M.A.C. SOLUTIONS

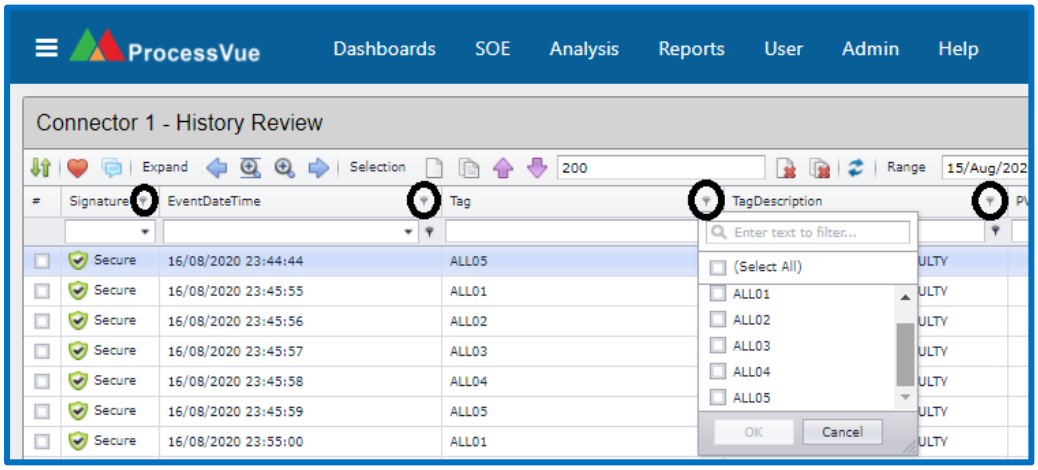
PROCESSVUE

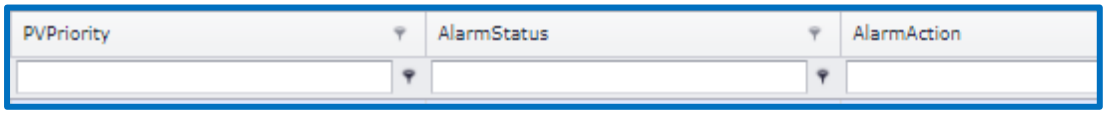
Data Filtering on the ProcessVue Web Application

Abstract

The Data filtering that is used in ProcessVue is provided by DevExpress. When a user has accessed the SOE Historical page on the ProcessVue system, there are several ways that the data can be filtered so the user can view specific data through a combination of the different Field Views that are defined during the configuration of the system.

These are just a few of the configurable options available to the user to filter data.

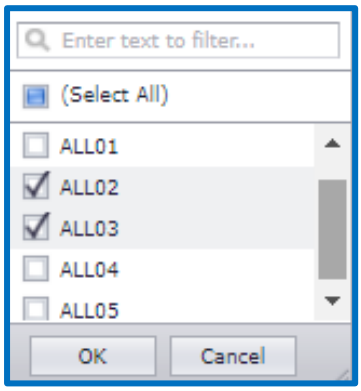




Clicking on a filtering icon next to one of the field views will produce a dropdown list with all the different options within that field view. *In the image above, the '**TAG**' filter has been selected and a dropdown list has appeared with all the available tags that can be filtered. A user can select if they want to view all the tags (select all) or just a few different tags (e.g., ALL01 and ALL05).*

A user can then select any of the options available, in this example the tags *'ALL02' & 'ALL03'* have been selected, once the user confirms the selection by selecting 'OK' the data will then update on the SOE Historical screen that only contains the selected tags.

The image below shows the updated SOE Historical page only showing data filtered from the selected Tags.



