



FeneVision® Best Practice

Container Setup, Tracking and Management (BP0088)

Introduction

This document will describe setting up containers within FeneVision® and the day-to-day operations and processes that can be used. Using these best practices, the system can be used to easily containerize produced units and then manage those containers through the remainder of the FeneVision® process.

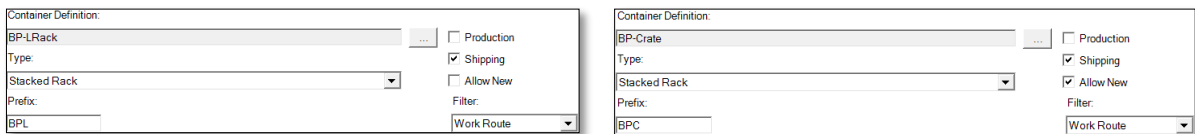
This configuration can be used to streamline the production, general handling, shipping and shipping sequence of containerized units in the system to reduce labor and reject probability. Units that are not in a container must be scanned individually in FeneVision® Trucking and Mobile Delivery Tracking. Shipping containers that are tracked (e.g. L-Racks) and those created dynamically (e.g. wooden crates) can both be handled in FeneVision®.

Setup

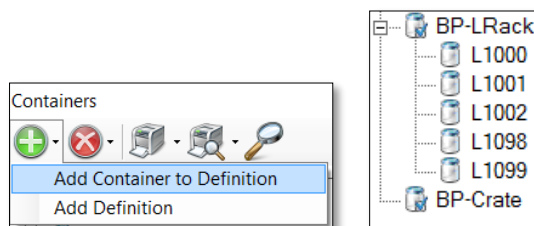
Containers

Each type of container used at the facility should be added in Containers as a Definition. A definition should also be created for each type of dynamic container that may be used. Each definition will have its own settings that define the size of the units that can be placed in that container. See the User Manual for more information on these settings and how they affect the system. This document will focus on a few of the larger settings only.

After naming the container definition, there are several settings at the top that should be set up. The Type of container (Harp, Stacked) is important as that drives what properties are available below. There are also three checkbox settings that are important. Check off “Production” if the container can be used during the production process. The “Production” setting should only be used if working with monolithic glass exclusively. Check off “Shipping” if the container can be used as a shipping container. Lastly, check off “Allow New” if the container definition is one where new container are created dynamically and not tracked after being shipped to the customer. Examples for a L-Rack and wooden crate definition are below.



After each definition’s settings are complete, the container instances of each definition that requires it should be added. A wooden crate definition would not require containers to be defined, while a L-Rack definition likely needs containers defined. Examples are again shown below.



Note: FeneVision allows for system wide barcodes to be used when working with container instances. The system will recognize a container scan when the barcode starts with a "\$". For example, a barcode of "\$L1000" would work for a container with an ID of "L1000".

Pre-assigned Containers

Terminology

The term "pre-assigned" container refers to a shipping container that is allocated for manufactured units (ordered parts) at the time of schedule release. Each unit is expected to be placed into its pre-determined location so that all units for a customer are delivered in the sequence requested.

These are sometimes referred to as "logical" containers until the point at which a physical container ID is attached to the pre-assigned container.

Any other containers created via FeneVision® Tracking applications (but not pre-assigned during schedule release) can be thought of as "repair", "dynamic", or "on the fly" containers. These are not pre-assigned containers, but will be mentioned where appropriate since their usage is often the same as pre-assigned containers.

If a unit is completely removed from a container, then it is "loose". When a route is opened in FeneVision® Trucking, any units not assigned to a container show up as "loose" units.

Requirements

There are two main ways to generate pre-assigned containers: By work route assignment, or Opti-Pack.

Accepted configurations when pre-assigning via Opti-Pack:

- Stacked racks only. This is the only limitation. Opti-Pack provides a graphical user interface to inform loaders when units from different work routes need to be merged into the same shipping container.

