Understand Inventory Replenishment Processing

During EOD processing, inventory replenishment processing occurs first for warehouses that have replenishment warehouses. Then it is done for warehouses that replenish other warehouses.

During on-demand replenishment processing, replenishment processing occurs for a selected warehouse only; only products that meet the selected on-demand criteria (vendor, product class, product type, ABC code, and miscellaneous sort code) are considered for inventory replenishment.

Also note that during replenishment processing, the system processes products that supersede other products last—after all other products have been processed.

Inventory is replenished only in warehouses that carry sellable inventory—not in warehouses that carry core, warranty, or scrap inventory.

(A) Determine whether a product should be considered for inventory replenishment processing

Is the product superseded by another product? — No

Vision Configuration tab, System Configuration screen, Warehouse folder, Main subfolder

Yes

Is the warehouse a replenishment whse? (Is it listed as a repl whse for any whse?) — Yes

This product will not be considered for inventory replenishment processing.

Product Management tab, Main screen

No

Is the product flagged as discontinued and does it have any reorder points? — No

Purchasing tab, Purchasing Schedule screen

Does the product fit the purchasing schedule (vendor, product class, product type) for the current day? — Yes

Yes

This product will not be considered for inventory replenishment processing.

No

Return to (A) Determine whether a product should be considered for replenishment processing

Go to (B) Determine the product's current availability

(B) Determine the product's current availability

Product Management tab, Main screen

Is the product a stock product?

No → Calculate the reorder quantity if the product is a non-stock or special product:

$$\text{Reorder Qty} = \text{Backorder Qty} - \text{On-Order Qty}$$

Return to (A) Determine whether next product should be considered for replenishment processing

Yes ↓

Calculate the availability of the product:

$$\text{Available Qty} = \text{On-Hand Qty} - \text{Backorder Qty} - \text{In-Pick Qty}$$

Does this product supersede only 1 product & are the products inter-changeable?

No → **Is this product superseded by another product?**

No →

Yes ↓

Is the warehouse replenished by another whse?

No →

Vision Configuration tab, System Configuration screen, Warehouse folder, Main subfolder

Yes ↓

Yes ↓ (from supersede question)

Add availability of superseded product to available qty previously calculated.

Does the replenishment warehouse have availability?

No → If the superseding product does *not* currently have reorder points:

(1) Copy the reorder points from the original product (the one being superseded) to the superseding product.

(2) Clear the reorder points of the original product and mark it as temporary and discontinued.

If the superseding product *does* currently have reorder points:

(1) Clear the reorder points of the original product and mark it as temporary and discontinued.

Yes →

Go to (C) Adjust current availability if excess inventory is considered

(C) Adjust current availability if excess inventory is considered

No—It is being performed during EOD.

Is the stock replenishment being run on demand?

Yes

Should excess inventory be considered?

No

Vision Configuration tab, System Configuration screen, Warehouse folder, Main subfolder

Yes

Does the warehouse replenish other warehouses?

No

Yes

Subtract needed quantity from available quantity previously calculated for the replenishment warehouse.

Yes

Does this warehouse need to order additional quantity so it can replenish warehouses?

No

Is there excess inventory in warehouses that this warehouse re-plenishes?

No

A product's product class: Product Management tab, Main screen

Yes

Prohibit excess transfers: Vision Configuration tab, System Configuration screen, Product Information folder, Product Class subfolder

Add excess quantity to available quantity previously calculated for the replenishment warehouse.

No

Does the product class prohibit excess transfers?

Yes

Go to (D) Calculate the recommended order amount

(D) Calculate the recommended order amount

Is available qty < 0 — Yes →

Use the absolute value of the available quantity to recalculate the EOQ:

$$\text{New EOQ} = \text{EOQ} + \left| \begin{array}{c} \text{Available} \\ \text{Qty} \end{array} \right|$$

Product Management tab, Main screen

No ↓

Is EOQ = 0? — Yes →

Is available qty < linepoint and linepoint > 0? — Yes →

Calculate the recommended order amount:

$$\begin{array}{c} \text{Order} \\ \text{Qty} \end{array} = \text{Linepoint} - \begin{array}{c} \text{Available} \\ \text{Qty} \end{array}$$

Product Management tab, Main screen

No ↓ (Is EOQ = 0?)

No ↓ (Is available qty < linepoint...)

Is available qty < reorder point and reorder point > 0? — Yes →

Calculate the recommended order amount:

$$\begin{array}{c} \text{Order} \\ \text{Qty} \end{array} = \begin{array}{c} \text{Reorder} \\ \text{Point} \end{array} - \begin{array}{c} \text{Available} \\ \text{Qty} \end{array}$$

No ↓

Order Qty = 0

Go to (E) Perform calculations to buy ahead of price increase.

Is available qty ≤ safety stock qty and safety stock qty > 0?

Yes → Calculate the recommended order amount:

$$\text{Order Qty} = EOQ + \frac{\text{Linepoint} - \text{Reorder Point}}{2} + \text{Reorder Point}$$

No ↓

Is available qty ≤ reorder point and reorder point > 0?

Yes → Calculate the recommended order amount:

$$\text{Order Qty} = EOQ + \frac{\text{Linepoint} - \text{Reorder Point}}{2}$$

No ↓

Is available qty ≤ linepoint and linepoint > 0?

Yes → Calculate the recommended order amount:

$$\text{Order Qty} = EOQ - \left[\text{Avail Qty} - \text{Reorder Point} \right]$$

No ↓

Is available qty < 0?