Expand | Selection | 200 | Range 15/Aug/2020 - Latest | 0 Selected

#	Signature	EventDateTime	Tag	TagDescription	PVPriority	AlarmStatus	AlarmAction
	Secure	15/08/2020 23:17:21	ALL02	SOOTBLOWER EQUIPMENT FAULTY	2	HIGH HIGH Pressure	INTV
	Secure	15/08/2020 23:17:22	ALL03	SOOTBLOWER EQUIPMENT FAULTY	3	HIGH HIGH Pressure	INTV
	Secure	15/08/2020 23:18:31	ALL02	SOOTBLOWER EQUIPMENT FAULTY	2	HIGH HIGH Pressure	SHLV
	Secure	15/08/2020 23:18:32	ALL03	SOOTBLOWER EQUIPMENT FAULTY	3	HIGH HIGH Pressure	SHLV
	Secure	15/08/2020 23:19:41	ALL02	SOOTBLOWER EQUIPMENT FAULTY	2	HIGH HIGH Pressure	ALM
	Secure	15/08/2020 23:19:42	ALL03	SOOTBLOWER EQUIPMENT FAULTY	3	HIGH HIGH Pressure	ALM
	Secure	15/08/2020 23:20:56	ALL02	SOOTBLOWER EQUIPMENT FAULTY	2	HIGH HIGH Pressure	USHLV
	Secure	15/08/2020 23:20:57	ALL03	SOOTBLOWER EQUIPMENT FAULTY	3	HIGH HIGH Pressure	USHLV
	Secure	15/08/2020 23:31:00	ALL02	SOOTBLOWER EQUIPMENT FAULTY	2	HIGH HIGH Pressure	RTN

A User can also select multiple filter options at once to find more specific data if only selecting one filter does not narrow down the required results. In the example below, the 'Tag', 'AlarmStatus' and 'AlarmAction' have been selected. This is now showing the user all the data which 'Tag = ALL02', 'AlarmStatus = HIGH HIGH Pressure' and 'AlarmAction = ALM'.

Expand | Selection | 200 | Range 15/Aug/2020 - Latest | 1 Selected

#	Signature	EventDateTime	Tag	TagDescription	PVPriority	AlarmStatus	Alarm
			ALL02			HIGH HIGH Pressure	ALM
	Secure	16/08/2020 16:02:00	ALL02	SOOTBLOWER EQUIPMENT FAULTY	2	HIGH HIGH Pressure	ALM
	Secure	16/08/2020 16:02:40	ALL02	SOOTBLOWER EQUIPMENT FAULTY	2	HIGH HIGH Pressure	ALM
	Secure	16/08/2020 16:26:00	ALL02	SOOTBLOWER EQUIPMENT FAULTY	2	HIGH HIGH Pressure	ALM
	Secure	16/08/2020 16:30:40	ALL02	SOOTBLOWER EQUIPMENT FAULTY	2	HIGH HIGH Pressure	ALM
	Secure	16/08/2020 17:31:00	ALL02	SOOTBLOWER EQUIPMENT FAULTY	2	HIGH HIGH Pressure	ALM

The Filter icons in the row below the Field Views allow the user to select some generic functions. The default is set to 'Contains' but a user can assign any of the field views that are selected for filtering, and this will reflect in the results within the SOE Historical view.

- Begins with
- ✓ Contains
- Doesn't contain
- Ends with
- Equals
- Doesn't equal

For example: If a user has selected to filter 'Tag – ALL02' and the user selects 'Doesn't contain' from the function list, the data has updated and is showing no tags with that tag name due to a specific tag being selected and then the condition being 'doesn't contain' as this is the only tag that is being filtered. Therefore, all tags that do not contain ALL02 are displayed.

