

Operating Instructions

Tankvision Professional NXA85

Scada Designer





- Make sure the document is stored in a safe place such that it is always available when working on or with the product.
- To avoid danger to individuals or the facility, read the "Basic safety instructions" section carefully, as well as all other safety instructions in the document that are specific to working procedures.
- The manufacturer reserves the right to modify technical data without prior notice. Your Endress+Hauser distributor will supply you with current information and updates to these Instructions.

Change history

BA02252G_01.22

- Valid for software version: 18.3.2
- Changes to the previous version:
Initial version

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1 About this document

1.1 Document function

These Operating Instructions contain information that is useful for installation, operation and maintenance.

1.2 Symbols

1.2.1 Safety symbols

DANGER

This symbol alerts you to a dangerous situation. Failure to avoid this situation will result in serious or fatal injury.

WARNING

This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in serious or fatal injury.

CAUTION

This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or medium injury.

NOTICE

This symbol contains information on procedures and other facts which do not result in personal injury.

1.2.2 Symbols for certain types of information



Tip

Indicates additional information



Reference to documentation



Reference to another section



1., 2., 3. Series of steps

1.2.3 Symbols in graphics

1, 2, 3 ... Item numbers



Hazardous area



Safe area (non-hazardous area)

1.3 Documentation



For an overview of the scope of the associated Technical Documentation, refer to the following:

- *W@M Device Viewer* (www.endress.com/deviceviewer): Enter the serial number from the nameplate
- *Endress+Hauser Operations App*: Enter the serial number from the nameplate or scan the matrix code on the nameplate

2 Basic safety instructions

2.1 Requirements for the personnel

The personnel for installation, commissioning, diagnostics and maintenance must fulfill the following requirements:

- ▶ Trained, qualified specialists must have a relevant qualification for this specific function and task.
- ▶ Are authorized by the plant owner/operator.
- ▶ Are familiar with federal/national regulations.
- ▶ Before starting work, read and understand the instructions in the manual and supplementary documentation as well as the certificates (depending on the application).
- ▶ Follow instructions and comply with basic conditions.

The operating personnel must fulfill the following requirements:

- ▶ Are instructed and authorized according to the requirements of the task by the facility's owner-operator.
- ▶ Follow the instructions in this manual.

2.2 Intended use

This document describes how to use the SCADA design features of the tank gauging software. It will enable the user to add or change the Graphical user interface of the Tank Gauging Product.

2.3 IT security

A warranty on our part can only be provided if the software application is installed and used as specified in the operating manual. The software application contains safety mechanisms to protect it against inadvertent changes to the software settings.

IT security measures that are in accordance with the operator's safety and security standards and designed to additionally protect the software application and the transfer of data must be implemented by the operator.

3 Product description

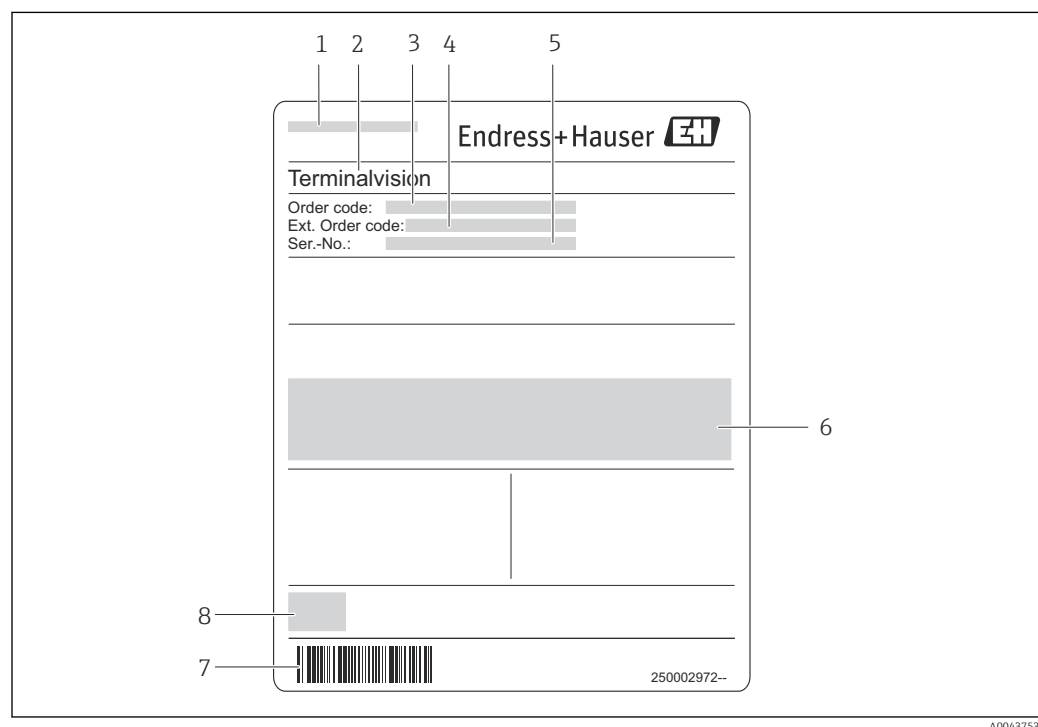
3.1 Product identification

The following options are available for identification of the software:

- Nameplate specifications
- Order code with breakdown of the software features on the delivery note
- Enter serial numbers from nameplates in W@M Device Viewer
(www.endress.com/deviceviewer): All information about the software is displayed.

For an overview of the technical documentation provided, enter the serial number from the nameplate in the W@M Device Viewer (www.endress.com/deviceviewer).

3.1.1 Nameplate



- 1 Address of manufacturer
- 2 Product name
- 3 Order code
- 4 Extended order code (Ext. ord. cd.)
- 5 Serial number (Ser. no.)
- 6 Certificate and approval relevant data
- 7 Barcode
- 8 CE mark

3.1.2 Order code and product version

- i** To find out the version of your software, enter the order code indicated on the nameplate in the search screen at the following address:
www.products.endress.com/order-ident

4 Software function

There are two applications available in the tank gauging suite.

Multi Tank displays are fixed displays where data from multiple tanks can be displayed on the same screen. All display fields have the tank name and duty defined at configuration time.

A Single Tank display can only display data for gauges from a single tank name. It is a template of what to display, therefore display fields do not have a Tank specified, only the gauge duty. The tank is specified at runtime.

Single tank and multi tank displays are completely flexible as to what data is shown on the screen, and can be configured using the Configurator software.

A display may be configured for a range of items such as:

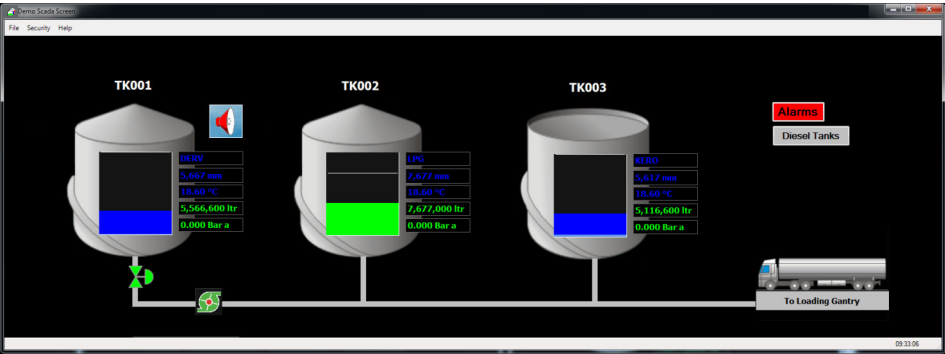
- **Live Data Fields** for a wide range of data such as Level, Temperature, Pressure, Density, Water etc. Also includes calculated data such as volumes, mass etc.
- **Data Entry Fields** for manual parameters, alarm setpoints etc.
- **Fixed Text Labels**
- **Bar Graphs** showing percentage level etc.
- **Pictures** showing percentage level etc.
- **Alarms**
- **Graphs** showing percentage level etc.
- **Buttons** linking through to other multi tank or single tank pages, or other parts of the tank gauging system.

Each field can be customised for such things as size, colour, fonts etc.

