

# Cross-Docking Flow

## Overview

In the cross-docking process goods are immediately delivered to the customer after the reception based on the sales order linked to the purchase order.

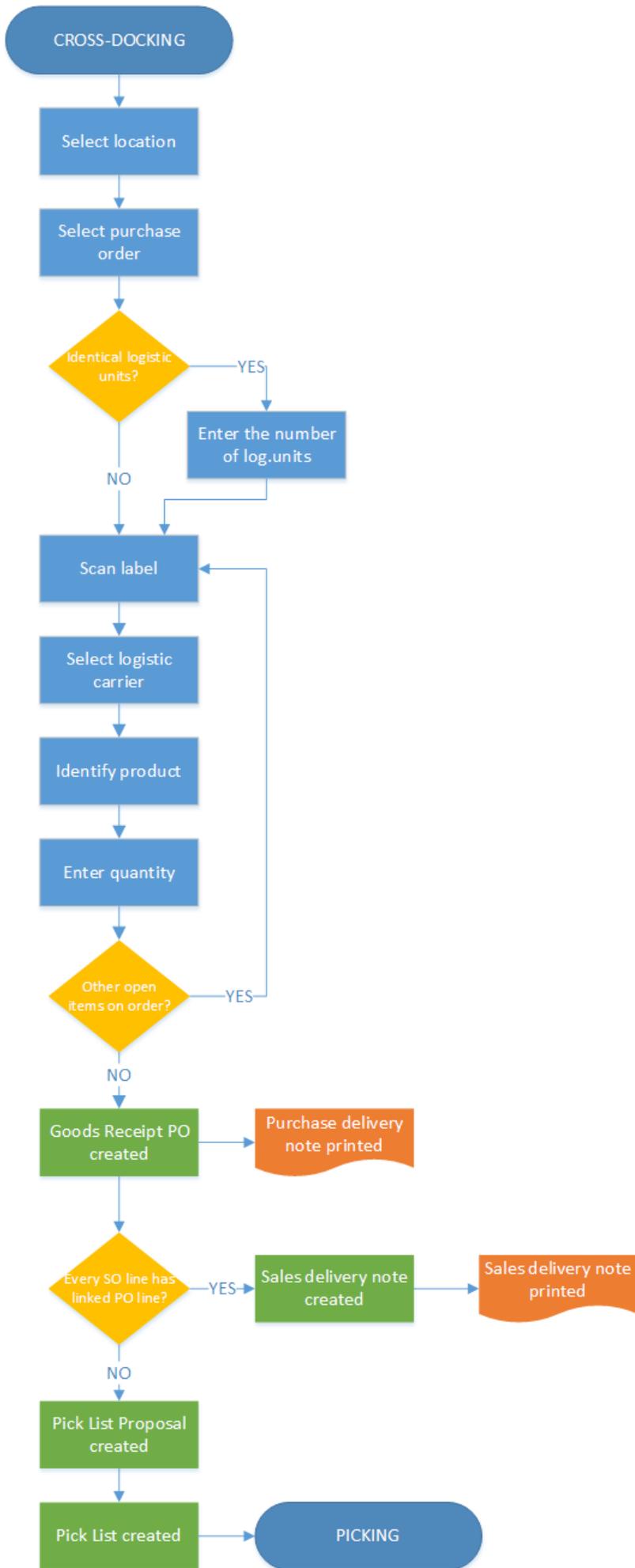
If the received stock is insufficient, a pick list will be generated in order to meet the required quantities from the sales order. To have a distinction between pick lists that are created for cross-docking, a cross-docking picklist type can be provided on the [purchase delivery generator](#).

## Configuration

In order to automatically create the sales delivery note, enable the *Auto reserve stock when purchase order is linked to sales order?* option on the [purchase delivery generator](#). Otherwise, the received stock will not be locked and a picklist will be created for the total quantity on the sales order at the end of the reception. However, if the stock assigned to the picklist is the same stock that was just received, the system will automatically pick those items.

## Workflow





- [Select location](#)
- [Select purchase order](#)
- [Select task](#)
- [Scan barcodes](#)
- [Select logistic carrier](#)
- [Identify item](#)
- [Enter quantity](#)
- [Add more products](#)
- [Continue reception](#)
- [Add more products](#)

## Cross-Docking Flow steps

### 1. Initiate the cross-docking

To start the process, choose Cross-docking from the Purchase menu.

