

Introduction

2001 Arctica SxS models are being introduced in response to the requirement for more energy-efficient refrigerators by mid year 2001, along with having feature and operation enhancements.

One of the innovative features is the “CustomCool™” bin. The system will provide optimum rapid cooling (ExpressChill™), and safely thaw frozen foods (ExpressThaw™).

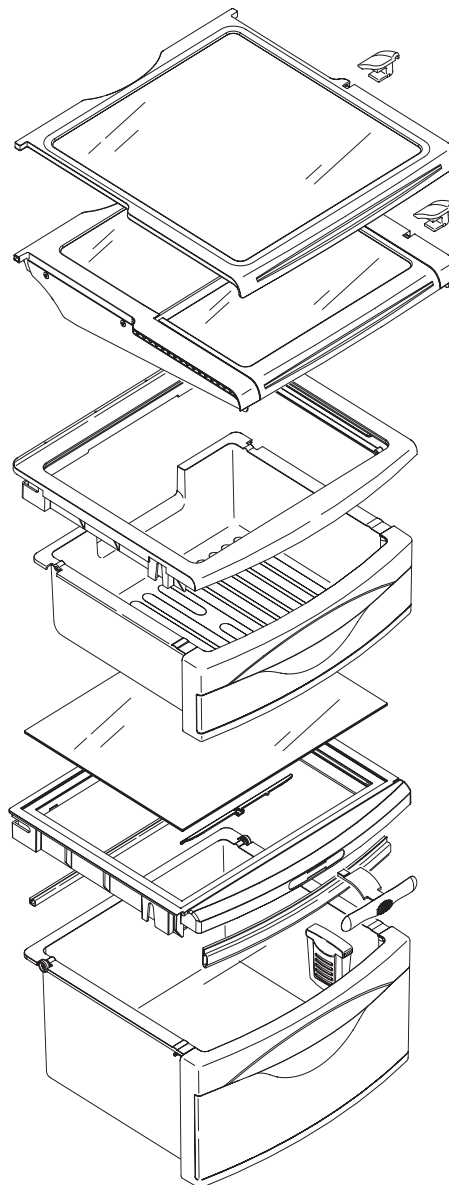
The main system components consist of two air dampers, a DC exhaust fan, reed switch, control board with buzzer, 3 color light diodes, a heater, and a thermistor. These components provide feedback to the main refrigerator processor board, and control the temperature and air flow in the “CustomCool™” pan at the bottom of the fresh food compartment. A tray, which has a metal surface on one side is provided to place the foods on for chill or thaw.

The consumer sets the temperature from the touchpad controls at the top of the fresh food compartment, and selects mode of operation, and length of cycle. Air circulates from the freezer and is heated or maintained by the thermistor and control settings.

Three selection choices are provided for the consumer:

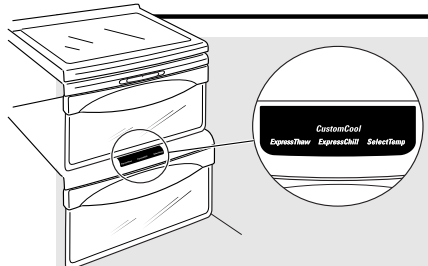
- **ExpressThaw™** Selection in lbs.
(maintains 41°)
.5 lbs.(4 hours)
1.5 lbs.(8 hours)
3.0 lbs.(12 hours)
- **ExpressChill™** Selection in 15 minute increments
15 Minutes
30 Minutes
45 Minutes
- **SelectTemp™** Selection in preset temperatures
Citrus (43°F) (Heater/Fan on to maintain 43°)
Produce (34°F)(Double damper open, no fan)
Meat (30°F) (Double damper open, no fan)

The CustomCool™ pan is tightly sealed and has a tray which when placed in the metal plate facing down position, helps provide the chill, and in the metal plate up position helps to provide thaw. It also provides a method of catching liquid when thawing and defrosting. The seals in their original position are extremely important in maintaining fresh food and feature temperatures.



Customer Use and Care

About CustomCool®

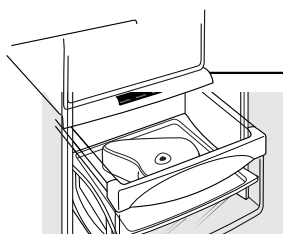


How it Works

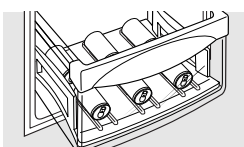
The *CustomCool™* feature is a system of dampers, a fan, a temperature thermistor, and a heater. Depending on the function selected, a combination of these will be used to quickly chill items, thaw items or hold the pan at a specific temperature.

