Functional guide

1. Picklist

Please see the Stock allocation algorithm section for information about the rules of creating pick lists.

1.1. Global information

Once a wave is selected on the scanner, all the pick lists in the wave go through a process to allocate the stock to an item detailed level. This means the stock is locked on the location.
Pick list lines that have a location allocated, will get the status ‘ready’.

Stock allocation on detailed level is only done for pick locations.
Stock on a bulk location (Non-pick location) cannot be taken to pick.
Also keep in mind that the stock details from the proposal are copied.

So for example: If on the proposal a certain LUID is locked, the pick list can only take stock for this LUID. This is the same for a batch. The pick list will only allocate for locations where the batch on the proposal is stored.

There are some exceptions to allow the picking on bulk locations: Full pallets can be picked from a bulk location, if this has been configured.

Status:

Not ready *('N')*: The pick list has been created, but there is no locking done on detail level.
Partially ready *('A')*: Some of the lines still do not have locking on detailed level.
Ready *('R')*: All the lines have locking on detailed level.
Partially picked *('I')*: Some lines are picked
Picked *('P')*: All lines are picked
Partially packed *('T')*: Some lines are packed
Packed *('K')*: All lines are packed
Partially shipped *('L')*: Some lines have been shipped *(Pmx sales shipping)*
Shipped *('S')*: All lines have been shipped *(Pmx sales shipping)*
Partially delivered *('E')*: Some lines have been delivered
Closed *('C')*: All lines are closed. Either by closing the pick list or shipping all goods.
Force Close *('F')*: This is done when an operator does not count the number of collis correctly

In case a movable location is used to pick on, the lines that are picked will be in status ‘Picked’. The users need to go through the packing flow to pack the items.
When no movable location is used, the picked lines get the status ‘Packed’, because the users will not go through the packing flow.
An exception to this rule is when the option ‘Always status picked?’ is set to true on the Pick list type table *(For more explanation see Produmex pick list types (PMX_PLTY))*

Picklist Status Update

This description explains how the status of a picklist is updated and identifies the settings that can change the status.

Related sites:

- **Stock allocation algorithm**
- **Picking Flow**
- **Picklist**

Many settings affect how the pick list status is updated:

Only pick items on location on same or lower level as dock? (Y/N)

With default status picklists are created with **“Not Ready”** status.
If the **Only pick items on location on same or lower level as dock? (Y/N)** setting is enabled, then the status of the picklist is automatically set to **“Ready”** upon creation, this also means that the locking level will be LUID.

Auto select the wave? (Y/N)

If the **Auto select the wave? (Y/N)** setting is enabled on the Picklist controller, then the picklists belonging to the wave selected by the system are automatically set to **“Ready”** when the wave is shown on the Select the picklist screen.

If this setting is disabled, the pick lists in the wave are only set to **“Ready”** after the user selects the wave on the **Select the Picklist** screen and proceeds with it.

Do not lock stock on picking (picklists can be created even if no stock is available)

Enable the **Do not lock stock on picking (picklists can be created even if no stock is available)** setting at the General Settings Tab.

When this setting is enabled:

- The system does not reserve stock when creating a proposal.
- It bypasses the check for available stock quantity.
- As a result, proposals can be made regardless of current stock levels.

Make picklist ready before print? (Y/N)

In SBO, the picklist can be set to **“Ready”** during printing if the **Make picklist ready before print? (Y/N)** setting is enabled in the Picklist controller.

Make picklist ready for selected line? (Y/N)

When **Make picklist ready for selected line? (Y/N)** is enabled, the status of the pick list lines stays as **“Not Ready”**. This means the system will not allocate stock to these lines until the user selects the item using a scanner.

1.2. Stock order by

Picking, Multi-Picking, Zone Picking

Picking Flow
Multi-Picking Flow
Zone Picking Flow

The order to take the stock is based on settings in the pick list controller. If there is a custom 'Stock order by' option, the sorting will be the value of that setting.

DEFAULT

When the setting has the value *DEFAULT*. If the setting ‘Must the user pick full pallet from bulk location’ is checked, the sorting is as follows:

- BBD
- BatchNumber
- BatchNumber2
- Priority pick location
- Full pallet
- Non-pick location
- Has LUID
- Location sequence
- LUID

Note: If the ‘Must the user pick full pallet from bulk location’ and ‘Can the user pick bulk quantity from bulk location’ checkboxes are enabled then these options forces to first take larger quantity stock from a bulk location before using pick locations.

The Bulk Pick Quantity can be modified on 'Item Master Data'.

Otherwise the sorting is done as:

- BBD
- BatchNumber
- BatchNumber2
- Priority pick location
- Pick location

- Has LUID
- Full pallet
- Location sequence
- LUID

After getting this sorting, the system will loop through all the lines it finds. If during this loop, a full pallet is found on a pick location, it is stored in a separate list, and is NOT used on the pick list line. If there is still quantity to allocate after assigning the locations to the pick list line, the stock for full pallets on a pick location is used.

BIGGEST PALLET FIRST

When setting the value as *BIGGEST PALLET FIRST*, the system picks from the pallet where the remaining quantity will be lowest.

First the system sorts the stock as follows:

- highest quantity
- oldest LUID

After the sorting, the system will loop through all the lines.

- If the quantity on the logistic unit is higher than the quantity to pick, the system stores it in a memory list which is sorted by: lowest quantity/ oldest LUID.
- If the quantity on the logistic unit is lower or equals to the quantity to pick, the system assigns it to the picklist.

When there are still stock to pick after the system looped through every line, it will use stock from the memory list.

Examples

We have the following stock situation for the example:
Product A has 5 pallets in stock, the default quantity per pallet is 10 pcs. But we also have 1 ‘older’ larger pallets that has 12 pcs and also an ‘open’ pallet with only 4 pcs.

Product A	SSCC 001	12 pcs
Product A	SSCC 002	10 pcs
Product A	SSCC 003	10 pcs
Product A	SSCC 004	10 pcs
Product A	SSCC 005	4 pcs

Scenario 1: Ordered quantity = quantity on given SSCC
Example 1: We have a sales order for 4 pcs → system allocates SSCC 005
Example 2: We have a sales order for 10 pcs → system allocates SSCC 002 (oldest SSCC that matches the quantity)
Example 3: We have a sales order for 12 pcs → system allocates SSCC 001

Scenario 2: Smallest SSCC < Ordered quantity < quantity on given SSCC
Example 1: We have a sales order for 5 pcs → system allocates 4 pcs from SSCC 005 and 1 pcs from

SSCC 001 (because this is the oldest).

Scenario 3: Smallest SSCC > Ordered quantity
Example 1: We have a sales order for 3 pcs → system allocates 3 pcs from SSCC 005 (biggest SSCC that is less than the quantity to pick)

Scenario 4: Ordered quantity > Biggest SSCC
Example 1: We have a sales order for 14 pcs → system allocates 12 pcs from SSCC 001 (biggest SSCC that is less than remaining quantity) and allocate 2 pcs from SSCC 005 (smallest remaining quantity)

Scenario 5: Ordered quantity > Biggest SSCC, but lowest quantity does not fulfill the needs
For this scenario the stock is:

Product A	SSCC 001	12 pcs
Product A	SSCC 002	10 pcs
Product A	SSCC 003	10 pcs
Product A	SSCC 004	10 pcs
Product A	SSCC 005	4 pcs
Product A	SSCC 006	1 pcs

Example 1: We have a sales order for 14 pcs → system allocates 12 pcs from SSCC 001 (biggest SSCC that is less than remaining quantity). Next SSCC 006 is used, because the quantity available is more than the remaining quantity.

Now there is still 1 piece remaining. There is no more stock to be used, so now the system will loop through the remaining stock, but smallest quantity first. This means that 1 piece of SSCC 005 will be used.

Ad hoc picking

For ad hoc picking, the stock is sorted by:

- BBD
- Batch with smallest free stock
- Pick locations
- Location with most LUID’s
- Non-full pallets
- Smallest quantities per inventory line
- Location sequence

'Stock order by' query

The following tables are used in the query:

- “OITM”
- “PMX_OSSL”
- “PMX_OSWA”
- “PMX_LUID”
- “PMX_LUID” AS “MasterLUIDTable”

- “PMX_ITRI”

Subqueries with the used columns:

- “OldestSerialPerLuid”
  (“LUID”, “SerialNumber”)
- “InventoryDetail”
  (“InventoryQuantity”, “InventoryQuantityUom2”, “ItemCode”, “QualityStatus”, “PmxWhsCode”, “LocationCode”, “InternalKey”, “LUID”, “MasterLUID”, “ItriKey”)
  This subquery lists all the stock and the details needed for a ‘Detail’ level locking linked to them.
- “InventoryLUID”
  (“InventoryQuantity”, “InventoryQuantityUom2”, “ItemCode”, “QualityStatus”, “PmxWhsCode”, “LUID”, “MasterLUID”, “ItriKey”)
  This subquery lists all the stock and the details needed for a ‘LUID’ level locking linked to them.
- “InventoryBatch”
  (“InventoryQuantity”, “InventoryQuantityUom2”, “ItemCode”, “QualityStatus”, “PmxWhsCode”, “ItriKey”)
  This subquery lists all the stock and the details needed for a ‘Batch’ level locking linked to them.
- “InventoryItem”
  (“InventoryQuantity”, “InventoryQuantityUom2”, „ItemCode“, “QualityStatus”, “PmxWhsCode”)
  This subquery lists all the stock and the details needed for an ‘Item’ level locking linked to them.
- “LockedItem”
  (“LockedQuantity”, “LockedQuantityUom2”, „ItemCode”, „QualityStatus“, “PmxWhsCode”)
  This subquery lists all the stock locked on ’Item/Quantity’ level with the details needed for the locking.
- “LockedBatch”
  (“LockedQuantity”, “LockedQuantityUom2”, “ItemCode”, “QualityStatus”, “PmxWhsCode”, “BatchNumber”, “BatchNumber2”, “BBD”, “ItriKey”)
  This subquery lists all the stock locked on ’Batch’ level with the details needed for the locking.
- “LockedLUID”
  (“LockedQuantity”, “LockedQuantityUom2”, “ItemCode”, “QualityStatus”, “PmxWhsCode”, “LUID”, “BatchNumber”, “BatchNumber2”, “BBD”, “ItriKey”)
  This subquery lists all the stock locked on ’LUID’ level with the details needed for the locking.
- “LockedDetail”
  (“LockedQuantity”, “LockedQuantityUom2”, “ItemCode”, “QualityStatus”, “PmxWhsCode”, “LocationCode”, “LUID”, “BatchNumber”, “BatchNumber2”, “BBD”, “ItriKey”)
  This subquery lists all the stock locked on ’Detail’ level with the details needed for the locking.

When allocating stock for the picklist, the system will count the available stock based on the following logic:
First the system counts the difference between the inventory quantity and the locked quantity for each level.

{“InventoryItem”.”InventoryQuantity“ - “LockedItem”.”LockedQuantity“}
{“InventoryBatch”.”InventoryQuantity“ - “LockedBatch”.”LockedQuantity“}
{“InventoryLUID”.”InventoryQuantity“ - “LockedLUID”.”LockedQuantity“}
{“InventoryDetail”.”InventoryQuantity“ - “LockedDetail”.”LockedQuantity“}

The lowest calculated value will be taken as the available quantity.

1.3. No location allocated

When there is no location allocated on the pick list, it means that there is no free stock available on the locations allowed for picking.

So there is no free stock on pick locations, and (if configured to allow full pallet bulk picking) there a no free full pallets on bulk locations.

1.4. Pick list screen

1.4.1. Make delivery

On the pick list screen there is a button called ‘Make delivery’.
This button can only be used when:

- The pick list is in status ‘Ready’
- The pick list does not have any products with serial numbers
- The option ‘Do not lock stock on picking’ is not set

When clicking the button, the system will pick, pack, load and deliver the goods on the pick list.
It will use the stock details from the pick list.
It is not possible to override locations, LUID, …

1.4.2. Skip item

This button is available when:

- The form is in OK mode. This means there are no unsaved changes to the pick list.
- All selected pick list lines have status ‘Not ready’ or ‘Ready’
- At least 1 line is selected

When clicking the button, the system will skip the selected lines. This means the lines will be closed, and the items will not be picked.

1.4.3. Choose alternate item

This button is available when:

- The form is in OK mode. This means there are no unsaved changes to the pick list.
- The selected pick list line has status ‘Not ready’ or ‘Ready’
- Exactly 1 line is selected

When clicking the button, the system will show an additional screen where the user can select 1 or more alternate items to pick from.
If over picking is allowed, the system will allow the user to select more than what was needed to pick.
The list of alternate items is compiled the same way as it would on the picking flow.

1.4.4. Adjust quantity for non-inventory items

The quantity for non-inventory items can be changed when the pick list line is in status 'Ready'.

Picklist proposal

See the Stock allocation algorithm section for information about the rules of creating picklist proposals.

1. Disallowed locations

Stock on some locations is not allowed to use for creation of pick list proposals.
This includes:

- Can be lined up locations linked to a production line
- Input location of a production line
- The production line
- Special locations linked to a warehouse
- Moveable locations
- Locked locations *(Cycle count)*
- All locations linked to a WA location

There is a view that is used to get those locations: PMX_DISALLOWED_LOCATIONS_FOR_PICKING

This view used a table with cached data: **PMX_CDLP**
This table contains the following data:

- Can be lined up locations linked to a production line
- Input location of a production line
- The production line
- Special locations linked to a warehouse
- Moveable locations
- All locations linked to a WA location

The query that is used:

```
 SELECT "PMX_OSEL"."Code" FROM "PMX_OSEL" WHERE "PMX_OSEL"."TypeCode" IN
(N'PRODLINE', N'MOVLOC')
 UNION  SELECT "PMX_OSPL"."InputLocationCode" FROM "PMX_OSPL" WHERE
```

```
"PMX_OSPL"."InputLocationCode" IS NOT NULL
 UNION  SELECT "PMX_OSPL"."PickToLocationCode" FROM "PMX_OSPL" WHERE
"PMX_OSPL"."PickToLocationCode" IS NOT NULL
 UNION  SELECT "PMX_CBLU"."CanBeLinedUpLocationCode" FROM "PMX_CBLU"
 UNION  SELECT "PMX_OSWH"."StorLocLogCar" FROM "PMX_OSWH" WHERE
"PMX_OSWH"."StorLocLogCar" IS NOT NULL
 UNION  SELECT "PMX_OSWH"."StorLocRetItem" FROM "PMX_OSWH" WHERE
"PMX_OSWH"."StorLocRetItem" IS NOT NULL
 UNION  SELECT "PMX_OSWH"."StorLocLostAndFound" FROM "PMX_OSWH" WHERE
"PMX_OSWH"."StorLocLostAndFound" IS NOT NULL
 UNION  SELECT "PMX_OSWA"."InputLocationCode" FROM "PMX_OSWA" WHERE
"PMX_OSWA"."InputLocationCode" IS NOT NULL
 UNION  SELECT "PMX_OSWA"."InputWithBoxLocationCode" FROM "PMX_OSWA" WHERE
"PMX_OSWA"."InputWithBoxLocationCode" IS NOT NULL
 UNION  SELECT "PMX_OSWA"."OutputLocationCode" FROM "PMX_OSWA" WHERE
"PMX_OSWA"."OutputLocationCode" IS NOT NULL
 UNION  SELECT "PMX_OSSL"."Code" FROM "PMX_OSSL" WHERE
"PMX_OSSL"."BlockStockFromBeingUsedOnProposal" = N'Y'
```

The cached table is filled when the add-on or fat client is started.

The locked locations are retrieved when running the view, because this information can change a lot.

2. Shelf life calculation

In order to calculate the shelf life of an item for a particular customer & shipping address, the systems evaluates the shelf lives that can be found at different places. The first matching shelf life will be taken into account, according to the following priority:

- shelf life defined in the sales order line (RDR1.U_PMX_SHLF column)
  - Note: Produmex WMS does not support negative shelf life values.
- shelf life defined on the item master data for the customer code and country code
- shelf life defined on the item master data for the customer code
- shelf life defined on the item master data for the country code
- shelf life defined for the customer code and country code (@PMX_CSSL user table)
- shelf life defined for the customer code (@PMX_CSSL user table)
- shelf life defined for the country code (@PMX_CSSL user table)
- shelf life defined on the item master data (OITM.U_PMX_SLID field)

Configure Catch Weight Items

With the catch weight function, it is possible to keep track of the stock in two UoM's. The catch weight settings of an item can be set on the Produmex Catch Weight tab of the Item Master Data.

The following setup is needed for catch weight items:

- Set the inventory UoM to the lowest sellable unit, eg. pieces, cases in order to avoid rounding issues.
- Set the number of decimals of the inventory UoM to zero.
- Set the weight as the second UoM.

Example: The stock is stored in a case that contains six pieces. If the company only sells cases, the inventory UoM can be ‘piece’ or ‘case’ for this item. But if the company sells pieces as well, the inventory UoM should be pieces. When the UoM would be case, it means that one piece would be 0,16666 cases. This would cause rounding issues during picking/delivering etc.

Please note: **Serial managed catch weight items are not supported.**

Supported functionality:

- Purchase Receipt
- Purchase Return
- Ad hoc moves
- Picking
- Multi picking
- Ad hoc picking customer collect
- Packing
- Shipping
- Cycle count
- Production flow
- Production receipt flow
- Cross docking
- Put away
- Sales return
- Quality status changes
- Zone picking
- Ad hoc picking
- Mobile packing
- Consolidated packing
- Easy Stock selector
- Direct cycle count
- Picking for production
- Production manager
- Replenishment

3PL invoicing

Video

1. Configurations for the 3PL invoicing

Before starting the 3PL invoicing flow, go through the following steps:

1.1. Create business partners

Because a 3PL partner can be a customer and a vendor at the same time, in order to handle 3PL partners, create multiple business partner master records for one 3PL partner.

- Customer: Create a customer master record for sales deliveries.
- Vendor: Create a vendor master record for goods receipt PO's.
- Invoicing customer: Create a customer master record for 3PL invoices.

For the 3PL invoicing process, link the customer(s) to the vendor and the vendor(s) to the invoicing customer.

The vendor has to be entered into the Linked Business Partner field under the Produmex tab in the 'Business Partners Master Data' window of the customer.

Similarly, the invoicing customer has to be entered into the Linked Business Partner field of the vendor.

The linking mechanism allows to link multiple customers to the same vendor and multiple vendors to the same invoicing customer.

1.2. Set an owner to the item

To define the ownership of an item, use the 'Preferred vendor' field under the 'Purchasing Data' tab in the 'Item Master Data' window. Because in this field only vendor type business partners can be

selected, add the Vendor partner.

> It is not possible to set more than one owner to an item. That is why you must add a new item for each owner even though it is the same item.

1.3. Set the 3PL price(s) to the item

Open the Item Master Data window. Under the Produmex tab, go to the 3PL tab. At this tab the item's 3PL prices can be defined.

The 3PL inbound price will be used when the price calculation is based on the inbound item quantity. The 3PL outbound price will be used when the price calculation is based on the outbound item quantity.

For further information about the 3PL prices see: 3.1.3. Produmex 3PL Tab

1.4. Set the 3PL extension parameters

Set the 3PL extension parameters at the 3PL controller.
For further information about the settings in the 3PL invoicing controller click here.

1.5. Create 3PL item(s)

Create 3PL invoicing item(s) for the 3PL service. The 3PL invoicing items cannot be inventory items. The 3PL invoice will be created based on these item(s) and will only contain 3PL invoicing items.

1.6. Define a 3PL item to the 3PL price calculation

Open the 'Organizational Structure' window from the Produmex module. At the company level, go to the '3PL Invoicing' tab. Select a 3PL price calculation type, and choose a 3PL item to assign to it from the list. Only non-inventory items will be displayed in the 3PL item list. After assigning a 3PL item, check the 'Is active?' box.
For further information about 3PL price calculation types see: 5.1.11. 3PL invoicing

Additional settings for the *Storage bin location usage per location type* price calculation:

1.7. Create location types

Add location types at the Produmex Location Types window.
For further information about the location types see: 3.2.3.28. Location types (PMX_LOTY)

1.8. Set the location type

Set the location type for the bins where items are stored during the 3PL process. Location types are used when the price calculation is based on the storage bin location usage.

2. 3PL invoicing process

When activating the “3PL Invoicing” menu, the “3PL invoicing selection criteria” form opens. There, you can select an invoicing period type and an invoicing period according to the selected period type. Invoicing period types:

- Weekly: from the dropdown menu, select the year and the week. By default the previous week will be displayed.
- Monthly: from the dropdown menu, select the year and the month. By default the previous month will be displayed.
- Ad-hoc: define the period by entering dates the “date from” and the “date to” fields.

Note: It is possible to select a period which not ended yet, but a warning window will pop up after clicking on the ‘Generate Invoices’ button.

Then you can load 3PL invoicing customers that still need to be invoiced for the selected period. These are the customers who meet both of the following conditions:

- are the linked partner of another business partner
- have no A/R invoice or draft document with the “3PL Period” user-defined field set to the first date of the selected period

Select a 3PL invoicing partner from the list. When none of the partners is selected, the system will generate an invoice for each partner on the list. Different generation types can be selected:

- Add mode: the invoice can be modified manually before being added
- Draft: the invoice can be saved as a draft
- Create: the invoice will be created immediately

The 3PL invoices consist of a certain amount of prices, in separate lines, all calculated differently. The created 3PL invoice is linked to the invoicing period by the ’3PL Period’ UDF. This UDF contains the starting date of the invoicing period. Business partners who already have an invoice for the same starting invoicing date will not be listed in the 3PL invoicing selection criteria window.

2.1. Inbound document count

The quantity is the number of goods receipt PO's with the Doc Date included in the invoicing period.
The unit price is the invoicing item's price, for the price list of the invoicing customer.

2.2. Inbound line count

The quantity is the total number of goods receipt PO lines belonging to goods receipt PO's with the Doc Date included in the invoicing period.
The unit price is the invoicing item's price, for the price list of the invoicing customer.

2.3. Inbound item quantity

For each goods receipt PO line, a price is calculated that is equal to the item's 3PL inbound price (which can be set up on the Produmex tab of the item master data) multiplied by the received quantity (in inventory UoM). The inbound item quantity price is the total of all these prices for ¬all goods receipt PO's in the invoicing period.
On the 3PL invoice, the quantity for that item is always 1, and the total price is set as unit price.

2.4. Outbound document count

The quantity is the number of sales deliveries with the Doc Date included in the invoicing period.
The unit price is the invoicing item's price, for the price list of the invoicing customer.

2.5. Outbound line count

The quantity is the total number of delivery lines belonging to sales deliveries with the Doc Date included in the invoicing period.
The unit price is the invoicing item's price, for the price list of the invoicing customer.

2.6. Outbound item quantity

For each sales delivery line, a price is calculated that is equal to the item's 3PL outbound price (which can be set up on the Produmex tab of the item master data) multiplied by the delivered quantity (in inventory UoM). The outbound item quantity price is the total of all these prices for ¬all sales deliveries in the invoicing period.

On the 3PL invoice, the quantity for that item is always 1, and the total price is set as unit price.

2.7. Storage bin location usage per location type

For each location type for which active 3PL settings have been defined, the algorithm calculates the bin location usage of each supplier's stocks on this location type, day per day. The stock level of every day is calculated from the current inventory and the inventory history.
For each day, the algorithm calculates the list of locations that should be invoiced for storage of the supplier's items:

- If 'Daily used number of locations' is active, then all bin locations that have contained any item of the supplier will be added to the list
- If 'Daily final stock' is active, then all bin locations that contain any item of the supplier will be added to the list

The storage price of each bin location is defined in the price list of the item linked to its location type, and the total storage price for the day is the sum of the bin location prices. If a bin location has no location type, then its price is zero.
If the shortest invoiceable duration is 'Week' or 'Month', then if a location is used on any day of the week/month, it is considered as used during the whole week/month, and its daily storage price is then multiplied by the corresponding number of days.
On the 3PL invoice, one separate line is added for each location type that takes part into the calculation.

Produmex WMS Add-On Screens

- Inventory Report
- Sales
- Purchasing
- Inventory
- Production Manager
- Reports
- Interfacing
- Support Tools
- Stock Selector
- Free Stock Screen
- Inventory revaluation

Barcodes: Variable GTIN

Variable GTIN barcodes are GTIN-14 barcodes, which contain information about a certain value encoded as a part of the 14 digit barcode. This value can have different purposes, such as weight,

price, volume, dimensions. Produmex WMS supports variable measure item barcodes that contain the weight encoded.

The prefix in a GTIN barcode depends on the country where the product is used. Since it is not internationally used, a certain prefix can have a different meaning depending on the country. To be able to handle this difference, special configurations are required.

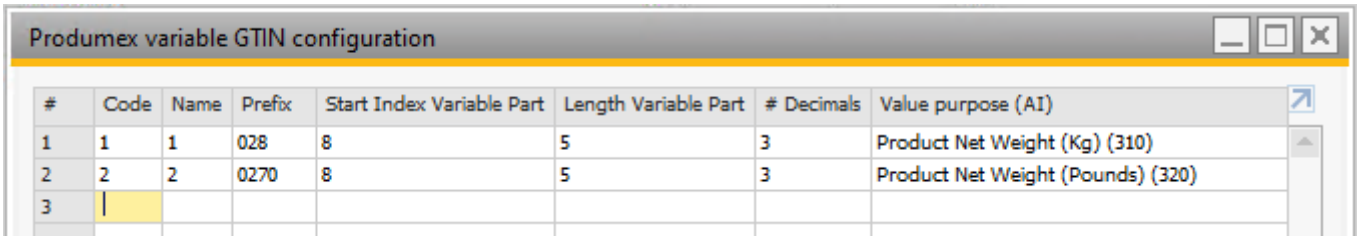
Supported flows:

- Purchase

1. Configuration

1.1. Produmex variable GTIN configuration user table

Open the user table via the path: Tools > Default Forms > PMX_VGTC - Produmex variable GTIN configuration. The configuration of what prefixes are a variable GTIN barcode, and what purpose of the variable value means are stored here. See: Produmex variable GTIN configuration (PMX_VGTC)



1.2. Item Master Data

On the Item Master Data set the barcode type as GTIN-variable.
Set the barcode as the fixed part. The fixed part is every digit before the *Start Index Variable Part* set on the PMX_VGTC table.

Produmex currently only supports variable weight for catch weight items. Configure the catch weight settings on the Produmex Catch Weight tab of the Item Master Data.

- Set the *GS1 AI for UoM1* to 'Count'.
- Set the *GS1 AI for UoM2* to the same value as the *Value purpose (AI)* on the 'Produmex variable GTIN configuration' user table.
- Configure the *UoM to Use for Purchase/Inventory/Sales* setting as well.
  Note: If it is set as '*Pieces*', then the number of pieces is calculated from the weigh in barcode, but the weight itself is not saved in the system. Instead a default weight is saved which is calculated based on the number of pieces and UoM conversion set on the Produmex Catch Weight tab.

2. Process

When a barcode is scanned, Produmex WMS first checks if the scanned barcode has a prefix available in the variable GTIN configuration table.

- If not, then the barcode is regarded as a normal GTIN and the whole barcode is matched against the Item Master Data.
- If there is such a prefix:
  - The variable part and the check digit are removed to retrieve the fixed part. The remaining digits are matched against the Item Master Data.
  - Then the system gets the value of the variable part and stores in the field defined in as the *Value purpose (AI)* field.

Example

PMX_VGTC UDT

- Prefix = 028
- Start Index Variable Part = 8
- #Decimals = 3
- Length = 5
- Value purpose (AI) = Net weight (kg)

Item Master Data

	CW_VGTIN	**CW_VGTIN2**
Header > Barcode	02801180	02801290
Header > Barcode type	GTIN-Variable	GTIN-Variable
Produmex Catch Weight tab > Catch Weight Item	Y	Y
Produmex Catch Weight tab > Catch Weight Item	Net weight kilo	Net weight kilo

Example barcode 1
0280118007040 5
It consists of the following parts:

- **02801180** - Fixed part
- **07040** - Variable part
- **5** - Check Digit

The fixed part identifies the item, as it is 02801180, the item is CW_VGTIN. As the value purpose AI is '*Net weight in Kg*', the variable part contains the weight. The variable part is 07040, and since the number of decimals is 3, the weight is 07.040 = **7.04 kg**.

Example barcode 2
0280129030523 7
It consists of the following parts:

- **02801290** - Fixed part
- **30523** - Variable part
- **7** - Check Digit

The fixed part identifies the item, as it is 02801290, the item is CW_VGTIN2. As the value purpose AI is '*Net weight in Kg*', the variable part contains the weight. The variable part is 15523, and since the number of decimals is 3, the weight is **30.523kg**.

Location Suggestions

Overview

This page provides a summary of the key information related to the **Location Suggestion** feature. It includes the settings that influence the **Location Suggestion** functionality.

Be aware, the following windows contain settings that can affect how the Location Suggestion feature behaves:

- Item Master Data
- Location Controller
- Reason tab
- Connection between Reason & Location suggestion
- Location controller
- Warehouse settings
- Purchase Delivery Generator
- Organizational Structure

1. High level explanation

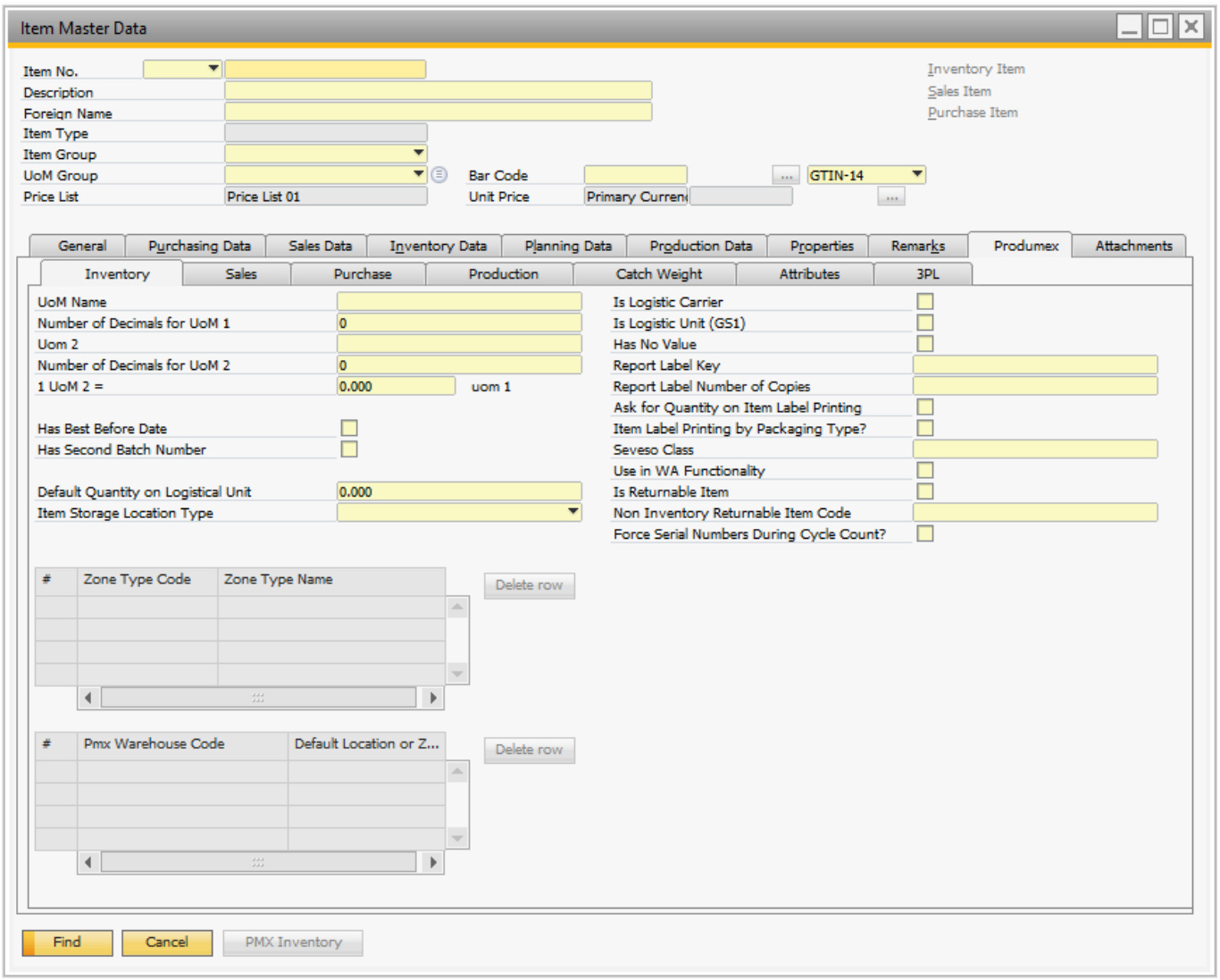
When the location suggestion is enabled, the system will suggest a location for the stock that is being moved in the following flows:

- Reception *(In case of receiving on location instead of dock)*
- Put away
- Ad hoc moves
- Move orders
- Unpicking for production
- Undo picking
- Consolidated moves

When a destination location needs to be entered these flows will perform the following scenario:

1. Check if location suggestions are enabled
2. Enabled:
    1. Get list of suggested locations
    2. Show first suggested location on the screen
    3. Enter a location or select a location
        1. The list of suggested locations is displayed on the screen after the ‘Select location’ button is pressed
    4. When the location is not the first suggested location or an empty location:
        1. Enter a reason
3. Not enabled:
    1. Enter a location or select a location
        1. All valid locations are allowed

1.3.1. Inventory



Inventory UoM Name

Inventory UoM is an existing SAP Business One field, with a formatted search on the SAP OUOM table. This table contains all the defined UoMs.

Set the inventory UoM to the lowest sellable unit (for example pieces, cases) to avoid rounding issues. For further information please visit Inventory UoM site.

Number of Decimals for uom1
This field indicates the number of decimals for the first UoM. This is used in flows when entering a quantity.

Uom 2
Uom2 identifies the second UoM for the item.

1 uom 2 =
If a second UoM is defined, the conversion rate between the two UoM's is entered in this field.

Has best before date
If the item has a best before date, this field has to be ticked.

Has second batch number
Defines whether the item has a second batch number.

Default quantity on logistic unit
Defines whether the item has a default quantity on a logistic unit.
Is used for:

- Splitting a proposal in full pallets/item picking
- Cycle count flows: When configured to propose default quantity, this field is used
- Bulk receiving
- Bulk shipping
- Production: Splitting produced quantity
- Reception: Default quantity when entering quantity
- Reception: When configured to split quantity into multiple logistic units, this is the quantity of a logistic unit

Item storage location type
It defines the item storage location type.
The list is retrieved from the Item Storage Location Type (PMX_ISLT) UDT.
This is used in the Location Suggestions functionality and the item location type can be set for bin locations.

Is logistic carrier
This field has to be ticked if the item in question is a logistic carrier (pallet, europallet, container, ...).
An item can be a logistic carrier as well as a returnable item, e.g a europallet.

Is logistic unit (GS1)
A logistic unit is an individual unit that has been composed for transport and/or storage and have to be manageable throughout the supply chain. These items are identified by means of the Application Identifier 01 in the GS1 standard.

Has no value

Only applies to logistic carriers. If this is checked, the system will allow to deliver the logistic carrier free of charge to the customer during ad hoc picking – customer collect.

Report label key
The identification of the label that belongs to a specific item.

Report label number of copies
The number of labels that have to be printed for a specific item.

Ask for quantity on item label printing
If checked the system will ask to enter a quantity. This entered quantity is passed to the label. This can be used for instance to put the weight on the label.

Item label printing by packaging type
If checked the system will print item labels based on packaging types. When item labels need to be printed, the user can enter the number of labels by each packaging type + inventory uom. On the Produmex Attributes tab it is possible to set a specific report for each packaging type. Also the number of copies can be set there.
If the global option on Company for automatic printing of item labels during goods receipt is set to true, and the option for printing item labels by packaging type is set to true, the system will print the label for the packaging type linked to the purchase order, of purchase uom in case of receiving without PO.

Seveso class (Hazmat in North America)
With the setting it is possible to define the seveso class the item belongs to. The configuration is available with the PMX_SEVE UDT.

When a purchase order is created for an item, the system checks the current inventory for that item. If the current inventory exceeds the maximum inventory set on the PMX_SEVE table, a warning is shown. Still, the order can be added and the stock can be received on the Mobile Client without any further warning.

Use in WA functionality
Enable this option to use this item for the WA functionality.

Is returnable item
This field is checked if the item in question is a “returnable item” (“empties”).

Non-inventory returnable item code
This field contains the item code of the non-inventory returnable item. This code is used for the delivery and receipt of returnable items (“empties”) and is one-to-one coupled with the inventory item code of the same returnable item. (This is configurable on the organizational structure on the ‘General’ tab of the company)

Force serial numbers during cycle count?
When this option enabled for an item with PMX serial numbers and track location enabled, then serial numbers must be entered during cycle counting operations. Otherwise, it's also possible to just enter the counted quantity.
Note: This option has no effect on SAP serial numbered items.

Zone type code
Apart from indicating a standard location or zone, the user can also specify the zone type code. If such a code is entered, the system verifies upon storing an item whether it can be stored in this zone

and prevents the item from being stored in a different zone. This can be used for instance if a product needs to be ‘cooled’. If the product has this zone type, it can only be stored on location within a zone that is also ‘cooled’.

Note: Items with assigned Zone Types during a duplication action will carry over the defined Zone Type to the duplicated Item as well.

Default location or zone code
On this grid a default location or zone can be specified for each warehouse for the item. The default location/zone is shown as information on the handheld.

Select the warehouse from the drop-down list on the *Pmx Warehouse Code* field. Every warehouse that is managed by Produmex can be selected.
Add the code of the location or the zone on the *Default location or zone code* field. Only locations or zones that belong to the selected warehouse can be added.

To remove a line, select the line and click on the `Delete row` button.

Note: Produmex WMS ignores the option if the Use Location Suggestion? setting is enabled on a warehouse level.

2. Location controller - Handle location suggestions

The location suggestion can be enabled and configured on the location controller. When a location needs to be suggested, the list will only show locations that fit the requirements.

2.1 Use location suggestions?

The location suggestion can be disabled for a warehouse. If the destination warehouse has the setting '*UseLocationSuggestions*' disabled, no location will be suggested from the warehouse and all valid locations can be selected when the stock is being moved.

2.2 Suggest locations

If both settings are enabled, the following logic will be performed:

- Location controller

- Use location suggesions
- Get empty location
- Get base locations
- Get put away zones
- Get location suggestions
- List location suggestions

Get empty fixed pick location

A fixed pick location will be suggested first when all the following are verified:

- If the 'Allow to suggest an empty fixed pick location' option is enabled on the Location Controller.
- If there is only one item to be moved.
- If there are empty fixed location(s) or empty location(s) which can be replenished.
- If the batch to move is the oldest batch on a bulk location. (FEFO, Itri)

Get base locations

Next the system identifies the base location(s) for the item(s) to move. Base locations are used only for identifying the put away zones and will not be suggested by the system.

Base location(s) can be the following:

- locations that are 'Fixed' and assigned to the item
- locations that are 'Can be replenished' and assigned to the item
- location is defined as the Standard location for the item on the Produmex Inventory tab of the Item Master Data. *Please note: if a standard zone is defined for the item, it's not taken into account.*

When multiple items are moved, all base locations for the items to move will be retrieved.

Get put away zones

Base locations can be linked to a put away zone, but should not belong to it. (The *'Location belongs to the Put Away Zone'* option should not be checked). If a location belongs to a put away zone, it will not be considered as a base location.

After the system identifies the base locations, it executes a query to check if there are put away zones linked to the base locations.

When there are put away zone(s) linked to the base location(s), the put away zone(s) are used to identify the locations to be suggested and to define the order of these locations.

To define the order of the locations that can be suggested, the system uses the following logic:

1. First it sorts the linked put away zones based on the sequence of the put away zone.

2. Then starting from the first zone, it sorts the locations belonging to the zone. The locations belonging to the zone are sorted based on the pick sequence defined on the 'General' tab of the location. If the *'Sort Pick Sequence Descending'* option is not enabled for the put away zone, the belonging locations are sorted ascending, otherwise the locations are sorted descending.

Example
In the example we move the item *'Item A'*. The item has no default storage location. The destination warehouse has the following locations:

Location Code	**P1.1.**	**P1.2.**	**A1.1.**	**A1.2.**	**A1.3.**	**A2.1.**	**A2.2.**	**A2.3.**
Fixed? (ITEM A)	Y	N	N	N	N	N	N	N
Can be replenished? (ITEM A)	N	N	N	N	N	N	N	N
Put away zone (linked)	Z1, Z2	-	-	-	-	-	-	-
Put away zone (belongs to)	-	-	Z1	Z1	Z1	Z2	Z2	Z2

First the system identifies the base locations. In our example there is one base location:

- **P1.1.**, because it is fixed for Item A.

Next the system finds the put away zones. In our example there are two put away zones:

- **Z1**, because it is linked to P1.1.
- **Z2**, because it is linked to P1.1.

Finally the system will get the list of locations that belong to the identified put away zones. In the example the following locations belong to a zone:

Location Code	**A1.1.**	**A1.2.**	**A1.3.**	**A2.1.**	**A2.2.**	**A2.3.**
Put away zone (belongs to)	Z1	Z1	Z2	Z2	Z2	Z2
Pick sequence(belongs to)	1	2	3	1	2	3

Scenario 1
Base location P1.1. has linked put away zones with the following configuration:

Put away zone	**Z1**	**Z2**
Sort Pick Sequence Descending	N	N
Sequence	1	2

When the system will get storage locations, it will use this order:
A1.1, A1.2, A1.3, A2.1, A2.2, A2.3

Scenario 2
Base location P1.1. has linked put away zones with the following configuration:

Put away zone	**Z1**	**Z2**
Sort Pick Sequence Descending	N	Y
Sequence	1	2

When the system will get storage locations, it will use this order:

A1.1, A1.2, A1.3, A2.3, A2.2, A2.1

Get location suggestions

When there are put away zone(s) linked to the base location(s), only locations that belong to the put away zone(s) can be suggested.

When the base location(s) have no linked put away zones, all locations can be suggested.

When there are no base location(s), all locations can be suggested.

List location suggestions

After the locations that can be suggested are queried, the system filters and sorts the list in order to list location suggestions.

Filtering

- A location is not allowed if the item cannot be stored on the location based on the zone type.
- A location is not allowed if the item cannot be stored on the location based on the fixed items of the location.
- A location is not allowed if the maximum number of logistic units will be exceeded.
- A location is not allowed if the *'Block move when location is not empty'* option is enabled for the location and the location is not empty.
- A location is not allowed if the Item Storage Location type of the location is not the same as the Item Storage Location Type of the item. If there are multiple items to move that have different location types, every location with one of the Item Storage Location Types linked to the item are allowed.
- Only bulk locations are allowed if the *'Allow to suggest pick locations during moves/put away'* option is not enabled on the Location Controller
- A location is not allowed if the *'Block move when location is not empty'* option is enabled for the location and the location is not empty.
- If pick locations are allowed, but the *'Can be put on a pick location'* option is disabled for the quality status of the stock to be moved, then no pick locations can be suggested

Please note: The quality status allowed on the location is not taken into account during the filtering of the locations.

Sorting

After the list of locations is filtered, the system sorts the remaining locations. The found locations will be sorted by the *Order by* clause defined on the location controller. However there are a few additional rules:

- When enabled, an empty fixed pick location will be suggested first (See *Get fixed pick location*

section).
- Next the suggested locations are added
- In case a flow first builds a list of moves, before adding them to the database, a list of already selected locations is kept in memory. When the suggested location is a location that has already been selected, it will be added to the suggested locations after the 'normal' suggested location. This is to avoid always showing the same location as the first suggested location.
- If a suggested location is actually the source location to move from, it will be added to the bottom of the list.

When the *'Force to use first suggested location during moves/put away'* option is enabled on the location controller, the user has to select a reason in order to proceed if the scanned/selected location is not the first suggested location or an empty location. Every reason with the flag '*Use for standard flow deviation*' can be selected. The selected reason and the first suggested location is stored in the PMX_MVLI table.

2.11. Reasons tab

Define the reasons that can be used in Produmex WMS flows on the Reasons tab. A reason might be required to perform certain actions or to explain why a specific action cannot be completed or a specific item cannot be used.

Add the code, name and sequence number of the reason. The sequence number defines the order the reason is shown on the terminals.

Then specify when the reason can be used by checking the corresponding checkbox.

If extra explanation is needed, check the 'Requires extra reason text' checkbox as well.

2.12. Connection between Reason & Location suggestion

For more information about location settings follow this link to the Location controller site.

When the location suggestion is enabled, the system will suggest a location for the stock that is being moved in the following flows:

- Reception *(In case of receiving on location instead of dock)*
- Put away
- Ad hoc moves
- Move orders
- Unpicking for production
- Undo picking
- Consolidated moves

When a destination location needs to be entered these flows will perform the following scenario:
Check if location suggestions are enabled
Enabled:

1. Get list of suggested locations
2. Show first suggested location on the screen
3. Enter a location or select a location
    1. The list of suggested locations is displayed on the screen after the ‘Select location’ button is pressed
4. When the location is not the first suggested location or an empty location:
    1. Enter a reason

Not enabled:

1. Enter a location or select a location
    1. All valid locations are allowed

Example - Ad Hoc Movement with default location and location suggestion

Let's see a simple example for an **Ad Hoc Movement** and how to configurate the settings in **Item Master Data** for in Item that has to be asked for a reason to move to a Zone or out of the the Zone.

1. Make sure you enabled the **“Use Location Suggestion?”** option in your selected Warehouse where the preferred Zone is located for the Ad Hoc Movement. In this case I will use the **GeneralWarehouse (01)**.

2. As a next step configurate the chosen Bin under the preferred Zone.
GeneralWarehouse (01) → Zone for logisticWh01 → B.0009

3. Select and configurate the default location on **Item Master Data → Produmex → Inventory** tab for your chosen Item.

4. Open the Mobile Client to process the Ad Hoc Movement.
Logistics → Move → Ad Hoc Movement → Local Move → Full Logistic Unit
Now **“Scan an SSCC”**, in the example the Item's SSCC is **“00000000000000000314”**. Clicking on the forward button, as expected the default location is suggested on the bottom of the Mobile Client as we configurated.

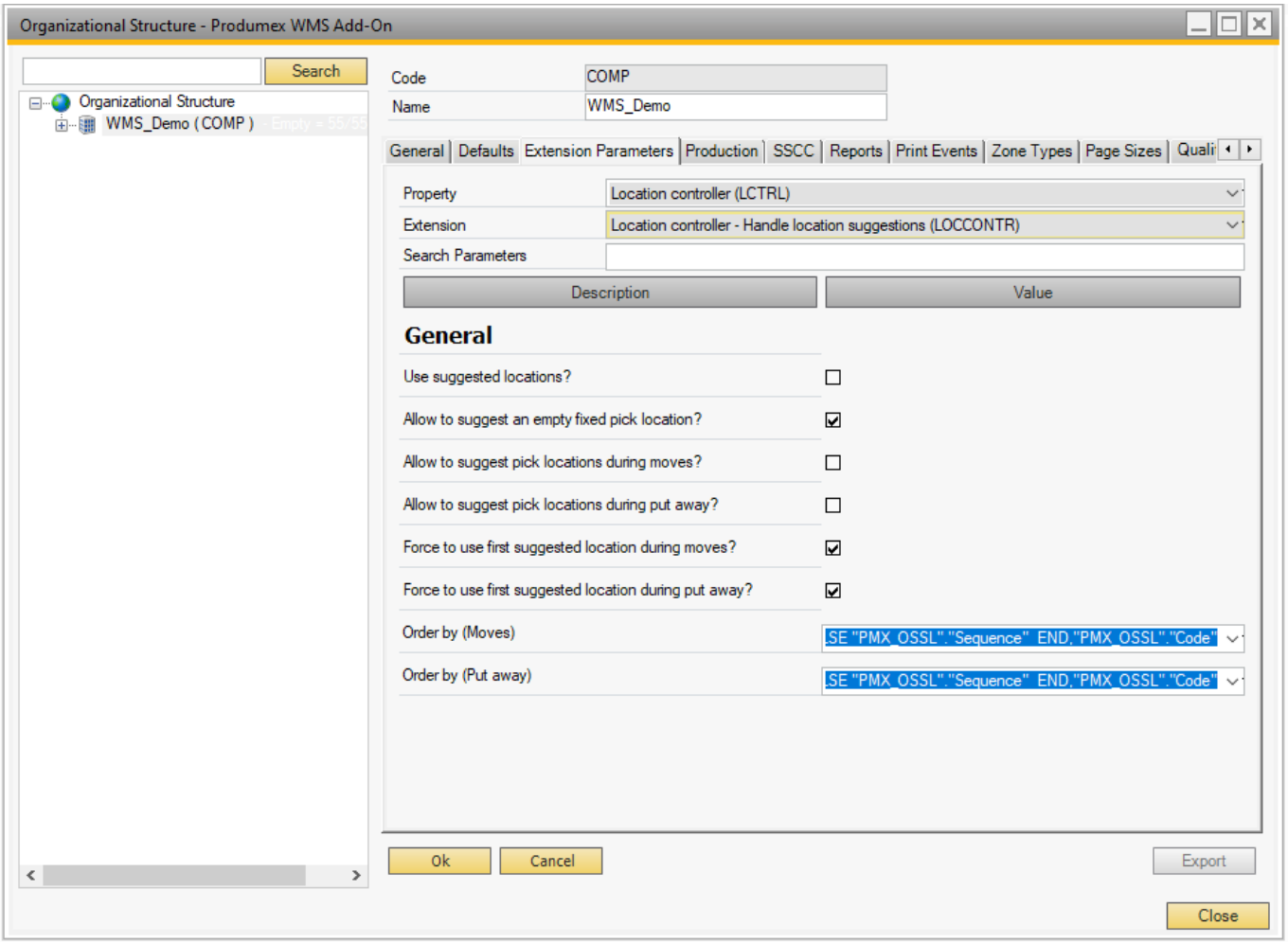
5. **If you are selecting a Bin that is NOT the suggested location, the system will ask for a reason.**Select and write your reason ant the Ad Hoc Movement will be done.

2.3.45. Location controller

This controller holds the configuration for suggesting locations on moves.

Extension: Location Controller - Handle Location Suggestions

This controller uses put away zones to get a list of possible locations to store the goods.



Use suggested locations?
Enables the location suggestion functionality.

Allow to suggest an empty fixed pick location?
When getting the list of locations, can an empty fixed pick location be suggested? If an empty fixed pick location is found, this will be the first suggested location.

Allow to suggest pick locations during moves?
Are pick locations allowed to be suggested?
This is used on the ad hoc move flows.

Allow to suggest pick locations during put away?
Are pick locations allowed to be suggested?

This is used on the put away or reception flow.

Force to use first suggested location during moves?
Is the user forced to use the first suggested location?
If he is forced to do this, but he enters another location, he will need to enter a reason.
This is used on the ad hoc move flows.

Force to use first suggested location during put away?
Is the user forced to use the first suggested location?
If he is forced to do this, but he enters another location, he will need to enter a reason.
This is used on the put away or reception flow.

Order by (Moves)
The order by clause for the locations that need to be retrieved.
A predefined value can be selected:

- CASE COUNT(“PMX_INVT”.“InternalKey”) WHEN 0 THEN 0 ELSE 1 END, ISNULL(“PAZ”.“Sequence”, 999999999),CASE WHEN “PAZ”.“SortPickSequenceDescending” = 'Y' THEN “PMX_OSSL”.“Sequence” *-1 ELSE “PMX_OSSL”.“Sequence” END,“PMX_OSSL”.“Code”

It sorts the location on:

- Empty locations
- Put away zone sequence (Defined on the location)
- Pick sequence of locations that belong to the put away zone
- Location code

The value can be adjusted freely.

The setting applies to the following flows:

- Ad hoc moves
- Move orders
- Unpicking for production
- Undo picking
- Consolidated moves

Order by (Put away)
The order by clause for the locations that need to be retrieved.
A predefined value can be selected:

- CASE COUNT(“PMX_INVT”.“InternalKey”) WHEN 0 THEN 0 ELSE 1 END, ISNULL(“PAZ”.“Sequence”, 999999999),CASE WHEN “PAZ”.“SortPickSequenceDescending” = 'Y' THEN “PMX_OSSL”.“Sequence” *-1 ELSE “PMX_OSSL”.“Sequence” END,“PMX_OSSL”.“Code”

It sorts the location on:

- Empty locations
- Put away zone sequence (Defined on the location)
- Pick sequence of locations that belong to the put away zone
- Location code

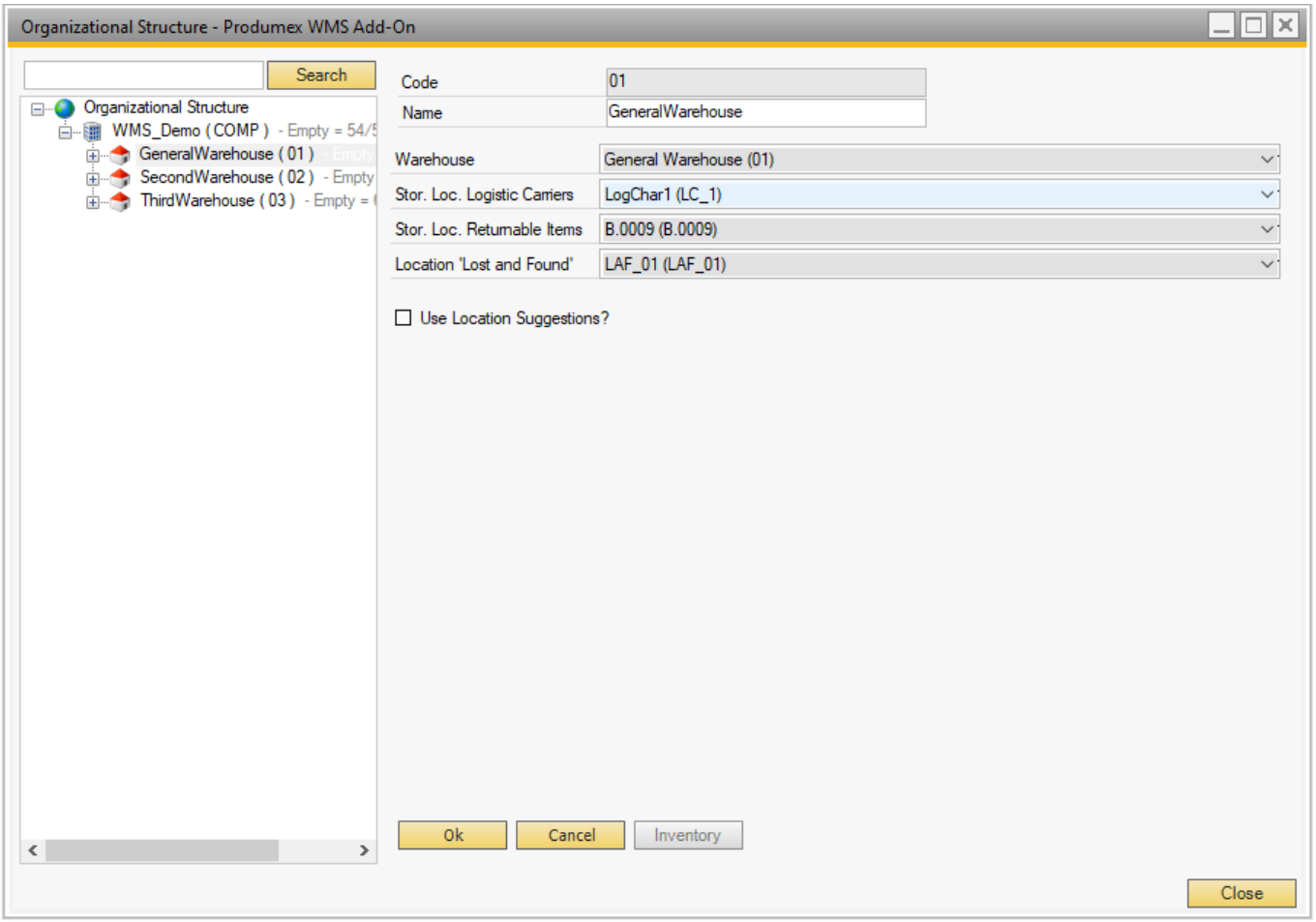
The value can be adjusted freely.

This is used on the put away or reception flow.

For more information about the usage see: Location suggestions

3.1. Warehouse settings

On the warehouse level the following settings can be defined:



Warehouse
This is the link between the warehouse defined in Produmex and the warehouse in SAP Business One *(Cfr. Administration → Setup → Inventory → Warehouses.)*
Each SAP warehouse can only be linked once in Produmex warehouses.

Stor. Loc. logistic carriers
The location in the warehouse where the logistic carriers are located *(in case you have indicated at the company level that logistic carriers have to be stored at one location per warehouse)*.
This location needs to be a pick location!

Stor. Loc. returnable items
The storage location for the returnable items. This is used when inventory returnable items are used.

Location 'Lost and Found'

The ‘Lost and Found’ location for that warehouse. All item differences counted during cycle counting *(indirect cycle counting)* will be moved to the Lost and found location in case this is set up on the CycleCountController.

Stock on storage locations set for Lost and found, logistic carriers, … are not taken in account to create pick list (proposals).

Use location suggestions?
Set whether location suggestions will be used for move in or to this warehouse. This is used in the Location Suggestions functionality.

5. Full logistic unit

5.1. Scan an SSCC

Scan the SSCC on the logistic unit to move.

5.2. Identify destination location

Scan the destination location or select it from a list after pressing the ‘Select other location’ button. In case of a warehouse transfer, only locations from the selected warehouse can be scanned or selected.

When the location suggestion is enabled for the warehouse, the *Default location* is the first suggested location calculated based on the logic described in Location suggestions.

Note: When we use the suggested location functionality in the reception flow (receiving items to a location instead of a dock) and the system cannot find a suitable location for the item, it automatically receives the item to the dock.

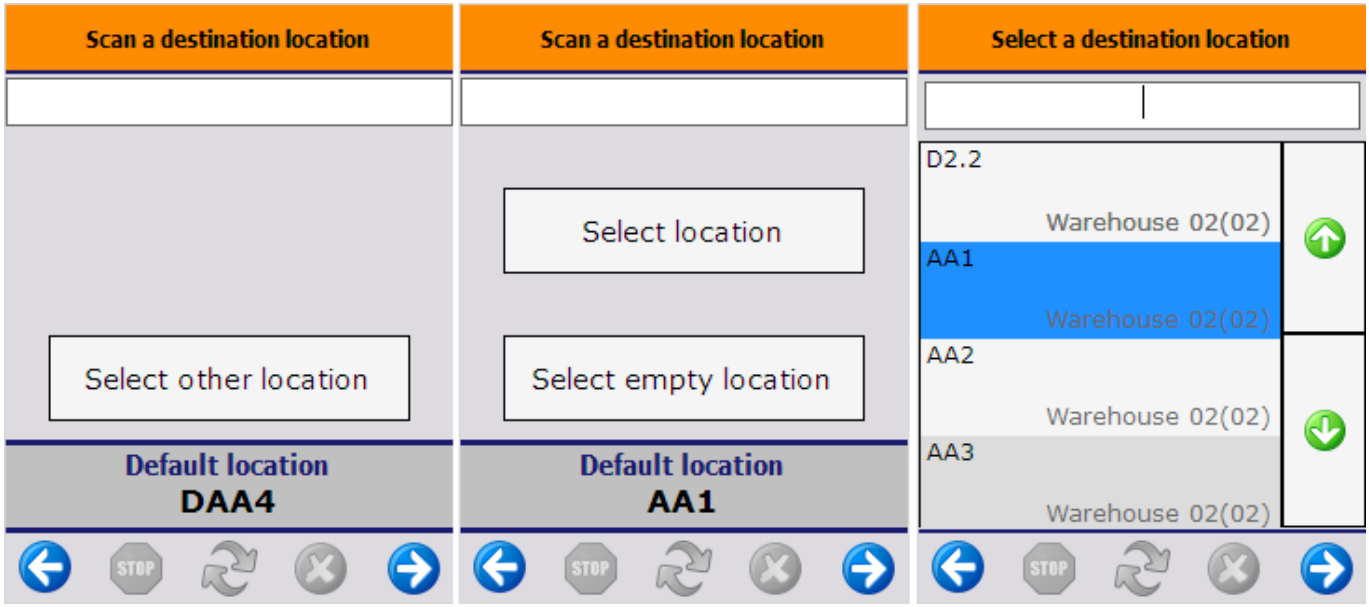
When the location suggestion is not enabled for the warehouse, the *Default location* is the standard location set for the given warehouse on the Produmex Inventory tab of the Item Master Data of the item. If the items to move have different standard location set for the warehouse, no default location is displayed.

When the location suggestion is not enabled, an additional ‘Select empty location’ button will be displayed. To execute the move to an empty location, press this button and select a location from the list.

In case of a warehouse transfer, the *‘Warehouse: move has been added (701)’* print event will be triggered after the destination location had been selected, if the print event is defined.

Note: Assigning a logistic carrier to a Master SSCC is not supported.

When moving Beas reserved stock, confirmation is required. See: Moving stock reserved for Beas



5.3. Logistic unit/ items are moved

After scanning or selecting the new destination location, the ad-hoc movement is registered and the system displays the message: Logistic unit/Items are moved. The movement is booked as a ‘Move’ in case of local moves, or as a ‘Warehouse transfer’ in case of warehouse transfers.

6. Receive on location instead of dock?

Original documentation:Purchase Delivery Generator

By default Produmex will receive the goods on the selected dock. But it is possible to let the user identify another location. In this case the items are stored directly on the warehouse location, and no put away is created.

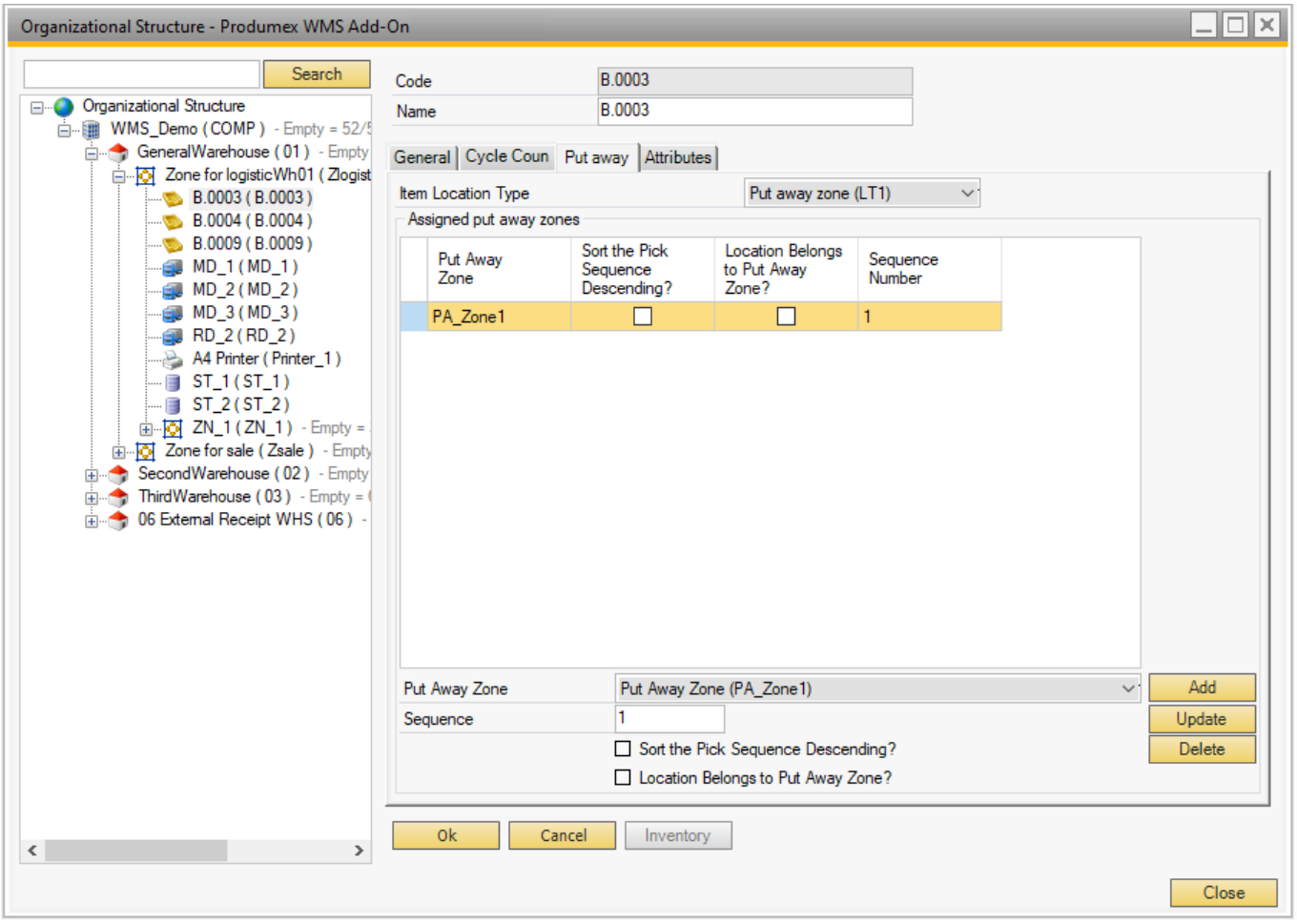
When we use the suggested location functionality in the reception flow (receiving items to a location instead of a dock) and the system cannot find a suitable location for the item, it automatically receives the item to the dock.