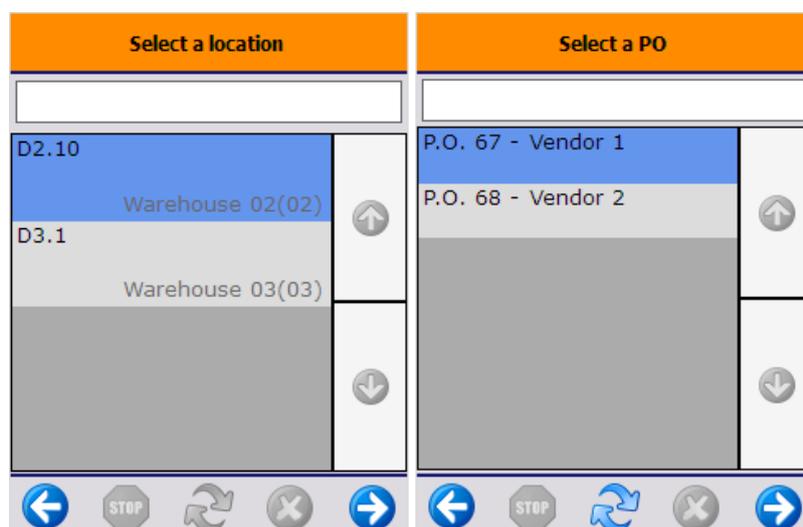
### 2. Select a location

Scan a location or select it from a list. Only docks that can be used for both 'Loading' and 'Unloading' can be scanned or selected.

### 3. Select a PO

Select a purchase order. A purchase order is listed if the following verifies:

- the purchase order has a linked sales order
- the dock and the purchase order are in the same warehouse
- the purchase order is open and approved
- the purchase and the sales order is for an inventory item

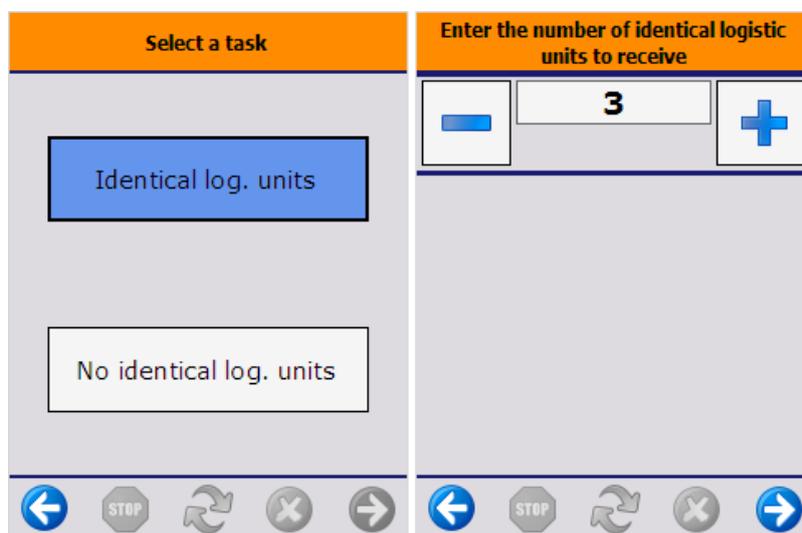


### 4. Select a task

If there is a [Produmex quality type](#) defined that has to be specified in the beginning of the reception, the system will ask for the quality data before proceeding to the 'Select task' screen.

On this screen the user can define whether there are identical logistic units or not. Receiving identical logistic units means that the operator can receive simultaneously multiple logistic units of the same product(s) with the same batch numbers, best before dates and quantity. This offers the advantage that the operator will not have to go through the receiving procedure for each logistic unit separately.

If there are identical logistic units, press the button 'Identical logistic units'. After pressing this button, enter the number of the logistic units to receive. The number of the logistic units is not limited. Press the right arrow key to proceed.