Yes → Calculate the recommended order amount:

$$\text{Order Qty} = -1 \times \text{Available Qty}$$

No ↓

Reorder quantity = 0

Go to (E) Perform calculations to buy ahead of price increase.

Understand Inventory Replenishment Processing

$$(E)\ \text{Perform calculations to buy ahead of price increase}$$

Product Management tab, Costs/Prices screen

Is a higher new PO cost set up?

No →

Yes ↓

Calculate how many days till the PO cost increases.

Vendor Master Maintenance, screen 2

Is the No. of days till the PO cost increases ≤ vendor review cycle?

No →

Yes ↓

Inventory Replenishment Parameter Maintenance

Go to (F) Calculations for Per Car Qty, Master Pack Qty, PO Multiple

Calculate the maximum quantity to buy before the price increase (Max Qty BPI):

$$\text{Max Qty BPI} = \text{Average Daily Usage} \times \text{Maximum No. of Days to Purchase Ahead of Price Increase}$$

Product Management tab, Costs/Prices and Main screens

Calculate the extra quantity to buy before the price increase (Extra Qty BPI):

$$\text{Extra Qty BPI} = \frac{24 \times \dfrac{\text{New PO Cost} - \text{Current PO Cost}}{\text{Current PO Cost}}}{\text{Return on Added Investment}} \times \frac{\text{\% of Contract vs. Non-Contract Sales}}{10{,}000}$$

and then round the answer to the nearest whole number.

Is the sum of the available qty & the on-order qty > linepoint?

No

Yes

Calculate the new Extra Qty BPI:

$$\text{New Extra Qty BPI} = \text{Extra Qty BPI} - \left[\left[\begin{matrix} \text{Avail} \\ \text{Qty} \end{matrix} + \begin{matrix} \text{On-Hand} \\ \text{Qty} \end{matrix} \right] - \text{Linepoint} \right]$$

Is Extra Qty BPI > Max Qty BPI?

No

Yes

Set the Extra Qty BPI equal to the Max Qty BPI and add it to the recommended order quantity.

Go to (F) Calculations for per car qty, master pack qty, PO multiple

(F) Calculations for per car qty, master pack qty, PO multiple

Product Management tab, Main and UOM screens

Does the product have a per car quantity?

Yes → The system adjusts the recommended order quantity so that the sum of the recommended order quantity and the available quantity is a multiple of the per car quantity.

If necessary, the system adjusts the recommended order quantity so that it is a multiple of the PO unit of measure.

No

Does the product have a master pack quantity?

Yes → If necessary, the system adjusts the recommended order quantity so that it is a multiple of the PO unit of measure.

In addition, the system adjusts the recommended order quantity so that it is a multiple of the master pack quantity.

Note: If the product has a per car quantity and a master pack quantity, it is possible that when the system adjust the recommended order quantity to meet the master pack quantity requirement, the per car quantity requirement may no longer be met.

No

If necessary, the system adjusts the recommended order quantity so that it is a multiple of the PO unit of measure.

Go to (G) Create PO for primary vendor or create transfer order from repl whse

(G) Create PO for primary vendor or create transfer order from repl whse

Is the recommended order quantity > 0? — No →

Is this whse replenished by another whse, & is its process type anything other than Field Services?

— No →

Yes ↓

Is this whse replenished by another whse, & is its process type anything other than Field Services? — No →

Yes ↓

Is the product a stock product in the replenishment whse? — No →

Is there excess inventory? — No →

Yes ↓

Yes ↓

Go to (H) Create replenishment transfer orders

Create a purchase order for the primary vendor.

Go to (I) Create excess inventory transfer orders

Return to (A) Determine whether next product should be considered for replenishment processing

(H) Create replenishment transfer orders

Calculate the availability of the product in the replenishment warehouse:

$$\text{Repl Whse Avail Qty} = \text{On-Hand Qty} - \text{Backorder Qty} - \text{In-Pick Qty}$$

Is reorder quantity ≤ Repl Whse Avail Qty?

Yes → Add the product to a replenishment transfer order for the reorder quantity.

No ↓

Is there some available quantity in the Repl Whse?

Yes → Add the product to a replenishment transfer order for the available quantity.

Note that the remaining quantity needed is incorporated into the calculation of the replenishment warehouse's available quantity. For more info, go to (B) Adjust current availability if excess inventory is considered.

No ↓

The quantity needed is incorporated into the calculation of the replenishment warehouse's available quantity.

For more info, go to (B) Adjust current availability if excess inventory is considered.

Return to (A) Determine whether next product should be considered for replenishment processing

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                    │   (I) Create excess │
                    │ inventory transfer  │
                    │       orders        │
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A product's product class: Product Management tab, Main screen

Prohibit excess transfers: Vision Configuration tab, System Configuration screen, Product Information folder, Product Class subfolder

Does the product class prohibit excess transfers? — No → **Is there a linepoint for the product, and is it < available quantity?** — No → **Is the available quantity > reorder point?** — No →

- Does the product class prohibit excess transfers? → Yes ↓
- Is there a linepoint for the product, and is it < available quantity? → Yes ↓
- Is the available quantity > reorder point? → Yes →

Is the product a stock or temporary product in the replenishment whse? — No →

Yes ↓

Is there at least one reorder point (either safety stock qty, linepoint, or reorder point) with a qty > 0 in the repl whse? — No →

Yes ↓

Add excess inventory to a transfer order. The inventory is returned to the replenishment warehouse.

↓

Return to (A) Determine whether next product should be considered for replenishment processing