Expand | Selection | 200 | Range 15/Aug/2020 - Latest | 0 Selected

#	Signature	EventDateTime	Tag	TagDescription	PVPriority	AlarmStatus	AlarmAction
			ALL02				
	Secure	16/08/2020 23:44:44	ALL05		5	Low Low Pressure	ALM
	Secure	16/08/2020 23:45:55	ALL01		1	Low Low Pressure	USHLV
	Secure	16/08/2020 23:45:57	ALL03		3	Low Low Pressure	USHLV
	Secure	16/08/2020 23:45:58	ALL04		4	Low Low Pressure	USHLV
	Secure	16/08/2020 23:45:59	ALL05	FAULTY	5	Low Low Pressure	USHLV
	Secure	16/08/2020 23:55:00	ALL01	SOOTBLOWER EQUIPMENT FAULTY	1	Low Low Pressure	RTN
	Secure	16/08/2020 23:57:00	ALL03	SOOTBLOWER EQUIPMENT FAULTY	3	Low Low Pressure	RTN
	Secure	16/08/2020 23:58:00	ALL04	SOOTBLOWER EQUIPMENT FAULTY	4	Low Low Pressure	RTN
	Secure	16/08/2020 23:59:00	ALL05	SOOTBLOWER EQUIPMENT FAULTY	5	Low Low Pressure	RTN

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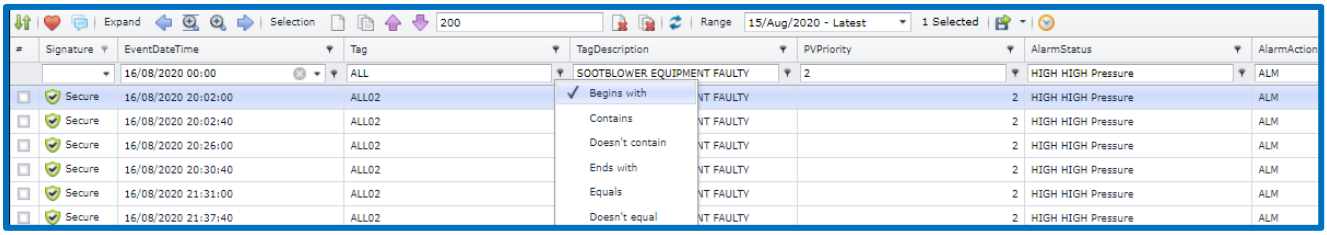
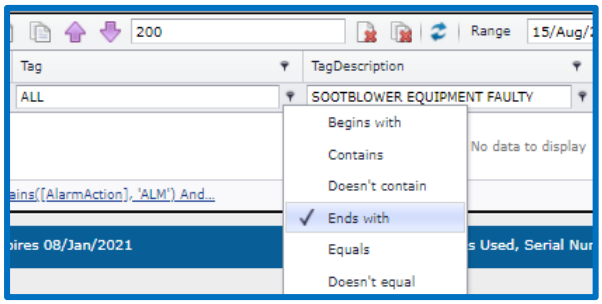
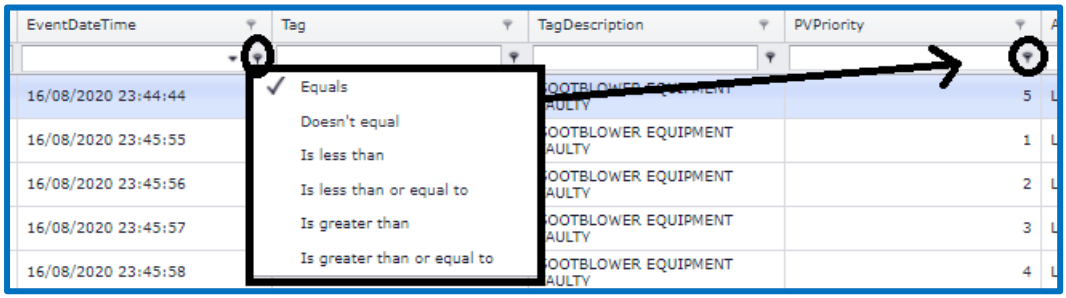
A user can also manually type into the filter box whatever they may require, the image below shows that 'ALL' has been entered and the condition 'Begins with' has been selected, and the results show all the tags that start with 'ALL'.



