

How-To Guide

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for SAP HANA onwards
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How to Set Up and Use Serial/Batch Valuation Method in SAP Business One



Typographic Conventions

Type Style	Description
<i>Example</i>	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Textual cross-references to other documents.
Example	Emphasized words or expressions.
EXAMPLE	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
Example	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
Example	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE	Keys on the keyboard, for example, F2 or ENTER.

Document History

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9.1 v3.0	2015-03-26	Document Updated
9.2 v4.1	2017-03-07	Document Updated
9.3 v5.0	2018-05-29	Document Updated
9.3 v6.0	2018-07-10	Document Updated

Glossary of Terms

Terms as used in SAP Business One

- *Current Serial/Batch Cost* - cost calculated at the serial/batch level.
- *Cumulative Qty* - the on-hand quantity in inventory.
- *Cumulative Value* - the on-hand value in inventory.
- *Cumulative Purchased Qty* - the running total number of physical items purchased for the batch, minus any returned quantity.
- *Cumulative Purchased Amount* - the running total amount of purchases in monetary terms for the batch, minus any returned amount.
- *Cumulative Cost* - shows a calculated number, dividing *Cumulative Purchased Amount* by *Cumulative Purchased Qty*. This is the cost set in serial/batch details after the posting of transactions. This is the same as the cost that will be used in the next stock release.

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1 Introduction

In SAP Business One, when running a perpetual inventory, there are four different valuation methods to choose from to value the items (item master data records) your business deals with. This guide focusses on and explains how to use the **serial/batch valuation method** and what it means for the different areas of SAP Business One.

Serial and batch numbers can be used to manage quantities of items. Items valued under the serial/batch valuation method must have their quantities managed by serial or batch on every transaction. Items valued under the FIFO, moving average or standard valuation methods can have their quantities managed by serial or batch number, but it is not mandatory.

Note

The serial/batch valuation method and managing quantities of items by serial/batch are separate and distinct concepts.

Serial/Batch Valuation

Under the serial/batch valuation method, the valuation of items is linked to a serial number or a batch identifier. The value of items in a batch is influenced by what happens to all the items in the batch.

- A serial number is a unique identifier for a single unit of an item, applied to a single item master data record. The unique serial number can only be applied once, to one unit of an item, value is determined on an individual item serial number basis.
- A batch is a unique identifier for a quantity of an item or different items. Different item master data records can be identified by the same batch but valuation is separate by item master data record. Valuation and costs are calculated consistently across the batch for an item master data record.

Item valuation, and so cost, is either maintained on a serial number or a batch basis. Value is dictated by the batch or serial number and what costs and activities have been recorded against the batch or serial number.

In the serial/batch valuation method, item quantities of the same item master data record can have a different value determined by their serial/batch association. Two units of the same item (item code) that are held in different batches have no influence on each other in terms of valuation or cost.

For serial numbered items, the cost used in an outbound transaction is the same as the inbound cost of the item as determined by its serial number. The cost of the item is managed at the serial number level which can be adjusted by material revaluation.

For items that are valued by serial/batch and are part of a batch, the cost used in an outbound transaction is determined by the inbound costs for the whole batch. An inbound transaction affects the cost of the entire batch,

no matter whether the quantity of the batch is partially or fully available in a warehouse, or if a batch item has been sold already. Cost price is always calculated at a company level and so applies consistently across all relevant warehouses. The cost of an item is managed at the batch level which can be adjusted by material revaluation affecting the entire batch.

Recommendation

When using the serial/batch valuation method, determine G/L accounts at the company level or use the same G/L accounts for warehouses containing items from the same batch. This will avoid unbalanced G/L accounts because of system postings for variable item costs across warehouses containing the same batch. When using the serial/batch valuation method, costs are always managed at the company level so the *Manage Item Cost per Warehouse* option on the *Basic Initialization* tab of *Company Details* is disregarded.

Valuation by serial number is typically used for higher-value individual items (for example, a truck), whereas valuation by batch is typically used for large volumes of lower-value items (for example, pharmaceuticals).

Note

There is no option to apply a different valuation method within a batch that is valued by serial/batch valuation method. The serial/batch valuation method is a separate and distinct valuation method with specific rules as described in this document.

Other valuation method types that are available in SAP Business One, but not covered at length in this guide, are listed below. These valuation method types are separate and distinct from the serial/batch valuation method.

Moving Average Price (MAP)

The average cost of items is calculated in each sales, purchasing, inventory, and production transaction. An inbound transaction updates the cost price of inventory that is available as on-hand (in-stock) quantity, either at the company or warehouse level. Items that have been sold are not impacted by inbound transactions that update the cost price of on hand inventory.

Standard Price

Valuation is calculated using a fixed standard price, which is used for all transactions.

First In First Out (FIFO)

Goods purchased or produced first are sold first, regardless of the actual goods flow.

- Each inventory receipt transaction creates a layer of quantity linked to cost. A FIFO layer is defined as the quantity of an item in a warehouse with a particular cost or value.
- Each inventory release transaction uses quantities and their corresponding costs from the first available open layer or layers.

This document is concerned with how to set up and manage the serial/batch valuation method in SAP Business One, more information on the other valuation methods can be found in online help for SAP Business One.

2 Prerequisites

For the serial/batch valuation method to work, you need to be working with a perpetual inventory system in SAP Business One. To activate or see if you are operating, a perpetual inventory system, follow the path *Main Menu* → *Modules* tab → *Administration* → *System Initialization* → *Company Details* → *Basic Initialization* tab to access the *Use Perpetual Inventory* checkbox.

The screenshot shows the 'Company Details' window with the 'Basic Initialization' tab selected. The 'Use Perpetual Inventory' checkbox is checked and highlighted with a red box. Other settings include:

- Chart of Accounts Template: CASK
- Local Currency: Euro
- System Currency: Euro
- Default Account Currency: All Currencies
- Display Credit Balance with Negative Sign
- Use Segmentation Accounts
- Allow Negative Amounts for Reversal Transaction Posting
- Permit More than One Document Type per Series
- Multi-Language Support
- Use Perpetual Inventory
- Item Groups Valuation Method: Moving Average
- Manage Item Cost per Warehouse
- Use Purchase Accounts Posting System
- Allow Stock Release Without Item Cost
- Manage Serial and Batch Cost By:
 - Items Group Valuation Method
 - Serial/Batch Valuation Method

3 Initial Settings

To use the serial/batch valuation method, there are settings required at the company and item level in SAP Business One. This allows for some flexibility in the valuation of different items.


The serial/batch valuation method is applicable only to items that are managed by serial numbers or batches on every transaction. You need to choose **serial/batch management** as well as **serial/batch valuation** for the items you want to be valued in this way.

3.1 Defining Items Managed by Serial Numbers or Batches

Note

Only the steps relevant to the serial/batch valuation method are described below. For a detailed description of creating new items, see online help in SAP Business One.

Procedure

1. From the SAP Business One *Main Menu*, choose *Inventory* → *Item Master Data*. The window opens in *Find* mode, switch to *Add* mode by selecting the Add icon  in the toolbar.
2. On the *General* tab of *Item Master Data*, under the *Serial and Batch Numbers* section, in the *Manage Item By* field, select one of the following options:
 - *Serial Numbers* – to manage the item by serial number.
 - *Batches* – to manage the item by batch.
3. On the *General* tab of *Item Master Data*, under the *Serial and Batch Numbers* section, in the *Management Method* field, choose *On Every Transaction*. Select *Update* to save your changes.

Management by batch tracks items that have unique numbers and characteristics but have been combined into batches or groupings. Management by serial number manages item units on an individual basis.

i Note

You can change the way an item is managed by, for example, from *Serial Numbers* to *Batches* if the quantity of the item in stock is zero and the item is not included in any open document. More information on changing valuation methods can be found in the relevant section of this guide.

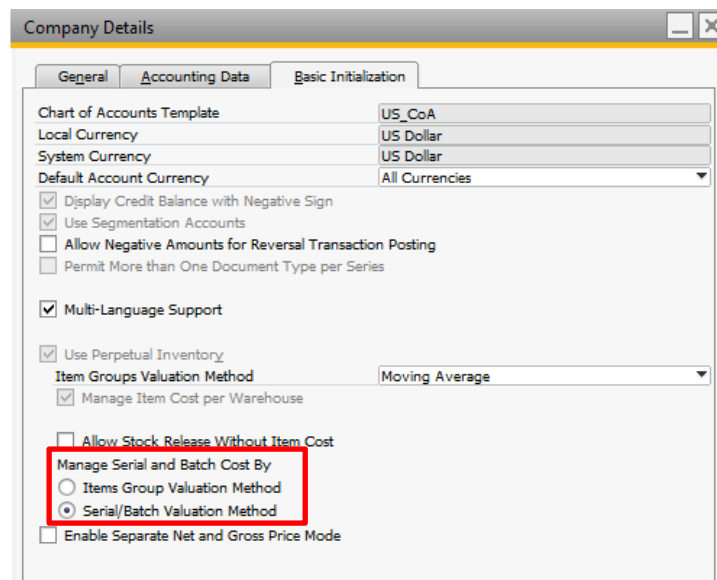
3.2 Defining Management of Serial and Batch Cost by Serial/Batch Valuation Method at Company Level

Management of serial and batch cost can be done by serial/batch valuation method or by items group valuation method. To initialize the serial/batch valuation method for serial and batch managed items at the company level, follow the procedure below.