Note: The setting does not apply to the Bulk Reception Flow.

7. Put Away tab

Original documentation:Organizational Structure

This is used in the Location Suggestions functionality.



Item Location Type
This can be used to link a location to an item.
An item can also have an item storage location type.
When locations need to be suggested, and an item has a location item type selected, only locations with the same item location type are allowed. The list of item storage location types is stored in the PMX_ISLT default form.

Put Away Zone
This stores for a certain storage location:

- What the zones are where the items can be placed
- Or to what put away zone a location belongs to

The list of the Put Away Zone drop-down menu is defined by the Put away zone (PMX_PAZO) default form.

Sort the Pick Sequence Descending?
Locations belong to a put away zone. How are locations within this zone sorted? Pick sequence descending or ascending?

Location Belongs to Put Away Zone?
Does this location belong to a put away zone? If it is not checked, it means that when goods need to be put away for the current location, the system should look for locations that belong to this zone.
If it is checked, the location belongs to this put away zone.

Sequence number

This is the sequence number for the put away zones. It defines the order in which locations in a put away zone needs to be retrieved.

For more information see Location Suggestions.

9. Packing flows

Because the packing station is a fixed location, most of the packing flows run on a fixed touchscreen terminal. The flows on the touchscreen terminal vary in the inputs used for identifying the items to be packed.

- Packing flow: the flow uses movable location(s) as input
- Consolidated packing flow: the flow uses pick list(s) and logistic unit(s) as input.
- Item packing flow: the flow uses a moveable location as an input, but the pick list can be identified by scanning an item.
- Cash register packing: the flow uses a pick list as an input. The user can perform the picking and packing in one step.

Produmex also provides a packing flow called Mobile packing flow which runs on a scanner. Because the flow does not need a fixed touchscreen, there are less constraints for the packing process with respect to the available packing stations.

Creating button specific barcodes

During the packing flows running on a fixed touchscreen terminal, different buttons will be enabled for you on the screen. There are six buttons, which you do not necessarily have to press on the screen:

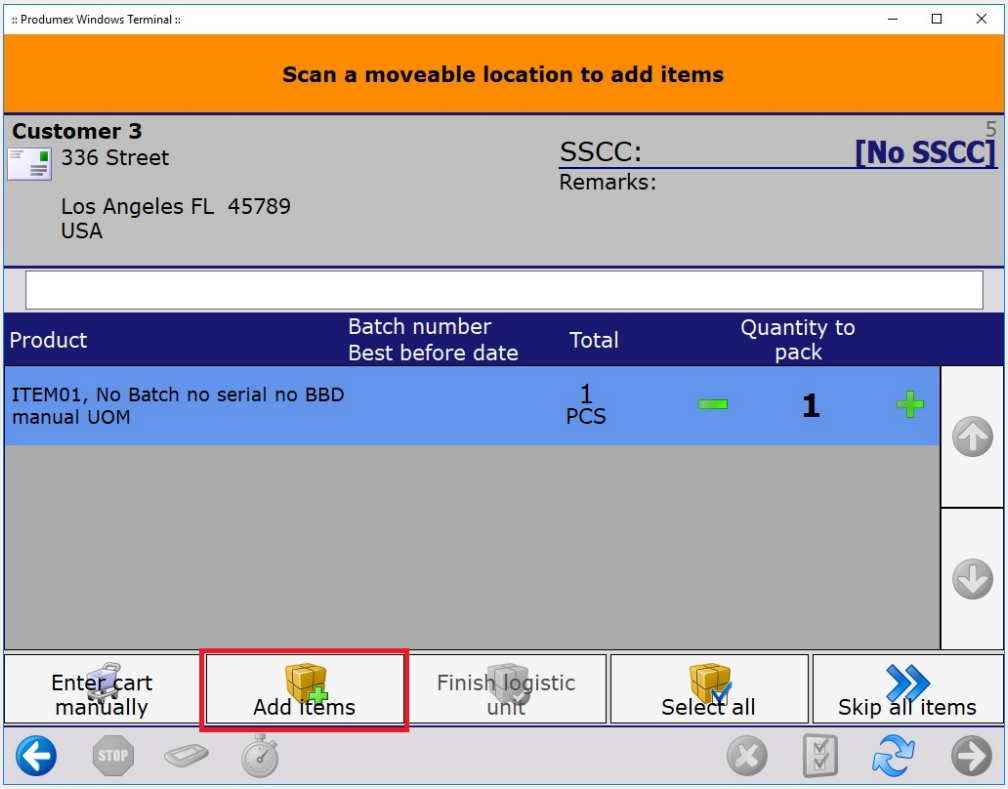
1. Add SSCC
2. Enter cart manually
3. Add items
4. Finish logistic unit
5. Select all
6. Skip items

Instead, you have the option to create barcodes which you can scan. The barcode needs to start with '<BUTTON>' and then you need to add the translation key of the given button.

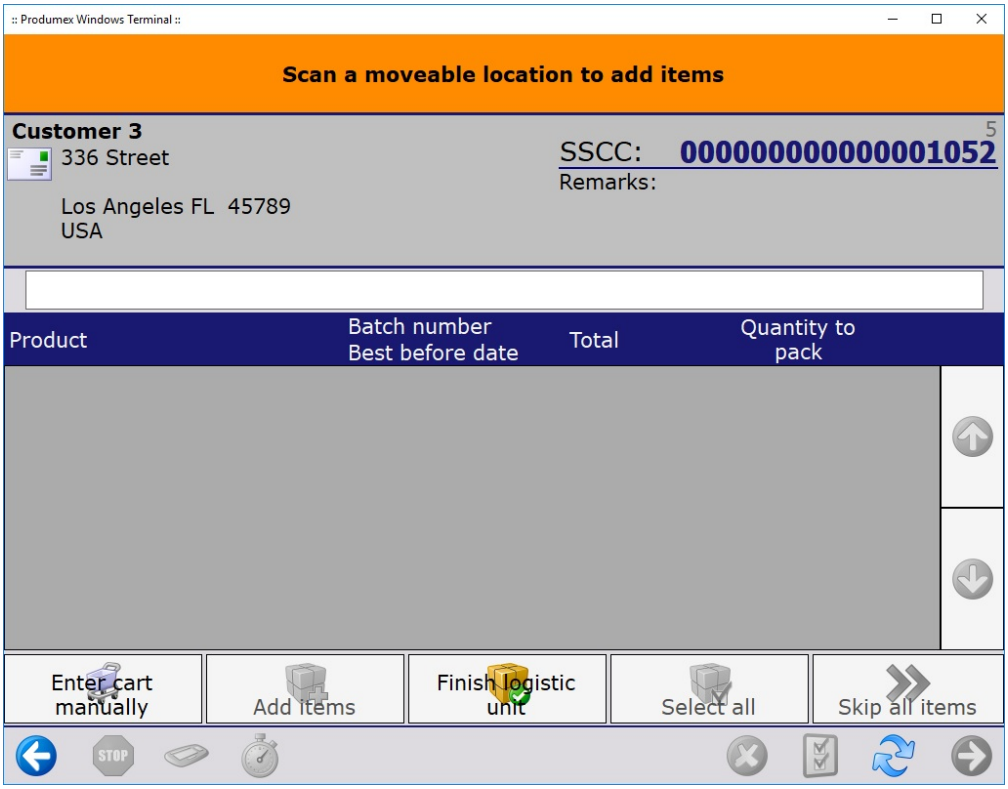
Button	**Examples for barcodes**
1.Add SSCC	<BUTTON>MSG_BUTTON_PACKING_ADD_SSCC
2.Enter cart manually	<BUTTON>MSG_BUTTON_PACKING_IDENTIFY_CART
3.Add items	<BUTTON>MSG_BUTTON_PACKING_ADD_ITEMS
4.Finish logistic unit	<BUTTON>MSG_BUTTON_PACKING_FINISH_PALLET
5.Select all	<BUTTON>MSG_BUTTON_SELECT_ALL
6.Skip items	<BUTTON>MSG_BUTTON_PACKING_SKIP_ITEMS

Example

On the first screen below you have the option to press the button `Add items` manually. **Instead of pressing the button, you can scan your barcode** and the system will press the button automatically.



Both actions will navigate you to the next screen where you can proceed with the `Finish logistic unit` button.



In the next sections you will have several opportunities to use the six buttons. Whenever any of them is mentioned, please keep in mind that you can scan your own button specific barcode instead.

Cycle Count: Overview and Configuration

Overview

To check the correctness of the stock that is kept at the administrative level against the stock that is actually present in the warehouse, Produmex offers a cycle counting function. Produmex provides three types of cycle count:

- **Direct Cycle Count:** This type of count automatically books stock differences as “Goods Issues” (in case of negative differences) or “Goods Receipts” (in case of positive differences) in SAP.
- **Cycle Count:** This type of count will not directly book the differences into SAP. First it registers the differences in Produmex according to the type of cycle count (Lost and Found, Registration). Then the booking in SAP can be done in the “Processing” step.
- **Recount:** The Recount Flow is utilized when users want to verify the accuracy of their initial count or when they identify a discrepancy in the counting process. This allows users to modify the results of counting tasks to ensure precision.

Cycle count types

- **Lost and Found:** The differences will be booked during the count therefore the new stock will be displayed in the inventory without processing. To balance the inventory, the system will add the inverse of the stock difference to the ‘Lost and Found’ location.
- **Registration:** The differences will be stored in a table and the stock on the counted location will remain the same until the count is processed.

Note: Differences for serial numbers will always use type *Registration* regardless of the selected type in the controller.

Configuration

1. Quality status

Different Quality Statuses during “Cycle Count” and “Direct Cycle Count”. You can use both Cycle Count and Direct Cycle Count as needed to ensure the best Quality Status behavior for your workflow.

- **Direct Cycle Count:** During this type of counting, if location has a quality status set, then location quality status is applied to surplus stock.
    - If location has no quality status set, then Cycle Count quality status is applied to surplus stock. The surplus stock will inherit the Quality Status of the stock already on location.

- If there is no stock of the item at the location, the surplus stock will receive the Quality Status set up in the **Organization Structure**.

- **Standard Cycle Count:** Define the default quality status for the surplus quantity. Open the Organizational Structure and on the Defaults tab define the quality status. Using the Cycle Count method the surplus quantity will inherit the Quality Status of the **Organization Structure**'s default tab (e.g.**Quality Status Cycle Counting: RELEASED)**.

The described behavior is related to blind counting. Non-blind count does not work if stocks at the same location differ in their Quality Status **only**. The Quality Status of the items cannot be changed during Cycle Count.

Examples:

Cycle Count - Count Location - Count Everything
Default quality status: **RELEASED**

	Stock NOT on Logistic Unit	**Stock on Logistic Unit**
Scenario 1	**Location default quality status:** - **On location:** 1 piece with quality status RELEASED **Counting:** 2 pieces **Result:** 1 piece will get quality status RELEASED and 1 will get Cycle Count Quality Status	**Location default quality status:** - **On location:** 1 piece with quality status RELEASED **Counting:** 2 pieces **Result:** All pieces will get quality status RELEASED
Scenario 2	**Location default quality status:** - **On location:** 1 piece with quality status RELEASED and 1 with RETURNED **Counting:** 3 pieces **Result:** 1 piece will get quality status RELEASED and 1 will get RETURNED 1 will get Cycle Count Quality Status	**Location default quality status:** - **On location:** 1 piece with quality status RELEASED and 1 with RETURNED **Counting:** 3 pieces **Result:** 2 pieces will get quality status RELEASED and 1 will get RETURNED
Scenario 3	**Location default quality status:** - **On location:** The 2 piece with quality status RELEASED and 2 with RETURNED **Counting:** 3 pieces **Result:** The 2 pieces will get quality status RELEASED and 1 will get RETURNED	**Location default quality status:** - **On location:** 2 pieces with quality status RELEASED and 2 with RETURNED **Counting:** 3 pieces **Result:** The 2 pieces will get quality status RELEASED and 1 will get RETURNED
Scenario 4	**Location default quality status:** - **On location:** 0 piece **Counting:** 2 pieces **Result:** The 2 pieces will get Cycle Count Quality Status	**Location default quality status:** - **On location:** 0 piece **Counting:** 2 pieces **Result:** The 2 pieces will get Cycle Count Quality Status
Scenario 5	**Location default quality status:** SUQ **On location:** 0 piece **Counting:** 2 pieces **Result:** The 2 pieces will get Shipping Under Quarantine (SUQ)	**Location default quality status:** SUQ **On location:** 0 piece **Counting:** 2 pieces **Result:** The 2 pieces will get Shipping Under Quarantine (SUQ)

Direct Cycle Count - Count Location
Default quality status: **RELEASED**

	Stock NOT on Logistic Unit	Stock on Logistic Unit
Scenario 1	**Location default quality status:** - **On location:** 1 piece with quality status RELEASED **Counting:** 2 pieces **Result:** The 2 pieces will get quality status RELEASED	**Location default quality status:** - **On location:** 1 piece with quality status RELEASED **Counting:** 2 pieces **Result:** The 2 pieces will get quality status RELEASED
Scenario 2	**Location default quality status:** - **On location:** The 1 piece with quality status RELEASED and 1 with RETURNED **Counting:** 3 pieces **Result:** All pieces will get quality status Cycle Count Quality Status	**Location default quality status:** - **On location:** The 1 piece with quality status RELEASED and 1 with RETURNED **Counting:** 3 pieces **Result:** All pieces will get quality status Cycle Count Quality Status
Scenario 3	**Location default quality status:** - **On location:** The 2 piece with quality status RELEASED and 2 with RETURNED **Counting:** 3 pieces **Result:** All pieces will get quality status Cycle Count Quality Status	**Location default quality status:** - **On location:** The 2 piece with quality status RELEASED and 2 with RETURNED **Counting:** 3 pieces **Result:** All pieces will get quality status Cycle Count Quality Status
Scenario 4	**Location default quality status:** - **On location:** 0 piece **Counting:** 2 pieces **Result:** The 2 pieces will get Cycle Count Quality Status	**Location default quality status:** - **On location:** 0 piece **Counting:** 2 pieces **Result:** The 2 pieces will get Cycle Count Quality Status
Scenario 5	**Location default quality status:** SUQ **On location:** 0 piece **Counting:** 2 pieces **Result:** The 2 pieces will get Shipping Under Quarantine (SUQ)	**Location default quality status:** SUQ **On location:** 0 piece **Counting:** 2 pieces **Result:** The 2 pieces will get Shipping Under Quarantine (SUQ)

2. Cycle Count Controller

Adjust cycle count settings for the company. For further information about the cycle count controller see:
5.1.3.9. Cycle count controller

3. Location

Adjust cycle count settings for a location. For further information about the cycle count settings see:
5.2.6.2 Cycle count

4. Lost and Found

When using the cycle count type ‘LostAndFound’, extra configuration needs to be done:
Create a non pick BIN location where the stock differences will be booked. On the warehouse

definition select this location as Location ‘Lost and Found’ from a dropdown menu.

5. Cycle count during other operations

Set the configurations for the cycle count during other operations. For further information see: 3.2.3.17. Produmex cycle count – Other operations filter (PMX_COOF)

6. Pick List Controller

Set if the system allows cycle count on alternate picking. For further information see: 5.1.3.44. Picklist controller

7. Force serial numbers during cycle count

When the ‘Force serial numbers during cycle count’ option is enabled for items with PMX serial numbers and enabled track location, then during the ‘Cycle count’ process, the quantity must be entered by scanning the serial numbers. This option can be enabled at the item’s Produmex Inventory tab.

Container Management

Configuration

Define the settings for container management in the container management controller.

Office

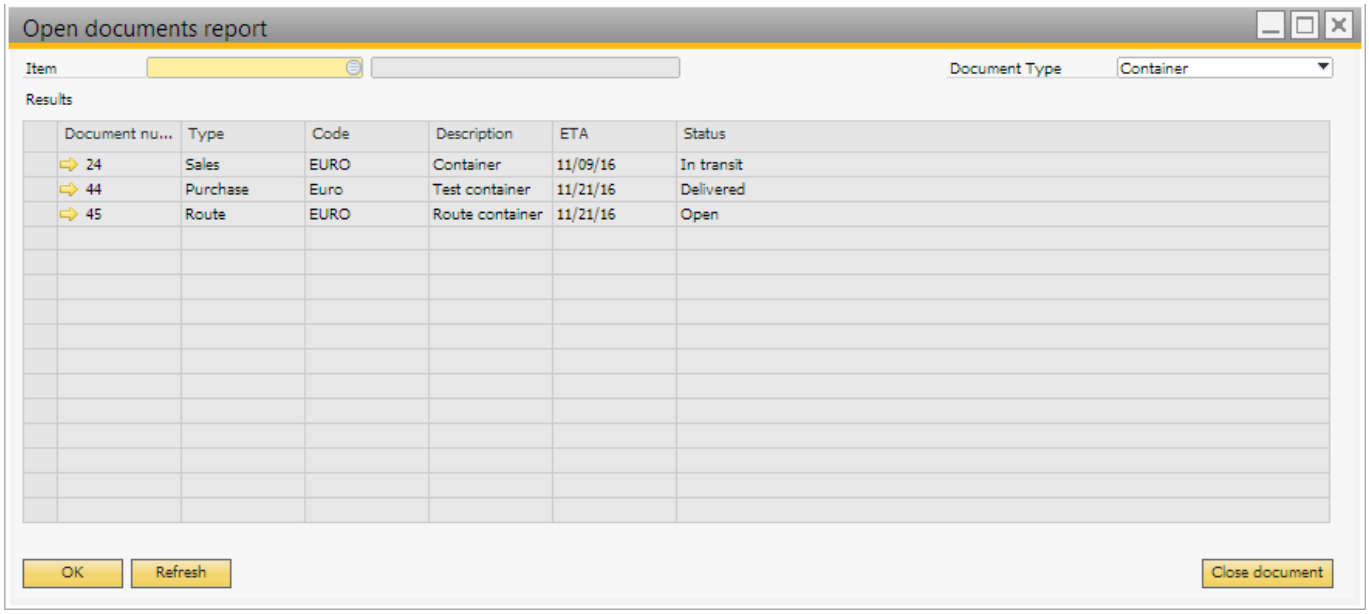
1. Open documents report

1. Open the Open documents report to see the list of open containers.

2. Select *Container* as document type. The list of open containers are displayed.

3. To close a container select the container(s) and click the `Close Document` button.

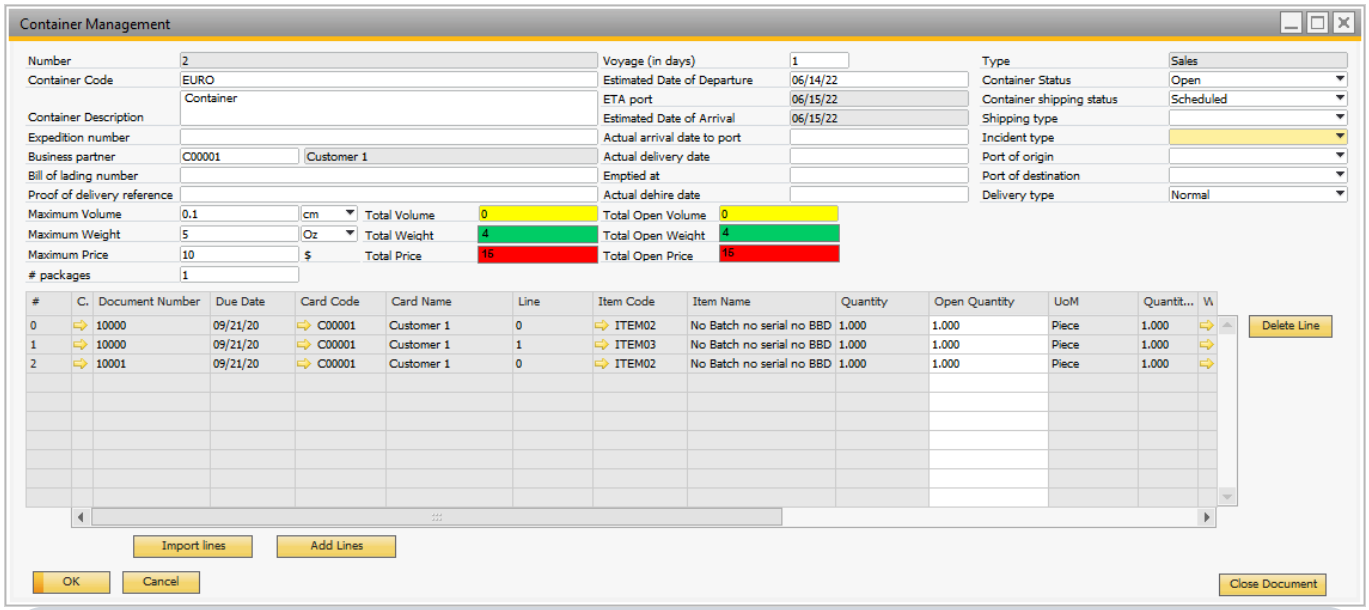
4. It is possible to filter the list based on the items in the document. Add an item to the Item field.



2. Container management form

The Container Management form can be accessed via:

- Produmex > Sales > Container management
  The document type is *Sales* by default.
- Produmex > Purchase > Container management
  The document type is *Purchase* by default.



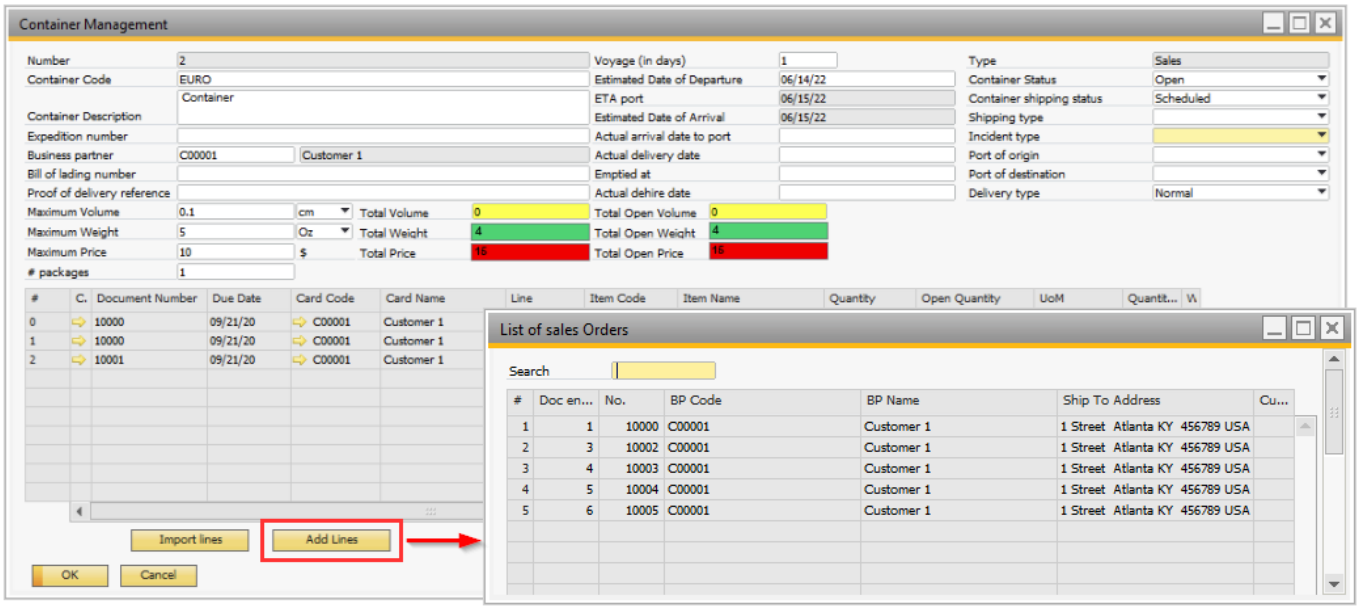
When searching for containers by adding a Container Code, always make sure the Type field, too, matches your search criteria to avoid mismatching results. Additionally, a general search prompt between asterisks results in defaulting to the first result for the designated Type.

2.1. Purchase and Sales type containers

1. Add a Business Partner. Now only documents linked to that selected business partner can be added.

2. Click the `Add Lines` button. Based on the container type the system lists purchase orders or sales orders.

Only open document lines not linked to an open container are added.

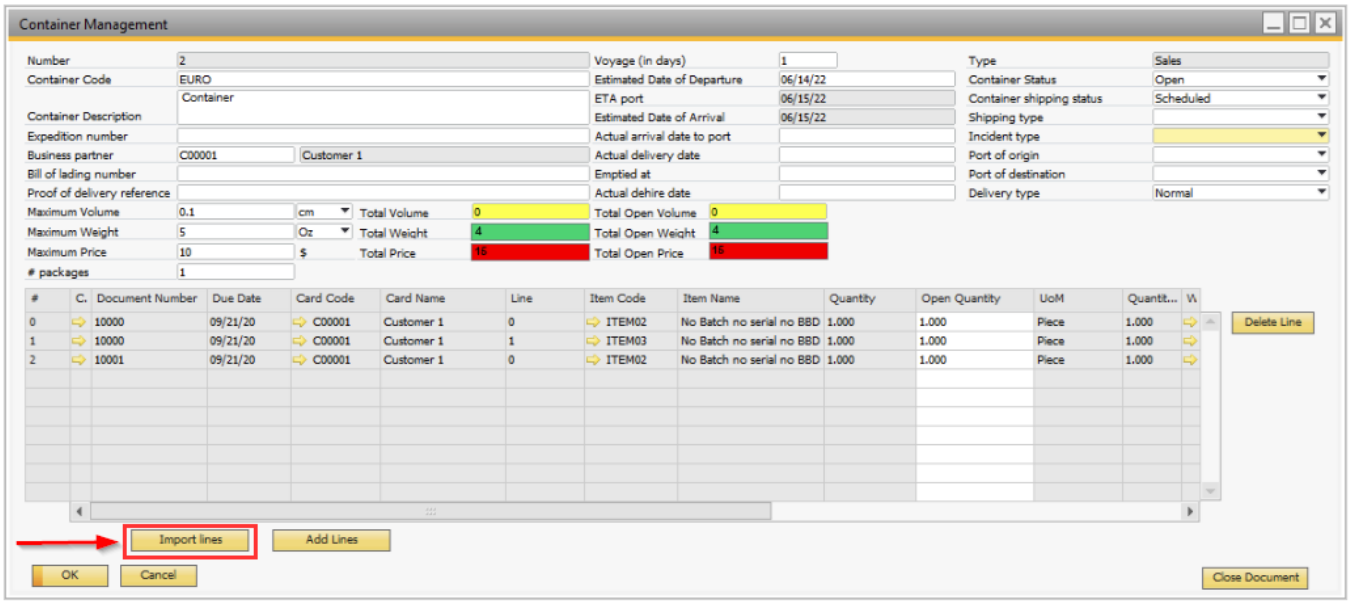


3. It is possible to ship one order line in multiple containers. After adding the order line to the first container, define the quantity in the *Open Quantity* field on the grid.

When adding this order line to the next container, the remaining quantity will be default and also the maximum quantity that can be added.

4. It is possible to import lines for containers with Purchase or Sales type from a CSV file with the `Import Lines` button.

- The name of the columns in the CSV file should be DocNum, LineNum, Quantity and optionally ObjType.
- If you have different column names or column order in the CSV file, you can use the *CSV purchase custom header* or the *CSV sales custom header* settings on the Container management controller.



5. Select the order(s) and click OK.

3. Route

3.1. Route type containers

1. Click in the *Document* field and press TAB.

2. Select the route(s) and click Choose to add them to the container.

Container lines of a container with Route type Route are linked to the complete route. A document (line) can only be added to one open container.

3.2. Route planning

When a route is linked to a container, an extra control is shown on the route planning screen. The code of the container is shown. The arrow on the left can be clicked to open the container this route is linked to.

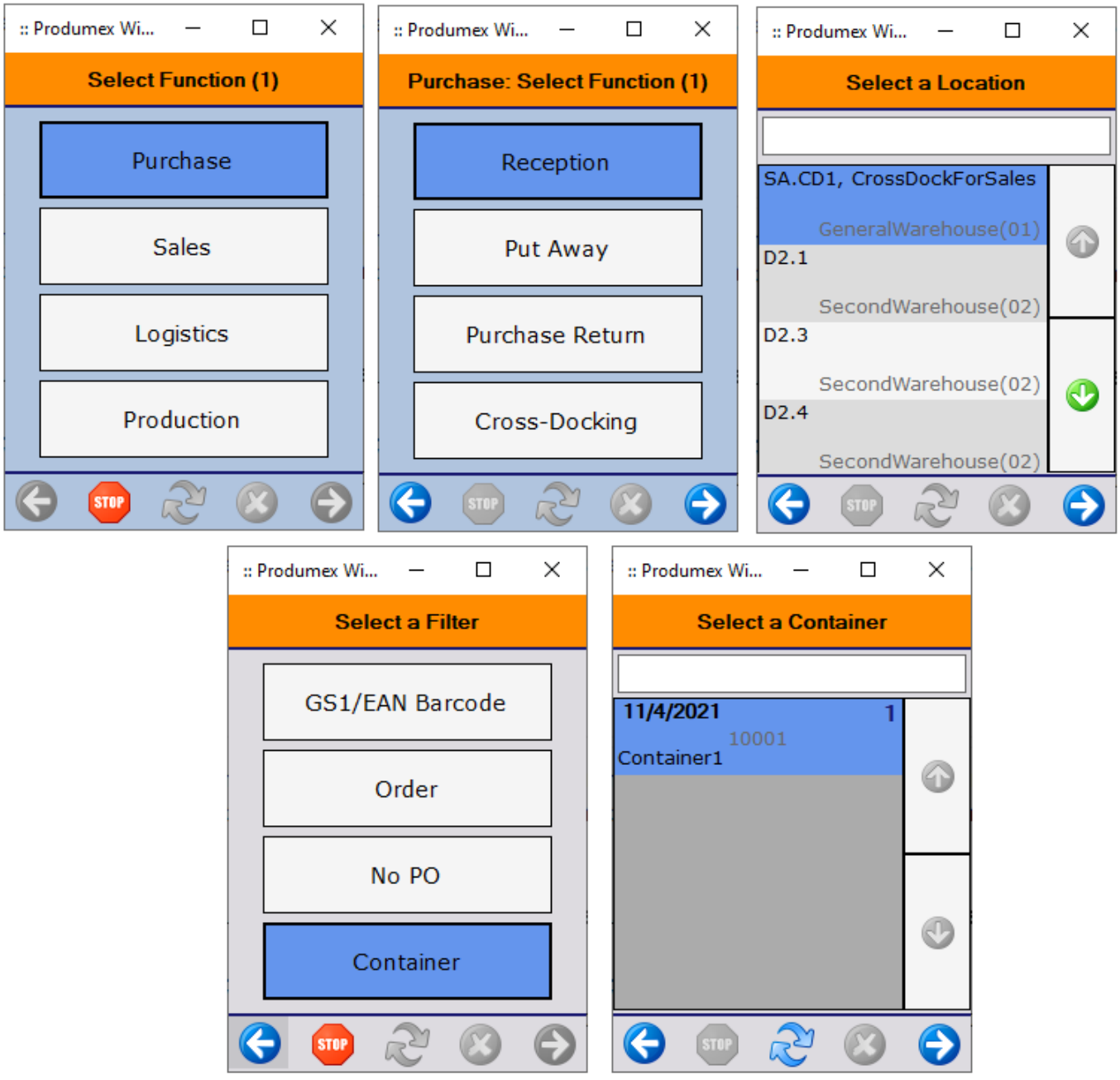
Next to the container code are the values for volume, weight and price. If no maximum value is set, the total amount is shown with the corresponding uom. In case a maximum value is set, the total amount and maximum amount is shown. Also the percentage is indicated. The colors are based on the settings in the Container management controller.

Shopfloor: Reception

During the Reception Flow, select the option Container.

A list of containers of type Purchase and with status *In transit* are shown.

After selecting the container, the normal receiving process can be continued. Only open items in the container will be received.

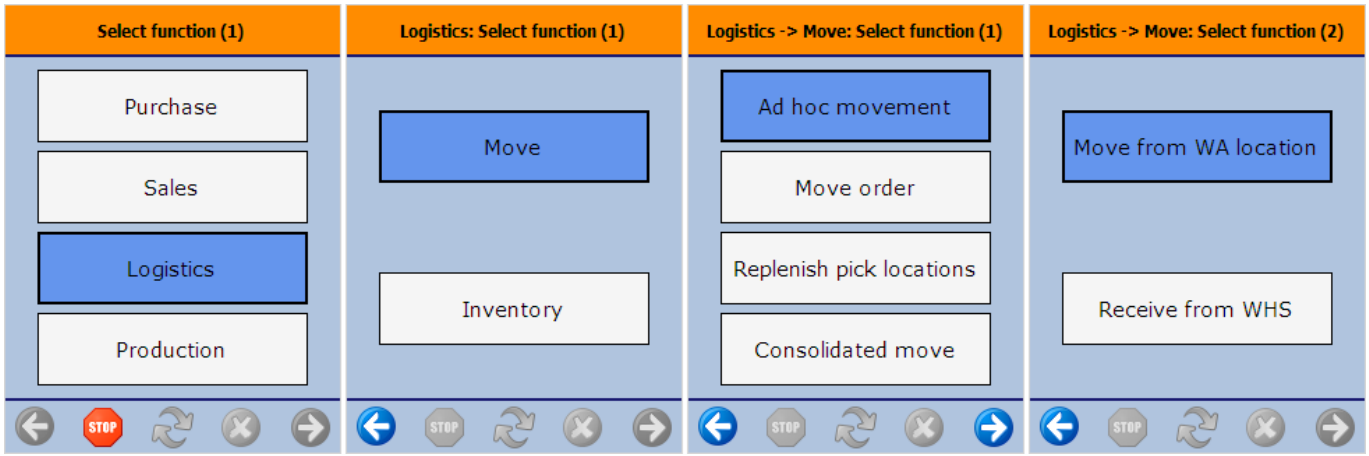


Move Guide

Overview

Moves can be used to transfer stock within or between warehouses. Produmex offers several specialized flows for the different scenarios in stock relocation:

- Ad Hoc Movement Flow: to move stock within or between PMX managed warehouses without a move order created in the office environment
- Move Order Flow: to move stock within or between PMX managed warehouses based on move orders created in the office environment
- Replenish Pick Locations Flow: to move stock based on system generated replenishment orders
- Consolidated Move Flow: to execute ad hoc moves in a group within a PMX warehouse
- **Move from WA Location Flow**: to move stock from a warehouse automation location
- Receive from WHS Flow: to move stock from a warehouse not managed by PMX to a PMX warehouse



Default location calculation

When the location suggestion is enabled for the warehouse, the *Default location* is the first suggested location calculated based on the logic described in Location suggestions.

When the location suggestion is not enabled for the warehouse, the *Default location* is the standard location set for the given warehouse on the Produmex Inventory tab of the Item Master Data of the item. If the items to move have different standard location set for the warehouse, no default location is displayed.

View move documents

When a movement has been carried out on the shopfloor, it is also registered administratively in the Produmex Office module where it can be consulted. To see the movements, open the 'Move' screen via the following path: Produmex > Inventory > Move.

Proof of delivery

> While the functionality of exporting and importing the EPOD files described in this documentation is still valid, Boyum IT no longer sells or provides the EPOD solution. It is the responsibility of the user to make sure that the export/import files are converted with the user's own EPOD solution.

1. Prerequisites

1.1. Settings

Adjust the settings of the proof of delivery on the Proof of delivery controller.

1.2. Adjust the Notification Listener

Make sure that the Notification Listener is installed. For more information about the installation of the Notification Listener see Produmex SB1 Notification listener and Enable the Notification Listener stored procedure.

Update the configuration file of the Notification Listener. The file is located in the installation folder of the Produmex SB1 Notification Listener, for example: C:\Program Files\Produmex\Produmex SB1 Notification Listener\

The configuration file is called 'Produmex.Foundation.SboNotification.ServiceHost.exe.config'.

Open the file with a text editor (e.g. Notepad).

Locate the line below and uncomment it:

```
 <action senderType="P" objectType="POD_RTHE" transactionType="U"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.NotificationQu
eue, Produmex.Sbo.Logex.SboNotification.Actions"/>
```

To create the export files for the proof of delivery solution, enable the Notification Listener procedure.

- To run the Notification Listener in the background, start it from Windows\Control Panel\ Programs and Features\.
- To run the Notification Listener with an open console, launch the RunConsole.bat file from the installation folder of the Produmex SB1 Notification Listener, for example: C:\Program Files\Produmex\Produmex SB1 Notification Listener\.

2. Perform delivery

2.1. Create a new route

When creating a route where a proof of delivery is needed, set the *Route for 'Proof of delivery'?* option to true on the Create new route screen.

It is also possible to modify this setting on the *Route detail* window.

2.2. Export file

Perform the delivery on the fat client. Collect the stock based on the pick list, pack the goods then start the shipping. After every logistic unit has been loaded, the system displays the *'Adding sales delivery notes in SAP. Can take some seconds... '* message regardless of using the proof for deliver function or not.

When the *Route for 'Proof of delivery'?* option is enabled for the route, the system does not create a sales delivery note until the delivery is confirmed. By the help of the Notification Listener an export file is created for the proof of delivery solution. A separate file will be generated for each route.

The export file will be created to the 'Interface monitor output path' defined on the Config tab on the company level of the Organizational Structure.

Export file naming convention: PMX_EPOD_Route_*routekey*_*timestamp*.csv

The file contains information about the customer, address and goods delivered.

When the export file was not created, first check if the Notification Listener is running.

After the shipping, the status of the route will be changed to 'POD pending'. The pick list will remain open with the status 'Packed'.

In the inventory record the stock to deliver will remain on the shipping dock. The stock will be locked for the pick list until the delivery has been confirmed.

The proof of delivery solution takes the output files as an input.

2.3. Import file

After the delivery has been confirmed, the proof of delivery solution creates an import file with the confirmation data. A separate file will be generated for each delivery address.

After the synchronization, the file will be imported to the folder defined with the 'Interface monitor input path' on the Config tab on the company level of the Organizational Structure.

The signature images and the captured pictures from the delivery solution will be imported to the folder defined in the Proof of delivery controller

Import file naming convention: EPOD_PMX_EPOD_Route_*routekey_jobsequencenumber_timestamp*.csv

The file contains information about the route, the goods delivered and the failed deliveries. Start the Interfacing tool with the */t:POD /d:import /rf* parameters.

With the help of the Interfacing tool, Produmex imports the file from the proof of delivery solution and creates the sales delivery note. The delivery note only contains the SSCC's or quantities confirmed with the proof of delivery solution. On the Attachments tab links to the signature and other images are inserted.

Based on the import file, the system closes the confirmed pick list lines and generates the sales delivery note. Pick lists linked to a failed delivery will remain open. The system unlinks those open pick lists from the route, and closes the route.

After the Interfacing tool processed the import file, it is moved to the archive or the error folder defined on the Config tab on the company level of the Organizational Structure.

Configure Quality Types

Produmex offers the functionality of measuring the quality of the goods during the following processes:

- Reception
  - Document type = 20
- Bulk reception
  - Document type = 20
- Production
  - Document type = 202
- Production receipt
  - Document type = 202
- Disassembly
  - Document type = 202

Define quality types and valid values

First define the quality types on the Produmex Quality Types UDF. Open the table via: Tool > Default Forms > PMX_QUTY Produmex quality types. For more information see: 3.2.3.33. Quality types

Set the valid values for quality types with the convertor type „List" on the Produmex quality valid values UDF. Open the table via: Tool > Default Forms > PMX_QUVV Produmex quality valid values. For more information see: 3.2.3.34. Quality type valid values

Perform the reception

Perform the reception on your terminal. Based on the value set as 'Moment of capture' on the Produmex quality types UDF, the system will ask the quality type in the beginning or in the end of the reception.
The input screen type will vary based on the convertor type.

Int. and Double	List
	

String	Date
	

Access the data

The data can be accessed by using the following query:

```
SELECT OPDN."Docnum", OPDN."CardCode", OPDN."CardName", "@PMX_QUTY"."Name",
"PMX_QUVA"."QualityValue"
FROM OPDN
LEFT OUTER JOIN PMX_QUVA ON OPDN."DocEntry" = PMX_QUVA."BaseEntry" AND
OPDN."ObjType" = PMX_QUVA."BaseType"
INNER JOIN "@PMX_QUTY" ON PMX_QUVA."QualityTypeCode" = "@PMX_QUTY"."Code"
```

15. Production

Production manager screens

Production zone

This screen provides an overview of the running production orders and the inventory in the available lined up locations.

Overview production

Production line
This is the name of the production line. Only active production lines are listed.
When the 'Only 1 started production order allowed' option is not flagged for the Production line, it is possible to start more than one production order on the line. Every started production order is displayed in a separate row.

Production order number
This is the number of the production order. Production orders with ‘Started’ status assigned to the production line are displayed.

Item code
The code of the item to produce.

Description
The description of the item to produce.

#done
The quantity that is already produced.

#to do
The quantity that still has to be produced. It is calculated by: {Planned quantity – Done quantity}.

#planned
The planned quantity in the production order.

Status
The status of the production line. The status can be ‘Started’, if there is a started production on the line or ‘Free’, if there is no started production on the line.

Tank details

Tank
The name of the silo/ tank. Every lined up silo/ tank location is listed.

Item code
The code of the item stored in the silo/tank.

Description
The description of the item stored in the silo/tank.

Batch
The batch number of the item stored in the silo/tank.

 # in tank
The available quantity of the item in the tank.

Production line
The code of the production line where the silo/tank is in use.

Press the ‘Refresh’ button to refresh the screen.
Press the ‘Close’ button to close the screen.
Press the ‘Detail’ button to open the ‘Production detail’ window for the selected production order.
Press the ‘production orders’ button to open the ‘Production order’ window.

Production order

On this screen production orders can be released and started.

Select the production line from the dropdown menu.
Production orders without an assigned production line and production orders that are assigned to the selected production line are listed on the screen.

Production n°
The number of the production order.

Date
The due date of the production.

Item code
The code of the item to produce.

Description
The description of the item to produce.

Quantity
The planned quantity in the production order.

Status
The Produmex status of the production order. Possible values: Planned, On hold, Released, Started.

Production line
The assigned production line of the order.
When the production order has no assigned production line, this field is empty. When the selected production line is assigned to the production order, the value is the code of the production line. Production orders assigned to another production line are not displayed on the list.

Press the ‘Release order’ button to release the production order. Only ‘Planned’ production orders can be released.
Press the ‘Start production order’ button to open the Start production screen. Only ‘Released’ production orders can be started.
Press the ‘Production line details’ button to open the Production detail screen. The button is only active if the status of the selected production order is ‘Started’.
Press the ‘Close’ button to close the screen and go back to the Production zone screen.

Start production

On this screen the production order can be started. It is also possible to assign the lined up location for lined up components and to modify the batch number and best before date, depending on the item details and the production settings.

Header

Production order
The number of the production order.

Item
The code and description of the item to produce.

Quantity to make
The planned quantity in the production order.

Batch number
Batch number of the product to produce. This field is only displayed when the item has batch numbers.

Batch number 2
Batch number of the product to produce. This field is only displayed when the item has second batch numbers.
Adjust the batch number settings on the 5.1.3.4. Batchnumber production company.

Best before date
Best before date of the product to produce. This field is only displayed if the item has a best before date. Adjust the best before date settings in the 3.2.3.29. Expiry definition UDT and the 5.1.3.6. Best before for production generator.

Lined up tanks

Item code
The item code of the component that has to be lined up.

Description
The item description of the component that has to be lined up.

Tank
The tank assigned to the component.

Tanks

Tank
List of lined up locations added to the production line. For more information about the production line settings see: 5.2.3. Production line settings.

#in tank
The available quantity of the selected item in the tank.

Produce?
Displays whether the ‘Produce ingredients’ option is enabled or not for the lined up location on the production line. For more information about the settings for the added lined up locations see: 5.2.3. Production line settings.

To assign a tank for the selected component, select a tank and press the ‘Assign tank’ button.
Press the ‘Start production’ button to start the production.
Press the ‘Close’ button to close the screen and go back to the Production order screen.

Production detail

On this screen the production can be finished. Produced and theoretical consumed quantities are displayed.

Header

See: start production

Finished product

Quantity made
The produced quantity.

Quantity still to make
The quantity that still has to be produced.

Ingredients (not lined up)

Item code
The item code of the component. Every not lined up component from the production order are listed here.

Description
The item description of the component.

#to pick
The quantity that still needs to be picked.

#on input
The available quantity of the component on the input location of the production line.

#on line
The available quantity of the component on the production line.

#used
The consumed quantity.

Ingredients (lined up)

Item code
The item code of the component that has to be lined up. Every lined up component from the production order is listed here.

Description
The item description of the component.

#still needed
The quantity that still has to be consumed for the production.

#used
The consumed quantity.

#in tank
The available quantity of the component in the tank.

Tank
The lined up location assigned for the component. It is possible to change the tank: press the ‘Change tank’ button.

Tanks

Tank
List of lined up locations added to the production line. For more information about the production line settings see: 5.2.3. Production line settings.

#in tank
The stock of the selected item available on the lined up location.

Press the ‘Refresh’ button the refresh the screen.
Press the ‘Finish production’ to open the Stop production screen.
Press the ‘Close’ button to close the screen and go back to the Production order screen.

Stop production

On this screen the material consumption can be confirmed and the production order(s) can be closed.

Stop production - production manager type: SPL_CONS_LOCK

When finishing a production order linked to a production line where the SPL_CONS_LOCK option is set as the production manager type, the following screen opens:
On this screen only one production order can be closed.

Header

See: start production

Ingredients (lined up)

Item code
The item code of the component that has to be lined up. Every component from the production order that has to be lined up is listed here. Different batches are displayed in separate lines.

Description
The item description of the component.

Batch 1- Batch 2 – BBD – SSCC
The batch details of the component in analogical order.

#on line
The available quantity of the item on the production line.

#used
The consumed quantity.

weight used
The consumed weight. (In case of catch weight items.)

#remaining
The quantity remaining on the production line. It is calculated from the #on line and the #used quantity.

weight remaining
The weight remaining on the production line.

Serial numbers
Click on this field to add the serial numbers of the used products.

Ingredients (lined up)

Item code
The item code of the component that has to be lined up. Every component from the production order that has to be lined up is listed here.
If the 'Direct consumption of goods' option is flagged for the silo/tank, the products stored on that location will not be displayed.

Description
The item description of the component.

#used
The consumed quantity.

weight used
The consumed weight.

#remaining
The quantity remaining in the lined up location.

Tank
The lined up location assigned to the component.

Press the ‘Stop’ production screen to close the production order.
Press the ‘Close’ button to close the screen and go back to the Production detail screen.

Stop production - production manager type: MPL_CONS_INPUT

When finishing a production order linked to a production line where the MPL_CONS_INPUT option is set as the production manager type, the following screen opens:
On this screen multiple production orders assigned to different production lines can be closed.

Active production orders

Production line
The code of the production line. A production line is listed if:

- has the same input location
- there is a started production order

Production order number
This is the number of the production order. Production orders with ‘Started’ status assigned to the production line are displayed.

Item code
The code of the item to produce.

 # done
The quantity that is already produced.

 # planned
The planned quantity in the production order.

Ingredients (not lined up)

Item code
The item code of the component. Every not lined up component from the selected production order are listed here.

Description
The item description of the component.

#theoretical
The theoretical quantity is calculated by: {Produced quantity*Base quantity of the component}.

#used
The used quantity is calculated by: {(component's theoretical quantity for the production order/ ? theoretical quantity of the component)*quantity on the input location}.

EXAMPLE:

Production line A
Produced quantity: 1

Item code	Base Qty	#Theoretical	Qty on input location	#Used
Component 01	2	2	12	4
Component 02	1	1	5	5

Production line B
Produced quantity: 2

Item code	Base Qty	#Theoretical	Qty on input location	#Used
Component 01	2	4	12	6

Weight used
The consumed weight.

Ingredients (lined up)

Item code The item code of the component that has to be lined up. Each lined up component from the listed production orders are listed. Different batches are displayed in separate lines. If the 'Direct consumption of goods' option is flagged for the silo/tank, the products stored on that location will not be displayed.

Description
The item description of the component.

#theoretical
The theoretical quantity is calculated by: {Produced quantity*Base quantity of the component}.

 # used
The consumed quantity.

Weight used
The consumed weight.

 # remaining
The quantity remaining in the lined up location.

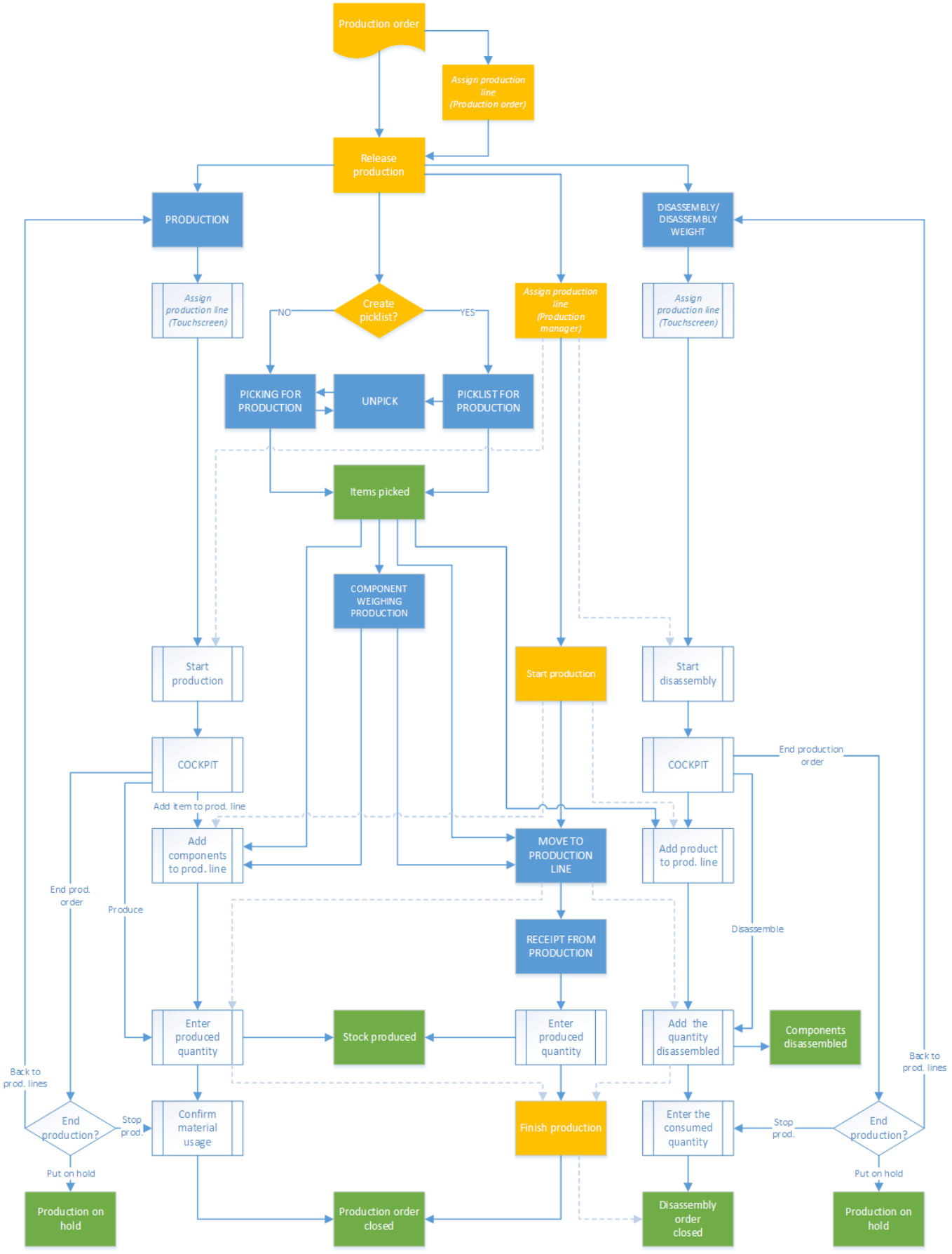
Location
The lined up location assigned to the component.

Press the ‘Stop production’ button to close every listed production order.
Press the ‘Close’ button to close the screen and go back to the Production detail screen.

Production Guide

The process chain of the production consists the following steps:

1. creating a production order
2. releasing the production order
3. picking for the production
4. starting the production
5. moving the components to the production line
6. producing
7. finishing the production



1. Configuration settings for the production

Before starting the production process, adjust the following configuration settings:

1.1. Quality status
Define the default status for the produced items. At the company level of the Organizational Structure go to the Production tab. Select the quality status from the dropdown menu. For more information about the quality status see: 5.1.9. Quality status

1.2. Production line settings
Adjust the settings of the production lines. For more information about the production line settings see: 5.2.3. Production line settings

1.3. Production controller
Customize the settings of the production in the production controller. For more information about the production controller see: 5.1.3.48. Production controller

1.4. Picking for production
Customize the settings of the picking in the Picking for production controller. For more information about the controller see: 5.1.3.47. Picking for production controller

1.5. Batch number of the product
When producing items managed by batches, specify the settings of the batch number.
On the Batchnumber production company controller, select an extension to define the batch number format. Adjust the batch number settings on the controller. For more information about the batch number controller see: 5.1.3.4. Batchnumber production company

1.6. Best before date for the product
The best before date settings can be specified for items with best before dates.
Adjust the calculation formula of the best before date on the 3.2.3.29. Expiry definition UDT. Link the expiry definition to the item in the Produmex Production tab on the 3.1. Produmex Production Tab.
Adjust the settings of the best before date modification on the Best before for production generator.
For more information about the generator see: 5.1.3.6. Best before for production generator

1.7. Item settings
Adjust the settings of the product and the materials in the Produmex Production tab of the Item Master Data. For more information see: 3.1.3. Produmex Item Master Data Tabs

1.8. Scale configuration
It is possible to integrate a scale to the production process. For more information see:8. How to setup/ integrate a scale with Produmex

2. Create a production order

Create a production order in SAP B1. For more information about the Produmex extensions on the ’Bill of Materials’ and ’Production Order’ screens see: 3.3. Production When a production order is created, both the SAP and Produmex status of the order is ‘Planned’.

3. Release the production order

Production orders can be released in the office environment only. The order release can be performed on the production order or on the production manager.

3.1. Production order

3.1.1. Assign the production line on the production order

Please note that the production line can only be assigned or changed on the production order if the SAP status of the order is 'Planned'.

Select a production line from the dropdown menu next to the 'Warehouse' field. Only the active production lines located in the product's warehouse are listed.

3.1.2. Release the order

Change the SAP status of the order from 'Planned' to 'Released' then press the 'Update' button. The Produmex status of the order will remain 'Planned' until the production is started. As long as the Produmex status is 'Planned', the SAP status of a released order can be changed to 'Planned' or to 'Closed'.

3.2. Production manager

Open the 'Production manager' from the Produmex Production menu. For more information about the Production manager screens see: Production manager screens

Press the 'Production orders' button to open the 'Production order' screen.
On the Production order screen select the production line from the dropdown menu.

Select a production order from the list. The following production orders will be listed:

- Production orders without an assigned production line. These production orders will be listed under every production line. The 'Production line' field is empty.
- Production orders assigned to the selected production line.

To release the order click on the 'Release order' button. The status of the order will be changed from 'Planned' to 'Released'. The 'Release order' button is only active when the status of the selected line is 'Planned'.
After a production order without an assigned production line has been released, the production still

can be started at any free production line.

4. Start the production order

Production orders can be started in the office environment or on the shopfloor.
When using the 'Receipt from Production' flow, it is possible to start multiple production orders on one production line, except if the 'Only 1 started production order allowed' option is set to true for the production line. For more information see: 5.2.3. Production line settings
When using the 'Production' flow, only one started production order is allowed on the production line.

4.1. Office

In the office environment the production order can be started on the production order or on the Production Manager.

Production order
Click on the *'Start'* button to start the production order. The button is only active is the following verifies:

- The status of the production order is released.
- The production order has an assigned production line.

A 'Start production' window will open up. Click on the 'Cancel' button to close the form.

Production manager
Open the Production Manager and click on the 'Production orders' button. Select the production line from the dropdown menu. Select the production order and click on the 'Start production order' button. The button is only active when the status of the selected order is 'Released'.

A 'Start production' window will open up. To go back to the previous screen, click on 'Cancel'.

4.1.1. Assign a tank

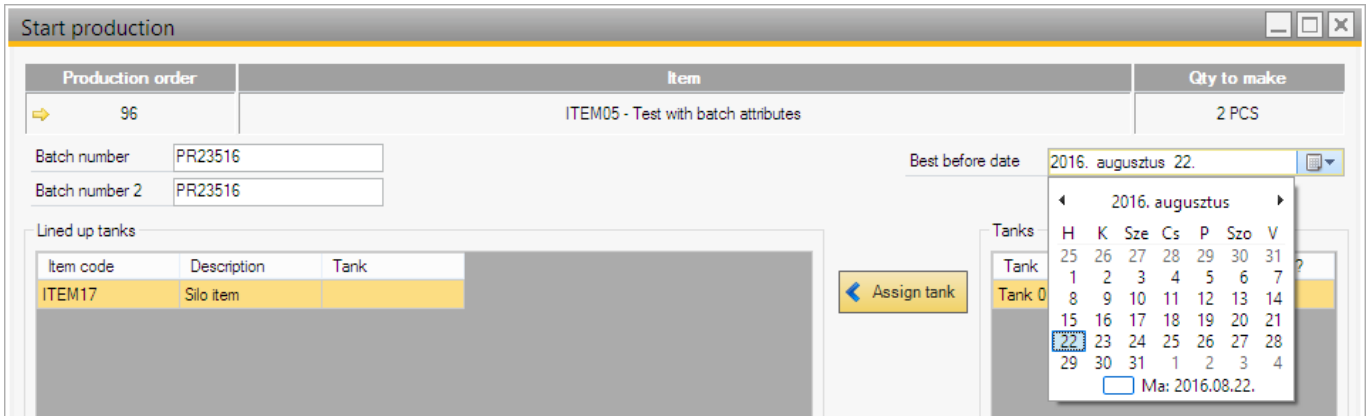
When there is a component that has to be lined up, assign a tank to the component on the 'Start production' screen before starting the production order.
Select a component from the 'Lined up tanks' section. Then select a location listed under 'Tanks'. Only locations that verify for the following are listed:

- the location is lined up
- the location is added to the production line as a lined up location
- there is stock of the component available on the location

Press the 'Assign tank' button. After a lined up location has been assigned to the component, the code of the location is displayed in the 'Tank' field.
When the 'Auto line up selection' option is enabled on the Item Master Data of the component, the system will automatically line up the location for the component.

4.1.2. Batch number and best before date

When the produced item is managed by batches and/or has a best before date, based on the settings, the batch number and the best before date can be changed on this screen. For more information about the batch number and best before date settings for production see: *1.5. Batch number of the product, 1.6. Best before date for the product.* Enter the batch number(s) and/or select the best before date from the calendar.



4.1.3. Start the production order

After the lined up locations have been assigned and the batch number(s) and best before date have been defined, click on the 'Start production' button to start the production.
After the production order has been started, the status will be changed from 'Released' to 'Started' and the order will be assigned to the production line where it was started. On the production order the Produmex order will be changed to 'Started'. The SAP status will remain 'Released'.
The 'Production line details' button is only active when a production order with the status 'Started' is selected. It opens up the 'Production details' screen.

4.1.4. Change tank

It is possible to change the assigned lined up location after the production has been started. On the 'Production detail' screen select a component from 'Ingredients (lined up)' list. Then select a lined up location from the 'Tanks' list. Click on the 'Change tank' button. This button is only active if the selected lined up location is not assigned to the component.
A 'Production – swap tank' window will open up.
Add the quantity or weight remaining in the previous tank to the respective field.

4.2. Shopfloor

Production orders can be started also on the shopfloor. When using the default settings, the production order can be started only in the 'Production', Disassembly' and 'Disassembly – weight' flows. When the 'Allow starting production order on production receipt flow?' option is enabled on the

Production controller, the production order can be started also in the ‘Receipt from Production’ flow.

For the detailed description about starting production orders on the shopfloor see:

- Receipt from production flow:8.1.2. Select a production order
- Production flow: 8.2.4. Start production
- Disassembly flows:8.3.4. Start production

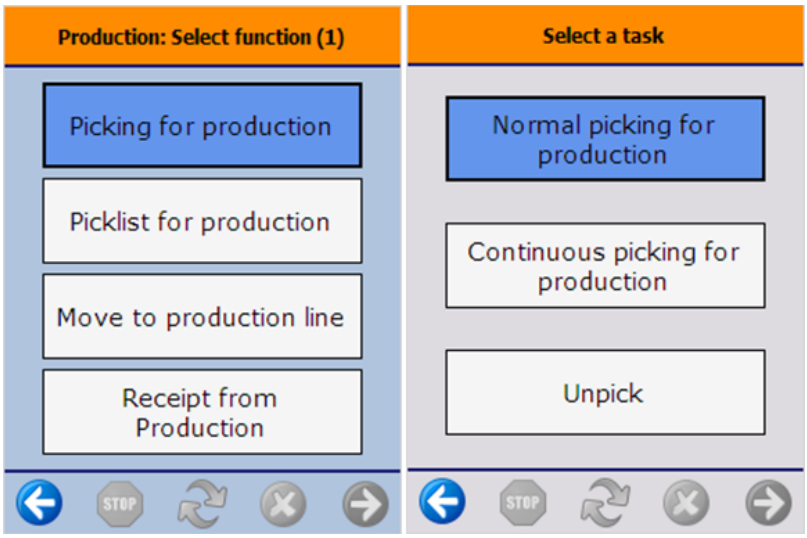
5. Production picking

In the picking step collect the needed components for the production. Based on the Production line settings, the destination of the picking can be the input location or the pick to location.

Produmex offers two flows for picking the components of a production. The ‘Picking for production’ flows uses the production order as an input. Because the picking is performed without a picklist, the stock to be picked is not locked in the inventory. The picked quantity can exceed the planned quantity in the production order.

The ‘Picklist for production’ flow uses a pick list generated from the production order as an input. The system will lock the stock when creating the proposal and the pick list. Pick lists can only be generated from a production order when the ‘Create proposal for picking’ option is set to true in the Picking for production controller. The picked quantity cannot exceed the proposed quantity in the pick list.

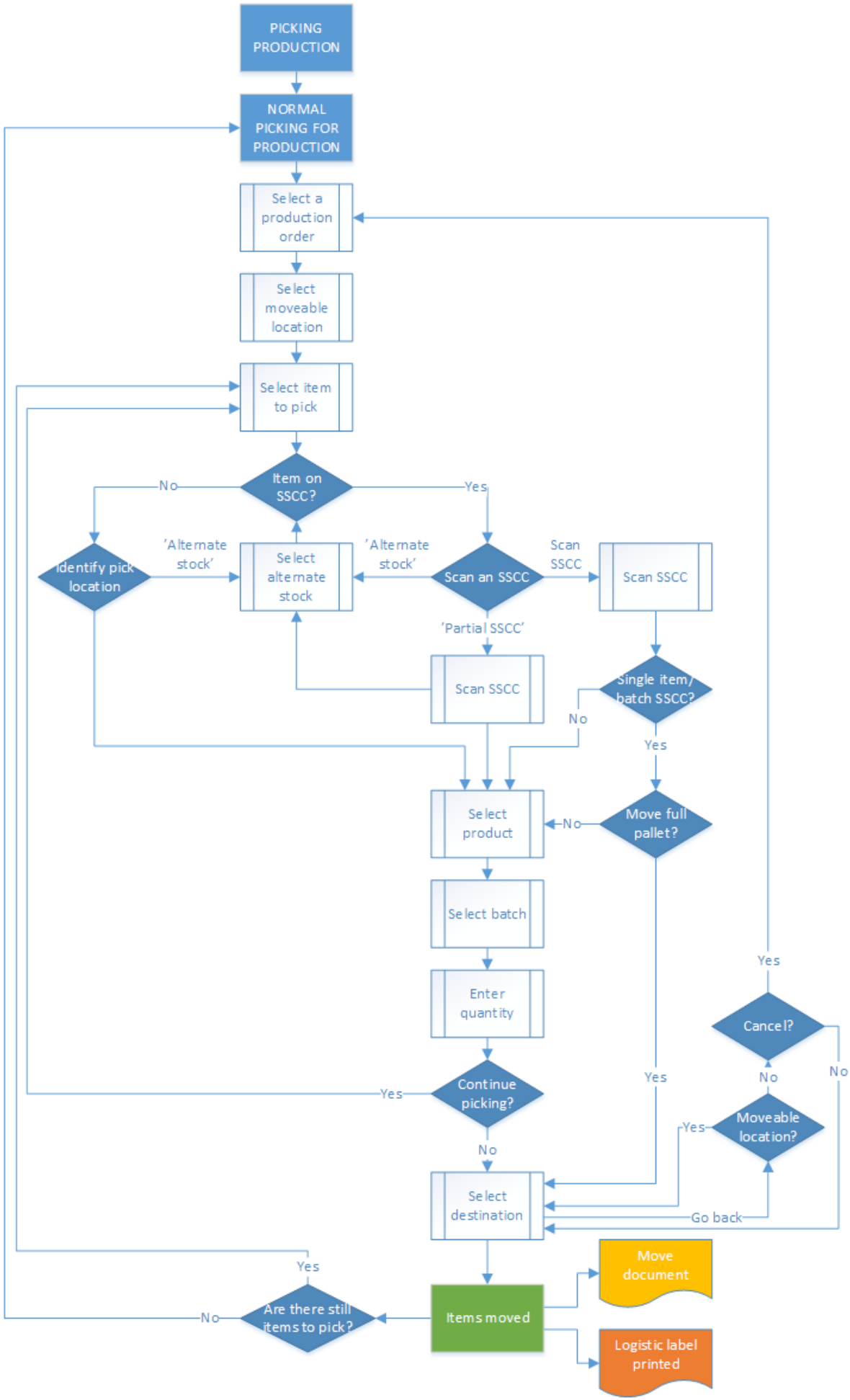
5.1. Picking for production



Press the ‘Picking for production’ button. On the next screen select a task.
Press the ‘Normal picking for production’ button to pick for the production.
Press the ‘Unpick’ button to remove previously picked stock from the pick/input location.