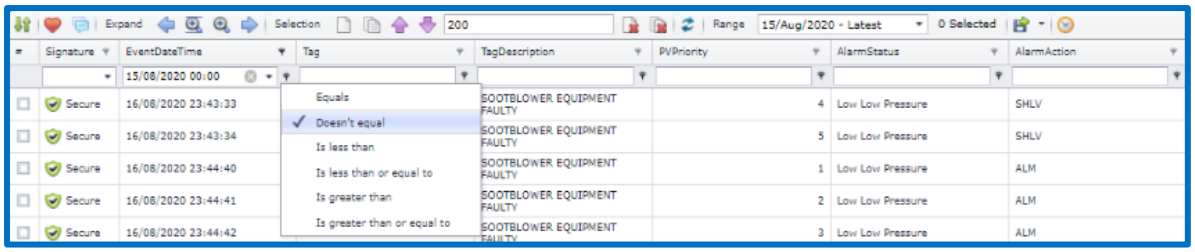
Alternatively, if the user selected 'Ends with' instead of 'Begins with' no tags are found as in this data set, they all start with 'ALL' in this specific data set.



All the Function filter settings are the same format for all data types which are a 'String'. This applies to all the field views in this example apart from the 'EventDateTime' and 'PVPriority'. These two filtering options contain a different list of Functions as these values are all 'Integers' (Numeric values).

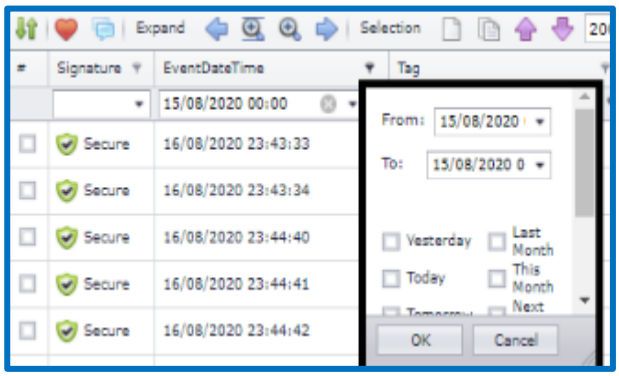


These Functions will work in the same principle as the other examples given, if a date is selected from the list and then 'Doesn't equal' is selected, all the other dates from the data set will be displayed. In the example below, the date has been selected for the 15/08/2020 and because 'Doesn't equal' has been selected, all the other data with a different date from the data set has been selected.

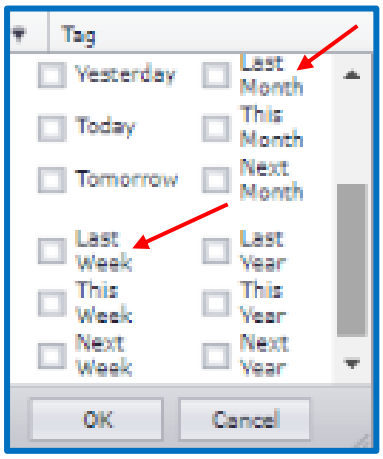


To filter the EventDateTime click the filter button by the EventDateTime label for the dropdown list to appear.

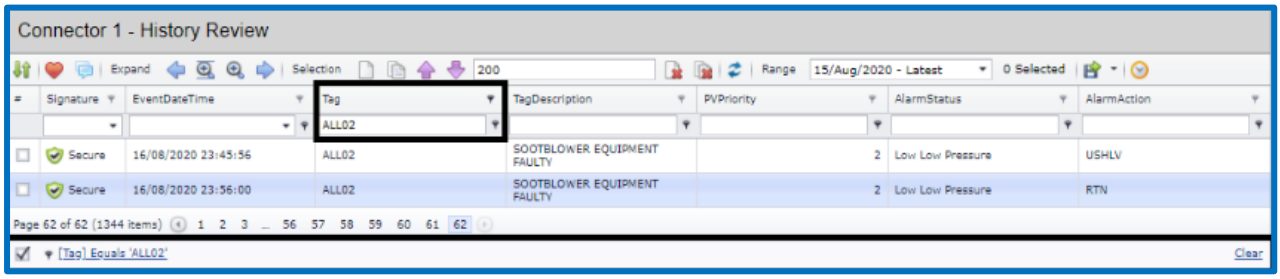
From the dropdown list, the user can select a date from the dropdown list next to 'From:' and 'To:'. This will present the user with a calendar in which they can select a day, month, and a year. Also, if there is a larger range of data to be selected, underneath the date range filter there are options in which a user can tick and select 'OK'.