Procedure

1. From the SAP Business One *Main Menu*, choose *Administration* → *System Initialization* → *Company Details* → *Basic Initialization* tab.
2. In the *Manage Serial and Batch Cost By* section, select the *Serial/Batch Valuation Method* radio button.

The system manages the serial/batch valuation method at the company level, not at the warehouse level. Therefore, the *Manage Item Cost per Warehouse* checkbox on the *Basic Initialization* tab has no impact on items managed by the serial/batch valuation method.



i Note

You can change the valuation method by which you manage serial and batch cost, however, the change always applies only to new item master data records which you create after the change.

3. Choose *Update*.

3.3 Defining Serial/Batch Valuation Method at Item Level

If you have defined the serial/batch valuation method at the company level as described in *Defining Management of Serial and Batch Cost by Serial/Batch Valuation Method at Company Level*, any new item you create and define as managed by serial/batch automatically has the serial/batch valuation method applied.

If you have chosen a different valuation method for serial/batch managed items at the company level, you can define the serial/batch valuation method for a specific item.

Procedure

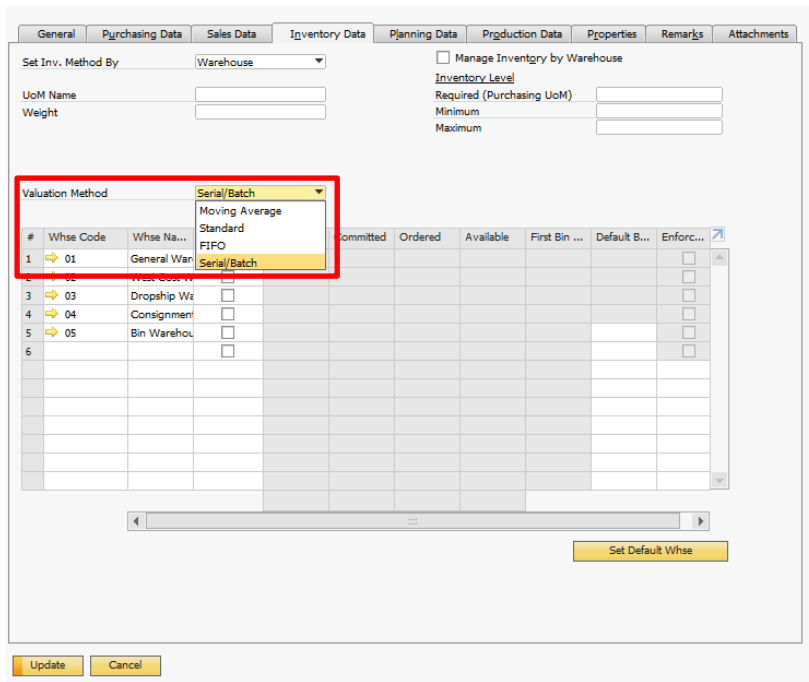
1. From the SAP Business One *Main Menu*, choose *Inventory* → *Item Master Data*.

In the *Item No.* field enter the desired item.

i Note

The item must be managed by serial or batch on every transaction.

2. On the *Inventory* tab, from the dropdown menu in the *Valuation Method* field, select *Serial/Batch*.



3. Choose *Update*.

3.4 Blocking Multiple Receipts for Same Batch When Valuation Method Is Serial/Batch

Receiving inventory into the same batch more than once means that items for the same batch can be received with different costs. Items received with different costs complicate the tracking of batch costs and cause revaluations with postings to different accounts depending on outgoing batch transactions. To prevent this issue and enable easier cost control, you can block multiple receipts to the same batch at the company level or at the item level. Additional batches can always be established for new receipts.

If multiple receipts for the same batch are blocked, you cannot draw an *A/P Reserve Invoice* for a batch into a goods receipt PO more than once.

i Note

When you draw an *A/P Reserve Invoice* into a goods receipt PO, the batch price is based on the *A/P Reserve Invoice*. However, due to header freights in a goods receipt PO, the price can change due to the amount applied to each batch entry.

➔ Recommendation

When using the *Multiple Branches* feature, it is strongly recommended that you block multiple receipts for the same batch. This is due to the possibility of different batches being received with different costs to one branch impacting the costs of other branches.

For example, items to Batch No. B1_1200 are received to inventory through GRPO1 with the following data:

- o Branch 1
- o Warehouse 1
- o Quantity 10
- o Cost 10

Items to Batch No. B1_1200 are received, through GRPO2, with the following data:

- o Branch 2
- o Warehouse 2
- o Quantity 10
- o Cost 12

Since under the serial/batch valuation method the system does not manage batch cost at a warehouse level, the cost of B1_1200 is calculated as follows: $(10*10+10*12)/20=11$. That is, the outbound cost from Branch 1 is impacted by the inbound cost to Branch 2. In such a scenario, the inventory audit report and the batch and serial audit report cannot differentiate between the inventory value of postings to Branch 1 and the inventory value of postings to Branch 2.

Workaround

When you receive to the same batch more than once, add a prefix or a suffix to the Batch No. For example, for GRPO2, set *Batch No.* to B1_1200_1. Although the system will treat it as a new, different batch, the naming convention will help tracking the physical batch across all branches.

3.4.1 Blocking Multiple Receipts for the Same Batch at Company Level

If you block multiple receipts to/for the same batch at the company level, the setting automatically applies to any new batch items that you create and to any batch item for which you change the valuation method to serial/batch. You can change the settings at any time. If you select this checkbox after you have received to the same batch more than once, it has no influence on the existing batches, but blocks any new multiple receipts to single batches.

Note

This checkbox is selected by default.

Procedure

1. From the SAP Business One *Main Menu*, choose *Administration* → *System Initialization* → *General Settings* → *Inventory* tab → *Items* subtab.
2. Select the checkbox *Block Multiple Receipts for Same Batch with Serial/Batch Valuation Method*.
The following system message appears: "Multiple receipt for the same batch are blocked for new batch items with valuation method "Serial/Batch". Do you want to block multiple receipts for existing items?"
Choose *Yes* to set the block in *Item Master Data* of all existing batch managed items with serial/batch valuation method. Choose *No* to only set the block in *Item Master Data* as a default for newly created batch managed items with serial/batch valuation method or when changing the valuation method of existing items to serial/batch.
3. Choose *Update*.

3.4.2 Blocking Multiple Receipts for Same Batch at Item Level

You can block multiple receipts to/for the same batch at the item level regardless of whether multiple receipts for the same batch are blocked at the company level.

Note

You can change this setting, even if a batch item already had multiple receipts for the same batch.

Procedure

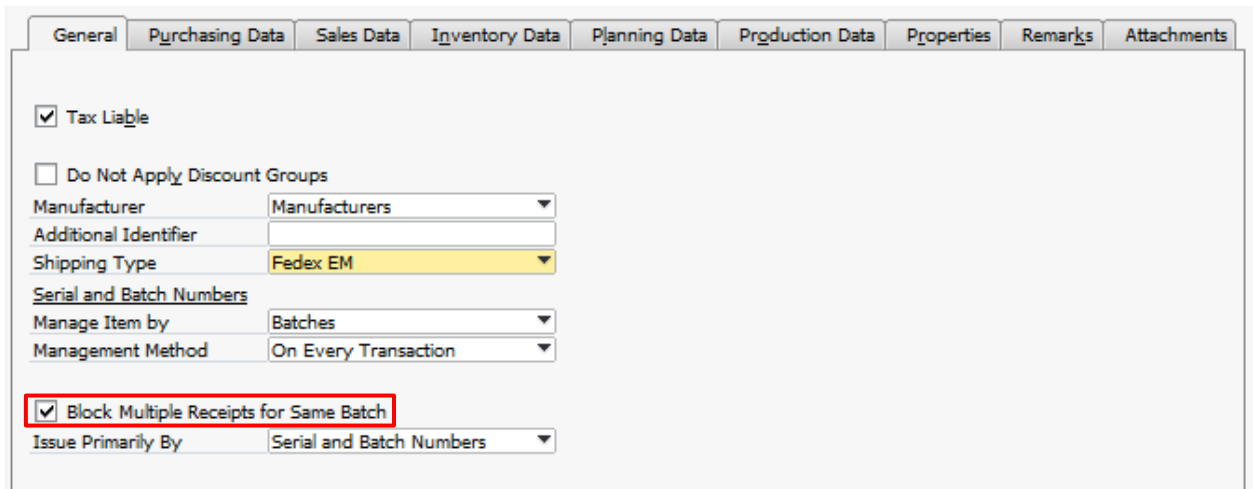
1. From the SAP Business One *Main Menu*, choose *Inventory* → *Item Master Data*.
In the *Item No.* field, enter the desired item.

Note

The item must be managed by batches.

2. On the *General* tab, select the checkbox *Block Multiple Receipts for Same Batch*.

When you change the item valuation method to one other than serial/batch, this checkbox is deselected and not visible.



The screenshot shows the SAP Item Master Data configuration screen, specifically the **General** tab. The **Block Multiple Receipts for Same Batch** checkbox is checked and highlighted with a red box. Other visible settings include:

- Tax Liab~~le~~
- Do Not Apply Discount Groups
- Manufacturer: Manufacturers
- Additional Identifier: (empty)
- Shipping Type: Fedex EM
- Serial and Batch Numbers**
- Manage Item by: Batches
- Management Method: On Every Transaction
- Block Multiple Receipts for Same Batch
- Issue Primarily By: Serial and Batch Numbers

3. Choose *Update*.

4 Item Management

Information about batch and serial number items and the management of them is available on the following windows:

- [Serial Number Details](#)
- [Batch Details](#)
- [Serial Number Management - Update](#)
- [Batch Management - Update](#)

4.1 Serial Number Details Window

To access the [Serial Number Details](#) window, do the following:

1. From the SAP Business One [Main Menu](#), choose [Inventory](#) → [Item Management](#) → [Item Serial Numbers](#) → [Serial Number Details](#). The window opens in [Find](#) mode.
2. In the [Item Number](#) field, enter the item number or use ([Previous Record](#)) ([Next Record](#)) in the toolbar to browse through the serial number items.