Accepted configurations when pre-assigning via Work Routing:

- Customer sequence must be by order-item. If the customer supplies EDI order files in desired receiving sequence, then the FeneVision® order import can import orders in this sequence.
- Only single-stack "L" frame configuration or crate is supported for stacked racks.
- When using stacked racks, if the customer sequence and production sequence are different, pre-assignment can still be used, but there must be a staging process in between the end of the line and shipping. If the customer sequence is not important, then it is better to turn off pre-assignment and load containers "on the fly".
- When using stacked racks, units from multiple work routes cannot be combined.
- When using harp racks, if combining units from different work routes, a procedure must be established for knowing whether a rack will be merged with units from a different work route.

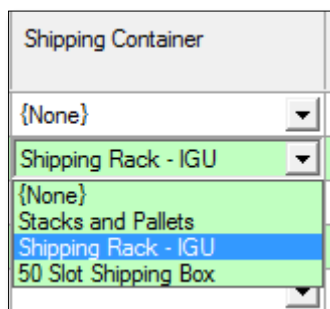
Opti-Pack Configuration

Please contact your account representative for more information on Opti-Pack configuration and the cost associated with this add on module.

FeneVision employees refer to BP0039.

Work Routing Configuration

Pre-assignment is enabled in Work Route Setup (Setup > Interfaces > Work Route Setup). In the Shipping Container column, select the container definition to use for the work route:



The system does support the ability to create a shipping container group, and let the pre-assignment select the best fit container definition based on the overall unit dimensions. There is no user interface for this configuration. To take advantage of this configuration, see the [Best Fit Pre-Assigned Containers](#) section below or contact support for help.

The shipping containers are generated during schedule release. It may be helpful for the operators to know ahead of time how many shipping racks to expect for a particular schedule and work route. The production report “Work Route Shipping Container Summary” (WorkRouteRacks.rdl) summarizes how many pre-assigned racks will be required.

PRE ASSIGNED CONTAINER SUMMARY - AI		
Schedule: 2700 - 2018-04-28 LINE 1		
Customer	Rack	Qty
A - Z GLASS	SH1	50
	SH2	50
	SH3	20
	3	120

Pre-assigned containers are initially assigned an alphanumeric identifier, “Pre-assigned Container ID”, that contains a prefix of the container definition, and an auto-incrementing number. This number resets to 1 with each release date. Examples are in the “Rack” column above.

Best Fit Pre-Assigned Containers

Please only perform the following if you are experienced in Microsoft SQL Server and confident in your ability to navigate database tables without harming existing data.

To setup container groups for pre-assigned container selection, perform the following using SQL Server Management Studio (SSMS):

- Add a record to the [ContainerGroups] table, and enter a unique ID and description.
- Edit the [ContainerDefinitions] table. Enter the [GroupID] value for any definitions that should be added to the group.

The criteria for selecting best fit are area, long and short side lengths, and unit thickness. Values of “0” in Container Setup mean infinite dimension allowed. If a unit does not fit on any of the available container definitions, then it is not pre-assigned to a container and shows up as loose.

Tracking

It should be noted that FeneVision® Container Tracking is no longer the best practice for working with any type of container.

Containers

FeneVision® Tracking contains a mode called Container Tracking which should be used exclusively. After selecting this mode of Tracking, the following settings will be available. A general description of each setting is included below for the purposes of this document. See the user manual for more detailed information.

General	Containers
Container Type	
Shipping Rack	
Prompt For Quantity	
Toggle	
Quantity Prompt Default	
0	
<input type="checkbox"/> Prompt For Container Location	
Allow Shipped Containers To Be Returned	
Prompt	
Allow Different Target Ship Dates	
No	
Allow Unit Scan From Another Container	
Prompt	
Allow Scan To Remove	
Prompt	
Scan Delay	
0	seconds

Container Type – The type of containers will be used at this station. Options: Production Rack, Shipping Rack, Production/Shipping Rack.