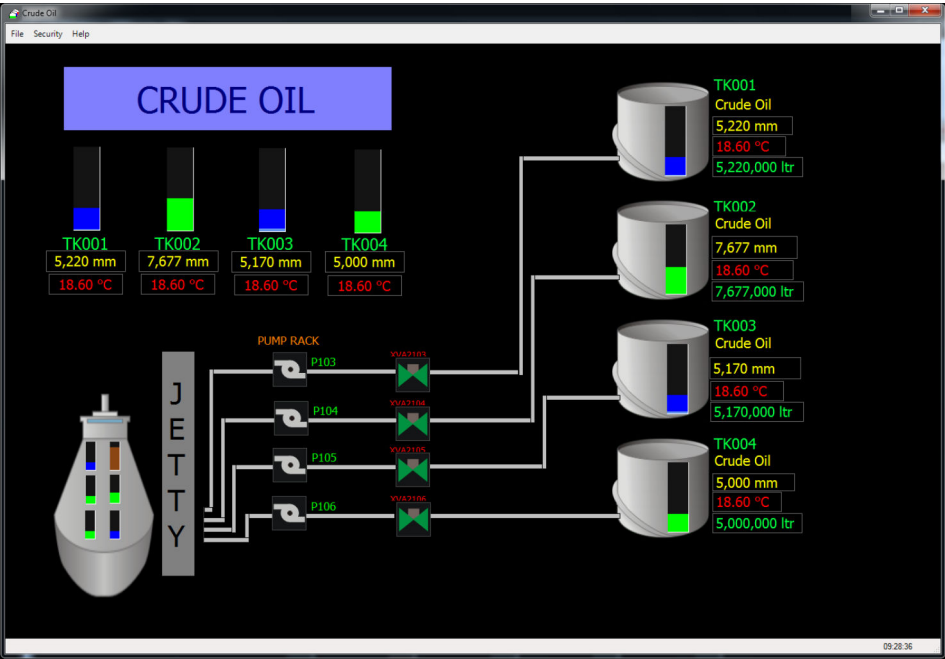
5 Multi Tank Designer

5.1 Multi Tank Designer Introduction

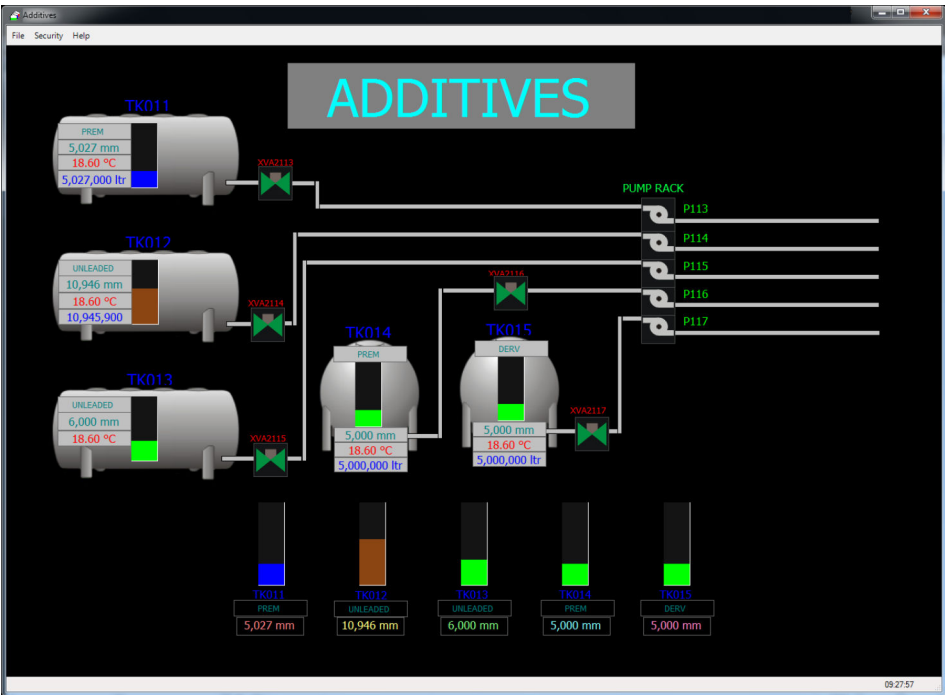
The following is a guide to enable the user of **Multi Tank Designer** to design a graphical representation of a tank farm. The following screenshots are typical examples of completed projects.



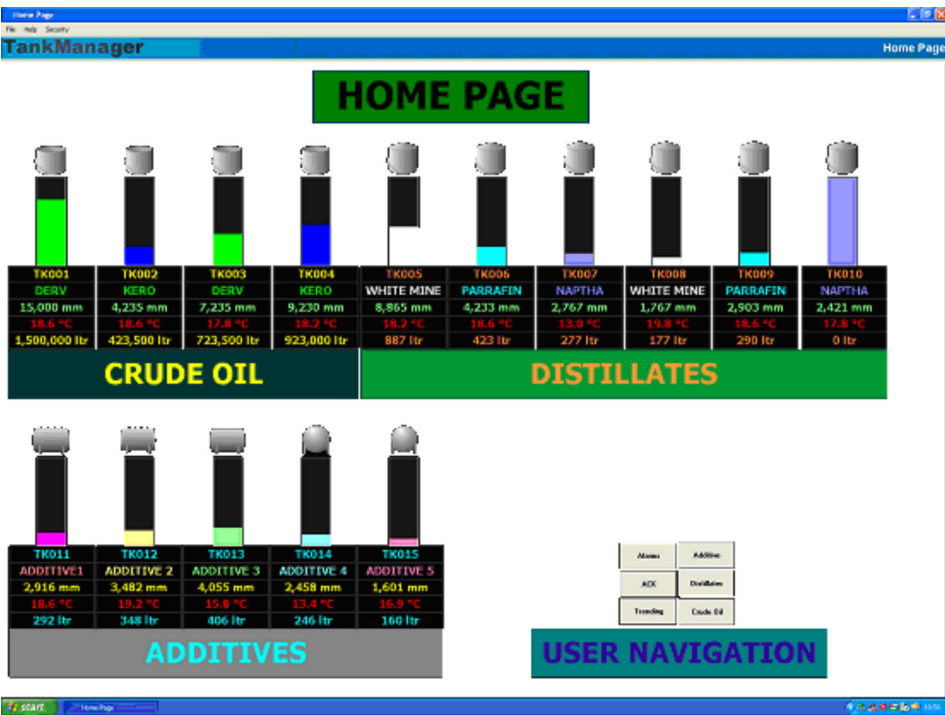
1 Multi Tank



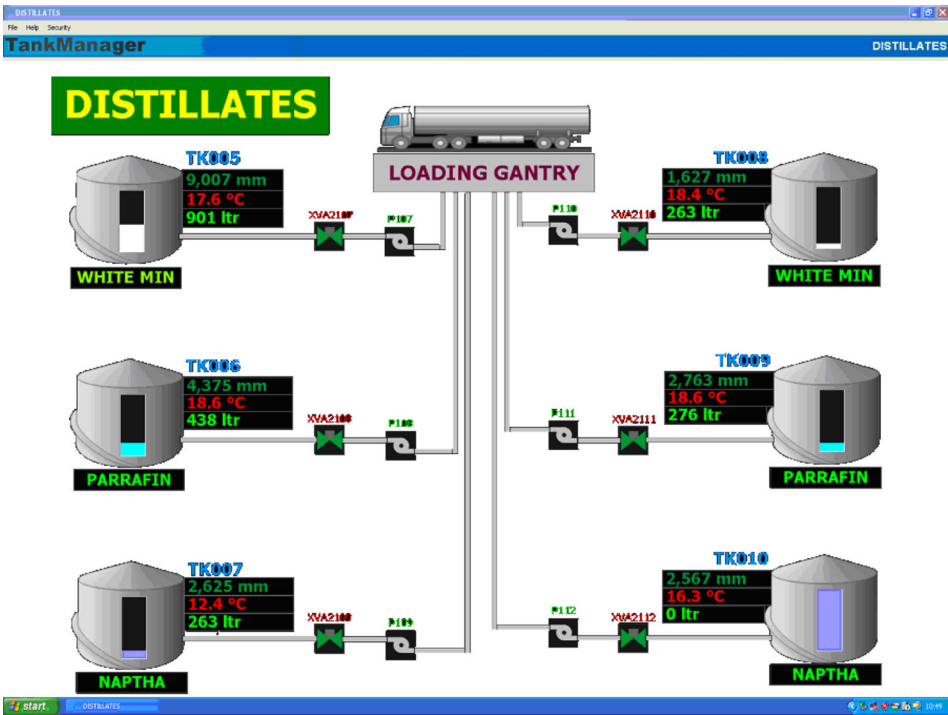
2 Multi Tank



3 Multi Tank



4 Multi Tank



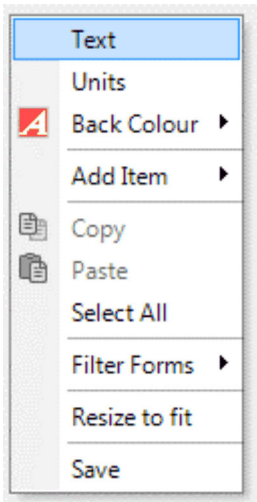
5 Multi Tank

5.2 Creating a New Design

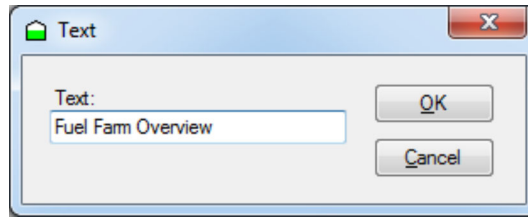
To begin designing a new system using Multi Tank Designer run **Multi Tank.exe** (typically installed in the folder C:\program files\folder of installation) and select “File” then “New”. This will open up a Custom Design Page. Maximise the page to full screen by clicking the maximise button.

5.3 Renaming a Page

Right click the mouse button, on the main part of the page, to open up the menu selection. Select **Text** and then rename the page as required as shown below. Select **OK** and the new page name will now appear in the top left of the screen.



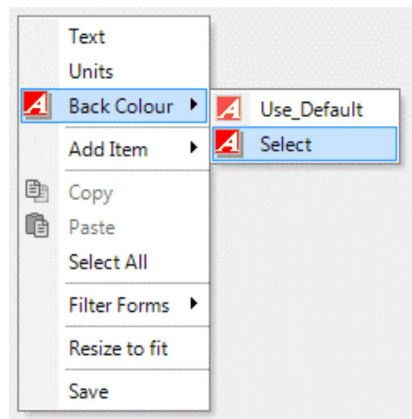
6 Select to rename



7 *Rename*

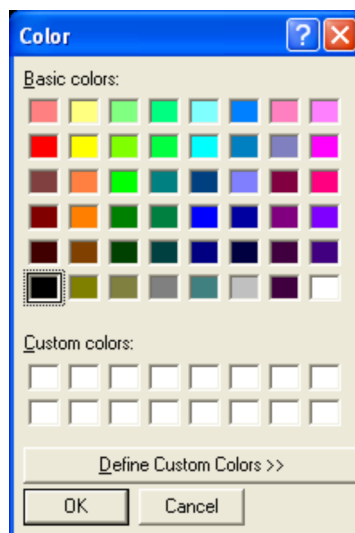
5.4 Creating a Background

Right click on the main body of the screen and select **Back Colour**, then **Select** as shown in the following figure.



8 *Selecting a background colour*

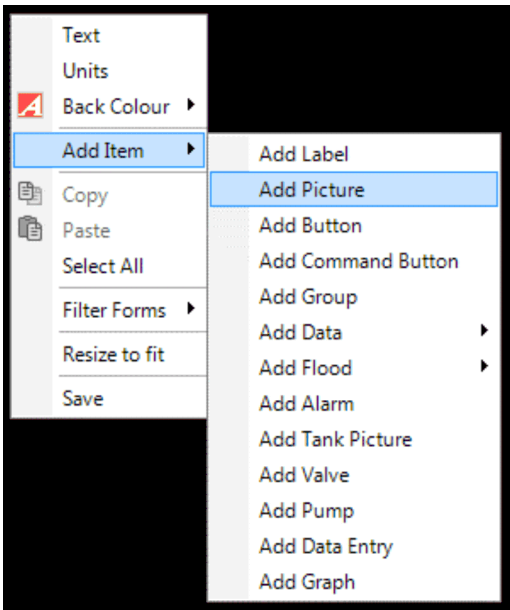
Select a background Colour and click **OK**, as shown in the following figure.