The current cost of the serial number item is displayed in the [Cost](#) field.

4.2 Batch Details Window

To access the [Batch Number Details](#) window, do the following:

1. From the SAP Business One [Main Menu](#), choose [Inventory](#) → [Item Management](#) → [Batches](#) → [Batch Details](#). The window opens in [Find](#) mode.
2. In the [Item Number](#) field, enter the item number or use ([Previous Record](#)) ([Next Record](#)) in the toolbar to browse through the batch items.

The current unit batch cost of the item is displayed in the [Cost](#) field.

4.3 Serial Number Management - Update Window

To access the [Serial Number Management - Update](#) window, do the following:

1. From the SAP Business One [Main Menu](#), choose [Inventory](#) → [Item Management](#) → [Item Serial Numbers](#) → [Serial Number Management](#). The window [Serial Numbers Management - Selection Criteria](#) appears.
2. In the [Operation](#) field, select [Update](#).

3. Define the remaining selection criteria for the range of the items for which you want to update the serial numbers and choose *OK*. The *Serial Number Management - Update* window appears.
In the *Cost* column, you can view the current cost of the item serial numbers displayed.

4.4 Batch Management - Update Window

To access the *Batch Management - Update* window, proceed as follows:

1. From the SAP Business One *Main Menu*, choose *Inventory* → *Item Management* → *Batches* → *Batch Management*. The *Batch Management - Selection Criteria* window appears.
2. In the *Operation* field, select *Update*.
3. Define the remaining selection criteria for the range of batches you want to update and choose *OK*. The *Batch Management - Update* window appears.
In the *Cost* column, you can view the current cost of the item serial numbers displayed.

5 Marketing Documents & Valuation, Determining Serial and Batch Item Cost, Exchange Rates Differences.

Marketing Document Impact on Valuation

All marketing documents that impact costs within a batch affect all the relevant batch items under the serial/batch valuation method. Marketing documents that impact batch costs do not only affect on-hand items that are in inventory, they also affect sold items; this behavior is different from how other valuation methods work. Every marketing document that changes batch costs effectively causes a revaluation of the whole batch.

If some batch items have been sold and some batch items are on-hand in inventory, then a marketing document that impacts costs will generate postings against inventory and price difference accounts. For details of what the postings look like, see section 11 [Examples of Cost Calculation and Postings for Items with Serial/Batch Valuation Method](#).

A/P Invoices that are not based on other documents can receive items to batches with costs that are different to those already established for the batch. If there already were inbound and outbound transactions for the batch to which the *A/P Invoice* was received, then the *A/P Invoice* will cause a change in costs and so postings to price difference accounts as well as inventory accounts.

Exchange Rate Differences

Inventory costs and values are maintained in the local system currency for your system. When items costed in foreign currency are received to inventory, their local currency costs are calculated by using the prevailing exchange rate set in the system.

Recommendation

To maintain cost consistency in batches, use the same exchange rate or date for the same batches that appear in different marketing documents.

Revaluations can occur under the serial/batch valuation method if changes in exchange rates impact the batch valuation. If a *Goods Receipt PO* is created at a different exchange rate to a subsequent, related *A/P Invoice* based on the original *Goods Receipt PO*, then there is an exchange rate difference.

- Postings are made to exchange rate difference accounts for any batch quantity already delivered in local currency
- Postings are made to inventory accounts for any items still on hand and in inventory

The postings will be made representing the full exchange rate change impact, at the point of the *A/P Invoice*.

Determining Serial and Batch Item Cost

The cost of a serial or batch item is determined by the following documents:

- Receipts to stock
 - A/P documents
 - Goods receipt POs
 - A/P invoices
 - Inventory Transactions
 - Goods receipts
 - Positive entries from the inventory opening balance
 - Positive entries from the inventory posting
 - Receipts from production
 - A/R returns, A/R credit memos and A/R correction invoices that are not based on other documents

Note

If the return cost is not set in the document, the serial/batch cost is calculated by the current cost. If the return cost is set in the document, the serial/batch cost is calculated by the return cost.

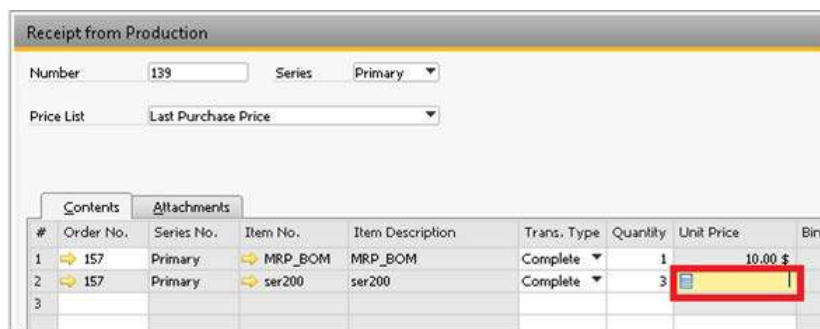
- Purchase returns - cost is calculated by the current serial/batch cost.
- Revaluation postings
 - A/P invoices based on goods receipt POs with price and exchange rate changes
 - Landed costs
 - Material revaluations
 - A/P correction invoices with price changes
 - A/P correction reversals with price changes
 - A/P credit memos without quantity postings

The following documents are posted by the current serial/batch cost:

- Issues from stock (all types of documents)
- A/R deliveries, A/R returns with negative quantities
- Goods receipts, A/P cancellations, A/P documents with negative quantity
- A/R corrections, reversals with entry to stock
- Returns of components
- A disassembly in an issue for production
- Inventory postings (exit: counted quantity is smaller than the quantity in inventory)
- Negative inventory opening balances
- Inventory transfers

5.1 Determining Item Cost of By-Products with Serial/Batch Valuation Method

In SAP Business One, the *Issue Method* of a by-product item can be set to *Manual*. As a result, a by-product item can use the serial/batch valuation method. The cost of such item is determined by the value that you enter in the *Unit Price* field in the receipt from production document as displayed below.



The screenshot shows a 'Receipt from Production' window. At the top, there are fields for 'Number' (139), 'Series' (Primary), and 'Price List' (Last Purchase Price). Below this is a table with two tabs: 'Contents' and 'Attachments'. The 'Contents' tab is active, showing a table with the following data:

#	Order No.	Series No.	Item No.	Item Description	Trans. Type	Quantity	Unit Price	Bin L
1	157	Primary	MRP_BOM	MRP_BOM	Complete	1	10.00 \$	
2	157	Primary	ser200	ser200	Complete	3		
3								

The 'Unit Price' field for item 2 is highlighted with a red box, indicating that the cost for this item is determined by the value entered in this field.

5.2 Rounding Item Cost for Serial/Batch Valuation Method

Rounding settings influence transaction and invoice values where a total batch value cannot be divided evenly amongst the batch quantity. The system will consider previous transactions affecting the batch to calculate the next transaction value, this may result in different costs per item.

6 Revaluing Inventory with Serial/Batch Valuation Method

Items under the serial/batch valuation method can be revalued using inventory revaluation functionality. For batches, the revaluation process applies to an entire batch, not just the on-hand quantity that is in inventory. This means that if some items from a batch have been sold, the revaluation will apply to the sold items with the relevant accounting impact, just like for on-hand items still in inventory. Revaluations are carried out at a company level, even if a batch is allocated to several different warehouses.

You can revalue items by two types of method:

- *Price Change* – Changes the selected item's cost price for all quantities in a specific batch or with a serial number. The price change applies to all items related to the batch. Inventory value is recalculated according to the updated cost, sold items not in inventory are updated as well. It is not possible to update the cost of only some items in one batch, the entered *New Cost* is consistent for all item quantities in a batch.
- *Inventory Debit/Credit* – Changes the selected item's cost value for all items in a specific batch or with a serial number. The cost change represents an increase or decrease to the original cost for all items related to a batch. Inventory value is recalculated according to the updated cost, sold items not in inventory are updated as well. It is not possible to update the cost of only some items in one batch, the cost change is consistent for all items in a batch. The system recalculates cost prices according to the total value debited or credited in relation to what costs were before the *Inventory Revaluation*. A negative value can be entered for *Debit/Credit*.

The two *Inventory Revaluation* types, *Price Change* and *Inventory Debit/Credit*, work in a similar way by crediting and debiting the same types of account.

- *Price Change* type *Inventory Revaluations* calculate the amount to credit or debit by multiplying the batch or serial total quantity by the difference (delta) between the previous cost and *New Cost*.
- *Inventory Debit/Credit* type *Inventory Revaluations* apply the *Debit/Credit* amount.
- For on-hand items in inventory, inventory and G/L increase or G/L decrease accounts are credited or debited depending on whether the cost has increased or decreased.
- For items that have been issued from inventory, price difference and G/L increase or G/L decrease accounts are credited or debited depending on whether the cost has increased or decreased.
- In both *Price Change* and *Inventory Debit/Credit* type *Inventory Revaluations*, the value is applied consistently to all quantities (*Cumulative Purchased Qty*) of an item associated with a batch.
- *Debit/Credit* amounts are added to the *Cumulative Purchased Amount*. New batch cost (*Cumulative Cost*) is calculated by dividing the new *Cumulative Purchased Amount* by the *Cumulative Purchased Qty*. The *Trans. Value* posted to the inventory account by the *Inventory Revaluation* is calculated by multiplying the available batch quantity by the difference between the new and the previous *Cumulative Cost*. The remaining *Debit/Credit* amount is posted to a price difference account.

