



Lot Strength Functional Document

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About the Manual

Purpose of the Manual

This user guide provides instructions for using BatchMaster Enterprise. The scope of the document is limited to training users on how various BatchMaster modules are inter-related, the purpose of various BatchMaster screens, and the procedural steps to maintain them. The training objective is to help the user get hands-on experience of how BatchMaster Enterprise functions.

This document aids as a hand-out during training and as an introduction to other manuals. It is not as descriptive as other accompanying manuals, but it is packed with necessary and important information that is required for someone to use BatchMaster Enterprise as a new user.

We designed the user guide based on experience obtained from numerous training sessions. This document aims to strengthen user knowledge on the functioning of BatchMaster Enterprise.

Target Audience

This document is intended for a vast group of people which may include Trainers, VARs, Customers, and even BatchMaster employees who are undergoing BatchMaster training. We hope it will be of immense use as a conceptual guide for Trainers, as a resource material for VARs and customers, and as a reference guide for existing BatchMaster Users and employees.

Organization

The user guide is organized module-wise to reduce bulkiness and enhance usability. Each module contains an overview of the module, concepts you must know before you begin using the module, an overview or purpose of the screen, how to maintain data in the screen, Key Points, and FAQs. Examples have been included to help you understand the logic better and maintain data quickly.

Symbols & Conventions

Symbol	Description
	Note
	Mandatory setting
	Tips

Convention	Description
Italicized (Sales Order Entry)	Module name, screen name & components
" " ("BME WEB Accounting Guide")	Reference document

Abbreviation	Description
BME WEB	BatchMaster WEB



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1 INTRODUCTION

'Lot strength' refers to the percentage of an active ingredient in an item present in a specific lot of that item. For example, fat is the active ingredient in milk. A lot strength of 60% for a specific milk lot indicates that it contains 60% fat.

To help explain how BatchMaster WEB assures correct lot strength, consider the following example:

Your finished product is a mango milkshake. To produce 1,000 liters of product, your formula requires 200 liters of milk with 80% lot strength. To produce the milkshake, you issue milk from three different lots from inventory: the first lot with 80% lot strength, the second lot with 70% lot strength, and the third lot with 100% lot strength.

Based on information entered with the procedure below, the system will calculate:

- How many liters of milk should be drawn from each lot to obtain 200 liters at 80% lot strength?
- How much of a solvent or filler item should be mixed with these milk lots to produce 1,000 liters of mango milkshake.

Lot strength calculation is only available for lot-tracked items. For serial and non-tracked items, this feature does not apply.



The Lot Strength Calculation is applicable on both Batch Ticket and Batch Close screens.



2 IMPLEMENTING LOT STRENGTH CALCULATION

2.1 Enable Lot Strength Functionality

Go To: Configuration → Configuration → Module Setup.

1. On the *Module Setup* screen select *Inventory Setup* option. Under the *Lot Strength Defaults* section, select *Lot Strength Applicable* option as *Yes*.

The screenshot shows the 'Module Setup' window with 'Inventory Setup' selected. The 'Lot Strength Defaults' section is highlighted with a red box. It contains a table with the following data:

Parameter Description	Default Value	Help
Lot Strength Applicable	Yes	?



Each of the following steps assumes that the user has a basic understanding of the lot strength functionality. For help with specific screen, refer to the appropriate BatchMaster WEB help.



2.2 Define Items as Lot-Tracked

Define *MILK-BM* as a lot-tracked item at the *Item Master* screen. To do so, select the *L-Lot for Lot* in the *Lot Sizing Method* field. Since lot strength functionality can be implemented for the lot tracked items only.

The screenshot shows the 'Item Master' screen for item 'MILK-BM'. The 'Lot Sizing Method' field is highlighted with a red box and set to 'L-Lot for Lot'. Other fields include 'Intermediate Type' (N-None), 'Default Container BOM', 'Item Cost Method' (AVERAGE), 'Oversold Cost Method' (STANDARD), 'Sales Commission Key', 'Additional Commission', 'Effective Date' (02/08/23), and 'Expiry Date' (02/08/23). The bottom of the screen has buttons for 'New', 'Copy', 'Save', 'Delete', 'Search', and 'Close'.

Next, mark the *Allow Lot Strength* checkbox and specify the *Standard Lot Strength* in percentage value as 80.