9 *Setting a background colour*

5.5 Adding a Picture

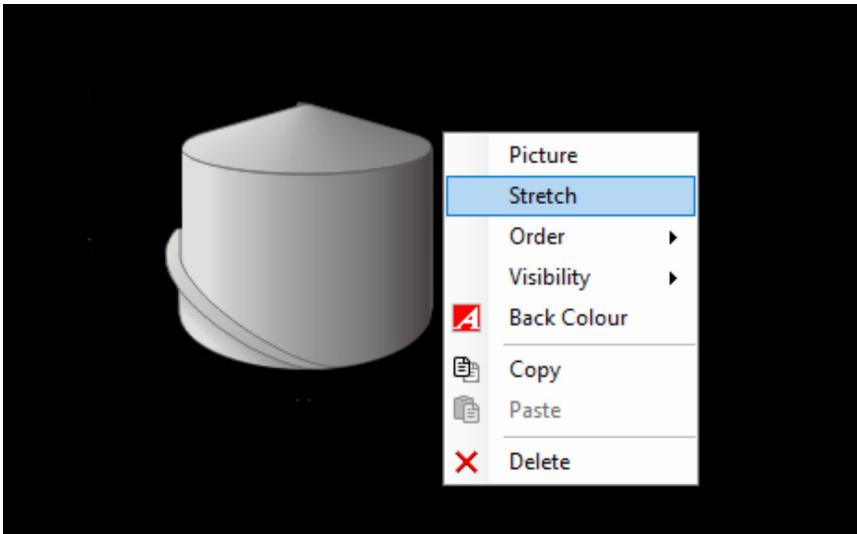
To add a picture of a tank, right click on the main body of the page, select **Add Item** then **Add Picture**. Right click within the box and select **Picture** as shown in the following figure. Choose a picture to be inserted from the graphics folder.



10 Add Picture

All images within the application are installed by default in the folder “C:\program files \folder of installation\Graphics”.

Right click on picture and select **Stretch** as shown in the following figure. This enables you to adjust the box containing the picture to the required size.

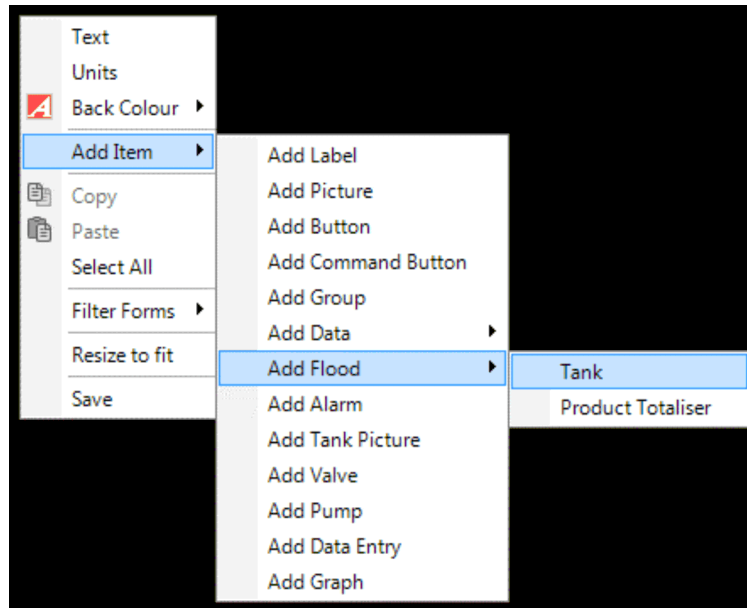


11 Stretch Picture

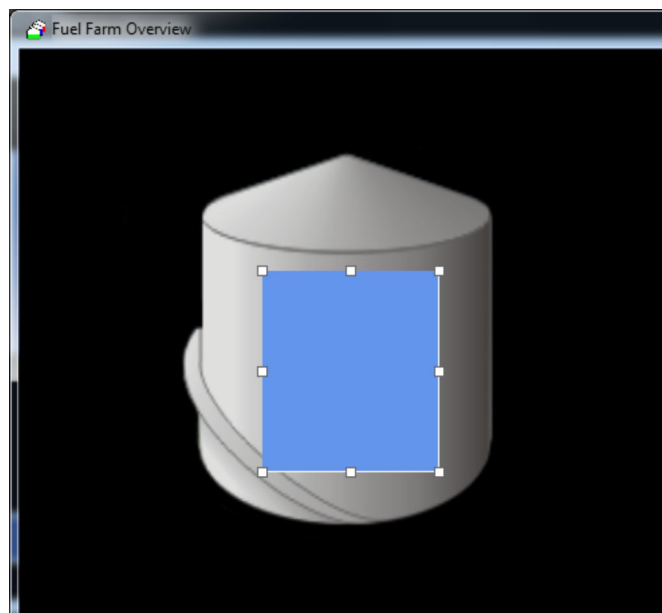
Other picture options are available from the right click menu such as Order (front or back), Visibility (display the image based on a condition) and Back Colour (background colour).

5.6 Adding a Flood Object

Right click the mouse button, on the main part of the page, to open up the menu selection. Select **Add Item** then **Add Flood** then **Tank**. A Flood Object will now be displayed. This can be dragged into position using the mouse and resized as required as shown below.



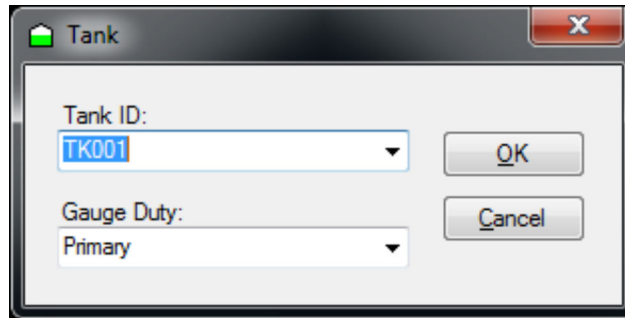
12 Add Flood



13 Resize Flood

5.6.1 Animating the Flood Object

To ensure the graphic is displaying the correct data, the flood object must be linked to the data point by right clicking the mouse button on the flood object to bring up the sub menu. Select **Tank ID** and select the correct tank ID from the drop down menu and click **OK** as shown in the following figure.



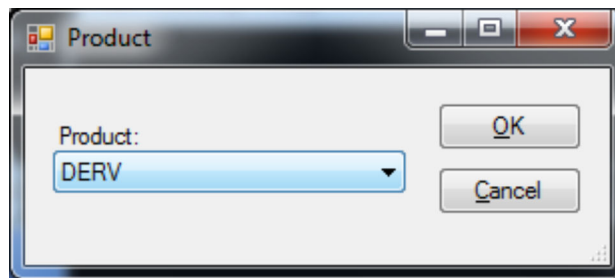
14 Animating Flood

Finally, right click on the flood object and select **Display** then **Show Operating Levels**.

5.6.2 Adding a Product Totaliser Flood Object

A similar object can be added to display the total amount of a specified product. Right click the mouse button on the main part of the page and select **Add Item** then **Add Flood** then **Product Totaliser**.

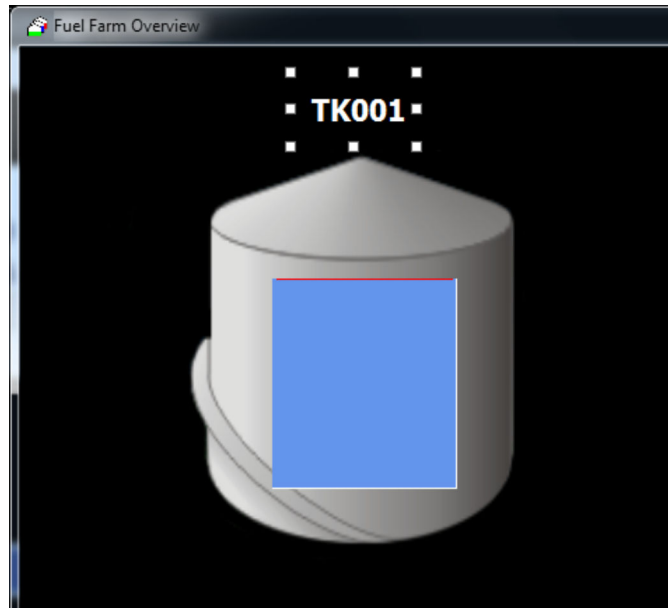
Select the applicable product by right clicking on the flood object and clicking **Product Name**. Select a product from the drop down list as shown in the following figure.



15 Select Product

5.7 Adding a Label

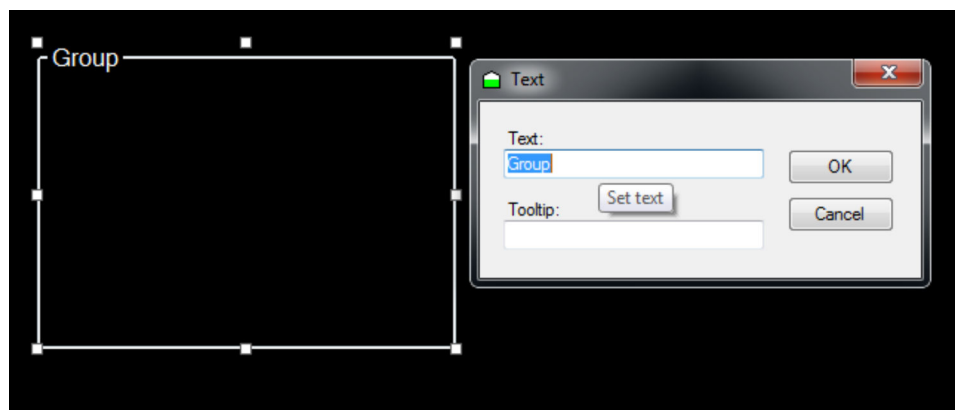
Right click the mouse button, on the main part of the page, to open up the menu selection. Select **Add Item** then **Add Label**. A resizable Custom Label will now be displayed as shown in the following figure. Select **Text** to amend text. Font, alignment, fore, background and border colours can all be modified as required. Fore colour sets the font colour.



16 Add Label

5.8 Adding a Group

Right click the mouse button, on the main part of the page, to open up the menu selection. Select **Add Item** then **Add Group**. A resizable Custom Group will now be displayed. Right click on the Custom Group box and the option to rename the group and add a tooltip will appear as shown in the following figure. The tooltip will appear on the screen when the mouse is hovered over the Custom Group.