6.1 Revaluing Inventory by Price Change

Procedure

1. From the SAP Business One *Main Menu* choose *Inventory* → *Inventory Transactions* → *Inventory Revaluation*. The *Inventory Revaluation* window appears.
2. In the *Revaluation Type* field, select *Price Change*.
3. In the *Item No.* column, select the item for which you want to update prices. All available batches or serial numbers for the item are listed in the lower table. To display issued batches or serial numbers, select the checkbox *Display Issued Serials/Batches*.
 - o *Filtered By* is active only for serial number managed items.
4. In the lower table, enter the new required value in the field *New Cost* for the desired batch or serial number.
5. Choose *Add*.

i Note

You can press **CTRL** to select desired items in the lower table, and update the price in the *Set Value for Selection* field located between the two tables.

Example

- o Batch *BB500* exists for item *Batch1*.
- o For all the items in batch *BB500* the *Current Cost* unit cost is USD 12.
- o As there are 20 items in batch *BB500*, the *Total Cost* is USD 240.
- o An *Inventory Revaluation* is created for item *Batch1*, selecting *Price Change* as the *Revaluation Type*.
- o In the lower table of the *Inventory Revaluation*, entering a value into the *New Cost* field for *S/B No.* batch *BB500* row will adjust the value for every *Batch1* item in Batch *BB500*. A value of USD 14 is entered in *New Cost* to revalue every item at USD 14.
- o Selecting *Add* finalizes the *Inventory Revaluation* so making the relevant journal entry postings. The difference between the previous and new cost is USD 2 per unit, so USD 40 in total, for the 20 units in the batch. As all items are in inventory, USD 40 is posted to the inventory account and to the G/L increase account.

6.2 Revaluing Inventory by Debit/Credit

Procedure

1. From the SAP Business One *Main Menu*, choose *Inventory* → *Inventory Transactions* → *Inventory Revaluation*. The *Inventory Revaluation* window appears.
2. In the *Revaluation Type* field, select *Inventory Debit/Credit*.
3. In the *Item No.* column, select the item for which you want to update costs. All available batches or serial numbers for the item are listed in the lower table.
4. In the lower table, enter a value in the field *Debit/Credit* representing the amount you want to debit or credit for the relevant batch or serial number. A positive or negative value can be entered for *Debit/Credit*.
5. Choose *Add*.

Example

- o Batch *BB500* exists for item *Batch1*.
- o For all the items in batch *BB500*, the *Current Cost* unit cost is USD 12 per item.
- o As there are 20 items in batch *BB500*, the *Total Cost* is USD 240.
- o An *Inventory Revaluation* is created for item *Batch1*, selecting *Inventory Debit/Credit* as the *Revaluation Type*.
- o Entering a value of USD 40 into the *Debit/Credit* field for Batch *BB500* row will spread a total USD 40 value across every item in Batch *BB500*. The value of USD 40 across every item in the batch applies USD 2 of value to each item, revaluing each item at USD 14 from USD 12.
- o Selecting *Add* finalizes the *Inventory Revaluation* so making the relevant journal entry postings. The additional cost is USD 40 in total, for the 20 units in the batch. As all items are in inventory, USD 40 is posted to the inventory account and to the G/L increase account.

Inventory Revaluation

Number: 1 Series: Primär Posting Date: 28.05.2018
 Revaluation Type: Inventory Debit/Credit Document Date: 28.05.2018
 Ref. 2

#	Item No.	Item Description	Whse	Unit of Measure	Quantity	Debit/Credit	In Stock	G/L Increase Acct	G/L Decrease Acct	Val. Method
1	123456	Product X	01				5,000	3086	3085	Serial/Batch
2										

Serial/Batch Number Filter

Filtered By: Display Issued Serials/Batches

Filter:

Find: Set value for selection:

Admission Date: From To

Expiry Date: From To

Serials/Batches

S/B No.	Admission Date	Expiration Date	Debit/Credit	Open Qty	Original Quantity	Total Cost
B123456	28.05.2018			5,000	5,000	50,00 EUR

Remarks:

Journal Remark: Inventory Revaluation

Add Cancel

Caution

When changing the valuation method to *Serial/Batch*, you will not be able to carry out any *Inventory Revaluations* for transactions under the previous valuation method.

You can revalue serial numbers/batches that existed before a valuation method change provided they have serial/batch valued transactions in the past. For example, an item had serial/batch valuation method, then changed to moving average, then changed again to serial/batch valuation method. In all three periods transactions exist. The batches/serial numbers created in the first period can be revalued in the third period. If the same batch/serial number is repeatedly used in all periods, transactions from the second (moving average) period have no effect on the batch/serial number's *Cumulative Cost*, *Cumulative Purchased Qty* and *Cumulative Purchased Amount*.

7 Updating Valuation Method to Serial/Batch for Selected Items

You can update the valuation method to serial/batch for a range of items managed by serial numbers or batches. This is possible even if transactions have involved the item you want to change the valuation method for, provided certain prerequisites are satisfied.

Prerequisites

- The *In Stock* quantity is zero, in all warehouses, for the items whose valuation method is to be changed.
- The item is not drawn into any inventory-related open documents, including:
 - Open *Deliveries* not copied to *Returns* or *Invoice*
 - Open *Sales Returns* not based on *Deliveries*
 - *Goods Receipt POs* not copied to *Goods Returns* or *Invoice*
 - Open *Goods Returns* not based on *Goods Receipt POs*
 - *Goods Returns* or *Sales Returns* not copied to a *Credit Note*

Note

The Inventory Valuation Method does not take into consideration open *Invoices*, *Credit Notes*, or *Production Orders*. This means that *Invoices* that have not been copied to *Credit Memos* or *Payments* are not considered to be open inventory documents because the main inventory relevant process was closed when the *Invoice* was created.

- The item is not issued or received by an *Issue for Production* or *Receipt from Production* linked to an open *Production Order*. The following query can be run to detect open *Production Orders*, where XXX represents the required *Item Code*:
 - `SELECT * FROM OWOR TO INNER JOIN IGN1 T1 ON T1."BaseEntry" = TO."DocEntry" AND T1."BaseType" = 202 WHERE TO."ItemCode" = ('XXX') AND TO."Status"= ('R');`
 - `SELECT * FROM OWOR TO INNER JOIN IGE1 T1 ON T1."BaseEntry" = TO."DocEntry" AND T1."BaseType" = 202 WHERE TO."ItemCode" = ('XXX') AND TO."Status"= ('R');`

Recommendation

Establish a new item with the required valuation method instead of changing valuation methods. Check with your accountant before changing an item's valuation method, changing an item valuation method can lead to accounting discrepancies.

Procedure

The valuation method can be changed in *Item Master Data*, or by the following steps.

1. From the SAP Business One *Main Menu*, choose *Inventory* → *Item Management* → *Inventory Valuation Method*.
2. In the *Item No. From... To* fields, define the range of items for which you want to update the valuation method to Serial/Batch.
3. In the *Default Valuation Method* field, select *Serial/Batch*.
4. Choose *OK*.
The *Update Valuation Method* window appears.
5. In the *Approved* column, all checkboxes are selected. If you want to exclude any of the items from the update, deselect the appropriate checkbox.
6. In the *New Method* column, select *Serial/Batch* for those items for which you want to update the valuation method.
7. Choose the *Update* button.



Caution

When changing the valuation method to *Serial/Batch*, you will not be able to carry out any *Inventory Revaluations* based on transactions under the previous valuation method.

8 Gross Profit and Production Cost Recalculation Wizards

The *Production Cost Recalculation Wizard* allows you to recalculate production costs while the *Gross Profit Recalculation Wizard* allows you to recalculate production costs, cost of goods sold, and profit, when you have implemented the serial/batch valuation method. The wizards identify where transactions have influenced cost or profit and interpret this through a recalculation, or revaluation, process. The wizards guide you through the process, find the relevant documents for your product items and provide descriptions of the various stages.

Items managed by the serial/batch valuation method can be produced or sold before final costs are known. Production costs and gross profit are determined by current costs, but costs can change over time. These changes can be managed through the wizards.

- Purchased serial/batch items might be sold before related costs are fully recorded and posted. Gross profit calculations need to be updated to reflect changed costs of items already sold.
- Produced serial/batch items might be made before item component costs are fully recorded and posted. Production cost calculations need to be updated to reflect changed costs.

The *Production Cost Recalculation Wizard* recalculates production costs using the current serial/batch component cost as a base. The *Gross Profit Recalculation Wizard* performs the same steps as the *Production Cost Recalculation Wizard* for production costs, the *Gross Profit Recalculation Wizard* also recalculates sales document cost of goods sold (COGS) and gross profit using the current serial/batch cost as a base.

8.1 Production Cost Recalculation Wizard

The *Production Cost Recalculation Wizard* allows you to recalculate item production costs based on updated component or bill of material costs, where the component makes up part of the item. The wizard identifies when costs have changed and interprets this through a revaluation process by *Inventory Revaluation* documents for production items.