For example, if a user selects 'Last Week' or 'Last Month' the field view will update with all the data from either the week before or the month before.

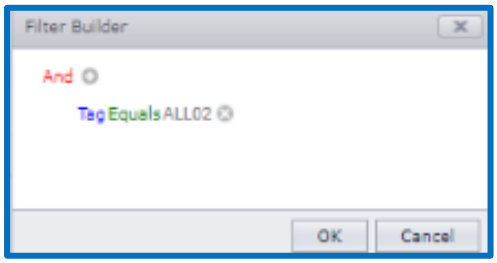


At the bottom of the screen is the 'Filter builder' link, this allows the user to have more control over the filter. From here, a filter can be cleared and modified. *Note – The filter builder can only be viewed once a filter has been put in place by the user.*

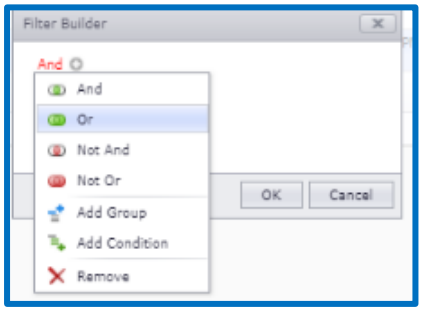


The filter 'Tag' has been selected which creates a filter builder option at the bottom of the page for the user to access. To access the filter builder, just simply click on the underlined tag link at the bottom of the page.

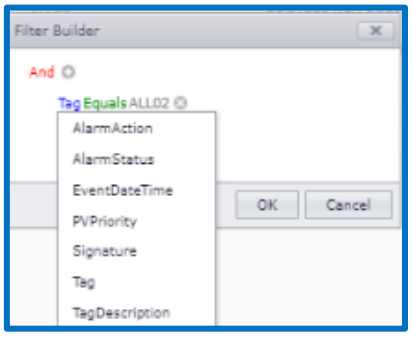
A popup screen will appear showing the current filter that has been built. In this case the only filter in place is that 'Tag Equals ALL02'. Selecting any of the different colored text will allow the user to change the function of that piece of the function. Clicking the '+' symbol will allow the user to add additional functions to the filter and the 'X' will remove any functions from the filter.



- Clicking the **And** will allow the user to change the function type.



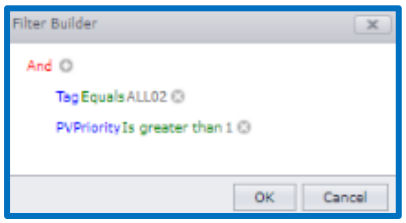
- Clicking the **Tag** will allow the user to change the field view to any of the other configured field views.

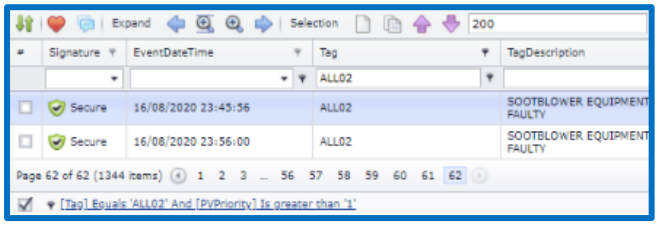


- Clicking the Equals will allow the user to change the function. The logic functions can assist in narrowing down the search results.