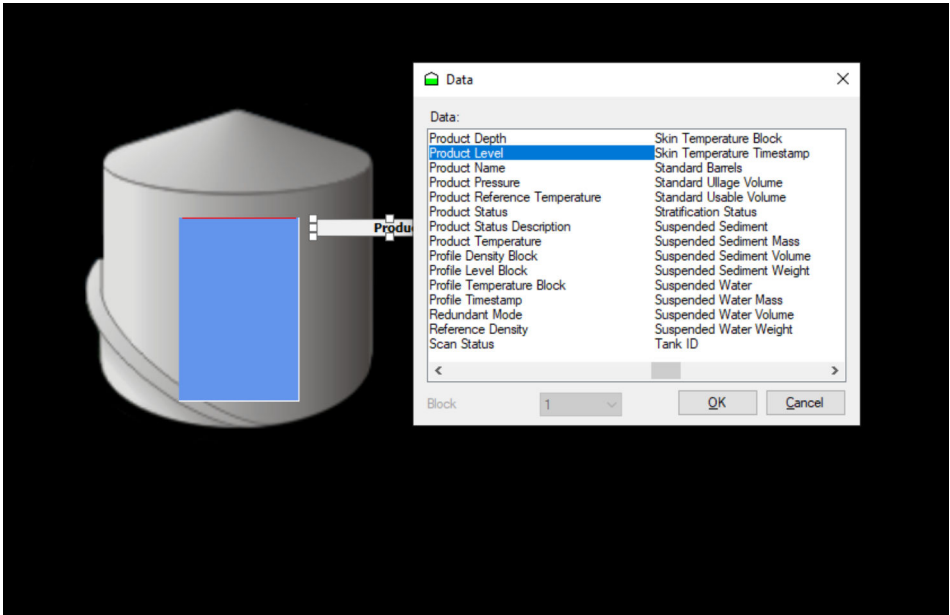


17 Add Group

5.9 Adding Data

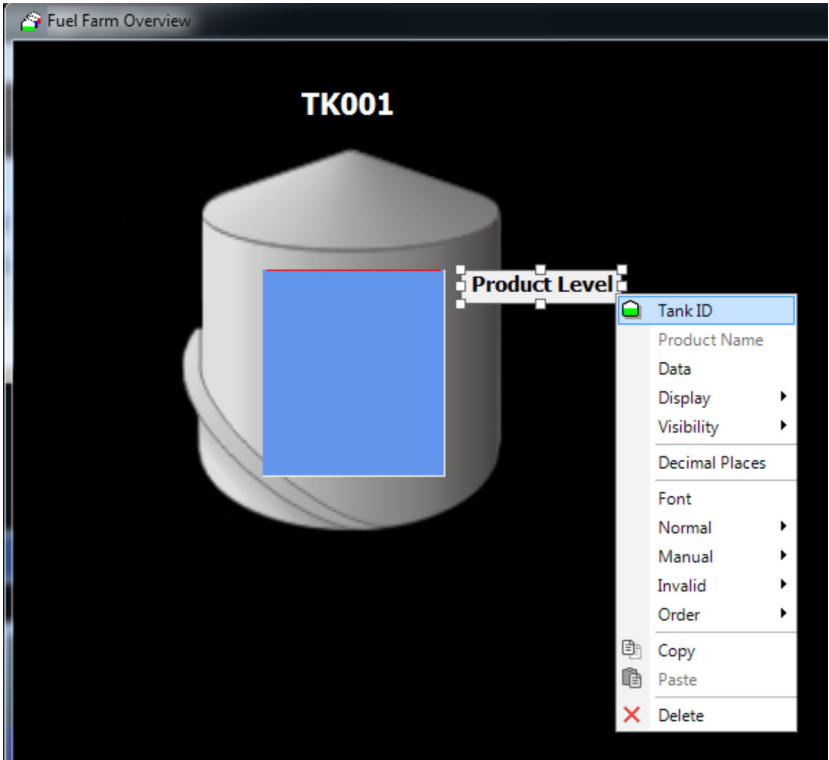
To add Data to the display right click the mouse button, on the main part of the page, to open up the menu selection. Select **Add Item** then **Add Data**. A resizable Data Label will now be displayed.

To specify the data to be displayed, right click on the label to bring up a sub menu. Select **Data** and select the required data to be displayed as shown in the following figure. Select **Display** then **Units**, if required, to ensure units are displayed alongside the data.



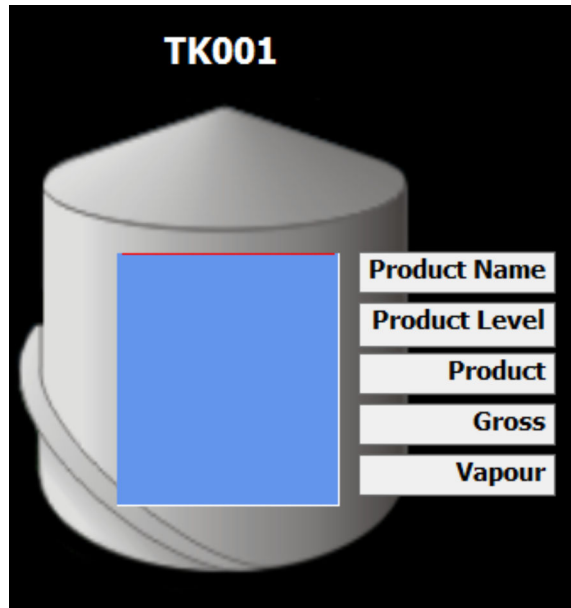
18 Select Data

 To ensure the correct data is displayed the label must be allocated to the correct tank by selecting **Tank ID** from the label sub menu as shown in the following figure.



19 Assigning a Tank ID

In terms of formatting, the data label is set by default to change colour based on the status of the field selected. This ensures that manual data and invalid data are easily identified. The back colour, fore colour (font) and border colour can be amended for each status by right clicking and selecting for example, **Normal** then **Colour** then **Fore Colour**. Continue adding labels in this manner until all of the required data labels are displayed as shown in the following figure.



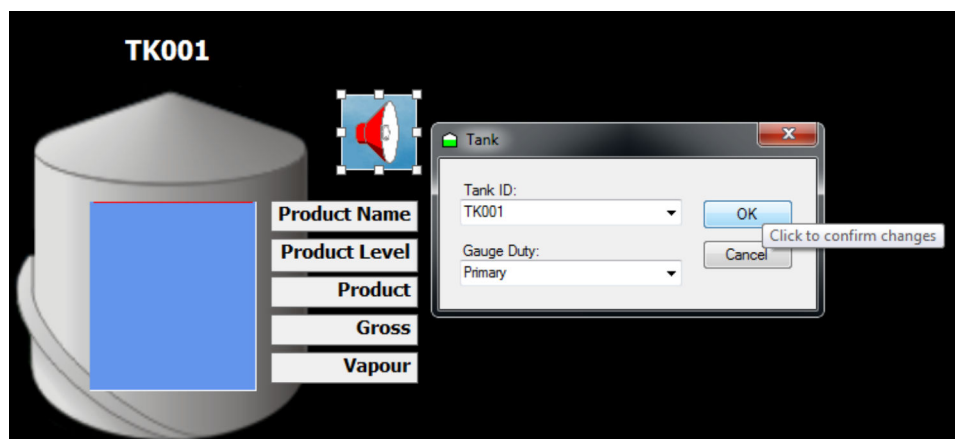
20 All Required Data Labels

To copy existing styles along with the selected tank, right click on a data item and select **Copy**. Right click and select **Paste**. You can now simply edit the data type and drag the data label into position. Multiple items can be selected by holding down the **Ctrl** button.

5.10 Adding an Alarm Indicator

To add an alarm indicator, right click the mouse button on the main part of the page, to open up the menu selection. Select **Add Item** then **Add Alarm** then **Tank**. An alarm picture will appear.

Right click on the Alarm graphic and select **Stretch** to resize the image. Drag the graphic to the required position and allocate it to the tank by right clicking on the alarm graphic and selecting **Tank ID** and selecting the appropriate tank ID as shown in the following figure.



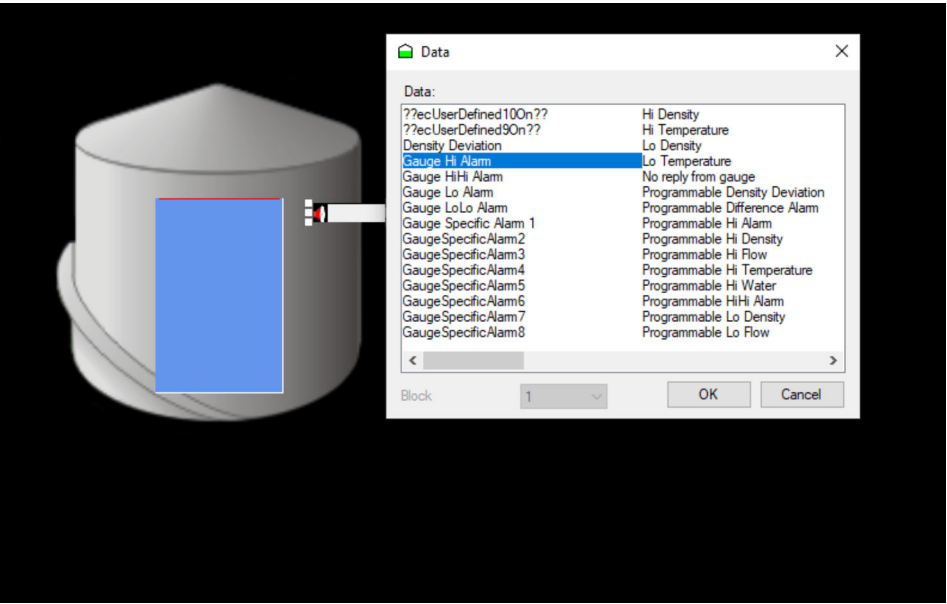
21 Add an alarm indicator

i Once saved and the program is running, the alarm will only be displayed when an alarm event has occurred and will remain in view until the event that triggered the alarm is cleared.