The screenshot shows the 'Item Master' screen for item 'MILK-BM' with the 'Material' tab selected. The 'Track Serial Lot' field is set to 'L-Lot Tracking'. The 'Allow Lot Strength' checkbox is checked, and the 'Standard Lot Strength' field is set to '80.000000'. Other fields include 'Default Lot Size' (1,000,000,000,000,000), 'Auto Lot Issue Method' (F-FIFO), 'Storage Condition', 'Multiple Bins Required', 'Allow Containerization', 'Allow Palletization', 'Days to Calculate Expiration Date' (0), 'Days to Calculate Quarantine Date' (0), 'Shelf Life (Purchase) Day(s)' (0), 'Shelf Life (Shipment) Day(s)' (0), 'Production Issue Shelf Life Day(s)' (0), 'Serial Lot Mask (Purchase)', and 'Serial Lot Mask (Manufacturing)'. The bottom of the screen has buttons for 'New', 'Copy', 'Save', 'Delete', 'Search', and 'Close'.

The value entered in this field is auto-populated into the *Formula Entry* screen when a formula is prepared using this item. You can override the default value, if required.

Now, for the purpose of the example, define *WATER-H2O* as another item. In the subsequent steps, you will use it as a solvent or filler item in the formula for the *MANGO MILK SHAKE*.



2.3 Defining the 'LOTSTRNGTH' Feature

Using the *Lot Feature* screen define a feature as *LOTSTRNGTH*. Enter the feature description as *Lot Strength*.

Lot Features

Feature ID* Feature Description

Feature Value Source

Feature Value Type Possible Feature Values

Custom Lookup SQL

2.4 Attach 'LOTSTRNGTH' feature with an Item

Using the *Item Wise Lot Feature* screen, associate the feature *LOTSTRNGTH* with the item *MILK-BM*.

Item Wise Lot Features

Item Key* Item Description

Location Key Location Description

Item Wise Features Details

Action	Feature ID	Feature Description
<input type="button" value=""/>	<input type="text" value="LOTSTRNGTH"/>	<input type="text" value="Lot Strength"/>



2.5 Receive Item Lots

Receive three lots of *MILK-BM* for 300 liters.

View Item Location

Item Key: MILK-BM Description: Common Dairy Product
Stock UOM: L Display UOM: L

Location Detail | Lot/Bin No Detail (MAIN)

Bin No	Lot No	Received Date	Expiry Date	Quarantine Date	Qty On Hand	Qty Committed	Vendor Lot No
	B001	02/08/23			100.00	0.00	
	B002	02/08/23			100.00	0.00	
	B003	02/08/23			100.00	0.00	

+ Total | Lot Feature (B001)

Feature Id	Feature Description	Values
LOTSTRNGTH	Lot Strength	80

As part of the receiving process, specify the lot strengths as 80%, 70%, and 100%, respectively.

Serial Lot Maintenance

Document Type: Mfg. Issue Document Number: MM-002
Item: MILK-BM Item Description: Common Dairy Product
Location: MAIN Document Line No.: 2
Quantity: 200 Unit: L
Average Lot Strength: 100.0000000 Selected Quantity: 0
Qty Required: 160.0000000 Lot Qty Selected: 0
Solvent Qty Selected: 0 Standard Strength: 80

Select	Lot No	Qty Available	Qty	Committed Qty	Expiry Date	Quarantine Date	Lot Strength
<input type="checkbox"/>	B001	100.0000000	0.0000000	0.0000000			80
<input type="checkbox"/>	B002	100.0000000	0.0000000	0.0000000			70
<input checked="" type="checkbox"/>	B003	100.0000000	0.0000000	0.0000000			100

Save Close



2.6 Define the Formula

Create a formula for *Mango Milk Shake* and specify the lot strength of milk as 80%. Notice the *Group ID* field. Group IDs are used to link 'primary' item and its associated solvent or filler item. Primary items are numbered between 1001 and 1999, while secondary items are numbered between 2001 and 2999. To make the link, the last three numbers of the group must match. Based on the quantity of the main item needed to fulfill lot strength requirements, the solvent item quantity will be computed.

For example, define *MILK-BM* as the solute item and *WATER-H2O* as the solvent or filler item by specifying 1001 and 2001 respectively in the *Group ID* field.

Action	SeqNo	Type	Item Key	Text	Location	Qty Required	Unit	O/H	Cost/Unit	Ext Cost	% Cost	Loss	Group ID
	1	Material	MANGO PULP	Common	MAIN	5,000,000	L		312.5000	1,562.50	91.35	0.00	0
	2	Material	MILK-BM	Common	MAIN	2,000,000	L		48.32200	96.64	5.65	0.00	1001
	3	Material	SUGAR-SWEETNER	Sweetener	MAIN	1,000,000	KG		11.40000	11.40	0.67	0.00	0
	4	Material	WATER-H2O	Common	MAIN	2,000,000	L		20.00000	40.00	2.34	0.00	2001



2.7 Create a Bill of Materials

Create an intermediate BOM as *MANGO MILK SHAKE*.

