

How to Purchase Based on Formula Method

Overview of Procedure

This document explains how to create a purchase order using the “Formula” method. The Formula method uses prior sales history to suggest order quantities for stock items. The Formula method is appropriate when you order regularly from a vendor.

Purchasing Vendor Master Setup

From Main Menu, select Inventory Purchasing and then Vendor Master. Read up the desired vendor code. Refer to the Qty Calculation fields and the Maintain QBO field on the vendor master. The most common entries for these fields are as follows:

QTY Calculation: QOO: + QBO: + QRV: -

Add to QOO: Y Maintain QBO: 3

The “Maintain QBO” code of 3 indicates that you track the Qty on Order with a vendor separately from the Qty on Backorder. These two fields are labeled “On Order” and “Backorder” in the item master record.

The Qty Calculation fields of QOO: + QBO: + QRV: - indicate that when the system is determining whether or not to order an item and how much to order, it will take into consideration what you already have on order with the vendor and what is currently reserved on sales orders. (QOO=Qty on Order; QBO=Qty on Backorder with the vendor; QRV=Qty Reserved on Sales Orders.)

If your purchasing vendor master record is not set up as above, please contact Mylee Customer Support for assistance.

Next, refer to the following fields on the vendor master.

Sales Fields: STY:P SLY:P SPY: N STP:Y SLP:Y SPP:Y LS-YR: N LS-DLY: N BUY: N

4th:Y 5th:N 6th:N 7th:N 8th:N 9th:N 10th:N 11th:N 12th:N 13th:N 14th:N 15th:N

Order Days Minimum: 15 Order Days Maximum: 30

(A) Decide which months of sales history you want to use for this vendor as a basis for determining future order quantities. Code these sales fields with “Y.” In the example above, the current month and the prior three months have been selected:

STP – Sales This Period (current month)

SLP – Sales Last Period (last month)

SPP – Sales Previous Period (the month before last month)

4th – Sales in the month before SPP.

How to Purchase Based on Formula Method

Units sold by month are stored in the Inventory Item Master record. The system tracks 15 months of sales history along with Sales This Year, Sales Last Year and Sales Prior Year. If the current month is May, STP=May, SLP=April, SPP=March and 4th=February.

If six months of sales history is a better indicator of future order quantities, then enter Y in the 5th and 6th sales history fields in addition to STP,SLP,SPP,4th.

- (B) Decide which sales fields to print on the Trial Calculation Report. This report is used to review suggested order quantities before creating a purchase order. This report can print up to six sales fields. To print sales fields as a reference but not use them in the calculation to predict order quantities, enter P in the sales field. In the example, P was entered in STY (sales this year) and SLY (sales last year). These two sales fields will print on the Trial Calculation Report but will not be included in the calculation to suggest order quantities.
- (C) Order Days Minimum. Determine how many “days” supply of inventory you wish to keep on hand. Enter this in “Order Days Minimum.” In the sample vendor master above, 15 has been entered. When determining this, consider how often you order from this vendor. If you tend to order about twice a month, keeping a 15 day supply is typical.
- (D) Order Days Maximum. Determine your “lead time” in days when ordering from this vendor. Add the lead time in days to “Order Days Minimum” plus a few days for safety stock. Enter this number in “Order Days Maximum.” In the example, 30 has been entered as Order Days Maximum. The lead time is usually 10 days for this vendor. Safety stock is 5 days (in case your order takes longer than 10 days to arrive). Lead time (10) plus safety stock (5) plus Minimum (15) equals 30.
- (E) Press F10 to save your changes. The vendor master may be edited as needed prior to creating a purchase order. If sales for this vendor are seasonal and you are heading into a busy season, the “next” 3 months of sales history from “last year” may be a better indicator of how much to order. If this is the case, consider entering a Y in sales fields 10, 11, and 12 instead of SLP, SPP and 4th.

Run a Trial Calculation Report

Select P.O. Status from the Inventory Purchasing Menu. Enter the vendor ID and press F3=Create.

Specify Output Order: Enter desired printer number for Trial Calculation Report.