Prerequisites

- The product item you want to recalculate costs for is managed by the serial/batch valuation method.
- At least one of the components that makes up the product is managed by the serial/batch valuation method.
- Any production order for the product item, that forms the basis of the receipt from production, is closed.
- The component cost has been impacted by a change in costs, therefore the wizard should be used.
- The product item is the parent item in an existing BOM of the production type.

Before running the *Production Cost Recalculation Wizard*, there needs to be a series of activities to establish initial production costs. Changes then need to occur to affect the established production cost. Only then will the *Production Cost Recalculation Wizard* be useful.

Access the *Production Cost Recalculation Wizard* by following the *Main Menu* in SAP Business One then choosing *Production* → *Production Cost Recalculation Wizard*. As with other wizards, the *Production Cost Recalculation Wizard* guides you through the process in a series of steps with accompanying explanations.

The following example with serial/batch valued items shows the various steps that would occur before needing the *Production Cost Recalculation Wizard* and then how the *Production Cost Recalculation Wizard* deals with the scenario.

Example

1. A production *Bill of Materials* is created for an *Item* named *Product*, specifying that two of a *Component* named *Component* make up the *Product*.
2. A *Goods Receipt PO (GRPO)* is created for the *Component*, where the quantity of the *Component* is 10 and the unit price is GBP 10, a related *Batch* named *CO1* is created showing a cost of GBP 10 per unit.
3. A *Production Order* is created and released for a planned quantity of 3 *Products* and so a planned quantity of 6 *Components*.
4. An *Issue for Production* is created to issue all 6 of the *Components* using *Batch CO1*.
5. A *Receipt from Production* is created for 3 of the *Products*, created under related *Batch P01* that shows a cost of GBP 20 per unit.
6. The *Production Order* from step 3 is closed. The *Production Order* must be closed, otherwise the wizard will not make any suggested changes.
7. An *A/R Invoice* is created for 1 *Product* from *Batch P01*, with a unit sales price of GBP 30.
 - This gives a gross profit of GBP 10, or 50%, for the *Product* that has a base price of GBP 20.
 - This step is not mandatory for the *Production Cost Recalculation Wizard* to make suggestions for cost recalculation. The *Gross Profit Recalculation Wizard* will make suggestions due to this step.
8. The *Goods Receipt PO* from step 2 is copied to create a *Landed Costs* document with a unit cost of GBP 5.
 - The unit cost of GBP 5 is applied to all 10 units of the *Component* that appeared in the original *Goods Receipt PO*.
 - The *Landed Costs* have an effect of increasing the cost of *Batch CO1* to GBP 15 per unit.
9. At this point, the *Production Cost Recalculation Wizard* is run to recalculate production costs resulting from the *Landed Costs*. The wizard guides you through the process of recalculation, in a series of different steps:
 - A new wizard run is chosen.
 - The *Product* is searched for and selected in the *Wizard Parameters* window.
 - The wizard finds the relevant documents for the *Product* in *Batch P01* under the *Production Order* created in step 3 and shows the document details on the *Recommendations* window. The wizard identifies that the component cost inputs for the *Product* in *Batch P01* have changed due to the *Landed Costs*.
 - The *Issue for Production* from step 4, shows a *Delta Cost* of GBP 30 for *Component*.
 - The *Receipt from Production* from step 5, shows a *Variance* of GBP 30 for *Product*.

- Costs for each *Component* are GBP 5 higher than before due to the *Landed Costs*. This translates into a cost increase of GBP 10 for each *Product*. As only 3 *Products* were in the *Production Order*, the total cost increase, variance, or delta, is USD 30.

Production Cost Recalculation Wizard

Recommendations
 In this step, you can select the documents in which the production cost needs to be adjusted to the current cost of the product components managed by the batch/serial valuation method. Material revaluation document of type debit/credit will be created for the batch/serial assigned to the selected receipt from production. Debit/credit amount will correspond to the value in "Total variance".

#	Product Code	Description	Batch/Serial No.	Batch/Serial Type	Production Order No.	Document No.	Posting Date	Doc. Row	Item No.	Item Description	Serial/Batch	Serial/Batch Type	Quantity	Cost	Total Cost	Calculated Cost	Total Calculated Cost	Delta Cost	Applied	Variance
1	Product	Product	P01	Batch																GBP 30.00
2																				GBP 30.00
3																				GBP 30.00
4																				GBP 30.00
5																				GBP 30.00
6																				GBP 30.00
7																				GBP 30.00
8																				GBP 30.00
9																				GBP 30.00

Expand All Collapse All

Cancel Back Next Finish

Quantity	Cost	Total Cost	Calculated Cost	Total Calculated Cost	Delta Cost	Applied	Variance
							GBP 30.00
							GBP 30.00
						GBP 0.00	GBP 30.00
		GBP 60.00		GBP 90.00			GBP 30.00
6	GBP 10.00	GBP 60.00	GBP 15.00	GBP 90.00	GBP 30.00		
3	GBP 20.00	GBP 60.00					GBP 30.00

- o The wizard generates a suggestion in the *Material Revaluation Details* window based on the changes in cost for the *Receipt from Production*:
 - The suggestion is to apply a GBP 30 journal entry for the *Product* in *Batch PO1* by posting to the relevant accounts.

Document	Item or Component	Item Quantity	Unit Price	Batch	Batch Quantity	Accumulated Value	Accumulated Quantity	Unit Cost
A/R Invoice	<i>Product</i>	1	30	P01	3	60	3	20
Landed Costs	<i>Component</i>	10	15	C01	10	150	10	15
MRV by Wizard	<i>Product</i>	3	-	P01	3	90	3	30

The *Inventory Revaluation* document for the *Product* created by the wizard can be viewed, the *Remarks* state *Production Cost Recalculation Wizard*. The *Batch Details* for *Batch P01* show that *Cost* has changed to GBP 30.

8.2 Gross Profit Recalculation Wizard

The *Gross Profit Recalculation Wizard* allows you to recalculate the cost of goods sold and the gross profit of items based on updated costs, where items are managed by the serial/batch valuation method. The wizard identifies when costs and profit for sales documents have changed and interprets this through a revaluation by journal entries and updating gross profit for marketing documents.

The *Gross Profit Recalculation Wizard* performs the same steps as the *Production Cost Recalculation Wizard* for production costs or bill of material costs. Gross profit and cost of goods sold are also updated for sales documents, reflecting updated costs.

Prerequisites

- The product item you want to recalculate costs and profit for is managed by the serial/batch valuation method. The item can be produced according to a bill of materials or can be a standard purchased item.
- The *Calculate Gross Profit* setting must be selected (follow path *Main Menu* → *Modules* tab → *Administration* → *System Initialization* → *Document Settings* → *General* tab) and the *Base Price Origin* must be selected as *Item Cost*.
- In A/R sales documents *Gross Profit* settings, the *Base Price By* setting must be *Item Cost*.
- The same prerequisites as for the *Production Cost Recalculation Wizard* apply for production costs.
 - Any production order for the product item, that forms the basis of the receipt from production, is closed.
- The costs and profit have been impacted by a change, therefore the wizard should be used.

Before running the *Gross Profit Recalculation Wizard*, there needs to be a series of activities to establish initial production costs and gross profit. Changes then need to occur to affect the established production cost and gross profit. Only then will the *Gross Profit Recalculation Wizard* be useful.

Access the *Gross Profit Recalculation Wizard* by following the *Main Menu* in SAP Business One then choosing *Sales - A/R* → *Gross Profit Recalculation Wizard*.

Example

Following on from the example in section 8.1 *Production Cost Recalculation Wizard*, the *Gross Profit Recalculation Wizard* can be run to recalculate gross profit and cost of goods sold, specifically for the *A/R Invoice* in step 7.

As the *Gross Profit Recalculation Wizard* performs the same steps as the *Production Cost Recalculation Wizard*, those steps already performed by the *Production Cost Recalculation Wizard* do not need to be repeated.

10. The *Gross Profit Recalculation Wizard* is run to recalculate gross profit. The wizard guides you through the process of recalculation, in a series of different steps:
 - o A new wizard run is chosen.
 - o *Product* is searched for and selected in the *Wizard Parameters* window.
 - o The wizard finds the relevant sales documents for the *Product* in the *Sales Document Selection* window. Documents are found where the base price used to calculate gross profit differs from the current serial/batch cost. Documents can be selected for inclusion in the recalculation process through the check-box at line level.
 - The *A/R Invoice* from step 7 with a *COGS Amount* of GBP 20, *Sales Price* of GBP 30 and *Gross Profit* of GBP 10 is found by the wizard.

#	Item No.	Description	Serial/Batch	Serial/Batch Type	Posting Date	Document	Doc. Row	Whse	Quantity	COGS Account	COGS Amount	Sales Price	Sales Amount	Gross Profit	Gross Profit %
1	<input checked="" type="checkbox"/>	Product			13.11.17	IN 358	1	01	-1	500005	GBP -20.00	GBP 30.00	GBP 30.00	GBP 10.00	50.00
2	<input checked="" type="checkbox"/>		P01	Batch					-1		GBP -20.00	GBP 30.00	GBP 30.00	GBP 10.00	50.00
3	<input type="checkbox"/>														

- o As the production costs were already calculated by the *Production Cost Recalculation Wizard*, no details show in the *Recalculation of Product Cost* window.
- o The *Recommendations* window shows the cost of goods sold (COGS) and gross profit calculations for the original sales document as well as updated, current COGS and current gross profit calculations. Proceeding with the recommendations implements the calculations based on current costs.
 - The recommendation is to apply a GBP 10 increase to COGS for *Product* and reduce gross profit to GBP 0.