Prompt for Quantity – This station will prompt the user for a quantity after a scan. Options: Disable, Toggle, Enable.

Quantity Prompt Default – The quantity that should be defaulted when prompting for quantity. Options: 0, 1, Remaining Qty. “Remaining Qty” is a dynamic number calculated by the line item quantity minus those units already on a container.

Allow Shipped Containers To Be Returned – Previously shipped containers can be returned at this station. The return action can take place at Trucking as well. Options: No, Yes, Prompt.

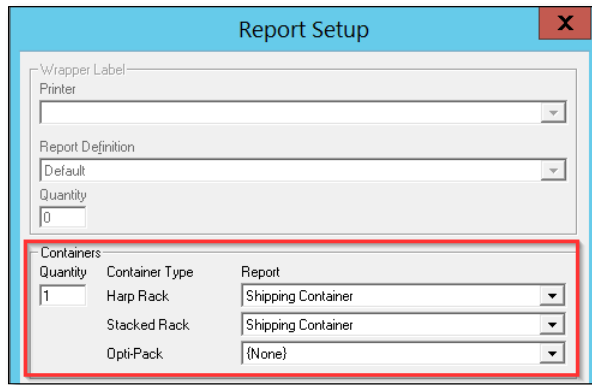
Allow Different Target Ship Dates – Units with different target ship dates can be in the same container. Options: No, Yes, Prompt.

Allow Unit Scan From Another Container – Units already on another container can be moved via scan. Options: No, Yes, Prompt.

Allow Scan To Remove – Units already on a container can be removed via a scan. Options: No, Yes, Prompt.

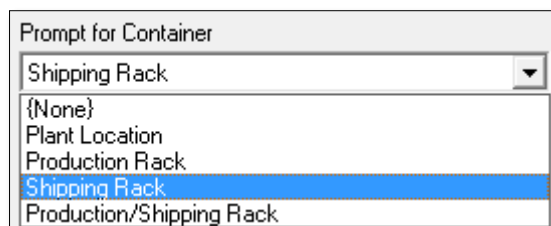
Those settings with the “Prompt” option selected will alert the user to the scenario, allowing them to confirm or cancel the action.

A container report can also be generated at any time or when a container is closed. These settings can be configured in the Report Setup screen in Tracking. FeneVision® Tracking uses a base 8.5x11-inch report, but custom reports can also be used. See the user manual for more information.



Pre-Assigned Containers

The first interaction with pre-assigned containers is typically at the end of an insulating line. These stations have a container type of “Shipping” so that Tracking can mark the units as “present” when they are completed and placed onto the shipping container. Typically, these stations also operate in Work Route mode, therefore operating in unit ID sequence.



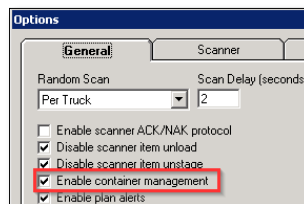
This can also be configured as “Production/Shipping Rack” if the station needs to load production containers for units that go to other internal processes.

Mobile Tracking

FeneVision® Mobile Tracking also supports the use of Container Tracking mode. See the user manual for more information on FeneVision® Mobile Tracking or contact Support.

Trucking

FeneVision® Trucking contains a Container Management screen that can be used to update the status of containers. This screen must be enabled in Options using the “Enable Container Management” check box. Once enabled, the Container Management screen can be accessed using the “E” key on the keyboard.