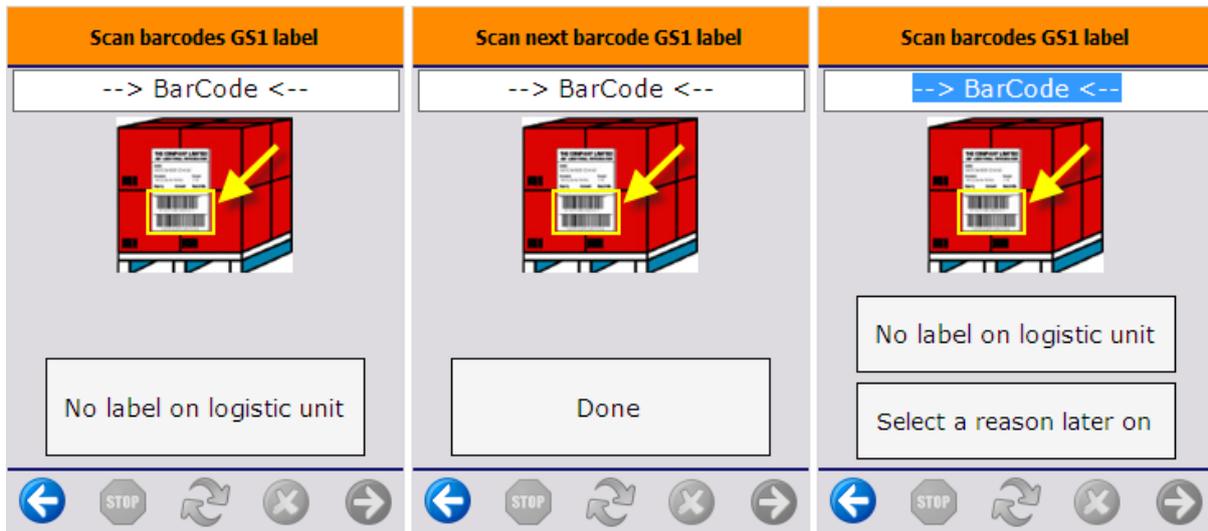
If there are no identical logistic units, press the 'No identical logistic units' button.

The system automatically skips this screen if the '[Has no identical logistic units](#)' option is set to true for the vendor.

### 5. Scan barcodes

Then scan the barcodes on the logistic label of the logistic unit. After having all the barcodes scanned, press the 'Done' button. All the information from the GS1 barcodes will be saved into the memory and the system will not ask additional questions about the scanned information.

If there is no label on the logistic unit, press the 'No label on the logistic unit' button.



The system automatically skips this screen if the **'Has no logistic labels'** option is set to true for the vendor.

If the **'Allow to enter reason on purchase delivery'** option is set to true on the **Purchase delivery generator**, an additional **'Select a reason later on'** button is displayed on the screen. Press this button if you would like to add a reason after the item to receive is selected. After the button is pressed the system will return to this screen but the **'Select a reason later on'** button is not displayed. The reason can be selected after the item is specified.

### Important - GS1 Barcode scanning during reception

When scanning GS1 barcodes during the Reception Flow, the behavior of Produmex WMS depends on the Application Identifiers (AIs) included in the barcode.

Some GS1 structures represent stand-alone trade items, while others represent items contained within a logistic unit. This affects whether multiple items can be received into the same logistic unit (SSCC).

### Receiving multiple items into the same SSCC

Multiple items can be received into the same logistic unit when the scanned GS1 barcode references the same SSCC (AI 00) or when the barcode structure represents contained trade items.

### GS1 Application Identifiers

#### AI (02) - GTIN of Contained Trade Items

If the scanned barcode contains AI (02) together with AI (37), the barcode represents an item contained within a higher-level package or logistic unit.

#### According to the GS1 standard:

- AI (02) identifies the GTIN of items contained in a package.
- AI (37) (quantity) is mandatory, because it specifies how many items are contained in

that package.

**Behavior in WMS:**

After entering the quantity, the system asks whether there are additional products on the same logistic unit. If the logistic unit contains mixed items, select “Yes” and scan the next item barcode. In this scenario, the Scan barcodes GS1 label screen appears only once, so the SSCC only needs to be scanned once.