When the ‘Allow continuous picking for production’ option is enabled on the Picking for production controller, an additional ’Continuous picking for production’ button is displayed on the screen. When performing the picking with this flow, the system will allow to pick production order lines whose full

quantity has been picked.

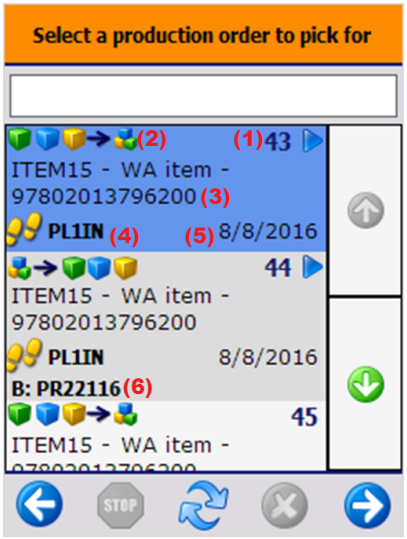

PICKING PRODUCTION
NORMAL PICKING FOR PRODUCTION
Select a production order
Select moveable location
Select item to pick
Item on SSCC?
No
Yes
Identify pick location
'Alternate stock'
Select alternate stock
'Alternate stock'
Scan an SSCC
Scan SSCC
Scan SSCC
'Partial SSCC'
Scan SSCC
Single item/ batch SSCC?
No
Yes
Select product
No
Move full pallet?
Select batch
Enter quantity
Yes
Cancel?
No
No
Continue picking?
Yes
Yes
Moveable location?
No
Select destination
Go back
Yes
Are there still items to pick?
No
Items moved
Move document
Logistic label printed

- Normal picking for production
- Select moveable location
- Select a product to pick
- Select alternate stock
- Identify SSCC/ pick location
- Identify SSCC/ pick location
- Identify SSCC/ pick location
- Identify product
- Select destination location

5.1.1. Normal picking for production

5.1.1.1. Select production order

Select a production order to pick from the list. Only production orders with an assigned production line and 'Released' or 'Started' status are displayed in the list. Proceed with the right arrow button. The following information is shown on the list:



1. The production order number. Started production orders are indicated with an icon.
2. The order type. It is possible to pick for 'Standard', 'Special' and 'Disassembly' type of production orders too with this flow. 'Standard' and 'Special' production orders are indicated with an icon and 'Disassembly' production orders are indicated with an icon.
3. The code, description and barcode of the item to produce.
4. The destination location of the picking. Depending on the Production line settings, the input or the pick to location of the production line is assigned to the production order.
5. The due date of the production order.
6. The batch number of the product.

5.1.1.2. Select moveable location

Press the 'No moveable location' button or select a moveable location from a list to move the picked items with a moveable location. *The steps for picking with or without a moveable location are*

identical except for the cancellation. When picking onto a moveable location, the list of the already picked items cannot be cleared.

5.1.1.3. Select a product to pick

Select a production order line to pick from the list. Proceed with the right arrow button. The following information is shown on the list:

1. The code, description and barcode of the item to pick.
2. The quantity that still needs to be picked. It is calculated by: {Already picked quantity - Planned quantity}. When picking with the ‘Normal picking for production’ flow, the production order lines whose full quantity has been picked are not displayed on the list. When picking with the ’Continuous picking for production’ flow, those order lines are displayed too.
3. The available quantity on the input location of the assigned production line.
4. Optional components are indicated with an icon.
5. Lined up and time registry components are not listed.

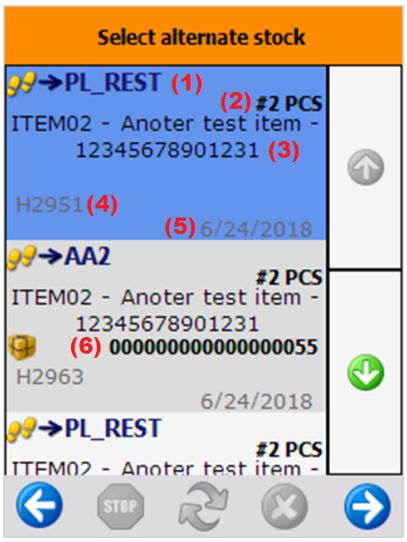
5.1.1.4. Identify SSCC/ pick location

Identify the SSCC or location to pick from. The system sorts the proposed stock based on the option selected as ‘Picking order by’ in the Picking for production controller. The details of the first proposed stock will be displayed on the bottom of the screen.
When the proposed stock to pick has a linked SSCC, the ‘Scan an SSCC’ screen is displayed. On the bottom of the screen the pick location and the SSCC is shown. Scan the SSCC.
In case of the scanned SSCC was linked to a single item or batch pallet, the system asks whether to move the full pallet or not. Press the ‘Yes’ button to move the full logistic unit. Press ‘No’ to move only a partial unit.
To pick only a partial pallet, press the ‘Pick partial logistic unit’ button. On the next screen scan the SSCC. When moving only a partial logistic unit, identify the products to move.

When the proposed stock to pick has no linked SSCC, identify the pick location. Scan the location or select it from the list after pressing the ‘Select location’ button. Only the location that is displayed on the bottom of the screen can be scanned or selected.

5.1.1.5. Select alternate stock

To pick from another SSCC or location, press the ‘Alternate stock’ button and select a production line from the list and proceed with the right arrow button. The following information is shown on the list:

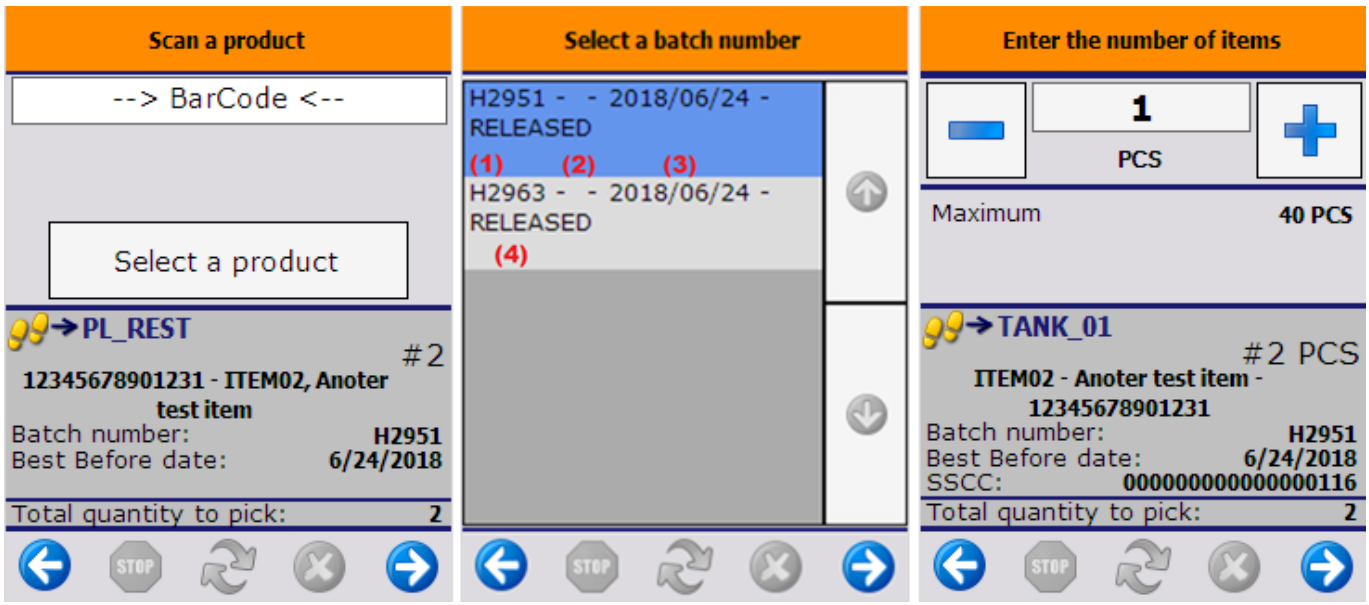


1. Pick location
2. Quantity to pick
3. Code, description, barcode of the item to pick
4. Batch number
5. Best before date
6. SSCC if the displayed stock is full pallet

On the next screen scan the SSCC or the pick location.

5.1.1.6. Identify product

Identify the product to pick. In case a full logistic unit is moved, the system automatically skips the following screens.
Scan the product or select it from a list after pressing the ‘Select a product’ button. Only items stored on the selected logistic unit or pick location are displayed on the list.



Select the batch from the list. The following information is shown on the list:

1. Batch number
2. Second batch number
3. Best before date
4. Quality status

When there is only one batch on the location or the logistic unit for the item, then the system automatically proceeds with that batch.

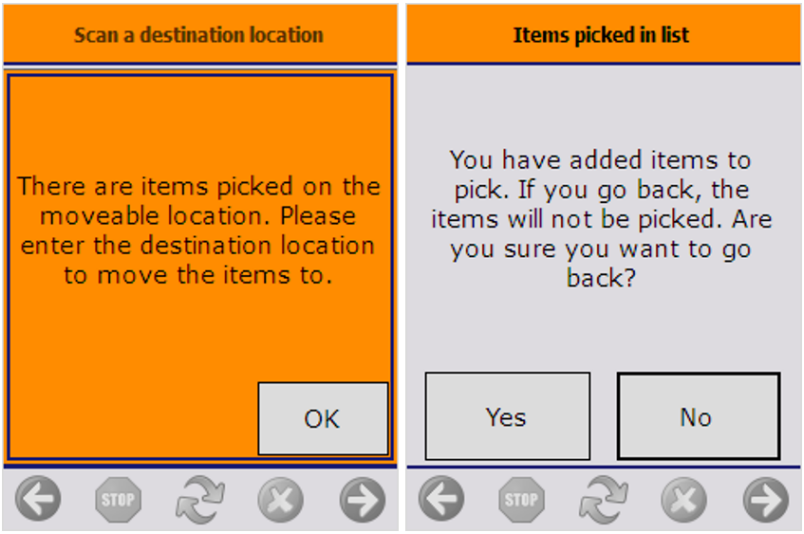
Enter the quantity to pick. The picked quantity can exceed the quantity in the production order, but is limited by the available quantity on the logistic unit or pick location. For more information about quantity entering methods see: 4.3.4. Screens for entering additional information

5.1.1.7. Select destination location

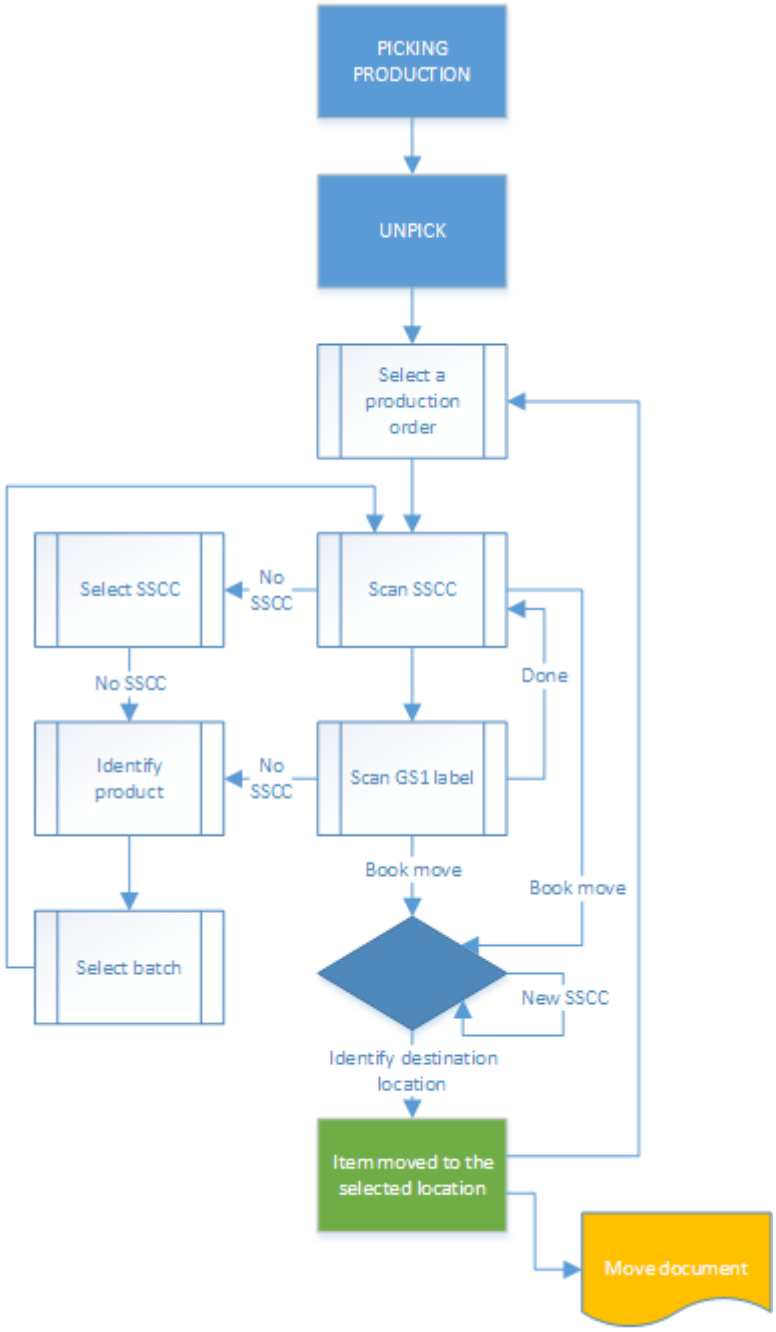
After the product has been identified, scan the destination location or select it after pressing the ‘Select location’ button. Only the default location can be selected as the destination location. The default location is the input location of the production line. *When a pick to location is set for the production line, it is the default location.*
To continue the picking, press the ‘Continue picking’ button. The system will go back to the ‘Select product to pick’ screen. The button is only displayed when there are still components to pick.
When all the components have been picked, and the destination location has been identified, the system shows the ‘There are no more items to pick’ message.
After the picked items have been moved to the destination location, the system generates a ‘Move’ document in the Produmex office module to register the movement.
When the *Picking for production: (After picking 401)* print event is set in the Organizational Structure, the system asks whether to print the picklist for production. Press the ‘Yes’ button to print the pick list.

5.1.1.8. Cancellation

To cancel the picking, press the left arrow button. When nothing was picked, the system will go back to the ‘Select a task’ screen.
In case of picking onto a moveable location, the system will ask for identifying the destination location for the already picked products.
In case of picking without a moveable location, the system will ask for confirmation. To cancel the process, press ‘Yes’. The list of the picked items will be cleared. To proceed with the already picked items press ‘No’.


Scan a destination location
There are items picked on the moveable location. Please enter the destination location to move the items to.
OK
Items picked in list
You have added items to pick. If you go back, the items will not be picked. Are you sure you want to go back?
Yes
No

5.1.1. Unpick



- Select production order
- Identify SSCC
- Identify product
- Select destination location

5.1.2.1. Select a production order

Select a production order from the list. Every production order with at least one picked component is displayed in the list, regardless of the flow the picking was performed.

5.1.2.2. Identify SSCC

Scan the SSCC. To select the SSCC from a list, press the ‘No SSCC’ button. Only SSCC’s stored on the pick location of the assigned production line can be scanned or selected.
When there is no SSCC present, press the ‘No SSCC’ button. On the next screen press again the ‘No SSCC’ button.

After an SSCC was identified, scan the GS1 label or press the ’Done’ button to proceed with the unpicking.

5.1.2.3. Identify product

When unpicking only a partial logistic unit, identify the product. Scan the product or select it from a list after pressing the ‘Select a product’ button. Every item that can be found on the pick to or input location will be listed, but only items linked to the production order can be scanned or selected.
When the item is managed by batches and there are more than one batch on the logistic unit or pick location, select the batch as well.

After a product has been identified, the system goes back to the ‘Scan an SSCC’ screen. An extra ‘Book move’ button is displayed. Press this button to finish the unpicking.

5.1.2.4. Identify destination location

After the ‘Book move’ button was pressed, identify the destination location. 

A default location is displayed on the screen.

When the location suggestion is enabled for the warehouse, the *Default location* is the first suggested location calculated based on the logic described in Location suggestions.

Note: When we use the suggested location functionality in the reception flow (receiving items to a location instead of a dock) and the system cannot find a suitable location for the item, it automatically receives the item to the dock.

When the location suggestion is not enabled for the warehouse, the *Default location* is the standard location set for the given warehouse on the Produmex Inventory tab of the Item Master Data of the item. If the items to move have different standard location set for the warehouse, no default location is displayed.

Scan an SSCC to unpick the product to that SSCC. If the scanned SSCC is not in stock, identify the destination location on the next screen.

Scan a location to unpick the products to that location or press the ‘Select other location’ to select it from a list.

Press the ‘New SSCC’ button to unpick to a new SSCC. On the next screen scan a location or select it from a list after pressing the ‘Select other location’ button.

After the unpicked items have been moved to the selected location, the system generates a ‘Move’ document in the Produmex office module to register the movement.

After a component was unpicked, it can be picked again with the ‘Normal picking for production’ flow.

5.1.2.5. Cancellation

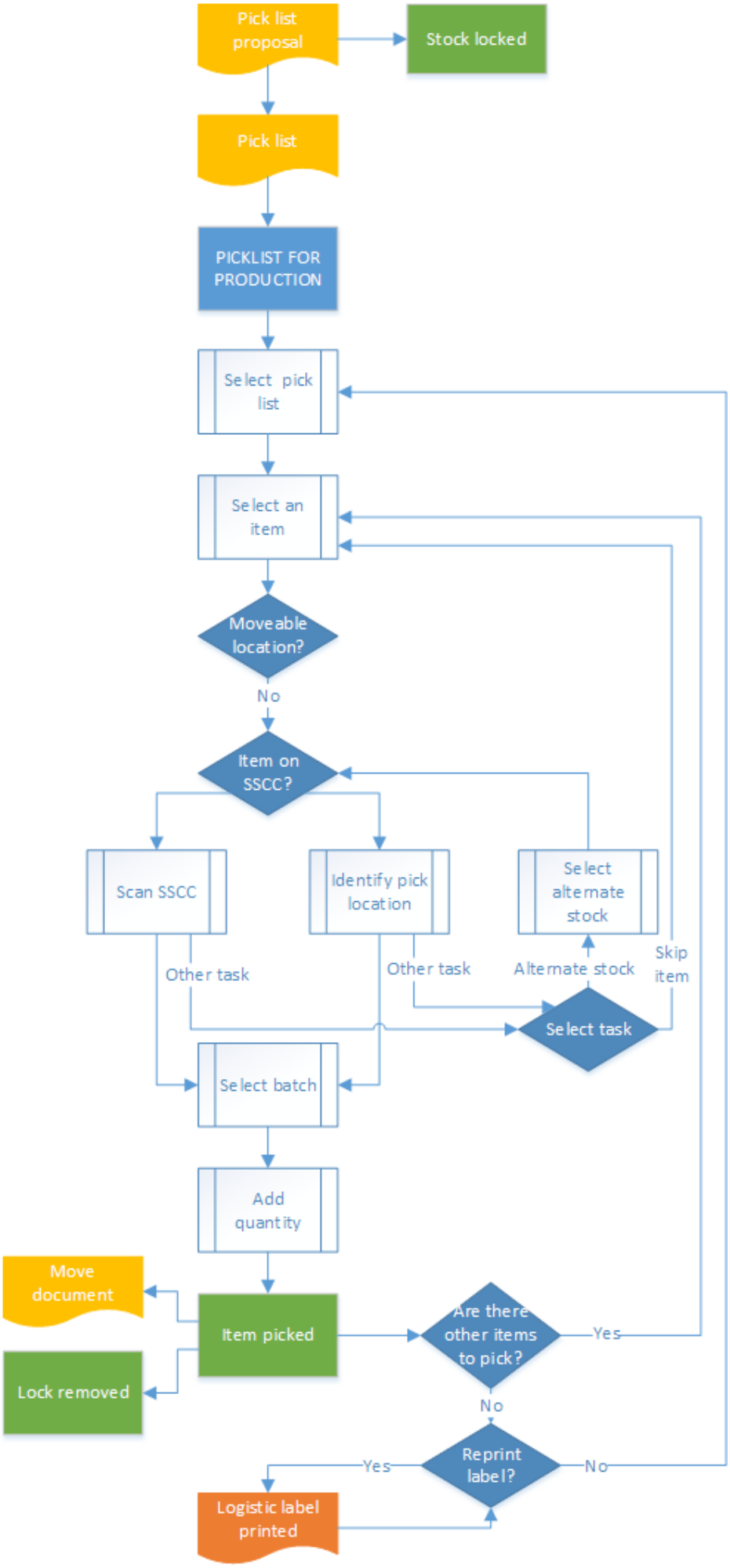
To cancel the unpicking, press the left arrow button. When there are already unpicked products the system will ask whether to process with the unpick or not. Press the ‘Process unpick’ button to book the unpick. Press the ‘Cancel unpick’ button to clear the list of unpicked products.

5.2. Picklist for production

NOTE: in the Beas integration procedure, picklists are created by WMS in the warehouse that is defined in the WO BoM (in case of available inventory) even if a Beas Reservation exists for another warehouse in the actual Work Order.

5.2.1. Office

Before picking with the Picklist for production flow, create a pick list in the office environment.
On the production order click on the ‘Create pick list proposal’ button. The button is only displayed if the ‘Create proposal for picking’ option is set to true in the Picking for production controller. A pick list proposal will be generated and the stock to be picked will be locked. It is only possible to create a pick list proposal for a production order with an assigned production line.
It is also possible to create pick lists for production via the Pick list proposal manager.
Then click on the ‘Gen. pick list’ button on the pick list proposal window to create the pick list. It is only possible to generate a pick list for released production orders.


Pick list proposal
Stock locked
Pick list
PICKLIST FOR PRODUCTION
Select pick list
Select an item
Moveable location?
No
Item on SSCC?
Scan SSCC
Identify pick location
Select alternate stock
Other task
Other task
Alternate stock
Skip item
Select task
Select batch
Add quantity
Move document
Item picked
Are there other items to pick?
Yes
Lock removed
No
Reprint label?
Yes
No
Logistic label printed

- Pick list for production
- Select a pick list
- Select an item
- Identify moveable location
- Identify the SSCC or pick location
- Select batch
- Other tasks
- Enter quantity
- Picked pallet

5.2.2. Shopfloor

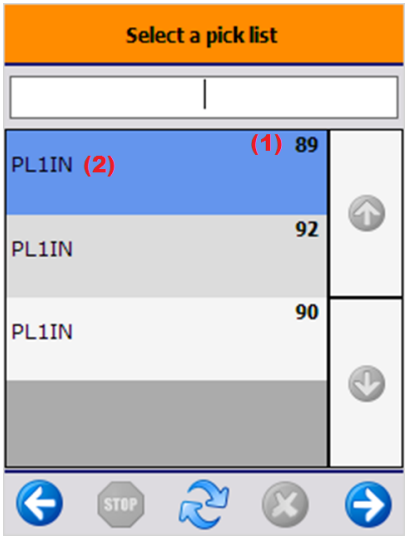
5.2.2.1. Initiate the flow

To initiate the flow, press the ‘Pick list for production’ button on the scanner.

5.2.2.2. Select a pick list

Select a pick list from the list. Only active pick lists for a production order will be displayed. The following information is shown on the list:

1. Production order number
2. Destination location of the picking. Depending on the settings of the production line, the destination location is the input location or the pick to location of the production line.



5.2.2.3. Select an item

Select a pick list line to pick. Press the right arrow button to proceed.

5.2.2.4. Identify moveable location

Press the ‘No moveable location’ button to pick the components directly to the destination location. During this flow it is not recommended to pick onto a moveable location.

5.2.2.5. Identify the SSCC or pick location

Scan the SSCC or the pick location. To select the pick location from a list, press the ‘Select location’ button.

1. Pick location
2. Quantity to pick from the item
3. Item to pick
4. Storage logistic unit
5. Total quantity of the pick list

5.2.2.6. Select batch

When the item is managed by batches and there are more than one batch on the logistic unit or pick location, select the batch as well. Only the batch defined in the pick list can be selected.

5.2.2.7. Other tasks

Press the ‘Other task’ button to reach the following tasks:

- Alternate stock
- Skip item

Press the ‘Alternate stock’ button to select alternate stock. On the next screen select the alternate stock from the list. After the alternate stock has been selected, identify it as described above.
Press the ‘Skip item’ button to skip the item. The system will go back to the ‘Items still to pick’ screen. (5.2.2.3.)

5.2.2.8. Enter quantity

After the SSCC or pick location was identified, enter the quantity to pick. The picked quantity cannot exceed the quantity in the pick list.

5.2.2.9. Picked pallet

After the quantity has been added, the locking is removed for the product. The product is moved to the destination location. The movement is registered in the Produmex office module in a 'Move' document. Proceed with the next line of the pick list. After every component has been picked, the system displays information about the picked pallet.

1. Name of the production line
2. SSCC of the new logistic unit

Note:

- NEW If the full quantity of the selected item is picked and the *204 - Picking: after item is picked* print event is set for the pick list type on the Print Events tab of the Organizational Structure, the system asks if you want to print a label. To proceed with the printing click OK.
- When the 'Picking for production: new LU full event (201)' print event is set in the Organizational Structure, the print event is triggered and the logistic label is printed. The default report for this print event is the *DefaultLogisticsLabel.rpt*.

6. Component weighing production

When the 'Prod. Order start condition' is set to 'Component weighed' for a component in the Bill of Materials , weigh the component before moving it to the production line.
Please note: This step is only for items where the weight is the primary uom.

Products picked to the Pick to location of the production line can be weighed. *When the production line has no pick to location set, the components picked to the input location can be weighted.*

6.1. Initiate the flow

Press the 'Component weighing production' button on the touchscreen.

6.2. Select a production line

Select a production line from the list. Only active production lines will be listed.

6.3. Select a production order

Select a production order from the list. Only released production orders that are not assigned to another production line will be displayed on the list. When there is a started production order on the production line, the system will proceed with that order automatically.
The following information is displayed on the list:

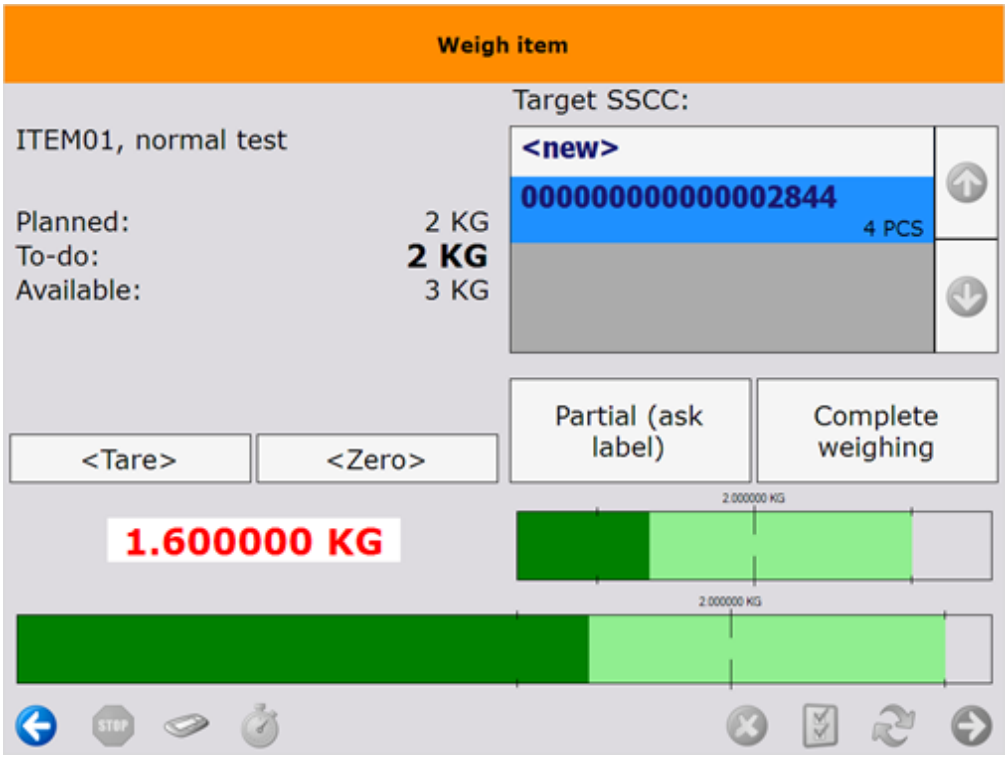
1. Type of the production order indicated with an icon. Please note that Disassembly type production orders are not supported in this flow.
2. Code, description and barcode of the item to produce.
3. Number and due date of the production order.

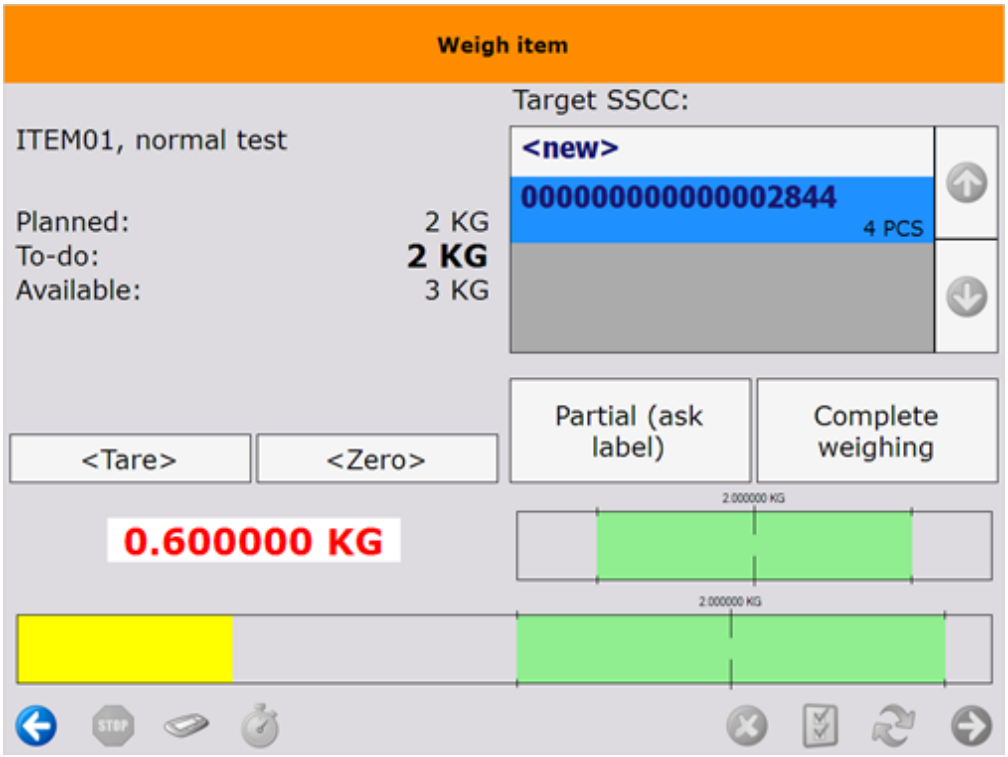
6.4. Select item to weigh

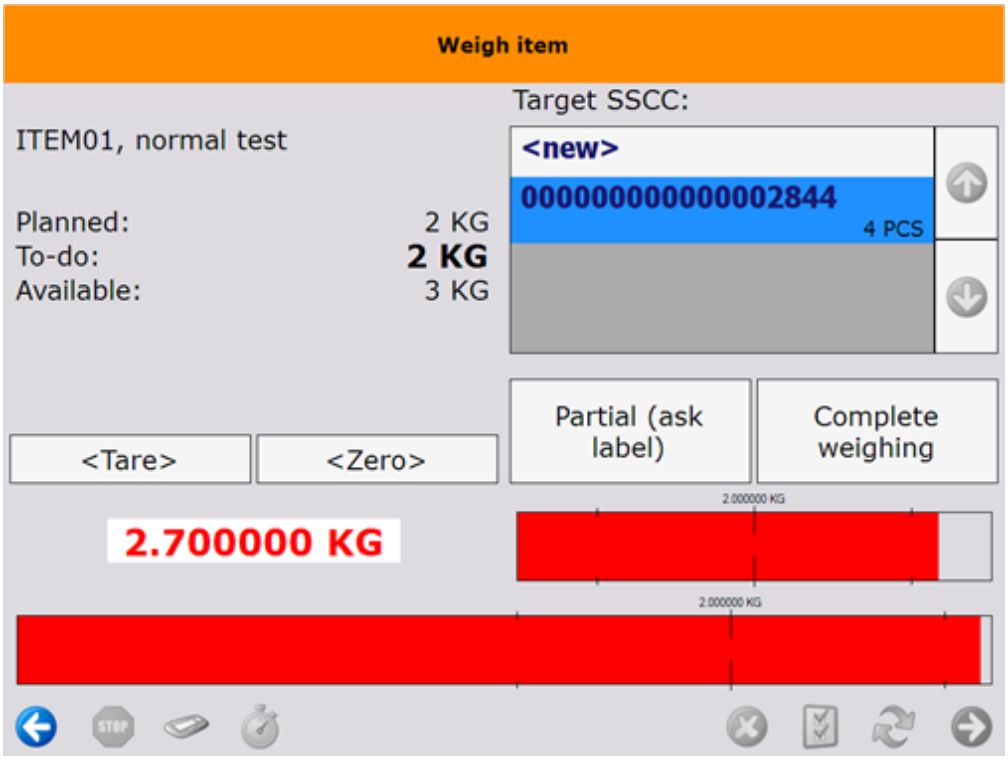
On the next screen every not lined up material from the production order will be listed.
Different batches will be displayed in separate lines.
The available quantity is the quantity of the batch on the location. The completed quantity is the weighted quantity. The planned quantity is the quantity in the production order line.
The quantity will be displayed in black when the components are not yet weighted but there are enough available stock for the weighing. The quantity will be displayed in red when there are no available stock to weigh. The quantity will be displayed in green when the weighing is completed.
Select a batch and press the right arrow button to weigh the products from that batch.

6.5. Weigh product

Weigh the products. It is also possible to enter the weight manually.
The To-do quantity is the quantity that still needs to be weighed. It is calculated by {Planned quantity-Completed quantity}.
There are two indicator bars displayed on the screen. The to-do quantity is marked on both bars.
When the quantity tolerance is greater than zero, the quantity tolerance range is also displayed on the indicator bars.
The weighed quantity is displayed in green on the indicator bars when the quantity is in range. The weighed quantity is displayed in yellow on the indicator bars when the quantity does not reach the minimum range of the to-do quantity. The weighed quantity is displayed in red on the indicator bars when the weighed quantity exceeds the maximum range of the to-do quantity.
Press the ‘<Tare>’ button to tare the scale.
Press the ‘<Zero>’ button to zero the scale.


Weigh item
Target SSCC:
ITEM01, normal test
<new>
000000000000002844
4 PCS
Planned: 2 KG
To-do: 2 KG
Available: 3 KG
Partial (ask label)
Complete weighing
<Tare>
<Zero>
1.600000 KG
2.000000 KG
2.000000 KG


Weigh item
Target SSCC:
ITEM01, normal test
<new>
000000000000002844
4 PCS
Planned: 2 KG
To-do: 2 KG
Available: 3 KG
Partial (ask label)
Complete weighing
<Tare>
<Zero>
0.600000 KG
2.000000 KG
2.000000 KG



6.6. Select SSCC

Select the target SSCC for the weighed products. Press the '<new>' button to move the weighed components to a new logistic unit or select an SSCC from the list and press it.

6.7. Finish weighing

Press the 'Complete weighing' button to register the weighing of quantities within the quantity range. When the *Warehouse: new LU has been created (700)* print event is set in the Organizational Structure, the system triggers prints the label. The default report for this print event is the *'DefaultLogisticsLabel.rpt'*.
Press the 'Partial (ask label)' button to register the weighing of quantities less than the minimum quantity range. Based on the settings in the Production controller, the system might ask whether to print the label when the print event is set in the Organizational Structure.

The weighed products will be moved to the input location automatically.
Press the 'Return unweighed items' button to move the unweighed items to the rest location. The system will ask for confirmation. Press the 'Move' button to move the unweighted items. Press the 'Cancel' button to cancel the movement.

7. Move Components to the Production Line

You have the following options to move the picked components to the production line:

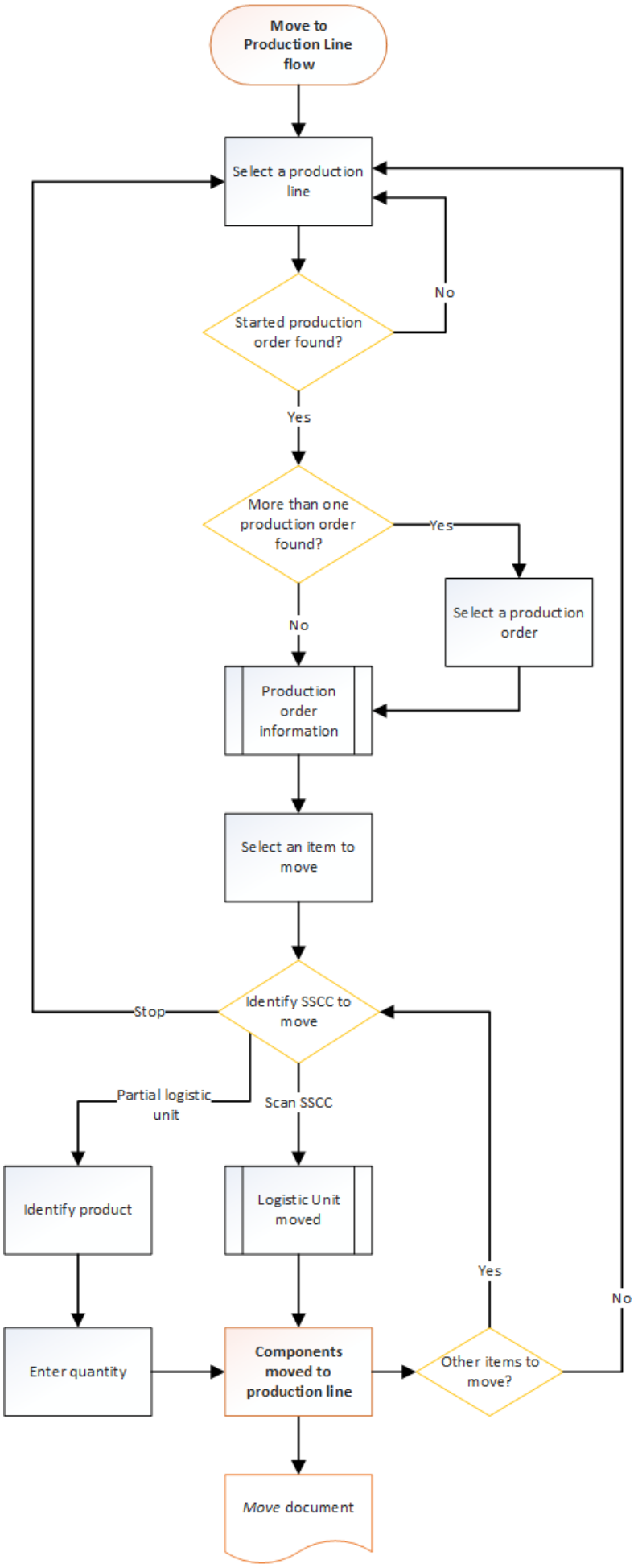
(1) If you produce with the Receipt from Production flow, the picked components can be moved to the production line with the Move to Production Line flow (see section 7.1 below).

(2) If you produce with the Production flow, you can use the Move to Production Line flow (see section 7.1 below) or you can move the components on the terminal (see 8.2.8. Move the components to the production line).

Note:

- When the *Auto move all linked items to BOM?* setting is enabled on the Production controller, the system automatically moves the components from the input location to the production line after selecting the production order in the Receipt from Production flow or Production flow.
- With default settings, components can only be moved from the input location to the production line. If the *Allow to move stock to prod. line from rest location?* setting is enabled on the Production controller, the components can also be moved from the rest location to the production line.

7.1. Move to Production Line flow


Move to Production Line flow
Select a production line
Started production order found?
No
Yes
More than one production order found?
Yes
Select a production order
No
Production order information
Select an item to move
Identify SSCC to move
Stop
Partial logistic unit
Scan SSCC
Identify product
Logistic Unit moved
Enter quantity
Components moved to production line
Other items to move?
Yes
No
Move document

7.1.1. Start the flow

Tap the *Move to production line* button on the scanner.

7.1.2. Select a production line

Select the production line on the *Select a production line* screen and tap the right arrow.

When there is no started production order on the selected line, the system displays the *No started production order found* message. Tap OK and the system goes back to the *Select a production line* screen.

7.1.3. Select a production order

- If there is more than one started production order, the system displays the *Select a production order to pick for* screen.
  Select a production order, tap the right arrow and the system displays the *Production information* screen.
- If there is one started production order, the *Select a production order to pick for* screen is skipped and the *Production information* screen is displayed.
- The *Production information* screen displays the following information:

1. Production order number
2. Planned quantity
3. The code, the description and the barcode of the item to produce
4. The due date of the production order
5. Remarks for the production order

- Tap OK.

7.1.4. Select an item to move

After identifying the production order, the system lists the components from the production order on the *Items to move* screen. Only those components are listed that are available on the input location.

Note: Time registry items are not displayed on the list.

Next to the item code the system displays the quantity to be moved. Negative quantity means that the quantity on the production line exceeds the planned quantity.

Select an item and tap the right arrow button.

7.1.5. Identify the SSCC to move

On the *Identify the SSCC to move* screen you have the following options:

- a) scan the SSCC to move (see section (a) below),
- b) move a partial logistic unit (see section (b) below),
- c) go back to the *Select a production line* screen by tapping the `Stop` button or the left arrow.

a) Scan the SSCC to move.

Note: Only SSCCs meeting the following conditions can be moved:

- there are items linked to the production order on the logistic unit,
- the logistic unit is stored on the input location of the production line.

When the SSCC is scanned and the logistic unit is moved to the production line, the system displays the *Logistic unit/items are moved* message. Tap OK.

The movement is registered in the Produmex office module in a *Move* document.

If there are other items to move, the system displays the Identify the SSCC to move screen.

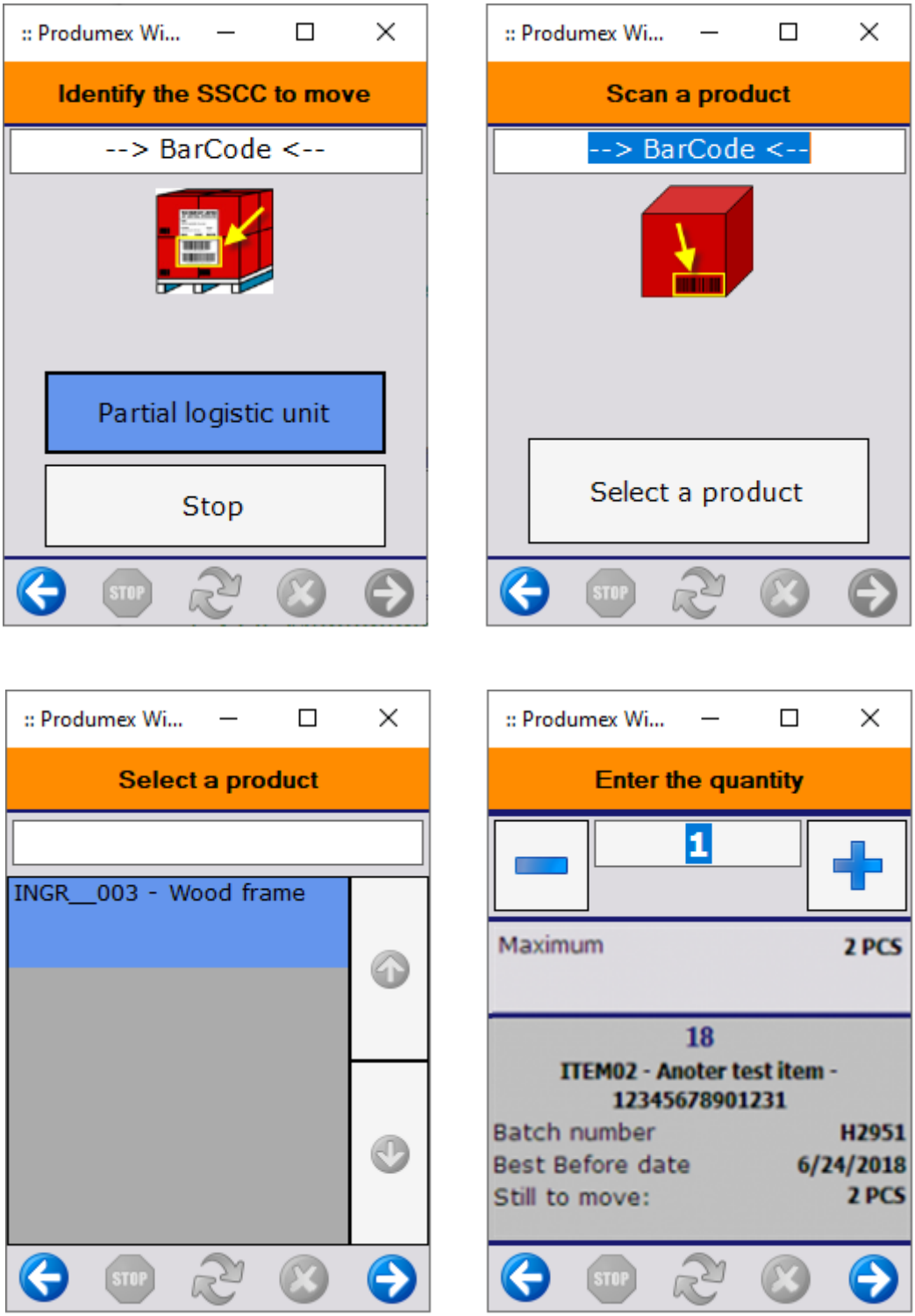
If there is no more item to move, the flow is finished, and the system displays the Select a production line screen.

b) Move a partial logistic unit.

- Tap the `Partial logistic unit` button.
- On the *Scan a product* screen scan the product or tap the `Select a product` button and select the product from the displayed list.
- Enter the number of items on the *Enter the quantity* screen and tap the right arrow.

Note: The moved quantity cannot exceed the available quantity on the input location, but it can exceed the planned quantity of the component on the production order.

The components are moved to the production line and the movement is registered in the Produmex office module in a *Move* document.



If there are other items to move, the system goes back to the Identify the SSCC to move screen.

If there is no more item to move, the flow is finished, and the system displays the Select a production line screen.

8. Production

Produmex supports each of the three SAP B1 production order types.
Based on the significant differences between the ‘Disassembly’ type and the other two types of production orders, Produmex offers disassembly flows in addition to the production flows.
To perform ‘Standard’ and ‘Special’ type of production orders, the system offers two different production flows:

Receipt from production
The flow can be performed either on fixed terminals or on scanners. With default settings the production cannot be started on the thin client. After the production the calculated consumed quantity will be locked. Perform the material confirmation, component issues and the closing of the production order in the Production manager.

Production
The flow can only be executed on fixed terminals. The production can be started on the terminal. The consumed quantities can be modified on the terminal. After the consumed quantity has been confirmed the components are issued and an ’Issue for production’ document is created in SAP B1. In this flow, it is also possible to close the production order on the terminal.

When the ‘Main Touch Production Flow Script’ is set as the workflow for the touchscreen, the Production flow automatically starts on the touchscreen after logging in.

To perform ‘Disassembly’ type production orders, Produmex also has two disassembly flows. The main difference between the two flows is in the way of defining the disassembled quantities.

Disassembly
Enter the disassembled quantity one by one for each component.

Disassembly - weight
Add the disassembled quantities on a collective screen. It is possible to add the quantity by weighing with the linked scale.

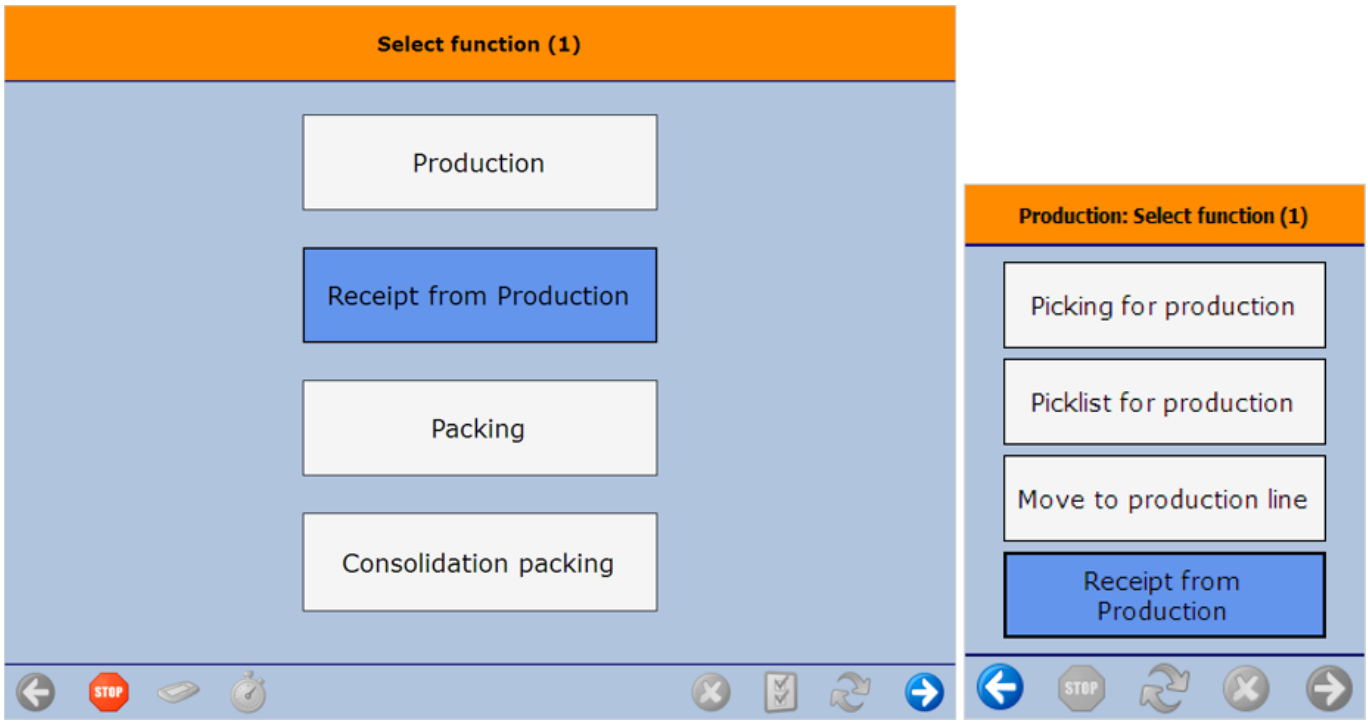
It is also possible to perform ‘Disassembly’ type of production orders in the ‘Production’ or ‘Receipt from production flows’.

Receipt from Production Flow

- Production order
- Release production order
- Release production order
- Production picking
- Production move
- Production receipt
- Select production order
- Identify batch

- Identify SSCC
- Identify batch
- Production
- Finish production

To initiate the flow, press the ’Receipt from Production’ button on the terminal or on the scanner.



1. Select a production order

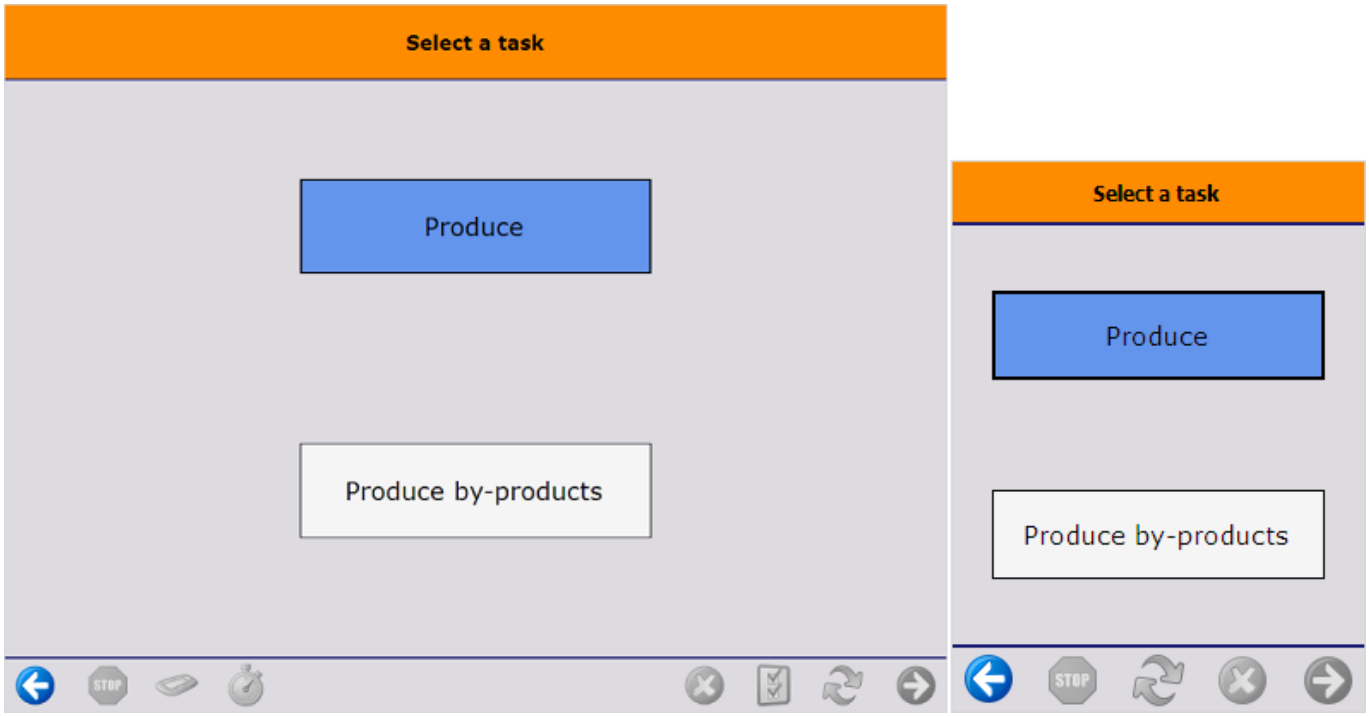
Select a production order from the list and press the right arrow button to proceed.
When using the default settings, only the production orders with ‘Started’ status are displayed in the list.
When the ‘Allow starting production order on receipt flow’ option is set to true on the Production controller, the released production orders with an assigned production line are displayed on the list too. The system will automatically change the status to ‘Started’ when proceeding with these orders.

On the scanner, ‘Started’ orders are indicated with an icon. ‘Standard’ and ‘Special’ type flows are indicated with the icon. ‘Disassembly’ productions are indicated with the icon.
After the production order has been selected, the system checks whether there are enough stock on the production line to produce. When there is not enough stock to produce, an error message is shown.

2. Select a task

If there is a by-product line on the production order, the Select task screen opens. This screen is

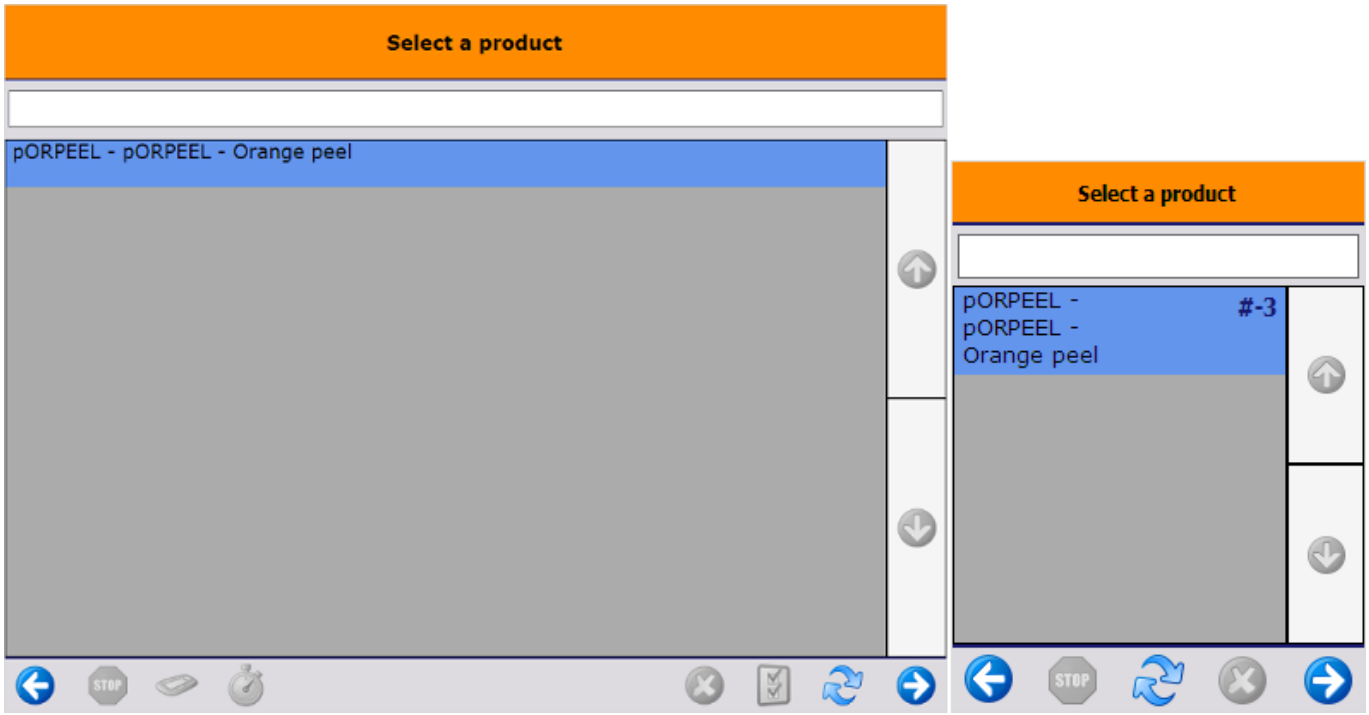
automatically skipped if the production order does not contain by-products.



To produce the main product, press the ’Produce’ button.

To produce by-product(s), press the ’Produce by-products’ button. On the next screen select a by-product to produce from the list. Every by-product from the production order is listed.

The steps of main product and by-product production are similar. The differences are described at each given step.



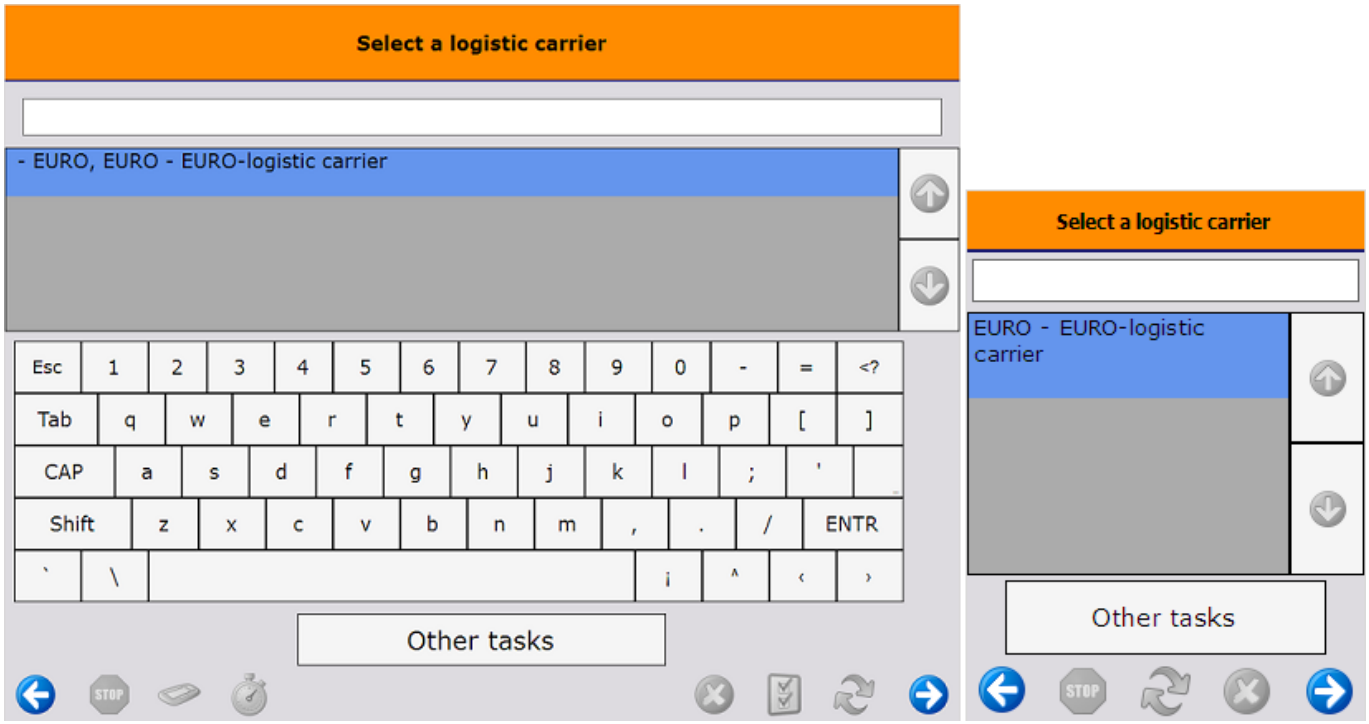
3. Identify batch

Depending on the batch number settings for production the system might ask to enter the batchnumber, if the product is managed by batches.
Depending on the best before date settings for production, the system might ask to enter the best before date, if the product has a best before date.

When the product has batch attributes, the system asks for adding those attributes too.

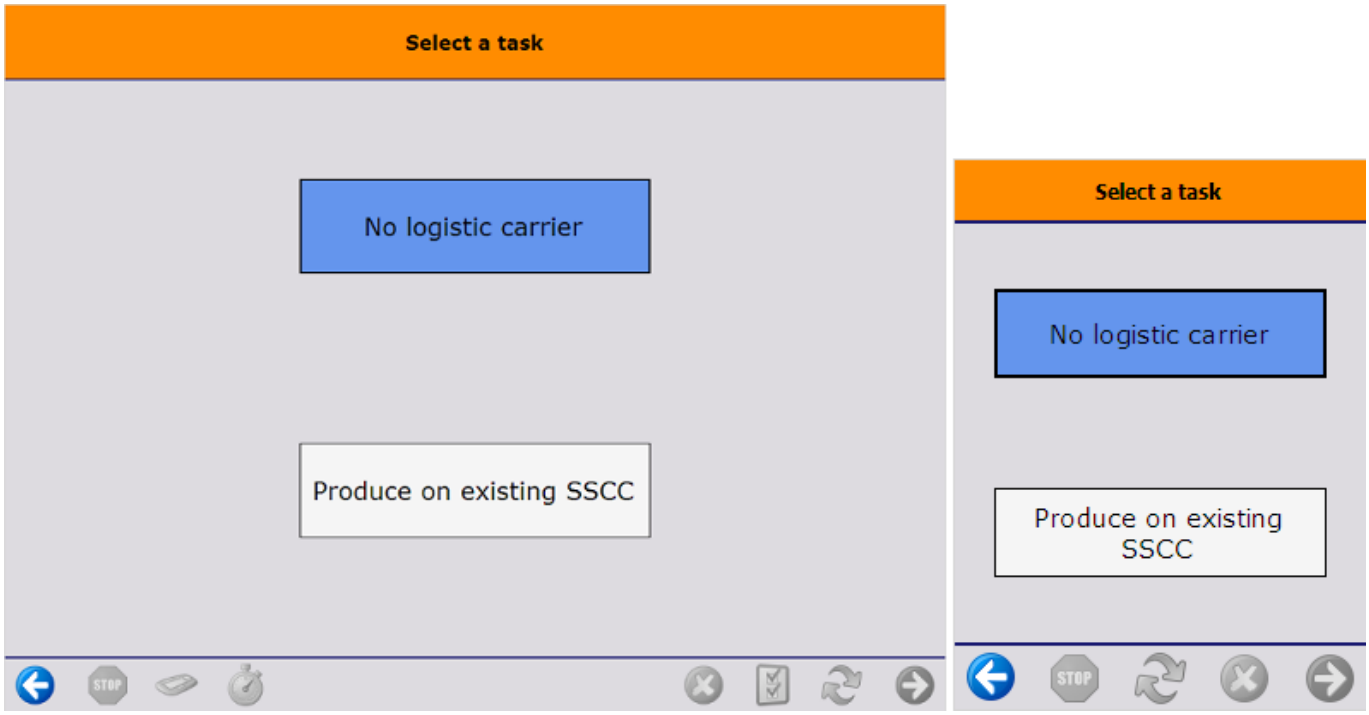
4. Select logistic carrier and identify the SSCC

Then select the logistic carrier from the list. Every logistic carrier that has stock on the *'Stor. Loc. logistic carriers'* location for the warehouse is listed.

