6.10. Distribution Center

Distribution center (DC) tab shows an inventory report that provides replenishment recommendations for the 2-nd level echelon. The 1-st level echelon inventory report is displayed on the Inventory report tab.

The report recalculates replenishment information based on inventory parameters used as inputs. The parameters and outcomes of the report are the following:

**Parameters:** DC on hand, DC in transition, Delivery date, DC pending sales orders, DC lead time, DC order cycle, DC min lot, DC max lot, DC rounding, DC service level, DC shelf life, DC shelf life exceeding, Purchase price, DC safety stock.

**Outcomes:** DC safety stock, Safety stock debt, Gross margin, Turn-earn index, Order now, DC projected inventory levels, DC purchase plan, DC stockouts, DC overstocks.

Description of the parameters and outcomes is given in the Table section.

**Toolbar**

- **Settings** button gives access to the report settings.
- **In transition details** button shows the In transition details dialog.
- **Export report** exports entire inventory report table to Excel.
- **Export parameters** creates an Excel spreadsheet where inventory parameters can be edited.
- **Import parameters** loads the spreadsheet created using the Export parameters button. You can optionally choose any other Excel file to load. To do this:
  1. Click on a little triangle near the button.
  2. Select the Choose file... command.

1. Choose the file and click **OK**.
• Export purchase orders button shows the Purchase orders preview dialog.

Table

Description of the Category, Item code, Description, DC on hand, DC in transition, DC pending sales orders, DC Lead time, DC order cycle, DC min lot, DC max lot, DC rounding, DC reorder point, DC max inventory, Purchase price, DC shelf life, DC shelf life exceeding, Gross margin, Turn-earn index, Stockout, Overstock columns and Projected inventory levels, Purchase plan sections is the same as for inventory report table.

DC service level is the percentage of the time (in the long run) that the item is in stock, based on the forecast. It can be changed in the DC settings.

DC safety stock is referred to the safety stock amount for the distribution center. It is an assessment of the reserve stock for the:

- next order cycle if the periodic strategy is used;
- lead-time if the min/max approach is used.

It is based on the given DC service level which can be set in the DC settings.

Safety stock debt is the total of safety stocks debts of all locations that should be replenished from DC besides the locations’ demand forecasts. The location's safety stock debt is the quantity that is necessary supply in order to keep location's Safety stock at the recommended level. It arises when location's Safety stock is consumed due to unpredictable fluctuations in the future demand. It is rounded by the location's Rounding parameter when the total Safety stock debt is calculated.

DC Order now section gives recommendations of what and how much to order today. The Qty column shows the item amount that should be ordered. The Value shows the purchase order item value in the base currency. Order now quantity calculation depends on how DC is configured. If it is a virtual warehouse between suppliers and locations, the Excel formula looks like:

\[
\text{Order now qty} = \text{MAX} (\text{CEILING} (\text{MAX}(0, \text{DC Cycle Time Demand [starting from lead time]} + \text{DC Safety Stock} + \text{Safety stock debt} - \text{DC Remaining}), \text{Rounding}), \text{Min lot}).
\]

If DC is configured to be one of imported locations, the formula is:

\[
\text{Order now qty} = \text{MAX} (\text{CEILING} (\text{MAX}(0, \text{DC Cycle Time Demand [starting from lead time]} + \text{DC Safety Stock} + \text{Safety stock debt} + \text{DC Pending sales orders} - \text{DC Remaining}), \text{Rounding}), \text{Min lot}).
\]

Where:

Remaining = \text{MAX} (0, \text{DC On Hand} + \text{DC In Transition} - \text{DC Lead Time Demand}).

DC Demand forecast section shows the item replenishment quantities (taken from the replenishment plan) aggregated by locations for each forecasted period. In particular, the first column of this section shows the sum of the item Order now qty column aggregated by locations.
Inventory report Tab

If DC is active, the **Inventory planning** tab shows inventory report that provides replenishment recommendations for all locations, except the DC’s location. The **Order now section** of the Inventory report shows the quantity that should be replenished from the DC today.

Information listed in the **Inventory planning** tab and **Distribution center** tab depends on how DC is configured in the **DC settings**. DC can be treated only as an intermediate warehouse between suppliers and locations, or in addition to that, it incorporates one of the imported locations. Let’s consider these two situations.

DC as intermediate warehouse

Streamline can consider DC as an intermediate warehouse between suppliers and locations. DC can only receive products from suppliers and replenish other locations with necessary volumes of goods.

To set DC to work so, do the following:

1. Go to the menu **File > Settings > Distribution center**.
2. Ensure that the **Enable** option is checked.
3. Set the **Location** control to **'(Other location)'**. It is the default option.
4. Click **OK**.

The report has no DC inventory information by default.

To load the information, follow the **Export/Import parameters scenario**. The imported information is displayed in blue color (marked as overridden in Streamline). The report is automatically recalculated.

DC as selling location

Streamline supports the situation when DC can make shipments to customers directly. In this case, it should be configured as one that incorporates one of the imported locations. To do that:

1. Go to the menu **File > Settings > Distribution center**.
2. Ensure that the **Enable** option is checked.
3. Select the location, you want to incorporate in DC in the drop-down list of the **Location** control.

4. Click **OK**.

Now, inventory information of the incorporated location is depicted in the DC inventory report.

While the **Inventory report** Tab displays the inventory report for all the other locations.

Inventory information of the incorporated (East) location is absent here now.

Next: Program Settings

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