**Note:** If the “**Receive all items in one purchase delivery?**” setting is enabled only one GRPO will be created.

**AI (01) - GTIN of a Trade Item**

If the scanned barcode contains AI (01), the system interprets the barcode as identifying a stand-alone trade item.

**According to the GS1 standard:**

- AI (01) identifies a single trade item.
- Pairing AI (01) with AI (37) (quantity) is not valid, because AI (01) represents a single unit.

**Behavior in WMS:**

After entering the quantity for the first product, the system does not ask whether there are additional items on the same logistic unit. If additional items must be received on the same pallet, the SSCC must be scanned again before scanning the next item barcode.

**Example Workflow**

1. Scan a GS1 barcode containing the SSCC (AI 00) to identify the logistic unit.
2. Scan the item barcode containing AI (01).
3. If another item should be added to the same pallet, scan the SSCC again.
4. Scan the next item barcode.

If the scanned SSCC already exists in the system and is located at the same dock, WMS adds the received item to the existing logistic unit. This allows multiple items to be received into the same SSCC.

**Important Note**

The behavior may depend on the “**Receive all items in one purchase delivery?**” setting.

**If this setting is enabled:**

- A GRPO is created when the logistic unit is received.
- If items are scanned with AI (01) afterward, the system may create a separate GRPO for each scan.

This means that even though the items are placed on the same logistic unit, multiple GRPO documents may be generated for the same pallet.

## 5.1 Scan supplier SSCCs for Identical Logistic Units

When receiving Identical Logistic Units, the operator can scan multiple supplier SSCC labels during the receiving process. The system stores each unique scanned SSCC and assigns it to a separate logistic unit. If not enough SSCC labels are scanned, the system can automatically generate SSCC numbers for the remaining units. This ensures correct traceability for all received logistic units.

### Behavior

When receiving identical logistic units:

- U = number of identical logistic units
- S = number of unique supplier SSCC labels scanned

### Technical information:

<b>S = 0</b> No supplier SSCC is scanned. The system generates SSCC numbers for all logistic units.	
<b>S = U</b> When the number of scanned SSCC labels reaches the number of identical logistic units, WMS proceeds to the next screen.	
<b>S &lt; U</b> The system warns the operator that fewer SSCC labels were scanned than the number of identical logistic units specified. <b>The operator can either:</b> <ul style="list-style-type: none"> <li>• go back and scan the remaining labels, or</li> <li>• continue and let the system generate SSCC numbers for the remaining units</li> </ul>	

**Note:** If the same SSCC is scanned more than once, it is ignored and does not increase the counter.

### Database behavior

Scanned SSCCs are stored in the PMX\_LUID table with:

- IsGenerated = 'N' for manually scanned supplier SSCCs
- IsGenerated = 'Y' for SSCCs generated automatically by the system

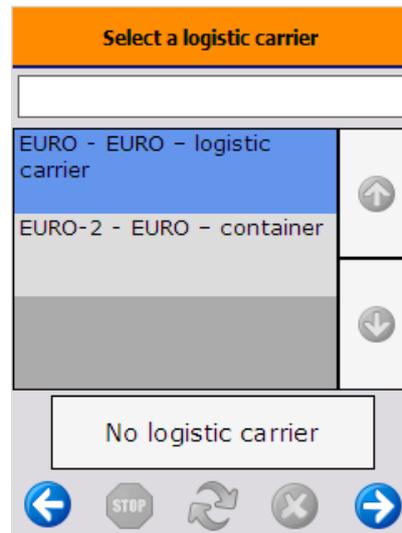
## 6. Logistic carrier

A list of logistic carriers is displayed. Select the logistic carrier from the list or tap the No logistic

carrier button if no logistic carrier is present.

The system automatically skips this screen if the Has no logistic carriers option is set to true for the vendor in the [Business Partner Master Data](#) window.

When receiving a container, the system displays the Select a logistic carrier screen if no value is provided for the card code in the [Container Management](#) window. If the card code is provided, the system works as it is set in the [Business Partner Master Data](#) window.

