QC Item Test

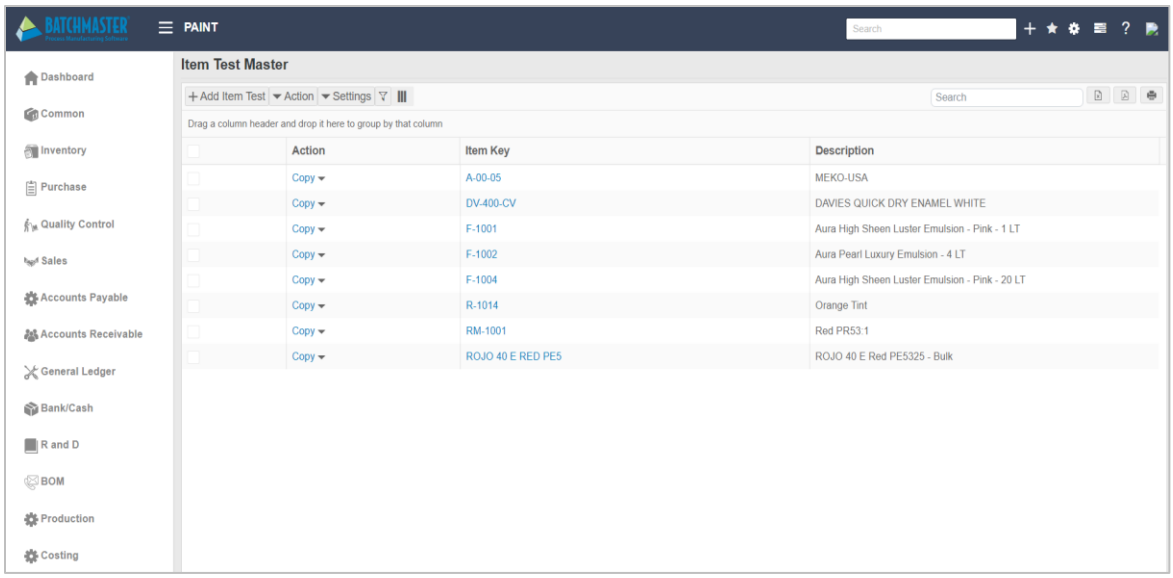
The *QC Item Test* screen is used to associate item(s) with the QC test(s) to be applied to them. An item to be tested for quality can be associated with more than one QC test. With the *QC Item Test* screen, you can also specify the inspection type, sampling type, measuring type, target values, and the control limits for each of the tests associated with the respective item.

Additionally, for using the Draw Sample for QC feature you can also specify the sample quantity, number of samples per lot and the sample unit of measurement. For printing the certificate of analysis report you need to mark the COA option with the respective item(s) (Finished good and Intermediate).

Go To: Quality Control → Quality Control → QC Item Test.

Item Test Master – Dashboard

You can manage and create QC Item Tests from this dashboard. By default, the system displays all the existing QC Item Test records as maintained for your business/company. You can click on any of the QC Item Test record to view its details.