Run Trial Calculation: Enter Y for Yes.

Enter Order Mode: Enter 2=Formula

How to Purchase Based on Formula Method

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PURCHASE ORDER CREATE FOR MM/DD/YYYY

SPECIFY OUTPUT DEVICE 1 (PRINTER OR $ = FILE OR N = NO REPORT)

RUN TRIAL CALCULATION Y (Y,N,Totals only or Vendor totals only)
ENTER ORDER MODE:    2 (1=ROL, 2=FORMULA, 3=ROL/FORMULA, 4=FORMULA/ROL,
                    5=DAILY REPLENISH, 6=FORMULA/ROL/REPLENISH
                    7=SPECIAL/CBO ONLY)

INVENTORY STOCK FLAG SF (F, M, S, X, 0-9)
ENTER PURCHASE ORDER _____
ENTER VENDOR MASTER AAA
PROCESS BACKORDERS Y (Y, N, Delivery, Order)
DELIVERY DATE _____
POS ORDER NUMBER _____

ENTER TOTAL DAYS 92
INCLUDE OTHER STORES N (Y OR N)
PRINT SUGGESTED ORDER N (Y OR N)
LINE FEED BETWEEN ITEMS N (Y OR N)
PRINT ALTERNATE ITEMS N (Y OR N)
PRINT VENDOR CODE TOTALS N (Y OR N)

RETURN POINT WHEN COMPLETE C (O=inv/pO C=Create/edit)

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Inventory Stock Flag: The example uses SF indicating that only those items with a stock flag of S (stock) or F (stock force sold) should be considered. To review all items in the vendor line, including non-stock and special order items, **enter an asterisk in this field**. If you do not code stock items with S or F, enter * for Inventory Stock Flag in this field.

Enter Purchase Order: The program will bypass this field.

Enter Vendor Master: This field will pre-fill with the vendor ID selected. Press Enter.

Process Backorders: Respond N if you do not want customer backorders appearing on the report.

Respond Y if you want customer backorders to print on the trial calculation report.

Respond D if you want customer backorders to print based on a delivery date. You'll be prompted to enter a delivery date.

Respond O if you want customer backorders to print based on one or more specific Point of Sale order numbers. You'll be prompted to enter the order number(s).

Enter Total Days: Enter the total number of days you selected on the purchasing vendor master. Here is an example.

The vendor master is coded to use the current month plus the last three months of sales history. Assume the current date is May 4th. February (28 days) plus March (31 days) plus April (30 days) plus May (3 days not including the current day) equals 92. The total days should be entered as 92.

If you had selected sales fields 5th and 6th, January (31 days) and December (31 days) would also be included. If this was the case, the total days should be 154.

How to Purchase Based on Formula Method

How the Suggested Order Quantity is Calculated

The **FORMULA** method determines if it is time to place an order based upon prior sales. If the calculated **MIN_QTY** (minimum quantity) is reached, a Suggested PO is created for a quantity based upon a **MAX_QTY** (maximum quantity), also calculated based upon prior sales.

FORMULA calculations are based upon prior sales history information used to calculate both **MIN_QTY** and **MAX_QTY**. These calculations are based upon the **TOTAL_SALES**, **MIN_DAYS** and **MAX_DAYS**. The **MIN_DAYS** and **MAX_DAYS** are entered on the vendor master screen. The **TOTAL_SALES** is entered when the Trial Calculation Report is run or when a purchase order is created.

MIN_QTY represents the *trigger* level at which an order should be placed, while **MAX_QTY** represents a *target* level for inventory.

MIN_QTY is calculated using the formula below:

$$\mathbf{MIN_QTY = ((TOTAL\ SALES * (MIN\ DAYS / TOTAL\ DAYS)))}$$

MIN_QTY is compared against the current quantity available plus what is already on order with the vendor to determine if it is time to place an order.

If **QOH+QOO+QBO-QRV** is less than **MIN_QTY**, the item qualifies for ordering.