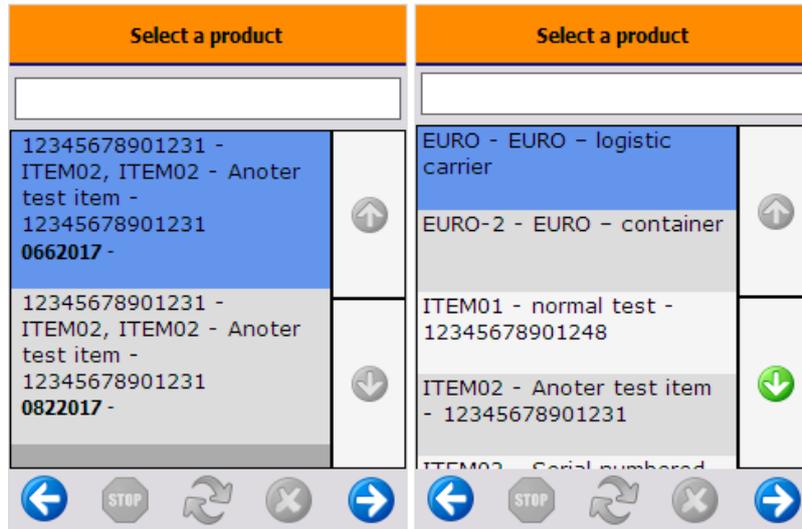


## 7. Identify item

If there were no product barcode on the scanned label or no label has been scanned, the operator is asked to scan or select a product. only items matching the following criteria can be scanned or selected:

- The purchase order/container contains the item with open quantity.
- The item is not registered for reception in the ASN table with the total open quantity for the given purchase order/container.

If the 'Check data in UDF's from PO line' option is enabled on the [Purchase delivery generator](#), purchase order lines are listed separately on the screen.



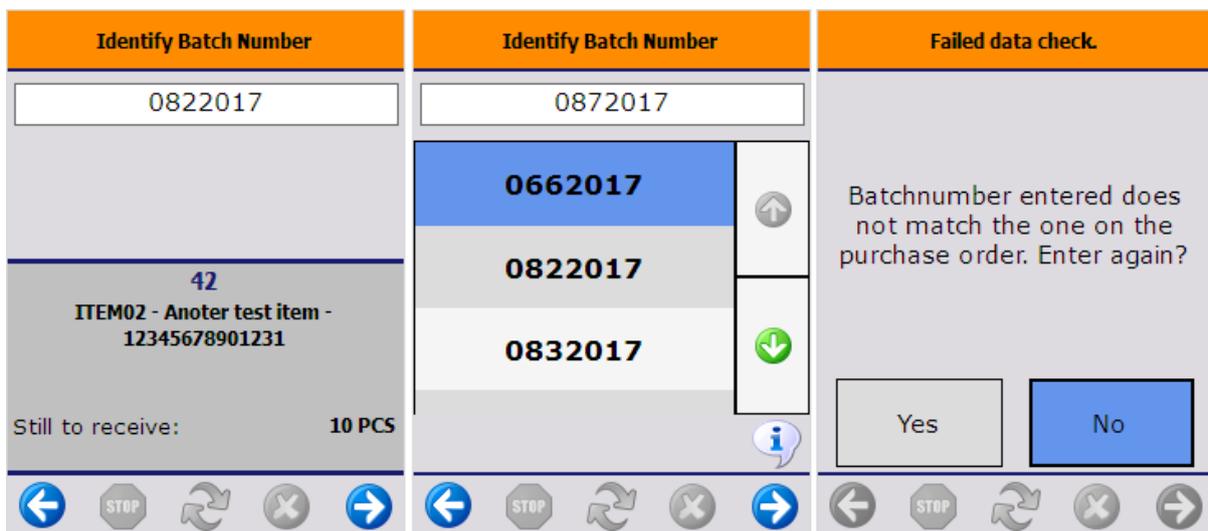
If the item has a zone type specified on the [Inventory tab](#) of the Item Master Data, and the receiving dock is not located in a zone matching with the zone type of the item, an error message will open. Acknowledge the message by pressing the 'Ok' button. The system will return to the *Scan a product* screen.



### 7.1. Identify batch number

If the item is managed by batches, and there was no batch number available on the barcode, specify the batch number. WMS only allows upper case letters in batch numbers, therefore letters in batch numbers are automatically converted to upper case. The default batch number depends on the extension selected for the [Batchnumber 1 on company controller](#).