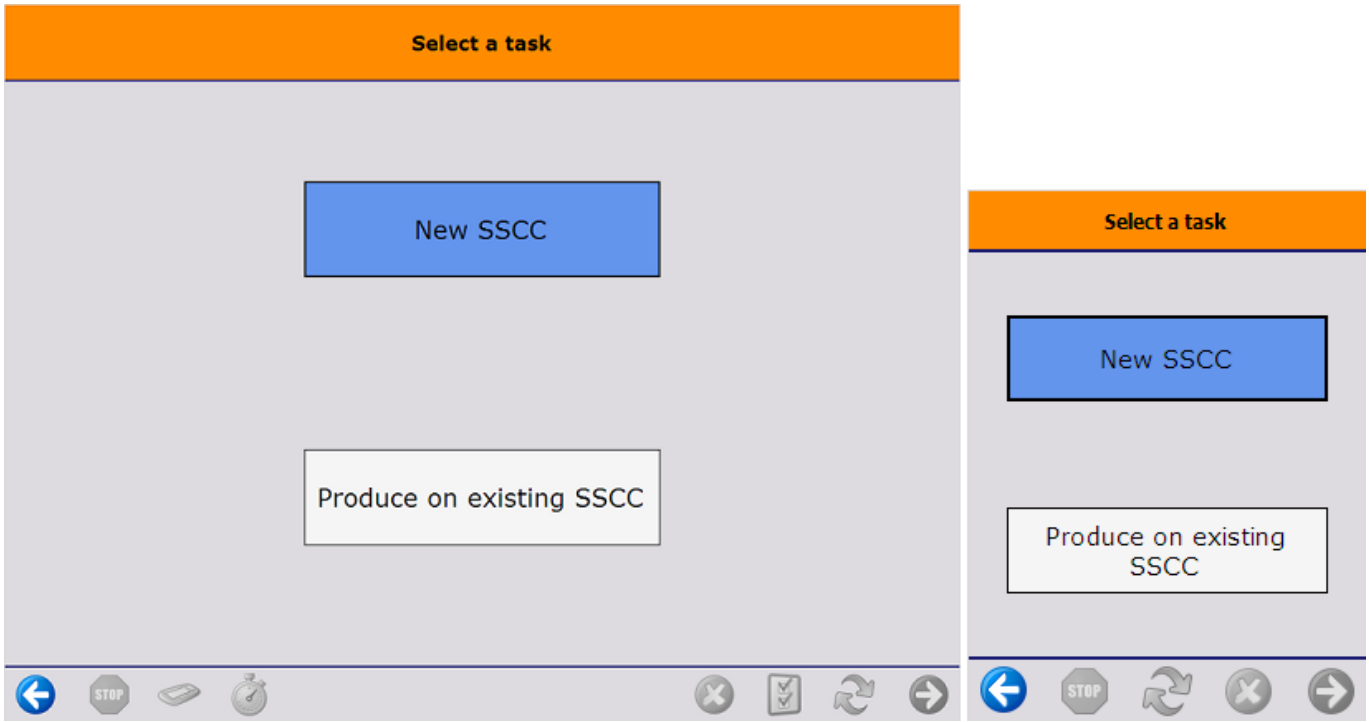


To produce without a logistic carrier press the 'Other tasks' button. On the next screen select a task:

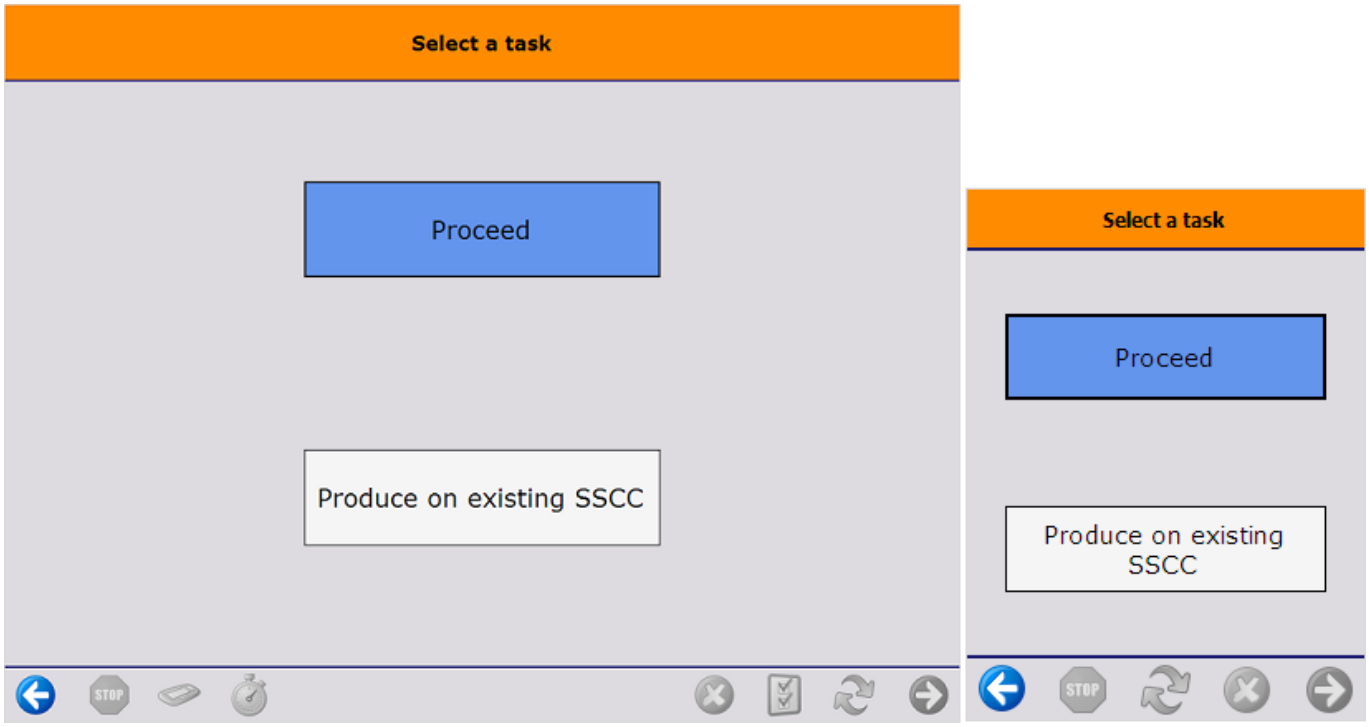
- Press the 'No logistic carrier' button to produce onto a new SSCC.
- Press the 'Produce on existing SSCC' button to produce onto an existing SSCC. On the next screen scan the target SSCC.



The system automatically proceeds to the Select a task screen and skips the Select a logistic carrier screen if there is no available logistic carrier on the *'Stor. Loc. logistic carriers'* location or if the company does not use logistic carriers. In this case the 'New SSCC' button is displayed instead of the 'No logistic carrier' button. Press this button to produce onto a new SSCC. No logistic carrier will be linked to the produced item.



The system also proceeds automatically if the product has a 'Default log. car. production' set on the Produmex Production tab of the Item Master Data. In this case a 'Proceed' button is displayed instead of the 'No logistic carrier' button. Press this button to create a new SSCC with a linked logistic carrier.



5. Enter the quantity produced

After the SSCC has been defined, add the produced quantity. By default the planned quantity is displayed, but it is possible to produce different quantities.
The maximum of the produced quantity for the main product is calculated based on the following values:

- base quantity of the components from the production order
- the quantity tolerance of components set in the production order
- the available quantity on the production line

Note: lined up components and time registration items are not taken into account when calculating the maximum quantity.

The calculation of the maximum quantity occurs in three steps:

- First the system calculates the maximum producible quantity for each material based on only that material.
  Maximum quantity = Quantity on the production line/ (base quantity *(1-quantity tolerance))
- Then the system selects the lowest value from the maximum producible quantities. To define the maximum quantity, the system rounds down that value to the decimal places specified for the uom in the Item Master Data of the product.

The produced quantity for by-products is not limited by the available quantity of the materials on the production line.

5.1. Enter the weight

In case of producing a catch weight item, enter the produced weight too. The maximum weight is calculated from the produced quantity, the default weight and the weight tolerance defined in the Item Master Data of the product.

If the *Weight Capture needed during Production* setting is enabled on Item Master Data > Produmex tab > Production tab, the system displays the *Enter the weight* screen during the flow. In this case the product / by-product must be weighed with a scale.

- Prerequisites: You must define a scale for the production line or the output location of the production line in the Organizational Structure.
- The setting applies to items that are not managed by serial numbers.
- If the item is a catch weight item, you can weigh the item after the first quantity has been added.

5.2. Items managed by serial numbers

When the item to produce is managed by Produmex or 'On release only' type serial numbers, it is possible to add the quantity by scanning the serial numbers or by entering the quantity.
When the item to produce is managed by 'On every transaction' type serial numbers, the quantity can only be added by scanning the serial numbers.
For more information about quantity entering methods see: Screens for entering additional information.

6. Production

After the quantity has been added, the product is produced and the system moves the product to the output location. The quality status of the received product is the quality status set as the *Quality status production* on the Production tab of the Organizational Structure.

When the product is produced, the system locks the consumed stock. The locked quantity is calculated from the produced quantity and the base quantity of the component. Materials are not locked for by-products.

Documents:

- When producing by-products, the system creates a receipt for production document for the by-product and no other documents.
- When producing the main product, the system creates a receipt for production document for the main product and issue for production documents for material items which are on lined up location with direct consumption setting.

7. Print event

If set in the Organizational Structure, the *'Production: logistic unit produced event (400)'* print event is triggered and the Production label is printed. The default report of the print event is *DefaultProductionLabel.rpt.*

8. Item produced

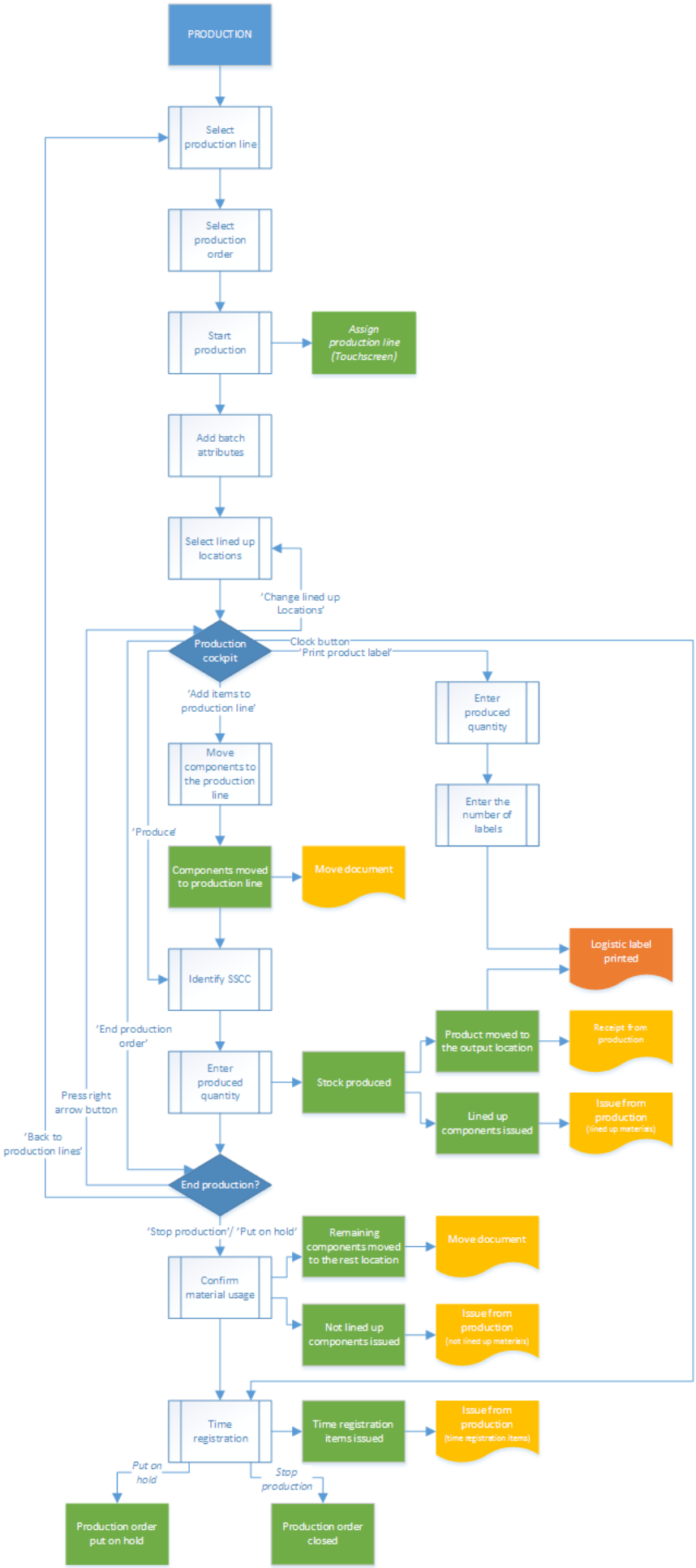
On the screen the 'The item is produced' message is displayed. Press 'Ok' to go back to the 'Select a production order' screen. When the 'Proceed with current production order after entering quantity on prod. receipt flow?' option is set to true in the Production controller, the system automatically proceeds with the current production order.

If the production order is not closed, it is possible to produce more than the planned quantity.

Close the production in the Production Manager.

If the *Automatically close production orders on completion? (Y/N)* setting is enabled on the production controller, the production order is automatically closed when the planned quantity for the main product has been reached. The Issue for Production documents are booked with the planned quantities and the components are issued.

Production flow


PRODUCTION
Select production line
Select production order
Start production
Assign production line (Touchscreen)
Add batch attributes
Select lined up locations
'Change lined up Locations'
Production cockpit
Clock button 'Print product label'
'Add items to production line'
Move components to the production line
'Produce'
Components moved to production line
Move document
Identify SSCC
'End production order'
Enter produced quantity
Stock produced
Press right arrow button
'Back to production lines'
End production?
'Stop production'/ 'Put on hold'
Confirm material usage
Remaining components moved to the rest location
Move document
Not lined up components issued
Issue from production (not lined up materials)
Time registration
Time registration items issued
Issue from production (time registration items)
Put on hold
Stop production
Production order put on hold
Production order closed
Enter produced quantity
Enter the number of labels
Logistic label printed
Product moved to the output location
Receipt from production
Lined up components issued
Issue from production (lined up materials)

1. Initiate the flow

To initiate the production flow, press the ‘Production’ button on the terminal.

2. Select production line

Select the production line where the production will take place. Press the right arrow button to proceed. Every active production line is displayed on the list.

3. Select production order

Select a production order from a list.

- The screen lists production orders with type *standard* and *special*. For production orders with type disassembly use the Disassembly Flow.
- Released production orders that are assigned to the selected production line or that are not assigned to any line yet are displayed on the list.

When there is a started production order on the line, the system automatically proceeds with that order.

4. Start production

After the production order has been selected, the system will display the details of the production:

1. The code and description of the item to produce.
2. The due date of the production order and the attached remarks.
3. The type of the production indicated with an icon.
4. The planned quantity.
5. Production order number.

To start the production, press the ‘Start production’ button. When no production line was assigned to the order, it can be started at any production line. After the order has been started on a production line the system automatically assigns that line to the production order.

5. Identify batch

Depending on the batch number settings for production the system might ask to enter the batch number, if the product is managed by batches. If both the product and the by-product(s) are managed by batches, the batch number of the by-product(s) is the same as the batch number of the product.

Depending on the best before date settings for production, the system might ask to enter the best before date, if the product has a best before date. If the product and the by-product(s) have a best before date, the best before date of the by-product(s) is the same as the best before date of the product.

When the product has batch attributes, the system asks for adding those attributes too.

6. Select lined up location

When there are no components that has to be lined up, the system skips this screen.
When there is a component that has to be lined up in the production order, select the lined up location from the list. Different lined up component are displayed on separate screens. A location is listed if the following is verified:

- The 'Can be lined up' option is enabled for the location
- The location is added to the production line as a lined up location
- A component that has to be lined up is stored on the location

When there is only one location that verifies these criteria, the system automatically proceeds with that location.
This screen can also be reached by pressing the 'Change lined up locations' button on production cockpit.

7. Production cockpit

The next screen is the Production cockpit.

1. Code, description and barcode of the item to produce
2. The planned quantity
3. The number of the production order
4. The due date of the production order
5. The remarks added to the production order
6. The type of the production order indicated with an icon
7. The list of components that still have to be moved to the production line. The item code, description and barcode of the components and the needed quantity are displayed.
   The following components are not listed:
   - lined up components
   - time registration components
   - optional components
8. `Produce` button (see 8.2.9.Produce)
9. `Produce by-products` button (see 8.2.10. Produce by-products)

10. `Change lined up locations` button (see: 8.2.6. Select lined up location)
11. `Add items to use` button (see 8.2.8. Move components to production line)
12. `Print product label` button (see 8.2.12.Print label)
13. `End production order` button (see 8.2.13. End production)
14. Clock button. Click the button to register time registration items (see 10. Time registration).

8. Move components to production line

The components can be moved either on the scanner or on the terminal. Use the 'Move to production line' flow to perform the move on the scanner.
Only stock from the production line's input location can be moved to the production line. When the 'Allow to move stock to prod. line from rest location' option is set to true in the Production controller, stock from the rest location can be moved to the production line too.

Press the 'Add items to use' button to perform the move on the touchscreen.
There are three possible ways to move the materials to the production line.

- To move only one item, press the 'Move an item' button. Identify the product to move.
  First scan the linked SSCC. When the product has no linked SSCC, press the 'No SSCC' button.
  On the next screen scan the product to move or select it from the list after pressing the 'Select a product' button. Every item on the input location is listed and can be moved.
  After the product has been identified, add the quantity. The moved quantity cannot exceed the quantity stored on the input location.
- To move the entire stock of the components, press the 'Move all items linked to the production order' button. The system will move the entire stock of the items linked to the production order, regardless of the planned quantity.
- To move everything from the input location press the 'Move all items' button. The system will move the entire stock from the input location, regardless of the planned quantity or the item.

When the 'Hide all item buttons' option is enabled in the Production controller, the system automatically proceeds with the 'Move an item' task after the 'Add items to use' button have been pressed.
When the 'Auto move all linked items to BOM' option is enabled in the Production controller, this step can be skipped as the components were automatically moved to the production line after initiating the flow.
After the components have been moved to the production line, the system registers the movement in a 'Move' document in the Produmex office module.

When there are no items displayed on the 'Items still to pick' list, it means that all the required not lined up materials are already on the production line and are available for the production.

9. Produce

To produce the items, press the ‘Produce’ button.

After the ‘Produce’ button has been pressed, identify the SSCC to produce on. For the detailed description see: 8.1.4. Identify the SSCC
When the item to produce has batch attributes, the system will ask for adding those attributes too after the SSCC has been identified.
On the next screen enter the produced quantity.

10. Produce by-products

To produce by-products, press the ‘Produce by-products’ button. On the next screen select a by-product from the list. Every by-product from the production order is listed.

Then select the logistic carrier from the list. Every logistic carrier that has stock on the *‘Stor. Loc. logistic carriers’* location for the warehouse is listed.

To produce without a logistic carrier press the ‘Other tasks’ button. On the next screen select a task:

- Press the ‘No SSCC’ button to produce without a logistic unit.
- Press the ‘No logistic carrier’ button to produce onto a new SSCC.
- Press the ‘Produce on existing SSCC’ button to produce onto an existing SSCC. On the next screen scan the target SSCC.

The system automatically proceeds to the Select a task screen and skips the Select a logistic carrier screen if there is no available logistic carrier on the *‘Stor. Loc. logistic carriers’* location or if the company does not use logistic carriers. In this case the ‘New SSCC’ button is displayed instead of the ‘No logistic carrier’ button. Press this button to produce onto a new SSCC. No logistic carrier will be linked to the produced item.

The system also proceeds automatically if the product/by-product has a ‘Default log. car. production’ set on the Produmex Production tab of the Item Master Data. In this case a ‘Proceed’ button is displayed instead of the ‘No logistic carrier’ button. Press this button to create a new SSCC with a linked logistic carrier.

On the next screen enter the quantity to produce. The quantity to produce is not limited by quantity of materials available on the production line. Displayed information:

1. Production order number
2. Item code and description
3. Batch number of the main product/by-product
4. Best before date of the main product/by-product
5. Open quantity for the main product

After the by-product is produced, the system returns to the Production Cockpit.

In SAP Business One, the receipt from production document is created and the by-product is taken into stock on the output location of the production line.

11. Enter the weight

In case of producing a catch weight item, enter the produced weight too. The maximum weight is calculated from the produced quantity, the default weight and the weight tolerance defined in the Item Master Data of the product.

If the *Weight Capture needed during Production* setting is enabled on Item Master Data > Produmex tab > Production tab, the system displays the *Enter the weight* screen during the flow. In this case the product / by-product must be weighed with a scale.

- Prerequisites: You must define a scale for the production line in the Organizational Structure.
- The setting applies to items that are not managed by serial numbers.
- If the item is a catch weight item, you can weigh the item after the first quantity has been added.

12. Receive product

After the quantity has been added, the product is produced. The system moves the product to the output line and books a 'Receipt from Production' document.
The system issues the lined up materials and books an 'Issue for production' document for those components. The issued quantity is calculated as the product of the base quantity of the component and the produced quantity.

Note: If the Direct Consumption of Goods setting (Organizational Structure > Silo > General tab) is disabled, the raw materials are not consumed when closing the production order in the Production Flow. To close the production order the Production Manager must be used.

13. Print label

If set in the Organizational Structure, the *'Production: logistic unit produced event (400)'* print event is triggered and the Production label is printed. Default report for the print event: *DefaultProductionLabel.rpt*

> There is another way to print the label. On the main production screen press the 'Print product label' button. On the next screen add the produced quantity. The system automatically skips this screen, if there is already produced quantity. On the next screen add the number of labels to print.

14. End production

After the product was produced, the production can be continued, stopped or put on hold. *This screen can also be reached by pressing the 'End production order' button on cockpit.*

To go back to the production lines without finishing the production, press the 'Back to production lines' button. The Produmex status of the production order will remain 'Started'.
To go back to the production cockpit, press the left arrow button.
To put the production on hold, press the 'Put on hold' button. Issue for Production documents will be booked for the consumed quantities and the components will be issued but the production order will remain open.
To stop the production press the 'Stop production' button. Issue for Production documents will be booked for the consumed quantities and the components will be issued and the production order will be closed.
After pressing the 'Stop production' or the 'Put on hold' buttons, confirm the consumed quantities for the components.

15. Confirm the quantity to consume

The consumed quantity can be modified and confirmed on individual screens for each material. The consumed quantity of lined up materials cannot be modified or confirmed on the touchscreen. The consumed quantity of the time registration components can be added in the next step or after pressing the 'Clock' button on the Toolbar.
When the 'Use waste?' option is enabled in the Production controller, the waste quantities can be added as well.
When the 'Skip consumption screen on flow for linked components?' option is enabled in the Production controller, consumption screens for components that have been prepared (eg. weighted) will be skipped.

The stock on the input location is listed on the screen. The different batches are displayed in separate lines. Products stored on different SSCC's are also displayed in separate lines.

1. The 'Item to consume' is the item code and description of the component.
2. The 'Quantity to consume' is the product of the produced quantity and the base quantity of the component.
3. The 'Difference qty to use' is the difference of the 'Quantity to consume' and the '# Used' quantity.
4. The batch number, the second batch number and the best before date of the batch.
5. The '# On line' quantity is the quantity of the stock that was moved to the production line.
6. The '#Used' quantity is the quantity that was consumed for the production.
7. The '#Rest' quantity is the quantity remaining on the production line.
8. The '#Waste' quantity is the quantity of the waste.

The default '# Used' quantity is calculated based on the following logic:

- If the available quantity is greater than or equal to the quantity to consume:
  Default #Used quantity = Quantity to consume.
- If the available quantity is less than the quantity to consume but within the quantity range:
  Default #Used quantity = Available quantity.

When the 'Auto fill consumed quantity from prepared quantity on stop production?' option is set to true in the Production controller, the default '#Used' quantity for prepared components (eg. weighted) is the prepared quantity, if it is within the quantity range.
The '# Rest' quantity is the quantity of the stock remaining on the production line. It is calculated by {'#On line' quantity - '# Used' quantity}.
The # Used (9) and the # Rest (10) quantity of the selected batch can be modified in the respective input field. After the modification press the 'Update' button.
Please note: The '# Used quantity' must be within the quantity range defined by the produced quantity and the components base quantity and quantity tolerance. Because the sum of the '# Used' and '# Rest' quantity must be equal to the on line quantity, when modifying either one of them, the other one is automatically updated.
In case of using waste, the # On line quantity is equal to with the sum of the # Used, # Rest and # Waste quantity. When modifying the used or the rest quantity, the system updates the waste (12) quantity automatically. The # waste field cannot be modified manually on the touchscreen.
When confirming the consumed quantity of a serial numbered item, add the serial numbers of the consumed products too. After the consumed quantity has been added, the system ask the method of entering the serial numbers. Select a method then on the next screen scan the serial numbers.

In case of a catch weight component, the default weights are displayed too.

1. The weight to consume. It is calculated from quantity to consume and the weight defined in the Item Master Data.
2. The On line, Used, Rest and Waste weight of the batch. By default it is calculated from the weight of the batch available on the production line and the quantity to consume.
3. The On line, Used, Rest and Waste weight of the item. By default it is calculated from the weight of the item available on the production line and the quantity to consume.
4. The used weight of the selected batch can be modified in this field.
5. The rest weight of the selected batch can be modified in this field.
6. The waste weight of the selected batch is displayed in this field.

Press the right arrow button to proceed to the next component.

16. Time registration

When the production order contains time registration components, define the consumed quantity for those components as well. For more information about time registration see: 10. Time registration

17. Issue components

Once the material consumption is confirmed, the used quantities are issued and the remaining stock is moved to the rest location of the production line. The movement is registered in a Move document in the Produmex office module.

Documents:

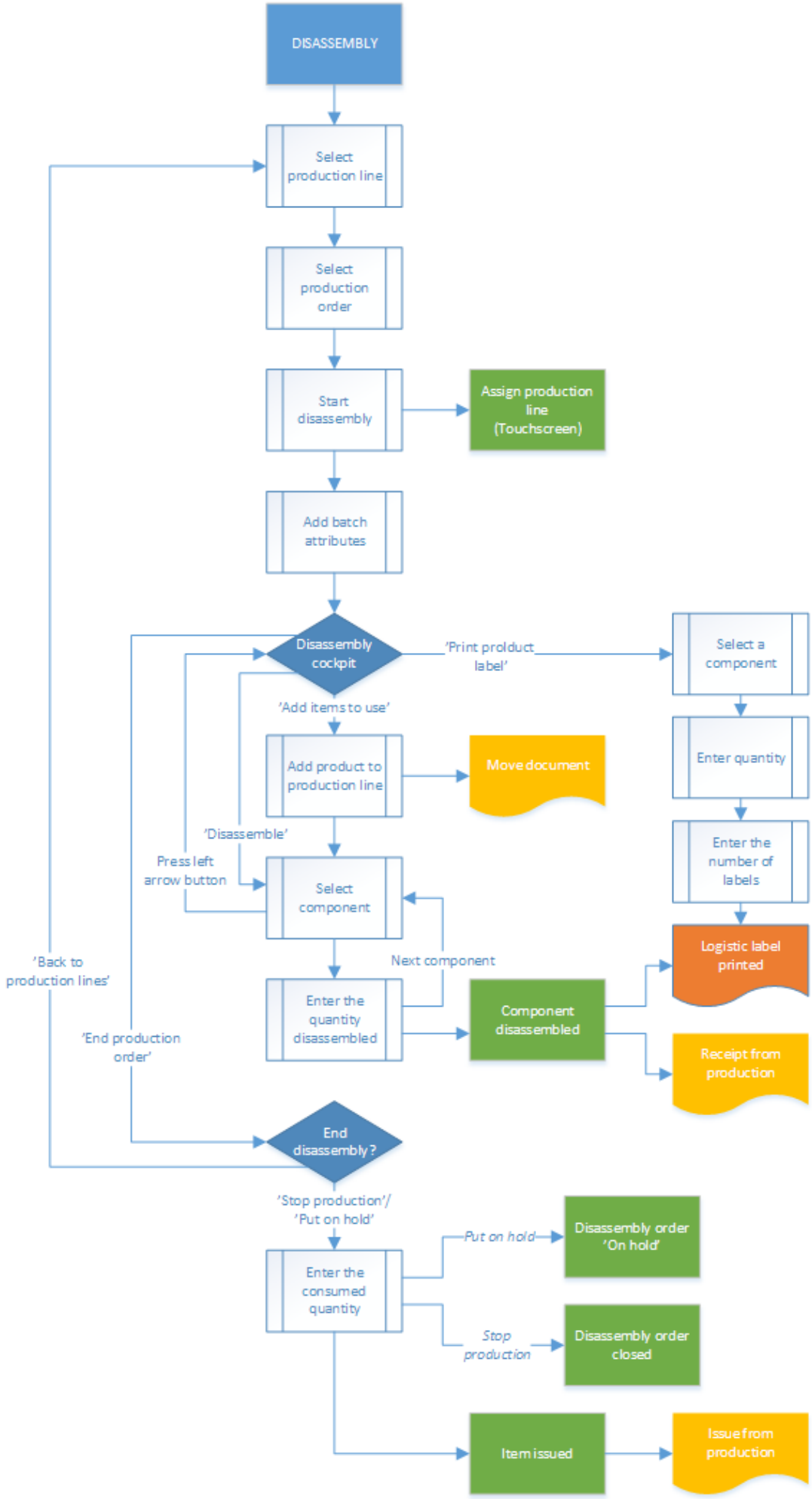
- When producing by-products, the system creates a receipt for production document for the by-product and no other documents.
- When producing the main product, the system creates a receipt for production document for the main product and issue for production documents for material items which are on lined up location with direct consumption setting.
- Time registration items are also issued in a separate issue for production document.

18. Production order status

When stopping the production order, the Produmex and the SAP status of the production order will be changed to ‘Closed’.
When putting the production on hold, the Produmex status on the production order will be changed to ‘On hold’, but the SAP status of the production order will remain ‘Released’. The production can be continued after a restart on the production line. The production can only be restarted on the production line where it was performed previously. *It is not possible to start an ‘On hold’ production in the Production Manager.*

Disassembly Flow

Workflow


DISASSEMBLY
Select production line
Select production order
Start disassembly
Assign production line (Touchscreen)
Add batch attributes
Disassembly cockpit
'Print prolduct label'
Select a component
Enter quantity
Enter the number of labels
Logistic label printed
'Add items to use'
Add product to production line
Move document
'Disassemble'
Press left arrow button
Select component
Next component
'Back to production lines'
Enter the quantity disassembled
Component disassembled
Receipt from production
'End production order'
End disassembly?
'Stop production'/ 'Put on hold'
Enter the consumed quantity
Put on hold
Disassembly order 'On hold'
Stop production
Disassembly order closed
Item issued
Issue from production

1. Initiate the flow

Tap the Disassembly button on the touchscreen.

2. Select production line

See: 8.2.2. Select production line

3. Select the production order

Select the production order from the list. Only released disassembly orders assigned to the selected production line or not yet assigned to any line are displayed on the list.

4. Start production

After the order has been selected, the details of the disassembly will be displayed. Press the ‘Start production’ button to start the disassembly. For more information about the displayed production details see: 8.2.4. Start production
When there is a stared disassembly order, the system automatically proceeds with that order.

5. Disassembly cockpit

The next screen is the disassembly cockpit.

1. Code, description and barcode of the item to produce.
2. The planned quantity in the production order.
3. The number of the production order.
4. The due date of the production order and the attached remarks.
5. The type of the production order indicated with an icon.
6. The product to disassemble is listed here. The quantity that still need to be moved to the production line is displayed next to the item code and description.
7. `Disassemble` button. See: 8.3.8. Disassemble
8. `Add items to use` buton. See: 8.3.7. Move to the production line
9. `Print product label` button. See: 8.2.11. Print label
10. `End production order`. See: 8.3.10. End production

6. Move to the production line

Add the item to disassemble to the production line. Press the ‘Add items to use’ button or move the item with the ‘Move to production line’ flow. For more information about moving the item to the production line see: 8.2.8. Move the components to the production line

7. Disassemble

Add the item to disassemble to the production line. Press the ‘Add items to use’ button or move the item with the ‘Move to production line’ flow. For more information about moving the item to the production line see: 8.2.8. Move the components to the production line

After the ‘Disassemble’ button has been pressed a list of components are displayed on the screen. Only components from the disassembly order will be displayed on the list. Select a component from the list.

If the item is managed by batches, depending on the batch number settings for production the system generates the batch number. Note: The extension '*Batch Number Generator Production - Empty Batch Number*' is not supported in the Disassembly flows. It is not possible to change the generated batch number regardless of the settings on the *Batch Number Production Company* generator.
If the item has a best before date, depending on the best before date settings for production, the system might ask to enter the best before date.
If the item has batch attributes, the system asks for adding those attributes too.

On the next screen identify the destination logistic unit. See: 8.1.4. Identify the SSCC
Add the quantity disassembled of the selected component. The quantity is the base quantity multiplied by the quantity of the product on the production line. The maximum quantity is calculated from the base quantity and the quantity tolerance of the component and the available quantity of the product on the production line.

8. Enter the weight

In the case of a catch weight component, enter the weight too. The weight range that can be added is calculated from the quantity of the component disassembled and the catch weight settings of the item.

- When a component is managed by *On every transaction* type serial numbers, add the quantity by scanning the serial numbers.
- When a component is managed by PMX or *On release only* type serial numbers, the quantity

can also be added by scanning the serial numbers.
- In the case of a lined up component, select the lined up location after the quantity has been added.

Press the right arrow button to proceed.

If the *Weight Capture needed during Production* setting is enabled on Item Master Data > Produmex tab > Production tab, the system displays the *Enter the weight* screen during the flow. In this case the product / by-product must be weighed with a scale.

- Prerequisites: You must define a scale for the production line in the Organizational Structure. If more scales are defined under the same production line, the flow displays the `Switch scale` button.
- The setting applies to items that are not managed by serial numbers.
- If the item is a catch weight item, you can weigh the item after the first quantity has been added.

9. Receive product

After the quantity has been added, the system books a 'Receipt from production' document for the component. If set in the Organizational Structure, the *'Production: logistic unit produced event (400)'* print event is triggered and the Production label is printed. Default report for the print event: *DefaultProductionLabel.rpt*. The system displays the 'The item is disassembled' message.
Then the system goes back to the select a product screen. After every component has been disassembled, press the left arrow button to go back to the disassembly cockpit.

10. End production

Press the 'End production order' button to quit from the disassembly. After the button has been pressed, select a task.
To go back to the production lines, press the 'Back to production lines' button. The Produmex status of the disassembly will remain 'Started'.
To put the disassembly on hold, press the 'Put on hold' button.
To stop the production, press the 'Stop production' button.
After the 'Put on hold' or the 'Stop production' button has been pressed, confirm the consumed quantity.
In case the disassembled quantity of at least one item does not reach the minimum quantity calculated from the quantity of the product on the production line, the base quantity and quantity tolerance of the component and the disassembled quantity of other components, the system displays an error message. To go back to the disassembly cockpit, acknowledge the message by pressing the 'Ok' button.

11. Confirm the consumed quantity

On the next screen, confirm the consumed quantity.

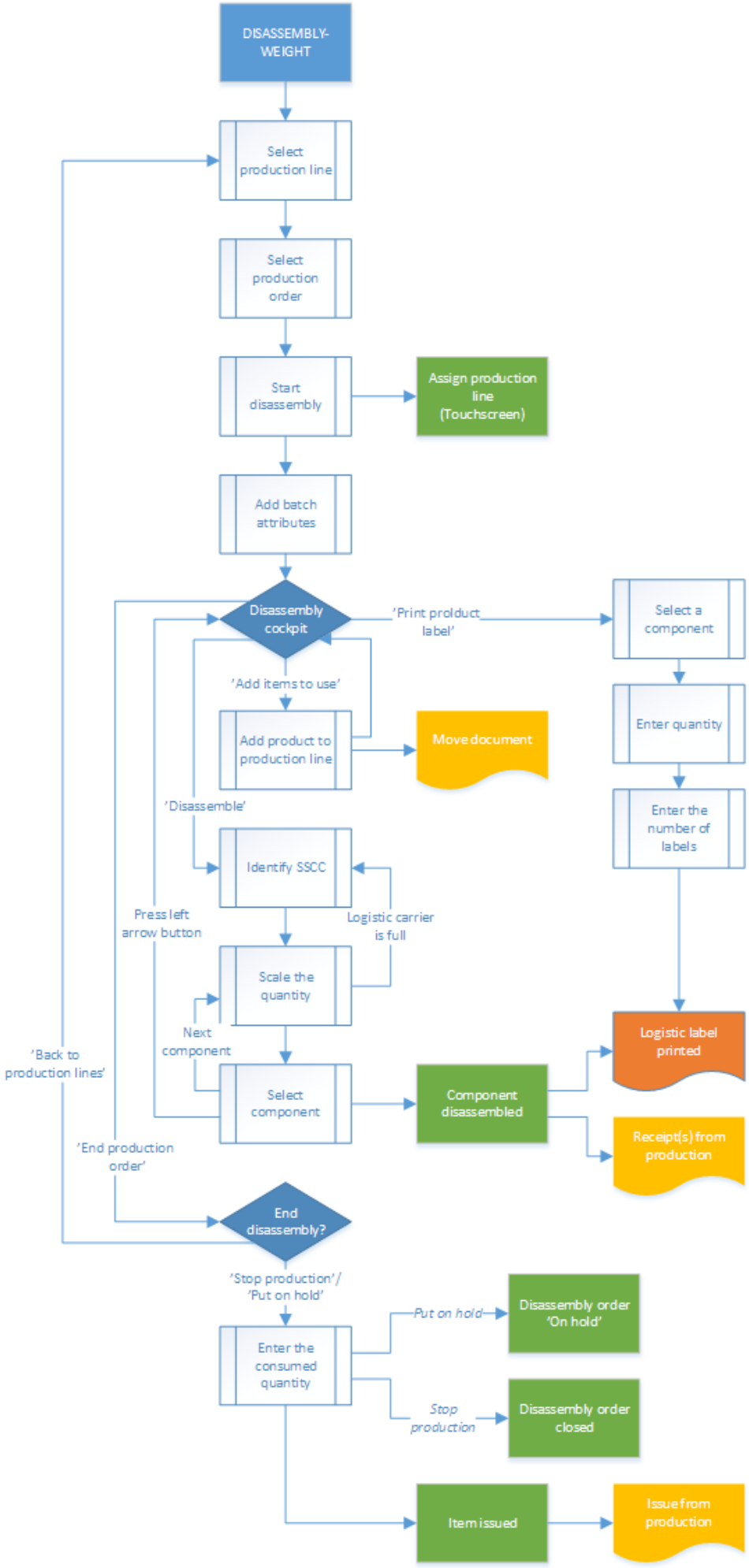
1. Item to consume: the item code and description of the disassembled product.
2. Quantity to consume. The quantity to consume is calculated based on the following logic:
    - First the system calculates for each component the theoretical quantity to disassemble in order to produce the previously added component quantity.
      {Quantity to disassemble = Disassembled quantity / Base quantity}
    - Then the system select the lowest value (the component linked to that value is the limiting component) and rounds it to the decimals defined for the uom in the product's Item Master Data.
      In the case of catch weight products, the weight to consume is displayed under the quantity to consume. The weight to consume is the product of the quantity to consume and the weight defined for the item in the Item Master Data.
3. Difference qty to use: the difference of the quantity to consume and the #used quantity.
4. The batch number, the second batch number and the best before date of the batch. Different batches are displayed in separate lines.
5. The '# On line' quantity is the quantity of the product that was moved to the production line. In the case of catch weight products, the on line weight is also displayed.
6. The '#Used' quantity is the quantity that was consumed for the production. By default the used quantity equals to the quantity to consume. In the case of catch weight products, the used weight is also displayed. By default the used weight equals to the weight to consume.
7. The '# Rest' quantity is the quantity remaining on the production line. In the case of catch weight products, the rest weight is also displayed.
8. The '# Waste' quantity is the quantity of the waste. In the case of catch weight products, the waste weight is also displayed.

The # Used (9) and the # Rest (10) quantity of the selected batch can be modified in the respective input field. After the modification press the 'Update' button. In case of catch weight products, also modify the weights. After the modification press the 'Update' button.
In case of using waste, the # On line quantity is equal to with the sum of the # Used, # Rest and # Waste quantity. When modifying the used or the rest quantity, the system updates the waste (11) quantity automatically. The # waste field cannot be modified manually on the touchscreen.

12. Production order status

See: 8.2.16. Production order status

Disassembly - Weight Flow


DISASSEMBLY-WEIGHT
Select production line
Select production order
Start disassembly
Assign production line (Touchscreen)
Add batch attributes
Disassembly cockpit
'Print prolduct label'
Select a component
Enter quantity
Enter the number of labels
'Add items to use'
Add product to production line
Move document
'Disassemble'
Identify SSCC
Press left arrow button
Logistic carrier is full
Scale the quantity
Next component
'Back to production lines'
Select component
Component disassembled
Logistic label printed
Receipt(s) from production
'End production order'
End disassembly?
'Stop production'/ 'Put on hold'
Enter the consumed quantity
Put on hold
Disassembly order 'On hold'
Stop production
Disassembly order closed
Item issued
Issue from production

1. Initiate the flow

Tap the `Disassembly- weight` button on the touchscreen.

2. Select production line

See: 8.2.2. Select production line

3. Select production order

See: 8.3.3. Select production order

4. Start production order

See: 8.4.4. Start production order

5. Identify the batch

See: 8.3.5. Identify the batch

6. Disassembly cockpit

See: 8.3.6. Disassembly cockpit

7. Move to production line

See: 8.3.7. Move to production line

8. Disassemble

After adding the products, tap the `Disassemble` button. On the next screen identify the destination logistic unit. See: 8.1.4. Identify the SSCC

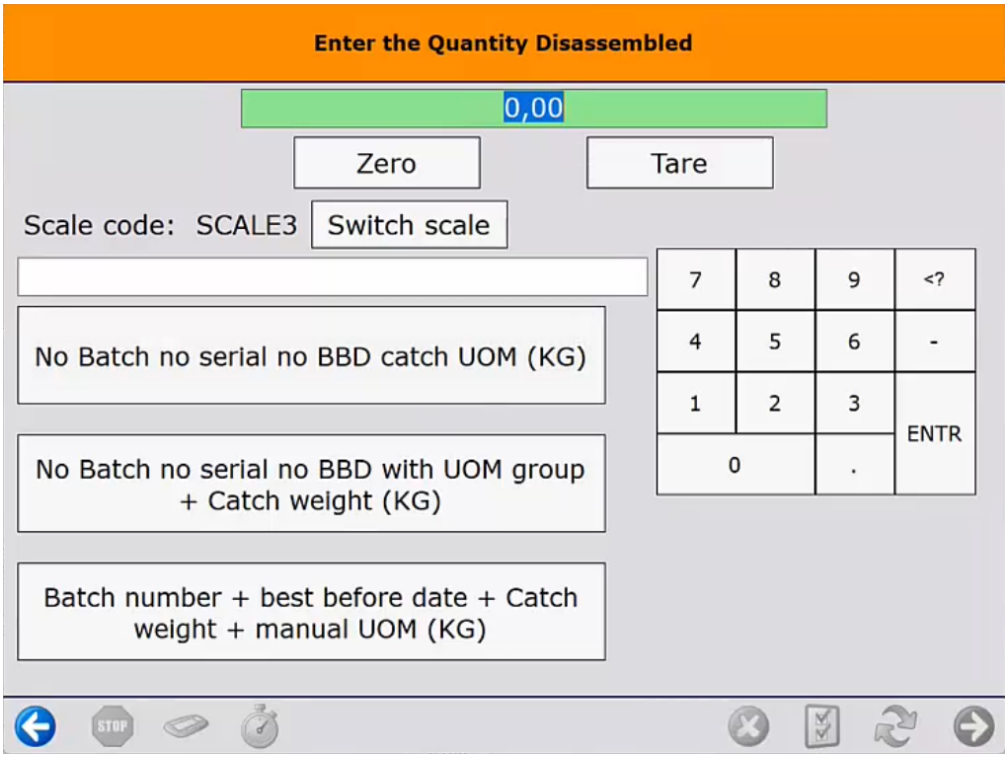
9. Enter the quantity disassembled

Weigh a component or enter the quantity manually. Then press the button of the component to add the weighted quantity to the system.

- If the component is managed by batches, depending on the batch number settings for production the system generates the batch number. Note: The extension *'Batch Number Generator Production - Empty Batch Number'* is not supported in the Disassembly flows. It is not possible to change the generated batch number regardless of the settings on the *Batch Number Production Company* generator.
- If the component has a best before date, depending on the best before date settings for production, the system might ask to enter the best before date.
- If the component has batch attributes, the system asks for adding those attributes too.

If the *Weight Capture needed during Production* setting is enabled on Item Master Data > Produmex tab > Production tab, the product / by-product must be weighed with a scale.

- Prerequisites: You must define a scale for the production line in the Organizational Structure. If more scales are defined under the same production line, the flow displays the `Switch scale` button.
- The setting applies to items that are not managed by serial numbers.
- If the item is a catch weight item, you can weigh the item after the first quantity has been added.



After the quantity has been added, the system books a 'Receipt from production' document and moves the component to the output location.

When added quantity exceeds the maximum quantity, the system displays an error message. The maximum quantity is calculated from the base quantity and the quantity tolerance of the component and the available quantity of the product on the line.

Proceed with the next component. After every component has been weighted, press the right arrow button to continue with the flow.

Press the `Logistic carrier is full` button to continue the disassembly onto another logistic carrier. After the button has been pressed, the *'Production: logistic unit produced event (400)'* print event is triggered and the production label is printed. The default report for the print event is *DefaultProductionLabel.rpt*. On the next screen identify the new destination logistic unit.

To go back to the disassembly cockpit, press the left arrow button. After the button has been pressed, the *'Production: logistic unit produced event (400)'* print event is triggered and the production label is printed. The default report for the print event is *DefaultProductionLabel.rpt*.

10. End production order

On the main production screen press the 'End production order' button.
See: 8.3.9. End production order and 8.3.10. Confirm the consumed quantity

11. Production order status

See: 8.2.16. Production order status

9. Finish production

Production orders can be finished in the office environment with the Production Manager. When producing with the 'Production' flow, the closing of the production can also be performed on the terminal.

9.1. Office

Select the production line and click on the 'Detail' button. The 'Detail' button is only active, if there is a started production order assigned to the selected production line.
The produced quantity is displayed on the screen but it cannot be modified on the Production Manager.
On the 'Production detail' screen click on the 'Finish production' button. The closing process depends on the selected production manager type for the production line.

9.1.1. Production manager type: SPL_CONS_LOCK

When the production manager type is set to SPL_CONS_LOCK for the Production Line, the system will use the stock locked during the production as the base of the consumption.
On the 'Stop production' window add the consumed quantities.
The lined up and not lined up components are displayed in separate sections. Different batches are displayed in separate lines. The number of the displayed rows can be limited on the Production controller. Time registrations cannot be modified on the Production manager.

Not lined up ingredients

Add the used quantity to the line of the batch it was consumed from. By default the used quantity is zero. It is also possible to define the used quantity by adding the remaining quantity. Because the sum of the '# Used' and '# Remaining' quantity must be equal to the '# On line' quantity, when modifying either one of them, the other one is automatically updated.
The added consumed quantity cannot exceed the on line quantity.
By default the used weight is also zero. When adding the used or the remaining quantity of a catch weight item, the system automatically fills the standard weight based on the ingredient's catch weight settings. It is possible to modify the weight within the allowed quantity tolerance defined in the Item Master Data.

When the 'Use waste?' option is enabled in the Production controller, the waste quantity and the waste weight can be added as well. In this case the # On line quantity equals with the sum of the # Used, # Rest and # Waste quantities. After modifying two of those fields, the system automatically updates the third one. The # waste field can only be modified if the 'Allow waste to be editable when finishing production on production manager?' option is set to true in the Production controller.
When there are serial numbered items among the ingredients, the serial numbers of the consumed product must be selected. Click on the serial number field in the line of ingredient managed by serial numbers. A 'Serial Number Selection' window will open up. Select the serial numbers of the consumed products.

Lined up ingredients

Since the used quantity of the lined up ingredients cannot be measured, define it by modifying the quantity remaining in the tank. The # used quantity cannot be changed directly. The system will calculate the used quantity by subtracting the remaining quantity from the in tank quantity before the production.

9.1.2. Production manager type: MPL_CONS_INPUT

When the production manager type is set to MPL_CONS_INPUT for the Production Line, every production order started on a production line with the same input location as the selected production line will be closed in one step. The system will use the stock on the input location as the base of the consumption.

9.1.2.1. Confirm material consumption

On the 'Stop production' screen started production orders assigned to production lines with the same input location are listed.
The lined up and not lined up components for the selected production order are displayed in separate sections. Different batches are displayed in separate lines. The number of the displayed rows can be

limited on the Production controller. Time registrations cannot be modified on the Production manager.

Not lined up ingredients

When the production manager type is MPL_CONS_INPUT, the used quantity and weight cannot be modified.
The system will issue the entire stock located on the input location for the component. When the production orders have common materials, the system will divide the stock to issue between the production orders based on the theoretical quantities of the component.

Lined up ingredients

Since the used quantity of the lined up ingredients cannot be measured, define it by modifying the quantity remaining in the tank. The # used quantity cannot be changed directly. The system will calculate the used quantity by subtracting the remaining quantity from the in tank quantity before the production.

9.1.3. Close the production

To close the production, press the ‘Stop production’ button.
After the button has been pressed,

- the system will remove the lock from the components
- the used and waste quantity of the ingredients will be issued and an ‘Issue for production’ document will be created. Waste quantities are displayed in separate lines and indicated as waste in the ‘Issue for production’ document. For more information about additional Produmex production issue lines see: 3.3.4. Production issue lines.
- the remaining quantity of the ingredients will be moved to the rest location of the production line and a ‘Move’ document will be created
- the used quantities will be added to the ‘Issued’ field of the production order
- both the SAP and Produmex status will be changed to ‘Closed’ on the production order

9.2. Shopfloor

For the detailed description about finishing the production on the shopfloor see:
8.2.1.2 End production 8.3.9. End production (disassembly)

10. Time registration

With the help of the time registration module it is possible to book activity costs for activities performed during the production. (E.g. setup time, working hours, downtime).

10.1. Office

Add a time registration type item to the BoM or to the production order. For more information about time registration items see: 3.1.3. Produmex Production Tab.

Add a time registration type item or resource to the BoM or to the production order.

- For more information about time registration items, please see: Produmex Production Tab of the Item Master Data
- For more information about time registration resources, please see: Resource Master Data

10.2. Shopfloor

Since time registration type components are used for measuring time, there is no need to pick and move them to the production line. Therefore time registration components are not listed during the picking and moving flows.
Time registration can be used in both production flows, but it is only available on the touchscreen. It is not recommended to use the time registration during multiple step products executed with the production step list.

10.2.1. Initiate the time registration

Press the ‘Clock’ button on the toolbar to start registering time. In case of ‘Production’ flow, the button is active on the Production cockpit screen. In case of ‘Production Receipt’ flow, press the button before selecting the production order.

10.2.2. Select a time registration item

Select a time registration item from the list. Only time registration items/resources linked to the production order are listed.

10.2.3. Select a task

Press the ‘Start’ button to start a new time registration. To go back to the production cockpit, press the left arrow button.
Press the ‘Stop’ button to finish the time registration. The button is only available if there is a started

time registration. For more information please see: Select an operator
Press the '# Hours' button to add the time manually. For more information please see: Enter the hours manually
Press the 'Downtime' button to register downtime. The button is only available if there is a started time registration. For more information please see: Registering downtime
Press the 'Overview' button to see the overview of the booked time registrations. For more information please see: Overview

10.2.4. Enter the hours manually

Press the '# Hours' button. The unit of measurement of the entered value will be the UoM of the time registration component. In this document we will assume that the UoM is "hours". On the next screen add the number of hours. The number of the hours is not limited.
After the number of hours has been entered, the system asks whether to register downtime or not. Press the 'Yes' button to register downtime. Press the 'No' button to proceed without registering downtime.

10.2.5. Registering downtime

Press the Downtime button. On the next screen select a downtime type from the list. Every downtime type set in the default forms are listed. For more information about the downtime types see: 3.2.3.13. Down time types

After the downtime type has been selected, enter the number of hours.

The system will asks whether to register another downtime or not. Press 'Yes' to register another downtime. Proceed as described above. Press 'No' to proceed without registering another downtime.

10.2.6. Overview

Press the 'Overview' button. On the next screen it is possible to adjust the registered hours and the linked operator(s) of a selected time registration. It is also possible to remove a time registration entry. Select the line and press the 'Delete' button.

10.2.7. Stop time registration

Press the ‘Stop’ button. After the stop button has been pressed, the timer stops. The time registry item will be issued with the measured time.

10.2.8. Select an operator

After the time registration has been stopped or the number of hours has been entered, the system asks for the operator. Select the operator(s) from the list then proceed with the right arrow button. Employees set in SAP B1 can be selected as operators. It is possible to select multiple operators for one time registration entry.

10.2.9. Issuing the time registration items

After the production is finished, time registration components are booked with the reported quantities on a separate Issue for Production document.

The measured quantity is also booked as consumed capacity for the resource on the given day. It is possible to exceed the daily implementation capacity.

Please note: The production order cannot be closed if there is no sufficient stock for the time registration item.

The time registration results are stored in the PMX_TRHE table.

11. Multiple step productions with the production order step list

With the production order step list, it is possible to group multiple step productions into one production order. Execute step list productions in the ‘Production’ flow only.
With multiple step production, the production of the intermediate product(s) and the end products can be grouped together. Produmex also supports the scenario where the intermediate product is the result of a disassembly production. Execute step list productions in the Production Flow only.

Note: Produmex WMS does not support resources in the step list.

11.1. Create step list

Open the Production order step list. The step list can be opened from the Produmex Production module.
Add the end product to the ‘Item to produce’ field.
Add a description to the ‘Description’ field.
Press the ‘Add line’ button to add a new line. Select a component on the line. Set the ‘Is Disassembly?’ option to true if the added item needs to be disassembled in order to produce the

intermediate product.
Add the end product to the list too.
Pres the ’Add’ button to create the step list.

11.2. Create production order

Create a new production order. Set the type of the order as ‘Special’ (1).
Select the end product as the item to produce (2). In the next field (3) select the step list from the dropdown menu. Only step list for the item to produce will be displayed.
For more information about the production order settings for using the step list see: *3.3.2. Production order header.*

After the step list has been selected, the system automatically fills the production order lines with data copied from the BOM of the items added to the production step list (4).
In case of intermediate product is the result of a disassembly, the product to disassemble is added to the production order as a component (5).
The intermediate product(s) are also added to the production order, but as an optional item (6).
The production order lines cannot be modified on step list orders.

11.3. Execute the production

Execute the production as described in the *Production Guide*.
After pressing the ’Produce’ button, add the produced quantity of the end product. The produced quantity of the intermediate product can be added after the ’stop production’ or the ’Put on hold’ button has been pressed.

11.4. End production

To end the production, press the ‘End production’ button. On the next screen select a task.
Press the ‘Back to production lines’ button to go back to the production lines.
Press the ‘Put on hold’ button to put the production on hold. Press the ‘Stop production’ button to stop the production. After pressing the ‘Stop production’ or the ‘Put on hold’ buttons, confirm the produced and the consumed quantities.

11.5. Enter the quantity of the produced intermediate item

Enter the quantity of the produced intermediate item. There is no limit to the entered quantity, but

the system will display an error message if while confirming the consumed quantities and there is an insufficient stock on the production line.

11.6. Enter the quantity to consume for the optional item

Enter the consumed quantity of the optional item. The entered quantity cannot exceed the quantity available on the production line.

When the end product was not produced, the system skips this screen. When the consumed quantity is greater than zero, then confirm the consumed quantity on the next screen. For more information about the consumed quantity confirmation screens see: *8.2.13. Confirm the quantity to consume*.

11.7. Confirm the quantity to consume for the components

For more information about the consumed quantity confirmation screen see: *8.2.13. Confirm the quantity to consume*.
In case of step list productions, the quantity to consume of a component is the sum of the calculated quantity to consume for the intermediate and the end product.
After the consumed quantities have been confirmed, the system issues the used quantities and books an ‘Issue for production’ document. The rest quantities are moved to the rest location and the movement is registered in a Move document in the Produmex office module.

11.8. Add the quantity of the output item to process

First enter the output quantity of the end product. The maximum quantity is the produced quantity of the end product.
These screens are used to verify the produced quantity. The entered quantity cannot exceed the produced quantity.
First confirm the produced quantity of the end product by entering the output quantity. On the next screen add the output quantity of the intermediate product.

11.9. Issue components/ Receive product

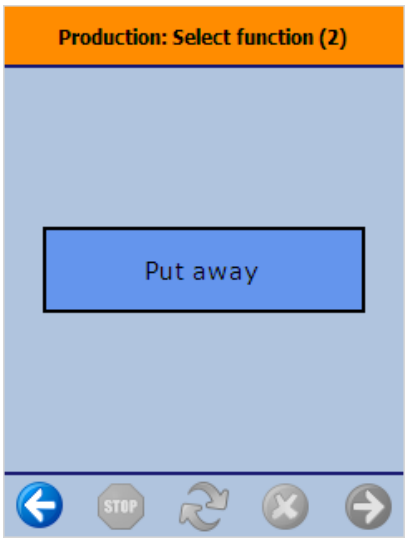
After the consumed quantities have been added, the system issues the components with the confirmed quantity and books an ’Issue for production’ document.
The remaining stock is moved to the production line, and the movement is registered in a Move document in the Produmex office module.
The produced intermediate product is moved to the output of the production line.

The system either closes or puts on hold the production order, depending on which button was pressed in the *11.4. End production* step.

15.2.12. Put away – Production

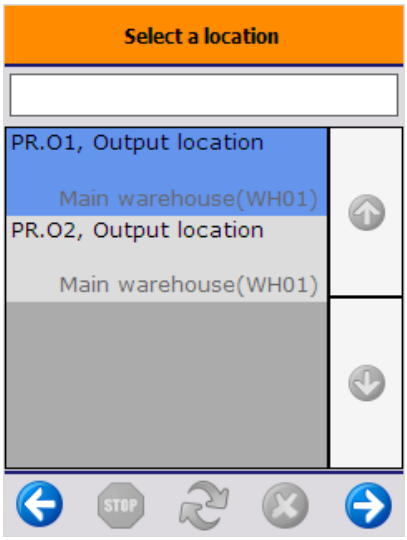
The Put away for production generator controls the creation of the put away orders. When the standard Produmex WMS product is used, a put away order is created after the (by-) product is produced onto a logistic unit. No production put away order is generated when producing without an SSCC.

To start the flow, select the *Put away option* from the Production main menu.



15.2.12.1. Select the source location

Every location that set as an output location of a production line is listed from the warehouses assigned to the thin client.



15.2.12.2. Scan an SSCC

On the next screen every SSCC that belongs to an open production put away order for the location is listed. Scan the SSCC to move.

15.2.12.3. Scan destination location

Then scan the destination location. It is also possible to select the destination location from a list.

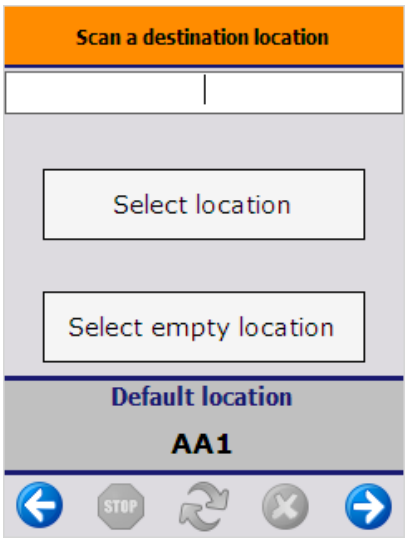
- Press the ‘Select location’ button to see the list of active locations in the warehouse of the selected output location.
- Press the ‘Select empty location’ button to see the list of every empty active location from the warehouse of the selected output location.

On the bottom of the screen the Default location is displayed.

When the location suggestion is enabled for the warehouse, the *Default location* is the first suggested location calculated based on the logic described in Location suggestions.

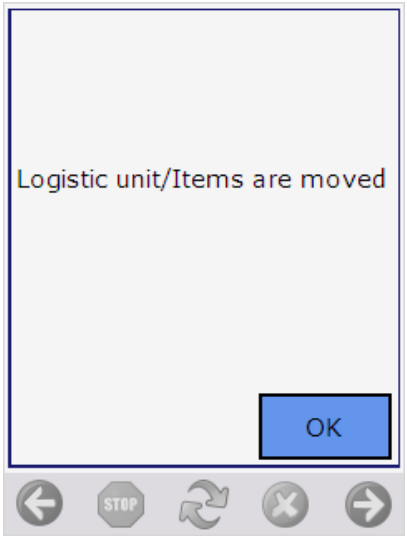
Note: When we use the suggested location functionality in the reception flow (receiving items to a location instead of a dock) and the system cannot find a suitable location for the item, it automatically receives the item to the dock.

When the location suggestion is not enabled for the warehouse, the *Default location* is the standard location set for the given warehouse on the Produmex Inventory tab of the Item Master Data of the item. If the items to move have different standard location set for the warehouse, no default location is displayed.



15.2.12.4. Logistic unit is moved

After the destination location is selected, the SSCC is moved to that location. The ‘Logistic unit/Items are moved’ message is displayed on the scanner. Press ‘OK’ to acknowledge the message. The system returns to the ‘Scan an SSCC’ screen.



Returnable Items

Returnable items, such as logistic carriers and reusable packaging, require a special information processing in order to maintain the inventory correctly and to handle the deposit that has to be charged for it.

Produmex Logistic provides a special procedure to manage returnable items. With the help of this procedure double bookings can be avoided and the returnable item(s) will be added automatically to the receipt/ delivery document, when adding an item that contains returnable items.

1. Company settings

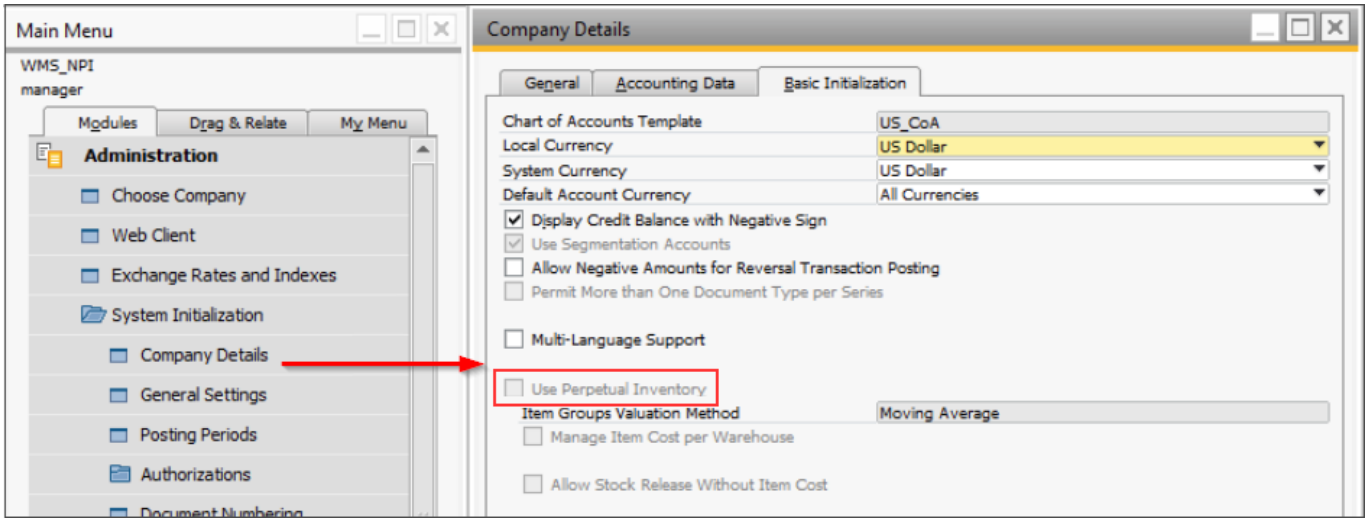
1.1. Adjust how to handle returnable items

Configure the booking of the returnable items on the Business Partner Master Data and on the General tab of the Organizational Structure.

