

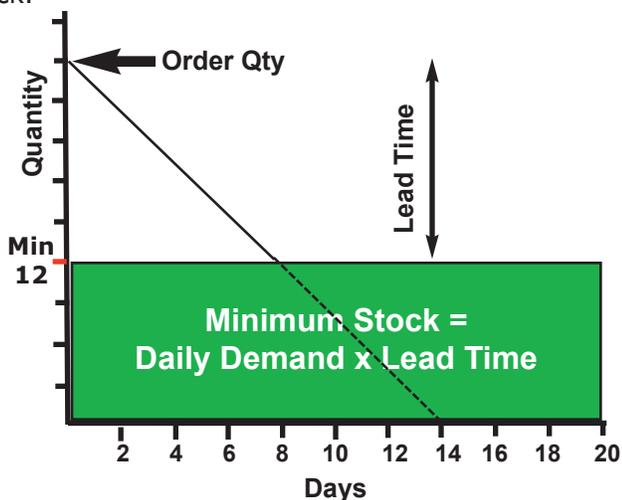
# Visions Tip: Replenishment

## Two Questions on Ordering Stock Items with Recurring Usage ... when and how much?

Since 1985, we have worked with many, many distributors, selling many different type of products. Even though their locations and industries are different, we have found the solutions to their problems to be very similar. The internet, tough economy, lower margins and tough competition are making it difficult to stay in business and is forcing owners to change their thinking on how to best run their operation.

Following are 2 tips on the first steps to advise on when to order and how much to order.

**1 When to order:** When you reorder an item at exactly the right time, you avoid both disappointing customers and stock outs. Let say you sell 2 items every day, the lead time is 6 days, then your minimum quantity is 12. If you always place a restocking order when there are 12 items on the shelf, you will always receive your shipment on the day you are selling your last item in stock.



**Lead Time:** Includes the time it takes: (1) you to place an order, (2) your vendor to process the order, (3) shipping time and (4) receive items and prepare for sale.

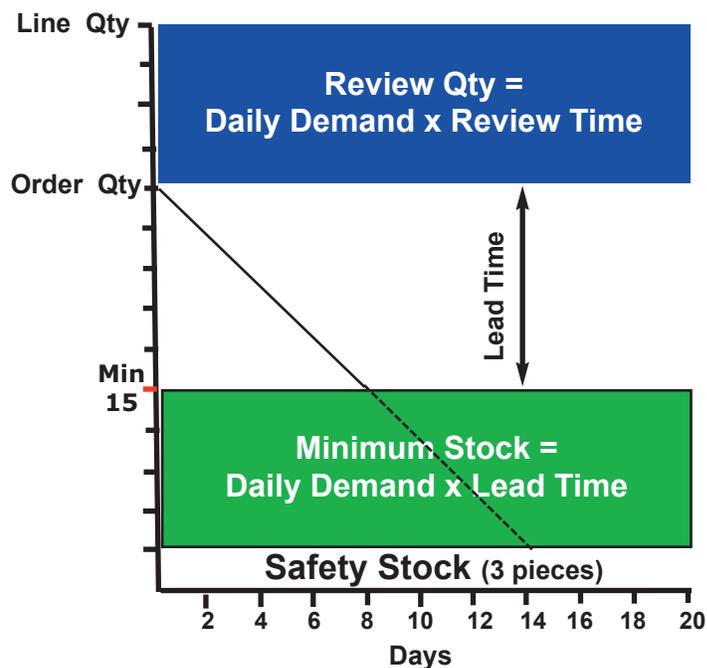
**Order Qty:** Determined by adding your Minimum Stock plus your Lead Time. Notice that the Order Qty places great value on accurate Daily Demand.

Now are you always going to sell 2 items a day? Is your lead time always going to be exactly 6 days? Probably not. Many distributors want to always have

additional stock as insurance to allow for unusually large orders and vendor shipment delays. This extra insurance is called **Safety Stock**.

Safety stock increases the minimum stock and the order point by the safety stock quantity.

Many times, a vendor has conditions to place an order, such as minimum dollar amount, weight, cubic measure, number of pieces, etc. A **Review Cycle** is the time necessary to examine stock items with recurring usage to meet the vendor's conditions. This brings the need of a 3rd quantity called a Line Point.



In practice, when an item's available quantity falls below the Order Qty, the buyer should issue a purchase order, including any item below the Line Qty in the vendor's product line.

**2 How much to order:** Ordering at the right time maintains good customer service. Ordering the correct quantity protects company profitability.

Most distributors want the lowest, delivered purchase price. These costs include the material cost, carrying cost and reorder cost:

**Material cost:** This cost includes the delivered price of the material, including freight and any other costs associated with this shipment.

**Carrying cost:** This includes all the costs associated with simply keeping material in your warehouse. It is usually expressed as a percentage of the inventory value. Carrying cost can also be called inventory cost.

**Reorder cost:** This is the cost of reordering stocking inventory items, also known as "R" Cost. It is calculated by dividing the total annual cost of purchasing stock line items by the number of purchase order line items for stock products issued in the past year. This cost is typically between \$5 and \$6 to purchase each line item.

**EOQ:** Those who are familiar with the concept of economic order quantity (EOQ) know that the EOQ is an attempt to balance carrying costs with the reorder costs. When large quantities are ordered or produced, carrying costs are increased but reorder costs are decreased. Conversely, when order sizes decrease, inventory carrying costs decrease, but the cost of ordering increases since more orders are required to meet demand. When the two costs are equal (holding/carrying costs and ordering/setup costs) the total cost (the sum of the two costs) is minimized. There are many times however that EOQ does not correctly apply. Examples include ordering additional line items to make vendor purchasing requirements and also anticipating a future event, like a price increase, a seasonal increase in demand or even an impending labor strike.

**The Simple Approach:** We have found the best approach is to keep it simple through an automated process. The concept is simply to buy small item quantities with large amounts of dollars flowing through more often.

There are fields in the item record that allow you to set the minimum and maximum quantities of an item to keep in stock. Some systems even have settings in the category code (or product grouping) that allow minimum and maximum quantities either by a monthly usage multiplier or days supply. Different methods are available but it is most important to be consistent. The end result is that actual minimum and maximum quantities should be contained within each item record. The maximum quantities should always represent the current demand for a complete review or ordering cycle.

Most software programs have a database table that matches vendors with items. After you place your first purchase, that item is "linked" to the vendor. The next time you fetch that item for the vendor, it automatically inserts the vendor item number, lot quantity, list and cost prices. This information is then always updated each time you order that same item. Purchasing systems have multiple ways of scrolling through your products, usually by item number or hit list. Set your items to review vendor purchased items in hit list order. The hit list measures velocity of "hits" and is sorted in descending order by the numbers of hits an item is touched in a year's time.

When you fetch your item, it will automatically "suggest" the correct ordering quantity. It is calculated by the maximum quantity less the available quantity. When the item is received, your available quantity will then equal the maximum. When done in this manner, you will find your buyers automatically following the EOQ concept. If you are ordering other stocking items to make a vendor purchase order, you will usually be buying the correct quantities with similar velocity.

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