Selecting any of these options and changing them and clicking 'OK' will adjust the data presented accordingly.

To add to the filter, select the '+' symbol beside the And to build an additional filter alongside the first one.

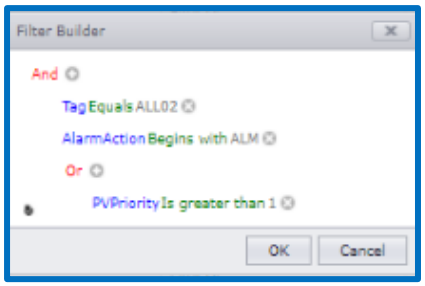




There are now 62 pages of filtered data that matches the credentials from the filter builder. *This will not be an exact representation of different users' systems as results will vary depending on the data in the system.*

Additional groups can be added to the filter depending on what the user is searching for. Clicking on the And and selecting 'Add group' or 'Add Condition'. Selecting 'Add Condition' from the list is an alternative option of selecting the '+' symbol next to the And.

If a user clicks And and then 'Add Group' an additional set of filtering rules will apply to the overall filter in which a user can configure that additional filter to either be in line with the first filter and builds on top of it or create a condition in which it looks for data that is opposite to the first filter in place.

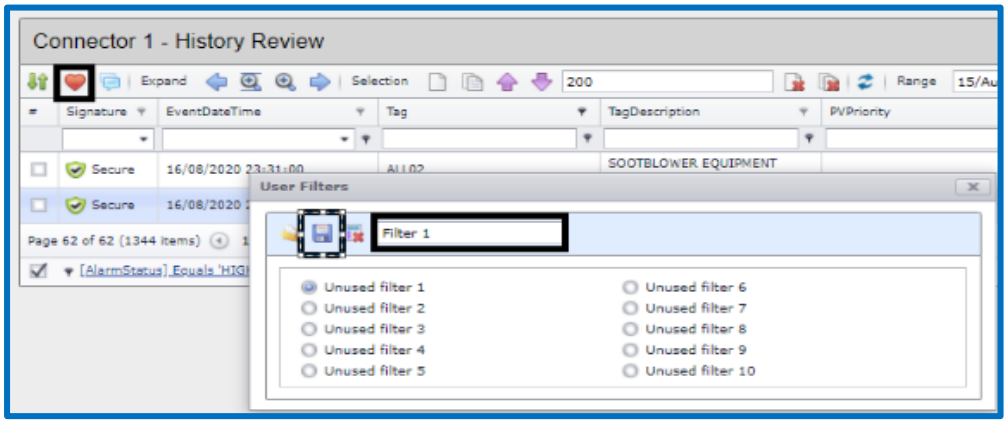


To clear any filters that have been built, select the 'Clear' button towards the bottom right of the screen in the bar that contains the 'Filter Builder'. This will change the SOE Historical page back to its original view.

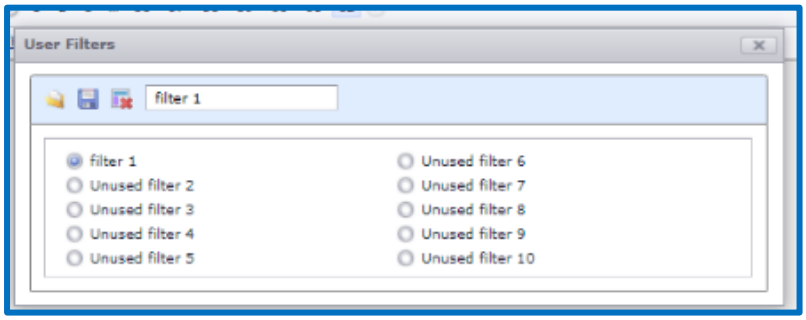
If a filter that has been created that can be used later, the user can save the filter to save time by having to configure the filter again.

