Replenishment – Training Manual

LS Retail NAV 6.3

November 2011
MM/FÞÓ/GH/AÓB

Contents

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1 LS Retail – Replenishment: Overview

1.2 Objectives

The objectives for this chapter are

- **Overview** over the course
- **Getting information** on the demonstration data
- **Introducing** the basic functionality

2 Basic Information

This introduction contains prerequisites and useful information about the product training course.

This LS Retail course is mainly an instructor-led training course but can provide guidance for self-learning. The chapters contain instructional text, which introduces an area of the program and examples of how this area works.

2.2 Target Audience

The course is intended for people who are responsible for the replenishment process in a Purchase Department. It demonstrates how the LS Retail Replenishment system can be used to suggest which items are to be replenished for the stores and a central warehouse.

The Replenishment system inspects selected items and comes up with a suggestion of how much needs to be ordered, either from a vendor or from the central warehouse.

This introduction contains prerequisites and useful information about the LS Retail Replenishment training course.

2.2.1 Course Prerequisites

Participants need to have a good basic knowledge of Microsoft Dynamics NAV.

2.2.2 About the Demonstration Data

All exercises are based on a fictitious company, CRONUS International Ltd (CRONUS LS 2009 (6.3)W1 Demo-v8), which started in May 2005 with two food markets, two fashion stores, one electric store, and a restaurant combined with pizzeria and call center.

The CRONUS International Ltd. Company is divided into five stores a restaurant and a head office. The stores are called CRONUS Super Market South, CRONUS Food Market North, CRONUS Fashion Store North, CRONUS Fashion Store South, CRONUS Electrical Store South and the CRONUS Restaurant. There are several POS Terminals and Cashiers per store.

Item Divisions are Food and NonFood. The item categories are: Audio/HiFi, Beverages, Clothing, Dairy Products, Drinks, Fruit and Vegetables, Home Appliances, Meals and Stationary. Each item category is divided into several product groups.

2.2.3 Dates

The dates shown in the screenshots have the European format. Therefore, if you use a different date format, there will be differences between the solutions in the training material and your solutions.

The demo data is designed for the work date 15.08.07. It is important that this date is used when performing the activities.

2.2.4 License Information

If you are using the demo-database, you need your Microsoft Dynamics NAV developer license to run the examples in this course.

2.2.5 Further Information

A separate document for Demand Plan is available with the LS NAV 2013.00.01. For further information about the LS Retail training course, refer to: support@LSRetail.com

2.3 Overview of Functionality

Following is an overview over the main functionality available in LS Retail.

2.4 Items

Items are the fundamental units in the LS Retail system. An item in LS Retail is actually an item from the Microsoft Dynamics NAV standard application, but with extensions made for the retail industry. In addition to the Navision standards items, LS Retail includes numerous features that concern item sales at the point of sale.

2.5 The Replenishment Module

The purpose of the Replenishment Module is twofold:

- It can be used to assist the purchasing department with the distribution of new items to stores for the first time
- It can make Purchase Order or Transfer Order suggestions based on the four different calculation methods mentioned below.

The Replenishment Module is used to assist the purchasing department in making purchase orders and also to assist the warehouse with suggesting what needs to be transferred to the stores.

The LS Retail Replenishment System calculates the quantity needed at the stores or the central warehouse and suggests what needs to be purchased from the vendors. It will also help with the distribution of items from a central warehouse to stores, both when the order arrives at the central warehouse (Planned Cross Docking) and if it is decided to push items from the central warehouse to the stores (Buyer's Push).

LS Retail Replenishment offers you the option to replenish warehouses and/or stores by way of Purchase Order documents and/or Transfer Order documents.

LS Retail Replenishment can be automatic, for instance by running automatic Scheduler job as an overnight process.

The Replenishment processes are executed at the Head Office.

The system can suggest the quantity to replenish according to four different calculation types or methods. It is also possible to manually allocate quantities to be distributed to the stores.

The four different calculation types are:

- **Average Use**
- **Manual Estimate**
- **Stock Levels**
- **Like-for-Like**

These methods and their associated parameters are set up in the Retail Item Card but overrides for certain items and locations can be also be defined.

2.5.1 Automatic and Manual Replenishment

Automatic Replenishment is mostly used if a sales history is available, but it is not necessary. Sales history can be copied as a start, or Manual Replenishment used for instance the first 2 weeks but after that turn to the the Average (automatic) setting.

> **Example:**
>
> Men‘s underwear is an example of the kind of items where changes in sales history are not usual. It is therefore ideal for Automatic Replenishment.

Normally one would use **like-for-like** to replace items that are removed with the same number and kind of items. This is suitable unless one needs the replacements to happen fast, since **like-for-like** needs to be in posted state before the replacement items are required.

Manual Replenishment is used for instance for fashion and seasonal items where for instance more control is needed regarding speeding up the process.

2.5.2 Abbreviations and Definitions

Note that the words card, form and table are all used to describe the same part of the LS Retail NAV solution. You will find them called Cards in the solution, but also Form or a Table, the last one often when entering or changing data in a table.

3 Reoccurring Items

3.2 Defining Stores and Items to Replenish Automatically

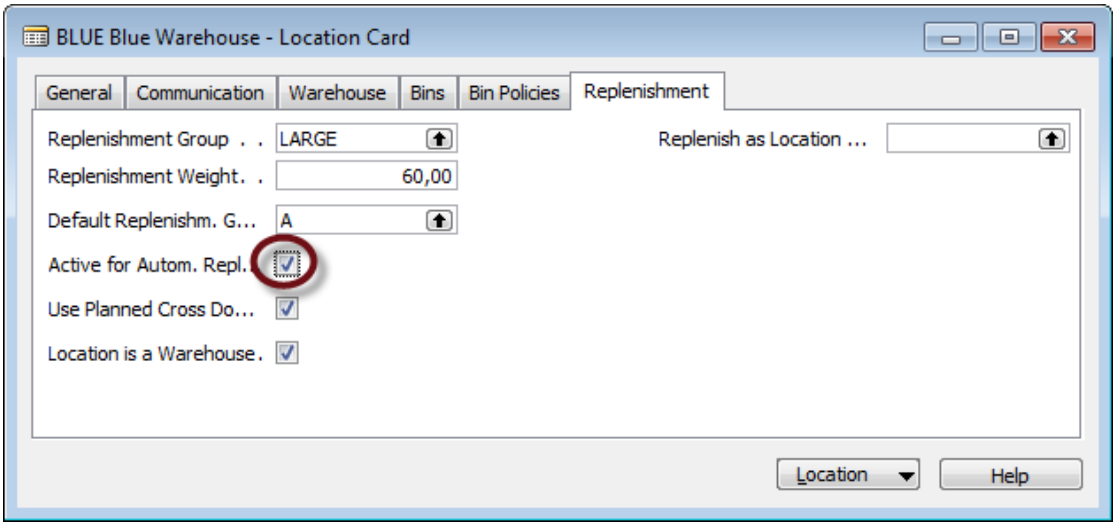
Using the solution you need to know which items and stores to replenish using which methods and parameters. It is essential that this information is properly organized and defined.

The combination of store and item determines whether the item is replenished.

3.2.1 Store

For each store record, at least one location is defined for the selling of goods. The replenishment information is defined on the location record, **LS Retail – Replenishment, Setup, Replenishment, Locations**, the fields are:

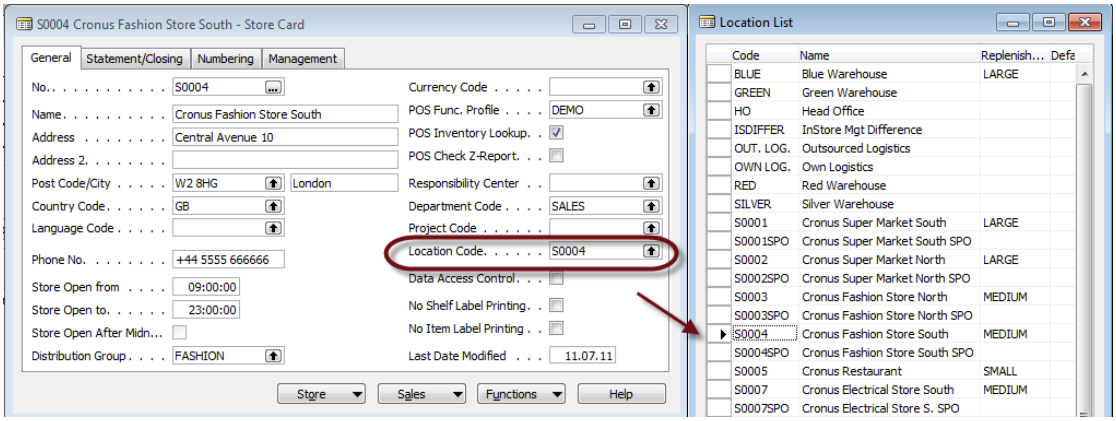
- **Active for Automatic Replenishment** - needs to be set so the location/store is valid for automatic replenishment.



- **Use Planned Cross Docking** – The field needs to be active to be visible in the Location list in the Cross Dock and Buyer's Push Matrix forms.
- **Location is a Warehouse** – should be set if the location record is for a warehouse and should be off if the location is for a store.
- **Replenish as Location** – the system will use this location code to find sales history information when calculating the average daily sale when the replenishment calculation method is *Average Usage*.

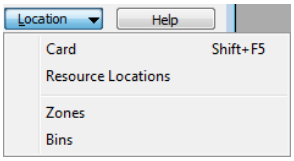
To access the store's Location card

1. **LS Retail – Back Office, Setup, Store Card** and open the **Location Code** drop down list

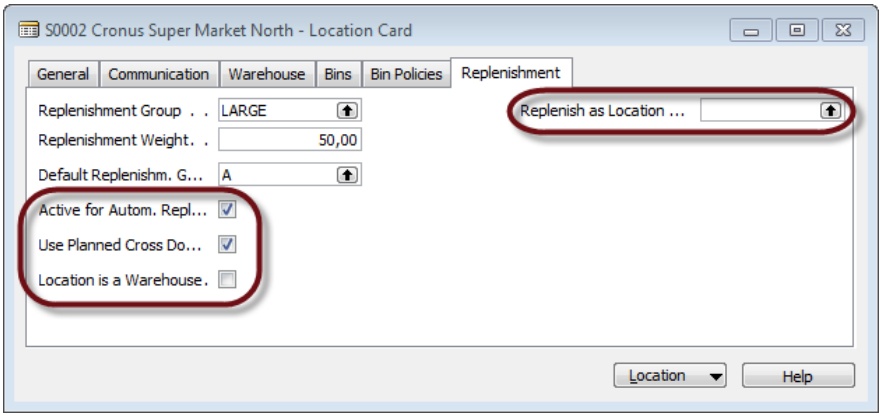


2. Select a store location

3. On the **Location List** card: Press the **Location** button, **Card**



4. The store's **Location Card** appears.

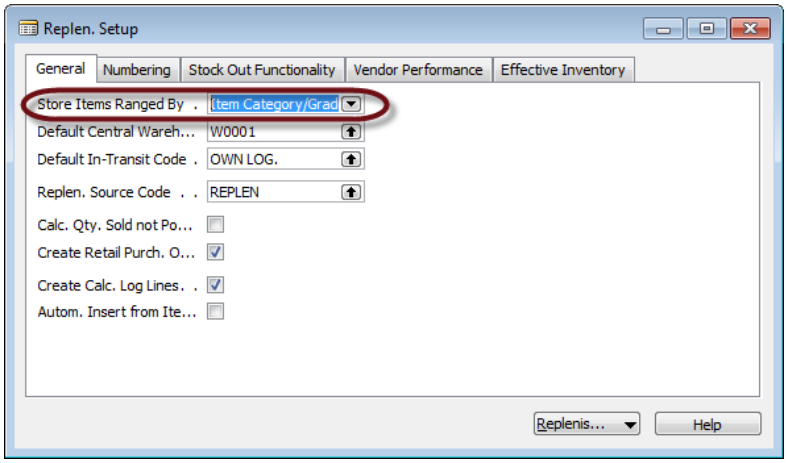


3.2.2 Item

There are two methods of defining which items should be automatically replenished; that is by:

- **Item Category/Grade**
- **Store Groups**

The system can only use one method at a time and this is defined in the Replenishment Setup.



3.2.2.1 Replenishment Grades

Replenishment Grades are used to determine if an item is to be automatically replenished for a given store or a location. A location has a field called **Default Replenishment Grade Code** and Items have a Replenishment Grade as well.

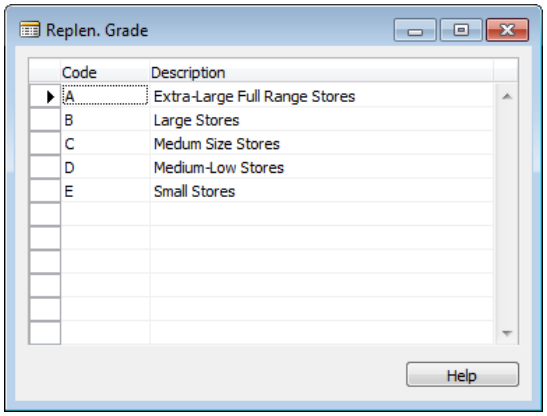
3.3 Scenario 1 – Automatic Replenishment

John Smith at CRONUS has decided to let the system determine whether an item is to be automatically replenished. This means that the system needs to find the Replenishment Grade Code for the Item and the Replenishment Grade Code for the Location and compare them. If the Item Replenishment Grade Code is smaller than or equal to the Store Replenishment Grade Code, the Item will be automatically replenished.

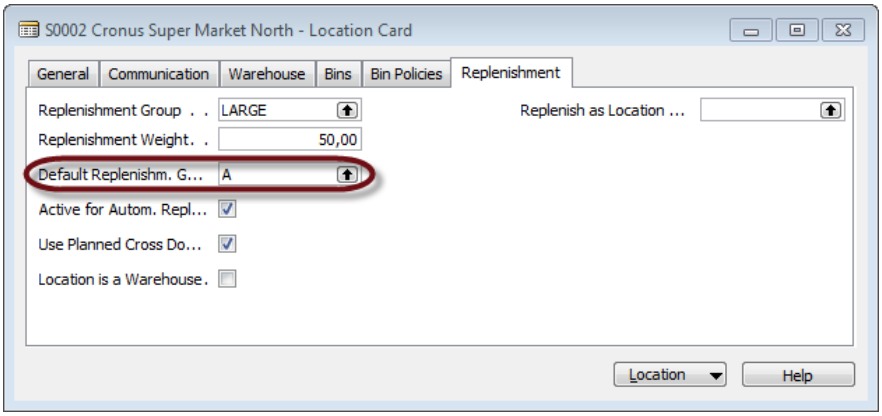
Example: In this case this is what the system does:

> The item in question has the Replenishment Grade Code D and the Store Replenishment Grade Code B. The Item will be automatically replenished in that particular store. Items with the Grade Code D should be replenished for all stores with the Grade Codes A, B, C and D.

In the Replenishment Grade form John Smith can define the levels according to the way he wants to grade the stores (or locations) and items:



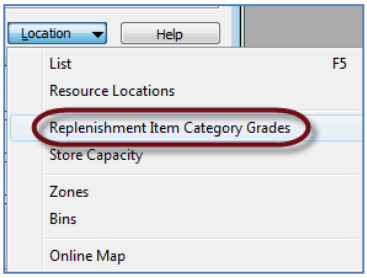
1. In the **Default Replenishment Grade Code** field he can set up the Replenishment Grade Code for the location since in this case the **Store Items Ranged By** field is set to *Item Category/Grade*. See the following **NOTE**.



NOTE:

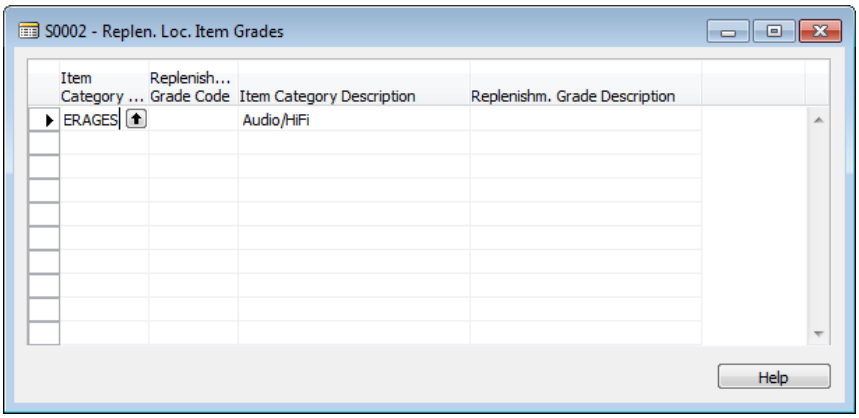
The Default Replenishment Grade field is only shown if the **Store Items Ranged By** field is set to *Item Category/Grade*.

2. It is possible to override the Replenishment Grade Code for this location for selected item categories by pushing the **Location** button and selecting *Replenishment Item Category Grades*. This is exactly what John Smith has decided to do.

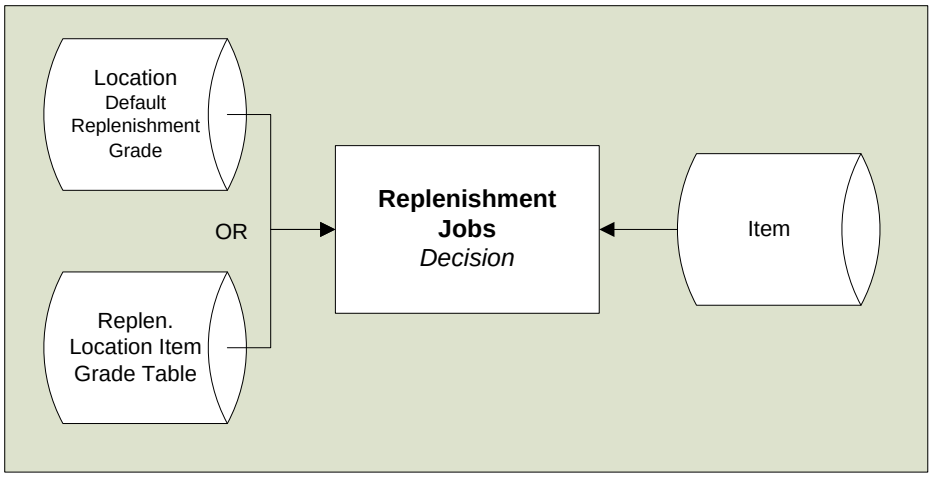


NOTE:

The Replenishment Grades only come into effect if the **Store Items Ranged By** field in the Replenishment Setup form has the value *Item Category/Grade* and not *Store Groups*.



This information is only relevant if you decide to use Item Category/Grade to select items for replenishment as in this case.

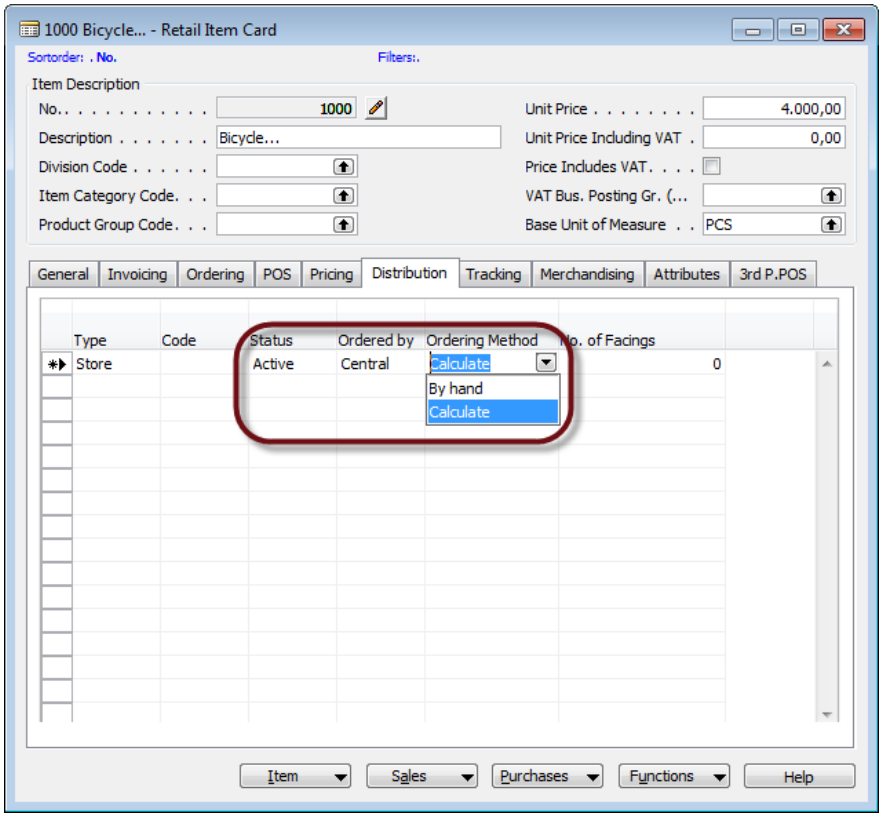


3.3.1 Store Groups

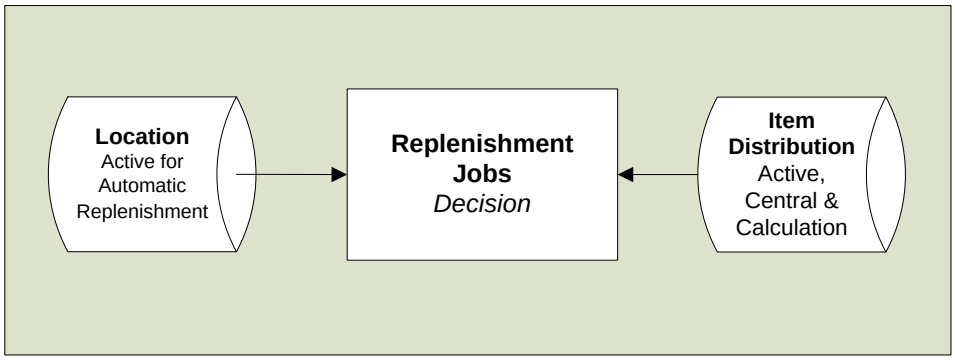
The *Replenishment Store Group – Item Distribution* definitions are used to determine if an item is to be automatically replenished for a given store or a location. The Item Distribution table controls the product range of stores. An Item Distribution line can be defined to one store, group of stores, or all stores.

The following values need to be set for the item for it to be valid for automatic replenishment:

- **Status** = Active
- **Order by** = Central
- **Ordering Method** = Calculate

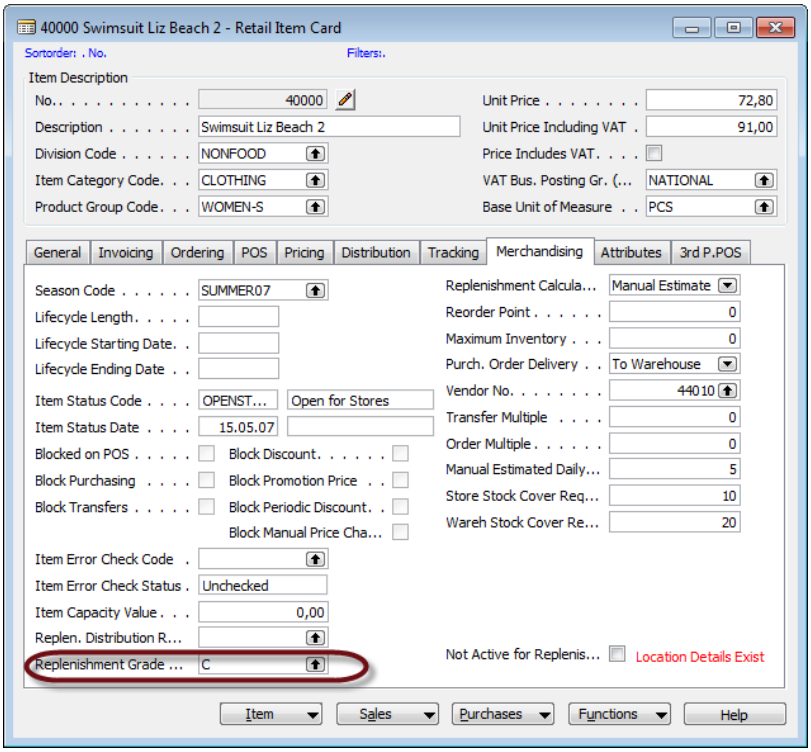


If more than one Item Distribution record is valid for a specific store (all stores, group of store or one store), the system will select the record that is the most specific (*One Store* being the most specific and *All Stores* the least). The priority of store groups is defined in the Store Card.



Order by	Ordering Method	
Store	By Hand	Purchase Order Documents, Purchasing Worksheet / used at the store
Store	Calculated	The Purchasing Worksheets can execute the standard NAV Requisition Process
Centrally (Head Office)	By Hand	The Buyer uses the Allocation part of the Replenishment module (Purchase Order with Cross Docking and Buyers Push)
Centrally (Head Office)	Calculated	The Reoccurring part of the Replenishment module is used to replenish warehouses and stores.

Example:



The Item above has the Replenishment Grade Code C. Items with the Grade Code E should be replenished for all stores with the Grade Codes A, B and C.

The example below shows that an item with D grading will be replenished to all stores, that are A,B,C or D graded stores. Item with C grading will be replenished to stores that are A,B or C graded and so on.

Stores \ Item	A	B	C	D
A	x	x	x	x
B		x	x	x
C			x	x
D				x

3.3.2 Item Validity

There are some factors that can make an item invalid for automatic replenishment.

Item Blocked

If the field **Blocked** is active in the Item record, the item is not valid for automatic replenishment.

Hint:
An item is made invalid in the Replenishment Item Quantity calculation batch job.

Item Status Purchase Orders / Transfer Orders (PO/TO)
The Item Status table defines the status of the item regarding blocking Purchase Orders and/or Transfer Order. If an item is blocked for an order type, it is invalid for that Replenishment Journal job.

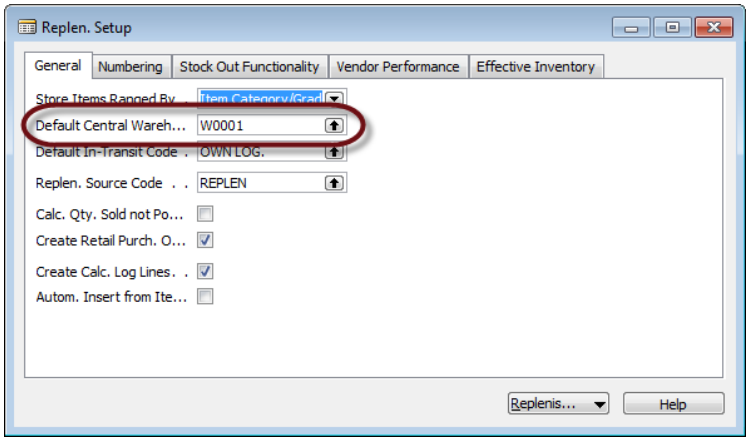
Hint:
The Replenishment Item Quantity calculation batch job does not create a record in the Replen. Item Quantity table if the item is blocked for both Purchase and Transfer Orders. However a record is created if only one of the two is blocked. At the time of populating the Replenishing Journals the item that is blocked for the type of Replenishment Journal will not be added to the journal, for example if blocked for Transfer Order and the journal is a Transfer Order Journal.

Replenishment Data from Item, Item Store or Data Profile records

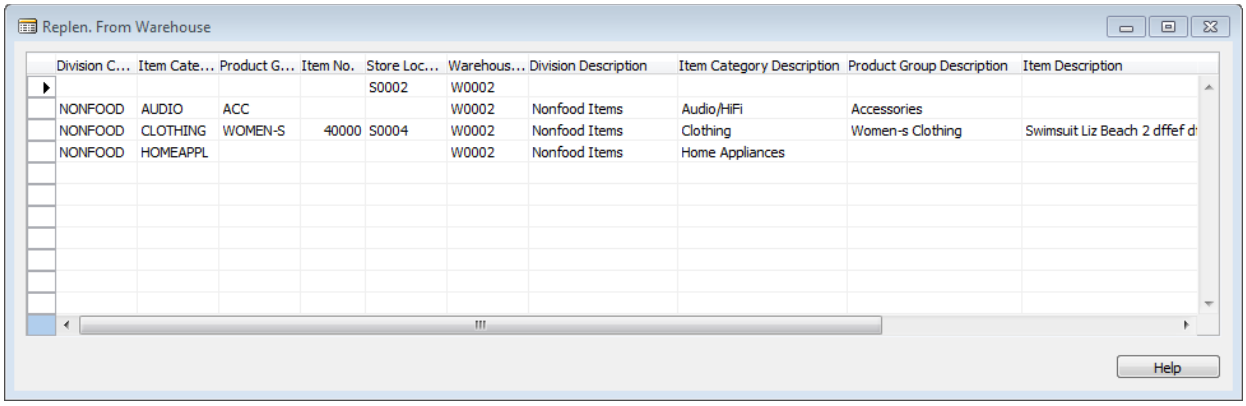
The fields: **Not Active for Replenishment** and **Exclude from Autom. Replenishm.** can make an item invalid for replenishment. These fields can be set in Item, Item Store or Data Profile records.

3.3.3 Warehouse

The Replenishment Module supports Retail companies with or without warehouses.



For companies with warehouses the default warehouse can be defined in Replen. Setup by selecting it in the **Default Central Warehouse** field. By doing this you specify the warehouse to be used for all items. If there is more than one warehouse in the system, the exceptions from the **Default Central Warehouse** are registered in the Replen. from Warehouse table. Pressing the **Replenishment** button on the **Replen. Setup** card leads to the **Replen. from Warehouse** table and it is also possible to access the table from **LS Retail – Replenishment, Setup, Replenishment, Replen. From Warehouse**.



It is possible to define the warehouse to a Division, Item Category, Product Group, Item No. and/or Store Location. If more than one record is valid for the Item and Location combination, the most specific record is selected where Division is the least and Store Location is the most specific.

3.4 Scenario 2 – Two Shop Supplies from one Warehouse

It has been decided that all items for Store S0002, which is the code for the two CRONUS locations in Brighton, England, will be replenished from the W0002 warehouse at the waterfront. This means that both locations get all their supplies from this one warehouse.

3.5 Scenario 3 – Multiple Warehouses

The CRONUS shop in Lancaster, England, gets the supplies mainly from Warehouse 1 that is located near the town center but for the largest items that belong to the Item Category HOMEAPPL are stored in Warehouse 2 (W0002) that is located about 20 miles away from town, between Lancaster and Blackpool.

Attention:

If the retailer does not have a warehouse, the head office can replenish the store by running Purchase Order Journals where the Purchase Order is delivered to the store.

A default warehouse is defined in the Replenishment System when needed.

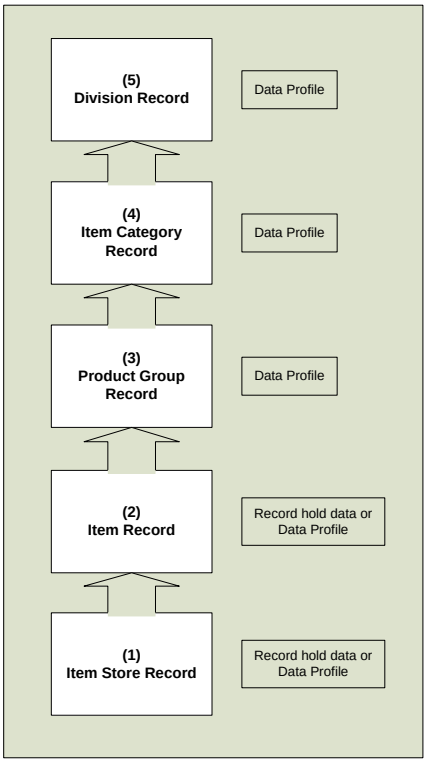
Control Data
The Replenishment process uses Item Data to decide the quantity to replenish and which calculation methods and parameters are to be used.

The data can be kept in different places in the system and there is a certain Replenishment Data Hierarchy.

3.5.1 Replenishment Data Hierarchy

The Replenishment Data can be kept in five types of records: the Item Store, Item, Product Group, Item Category and Division.

The Item Store record has the highest priority and the Division record the lowest.



1 The system will first look for Item Store records. Record with no link to data profile has more priority than records with link to a data profile. If records are found the data from the most specific record is used for the replenishment calculation.

2 Then the system looks for an Item record and if the Calculation type is *Automatic – From Data Profile* and the Data Profile Code is defined in the Item record, it will use the data from the Data Profile record, otherwise it will look up the hierarchy starting with the Product Group record. When the Calculation type is not *Automatic – From Data Profile* the system will use the data in the

item record

3 Next the system will check if the Product Group record contains a Data Profile Code and uses it if specified. If the Data Profile Code is not specified it goes to the next level.
The Product Group record can only contain a pointer to a Data Profile Record.

4 Next the system will look if the Item Category record contains a Data Profile Code and uses it if specified. If the Data Profile Code is not specified, it goes to the next level.
The Item Category record can only contain a pointer to a Data Profile Record.

5 Next the system will look if the Division record contains a Data Profile Code and uses it if specified. If the Data Profile Code is not specified then it goes to the next level.
The Division record can only contain a pointer to a Data Profile Record.

5.2.1 Item Record

The LS Retail Replenishment system has added a number of new fields to the Item Table.

There are three ways the Item record can contain or point to the Replenishment Data:

1. The Item record holds specific Replenishment Data.

2. If the Calculation Type is *Automatic – From Data Profile* and the **Replen. Data Profile** field is filled out and points to the Data Profile record.

3. It the Calculation Type is *Automatic – From Data Profile* and the **Replen. Data Profile** field is blank, the system uses the Item Hierarchy to supply the Data Profile.

Following is a list of the new fields. Their purpose and use will be described in this document as the functionality where they are relevant is explained:

Some of these fields are visible only for certain Replenishment Calculation Types.

- **Replenishment Calculation Type**
- **Manual Estimated Daily Sale**
- **Store Stock Cover Reqd** (Days)
- **Wareh Stock Cover Reqd** (Days)
- **Replenishment Sales Profile**
- **Maximum Inventory** *(standard NAV field)*
- **Reorder Point** *(standard NAV field)*
- **Replenishment Grade Code**
- **Not Active for Replenishment**
- **Exclude from Autom. Replenishm**
- **Transfer Multiple**
- **Order Multiple**
- **Range in Location**
- **Store Forward Sales Profile**

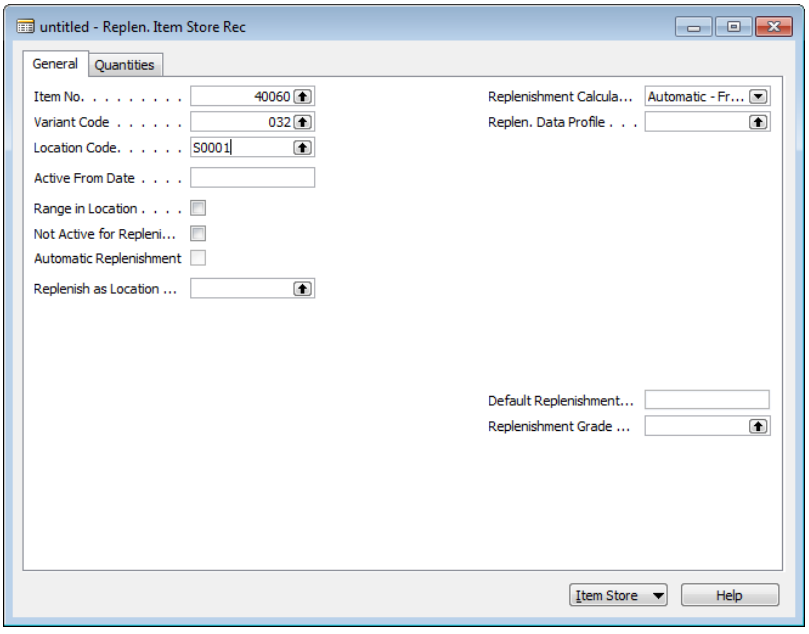
- **Wareh. Forward Sales Profile**
- **Purch. Order Delivery**
- **Replenish as Item No.**
- **Repl. as Item No-Method**
- **Replen. Data Profile**
- **Like4Like Replen. Method**
- **Like4Like Process Method**
- **Vendor No.** *(standard NAV field)*
- **Replen.** Distribution Rule Code

5.2.2 Item Store Record

In the Replenishment Item Store Record you can enter replenishment parameters for a certain item, variant and location. The information stored in this record overwrites the information in the Retail Item card.

The Item Store Record contains all the same Replenishment Data fields as the Item record.

The Item Store record is found under the Retail Item Card: Click on the **Item** button, select **Replenishment** and then **Replenishment Item Store.**

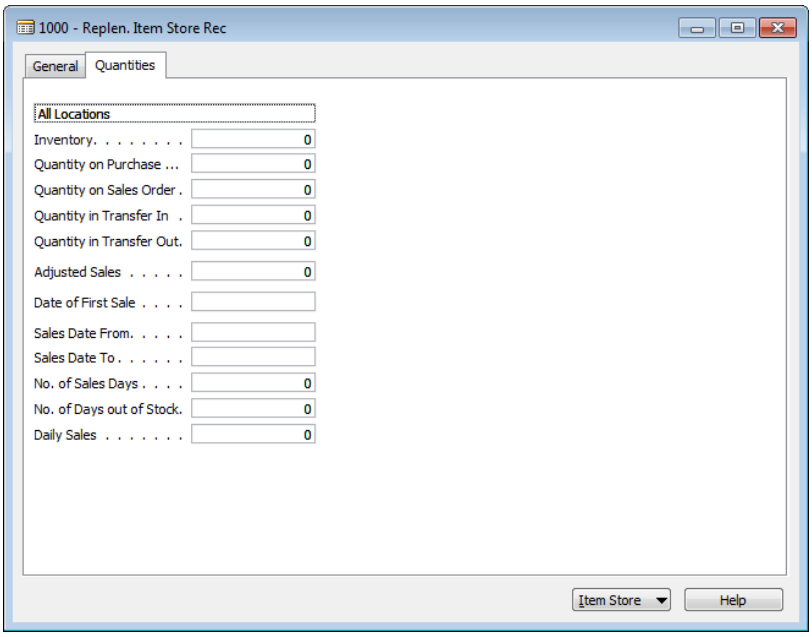


The record only shows relevant fields according to the value of the **Replenishment Calculation Type** field.

On the *General* tab you can fill in the **Item No.**, the **Variant Code** for items with variants, the **Location Code** and the **Active From Date**. The **Item No.** is automatically filled in if you open the Replenishment Item Store Rec. form from the Retail Item card. You can only enter a valid variant code in the **Variant Code** field. Use the lookup functionality to select the **Location Code**.

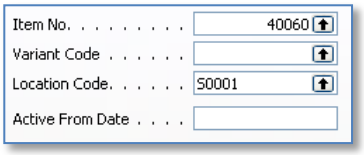
You can have new parameters take effect on a certain date if you fill in the **Active From Date** field.

On the Quantities tab you can see the **Inventory, Quantity on Purchase Order, Quantity on Sales Order, Quantity in Transfer In, Quantity in Transfer Out** and the **Adjusted Sales** quantity.

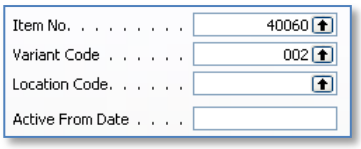


The key for the Item Store record is **Item No.** + **Variant Code** + **Location Code** + **Active From Date** where **Item No**. needs to be filled in and one of the other fields also. This gives you the chance to create specific Replenishment Data for specific store or new data that will take effect in the future.

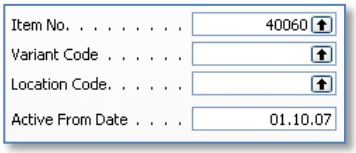
Examples:



This record would be valid for all Variants and Store/Location S0001.

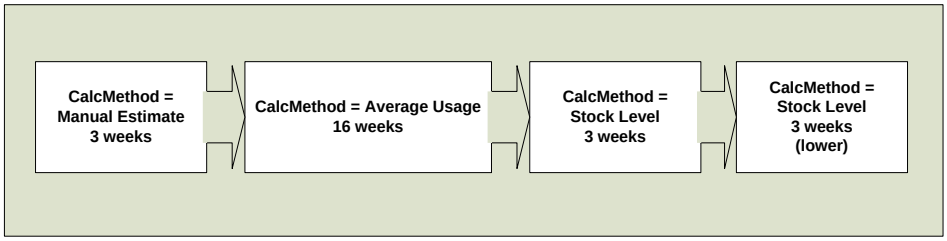


This record would be valid for the Variant 002 on Item 40060 in all Stores/Locations.



This record would be valid for all Stores/Locations and all Variants but not until the 01.10.2007.

1. This way it is possible to plan replenishment when the item is created and all the way through its life cycle.



Example:

Following is an example of item lifecycle replenishment. First, there is an estimation of 5 pieces sold pr. day for 3 weeks and then the system will use the sales history of the item for the next 16 weeks and towards the end of the life cycle of the item, the Stock Levels method is used to phase out the item from the store.

5.2.3 Data Profile

The Data Profile record makes it possible to define Replenishment Data to an independent Item record. By filling in the **Active From Date** field it is possible to change the data and it will not be valid until on the date specified. Then the Data Profile can be connected to Item Store, Item and all levels of the Item Hierarchy.

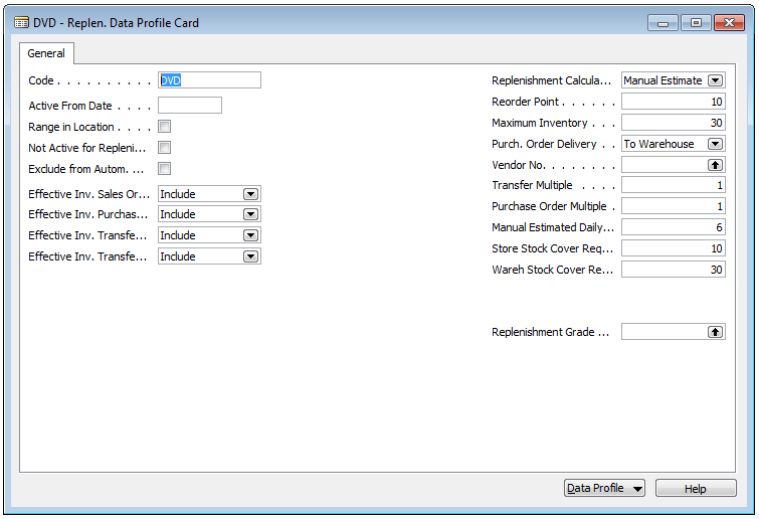
5.3 Scenario 4 – Changing Data Profile records

It is possible to maintain Replenishment Data for many items by changing the Data Profile record. When the replenishment job is run, the system finds the Data Profile records and uses the Replenishment Data when calculating the replenishment suggestion.