5.11 Adding a Status Label for an Alarm

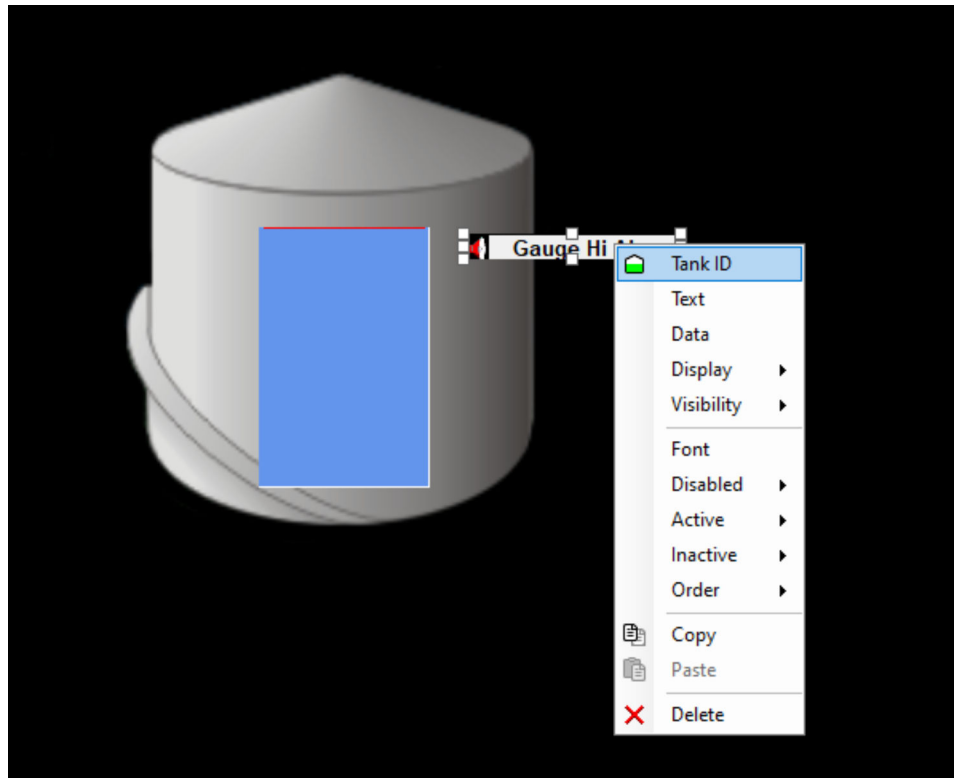
To add an alarm status label, right click the mouse button on the main part of the page, to open up the menu selection. Select **Add Item** then **Add Alarm** then **Status**. A resizable Alarm Status Label will now be displayed.

To specify the alarm status to be displayed, right click on the label to bring up a sub menu. Select **Data** and select the required data for the alarm to be displayed as shown in the following figure. Select **Display** then **Picture**, if required, to ensure a picture is displayed alongside the data.



22 Select an Alarm Status

i To ensure the correct data is displayed the label must be allocated to the correct tank by selecting **Tank ID** from the label sub menu as shown in the following figure.



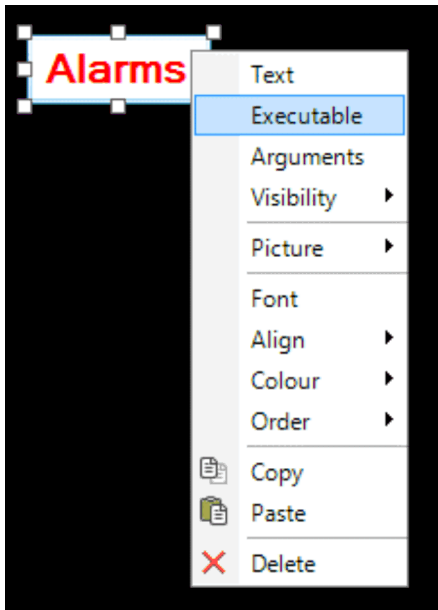
23 Assigning a Tank ID

To ensure that Disabled, Active and Inactive alarm statuses are easily identified, the back colour, fore colour (font) and border colour can be amended for each status by right clicking and selecting for example, **Disabled** then **Colour** then **Fore Colour**.

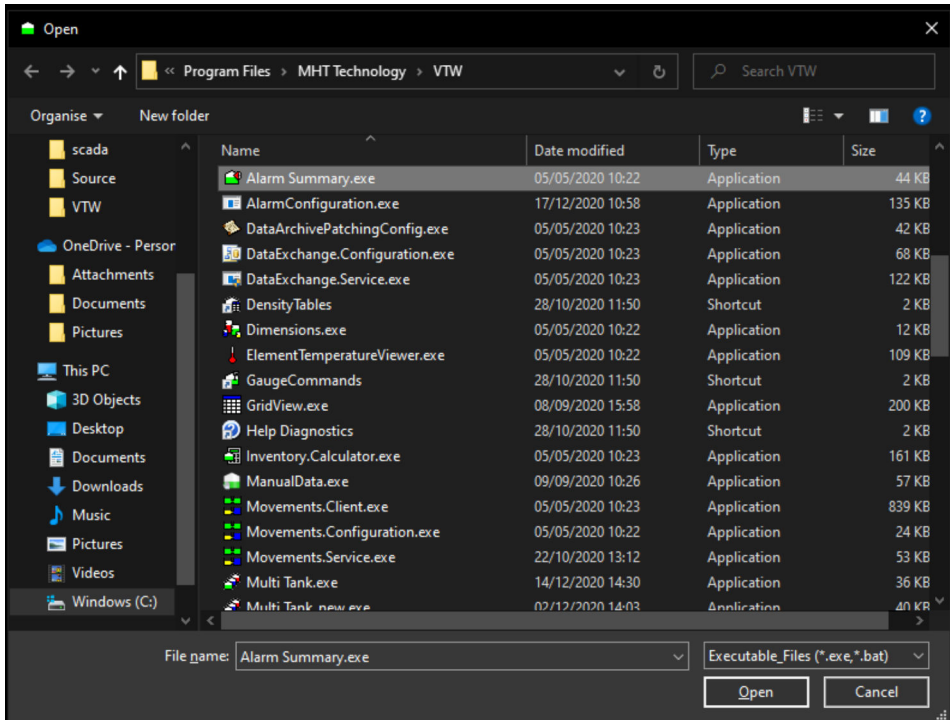
5.12 Adding Navigation Buttons

Navigation or shortcut buttons may be added to speed up navigation between screens or programs. To add a navigation button, right mouse click in the main screen area and select **Add Item** then **Add Button**.

Right click on the button to bring up the sub menu where the text, font alignment and colours can be modified. To enable the shortcut to work select **Executable** from the sub menu and select the program required to run. In the following example the ALARMS button points to the **Alarm Summary.exe** program. All the executable files within VTW are installed by default in the folder "C:\program files\folder of installation".



24 Choose Executable

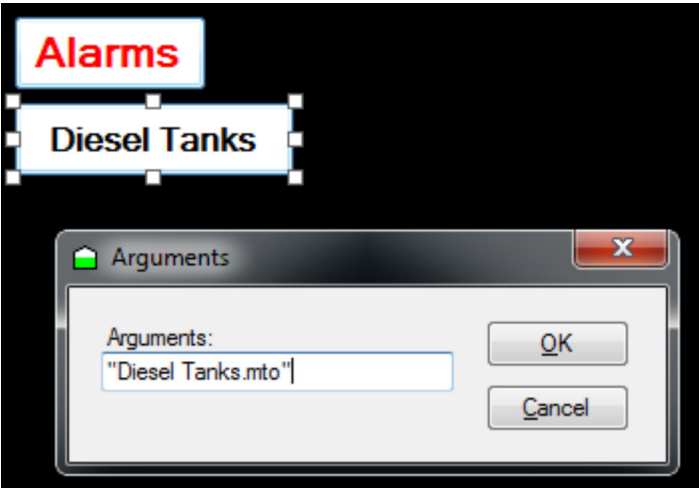


25 Choose File

5.13 Adding Navigation Buttons to Open Other MTO Pages

To add a navigation button to open another Multi Tank Overview (MTO) page it is necessary to point the navigation at the program required to run the page (Multitank.exe) and also select the page to be opened in the **Arguments** selection of the sub menu.

i If the page name you wish to open has spaces in it, then the name must be surrounded by quotation marks in the argument as shown in the following figure.



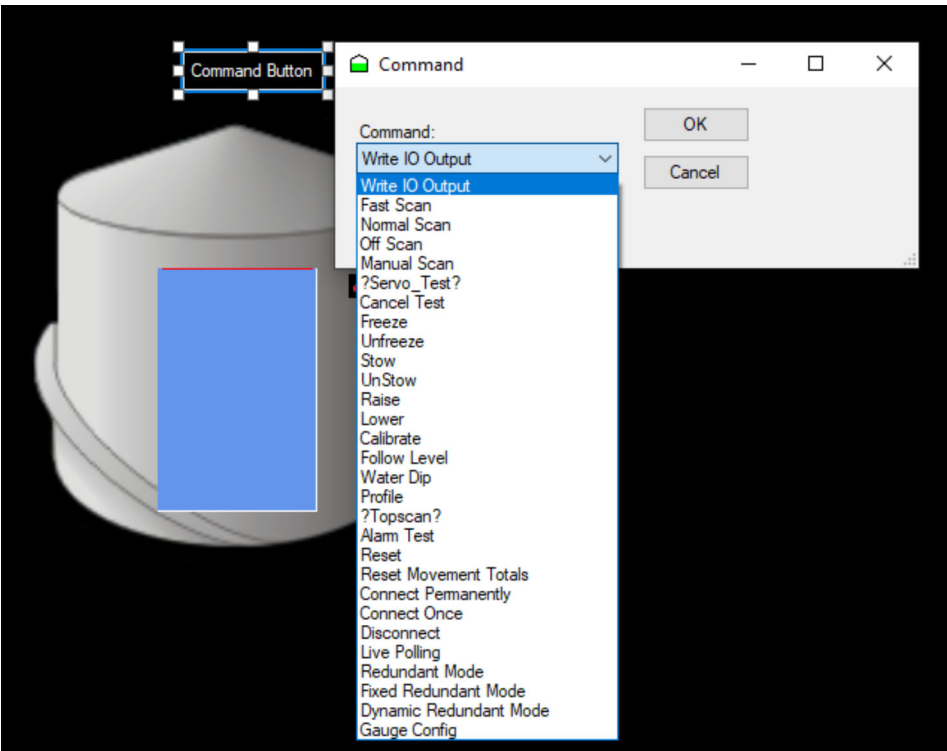
26 Adding Navigation Buttons to Open Other MTO Pages

5.14 Adding a Command Button

Using the mouse, right click on the main area of the screen and select **Add Item** then **Add Command Button**. Add text and format the button as desired using the right click menu.

Select the applicable tank by right clicking and selecting **Tank ID**.

To set the command, right click on the command button and select **Command**, then choose a command from the drop down menu as shown in the following figure.



27 Adding a Command Button

5.15 Saving

To save your design, right click on the main section of the screen and select **Save**. You will be given the option to name your design or overwriting the existing design if you have previously named and saved your design.

To exit the program, click on the close box in the top right of the screen. You will be asked if you wish to save before exiting. Click **yes** and a screen giving you the option to rename your project will appear. Type in a name for your project and select **OK**. The file will be saved in Multi Tank Overview (.mto) format. It is highly recommended that you save your work at regular intervals.