Using perpetual inventory or non-perpetual inventory

Depending on the *Use Perpetual Inventory* setting of the Company Details window of SAP Business One, returnable items work differently in Produmex WMS.

- If the setting is enabled, it is possible to add non-inventory items to the documents based on the *Use inventory returnable items on documents* setting on the General tab of the Organizational Structure.
- If the setting is disabled, then inventory returnable items are added to the documents regardless of *Use inventory returnable items on documents* setting on the General tab of the Organizational Structure.



1.2. Quality status of a returnable item

Specify the quality status of a returnable item on the 'Defaults' tab. For more information see: 5.1.2. Defaults

1.3. Storage location of the inventory returnable items

Define the storage location for the warehouse where the inventory returnable items will be stored. For more information see: 5.2.1. Warehouse settings

2. Create returnable items

To ensure the accuracy of the inventory of the returnable items and to enable the traceability, create two variants of the returnable item: a non-inventory returnable item and an inventory returnable item.

Because returnable items play an important role in the packaging, receiving and shipping process of goods, companies that use returnable items have to make sure that they always have sufficient stock of returnable items. Therefore returnable items have to be treated as inventory items.

However during the administrative goods receipt and the sales and delivery of these trade items it is necessary to mention and charge the returnable items on receipt and delivery notes and invoices, but it has to be avoided that the inventory of returnable items is increased or decreased incorrectly

(double booking). For this purpose use the non-inventory returnable item.

First create the non-inventory returnable item. For more information about the settings of the Produmex Item Master Data tabs, please see: Produmex Inventory Tab
Please note: Even though using inventory returnable items for the documents, non-inventory items have to be created.

Then create the inventory returnable item. Link the returnable items by adding the code of the non-inventory returnable item to the *"Non inventory returnable item code"* field.

3. Define BoM

Returnable items are no commercial trade items by themselves, but are the part of a trade item as the container/packaging. To establish a link between the trade item and the returnable item, create a 'Production' type Bill of Materials for the trade item.
A trade item can contain several returnable items.

In the example our trade item is the "Beer 0.33" which consist of 0.33L "Beer" and a "Bottle". The "Bottle" is an inventory returnable item.

4. Trade process

Create the purchse/sales order for the trade item only. When purchasing/selling a trade item that contains returnable items, the system will automatically add the returnable item(s) to the receipt/delivery document. Depending on the used accounting system and the company level settings of the Organizational Structure, the added returnable item can be an inventory and a non-inventory item.

An extra, "Ret.ItemsPrice" column is added to the grid. In this column the price of all returnable item for a single trade item will be displayed.

4.1. Purchase

When the added returnable item is an inventory item, the inventory returnable item will be added to the storage location defined for returnable items after a purchase.

4.2. Sales

When the added returnable item is an inventory item, the user do not have to pick the inventory returnable items, but a delivery note can only be created when there is sufficient stock from the inventory returnable item.

Stock allocation algorithm

1. Inventory lock

The locking function is used to reserve stock for specific documents/processes. Stock transactions on locked stocks that would modify one of the parameters defined in the lock are not allowed.

Produmex uses multiple levels of locks:

- *Item/ Quality status*: The item, the warehouse and the quality status is defined for the lock.
- *Batch*: The item, the warehouse, the quality status and the BatchID is defined for the lock.
- *LUID*: The item, the warehouse, the quality status, the BatchID and the LUID is defined for the lock.
- *Detail*: The item, the warehouse, the quality status, the BatchID the LUID and the location code is defined for the lock.

Locks can be user created or system generated.
System locks will be generated in the following processes:

- adding a batch to a sales order: ‘Batch’ locking,
- pick list proposal generated: ‘Batch’ or ‘LUID’ locking, based on the ‘Stock order by’ setting on the Pick list proposal generator,
- pick list generated: ‘Batch’ or ‘LUID’ level locking, based on the pick list proposal,
- pick list status converted to ‘Ready’ in normal picking: ‘Detail’ level locking,
- after an item has been picked in ad hoc picking: ‘Detail’ level locking,
- Receipt from production flow: ‘Detail’ locking for ingredients to be used,
- Beas-WMS integration: 'Detail' locking for components reserved in Beas.

Note: If the *Do Not Lock Stock on Picking* option is enabled on the General tab of the Organization Structure, no lock is created for pick list proposals and pick lists generated for sales and transfer documents. Inventory locks are always added for pick list proposals and pick lists generated for production orders regardless if the process is initiated from WMS or Beas.

The stock locked by the user can be linked to a customer or a base document.
There are several ways to create inventory locks manually:

- On the PMX inventory report
  It is possible to create batch or LUID level locking, linked to the customer or the base document

on the Inventory report. Click on Locking>Add. On the opening screen select the locking level and the customer, then add the quantity to lock. Select the sales order or sales invoice if needed. Please note: when creating a locking linked to the sales order/invoice, the locked quantity cannot exceed the ordered quantity.
- On the stock allocation screen
- Locking in advance: After the reception a LUID level locking will be created for the customer. *Please note: Only products with a quality status that can be shipped will be locked.*

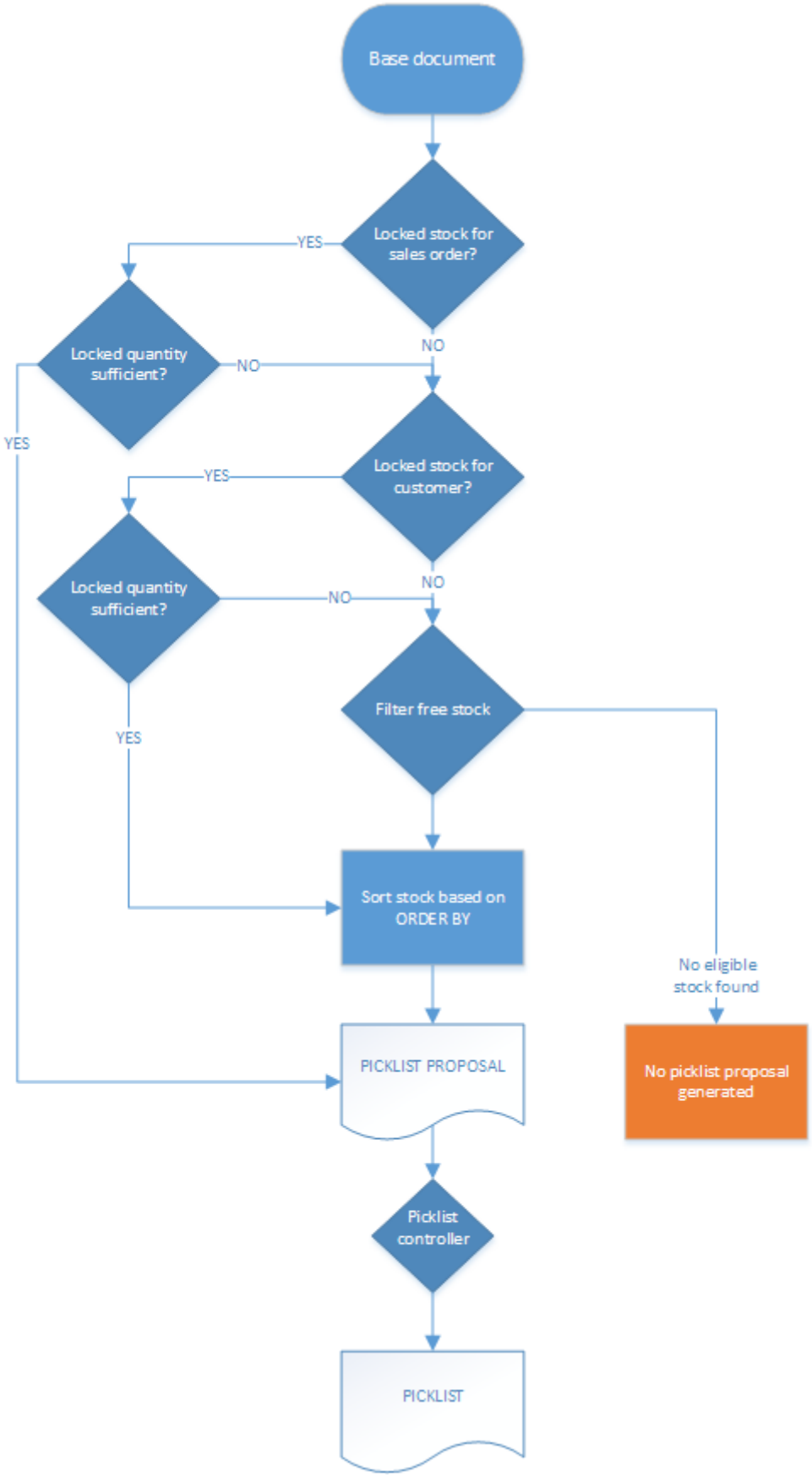
	Locking level			
	Item/Quality status	**Batch**	**LUID**	**Detail**
System generated				
Sales order		Linked to the base document		
Pick list proposal		Linked to the base document	Linked to the base document	
Pick list 'Not Ready'		Linked to the base document	Linked to the base document	
Pick list 'Ready' in normal picking				Linked to the base document
Item picked in Ad hoc picking				Linked to the base document
Receipt from Production				Linked to the base document
Beas-WMS integration				Linked to the work order/position
User created				
PMX inventory report		Linked to the customer or the base document	Linked to the customer or the base document	
Stock allocation screen		Linked to the customer or the base document	Linked to the customer or the base document	
Locking in advance			Linked to the customer	

Existing locks can be seen on the PMX inventory report. Select a line, then click on Locking > View. On the opening 'Locked quantity' screen every lock for the item on the selected line will be listed.

2. Picklist proposal

Pick list proposals can be created for the following documents:

- Sales order
- Production order (only if the 'Create proposal for picking' option is set to true on the Picking for production controller)
- Inventory transfer request



When creating a pick list proposal, the system performs the following logic to allocate stock:

1. Get locked stock linked to the base document

If there is locked stock linked to the base document, the system will propose that stock.

2. Get locked stock linked to the customer

If there are no locked stock linked to the base document or the quantity of the locked stock is not sufficient, then the system will check if there are locked stock linked to the customer.
When there is stock locked for the customer, the system will propose that stock. If the quantity of the locked stock exceeds the ordered quantity, the system will sort the locked stock based on the option selected as 'Stock order by' and will allocate the stock from the first line.

3. Get the list of free stock
If there is no locked stock linked to the customer or the quantity of the locked stock is not sufficient, then the system will filter the free stock to create the list of the stock that are allowed to be picked.

A stock will be listed if the following verifies:

- The stock is located in the selected warehouse
- The stock is not locked for other customer or base document
- Quality status can be picked and shipped
- Not expired stock
- Stock within external shelf life
- If there are batch attributes selected on the sales order, then only batches with matching batch attributes will be listed

Stock located on:

- Disallowed locations
- Locations where the 'Block stock from being used for the picking process' option is enabled will not be taken into account.

After the list of the stock that is available for picking has been created, the system sorts it based on the *'Stock order by'* setting on the Pick list proposal generator. No pick list proposal will be created if there is no available stock.
When the pick list proposal is generated, the proposed stock will be locked except if the *'Do not lock stock on picking (pick lists can be created even if no stock is available)'* option is set to true on the on General settings. The level of the locking depends on the selected 'Stock order by' setting.
When the proposal line is using stock that was locked for a sales order or customer, this locking is removed and replaced by a locking linked to the proposal line. The level of the locking will be kept regardless of the *'Stock order by'* setting.

If the *'Show pick list proposal info screen on incomplete proposal?'* option is enabled on the Pick List Proposal generator, an additional screen will open when creating pick list proposal but the total ordered quantity could not be allocated for the pick list proposal.

Multiple pick list proposals

Multiple pick list proposals will be created for a single document in the following scenarios:

- The sales order/sales invoice lines have different Shipping type. The following shipping type settings are taken into account for splitting document lines into several proposals:
  - Automatic shipping?
  - Automatic invoicing?

    - Is customer coming to collect?
- The document lines have different warehouses assigned.
- The document lines have different Ship-to Names assigned.
- For the Produmex pick list type of the sales order/sales invoice the ‘Split PL on item pick type?’ and/or the ‘Split PL on item pick type 2?’ option is set to ‘Yes’ and there are items on the sales order that has different ‘Pick type’/’Pick type 2’ set on the Produmex Sales tab of the Item Master Data.
- The number of the pallets linked to the pick list proposal is higher than the ’Number of pallets’ defined for the Produmex pick list type of the sales order/sales invoice. The number of pallets linked to the pick list proposal is calculated based on the ‘Default quantity on logistical unit’ value that was specified on the Produmex Inventory tab of the Item Master Data of the item and the ordered quantity. If there is not enough stock to fulfill the proposal, the number of pallets will be calculated based on the free quantity that can be allocated for the proposal.

EXAMPLE:
The default quantity on a logistic unit is 10 pcs for Item A and 20pcs for Item B. The number of the pallets for the pick list type is 5.

Sales order 1:
Item A: 30pcs = 3 x 10pcs = 3 pallets
Item B: 20pcs = 1 x 20pcs = 1 pallet
3 + 1 = 4 < 5 → 1 pick list proposal
Because the total number of pallets needed to fulfill the order is less than the number of pallets allowed on a pick list proposal, only one pick list proposal is created.

Sales order 2:
Item A: 60 pcs = 6 x 10pcs = 6 pallets
Item B: 105 pcs = 5.25 x 20pcs = 5.25 pallets
6 + 5.25 = 11.25 > 5 → 3 pick list proposals
Because the total number of pallets needed to fulfill the order is greater than the number of pallets allowed on the pick list proposal, the pick list proposal is split.
1. The first proposal is created for 5 pallets of Item A, which is 50pcs.
2. The second proposal is created for the remaining 1 pallet of Item A and 4 pallets of Item B, which is 10pcs of Item A and 80pcs of Item B.
3. The third proposal is created for the remaining 2 pallets of Item B, which is 25pcs.

Sales order 3:
Item A: 5 pcs
Item B: 84 pcs
Item A: 3 pcs
The system groups the lines of Item A:
Item A: 5pcs + 3pcs = 8pcs = 0.8 pallet
Item B: 84 pcs = 4.2x 20pcs = 4.2 pallets
4.2+0.8 = 5 → 1 pick list proposal
Because the total number of pallets needed to fulfill the order equals to the number of pallets allowed on a pick list proposal, the pick list proposal is not split and only one pick list proposal is created.

3. Pick list

The pick list will use the stock details of the proposal it was created from. When the proposal has a batch linked to it, only that batch can be allocated on the pick list. When the proposal has a LUID linked to it, then only that LUID can be allocated on the pick lists.
The locks created for the proposal will be converted to locks for the pick list without changing the locking level.

When the *'Only pick items on location on same or lower level as dock?'* option is flagged on the Picklist controller, system will check whether there is stock from the proposed batch on the same or lower level location as the destination location (loading dock/input location of the production line). If there is not, no pick list will be generated and the pick list proposal will be closed.

Multiple pick lists

Multiple pick lists will be created for a single document in the following scenarios:

- Multiple pick list proposals were generated (Please see: Picklist proposal)
- Proposals were created on different times and the pick list was created before creating the next proposal.

If the document already has a pick list, a new pick list proposal can only be generated when the following verifies:

- there is at least one document line where the quantity allocated on the existing pick list is less than the ordered quantity
- there is available stock that can be allocated

Example:
Sales order: ItemA 10 pcs ItemB 10 pcs
The available stock that can be allocated: ItemA 10 pcs ItemB 0pcs

1. Create pick list proposal:
   Pick list proposal (1) allocates: ItemA 10 pcs
2. Create pick list:
   Pick list proposal (1) linked to Pick list (1)
   Pick list (1): allocates: ItemA 10 pcs
3. Create pick list proposal after ItemB with 10 pcs became available:
   Pick list proposal (2) allocates: ItemB 10 pcs (as ItemA is already allocated, it will not be proposed)
4. Create pick list:
   Pick list proposal (2) linked to Pick list (2)
   Pick list (2): allocates: ItemB 10 pcs

Please note: If the 'Force all ingredients to be on a proposal before creating a pick list?' option is set to true on the Picking for production controller, the pick list will be created for a production order only

when the total quantity of every material is allocated on the pick list.

Picklist Status Update

This description explains how the status of a picklist is updated and identifies the settings that can change the status.

Related sites:

- **Stock allocation algorithm**
- **Picking Flow**
- **Picklist**

Many settings affect how the pick list status is updated:

Only pick items on location on same or lower level as dock? (Y/N)

With default status picklists are created with **“Not Ready”** status.
If the **Only pick items on location on same or lower level as dock? (Y/N)** setting is enabled, then the status of the picklist is automatically set to **“Ready”** upon creation, this also means that the locking level will be LUID.

Auto select the wave? (Y/N)

If the **Auto select the wave? (Y/N)** setting is enabled on the Picklist controller, then the picklists belonging to the wave selected by the system are automatically set to **“Ready”** when the wave is shown on the Select the picklist screen.

If this setting is disabled, the pick lists in the wave are only set to **“Ready”** after the user selects the wave on the **Select the Picklist** screen and proceeds with it.

Do not lock stock on picking (picklists can be created even if no stock is available)

Enable the **Do not lock stock on picking (picklists can be created even if no stock is available)** setting at the General Settings Tab.

When this setting is enabled:

- The system does not reserve stock when creating a proposal.
- It bypasses the check for available stock quantity.
- As a result, proposals can be made regardless of current stock levels.

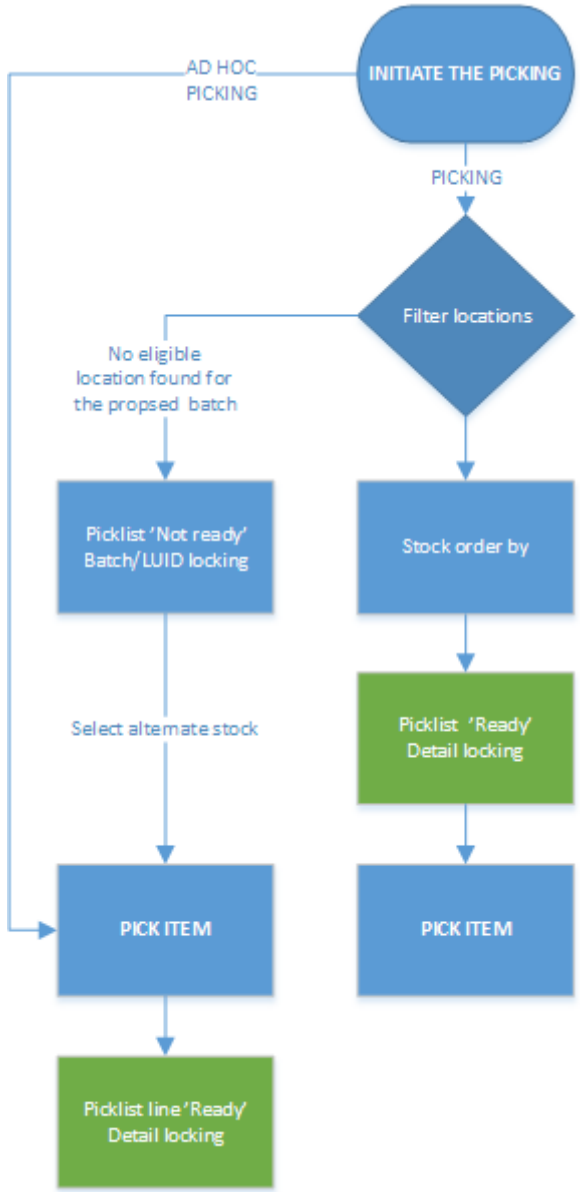
Make picklist ready before print? (Y/N)

In SBO, the picklist can be set to **“Ready”** during printing if the **Make picklist ready before print? (Y/N)** setting is enabled in the Picklist controller.

Make picklist ready for selected line? (Y/N)

When **Make picklist ready for selected line? (Y/N)** is enabled, the status of the pick list lines stays as **“Not Ready”**. This means the system will not allocate stock to these lines until the user selects the item using a scanner.

4. Initiate the picking



4.1. Picking/ Multi-picking/ Zone-picking

After the pick list has been printed or it has been selected on the scanner, the system will select the location to pick from based on the following checks:

- Only locations in the selected warehouse are taken into account
- There is stock of the proposed batch on the location
- Not disallowed location
- Not blocked location
- Depending on the settings of the Pick list controller, bulk locations might be taken into account:
  - If the option *'Can the user pick full pallet from bulk location?'* is flagged and there is a full pallet on the bulk location.
  - If the *'Must the user first pick full pallet from bulk location?'* option is also flagged, the full pallet on the bulk location will be allocated.
  - If the *'Can the user pick bulk quantity from bulk location?'* option is set to true, the user can pick bulk quantities from bulk locations.

Stock on the locations that are allowed for picking will be sorted based on the 'Stock order by' setting on the Pick list controller, unless the *'Force the user pick full pallet?'* option is set to true. In this case the user will be forced to pick the full pallet of items which contains the same or a lower quantity than the quantity that has to be picked. If there are still quantity to pick for the item and there are no more full pallets left, then the stock will be allocated based on the 'Stock order by' setting.

If there is stock from the proposed batch/LUID on a location from what the user can pick, the status of the pick list will be changed to 'Ready'. The locks for the pick list will be converted to 'Detail' level.

If the '*Picking: Make pick list ready for selected line? (Y/N)*' option is enabled on the pick list controller, and the user performs the picking in the Picking flow, then the status of the pick list is changed to 'Partially Ready' after an item is selected to pick. Only the corresponding pick list line' s status is set to 'Ready', the other, unpicked lines remain in 'Not Ready' status.

If there is no stock of the proposed batch/LUID located on a location from the user can pick , then the status of the pick list will remain 'Not ready' and the locks will remain on the batch/LUID level. The user have to select alternate stock on the scanner. Every batch that is allowed to be picked will be listed on the scanner as alternate stock.

After a pick list line has been picked, the locking will be converted to 'Detail' level. The status of the line will be changed to 'Picked' or 'Packed'. (based on the pick list type and the picking process.)
If the 'Always status picked' option is ticked for the pick list type, the line status will be converted to 'Picked' regardless of the picking process. If it is disabled, then the status will be changed to 'Picked' when picking onto a moveable location or 'Packed' when picking without a moveable location.

4.2. Ad hoc picking

The status of the pick list will remain 'Not Ready' and the locking level will remain 'Batch' or 'LUID' after the pick list has been printed or selected on the scanner. The stock that can be picked will always be sorted by:

- BBD
- Batch with smallest free stock

- Pick locations
- Location with most LUID's
- Non-full pallets
- Smallest quantities per inventory line
- Location sequence

Please note that bulk locations are only taken into account if the 'Allow ad hoc picking from bulk locations?' option is set to true on the Pick list controller.

After a pick list line has been picked, the locking will be converted to 'Detail' level. The status of the line will be changed to 'Picked' or 'Packed' depending on the pick list type and the picking process.

Produmex Standard EDI Module

Overview

EDI is a communication protocol for electronic data interchange between business partners.

With the Produmex EDI module it is possible to:

- export files with the Notification Listener or the Interfacing tool,
- import files with the Interfacing tool and
- monitor the process on the Interface Monitor screen.

The standard file formats used for EDI messages are *.xml* and *.csv*.

1. Configuration

1.1. Define the path

Define the input and the output path for the EDI module on the *Config* tab of the Organization Structure.

1. In the *Interface Monitor Input Archive Path* field define the path where the system moves the file after processing it.
2. In the *Interface Monitor Input Error Path* field define the path where the file is moved if there is an error during the processing.
3. In the *Interface Monitor Input Path* field define the path to a folder from where the system imports the file.
4. In the *Interface Monitor Output Archive Path* field define the path where the third party software puts the file after processing it.
   Note: This path is not used by the Produmex Interfacing tool.
5. In the *Interface Monitor Output Error Path* field define the path where the third party software puts the file if there is an error while processing it.

Note: This path is not used by the Produmex Interfacing tool.

6. In the *Interface Monitor Output Path* field define the path to the folder where the system exports the file. Set this folder as an input for the third party software.

1.2. Set up the interfacing controller

Produmex offers standard controllers for the following documents:

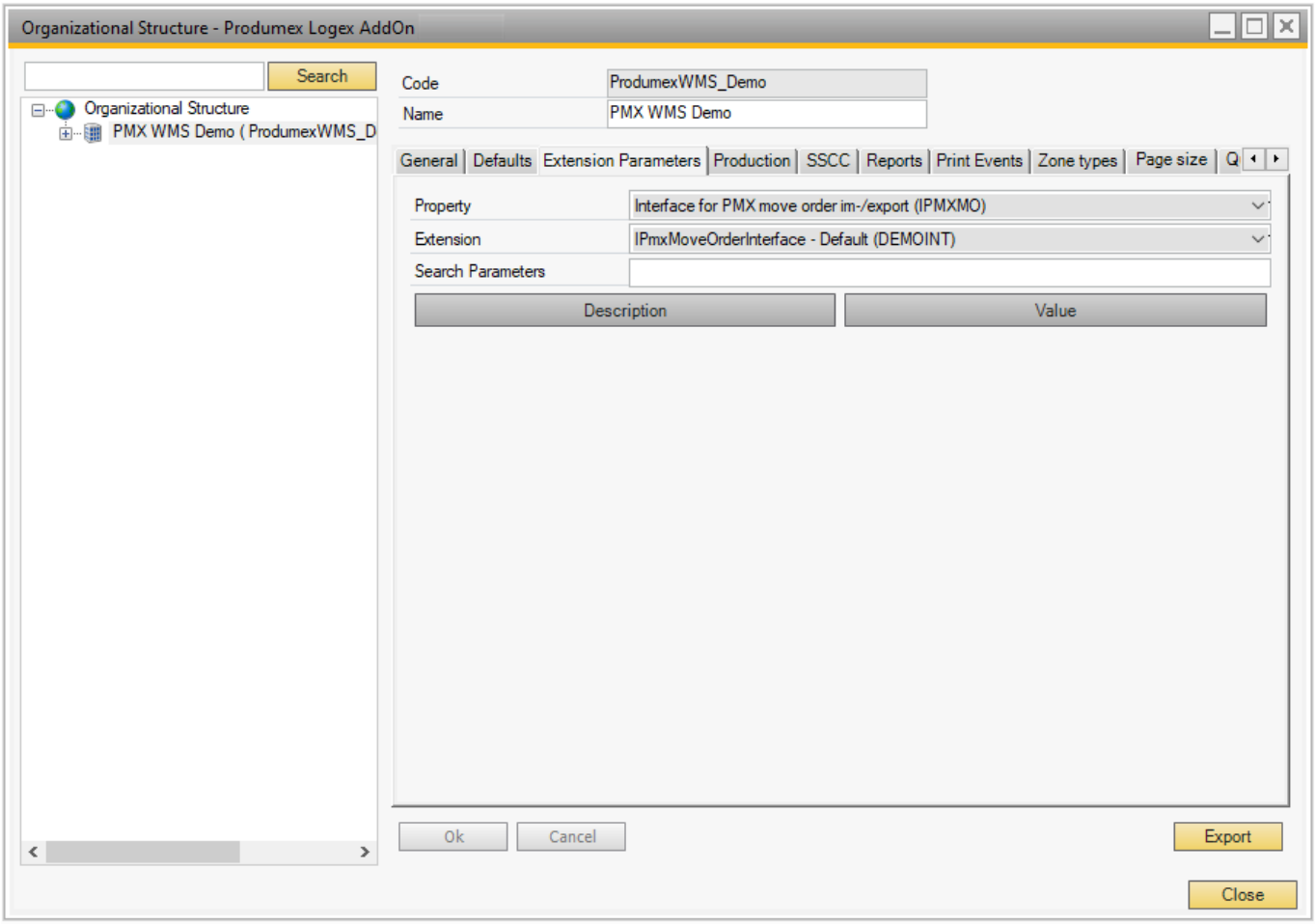
Document	Property	Extension
PMX advance shipping notice	Interface for PMX Advance Shipping Notice (Im-Exporter)	IPmx Advance Shipping Notice Interface
PMX move order	Interface for PMX Move Order Im-/Export	IPmx Move Order Interface
PMX move	Interface for PMX Move Im-/Export	IPmx Move Interface
SBO item master data	Interface for SBO Item Master Data Im-/Export	ISBO Item Master Data Interface
SBO purchase credit note	Interface for SBO Purchase Credit Note Im-/Export	ISBO Purchase Credit Note Interface
SBO purchase delivery	Interface for SBO Purchase Delivery Im-/Export	ISBO Purchase Delivery Interface
SBO purchase invoice	Interface for SBO Purchase Invoice Im-/Export	ISBO Purchase Invoice Interface
SBO purchase order	Interface for SBO Purchase Order Im-/Export	ISBO Purchase Order Interface
SBO purchase return	Interface for SBO Purchase Return Im-/Export	ISBO Purchase Return Interface
SBO sales credit note	Interface for SBO Sales Credit Note Im-/Export	ISBO Sales Credit Note Interface
SBO sales delivery	Interface for SBO Sales Delivery Note Im-/Export	ISBO Sales Delivery Interface
SBO sales invoice	Interface for SBO Sales Invoice Im-/Export	ISBO Sales Invoice Interface
SBO sales return	Interface for SBO Sales Return Im-/Export	ISBO Sales Return Interface
SBO sales order	Interface for SBO Sales Order Im-/Export	ISBO Sales Order Interface

The following documents have an interface, but they require custom controllers:

Document	Property
PMX picklist	Interface for PMX Pick List Im-/Export
PMX serial number	Interface for PMX Serial Number Im-/Export
PMX stock QS change	Interface for PMX Stock QS Change Import
PMX stock	IPmx Stock Interface – Pmx Stock Im-/Exporter
SBO business partner	Interface for SBO Business Partner Im-/Exporter
SBO goods issue	Interface for SBO Goods Issue Im-/Exporter
SBO goods receipt	Interface for SBO Goods Receipt Im-/Export
SBO incoming payment	Interface for SBO Incoming Payment Im-/Export
SBO production issue	Interface for SBO Production Issue Im-/Export
SBO production receipt	Interface for SBO Production Receipt Im-/Export

Document	Property
SBO sales delivery 2	Interface for SBO Sales Delivery 2 Im-/Export
SBO sales return 2	Interface for SBO Sales Return 2 Im-/Export
SBO whs transfer	Interface for SBO Whs Transfer Im-/Export

Configuration steps:
1. Select the controller for the necessary document type on the Extension Parameters tab of the Organization Structure.
2. Select the Property and the Extension.
3. Click OK.



2. Exporting with the Notification Listener tool

The Notification Listener is a tool that monitors the record in the PMX_NOTQ table and performs custom actions when a certain type of data is adjusted. For information on the installation of the Notification Listener see:

- 3.2. Install components
- 3.3.3. Enable the Notification Listener stored procedure

To export documents proceed as follows:

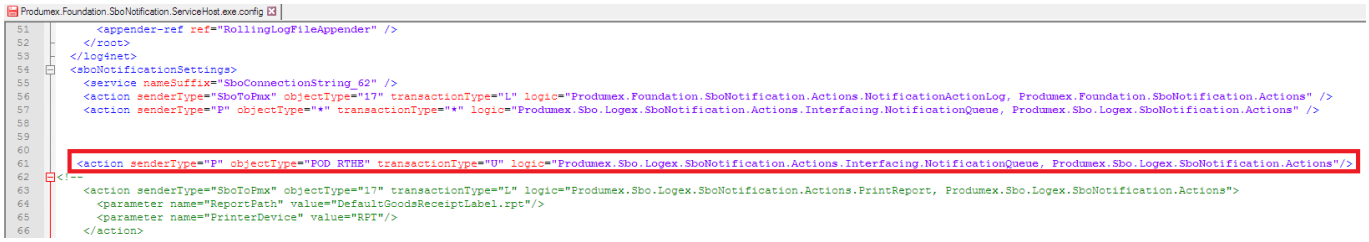
1. Locate the configuration file of the Notification Listener tool.

The configuration file is called *Produmex.Foundation.SboNotification.ServiceHost.exe.config* and it is located in the installation folder of the tool, for example: C:\Program Files(x86)\Produmex\Produmex SB1 Notification Listener.

2. Open the file with a text editor (e.g. Notepad).

3. Locate the line of the transaction and uncomment it.

Example: Proof of delivery route export action defined for the Notification Listener



4. Save the file.

5. Run the Notification Listener tool.

- To run the Notification Listener tool in the background, start it from Windows\Control Panel\ Programs and Features\.
- To run the Notification Listener tool with an open console, launch the RunConsole.bat file from the installation folder of the tool, for example: C:\Program Files*(x86)*\Produmex\Produmex SB1 Notification Listener\.

2.1. Example: exported XML file structure of a sales order

```
<?xml version="1.0" encoding="UTF-8"?>
<Document>
<DocumentHeader>
    <ObjectType>17</ObjectType>
        <DocumentNumber>15</DocumentNumber>
        <DocumentDate>20120220</DocumentDate>
        <DocumentDueDate>20120220</DocumentDueDate>
        <NumAtCard>7927</NumAtCard>
        <CardCode>C1000</CardCode>
        <CardName>Card name</CardName>
        <BillTo>
            <Street>Lenteakker3</Street>
            <City>SPIJKENISSE</City>
            <ZipCode>3206TB</ZipCode>
            <CountryCode>NL</CountryCode>
            <GLN>5400150100004</GLN>
            <FederalTaxID/>
        </BillTo>
        <ShipTo>
            <Street>Lenteakker 3</Street>
            <City>SPIJKENISSE</City>
```

```
            <ZipCode>3206TB</ZipCode>
            <CountryCode>NL</CountryCode>
            <GLN>5400150100004</GLN>
            <FederalTaxID/>
        </ShipTo>
        <DocumentCurrency>EUR</DocumentCurrency>
        <TotalNetto>0</TotalNetto>
        <TotalDiscount>0</TotalDiscount>
        <TotalVAT>0</TotalVAT>
        <TotalBruto>0</TotalBruto>
        <Comments>Comment</Comments>
        <GLN/>
        <FederalTaxID>US25-987634</FederalTaxID>
    </DocumentHeader>
    <DocumentLineList>
        <DocumentLine>
            <BaseDocNum>215</BaseDocNum>
            <BaseLine>0</BaseLine>
            <BaseType>22</BaseType>
            <LineNumber>0</LineNumber>
            <ItemCode>CIA00092</ItemCode>
            <ItemDescription>CIMZIA 200MG/ML 2PFS AT/NL</ItemDescription>
            <Uom>Pcs</Uom>
            <Quantity>1</Quantity>
            <UnitPrice>0</UnitPrice>
            <DiscountPercent>0</DiscountPercent>
            <LineTotal>0</LineTotal>
            <VATCode>6</VATCode>
            <VATPercent>6</VATPercent>
            <LineVAT>0</LineVAT>
            <WarehouseCode>01</WarehouseCode>
            <PmxDocumentLineList>
                <PmxDocumentLine>
                    <Quantity>1</Quantity>
                    <Uom>Pcs</Uom>
                    <QualityStatusCode>RELEASED</QualityStatusCode>
                    <SSCC>123456789012345678</SSCC>
                    <StorageLocationCode>A01</StorageLocationCode>
                    <BatchNumber>BATCH1</BatchNumber>
                    <BatchNumber2/>
                    <ExpiryDate>20160908</ExpiryDate>
                </PmxDocumentLine>
                <PmxDocumentLine>
                    <Quantity>1</Quantity>
                    <Uom>Pcs</Uom>
                    <QualityStatusCode>RELEASED</QualityStatusCode>
                    <SSCC>123456789012345680</SSCC>
                    <StorageLocationCode>PIC01</StorageLocationCode>
                    <BatchNumber>BATCH1</BatchNumber>
```

```
                    <BatchNumber2/>
                    <ExpiryDate>20160908</ExpiryDate>
                </PmxDocumentLine>
            </PmxDocumentLineList>
        </DocumentLine>
    </DocumentLineList>
</Document>
```

2.2. Example: exported CSV file structure of proof of delivery (exported route)

```
R,202,This is the route description,20160724
J,D,10,C00001,Customer name 1,Address line 1,Address line 2,,,,,
I,S,10,000000000000092241
I,S,10,000000000000092395
I,S,10,000000000000092289
J,D,20,C00002,Customer name 2,Address line 1,Address line 2,Address line
3,Address line 4,,,
I,S,20,000000000000093699
I,S,20,000000000000093651
```

3. Importing and exporting with the Interfacing tool

With the Interfacing tool certain documents can be imported to and exported from the system. This application is installed during the Produmex Tools installation (see 3.2. Install components).

3.1. Preparing documents for import

The following table shows the prefixes, the extensions and the object types to be used while preparing documents for import. The table lists documents with standard controllers.

Document Type	Prefix	Extension	Object type
Purchase order	OPOR_	xml	22
Purchase delivery	OPDN_	xml	20
Purchase invoice	OPCH_	xml	18
Purchase credit note	ORPC_	xml	19
Purchase return	ORPD_	xml	21
Sales order	ORDR_	xml	17
Sales delivery	ODLN_	xml	15
Sales invoice	OINV_	xml	13
Sales credit note	ORIN_	xml	14
Sales return	ORDN_	xml	16
Proof of delivery	EPOD_	csv	POD_RTHE
Advance shipping notice*	N/A	csv	18 or 22
Move*	PMX_MV_	csv	N/A
Move order*	PMX_MO_	csv	N/A

*See section 18.3.3.Templates for importing.

3.2. Running the Interfacing tool

The tool is located in the installation folder of the Produmex Tools, for example: C:\Program Files\Produmex \Produmex Tools\ and the file name is Produmex.Sbo.Logex.Tools.InterfacingTool.exe.

Start the interfacing tool with startup parameters. The following command line parameters are supported:

- /cs: Contains the connection string that should be used. Default value: 'SboConnectionString'
- /t: Defines the type of the interface. Possible values:
  - salesorder
  - salesdelivery
  - salesinvoice
  - salescreditnote
  - salesreturn
  - purchaseorder
  - purchasedelivery
  - purchaseinvoice
  - purchasecreditnote
  - purchasereturn
  - productionissue
  - productionreceipt
  - advanceshippingnotice
  - itemmasterdata
  - incomingpayment
  - move
  - moveorder
  - stock
  - stockqschange
  - businesspartnermasterdata
  - warehouseautomation
  - POD

  Default value: ‘stock’
- /d: Defines the direction of the interface. Possible values:
  - import
  - export

  Default value: ‘export’.
- /rf: If added, the system reprocesses failed actions.

Example: Produmex.Sbo.Logex.Tools.InterfacingTool.exe /cs:SboConnectionString /t:move /d:import

Note: It is recommended to run the interfacing tool as a scheduled task.

3.3. Templates for importing

3.3.1. Move and move order template for importing

1. For moves/move orders create a csv. file with the following fields:

- *FromPmxWhsCode*: the code of the source warehouse
- *ToPmxWhsCode*: the code of the destination warehouse
- *ItemCode*: the item code of the product
- *Quantity*: quantity to move or to make a move order from
- *SerialNumber*: If the item is managed by serial numbers, add the serial number here.
- *SrcQualityStatusCode*: the quality status of the stock that should be moved
- *DestQualityStatusCode*: the quality status that the stock should get after the move
- *BatchNumber*: If the item is managed by batches, add the batch number here.
- *InternalBatchNumber*: If the item has a second batch number, add it here.
- *BestBeforeDate*: If the item has a best before date, add it here.
- *SrcStorLocCode*: the code of the source storage location
- *DestStorLocCode*: the code of the destination storage location
- *SrcLogUnitIdentKey*: the source LUID
- *DestLogUnitIdentKey*: the destination LUID

Note: The field names are case sensitive.

2. Save the file as a .csv file.

Naming convention: Use the PMX_MO_ prefix for move order templates and the PMX_MV_ prefix for move templates. The system checks the file name to determine whether a move order or a move should be created.

Example:

- Move order: *PMX_MO_07032012.csv*
- Move: *PMX_MV_07032012.csv*

3.3.2. ASN template for importing

With the Interfacing Tool goods that are received against purchase orders or purchase invoices can be imported from CSV files to SAP B1. As a result of the import, the system generates open ASN lines, which you can use to create goods receipt PO documents.

To implement the import process, proceed as follows.

1. Prepare the CSV file with the 14 columns listed in the table below and provide the necessary data. Make sure that you list all the 14 columns, keep the column names and the order of the columns as indicated in the table.

- Alternatively, the ASN template can be used, which is available in your installation folder (Templates > Import Templates folder).
- If you receive CSV files from your supplier and you define a CSV Custom Header, the order of the columns in the CSV file depends on the order you define in the *CSV Customer Header* field (see Interface for PMX advance shipping notice importer and exporter).

Field name (case sensitive)	**Description/Activity**
ObjType	In case of a **purchase order** the value of the field should be **22** while in case of a **purchase invoice** it should be **18**. Note: If no value is added to the field, the system automatically considers the object type a purchase order.
DocNum	Add the document number of the purchase order/purchase invoice.
LineNum and ItemCode	It is not mandatory to provide a value for both fields. You can provide only the line number, which you can check in SAP B1. If you provide only the item code, the system uses this value to find the line number. Note: If the purchase order contains two or more lines with the same item code, the system cannot find the correct line number. In this case you need to provide a value for the line number as well.
Quantity	Add the inventory quantity of the item to be received. If you provide value to the SerialNumber column, the value of the Quantity should be 1.
SSCC	Add the SSCC of the logistic unit if there is any.
MasterSSCC	Add the SSCC number of the master logistic unit if there is any.
Batch	If the item is managed by batches, add the batch number in this column.
Batch2	Add the second batch number of the product if there is any.
BBD	Add the best before date of the product if there is any.
SerialNumber	Add the serial number of the product if there is any.
UF1	User information - optional
UF2	User information - optional
UF3	User information - optional
BeasItemVersion (optional column)	Item version number in case of Produmex WMS - Beas Manufacturing integration
SupplierRefNo (optional column)	Supplier reference number

Example of a CSV file:

```
ObjType;DocNum;LineNum;ItemCode;Quantity;SSCC;MasterSSCC;Batch;Batch2;BBD;Se
rialNumber;UF1;UF2;UF3
22;123;0;ITEM01;10;123456789012345678;;BATCHA;;20200131;;User info 1;;
22;123;1;SERIAL01;1;123456789012345678;;BATCHA;;20200131;SER01;User info 1;;
22;123;1;SERIAL01;1;123456789012345678;;BATCHA;;20200131;SER02;User info 1;;
```

2. Save your CSV file to the folder defined in the *Interface Monitor Input Path*.

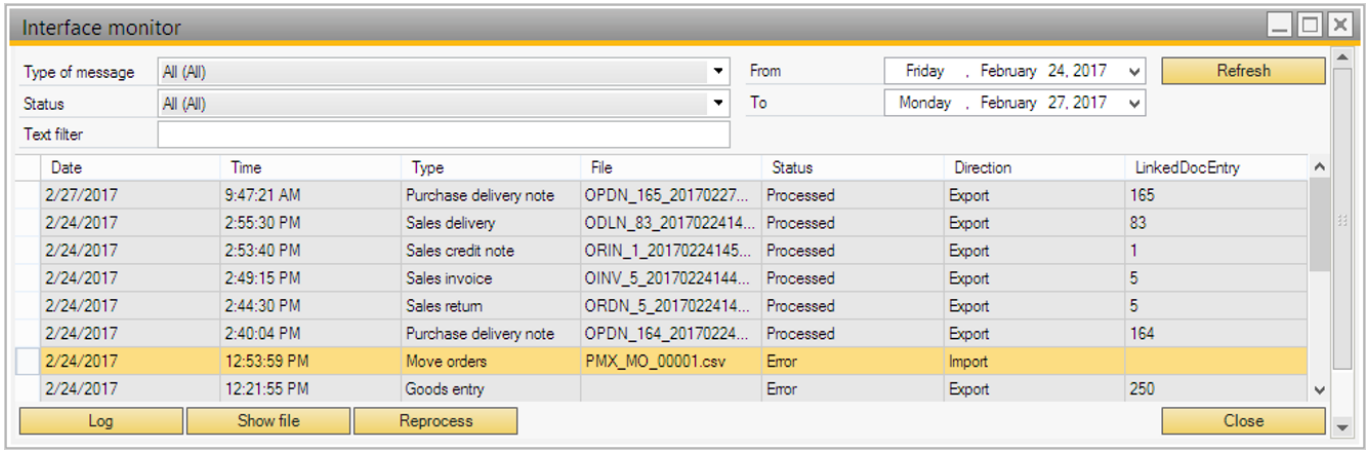
3. Run the Interfacing Tool.

4. You can check the imported data in SAP B1 by navigating to Produmex > Purchasing > ASN. The system displays the *Open ASN Lines* screen (see 6.3.2. Open ASN lines).

5. Now you can create goods receipt PO documents from the open ASN Lines (see 28.6. ASN Reception).

4. Monitoring EDI messages

EDI messages can be monitored on the *Interface Monitor* screen. The function is available by navigating to Produmex > Interfacing > Interface Monitor.



The list of the interfacing messages can be monitored with the following filters:

- Type of message: the document type
- Status: the status of the entry
  - Possible values are: *All, Error, New, Processed*
- Text filter: Only those lines get listed which contain the text added to the field.
- From - To: The lines get listed based on the defined period.

Click on the `Refresh` button to apply the filters.

To see more information about a message, select its line.

Click on the `Log` button to see the log entry. If the status of an entry is *Error*, the error message can be seen here.

The `Reprocess` button is active if the status is *Error*.

The `Show file` button is active if the status is *Error* and the direction is *Import*.

To correct a failed import proceed as follows:

1. select the entry line,
2. click on the `Show file` button,
3. correct the file and save it,
4. click on the `Reprocess` button to process the file again.

Performing the Picking Process

Picklists can be created from Sales Orders, Sales Reserve Invoices, Inventory Transfer Requests (if the source warehouse is a Produmex warehouse) and Production Orders.

When picklists are generated on the office level, they are immediately available on the shop floor. The picking process can be performed on the Mobile Client (scanner mode) by starting the picking flows listed below. Consult with the description of the flows and click on the name of the given flow to see its documentation.

Note: The production picking functions are documented in the Production Guide.

1. Picking Flow:

- The picking process is based on a single picklist or waves containing picklists for different customers and you are suggested to pick the allocated stock.
- When picking for a single customer / delivery address, you can create a packed logistic unit directly. When picking for a wave containing different customers, you must use a movable location and after finishing the picking, a packing process must be performed.

2. Multi-Picking Flow:

- The picking process is based on a single picklist or a wave. The flow is designed to use waves containing picklists for different customers, but the picking process can be performed for a single picklist as well. You are suggested to pick the allocated stock.
- The flow always requires the use of a movable location and each picklist must be picked to a specific movable location.
- After finishing the picking, a packing process must be performed.

3. Zone Picking Flow:

- The picking process is based on a single picklist or waves containing picklists for different customers.
- After selecting a picklist on the scanner, a zone must be selected. The flow proceeds with the step of selecting the items to pick, but only those items are listed that can be found in the selected zone. You are suggested to pick the allocated stock.
- When picking for a single customer / delivery address, you can create a packed logistic unit directly. When picking for a wave containing different customers, you must use a movable location and after finishing the picking, a packing process must be performed.

4. Ad Hoc Picking Flow:

- The input of the picking can be a single picklist or a route.
- There is no stock allocated for the picking process, that is, you can select the available free items.
- The flow supports the use of movable locations.
- When the Ad Hoc Picking flow is started, the following picking tasks can be selected:
    - **Customer Collect**: The input of the picking is a single customer collect picklist. When a customer is coming to the warehouse to make a request and the picking process is performed, the customer must confirm that all the needed items are picked and loaded into the customer’s vehicle.
    - **Picklist**: A picklist must be selected during the flow. There is no customer confirmation step.

    - **Route**: A route must be selected during the flow. There is no customer confirmation step.

5. Box Pick and Pack Flow:

- With the flow it is possible to perform the picking process directly into boxes on a cart. The flow is based on a single picklist or a wave containing picklists for different customers.
- If a full SSCC is picked, the system keeps the existing SSCC number. If not, the system generates an SSCC number when the first item is picked.
- The process always requires the use of a movable location. When the picking process is completed for the wave, the Unload Movable Locations to Dock Flow can be started on the Mobile Client to unload the movable locations to the dock.

6. Prepare Carts Flow:

- The flow prepares carton boxes for the Multi-Picking Flow. It can be used for orders where items can be picked into one or more carton boxes (or logistic carriers) in which the items will be shipped.
- The flow is based on a wave with one or more picklists and (with custom development) it is possible to assign more than one carton box and more than one movable location to each picklist in the selected wave.
- During the flow an SSCC number is added to each carton box. The SSCC number can be preprinted or can be created during the flow.
- With the end of the flow the Multi-Picking Flow can be started to pick the necessary items into the carton boxes. With the SSCC numbers added to the boxes in the Prepare Carts Flow, it is defined which items should be picked into which carton box.
- The carton boxes are the final destinations of the items and no packing process is needed. With the end of the Multi-Picking Flow, the stock can go through the necessary shipping flow.
  Note: If a packing step is needed to double-check the content of the box, the Consolidated Packing Flow can be used and it can only fully confirm the content or reject it.

7. Zone Box Picking Flow:

- With the Zone Box Picking Flow on the Mobile Client, it is possible to select specific zones in the warehouse and perform the picking process directly into boxes on a cart. The flow is based on a single picklist or a wave containing picklists for multiple customers. If a full SSCC is picked, the system keeps the existing SSCC number, otherwise the system generates an SSCC number when the first item is picked.
- The process always requires the use of a movable location. When the picking process is completed for the wave, the Unload Movable Locations to Dock Flow can be started on the Mobile Client to unload the movable locations to the dock.

8. Undo Picking Flow:

- With the flow goods can be removed from a picked or packed logistic unit and can be moved back to the warehouse. With the end of the flow the corresponding picklist lines are closed and you cannot redo the picking unless you create a new picklist.

20. How to work with both Produmex Manufacturing and

Produmex WMS

20.1. Recommended installation steps

First install Produmex Manufacturing.

Then install Produmex WMS. In order to install Produmex WMS in a way that it will be integrated with Produmex Manufacturing, Produmex Manufacturing database elements should be existent in the company database.
Execute the installation as described in the Produmex WMS Installation Guide. Do not forget to enable the stored procedures and the Notification Listener stored procedures. Make sure that the *'Integration with Produmex Manufacturing'* checkbox is checked before you start the database upgrade.

20.2. Prerequisites

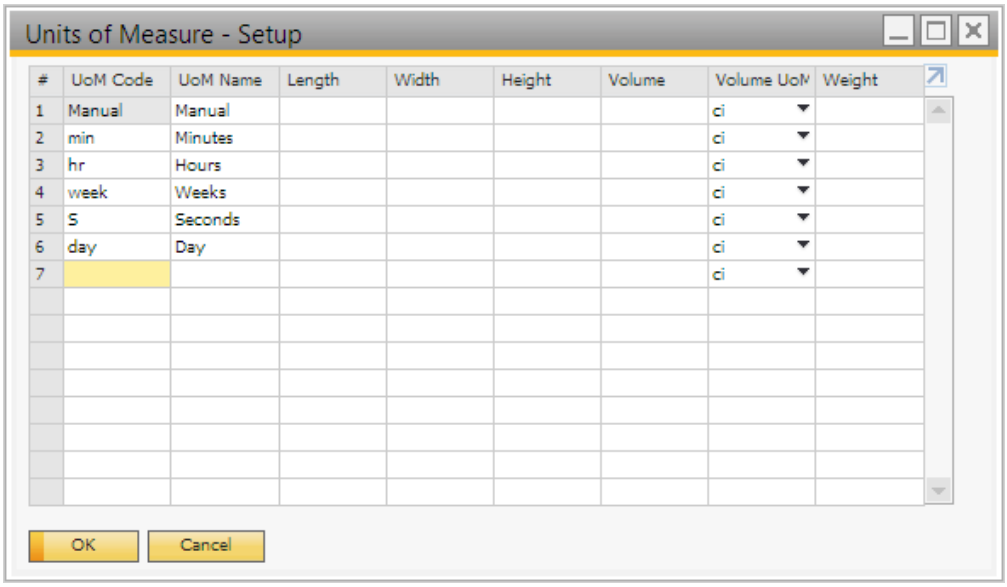
Produmex Manufacturing
Install the initial manufacturing data as described in Setup initial data.

Produmex WMS
Set up the production line(s). For more information about the production line settings please see: Production line. Configure the production settings on the Production controller. In order to execute the production picking based on a pick list, enable the *Create proposal for picking* option on the Picking for production controller.

For more information about the Produmex WMS extensions on the Bill of Materials and the Production order please see: Configurations/Production
For more information about other production settings for Produmex WMS please see: Configuration settings for the production

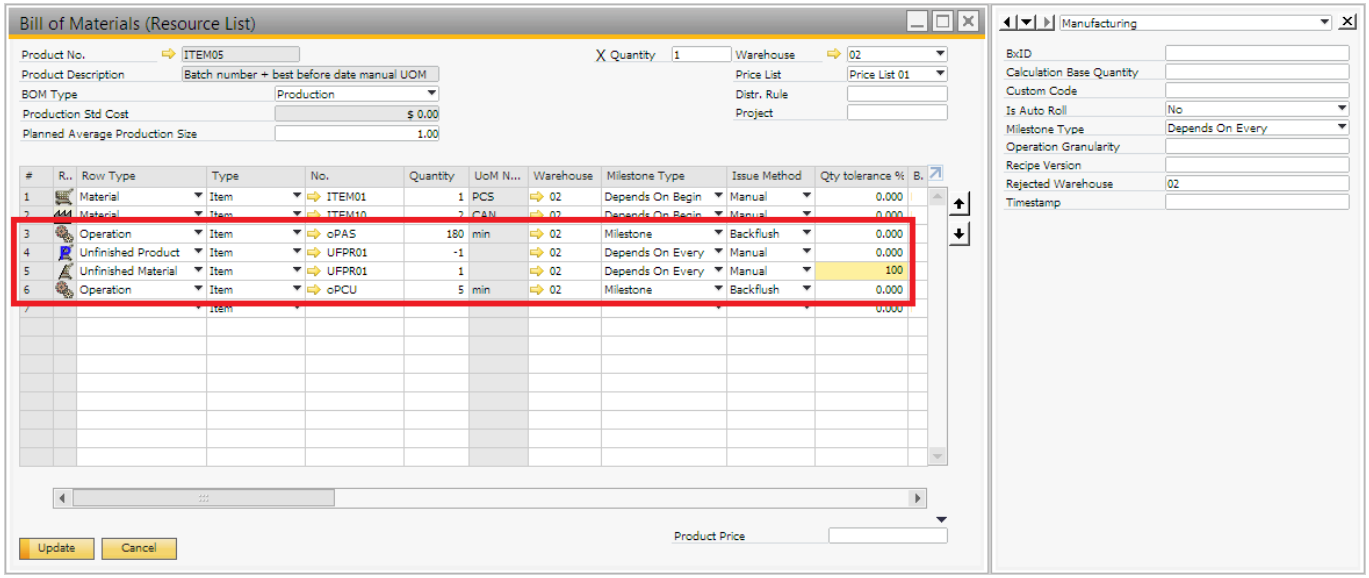
Setup Time UoM
In order to create operations, add the following time units of measure to the Units of Measure - Setup (OUOM) standard table:

- min - Minutes
- hr - Hours
- week - Week
- S - Seconds
- day - Day



BOM Setup with unfinished products

The material flow of the unfinished products can be monitored with the help of the 'Unfinished Product' items. Set the 'Qty tolerance %' to 100 for the unfinished product on the 'Unfinished material' line in order to allow pick list to be created even though no pickable stocks of the unfinished materials are found.



During a production it is possible that not the total produced quantity of the unfinished product is consumed. In order to avoid stock allocation on pick list/pick list proposals for unfinished products only store the remaining unfinished products on a location that verifies one of the following:

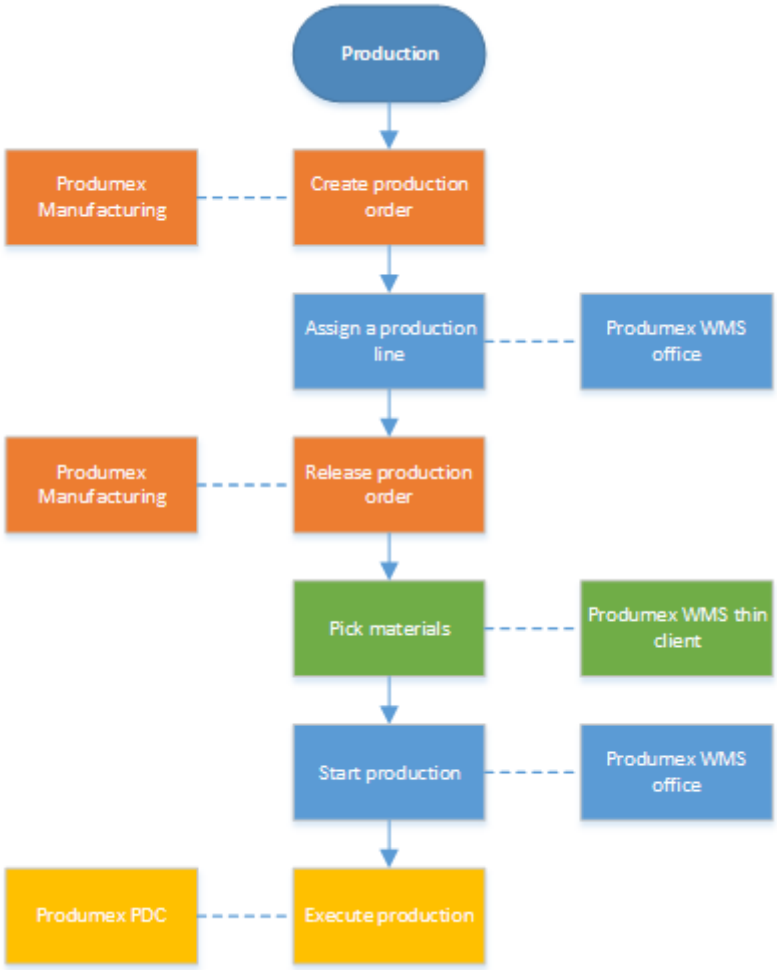
- Disallowed location
- Location where the 'Block stock from being used for the picking process' option is enabled.

20.3. Production steps

In order to work with both Produmex Manufacturing and Produmex WMS you have to create a production order in a WMS managed warehouse. Otherwise the production flow will be the same as described in Produmex Manufacturing Functional Guide.

Make sure that both add-on runs.

Please note: The 'Backflush' issue type is only supported for operation and cost items for production orders in a Produmex WMS warehouse.



20.3.1. Create production order

First create the production order(s). Production orders can be created:

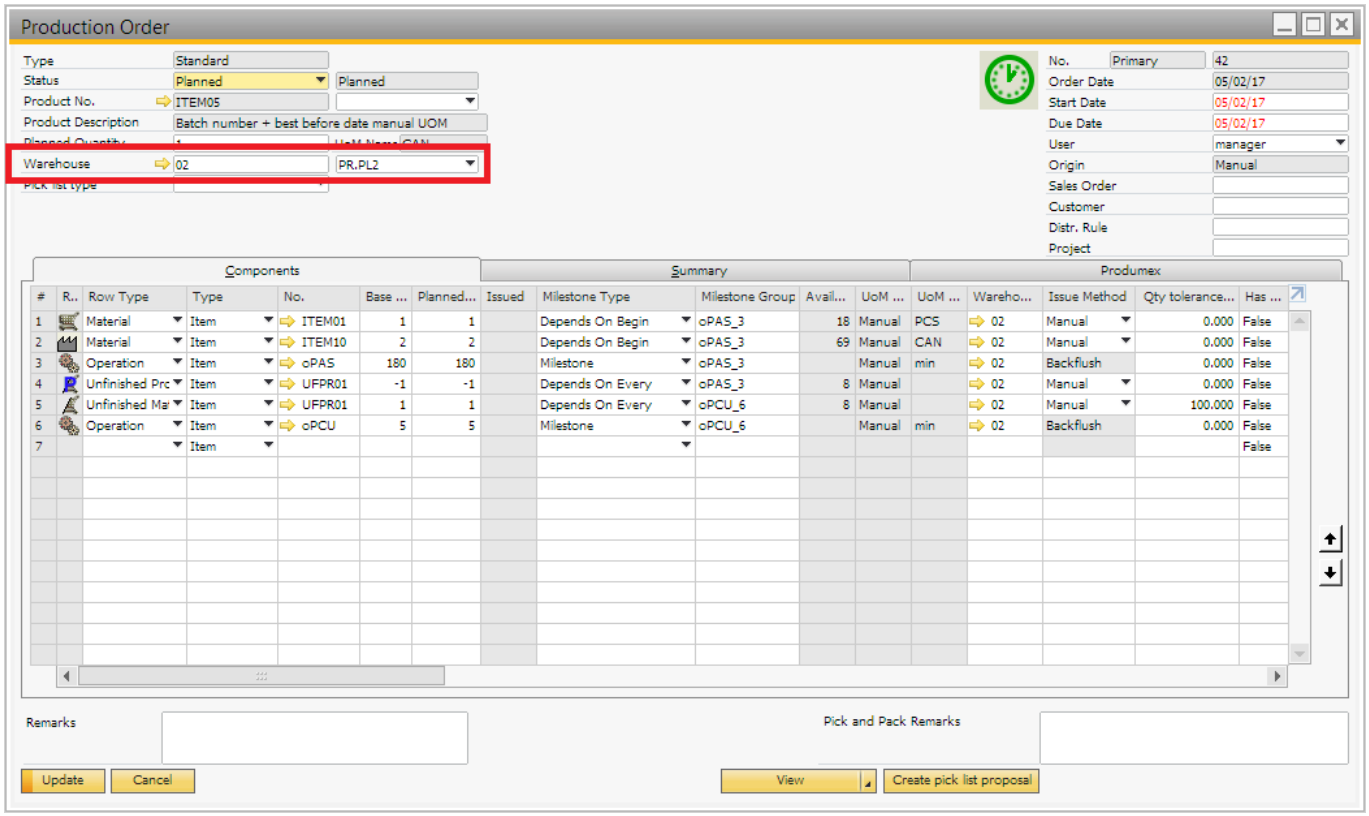
- manually
- from MRP recommendations (For more information please see: Everyday work)
- from MTO recommendations (For more information please see: Make to Order manufacturing)

20.3.2. Assign the production line

20.3.2.1. Assign production line to a single production order

Assign a production line to the production order by selecting a production line from the dropdown menu next to the warehouse field. Every active production line from the warehouse can be selected.

A production line can only be assigned while the production order status is *'Planned'*.



The assigned production line defines the input, output and lined up locations for the production. During the production, materials will be consumed from the input location, lined up location and the production line and the products and by-products will be received into the output location.

20.3.2.2. Assign production line to multiple production orders

Open the Production Management Cockpit from the Production module. Select the production orders and click on the 'Set Production Line' button. On the opening screen select the production line from the dropdown list then press 'Update'.

Please note: The production line can only be set for 'Planned' production orders. The selected production orders must be from the same warehouse.

20.3.3. Release production order

As the next step release the production order. The production order can be released in the following ways:

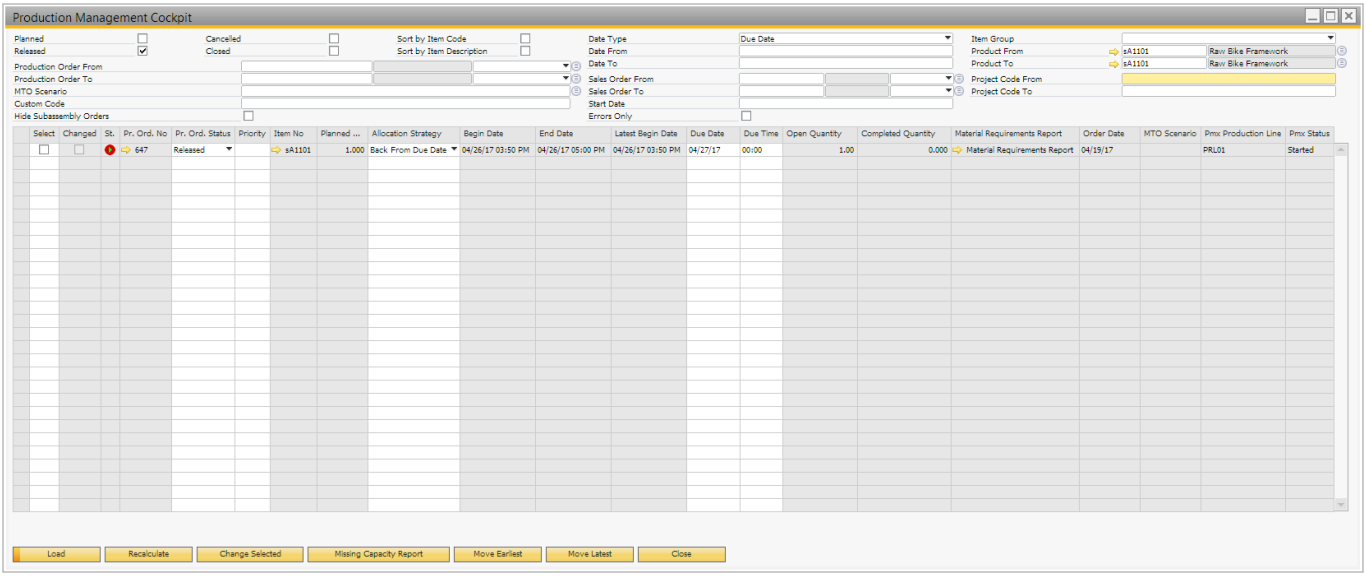
20.3.3.1. Single order release

- ***On the production order***
  - Set the status of the production order to 'Released' then click on the 'Update' button.
- ***On the Production Manager***
  - Open the Production Manager from the Produmex Production module. Click on the 'Production orders' button. On the *'Production order'* screen select the production line from the dropdown menu. Select the production order and click on the *'Release order'*

button.
- For more information please see: Release the production order

20.3.3.2. Mass order release

Open the Production Management Cockpit from the Production module. Select the production order(s) and click on the 'Change Selected' button. On the opening form select 'Released' as the *Pr.Ord. Status* from the dropdown menu and click on *'OK'*. Recalculate the production orders by clicking on the 'Recalculate' button.