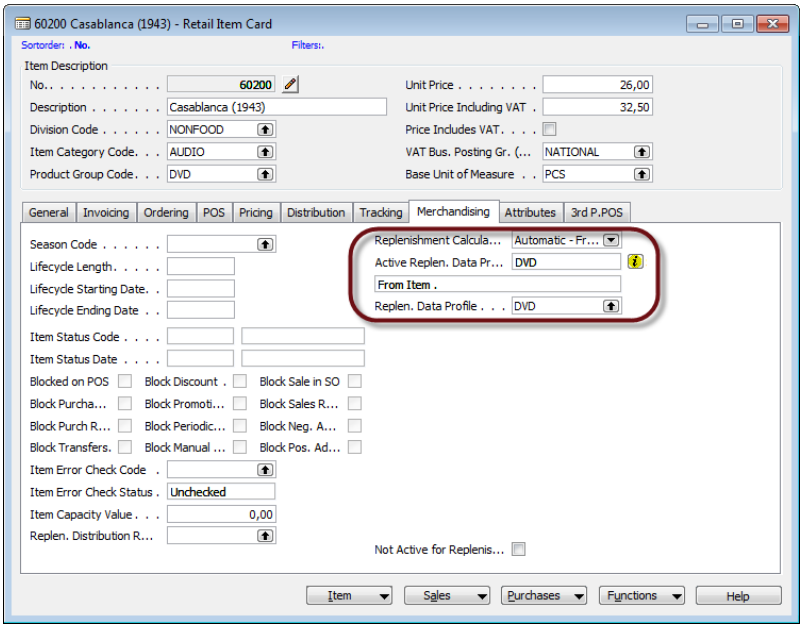
For customers, like John Smith at the music department CRONUS, that have relatively similar replenishment data for the majority of the items, the Data Profile will minimize the work in maintaining the replenishment data.

Hint:
It important to analyze the patterns of the replenishment data, use as many Data Profiles as possible and to connect them to the Item Hierarchy. Try to put specific data to the Item and Item Store records.

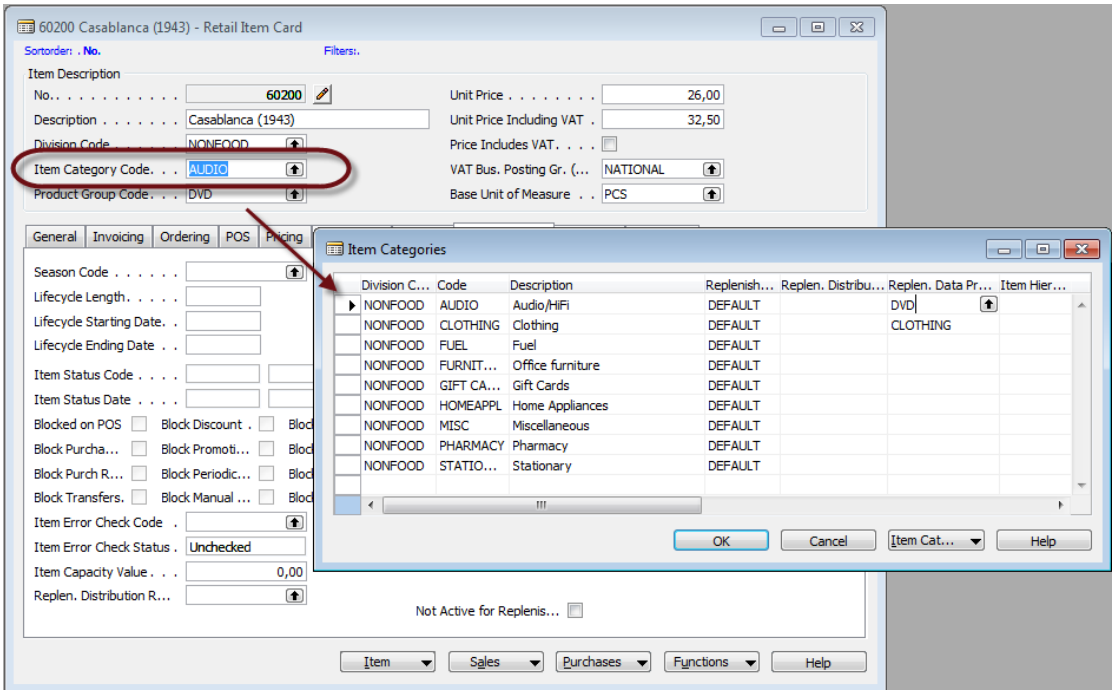
Example:



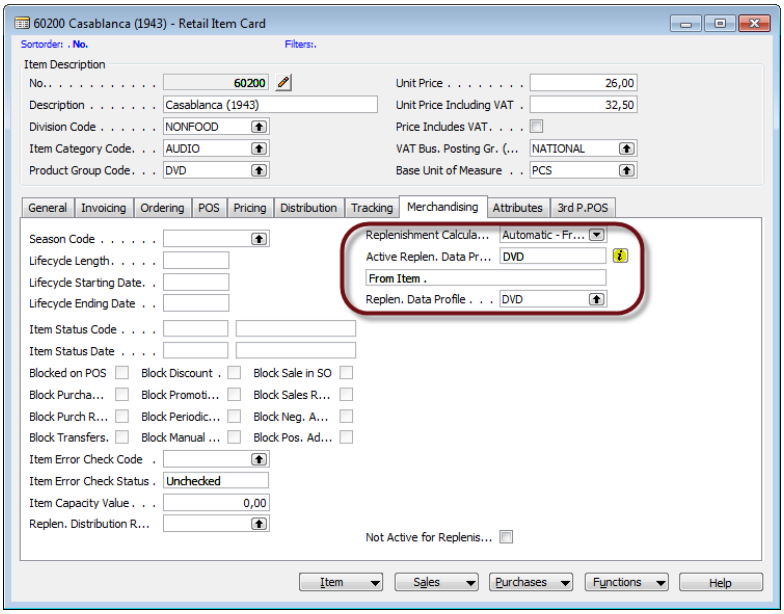
A Data Profile record for DVDs



The Data Profile is connected directly to the Item record.



The Data Profile is connected to an Item Category record.



The item record replenishment data is inherited from the Item Category record of the item.

This option is useful for the CRONUS music department and therefore John Smith decided to use it.

5.3.1 Item Profile

You can use Replenishment Item Profiles to define Replenishment parameters for a set of items. You need to fill out filters for which items you want to apply the default values to. When you update the profile, the selected items will be updated with the values specified on the Default Values tab.

On the General tab you find the **Sort ID** and the **Description** fields. The **Sort ID** field is used when an update for more than one profile is applied. In the **Description** field you can enter a description of this profile.

On the Item Filters tab you can enter filters for the following fields:

- **Item Division Code**
- **Item Category Code**
- **Product Group Code**
- **Item No.**

If you enter FURNITURE in the **Item Category Code**, only items that belong to the Furniture Item Category will be selected when the default values from the profile are applied to the items.

In the **Replenish Where** field you can select one of these options:

- **All Locations**
- **All Stores**
- **All Warehouses**
- **Location**

If you select **All Locations**, the values on the Default Values tab are applied to all the stores and all the warehouses. The system deletes all existing Item Store Records belonging to the items selected and copies the values from the Default Values tab to the corresponding fields in the Merchandising tab of the items.

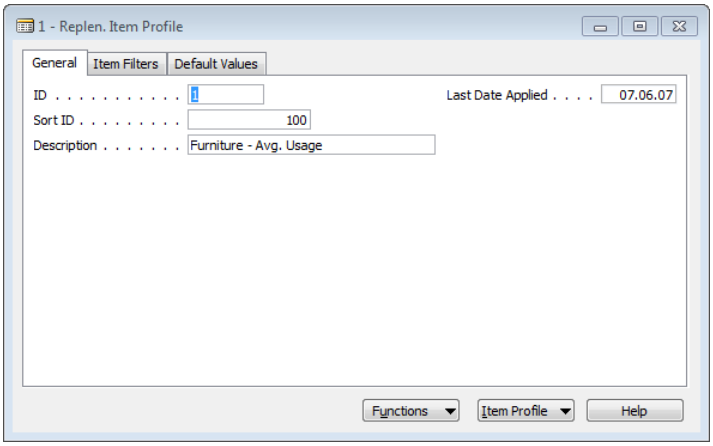
If you select **All Stores**, the values are applied to the stores only. By selecting **All Warehouses**, the values are applied to all the warehouses and if you select **Location**, you must also fill out the Location Code field and when you update the profile, the values are only applied to that location.

When one of the options **All Stores**, **All Warehouses** or **Location** is selected, the system creates entries in the Item Store Record table for the selected items. The **Active From Date** is set to *WORKDATE* and the values from the Default Value tab copied to the corresponding fields.

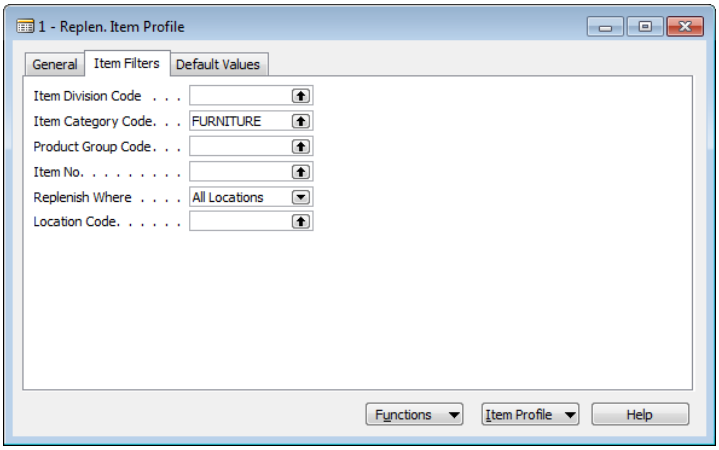
When you have filled in the item filters and the values you want to apply to the selected items, you should click on the Functions button and select the Update menu option. You will be asked if you want to update the values for the current profile only or for all profiles. If you select to do the update for all the profiles, the system processes the Replenishment Item Profiles in Sort ID order, so that the profile with the lowest Sort ID is processed first and the profile with the highest Sort ID last. This can be important because some items might be selected from two different profiles. If this is the case, only values from the profile with the higher Sort ID will be valid for these items after the update run.

Hint:
The Item Profile functionality fits better if the system is set to use Replenishment Grades. **Replenism. Item Profile** is at **LS Retail – Replenishment, Setup, Replenishment, Replenishm. Item Profile**:

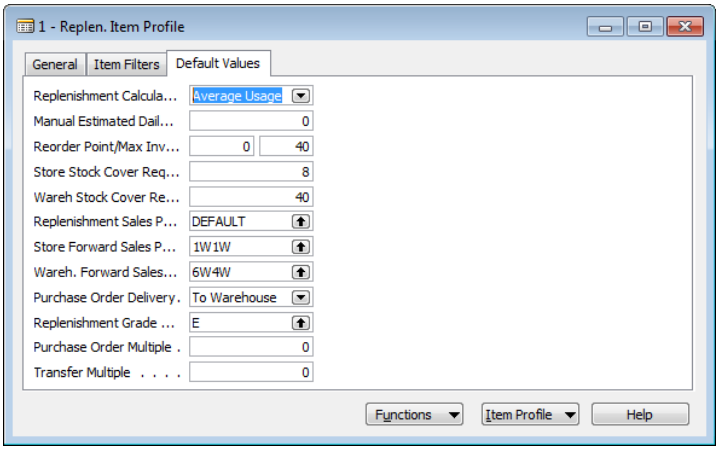
Example:



An Item Profile record with the ID 1 and the Sorting ID 100.



An Item Profile for all items in the Item Category *Furniture* and for all stores/locations.

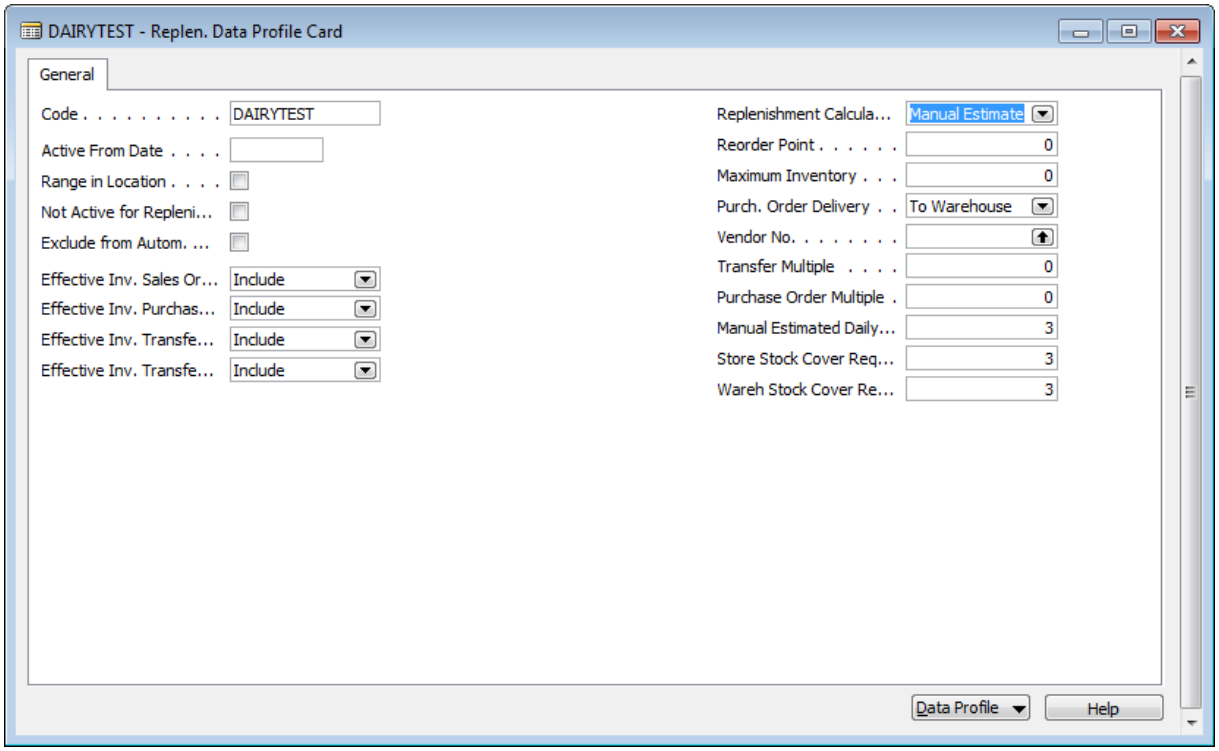


The Default Values for this group of items will have the Replenishment Calculation Type *Average Usage*.

5.4 Replenishment Data Fields

The solution offers four Replenishment Calculation Types and this part of the document describes the Replenishment Data fields that are common to some or all the Replenishment Calculation Types.

On the **Replen. Data Profile Card** there are several fields that are used for one or more Replenishment Calculation Type.

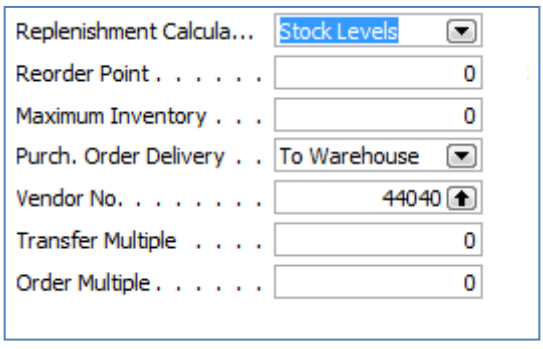


If you want some items to be excluded from being active for Replenishment, then check mark the **Not Available for Replenishment** checkbox that is visible on the Replen. Data Profile Card and some other cards.

Calculation Type – Stock Levels

For this type the system orders/transfers Maximum Inventory if the inventory level gets below the Reorder Point.

The Replenishment Data is stored in the Item, Item Store or Data Profile Record. The screenshot below shows the **Replenishment Data** fields on the data source forms for a record with the Calculation Method *Stock Level*.

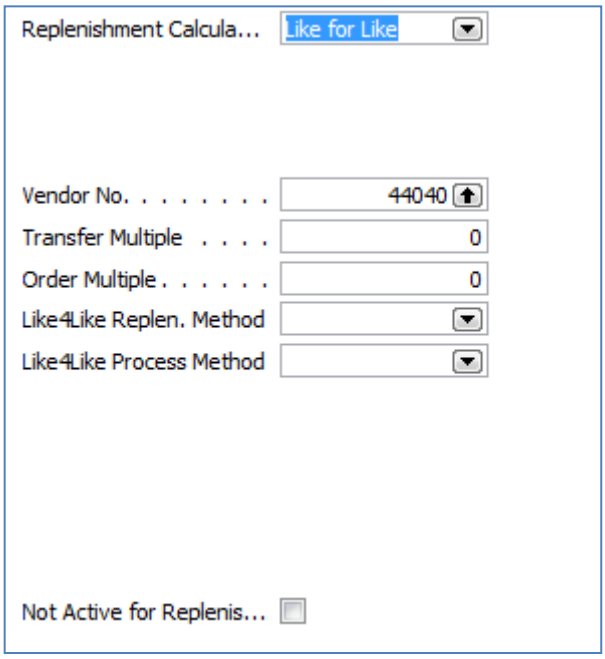


NOTE:
This is the only valid calculation type for warehouse locations (if data profile is used for warehouse locations then the calculation type must be stock levels in the data profile).

Calculation Type – Like for Like

It is possible to use the Replenishment module to replenish what is sold at the store. If one piece is sold then one piece is ordered/transferred.

The Replenishment Data is stored in the Item, Item Store or Data Profile Record. The screenshot below shows the Replenishment Data fields on the data source forms for a record with the Calculation Method *Like for Like.*



5.4.1 Replenishment Calculation Type

The Replenishment Calculation Type can have one of the following values:

- **Average Usage**
- **Manual Estimate**
- **Stock Levels**
- **Like-for-Like**

Calculation Process for Stock Levels - STORES

This method applies where the Journal calculates quantity for transfer orders or purchase orders where the stock level need is arrived from the stores and not the warehouse itself. If a Replen. Item Store Record exists of the type stock level for the warehouse, and the journal is creating a purchase order for the warehouse, the system would use the process described in Calculation Process for Stock Levels – WAREHOUSE.

5.4.2 Maximum Inventory

If the Maximum Inventory field is filled in the system orders the stock up to the Maximum Inventory if the stock on hand goes under the Reorder Point.

Examples:

A) Replenishment Calculation Type is Stock Levels

The **Maximum Inventory** field is 20 and the **Reorder Point** field is set to 10 and the actual inventory is 8 then the system will reorder 12. Since the Minimum is not fulfilled it hits the Maximum.

If the **Maximum Inventory** is 0 the system will order according to the **Reorder Point** and reorders 2.

B) Replenishment Calculation Type is Average Usage or Manual Estimate

The **Maximum Inventory** field is 20 and the **Reorder Point** field is set to 10 and the actual inventory is 8 and the system suggests 30 but then the system will reorder 12 as the inventory cannot be more than 20.

If the **Maximum Inventory** is 0 the system will order 22 (Suggested Qty – Inventory).

5.4.3 Replen. Data Profile

The Replen. Data Profile field contains the code of the Replen. Data Profile record to be used in the Replenishment process.

5.4.4 Vendor No.

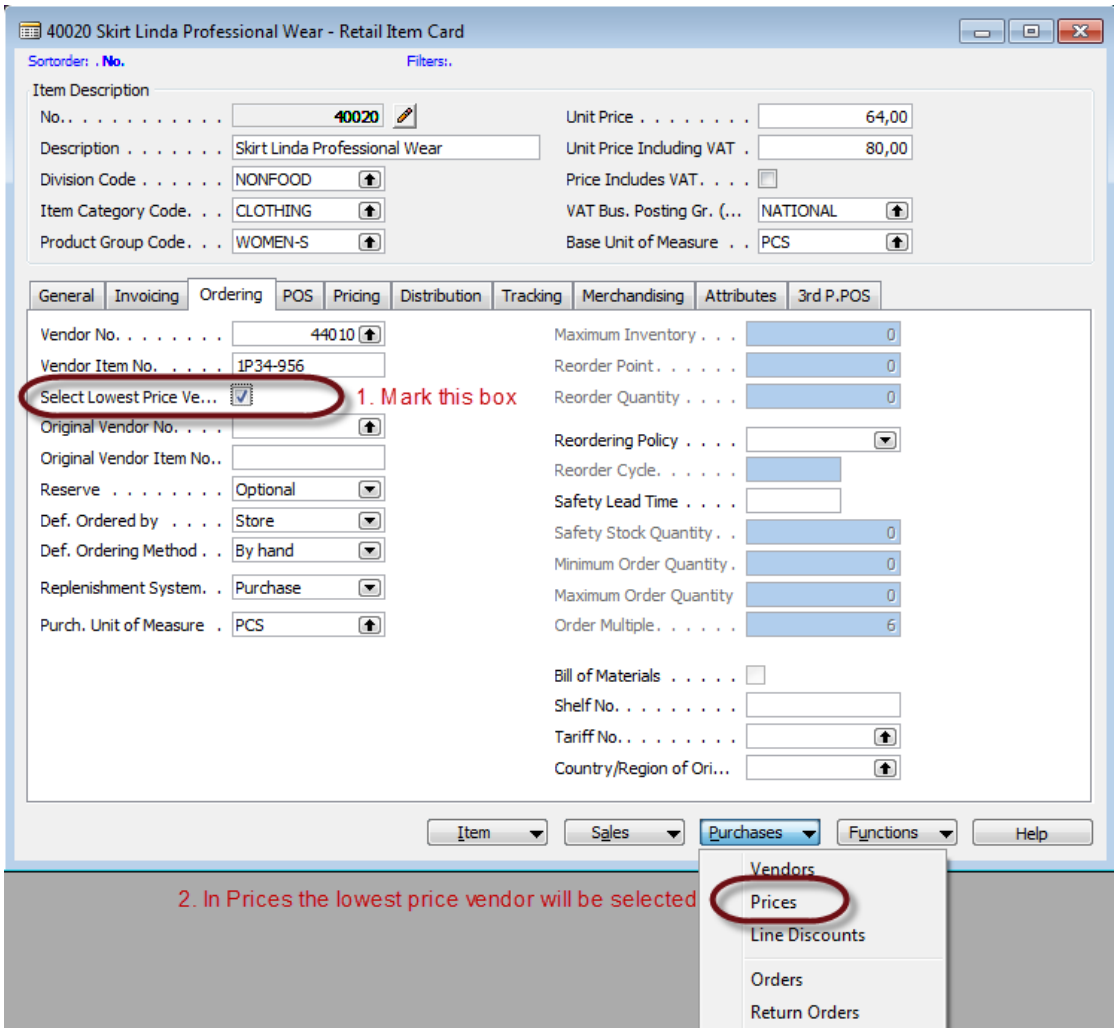
The **Vendor No.** field contains the number of the vendor the item should be purchased from. If the Replenishment Data record found for the item has the **Vendor No**. field filled in, that vendor will be used. However, if the field is blank, the system first looks at the Stock Unit record and finally the Item record.

Example:

If the **Vendor No.** field in the Item Store record that was selected is blank, the system uses the Vendor No. from the Item record as a Stock Keeping record is not found for the Item No and Location Code.

Lowest Price Vendor

To ensure that that the vendor with the lowest price is selected for some item the **Select Lowest Price Vendor** checkbox at **LS Retail – Replenishment, Retail Item Card, Ordering** tab is marked as true. Then when the replenishment journal is created the lowest price vendor is selected for each line. Then when purchase orders are created it checked again for the lowest price vendor.



This is required for each item that you want to check for the Lowest Price Vendor.

NOTE
The lowest vendor is not always the same for all quantities. One vendor can be lowest for 100 items and another one for 200 items.

5.4.5 Purch. Order Delivery

The **Purchase Order Delivery** field can have two values, *To Warehouse* or *To Store*. The value in this field determines whether the purchase orders are to be delivered to a warehouse or the stores. It is used by the process that adds items to a replenishment journal to select the items for the journal.

The field is used when the function *Adding Items to a Purchase Replenishment Journal* is executed.

The table shows which conditions need to be met if the item is to be selected:

Purchase Order Type filed of the Replen. Template	Purch. Order Delivery Field of the Replenishment Data
One Purchase Order per Vendor One Purchase Order per Vendor with Cross Docking	To Warehouse
Purchase Orders for Receiving Location	To Store

5.4.6 Reorder Point

If the LS Replenishment System has calculated a need to replenish an item, where the **Reorder Point** has been filled in and the suggested quantity is less than the **Reorder Point**, it increases the quantity up to the Reorder Point.

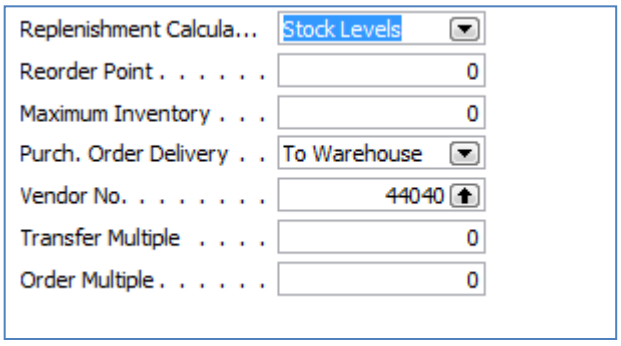
> **Example**:
>
> The system suggests reordering 8 pieces and the field **Reorder Point** is 10, the System Suggested Quantity is changed to 10.

If the stock levels go below the Reorder Point, the system will suggest a quantity that will raise it to the Maximum Inventory if the Maximum Inventory is filled in otherwise the inventory is raised to Reorder Point.

> **Example**:
>
> If you enter 10 in the Reorder Point and 20 in the maximum inventory, the replenishment system will not suggest anything until the inventory drops below 10. If the inventory drops to 8, the system will suggest a quantity of 12 (Maximum Inventory – current inventory) to be ordered. If the value in the Maximum Inventory field is zero, the system will suggest a quantity of 2 to be ordered.

Stock Levels / Reorder point

It is possible to use the Replenishment module to suggest what to replenish based on Stock Levels.



If the stock levels go below the Reorder Point, the system will suggest a quantity that will raise it to the Maximum Inventory if the Maximum Inventory is filled in otherwise the inventory is raised to Reorder Point.

> **Example**:
>
> If you enter 4 in the Reorder Point and 10 in the maximum inventory, the replenishment system will not suggest anything until the inventory drops below 4. If the inventory drops to 3, the system will suggest a quantity of 7 (Maximum Inventory – current inventory) to be ordered. If the value in the Maximum Inventory field is zero, the system will suggest a quantity of 3 to be ordered.

This method applies where the Journal calculates quantity for transfer orders or purchase orders where the stock level need is arrived from the stores and not the warehouse itself. If a Replenishment Data record exists of the type stock level for the warehouse, and the journal is creating a purchase order for the warehouse, the system would use the process described in

Stock Levels – Warehouse.

5.4.7 Transfer Multiple

Transfer Multiple is used by the process that creates transfer orders from the replenishment journals. If the **Transfer Multiple** field is filled in for an item, the quantity in the transfer order line for that item is always a multiple of the Transfer Multiple. The system always uses the round up command on the quantity in the replenishment journal line if the Transfer Multiple is filled in.

5.4.8 Purchase Order Multiple

Purchase Order Multiple is used by the process that creates the purchase orders from the replenishment journals. If the **Order Multiple** field is filled in for an item, the Quantity in the purchase order line for that item is always a multiple of the **Order Multiple**. The system always uses the round up command on the quantity in the replenishment journal line if the **Order Multiple** is filled in.

5.4.9 Not Active for Replenishment

If you want to temporarily exclude an item from Replenishment, you can place a check mark in this field. The replenishment process will not replenish this item.

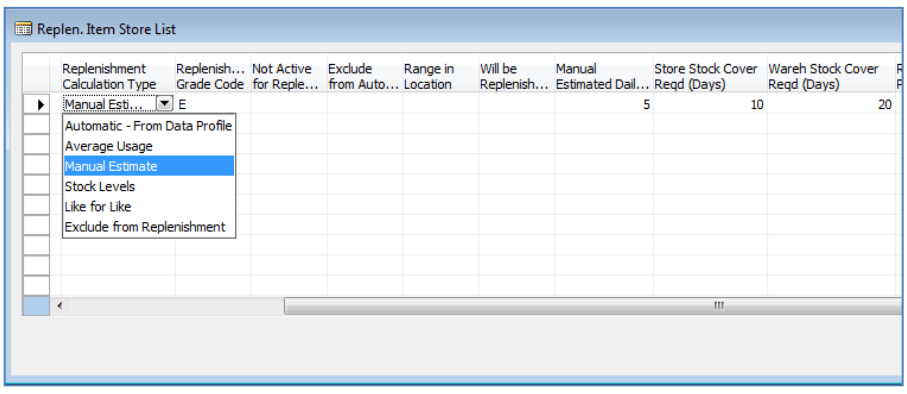
5.4.10 Manual Estimated Daily Sale

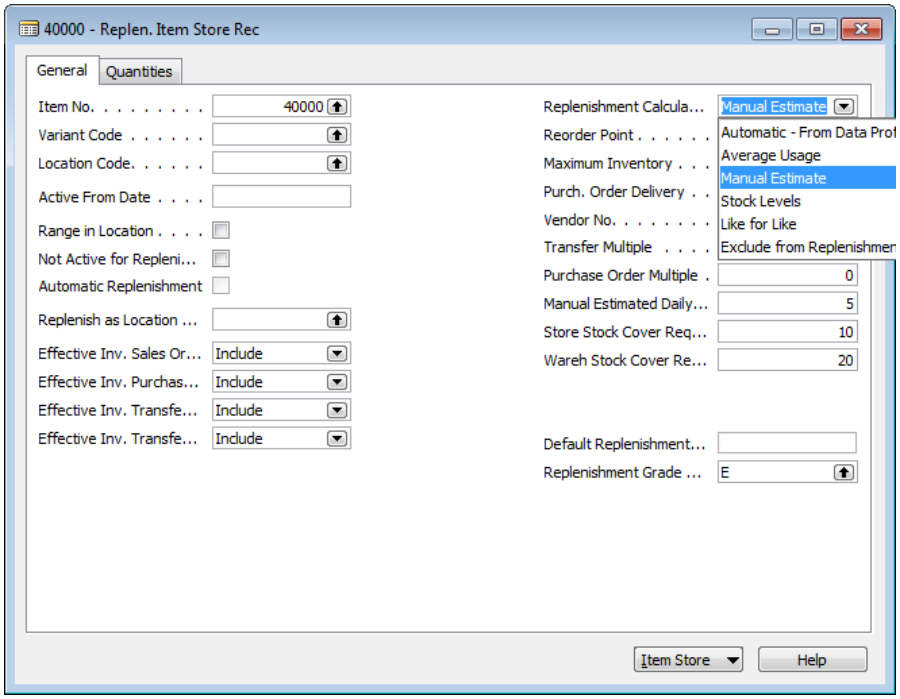
The Manual Estimate method uses the **Manual Estimated Daily Sale** and the **Store Stock Cover Reqd** (Days) parameters to calculate the quantity needed. If the quantity on hand in the store does not cover the estimated daily sale for the period, the system makes a suggestion.

5.4.11 Store Stock Cover Days

The **Store Stock Cover Days** field tells the system how many days of sale the inventory at the store is supposed to cover.

The field is used for the **Replenishment Calculation Type Average Usage** and **Manual Estimate**.





The Manual Estimate and other settings can be set for instance at the **LS Retail – Replenishment, Purchase Replenishment Journal, Line** button, select **Replenishment Information Setup, Replen. Item Store List** card appears, **Item Store** button, select **Card**.

Example:

The system calculates that the average daily sales quantity is 5 and the Store Stock Cover Days is 10. Then the System Suggested quantity will be 50.

5.4.12 Warehouse Stock Cover Days

The **Warehouse Stock Cover Days** works the same way as Store Stock Cover Days but this field tells the system how many days of sale the inventory at warehouse is suppose to cover.

5.4.13 Effective Inventory

The system calculates the inventory that is going to be used in the rest of the calculations.
Effective Inventory :=

Inventory +
Quantity on Purchase Order -
Quantity on Sales Order +
Quantity in Transfer In -
Quantity in Transfer Out

5.4.14 Reorder Point

If the Effective Inventory is less than or equal to the Reorder Point, the system suggests ordering enough stock to get the inventory to the Maximum Inventory field value.

Condition:

Effective Inventory <= Reorder Point

Result:

Condition:

Maximum Inventory > Reorder Point

Result:

System Suggested Quantity = Maximum Inventory – Effective Inventory

Condition:

Maximum Inventory <= Reorder Point

Result:

System Suggested Quantity = Reorder Point – Effective Inventory

5.4.14.1 Cross Docking

If the Journal is to replenish the warehouse with cross docking to the stores, it is necessary to calculate how much should be cross docked to the stores.

The Cross Docking Quantity is calculated if either the field **Maximum Inventory** or the field **Reorder Point** is greater than zero.

Condition:

Effective Inventory < Reorder Point

Result:

Condition:

Maximum Inventory > Reorder Point

Result:

Quantity to Cross Dock = Maximum Inventory – Effective Inventory

Condition:

Maximum Inventory <= Reorder Point

Result:

Quantity to Cross Dock = Reorder Point – Effective Inventory

5.4.14.2 Maximum Inventory

If the field **Maximum Inventory** is greater than zero and sum of **System Suggested Quantity** and **Effective Inventory** does not equal Maximum Inventory, the System Suggested Quantity equals Effective Inventory subtracted from the Maximum Inventory. The field **Decision** is set to *Brought to Maximum Inventory*.

Condition:

System Suggested Quantity + Effective Inventory > Maximum Inventory

Result:

System Suggested Quantity = Maximum Inventory – Effective Inventory.

5.4.14.3 Cross Dock

If the Journal is to replenish the warehouse with cross docking to the stores and Quantity to Cross Dock is higher than System Suggested Quantity, the Quantity to Cross Dock is set to *System Suggested Quantity*.

Condition:

Purchase Order for warehouse with cross docking

Quantity to Cross Dock > System Suggested Quantity

Result:

Quantity to Cross Dock = System Suggested Quantity

5.4.15 Calculation Process for Stock Levels – WAREHOUSE

This process is only used where a Replenishment Journal is creating a Purchase Order for the warehouse and a Replen. Item Store Record exists for the warehouse and the Replenishment Calculation Type is *Stock Levels*.

5.4.15.1 Effective Inventory

The system calculates the inventory of the warehouse that is going to be used in the rest of the calculations.

Effective Inventory :=

Inventory +
Quantity on Purchase Order -
Quantity on Sales Order +
Quantity in Transfer In -
Quantity in Transfer Out

5.4.16 Reorder Point

If the Effective Inventory is less or equal to the Reorder Point, the system will suggests ordering enough stock to get the inventory up to the Maximum Inventory field value.

> **NOTE:**
>
> Zero is NOT a valid number in the **Reorder Point** field.

Condition:

Effective Inventory <= Reorder Point

Result:

Condition:

Maximum Inventory > Reorder Point

Result:

System Suggested Quantity = Maximum Inventory – Effective Inventory

Condition:

Maximum Inventory <= Reorder Point

Result:

System Suggested Quantity = Reorder Point – Effective Inventory

5.4.16.1 Reorder Point

If the field **Reorder Point** is greater than zero and **System Suggested Quantity** is less than the Reorder Point, the **System Suggested Quantity** is set to *Reorder Point* and **Decision** is set to *Brought up to Reorder Point*.

Condition:

System Suggested Quantity < Reorder Point

Result:

System Suggested Quantity = Reorder Point

5.5 Replenishment Item Quantity

The Replenishment Item Quantity table contains data used by the replenishment module. The table displays the Inventory for each item and variant at each location, in addition to what is expected to be received at the location:

- **Quantity on Purchase Order**
- **Quantity in Transfer In**

and what is to be shipped out from the location:

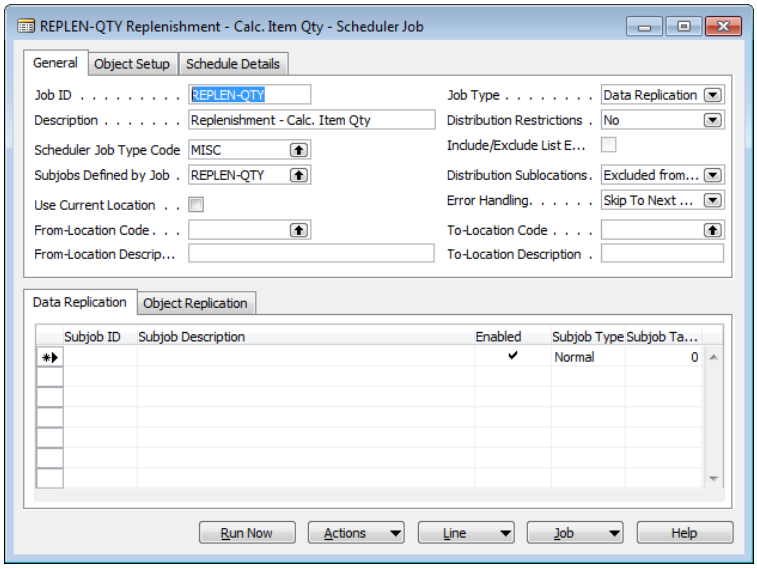
- **Quantity on Sales Order**
- **Quantity in Transfer Out**

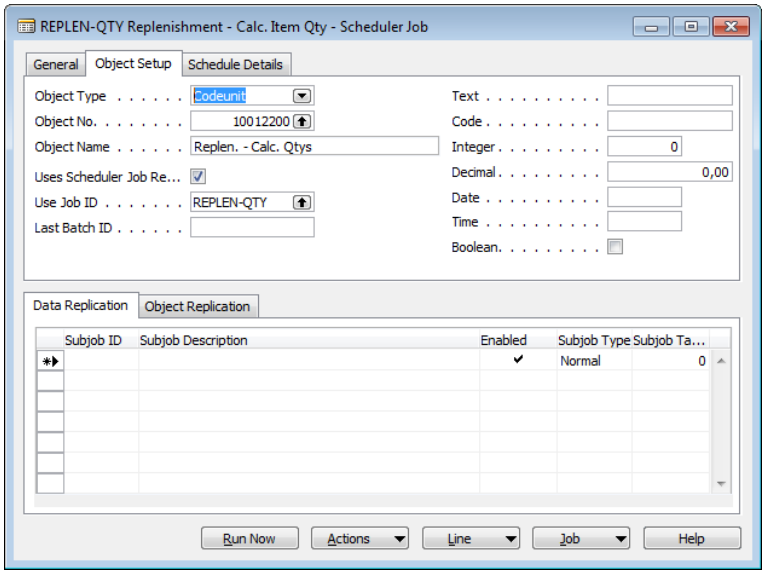
It also contains information about average daily sales and the number of days out of stock if the *Stock Out* functionality is in use.

The Replenishment Item Quantity table supplies the input to the function to Add Items to the Purchase and Transfer Replenishment Journals. The Replenishment Item Quantity records can be calculated as a pre-process to adding lines to the journals but would most likely calculated as an automatic Scheduler job during overnight processes.

The Replenishment Item Quantity calculation process only creates records for valid items and valid locations for the replenishment process.

In **Appendix A** the fields for the Replenishment Item Quantity are listed.
The calculation of the Replenishment Item Quantity table can be run overnight by the Scheduler and viewed at **LS Retail – Scheduler, Scheduler Job**:



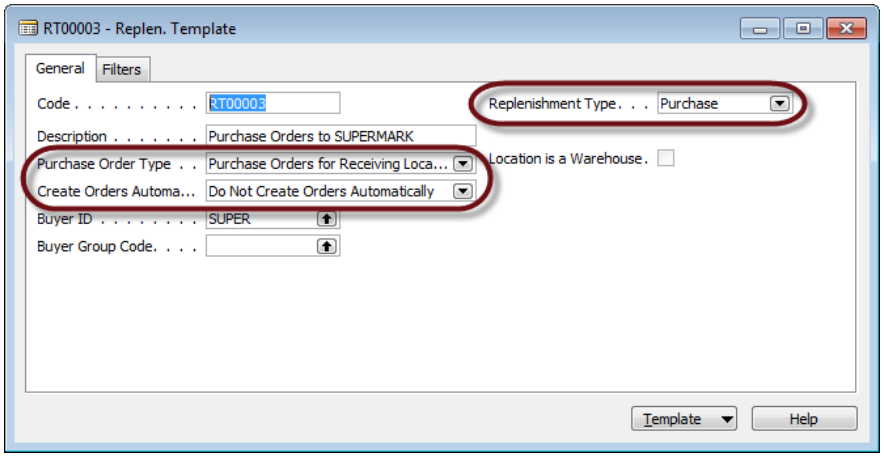


5.6 Replenishment Template

In order to use the replenishment system, you need to set up one or more replenishment templates. The template card is found under: **LS Retail – Replenishment, Setup, Replenishment, Replenishment Template** and a new template is defined by selecting F3 and filling in the fields needed.

In the replenishment template you to specify whether you want to use it to create purchase orders or transfer orders from a warehouse to the stores. The replenishment system can have many replenishment templates of both types.

In the **Replenishment Type** field, you can select whether the replenishment template is to be used for creating purchase orders or transfer orders. In the **Purchase Order Type** field, you can select one of these options:



- *One Purchase Order per Vendor* (replenish warehouse)
- *One Purchase Order per Vendor with Cross Docking* (replenish warehouse and store)
- *Purchase Orders for Receiving Locations* (replenish store)

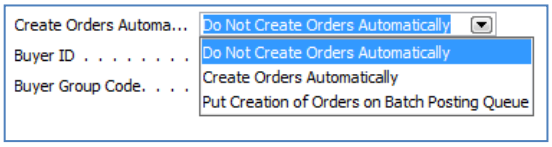
Purchase Journal - One Purchase Order per Vendor
By selecting *One Purchase Order per Vendor*, the system will create one purchase order for the lines in the linked replenishment journals.

