



Cypress Vending Corp.

VENDING MACHINE

PRODUCT LOADING

NIBLY PRODUCT DELIVERY SYSTEM

Your Nibly Snacks vending machine has been designed to dispense a wide variety of snacks and drinks. The Nibly machine uses coils to vend product. Coils are a very effective way to vend product and are one of the most versatile methods of handling and dispensing items of different sizes and shapes, but proper setup and loading are required to get the most out of this delivery system.

Coils

Your Nibly machine has been shipped with a standard set of coils that are designed to carry the most popular categories and formats of snacks and drinks. These are the items listed in the Nibly Product Grid document found in the *Operations Manual*. There is a representation of each tray which shows a sample product and the configuration of each selection on the tray.

Product Grid:



The red circle above indicates a double 5 product selection which consists of one 5-count Left coil and one 5-count Right coil which turns the opposite direction to the Left coil. It is driven by a double motor.

Product Grid:



The red circle above shows a single 4-product selection which consists of one 4-count Left coil and a single motor to turn the coil.

The listings show the number of products each coil can carry. For instance, all of the drink coils can accept 4 drinks. We call this a 4-count coil or a 4-product coil. Each coil is further designated as a Left or Right coil. When you look at your machine you will notice that there are two types of selections - double selections in the top two trays and single selections everywhere else in the machine except for Selection 30 which is a double selection. Each double selection has a double motor and a Left coil which turns counter-clockwise (from the purchaser’s perspective) and a Right coil which turns clockwise. Single motors only use Left-type coils.



Single Selection Column



Double Selection Column

CHOOSING THE CORRECT COIL FOR YOUR PRODUCT

The Nibly Product Grid is a blueprint for choosing product for your machines, but the grid you will end up with for your machines may vary a little or a lot from this Grid. In most cases, you will substitute items from the same category of snacks or drinks and the default coil sizes will work with your new product. Coil size is determined by the products you wish to sell. Products with larger dimensions or diameters will require coils with lower counts per coil. For instance, a 5-count coil accepts larger product than an 8-count coil. You will want to pick the coils with the highest product counts that still comfortably fit your product so that you will be able to sell the maximum number of items per fill-up, reducing service calls and potentially increasing sales, but you never want to force an item into a coil that is too tight for the product. Always test new items in different coils to make sure that there is a good fit. Test multiple vendes to be sure your product works in the new coil and to determine whether other adjustments may be required - see below for possible adjustments.



We stock coils at our warehouse for all the originally shipped coils but also including special order coils in different sizes for unusually-shaped items.

4, 5, 8 and 9 coils

LOADING PRODUCT ON COILS

General Product Loading principles

In a successful vend, the coils push the product towards the front of the tray, where the product drops straight down, leading from its bottom edge to the drop tray. We want to avoid any extraneous side to side movement or rotation from the top of the product. We can control the movement of the product in our machines by proper loading and correct coil configuration.

Tips on Loading by Position in the Machine

1. Bag product and snacks

Bag product and snacks are both vended in double selections. With our standard configuration, chip-type products are placed on the top tray or A tray. Higher-density bag products are placed on the 2nd tray or B tray. Chip product could be baked chips, popcorn, pita chips, among many possible items. These items are less dense than bag product which could include bagged nuts, trail mixes, dried fruit and specialty chocolate items. In general, the bag product vends with few issues. The product is heavy enough and the bags slim enough that the products will fall straight down to the drop box.

Chip product requires more care in loading than most items to avoid mis-vends. Always make sure that chip bags are loaded so that the bags are sitting on the tray and not on the coils. If the weight of a bag is resting on the coil, that product will rotate with the coils when the motor turns. If the weight of the bag is squarely on the tray, when the coil turns that product will be pushed straight to the end of the tray in the proper vending position. Because proper loading technique is so important with chip product, always load the bags from the back of the coil to the front so you can see exactly how each bag is loaded. If you are loading a coil with one or two bags still in the coil, remove those items and reload, starting with an empty coil. If you try to load a chip bag behind already loaded items, you can't be sure you have loaded the bags properly.

Cause of mis-vends with chip and bag product:

- product too small for coil. If the bag is too big for the coil, the weight will not be resting on the tray and the product will spin.
- product loaded with the weight of the product resting on the coil. Same as above.
- failing to load product starting at the back of the coil. If you are reaching over products to fill your coil, you can't be sure if your product is being loaded correctly.