5.16 Adding more Tanks

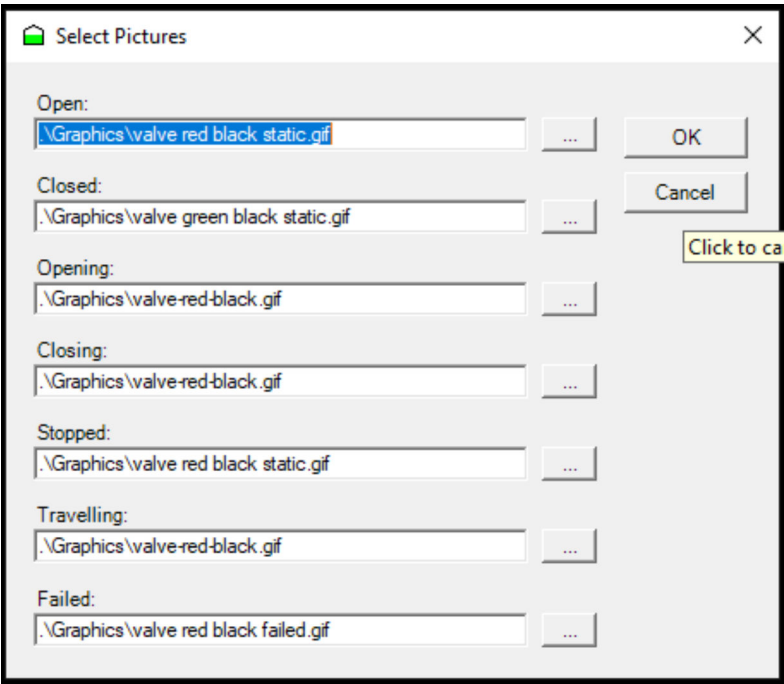
Repeat the above process from **Adding a Picture** onwards to create a true representation of your tanks. To speed things up, you can select multiple items by holding down the **Ctrl** key, right clicking and selecting **Copy** and then right clicking and selecting **Paste**. Ensure you change the tank details per item.


5.17 Adding Valves


To add a valve, right click the mouse button, on the main part of the page, to open up the menu selection. Select **Add Item** then **Add Valve**. A blank, resizable white box will appear which will define the size of the graphic image to be displayed. Right click inside the white box to display a sub menu.

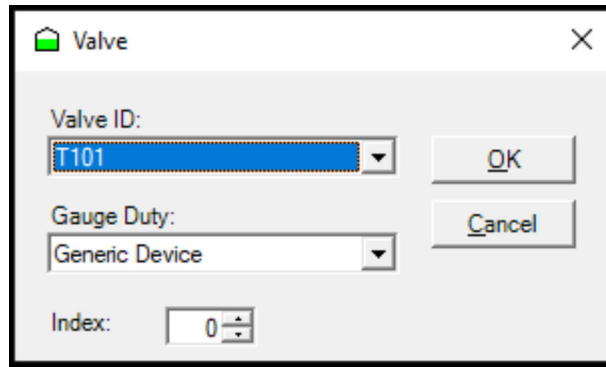
Select **Stretch** to allow the size of the box to be increased or decreased.

Select **Picture** to allocate the graphic image to be displayed for each of the following valve positions: Open, Closed, Opening, Closing, Stopped, Travelling and Failed as shown in the following figure. Animated gif files can be used for opening and closing to illustrate the process.



 28 *Select a Picture for Valve*

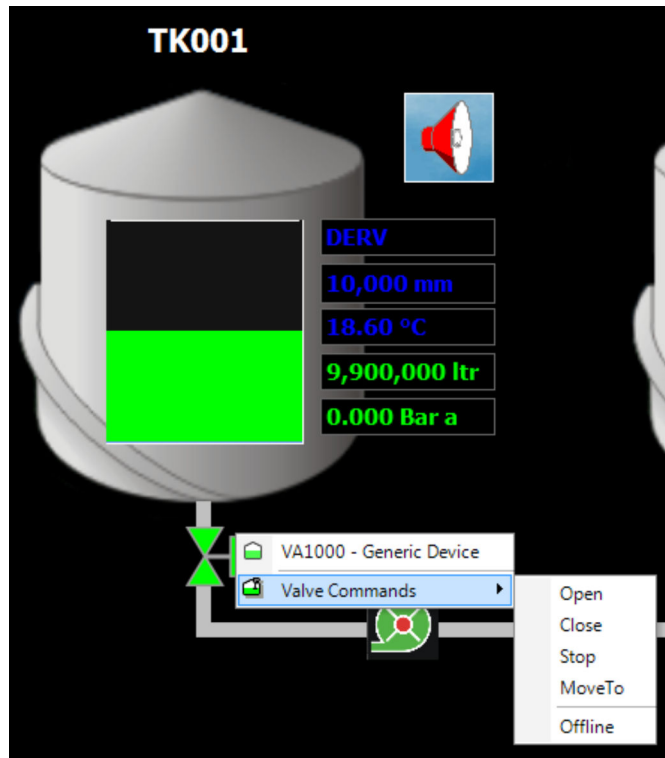
 To ensure the correct data is displayed the picture must be allocated to the correct valve by selecting **Valve ID** from the picture sub menu. Select a valve from the drop down menu as shown in the following figure.



29 Select a Valve ID

5.18 Valve Commands

When Multi Tank Designer has been saved and is running there will be an option to select the valve positions by right clicking the valve graphic and selecting a command from the drop down as shown in the following figure.



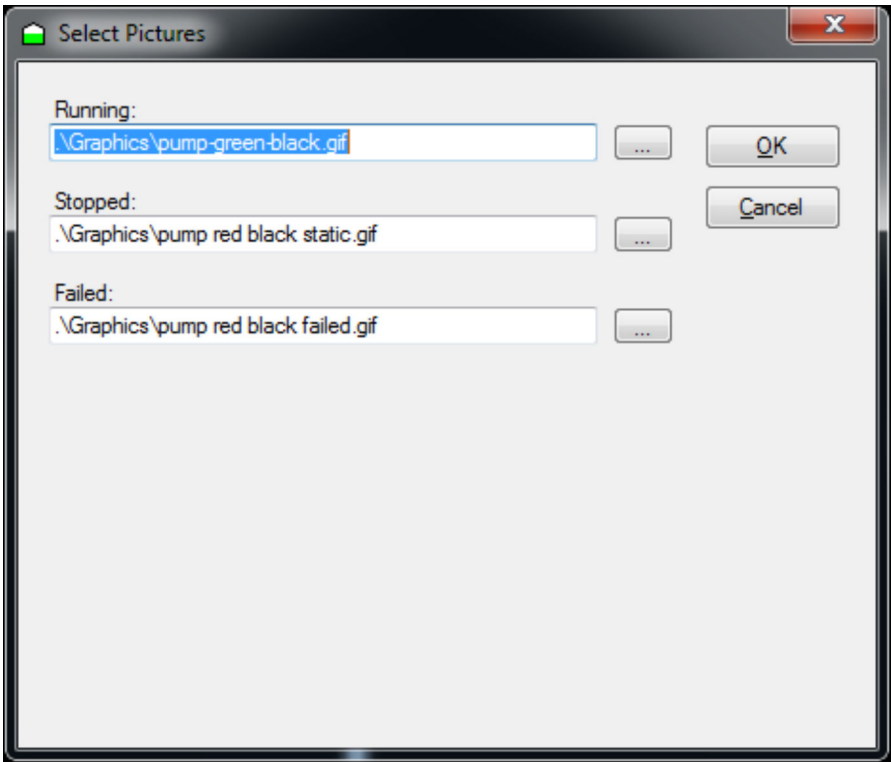
30 Select a Valve Command

5.19 Adding Pumps


To add a pump right click the mouse button, on the main part of the page, to open up the menu selection. Select **Add Item** then **Add Pump**. A blank, resizable white box will appear which will define the size of the graphic image to be displayed. Right click inside the white box to display a sub menu.

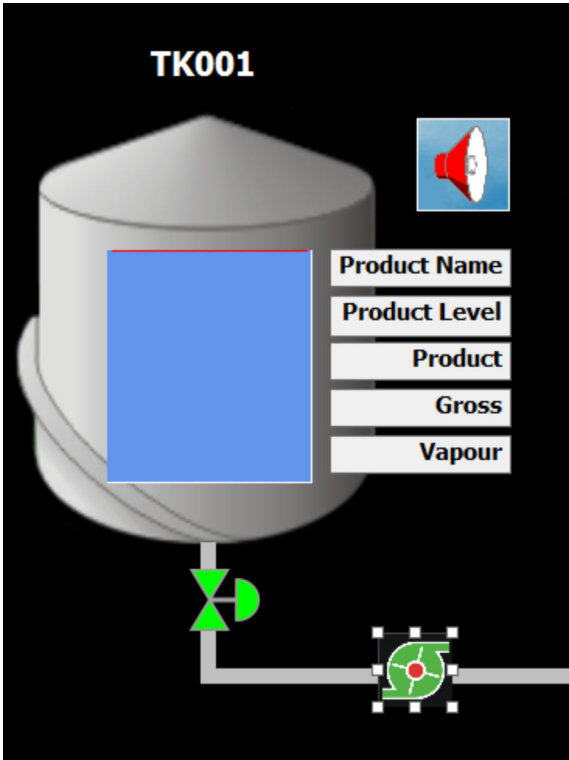
Select **Stretch** to allow the size of the box to be increased or decreased.

Select **Picture** to allocate the graphic image to be displayed for each of the following pump positions: Running, Stopped and Failed as shown in the following figure. Again, an animated gif can be used to illustrate any of the pump positions.

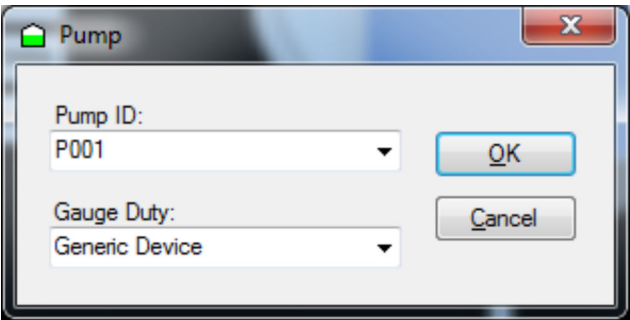


31 Select a picture for the Pump

 To ensure the correct data is displayed the picture must be allocated to the correct pump by selecting **Pump ID** from the picture sub menu. Select a suitable pump object from the drop down menu.