Purchase Journal - One Purchase Order per Vendor with Cross Docking
If you select *One Purchase Order per Vendor with Cross Docking*, the system will also create one purchase per vendor like when the previous option was selected, but it will also create planned cross docking transfer orders, so that when the purchase order arrives at the warehouse, some of the items can be cross docked and sent directly to the stores that are waiting for them.

Purchase Journal - Purchase Orders for Receiving Locations
If you select *Purchase Orders for Receiving Locations*, the system will create purchase orders for the stores instead of the warehouse. For example if there is no warehose.

Transfer Journal
If you enter *Transfer* in the **Replenishment Type** field, the Purchase Order Type will not be visible.

The **Location Code** field must always be filled in unless *Purchase Orders for Receiving Locations* was selected as the Purchase Order Type.

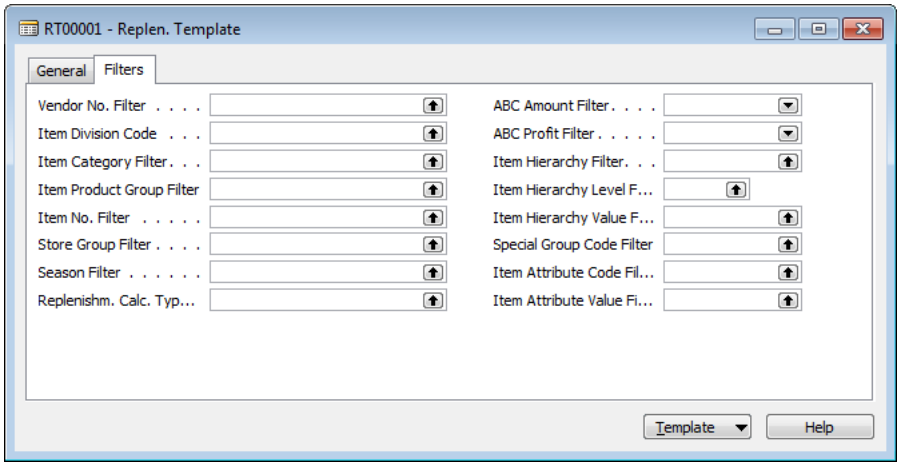


Do Not Create Order Automatically
The system leaves the journal lines after the Replenishment Journal has been populated / calculated and the buyer can then modify and manually create the Order.

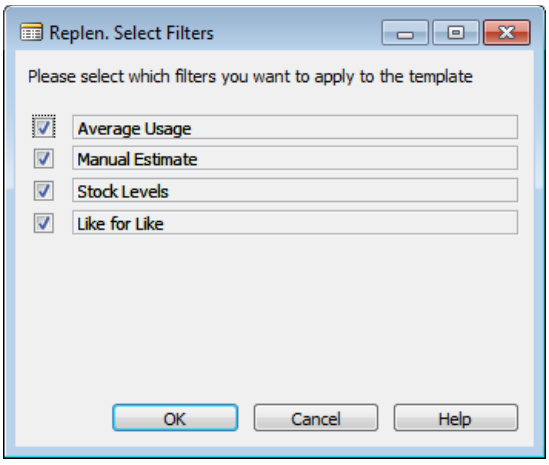
Create Orders Automatically
The system automatically creates the order once the journal has been populated. This might be done when populating / calculating the journal by a Scheduler Job over night.

Put Creation of Orders on Batch Posting Queue

Acts the same as *Create Order Automatically* but the system creates a request in the *Batch Posting Queue* which will then create the order when it has reached the record in the queue. This would most likely be used if there are locking problems with the *Create Orders Automatically* method.



- In the Replen. Template form you can set the filters you want to apply to the Item table when you add items to the Replenishment Journals.
- In the **Vendor No. Filter** you can enter a filter for the **Vendor No.** field of the items. An example is 1000 if you only want to select items from vendor number 1000. If you enter 1000..2000 the system will select all items from vendors number 1000 to 2000.
- In the Item **Category Filter** field you can enter a filter for the **Category Code** field of the item.
- In the Item **Product Group Filter** field you can enter a filter for the **Product Group Code** field of the item.
- In the **Item No. Filter** you can enter a filter for the item number of the item.
- In the **Replenism. Calc. Type Filter** you can enter a filter for the **Replenishment Calculation Type**. If you press the **UpArrow** or **F6** key, this form will open:

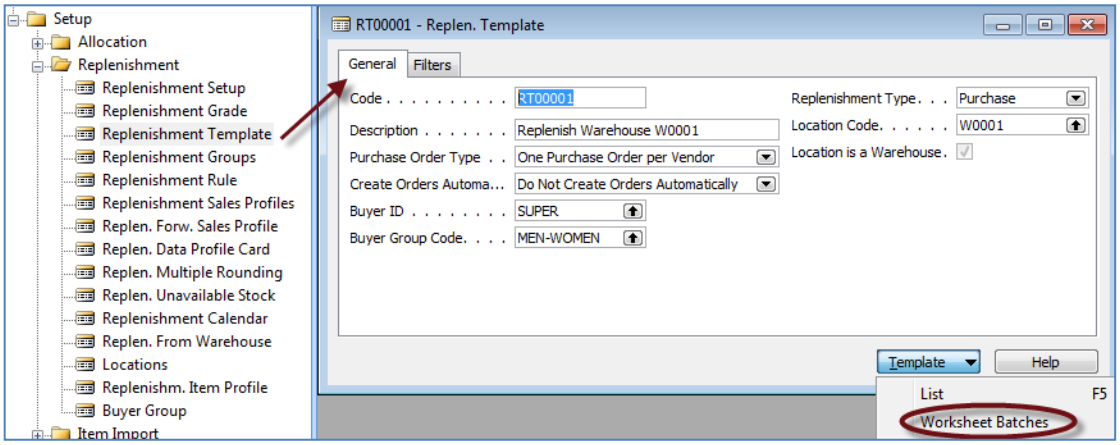


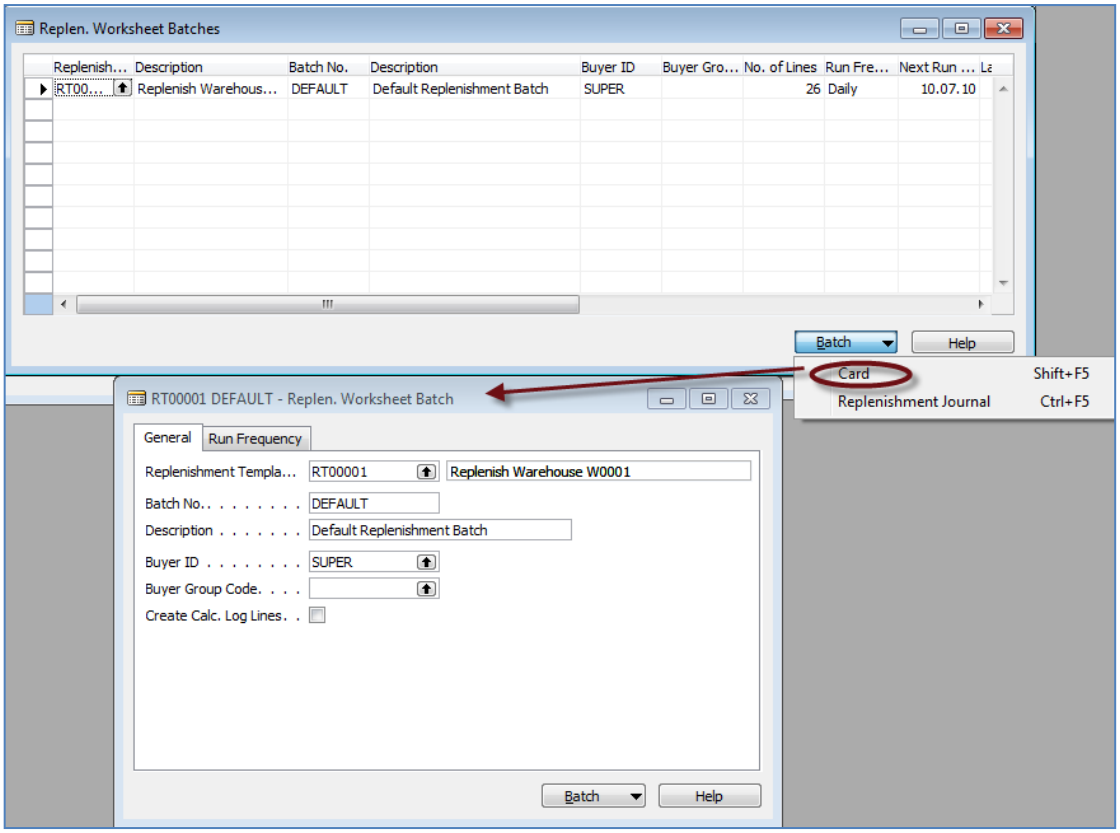
Here you can place a check mark in one or more fields you want to filter on. If you want to select items with the Replenishment Calculation Type = **Average Use** and **Manual Estimate**, you need to check mark the boxes next to these options.

5.7 Replenishment Batch

In the *Replenishment Journal Batch* form you can specify whether the replenishment is to be run automatically or manually. The default run frequency is set to be run manually, but it is possible to specify a certain date if it is to be run only once or you can specify that the replenishment run is to be run daily or on weekdays only.

- To run the replenishment automatically, you can either select *Replenishment Automatic Run* at the **LS Retail – Replenishment, Periodic Activities, Replenishm. Automatic Run** or create a Scheduler Job in the **LS Retail – Scheduler** menu.
- The *Replenishment Batch* record is always connected to a Replenishment Template. One Replenishment Template can have multiple Replenishment Batch records.
- To access the Replen. Worksheet Batch card the following path is used: **LS Retail – Replenishment, Setup, Replenishment, Replenishment Template, Template** button, select **Worksheet Batches** for the **Replen. Worksheet Batches**, then the **Batch** button, select **Card** and the **Replen. Worksheet Batch** card will be displayed.

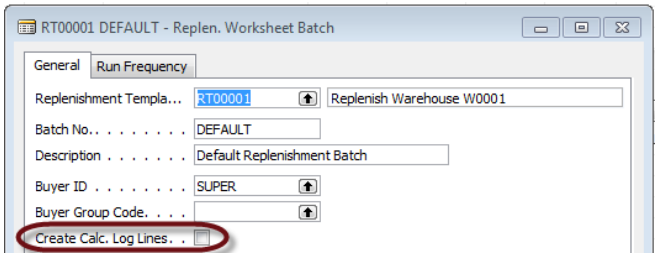




It is important to specify the **Buyer ID** and/or **Buyer Group Code** if the buyer wants the orders to be linked to his/her ID or Group and viewable by the Buyer's Workbench.

Put the Replen. Log switch to the Replen Journal Batch record

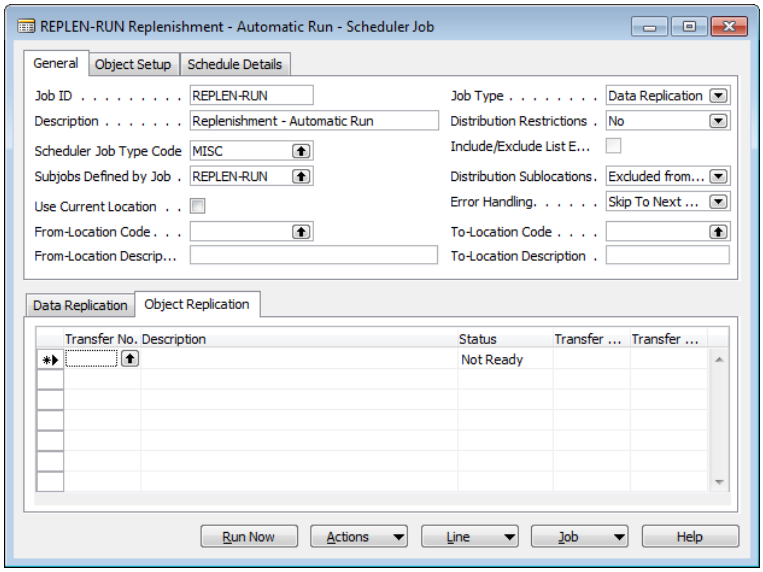
The field **Create Calc. Log Lines** is used to be able to turn on the logging for a specific Batch execution. See **LS Retail – Replenishment, Setup, Replenishment, Replenishment Template, Template** button, **Worksheet Batches, Batch** button, **Card.**

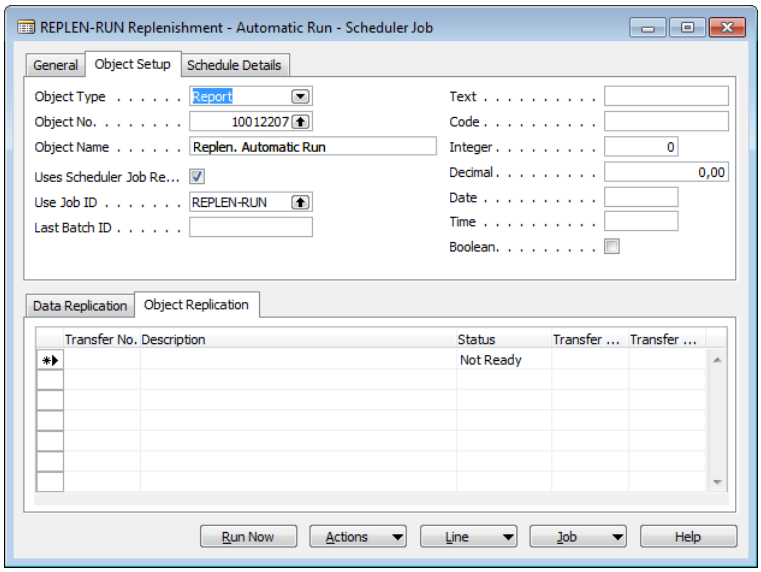


When turned on every decision in the calculation process for all items down to variant and location is logged. This feature should only be used for inspection because it will slow down the calculation process.

Scheduler Executes Batch Jobs automatically

Batch Jobs can be executed by a Scheduler Job. In the Demo Data there is an example of a Scheduler Job (REPLEN-RUN) that can be used to execute Batch Jobs.



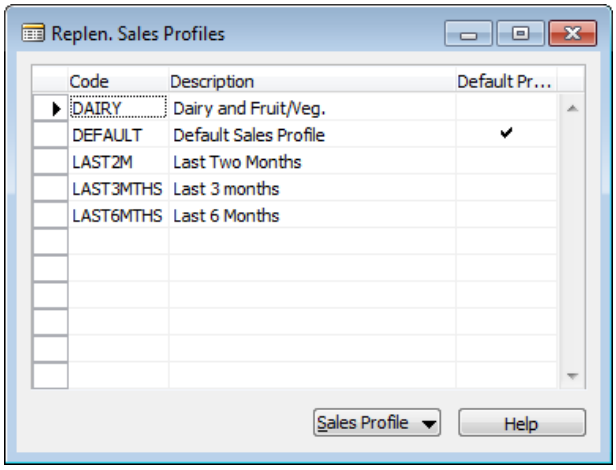


5.8 Calculation Type – Average Usage

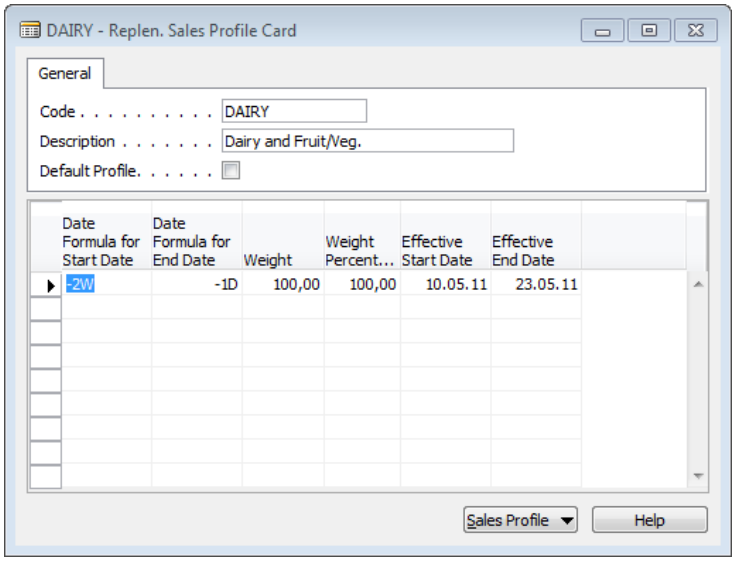
The Average Usage Calculation Type is the only type that uses sales history, the average sales per day, to predict the future sales of the item.

The Average Usage method calculates the average daily sales for an item in each location based on the period defined in a Sales Profile. The sales history can be adjusted and the predicted sales data can be overwritten by definition. Days with stock on hand are only valid for daily sales calculation.

Replenishment Sales Profile



The Replenishment Sales Profile is used when Average Daily Sales is calculated and the *Replenishment Calculation Type* is *Average Usage*. It is located at **LS Retail – Replenishment, Setup, Replenishment, Replenishment Sales Profiles**. The system calculates the average daily sales by finding out the quantity sold for an item at each location (store) during one or more periods. The periods have a starting date and an ending date. The importance or weight of each period can differ. You can decide what weight you assign to each period by filling out the **Weight** field. If you want the period closest to today's period to have more importance than a period one month ago, you can enter a higher value in the Weight field for the more recent period. If no weight is entered, all periods have the same importance. The Replen. Sales Profile Card is at **LS Retail – Replenishment, Setup, Replenishment, Replenishment Sales Profiles, Sales Profile** button**, Card.**



Hint:
The form shows the Effective Start Date and the Effective End Date according to the Date Formulas and working date of the NAV client.

Hint:
It is not necessary to define the Replenishment Sales Profile of an item with the Replenishment Calculation Type *Average Usage.* In such cases, the system uses the Replenishment Sales Profile that is marked as the Default Profile.

When you open the Replenishment Sales Profile from the Setup menu, the Replenishment Sales Profile list is displayed. Click on the **Sales Profile** button and select **Card Shift+F5** menu option to open the Replenishment Sales Profile card.

The card form has a subform where you can enter one or more lines. Each line has the following fields:

- **Date Formula for Start Date**
- **Date Formula for End Date**
- **Weight**
- **Weight Percentage**
- **Effective Start Date**
- **Effective End Date**

In the **Date Formula for Start Date** field you must fill out a Date Formula that will represent the starting date for the period for which you want the system to calculate the quantity sold. In the **Date Formula for End Date** field you must fill out the Date Formula for the end date of the period. In the **Weight** field you can fill out the weight or importance of this period.

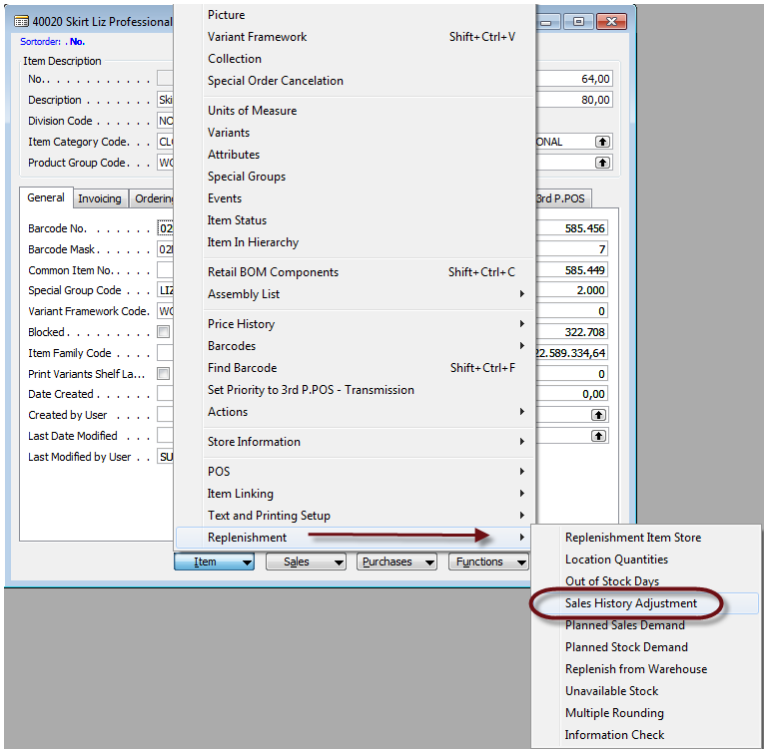
The **Weight Percentage** field is calculated automatically. If the weight has been filled in in at least one line, the total sum of the Weight Percentage in all the lines will be 100.

The **Effective Start Date** and the **Effective End Date** are calculated automatically based on the Date Formula for Start Date and Date Formula for Ending Date and today's date.

Replenishment Sales History Adjustment

Replenishment Sales History Adjustment records are used to increase or decrease the Sales History quantity of a specific Item No. + Variant Code and Store / Location.

The Replenishment Sales History Adjustment is located at the **LS Retail – Replenishment, Retail Item Card, Item** button, **Replenishment, Sales History Adjustment**.



The system calculates the sales quantity for a specific period and calculates Sales History Adjustment Quantity and the sum of the two quantities is the adjusted total quantity.

The Replenishment Sales History Adjustment applies only to items that have the Replenishment Calculation Type *Average Usage*.

Total Sales Quantity = Total Sales Quantity + Total Sales History Adjusted Quantity.

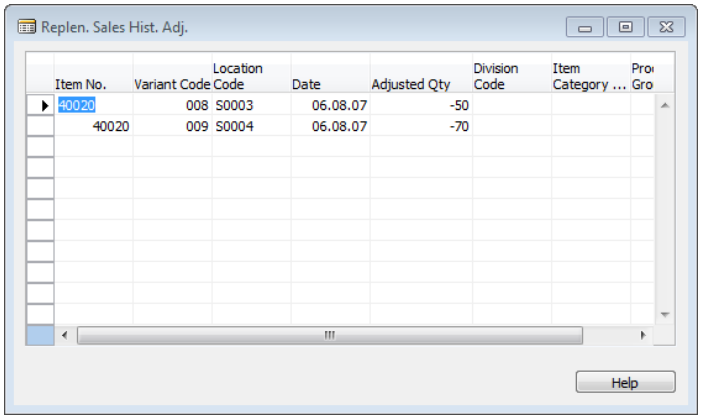
The purpose of this feature is to be able to respond on a certain day to different demands than on the average. An example would for instance be if there is an increased demand for kids' balloons before the national day, then the Adjusted Qty could be + 200 for a certain store on a certain day. Another example would be if vacation is likely to cause less traffic in the stores, then the Adjusted Qty would be a minus number, for instance - 50 on a certain day when the store would normally get 100 items, thus adjusting the number expected to be sold because of certain conditions on this particular date.

The Buyer maintains the Sales History Adjustment record under the Retail Item Card. Click on the Item Button, select Replenishment and finally Sales History Adjustment.

Hint:
It is essential to enter a negative value if you want to lower the sales history figure and a positive value if you want to increase it.

5.9 Scenario 5 – Too many skirts

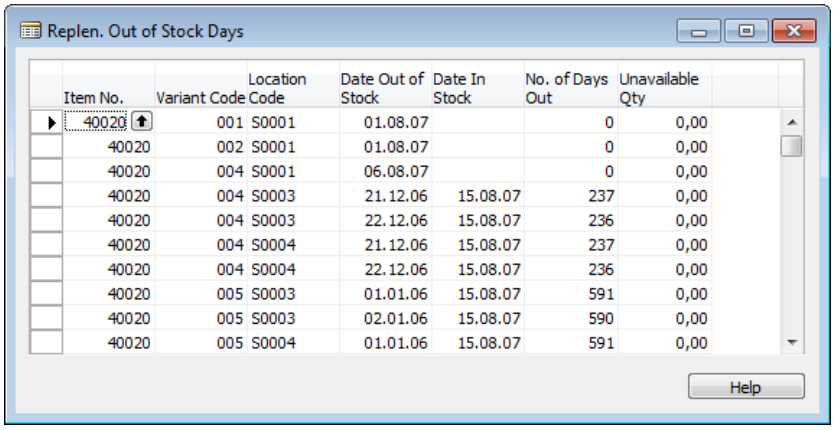
Autumn seemed to be coming a bit early in Copenhagen on the year in question according to the long term weather forecast. So Jenny Sörensen, the manager of CRONUS in Copenhagen North, decides not to order as many Liz Skirts (item 40020) as originally planned for the time being – since she has enough in stock, both in the shop and the warehouse. In NAV she goes to the **LS Retail – Replenishment, Retail Item Card, Item** button, **Replenishment, Sales History Adjustment** and selects the **Item** button and **Replenishment** option there. In the window she enters - 50 in the **Adjusted Qty** field for variant 008 and -70 of variant 009 of item 40020 on August 6th.



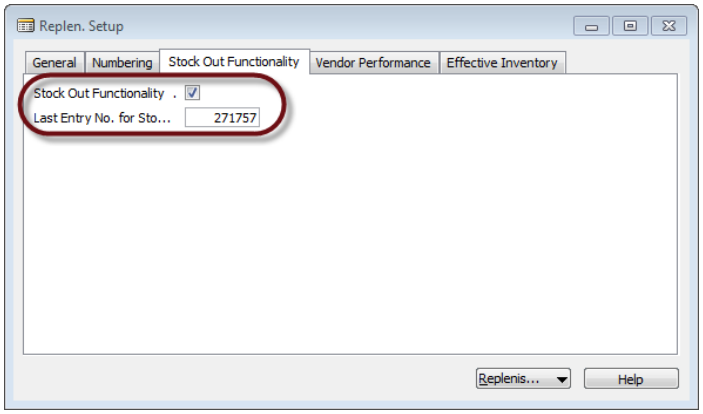
This means that you are asking for 50 items less of variant 008 and 70 less of variant 009. Other variants are not changed. This is exactly what happens when the order arrives.

5.9.1 Out of Stock Days

LS Retail – Replenishment, Retail Item Card, Item button, **Replenishment, Out of Stock Days:**



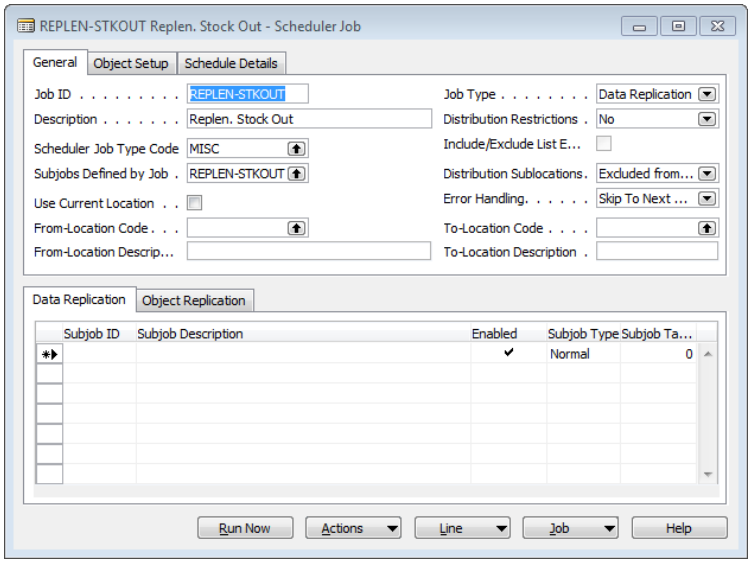
This form shows when an item has gone out of stock in a location and if it has been purchased again, the form shows the date it came back in stock and how many days it was out of stock. If the location still does not have it in stock, then the Date in Stock and No. Of Days Out columns are empty. This can be checked at the Replen. Setup card (**LS Retail – Replenishment, Setup, Replenishment, Replenishment Setup, Stock Out Functionality** tab).

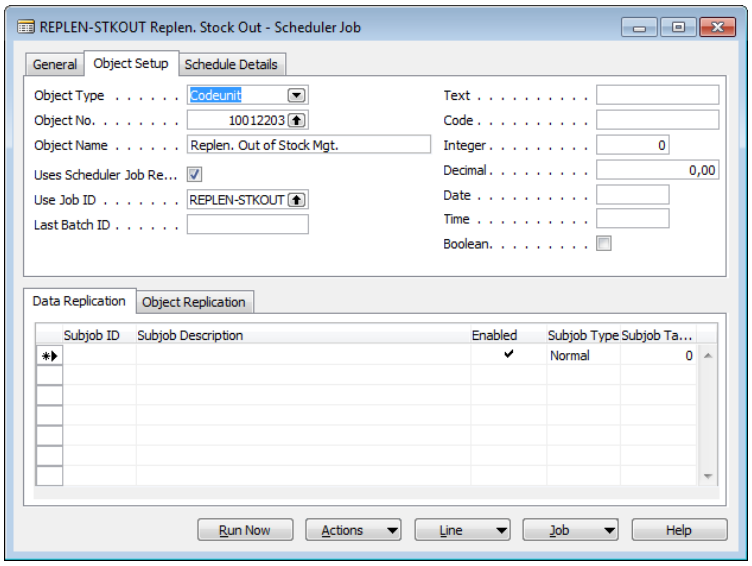


This form only has values if the **Stock out Functionality** field in the Replenishment Setup form is check marked and the Update out of Stock batch run has been run from the Periodic Activity or the Job Scheduler.

> **Hint:**
> If you want the system to recalculate the out of stock data, you need to set the field **Last Entry No. for Stock Out** in the Replenishment Setup to 0, delete all records in the table **Replen. Out of Stock Log** and run LS Retail - Replenishment menu, Periodic Activities, Replen. Upd Out of Stock.

The calculation of the Replenishment Stock Out Days can be run overnight by the Scheduler, view **LS Retail – Scheduler, Scheduler Job**, field **Job ID** REPLEN-STKOUT.





Planned Sales Demand

When the LS Retail Replenishment System calculates Item Quantities, it needs to take into account any Planned Sales Demand data, if it exists. This is only valid for items that have the Replenishment Calculation Types *Average Usage* or *Manual Estimate*.

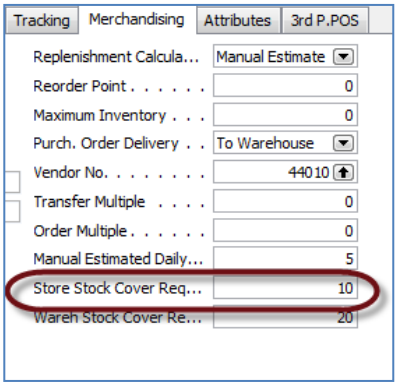
> **Hint**:
> Planned Sales Demand records give the Buyer the chance to increase the sales demand, for example before special events, as these events might not be seasonal and the Replenishment Forward Sales Profile takes them into effect (Facto).

If the **Store Stock Cover (Days)** is filled in for an item and the Replenishment Calculation Type is *Average Usage*, the system tries to find Planned Sales Demand records for a period starting today and ending by the number of days defined by the Store Stock Cover (Days). This means for example that if the Store Stock Cover (Days) is 10, the period the system looks for Planned Sales Demand records starts today and ends 10 days later.

If the system finds Planned Demand records during this period for the item and the store, it uses this information to update Average Daily Sales.

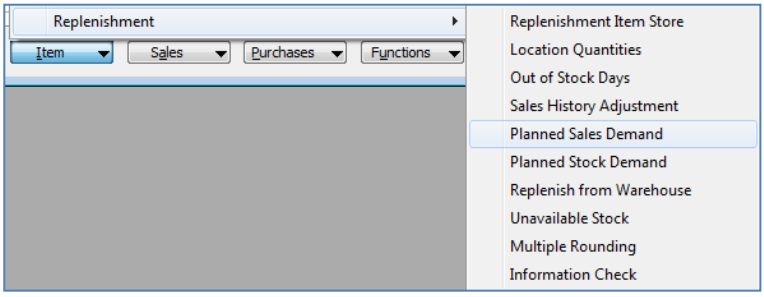
Replenishment Planned Sales Demand is used when calculating the average sales quantity when the data in the Replenishment Item Quantity table is calculated. This can be viewed on the **Merchandising** tab on the Retail Item Card.

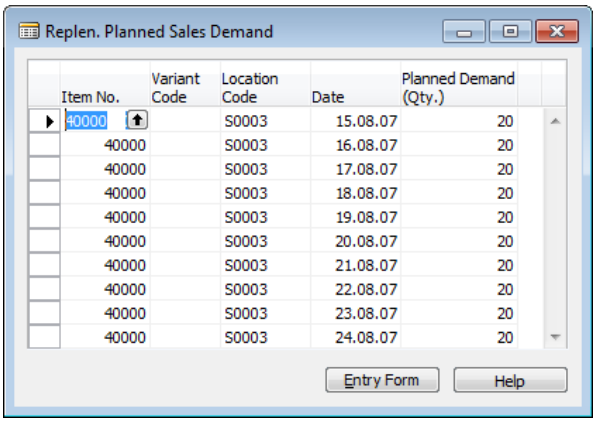
Example:



Setting Today as 15.08.07 and make sure that Item 40000 has the Store Stock Cover Days of 10.

The Manual Estimated Daily Sale is 5 per day.





Item 40000 has 10 Replenishment Planned Sales Demand records with the quantity of 20 per day.

Forward Sales Profile (Store / Warehouse)

The current calculation of Average Daily Sales uses the Sales Period defined for the item. The Forward Sales Profile (**LS Retail – Replenishment, Setup, Replenishment, Replen. Forw. Sales Profile**) can be used to forecast what the future demand may be when calculating how much stock is required. The forecast is simply based on previous sales.

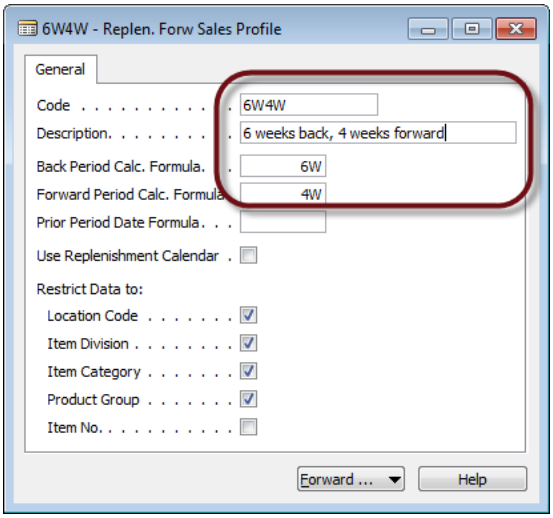
This feature attempts to forecast what the future sales of an item for a given period might be, based on a historical trend from the previous year and then uses this to suggest a forecast Average Daily Sale value based on this year's sales period.

Using today's date as a reference point, the objective of the Forward Sales Profile is to define a period of historic sales back from today's date, but for last year and a second period, forward from today's comparable date last year.

Example:

In the Forward Sales Profile form, enter the code 6W4W, the **Back Period Calc. Formula** is set to 6W (six weeks).

The **Forward Period Calc. Formula** is 4W (four weeks).



The first period defined is therefore 6 weeks prior to today's date.

The second period is going forward to a date 4 weeks in advance of this date.

The replenishment process calculates the Average Daily Sales for the first (back) and second (forward) periods.

A Factor is then calculated as follows:

Factor = Average Daily Sales Forward Period / Average Daily Sales Back Period.

The Average Daily Sales value calculated based on the standard Replenishment Profile period is multiplied by the resultant factor to return a new Average Daily Sales value.

Take an example like below that uses the '6W4W' profile (that is, 6 weeks pre and 4 weeks post the comparable date last year):

Weeks from Today's Date	Unit Sales Last Year	Unit Sales This Year
-6	20	30
-5	30	35
-4	30	35
-3	50	55
-2	50	36
-1	30	40
+1	60	
+2	100	

+3	50	
+4	70	

Average sales for the 6 previous weeks 20+30+30+50+50+30 / 6 = 35

Average sales for the 4 forward weeks 60+100+50+70 / 4 = 70

Calculated Forward Factor: 70 / 35 = 2.0

In the replenishment calculation the Average Daily Sale value that is calculated is then multiplied by this factor to get an updated Average Daily Sale figure.

For example: Normal Average Daily Sale = 0.76

If we choose to use the Forward Factor for the item, the Average Daily Sale value used becomes:

Calculated Average Daily Sale * Calculated Forward Factor = New Average Daily Sale

0.76 * 2.0 = 1.52.

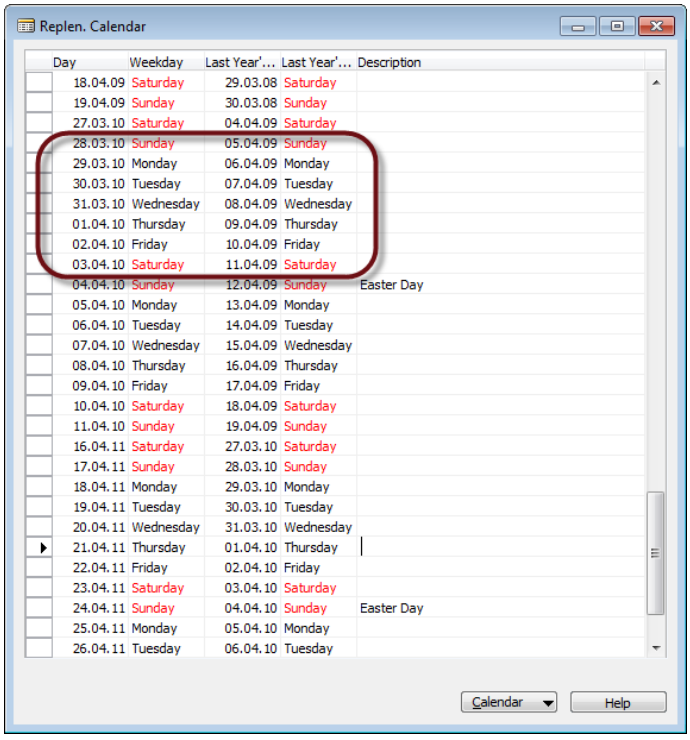
This is the value taken forward in the calculation.

The input field: **Prior Period Date Formula** shows how far into the past the period is defined. The default is 1Y and if the field is not filled out, then the period is defined around the date one year ago. Otherwise it can be defined in same way as other fields, 2Y stands for two years, 1Y3M is a year and 3 months back in time and so on.

The settings for: **Restrict Data to** give options to define the sales history that is used to create the trend factor. If all checkboxes are marked then a single item, for instance a certain brand of television sets, is the basis for the trend factor. If the item checkbox (only) is not marked, then the Product group sales history is the basis for the trend calculations. If the location checkbox is not marked then the sales history for all stores is used, to name a few examples.

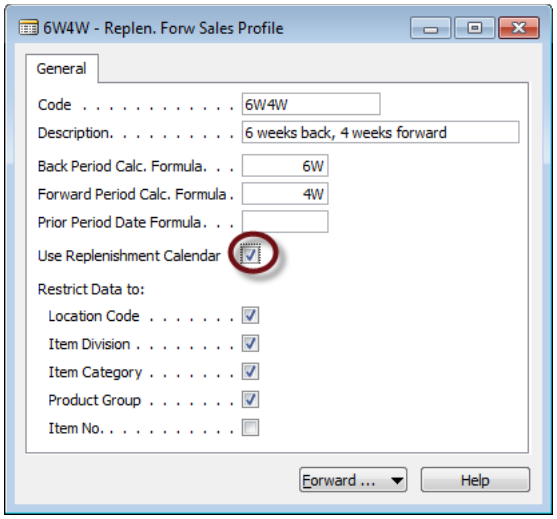
The Sales history is not affected by these marks. The trend factor is only used as basis for instance for future orders, so a trend factor that shows 20% increase of sales will show that 20% additional stocks will be needed according to the trend. The Sales history will however remain the same.

5.9.2 Replenishment Calendar



The Replenishment Calender is at **LS Retail – Replenishment, Setup, Replenishment, Replenishment Calendar**.

Here you can set up the projection of days between years. When the field **Use Replenishment Calendar** in the active Forward Sales Profile (**LS Retail – Replenishment, Setup, Replenishment, Replen. Forw. Sales Profile**) is check marked, the system applies the Back Period Calc. Formula from today's date and if the date is found in the Day column of the Replenishment Calendar, the date from Last Year's Day will be used to calculate the sold quantity that goes into the average daily sales.



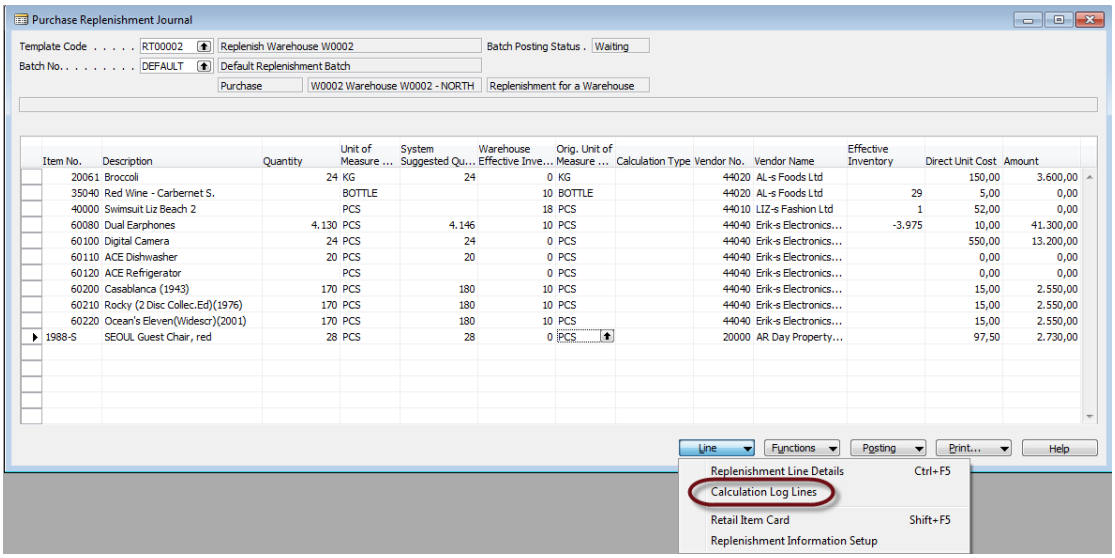
Example:

The system needs to calculate the sales trend of item number 40020, which has been set to use the 6W4W Replen. Forw Sales Profile. The 6W4W Forward Sales Profile uses the Replenishment Calendar.

