

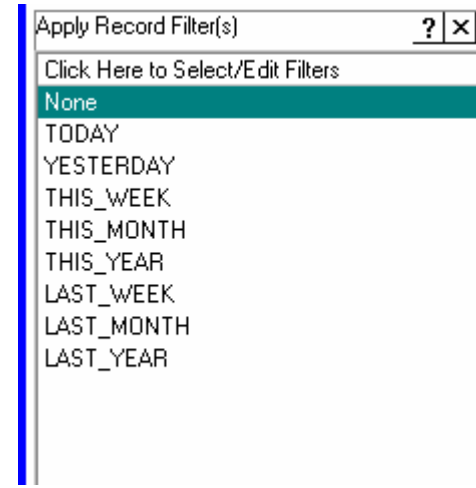
# Record Filters

By reducing the number of records (parts) you can separate parts made by the same machine, cavity number, operator, etc. This white page discusses the manual and automatic methods of reducing data so you can quickly identify problems.

Open the record filter by choosing **Window – Record Filter** menu or clicking the Toolbar button with the white funnel on it. A list of available filters appears on the left edge of the QC-CALC Real-Time screen. Simply click on the filter name you want to apply and the real-time data is filtered.

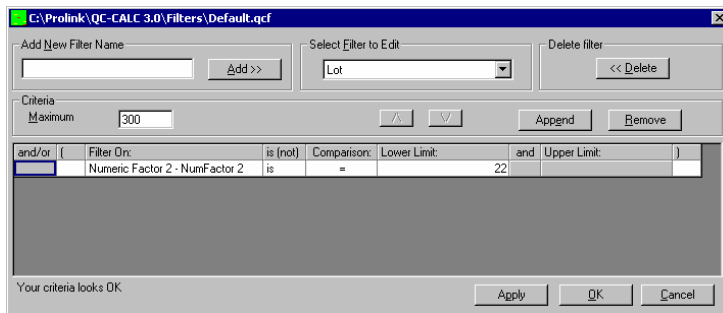
If no data matches your selected filter criteria all the plots will disappear and you'll see a message stating, “**No records passed the record filter criteria**”. In this example, clicking on **THIS\_WEEK**, **THIS\_MONTH**, or **THIS\_YEAR** should not change the display since all displayed data passes these filters. However, if you select **LAST\_WEEK**, **LAST\_MONTH**, or **LAST\_YEAR** no records are seen.

These filters produce variable results allowing you to reuse a filter without having to edit it. Since the first weekday can be defined differently, you have the option of choosing which day of the week begins the week.



## Creating a New Filter

You can create your own record filter by clicking on the text at the top of the record filter panel labeled **Click Here to Select/Edit Filters**. The filter editor is displayed. We entered the name **Lot 22** and Filtered On Factor 1 which is the Lot number, and entered a value of 22. You can display the same filter by choosing **Tools – Options – Filter Settings** – and click the **Edit** button. Click **OK** to save your filter.