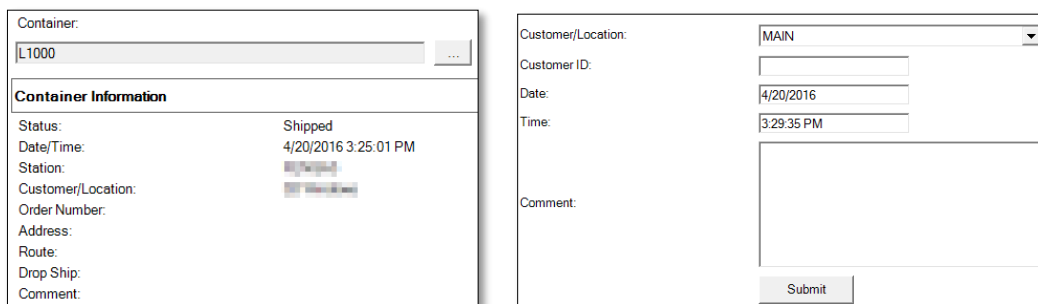


Trucking can also generate a container report if desired. To setup a container report to be printed use the Reports tab in the Options screen.

Using

CORE

Within FeneVision® CORE, the Containers screen will display status information for each container instance. The status of each container can also be updated manually. By selecting a customer, the container will be updated as “Shipped” and at that customer’s location. By selection a location (e.g. “MAIN”), the container will be updated as “Returned”. FeneVision® Trucking should be the main process for updating a container’s status, however CORE does offer a manual alternative.



Tracking Containers

FeneVision® Tracking’s Container Tracking mode is very intuitive and was designed with the user in mind. For that reason, the basic action of adding a unit to a container only takes two scans. The following will explain the functionality of the screen, but as always, see the user manual for more information. This same mode should be used for pre-assigned containers as well as dynamic containers.

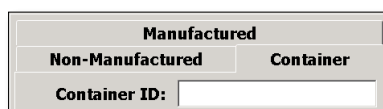
The screen has two data grids. The top grid is a list of open containers for the station. Containers can be added to the top grid by scanning their barcode, manually scanning the container (F9) or creating a new container (see below). Scanning a container barcode will open that container (if not already open) and select it. A container being selected means units scanned will be added into that container. The user does not have to return to the PC in order to switch which container a unit is to be placed in. Each container can also be closed, emptied and have its report printed using the provided buttons. Additional information is also tracked, like the container’s total weight and customer information. Closing a container will remove it from the list. It can be re-opened by scanning the container or using the “List (F4)” button described below.

The bottom grid is a list of units currently in the selected container from the top grid. This grid shows unit information and also allows a unit to be removed from the container via a button. Note that depending on the settings, a scan could also be used to remove a unit from a container.

The “Add (F3)” button is used to create a new instance of a dynamic container. The dialog that appears lists each container definition that has the “Add New” setting checked off in the Containers screen. After hitting OK, the new container will be added to the top (container) grid of the screen.

The “List (F4)” button will open a screen that allows all containers in the system to be accessed. Containers can be opened in the current station or have their container report re-printed. This screen also has filtering to allow the user to see exactly what is needed. It will default to show containers only for the given station.

The “Reject (F5)”, “Manual (F9)” and “Quantity Mode (Q)” buttons all work the same as in other FeneVision® Tracking modes. The manual scan screen does offer a “Container” tab that can be used to simulate a container barcode scan.



Loading Pre-Assigned Containers

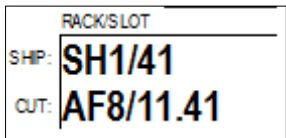
When Tracking displays the current unit, the operator will see this pre-assigned container ID in multiple places. The current rack/slot to load shows with the unit information:

Schedule	Qty	Unit	Rack-Slot
2700	120	69	SH1-41

When the Tracking mode is by Work Route, the queue at the bottom shows the next units, so that the operator is aware when a rack change is required:

Unit	Order-Item	Description	Size	Rack-Slot
70	43449-3	INSULATED GLASS	24 W X 36 H X 3/4 T	SH1-42
71	43449-3	INSULATED GLASS	24 W X 36 H X 3/4 T	SH1-43

The pre-assigned container ID and slot also appear on the (base) production label as the “SHIP” rack/slot:



When the unit is accepted, Tracking will then ask for the physical container ID that is being used.