If the allow to select batch option is set to true on the [Purchase delivery generator](#), the batch numbers currently in stock for the item are listed on the screen and can be selected.



When the item has a second batch number, add the second batch number as well. If the 'Auto select internal batch based on batch number?' option is enabled on the [Purchase delivery generator](#), and there is a second batch number in stock for the current batch, the system will automatically assign

that second batch number and skip this screen.

If the 'Check data in UDF's from PO line?' option is enabled on the [Purchase delivery generator](#), the system will check whether the entered data matches with the data on the purchase order. In the case of a mismatch a 'Failed data check' message will be shown. Press the 'Yes' button to enter the data again. Press the 'No' button to proceed with the entered data.

## 7.2. Specify the best before date

If the item has a best before date, and there was no best before date available on the barcode, add the best before date. The default best before date depends on the *Expiry def. for reception* value on the [Produmex Purchase tab](#) of the Item Master Data.

The system asks for reentering the best before date in the following scenarios:

- There is a best before date for the batch that will expire later
- The entered best before date does not match the required shelf life defined on the [Produmex Purchase tab](#) of the Item Master Data.
- The *Check data in UDF's from PO line?* option is enabled on the [Purchase delivery generator](#), and the entered best before date does not match the best before date on the purchase order.

If the *Can the user change the generated best before date?* option is not enabled on the [Best Before for Reception Generator](#), the user is not allowed to change the generated best before date. The system skips the Enter Best Before Date screen.

Enter Best Before Date	WARNING: Best before date	WARNING: Best before date
<div style="text-align: center;"> <input type="text" value="09"/> / <input type="text" value="23"/> / <input type="text" value="2017"/>  <small>month    day    year</small> </div> <hr/> <div style="text-align: center;"> <b>42</b>  <b>ITEM02 - Anoter test item -</b>  <b>12345678901231</b>            Batch number            <b>0822017</b>            Best before date        <b>9/23/2017</b>            Still to receive:        <b>10 PCS</b> </div>	<p>The best before date does not meet the required shelf life. Do you want to enter a new best before date?</p> <div style="display: flex; justify-content: space-around;"> <input type="button" value="Yes"/> <input type="button" value="No"/> </div>	<p>A best before date '9/7/2019' found in the system that expires later than entered best before date. Do you want to enter a new best before date?</p> <div style="display: flex; justify-content: space-around;"> <input type="button" value="Yes"/> <input type="button" value="No"/> </div>
<div style="display: flex; justify-content: space-between;"> <span>←</span> <span>STOP</span> <span>↺</span> <span>✕</span> <span>→</span> </div>	<div style="display: flex; justify-content: space-between;"> <span>←</span> <span>STOP</span> <span>↺</span> <span>✕</span> <span>→</span> </div>	<div style="display: flex; justify-content: space-between;"> <span>←</span> <span>STOP</span> <span>↺</span> <span>✕</span> <span>→</span> </div>

If the *Allow to calculate based on manufacturing date* option is enabled on the [Best Before for Reception Generator](#), the system allows for calculating the best before date based on the manufacturing date of the item.

The system displays the Enter Manufacturing Date button on the Enter Best Before Date screen and it navigates to the Enter Manufacturing Date screen. When the manufacturing date is provided, the system calculates the best before date based on the manufacturing date and the expiry date defined on the Item Master Data.



### 7.3. Specify additional information

If the item has other batch attributes set, identify those attributes as well.

## 8. Add the number of items

On the next screen add the number of items on the logistic unit. For more information about adding the quantity on the thin client please see: [Screens for entering additional information](#).

*Please note: On this screen the number of items on a single logistic unit can be added. If there are identical logistic units, do not add the total quantity of all logistic units.*

By default the following quantity is displayed:

- The *Default quantity on logistical unit* set on the [Produmex Inventory tab](#) of the Item Master Data
- If there is no default quantity set, then the quantity on the purchase order line

The maximum limit for the quantity to receive is the open quantity in the order unless the '*Allow to exceed ordered quantity?*' option is enabled on the [Purchase delivery generator](#).

The '*Still to receive*' quantity depends on whether there are identical logistic units or not.