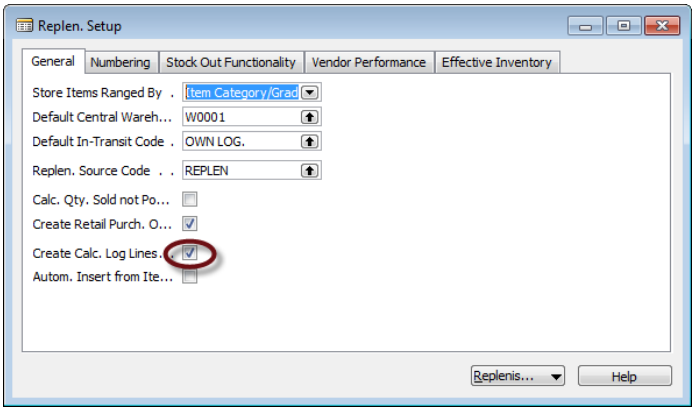
Today's date in this example is 15.08.2007.

The system applies the Back Period Calc. Formula, which is 6W, to 04.07.2007 to find the dates it needs to inspect to find the sales of last year. This gives as the result the

dates from 04.07.2007 to 15.08.2007. The first 4 days from 04.07.2007 to 30.03.2007 are represented in the Replenishment Calendar so they will be subedited with the dates in the Replenishment Calendar but for the rest of the dates will be subtract exactly one year from those dates and calculate the sale those days.



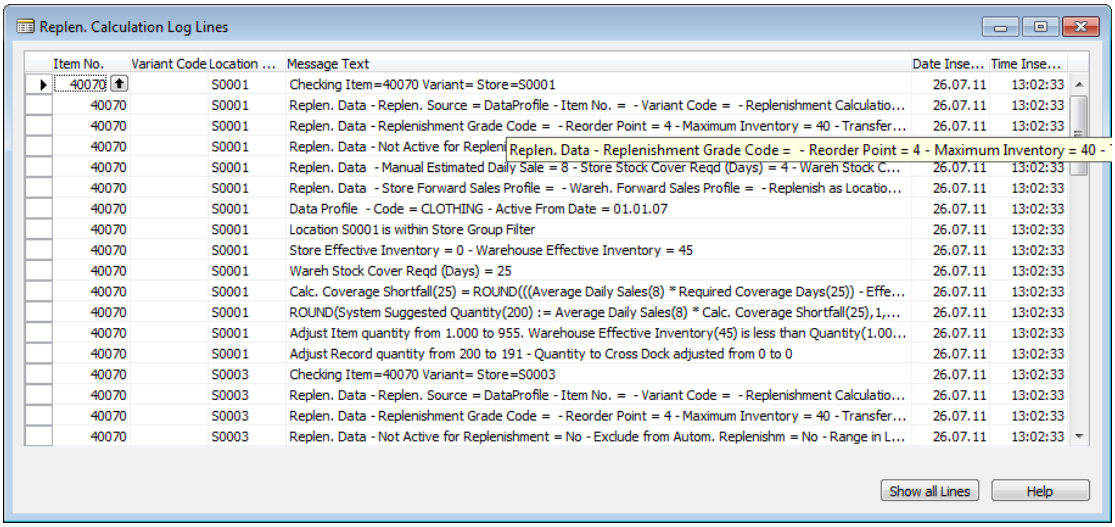
The Calculation Log Lines are not active unless the **Create Calc. Log Lines** has been marked on the Replen. Setup card (**LS Retail – Replenishment, Setup, Replenishment, Replenishment Setup**).

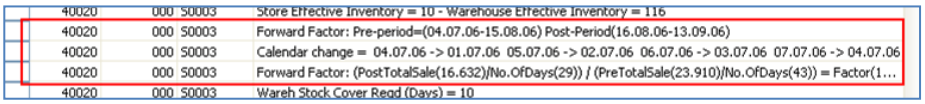


NOTE:

If the Create Calc. Log Lines is marked and the Calculation Log Lines function is run on the Purchase Replenishment Journal, it is an expensive action and time consuming. It is normally not used unless you need to look up the reason for strange or unusual behavior that may be revealed by the vast information that is revealed in this activity. If you can limit this action to one or a few items, for instance the 40070 and 40020 (separately), then the time and effort is minimized.

The Replen. Calcuation Log Lines information is detailed and can show what is out of the ordinary and therefore used in exceptional cases.





In the above detailed screenshot from the Replenishment Calculation Log form for item 40200 you can see the following information from the previous example:

Line 1 – shows the forward sales period used

Forward Factor: Pre-period = (04.07.06-15.08.06) Post-Period (16.08.06-13.09.06)

Line 2 – shows where the dates where changed by the Replenishment Calendar

Calendar change = 04.07.06 -> 01.07.06
05.07.06 -> 02.07.06
06.07.06 -> 03.07.06
07.07.06 -> 04.07.06

Line 3 – shows how the result of the sales history and forward sales factor

Forward Factor:

(PostTotalSale(16.632)/No.OfDays(29)) / (PreTotalSale(23.910)/No.OfDays(43)) = Factor(1,03141954744083416)

PostDailySale(573,517241379310345) / PreDailySale(556,046511627906977) = Factor(1,03141954744083416)

As you can see, the sales for the period prior to the date 15.08.06 is 23.910 and the sale after the date 15.08.06 is 16.632 which gives the forward sales factor of 1,0314

5.9.3 Calculation Process for Average Daily Sale

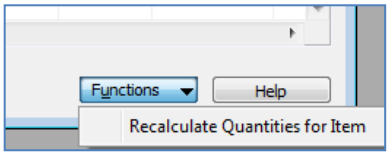
Effective Inventory

The system calculates the inventory that is going to be used in the rest of the calculations.
Effective Inventory =
Inventory +
Quantity on Purchase Order -

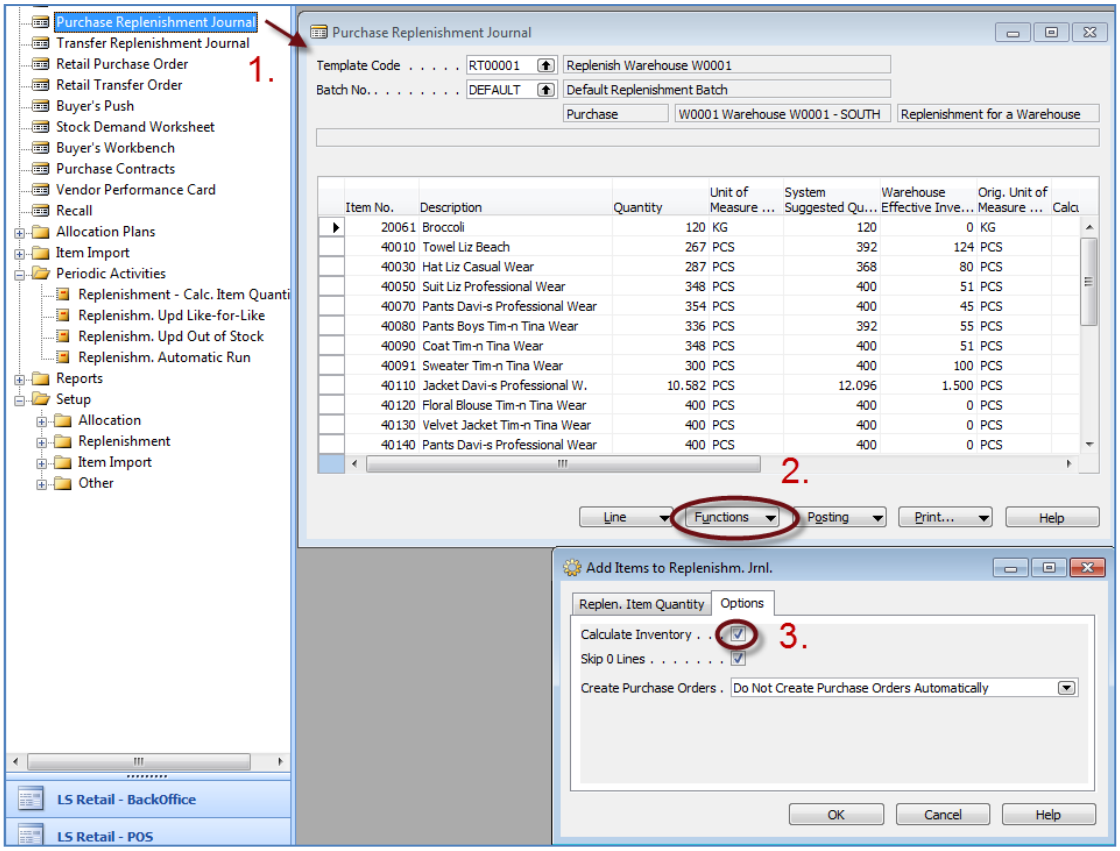
Quantity on Sales Order +
Quantity in Transfer In -
Quantity in Transfer Out

Average Daily Sale

The calculation method needs the Average Daily Sale and is the data taken from the Replenishment Item Quantity record at **LS Retail – Replenishment, Retail Item Card, Item** button, select **Replenishment, Location Quantities**, the **Replen. Item Quantities** card appears. On the card you have to select the **Functions** button and select the **Recalculate Quantities for Item** in the line for the Item in question.



This calculation of the Average Daily Sale process is executed in the calculation of the Replenishment Item Quantity record. The calculation takes place if the Calculate Inventory is marked in the **LS Retail – Replenishment, Purchase Replenishment Journal, Functions** button, **Add Items to Replenism. Jrnl**.



Here is a step-by-step example:

1. The system finds the Sales Profile for the Item – Variant – Location.

2. The calculation process below is applied to EVERY Sales Profile Line:

- Calculates the sum of the Quantity (CALCSUMS(Quantity)) from the Item Ledger Entries according to the Date Period

- Calculates the sum of the Correction Quantity (CALCSUMS("Corrected Quantity")) from the Sales History Adjustments according to the Date Period

- Corrects the Quantity with Correction Quantity.
  (Quantity = Quantity - Corrected Quantity)

Hint:
The Quantity field is a negative number.

Hint:
To lower the sale then Corrected Quantity value needs to be negative.

3. The field **Adjusted Sales** in Replenishment Item Quantity record:
   Adjusted Sales = Corrected Quantity

   - If the field **Stock Out Functionality** is set, the system calculates the number of Out of Stock Days for the Date Period

   - The system calculates the Average Daily Sales as follows:
     Average Daily Sale = -Quantity / (No of Days – No of Out of Stock Days)

4. Field of Replenishment Item Quantity record:
   No. of Days Out of Stock = No of Out of Stock Days
   No. of Sales Dates = No of Days

   - Calculate the Average Daily Sale according to the Sales Profile Line Weight

     Average Daily Sale = Average Daily Sales * Weight / Total Weight
     - or -
     Average Daily Sale = Average Daily Sales * 1 / No of Sales Profile Lines

5. The system has now found the Average Daily Sale for all the Sales Profile Lines.

6. If there are Planned Sales Demand records for the cover period:
   The system sums the quantity of the Planned Sales Demand records

   Average Daily Sale =
   Average Daily Sale * (No of Days – No of Planned Sales Demand Days) +
   Total Planned Sales Demand Quantity

   Field of Replenishment Item Quantity record:
   Planned Sales Demand = Total Planned Sales Demand Quantity

   Field of Replenishment Item Quantity record:
   "Sales Date From" = the earliest date of the sales history period
   "Sales Date To" = the last date of the sales history period

7. After the above process is completed, you have the Average Daily Sale Quantity.

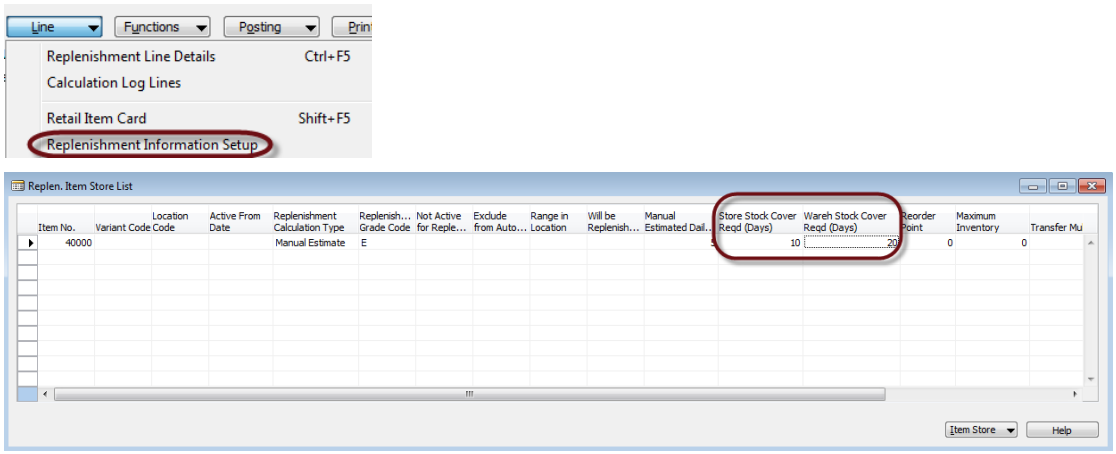
Stock Cover Days

The Purchase and Transfer Replenishment Journals is where you can set whether you want to replenish to the store, which is the default setting, or the Warehouse.

The system uses the **Store Stock Cover Reqd. (Days)** field unless the Replenishment Journal is to replenish a warehouse, in which case it uses the **Warehouse Stock Cover**

Reqd.(Days) field. If the **Warehouse Stock Cover Reqd.(Days)** field is empty, the **Store Stock Cover Reqd.(Days)** field is used.

This is set at **LS Retail – Replenishment, Purchase Replenishment Journal/Transfer Replenishment Journal, Line** button, select **Replenishment Information Setup, Replen. Item Store List** and check corresponding columns.



Stock Cover Days = Store Stock Cover Reqd.(Days)

-or-

Stock Cover Days = Warehouse Stock Cover Reqd.(Days)

Coverage Shortfall

The system calculates the shortfall of stock to ensure that there is enough stock for the number of sales days that need to be covered.

"Calc. Coverage Shortfall" :=

ROUND((("Average Daily Sale" * "Stock Cover Days") –

"Effective Inventory") / "Average Daily Sale",1,'>');

Forward Sales Profile

- The system uses the Store Forward Sales Profile field unless the Replenishment Journal is to replenish a warehouse in which case it uses the **Warehouse Forward Sales Profile** field.
- The Forward Sales Ratio is not calculated unless the corresponding field is filled out.
- The system calculates the pre and post date periods specified in the Forward Sales Profile according to the system date (WORKDATE).
- If the field **Use Replenishment Calendar** in the Forward Sales Profile is set, the system will substitute the dates if they are found in the Replenishment Calendar with the days not found in the calendar subtracted by one year (-1Y).
- The system sums up the quantity (CALCSUMS("Valued Quantity"))for the periods with filters specified in the *Forward Sales Profile* record (**Division, Item Category, Product Group** and/or **Location**).
- The Forward Sales Forecast Factor is found in the following way:

  "Forward Sales Forecast Factor":=

  Total Post Period Sale /

Total Pre Period Sale

Cross Docking

- If the Journal is to replenish the warehouse with cross docking to the stores it is necessary to calculate how much should be cross docked to the stores.
- The regular Journal process calculates the Calc. Coverage Shortfall according to the **Warehouse Stock Cover Reqd.(Days)** field as the Journal replenishes the warehouse.
- This additional process calculates the Calc. Coverage Shortfall for the store using the field **Store Stock Cover Reqd.(Days)**.

  Quantity to Cross Dock = ROUND(Average Daily Sales *

  Calc. Coverage Shortfall,1,'>')

5.10 Scenario 6 – Stock in Store and Warehouse

The CRONUS warehouse has 10 days as Stock Coverage but the store has 5. The system calculates how much the store needs for 10 days.

Average Daily Sale = 10

Store – Calc. Coverage Shortfall = 3

Warehouse – Calc. Coverage Shortfall = 8

Forward Sale Forecast Factor = 1,1

Quantity to Cross Dock = 10 * 3 = 30

System Suggested Quantity = 10 * 8 * 1,1 = 88

The Quantity in the Purchase Order for the warehouse is 88 but when the Purchase Order is received into the warehouse, the staff cross docks (pick) the 30 to be delivered by a Transfer Order to the store.

Suggested Quantity

Now the system can suggest the quantity the warehouse or the store needs according to the following formula:

System Suggested Quantity =

ROUND(Average Daily Sale * Calc. Coverage Shortfall *

Forward Sales Forecast Factor,1,'>')

If the *System Suggested Quantity* is less than zero, the System Suggested Quantity is set to zero.

Condition:

System Suggested Quantity < 0

Result:

System Suggested Quantity = 0

If the Effective Inventory is greater or equal to the System Suggested Quantity, the System Suggested Quantity is set to Zero.

Condition:

Effective Inventory > System Suggested Quantity

Result:

System Suggested Quantity = 0

Reorder Point

If the field **Reorder Point** is greater than zero and **System Suggested Quantity** is less than the Reorder Point, the System Suggested Quantity is set to Reorder Point and Decision is set to *Brought up to Reorder Point*.

Condition:

System Suggested Quantity < Reorder Point

Result:

System Suggested Quantity = Reorder Point

Maximum Inventory

If the field **Maximum Inventory** is greater than zero and sum of **System Suggested Quantity** and **Effective Inventory** is greater than Maximum Inventory, the System Suggested Quantity equals Effective Inventory subtracted from the Maximum Inventory. The field **Decision** is set to *Brought to Maximum Inventory*.

Condition:

System Suggested Quantity + Effective Inventory > Maximum Inventory

Result:

System Suggested Quantity = Maximum Inventory – Effective Inventory.

Cross Dock

If the Journal is to replenish the warehouse with cross docking to the stores and the Quantity to Cross Dock is higher than System Suggested Quantity, the **Quantity to Cross Dock** is set to *System Suggested Quantity*.

Condition:

Purchase Order for warehouse with cross docking

Quantity to Cross Dock > System Suggested Quantity

Result:

Quantity to Cross Dock = System Suggested Quantity

5.11 Calculation Type – Manual Estimate

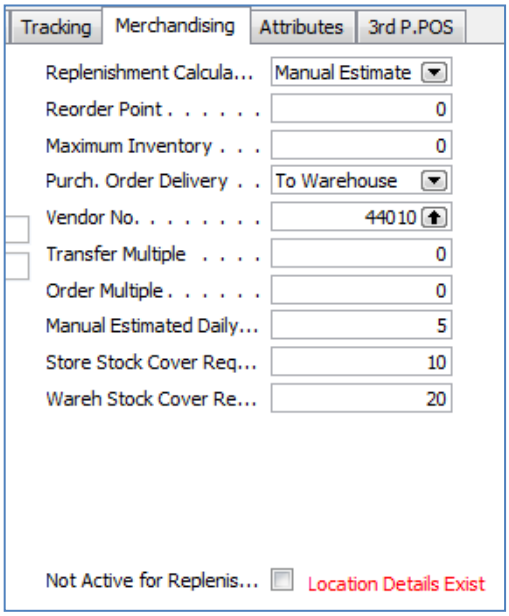
The Manual Estimate method is similar to the Average Usage method except the average daily sales in not calculated but specified. The specified average daily sale is used to predict the inventory need of the warehouse / store.

5.11.1 Fields

Common fields for all Calculation Types

The Replenishment Data is stored in the Item, Item Store or Data Profile record. The screenshot below shows the Replenishment Data fields on the data source forms for records with the Calculation Method *Manual Estimate* as it is shown on the **Retail Item Card**, on the **Merchandising** tab.

See Replenishment Data Hierarchy section for further information about Replenishment Data.



5.11.2 Calculation Process for Manual Estimate

Effective Inventory

The system calculates the inventory that is going to be used in the rest of the calculations in the following way:

Effective Inventory:

Inventory +
Quantity on Purchase Order -
Quantity on Sales Order +
Quantity in Transfer In -
Quantity in Transfer Out

Average Daily Sale

The calculation method needs the Average Daily Sale and this data is taken from the Replenishment Item Quantity record

The calculation of the Average Daily Sales is executed in the calculation of the Replenishment Item Quantity record.

The Average Daily Sale is to the value of the field **Manual Estimated Daily Sales**.

If there are Planned Sales Demand records for the cover period:

- The system sums the quantity of the Planned Sales Demand records in the following way:

Average Daily Sale =
Average Daily Sale * (No of Days – No of Planned Sales Demand Days) + Total Planned Sales Demand Quantity

Field of Replenishment Item Quantity record:
"Planned Sales Demand" = Total Planned Sales Demand Quantity

The field **Adjusted Sales** in Replenishment Item Quantity record:
Adjusted Sales = Corrected Quantity

The result of the above process is the Average Daily Sale

Stock Cover Days

The system uses the **Store Stock Cover Reqd.(Days)** field unless the Replenishment Journal is to replenish a warehouse then it uses the **Warehouse Stock Cover Reqd.(Days)** field. If the **Warehouse Stock Cover Reqd.(Days)** field is empty, the **Store Stock Cover Reqd.(Days)** field is used.

Stock Cover Days = Store Stock Cover Reqd.(Days)

-or-

Stock Cover Days = Warehouse Stock Cover Reqd.(Days)

Coverage Shortfall

The system calculates the shortfall of stock to be able to have enough stock for the number of days the sale needs to cover.

"Calc. Coverage Shortfall" :=

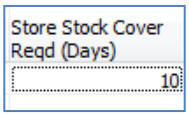
ROUND((("Average Daily Sale" * "Stock Cover Days") –

"Effective Inventory") / "Average Daily Sale",1,'>');

This is shown in a field that displays additional supplies are needed. For instance in the Replenishment Journals detail lines: **LS Retail – Replenishment, Purchase/Transfer Replenishment Journal, Line** button, select **Replenishment Line Details**.

Example:

If 2 pieces of item 40020 are the Average Daily Sale in a store and the store wants to have 10 days' supply available (defined in Stock Cover Reqd (Days)).



Then normally 20 pieces (2 * 10) of this item should be available in the store. If only 10 pieces of this item are in the store the system will show that 10 more are needed for this store. The required stock in the warehouse may at the same time be defined 100 which means that additional 10 items will be required from the warehouse and the warehouse also needs to add 10 items to the stock there.

5.11.2.1 Cross Docking

If the Journal is to replenish the warehouse with cross docking to the stores it is necessary to calculate how much should be cross docked to the stores.

The regular Journal process calculates the Calc. Coverage Shortfall according to the **Warehouse Stock Cover Reqd.(Days)** field as the Journal is replenishing the warehouse.

This additional process calculates the Calc. Coverage Shortfall for the store using the field **Store Stock Cover Reqd.(Days).**

Quantity to Cross Dock = ROUND(Average Daily Sales *

Calc. Coverage Shortfall,1,'>')

Example:

The warehouse has 10 days as Stock Coverage but the store has 5. Then system calculates how much the store needs for 10 days.

Average Daily Sale = 10

Store – Calc. Coverage Shortfall = 3

Warehouse – Calc. Coverage Shortfall = 8

"Quantity to Cross Dock" = 10 * 3 = 30

"System Suggested Quantity" = 10 * 8 = 80

The Quantity in the Purchase Order for the warehouse will be 80 but when the Purchase Order is received into the warehouse, the staff cross-docks (picks) the quantity (30) to be delivered by a Transfer Order to the store.

5.11.2.2 Suggested Quantity

Now the system can suggest the quantity the warehouse or the store needs.

The same formula is used as for the Calculation Method *Average Usage* but the value of the **Forward Sales Forecast Factor** field is always 1.

System Suggested Quantity =

ROUND(Average Daily Sale * Calc. Coverage Shortfall *

Forward Sales Forecast Factor,1,'>')

If the System Suggested Quantity is less than zero, the System Suggested Quantity is set to zero.

Condition:

System Suggested Quantity < 0

Result:

System Suggested Quantity = 0

If Effective Inventory is greater or equal than System Suggested Quantity, the System Suggested Quantity is set to Zero.

Condition:

Effective Inventory > System Suggested Quantity

Result:

System Suggested Quantity = 0

5.11.2.3 Reorder Point

If the value in the field **Reorder Point** is greater than zero and System Suggested Quantity is less than the Reorder Point, the **System Suggested Quantity** is set to *Reorder Point* and **Decision** is set to *Brought up to Reorder Point*.

Condition:

System Suggested Quantity < Reorder Point

Result:

System Suggested Quantity = Reorder Point

5.11.2.4 Maximum Inventory

If the field **Maximum Inventory** is greater than zero and the sum of **System Suggested Quantity** and **Effective Inventory** is greater than Maximum Inventory, the System Suggested Quantity equals Effective Inventory subtracted from Maximum Inventory. The field **Decision** is set to *Brought to Maximum Inventory*.

Condition:

System Suggested Quantity + Effective Inventory > Maximum Inventory

Result:

System Suggested Quantity = Maximum Inventory – Effective Inventory.

5.11.2.5 Cross Dock

If the Journal is to replenish the warehouse with cross docking to the stores and Quantity to Cross Dock is higher than System Suggested Quantity, the Quantity to Cross Dock is set to System Suggested Quantity.

Condition:

Purchase Order for warehouse with cross docking

Result:

Quantity to Cross Dock = System Suggested Quantity

Like for Like Replen. Method

The field shows the value that is going to be filled in the **Replen. Method** field in the Replen. Planned Stock Demand table (10012372) when the Statement is posted and the Replen. Calculation Method of the Item is *Like for Like*.

The values are as follows:

- **[empty]** – Not Selected
- **Transfer** - Transfer Order will be created
- **PO to Store** – Purchase Order will be created and delivered to the store
- **PO w/XDock** – Purchase Order will be created and cross docked at time of receiving at warehouse.

Like for Like Process Method

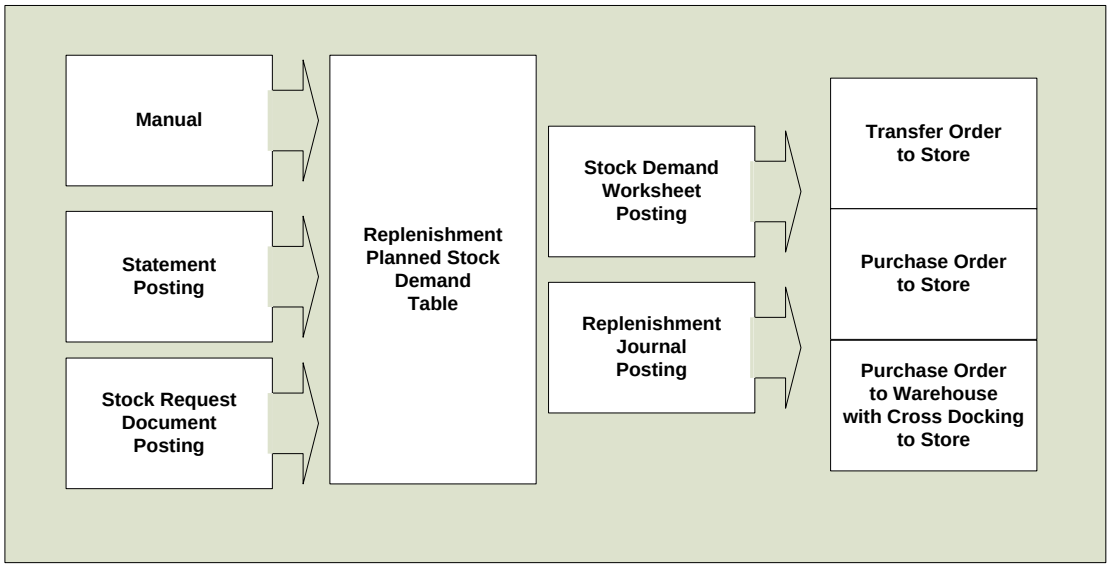
The field shows the value that is going to be filled in the field **Process Method** field in the Replen. Planned Stock Demand table when the Statement is posted and the Replen. Calculation Method of the Item is *Like for Like*.

The values are as follows:

- **[empty]** – Not Selected
- **Replen. Job** – The record will be processed in a Replen. Journal Batch job
- **Manual** –The record is to be processed in the Planned Stock Demand Form where the user can create a Purchase Order or Transfer Order Documents

Replenishment Planned Stock Demand Table

The Replenishment Planned Stock Demand table contains stock demand records for the stores. It is possible to apply **Active From Date** to the record and it will then not be valid for replenishment jobs until the date has been reached.



Replenishment Planned Stock Demand records can be created:

- Manually in the Replen. Stock Demand Worksheet or in the Planned Stock Demand under the Item Card.
- As products of Statement posting where the item has the Replenishment Calculation Method *Like for Like*
- As products of Stock Request Documents

There are two ways of changing Replenishment Planned Stock Demand records to Purchase or Transfer Orders:

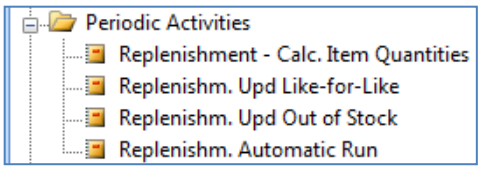
- By posting the record in the Replenishment Stock Demand Worksheet form.
- As input into the Replenishment Journal Batch job

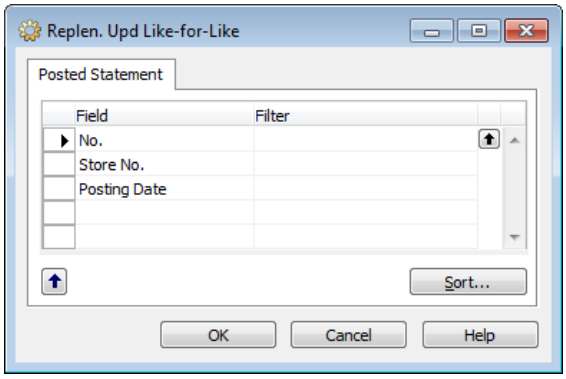
5.11.3 Statement Posting

When a Statement is posted the system creates a Replenishment Planned Stock Demand record for all items with the Replenishment Calculation Method *Like for Like* in the Statement Lines. The record gets the default value from the Replenishment Data for the fields **Like4Like Replen. Method** and **Like4Like Process Method**.

> **Example**:
>
> If the Replenishment Data fields contain:
>
> **Like4Like Replen. Method** = PO to Store
>
> **Like4Like Process Method**. = Replen. Job.
>
> This means that records with these values are created in the Replenishment Planned Stock Demand table. The next step is when the buyer runs a Replenishment Journal of the type *Purchase Order to Store.* The records are included in the process and the item is ordered from the vendor and delivered to the store directly.

There is a report process that looks through all posted Statements and processes Statements that have not been processed.





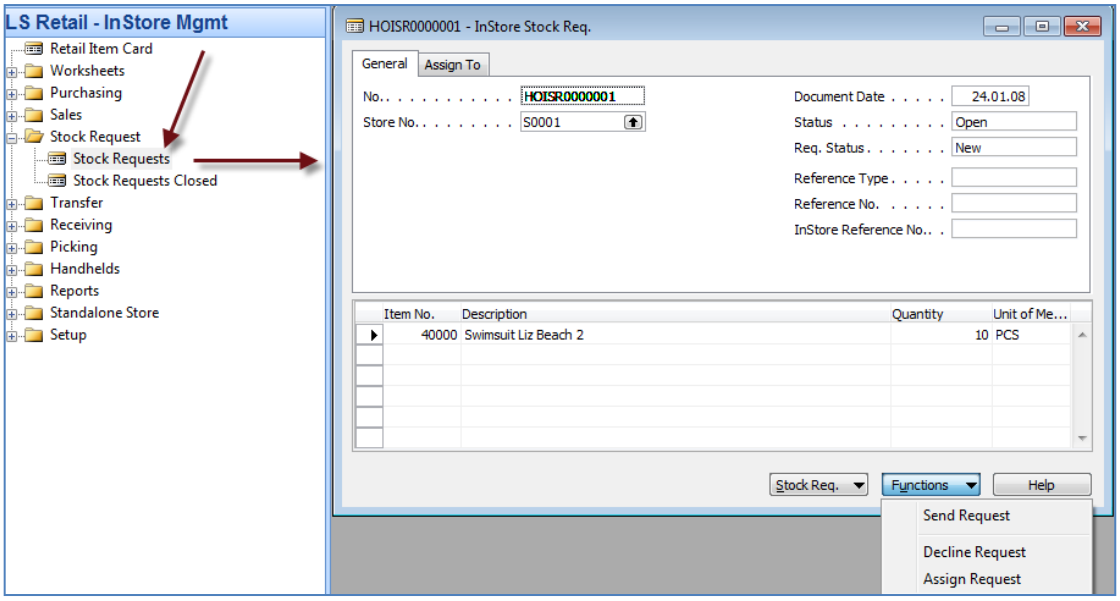
The report can be filtered by **Store No**. or/and **Posting Date** if needed.

The report **Replen. Upd. Like-for-Like** goes through all Posted Statements and checks if the Statement has been processed (is a record in table), and if not, it creates Replenishment Planned Stock Demand records for the items with the Replenishment Calculation Method *Like for Like*.

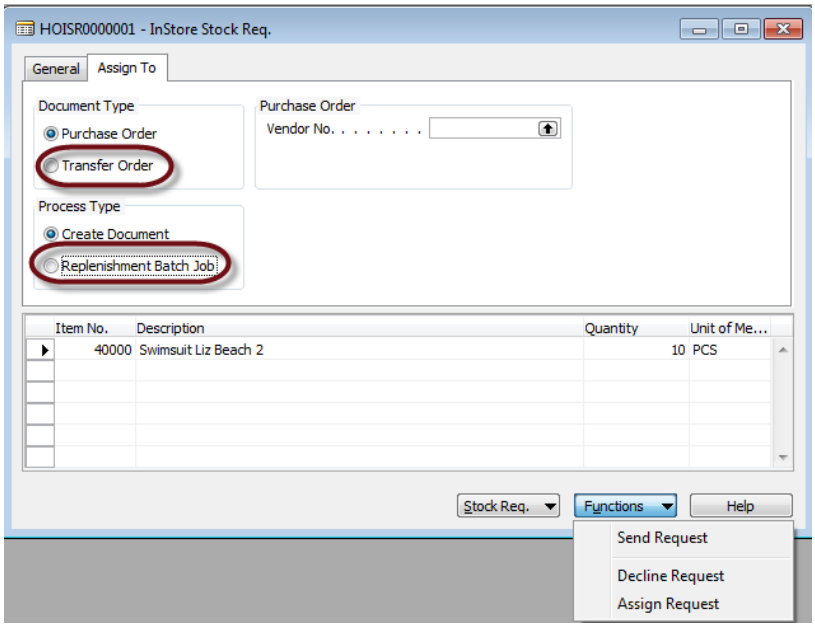
5.11.4 Stock Request Document Posting

The posting of a Stock Request Documents can create Replenishment Planned Stock Demand records.

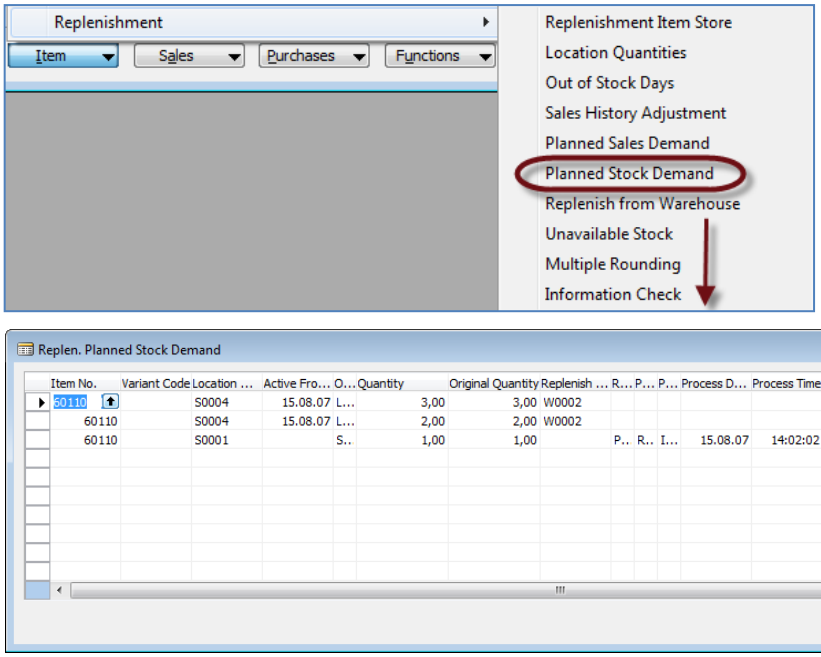
By selecting the Replenishment Batch Job option, the buyer creates Replenishment Planned Stock Demand records that become an input in the next Replenishment Journal run of the document type selected.



To include the lines in the next Replenishment Journal of the type *Transfer Order* for the store select the Transfer Order and the Replenishment Batch Job radio buttons.



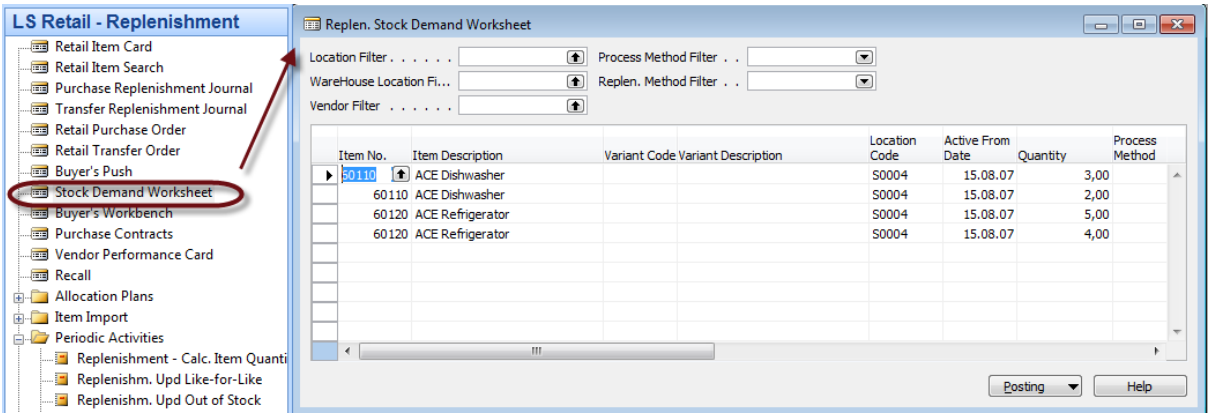
When selecting the Purchase Order button the buyer can select between having the Purchase Order delivered directly to the store or to have it delivered to the warehouse and then cross docked by a Transfer Order to the store.



The above screenshot shows a processed Replenishment Planned Stock Demand record.

5.11.5 Replenishment Stock Demand Worksheet

The Replenishment Stock Demand Worksheet form gives the buyer the possibility to add, modify or create Replenishment Planned Stock Demand records.



The above form shows all unprocessed Replenishment Planned Stock Demand records.

The buyer uses filters to select the records he is going to work with and then selects the function *Create Transfer* or *Create Purchase Orders* under the Posting button.

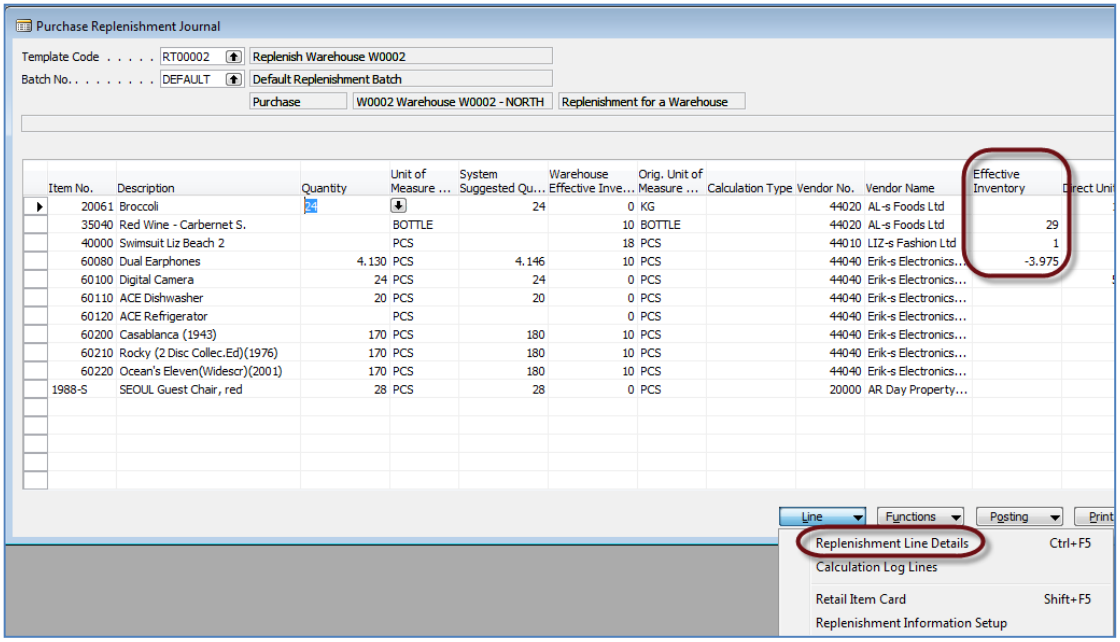
All records that have a blank **Vendor No**. field when the buyer is creating a Purchase Order will not be processed and left behind. The same behavior applies to the **Replenish. From Warehouse** field and the creation of Transfer Orders.

5.11.6 Replenishment Journal – Add Item to Journal

The *Add Item to Journal* function in the Replenishment Journal form inserts a line in the Replenishment Journal lines according to the Replenishment Journal Template. The job will first go through all valid Replenishment Planned Stock Demand records and add them to the journal if there is enough stock. The process will then go through the rest of the Replenishment Calculation Method, for example Average Usage, Manual Estimate and Stock Levels.

5.12 Replenishment Journal Detail Line Adjustments

At this time the Replenishment Journal Process has created all the Replenishment Journal Lines and the Replenishment Journal Detail with the suggested quantity to replenish. Now the system will go through each Replenishment Journal Lines and compare the system suggested quantity to the warehouse Effective Inventory and makes adjustments.