The following additional columns are displayed on the Production Management Cockpit:

- **Pmx Production Line**: The code of the assigned production line.
- **Pmx Status**: The Produmex status of the production order. Possible values: Planned/Started/On hold/Closed

20.3.4. Pick components

The picking can be executed in the following ways:

- Based on the production order. The stock to be picked will not be locked and the system allows overpicking. For more information please see: Picking for production.
- Based on a pick list. The stock to be picked will be locked for the pick list and the system only allows overpicking if the *'Allow continuous picking for production'* option is enabled on the Picking for production controller. For more information please see: Pick list for production.
  When creating a pick list proposal, every item on a material line will be proposed, if there is available stock except for lined up materials with the Allow to pick lined up?' option set to 'False'.
  Please note: *A pick list proposal cannot be created if there is a material with a non-Produmex warehouse set.*

20.3.5. Start the production

> Usually is not required to set the PMX status to start in order to work with Produmex PDC. However we recommend to do so for better visibility: started production orders are marked on the Production Management Cockpit.
>
> Starting the production order with Produmex is only required in the following cases:
>
> - To assign lined-up locations
> - To pre-assign batch based on the batch number generator for production
> - If the batch has a best before date definition

Start the production in the office environment. After the production is started, the Produmex status of the order will be changed to *'Started'*.

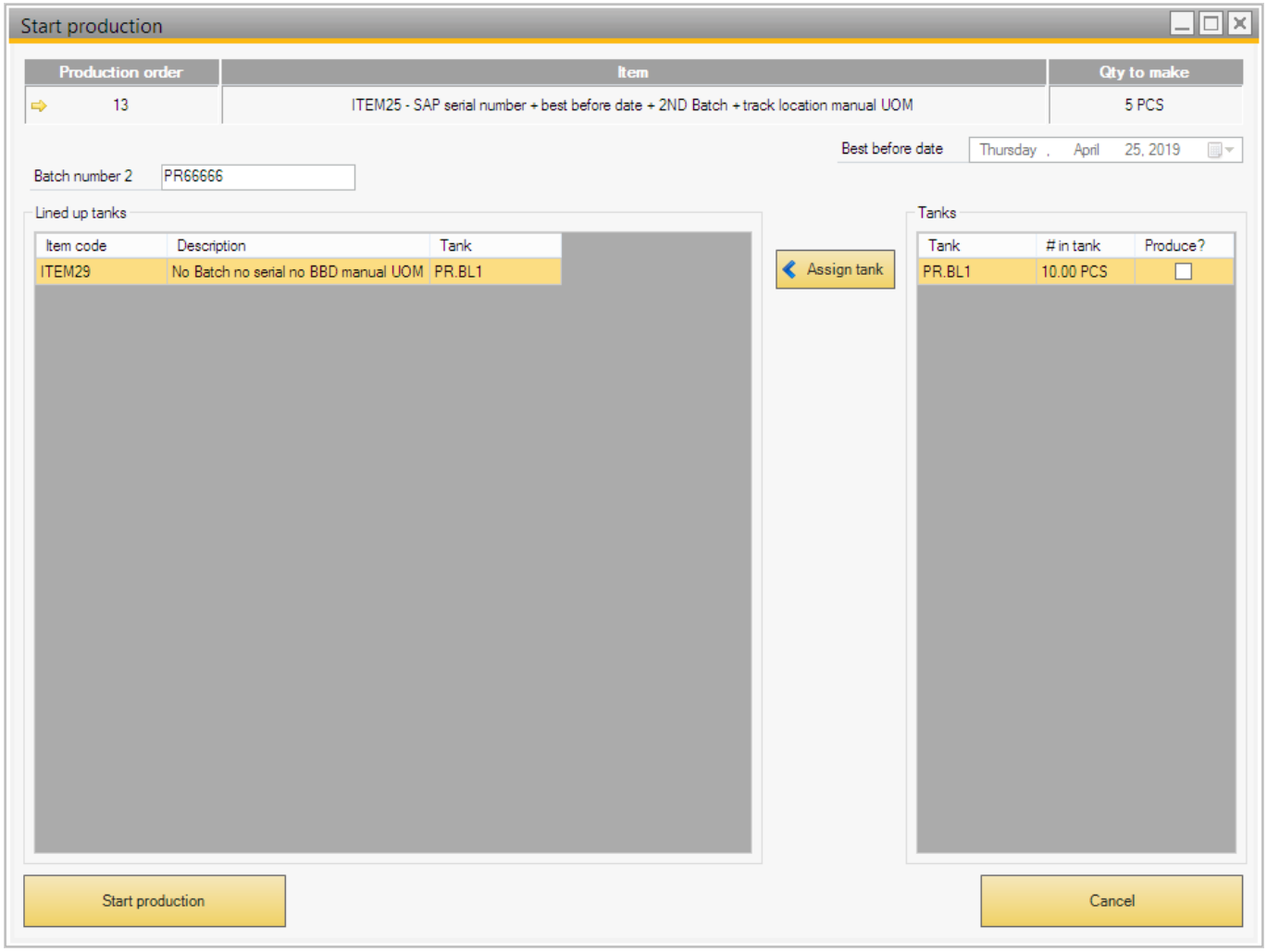
The production order can be started by clicking on the 'Start' button on the production order, or from the Production Manager: Open the Production Manager from the Produmex Production module. Click on the 'Production orders' button. On the opening *Production order* screen select a production line from the dropdown menu. Select the production order and click on the 'Start production' button. Only released production orders can be started. The *Start production* screen will open.

On the Start production screen define the batch number and the best before date for the product and the source locations for the lined up components. For more information please see: Start production order/4.1.Office

Define the batch number and best before date of the product
If the product is managed by batches, a *'Batch number'* field is shown on the screen. For more information about the settings of the second batch number please see: Batchnumber production company
If the product has a second batch number, a *'Batch number 2'* field is shown on the screen. For more information about the settings of the second batch number please see: Batchnumber production company
If the product has a best before date, an additional *'Best before date'* field is shown on the screen. The default best before date depends on the Expiry definition set on the Produmex Production tab of the Item Master Data. The adjustment of the default best before date can be enabled on the Best before for production generator.

Define the batch number and best before date of the product
If there are components on the production order that has to be lined up, assign a lined up location for the component. For more information about assigning a lined up location for an item please see: Start production order/4.1.1. Assign a tank

To start the production, click on the *'Start production'* button. The Produmex status of the production order will be changed to *'Started'*.



20.3.6. Execute the production or the shopfloor

Execute the production on the shopfloor with Produmex PDC as described in Production Data Collector. Because the materials will be issued from the input/lined up location or the production line and the (by-)products will be received to the output location, the steps of the material issue and the product receipt will differ from the standard PDC steps.

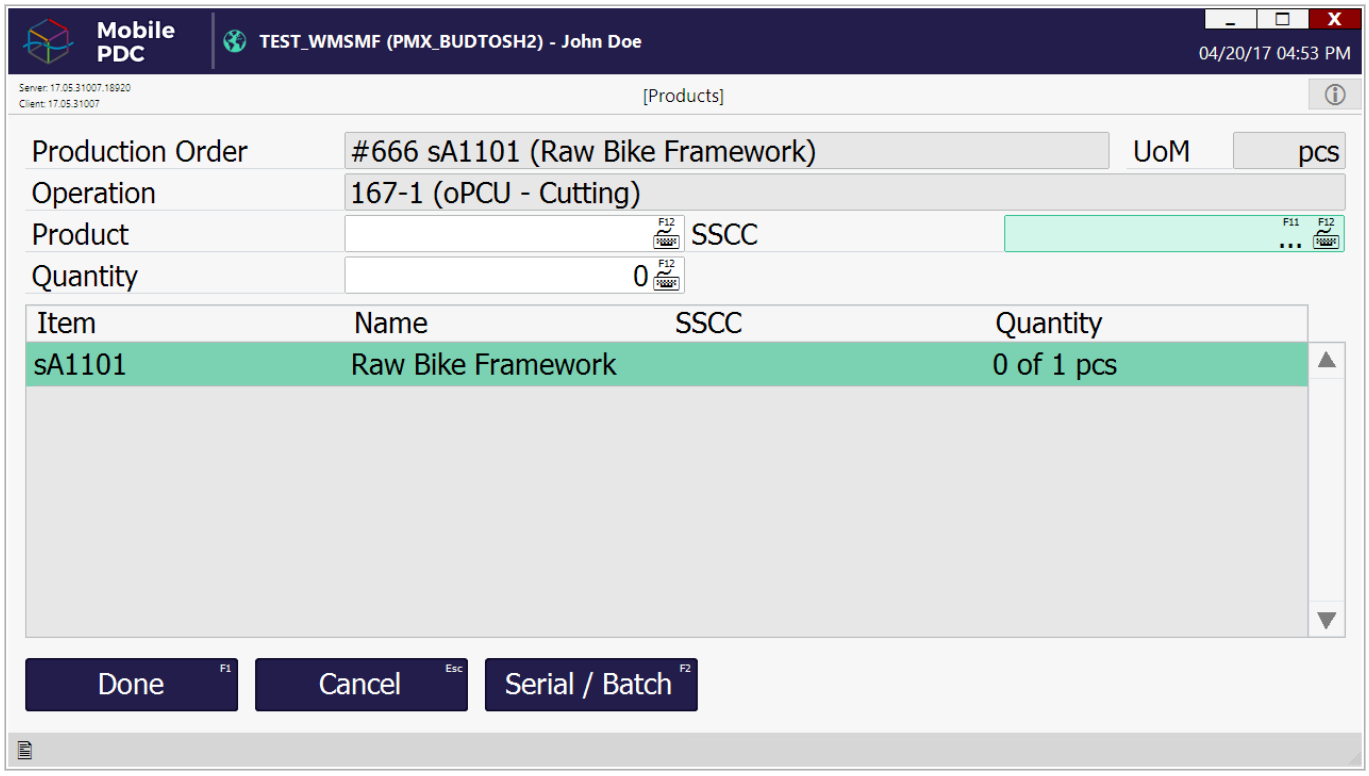
Please note: The integrated production execution will not work when using the PDC legacy mode.

20.3.6.1. Receive main product and by-products

Receive the main product or by-products on the *'Products'* screen. On the grid the main product, the by-products and the unfinished product(s) are listed. The main product is always listed first.

The default quantity of the main product is the produced quantity defined on the partial or complete job/setup screen. The quantity of the main product cannot be adjusted.

The default quantity of the by-product and the unfinished product is calculated based on the quantity received from the main product and the base quantity on the production order. The quantity of the by-product and the unfinished product can be adjusted.



Destination SSCC

Main product and by-product(s)

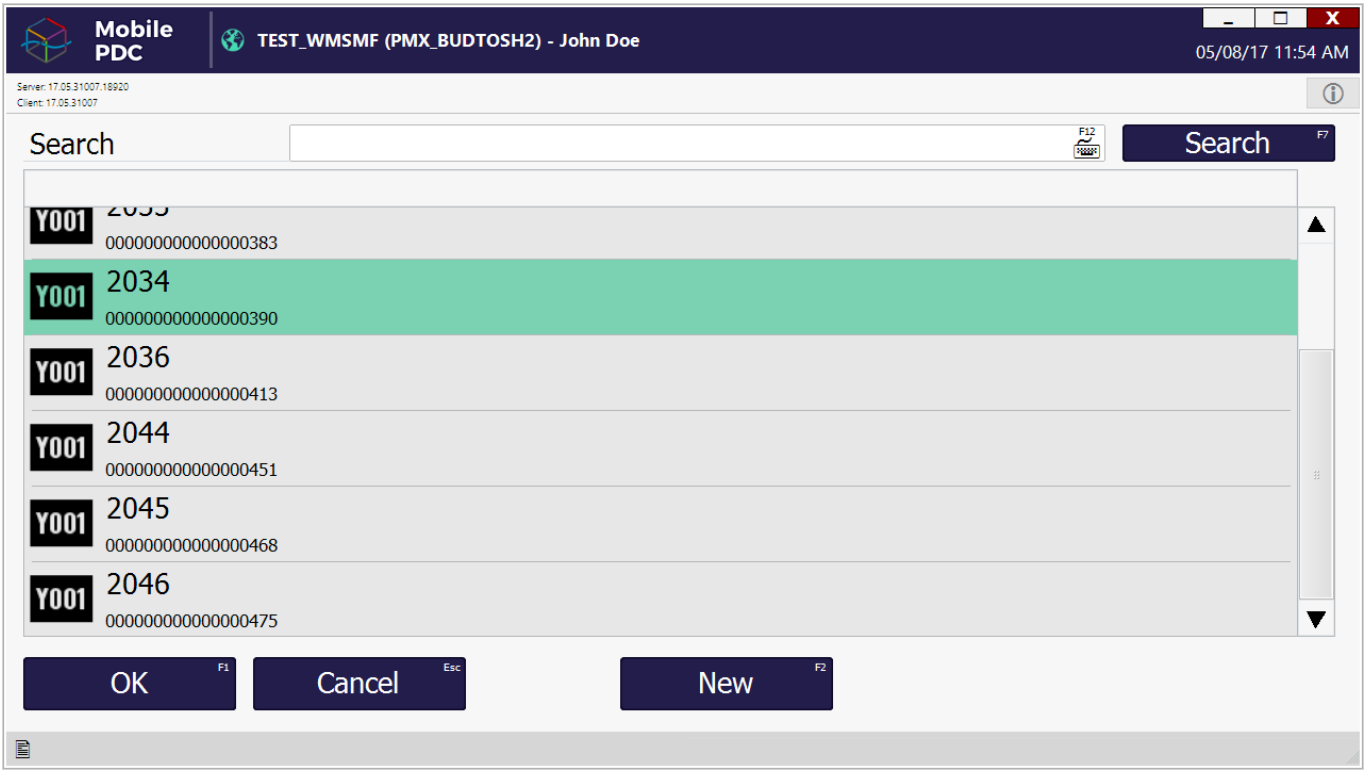
To add the main product/by-product into an existing logistic unit, scan the SSCC or select it from a list after pressing the SSCC field. On the next screen select the SSCC from the list. Only SSCC's stored on the output location of the production line can be scanned or selected. To add the main product/by-product into an SSCC, select the SSCC and press the *'Ok'* button.

It is also possible to add the produced product into a new SSCC. Press the 'New' button. A new SSCC will be added to the list.

The list of SSCC's can be filtered on the Search field. Add the text/numbers to search for then press the 'Search' button. Only the SSCC's containing the entered text/numbers will be listed.

If no SSCC number has been selected, the system will automatically add the main products/by-products onto a new SSCC.

After the product receipt booking has been processed, the main product and the by-product(s) are received to the output location of the production line.



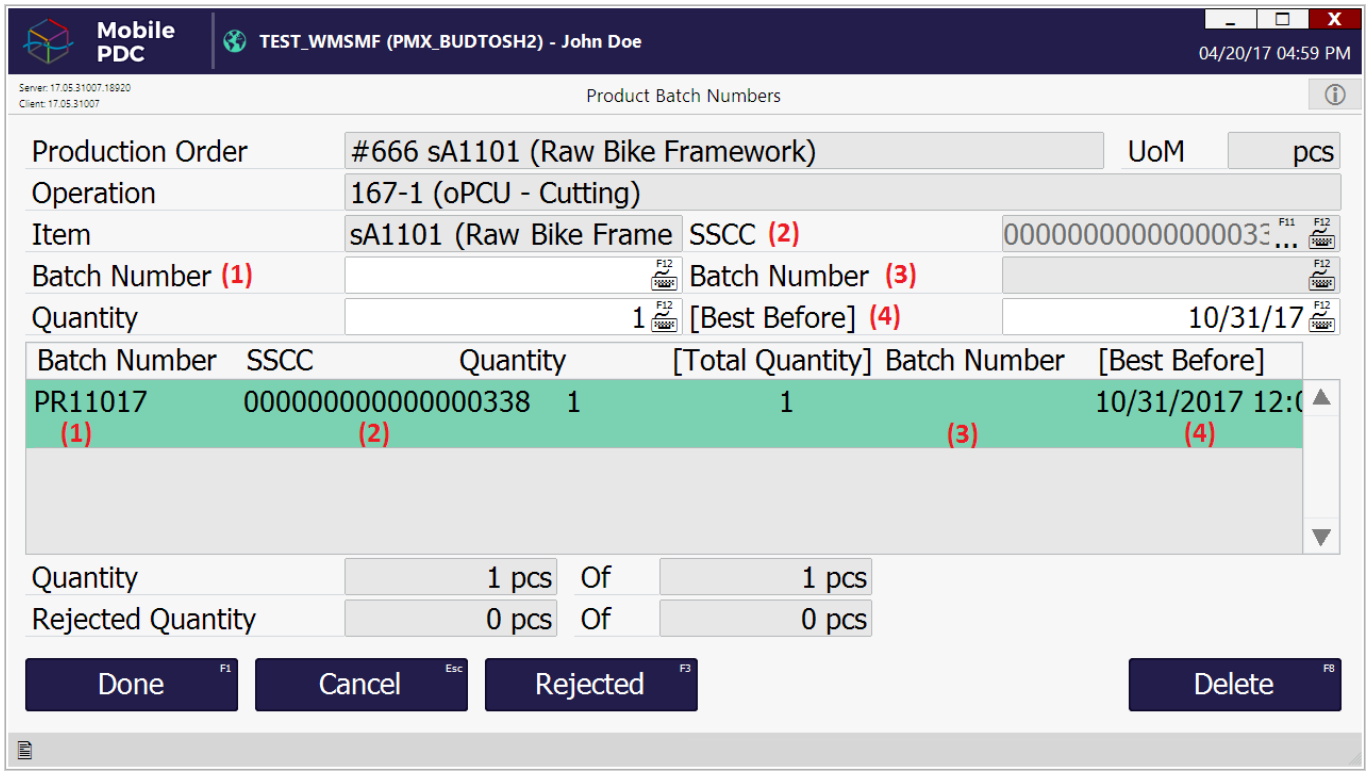
Unfinished product

The produced unfinished product will be received onto the production line from where it can be consumed in the next operation. Unfinished products will not be received onto an SSCC, regardless whether the user defined one or not.

Batch number and best before date

If the main product/by-product is managed by batches and/or has a best before date, press the *'Serial/Batch button'*.

The 'Product Batch Number' screen will open.



1. **Batch number**: The default batch number is the batch number specified on the Start production screen of the Production Manager. The batch number can be modified on this screen regardless of the Batch number production company controller setting.
   Please note: Every product produced during a job has to have the same batch number and best before date.
2. **SSCC number**: The SSCC number of the destination logistic unit. Cannot be modified.
3. **Second batch number**: The default batch number is the batch number specified on the Start production screen of the Production Manager. The batch number can be modified on this screen regardless of the Batch number production company controller setting.
4. **Best before date**: The default date is the best before date set on the Start production screen of the Production Manager. The best before date can be modified on this screen regardless of the Best before for production generator setting.

Serial numbers

If the main product/by-product is managed by SAP serial numbers, press the *'Serial/Batch'* button. The *'Product serial numbers'* screen will open. Add the serial numbers as described in Product Serial numbers.

Please note: Do not select a bin location for the serial numbers.

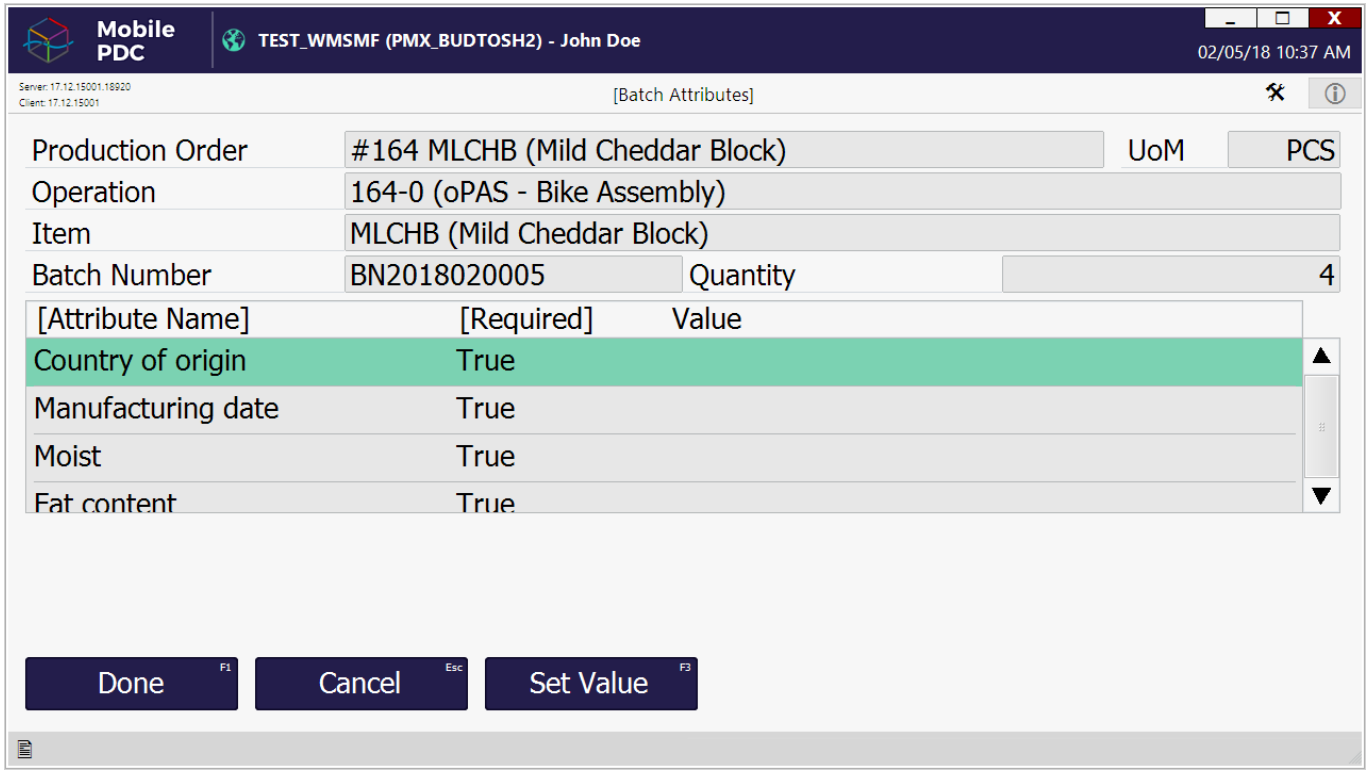
Batch Attributes

If the *Enable batch attributes in PDC* option is enabled on the Thin Client 2 tab of Produmex Manufacturing settings, an additional 'Attributes' button is displayed on the screen.

Press the 'Attributes' button to add the batch attributes of the product.

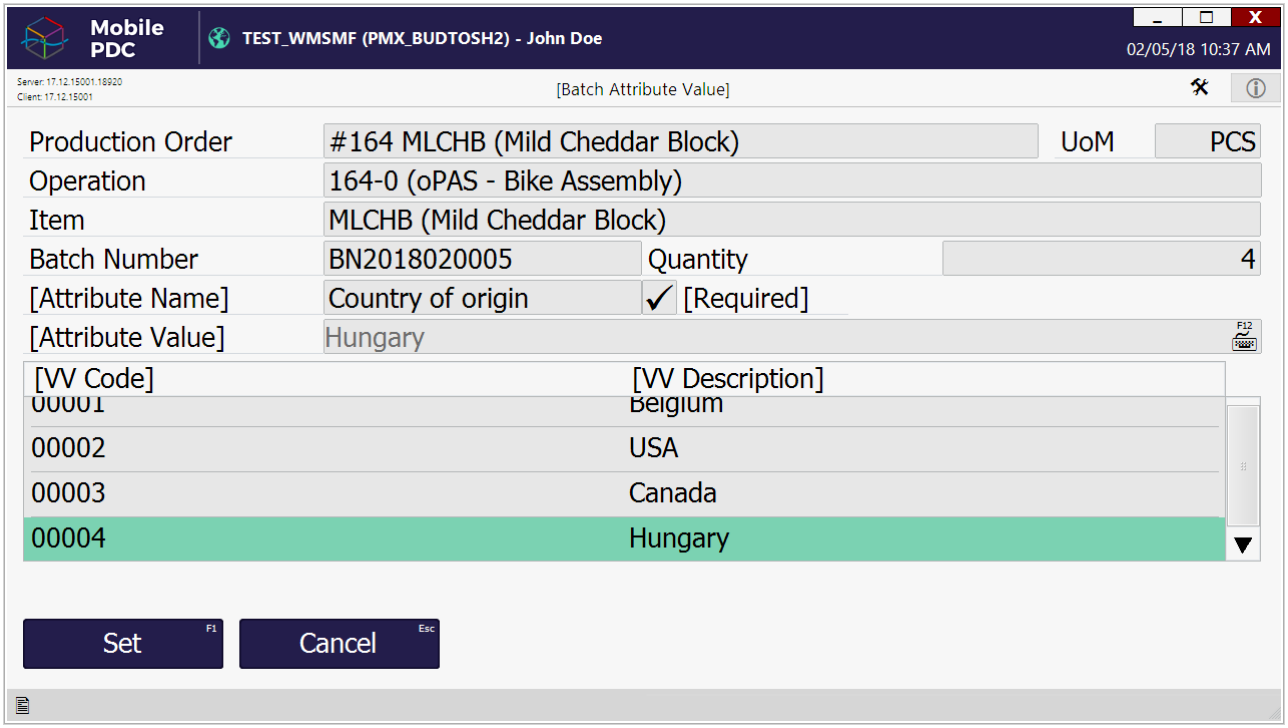
On the next screen every required and optional batch attribute that is defined for the product on the Produmex Attributes tab is listed.

The *Attribute Name* is the name of the batch attribute type. The Required column marks whether the batch attribute is set as required or optional. If a batch attribute is required, the user must set a value in order to proceed. On the value column the current batch attribute value is displayed.

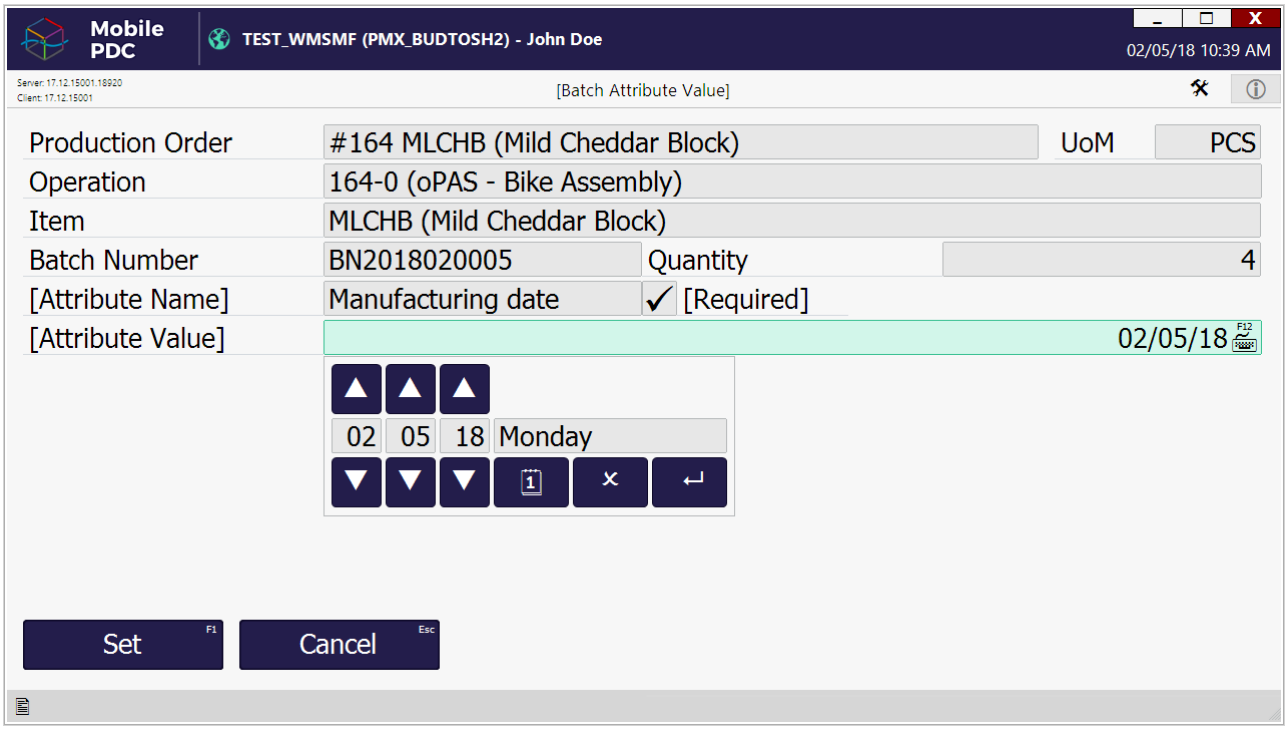


To set a value, select the line of the batch attribute and press the ‘Set value’ button. On the next screen set the value. The method for entering the value varies according to the batch attribute convertor:

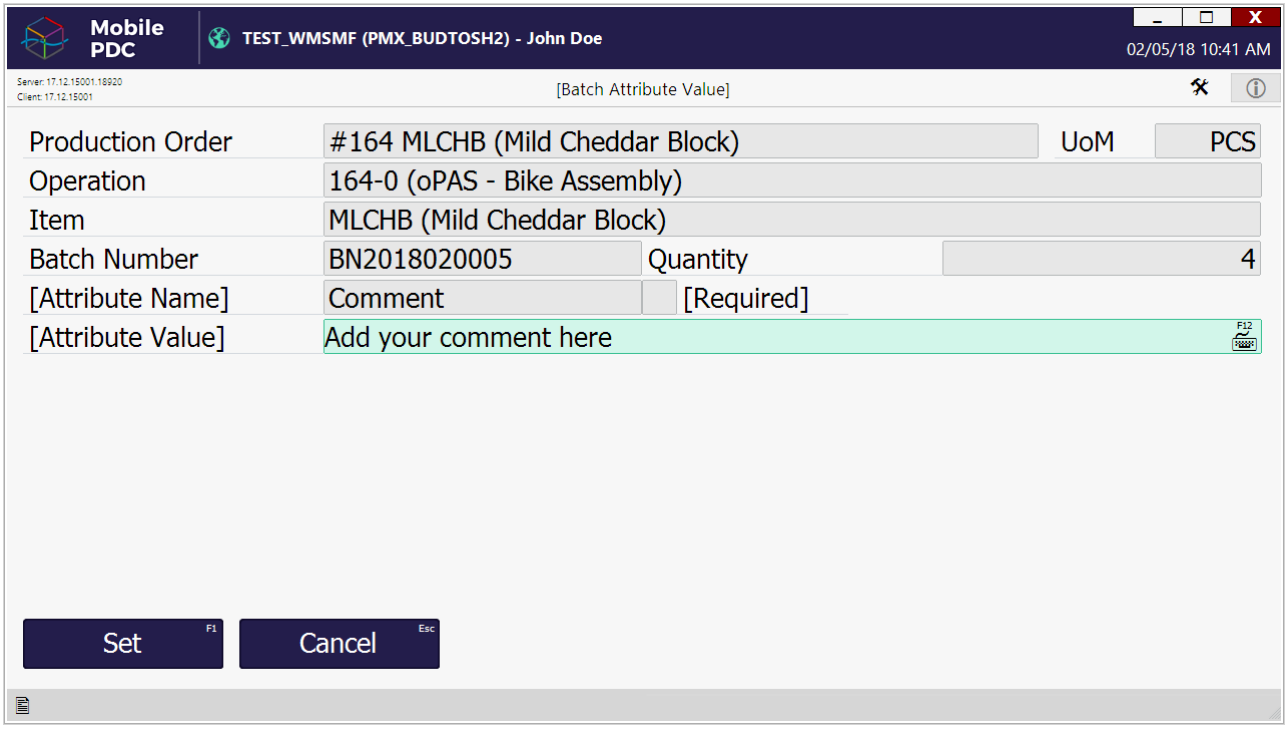
- List: Select the value from the list. Every value that is defined for the batch attribute type on the Batch attribute valid values user table is listed.



- Date: Enter the date in the following format: *mm/dd/yy*. To select the date on a form, press F12 and set the date with the up and down arrows. By default the current date is displayed. Press the icon to set the date back to the current date. Press the icon to close the date selector. Press the icon to set the date.

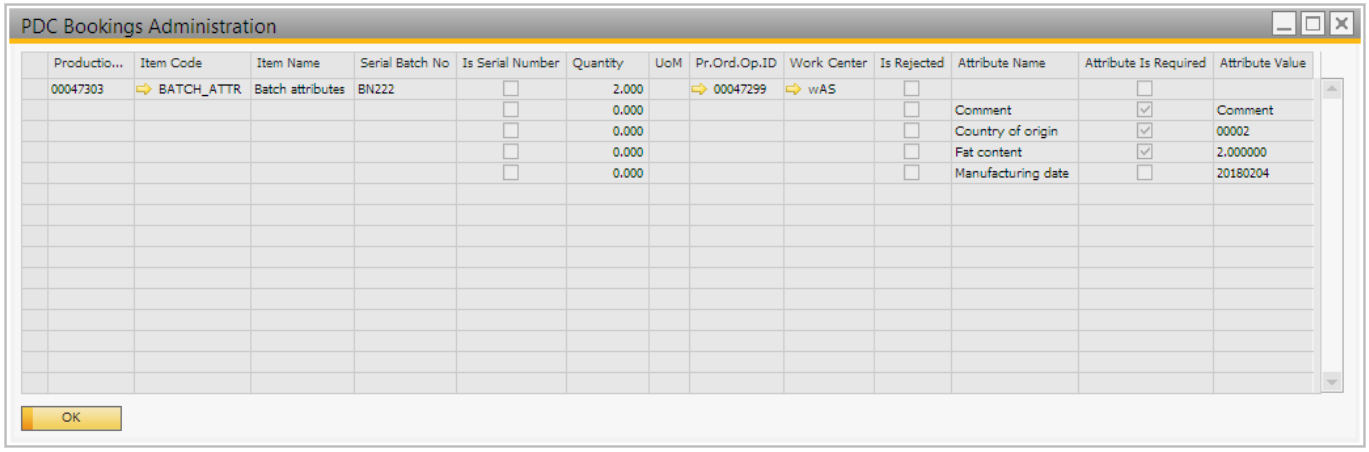


- Int: Enter the value to the *Attribute Value* field. You can add a whole number as the value.
- Double: Enter the value to the *Attribute Value* field. You can add a number with decimals as the value.
- String: Enter the value to the *Attribute Value* field. You can add a sequence of alphanumeric characters as the value.



After the booking is processed, you can see the booked batch attributes on the PDC Bookings Administration form.

Select the line of the booking. On the product grid click on the golden arrow in the *Compl. Qty.* column. On the opening form you can see the batch attribute values.



Modify batch attributes
Batch attributes can be modified after the booking is created. On the Admin screen, press the Modify button and navigate to the Batch Attributes screen.
For more information about the Admin screen please see: Admin

20.3.6.2. Issue Materials

Specify the consumed quantities on the 'Materials' screen. Every material linked to the milestone operation are listed. Add the quantities as described in: 2.2.5. Materials

Materials will be consumed from the input location/lined up location of the production line or from the production line directly therefore no bin locations can be selected.
Stocks to be consumed from a lined up will be sorted based on the consumption algorithm of the lined up location. Other stocks will be sorted by FEFO, then in the order they were moved to the production input line: PMX_ITRI."BestBeforeDate", PMX_INVT."InternalKey".

After the PDCProcessor processed the booking, the material(s) will be issued in SAP Business One with the specified quantities.

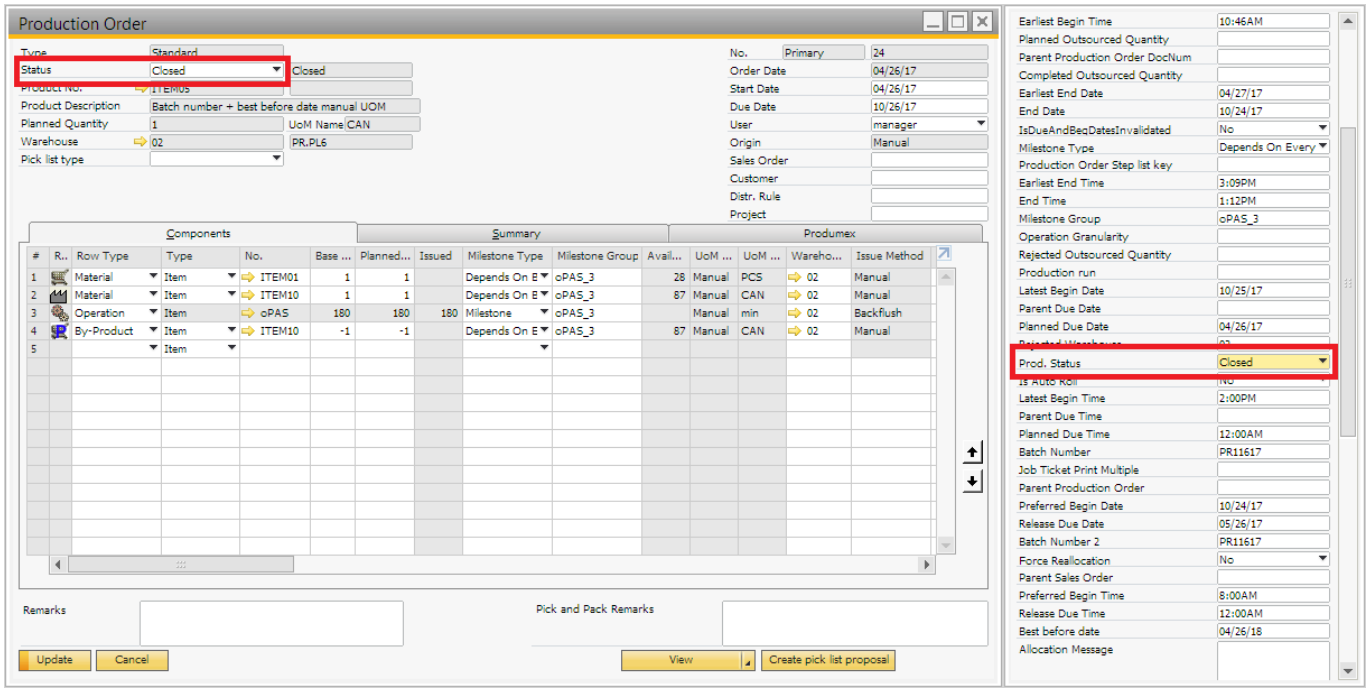
Batch number
Press the 'Serial/Batch' button to identify the batch number. Follow the steps described in: Material Batch Number Picker

Because the materials are issued from the input location/lined up location/production line, no bin locations can be selected and the *'Split'* button is not displayed.

Serial numbers
Press the 'Serial/Batch' button to scan the serial numbers. Follow the steps described in: Material Serial Number Picker

20.3.7. Close production order

After the production has been finished, close the production order. First set the *'Prod.Status'* UDF to *'Closed'* on the production order then change the *'Status'* on the header to *'Closed'*.



20.4.Limitations

- Advanced outsourcing with unfinished products
- Items having a second batch number or a best before date that are not managed by batches are not supported as products or by-products.
- Materials with PMX serial number
- Do not use the *Skip material serial/batch quantities screen* setting

Sales Return Flow

Overview

If products are returned by customers, the sales return process can be initiated on the shop floor with the Sales Return Flow on the Mobile Client.

Important Note:
The Sales Return Flow is designed to handle inventory items.

Currently, the Sales BoM parent item is not managed during the Sales Return Flow and the parent item of the SALES BoMs will not be added to the new document. After the Return document is created, the non-inventory lines will remain open on the Return Request.

The components of the Sales BoM can be returned using a Return Document.

Configuration

1. If a reason must be selected when the item is returned, open the Item Master Data window and go to Produmex tab > Sales tab and enable the *Enter Reason for Sales Return* option.

2. Define the default quality status for the returned item. Open the Organizational Structure and on the Defaults tab define the quality status in the Quality Status Sales Return drop-down menu.

If a different quality status must be defined for a a given item, open the Item Master Data window and go to Produmex tab > Sales tab and enable the *Default Quality Status for Sales Return* option.

3. Define the batch number format and settings on the Batch number generator for sales return controller.

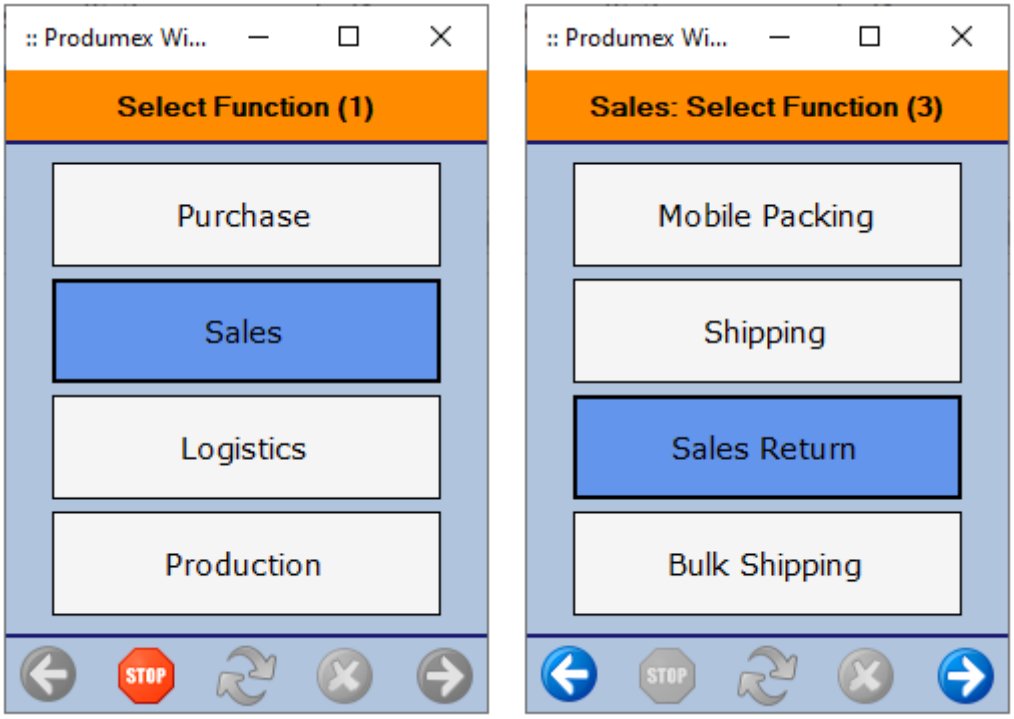
4. If multiple items or batches are not allowed on a returned logistic unit, enable the *Force Mono Lot Pallet?* option on the Sales Return Generator. In this case a new logistic unit must be created for each item during the Sales Return Flow and separate Sales Return documents are created for the different logistic units.

Sales Return Flow steps

- Sales Return Flow
- Select a customer
- Select a task
- Scan a barcode
- Scan a product
- Identify batch number / BBD
- Enter the quantity
- Add more products
- Scan destination location / SSCC
- Returned item is added
- Add more products

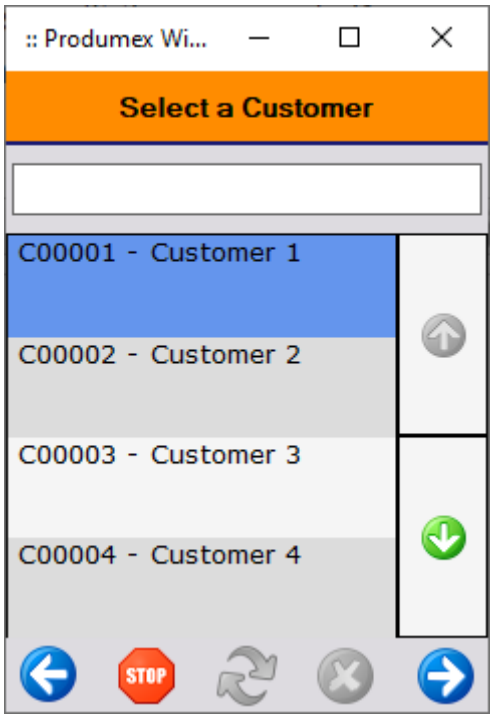
1. Start the flow

On the Mobile Client select Sales > Sales Return.



2. Select a customer

Select the customer. On the screen every Business Partner with *Customer* type is listed.



3. Select a task

Select a task from the following options:

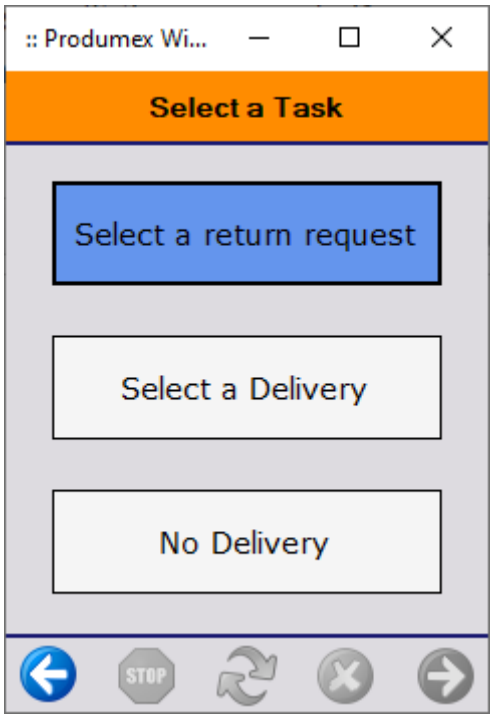
- Select a return request: Tap the `Select a return request` button to receive returned items based on a Return Request. On the next screen select the return request. Every open and

approved return request for the selected customer is listed on the screen. Produmex WMS supports standalone Return Requests and Return Requests created based on Delivery documents. Return Requests based on A/R Invoices are not supported. However, there are workarounds for this (see below).

- Select a delivery: Tap the `Select a Delivery` button to receive returned items based on an open delivery. On the next screen select the delivery. Every open delivery for the selected customer is listed.
- No delivery: Tap the `No Delivery` button to receive the returned items without a delivery and continue with step 4. Scan a barcode.

There are options to return goods linked to an A/R invoice:

- Book a sales return on the Mobile Client with the No delivery task. Returned stocks are received, but the sales return document are not linked to the A/R invoice.
- Book a credit note/credit memo document in SAP Business One. It is not supported by Produmex WMS.
- Return-Drafts based on a Return Request without a linked document will also work as a workaround.
- When using Return Request for an A/R invoice and conducting the return with WMS on the Mobile Client, the return Request should not be linked to the A/R invoice, instead a standalone Return Request should be created.



4. Scan a barcode

Scan the barcode of the returned item. The delivery information of the item is retrieved from the

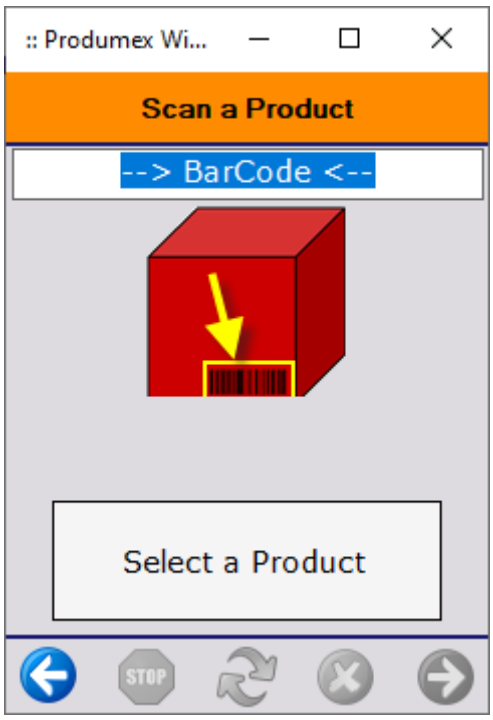
barcode.

If there is no logistic label, tap the `No label on logistic unit` button.

5. Scan a product

Scan the item or tap the `Select a product` button and select it from the list.

- If the logistic label contains only one item, the system automatically proceeds with the item and skips this screen.
- If the return is executed based on a delivery, only items from the delivery document can be scanned or selected.



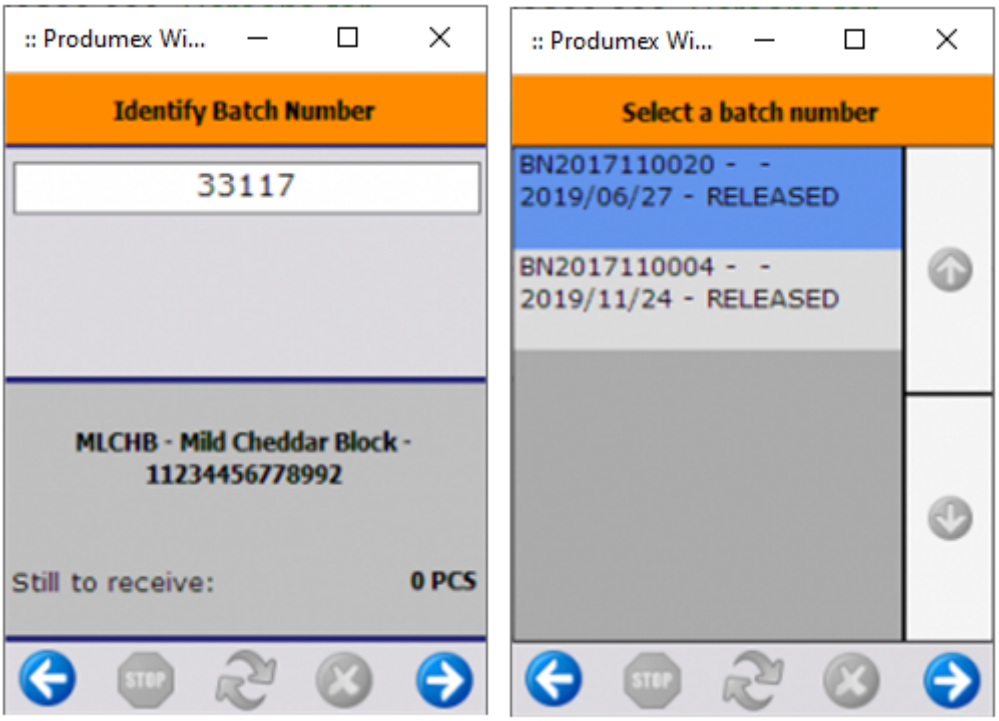
6. Identify batch number / best before date

If the item is managed by batch numbers and/or has a best before date and this information is not included in the barcode, specify the batch attributes and the best before date as well. For more information please see: Screens for entering additional information.

The default batch number is generated based on the settings of the Batch number generator for sales return.

When receiving the returned items based on a Delivery or a Return Request that is linked to the delivery (or based on an invoice linked to a delivery), only batch numbers linked to the delivery document can be returned.

Select the batch number / best before date from the list. If there is only one batch linked to the Delivery document, the system automatically selects that batch number and skips this screen.



7. Enter the quantity

Add the number of the returned items. For more information about adding quantity see Screens for entering additional information.

When receiving returned items based on a delivery, the number of the returned products cannot exceed the open quantity on the delivery document.

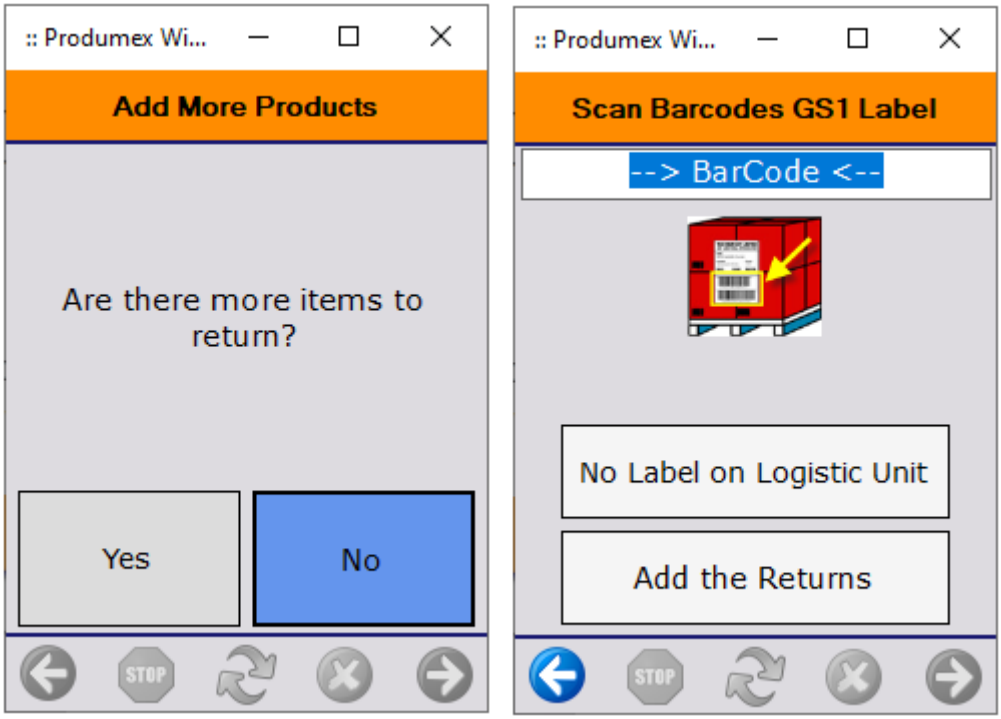
If the Enter reason for sales return option is enabled on the Produmex Sales tab of the Item Master data of the returned item,the system displays the Enter Reason screen. Select a reason from the list. Every reason that can be used for sales return is listed.

8. Add more products

Specify whether there are additional items to return.

If you tap `Yes`, the system goes to the Scan barcodes GS1 label screen. An additional `Add the Returns` button is displayed on the screen. Tap the button to receive the returned item.

With the `No` button you can finish the return process. If the Force mono lot pallet? option is enabled on the Sales return generator, this screen is automatically skipped because different items/batches must be received onto separate logistic units.



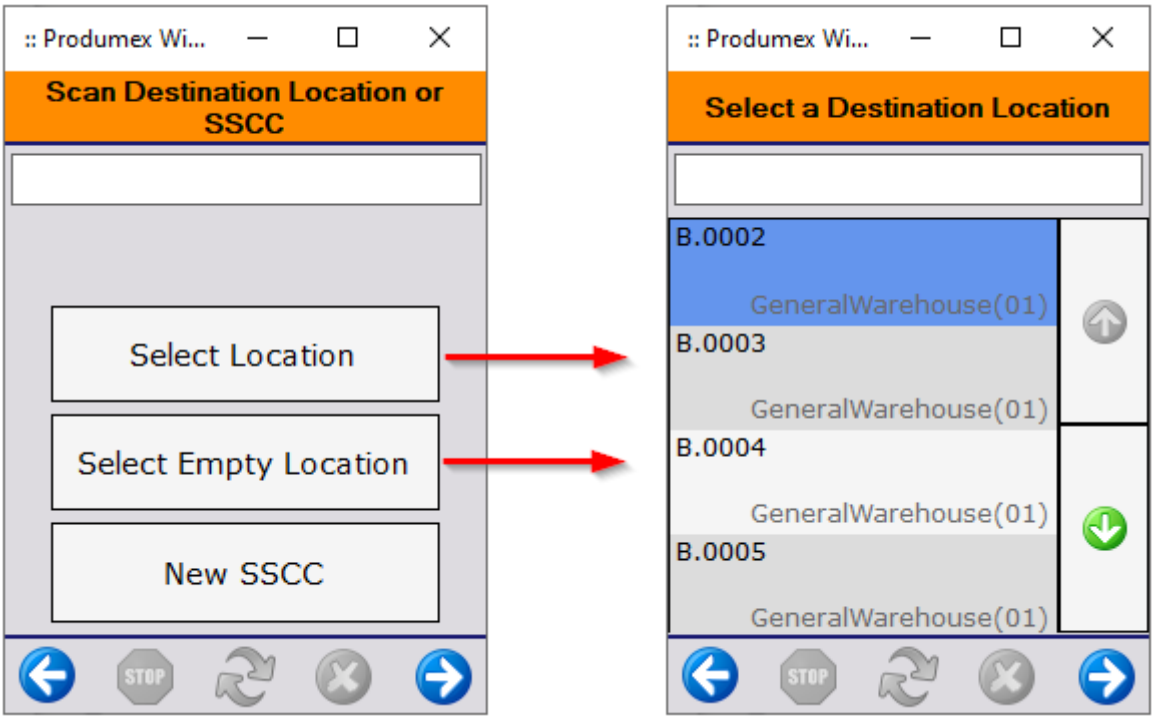
9. Scan destination location / SSCC

If there is no more item, the system displays the Scan Destination Location or SSCC screen.

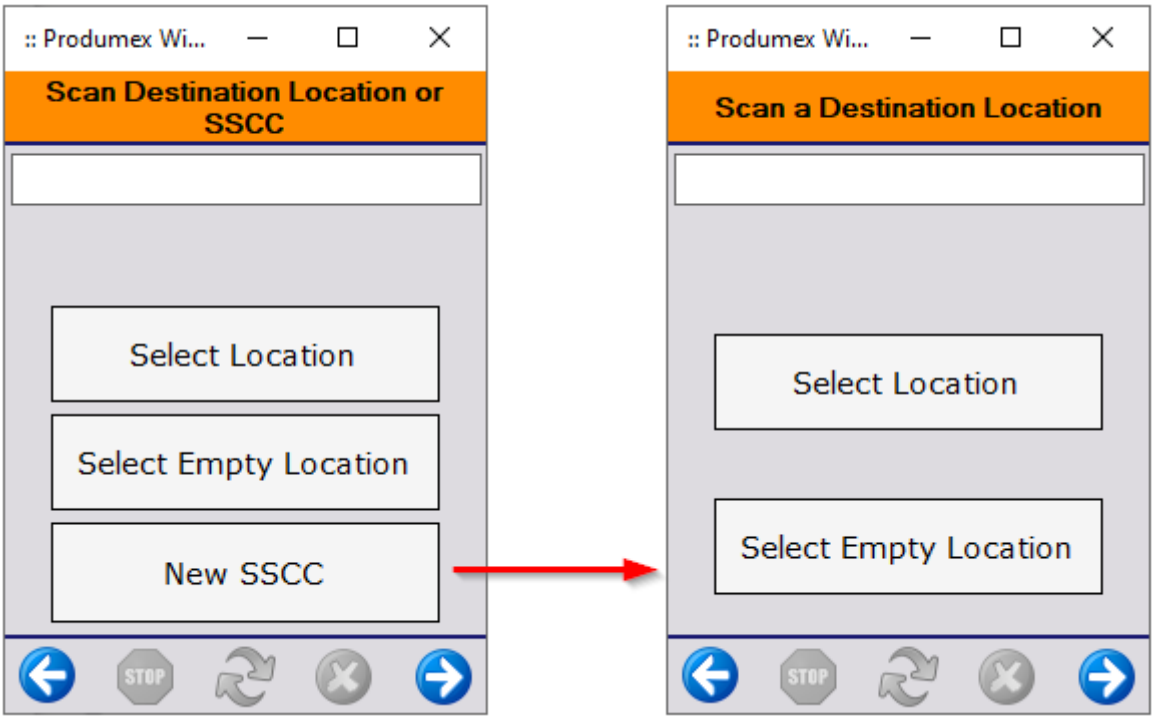
To add the returned items onto an existing logistic unit, scan the SSCC of that logistic unit. If the scanned SSCC is not in stock, identify the destination location on the next screen.

To add the returned items without a logistic unit, scan the destination location or tap the `Select location` or the `Select empty location` button and select it from a list.

- `Select location` button: Every active location is listed from the warehouses defined for the scanner.
- `Select empty location` button: The system lists only the empty locations of the warehouse(s).



To create a new logistic unit, tap the New SSCC button. On the next screen scan the destination location or tap either the `Select location` or the `Select empty location` button and select it from a list.



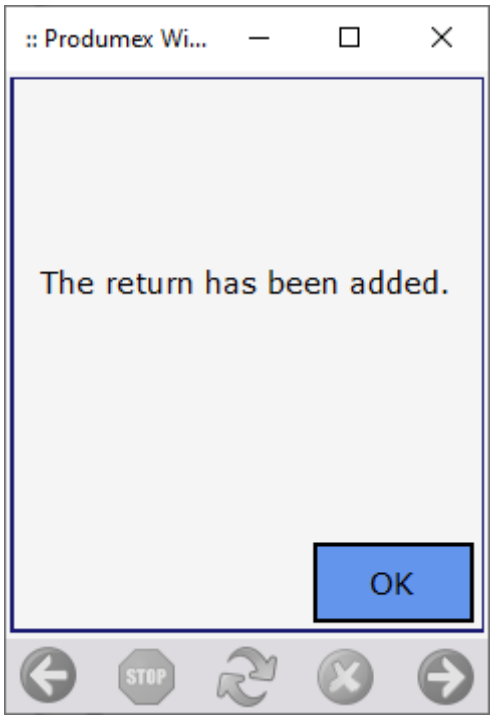
10. Returned item is added

The returned items are added to the selected location. Tap OK and the system goes back to the Select a customer screen.

A Sales Return document is created in SAP Business One.

- If the return has been created based on a Delivery, the corresponding lines of the Delivery document are closed.
- If the return has been created based on a Return Request, the corresponding lines of the Return Request document are closed.

If a new SSCC has been created, the *Warehouse: a new LU has been created (700)* print event is triggered after the return had been added.



Routes Guide

Overview

Produmex WMS offers a specific Routes module that allows for grouping multiple deliveries into routes and defining the route planning.

Routes can be created from templates (route master data) or ad-hoc. The route planning windows can be customized on the route controller.

Prerequisites

An API key is needed to run the Google maps functionality. Each customer needs to get his own API key to be entered in the Google API key field.

The Google API key must be created here and its status must be set to active. For more information on how to generate a Google API key click here.

Configuration

1. Go to Organizational Structure > Extension Parameters > Route Controller and define the settings.

2. Go to Organizational Structure > Config tab and provide the Google API key.

1. Create route from a template

1.1. Create route template(s)

First define the master data (template) for a specific delivery route. Open the Route template form via: Produmex>Routes>Route template.

Specify the code and the name of the route.

You can define the day the route is carried out by selecting a weekday from the dropdown menu. If the route is not bound to a specific day of the week, select the ‘No Weekday’ option. The weekday is for information only.

Select the loading dock from which the route departs from the dropdown menu. Every dock that can be used for loading can be selected.

It is possible to cancel a route template by selecting ‘Y’ as Canceled. Canceled route templates cannot be selected when creating a route from a template.

Add clients to the route template.
Click on the ‘Add client’ button to add a new line. Enter the code of the customer to the ‘Card code’ field. Other fields on the line will automatically populated. To change the ship to address, select the Ship to Code from the dropdown menu.

It is possible to modify the route sequence. Select a customer line then move it with the up and down arrows.

To delete a line, select the line then click on the ‘Delete client’ button.

Click on the ‘Add’ button to add the route template.

1.2. Create route

To create a route for specific orders on a specific date, open the Route Planning-Selection Criteria window via: Produmex>Routes>Route Details.

On this form the following can be selected:

- date when the route takes place
- the applicable route template
- the warehouse from which the route will be executed

Only warehouses managed by Produmex can be selected. It is possible to select a different warehouse than the warehouse of the loading dock on the template. It is also possible to select a date that is not on the weekday of the template.

Click OK to create the route.

If there is no route matching the selected criteria, the system will create one. The 'Route Detail' window will open.

If there is an existing route matching the selected criteria, a system message will open. Click on the 'Yes' button to open the existing route or click on the 'No' button to create a new route. The new route will overwrite the existing route.

Open orders that match the following criteria will be added to the new route:

- the delivery date is identical with the date of the route or has passed by on the date of the route
- the customer and the shipping address is assigned to the route
- there is no pick list/pick list proposal for the sales order
- the sales order is assigned to the selected route

When the route is created, a pick list proposal will be generated for each sales order on the route.

The Route Detail window will open up.