The pan is tightly sealed to prevent the pans temperature from causing temperature fluctuations in the rest of the refrigerator.

The controls for this pan are located at the top of the refrigerator with the temperature controls.



ExpressThaw®



ExpressChill®

How to Use

- 1 Empty the pan. Place the Chill/Thaw tray in the pan with the metal plate facing down to chill and store items, or with the metal plate facing up to thaw items. Place the items on the tray and close the pan completely.
- 2 Select the *ExpressThaw™*, *ExpressChill™* or *SelectTemp™* pad. The display and *SET* light will come on. Tap the pad until the light appears next to the desired setting. Use the chart to determine the best setting to use.
 - To stop a feature before it is finished, tap that features pad until no options are selected and the display is off.
 - If the pan is not closed completely, a beeping sound will be heard. It will stop once the pan is closed securely or the feature is turned off.

- During *ExpressThaw™* and *ExpressChill™*, the display on the controls will count down the time in the cycle.
- After the *ExpressThaw™* cycle is complete, the pan will reset to the *MEAT* setting (30° F) to help preserve thawed items until they are used.

NOTE: For food safety reasons, it is recommended that foods be wrapped in some sort of packaging when using *ExpressThaw™*. This will help contain meat juices.

CustomCool™ Chart



ExpressThaw

0.5 Lbs. (4 hours)

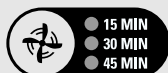
- Hamburger Patties (0.5 lb)

1.5 Lbs. (8 hours)

- Chicken Breasts (1.5 lbs)
- Ground Beef (1.5 lbs)
- Steak (1.5 lbs)

3.0 Lbs. (12 hours)

- Chicken Breasts (3.0 lbs)
- Ground Beef (3.0 lbs)
- Steak (3.0 lbs)



ExpressChill

15 Minutes

- 1 Can of Beverage (12 oz)
- 2 Small Juice Boxes (6-8 oz each)

30 Minutes

- 2-6 Cans of Beverage (12 oz each)
- 2 Plastic 20 oz Bottles of Beverage
- 4-6 Small Juice Boxes (6-8 oz each)
- 3 CapriSun™
- Wine (750 mL bottle)

45 Minutes

- 2L of Beverage
- 1/2 Gallon of Juice
- Jello 1 package



SelectTemp

Citrus Setting (43°F)

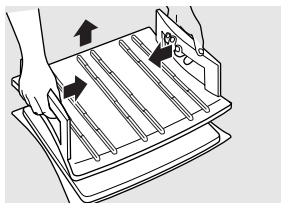
- Oranges, Lemons, Limes, Pineapple, Cantaloupe
- Beans, Cucumbers, Tomatoes, Peppers, Eggplant, Squash

Produce Setting (30°F)

- Strawberries, Raspberries, Kiwifruit, Pears, Cherries, Blackberries, Grapes, Plums, Nectarines, Apples
- Asparagus, Broccoli, Corn, Mushrooms, Spinach, Cauliflower, Kale, Green Onion, Beets, Onions

Meat Setting (30°F)

- Raw Meat, Fish and Poultry



*Disassembling the
Chill/Thaw tray*

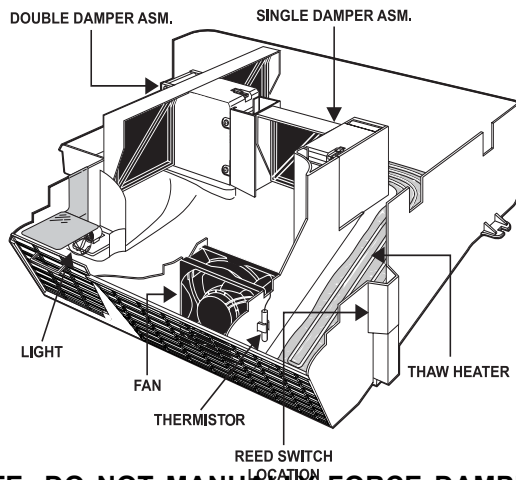
About the CustomCool™ Pan Rack and Tray

To clean the Chill/Thaw tray, disassemble the metal tray from the plastic stand by lightly pushing in on the handles of the plastic stand and removing the metal tray. Both the metal tray and the plastic stand are dishwasher safe.

To reassemble the tray, place the plastic stand upside down (handles on bottom) on a solid surface. Place the metal plate on top of the stand matching up the curved side of the plate with the curved side of the stand. Insert one side of the plate into the notches on the stand. Push in on the handle on the other side of the stand while pushing that end of the plate down and into place. You should hear the plate click into place.