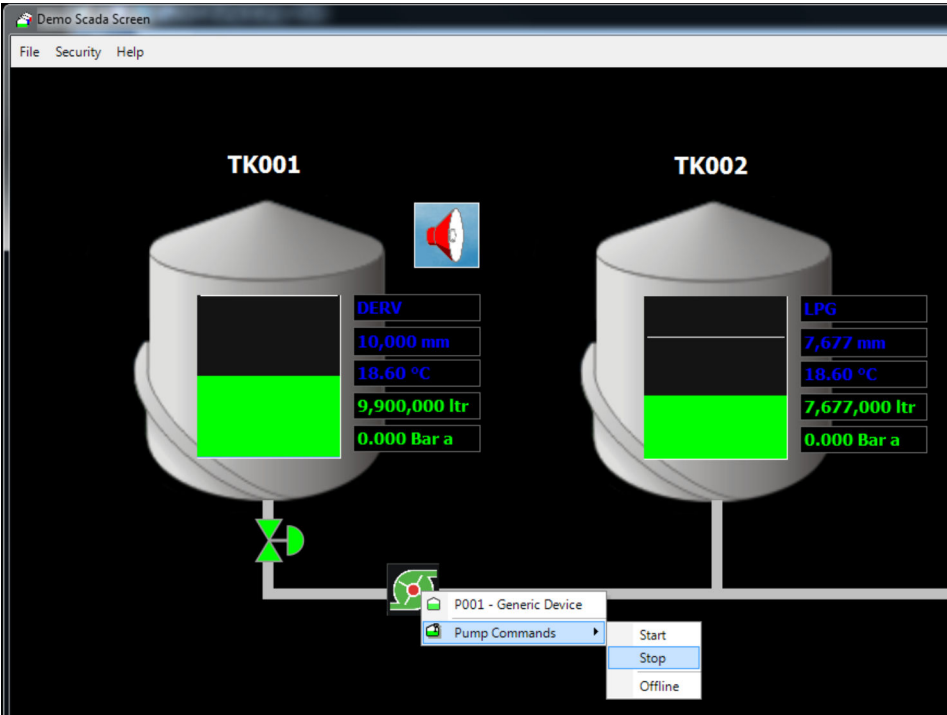
32 Select a Pump ID



33 Select a Pump ID dialog

5.20 Pump Commands

When Multi Tank Designer has been saved and is running there will be to option to select the pump status by right clicking the pump graphic and selecting **pump commands** as shown in the following figure.

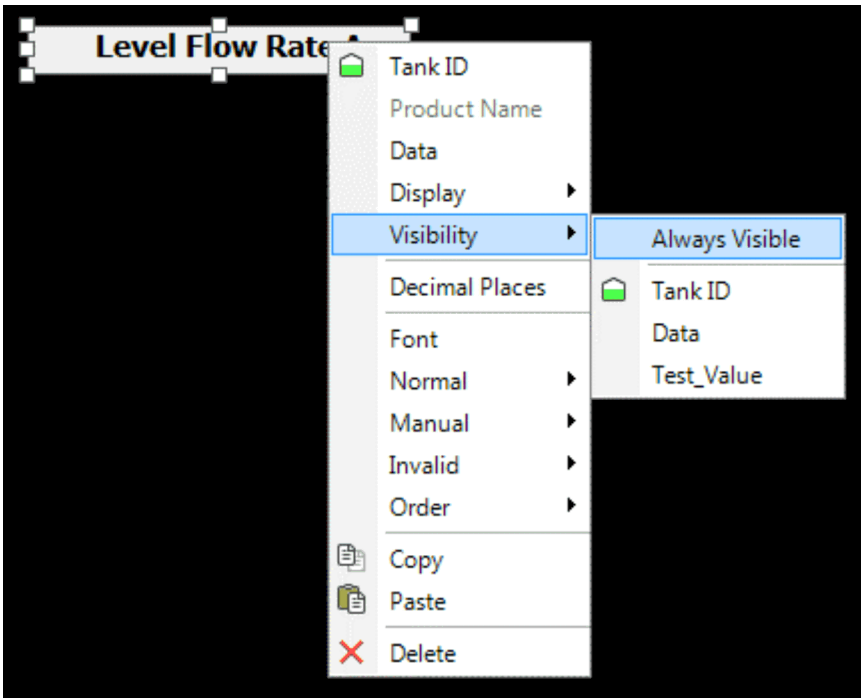


34 Select a Pump Command

5.21 Setting the Visibility of an Object Dynamically

Objects can be dynamically displayed or hidden depending on the outcome of a test. For example, to display an average flow rate if there is a positive flow rate present.

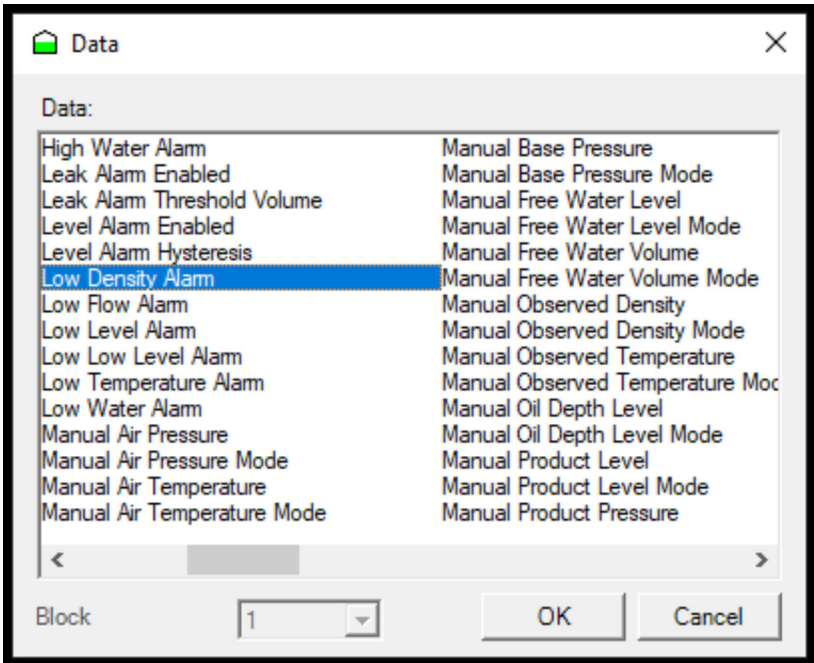
Right click on the object you want to dynamically display. Select **Visibility** then **Always Visible** to clear the tick mark displayed. This will make the further options **Tank ID**, **Data**, **Test Value** become available to select as shown in the following figure.



35 Visibility sub menu

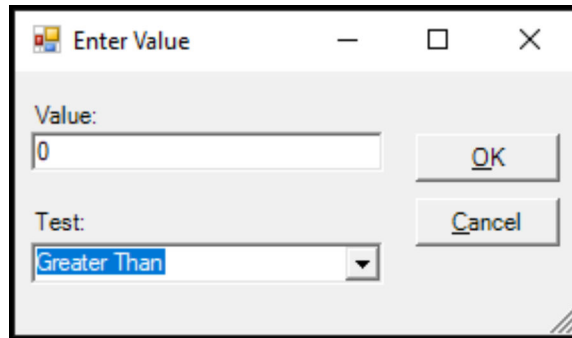
Select a **Tank ID** using the standard method.

Select the Data field you wish to test by right clicking and selecting **Visibility** then **Data** and select the required data as shown in the following figure.



36 Visibility Test Variable

Select a value to test by selecting the test method e.g. **Greater than** from the drop down box and the value to test against. e.g. **Greater than 0, Equal to 100** as shown in the following figure.

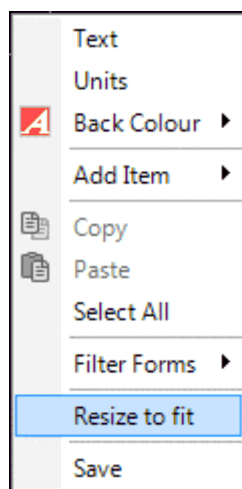


37 Specify a Test Data

5.22 Resizing the screen

i This command cannot be undone so it is recommended that you save a copy of your work first.

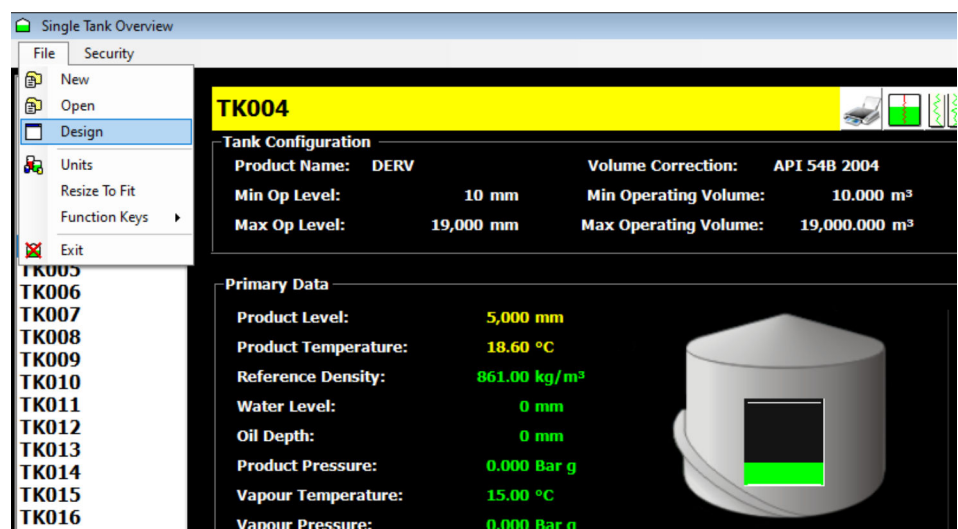
To resize the screen, cropping out all blank parts of the background to fit the current screen size, use the mouse to right click and select **Resize to fit** as shown in the following figure.



38 Resize the Screen

5.23 Editing an Existing Design

To edit an existing design, open up the page you wish to edit and select **File** and then **Design** from the drop down menu as shown in the following figure. This will open up the design page from which the existing graphics and text can be modified and additions to the design can be made.