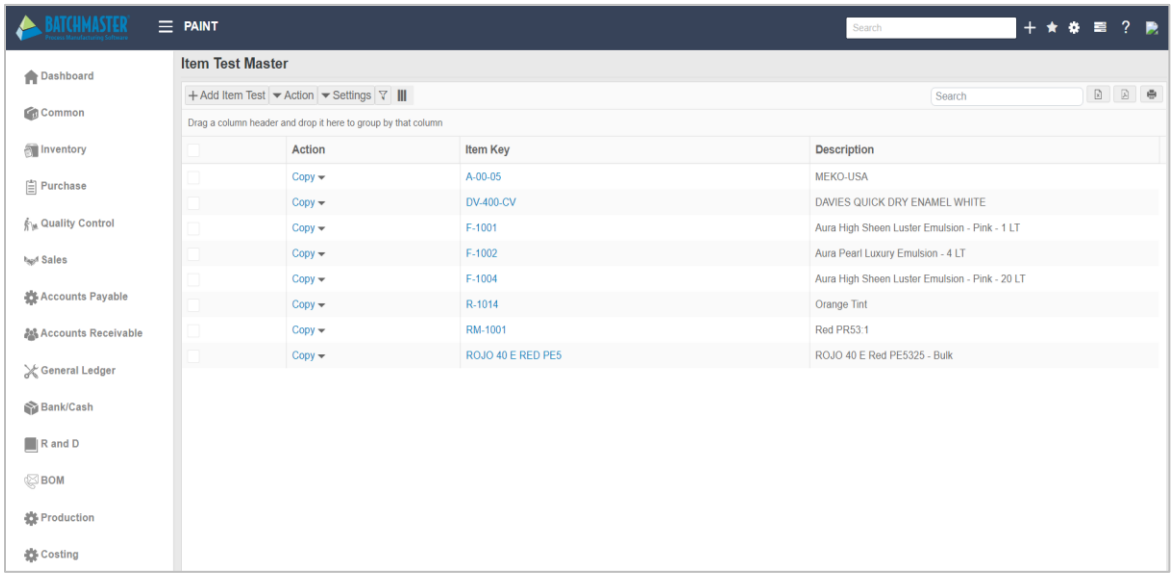


The *Item Test Master* dashboard contains many elements that occupy 100% of the browser window. Resizing the window would resize the elements to fit. The elements can be rearranged, i.e., docked, resized, grouped, and stacked. The header and the side panel can't be rearranged.
Using the *Action* button from the dashboard you can:

- Copy an existing record to create new one

- Delete selected multiple record(s)

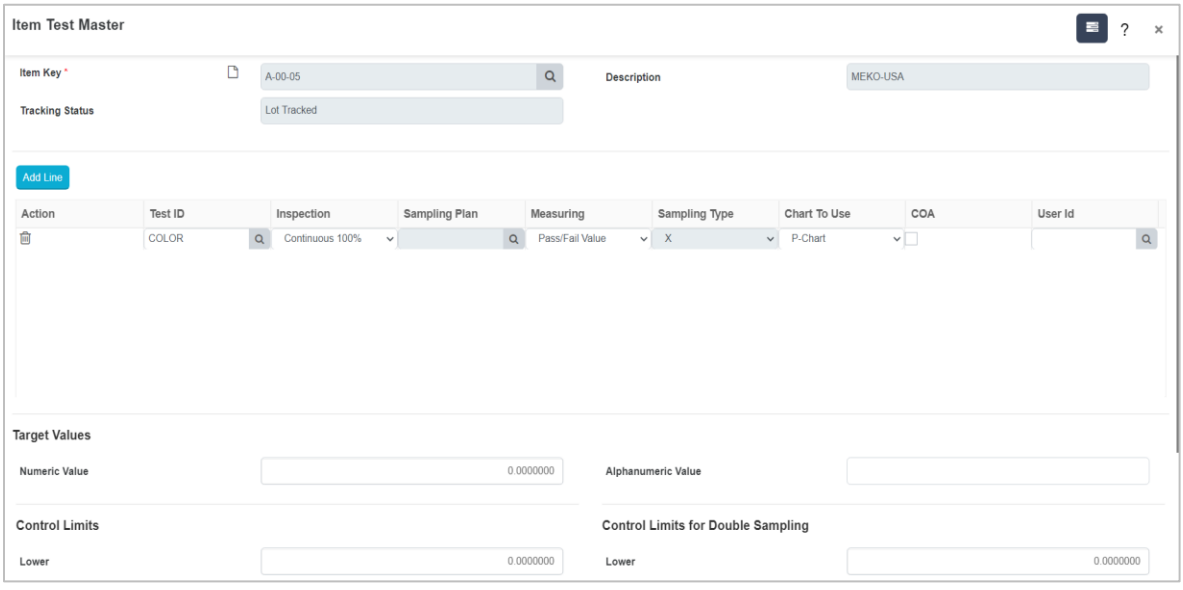
After you select all the columns of the *Item Test Master* dashboard, the middle grid displays the selected columns.



The *Item Test Master* dashboard provides a clear vision of the created records in a read-only mode. You can view the *Item Test Master* records as per the number of pages provided per page.

Item Test Master – Add Mode

To add a new QC Item Test to your BatchMaster database, click on the + *Add Item Test* button. The system displays the *Item Test Master* screen, where you can create a new record.



Item Test Header Fields:

Item Key: This field specifies the Item Key with which the user wants to associate one or more quality control tests. The Item Key selected here gets fetched from the Item Master screen of Inventory module. This is a mandatory field.

Description: This field displays the description associated with the Item Key. This is a read-only field.

Tracking Status: This field displays the tracking status of the respective item. It can be one of 'Not Tracked', 'Serial Tracked', 'Lot Tracked' or 'Bin Tracked'. This value is fetched from the Item Master screen. This is a read-only field.

Add Line: Clicking this button inserts a new line into the grid.

Grid Fields:

Action: Click this button to delete a row from the grid.

Test ID: This field specifies the Test ID associated with the respective item. The displayed Test ID gets fetched from *QC Test* screen.

Inspection: The Inspection type of a test can be one of the following:

- **Continuous 100%:** In this type of inspection, the respective test is conducted on the entire quantity of the item.
- **Sampling:** In this case, the test is conducted to the samples picked as per the selected Sampling Plan.