Operation

Operation is initiated by the consumer when the selection is made using the touch control at the top of the fresh food section. The user will have placed the chill/thaw tray in the proper position, metal plate facing down for chill, and up for thaw, and pan closed. A reed switch is mounted on the right side of the pan to provide a completed circuit when the pan is tightly closed. Open reed switch initiates a “beep” from the processor located in the CustomCool™ pan assembly.



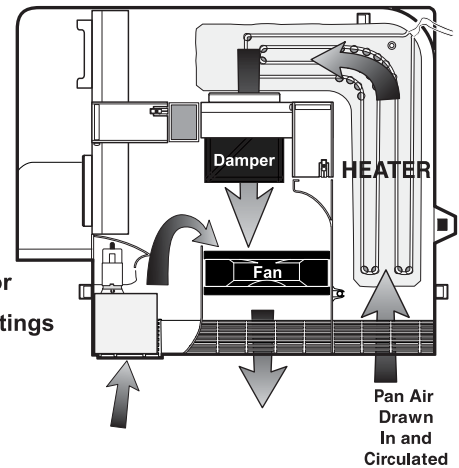
NOTE: DO NOT MANUALLY FORCE DAMPER DOORS OPEN, IT WILL DAMAGE THE ASSEMBLY

Based on users input one of the three selections is selected, with multiple inputs indexing to provide TIME, WEIGHT, or TEMPERATURE and countdown LED. One of three leds will light the selection portion of the touchpad to provide feedback and selection information to the user. The signal is then sent to the main processor and uses preset software parameters to provide DC inputs to the CustomCool™ processor board mounted in the cover assembly.

When the selection is made a thermistor located in the side of the lower cover sends temperature information (resistance) to the main processor. The processor software determines what combination of dampers or heater need to be used to achieve the desired setting. (See thermistor temp chart on page 8).

Airflow is directed from a diverter in the freezer side wall to provide cold air or drawn from fresh food compartment, and is circulated by a 12VDC fan in the front of the lower cover. When the thermistor is calling for warmer air the single damper motor is energized (12VDC) to open and the 30 watt strip heater is turned on.

Express Thaw™

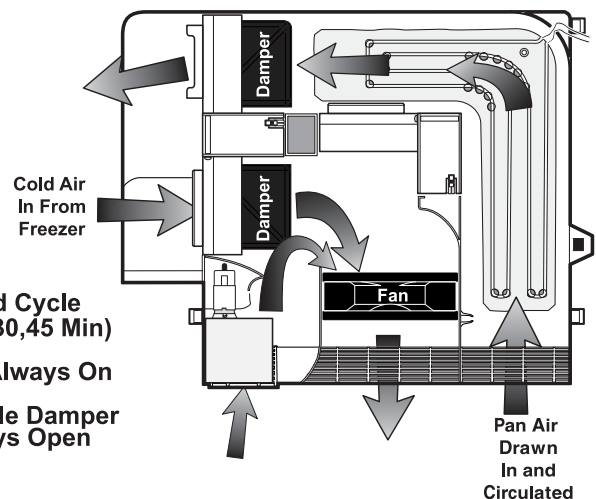


- Heater Cycles
- Single Damper Always Open
- Fan Always On
- Maintains 41° Using thermistor
- 4, 8 or 12 hr Settings

The warmed air is circulated through the pan to satisfy the temperature setting. Response to drastic temperature change is limited between two and ten minutes. The main control board located in the rear of the refrigerator will only respond to 8 degrees of temperature change per minute as determined by the resistance of the thermistor.

A double door damper 12VDC operates in the ExpressChill™ mode, and both sides open to allow cold air to be drawn in and circulated within the lower cover. The single damper door is also closed to prevent loss of cold air and it is returned through the other side of the diverter back to the freezer compartment. The double door is cycled open and shut to maintain the temperature selection selected by the user, based on thermistor resistance feedback to the main processor board.

Express Chill™

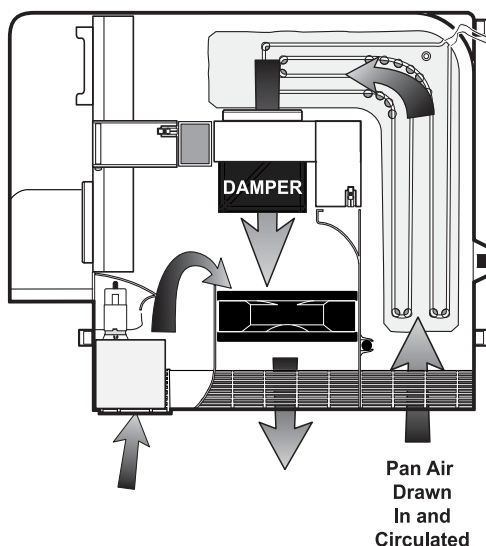


- Timed Cycle (15,30,45 Min)
- Fan Always On
- Double Damper Always Open

CustomCool™ feature has a third temperature preset selection which is SelectTemp™. It shows on the control panel as **Citrus** (43° F), **Produce** (34° F) and **Meat** (30° F). Note airflow, damper, and fan operation as described below.