By selecting the heart shaped button at the top of the Historical view labelled 'Save or Load used filter' the user can save a filter here and then access the saved filters by selecting that button again.

Clicking the heart shaped button will make a popup screen appear where the user can name and save the filter. Selecting one of the 'Unused filter' tabs and clicking save will save the filter.

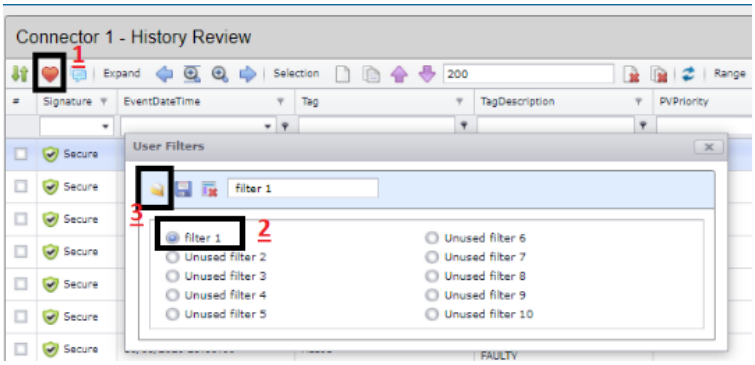


The name of the filter tab will rename accordingly in-line with what name the user assigns. Click the 'X' in the top right to close the popup.

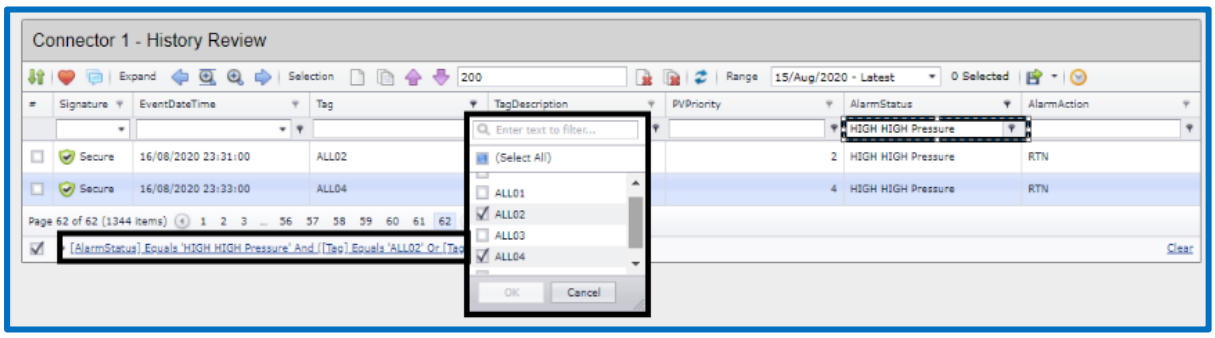


To load any saved filters, refresh the SOE Historical page so no filters are active. Click the heart shaped button to bring up the popup box containing the filters.