For each Replenishment Journal Line it compares the Quantity to the Effective Inventory of the warehouse.

The conditions and adjustments performed:

A Purchase Replenishment Journal to replenish the warehouse:

Condition:

Warehouse Effective Inventory > Replenishment Journal Line.Quantity

Result:

Replenishment Journal Line Quantity and the Replenishment Journal Detail Quantity are adjusted to 0

NOTE:

If there purchase is for more than one location it is not as simple. If Warehouse Effective Inventory = 20 and we need 50 items for each of 2 locations the 20 items will be distributed to these 20 and the remaining 40 items for each location will be ordered. Should there be any inventory in the stores in question they are deducted already.

Condition:

Warehouse Effective Inventory < Replenishment Journal Line Quantity and

Warehouse Effective Inventory > 0

Result:

Replenishment Journal Line Quantity is adjusted to warehouse Effective Inventory subtracted from the Quantity and the Replenishment Journal Detail Quantity are adjusted proportionally according to the prior quantity

Example:

Quantity(30) – warehouse Effective Inventory(10) = Quantity(20)

Condition:

Warehouse Effective Inventory < 0

Result:

Replenishment Journal Line Quantity is adjusted to warehouse Effective Inventory subtracted from the Quantity and the Replenishment Journal Detail Quantity are adjusted proportionally according to the prior quantity

Example:

Quantity(30) – warehouse Effective Inventory(-10) = Quantity(40)

A Transfer Replenishment Journal

Condition:

Warehouse Effective Inventory >= Quantity

Result:

Replenishment Journal Line Quantity and the Replenishment Journal Detail Quantity are adjusted to 0

Condition:

Warehouse Effective Inventory < Replenishment Journal Line Quantity

Result:

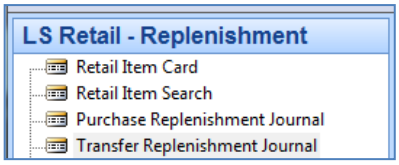
Replenishment Journal Line Quantity is adjusted to warehouse Effective Inventory and the Replenishment Journal Detail Quantity is adjusted proportionally according to the prior quantity

5.13 Replenishment Process

The Replenishment Process for Reoccurring Items is carried out through Replenishment Journals. There are two types of Replenishment Journals:

Purchase Replenishment Journal: The journal creates Purchase Order Documents both to replenish stores and warehouses.

Transfer Replenishment Journal: The journal creates Transfer Order Document to replenish the stores by transferring goods from the warehouses.



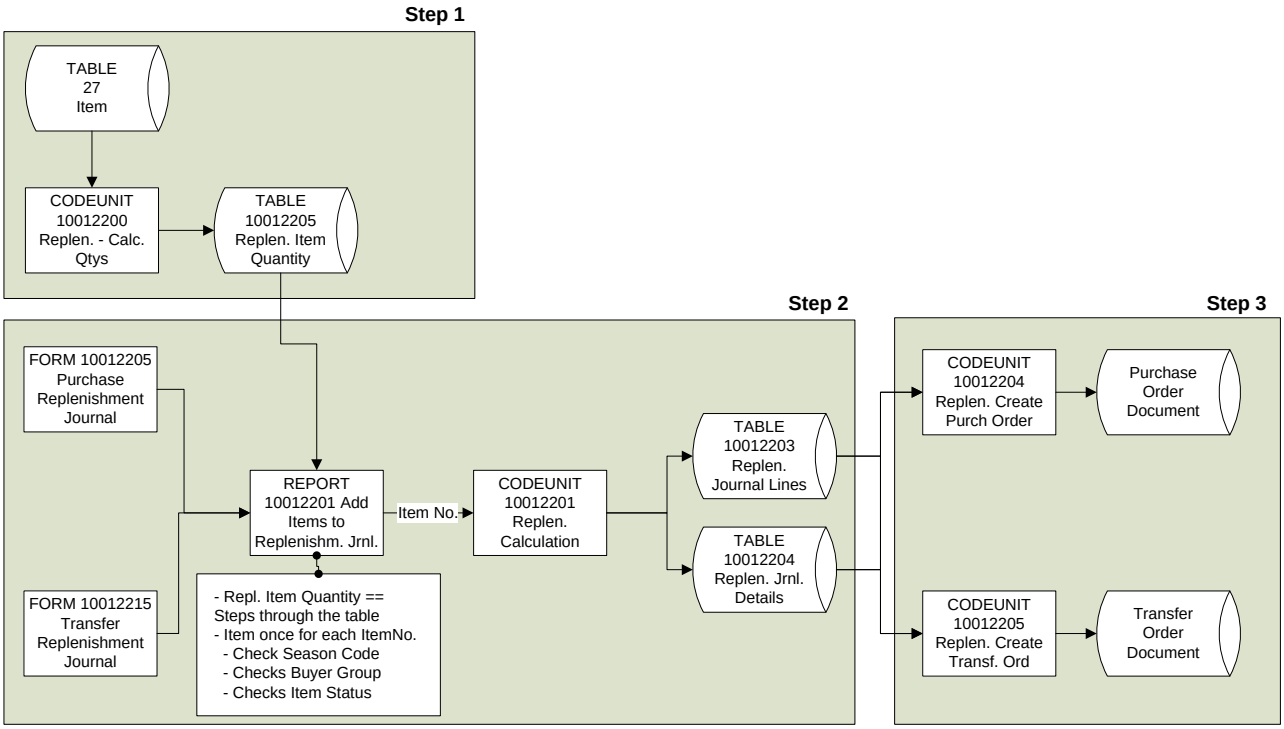
The Replenishment Process for Reoccurring Items includes three steps:

1. Creating records in the Replenishment Item Quantity table which is then the input data for the next step.

2. Adding and Calculating replenishment quantity to the lines of the Replenishment Journal Lines.

3. Posting the Replenishment Journal to create Purchase or Transfer Orders.

Replenishment Process for Reoccuring Items



The figure shows all the three steps

5.14 Calculation of the Replenishment Item Quantity

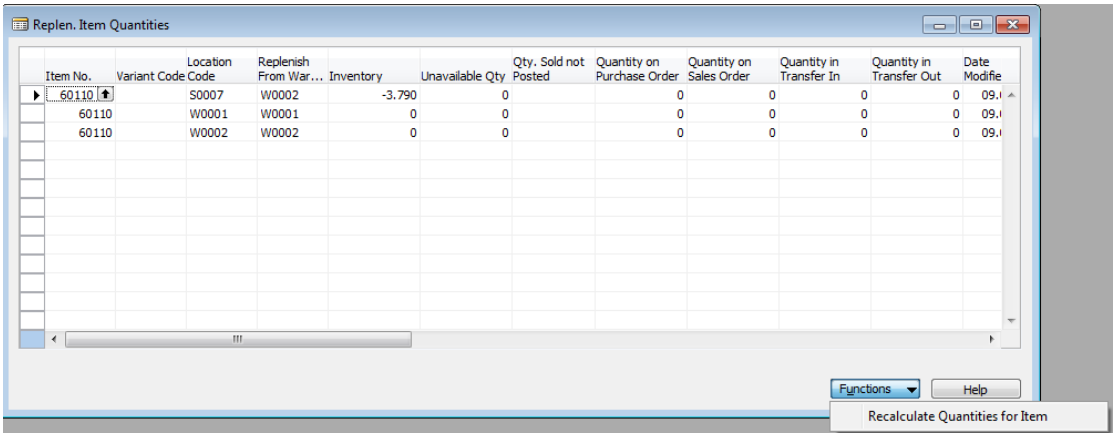
This chapter describes how the Replenishment Item Quantity table is created.

The methods of calculating the table are:

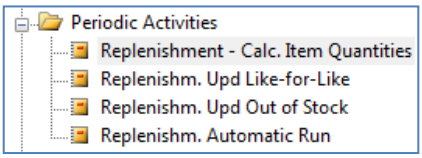
- **Item Card**

  It is possible to have the system calculate the Replenishment Item Quantity records for a specific Item by calling the function *Recalculate Quantity for Item* under:

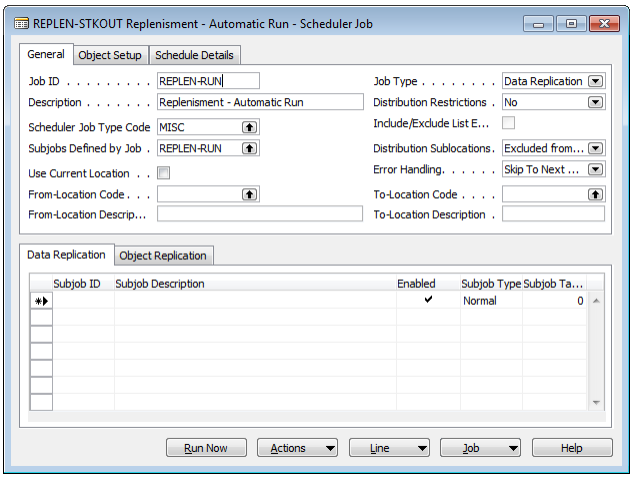
Retail Item Card, Item button, **Replenishment, Location Quantities, Functions** button, **Recalculate Quantities for Item**.

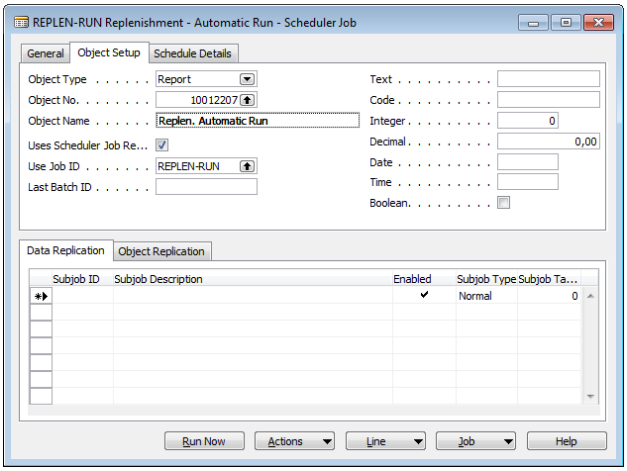


- Run the **Replenishment – Calc. Item Quantities** report in the Periodic Activities folder.

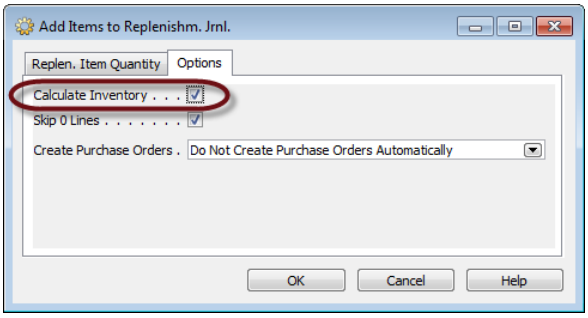


- It is possible to **Schedule the execution of the Replenishment – Calc. Item Quantities** report. Under **LS Retail Scheduler, Scheduler Job** select **REPLEN-RUN**





- Run the **Replenishment Item Quantity** calculation as part of adding lines to the Replenishment Journal Lines. The system will run the Replenishment – Calc. Item Quantities report as when running it directly in the Periodic Activities folder



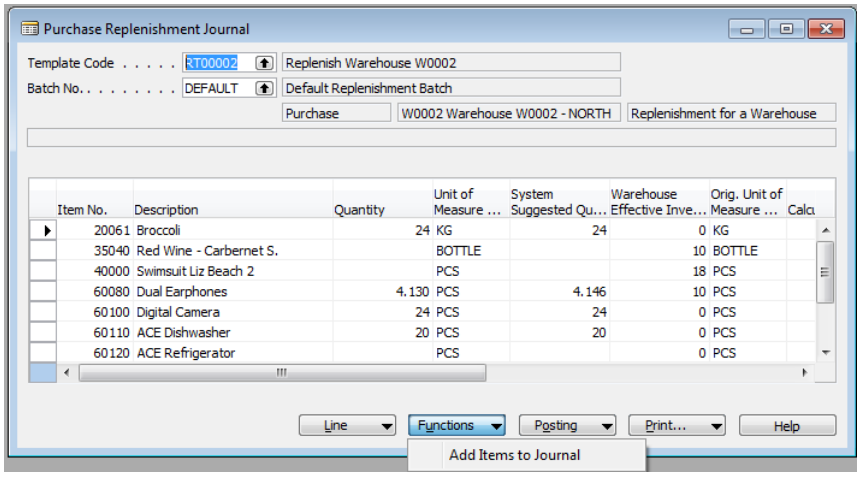
The above card is located under**: LS Retail – Replenishment, Purchase/Transfer Replenishment Journal, Functions, Add Items to Journal, Options** tab.

5.15 Replenishment Journals

This chapter describes how stores and warehouses are replenished using Replenishment Journals.

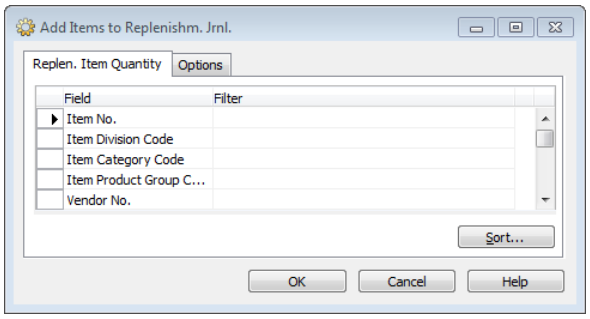
Add Items to Journal

The buyer does most of his work within the system in the Purchase and Transfer Replenishment Journal forms. The journal can be populated by manually adding lines to the journal by executing the function *Add Items to Journal*.

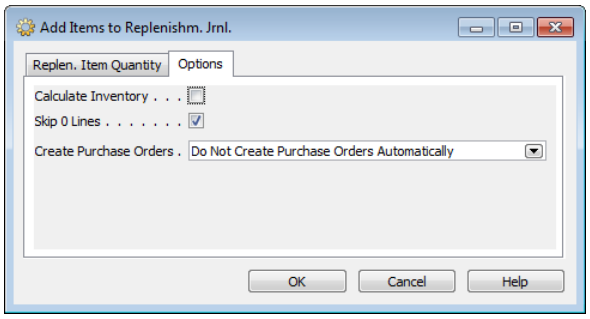


The Replenishment Journal can also be populated by Scheduling the execution during off hours. It is convenient for companies to have the Replenishment Item Quantity calculation and population of the Replenishment Journals to be Scheduled overnight so that everything is ready for the Buyer when he shows up for work.

The Replenishment Batch record is used to control when the Replenishment Journal should be populated by the Scheduler Job. Irregular Replenishment Journals are set to Manual and the Buyer executes them as he needs.



The process steps through the Replenishment Item Quantity table according to the filtering in the Replenishment Template / Add Items to Journal function. The report inherits the filtering from the Replenishment Template record but the buyer alters the filtering for that specific execution of the Replenishment Journal.



If *Calculate Inventory* is check marked, the system recalculates the Replenishment Item Quantity table before executing the Replenishing Process of adding items to the Replenishment Journal.

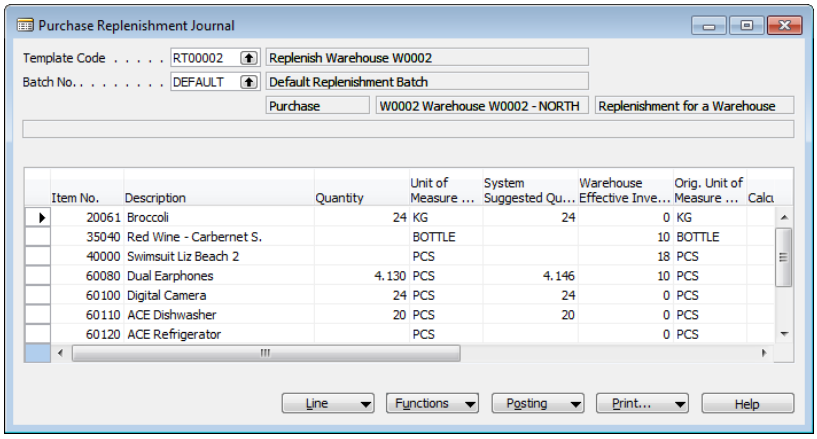
If *Skip 0 Lines* is check marked, the Replenishment Process will not insert lines if the result of the calculation is 0. It is advisable not to skip 0 lines when logging the replenishment result as it is not possible to look at the Replenishment Log unless the record exists in the journal.

Replenishment Journal Lines

The Replenishment Journal Lines show the items that the *Add Items to Journal* function created and each line is a total line for the item number. The Replenishment Journal Detail records are the records down to an individual store/location and variants.

If the user changes the value of the **Quantity** field the system changes the quantity of the Replenishment Journal Detail records according to the proportion of the previous quantity in the records.

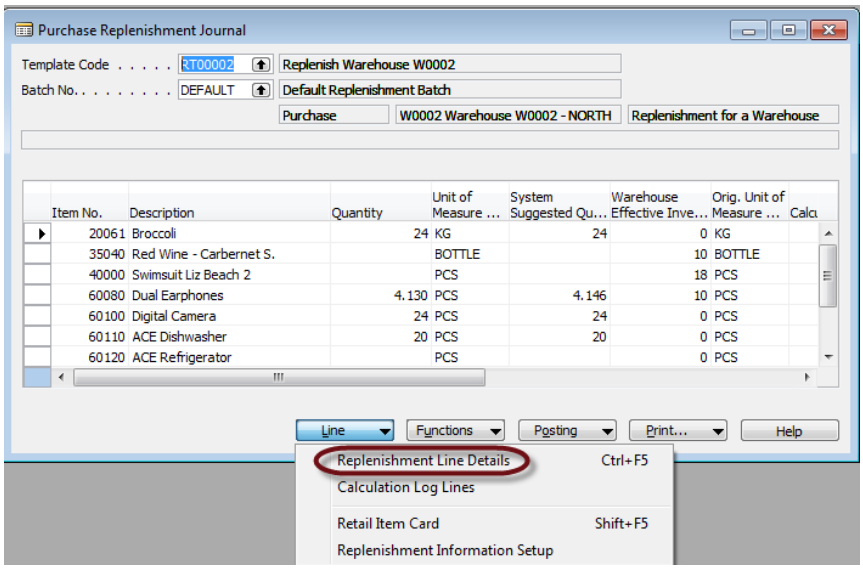
If the user creates a record manually to the journal he must also create the Replenishment Journal Detail lines for each store/location and variant. The total quantity of the detail lines will update the quantity of the journal line when the user exits the detail lines.

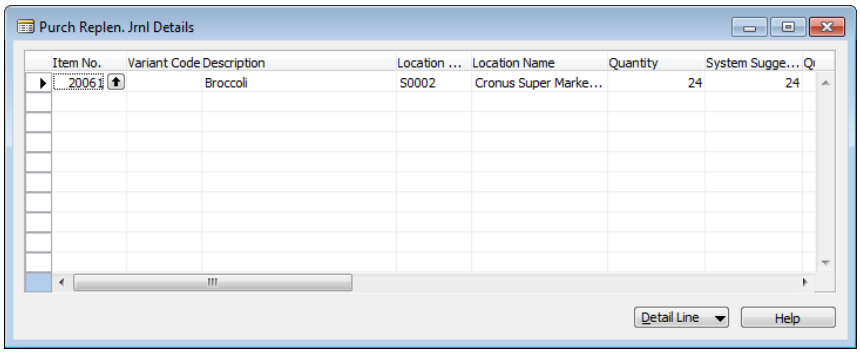


Replenishment Journal Detail

Replenishment Journal Detail lines show the quantity to replenish down to an individual store/location and variants.

The *Add Items to Journal* function creates one line for each Item No., Variant Code and Location Code where it calculates System Suggested Quantity and then takes into account the stock on hand in the store or/and warehouse to decide the quantity to be ordered. The system uses the Replenishment Journal Detail lines to create the Purchase and Transfer Order Lines.

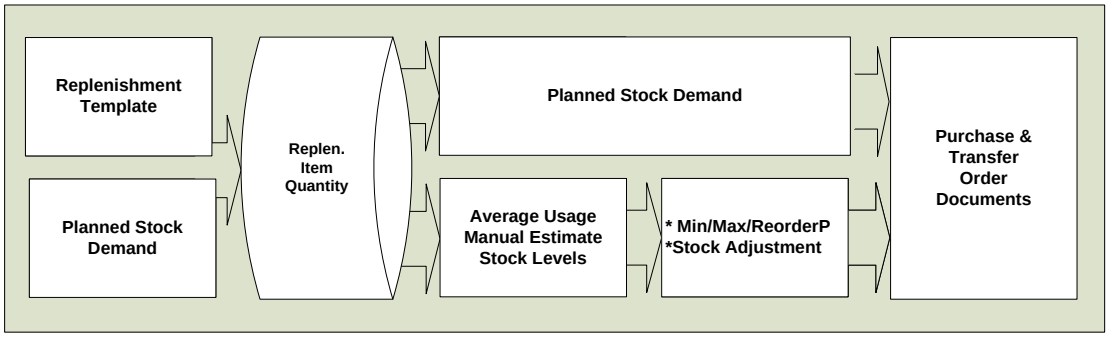




The Replenishment Journal Detail record contains information that is used to determine the quantity to be ordered.

5.15.1.1 Planned Stock Demand Lines

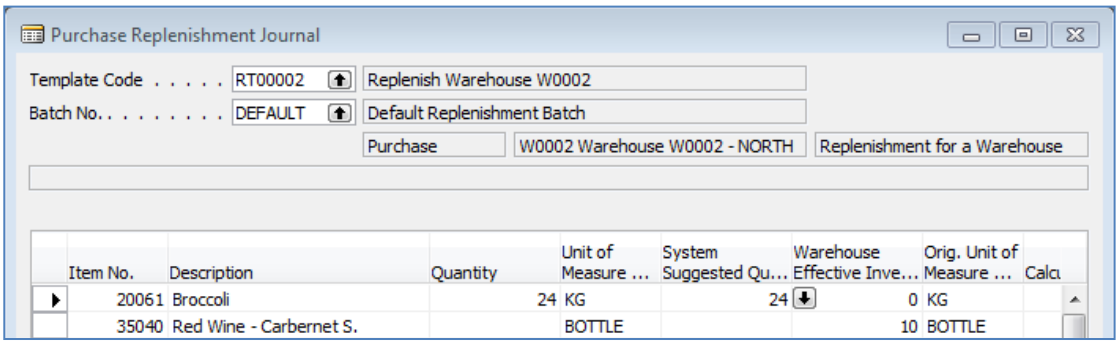
Replenishment Planned Stock Demand records with the Replenishment Method field *Replen. Job* is waiting to be replenished by the Replenishment Journal. The Replenishment Planned Stock Demand record can have an **Active From Date** which dictates when the record is valid for replenishment. The **Active From Date** makes it possible to plan future stock distribution.

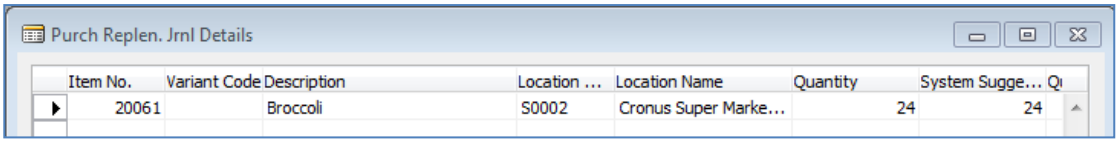


The above figure shows the Replenishment Journal Process.

The Replenishment Journal Process runs first through the Planned Stock Demand Records. Therefore the Planned Stock Demand record might take all the available stock before the other Replenishment Calculation Methods have a chance to run.

Example:





In this case there is only one Planned Stock Demand record but the system will create as many lines in the Replenishment Journal Detail lines as the number Planned Stock Demand records are processed.

If the total quantity for an Item No. and Location is not a multiple of the document type, for example transfer Multiples, the last record will be split.

Example:

Planned Stock Demand Records

Quantity = 11

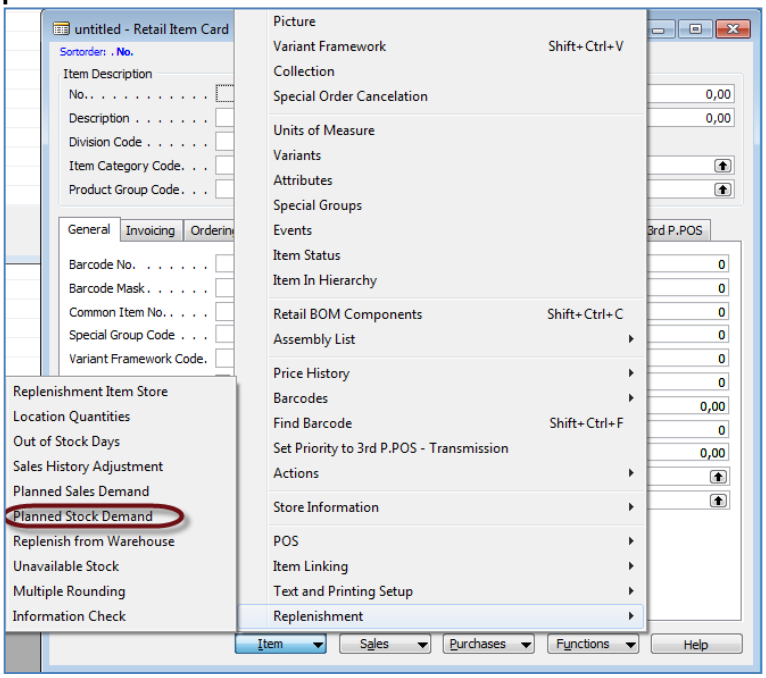
Quantity = 11

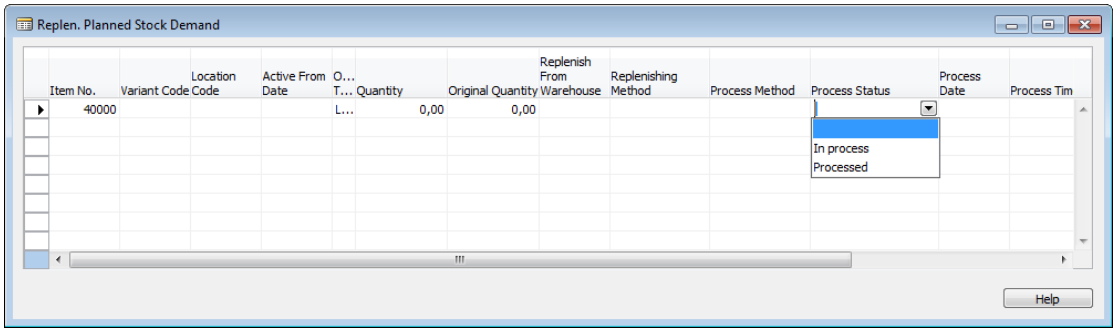
Quantity = 10

The Transfer Multiple = 10

Then the last record of 10 is split into 8, which goes into the Journal, and a new record with the quantity 2.

The Planned Stock Demand record (**LS Retail – Replenishment, Retail Item Card, Item** button, select **Replenishment** and from there **Planned Stock Demand**) contains both the origin of the record and its destination. You can choose in column Process Status either **In process** or **Processed**.





The Origins of the Record

The creation date and time of the record:

- **Create Date**
- **Create Time**

Filled in if the origin of the record is from the posting of a Stock Request Document:

- **Stock Request Document No.**
- **Stock Request Line No.**

Filled in if the origin of the record is from the posting of a Statement of an item with the Replenishment Calculation Method *Like for Like*:

- **Statement No.**

Destination of the record

Process fields:

- **Process Status** – status is either processed, in process or not
- **Process Date**
- **Process Time**

The method in which the record is to be processed

The value can be inherited from the Replenishment Data at the time of creation or manually assigned in the Stock Demand Worksheet.

- **Process Method**
  - BLANK – No decision has been made
  - Replen. Job – The record is to be an input in the Replenishment Journal Process
  - Manual – The record is to be processed in the Stock Demand Worksheet

The Replenishment Method field determines which type of the document to create. The value can be inherited from the Replenishment Data at the creation time or manually assigned in the Stock Demand Worksheet.

- **Replenishing Method**
  - BLANK – No decision has been made
  - Transfer – Create a Transfer Order

- PO to Store – Create a Purchase Order to be delivered directly to the store
- PO w/XDock – Create a Purchase Order to be delivered to the warehouse and picked to Transfer Order when the goods are received at the warehouse

If the record destination is a Replenishment Journal, these fields are filled out:

- **Replen. Journal Template Code**
- **Replen. Journal Batch No.**
- **Replen. Journal Line No.**
- **Replen. Jrnl Detail Line No.**

If the record destination is a Purchase Order created in the Stock Demand Worksheet, these fields are filled out:

- **Purchase Order Document Type**
- **Purchase Order Document No.**
- **Purchase Oder Line No.**

If the record destination is a Transfer Order created in the Stock Demand Worksheet, these fields are filled out:

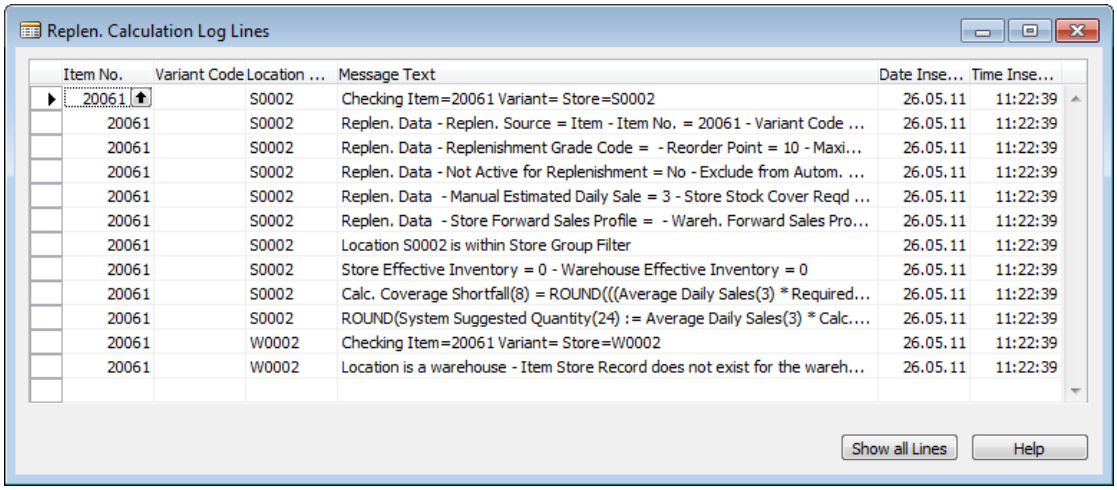
- **Transfer Order Document No.**
- **Transfer Order Line No.**

Hint
When a Planned Stock Demand is read and inserted into a Replen. Journal Line it is marked as In Process and it cannot be read to another Journal. If the Replen. Journal Line is deleted the Planned Stock Demand records is un-processed and made available again for replenishment. If the Journal line is posted to an order the Planned Stock Demand record is marked as processed and date and time is set.

Calculation Log Lines

The system supports a logging functionality showing the Replenishment Data, Inventory, Sales information and which decision and formulas were used to arrive at the quantity to order.

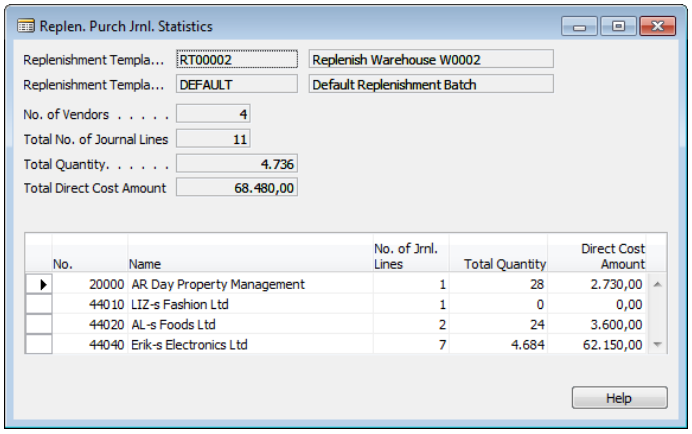
The logging is set up in the Replenishment Setup record. The logging functionality should only be used to occasionally to investigate data and decisions in the replenishment quantity.



The above figure show the Replenishment Log for the item 40000 and store S0002.

Statistics (F9)

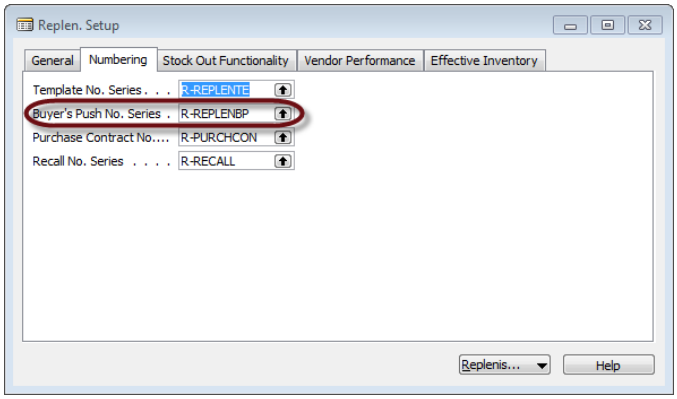
The Statistics form gives the buyer a good overview of the total quantity and direct cost of the Replenishment Journal. The detail lines show the quantity and direct Cost down to each vendor in the Replenishment Journal. See **LS Retail – Replenishment, Purchase Replenishment Journal, Posting** tab, **Statistics** (or **F9**).



6 Allocation of One Time Items

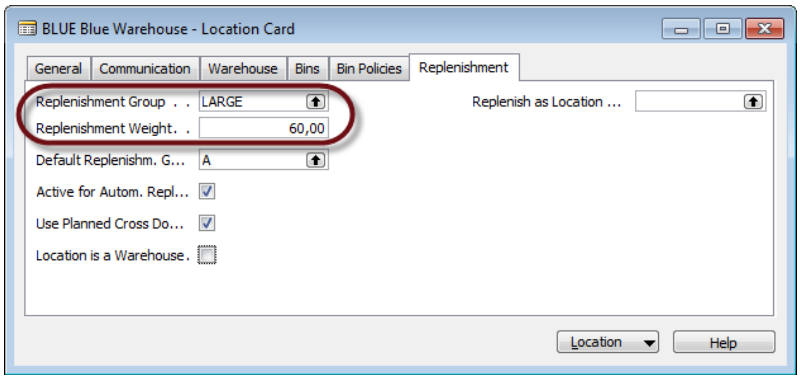
6.2 Replenishment Setup

There is some part of the setup in the Replenishment Setup form (**LS Retail – Replenishment, Setup, Replenishment, Replenishment Setup**) that is needed for Allocation of One Time Items and Replenishment.



The Buyer's Push No. Series contains the number series that is used when creating a new Buyer's Push worksheet.

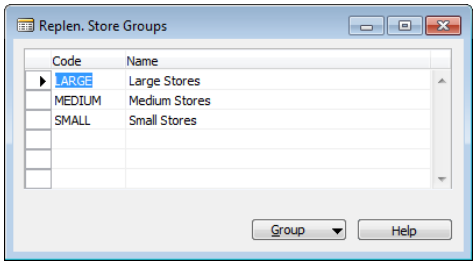
6.3 Location Record



A few new fields have been added to the Location Card (**LS Retail – Replenishment, Setup, Replenishment, Locations**). The Replenishment Group is used by Planned Cross Docking and the Buyer's Push functions. It allows the user to group locations together.

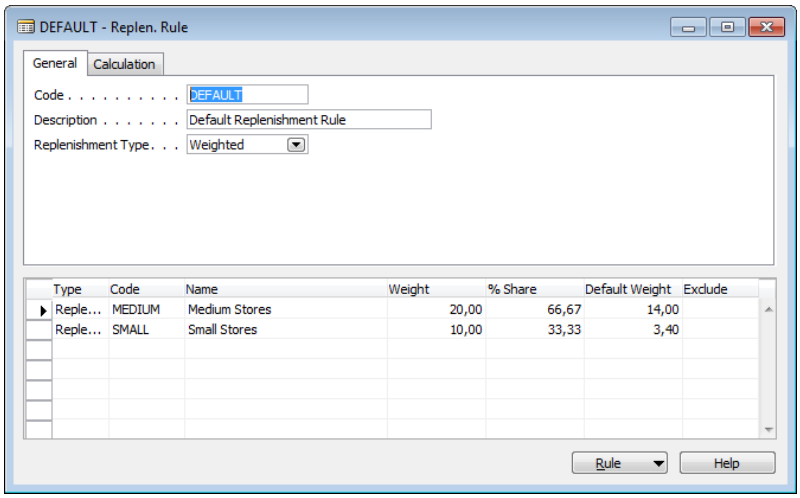
In the Replenishment Weight field you can set up a default weight (importance) for the location. It can be based on last year's sales, floor area or other factors. The Planned Cross Docking and the Buyer's Push functions can distribute items to locations based on the Replenishment Weight.

6.4 Replenishment Store Groups



In the Replenishment Store Groups form (**LS Retail – Replenishment, Setup, Replenishment, Replenishment Groups**) you can define the store groups. Later on it is possible to work with the store groups instead of each location. Examples are Cross Docking and Buyer's Push.

6.5 Replenishment Rule



The Replenishment Rule (**LS Retail – Replenishment, Setup, Replenishment, Replenishment Rule**) is used by the Buyer's Push function.

- In the Replenishment Rule form you can create your own rule by inserting a new record and giving it a new code. Fill in your code in the **Code** field and put a description in the **Description** field.

- In the **Type** field you can enter either Replenishment Group or Location. If you enter Replenishment Group, the value in the **Code** field will be selected from the Replenishment Groups. If you enter Location in the **Type** field, the value in the **Code** field will be a Location. The **Name** field will be automatically filled in according to the value in the **Code** field, but it can be changed manually.

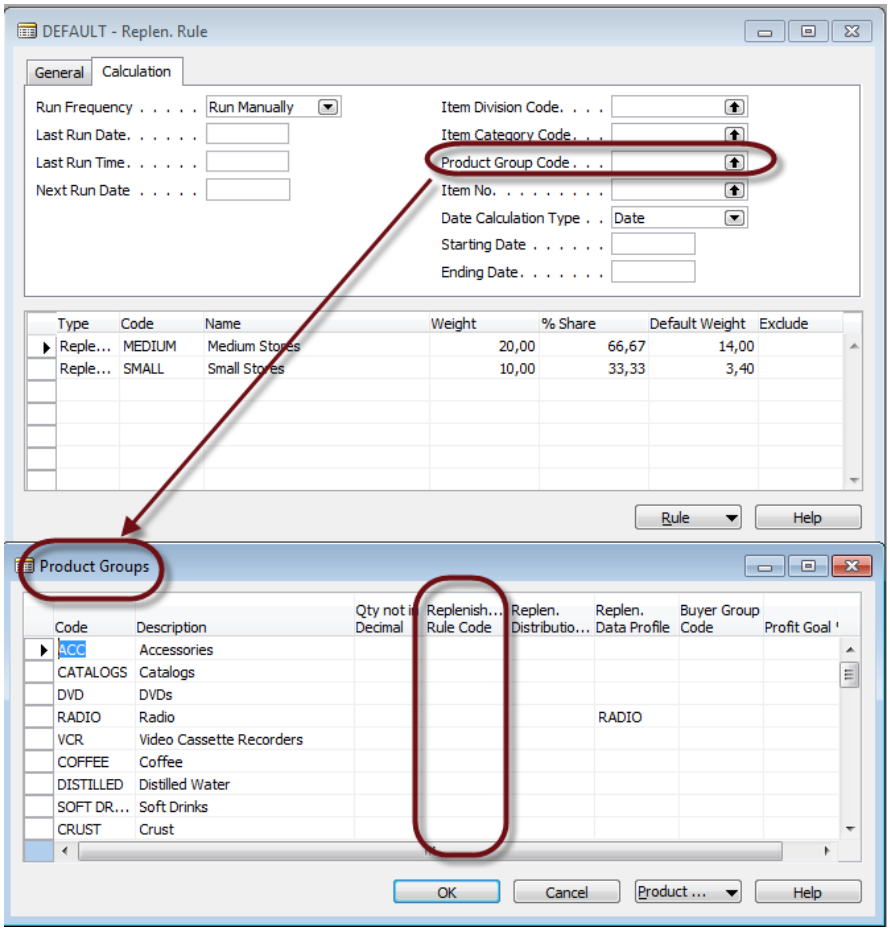
- In the **Weight** field you can enter a value and the **%Share** field will be calculated using the formula: Weight / SUM(Weight) * 100. The SUM(Weight) is 19 + 22 + 37 + 18 + 10 = 106. The %Share for the first line is therefore 19 / 106 * 100 = 17,92.

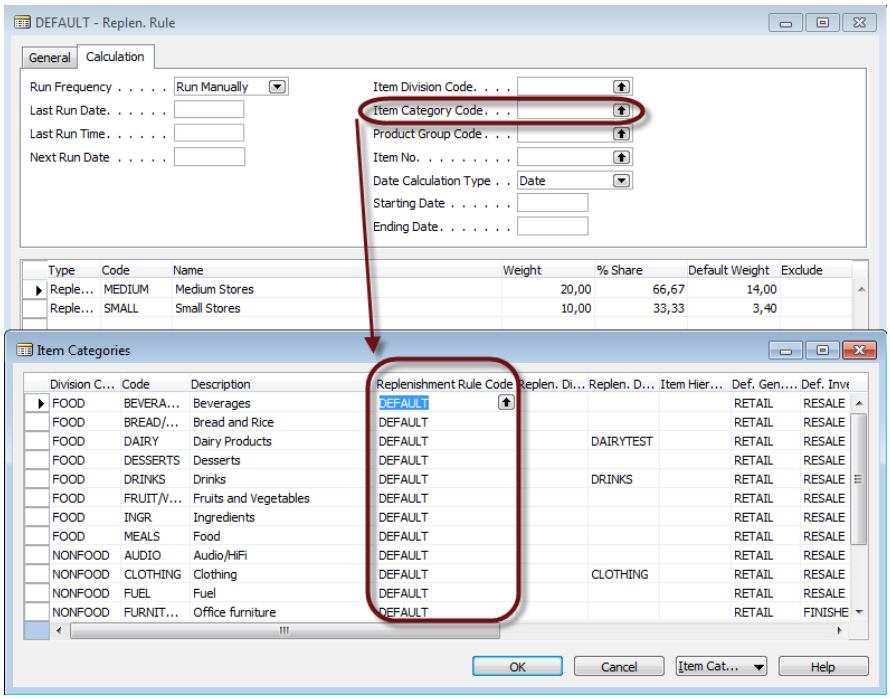
- The Buyer's Push functionality can use the %Share to distribute a purchase order quantity between locations. If no Weight is filled in for a Replenishment Rule, the quantity will be distributed evenly between the stores.