Sample Plan: This field specifies the selected Sampling Plan ID. This field gets enabled only when the Inspection type is 'Sampling'. The sampling of the respective test is done on the basis of the basis of the selected Sampling Plan ID. This is a mandatory field if the Inspection is of 'Sampling' type.

Measuring: This is the measurement type of the test-results. The value of this field can be set to one of the following:

- **Pass/Fail Value:** If the measurement type is Pass/Fail Value then the result of the respective test is displayed as either Pass or Fail.

- **Numeric Value:** If the measurement type is Numeric Value then the result of the respective test is displayed in the numeric form. Selecting this option enables the 'Lower', 'Upper' and 'Max Allowable % Defective – 1' fields at Control Limits grid as well as Numeric Value field at Target Values grid.
- **Alphanumeric Value:** If the measurement type is Alphanumeric Value then the result of the respective test is displayed in the alphanumeric form. Selecting this option enables the 'Alphanumeric Value' field at Target Values grid.

Sampling Type: The field gets enabled only when the Inspection type is 'Sampling'. The Sampling type can be one of the following:

- **Single:** If this option is selected, the item is accepted or rejected on the basis of a single sampling test i.e. the number of samples to be tested depends only on the number mentioned at 'Number of samples 1' field at 'QC Sample' screen. Selecting this Sampling type enables the fields in the 'Control Limits' frame.
- **Double:** If this option is selected, the item can be subjected to QC twice if the item fails the first sampling plan i.e. it continues the QC with the number of samples mentioned at 'Number of Samples 2' field at QC Sample screen when the item has failed the QC in Single sampling. Selecting this Sampling type enables the fields in the 'Control Limits for Double Sampling' frame.

Chart To Use: This field displays the type of chart in which the QC Result will be displayed. It can be one of the following:

- **X-Chart:** If the measuring criterion is selected as 'Numeric Value', this option gets defaulted at this field. It may be changed to 'C-Chart' only. In general, this chart is also available for measuring criterion 'Pass/Fail'.
- **C-Chart:** C-chart can be selected only for Numeric type of test. C-Chart is used to display data such as number of defects per sample, defect density per sample or a weighted value of various defects in a sample. In general, this chart is available for measuring criterion 'Pass/Fail' and 'Numeric Value'.
- **P-Chart:** If the measuring criterion is selected as 'Pass/Fail', this option gets defaulted at this field. The user can change the type to X/C chart, if required. It is to be noted that if the

measuring criterion is selected as 'Alphanumeric', then only P-Chart is applicable, it cannot be changed to any other type.

- **No Chart:** Choosing this option prevents any pictorial data.

COA: Mark this checkbox if you want to print the *Certificate of Analysis* report for the item.

User Id: This field specifies the User ID of the user who can perform the QC test for the Test ID displayed in the grid field for the Item. By default, the user(s) assigned to perform QC test on the QC Test screen will be defaulted in the User ID field. However, you can change the User ID by clicking User Lookup button next to the User ID field. On clicking the Lookup button, the system displays User Lookup screen for single or multiple BMW User ID selection.

Target Values:

Numeric Value: This field specifies the exact numeric value required for passing the respective test. This field gets enabled on selecting the Measuring type as Numeric.

Alphanumeric Value: This field specifies the exact alphanumeric value required for passing the respective test. This field gets enabled on selecting the Measuring type as Alphanumeric.

Control Limits:

Lower: This field specifies the lower limit for a range under which if the test result falls, it is considered as pass otherwise fail. This field gets enabled on selecting the Measuring type as Numeric.

Upper: This field specifies the lower limit for a range under which if the test result falls, it is considered as pass otherwise fail. This field gets enabled on selecting the Measuring type as Numeric.

Max Allowable % Defective 1: This field stores the value in percentage. In case of a Single Sampling type of test, it is this percentage of the defective samples (calculated with respect to the total number of samples taken) that determines whether the test has passed or failed. This field gets enabled on selecting the Measuring type as Numeric.

Control Limits for Double Sampling:

Lower: This field specifies the lower limit for a range under which if the test result falls, it is considered as pass otherwise fail. This field gets enabled on selecting the Measuring type as Numeric and Sampling Type as Double.

Upper: This field specifies the lower limit for a range under which if the test result falls, it is considered as pass otherwise fail. This field gets enabled on selecting the Measuring type as Numeric and Sampling Type as Double.

Max Allowable % Defective 2: This field stores the value in percentage. In case of a Single Sampling type of test, it is this percentage of the defective samples (calculated with respect to the total number of samples taken) that determines whether the test has passed or failed. This field gets enabled on selecting the Measuring type as Numeric and Sampling Type as Double.

Default QC Sample Quantity: This is the default sample quantity used for sampling.