The following information is displayed on the header:

- *Route date*: The selected route date.
- *Template*: The code of the selected template.
- *Description*: The route name. The route name can be adjusted.
- *Number*: The route number.
- *Dock*: The loading dock. The default loading dock is the loading dock selected on the template. If the route was generated for a different warehouse, the default dock is the first dock from the loading docks of the warehouse sorted by: structure level/alphabet. It is possible to modify the loading dock.
  Select the dock from the dropdown menu. Every loading dock from the warehouse of the route is listed.
- *Status*: The route status. Possible values:
  - Not released: The route can be modified.
  - Released: The route is released for shipping therefore cannot be modified.
  - Closed: The route is closed.
- Route for *'Proof of Delivery'*?: This checkbox indicates whether the route is for proof of delivery

or not. If the *Routes are by default POD? (Y/N)* option is enabled on the Route controller, this checkbox is automatically ticked.

Each pick list proposal created for the route has a dedicated line on the grid. On the grid the following information is displayed:

- *Customer code and name*: The code and name of the customer.
- *Address*: The ship to address.
- *Full Stock*: The inventory status of the items that are on the pick list or pick list proposal linked to the route. Possible values:
  - N - None of the items on the pick list proposal are in stock.
  - P - Some of the items on the pick list proposal are in stock.
  - A - All items on the pick list proposal are in stock.
- *Stock compliant shelf life*: The inventory status of the items using the shelf life that are on the pick list or pick list proposal.
  - N - None of the items on the pick list proposal checking the shelf life are in stock
  - P - Some of the items on the pick list proposal checking the shelf life are in stock
  - A - All items on the pick list proposal checking the shelf life are in stock.

It is possible to delete or add customers to the route.

To add an extra customer to the route, press the ‘Add client’ button then select the customer from the list. The customer will only be added to the route if (s)he has at least one open sales order without a pick list or pick list proposal. After the customer is added, pick list proposal(s) will be generated for the open sales order. The generated pick list proposal(s) will be assigned to the route.

To remove a pick list proposal from the route, select its line then press the ‘Delete client’ button. The pick list proposal will be closed and will be removed from the route.

The route sequence can be modified by selecting a line and moving it with the up and down arrows.

To generate pick lists from the sales orders assigned to the route click on the ‘Gen.pick list’ button.

> Customer collect pick lists will not be added to the route.

1.3. Route planning

Routes can be changed and reorganized until their status is ‘Not Released’. This possibility is provided by the *Route planning* and the *Routes map* function.

1.3.1. Routes map

To see the route on the map and to get the driving directions, open the Routes Map screen via: Produmex > Routes > Routes map. Produmex uses Google Maps to display the roadmap and to get the driving directions.

Internet Explorer is not supported as a default browser on SAP hosting computer.

On the left side of the window the map is shown. Next to the map open routes that have at least one pick list (proposal) are listed. Tick the checkbox next to the route to display it on the map. Multiple routes can be displayed.

To see the suggested driving directions, select the route from the dropdown list next to 'Select driving directions'. A route can only be selected if its checkbox next to the map is checked. The Total distance and the suggested driving directions will be listed on the screen.

1.3.2. Route planning

To overview and modify the route, open the Route Planning screen via: Produmex > Route > Route planning.

The Route planning screen consists of four sections:

- Open routes
- Pick lists not on a route
- Two sections for route details (Section 1 and Section 2)

On the Open routes section routes with the status 'Not released' are listed. Click on the 'Refresh' button to refresh the section.

- *Nr*: The route number.
- *Description*: The route description.
- *Route date*: The route date.
- *Log.units*: Number of the logistic units packed for the route.

On the Pick lists not on a route section open pick lists and pick list proposals that are not assigned to a route and are not customer collect are listed. Click on the 'Refresh' button to refresh the section.

- *Type*: The document type. Possible values: 'Pick list' or 'Pick list proposal'.
- *Nr*: The number of the document.
- *Shipping ID*: The shipping ID of the document.
- *Card Code & Card Name*: The code and name of the customer.
- The Shipping To address:
    - *Street*
    - *Zip code*
    - *City*
    - *Country*
- *Pick/Pack remarks*: Remark for the picking and packing.
- *Log.units*: The number of the logistic units packed for the pick list.
- *Status*: The status of the pick list. This field is empty when the base document is a pick list proposal.

To see and modify the pick list and pick list proposals assigned to the route, open the route.

Select the route then click on the ‘>1’ button next to the routes section to open it on Section 1, or click on the ‘>2’ button to open it on Section 2.

When a route is opened in a section, pick list and pick list proposals assigned to the route are listed on the grid.

It is possible to change the route sequence, add and delete pick lists and pick list proposals or move them to another route.

To delete a pick list (proposal) select its line and click on the ‘-‘ button (1). The pick list removed from the route will be listed on the *Pick lists not on a route* section.

To add a pick list (proposal) select it from the list on Pick lists not on a route section and press the ‘>1’ or ‘>2’ button. The pick list will be added to the bottom of the list. Only pick lists (proposals) assigned to the same warehouse as the route can be added.

Example: In the example we added an extra pick list to the route. If we now check the route in the routes map, we can see that the route can be optimized by changing the route sequence.

To change the sequence, select a line and move it with the ‘to the top’(2), ‘up’(3), ‘down’(4) and ‘to the bottom’(5) arrows.

To move the pick list (proposal) to the other opened route, press the ‘^’ (6) or the ‘ˇ’ (7) button. The ‘^’ (6) button will move the pick list (proposal) selected from the route in Section 2 to the route opened in Section 1. The ‘ˇ’ (7) button will move the pick list (proposal) selected from the route in Section 1 to the route opened in Section 2. The pick list will be added to the bottom of the list.

It is also possible to drag and drop the pick list (proposal) from one route to another. Simply select the pick list (proposal) in one section the drag it to the other section. The route sequence can also be modified with the drag and drop function.

Example: In the example we moved the pick list to the second line in order to optimize the route.

To enlarge a section, press the ‘Maximize’ button of the section.
To refresh the section, press the ‘Refresh’ button of the section.

When the route is linked to a container, an extra control panel is displayed on the screen. For more information please see: Container management - Route

2. Ad hoc route creation

Routes can also be created on the fly. Open the Route Planning screen via: Produmex>Route>Route planning.

Click on the ‘New route’ button to create a new route. The ‘Create new route’ window will open up.

In order to create the route, define the following:

- Add the description of the route to the ‘Description’ field.
- Select the loading dock from the dropdown menu.
- Select the route date on the calendar.
- Indicate whether the route is for proof of delivery or not. If the *Routes are by default POD? (Y/N)* option is enabled on the Route controller, this checkbox is automatically ticked.

Press the ‘Ok’ button to create the route.

The route will be added to the list of Open routes. Open the route in a section then add pick lists (proposals) as described in *22.1.3.1. Route planning*

> Only pick lists (proposals) assigned to the same warehouse as the loading dock of the route can be added.

3. Release the route

If a route is ready for shipping, release it. Go the *Route planning* window. Select the route from the list then click on the ‘Release route’ button. A system message will open up. Click on the ‘Yes’ button to release the route.

It is possible to start picking for the route before it was released, but the route can only be shipped if it’s released. For more information about picking for a route please see: Ad hoc Picking – Route

After the route was released and the picking is finished, the route can be shipped.

Checks Flow

Overview

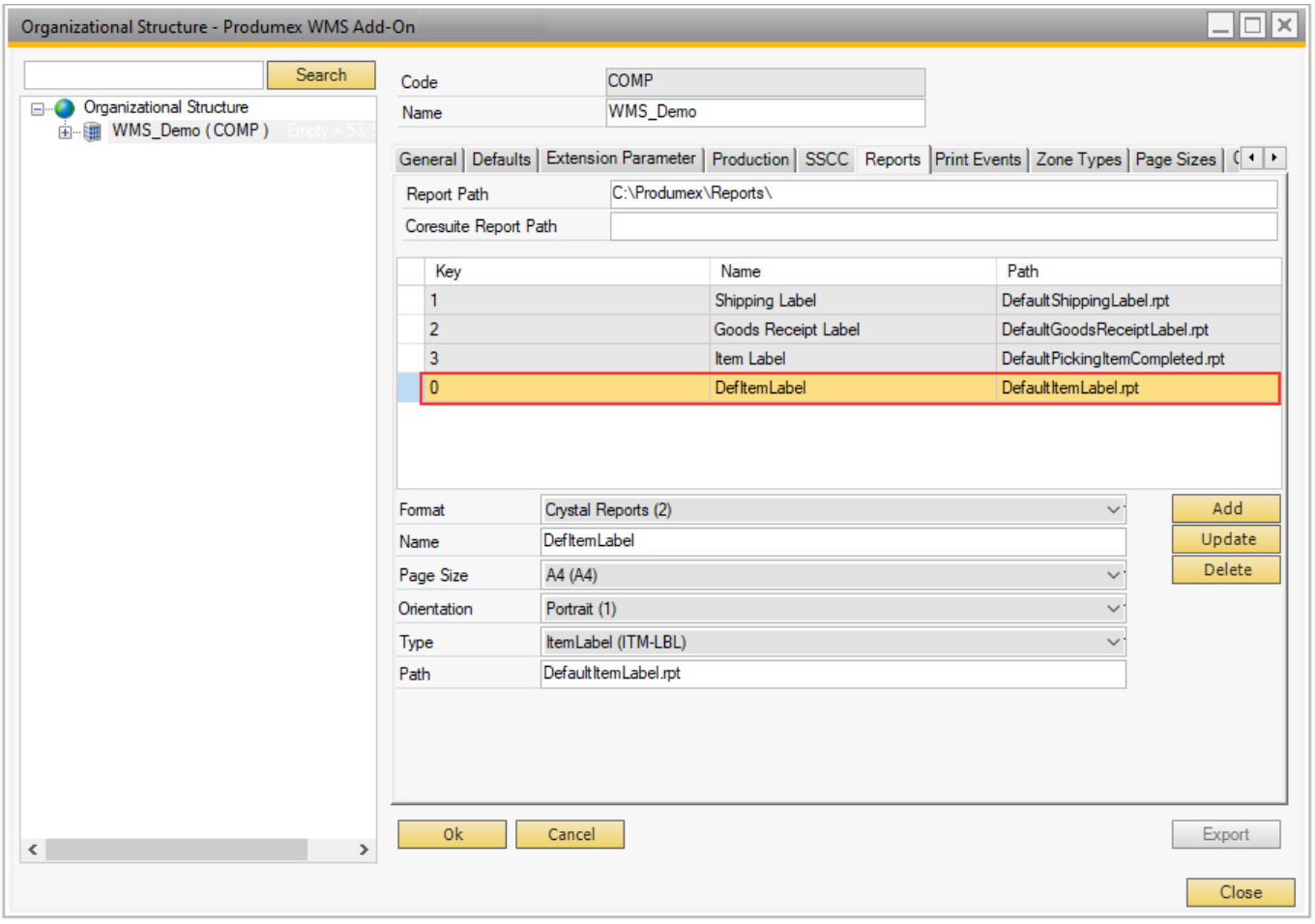
With the Checks Flow it is possible to see inventory information on the Mobile Client. With the flow you can check the stock on a location, on an SSCC and you can also check the stock for an item.

Configuration

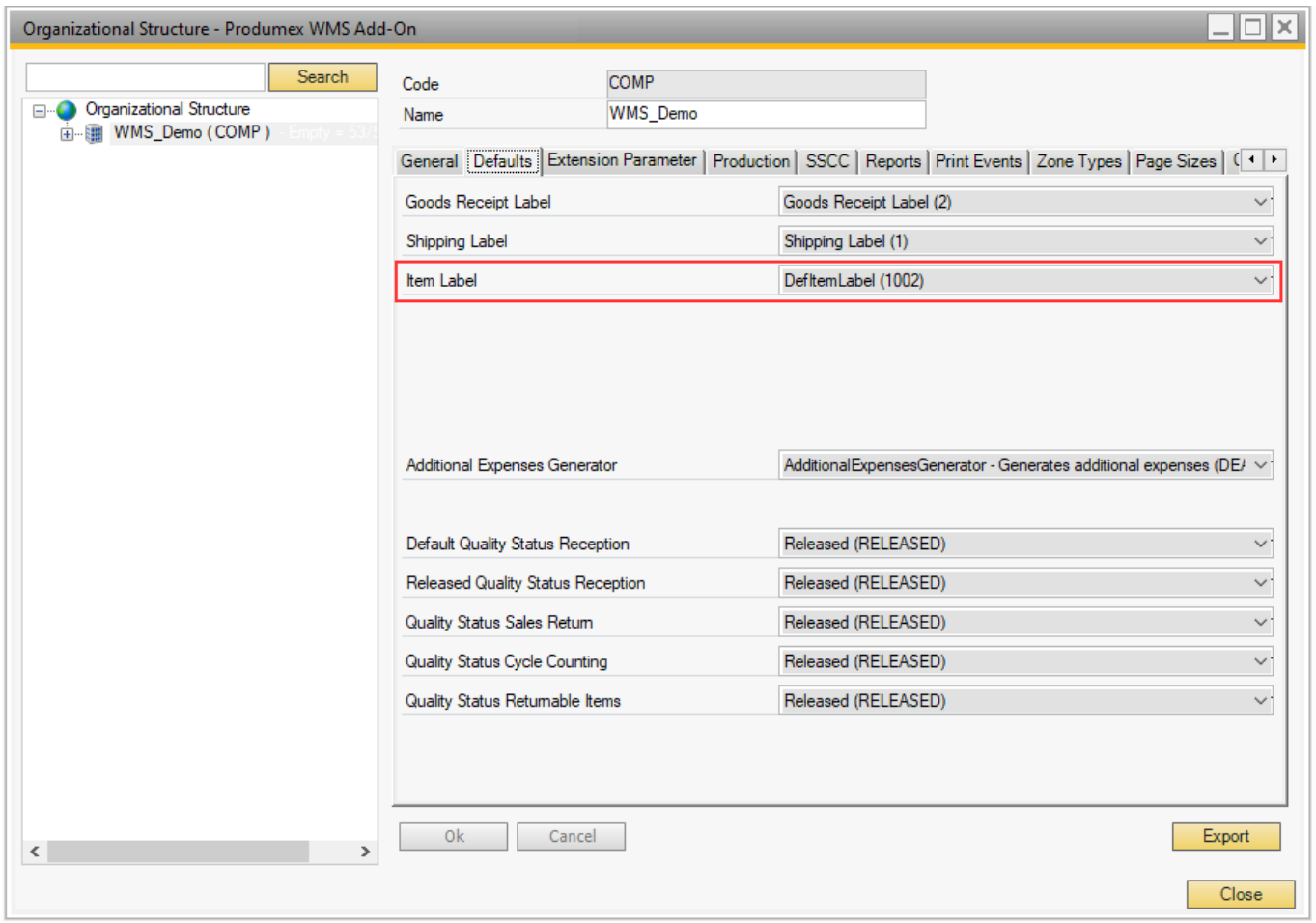
Item label printing - Print Item Label button:

1. Set the Item Label report on the Reports tab of the Organizational Structure.

- Report type: *ItemLabel (ITM_LBL)*
- Default report: DefaultItemLabel.rpt



2. Set your report as the default item label report on the Defaults tab of the Organizational Structure.



Logictic label printing - Print SSCC Label button:

1. Set the Logistic label report on the Reports tab of the Organizational Structure.
   - Default report: DefaultLogisticsLabel.rpt
2. Set the *700 - WHS: created LU* print event on the Print Events tab of the Organizational Structure.
   - Standard filter: GeneratedLUID - PRFLUIDG

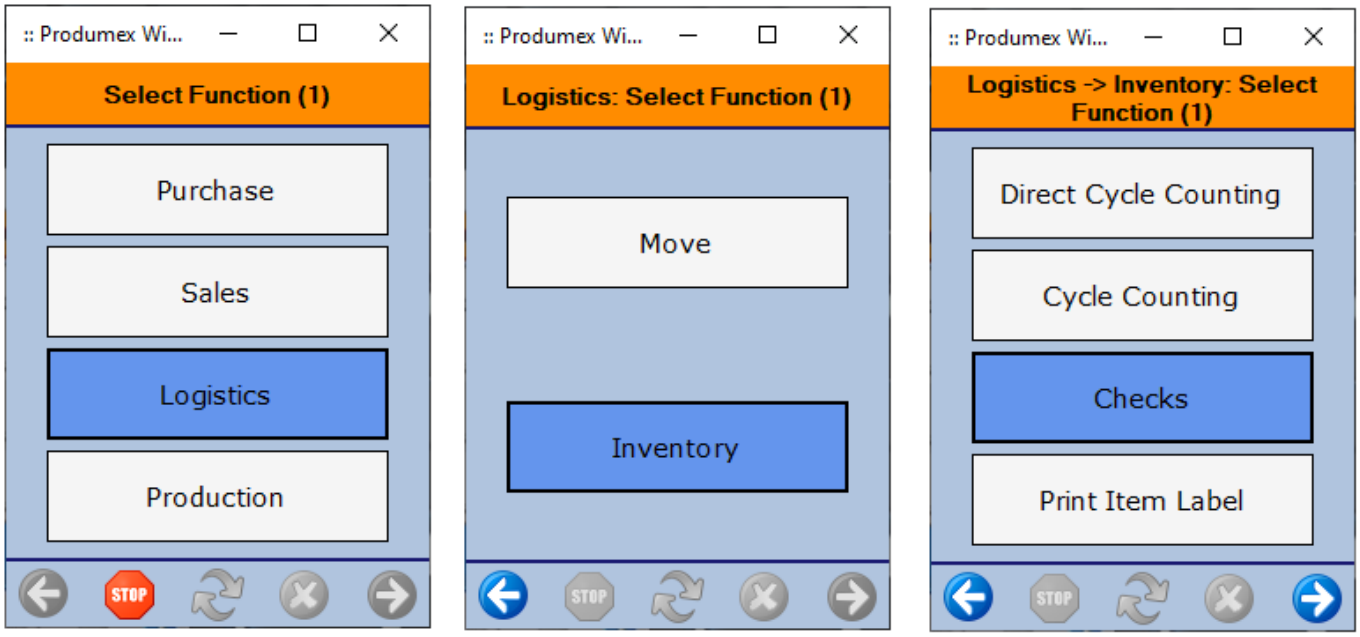
Workflow

- Start the flow
- Select a task
- Check location
- Check SSCC
- Check item
- Show all stock
- Filter stock
- Show global information

Checks Flow steps

1. Start the flow

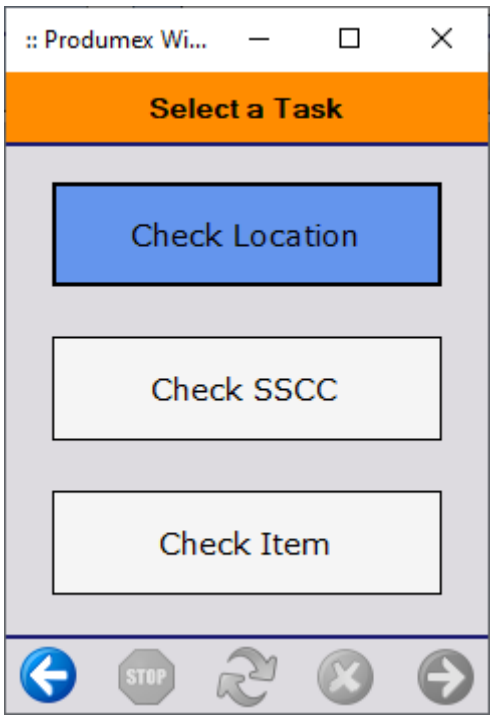
Start the flow on the Mobile Client: Logistics > Inventory > Checks.



2. Select a task

Select one of the following tasks:

1. Tap the `Check Location` button to see the stock on a location.
2. Tap the `Check SSCC` button to see the stock on a SSCC.
3. Tap the `Check Item` button to see the stock for an item.



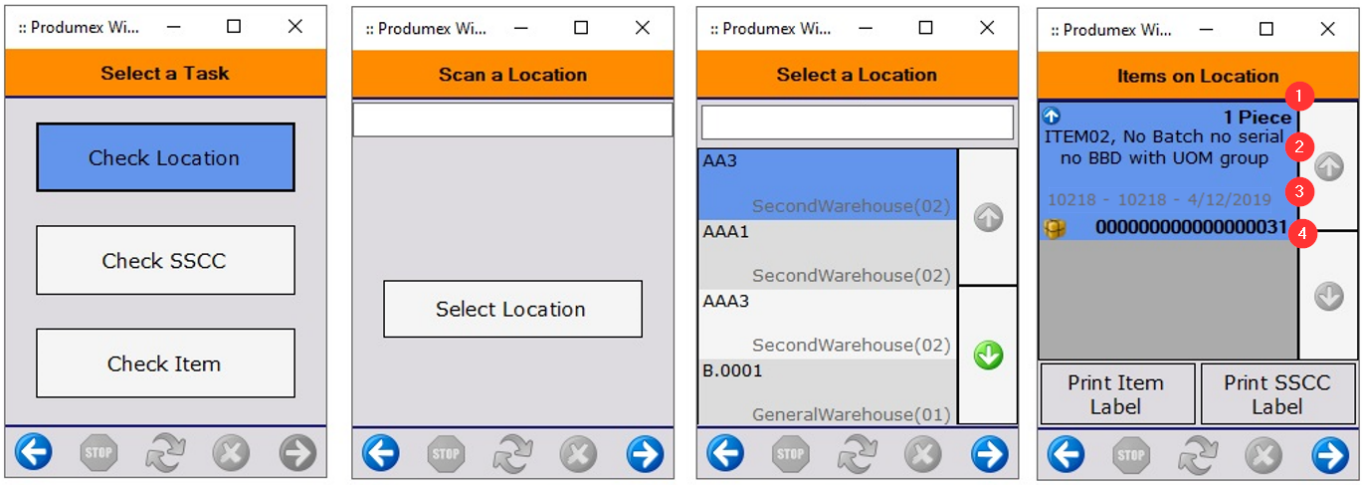
3. Task: Check location

Scan or select a location. Every active location from the warehouse(s) assigned to the Mobile Client on the Organizational Structure can be scanned or selected.

Note: Logistic carriers are not included in the list.

On the Items on Location screen the system lists the current stock on the location with the following information:

1. Quantity on stock: If the item is a catch weight item, the quantity/weight on stock is displayed.
2. Item code, description
3. Batch number, second batch number, Best Before Date
4. SSCC number



Tap the left arrow button to go back to the Scan a Location screen.

Tap the right arrow button to go back to the Select a Task screen.

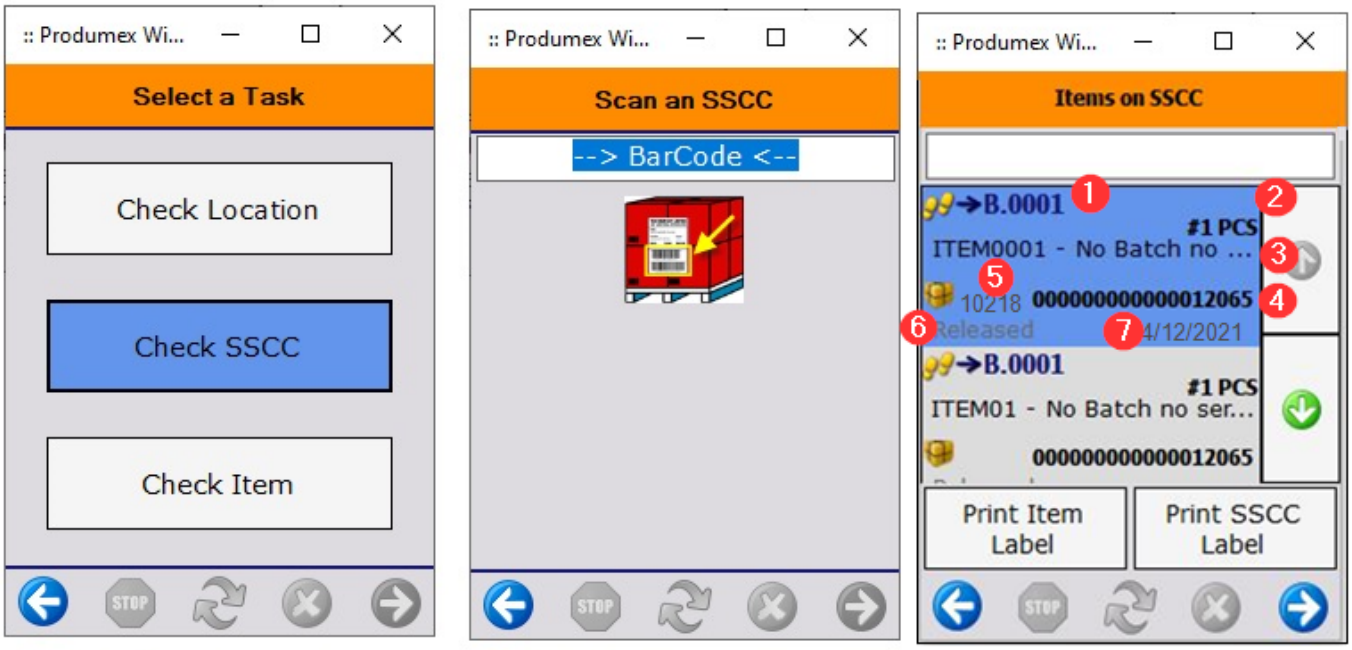
4. Task: Check SSCC

1. To see the current stock on a given logistic unit, tap the `Check SSCC` button.

2. Scan the SSCC number.

On the Items on SSCC screen the system lists the current stock on the scanned SSCC with the following information:

1. Location code where the logistic unit is stored
2. Quantity on the logistic unit: If the item is a catch weight item, the quantity/weight on the logistic unit is displayed.
3. Item code - description - barcode
4. SSCC number
5. Batch number - second batch number
6. Quality status
7. Best Before Date



Tap the left arrow button to go back to the Scan an SSCC screen.

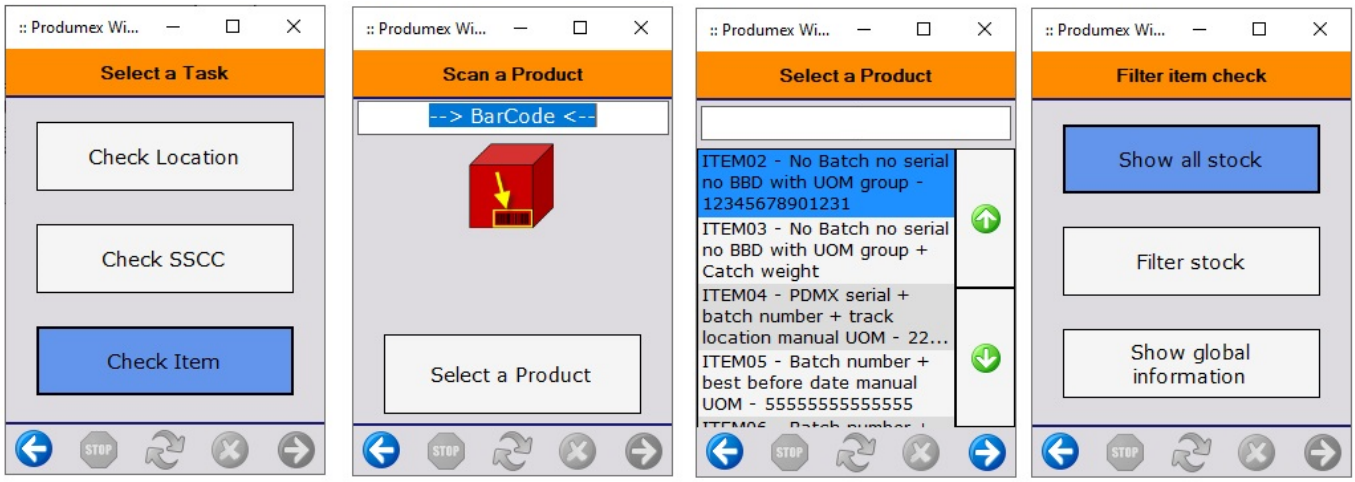
Tap the right arrow button to go back to the Select a Task screen.

5. Task: Check item

1. Scan the product or tap the `Select a Product` button and select the product from the displayed list. Every inventory item can be scanned or selected.

2. Select a filter.

- Show all stock:
  You can check the current stock of the item in every warehouse that is assigned to the Mobile Client on the Organizational Structure.
- Filter stock:
  You can check the current stock for selected batch(es), best before date(s) or serial number only in the warehouses that are assigned to the Mobile Client on the Organizational Structure.
- Show global information:
  You can check the general data about the current stock of the item in a selected warehouse.

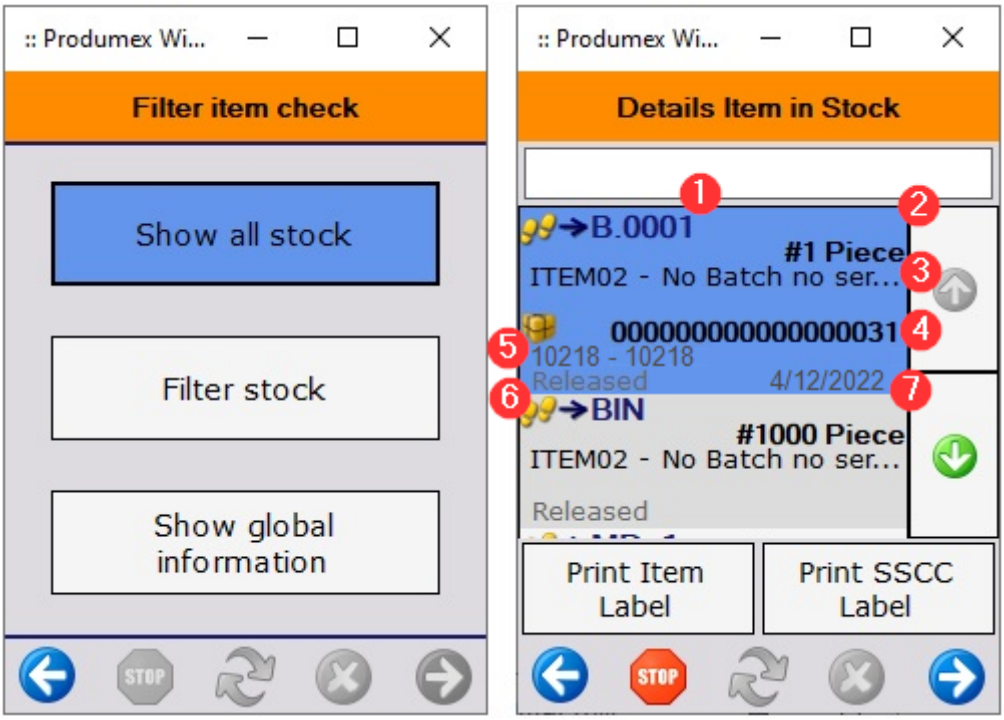


5.1. Show all stock

After tapping the `Show all stock` button, the system displays every location where the item is on stock.

Displayed information:

1. Location code
2. Quantity on stock
3. Item code – description - barcode
4. SSCC number
5. Batch number - Second batch number
6. Quality status
7. Best Before Date



Tap the `Stop` button to go back to the Inventory menu.

Tap the right arrow button to go back to the Scan a product screen.

Tap the left arrow button to go back to the Select a task screen.

5.2. Filter stock

1. After tapping the `Filter stock` scan a Gs1 label.

Note: Only scan GS1 labels that contain batch number, best before date and/or serial number.

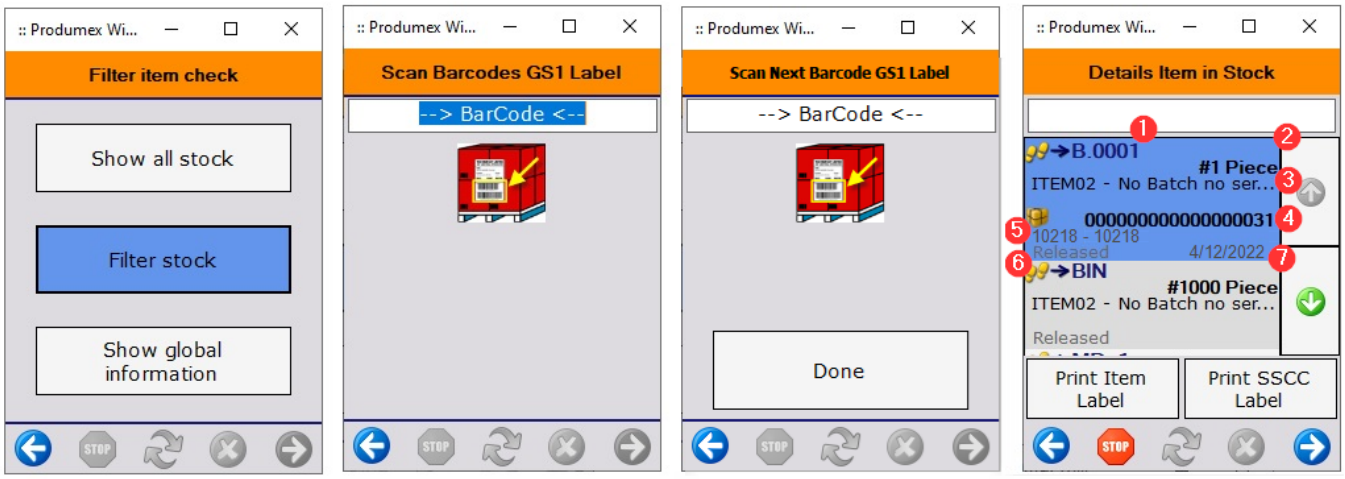
2. On the next screen scan the next GS1 label or tap the `Done` button to show the results.

The system displays a list of current stock of the item with the scanned batch(es), best before date(s) and/or serial number.

Displayed information:

1. Location code
2. Quantity on stock
3. Item code – description - barcode
4. SSCC number
5. Batch number - Second batch number
6. Quality status
7. Best Before Date

If there is no stock in the inventory with the scanned parameters, an error message is displayed.



Tap the `Stop` button to go back to the Inventory menu.

Tap the right arrow button to go back to the Scan a product screen.

Tap the left arrow button to go back to the Select a task screen.

5.3. Show global information

After tapping the `Show global information` button the system displays the general information about the stock.

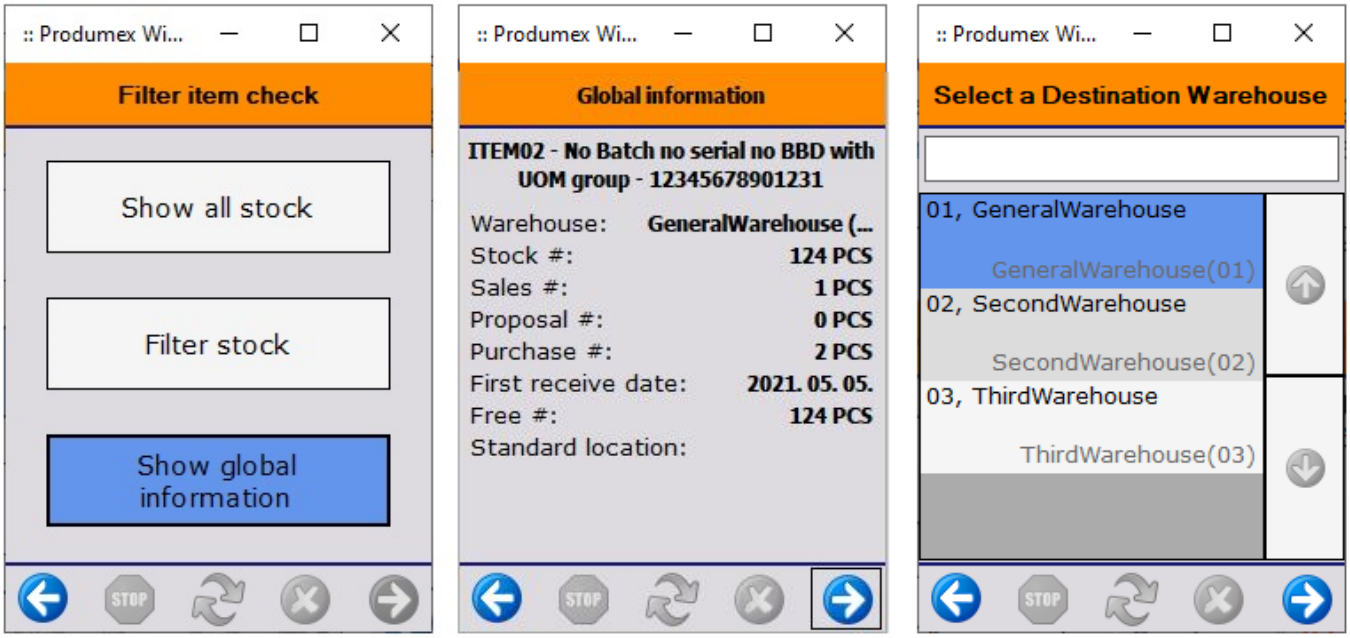
Displayed information:

1. Item code – description – barcode
2. Warehouse: Warehouse name (code)
3. Stock: Total stock in the warehouse (In stock quantity in the warehouse)
4. Sales: Quantity on open sales order lines
5. Proposal: Quantity on open pick list proposal lines
6. Purchase: Quantity on open purchase order lines
7. First receive date: The earliest ship to date from purchase orders with open lines
8. Free: Total quantity on stock that is not locked
9. Standard location: The standard location of the item in the warehouse

1. Tap the right arrow to see the global information for another warehouse.

2. On the next screen select the destination warehouse. Every warehouse that is assigned to the Mobile Client on the Organizational Structure is listed.

3. Select the destination warehouse and tap the right arrow button.



Tap the right arrow button to go back to the Scan a product screen.

Notification Listener Tool

Overview

The Notification Listener is a tool that monitors the record in the PMX_NOTQ table and performs custom actions when a certain type of data is adjusted. The tool can perform the following actions:

- automatic document creation
- automatic printing (see How to print documents with the Notification Listener)
- document export (see EDI documentation)

1. Installation and configuration

For information about the installation see Produmex SB1 Notification listener and Enable the Notification Listener stored procedure.

For information about the frequency settings see SBO Notification Listener - Performance.

2. Notification Listener Transactions

The configuration file of the Notification Listener tool contains the configurations of the transactions the tool can perform. By default all these transactions are disabled.

In order to define actions for the Notification Listener, update its configuration file.

The configuration file is called *'Produmex.Foundation.SboNotification.ServiceHost.exe.config'*. It is

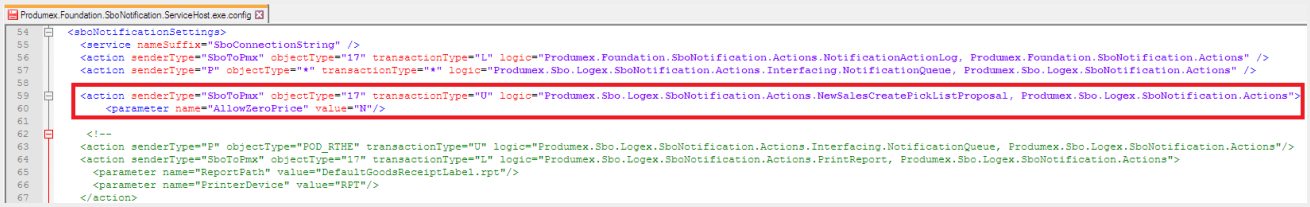
located in the installation folder of the Produmex SB1 Notification Listener, for example: C:\Program Files(x86)\Produmex\Produmex SB1 Notification Listener\

Open the file with a text editor (e.g. Notepad). Locate the line of the transaction and uncomment it then save the file.

Transaction lines might have parameters. Parameters can have the following functions:

- Set conditions. Example: Allow zero price, Allow grouping on shipping type
- Specify the report parameters: the report ID, the report path, the printer

Example: Create pick list proposal on sales order update action defined for the Notification Listener.



Then run the Notification Listener.

- To run the Notification Listener in the background, start it as a Windows service.
- To run the Notification Listener with an open console, launch the RunConsole.bat file from the installation folder of the Produmex SB1 Notification Listener, for example: C:\Program Files(x86)\Produmex\Produmex SB1 Notification Listener\.

Transaction Line
The transaction line consists of the following:

- action senderType
- objectType
- transactionType
- logic

The *objectType* and the *transactionType* determines the transaction that triggers the action defined in the *logic* parameter.

Possible values:

- objectType
  - SAP Business One object types:
    - 2: Business Partner
    - 13: Sales invoice
    - 14: Sales Credit Note
    - 15: Sales Delivery Note
    - 16: Sales Return
    - 17: Sales order

        - 20: Purchase Delivery
        - 22: Purchase order
        - 59: Goods Receipt
        - 60: Goods Issue
        - 67: Warehouse Transfer
        - 202: Production order
    - Produmex object types:
        - PMX_MVHE: Produmex move
        - POD_RTHE: Produmex route
- transactionType:
    - 'A'=add
    - 'U'=update
    - 'L'=close
    - 'D'=delete
    - 'C'=cancel
    - '*'=all

3. Supported actions

3.1. Create document

3.1.1. Create pick list proposal

By default the configuration file of the Notification Listener contains two actions for automatically generating a pick list proposal.

The following parameter is supported in these transaction lines:

- *AllowZeroPrice*: If set to 'No', no pick list proposal will be created if the total price of the sales order is zero.

3.1.1.1. Sales order added

To create a new pick list proposal automatically every time a sales order is created, uncomment the following line in the configuration file of the Sbo Notification Listener:

```
<action senderType="SboToPmx" objectType="17" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.NewSalesCreatePickListProp
osal, Produmex.Sbo.Logex.SboNotification.Actions">
</action>
```

3.1.1.2. Sales order updated

To create a new picklist proposal automatically every time a sales order is updated, uncomment the following line in the configuration file of the Sbo Notification Listener:

```
<action senderType="SboToPmx" objectType="17" transactionType="U"
logic="Produmex.Sbo.Logex.SboNotification.Actions.NewSalesCreatePickListProp
osal, Produmex.Sbo.Logex.SboNotification.Actions">
    <parameter name="AllowZeroPrice" value="N"/>
</action>
```

With this function you can add lines, increase quantity on an existing line or change data (e.g. due date, shipping type, address, etc.). It is not supported to remove lines or decrease quantity on existing lines.

If there is an existing pick list proposal for the updated sales order, the system will close the existing proposal depending on the *Try to group items on 1 proposal* setting on the Picklist proposal generator.

3.1.2. Create pick list

The pick list will be automatically generated if the *'Auto. generate pick list'* UDF is set to 'True' for the payment term of the sales order.

The following parameters are supported:

- *Allow Grouping On Shipping Type*: If set to 'Yes', the pick lists of a sales order will be split based on the shipping type of the order lines, otherwise a grouped pick list will be created for the sales order.
- *AllowZeroPrice*: If set to 'No', no pick list proposal will be created if the total price of the sales order is zero.

3.1.2.1. Sales order added

To create a new pick list automatically every time a sales order is created, uncomment the following line in the configuration file of the Sbo Notification Listener:

```
<action senderType="SboToPmx" objectType="17" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.NewSalesCreatePicklist,
Produmex.Sbo.Logex.SboNotification.Actions">
     <parameter name="AllowGroupingOnShippingType" value="Y"/>
</action>
```

3.1.2.2. Sales order updated

To create a new pick list automatically every time a sales order is updated, uncomment the following line in the configuration file of the Sbo Notification Listener:

```
<action senderType="SboToPmx" objectType="17" transactionType="U"
logic="Produmex.Sbo.Logex.SboNotification.Actions.NewSalesCreatePicklist,
Produmex.Sbo.Logex.SboNotification.Actions">
    <parameter name="AllowGroupingOnShippingType" value="Y"/>
```

```
</action>
```

3.1.3. Create pick list and automatically add it to a route

Uncomment the following line in the configuration file of the Sbo Notification Listener:

```
<action senderType="SboToPmx" objectType="17" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.NewSalesCreatePicklistAndR
oute, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

When a new sales order is added, a pick list will be generated and it will be automatically added to a route, if there is a route that meets the following criteria:

- The route is open
- The route date is later than the due date of the sales order
- The route was created from a template for the customer of the sales order

If there is no such route, no pick list will be generated for the sales order.

3.1.4. Create sample order

3.1.4.1. Purchase delivery added

In order to automatically create a sample order after a Goods Receipt PO document is booked, set the following:

1. Uncomment the following line in the configuration file of the Sbo Notification Listener:

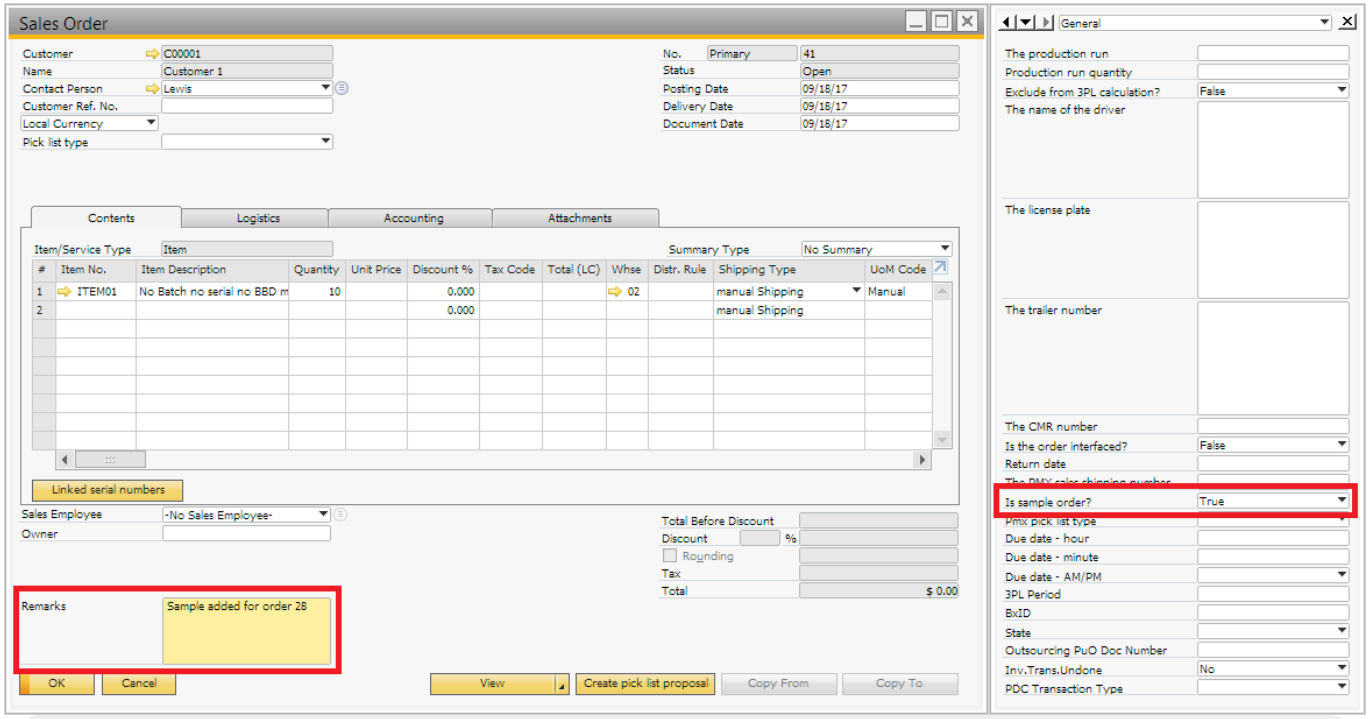
```
<action senderType="SboToPmx" objectType="20" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.CreateSampleOrder,
Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

2. Set the sample generator on the Extensions tab of the Organizational Structure.

3. Set the sample quantity for the item on the Produmex Purchase tab of the Item Master Data. The sample quantity will be the ordered quantity of the item on the sample sales order.

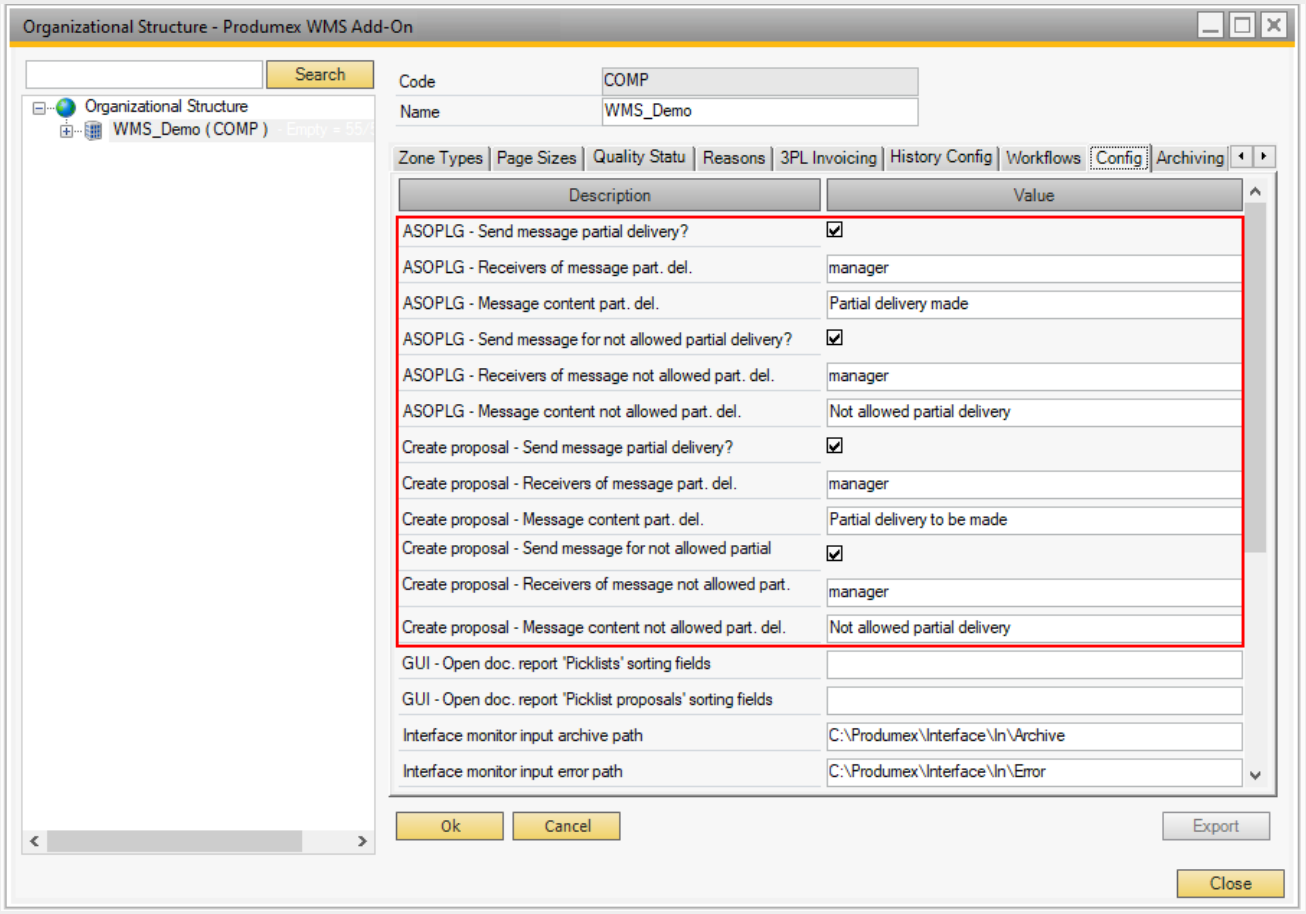
4. Link the customer, to whom you would like to send the sample for inspection, to the vendor on the 'Linked Business Partner' UDF on the Business Partner Master Data.

The system will create a sales order automatically for the linked customer with the sample quantity set for the item after a purchase delivery is added. The 'Is sample order' UDF will be set to 'Yes' on the created sales order and the document number of the Goods Receipt PO document will be added as a remark.



Configure messages

On the Config tab of the Organizational Structure, it is possible to set whether to notify the specified user if the total quantity cannot be allocated for the pick list (proposal) created by the Notification Listener and when no pick list (proposal) was created by the Notification Listener because partial deliveries are not allowed for the business partner.



Pick list
If the *ASOPLG- Send message partial delivery?* option is enabled, the user set on the *ASOPLG – Receivers of message part. del.* field will receive a message if only a partial pick list can be created. The subject of the message can be added on the *ASOPLG – Message content part. del.* field.

If the *ASOPLG- Send message for not allowed partial delivery?* option is enabled, the user set on the *ASOPLG – Receivers of message not allowed part. del.* will receive a message when no pick list was created for following reasons:

- If the total quantity cannot be allocated for every sales order line and the *Allow Partial Delivery of Sales Order* option is disabled for the business partner.
- If the total quantity cannot be allocated for a sales order line and the *Allow Partial Delivery per Row* option is disabled for the business partner.

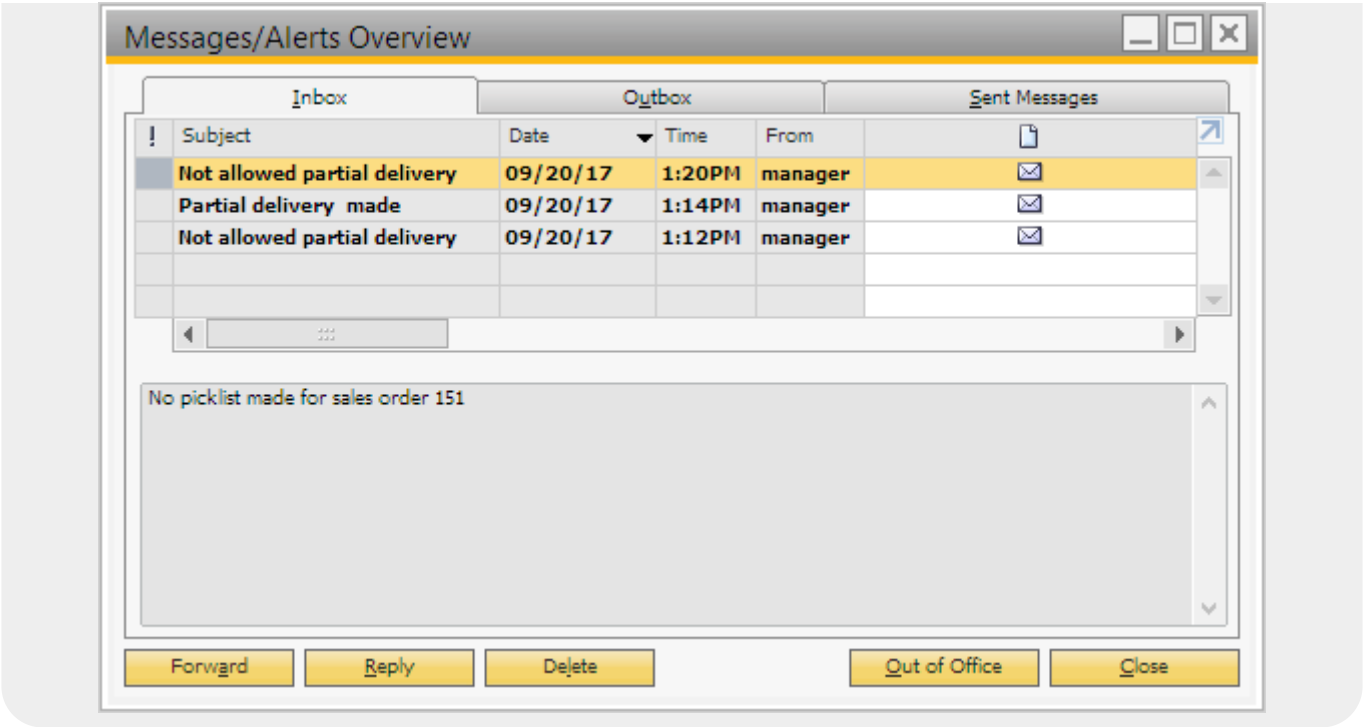
The subject of the message can be added on the *ASOPLG – Message content not allowed part. del.* field.

Pick list proposal
If the *Create proposal - Send message partial delivery?* option is enabled, the user set on the *Create proposal - Receivers of message part. del.* field will receive a message if only a partial pick list proposal can be created. The subject of the message can be added on the *Create proposal - Message content part. del.* field.

If the *Create proposal - Send message for not allowed partial delivery?* option is enabled, the user set on the *Create proposal - Receivers of message not allowed part. del.* will receive a message when no pick list proposal was created for following reasons:

- If the total quantity cannot be allocated for every sales order line and the *Allow Partial Delivery of Sales Order* option is disabled for the business partner.
- If the total quantity cannot be allocated for a sales order line and the *Allow Partial Delivery per Row* option is disabled for the business partner.

The subject of the message can be added on the *Create proposal - Message content not allowed part. del.* field.



3.2. Mail report

3.2.1. Mail the purchase order

To automatically mail the purchase order report to the vendor after the purchase order is created, set the following:

1. Configure the Report Mailer on the Extension Parameters tab of the Organizational Structure.

2. Enable the *Mail report on document add* setting for the given shipping type.

3. Make sure that the email address of the business partner is added on the Business Partner Master Data.

4. Define the report on the Reports tab of the Organizational Structure. The input parameter of the report is *@docEntry*.

5. Uncommend the following line in the configuration file of the Sbo Notification Listener:

```
<action senderType="SboToPmx" objectType="22" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.SboReportMaile
rAction, Produmex.Sbo.Logex.SboNotification.Actions">
  <parameter name="ReportId" value="8"/>
</action>
```

Change the value of the Report ID parameter to the report Key value of the report that can be found on the Reports tab tab of the Organizational Structure.

3.3. Copy UDF

3.3.1. Copy UDFs from BoM when the Production order is created

> This function is obsolete because SAP Business One has a standard function for copying BoM UDFs to the production order.

It is possible to automatically copy the User Defined Fields of the Bill of Materials to the Production order on the creation with a Produmex action. Uncomment the following line in the configuration file of the Sbo Notification Listener:

```
<action senderType="SboToPmx" objectType="202" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.NewProdOrderCopyUDFsFromBO
M, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

3.4. Print

3.4.1. Print Goods Receipt label

The configuration file of the Notification Listener contains the following printing actions by default:

3.4.1.1. Sales order closed

```
<action senderType="SboToPmx" objectType="17" transactionType="L"
logic="Produmex.Sbo.Logex.SboNotification.Actions.PrintReport,
Produmex.Sbo.Logex.SboNotification.Actions">
   <parameter name="ReportPath" value="DefaultGoodsReceiptLabel.rpt"/>
   <parameter name="PrinterDevice" value="RPT"/>
</action>
```

3.4.1.2. Purchase delivery added, updated, closed or cancelled

```
<action senderType="SboToPmx" objectType="20" transactionType="*"
logic="Produmex.Sbo.Logex.SboNotification.Actions.PrintReportForClosedPOOnGR
, Produmex.Sbo.Logex.SboNotification.Actions">
    <parameter name="ReportPath" value="DefaultGoodsReceiptLabel.rpt"/>
```

```
    <parameter name="PrinterDevice" value="RPT"/>
</action>
```

Specify the report and the printer with the parameters:

- Add the report path from the Reports tab of the Organizational Structure as the value of the 'ReportPath' parameter.
- Add the printer code form the Organization Structure as value of the 'PrinterDevice'.

For more information about automatic printing with the Notification Listener see Automatically print documents with the Notification Listener.

3.5. Export documents

For information about exporting documents with the Notification Listener please see: Standard EDI module

The configuration file of the Notification Listener contains the following transaction lines for document export:

3.5.1. Route - updated

```
<action senderType="P" objectType="POD_RTHE" transactionType="U"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.NotificationQu
eue, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

If this line is uncommented, the POD route will be exported as a .csv file after the route is loaded. For more information please see: Proof of delivery

3.5.2. Stock update – every action

```
<action senderType="SboToPmx" objectType="PMX_MVHE" transactionType="*"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.PmxStockUpdate
ExportAction, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

After a move has been executed, the inventory will be exported as defined with the extension for the *'IPmxStockInterface – Pmx stock im-/exporter (IPSTOCK)'* controller, if this line is uncommented. The controller does not have a standard extension.

3.5.3. Sales delivery

3.5.3.1. Sales delivery 1

```
<action senderType="SboToPmx" objectType="15" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.SboSalesDelive
ryExportAction, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

After a sales delivery has been created, it will be exported as defined with the extension for the *'Interface for SBO sales delivery im-/export (ISBOSDLN)'* controller, if this line is uncommented. When using the standard extension parameter, the document will be exported to an .xml file.

3.5.3.2. Sales delivery 2

```
<action senderType="SboToPmx" objectType="15" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.SboSalesDelive
ryExport2Action, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

After a sales delivery has been created, it will be exported as defined with the extension for the *'Interface for SBO sales delivery 2 im-/export (ISBOSDLN2)'* controller, if this line is uncommented. The controller does not have a standard extension.

3.5.4. Purchase delivery

```
<action senderType="SboToPmx" objectType="20" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.SboPurchaseDel
iveryExportAction, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

After a purchase delivery has been created, it will be exported as defined with the extension for the *'Interface for SBO purchase delivery im-/export (ISBOPDLN)'* controller, if this line is uncommented. When using the standard extension parameter, the document will be exported to an .xml file.

3.5.5. Sales return

3.5.5.1. Sales return 1

```
<action senderType="SboToPmx" objectType="16" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.SboSalesReturn
ExportAction, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

After a sales return has been added, it will be exported as defined with the extension for the *'Interface for SBO sales return im-/export (ISBOSR)'* controller, if this line is uncommented. When using the standard extension parameter, the document will be exported to an .xml file.

3.5.5.2. Sales return 2

```
<action senderType="SboToPmx" objectType="16" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.SboSalesReturn
Export2Action, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

After a sales return has been created, it will be exported as defined with the extension for the *'Interface for SBO sales return 2 im-/export (ISBOSR2)'* controller, if this line is uncommented. The controller doesn't have a standard extension.

3.5.6. Goods Issue

```
<action senderType="SboToPmx" objectType="60" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.SboGoodsIssueE
xportAction, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

After a goods issue document has been created, it will be exported as defined with the extension for the *'Interface for SBO goods issue im-/export (ISBOGI)'* controller, if this line is uncommented. The controller doesn't have a standard extension.

3.5.7. Goods Receipt

```
<action senderType="SboToPmx" objectType="59" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.SboGoodsReceip
tExportAction, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

After a goods receipt document has been created, it will be exported as defined with the extension for the *'Interface for SBO goods receipt im-/export (ISBOGR)'* controller, if this line is uncommented. The controller doesn't have a standard extension.

3.5.8. Sales Invoice

```
<action senderType="SboToPmx" objectType="13" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.SboSalesInvoic
eExportAction, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

After a sales invoice has been added, it will be exported as defined with the extension for the *'Interface for SBO sales invoice im-/export (ISBOSINV)'* controller, if this line is uncommented. When using the standard extension parameter, the document will be exported to an .xml file.

3.5.9. Sales Credit Note

```
<action senderType="SboToPmx" objectType="14" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.SboSalesCredit
NoteExportAction, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

After a sales credit note has been added, it will be exported as defined with the extension for the *'Interface for SBO sales credit note im-/export (ISBOSCN)'* controller, if this line is uncommented. When using the standard extension parameter, the document will be exported to an .xml file.