BOM Entry

Top Assembly: MANGO MILK SHAKE
Location: MAIN
Assembly Type: Intermediate
Formula Key: MMT
Revision Number: 0000000001
Fill Level: 0
Fill Measured in: [dropdown]
Top Assembly: [dropdown]

Assembly Description: Mango Milk Shake
Location Description: MAIN
Stock Unit: KG
Formula Description: Mango Milk Shake
BOM Status: REL
Fill Unit: [dropdown]
Comments: [text area]

Sub-Assembly
Add Line [Resequenece] Material Cost: 0.00

Action	Seq No	Line Type	Item Key	Text	Location	Make/Buy	Unit	Required Qty	Material Cost	Ext Material ...	Entry Date
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New Copy Save Delete Search Close



2.8 Production Batch

Create a mix-type batch to produce 1,000 liters of *MANGO MILK SHAKE* and release the batch.

Action	Itemkey	Description	Locationkey	DisplayQty	DisplayUnit	SONO	CustKey	PONO	PORowNum	POItemDesc	ContainerKey	ContainerNo	CntFillLevel
	MANGO MILK SHAKE	Mango Milk	MAIN	1,000.0000C	HG				0			0.0000000	0.0000000

Issue material lots for the Item *MILK-BM* in the batch by clicking *More* options under *Action*. In grid field of the *Serial Lot Maintenance* screen, select all three lots that have varied lot strengths.

Select	Lot No	Qty Available	Qty	Committed Qty	Expiry Date	Quarantine Date	Lot Strength
<input checked="" type="checkbox"/>	B001	100.00000000	100.00000000	0.00000000			80
<input checked="" type="checkbox"/>	B002	100.00000000	100.00000000	0.00000000			70
<input checked="" type="checkbox"/>	B003	100.00000000	10.00000000	0.00000000			100

Once you have selected all the three lots of the *MILK-BM* Item, BatchMaster WEB automatically calculates and displays the quantities to be issued in the *Qty* grid field.

Click the *Save* button to save the lot selection. Eventually the system defaults total quantities to be issued to the *Quantity* field as shown below:



Serial Lot Maintenance

Document Type	Mfg. Issue	Document Number	MM-002
Item	MILK-BM	Item Description	Common Dairy Product
Location	MAIN	Document Line No.	2
Quantity	210.0000000	Unit	L
Average Lot Strength	76.1904762	Selected Quantity	210.0000000
Qty Required	160.0000000	Lot Qty Selected	160.0000000
Solvent Qty Selected	50	Standard Strength	80

Select	Lot No	Qty Available	Qty	Committed Qty	Expiry Date	Quarantine Date	Lot Strength
<input checked="" type="checkbox"/>	B001	100.0000000	100.0000000	100.0000000			80
<input checked="" type="checkbox"/>	B002	100.0000000	100.0000000	100.0000000			70
<input checked="" type="checkbox"/>	B003	100.0000000	10.0000000	10.0000000			100

Save Close

Calculation Details

Quantity of milk required in the batch = 200 liters with 80% lot strength.

Lots selected for production issue:

Lot Number	Quantity Available	Lot Strength
B001	100 Liters	80%
B002	100 Liters	70%
B003	100 Liters	100%

BatchMaster WEB has to calculate how many liters of milk it should draw from each lot to obtain 200 liters of milk with 80% lot strength.

1. The first lot has 80% lot strength, so BatchMaster WEB will draw the entire quantity (100 liters) from that lot.

Quantity drawn from first lot = 100 liters at 80%

Quantity required = 200 liters at 80%

Remaining quantity = $200 - 100 = 100$ liters at 80%

1. The second lot contains milk at 70% lot strength. We need 100 liters at 80%.

Quantity required at 70% = $(100 \times 80)/70 = 114.29$ liters at 70%

But we only have 100 liters at 70%.

Quantity drawn from second lot = 100 liters at 70%

Quantity required = 114.29 liters at 70%

Remaining quantity = $114.29 - 100 = 14.29$ liters at 70%



- The third lot contains milk at 100% lot strength. We need 14 liters at 70%.