UOM: This is the unit of measurement for picked sample item.

Default No of Samples per Lot: This is the number of samples required for each lot. The values entered in this field will be useful for drawing the sample on the *Draw Sample for QC* screen. The system would default the values with the lot details, for the item with which you have specified the QC test.

Creating a QC Item Test

1. Open the *Item Test Master* dashboard.
2. Click on the *+Add Item Test* button to open a new blank record.
3. Select the required item from the *Item Key* field using the lookup next to the field. The lookup here obtains all the items maintained as inventory.
4. Selecting the item automatically recalls its respective tracking status as maintained on the *Item Master* screen of the *Inventory Module*.
5. Maintain rows on the grid as needed using the following steps:
    a. Click the *Add Line* button to insert a line into the grid.
    b. In the *Tests and Measuring Criteria* grid, select the required QC Test using the lookup next to the *Test ID* field.
    c. Select an Inspection type (options are *Sampling* or *Continuous 100%*) at the *Inspection* field.
        i. When the Inspection type is *Sampling*, enter the appropriate value at the *Sampling Plan* field. Choose the *Single* option using the lookup next to the *Sampling Type* field.
        ii. Select an option at the *Measuring* field. Available options are *Numeric*, *Pass/Fail*, and *Alphanumeric*.
            - When the Measuring Type is *Numeric* and the Sampling Type is *Single*, you need to specify the *Numeric Value* in the *Target Values* frame as well as the *Lower limit, Upper Limit*, and *Max Allowable % Defective-1* fields in the *Control Limits* frame.
            - When the Measuring Type is *Numeric* and the Sampling Type is *Double,* you need to specify the Numeric Value in the *Target Values* frame as well as the *Lower limit*, *Upper Limit*, and *Max Allowable % Defective -1* fields in the *Control Limits* frame, plus the *Lower Limit, Upper Limit*, and *Max Allowable % Defective -2* fields in the *Control Limits for Double Sampling* frame.

The value at the *Max Allowable % Defective-2* field should be greater than the value at the *Max Allowable % Defective-1* field.

- When the Measuring Type is *Alphanumeric* and the Sampling Type is *Single*, you also need to specify the Alphanumeric Value in the *Target Values* frame as well as the *Max Allowable % Defective-1* field in the *Control Limits* frame.
- When the Measuring Type is *Alphanumeric* and the Sampling Type is *Double*, you need to specify the *Alphanumeric Value* in the *Target Values* frame as well as the *Max Allowable % Defective-1* field in the *Control Limits* frame, plus the *Max Allowable % Defective-2* field in the *Control Limits for Double Sampling* frame.

6. When the Inspection Type is *Continuous* and the Measuring Type is:
   - **Numeric:** You need to specify the *Numeric Value* in the *Target Values* frame as well as the *Upper* and *Lower* limits in the *Control Limits* frame.
   - **Alphanumeric:** You need to specify the *Alphanumeric Value* in the *Target Values* frame.

   a. Select the *Chart To Use*, as applicable:
      - **X-Chart:** This type of chart is only available for a numeric type of test. When *Numeric Value* is selected as the *Measuring* criterion, this option defaults to the *Chart To Use* field. It may be changed to *C-Chart* only.
      - **C-Chart:** This type of chart can only be selected for a numeric type of test. A C-Chart is used to display data such as the number of defects per sample, defect density per sample, or a weighted value of various defects in a sample.
      - **P-Chart:** When *Pass/Fail* is selected as the *Measuring* criterion, this option is defaulted to the *Chart To Use* field. It cannot be modified. P-Charts are also available for an alphanumeric type of test.
      - **No Chart:** Choosing the *No Chart* option provides any pictorial data. This option can be selected only for a numeric type of test.

7. Mark the *COA* option if you want to print the *Certificate of Analysis* report for the item.
8. By default the user(s) assigned to the QC test on the *QC Test* screen will be defaulted to the *User ID* field. However, you can change the User ID by clicking the *User Lookup* button next to the *User ID* field. The system displays the *User Lookup* screen for User ID selection.
   a. Select single or multiple users as required.
   b. Click the *Select All*/*Unselect All* button to mark/unmark all the User IDs.
   c. To view only selected users, mark the checkbox *Display Selected Records*.
9. Click the *OK* button to default selected User ID(s) in the *User ID* grid field.

10. Enter the *Default QC Sample Quantity*, *Default No. of Samples per lot* and *Sample UOM*. The values entered in this fields will be useful for drawing the sample on the *Draw Sample for QC* screen. The system would default the values with the lot details, for the item with which you have specified the QC test.

11. Click the *Save* button to save the *QC Item Test* record. Once the record is saved, the system displays following confirmation message at the top of the screen.