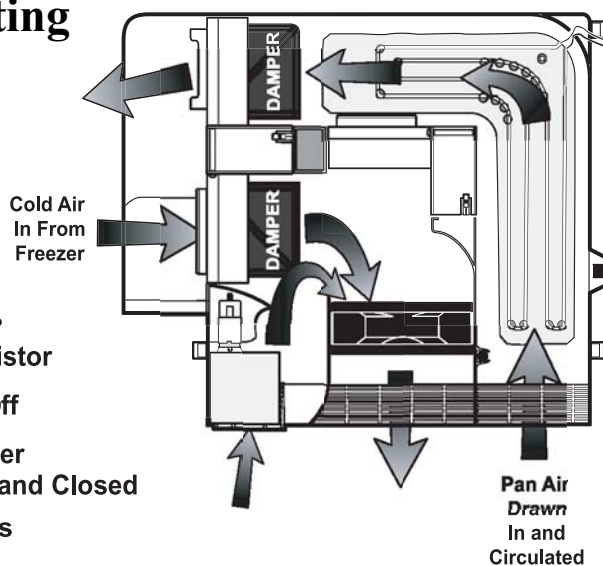
SelectTemp™-Citrus Setting

- Maintains 43° Using Thermistor
- Fan Always On
- Heater Cycles



SelectTemp™-Produce Setting

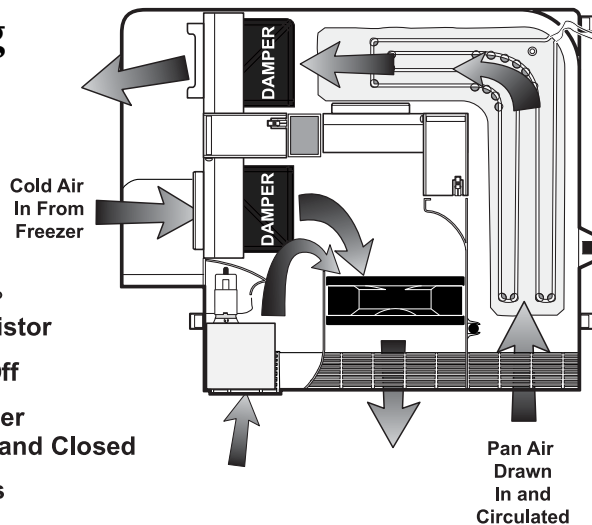
- Maintains 34° Using Thermistor
- Fan Always Off
- Double Damper Cycles Open and Closed
- Heater Cycles



SelectTemp™-Meat Setting

NOTE: After ExpressThaw™ cycle is complete, the pan will reset to the MEAT setting (30° F) to help preserve thawed items until they are used.

- Maintains 30° Using Thermistor
- Fan Always Off
- Double Damper Cycles Open and Closed
- Heater Cycles



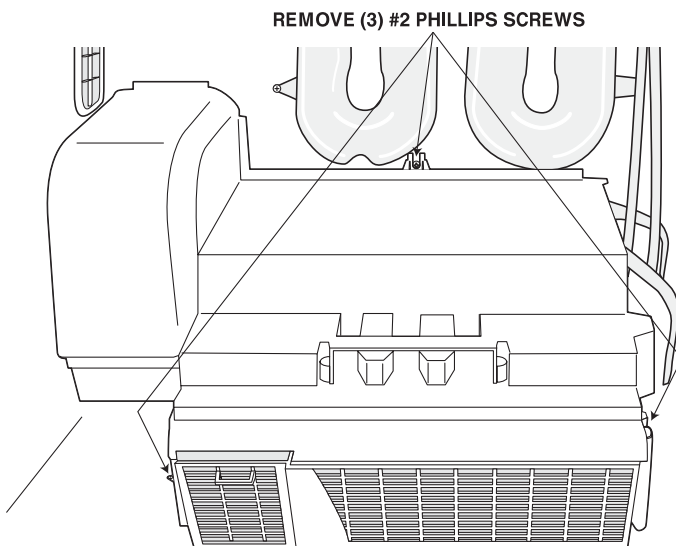
Mechanical Assembly and Disassembly

To Service complete CustomCool™ pan and Component access.