- The **Default Weight** field shows the Replenishment Weight of the location or the Replenishment Group.

- If the field **Exclude** is check marked, no quantity will be distributed to that location or Replenishment Group.

- It is possible to define the default Replenishment Rule code for an item by specifying the Replenishment Rule for the Product Groups and the Item Categories.



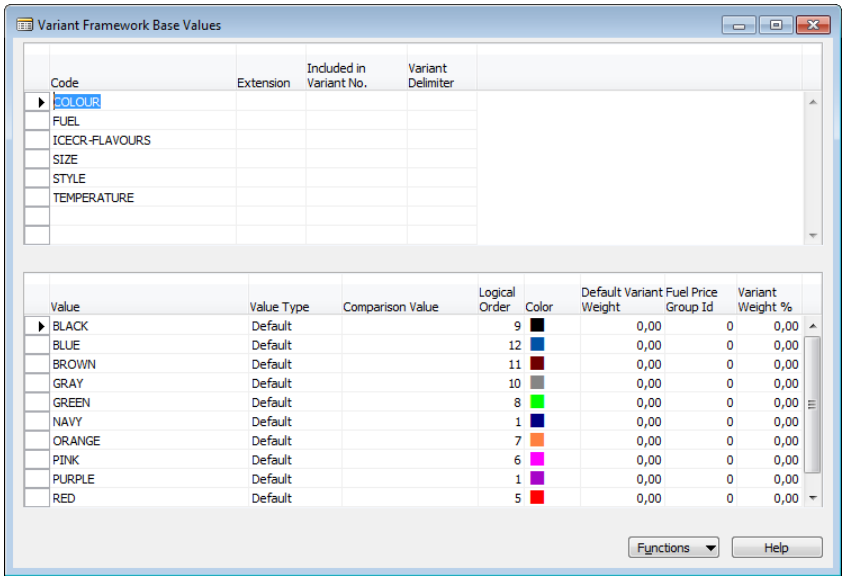


6.6 Variant Weights

Using variants is always optional. In Replenishment they are for instance used to set minimum and maximum for all variants for each item. Min/max for Replenishment is either set by using Item minimum and maximum or Variant minimum or maximum. The order of search for min/max is to the most detailed to the least detailed, for instance Item, Variant, Location and so on.

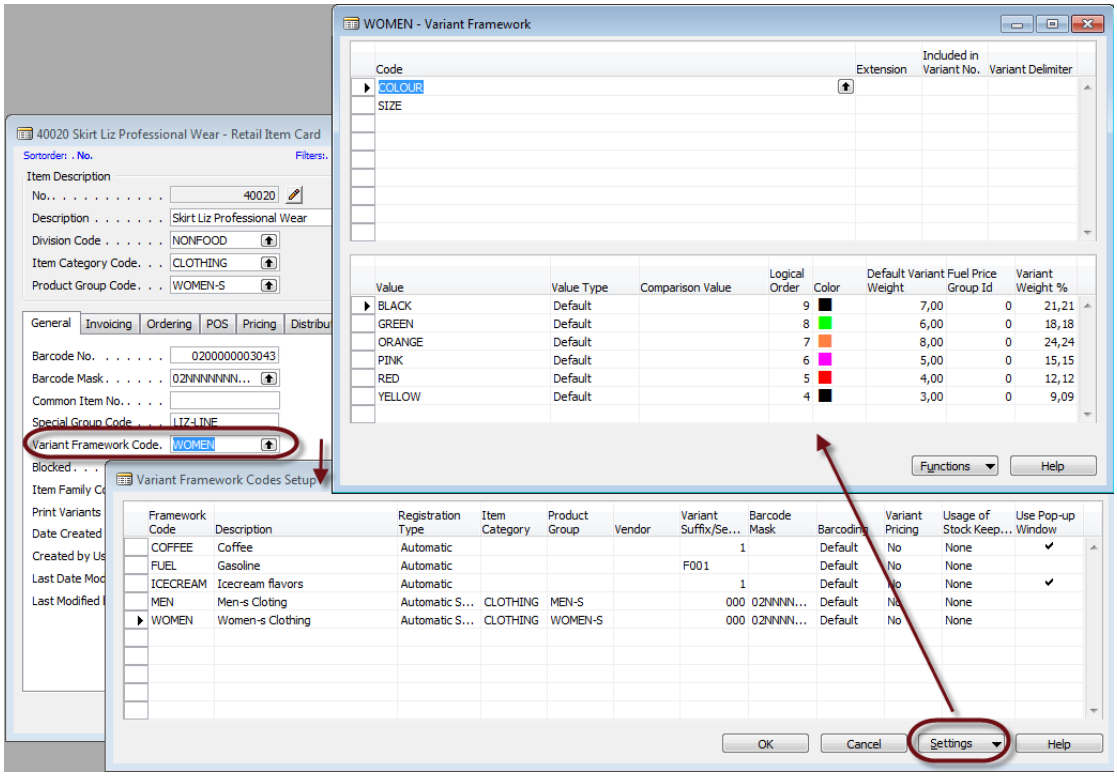
6.6.1 Variant Weights of Base Variant Values

The system supports the definition of all values of Variant Dimension, also known as Base Variant Values at **LS Retail – BackOffice, Setup, Item, Variant Framework, Variant Framework Base Values**. The simplest way is to define the weight for each value of the Base Variant Dimension. The weights will be inherited to the dimension values of the Variant Framework.



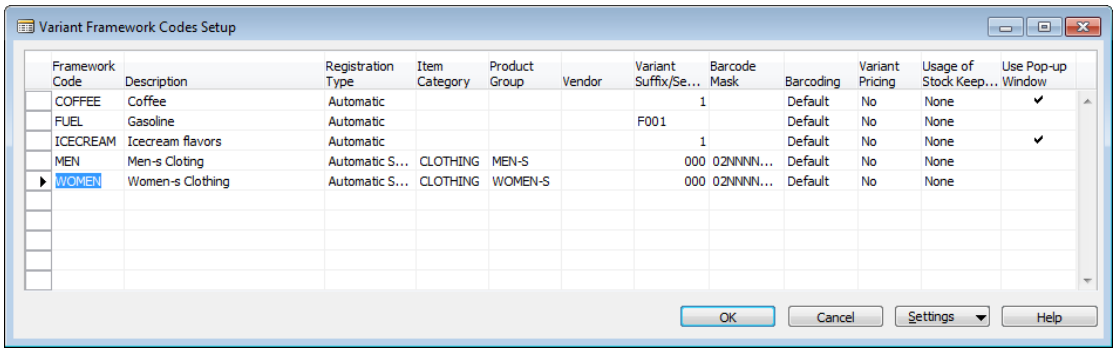
6.6.2 Variant Weights of Variant Frameworks Dimension Values

Variant combinations are defined in a Variant Framework at: **LS Retail – BackOffice, Setup, Item, Variant Framework, Variant Framework Base Values**. The buyer defines the dimension types (Color, Size or Style) and selects the values of the dimension (Black, Orange, Green….). The weight of the dimension values are inherited from the Base Variant Values.



6.6.3 Item Variant Weights

The buyer specifies the Variant Framework Code for the item and the system creates the Item Variant Record according to the configuration of the Variant Framework setup. The weight field of the dimension values is inherited from the Variant Framework setup. The user does not need to select all the dimension values of the Variant Framework and he can also change the weight of the variant in order for it to fit better for the specific item. This card can be accessed directly from the **Retail Item Card, General** tab, **Variant Framework Code** field.



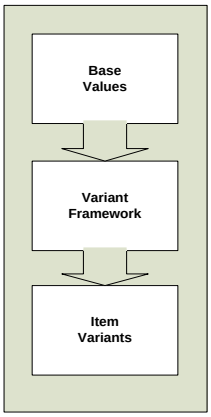
The Variant Weight of the Variant record is automatically calculated by multiplying the values of the dimensions.

6.7 Scenario 7 - Weights

Variant 000 the Dimension 1 weight (3) * Dimension 2 weight (15) = Variant Weight (45).

The buyer can then for example change the weight of Dimension 1 to 5 to recalculate to 75 as the Variant Weight. The buyer can also just change the Variant Weight directly to 75 without changing the Dimension Weight. The system uses the value of the field Variant Weight and not the Dimension Weight except to calculate the Variant Weight.

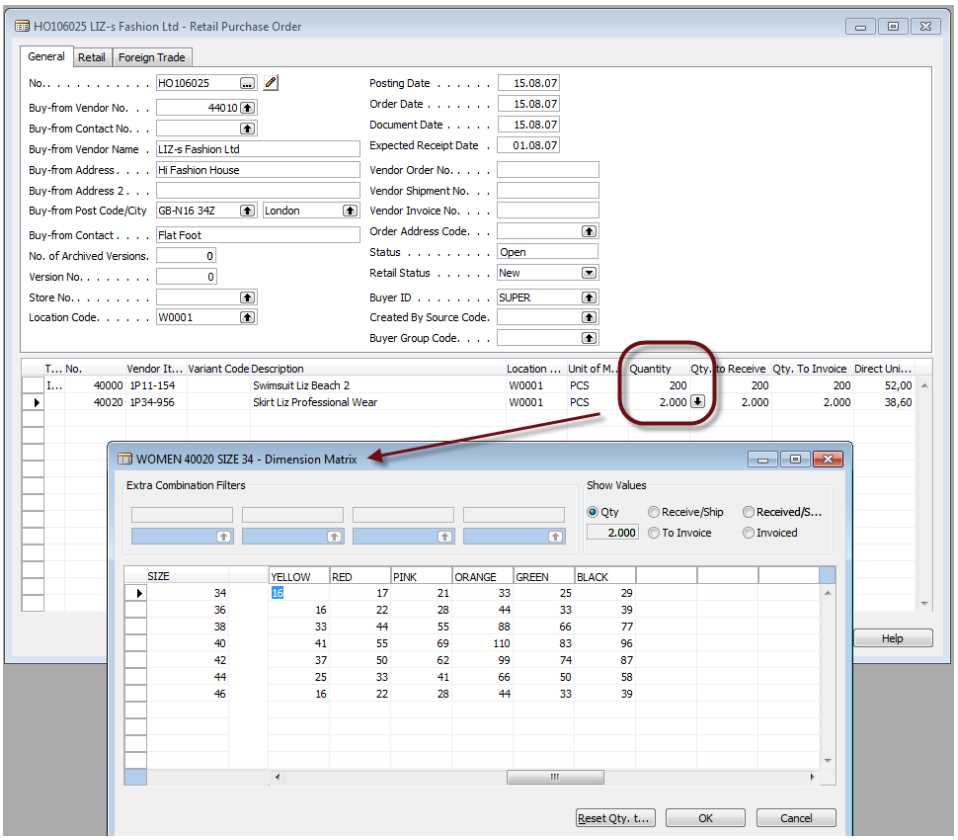
Hint:
The buyer can define the weight of values in the Base records and then adjust any of the lower stages to better fit the Variant Framework or the Item. The hierarchy of data can save the buyer some repetition of his work



6.7.1 Using Variant Weight in Purchase Orders

You can use variant weight when entering quantities in purchase orders lines. When the user enters the quantity of an item with variants, the system shows the Variant Matrix form so that the user can adjust or confirm the quantity for each variant. For an item with Variant Weight the system calculates the quantity for each Variant whereas an item without Variant Weight would give each item the same quantity. Look up the **LS Retail – Replenishment, Retail Purchase Order**.

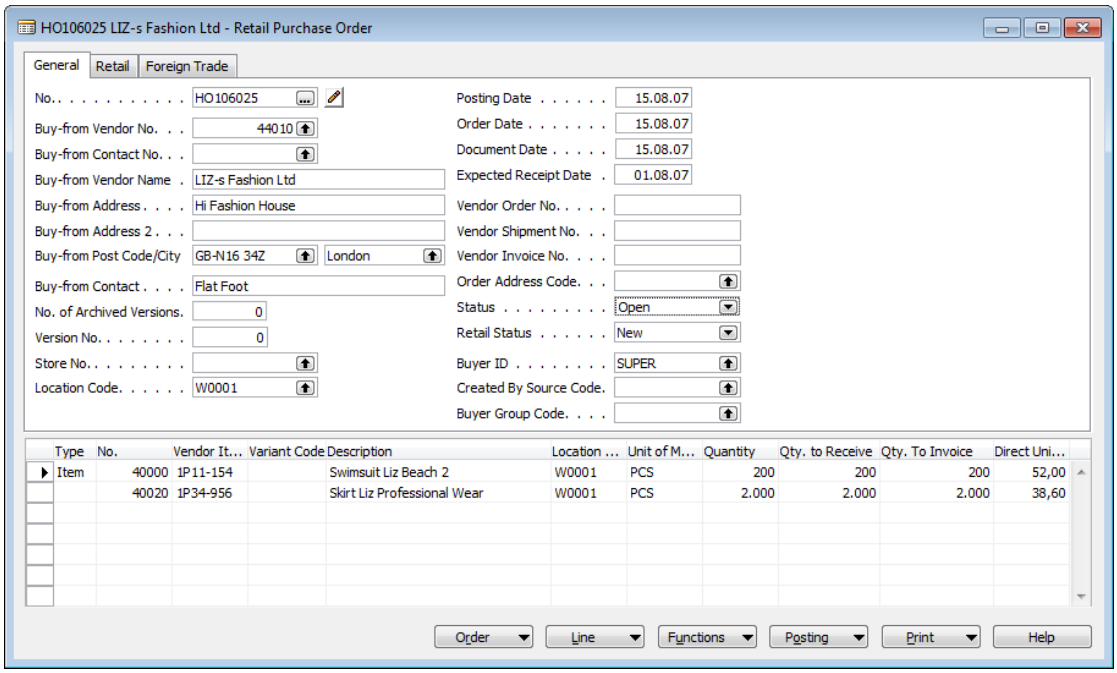
Example:



Shows Item 40020 with Variant Weights (2000 pieces distributed between Variants)

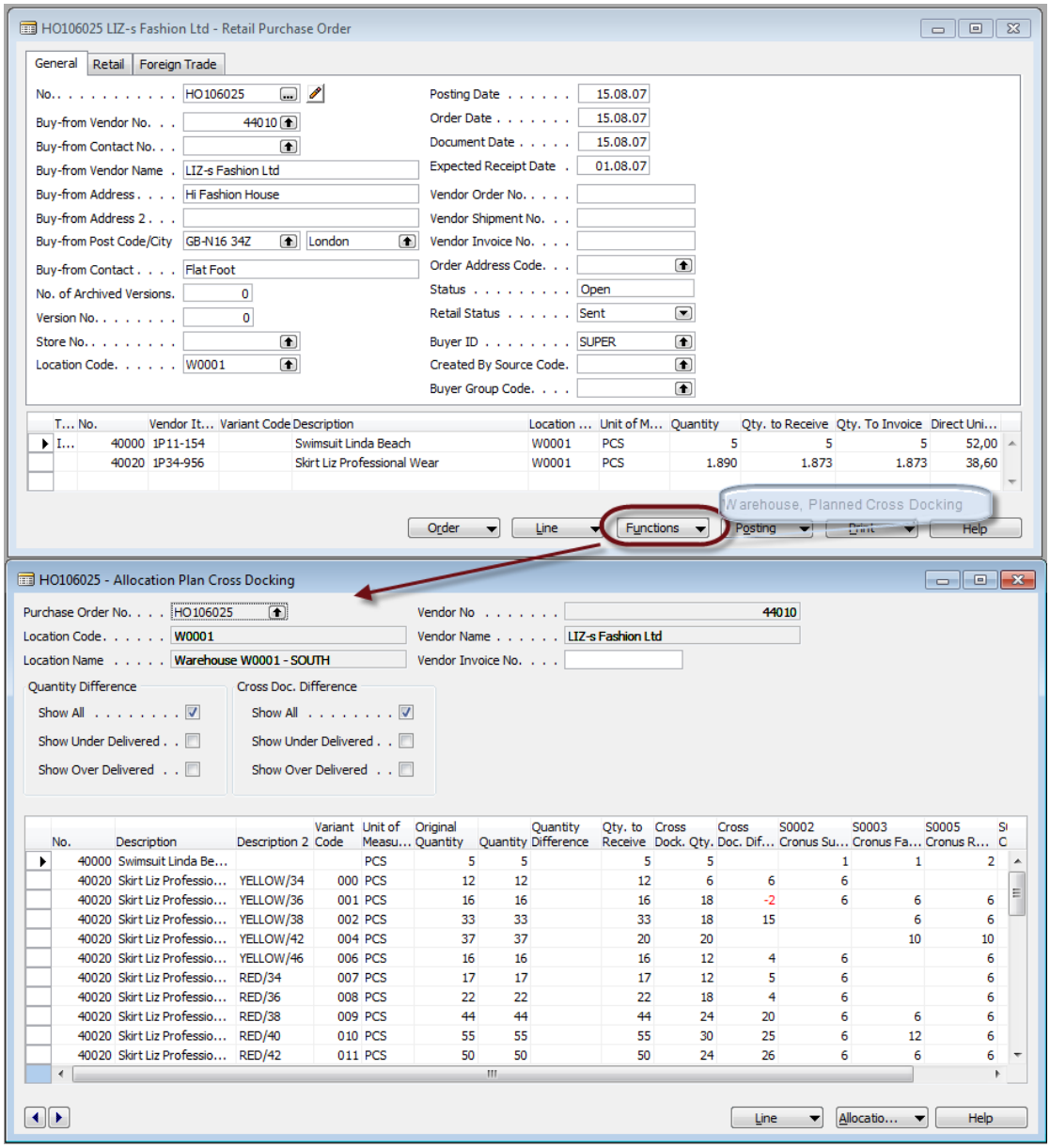
6.8 Cross Docking

The buyer creates a Purchase Order like any other Purchase Orders except that he additionally creates a Planned Cross Docking Transfer Order that will be picked at the warehouse at the time of receiving.



6.8.1 Using the Planned Cross Docking

You can use the Planned Cross Docking when you want to distribute items to the stores immediately when they arrive at the warehouse. You don't want to first put the whole purchase order in shelves or bins in the warehouse, and then create Pick Documents so that they can be picked and shipped. The goods will go directly from the receiving area of the warehouse to the dispatch area. Planned Cross Docking links warehouse Transfer Orders directly to a Purchase Order. **LS Retail – Replenishment, Retail Purchase Order, Functions** button, select **Warehouse, Planned Cross Docking**.



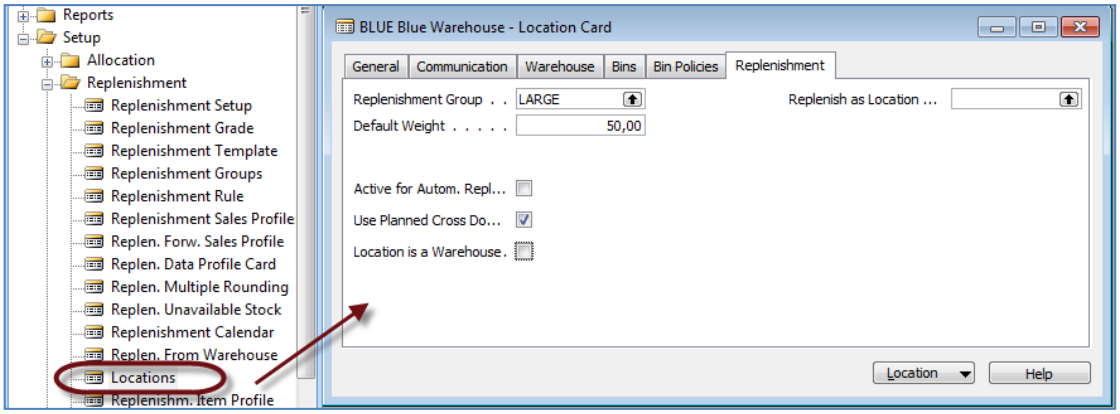
The Planned Cross Docking function in the LS Retail system allows you to determine how much of each Item and Variant you want to distribute directly to each store. It creates warehouse Transfer Orders, one for each store. The Transfer-from Code is always the warehouse and the Transfer-to Code fields contains the store's location code.

6.8.2 Setting up the Replenishment Information on the Location Card

A location can be linked to a Replenishment Group by filling out the Replenishment Group field on the Replenishment tab of the Location card. The Location Weight should also be filled out here. It is used when ordered quantity needs to be distributed between Stores or Locations. The goods are distributed proportionally so that the Location with the greatest weight will receive the most and the Location with the smallest weight will receive the least quantity.

1. Select **LS Retail – Replenishment, Setup, Locations** card.

2. On **Replenishment** tab, mark Use Planned Cross Docking and Replenishment Group and Weight.



Example of Cross Docking:

Variant 000 has the Variant Weight of 45

Variant 001 has the Variant Weight of 60

The system adds up all the Variant Weights of the Item to make the total of 7437.

Then the system calculates the quantity for Variant 000 as 2000 * (45/7437) = 12.10 = 12

The Variant Weight saves a lot of work for the buyer to fill in all the data but still it is only a suggestion and the buyer can change it as he likes.

If the total quantity is recalculated, the total quantity of the item when leaving the Variant Matrix form will be the quantity registered in the Purchase Order. Thus, for example if the new total quantity is greater or smaller than the older total quantity, it is updated automatically.

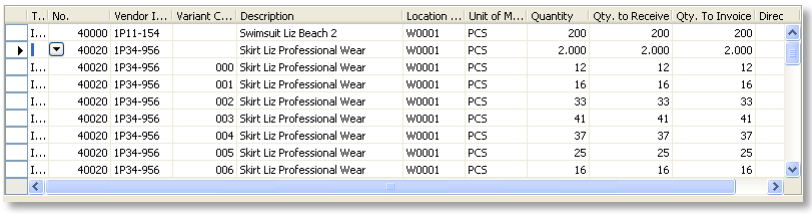
If the Variants do not have Variant Weights defined, the system distributes the quantity evenly between all the Variants of the item.

Hint:

The Variant Weight distribution is only calculated if there are no Variant records for the item. Otherwise it will show the value of the Variant records.

Hint:
The Item record shown in the Purchase Lines is a record of the type BLANK

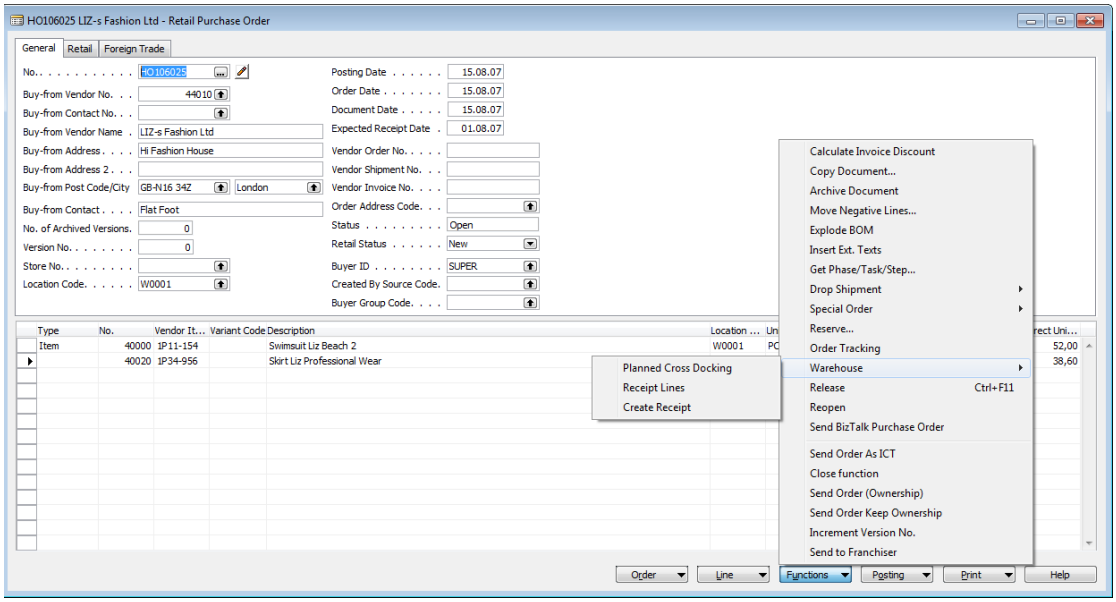
The real Variant records in the Purchase Lines are not visible as they are not within the filter of the form. You can see them by removing the filter.



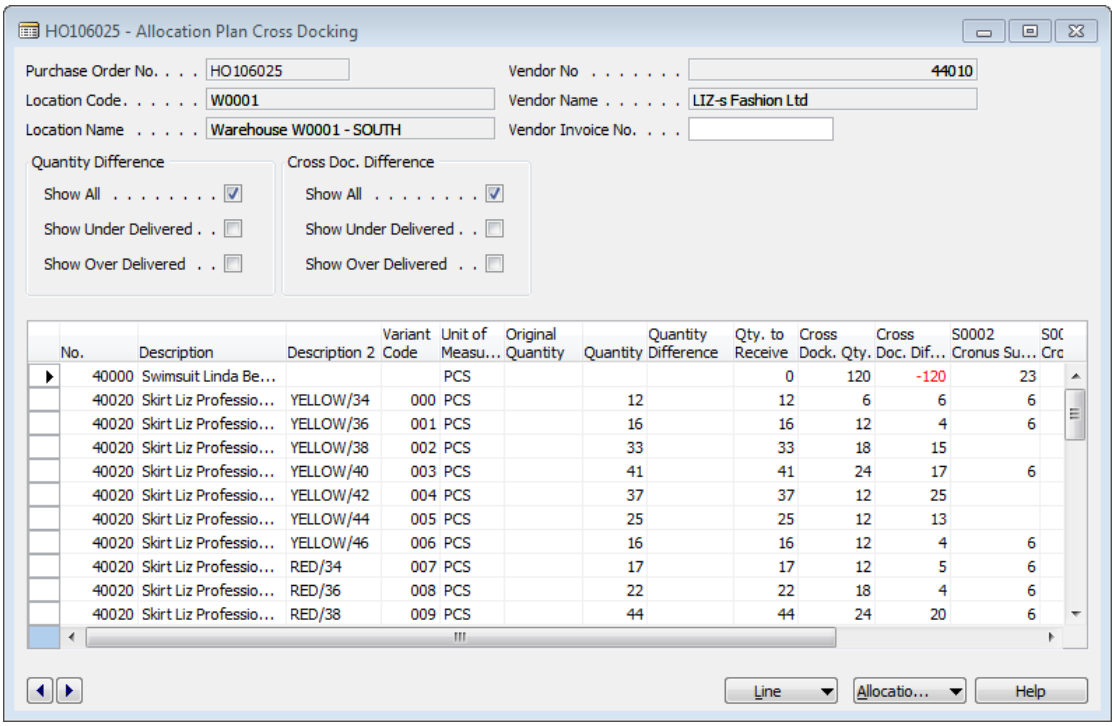
Now the buyer has created a Purchase Order for 2000 pieces and the Variant Weights has suggested the distribution of the Variants.

The buyer has completed the Purchase Order but he wants to cross dock the Purchase Order to stores when receiving the goods at the warehouse.

The buyer presses the Functions button and selects the functions *Warehouse* and *Planned Cross Docking*.



The system now presents the Replenishment Planned Cross Docking form.



The Replenishment Planned Cross Docking Form shows all the Purchase Order Lines where every Variant line is shown. To the right of the matrix form, the system shows the list of Locations.

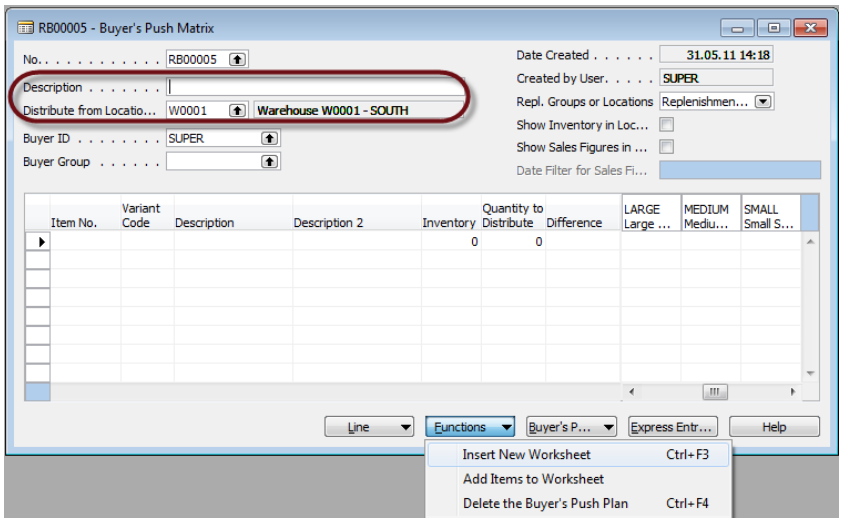
6.9 For further details on the Cross Docking issues see: The Allocation Plan – Quick Guide **Buyer's Push**

The Buyer's Push functionality allows you to create transfer orders from the warehouse to the stores or locations.

Click on Buyer's Push in the Replenishment menu to open the Buyer's Push matrix form.

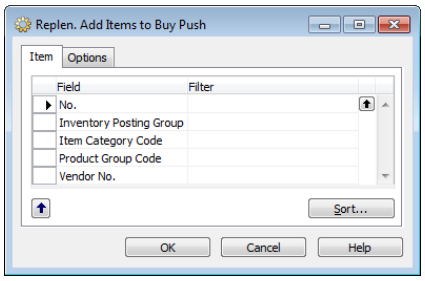
If you want to create a new worksheet, click on the **Functions** button and select *Insert New Worksheet* or press the Ctrl+F3 button.

In the new worksheet, fill in the **Description** field and enter the location code of the warehouse in the **Distribute from Location Code** field.

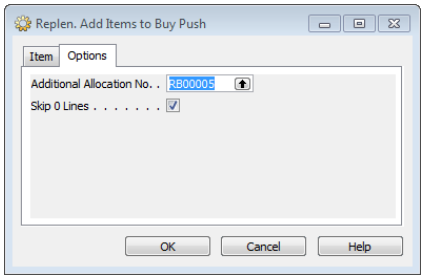


6.9.1 Adding items to the worksheet.

You can manually enter the item no. in the **Item No.** field, use the lookup functionality to select the item from the item list, or click on the Functions button and select the Add Items to Worksheet.

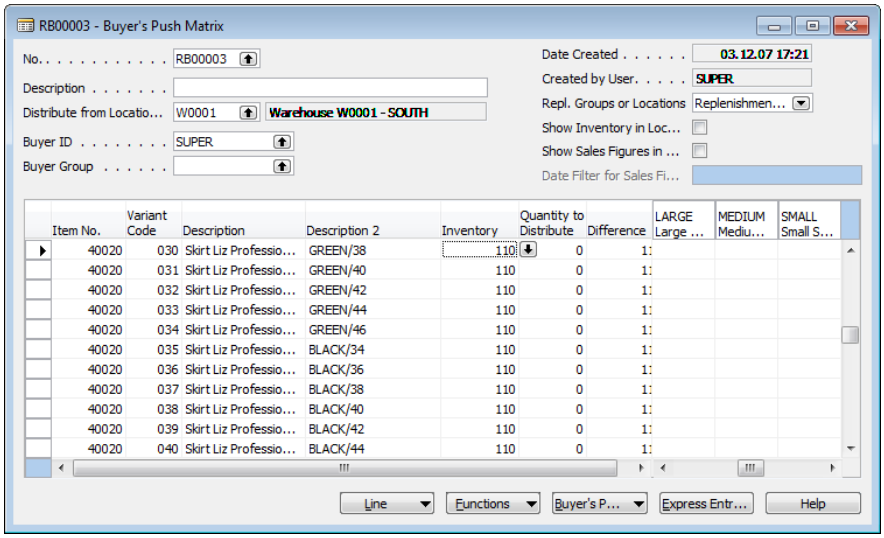


In this document we will use the Buyer's Push functionality to ship items from the WOMEN-S Product Group from the W0001 warehouse to the stores. We therefore use *Add Items to Worksheet* and enter *WOMEN-S* in the Product Group Code field.



By activating the field **Skip 0 Lines** the process does not add items to the worksheet where the available stock of the item is 0 or less in Location W0001.

Once we press the **OK** button, the system adds the items to the worksheet.

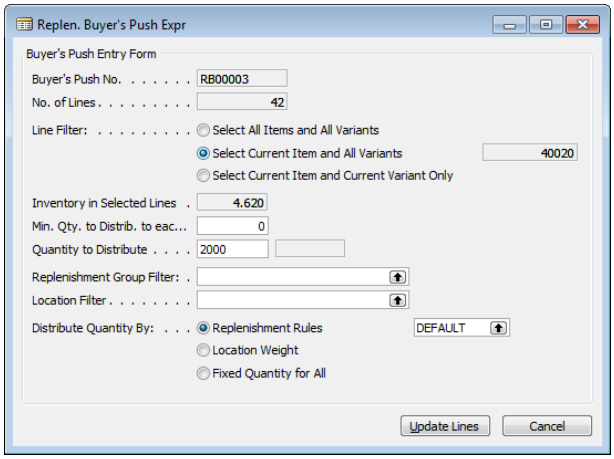


The Inventory column shows the inventory at the warehouse location. When we have filled in the quantity fields under the location codes in the matrix portion of the form, the **Quantity to Distribute** will show the total quantity that is to be distributed. The **Difference** field shows the difference between the **Inventory** and the **Quantity to Distribute** fields.

6.9.2 Filling in the Quantity to Distribute

Here you can fill in the quantity you want to distribute from the warehouse to the stores or locations. You can do this by manually entering the quantity for each location or you can use the Express Entry form.

Click on the Express Entry button to open the Replen. Buyer's Push Expr. form:



The buyer needs to select if he is going to distribute all items, a specific item or a specific variant record with the Express Entry Form.

The **Min. Qty. to Distribute each Location** field gives the buyer the chance to specify the minimum quantity each Location should receive. The system then distributes the minimum quantity to each Location and the quantity that is left will be distributed according to the distribution ratios.

The **Quantity to Distribute** field defines how much of the quantity will distributed. For example the available quantity is 4620 pieces but the buyer wants to distribute only 2000 pieces by cross docking.

If you want to limit the distribution to certain Replenishment Groups, you can enter a filter for these replenishment groups in the Replenishment Group Filter and if you want to limit the distribution to certain locations you can enter a filter for them in the **Location Filter** field.

These filters are not used if the Distribute Quantity By is set to Replenishing Rules and the specifications of the Replenishing Rule are used.

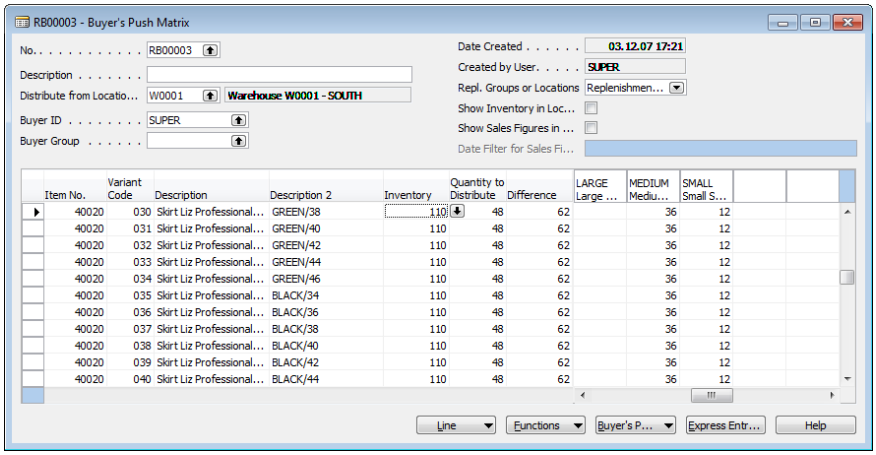
The different options of the **Distribute Quantity By** function:

- **Replenishment Rules**
  - This function is not valid if *All Order Lines* is selected – the suggested value is not shown
  - The Replenishment Rule value shown is the value the system finds for the item by searching first in the Product Group and then in the Item Category
  - The user can select another value for the Replenishment Rule than the system suggests.
  - The Replenishment Group and Location Filter are not valid in this selection
  - The quantity is distributed according to the specifications of the Replenishment Rule.
- **Location Weight**
  - The system uses the value of the **Replenishment Weight** field in the Location record
  - The Replenishment Group and Location Filter can be used
- **Fixed Quantity for All**
  - The system will distribute the value of the field **Quantity to Distribute** to each Location / Store if there is enough stock. Otherwise all the stores get an equal share of the stock available.

- The Replenishment Group and Location Filter can be used

Hint:
If the buyer needs to delete the distributed quantity then press the Express Entry Form Button and then press the Update Line Button with all the fields empty. The system asks for a confirmation that the user wants to change the Cross Docking data to zero.

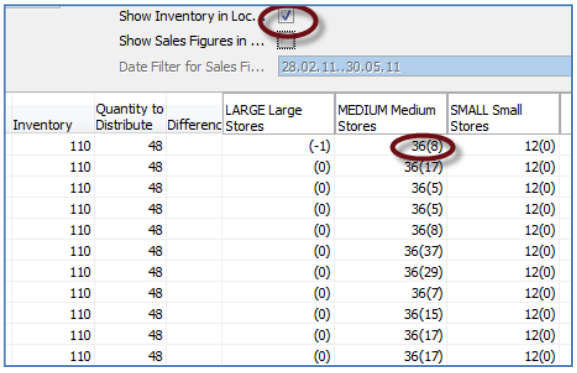
We press the *Update Lines* and the system calculates the quantity to distribute.



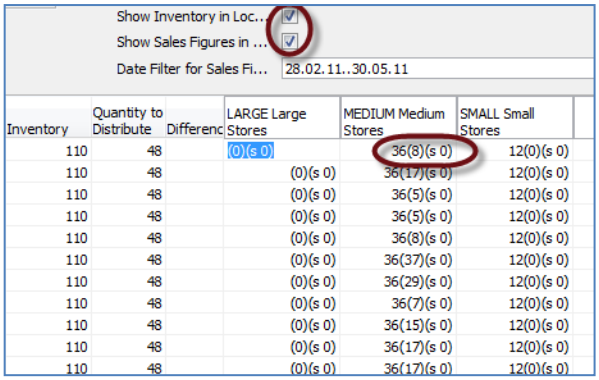
When the **Update Lines** button is pressed, the system steps through all the lines in the worksheet and calculates the quantity to distribute for each line and then distributes it between the store locations S0001, S0002, S0003, S0004 and S0005 using the location weight.

6.9.3 Show Additional Information

In the upper right hand area of the Buyer's Push Matrix form there are two fields, **Show Inventory in Locations** and **Show Sales Figures in Location**. If you check mark them, the system displays the inventory and sales information in addition to the Quantity to Distribute for each combination of Item No. and Location Code. The inventory is displayed within parentheses. Sales information preceded by the lower case letter 's'.

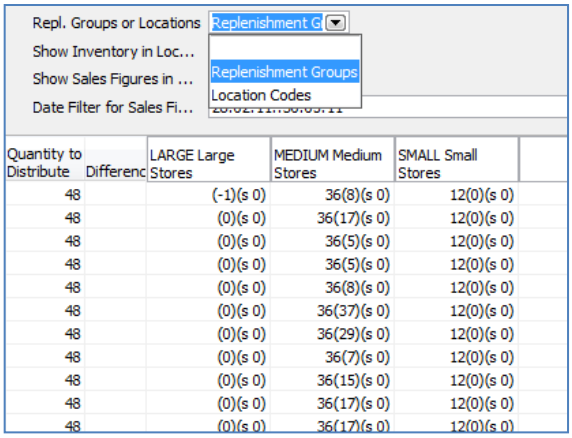


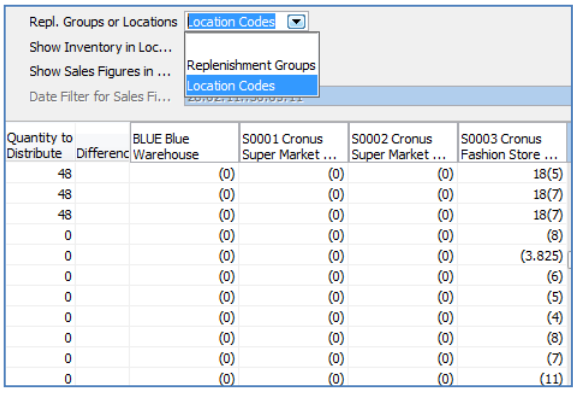
Sales information is preceded by the lower case letter 's'.



6.9.4 Replenishment Groups or Locations

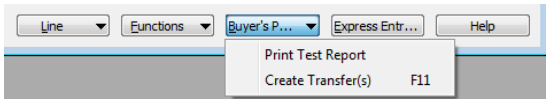
Also in the upper right hand area of the Buyer's Push Matrix form there is an option field where you can select to show either Replenishment Groups or Locations. If you select Replenishment Groups, the system shows the Replenishment Groups as the columns in the matrix part of the form. It sums up the Quantity to Distribute and the inventory if the Show Inventory in Locations is check marked.



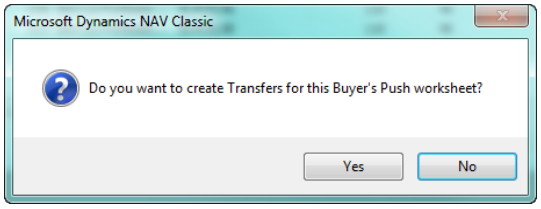


6.9.5 Creating Transfer Orders

You can manually change the quantity you want to distribute by entering the correct quantity in the appropriate line and column. When you are satisfied with the quantity you want to distribute, you can create Transfer Orders.