- If there are no identical logistic units, the '*Still to receive*' quantity is the open quantity on the purchase order.
- If there are identical logistic units, the '*Still to receive*' quantity is the open quantity on the purchase order divided by the number of identical logistic units (rounded down).

If the purchase order is linked to a sales order, an additional info icon is displayed on the screen. Press this icon to see the customer card code, name and the sales order number.

To see the customer and the sales order number, press the information icon. The customer name (Card Code) – sales order number will be displayed on the screen.



## 9. Add more products

On the next screen verify whether there are remaining products on the logistic unit or not. The system automatically skips this screen if the '[Never deliver mixed logistic unit](#)' option is set to true for the vendor.

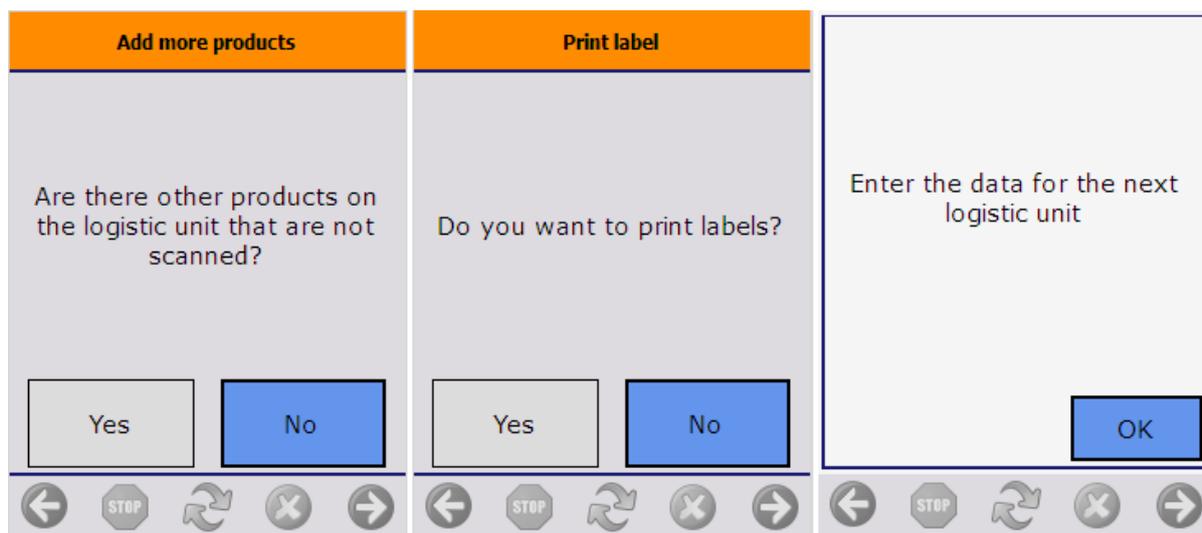
To add the next item, press the 'Yes' button.

To finish the logistic unit, press the 'No' button. The system will register the logistic unit. If there were

no logistic label, the system will create one. The *'Reception: new logistic unit identified event (101)'* print event will be triggered and the system will print the logistic label. The default report for the print event is: *DefaultGoodsReceiptLabel.rpt*.

If the *'Split received quantity into logistic units of default size'* option is enabled on the [Purchase delivery generator](#), and the item has a *'Default quantity on logistical unit'* set on the [Produmex Inventory tab](#) of the Item Master Data, the received quantity will be split to multiple logistic units based on the default quantity. An individual logistic label will be generated for each logistic unit, but only one Goods Receipt PO document will be created for the item.

If the *'Ask user to print labels?'* option is set to true on the [Purchase delivery generator](#), the system will ask whether to print the logistic label. Press a button accordingly.



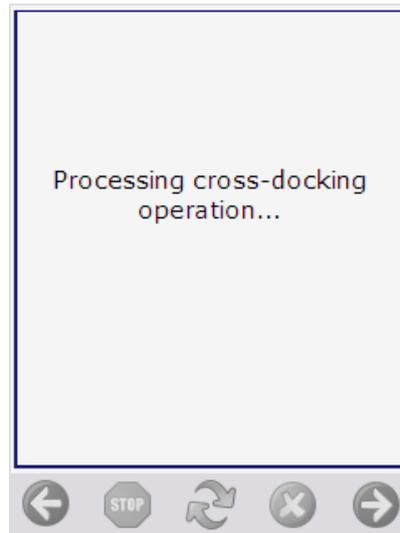
### 9.1. Continue reception

If there are more open items on the purchase order, the system will show the 'Enter the data for the next logistic unit' message. Acknowledge the message by pressing the 'Ok' button. The system will proceed to the [Scan barcodes GS1 label](#) screen.