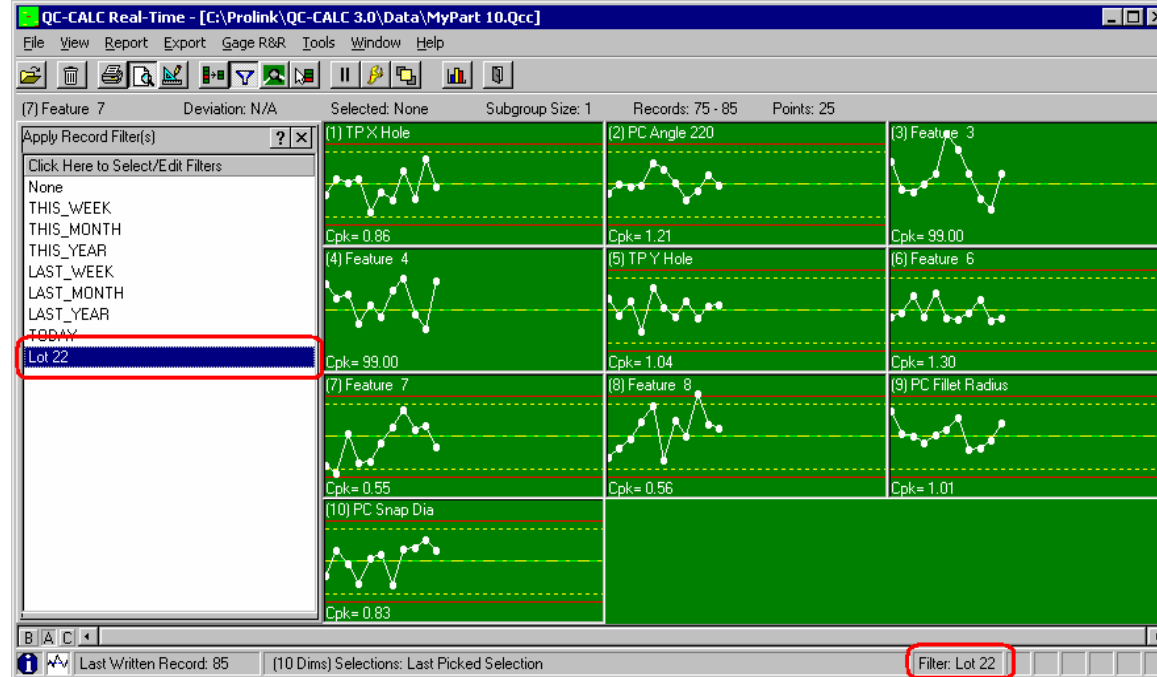


Note your new filter is displayed at the bottom of the list. You should use very clear names on all filters since these names appear in the reports making it easy to identify the conditions when the report was created.

## Global Filters

As you create and use filters you may find you want your filters to be available for all parts you inspect. This global concept is useful because you only have to create one filter and it is useful for all parts. However, the number of filters shown in the filter selector may become overwhelming and you may want to reduce this list. You can associate each filter with an individual part or associate it with all QC-CALC files. Click the **Associate Record Filter with a File or Group** to reduce the filter's range of use to the currently active QCC file. Uncheck this checkbox to make the filter available for all QCC files. This concept can be applied to dimension filters which are located under the record filter.

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## Deleting a Filter

Just to the right of the **Select Filter to Edit** list is the **Delete Filter** button. Clicking this button removes the currently selected filter from the list. A dialog box is displayed asking you to verify your choice.

## Entering Maximum Number of Records

Once you have a filter name you may enter the **Maximum Number of Records to Return** in the text-box. This number applies only when this filter is in effect and can be no larger than the maximum number of records allowed in the database (100,000).

## Filter Criteria

The design of the filter criteria is setup to create a “man readable” sentence as the filter. As you select the fields in this row think about what the sentence is saying and the

## Entering Criteria

In the middle of the filter editor is the **Criteria** frame where your filter is created and edited. The choices you make for the items in this frame affect the data you see and any reports you run. The **Filter On** list contains all the possible types of information QC-CALC uses as a filter.

From the **Select Filter to Edit** list pick the filter name you wish to begin editing. Clicking the **Append** button adds new criteria to the end of the filter. Pressing the **Remove** button removes the currently selected criteria record. You can use the **^** and **V** buttons to move criteria up and down respectively to change the selection process of the filter. filter technique should be clear. For example, it should be obvious what you are trying to obtain when the filter reads **Lot is between 22 and 23** or maybe **Date only is = THIS WEEK**.

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Another combine example might be:

**Lot is between 22 and 23**  
and **Date only is = THIS WEEK**

## Criteria Field Explained

**And/or:** When you enter more than one criteria (line) you can specify how the given criteria is combined with those before it. **AND** means both criteria have to be satisfied for a record to be included, while **OR** means satisfying either of the criteria the record will be included. Use parenthesis for grouping criteria when using complex filters to ensure criteria is combined in a manner you'd expect. When you range of acceptable values. A full definition of each item follows this section. See summary below.

**is (not):** This option allows you to specify whether you want to include records that match this criteria or exclude them. e.g. **Lot is = 22** versus **Lot is not = 22**.

**Comparison:** This portion of the criteria specifies how the data in the searched record will be compared to your criteria. "=", ">", ">=", "<", and "<=" have the standard meaning, "BETWEEN" lets you specify an inclusive range in which the data must fall to satisfy this criteria. "LIKE" lets you use wildcards to do pattern matching against your data: "\*" matches zero or more characters, "?" matches a single character, and "#" matches a single digit. e.g.

Record number is LIKE 5            returns record 5 only  
Record number is LIKE \*5        returns all records ending with 5  
Record number is LIKE \*5\*       returns all records containing a 5  
Operator is LIKE Laura        returns all cases of LAURA  
Lot is LIKE 2#                returns any Lot in the range of 20 – 29  
Lot is LIKE ?5?                returns Lots with a 5 in the tens column

**Lower Limit:** This is where you specify the lowest acceptable value of the searched record. It can be the only portion of the filter if you are searching for a single item such

have two or more record criteria in the filter you can switch between **And** and **Or** by clicking on the word and a Drop-down list provides your choice.

( & ): Parentheses are used to specify the beginning or end of a criteria group. Grouped criteria are first evaluated together before it's combined with other criteria. The examples at the end of this appendix should clarify the use of parentheses.