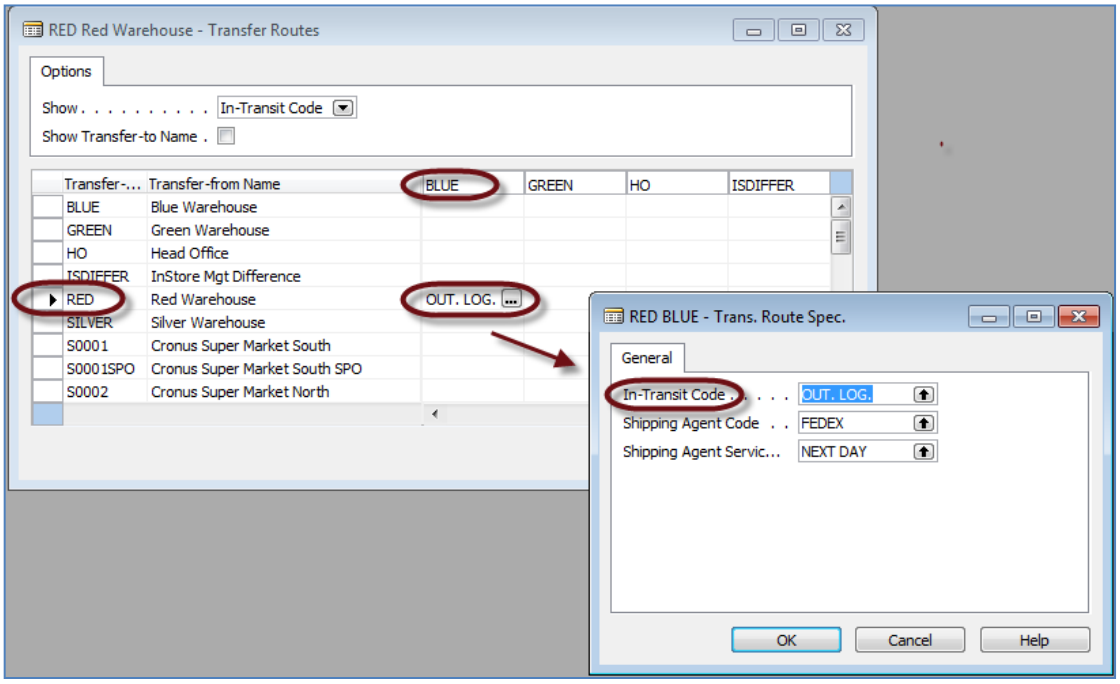
Under the **Buyer's Push** menu button, select *Create Transfers* or press F11. You get a message asking you to confirm that you want to create the Transfers.



If you press the **Yes** button, the system creates Transfer Orders where the Transfer-From Code is the warehouse location and the Transfer-To Code is the Location Code in the matrix part of the Buyer's Push Matrix form.

6.9.6 Setting up the Transfer Routes

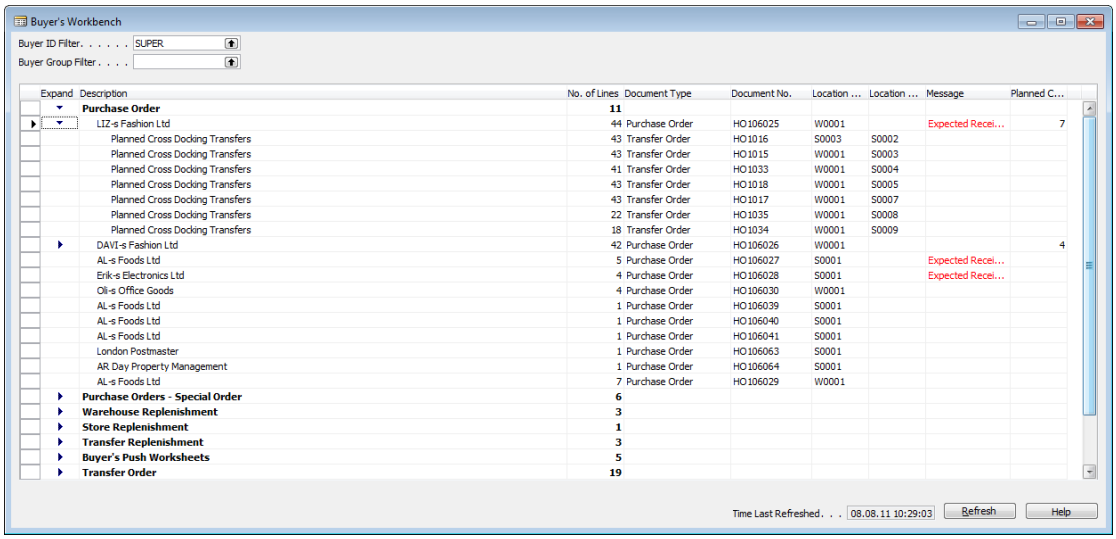
Note that you must set up Transfer Routes between the warehouse and the stores. Otherwise you might get an error message saying that you must specify the In-Transit Code in the transfers. To set up the Transfer Routes, go to the **Warehouse** menu, select **Planning and Execution, Setup Inventory** and click on **Transfer Routes**. This card can also be reached from the **Administration** menu. For further information use the standard NAV Help.



When transferring for instance from RED to BLUE, the **In-Transit Code** needs to be set to ensure the transfer. Other fields that can be set are **Shipping Agent Code and Shipping Agent Service**.

7 Buyers Workbench

The Buyers Workbench is a tool to give the buyer a good overview of all the Replenishment Journals, Purchase and Transfer Orders he is responsible for.

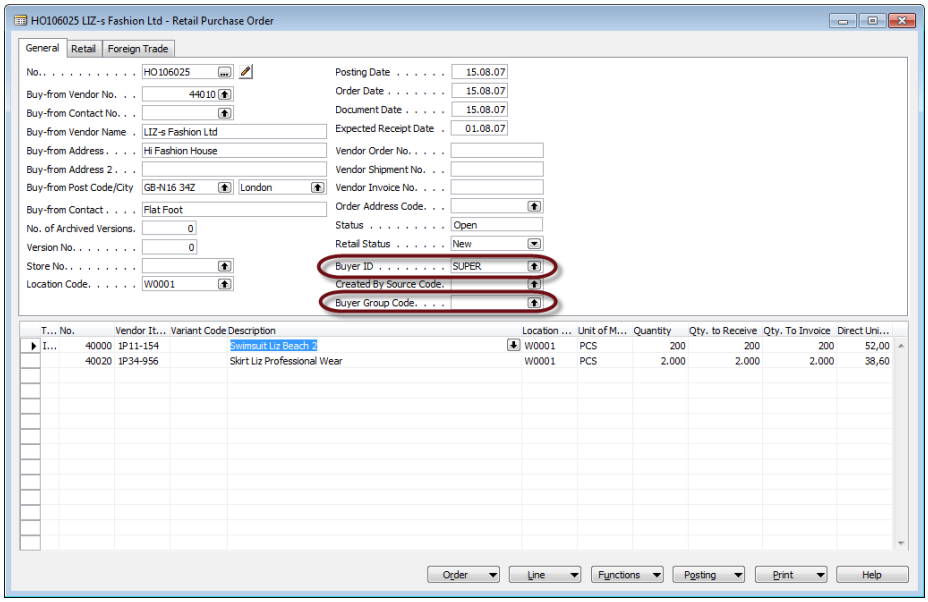


The workbench shows the headlines and number of documents under the headline.
The buyer can then press the arrow in the Expand column to show all underlying documents.

7.2 Document Groups

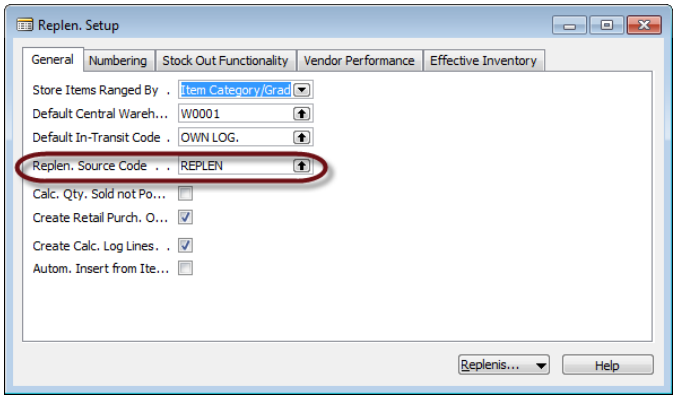
7.2.1 Purchase Order

The headline shows all the Purchase Order Documents that did not originate from a Purchase Replenishment Journal and the Buyer or the Buyer Group responsible. It is possible to drill down to the Document Number to show the Document.

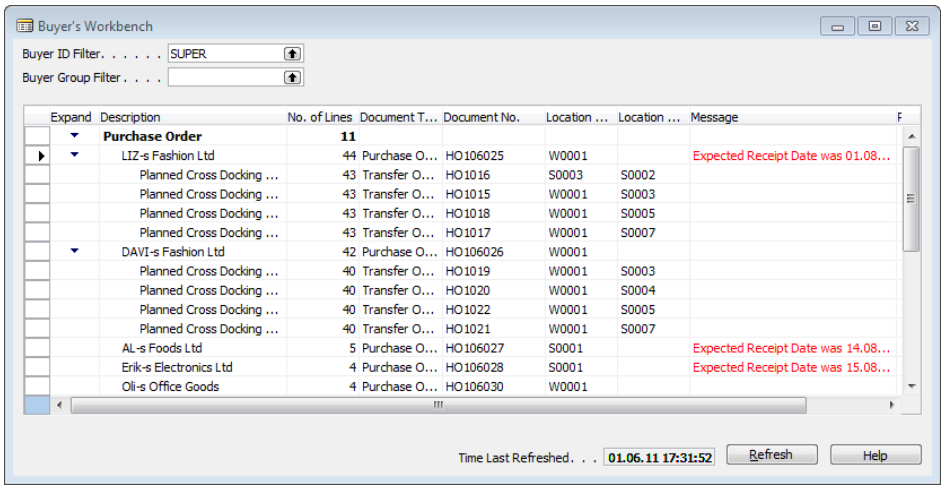


The marked boxes show where the Buyer ID and/or Buyers Group must be filled in to have the Document visible in the workbench.

The form shows Purchase Order Document that does not originate from a Purchase Replenishment Journal which all has the **Created By Source Code** defined by the field **Replen. Source Code** in the Replenishment Setup record.



By drilling down on the Purchase Order and expanding each level on the Buyer's Workbench card the buyer can see all the Transfer Orders related to the Purchase Order.



The Message field shows a message to the buyer saying that the Purchase Order is past the Expected Receipt Date of the Document.

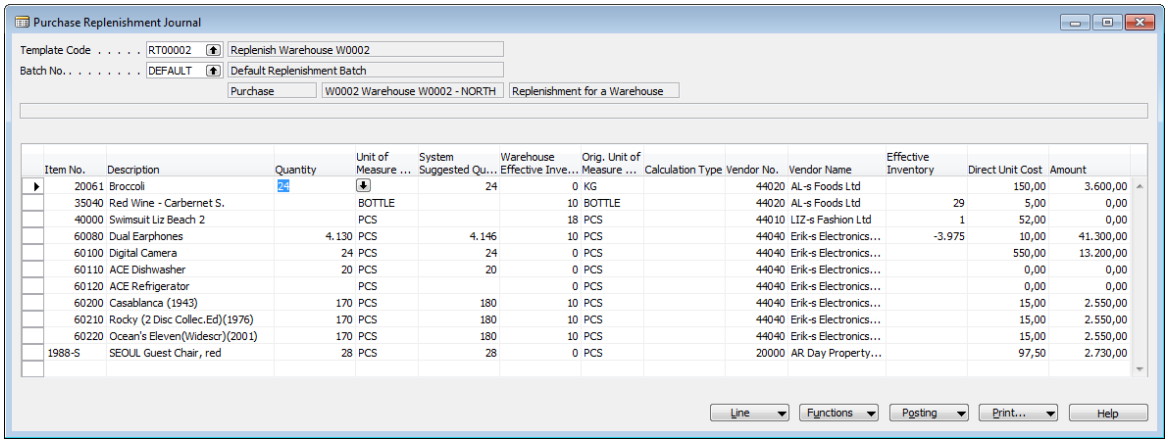
Purchase Orders from Replenishment

The headline shows all the Purchase Order Documents that originated from a Purchase Replenishment Journal and the Buyer or the Buyer Group responsible. The functionality is the same as for **Purchase Order.**

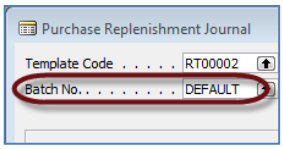
The exception however is the field **Created By Source Code** in the Purchase Header. It contains the value defined in the field **Replen. Source Code** in the Replenishment Setup record.

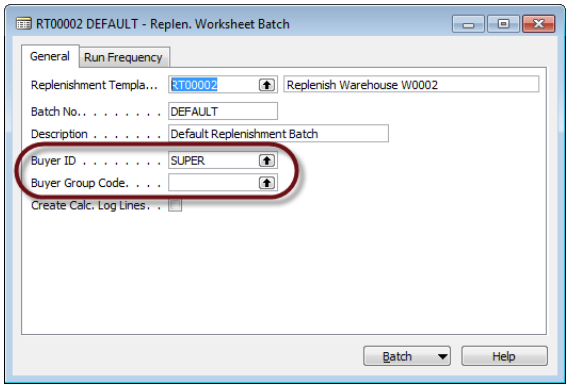
Warehouse Replenishment

The headline shows all the Purchase Replenishment Journals used to replenish warehouses and the Buyer or the Buyer Group responsible. It is possible to drill down to the Document Number to show the Document.

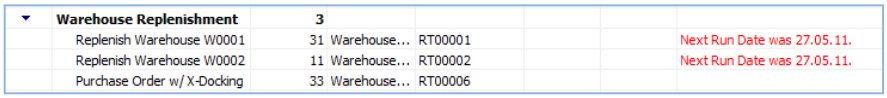


The Replenishment Worksheet Batch window is found at this path: **LS Retail – Replenishment, Purchase/Transfer Replenishment Journal**, click the **Batch No.** and the **Replen. Worksheet Batches** window opens, click the **Batch** button and the Replen**. Worksheet Batch** window opens.





The marked boxes show the Buyer ID and/or Buyers Group that must be filled in in the Replenishment Batch record to have the Purchase Replenishment Journal visible in the workbench.



The Message field on the Buyer's Workbench card displays a message to the buyer about the Purchase Replenishment Journal, if the Next Run Date of the Batch record has past the current date. This shows the buyer which Replenishment Journals he has scheduled but not processed.

Store Replenishment

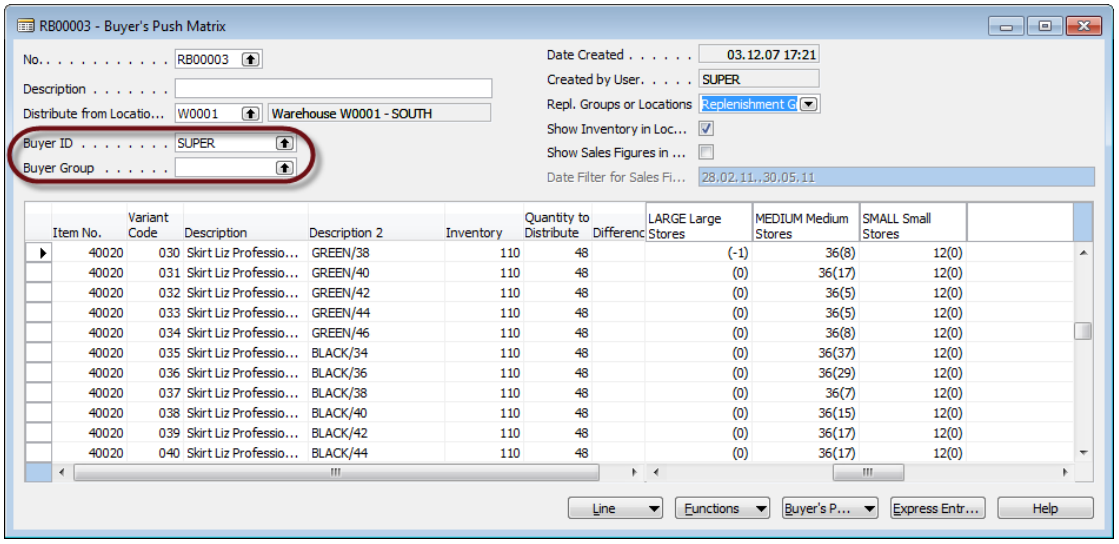
The headline shows all the Purchase Replenishment Journals used to replenish stores directly and the Buyer or the Buyer Group responsible. The functionality is same as for **Warehouse Replenishment.**

Transfer Replenishment

The headline shows all the Transfer Replenishment Journals and the Buyer or the Buyer Group responsible. The functionality is same as for **Warehouse Replenishment.**

Buyer's Push Worksheets

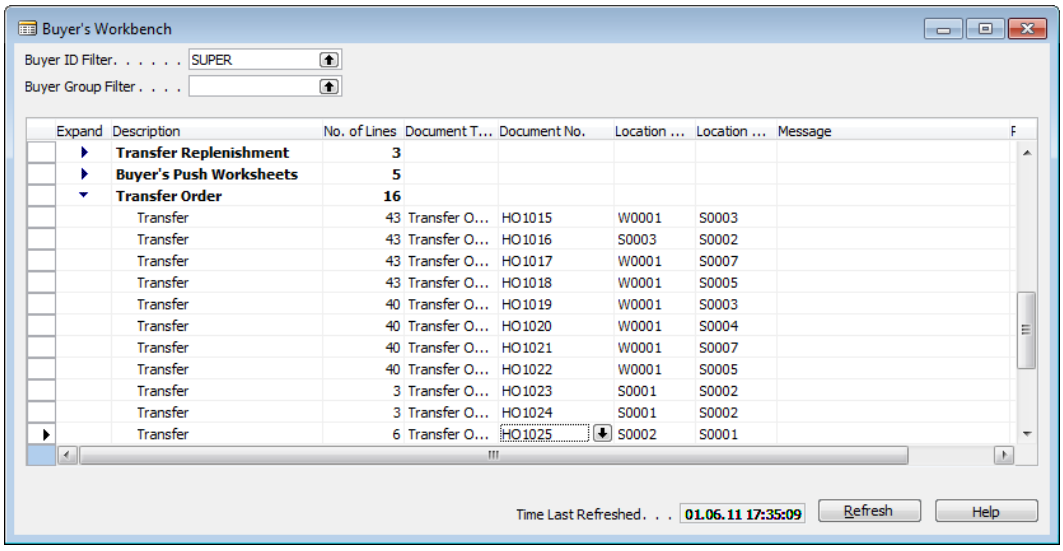
The headline shows all Buyer's Push Worksheets and the Buyer or the Buyer Group responsible. It is possible to drill down to the Document Number to show the Document.



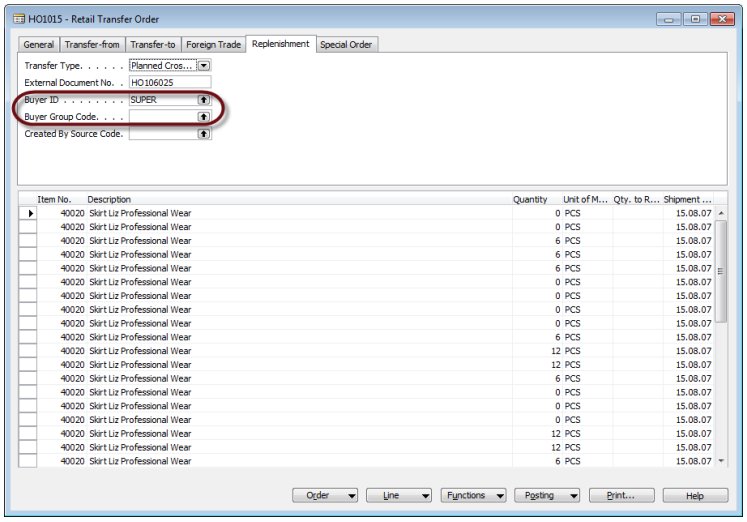
The marked boxes show the Buyer ID and/or Buyers Group that need to be filled in to have the Purchase Replenishment Journal visible in the workbench.

Transfer Order

The headline shows all the Transfer Order Documents that have not originated from a Transfer Replenishment Journal and the Buyer or the Buyer Group responsible. It is possible to drill down to the Document Number to show the Document.



The Retail Transfer Order window is found at the **LS Retail – Replenishment, Retail Transfer Order**.



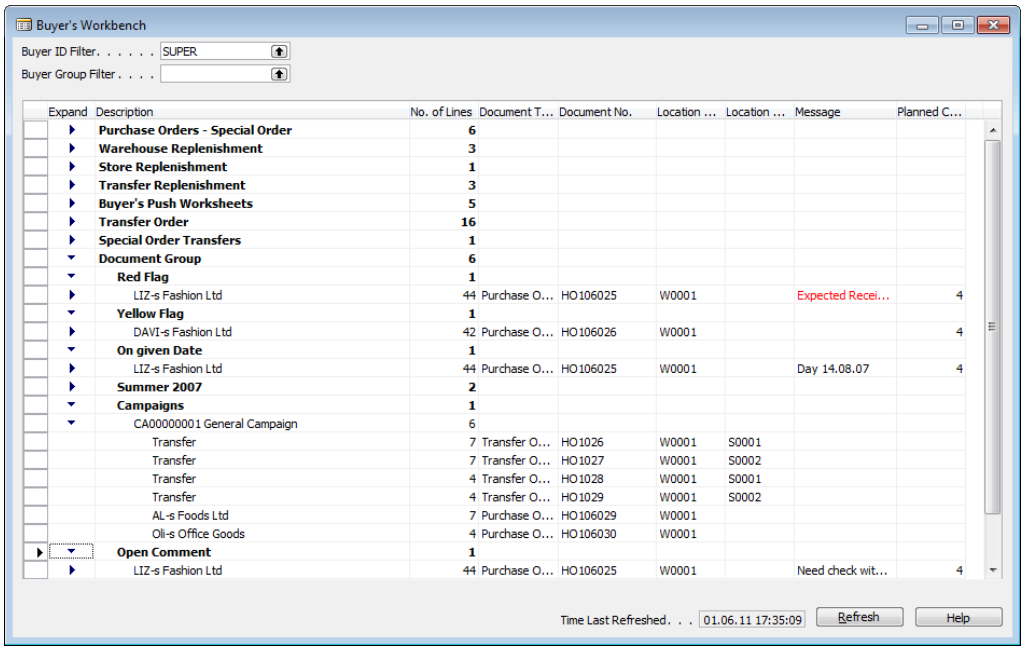
The marked box that is displayed on the Retail Transfer Order that comes up when you select a document in the column Document No. shows the Buyers ID and/or Buyers Group that need to be filled in to have the Transfer Order visible in the workbench.

Transfer Order from Replenishment

The headline shows all the Transfer Order Documents that originated from a Transfer Replenishment Journal and the Buyer or the Buyer Group responsible. The functionality is the same as for **Purchase Order.**

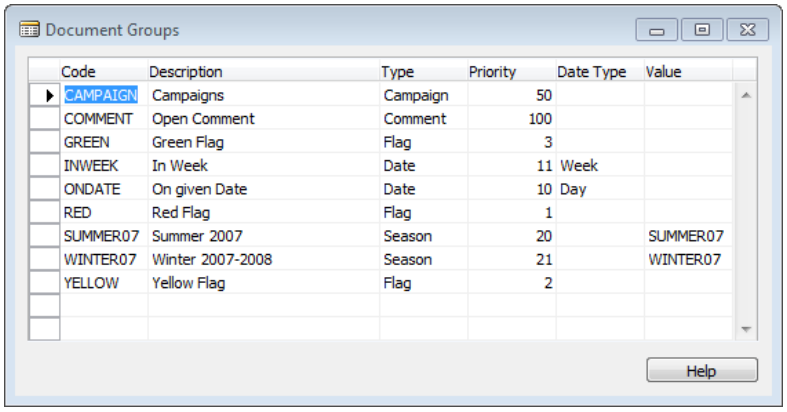
Document Group

The headline shows all the Purchase Order and Transfer Order Documents connected to a Document Group and the Buyer or the Buyer Group responsible. It is possible to drill down to the Document Number to show the Document.



The use of document grouping can be divided into two main steps. The first step is to set up the document groups to use. The second step is to assign a group to a document and enter the additional information associated with that group if needed. The setup is part of

Replenishment Setup and the assigning of groups is part of the Purchase and Transfer Order forms.

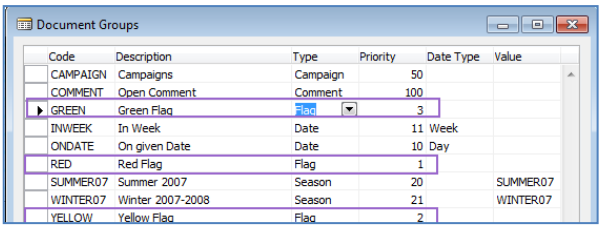


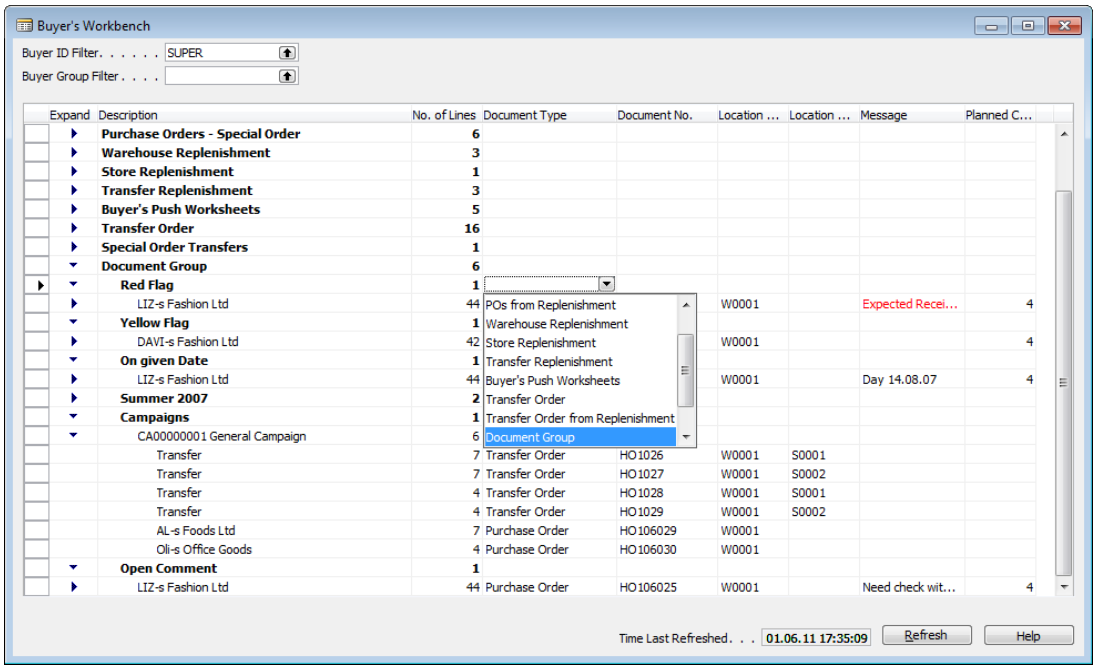
The Document Groups window is to be found at **LS Retail – Replenishment, Setup, Other, Document Group Setup**.

Document Groups Setup

The following settings in the Document Groups can be defined as such:

- **Flag**
  For grouping documents to be viewed in the Buyer's Workbench.
  The name of the flag does not need be the name of a color as in the examples.





- **Date**
  For date marking the document and it will only appear in the Buyer's Workbench once the date condition has been reached.

  This gives the buyer the possibility to have the document brought to his attention if it still exists when the date condition is reached.

	INWEEK	In Week	Date	11	Week
	ONDATE	On given Date	Date	10	Day

  The types of date conditions are: Day, Week, Month, Quarter and Year.

- **Season**
  For connecting a document to a Season and it is then shown under the Season Code in the Buyer's Workbench. This should simplify the management of current and coming seasons for the buyer

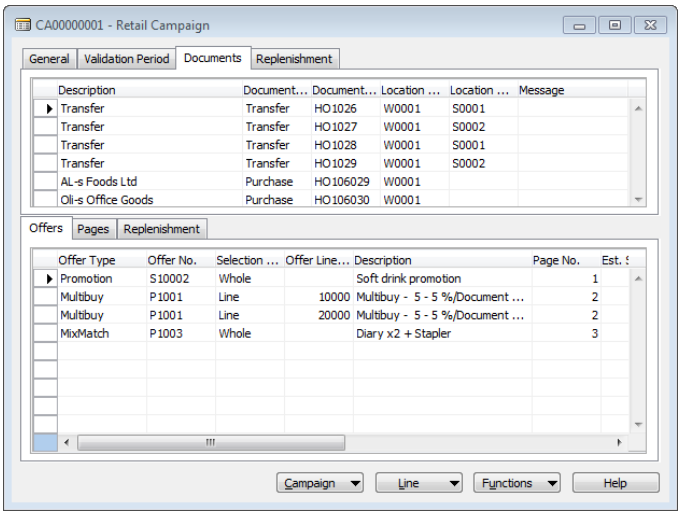
	SUMMER07	Summer 2007	Season	20	SUMMER07
	WINTER07	Winter 2007-2008	Season	21	WINTER07

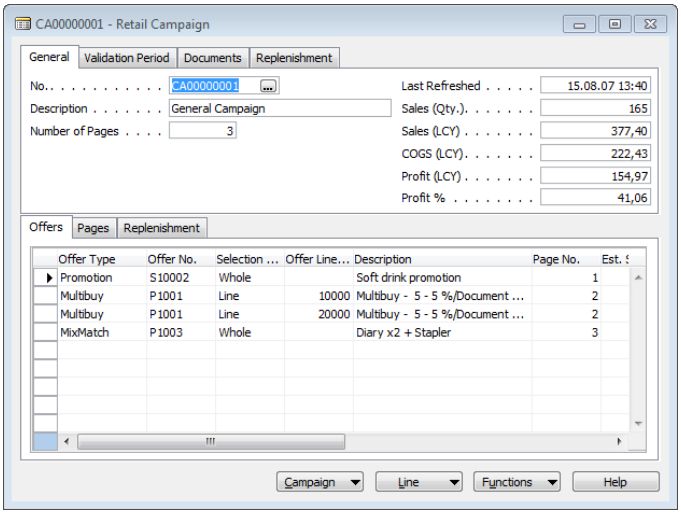
  It is necessary to specify records for each season code for them to be available for selection in the Document Grouping connecting form.

- **Event**
  For connecting a document to an Event and it is then shown under the Event Code in the Buyer's Workbench. This is the same functionality as the Season Code.

- **Comment**
  For attaching comments to documents to be viewed in the Buyer's Workbench

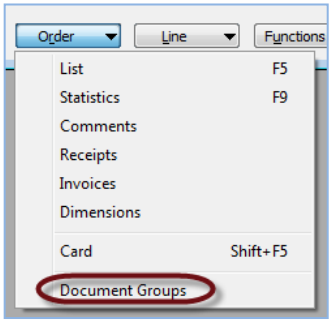
- **Campaign**
  For connecting documents to Campaigns to be viewed in the Buyer's Workbench and within the Campaign document. This should simplify things and give the buyer a good overview of the logistics, both in Purchase and Transfer Orders for a Campaign. See **LS Retail – BackOffice, Offers, Retail Campaign, Documents** and **Replenishment** tabs.



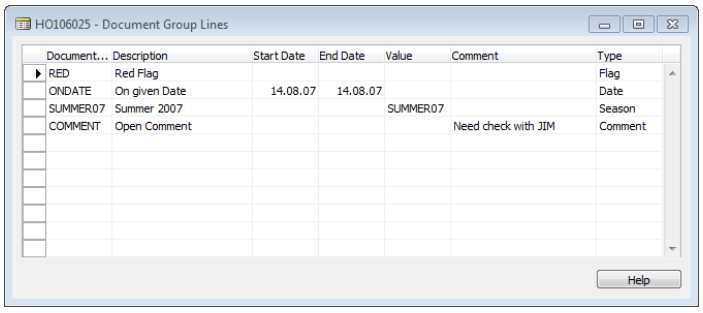


Connecting Document Groups to Documents

The process is the same as for connecting a Document Group to a Purchase and Transfer Order. The user selects the *Document Group* function under the Order button in the document.



The Document Group Line form will be shown to the user. He first selects the Document Group Type and then specifies additional data like date or comment. One document can have numerous Document Group Lines.



Viewing Document Groups

The Buyer's Workbench (**LS Retail – Replenishment, Buyers Workbench**) will show grouped documents depending of their validation. All groups except the date type are valid only by assigning, date groups are valid only after a given start date and will remain in scope from that day on.

▼	**Document Group**	**6**						
▼	**Red Flag**	**1**						
▶	LIZ-s Fashion Ltd	44	Purchase Order	HO106025	W0001		Expected Recei...	4
▼	**Yellow Flag**	**1**						
▶	DAVI-s Fashion Ltd	42	Purchase Order	HO106026	W0001			4
▼	**On given Date**	**1**						
▶	LIZ-s Fashion Ltd	44	Purchase Order	HO106025	W0001		Day 14.08.07	4
▼	**Summer 2007**	**2**						
▶	LIZ-s Fashion Ltd	44	Purchase Order	HO106025	W0001		Expected Recei...	4
▶	DAVI-s Fashion Ltd	42	Purchase Order	HO106026	W0001			4
▼	**Campaigns**	**1**						
▶	CA00000001 General Campaign	6						
▼	**Open Comment**	**1**						
▶	LIZ-s Fashion Ltd	44	Purchase Order	HO106025	W0001		Need check wit...	4
▶	**Purchase Contract**	**3**						

6 Recall

LS Retail – Replenishment, Recall is used to create Transfer Orders from stores to warehouse or between stores, add items to worksheet and view additional data. Buyers Push is always from warehouse, but in Recall the most common way is to add the items back to the warehouse, but it is also possible to transfer the items from one store to another, for instance if certain items are sold out in one store but available in another one.

Items to recall are entered into the Recall Worksheet / Recall Matrix; that is, the item no. and the variant code, for variant items, along with the quantity to recall. This can be done by entering the information manually or by running predefined processes.

The default insert process asks how many days in the past should be analyzed to find the average sale per day and then how many days of stock coverage the store is allowed to hold.

This procedure is used:

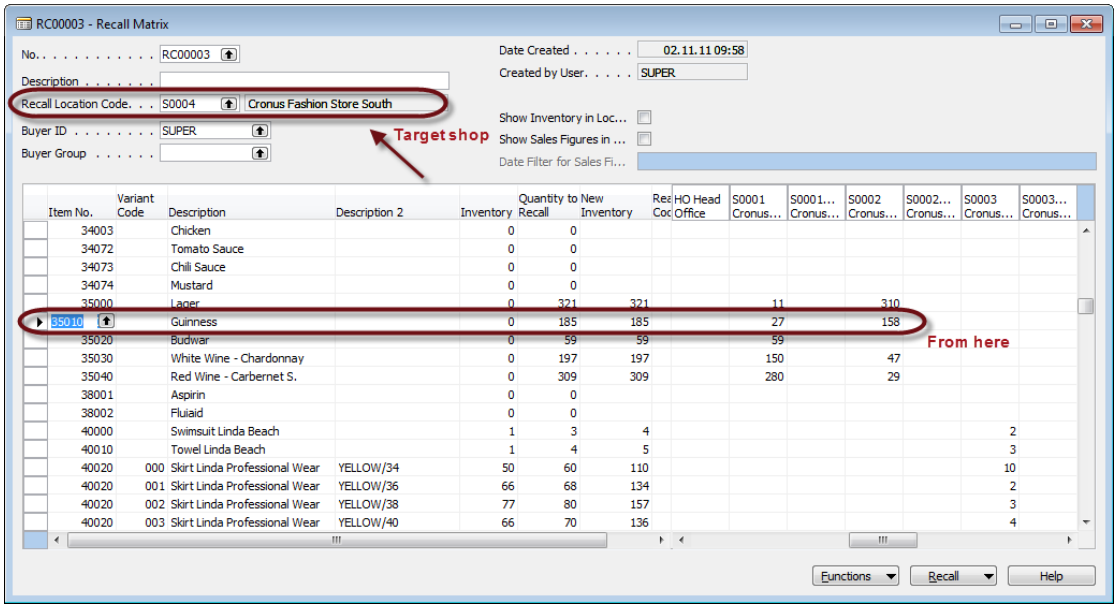
1. Add Items to Worksheet
2. View Additional Data
    a. Inventory in Location
    b. Sales Figures in Location
        a. Create the Transfer Orders

The functionality can be used to:

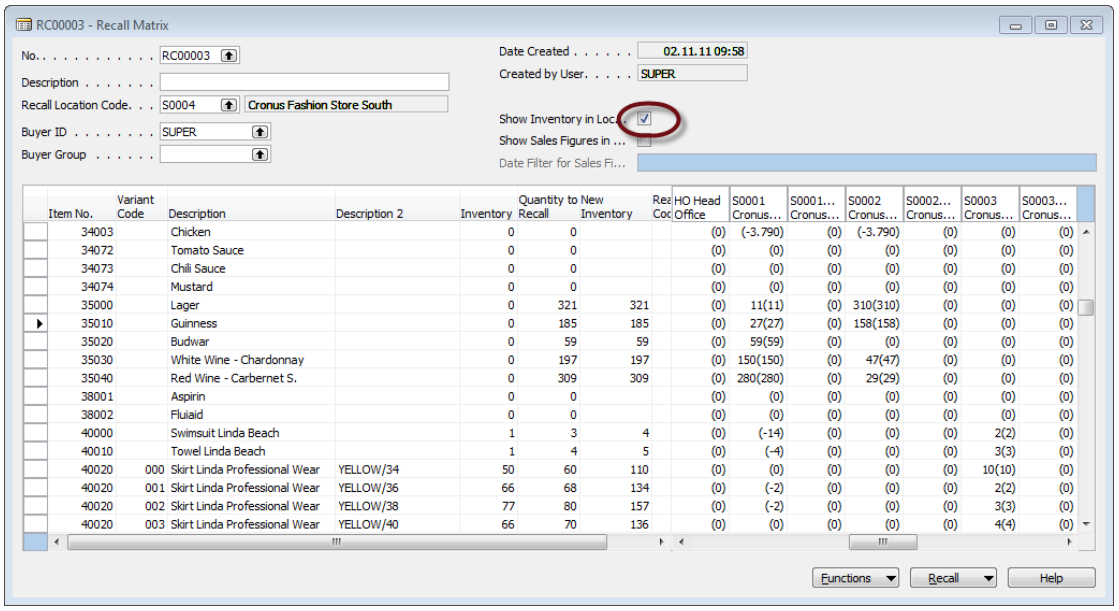
- Recall overstock at stores to the warehouse and then replenish to stores that are under stocked.
- Move discontinued stock from stores to a discount store.

7.3 Scenario 8 – Guinness Sold Out by the South Coast

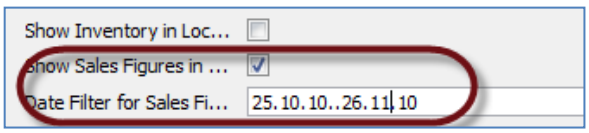
Item 359010, Guinness beer, is totally sold out in the pubs by the south coast of England. None are available in the warehouses at the moment. There is however plenty of this brand available in the north. Recall is used to transfer the beer. Since there is a bit of a hurry, the beer is not first transferred to the warehouse but instead directly to the stores that serve the pubs that need them, since it was clear who they were.



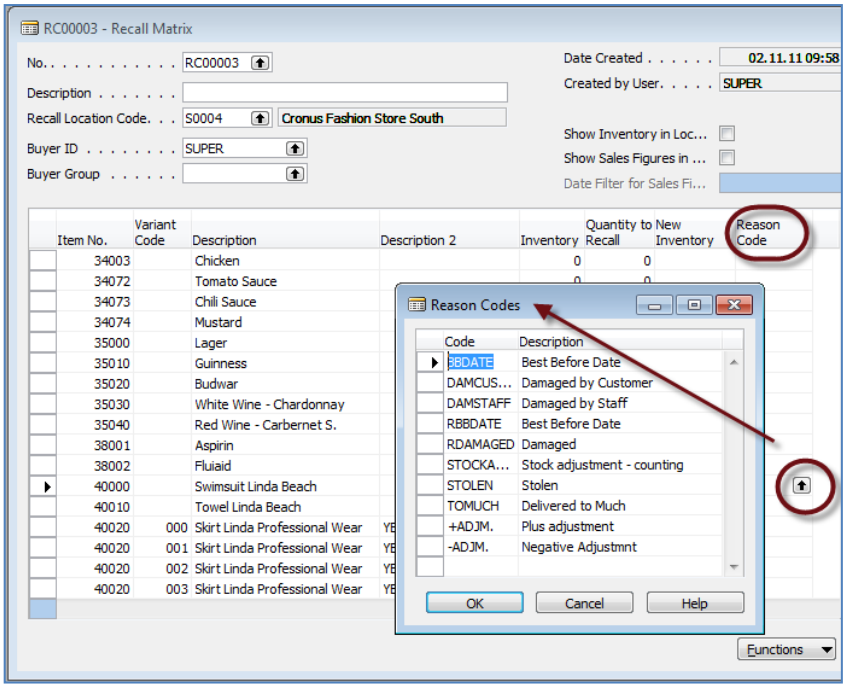
If the checkbox: **Show Inventory in Location** is marked the items in each store is shown:



It is also possible to see sales figures that are set for certain period of time. Then the **Show Sales Figures in Locations** checkbox is marked and the **Date Filter for Sales Figures** is set to the period of time where sales figures are needed from:



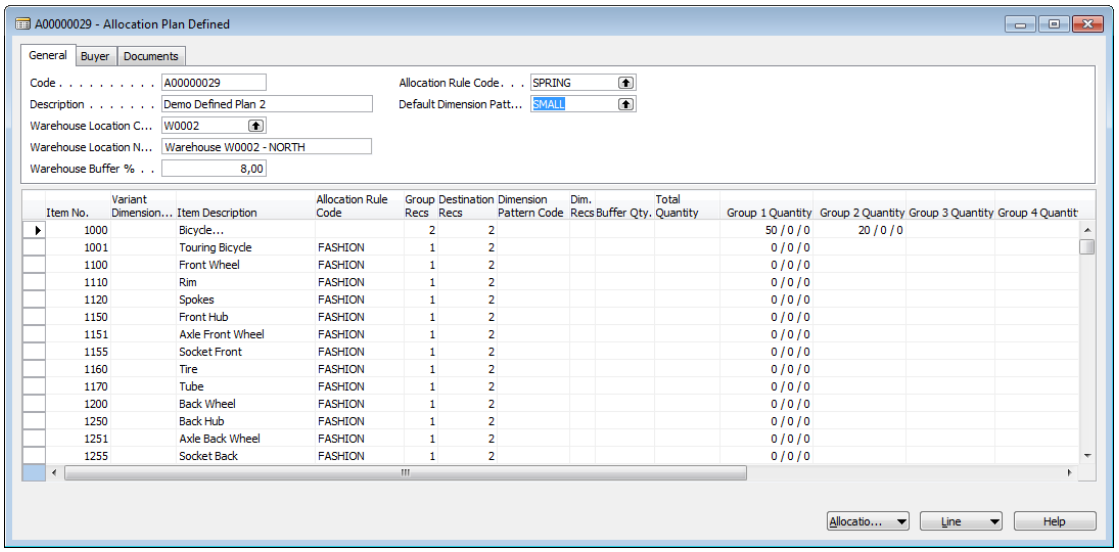
To trigger transferring items from one store to another clicking the button **Recall** for **Create transfers** does the job. It is possible to add a **Reason code** to the transfer in the column **Reason code**:



Since Recall is often used to call in out of date items this can be an important feature. It is for instance used when outdated items are moved to the outlets of the same chain of stores or when too much of the item has been delivered.

