MC   | COMPRESSOR                  |        | SW2  | LIGHT SWITCH        |             |
| TR   | ACDC ADAPTE                 | 24V    | SW3  | DEFOG SWITCH        |             |
| LA   | LED LIGHT                   |        | RS1  | HEATING WIRE        | FRONT GLASS |
| VE   | EVAPORATOR FAN MOTOR        |        | RS2  | HEATING WIRE        | DOORFRAME   |
| D    | MICROCOMPUTER CONTROLLER    | XR02CX | VC   | CONDENSER FAN MOTOR |             |
|      |                             |        | ST1  | ROOM PROBLE         |             |
| CODE | NAME                        | REMARK | CODE | NAME                | REMARK      |



NOTE:

36V:RDGS-48/(-53)  
 48V:RDGS-60/(-53)  
 RDGS-67/(-53)  
 24V:OTHERS

Note: the part in dotted line box is not applicable to some types.  
 Please refer to the real object for the wiring circuit.

## Setting of the digital controller



### 1. How to change the set point:

Push the SET key for more than 2 seconds to change the Set point value. The value of the set point will be displayed and the °C or °F LED starts blinking. To change the set value push the Δ or ▽ button within 10s. To memorise the new set point value push the SET key again or wait 10s.

### 2. To change the parameter's value operate as follows:

Enter the programming mode by pressing the SET+▽ keys for 3s (°C LED starts blinking). Select the required parameter.

Press the set key to display its value. Use Δ or ▽ to change its value. Press set to store the new value and move to the following parameter.

TO EXIT : press SET+Δ or wait 15s without pressing parameter.

NOTE: the set value stored even when the procedure is exited by waiting the time-out to expire.

3. Frequently used parameter HY: Intervention differential for set point  
id: interval between defrost cycles (hours)

Md: Maximum length for defrost (minutes)

4. Push the ❄️ key for more than 2 second and a manual defrost will start.

| LED | Mode     | Meaning                                       |
|-----|----------|---|
| ❄️  | on       | Compressor enabled                            |
|     | flashing | Anti-short cycle delay enabled (AC parameter) |
| ❄️💧 | on       | Defrost in progress                           |
|     | flashing | Dripping in progress                          |
| 🌀   | on       | Fans output enabled                           |
|     | flashing | Fans delay after defrost                      |

|    |          |                  |
|----|----------|------------------|
| °C | on       | Measurement unit |
|    | flashing | Programming mode |
| °F | on       | Measurement unit |
|    | flashing | Programming mode |

Alarm signalling .

| Mess. | Cause                     | Outputs                                  |
|-------|---------------------------|--|
| "P1"  | Room probe failure        | Compressor output according to "Cy"e"Cn" |
| "P2"  | Evaporator probe failure  | Defrost end is timed                     |
| "HA"  | Maximum temperature alarm | Outputs unchanged                        |
| "LA"  | Minimum temperature alarm | Outputs unchanged                        |
| "EA"  | External alarm            | Outputs unchanged                        |
| "CA"  | Serious external alarm    | All outputs OFF                          |
| "dA"  | Door Open                 | Compressor and fans restarts             |

2 The setting values for the products as follows:

| LABLE | DESCRIPTION                          | VALUES |
|-------|--------------------------------------|--------|
| SET   | SET POINT                            | 35°F   |
| Hy    | DIFFERENTIAL                         | 3°F    |
| OD    | OUT PUT ACTIVATION DELAY AT START UP | 1 min  |
| AC    | ANTI-SHORT CYCLE DELAY               | 5 min  |
| CH    | KIND OF ACTION                       | CL     |
| RE    | RESOLUTION                           | IN     |
| ID    | INTERVAL BETWEEN DEF CYCLES          | 6h     |
| MD    | MAX LENGTH FOR DEF                   | 15 min |

## Major technical parameters

These products are designed with climate type 3;

These products are designed with electric shock protection type I

| Model                    | storage temperature | Power supply | Input power | Refrige rant | Volume | Size L×W×H        |
|--------------------------|---------------------|--------------|-------------|--------------|--------|-------------------|
|                          | (°F)                |              |             | R290         |        |                   |
|                          |                     |              |             |              |        |                   |
| Right-angle Display Case |                     |              |             |              |        |                   |
| RDCS-35                  | 32~46               | 115V /60Hz   | 480         | 4. 2oz       | 11. 5  | 35. 4×29. 5×47. 8 |
| RDCS-48                  |                     |              | 560         | 4. 6oz       | 15. 7  | 47. 2×29. 5×47. 8 |
| RDCS-60                  |                     |              | 800         | 4. 9oz       | 19. 8  | 59×29. 5×47. 8    |
| RDCS-67                  |                     |              | 850         | 5. 1oz       | 22. 5  | 66. 9×29. 5×47. 8 |
| RDCS-35-53               |                     |              | 480         | 4. 2oz       | 14. 3  | 35. 4×29. 5×53. 1 |
| RDCS-48-53               |                     |              | 750         | 4. 6oz       | 19. 4  | 47. 2×29. 5×53. 1 |
| RDCS-60-53               |                     |              | 800         | 4. 9oz       | 24. 4  | 59×29. 5×53. 1    |
| RDCS-67-53               |                     |              | 850         | 5. 1oz       | 27. 9  | 66. 9×29. 5×53. 1 |
| Single Arc Display Case  |                     |              |             |              |        |                   |
| RDCC-35                  | 32~46               | 115V /60Hz   | 480         | 4. 2oz       | 11. 7  | 35. 4×29. 5×53. 1 |
| RDCC-48                  |                     |              | 560         | 4. 6oz       | 15. 8  | 47. 2×29. 5×53. 1 |
| RDCC-60                  |                     |              | 800         | 4. 9oz       | 20     | 59×29. 5×53. 1    |
| RDCC-67                  |                     |              | 850         | 5. 1oz       | 22. 7  | 66. 9×29. 5×53. 1 |