Gross Profit Recalculation Wizard

Recommendations
In this step, you can view the recalculation results. Only documents that were selected in the "Sales Documents Selection" step will be included.

#	No.	Description	Serial/Batch	Serial/Batch Type	Posting Date	Document	Doc. Role	Whse	Quantity	COGS Account	COGS Amount	Sales Price	Sales Amount	Gross Profit	Gross Profit %	Current Serial/Batch Cost	COGS by Current Cost	Gross Profit by Current Cost	Gross Profit % by Current Cost	COGS Variance
1		Product	Product		13.11.17	SN 308	1	01	-1	800006	GBP -30.00	GBP 30.00	GBP 30.00	GBP 10.00	50.00	GBP 30.00	GBP -30.00	GBP 0.00	0.00	GBP -10.00
2											GBP -30.00	GBP 30.00	GBP 30.00	GBP 10.00	50.00	GBP 30.00	GBP -30.00	GBP 0.00	0.00	GBP -10.00
3											GBP -30.00	GBP 30.00	GBP 30.00	GBP 10.00	50.00	GBP 30.00	GBP -30.00	GBP 0.00	0.00	GBP -10.00

**Old Gross Profit =
Sales Price – Cost**
30-20=10

**New Gross Profit =
Sales Price – Cost**
30-30=0

Sales Price	Sales Amount	Gross Profit	Gross Profit %	Current Serial/Batch Cost	COGS by Current Cost	Gross Profit by Current Cost	Gross Profit % by
GBP 30.00	GBP 30.00	GBP 10.00	50.00		GBP -30.00	GBP 0.00	
GBP 30.00	GBP 30.00	GBP 10.00	50.00	GBP 30.00	GBP -30.00	GBP 0.00	

**Old Gross Profit =
Sales Price – Cost**
30-20=10

**New Gross Profit =
Sales Price – Cost**
30-30=0

- o As the material revaluation was already completed by the *Production Cost Recalculation Wizard*, no details show in the *Material Revaluation Details* window.
- o The wizard shows where and which journal entries will be made to reflect the change in COGS and adjust the gross profit calculation for the sales document. Choosing the *Automatic Posting* check-box (in step 7 of the wizard - Journal Entry Details) will implement the updated values.
 - The *COGS Account* is debited by GBP 10 (1 item multiplied by GBP 10).
 - The *Price Difference Account* is credited by GBP 10 (1 item multiplied by GBP 10).
 - The *Base Price* for the *Gross Profit of Outgoing Invoice* is updated to GBP 30.
 - The *Gross Profit* for the *Gross Profit of Outgoing Invoice* is updated to GBP 0.

9 Calculating Costs for Goods Receipt PO Priced at Zero

Under the serial/batch valuation method, the following example demonstrates what results should be expected for a *Goods Receipt PO* priced at zero.

Example

1. Create an item "BV" managed by batch on every transaction and with serial/batch valuation. Do not block multiple receipts for the same batch.
2. Create a *Goods Receipt PO* for batch "X01" of item BV for quantity of 10 and price 10. The cost calculation can be observed in the *Batches and Serials Inventory Audit Report* as follows:
 - o Receipt value (*Trans. Value*) = 100.
 - o Total receipt value (*Cumulative Purchased Amount*) = 100.
 - o Total receipt quantity (*Cumulative Purchased Qty*) = 10.
 - o New cost per unit (*Cumulative Cost*) = 10.
3. Create a *Goods Issue* for BV for a quantity of 5 for batch X01. The same cost of 10, as in step 2, is applied.
4. Create a *Goods Receipt PO* for batch X01 of item BV for quantity of 10 and price 0. The cost calculation can be observed in the *Batches and Serials Inventory Audit Report* as follows:
 - o Receipt value (*Trans. Value*) = 25.
 - o Total receipt value (*Cumulative Purchased Amount*) = 100.
 - o Total receipt quantity (*Cumulative Purchased Qty*) = 20.
 - o New cost per unit (*Cumulative Cost*) = 5.

The batch cost price per unit (5) calculated in step 4 will not be used in the goods receipt PO created in step 4, but will be used in the next issuing transaction.

The cost calculation in step 4 for the goods receipt PO with zero price uses the following method, using the terms from the *Batches and Serials Inventory Audit Report* as below:

- First calculate the new *Cumulative Cost* as the new *Cumulative Purchased Amount* divided by the new *Cumulative Purchased Qty*: $100 / 20 = 5$
- Then calculate the new *Cumulative Value* as the new *Cumulative Cost* multiplied by the new *Cumulative Qty*: $5 * 15 = 75$
- The difference between the new and previous *Cumulative Value* is the *Transaction Value* posted to the inventory account: $75 - 50 = 25$
- The amount posted to the price difference account is the difference between the line total from the receipt document and the *Transaction Value*: $0 - 25 = -25$

- The amount posted to the price difference account can also be calculated as cost change multiplied by cumulative issued quantity of the batch: $-25 = -5 * 5$
- Cost change equals the new *Cumulative Cost* after the receipt minus the old *Cumulative Cost* before the receipt: $5 - 10 = -5$

Batches and Serials Inventory Audit Report

Date From: Date To: Items: BV - BV
 Currency: EUR Warehouses: All
 Report View: Hierarchical

#	Item No.	Serial/Batch No.	Serial/Batch	Current Serial/Batch Cost	Whse	System Date	Document	Quantity	Cost	Trans. Value	Cumulative Qty	Cumulative Value	Cumulative Purchased Qty	Cumulative Purchased Amount	Cumulative Cost
	BV														
		X01	Batch	5,00											
						01 07.06.18	PD 135	10,000	10,00	100,00	10,000	100,00	10,000	100,00	10,00
						01 07.06.18	SO 6	5,000	10,00	-50,00	5,000	50,00	10,000	100,00	10,00
						01 07.06.18	PD 136	10,000	2,50	25,00	15,000	75,00	20,000	100,00	5,00

OK Expand Collapse

10 Examples of Cost Calculation and Postings for Items with Serial/Batch Valuation Method

As a precondition for all examples, the option *Block Multiple Receipts for Same Batch* is not selected in *Item Master Data*.

10.1 Purchasing Documents

Goods Receipt PO (GRPO)

Example 1 - A newly received quantity for the same batch number with a price that is different from the current cost triggers a cost recalculation.

Batch1 (B1)	Qty	Price	Total	Cost Price per Unit	JE Debit	JE Credit	Batch Value Balance
GRPO1-B1	10	10	100	10	Inventory 100	Allocation 100	100
GRPO2-B1	10	30	300	20*	Inventory 300	Allocation 300	400
Delivery1-B1	-5	Not relevant		20	COGS 100	Inventory 100	300
GRPO3- B1	5	50	250	26**	Inventory 220 Price Diff. 30	Allocation 250	520

* Total receipts value (100+300) / Total receipts quantity (10+10) = **20**

** Total receipts value (100+300+250) / Total receipts quantity (10+10+5) = **26**

Example 2 - The cost of a serial number item is set by the price in the receipt to stock.

Serial S100	Qty	Price	Qty Balance	Cost	JE Debit	JE Credit
GRPO1	1	10	1	10	Inventory 10	Allocation 10
Delivery1	-1	-	0	10	COGS 10	Inventory 10
GRPO2	1	13	1	13	Inventory 13	Allocation 13

Serial S100	Qty	Price	Qty Balance	Cost	JE Debit	JE Credit
Delivery2	-1	-	0	13	COGS 13	Inventory 13

Goods Return or Cancellation of GRPO

Example 1 - After issuing a based goods return or a cancellation of a GRPO, the current cost is recalculated. If the system identifies that all purchased quantities has been returned, the batch cost is set to zero.

Scenario 1 - Some batch items have been returned

Batch1	Qty	Price	Total	Cost per Unit	JE Debit	JE Credit	Batch Value Balance
GRPO1	10	10	10	10 (100/10)	Inventory 100	Allocation 100	100
A/R Delivery1	-4			10	COGS 40	Inventory 40	60
A/R Return Based on Delivery1	1			10	Inventory 10	COGS 10	70
Goods Return based on GRPO1	-2			10	Allocation 20	Inventory 20	50

Scenario 2 - All batch items have been returned and the current cost is set to zero

Batch1	Qty	Price	Total	Cost per Unit	JE Debit	JE Credit	Batch Value Balance
GRPO1	10	10	100	10 (100/10)	Inventory 100	Allocation 100	100
A/R Delivery1	-4			10	COSG 40	Inventory 40	60
A/R Return1 Based on Delivery1	4			10	Inventory 40	COGS 40	100
Goods Return based on or Cancellation of GRPO1	-10			10	Allocation 100	Inventory 100	0*

Batch1	Qty	Price	Total	Cost per Unit	JE Debit	JE Credit	Batch Value Balance
A/R Return	10	Return price not set		0	0	0	0

* The current cost is set to zero because all the purchased quantity has been returned. The next A/R return is posted with zero cost because it does not have a set return price and the system uses the current cost.

Example 2 - Based goods return when the current cost is different to the one in the base document.