If the item qualifies for re-ordering, the **MAX_QTY** is used to arrive at a **QUANTITY_TO_ORDER (QTO)** using the formulas below:

$$\mathbf{MAX_QTY = ((TOTAL\ SALES * (MAX\ DAYS / TOTAL\ DAYS)))}$$

$$\mathbf{QTO = MAX_QTY - (QOH+QOO+QBO-QRV)}$$

An Example using this formula is provided on the following pages.

How to Purchase Based on Formula Method

Example

The pertinent fields in the purchasing vendor master are filled in as follows:

```

QTY Calculation: QOO: + QBO: + QRV: - Proc CBO: Y CBO Note: R Prt Multi: N
Add to QOO: Y Maintain QBO: 3 Round to Package: Y Print in Package: N
Sales Fields: STY:P SLY:P SPY: N STP:Y SLP:Y SPP:Y LS-YR: N LS-DLY: N BUY: N
4th:Y 5th:N 6th:N 7th:N 8th:N 9th:N 10th:N 11th:N 12th:N 13th:N 14th:N 15th:N
Order Days Minimum: 15 Order Days Maximum: 30 Vendor Code Conversion: N
    
```

In the example above, the Purchasing Vendor master indicates that sales for this period (STP), last period (SLP), previous period (SPP) and 4th should be used in the Formula calculation. Sales this year (STY) and sales last year (SLY) are coded P to print these fields but not include them in the Formula. The order days minimum is 15 and the order days maximum is 30.

Item master quantities and sales history for one sample item are as follows:

```

Quantities: On Hand:      8 On Order:      6 Reorder Level:      0
----- Reserved:      6 Backorder:      0 Minimum ROL:      0
Available:      2 Special:      0 Pkg:      0
CBO:      0 Weight:      0.00 Date Last Purch: mm/dd/yyyy
Date Last Rec: mm/dd/yyyy

Sales: This Year:      56 Lost Sales: Year:      0 Buyouts:      0
----- Last Year:      290 Period:      0 Replenish:      0
Prev Year:      0 Date Last Sold: mm/dd/yyyy
Periods: This:      2 Last:      21 Prev:      23 4:      10 5:      0
----- 6:      10 7:      10 8:      10 9:      10 10:      50
11:      75 12:      125 13:      0 14:      0 15:      0
    
```

The total units sold during This period, Last period, Prev period, and 4th period is 56. (2+21+23+10=56)

The Trial Calculation Report is run using an entry of 92 days. (There were a total of 89 days in the last three months plus 3 days in the current month.)

MIN_QTY is Calculated to Determine if it is Time to Re-Order

$$\text{MIN_QTY} = ((\text{TOTAL SALES} * (\text{MIN DAYS} / \text{TOTAL DAYS}))$$

$$\text{MIN_QTY} = 56 * (15 / 92)$$

$$\text{MIN_QTY} = 56 * .1630$$

$$\text{MIN_QTY} = 9.128 \text{ is rounded to } 9$$

How to Purchase Based on Formula Method

The MIN_QTY of 9 is compared to the quantity available in the item master plus what is already on order with the vendor.

$$\begin{aligned} \text{QOH} + \text{QOO} + \text{QBO} - \text{RSV} \\ 8 + 6 + 0 - 6 = 8 \end{aligned}$$

The QOH+QOO+QBO-RSV of **8** is less than the MIN_QTY of **9**, so it is time to re-order.

MAX_QTY is Calculated to Determine How Much to Re-Order

$$\text{MAX_QTY} = ((\text{TOTAL SALES} * (\text{MAX DAYS} / \text{TOTAL DAYS}))$$

$$\text{MAX_QTY} = 56 * (30 / 92)$$

$$\text{MAX_QTY} = 56 * .3261$$

$$\text{MAX_QTY} = 18.2616 \text{ IS ROUNDED to } 18$$

Qty to Order is Calculated

$$\text{QTO} = \text{MAX_QTY} - (\text{QOH} + \text{QOO} + \text{QBO} - \text{QRV})$$

$$\text{QTO} = 18 - 8$$

$$\text{QTO} = 10$$

The Tag-n-Trak Formula method will suggest you order 10 on the Trial Calculation Report or if you create a purchase order.