Select Container:

SH0001

OK

Cancel

This physical container ID is now attached to the pre-assigned logical container, and the container is now identified by the physical container ID, and is no longer referenced by its pre-assigned container ID. The updated display reflects this change for all following units on the container. Below are updated images of the examples above.

Schedule	Qty	Unit	Rack-Slot
2700	120	70	SH0001-42

Unit	Order-Item	Description	Size	Rack-Slot
71	43449-3	INSULATED GLASS	24 W X 36 H X 3/4 T	SH0001-43
72	43449-3	INSULATED GLASS	24 W X 36 H X 3/4 T	SH0001-44

With each subsequent produce/accept, Tracking will show the “Select Container” prompt to confirm which container the unit is being placed on. Once operators are used to the process of loading units on containers, the timeout delay can be set to a value other than 0 to allow the prompt to automatically close after the specified amount of time.

Prompt Timeout (seconds)

0

The process of accepting pre-assigned units onto containers is very important, and is a requirement from FeneVision® version 10.12 and up. This is how the system knows whether or not a unit is actually present on its pre-assigned container. Specifying a physical container ID is required when loading pre-assigned containers from Tracking. Tracking can only manage containers that have a physical container ID.

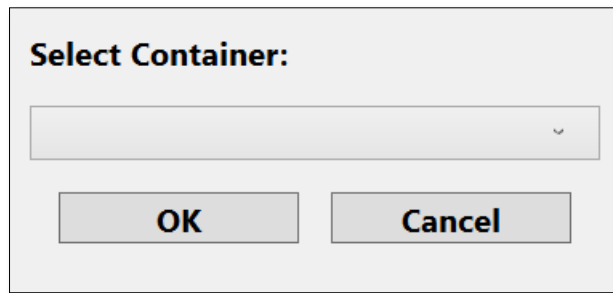
Once the container is full and is moved away from the end of the line, the operator should open the containers list (see [Viewing Pre-Assigned Containers](#) below) and select the “Close” command. This alerts the rest of the system that the container has been processed by the station and is now available for processing elsewhere.

Additional Scenarios

This section will give several “if-then” scenarios that the system can handle.

If a unit or group of units are being skipped, do not process them. In Tracking’s Work Route mode, use the Unit (F7) command to go to the next unit. The skipped units will remain pre-assigned to the container. Later when the skipped units are processed, the system will show the pre-assigned container and slots where the units should be placed.

If a unit is being accepted out of sequence, and its container is not around but will be placed into it later, then change the container input to the very first entry, which is blank:



The system will know that the unit is still pre-assigned to the slot.

If a unit is deliberately being shipped on a different physical container, separate from the other pre-assigned units, then change the container input to the physical container ID the unit is being placed on. This will remove the unit, so that there is no longer an association to the pre-assigned container. The unit list and the container report will show a gap in slot sequence.

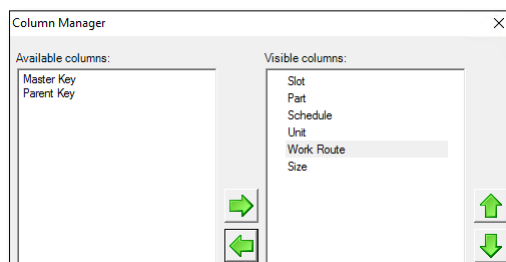
If a unit is deliberately being removed from its pre-assigned container and placed elsewhere “loose”, use the “Remove” command in the container’s unit list (described next).

When a unit is rejected, the system assumes that the unit is no longer present in its pre-assigned slot. If a unit has already been accepted onto its container and is then rejected, the unit is automatically set back to pre-assigned, as if it were skipped. Once remade, the unit must be accepted and placed onto its shipping container to verify its presence in the pre-assigned slot.

Viewing Pre-Assigned Containers

To view the units currently present on a container, press the “C” key.