7 Allocation Plans

An Allocation Plan can be used to create **Purchase Order**(s) and **Transfer Orders** Documents and **Sales Orders**. Before that can be done, the buyer must select items to work with, select an allocation rule with the correct stores and/or customers and finally enter the quantity to distribute. Then locations and/or customers to distribute items to must be selected. Default Allocation Rules and Dimension Patterns can be created and linked to Items to speed up this preparation process.



A buyer will be able to create an Allocation Plan for a range of items, define how to distribute it to stores and customers and finally convert it to purchase orders, planned cross docking transfer orders and/or sales orders. In addition to this, the buyer can determine how much of the quantity ordered is to be retained in the warehouse as buffer inventory.

Now you can use the Distribute – Qty. to Distribute function to actually distribute the quantity between the destination lines. It is also possible to specify a Warehouse Buffer Percentage and have the system calculate a buffer quantity that will be added to the purchase order lines. The buyer defines pattern quantities for each distribution group.

Allocation Plan Cross Docking Documents are created with the Allocation Plan Create Transfers functionality. That functionality can create multiple Purchase Orders for different Warehouses from a single Allocation Plan.

Further Information on the Allocation Plan features can be found in the **Allocation Plan - Quick Guide** for LS Retail NAV 6.3.

8 Replenishment new functionality and changes in LS Retail NAV 6.1

In this chapter the mayor changes made in later versions of Replenishment, from LS Retail NAV 6.1 on, are listed. In case the changes in later versions can be considered as minor amendments they are included in the corresponding chapters.

8.2 Stock Coverage Alerts and Reports

This functionality enables management to set stock coverage goals for the inventory of stores.

A set goal (integer) means how many weeks you want your inventory to last based on sales history. A goal can be set for:

- **Item Category** and/or
- **Product Group**

If a goal is set for a Product Group, it is used for all items in that product group. If a goal is set for Item Category but not Product Group, the Item Category goal is used for all Items in the Item Category.

The goals are compared to how long the current inventory would actually last, given the same sales in the future. Purchase- and transfer orders are examined for three weeks ahead in time and actual coverage in weeks calculated respectively. Sales history is examined six weeks back in time by default but can be determined before the report is run. An item can be skipped from the report by giving an interval for accepted coverage difference from goal. This will allow the management to concentrate on Item Categories/Product Groups/Items that need attention.

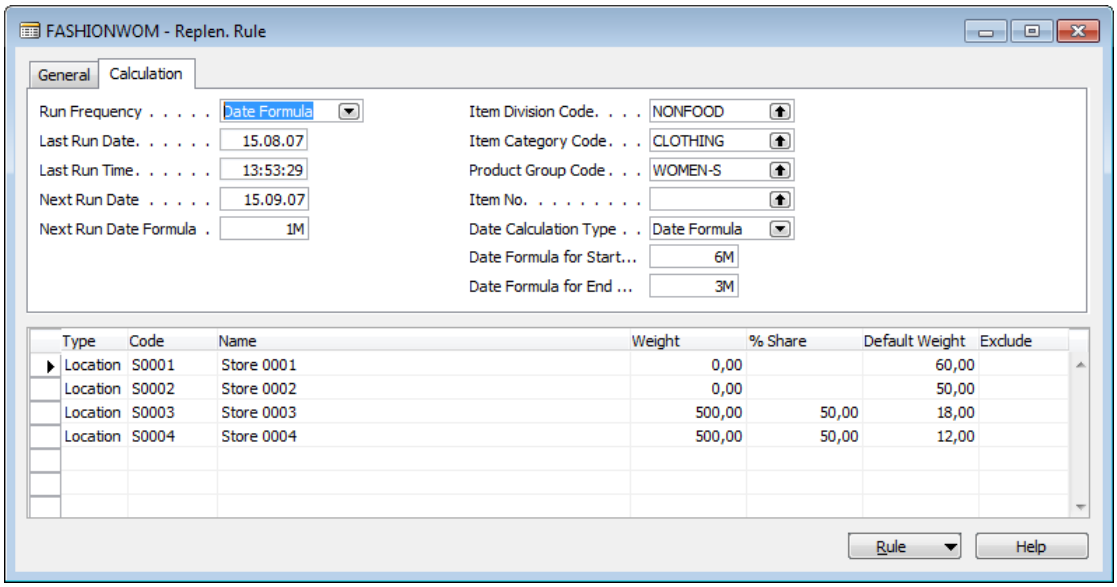
The level of details in the report can be selected down to Items. Coverage goals can be set for Seasons and the report can be filtered to Store, Item Category and/or Product Group.

8.3 Store Capacity Alerts and Reports

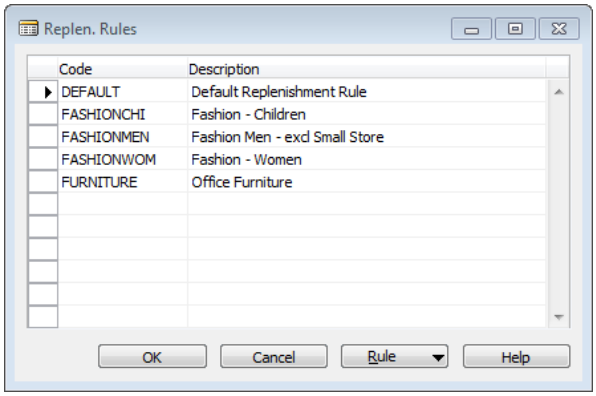
This functionality enables the management to set capacity goals for stores and compare them with current actual capacity. Goals can be set to Item Categories or down to Product Groups. Current capacity is calculated from Inventory (Qty.) at hand. Capacity per item can be adjusted by the Item Capacity Value factor, for example garment. Normally winter garments have more capacity than summer garments. Goals must be set in the Store Capacity table for all item categories or all product groups. The first line in the table will determine if product groups are used or not. The Store Capacity report will list all item categories/product groups requested by storing goals for them in the Store Capacity table. An item can be skipped from the report by giving an interval for accepted capacity difference from goal. This will allow the management to concentrate on Item Categories/Product Groups that need attention. The level of details in report can be selected down to Items. Capacity goals can be set for Seasons and the report can be filtered to Store, Item Category and/or Product Group.

8.4 Replenishment Rule - Auto Calculation of ratios according to specifications or not

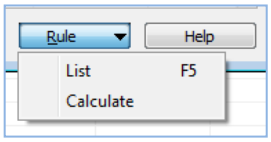
In the earlier version of Replenishment it was possible to manually set weights for Replenishment Group or Locations. From LS Retail NAV 6.1 on auto calculation of ratios has been added and you can restrict the selection of items to Item Categories, Product Groups or single Item. Below is a screenshot of the Calculation tab after the changes:



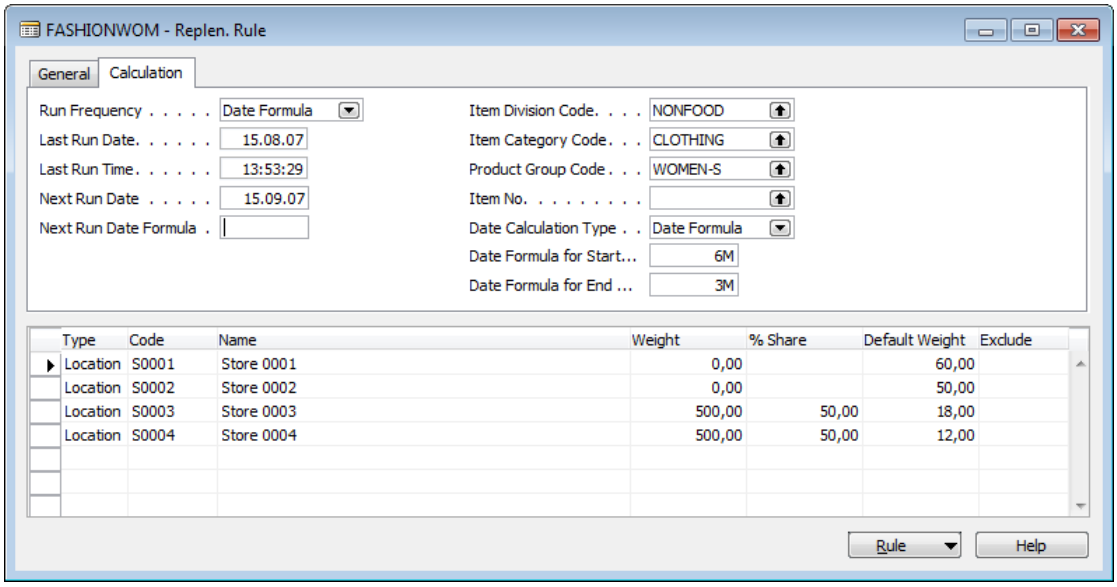
This rule is accessible in the demo company and has the name **FASHIONWOM** and is selected in **LS Retail – Replenishment, Setup, Replenishment, Replenishment Rule, Rule** button, select **List**. The **Replen. Rules** card opens.



Here we have selected women's clothing and we want the weight to be calculated based on a six month period starting nine months ago and until three months ago. If you set work date to 15th of July, 2007 and select Calculate from the Rule menu button:

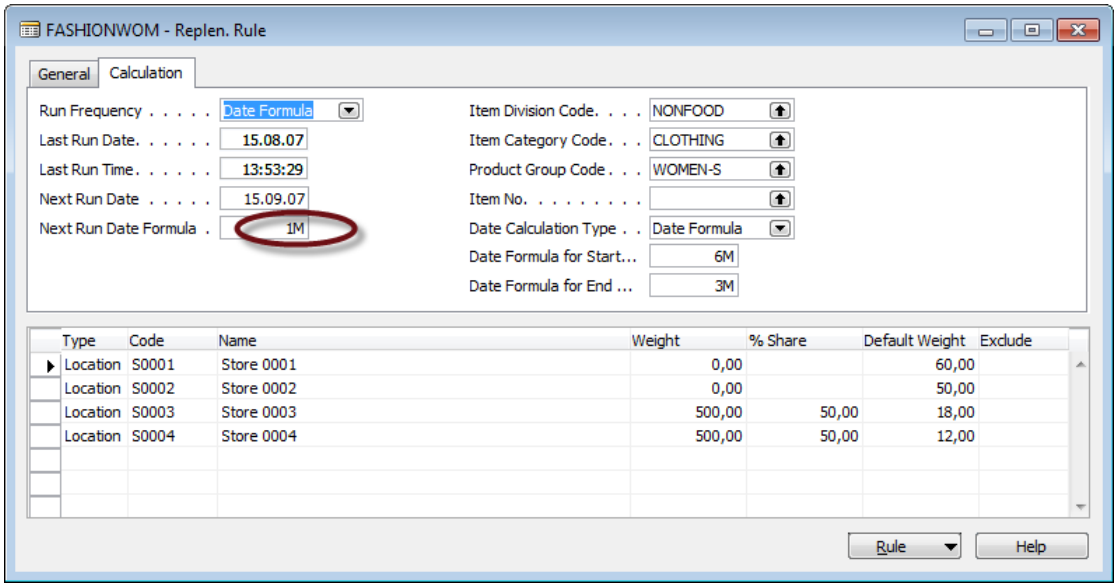


You get the following result:



This means that - based on sales history - items will be replenished evenly to stores S0003 and S0004.

Run frequency can be set which means that the weights will be automatically updated. For example if you want the rule to rerun once every month you set Run Frequency to 'Date Formula' and Next Run Date Formula to '1M' (calculated from Last Run Date). Then the weights will be run in this case every 15th of the month.



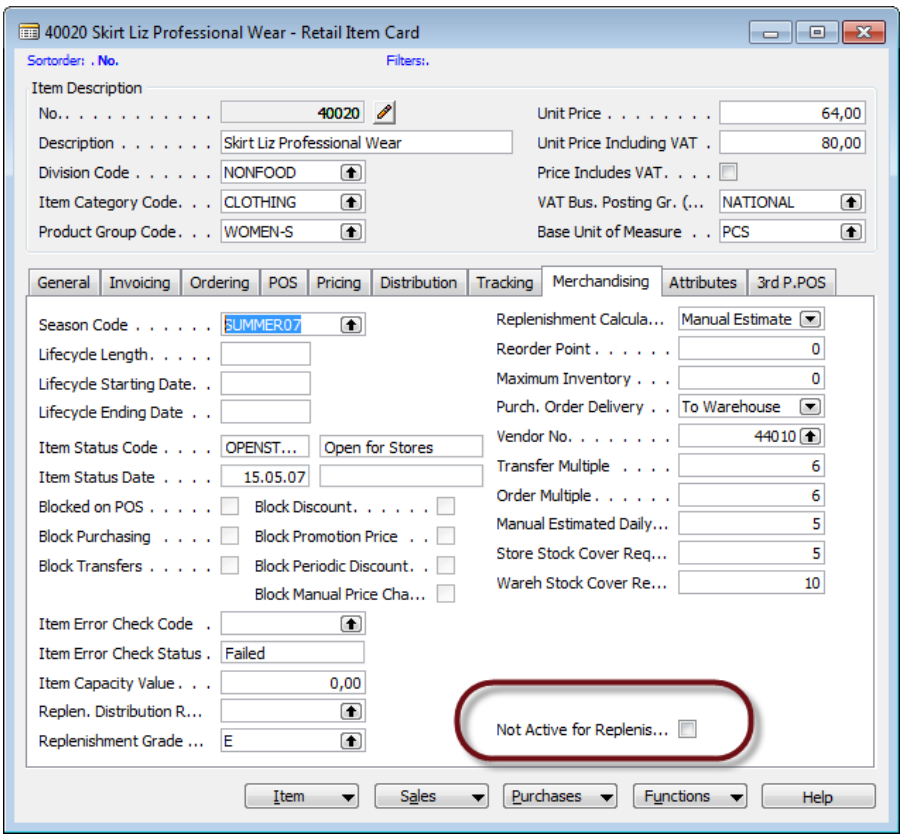
A scheduled job must be set up to run the calculations. The job should run **Codeunit 10012215 (Replen. Rule Calculation)**.

Item to use sales history from another item - have the system sum the sales data from both items if the new item is replacing the other item:

Add a new field to the Item record to decide if the system should use combined sales or only from the substitute item.

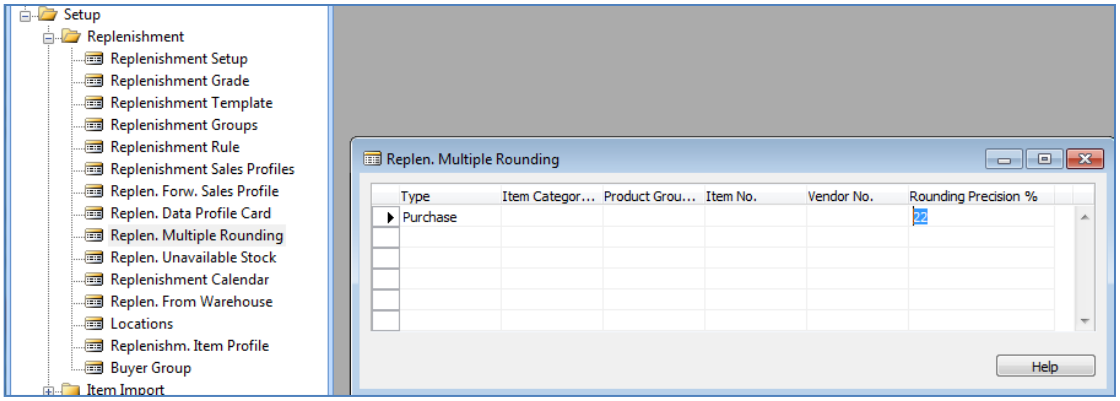
8.5 How to Set Up Item record

The setup field is on the **Retail Item** card:

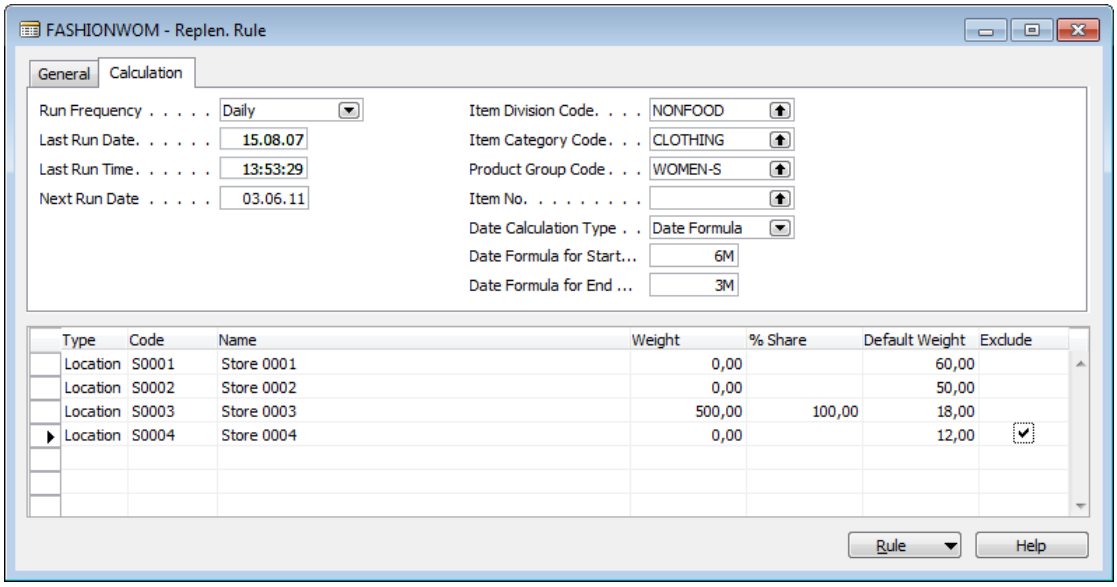


8.6 Replen. Multiple Rounding

Rounding uses % to go up in multiples. The rounding is set at **LS Retail – Replenishment, Setup, Replenishment, Replen. Multiple Rounding**. In the column **Type** it is set whether the rounding is for Purchase or Transfer in a drop down list. In the column **Rounding Precision** one can type in a number for the precision in the rounding.

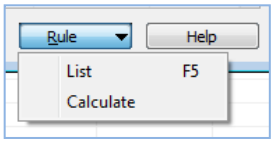


8.6.1 How to Set Up Replen. Rule calculation fields



8.6.2 How to manually execute the calculation of a Replen. Rule

Select the function Calculate under the **Rule** button on the **Replen. Rule Card.**



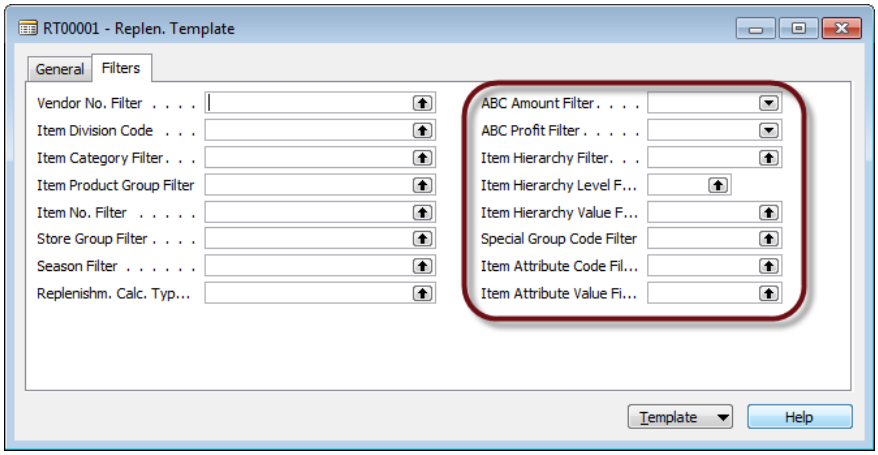
8.7 Add additional filtering fields to Replenishment Journals

Add filtering on Special Groups, Item Attributes and Item Dynamic Hierarchy to the Replenishment Journal Templates to be used for filtering Items when adding lines to a journal.

This new functionality will be controlled by the field **Ownership Send Date** and the two commands under it.

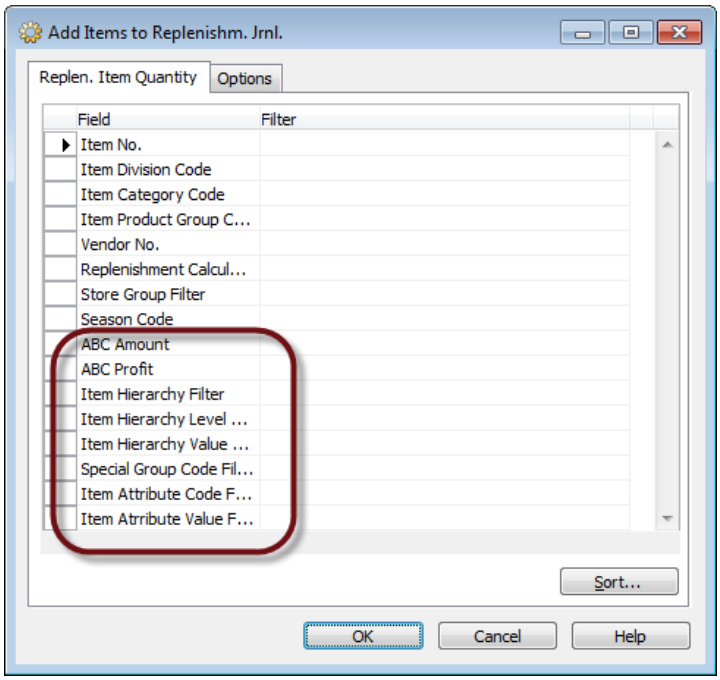
8.8 How to Set Up Replen. Journal filtering

Set filtering on the **Replen. Journal** – **LS Retail – Replenishment, Setup, Replenishment, Replenishment Template, Filters** tab.



8.9 How to add records to the Replen. Journal with new filters

At **LS Retail – Replenishment, Purchase Replenishment Journal/Transfer Replenishment Journal, Functions** button, **Add Items to Journal** there the fields concerning adding records to the Replenishment Journal are displayed. In LS Retail NAV 6.1 several new fields are introduced.



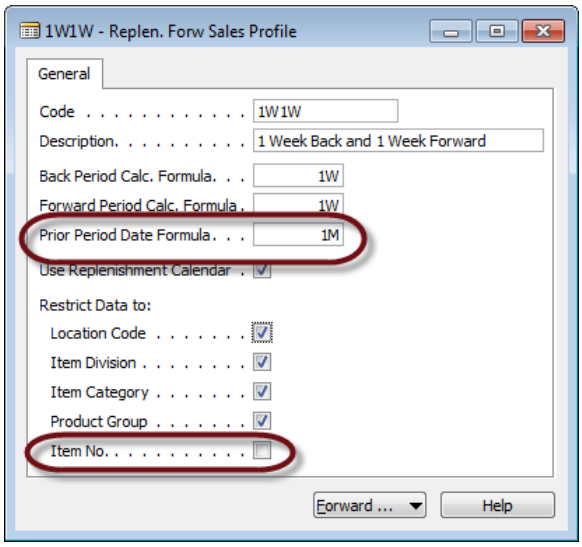
The user can change or add filters to the execution of the report.

8.10 Forward Sales Profile - the ability to define date calculation formula and if blank it would default use -1Y

In LS Retail NAV 6.1 a **Data Calculation Formula** and **Data Restriction Item** trigger fields were added to the Forward Sales Profile record.

When calculating Forward Sale, the system will subtract one year (-1Y) but the field **Period Date Formula** gives the ability to define a new date formula to be used. The field **Item No.** gives the ability to filter to the sales data of a specific Item No.

In the LS Retail NAV 6.1 the feature: How to set up the **Forward Sales Profile** was added.



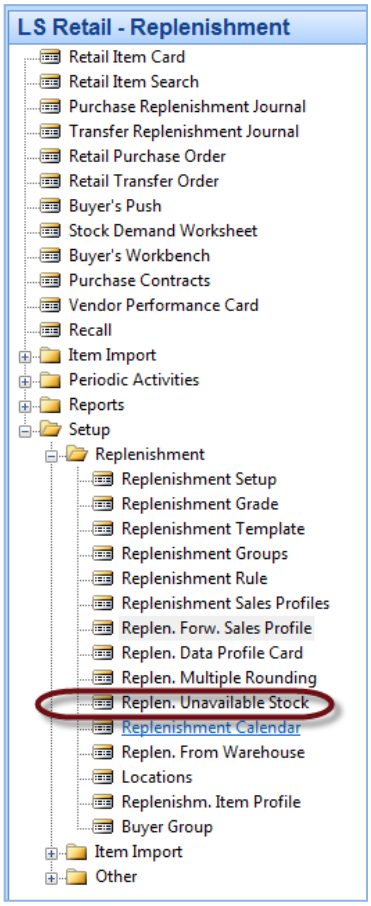
8.10.1 Replenishment – Registration of Stock Out Quantity to determine when the store is out of stock

Example: Set to 3 as there are 3 display pieces:

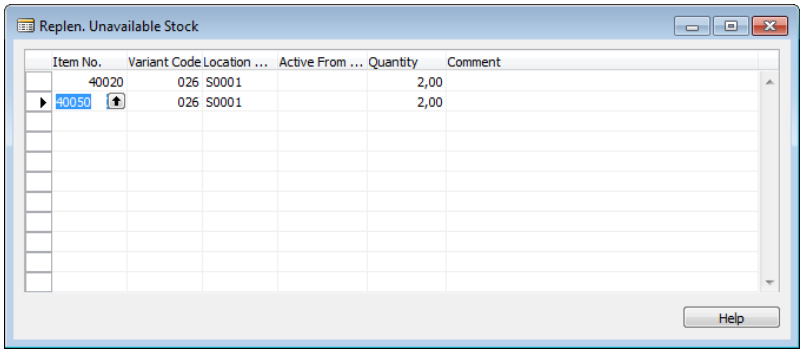
Inventory may show that a store has 10 pieces of an item. However, 3 pieces are used for display and therefore the stock on hand for the store should show 7 pieces.

8.11 How to Set Up Unavailable Stock from the Replenishment Setup Menu

Select the form from the Replenishment Setup Menu, **LS Retail – Replenishment, Setup, Replen. Unavailable Stock**.

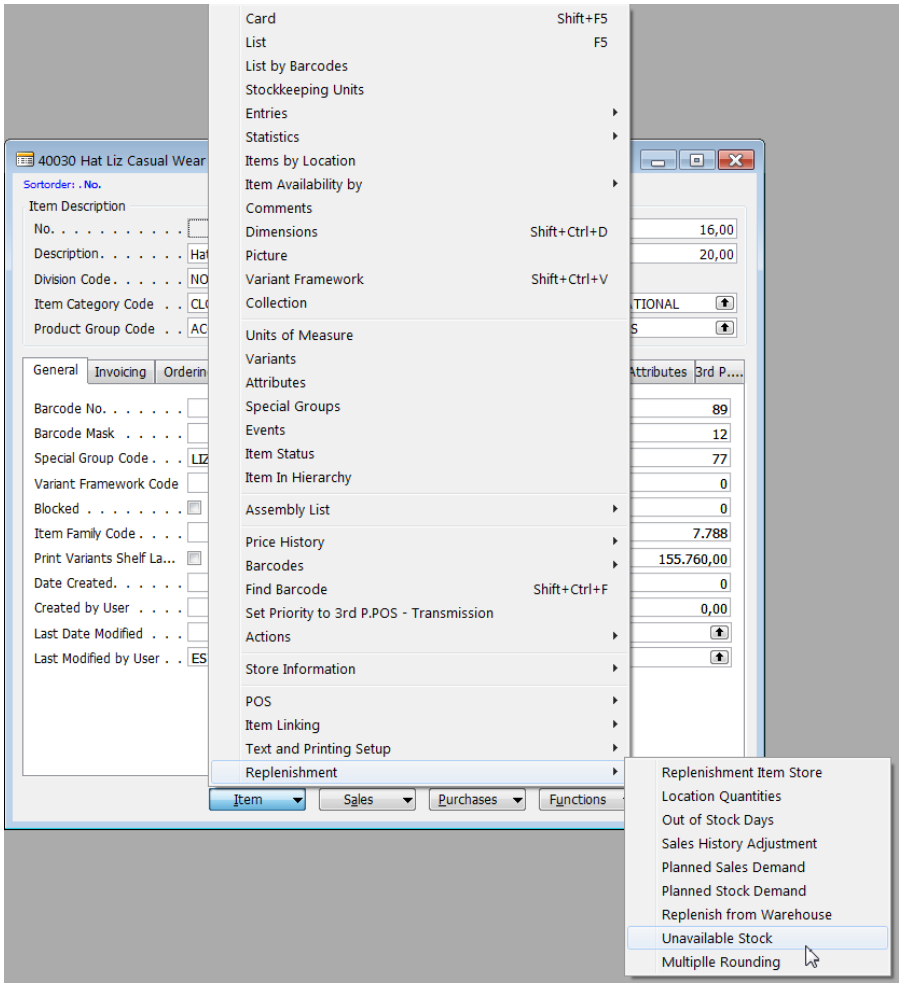


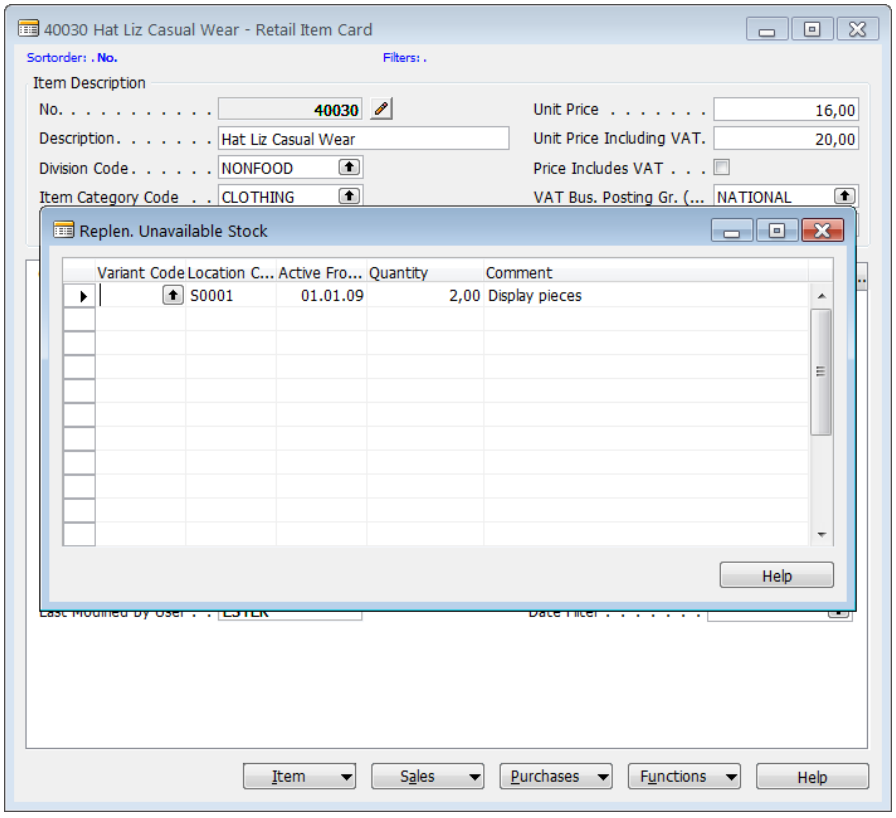
Enter the unavailable stock to the store/warehouse on the **Replen. Unavailable Stock** card.



8.12 How to Set Up Unavailable Stock from the Replenishment Setup Menu

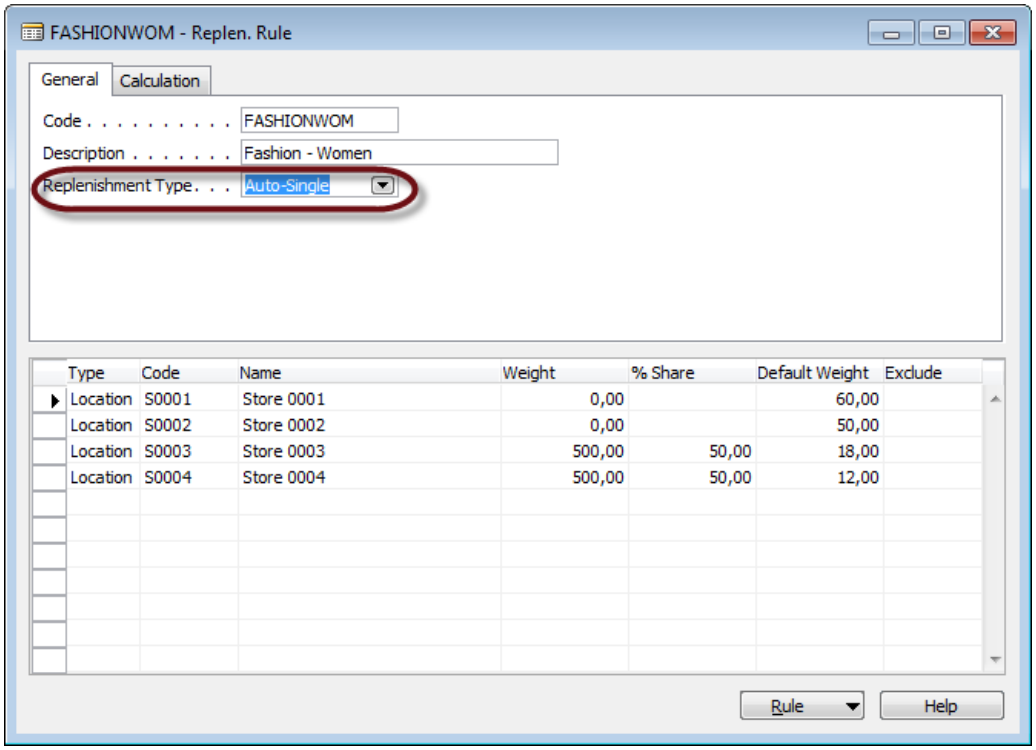
Enter the Item No. and select **Unavailable Stock** from the **Item Button, Replenishment, Unavailable Stock**, see below:


40030 Hat Liz Casual Wear
Sortorder: . No.
Item Description
No.
Description.
Division Code.
Item Category Code
Product Group Code
General
Invoicing
Barcode No.
Barcode Mask
Special Group Code
Variant Framework Code
Blocked
Item Family Code
Print Variants Shelf La...
Date Created.
Created by User
Last Date Modified
Last Modified by User
Card Shift+F5
List F5
List by Barcodes
Stockkeeping Units
Entries
Statistics
Items by Location
Item Availability by
Comments
Dimensions Shift+Ctrl+D
Picture
Variant Framework Shift+Ctrl+V
Collection
Units of Measure
Variants
Attributes
Special Groups
Events
Item Status
Item In Hierarchy
Assembly List
Price History
Barcodes
Find Barcode Shift+Ctrl+F
Set Priority to 3rd P.POS - Transmission
Actions
Store Information
POS
Item Linking
Text and Printing Setup
Replenishment
Item
Sales
Purchases
Functions
Replenishment Item Store
Location Quantities
Out of Stock Days
Sales History Adjustment
Planned Sales Demand
Planned Stock Demand
Replenish from Warehouse
Unavailable Stock
Multiplle Rounding


40030 Hat Liz Casual Wear - Retail Item Card
Sortorder: . No.
Filters: .
Item Description
No. 40030
Description. Hat Liz Casual Wear
Division Code. NONFOOD
Item Category Code CLOTHING
Unit Price 16,00
Unit Price Including VAT. 20,00
Price Includes VAT
VAT Bus. Posting Gr. (... NATIONAL
Replen. Unavailable Stock
Variant Code
Location C...
Active Fro...
Quantity
Comment
S0001
01.01.09
2,00
Display pieces
Help
Item
Sales
Purchases
Functions
Help

8.13 Replen. Distribution Rules for distributing stock in Automatic Replenishment, if limited stock Store Priority

The option to define **Replen. Distribution Rule** for Item Category, Product Group and/or Item to be used to control the sequence in which stores should be allocated limited stock in automatic replenishment. **Replenishment Type** field of the Replenishment Rule table is where **Auto-Single** allocates one multiple to each store in the priority sequence until none is left. The option **Auto-Full** will fully fill the request of the store in priority sequence until no stock is left.



Auto-Single allocates one multiple to each store in a priority sequence determined by the column **% Share** until none is left and **Auto-Full** will fully fill the request of the store in the given priority sequence until no stock is left.

Now it is possible to define Replen. Distribution Rules for Item Division, Item Category, Product Group and/or Item to be used to control the sequence in which stores should have allocated limited stock in automatic replenishment. The Weights can be entered manually as in previous versions and can be calculated automatically based on sales history data, see the Calculation tab.

The Replenishment Rules define the sequence where the store with the highest weight is allocated to first.

Let us now use the above rule (accessible in Demo Company). This rule has been restricted to the Division **NONFOOD** and Category **FURNITURE** and the Weight column has already been calculated based on sales history data. We have 130 units to distribute in multiples of ten and Auto-Single has been selected. The 130 units will be shared in the following manner:

Location	Weight	Units dispensed	Sugg. Qty.	Total units
S0003	37	10+10+10	50	30
S0002	22	10+10+10	40	30
S0001	19	10+10+10	50	30
S0004	18	10+10	30	20

S0005	10	10+10	20	20
Total		**130**	**190**	**130**

All locations get 20 = 100 since we only have 30 left (less than 50) the three locations with the highest Weight get one multiple more than the others, or 10 units each.

For the Replenishment Type **Auto-Full,** the weights are used in the same manner but the dispensing is different. The first location gets up to suggested quantity then the next location is examined if there is still some stock on hand:

Location	Weight	Units dispensed	Sugg. Qty.	Total units
S0003	37	50	50	50
S0002	22	40	40	40
S0001	19	40	50	40
S0004	18	0	30	0
S0005	10	0	20	0
Total		**130**	**190**	**130**

Appendix A

Fields for Replenishment Item Quantity:

Field Name	Description
Item No.	The Item Number
Variant Code	The Variant Code
Location Code	The Location Code of a Store that is valid for replenishment and location code of a warehouse that is the default warehouse as defined in the Replenishment From Warehouse table.
Inventory	The inventory status of records Location Code If the field **Calc. Qty. Sold not Posted** in the Replenishment Setup record is set, the value of the field **Qty. Sold not Posted** has been subtracted from the Inventory status.
Quantity on Purchase Order	The sum of the field **Outstanding Qty. (Base)** in all Purchase Order Lines
Quantity on Sales Order	The sum of the field **Outstanding Qty. (Base)** in all Sales Order Lines
Quantity in Transfer In	The sum **Outstanding Qty. (Base)** and **Qty. in Transit (Base)** of all Transfer Order Lines where the Location Code is filtered to the field **Transfer-to Code.**
Quantity in Transfer Out	The sum **Outstanding Qty. (Base)** of all Transfer Order Lines where the Location Code is filtered to the field **Transfer-from Code.**
Date Modified	The date when the record was last modified
Time Modified	The time when the record was last modified
Daily Sales	Calculated average daily sales
Sales Date From	
Sales Date To	
No. of Sales Dates	The number of days in the calculation of the Daily Sale
No. of Days Out of Stock	The number of days of zero stock days
Date of First Sale	
Adjusted Sales	The quantity the sales quantity was adjusted by, according to entries in the Replenishment Sales History Adjustments
Qty. Sold not Posted	The quantity of Transaction records that have not been posted in a Statement. This field is only calculated if the field **Calc. Qty. Sold not Posted** is set in the Replenishment Setup record
Replenish From Warehouse	The Location Code of the Warehouse the record will be replenished from
Item Division Code	The Division Code of the Item No. It is used for filtering when adding items to journals
Item Category Code	The Item Category Code of the Item No. Used for filtering when adding items to journals
Item Product Group Code	The Product Group Code of the Item No. Used for filtering when adding items to journals
Vendor No.	The Vendor No. that is going to be used when creating a Purchase Order.

Replenishment Calculation Type	The Replenishment Calculation Type to be used in the replenishment process
Replenish as Location Code	
Store Group Filter	
Season Code	The Season Code of the Item No.
Replenish as Item No.	Filled in if the sales history is to be used from another Item No.
Planned Sales Demand	The quantity from the Replenishment Planned Sales Demand records to overwrite the calculated daily sales amount from sales history
PO Blocked	Set if the Item No. is blocked for Purchase Orders from the Item Status table
TO Blocked	Set if the Item No. is blocked for Transfer Orders from the Item Status table
Is a Whse	The Location Code of the record is a warehouse
Replen. Whse Data Exists	An Item Store record exists for the warehouse
Replen. Source	Specifies if the Replenishment Data is from the Item, Item Store or Data Profile record
Replen. Code	Contains the Item No. or the Data Profile Code
Replen. Variant	The Variant Code
Replen. Location	The Location Code of the Item Store record
Replen. Valid	Contains the Valid from date for the Item Store or the Data Profile record
In Distribution	Set if the Item No is in distribution for the Location