3.5.10. Business Partner

```
<action senderType="SboToPmx" objectType="2" transactionType="*"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.SboBusinessPar
tnerExportAction, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

The document will be exported after a business partner was created, updated or removed as defined with the extension for *'Interface for SBO business partner im-/export (ISBOBP)'* controller, if this line is uncommented. The controller does not have a standard extension.

3.5.11. Warehouse transfer

```
<action senderType="SboToPmx" objectType="67" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.Interfacing.SboWarehouseTr
ansferExportAction, Produmex.Sbo.Logex.SboNotification.Actions"/>
</action>
```

After a warehouse transfer has been created, it will be exported as defined with the extension for the *'Interface for SBO whs transfer im-/export (ISBOWT)'* controller, if this line is uncommented. The controller does not have a standard extension.

3.6 Creating a task trigger on WMS Notification Listener

A dynamic trigger on the **Notification Listener** will help on triggering an automatic action depending on the occurrence.

1. Examples when Notification Listener is triggered:

- Sales order creation or modification

- Inventory adjustments
- Goods receipt or goods issue transactions
- Shipping notifications
- Warehouse transfers
- Stock level thresholds being reached
- Quality control alerts
- Production orders
- Pick list creation from Beas

When the **PMX_NOTQ** table has a new action record, the *SboNotification.ServiceHost* recognizes it and if in the *Produmex.Foundation.SboNotification.ServiceHost.exe.config* file has a similar action the Robot Tool will able to run the custom C# Script automatically.

Sample code:

```
<action senderType="SboToPmx" objectType="Your Option"
transactionType="Your Option"
logic="Produmex.Sbo.Logex.SboNotification.Actions.RunScript,
Produmex.Sbo.Logex.SboNotification.Actions">
      <parameter name="RobotPath" value="C:\Your folder path to the ->
Produmex.Sbo.Logex.Tools.Robot.exe"/>
      <parameter name="Arg1" value="c:\yourScriptPath\YourScript.cs"/>
      <parameter name="Arg2" value="Key Column ObjectType Action"/>
</action>
```

Sales Order Example:

```
<action senderType="SboToPmx" objectType="17" transactionType="A"
logic="Produmex.Sbo.Logex.SboNotification.Actions.RunScript,
Produmex.Sbo.Logex.SboNotification.Actions">
      <parameter name="RobotPath"
value="C:\Projects\PNG\trunk\Src\Logex\Produmex.Sbo.Logex.Tools.Robot\bi
n\Debug\Produmex.Sbo.Logex.Tools.Robot.exe"/>
      <parameter name="Arg1" value="c:\Produmex\Script\ParamTest.cs"/>
      <parameter name="Arg2" value="Key Column ObjectType Action"/>
</action>
```

2. Parameters:

The following Arg2 parameter must be included in your code to work, but it does NOT have to include all the key words. If you only need the *value="Key Column"* then you do not have to include all the key words:

```
<parameter name="Arg2" value="Key Column ObjectType Action"/>
```

- **objectType** - Change the type and choose from SBO ObjectType table
- **transactionType** - Change the type and if this conditions are fulfilled by the **PMX_NOTQ** table record, the Robot will run the custom C# Script
- **RobotPath** - The name must be stay **"RobotPath"** to work.
- **RobotPath value** - The path where your Robot was installed

- **Arg1 value** - Contains the path of YOUR file, in the example the path *c:\yourScriptPath\YourScript.cs*
- **Arg2 value** - Contains the relevant and useful datas of the given **PMX_NOTQ** record separated with spaces (Key Column ObjectType Action)

3. Example from the PMX_NOTQ table how the datas are shown:

4. How to create the custom code:

> **The *Produmex.Foundation.SboNotification.ServiceHost.exe.config.* is NOT contain the previously showed C# Script, if you would like to use this custom method you MUST create your own customized configuration file with a new action! The system only offers the option for customization but are NOT include the sample C# code!**

The configuration file for the **Robot Tool** is located in the installation folder of Produmex, for example the path can be similar to this: *C:\Program Files\Produmex\Produmex Tools* The file name is *Produmex.Sbo.Logex.Tools.Robot.exe*.

Develope your version of the previously showed C# Script, then open the *Produmex.Foundation.SboNotification.ServiceHost.exe.config* file in an editor - for example you can use Notepad++, Excel, etc. Then insert your custom C# Script into the *Produmex.Foundation.SboNotification.ServiceHost.exe.config* code.

If everything is as should be with the inserted code save the file and replace the old version with your custom file in the original folder.

5. The end result of the example:

In the config file the keys of the Arg2 parameter must be separated with spaces: **value="Key Column ObjectType Action"**, the information that you can use in your script, that can be called back from the argument will be stored in the following format (separated by pipelines), here you can see an example from the previous **"Sales Order"** : **65|DocEntry|17|A**

Shipping Flows

Overview

Produmex WMS offers two flows on the Mobile Client to load goods and shipping orders for customers:

- Shipping Flow: Goods can be loaded and shipped from a loading dock.
- Bulk shipping Flow: Goods can be loaded and shipped directly from the silo/tank. No picking or packing is required.

Configuration

1. Set automatic shipping/no shipping

If the *Automatic shipping* option is enabled for the shipping type of the sales order line, the picklist created for that line is automatically shipped, and the picklist status is automatically converted to *Shipped* after the packing/picking.

If the *Customer collect* option is enabled for the shipping type of the sales order line, the picklist created for that line is not shipped, and the picklist status is automatically converted to *Shipped* after the customer collected it.

2. Set sales delivery settings

Configure the sales delivery settings on the Sales delivery note generator.

3. License plate

Based on the following settings, the user might have to select the license plate number of the vehicle after loading:

- To enable this setting globally, check the *Select license plate when loading* checkbox on the 'General' tab of the Organizational Structure.
- To enable this setting for a shipping type only, check the *Ask license plate during shipping?* option for the given shipping type.

4. Driver name

Based on the following settings, the user might have to select the name of the driver after loading:

- To enable this setting globally, check the *Select driver when loading* checkbox on the General tab of the Organizational Structure.
- To enable this setting for a shipping type only, check the *Ask driver name during shipping?* option for the given shipping type.

5. Trailer number

Based on the following settings, the user might have to select the trailer number after loading:

- To enable this setting globally, check the 'Select trailer number when loading' checkbox on the 'General' tab of the Organizational Structure.
- To enable this setting for a shipping type only, check the 'Ask trailer number during shipping?'

option for the given shipping type.

6. Tracking number

In order to allow to enter a tracking number after the loading, enable the *Ask tracking number during shipping?* option for the shipping type.

Shipping Flow

Workflow

- Select dock
- Select input type
- Identify logistic unit
- Shipping
- Extra steps

1. Initiate flow

On the Mobile Client go to Sales > Shipping.

2. Select dock

Select the dock where the loading will take place. Every dock that can be used for loading is listed.

3. Select the input type

After the selection of the loading dock, select the input of the loading and shipping:

1. **Route**: Loading and shipping based on a route. Multiple picklists for various customers and addresses can be consolidated into a route. The loading order is defined by the route sequence.
2. **Picklist**: Loading and shipping based on a single picklist. A picklist can be generated for one or more sales order for the same customer.
3. **Wave**: Loading and shipping based on a wave of picklists. A picklist wave can contain multiple picklists for various customers.
4. **Customer**: Loading and shipping multiple picklists for a single customer.

4. Identify and load the logistic units

4.1. Shipping based on a route

Select a route

Select the route from the list. Routes that verify the following criteria are listed:

- The status of the route is 'Released'
- The status of the picklists on the route is 'Packed'
- If the *Allow loading of ready logistic units on not fully packed pick lists?* option is set to true on the Sales delivery note generator, a route is listed if there is at least one logistic unit packed for a picklist on the route.
- The route is assigned to the selected dock

The following information is displayed on the screen:

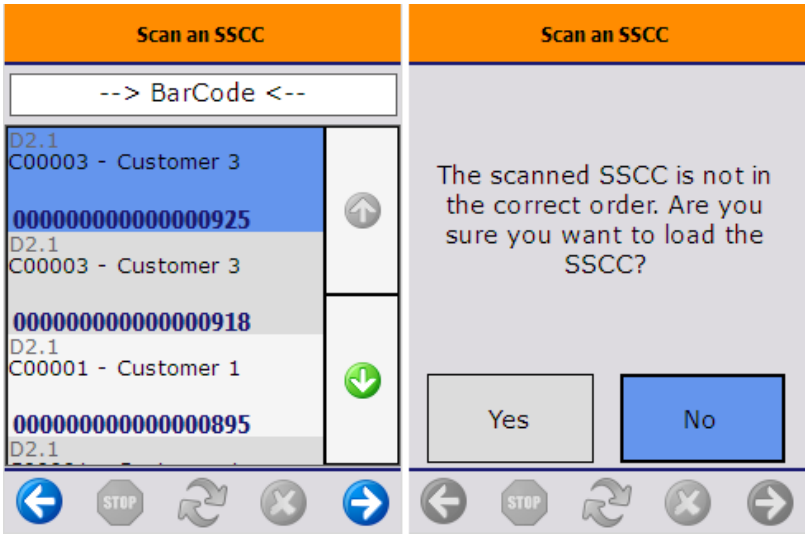
1. Route date
2. Route number
3. Route description (Template code)

Scan SSCC

On the next screen every logistic unit that has been packed for the route, but is not yet loaded, is listed. Produmex WMS orders the logistic units in the reverse order of delivery. The SSCC's are sorted by the following:

- Route sequence number of the picklist (descending)
- LUID (descending)

It is possible to load the logistic units in a different order, but a warning will appear on the screen. Tap Yes to load the scanned logistic unit anyway.



When shipping based on a route, it is not possible to skip logistic units from the shipping. It is also not possible to ship a partial LUID regardless of the *Allow shipping of partial LUID? (Y/N)* setting on the

Sales delivery note generator.

If the *Allow to load all SSCC's in one time? (Y/N)* option is enabled on the Sales delivery note generator, an additional `Load all SSCC's` button is displayed on the screen as long as no SSCC is loaded for the selected route. Tap this button to load every SSCC that is listed on the screen without scanning the barcodes. After the user acknowledges the *The sscc has been loaded.* message, the system proceeds to the Shipping step.

4.2. Shipping based on picklist

Select picklist

Select the picklist from the list. Picklists verifying the following criteria are listed:

- The picklist is not on a route.
- The picklist is on the selected dock.
- The picklist status is 'Packed' or 'Partially Delivered'
- If the *Allow loading of ready logistic units on not fully packed picklists?* option is set to true on the Sales delivery note generator, a picklist will be listed if there is at least one logistic unit packed for it.

The picklist status will not be *Packed* or *Partially Delivered* in the following scenarios:

- The *Automatic shipping* option is enabled for the shipping type
- The *Customer collect* option is enabled for the shipping type
- The *Use for Production?* option is enabled for the Produmex Picklist type of the picklist

On the screen the following information is displayed:

1. [Shipping ID]
2. Picklist number
3. Customer name - address

Scan the SSCC

On the next screen logistic units that verify the following criteria are listed:

- was picked for the selected picklist
- are ready for shipping
- not yet loaded

If the *Group similar picklists? (Y/N)* option is enabled on the Sales delivery note generator, the system will also list the logistic units packed for other picklists that were generated for the same customer

and delivery address. All those SSCCs can be loaded as well.

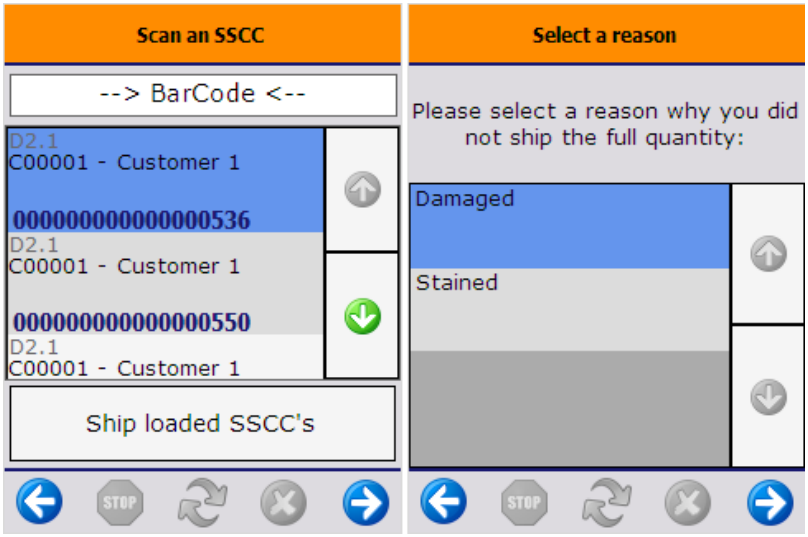
Scan the SSCC to load the logistic unit. When shipping based on a picklist, the loading sequence is not determined. Tap OK to acknowledge the *The sscc has been loaded* message.

If the *Allow to load all SSCC's in one time? (Y/N)* option is enabled on the Sales delivery note generator, an additional `Load all SSCC's` button is displayed on the screen as long as no SSCC is loaded for the selected picklist, customer address or wave.

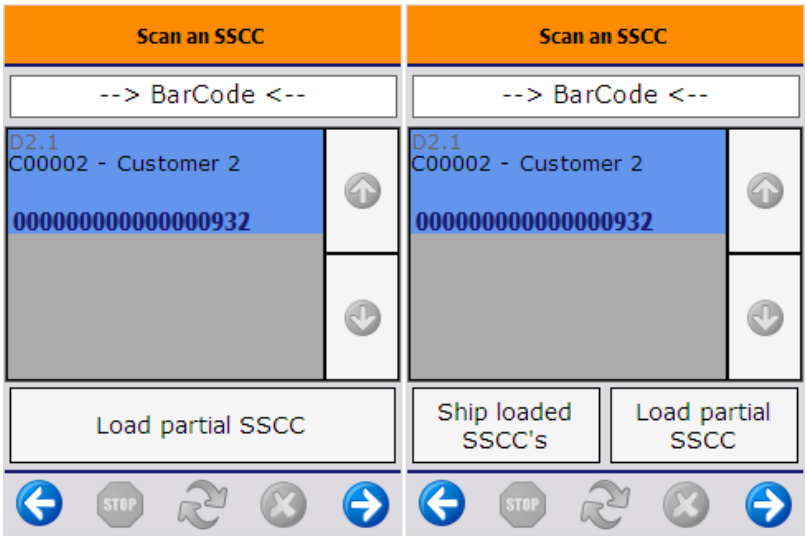
Tap this button to load every SSCC that is listed on the screen without scanning the barcodes. After the user acknowledges the *The sscc has been loaded.* message, the system proceeds to the Shipping step.

Scan the next SSCC on the list until every logistic unit is loaded.

When there are SSCC's that cannot be loaded, Tap the `Ship loaded SSCC's` button. The loaded logistic units will be shipped while the remaining SSCC's will be skipped. On the next screen the user must select a reason why the full quantity has not been shipped. Every reason that can be used for shipping can be selected.

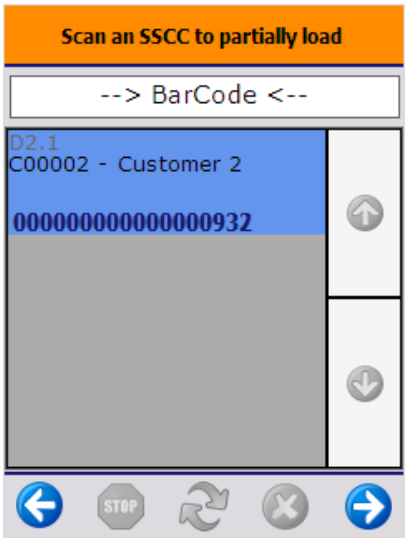


If the *Allow shipping of partial LUID? (Y/N)* option is enabled on the Sales delivery note generator, an additional `Load partial SSCC` button is displayed on the screen.



Tap the button to load an SSCC partially. On the next screen scan the SSCC.

Every SSCC that was picked for the selected picklist, are ready for the shipping but not yet loaded are listed on the screen and can be scanned.



On the next screen select the item to load. Every item on the scanned SSCC is listed. Products with different batch number or best before date will be listed on separate lines.

Displayed information:

1. Loading dock
2. Available quantity
3. Item description
4. SSCC number
5. Batch number
6. Best before date

Then enter the number of items to load. The quantity to load cannot exceed the quantity on the logistic unit. For more information about entering the quantity in Produmex WMS please see: Screens for entering additional information.

After the quantity is added the partial SSCC is loaded. Tap OK to acknowledge the message.

4.3. Shipping based on a wave

Select the wave

Scan the wave or select it from the list.

Every wave that contains at least one picklist that verifies the following criteria are listed:

- the status of the picklists in the wave is ‘Packed’ or ‘Partially Delivered’
- there is at least one picklist that is not on a route
- there is at least one picklist that is on the selected dock

If the wave contains picklists for various customers:
1. Wave number
2. [Shipping ID] Picklist number, for each picklist in the wave

If the wave contains only picklists for the same customer and ship to address:
3. Card code- Customer name – Shipping address

Scan SSCC

On the next screen logistic units that verify the following criteria are listed:

- was packed for a picklist from the wave
- are ready for shipping
- not yet loaded

For more information see Shipping based on a picklist

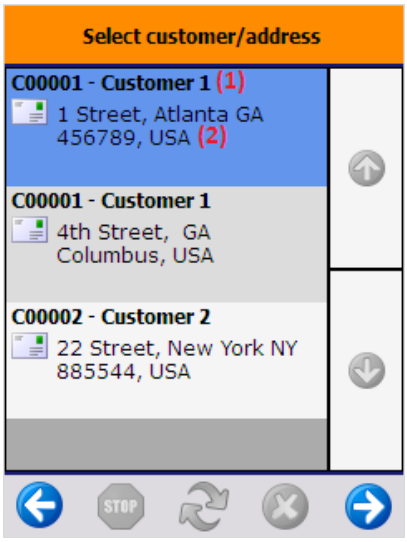
4.4. Shipping based on a Customer

Select a customer

Select a customer from the list. Only customers that have a packed SSCC that is not on a route is listed. Customers with different shipping address are listed on a separate line.

Displayed information on the screen:

1. Customer code - Customer name
2. Shipping address



Scan SSCC

On the next screen logistic units that verify the following criteria are listed:

- was packed for the selected customer and address
- are ready for shipping
- not yet loaded

For more information about the loading process see Shipping based on a picklist

5. Shipping

After every SSCC is loaded or the user has tapped the `Ship loaded SSCCs` button, the logistic units are shipped and the delivery document is created.

Note:

- Items with different description on the sales order, even if using the same itemcode, are not consolidated on the delivery document.
- When the invoices are generated automatically via the Mobile Client, the down payment request information is not being pulled through.
- When shipping multiple SSCCs of a customer with different shipping addresses, the system changes the address to the default address of the customer in the delivery note.
- After completing the picking process on the Mobile Client and perfoming shipping, the Sales Employee data of the Sales Order line and the A/R Reserve Invoice line are copied to the Delivery document line. The data is also copied with consolidated picking.

Multiple sales deliveries can be created for a single sales order in the following scenarios:

- Multiple picklists have been generated and the *'Group similar picklists?'* option is not set to true on the Sales delivery note generator. Otherwise picklist for the same customer and delivery address will be grouped during the shipping.
- Multiple picklists have been generated and the picklists are picked/packed/shipped separately on different times.

Multiple sales deliveries can be created for a single picklist in the following scenario:

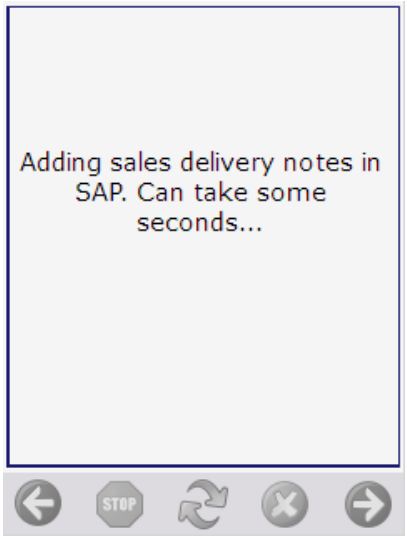
- There are multiple sales orders on the picklist and the *Group sales orders for the same customer to 1 delivery?* option is not enabled on the Sales delivery note generator.

A single sales delivery can be created for multiple sales orders with the same customer and delivery address in the following scenarios:

- During the picking the picklists were picked onto the same SSCC.
- The **"Group sales orders for the same customer to 1 delivery? (Y/N)"** setting can be a base on the Extension Parameter Sales delivery note generator, the setting determines whether to group the items or not.
- The Group Sales Delivery setting can modify the grouping options, the setting has three values:
  - **Y** - If it is set to Yes, all items packed onto the same LUID will be included in one delivery.
  - **N** - If it is set to No, items on the same LUID will be split across multiple deliveries.
  - **C** - **Note:** Take company setting. If it is set to the take company setting, then the **"Group sales orders for the same customer to 1 delivery? (Y/N)"** setting on the the Sales delivery note generator determines the grouping.

The grouping has the following scenarios:

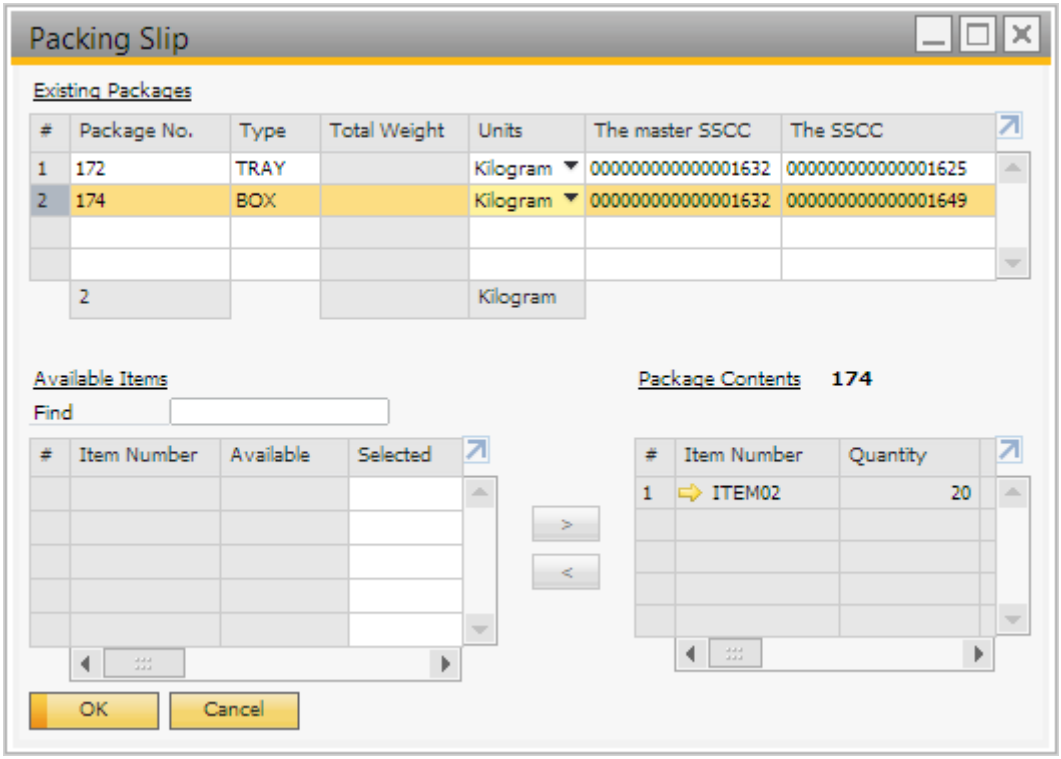
Sales Delivery Note Generator = Company setting (C):
If company setting is **Yes**: → items are grouped.
If company setting is **No**: → items are not grouped.
Group Sales Delivery = Business Partner Master Data setting:
Group Sales Delivery = **Yes**: → Items are grouped into one delivery.
Group Sales Delivery = **No**: → Items are split into separate deliveries.



If the *Use Pmx sales shipping?* option is set to true on the Sales delivery note generator, instead of an SBO sales delivery note, a PMX sales shipping note will be created. The picklist(s) will remain open and the stock will remain on the dock until the SBO delivery note is created.

> In order to create an SBO delivery note from a PMX sales shipping note, go to the Open Documents Report from the Produmex module in SAP Business One and select *PMX Sales Shipping* as the document type. Select the document(s), click the `Create sales delivery` button to create the SBO delivery note.

If the *Fill packing info in delivery? (Y/N)* option is enabled on the Sales Delivery Note Generator, the master SSCC and the SSCC number is added to the Packing Slip when the delivery note is created. The Package No. is the LUID of the (sub)logistic unit.



6. Print document

When an SBO delivery note is created, the *Shipping: Sales delivery note created event (300)* print event is triggered.
When a PMX sales shipping note is created, the *Shipping: PMX sales shipping created event (303)* print event is triggered.
The default reports for both print events are:

- DefaultSalesDeliveryBySSCC.rpt
- DefaultSalesDeliveryBySalesOrder.rpt

When shipping based on a picklist / wave / customer, the *Shipping: Picklist shipped event (302)* print event is also triggered and the picklist is printed.

When shipping based on a route, the *Shipping: Route shipped event (301)* print event is also triggered and the Route Document is printed. The default report for the print event is the DefaultRouteDocument.rpt.

7. Useful information & Extra steps

7.1. Moving packed Logistic Units before Shipping

It is possible to use the **Move Order** flow and **Ad Hoc Move** flow on the Mobile Client, to move already packed logistic units. Packed Logistic Units are usually locked and normally moving these units are not suggested, but in some cases moving them are necessary.

There are some cases when a packed (and locked) logistic unit must be moved to a specified location e.g.: Stock is currently at a **“default”** Shipping Dock as **“Packed”** SSCCs, which is a temporary location for packed pallets. The next step is to move the stock to the actual Shipping Dock, where the truck will be loaded with the **“Packed”** SSCCs.

After that, continue with the sipping process: **Sales/Shipping**

When you are at the **“Select a Shipping Dock”** step, you need to enter the original dock location that is contained in the Picklist. For example, if the stock was originally at “dock A” and you moved it to “dock B”, the Picklist will contains the following information “Storage Loc.: dock A”.

On the **“Select a Shipping Dock”** screen, select the original source location, then select the Picklist. After that, on the **“Scan an SSCC”** screen, you will see the actual location where you can find the stock.

Move Order
If the original location has limited space, the packed units should be relocated to a more spacious area or positioned closer to the dock for loading. This move can be planned ahead using a **Move Order**.

> **Limitation for Move Order:** To move the packed and locked SSCCs with a **Move Order**, ensure that every item's status on the Picklist is "Packed" if the Picklist line contains multiple LUIDs. **If any item is not in packed status, the Move Order cannot be processed.**

> **Please note that during the shipping process, you must select the original dock location (the location where the stock was initially stored, as indicated in the Picklist).**

7.2. Select a license plate

Based on the shipping type and the General settings configurations, you may have to take the following extra steps before creating the delivery document.

> **Note:** When automatic shipping is started, you are not allowed to leave the process. On the first extra information screen (it can be driver's name, license plate, trailer number, tracking number) the back button is disabled.

Select the license plate from the list. Every license plate defined in the License plate (PMX_LIPL) user table can be selected. It is also possible to enter a license plate that is not defined in the user table.

The license plate will be added to the 'The license plate' UDF on the sales delivery document and the A/R invoice.

7.3. Select a driver

Select the driver from the list. Every driver defined in the Drivers (PMX_DRIV) user table can be selected. It is also possible to enter a driver who is not defined in the user table.

The driver name will be added to the 'The name of the driver' UDF on the sales delivery document and the A/R invoice.

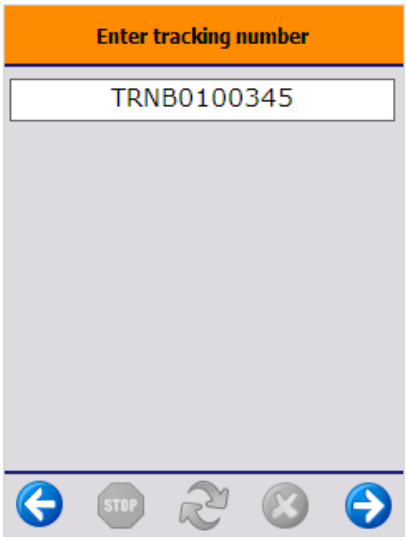
7.4. Select a trailer number

Select the trailer number from the list. Every trailer number defined in the List of selectable trailer numbers (PMX_TRNR) user table can be selected. It is also possible to enter a trailer number that is not defined in the user table.

The trailer number will be added to the 'The trailer number' UDF on the sales delivery document and the A/R invoice.

7.5. Enter a tracking number

Enter the tracking number.



Bulk Shipping Flow

Workflow

- Select a sales order
- Select a product
- Select a location
- Enter the number of items
- Add more products
- Delivery booked
- Extra steps

1. Select a sales order

Select a sales order from the list. The list can be filtered based on the sales order number. Every open sales order that contains an item stored in a silo/tank location is listed.

Displayed information:

- Customer card code
- Customer name
- Due date
- Sales order DocEntry
- Sales order document number
- Customer Reference Number
- Pick and pack remarks
- Picklist type
- Object type

2. Select a product

Select a product from the list. Every product with open quantity on the sales order is listed.
Displayed information:

- Item code and description
- Sales order number, Customer code and description
- Open quantity

3. Select a location

Scan the location or select it from the list. Only silo/tank locations where the item is stored are listed and can be scanned.

4. Enter the number of items

Add the quantity to ship. For more information about adding quantity in Produmex WMS please see: Screens for entering additional information.
If there is a *'Default quantity on logistic unit'* value defined on the Produmex Inventory tab of the Item Master Data, the number of items value is automatically filled.

- If the open quantity on the sales order is less than the *'Default quantity on logistic unit value'*, the screen will be populated with the open quantity.
- If the open quantity on the sales order is greater than the *'Default quantity on logistic unit*

value', the screen will be populated with the default quantity on the logistic unit value.

5. Add more products

If there are items with open quantity on the selected sales order the system will ask whether to add more products to this delivery or not.

- Tap Yes to add more products. The system will go back to the *Select a product* screen.
- Tap No to finish the shipping.

6. Delivery booked

If there are no more products with open quantity on the sales order or the user selected no to add more products, the delivery will be booked.

Note:

- When shipping with the Bulk shipping flow, always an SAP Business One delivery note will be generated, regardless of the *'Use Pmx sales shipping?'* setting on the Sales delivery note generator.
- When the invoices are generated automatically via the Mobile Client, the down payment request information is not being pulled through.

Based on the shipping type and/or general settings, the user may have to take the Extra steps.

Combine Packed SSCC Flow

Overview

Produmex provides a function to combine packed pallets on the loading dock right before the shipping with the 'Combine packed SSCC' flow. With this function users can move stock from a pallet to another or can create new logistic units.

1. Initiate the flow

Select the Combine packed SSCC flow in the Sales module of the Mobile Client.

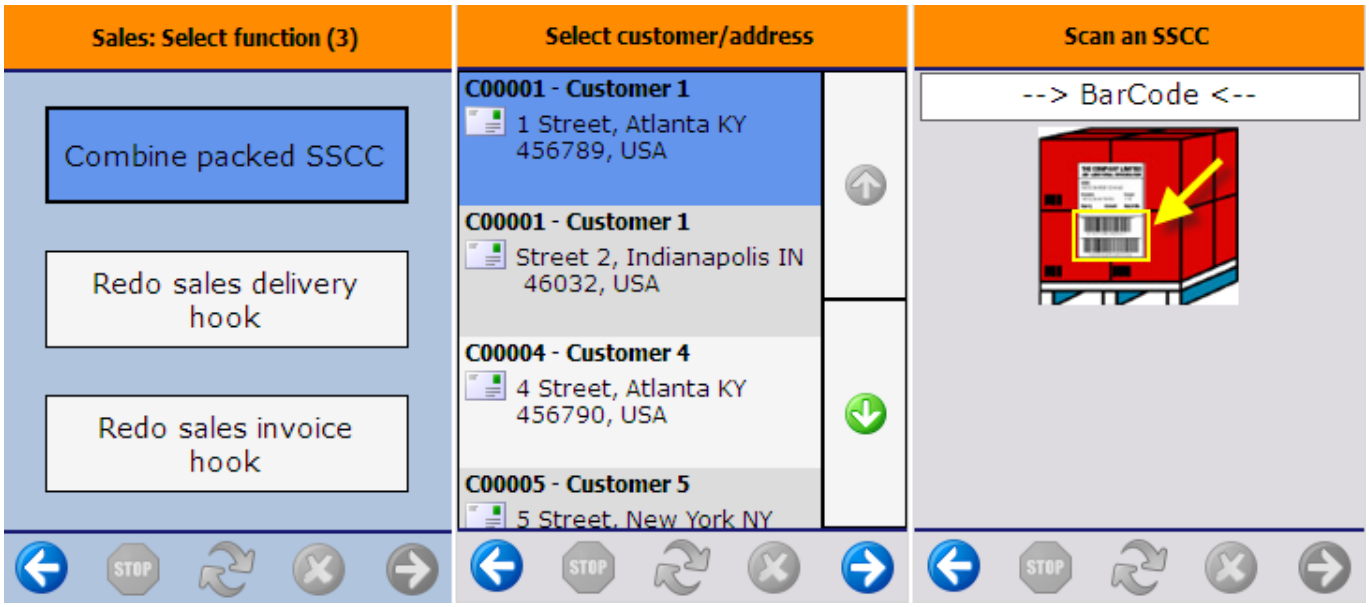
2. Select the customer and the address

On the next screen select the customer and the shipping address. Different shipping addresses for the same customer are displayed on separate lines. Every customer shipping address that has linked ‘Packed’ pick list are shown on the screen.

3. Scan SSCC

Scan the SSCC. Only logistic units packed for the selected customer and address can be scanned.

If the *‘Start by scanning SSCC?’* option is enabled on the Packing controller, the system automatically skips the ‘Select customer/address’ screen. On the ‘Scan an SSCC’ screen scan the SSCC. Only SSCC’s that are linked to a pick list with the status ‘Packed’ can be scanned.
The customer and address will be retrieved from the pick list.



4. Identify the product

On the next screen scan the item to move from the pallet or select it from a list after pressing the ‘Select a product button’. Only items located on the logistic unit will be listed.

To combine the entire pallet with another logistic unit press the ‘Combine everything’ button.

The system automatically proceeds to the next screen if the pallet is a mono pallet.

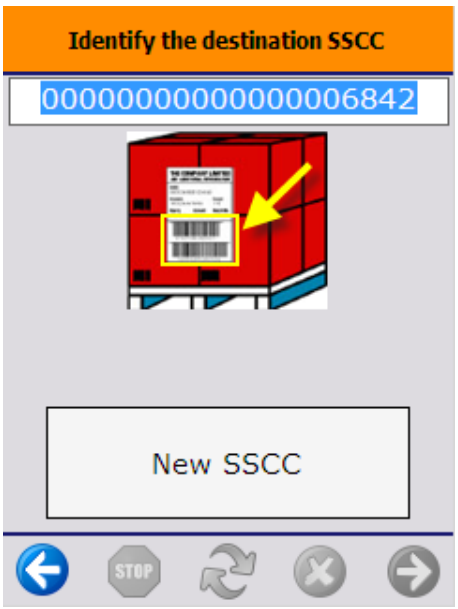
5. Enter the quantity

Enter the quantity to move. For more information about adding the quantity in Produmex see: 4.3.4. Screens for entering additional information.

6. Scan destination SSCC

Scan the SSCC of the destination logistic unit, or press the ‘New SSCC’ button to move the products onto a new logistic unit. The new logistic unit will be linked to the shipping dock where the source logistic unit is located.

If defined, the *‘Packing: Finish logistic unit (500)’* print event is triggered and the logistic label is printed.



Showroom

The Produmex Showroom application can be used in a showroom to scan items, and enter them into a sales order.

1. Configuration

1.1. Set up scanner

Go to Produmex menu > Organizational Structure and define a new OSE object of type *Thin Client*.

When adding a new OSE object of type ‘Thin Client’, some data needs to be set:

Code

The code of the scanner

Name
The name of the scanner

Workflow
Select the option ‘MainShowroomFlowScript’

Parameter set
For this workflow, there are some parameters that need to be defined. This can be done by selecting ‘Showroom ThinClient – ParameterSet’.

Number of items in sales unit column name
Define here the column name of the column that stores the number of items in the sales unit, defined on the item master data. By default ‘NumInSale’ is used. If you have a UDF to store this value, you can provide the name of the UDF.

Admin password
Provide here the password that will be used to unlock the administrator functionality in the showroom application. By default the password is ‘produmex’

1.2. Define the report to be printed

When an order has been added by the showroom application, an order confirmation can be printed.

First create a new ‘Sales order report (SALO-REP)’ type report on the ‘Reports’ tab page. For more information about the report settings see: 5.1.5. Reports

1.3. Define the print event

Then create the print event on the ’Print events’ tab page. Set the report created in the previous step as the ‘Report’. Select the ‘Sales order: sales order added event (600)’ as the ‘Event’.

Adjust the other settings as well. For more information about the print event settings see: 5.1.6. Print events

2. Showroom application

2.1. Select task

Log on then select a task:

- Press the ‘Select customer’ button to select a customer to make the sales order for.
- Press the ‘Enter admin password’ button to have administrator functionality. When having administrator functionality, the cost of item to order will be shown and can be changed during the flow. When entering wrong password for three times, the user will be logged off.

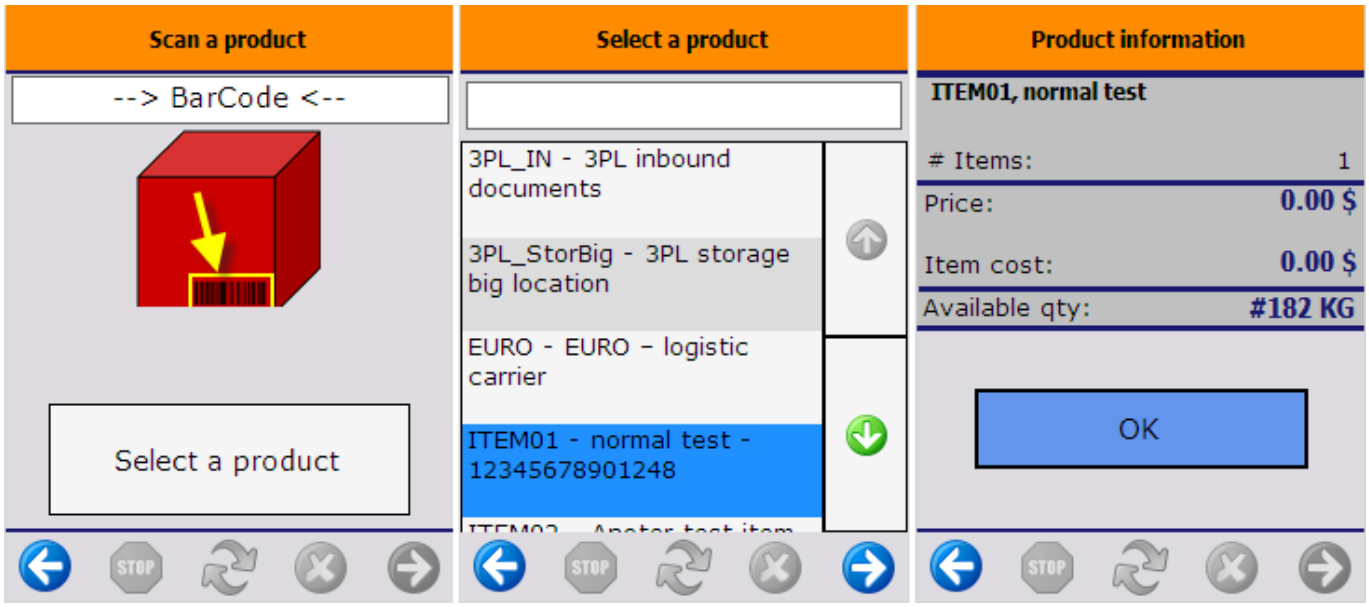
Note: The admin password has to be entered every time a new sales order is started.

2.2. Select customer

Select the customer make a sales order for. It is possible to filter the list by entering text into the textbox.

2.3. Identify product

Scan a barcode of the product to identify the product order. If no barcode is present, press the ’Select a product’ button and select it from a list. The list can be filtered by entering text to the textbox.



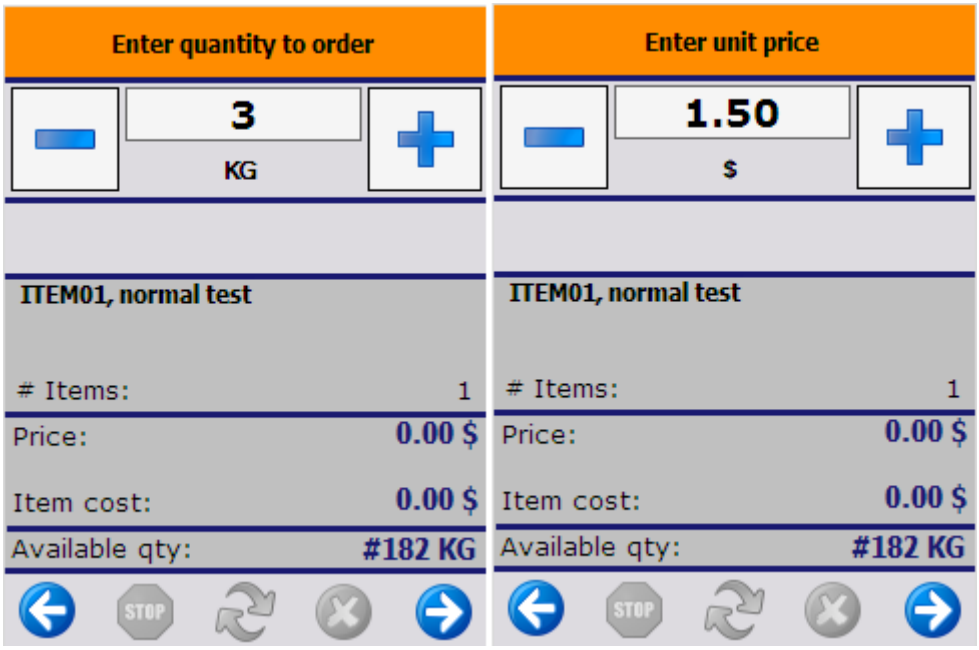
2.4. Show product information

The next screen shows the following product information:

- The item code and description
- The number of items in the sales unit
- The price - The special price for the customer *(if it is set)*
- The item cost of the product
- The available quantity in stock

2.5. Enter quantity to order

Enter the quantity to order. There is no limitation on the quantity.



2.6. Enter price

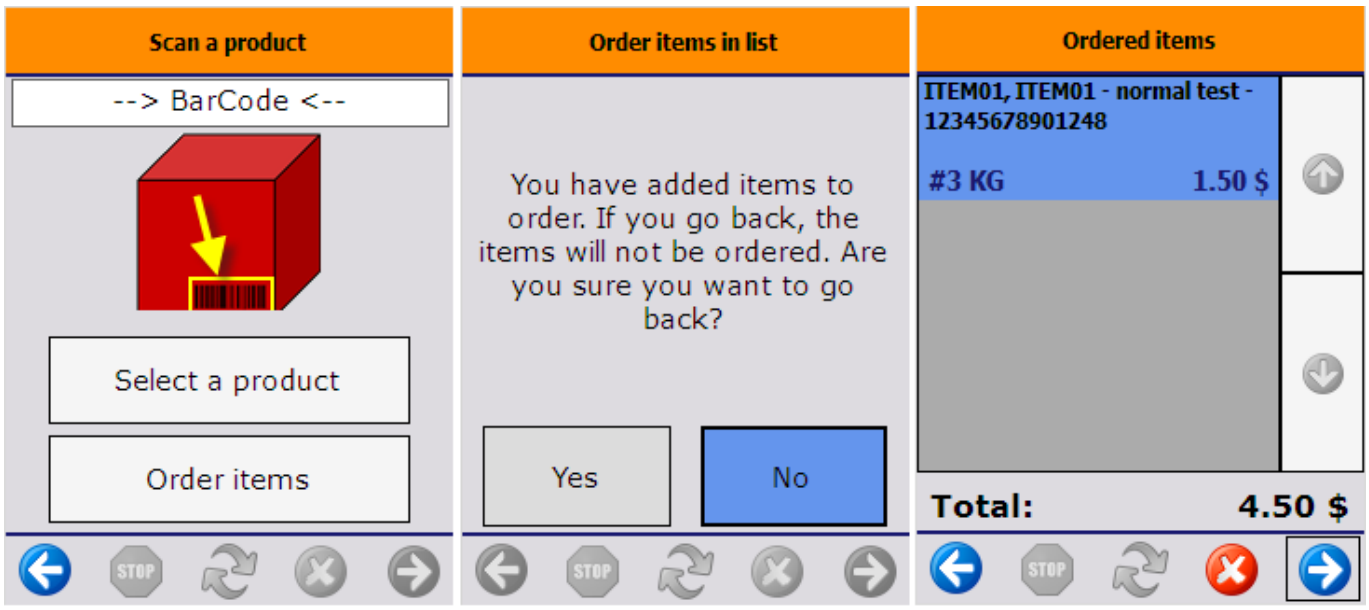
When the administrator functionality is unlocked or for some reason there is no price set, it is possible to change the price of the product to order.

When the administrator functionality is locked, the price set for the item is taken a price. In case there is a special price set for the customer, then the customer price is taken.

2.7. Identify next product

Identify the next product to order. After identifying every product to order, press on the ‘Order items’ button.

To go back, press the left arrow button. When there are products in the list to order, the system will ask for confirmation: Press ‘Yes’ to go back. The list of items to order will be cleared. Press ‘No’ to proceed with the current order.



2.8. Show all ordered items

After pressing the ‘Order items’ button, the system displays the list of the ordered products with the quantity and the entered price of the product. The total quantity of the order is shown in the bottom of the screen.

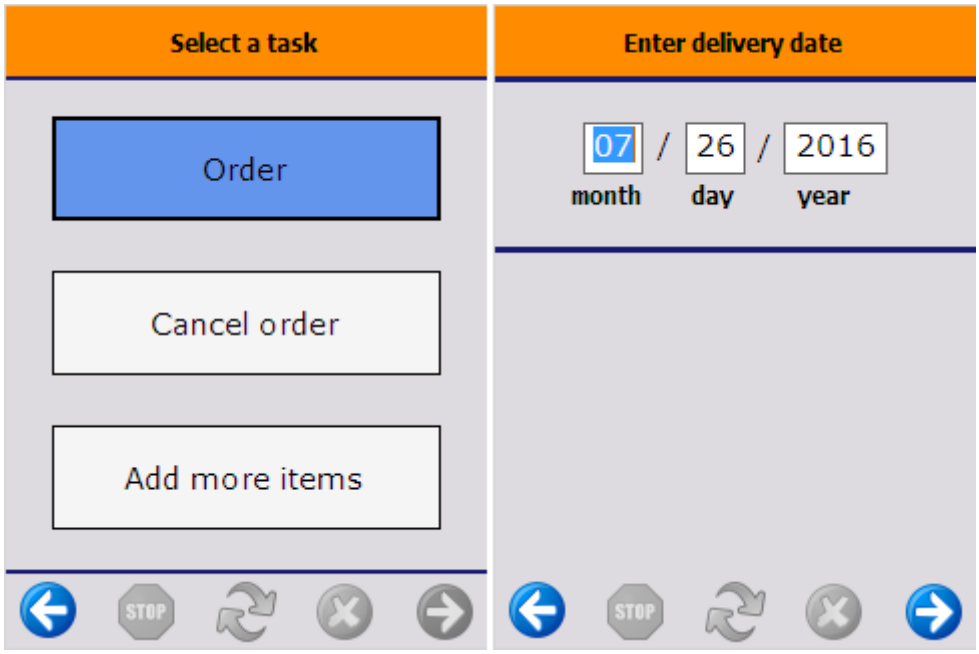
It is possible to delete a product from the list. Select the product and press the ‘Delete’ button. The total price will be updated accordingly.

2.9. Select order task

To proceed with the order, press the `Order` button.

To cancel the order, press the `Cancel order` button.

To add items to the order, press the `Add more items` button.



2.10. Enter delivery date

After pressing the `Order` button, enter the delivery date. The system will save the order.

2.11. Print event

If there was a print event defined, it will be triggered after the order has been saved.

Purchase Guide

With the Produmex Purchase module stock reception, put away and return can be executed on the shopfloor. Produmex offers specialized flows for purchasing:

- Reception
- Put away
- Purchase return
- Cross-docking
- Bulk reception
- ASN reception
- Receive from WHS
- Create purchase document

Brief overview of the Purchase Main Flow

By following the steps below, users can effectively navigate the Purchase Main Flow in the Warehouse Management System, ensuring accurate reception, storage, return, and document management for purchased items.

1. Reception

The reception process within the Purchase Main Flow involves receiving purchased items into the warehouse.

- Select the desired receiving method: GS1/EAN barcode, purchase order, container, or ad hoc.
- Scan the barcode or select the purchase order/container to link the items being received.
- Identify the product, select a logistic carrier (if available), and provide relevant details like batch number and quantity.
- Validate the data and create a Goods Receipt PO document.

2. Put Away

After the reception process, the put away step focuses on assigning storage locations to the received items.

- Put Away orders may be generated based on the Put Away Order Generator extension after adding the Goods Receipt PO document in SBO.
- No Put Away order is generated if the “Receive on location instead of dock?” option is enabled or if no SSCC is created at reception.
- The Put Away flow involves initiating the put away, selecting a source dock, and scanning an SSCC to put away.
- For full pallet Put Away orders, the entire logistic unit (SSCC) must be moved, while for regular Put Away orders, different items are moved separately.
- The destination location is scanned or selected from a list, taking into account zone types and availability; after each item is put away, a message is displayed, and no new SSCC is generated when moving items separately.

3. Purchase Return

If there is a need to return purchased items to the supplier, the Purchase Return process is executed.

- The Purchase Return Flow allows for returning purchased items to a supplier or taking back sold items from customers.
- The return process is initiated by selecting the Purchase Return option from the Purchase menu and selecting the supplier.
- The return can be executed based on an open delivery document or without a delivery document.
- The workflow involves scanning the SSCC or location, scanning the product, adding the quantity to return, and the option to add more products or finish the return process.
- A Goods return document is created in SAP B1, and when all products from a Goods Receipt PO document are returned, the purchase document is closed.

4. Cross-docking

Cross-docking is a process that involves directly transferring received items to outbound shipments

without going through the put away process.

- Cross-docking is a process where goods are immediately delivered to the customer after reception based on the linked sales order.
- The configuration involves enabling options such as auto reserving stock and selecting picklist types for cross-docking.
- The workflow of cross-docking includes initiating the process, selecting a location and purchase order, scanning barcodes, identifying items and batch numbers, specifying additional information, adding the quantity of items, and determining whether to add more products or finish the logistic unit.
- After completing the reception, the system can generate a goods receipt document, automatically close the linked sales and purchase orders, and proceed to the picking flow, generate a picklist or select destination if necessary.
- Users have the option to go back during the reception process, clear identified items on the logistic unit, and handle situations where the goods receipt is not yet booked.

5. Bulk Reception

In bulk reception, goods in logistic container are received and handled as a single unit rather than individually.

- The Bulk Reception Flow allows for direct reception of products into silos and tanks without creating a logistic unit.
- It does not support items managed by SAP or PMX serial numbers and catch weight items.
- The workflow includes selecting a filter (based on a purchase order or without a purchase order), selecting a product, entering a reason (if required), entering the number of items, selecting a zone (if applicable), scanning a destination location, and adding more products.
- After finishing the reception, the Goods Receipt PO document is created in SAP Business One, and the reception note is printed.
- There is an option to go back without booking the receipt, which clears the list of added items.

6. ASN Reception

ASN (Advanced Shipping Notice) reception refers to the process of receiving items based on advance notice from the supplier.

- The ASN Reception Flow allows for receiving items based on an advance shipping notice (ASN).
- The workflow includes initiating the flow, selecting a destination location, selecting an open ASN, and selecting the items from the list at a rapid pace.
- The system verifies criteria such as the status of the linked purchase order/reserve invoice and the presence of open lines with inventory items.
- After receiving all items from the purchase order/reserve invoice, the delivery document is created, and the reception note is printed.
- The purchase order is closed or the status of the reserve invoice is changed to “Delivered” after the reception.

7. Receive from WHS

The “Receive from WHS” step involves receiving items from another warehouse or distribution center.

- The Receive from WHS Flow is used to move stock from a non-Produmex-managed warehouse to a Produmex-managed warehouse.
- Configuration involves adjusting settings for the source warehouse, creating the warehouse in the organizational structure, creating docks within the warehouse, and enabling the warehouse for the scanner.
- The workflow includes starting the flow, selecting a dock, selecting an inventory transfer request (optional), scanning GS1 barcodes (most users have it off), identifying identical logistic units, identifying the product, entering batch data and quantity, adding more products from the logistic unit (optional), and finishing the process.
- The system generates an SSCC barcode if necessary, creates the inventory transfer document, and prints item labels and logistic labels.
- Put Away move orders can be generated based on the configuration setting, and the flow can be continued with another inventory transfer request after booking the items.

8. Create Purchase Documents Flows

Creating purchase documents flows refers to the process of generating and managing various purchase-related documents within the WMS.

- The Create Purchase Document Flow allows for the creation of a new purchase order on the shop floor.
- The workflow involves selecting the destination warehouse and supplier from respective lists.
- Products can be scanned or selected, and product information such as item code, description, price, and available quantity is displayed.
- Quantity to order is entered, and additional products can be scanned or selected.
- The ordered items are displayed for overview, and tasks such as creating the purchase order, canceling the purchase order, or adding more items can be selected.

Reprint Logistic Labels On Mobile Client

With the Reprint Logistic Label Flow on the Mobile Client, the logistic label can be reprinted after the SSCC is delivered.

Configuration

Define the *Sales: Reprint logistic label (2000)* print event on the Print Events tab of the Organizational Structure.

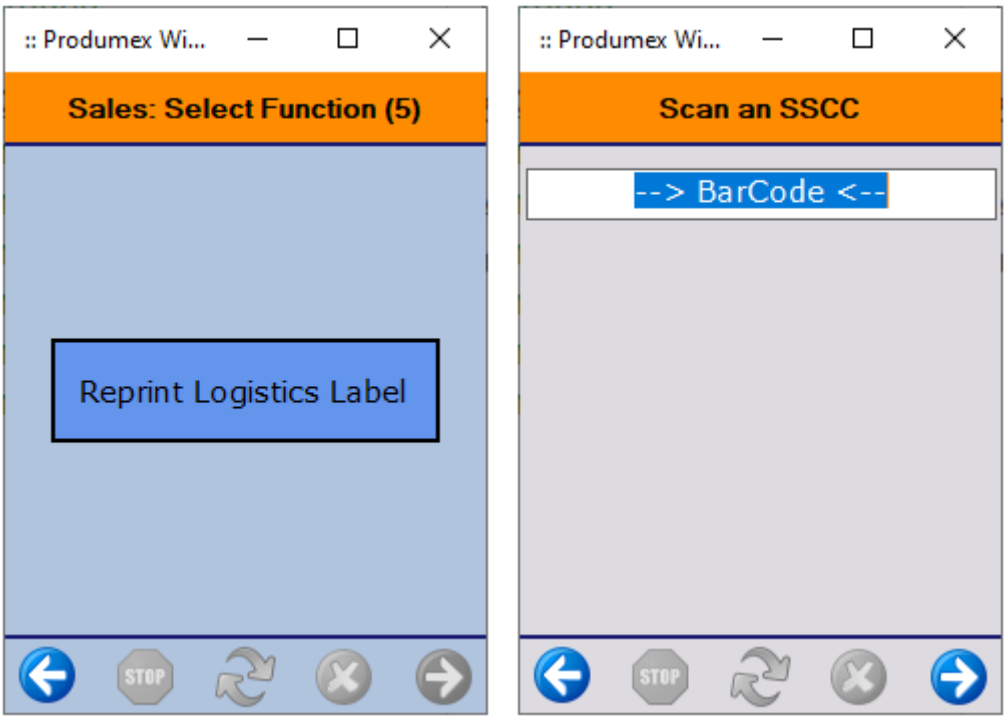
- The print event has no default report.
- The input parameter of the report should be @luid on MSSQL and P_LUID on HANA.

Reprint Logistic Label Flow

1. On the Mobile Client select Sales > Reprint Logistic Label.

2. On the Scan an SSCC screen scan the SSCC to reprint the label. You can scan an SSCC that is already delivered.

After the label is printed, the system returns to the Scan SSCC screen. Scan the next SSCC or tap the left arrow button to exit.



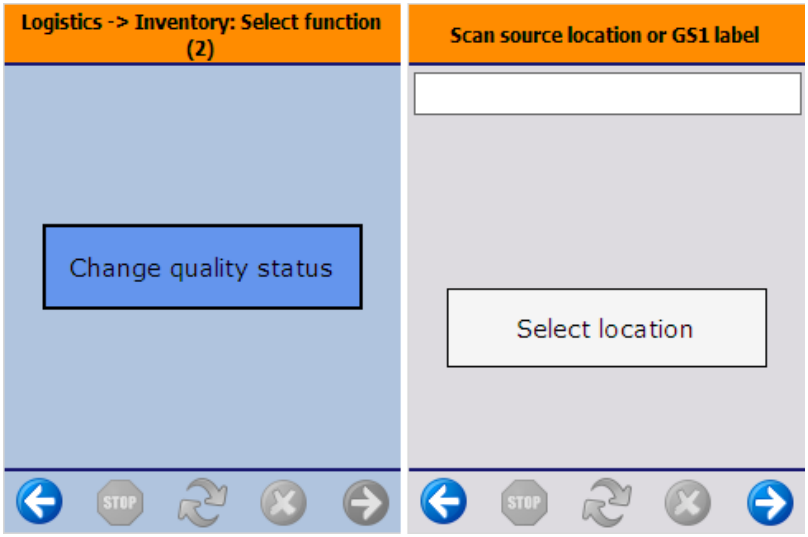
Change Quality Status Flow

1. Initiate flow

To change the quality status on the shopfloor, press the ’Change quality status’ button. The button can be reached via: Logistics > Inventory.

2. Scan source location or GS1 label

Scan the GS1 label or the location. To select the location from a list, press the ’Select location’ button. Every active location from the warehouse(s) assigned to the thin client is listed.



3. Details item in stock

On the next screen the current stock of the scanned location/logistic unit is listed. The following information is displayed:

1. Location code
2. Quantity on stock
3. Item code – Item description – Barcode
4. SSCC number
5. Batch number, Batch number 2
6. Current quality status
7. Best Before Date

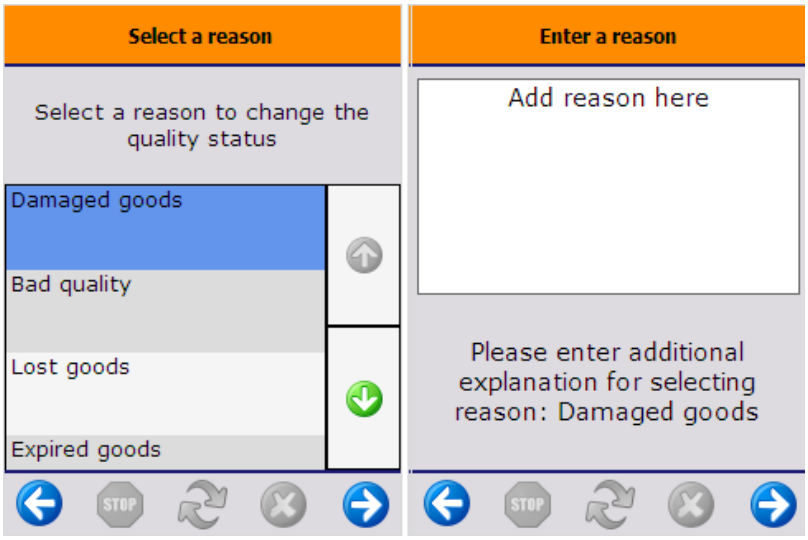
4. Select a quality status

Then select the quality status from the list. A quality status is only listed if the current quality status of the stock can be changed to it and the user belongs to the user group that is authorized to perform the quality status transition.

5. Select a reason

If the *Ask for reason* checkbox is checked for the quality status transition, select the reason of the quality status change from the list. Every reason that can be used for quality status change is listed.

If the *Requires extra reason text* option is enabled for the selected reason, enter additional explanation to the textbox on the screen. You have to enter minimum 10 characters in order to proceed.



After the reason is selected, the quality status is changed. The system goes back to the 'Scan source location or GS1 label' screen.

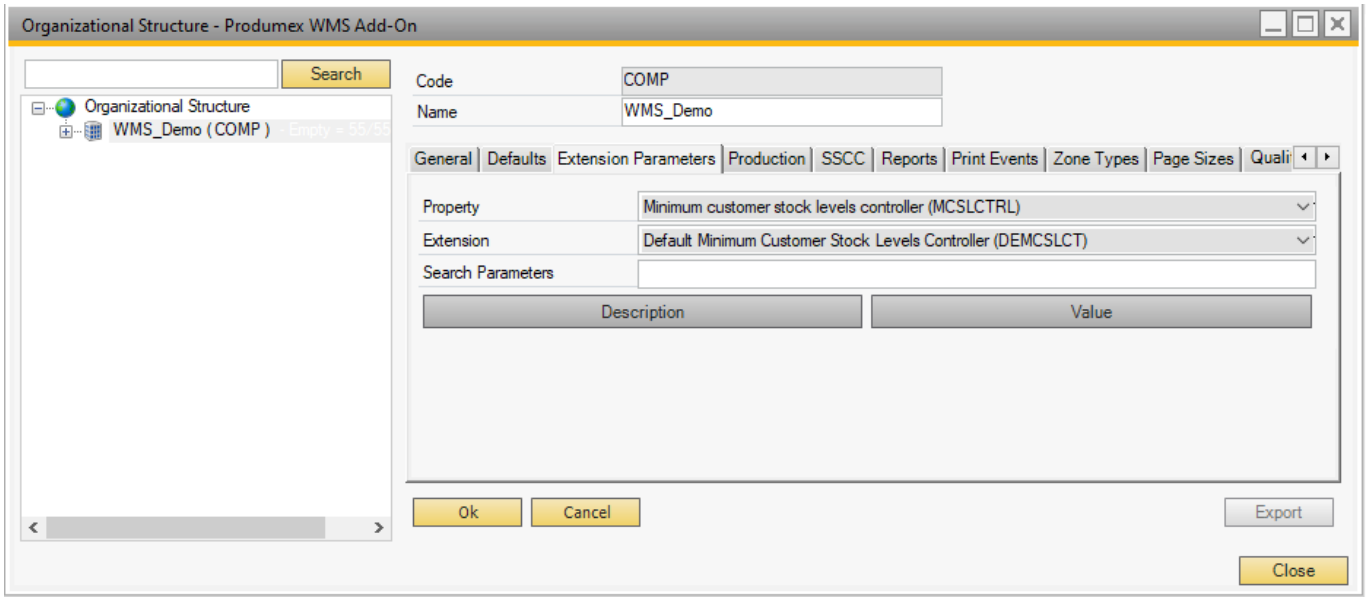
Reserve Minimum Stock for Customers with Robot Tool

With Produmex WMS it is possible to reserve a minimum stock quantity of an item. The functionality is available via Item Master Data > Produmex tab > Sales tab.

For information on configuration see Item Master Data / Sales tab.

1. Prerequisite

Set the Minimum Customer Stock Levels Controller on the Extension Parameters tab of the Organization Structure by selecting the default extension.



2. Reserve minimum stock levels for customers

1. Add the card code of the customer to the first field of the *Card code* column.

You can enter the data manually or click on the grey circle which displays the list of your business partners. After selecting the customer, click `Choose`. The code of the customer is added and the name of the customer is automatically displayed in the *Card name* column.

2. Add the warehouse to the *Whs* column.

You can enter the data manually or click on the grey circle which displays the list of your warehouses. Select the one where the item is located and click `Choose`.

3. Add the minimum stock quantity to be reserved for the customer.

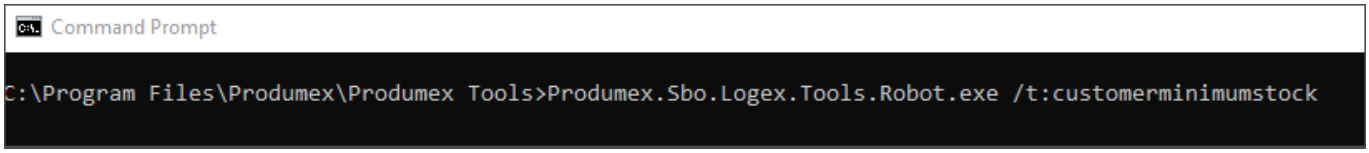
Click in the first field of the *Minimum stock level* column and add the quantity manually or click on the on-screen keyboard and provide the quantity.

4. After providing all the necessary information, click `Update` or press `Enter` and then click `OK`.

To delete the row click on the number of the row and click `Delete row`.

It is possible to specify minimum stock quantity of the very same item for more than one customer as well by filling in the fields of the next rows in the grid.

5. Execute the reservation with the Robot Tool and call the **Minimum Stock Level tool** with parameter /t:customerminimumstock.



3. Examples for reserved stocks and picklist proposals

Example 1
If you reserve stock of an item for more than one customers, Produmex WMS starts to reserve the pieces of the item by following the order in the grid.

In the 1. row of the grid: you reserve 5 from the item for Customer A.
In the 2. row of the grid: you reserve 3 from the item for Customer B.
Inventory: 3

First Produmex WMS reserves 3 pieces for Customer A, then it will wait till you receive further purchase orders when it can keep on reserving the remaining 2 pieces for Customer A. It will start to reserve pieces for Customer B only if 5 pieces have already been reserved for Customer A.

Example 2
If you have reserved stocks for an item and you have a sales order for the item by a customer for whom no stock is reserved (Customer C), Produmex WMS allows for allocating items to a picklist proposal for the customer only if you have free stock.

In the 1. row of the grid: you reserve 5 from the item for Customer A.
In the 2. row of the grid: you reserve 3 from the item for Customer B.
Inventory: 3
Sales order 1 by Customer C: 4 pieces

You can create a picklist proposal for customer C only if you have more than 8 items in your inventory (5 reserved for Customer A + 3 reserved for Customer B). If you have fewer items than 8, the picklist proposal do not find any stock to allocate for Customer C.

Example 3
If there is free stock, any picklist proposal that is being generated can use this stock.

In the 1. row of the grid: you reserve 5 from the item for Customer A.
In the 2. row of the grid: you reserve 3 from the item for Customer B.
Inventory: 11 Sales order 1 by Customer A: 6
Sales order 2 by Customer C (has no reserved stock): 3

5 pieces are reserved for Customer A and additional 3 pieces are reserved for Customer B. In the inventory there are 3 extra pieces which can be allocated (5+3=8 reserved, 11-8=3 extra).

Scenario 1: you prioritize Sales order 1

You create a picklist proposal for Sales order 1 by allocating the 5 reserved items and allocating one extra piece. You can also create a picklist proposal for Sales order 2, that is, the remaining

extra 2 items can be allocated, but you need to wait for a purchase order to receive 1 more piece.

Scenario 2: you prioritize Sales order 2

You create a picklist proposal for Sales order 2 by allocating the 3 extra pieces. For sales order 1 you can allocate the 5 reserved pieces and need to receive a purchase order to allocate one more.

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