2. Bar Product

Bar product includes protein bars, healthy chocolate bars, oatmeal bars and the many other snack bars available. These bars are found on the 3rd or C tray on our standard configuration. These selections use single motors and 8-count or 9-count coils. On most configurations, you will have a double motor at selection 30 for dispensing larger bars like the Ritter bar. This selection will be very similar to the bag product selections on Tray B.

In general, loading bars is straightforward but there are a couple of things to watch out for. As always, make sure you are loading product in the correct size of coil for that item. There are two different sizes of bar coils. Thicker items should be loaded in the 8-count coils. There are also two selections with horizontal spacers. These spacers are there to take up the extra room that results when a thin item

is vended with a standard width coil. These horizontal spacers are attached to the column dividers with a piano hinge so they can be folded out of the way when standard sized items are loaded in the coil or adjusted to take up any extra space created when using a thinner product. The spacers prevent unnecessary side to side movement and functionally reduce the width of the selection so that a standard sized column can operate like a narrower coil.



Correctly loaded bag product on coil



Incorrectly loaded bag product on coil



Spacer with bar product



Spacer - extended position



Spacer - retracted position

Coil position is the last important factor in your coil configuration. All coils can be adjusted to change where the tip of the coil is placed. We refer to the hands of the clock when describing the end position of the coil from the point of view of the customer. This position will vary for the size and shape of product and will be different for single coils, double coils and coils with can risers. You will want to set the coil at the best position to hold products in place and prevent thin items from sliding out. The position of the coil also affects the size of the back position on the coil so that will also be a factor in your final position.

Coils do not rotate in operating position. To move the coil, it is necessary to disengage the coil from the motor by pulling the coil towards you until it turns freely. The coil is spring loaded so gradual pressure is applied and the coil must move 1/2 inch to 3/4 of an inch to disengage from the motor. The coil can be placed in one of seven positions. See this movie for a demonstration on moving the coil.

3. Large Drink Tray

Drinks are vended with 4-count Left coils on the 4th (D), 5th (E) and 6th (F) trays. The E and F trays are identical except for their position on the machine. The D tray has an almost identical configuration but includes a taller bracket for the product bar and a larger diameter vinyl-wrapped coil for dispensing the larger drinks stocked on this tray. Because the D tray takes larger and more irregularly-shaped bottles, greater care must be taken with loading and configuration. As with all other trays, testing is the most important factor in proper loading. If you test and make adjustments, you will have few issues.



Can Risers

All drink selections come with can risers. These can be useful tools for dispensing drinks. The riser creates a flat platform for narrower products to travel and raises products to the centre of the coil which increases the number of cans or bottles that can be placed in a column. It can also be used to equalize the heights of different sized products to help with placement of the product bar.

Removing Can Risers

Although can risers can be very useful, there will be times when items will vend better without them. Risers offer very few advantages to larger bottles which will often vend better when they are supported by the coil rather than the riser. We recommend removing the risers for larger bottles like Vitamin Water, Gatorade and Sparkling Ice.

There are two good reasons to remove can risers:

1. Coils will often fit larger or irregularly shaped bottles better without the riser's narrow platform.
2. Equalizing the heights of bottles can help with the placement of the product bar.

Can risers are attached to the tray by a tab at the front of the riser that is inserted through a slot in the tray. The tab is bent underneath the tray to hold it in place. To remove the riser, bend the tab straight as shown in the images below and pull the riser straight up. This is easier to do with the tray removed and flipped over. After removing the riser, you will want to adjust the coil.



Bent riser tab on the bottom of the tray



Straighten the tab with a pair of pliers



Pull up on riser to remove from tray

Product Bar Adjustment

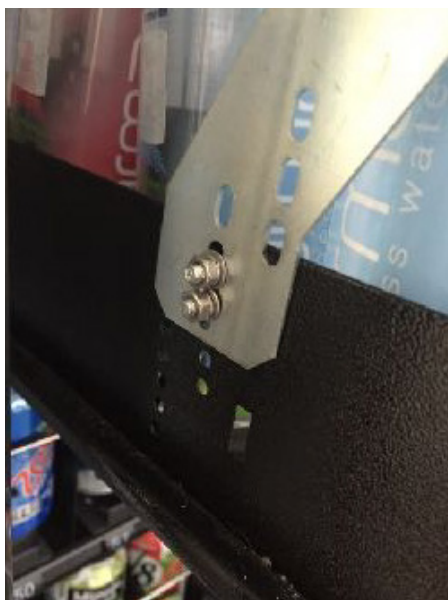
All of the drink trays include a product bar which forces drinks to drop straight down to the drop box. Without the product bar, larger bottles and cans can rotate forward and potentially get stuck between the tray and the glass. The product bar may need to be adjusted to account for different sizes and shapes of bottles that you may wish to vend. Without adjustment, bottle caps or grooves in the bottle can get caught on the bar as they are dispensed. It may be tempting to remove the product bar but doing so will create more problems that you are attempting to solve. It is fairly simple to adjust the product bar.