For exit IG stations, it is likely that the MasterKey and ParentKey columns are not necessary. Right-click the bottom grid’s header to edit the columns.



When the shipping container report is printed, it will show the physical container ID. For best practice, it is fine to wait until shipment to print these since any information about the containers can be viewed in the system, but if it is desirable to print these from Tracking, make sure to enable this under Setup > Reports:

Containers		
Quantity	Container Type	Report
1	Harp Rack	Shipping Container
	Stacked Rack	Shipping Container
	Opti-Pack	{None}

This enables the “Print” button on the container.

Container ID	Quantity	Destination	Rack Type	Station ID	Date			
SH0001		50 A - Z GLASS	Shipping	IG1-OUT	4/27/2016 10:58 AM	Close	Empty	Print

The unit list indicates which units have been accepted onto the container, and which are still pre-assigned. Accepted units have a white background. Pre-assigned units have a gray background. If a unit produced manually has been completed and needs to be added to the container, use the “Add” command to place it.

39	IG - INSULATED GLASS	2700	127 AI	18 3/8 W X 32	Add
40	IG - INSULATED GLASS	2700	128 AI	18 3/8 W X 32	Add
41	IG - INSULATED GLASS	2700	69 AI	24 W X 36 H X	Remove
42	IG - INSULATED GLASS	2700	70 AI	24 W X 36 H X	Remove
43	IG - INSULATED GLASS	2700	71 AI	24 W X 36 H X	Remove
44	IG - INSULATED GLASS	2700	72 AI	24 W X 36 H X	Add

If a unit is being removed from its pre-assigned container but still needs to be placed on that container for shipment, use the “Remove” command to remove it. The unit stays pre-assigned to the container. Important note: When scanning a container that was closed by another station, the “Remove” command is hidden until the operator hits the “Open” command. After opening, the “Remove” command next to each unit becomes visible.

In order to preserve the designated shipping sequence, Tracking will not let the user deliberately remove a unit from its pre-assigned container and place it elsewhere “loose”. This way, when a rejected unit is remade, operators know which container it needs to go on. Disassociating units from containers should only happen during the review process (see [Verifying Pre-Assigned Containers](#) below). However, the user can place the unit onto an entirely different shipping container. If a unit is deliberately being removed from its pre-assigned container and placed onto a different container, accept the unit and place it onto a different shipping container. The unit will be permanently disassociated from the pre-assigned container.

Any station running in part or ordered part updating mode, with the “Prompt for Container” setting set to “Shipping Rack” can scan a container to view it. The container ID can also be manually entered under the “Container” tab of the manual scan (F9) screen.

Verifying Pre-Assigned Containers

It is best practice to verify the contents and quality of a shipping container prior to sending to shipping. This way, the truck loaders (who often work different shifts) can merely scan the container onto the truck. Whether this is done in production, QA, shipping, or other department depends on production practices. Some facilities may have a longer time in between production completion and shipment. Others may have repairs trickle in up until the time of shipment.

The user should verify that the units present on the container matches the unit list. If a unit is present but still pre-assigned (gray background), scanning it will add the unit to the rack. If a unit is not present and needs to be removed, first click "Add" to add it, then "Remove" to remove it. This will permanently disassociate the unit from the container.