WARNING: MAKE SURE POWER IS DISCONNECTED!

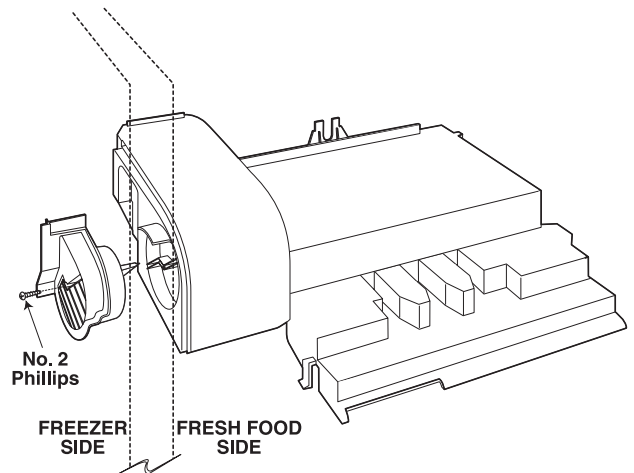
To Service Components:

1. Remove 1st and 2nd bin from bottom of fresh food section.
2. Lift up and out to remove the CustomCool™ front chill cover (WR17X10915).
3. Remove two screws in front of CustomCool™ lower cover (WR31X10006), two screws on either side of the pan, and one screw in the back of the housing.



4. Remove two screws holding chill water reservoir assembly to back of refrigerator, and plastic deflector cover.
5. In the freezer compartment lift up on freezer baskets to remove (no need to remove rails), to completely provide access to the lower air duct cover.
6. Push in on the plastic lower freezer air tower, and then push up to remove. It is attached by two tabs one located on the backside of the freezer and the other rest on the air diverter asm.

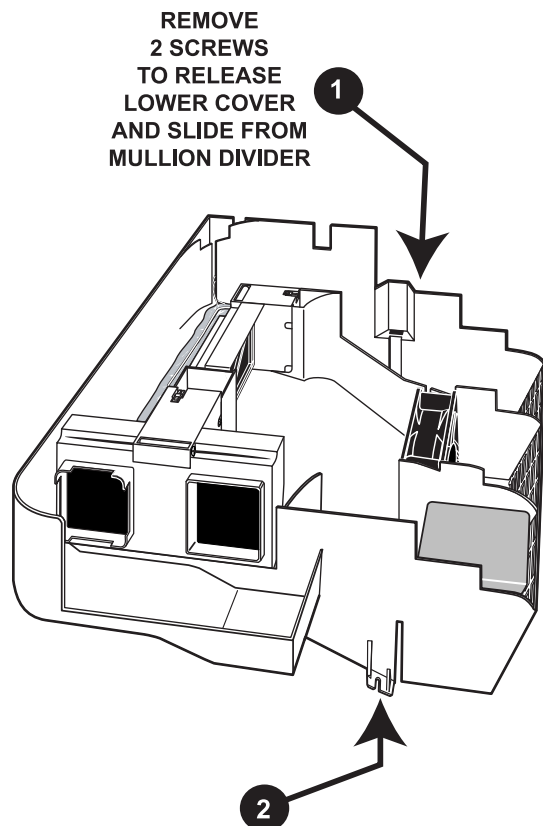
7. Remove the freezer grill mullion (must be removed prior to CustomCool™ service), (WR02X10829) from the freezer side, by inserting a #2 Phillips screwdriver into the center of the diverter and turning the screw counterclockwise. (See illustration below)



8. The CustomCool™ assembly is now free, slide assembly to the right to free from refrigerator wall. A large Styrofoam™ insert is located in the raised end of the upper cover housing, note position for replacement, it must be repositioned correctly to reassemble. The upper cover can be removed, components exposed.
9. Slots molded into the lower pan hold the fan, single damper assembly, and dual damper assembly. Pull up to release and push back into slot to reassemble.

NOTE: It is critical that all seals be replaced to maintain proper temperatures in the CustomCool™ pan and in the refrigerator.

Freezer grill mullion **MUST** be removed prior to removing mounting screws and sliding the CustomCool™ unit for access. The only way the top cover can be removed is to clear the Sytrofoam™ insulation. Two screws mount top cover to assembly and they are located in the front.



LOWER COVER TO LINER SCREWS

Several variations in the lighting components at the CustomCool™ bin have been used in limited numbers. You may encounter a version that has light tubes, colored diodes on the pan PC board, or a colored insert. Service is obvious on each system. The terms CustomCool™ has been referred to as QuickChill™ on some models.