The product bar is held in position by two brackets with three sets of holes mounted on each end of the tray. You have several adjustment points including the three holes in the product bar supports. Each hole allows a different position for the product bar. The bar is held on by a small pressure fitted clamp. Use a pair of pliers to remove the clamp. Make sure you don't drop the clamps as they are small.

When the front set of holes is used, the bar will contact the bottles at a lower position. The back set of holes will place the bar closer to the top of the bottles. If you need a greater adjustment, adjust the support brackets where they are attached by nuts and bolts to the sides of the tray. There are pre-drilled holes in the tray which allow you to move the supports up and down allowing an adjustment of 1 to 3 inches depending on the height of the tray. As always, do multiple tests of all items on the tray before you consider the adjustment to be completed. If any bottle hangs up or is under strain during testing, your customers will experience problems with that selection.



Product bar adjustment



Left hand product bar support



Right hand product bar support

4. Small Drink Trays

Tray E and Tray F are the bottom two trays on the machine. These trays are designed for dispensing small bottles, cans and Tetra Paks. Tetra Paks and cans should give you few problems. They present regular surfaces and, as long as they are not too big for the coils they are placed in, should have no problem dropping correctly as long as the product bar is properly positioned. Small bottles need more care. This applies especially to bottles with unusual shapes or prominent lids. In some cases, you may need to remove the can risers to set where the bottle contacts the product bar or to allow a slightly taller bottle to fit the tray.

You have the same options for adjusting the product bar as you did with the D Tray. Use the position of the holes in the bar to change the angle and height of the bar in relation to the product.

5. Customizing Your Machines

You can customize your machines by changing the size of the coil (which affects the quantity and size of items you can dispense). Any two adjacent single selection columns can be converted to a double column by replacing the two single motors with a double motor and the appropriate coils for the product you wish to vend. When ordering coils, please specify the size of the coil as well as the orientation of the coil (Left or Right). Order Left and Right coils for double selections.

Single and Double coils available in the following sizes: 3*, 4, 5, 8, 9 and 10.

*when using 3-product coils you will want to test the product to make sure that it is not too large to clear the distance between the end of the tray and the glass.

You can move trays up and down within the machine, creating more room for larger products or less room for smaller items. There are perforated holes every 3/4" or so on both sides of the cabinet. Every tray has a set of wheels fixed to the sides of the tray which move back and forth along tray sliders which are attached to the machine through the perforated holes. To adjust the position of the tray, the tray sliders are removed from the cabinet and repositioned. Each slider is attached only with a screw and two tabs, which slot into the perforated holes on the side of the cabinet.



Tray sliders and mounting holes in cabinet

The cooled area of the machine is determined by refrigerant coils that are installed within the walls of the cabinet so the cooled and non-cooled (or less cooled) sections of the machine are set. Some operators have placed snacks on the D tray instead of drinks. Because this tray is cooled, you will want to make sure that you place only items that won't be affected by cooler temperatures. For instance, some items like granola bars and Clif bars will get quite hard. Chips and bag products will usually be fine. As a rule, anything that you wouldn't want to put in the fridge shouldn't be placed on a cooled tray.

Quick Reference

1. Make sure product is properly positioned on coils with the bag or bar loaded in the correct position for vending (see above).
2. Make sure products fit the coils. Squeezing products into coils will result in jams.
3. Adjust coil position to securely hold product and use the horizontal spacers to support thinner items so they don't move laterally in the coil.
4. Large bottles (greater than 2.9 inches in diameter) must be loaded cap down.
5. Remove risers for large or irregularly shaped items. Always rotate the coils after removing the risers.
6. Adjust the product bar so it is clear of any surface that can hang up (lids, grooves in bottles, etc.) using three holes in bracket or move the bracket up and down at the sides of the tray using the installed nuts and screws.
7. Test every product multiple times in a new setup or when adding a new item. If a vend fails on you, it will fail when a customer uses the machine.