### 9.2. Finish reception

If the *'Receive all items in one purchase delivery?'* option is not enabled on the [Purchase delivery generator](#), the system automatically generates the Goods Receipt PO document after the logistic unit is completed. Otherwise the Goods Receipt document is only created after the total quantity of the purchase order/container has been received. The *'Reception: purchase delivery note created event (100)'* print event is triggered and the system prints the document.

After the total ordered quantity is received, and the delivery note has been added in SAP B1, a *Processing cross-docking operation...* message is displayed on the screen.



- If the 'Allow to exceed ordered quantity?' option is enabled on the [Purchase delivery generator](#), it is possible to receive more than the ordered quantity. If more quantity is received than required for the linked sales order, only the sales order quantity will be included in the delivery.
- If every item on the sales order has a linked purchase order, the items will be automatically shipped after the reception has been completed. In SAP B1 the purchase and the delivery document is added and the sales and the purchase order is closed. The system will return to the 'Select a PO' screen.

*Please note: When using the PMX sales delivery, the sales order is only closed after the PMX delivery is processed.*

- If not every item on the sales order has a linked purchase order, a pick list proposal and a picklist will be created for the items without a linked purchase order after the reception has been completed. The type of the generated pick list(s) is the pick list type defined as the 'Cross-docking pick list type' on the [Purchase delivery generator](#). The system will automatically proceed to the [Picking flow](#).

*Please note: If there is no free stock, the pick list proposal is not created.*

- If the 'Auto reserve stock when purchase order is linked to sales order?' option is not enabled on the [Purchase delivery generator](#), the stock is not locked during the reception. After the reception is completed, a cross-docking type picklist will be generated and the system will automatically proceed to the [Picking flow](#). If the selected stock for the picklist is the same stock that was just received, the system will automatically pick those items.

- **Note:** Only the quantity required for the linked sales order will be reserved. If more stock is received than required, the additional quantity will remain unreserved.

## 10. Go back

### 10.1. Items on the logistic unit

If the user presses the left arrow button during the reception and there are identified items on the logistic unit, the system will ask for confirmation.

Press the 'Yes' button to go back. The list of the items linked to the given logistic unit will be cleared.

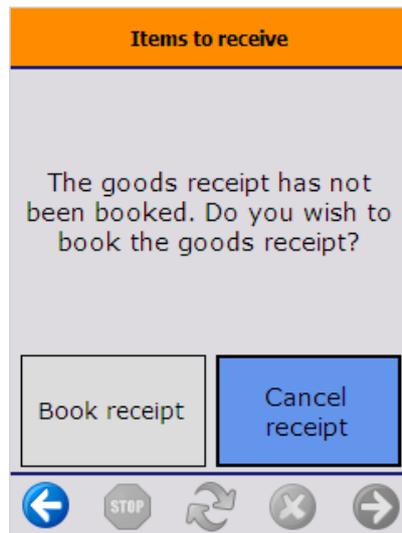
Press the 'No' button to continue the reception.



## 10.2. Goods receipt not booked yet

When processing the reception based on a purchase order, it is possible that there are logistic units already registered for reception in the ASN table, but the Goods Receipt PO document is not yet booked. In such case when the user presses the left arrow button the system will ask whether book the goods receipt for the items in question or not.

- Press the 'Book receipt' button to book the goods receipt document and receive the items into the warehouse.
- Press the 'Cancel receipt' button to clear the list of items. No goods receipt document will be created and all ASN rows will be removed for the current user.
- Press the left arrow button to go back. The system will return to the 'Select filter' screen. The items registered for reception will be kept in the ASN table. To continue the reception, select again the purchase order and proceed with the next logistic unit. When the reception is finished, the system books all the stock that is registered in the ASN table for the current user and purchase order.



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