Slot	Part	Schedule	Unit	Work Route	Size	Order-Item	Weight	Target Ship Date	
1	IA04 - INSULATED TEMPERED 5/32"	2017	11	INSULATED	25 W X 45 H X 3/4 T	112826-1	49.22	5/11/2016	Remove
2	IA04 - INSULATED TEMPERED 5/32"	2017	12	INSULATED	25 W X 45 H X 3/4 T	112826-1	49.22	5/11/2016	Remove
3	IA04 - INSULATED TEMPERED 5/32"	2017	13	INSULATED	25 W X 45 H X 3/4 T	112826-1	49.22	5/11/2016	Remove
4	IA04 - INSULATED TEMPERED 5/32"	2017	14	INSULATED	25 W X 45 H X 3/4 T	112826-1	49.22	5/11/2016	Remove
5	IA04 - INSULATED TEMPERED 5/32"	2017	15	INSULATED	25 W X 45 H X 3/4 T	112826-1	49.22	5/11/2016	Remove
6	IA04 - INSULATED TEMPERED 5/32"	2017	16	INSULATED	40 W X 22 H X 3/4 T	112826-2	39.01	5/11/2016	Add
7	IA04 - INSULATED TEMPERED 5/32"	2017	17	INSULATED	40 W X 22 H X 3/4 T	112826-2	39.01	5/11/2016	Add
8	IA04 - INSULATED TEMPERED 5/32"	2017	18	INSULATED	40 W X 22 H X 3/4 T	112826-2	39.01	5/11/2016	Remove
9	IA04 - INSULATED TEMPERED 5/32"	2017	19	INSULATED	40 W X 22 H X 3/4 T	112826-2	39.01	5/11/2016	Remove
10	IA04 - INSULATED TEMPERED 5/32"	2017	20	INSULATED	40 W X 22 H X 3/4 T	112826-2	39.01	5/11/2016	Remove

If other units need to be added (such as loose repairs or smaller groups of units that are being consolidated) then scan them onto the rack. Each unit will be added to the next available slot. The application does not prevent the user from adding above the maximum slot number.

Trucking

When the time comes to load pre-assigned containers into the truck, they should be verified and ready to load without any further modifications.

If during the loading process a unit is determined to be defective, the unit should be rejected. In Trucking, rejecting a unit from a pre-assigned container will automatically set the unit back to "pre-assigned". This means the unit will appear in the missing item list upon shipment, and by default the unit will not be shipped. Rejecting a unit from a dynamic container will remove the unit entirely and cause the unit to show up as loose.

When capacity alerts are enabled, every unit on a shipping container is checked for completion when the container is loaded. If units have not been scanned, they will appear in the capacity alerts list. The OK and Cancel buttons apply to the entire shipping container. Selecting "Cancel" cancels the load process for the entire shipping container. Selecting "OK" acknowledges that all items are complete, which loads the entire shipping container, including the incomplete items. This could have severe consequences if used incorrectly, and therefore should be highly discouraged if not forbidden. To process the container, the container must first be opened in Container Tracking mode of Tracking, and then the units in question must be removed. Then Trucking should be able to load the container as long as the remaining units are complete. The removed units will appear as loose.

To minimize disruptions at Trucking, the Container Tracking stations should also enable capacity alerts if capacity alerts are used at the Trucking stations.

Container Management

Once enabled, the Container Management screen can be accessed using the "E" key on the keyboard. The first option in the screen is to select a "Mode". These modes are explained below. Note that this screen is only used for container instances, containers created dynamically are not tracked and do not need to be updated using this screen.

Once a mode is selected, simply scan a container barcode (e.g. "\$L1000") or type in a container ID. Additionally comments can be entered as needed. Comments will be displayed in the Containers screen in CORE. After each container that should be updated is scanned or entered into the grid, click OK to update their status'.

Return Mode

Return mode is defaulted and should be the mode used in almost every case. Once a container is shipped on a route, it's status is updated to indicated that it is at that customer's location. When that container is returned by the customer, it should be returned to the facility using this mode. Some users may prefer to skip this step and **Allow Shipped Containers To Be Returned** (see [Setup Containers](#) above) in Tracking.

Ship Mode

The current best practice is that Ship Mode should not be used. The same functionality exists in FeneVision® CORE and it should be done there.

Note: This does not “ship” a container in the system. It simply updates the status of a container to show it being at a different location.

Ready for Pickup Mode

Ready for Pickup Mode allows the status of a container to be updated as “Ready for Pickup”. This can be used in custom reporting to alert the driver of containers that are ready to be picked up at each stop. There is no base functionality that looks for containers with this status.