Batch1	Qty	Price	Total	Cost per Unit	JE Debit	JE Credit	Batch Value Balance
GRPO1	10	10	100	10 (100/10)	Inventory 100	Allocation 100	100
A/R Delivery	-4			10	COGS 40	Inventory 40	60
Non-Based A/R Return	4	Return cost set to 13.5		11 (100+13.5*4)/14	Inventory 50 Price Diff. 4	COGS 54	110
Goods Return Based on GRPO1	-2		20	11 (100+54-2*11)/(10+4-2)	Allocation 20 Price Diff. 2	Inventory 22	88

Due to the need to balance the allocation amount (20) and the inventory amount (22), the amount 2 is posted to the price difference account.

Example 3 - Non-based goods return when the current cost is different from the one in the GRPO document

Batch1	Qty	Price	Total	Cost per Unit	JE Debit	JE Credit	Batch Value Balance
GRPO1	10	10	100	10 (100/10)	Inventory 100	Allocation 100	100
A/R Delivery	-4			10	COGS 40	Inventory 40	60
Non-Based A/R Return	4	Return cost set to 13.5		11 (100+13.5*4)/14	Inventory 50 Price Diff. 4	COGS 54	110
Non-Based Goods Return	-2		20	11 (100+54-2*11)/(10+4-2)	Allocation 22	Inventory 22	88

The price in the goods return is ignored and there is **no posting to the price difference account**.

10.2 Sales Documents

A/R Return and A/R Credit Memo

Example 1 - Non-based A/R return without a set return cost does not influence the current cost calculation.

Batch1	Qty	Price	Total	Cost per Unit	JE Debit	JE Credit	Batch Value Balance
GRPO1	10	10	100	10 (100/10)	Inventory 100	Allocation 100	100
A/R Delivery	-4			10	COSG 40	Inventory 40	60
A/R Delivery Cancellation	4			10	Inventory 40	COGS 40	100
Goods Return	-10	10		10	Allocation 100	Inventory 100	0*
A/R Return	1	Return cost not set		0**	Inventory 0	COGS 0	0

*The batch has been returned, the current cost is set to zero.

**The system uses the current cost which in this case is zero.

Example 2 - Non-based A/R return with a set return cost influences cost calculation.

Batch1	Qty	Price	Total	Cost per Unit	JE Debit	JE Credit	Batch Value Balance
GRPO1	10	10	100	10 (100/10)	Inventory 100	Allocation 100	100
A/R Delivery	-4			10	COGS 40	Inventory 40	60
A/R Delivery Cancellation	4			10	Inventory 40	COGS 40	100
Goods Return	-10	10		10	Allocation 100	Inventory 100	0
A/R Return	1	Return cost not set		0	Inventory 0	COGS 0	0
Non-Based A/R Return or A/R Credit Memo or A/R Correction Invoice	1	15 Return cost set		7.5	Inventory 15	COGS 15	15

Example 4 - A cancellation of a non-based A/R return is considered as a purchasing cancellation or purchase return.

Batch1	Qty	Price	Unit Cost (Accum. Value / Accum. Qty)	Accum. Qty*	Accum. Value **	Accum. Out Qty ***	Price Diff · Amt *** *	JE Debit	JE Credit	Qty Bal.	Batch Value Bal.
GRPO1	10	10	10	10	100	0	-	Inventory 100	Allocation 100	10	100
A/R Delivery 1	-10		10	10	100	10	-	COGS 100	Inventory 100	0	0
Non- Based A/R Return1	3		10 (10*10+3*10)/(10+3)	13	130	10		Inventory 30	COGS 30	3	30
GRPO2	2	25	12 (10*10+3*10+2*25)/ (10+3+2)	15	180	10	20	Inventory 30 Price Diff. 20	Allocation 50	5	60
Cancellation of A/R Return1	-3		12	12	144 (100+30 +50-36)	10	6	COGS 30 Price Diff. 6	Inventory 36	2	24

*Purchased quantity

**Based on purchases and purchase cancellations

***Based on sold quantity and based returns

**** Accumulated Out Qty * Delta Unit Cost

Example 6 - A/R credit memo or A/R return (based or non-based) after a serial number item has been issued uses the current cost of the serial number item.

Serial S100	Qty	Price	Qty Balance	Cost	JE Debit	JE Credit
GRPO1	1	10	1	10	Inventory 10	Allocation 10
Delivery1	-1	-	0	10	COGS 10	Inventory 10

Serial S100	Qty	Price	Qty Balance	Cost	JE Debit	JE Credit
A/R Credit Memo or A/R Return (Based on Delivery1 or Non-based and the Return Cost Not Set in A/R Return)	1	-	1	10	Inventory 10	Allocation 10

A/P Invoice

Example 1 - A based A/P invoice with a price change influences the current cost calculation.

Batch1	Qty	Price	Total	Cost per Unit	JE Debit	JE Credit	Batch Value Balance
GRPO1	10	10	100	10 (100/10)	Inventory 100	Allocation 100	100
A/R Delivery1	-3	10	-30	10	COGS 30	Inventory 30	70
A/P Invoice Based on GRPO1	8	15	40	14 ((100+40)/10)	Allocation 80 Inventory 28 Price Diff. 12	BP 120	98

Example 2 - Price change in A/P invoice when there is zero batch quantity

Batch1	Qty	Price	Total	Cost per Unit	JE Debit	JE Credit	Batch Value Balance
GRPO1-B1	1	10	10	10	Inventory 10	Allocation 10	10
Delivery-B1	-1	-	-10	10	COGS 10	Inventory 10	0
A/P Invoice Based on GRPO1-B1	-	-	2	12	Allocation 10 Inventory 0 Price Diff. 2	BP 12	0

Landed Costs

Example 1 - Landed costs value influences the current cost calculation.

Batch1	Qty	Price	Total	Cost per Unit	JE Debit	JE Credit	Batch Value Balance
GRPO1	10	10	100	10 (100/10)	Inventory 100	Allocation 100	100
A/R Delivery1	-3	10	-30	10	COGS 30	Inventory 30	70
A/P Invoice Based on GRPO1	8	15	40	14 ((100+40)/10)	Allocation 80 Inventory 28 Price Diff. 12	BP 120	98
Delivery2	-3	Not relevant		14	COGS 42	Inventory 42	56
Landed Costs for GRPO1		-	20	16 (100+40+20)/10	Inventory 8 Price Diff. 12	Allocation 20	64

10.3 Production Documents

Issue from Production

Example 1 - An issue from production based on a disassembly order is considered as purchase cancellation.

Batch1	Qty	Price	Unit Cost (Accum. Value / Accum. Qty)	Accum. Qty *	Accum. Value **	Accum. Out Qty ***	Price Diff. Amt ****	JE Debit	JE Credit	Qty Bal.	Batch Value Bal.
Production Order of Standard or Special Type	2		0	0	0	0	-	0	0	0	0
Components are issued for production			Total components cost is 1000								
Receipt from Production No. 1	2		500	2	1000	0	-	Inventory 1000	COGS 1000	2	1000
A/R Delivery1	-2		500	2	1000	2	-	COGS 1000	Inventory 1000	0	0

Batch1	Qty	Price	Unit Cost (Accum. Value / Accum. Qty)	Accum. Qty *	Accum. Value **	Accum. Out Qty ***	Price Diff. Amt ****	JE Debit	JE Credit	Qty Bal.	Batch Value Bal.
A/R Return1 Based on Delivery1	2		500	2	1000	0	-	Inventory 1000	COGS 1000	2	1000
Production Order No. 2 of Disassembly Type	2		500	2	1000	0	-	0	0	0	1000
Issue from Production No. 4 (Disassembly Order No. 2)	-2		500	0	0	0	-	Inventory WIP Account 1000	Inventory 1000	2	0
Non-Based A/R Return	1		0	1	0	0	-	Inventory 0	COGS 0	1	0

*Purchased quantity

**Based on purchases and purchase cancellations

***Based on sold quantity and based returns

**** Accumulated Out Qty * Delta Unit Cost

Example 2 - An issue from production based on a disassembly order is considered as purchase cancellation even if the production BOM was not received from a receipt from production (for example, the product BOM was received from A/R / A/P / Inventory).

The system uses the current cost, which in this case is zero.

Batch1	Qty	Price	Unit Cost (Accum. Value / Accum. Qty)	Accum. Qty *	Accum. Value **	Accum. Out Qty ***	Price Diff. Amt ****	JE Debit	JE Credit	Qty Bal.	Batch Value Bal.
GRPO1	2	500	500	2	1000	0	-	Inventory 1000	Allocation 1000	2	1000
A/R Delivery1	-2		500	2	1000	2	-	COGS 1000	Inventory 1000	0	0
A/R Return1 Based on Delivery1	2		500	2	1000	0	-	Inventory 1000	COGS 1000	2	1000
Production Order No. 2 of Disassembly Type	2		500	2	1000	0	-	0	0	0	1000
Issue from Production No. 4 (Disassembly Order No. 2)	-2		500	0	0	0	-	Inventory WIP Account 1000	Inventory 1000	2	0
Non-Based A/R Return	1		0	1	0	0	-	Inventory 0	COGS 0	1	0
Issue from Production No. 4 (Disassembly Order No. 2)	-2		500	0	0	0	-	Inventory WIP Account 1000	Inventory 1000	2	0
Non-Based A/R Return	1		0	1	0	0	-	Inventory 0	COGS 0	1	0

*Purchased quantity

**Based on purchases and purchase cancellations

***Based on sold quantity and based returns

****Accumulated Out Qty * Delta Unit Cost

Example 3 - Batch1 is received back to stock after it was issued in an issue for production based on a disassembly order.