## TERMS AND CONDITIONS:

### **Refrigeration**

#### **2 YEAR WARRANTY**

All claims for parts or labor must be made directly through Atosa. All claims must include: model number of the unit, the serial number, proof of purchase, date of installation, and all pertinent information supporting the alleged defect. In case of compressor replacement under warranty, either compressor or compressor tag must be returned to Atosa along with above listed information.

***Failure to comply with warranty policies will result in voiding claims.***

#### **Two Year Parts & Labor Warranty**

Atosa warrants all new refrigerated components, such as the cabinet and all parts, to be free from defects in materials or workmanship. Atosa's obligation under this warranty is limited to a period of two (2) years from the date of original installation or 27 months after shipment date from Atosa, whichever occurs first. All parts covered under this warranty that are defective within two (2) years of original installation or twenty seven (27) months after shipment date from manufacturer, whichever occurs first, are limited to repair or replacement (including labor charges, of defective parts or assemblies). The labor warranty shall include standard straight time labor charges only and reasonable travel time, as determined by Atosa.

#### **Additional Three Year Compressor Warranty**

In addition to the two (2) year warranty stated above, Atosa

warrants its sealed compressor to be free from defects in both material and workmanship under normal and proper use and maintenance service for a period of three (3) additional years from the date of original installation, but not to exceed five (5) years. Compressors that have been determined to be defective from Atosa within this extended period will be either repaired or replaced with a compressor or compressor parts of similar design and capacity according to Atosa's discretion. The three (3) year extended compressor warranty applies only to sealed parts of the compressor and does not apply to any other parts or components. This includes, the cabinet, paint finish, temperature control, refrigerant, metering device, motor starting equipment, fan assembly, and other electrical components, etc.

### **R290 Compressor Warranty**

The five-year compressor warranty detailed above will be void if the following procedure is not carefully adhered to:

1. This system contains R290 refrigerant and lubricant. The lubricant has rapid moisture absorbing qualities.
2. Drier replacement is very important and must be changed when a system is opened for servicing.
3. Micron level vacuums must be achieved to insure low moisture levels in the system.
4. Compressor must be obtained through Atosa, unless otherwise specified in writing, through Atosa's warranty department.

### **What is Not Covered by This Warranty**

Atosa's sole obligation under this warranty is limited to either repair or replacement of parts, subject to the additional limitations

below. This warranty neither assumes nor authorizes any person to assume obligations other than those expressly covered by this warranty.

NO CONSEQUENTIAL DAMAGES: ATOSA IS NOT RESPONSIBLE FOR ECONOMIC LOSS; PROFIT LOSS; OR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOSSES, OR DAMAGES ARISING FROM FOOD OR PRODUCT SPOILAGE, REGARDLESS OF WHETHER OR NOT THEY RESULT FROM REFRIGERATION FAILURE.

**WARRANTY IS NOT TRANSFERABLE:** This warranty is not assignable and applies only in favor of the original purchaser/user to whom delivered. ANY SUCH ASSIGNMENT OR TRANSFER SHALL VOID THE WARRANTIES HEREIN AND SHALL VOID ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR LABOR COVERAGE FOR COMPONENT FAILURE OR OTHER THE WARRANTY PACKET PROVIDED WITH THE UNIT.

**ALTERATION, NEGLIGENCE, ABUSE, MISUSE, ACCIDENT, DAMAGE DURING TRANSIT OR INSTALLATION, FIRE, FOOD, OR ACTS OF GOD:** Atosa is not responsible for the repair or replacement of any parts that are determined to have been subjected after the date of manufacture to alteration, neglect, abuse, misuse, accident, damage during transit or installation, fire, flood, or act of God.

**IMPROPER ELECTRICAL CONNECTIONS:** Atosa IS NOT RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF FAILED OR DAMAGED COMPONENTS RESULTING FROM ELECTRICAL POWER FAILURE, THE USE OF EXTENSION



CORDS, LOW VOLTAGE, OR VOLTAGE DROPS TO THE UNIT. THE TWO (2) YEAR PARTS & LABOR WARRANTY AND THE ADDITIONAL THREE (3) YEAR COMPRESSOR WARRANTY ARE AS DESCRIBED ABOVE. THESE WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, INCLUDING IMPLIED WARRANTY AND MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

**Outside U.S. and Canada:** This warranty does not apply to areas outside the continent of the United States. Atosa is not responsible for any warranty claims made on products sold or used in such areas.

**\*In some cases, a 25% restocking fee may be charged to a buyer for returned items.\* Atosa may at any time modify our equipment in order to provide and insure a superior product. Change is sometimes necessary to keep up with today's high standards in our industry. Atosa reserves the final interpretation of all public materials.**





R10001000481

version number 20220903