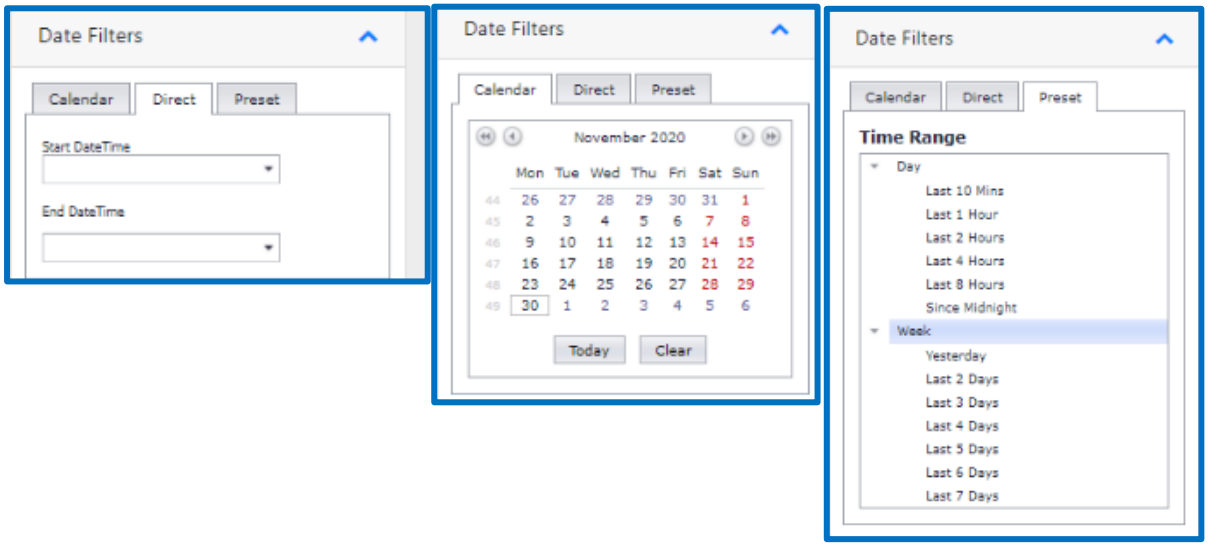
1.Click the 'Load/Save filter button.
2.Click a filter to load.
3.Click the 'Load filter' button.



This will update the page with that selected filter. Up to 10 different filters can be saved on any ProcessVue system.



Users can also filter data by a specific date/time by using the Date Filters on the left-hand side of the screen.

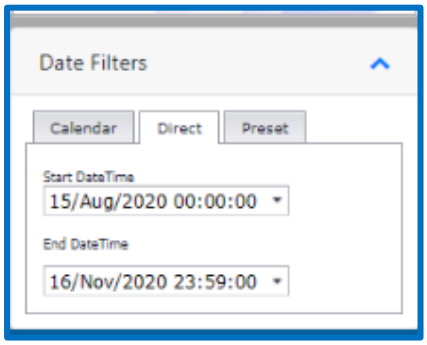


To make any changes in the Date Filters the user will need to update their selection.

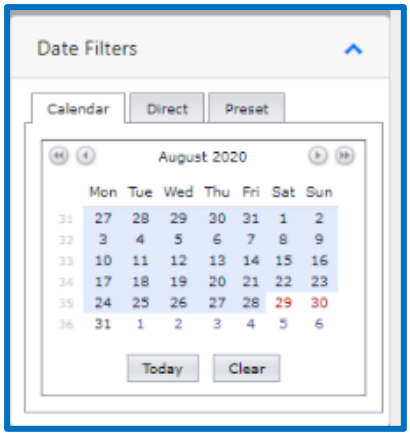
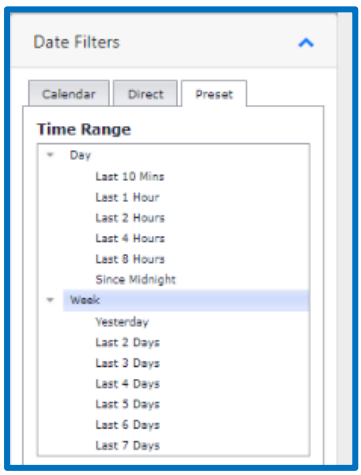
then

after every change.

- Direct – Direct selection allows the user to specifically select a date and time in which they want to view data.



- Calendar – Allows the user to select a single date or multiple dates, the best way to select multiple dates is to click on the start date required and whilst holding down the left mouse button, drag to the required end date.



- Preset – Preset has several fixed filters that can be accessed through the Date Filters selection. Daily selections range from 'Last 10 Minutes' to 'Since Midnight' and weekly filters range from 'Yesterday' to 'Last 7 Days'.