Batch1	Qty	Price	Unit Cost (Accum. Value / Accum. Qty)	Accum. Qty *	Accum. Value **	Accum. Out Qty ***	Price Diff. Amt ****	JE Debit	JE Credit	Qty Bal.	Batch Value Bal.
Production Order of Standard or Special Type	2		0	0	0	0	-	-	-	-	0
Components are issued for production				Total components cost is 1000.							
Receipt from Production No.1	2		500	2	1000	0		Inven tory 1000	Invento ry WIP Acc. 1000	2	1000
A/R Delivery1	-2		500	2	1000	2	-	COG S 1000	Invento ry 1000	0	0
A/R Return1 Based on Delivery1	2		500	2	1000	0	-	Inven tory 1000	COGS 1000	2	1000
Production Order No.2 of Disassembly Type	2		500	2	1000	0	-	-	-	0	0
Issue from Production No. 4 (Disassembly Order No. 2)	-2		500	0	0	0	-	Inven tory WIP Acco unt 1000	Invento ry 1000	2	0
Production Order of Standard / Special Type	2		0	0	0	0	-	0	0	0	0
Components are issued for production				Total components cost is 1200							
Receipt from Production No.5 Receives Batch1	2		600	2	1200	2	-	Inven tory 1200	Invento ry WIP Acc. 1200	2	1200
A/R Delivery1	-2		600	2	1200	2	-	COG S 1200	Invento ry 1200	0	0

*Purchased quantity, **Based on purchases and purchase cancellations, ***Based on sold quantity and based returns, **** Accumulated Out Qty * Delta Unit Cost.

10.4 Inventory Revaluation

Inventory Revaluation by Debit/Credit

Example 1 - An inventory revaluation is carried out for a goods receipt purchase order, Item1 in Batch1.

Batch1	Qty	Price	Unit Cost	Total Value	JE Debit	JE Credit	Batch Qty Bal.	Batch Value Bal.
GRPO	20	12	12	240	Inventory 240	Allocation 240	20	240
Inventory Revaluation	10	4	14	40 = (10*4)	Inventory 40	G/L Increase 40	20	280

Inventory Revaluation by Price Change, Following Delivery

Example 1 - An inventory revaluation is carried out for an established item, Item1 in Batch1, following a goods receipt purchase order (GRPO) and a delivery.

Batch1	Qty	Price	Unit Cost	Total Value	JE Debit	JE Credit	Batch Qty Bal.*	Batch Value Bal.*
GRPO	10	10	10	100	Inventory 100	Allocation 100	10	100
Delivery	-2	-	10	-20	COGS 20	Inventory 20	8	80
Inventory Revaluation by Price Change	-	12	12	20 = (12-10)*10	Inventory 16 Price Diff. 4	G/L Increase 20	8	96

*On hand items in inventory for batch

10.5 Rounding Costs for Batch Deliveries

Deliveries Are Affected by Rounding, Giving Uneven Outbound Costs

Example - Rounding balance checks mean that previous transactions impact subsequent transactions. Amount rounding is to 2 decimal places except for in monetary figures like Av. Cost (Average Cost). A goods receipt purchase order (GRPO) of quantity 9 at a total cost of 334.66 cannot be evenly divided by unit, the average cost is 37.184 recurring. However, due to ongoing balance checks, the outbound cost varies by more than 0.01.

Delivery 2 has an outbound cost of 37.20, delivery 3 has an outbound cost of 37.17, all the other deliveries have outbound costs of 37.18 or 37.19. This is caused by rounding and the balance check.

For Delivery 2:

*Trans. Value (Transaction Value) = *previous row values* ((Balance / On Hand Qty) - Balance Check)) rounded to 2 decimal places. Trans Value = ((297.48 / 8) - -0.01) = 37.195. 37.195 rounded to 2 decimal places = 37.20.

**The Balance Check field from the above calculations appears on the row for Delivery 1. Balance Check = *same row values* rounded to 2 decimal places ((Acc. Total / Acc. Qty) * (Acc. Qty. - Acc. Neg. Qty.) - Balance). Balance Check = ((520.58 / 14) * (14 - 6)) - 297.48) = -0.00571. -0.00571 rounded to 2 decimal places = -0.01.

Doc.	Out Qty	In Qty	Trans. Value	Inv. Value	Batch Value	Balance	Acc. Total	Acc. Qty.	Acc. Neg. Qty.	On Hand Qty.	Av. Cost	Balance Check
GRPO 1		9	334.66	334.66	334.66	334.66	334.66	9	0	9	37.184	0
GRPO 2		10	371.84	371.84	371.84	706.50	706.50	19	0	19	37.184211	0
Inventory Transfer Out	5		-185.92	0	185.92	706.50	706.50	19	0	19	37.184211	0
Inventory Transfer In		5	185.92	0	185.92	706.50	706.50	19	0	19	37.184211	0
Goods Return	5		-185.92	-185.92	185.92	520.58	520.58	14	0	14	37.184286	0

Doc.	Out Qty	In Qty	Trans. Value	Inv. Value	Batch Value	Balance	Acc. Total	Acc. Qty.	Acc. Neg. Qty.	On Hand Qty.	Av. Cost	Balance Check
Goods Issue	5		- 185.92	- 185.92	185.92	334.66	520.58	14	5	9	37.184286	0
Delivery 1	1		- 37.18	- 37.18	37.18	297.48	520.58	14	6	8	37.184286	** -0.01
Delivery 2	1		*- 37.20	- 37.20	37.20	260.28	520.58	14	7	7	37.184286	0.01
Delivery 3	1		- 37.17	- 37.17	37.17	223.11	520.58	14	8	6	37.184286	0
Delivery 4	1		- 37.19	- 37.19	37.19	185.92	520.58	14	9	5	37.184286	0
Delivery 5	1		- 37.18	- 37.18	37.18	148.74	520.58	14	10	4	37.184286	0
Delivery 6	1		- 37.19	- 37.19	37.19	111.55	520.58	14	11	3	37.184286	0
Delivery 7	1		- 37.18	- 37.18	37.18	74.37	520.58	14	12	2	37.184286	0
Delivery 8	1		- 37.19	- 37.19	37.19	37.18	520.58	14	13	1	37.184286	0
Delivery 9	1		- 37.18	- 37.18	37.18	0	520.58	14	14	0	37.184286	0

11 Generating Batches and Serials Inventory Audit Reports

Use the *Batches and Serials Inventory Audit Report* to show more information about items managed by the serial/batch valuation method. The *Batches and Serials Inventory Audit Report* allows you to search by serial or batch as well as other criteria to show the impact of changes in inventory. The *Batches and Serials Inventory Audit Report* shows useful information related to costs, quantities and documents by serial/batch. It does not display any data related to transactions created while items were managed by other valuation methods.

The standard *Inventory Audit Report* displays results by item only, it does not display results by serial numbers or batches. The advantage of the *Batches and Serials Inventory Audit Report* is the ability to show serial/batch information.

Procedure

Note

The procedure for generating a *Batches and Serials Inventory Audit Report* is similar to generating an *Inventory Audit Report* but with some important differences. Only the steps relevant to the *Batches and Serials Inventory Audit Report* are described in detail here.

1. From the SAP Business One *Main Menu*, choose *Inventory* → *Inventory Reports* → *Batches and Serials Inventory Audit Report*.
The *Batches and Serials Inventory Audit Report - Selection Criteria* window appears.
2. From the drop-down list of the *From... To* field, define the date range which you want to be considered:
 - *Posting Date*
 - *System Date*In the *Items* section, define the criteria pertaining to the selection of items.
3. In the *Batches* section, in the *Batch Number From... To* fields, define the range of the batch numbers which you want to include in the report.
Define further criteria for batches, through the *Batch Attribute 1 From... To* and *Batch Attribute 2 From... To* fields.
4. In the *Serials* section, define the range of the serial numbers you want to include in the report through the following fields:
 - *System No.*
 - *Lot Number*
 - *Mfr. Serial No.*
 - *Serial Number*
5. In the *Warehouses* table, select the line checkbox of the warehouse you want to include in the report.

6. To display open balances for batches or serial numbers with no transaction, select the *Display OB for Batches/Serials with No Transactions* checkbox.

If an item has no transactions within the selected date range but has open transactions from previous periods, the total of these transactions is presented as an open balance for the item.

To hide batches and serial numbers with zero cumulative quantity, select the *Hide Batches/Serials with Cumulative Quantity Zero* checkbox.

7. In the *Report View* field, from the drop-down list, select one of the following options:
 - o *List*
 - o *Hierarchical*

8. Choose *OK*.

The *Batches and Serials Inventory Audit Report* window appears. Use the *Expand* button for a detailed view of the report.

Result

In addition to self-explanatory fields, the *Batches and Serials Inventory Audit Report* contains the following information:

- o *Current Serial/Batch Cost* - cost calculated at serial/batch level.
- o *Cumulative Qty* - the on-hand quantity in inventory,
- o *Cumulative Value* - the on-hand value in inventory.
- o *Cumulative Purchased Qty* - the running total number of physical items purchased for the batch, minus any returned quantity.
- o *Cumulative Purchased Amount* - the running total amount of purchases in monetary terms for the batch, minus any returned amount.
- o *Cumulative Cost* - shows a calculated number, dividing *Cumulative Purchased Amount* by *Cumulative Purchased Qty*. This is the cost set in serial/batch details after the posting of transactions. This is the same as the cost that will be used in the next stock release.

A *Cost* field is hidden from view as standard, however the field remains on the transaction line with selection possible in form settings. The *Cost* field represents cost at a transaction level by using transactional values and quantities. It therefore does not represent the cost that will be used for the next stock release.

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