Quantity required at 100% = $(14.29 \times 70)/100 = 10.003$ liters

So, BatchMaster WEB will issue materials as follows:

Quantity drawn from first lot = 100 liters at 80%

Quantity drawn from second lot = 100 liters at 70%

Quantity drawn from third lot = 10 liters at 100%

Total quantity of milk drawn = 100 + 100 + 10 = 210 liters

Select	Lot No	Qty Available	Qty	Committed Qty	Expiry Date	Quarantine Date	Lot Strength
<input checked="" type="checkbox"/>	8001	100.00000000	100.00000000	100.00000000			80
<input checked="" type="checkbox"/>	8002	100.00000000	100.00000000	100.00000000			70
<input checked="" type="checkbox"/>	8003	100.00000000	10.00000000	10.00000000			100

2.9 Generate the Batch Ticket

After issuing lots for *MILK-BM* item, open the *Batch Ticket* screen. Note that the *Batch Ticket* screen displays the required quantity of solvent or filler item as 190 rather than 200 (according to the formula). This is done in order to hold the batch size constant.

The calculations for it are as follows.

Calculations

According to the formula, we require the following for the batch:

- 500 liters of mango pulp.
- 200 liters of milk at 80% lot strength.
- 200 liters of solvent (water).
- 100 kilograms (kg) of sugar.

Total batch size = 1000 liters.

BatchMaster WEB calculates the quantity of solvent required as follows:



Quantity of solvent (water) required = Quantity of milk and solvent required -
Quantity of milk issued.

Quantity of solvent (water) required = 400 – 210 = 190 liters

The screenshot shows the 'Batch Ticket' screen for batch MM-002. The 'Actual Qty' column for 'WATER-H2O' is highlighted in red, indicating a value of 190.0000000. The table below shows the BOM lines for the batch.

Act.	Item Type	Item Key	Description	Location	Qty Required	Actual Qty	Qty Issued	Unit	Overhead	Loss	Status
	Material	MANGO PULP	Common Mang	MAIN	500.0000000	500.0000000	0.0000000	KG		0.0000000	RELEASED
	Material	MILK-BM	Common Dairy	MAIN	200.0000000	210.0000000	0.0000000	L		0.0000000	RELEASED
	Material	SUGAR-SWEETNER	Sweetener for C	MAIN	100.0000000	100.0000000	0.0000000	KG		0.0000000	RELEASED
	Material	WATER-H2O	Common Drink	MAIN	200.0000000	190.0000000	0.0000000	KG		0.0000000	RELEASED

The quantity of solvent will be changed based on any changes in the actual quantity of the main item.

Notes:

- BatchMaster WEB issue material from the second lot only when it cannot draw sufficient material from the first lot.
- BatchMaster WEB calculates quantities of solvent based on the quantity of the main item issued. You cannot manually change the quantity of solvent.

The batch can now be processed using standard procedures.

Similarly on the Batch Close screen it displays the required quantity of solvent or filler item as 190 rather than 200 (according to the formula).

Batch Close

Batch Number: MM-002 Batch Status: RELEASED

Batch Type: Mix Batch Description: Mango Milk Shake

Formula ID: MMT Formula Revision No.: 0000000004

Assembly/Intermediate Key: Assembly/Intermediate Description:

Location: Last Operation:

Actual End Date: 22/09/23 10:36:31 Part Close Date: 02/08/23

Batch Details

Batch Operations

End Item Material Disposition **By Product Disposition**

Update Quantity

Action	Item Key	Item Description	Location	Quantity Requi..	Quantity to Iss..	Quantity Issued	Unit	Serial/Lot Qty	Lineid	ParentLineID	LineT
	MANGO PUL	Common Mang	MAIN	500.0000000	500.0000000	0.0000000	KG	0.0000000	1	0	FI
	MILK-BM	Common Dairy	MAIN	200.0000000	210.0000000	0.0000000	L	210.0000000	2	0	FI
	SUGAR-SWE	Sweetener for E	MAIN	100.0000000	100.0000000	0.0000000	KG	0.0000000	3	0	FI
	WATER-H2C	Common Drink	MAIN	200.0000000	190.0000000	0.0000000	KG	0.0000000	4	0	FI

Save Search Close

You can view the lot details of the issued material on the Serial Lot Maintenance screen with the calculated lot strength.

Serial Lot Maintenance

Document Type: Mfg. Issue Document Number: MM-002

Item: MILK-BM Item Description: Common Dairy Product

Location: MAIN Document Line No.: 2

Quantity: 210 Unit: L

Average Lot Strength: 76.1904762 Selected Quantity: 210.0000000

Qty Required: 168.0000000 Lot Qty Selected: 160.0000000

Solvent Qty Selected: 50 Standard Strength: 80

Select	Lot No	Qty Available	Qty	Committed Qty	Expiry Date	Quarantine Date	Lot Strength
<input checked="" type="checkbox"/>	B001	100.0000000	100.0000000	100.0000000			80
<input checked="" type="checkbox"/>	B002	100.0000000	100.0000000	100.0000000			70
<input checked="" type="checkbox"/>	B003	100.0000000	10.0000000	10.0000000			100

Save Close