**Filter On:** This is the list of items QC-CALC provides to build your filters. You select the **Filter On** item and add the

as **Lot is = 22**. This field can also contain special keywords selected from its own Drop-down list.

**And:** This is an un-editable field and its only purpose is to make the criteria easier to read. The word "and" is displayed if you select **BETWEEN** as the comparison type.

**Upper Limit:** This field specifies the upper limit for the range if you select **BETWEEN** as the comparison type. It is un-editable otherwise.

## Filter On Explained

The **Filter On** column is a Drop-down list box containing several possible values. Each of these keywords is detailed here. Keep in mind the Filter On items also have special keyword you can use instead of filtering on a number or text. These values are summarized in the table below with details following

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Filter On	Enter	or Special Key Words
Record Number	number	LAST N RECORDS
Date Only	number	TODAY, LAST_WEEK, etc
Time Only	number	
Date & Time	number	
Number of Fails	number	
Day of the Week		MONDAY, TUESDAY, etc
Assignable Cause or Corrective Action		TRUE or FALSE only
Numeric Factors	number	TRUE or FALSE only LAST_VALUE or ASK_VALUE
Text Factors	number/text	LAST_VALUE or ASK_VALUE
Features	number	

keywords such as TODAY, YESTERDAY, THIS-WEEK, THIS-MONTH, THIS-YEAR, LAST-WEEK, LAST-MONTH, and LAST-YEAR. These special keywords let you create a filter that is timeless so when you create your reports for last week's work you can always use the same filter without having to know the actual dates of that week.

**Time Only:** Using this keyword lets you specify the time of day the part was received. There are no keywords associated with time.

**Date and Time:** This keyword lets you specify both the date and the time the part was received.

**Number of Fails:** Each part stored in the QC-CALC database has a fail count saved with it. This keyword allows you to filter on the number of failed features within a part. For example, you can build a filter that only reports the parts containing bad features. The filter would read: **Number of Fails is > 0**

**Day of Week:** This keyword allows you to specify the day of the week the part was received. The possible values are SUNDAY – SATURDAY. These values are supplied in the Drop-down list and cannot be entered by you.

**Assignable Cause or Corrective Action:** This keyword allows you to specify whether the part has an Assignable Cause or a Corrective Action associated with it. The only possible values are TRUE or FALSE. You can filter all parts that have Causes or Actions assigned to them.

**Numeric Factor:** Each part saved in the database has Factors saved with it. This keyword lets you specify the value a Numeric Factor equals to satisfy the criteria. There are two special keywords to discuss for the Numeric Factor and they are:

LATEST-VALUE – only parts having the same Numeric Factor as the most recently received part satisfy this criteria. This filter keyword is very important since it allows for

## Filter On Details

**Record Number:** Using this keyword lets you filter based on the QC-CALC record numbers. You can specify the range of records by entering a Lower and Upper Limit. You can also select the **LAST-N-RECS** in the Lower Limit column where this word has been added by QC-CALC. Use this keyword as a variable whenever you wish the newest X records to always be returned from the end of the database. You will be prompted for the value of N.

**Date Only:** Using this keyword allows you to ignore the time portion associated with a date. It also lets you specify special

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dynamic filtering. For example, let's say you are inspecting plastic parts made in a 16 cavity mold and you want to filter on the part just inspected. Normally you would create 16 different filters labeled Cavity 1 through Cavity 16. To filter on each cavity you would click on each filter and instantly see the parts made in Cavity 1. This can be tedious because it is a manual task that humans must perform.

The LAST-VALUE keyword allows QC-CALC to filter on the part just received from the inspection equipment. What this means is you can request QC-CALC to automatically filter on the current cavity without touching the filters. This is a very useful tool when full automation is in use. When a problem occurs you know immediately which is the offending cavity.

ASK-VALUE – this keyword is preloaded into the **Lower Limit** field to assist you with quick lookups. When you click a filter containing this keyword, QC-CALC asks you to supply the filter value. For example, let's say you have a 64-cavity mold and you do not want to create 64 separate filters. You can create a filter containing a value of ASK-VALUE. The filter might read:

**Cavity is = ASK-VALUE**

To activate the filter, click on the name and a dialog box asks for the Cavity number and your data is filtered using that value.

**Text Factor:** The Text Factors are the same as the Numeric Factors but they allow you to enter text as a value. Please read the definition on Numeric Factors to gain an understanding of Text Factor Filter use.

**Feature:** You can specify the value of any feature in the database by selecting the feature number. You then specify the allowable range for the feature. You might use this to find all parts within the last 100 inspected parts with a feature exceeding a particular value.