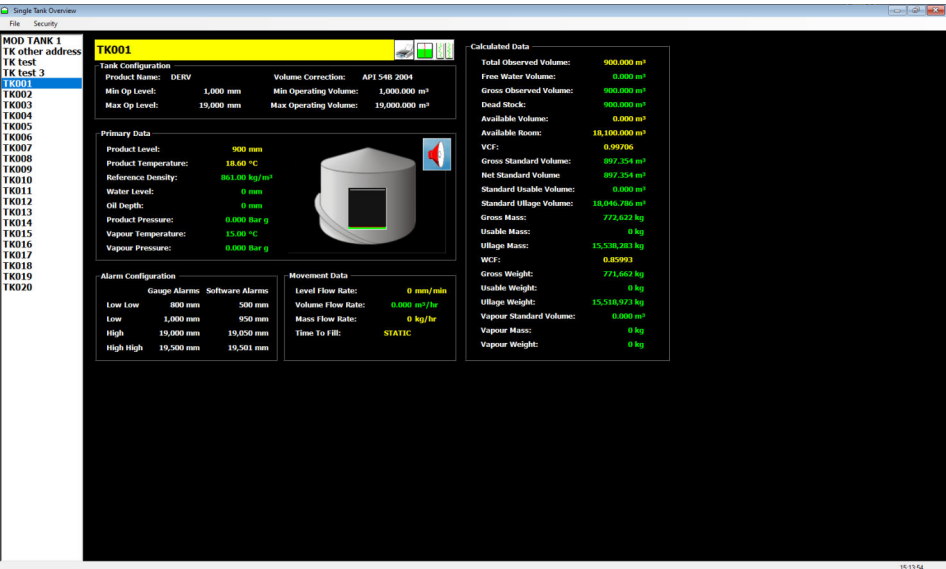
39 Editing an existing design

6 Single Tank Designer

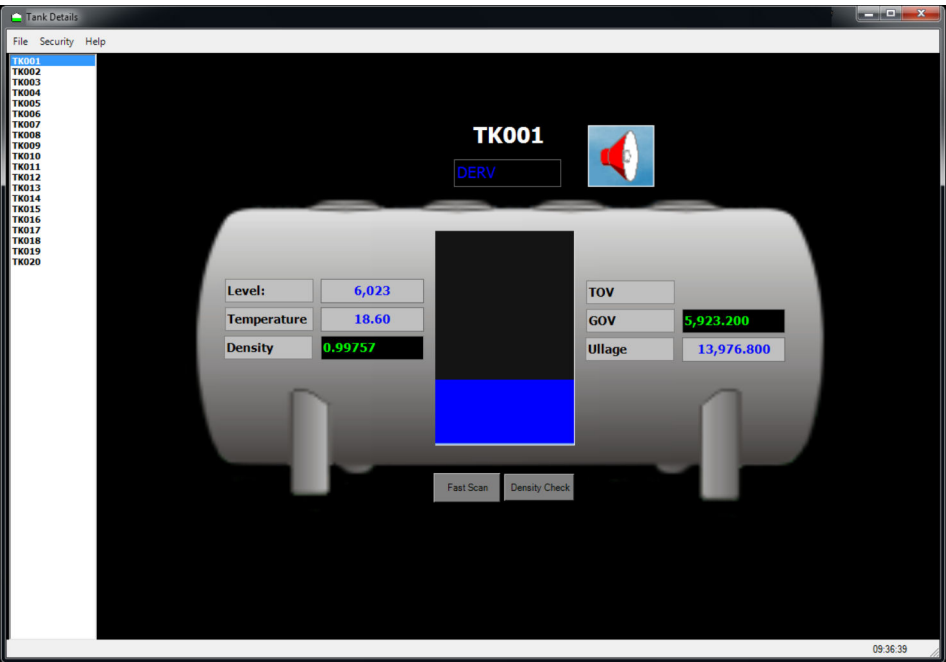
6.1 Single Tank Designer Introduction

The Single Tank display editor is started by selecting **File – New** in Single Tank Overview or by running **Single Tank.exe**. This is installed as standard in the directory C:\program files\folder of installation).

The Single Tank Designer works in a similar way to the Multi Tank Designer, the main difference being that all the data displayed is applicable to just one tank, selected by the user at run time. Therefore it is not necessary to select a tank for any of the objects within the designer, unless tanks are fitted with more than one gauge. In this case, you can select the gauge duty to be displayed.



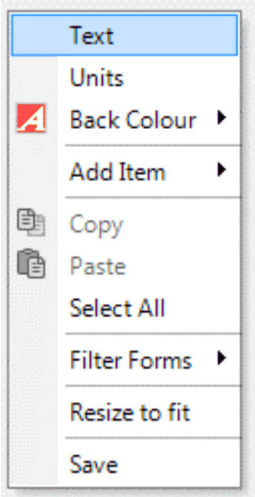
40 Single Tank Designer



41 Single Tank Designer

6.2 Renaming a Page

Right click the mouse button, on the main part of the page, to open up the menu selection. Select **Text** and then rename the page as required as shown below. Select **OK** and the new page name will now appear in the top left of the screen.



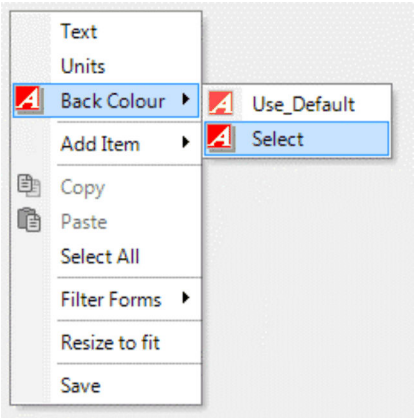
42 Choosing to rename a page



43 Choosing to rename a page

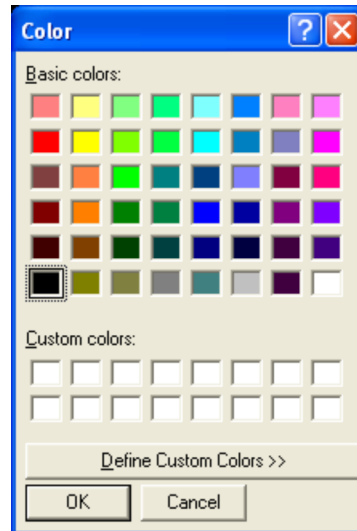
6.3 Creating a Background

(Optional). Right click on the main body of the screen and select **Back Colour**, then **Select** as shown in the following figure.



44 Selecting a background colour

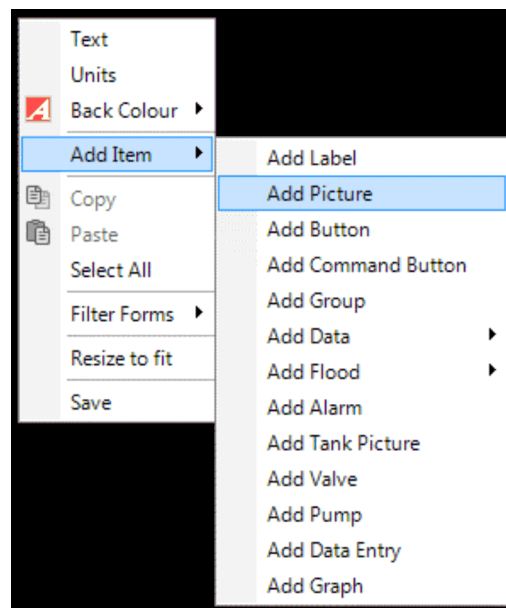
Select a background Colour and click **OK**, as shown in the following figure.



45 Setting a background colour

6.4 Adding a Picture

To add a picture of a tank, right click on the main body of the page, select **Add Item** then **Add Picture** as shown in the following figure.

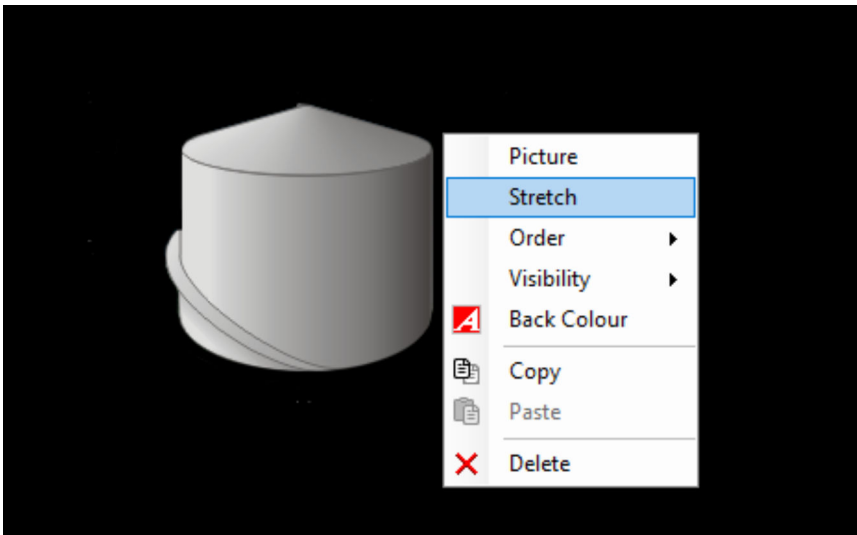


46 Add Picture

Right click within the box and select **Picture**. Choose a picture to be inserted from the graphics folder. In this case “aVCBLACK.bmp”.

All images within VTW are installed by default in the folder “C:\program files\folder of installation\Graphics”.

Right click on picture and select **Stretch** as shown in the following figure. This enables you to be adjust the box containing the picture to the required size.

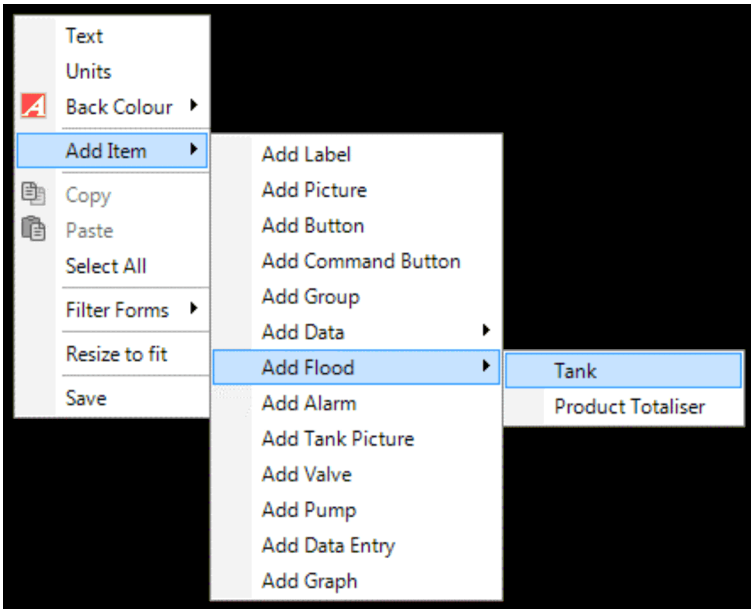


47 Stretch Picture

Other picture options are available from the right click menu such as Order (front or back), Visibility (display the image based on a condition) and Back Colour (background colour).

6.5 Adding a Flood Object

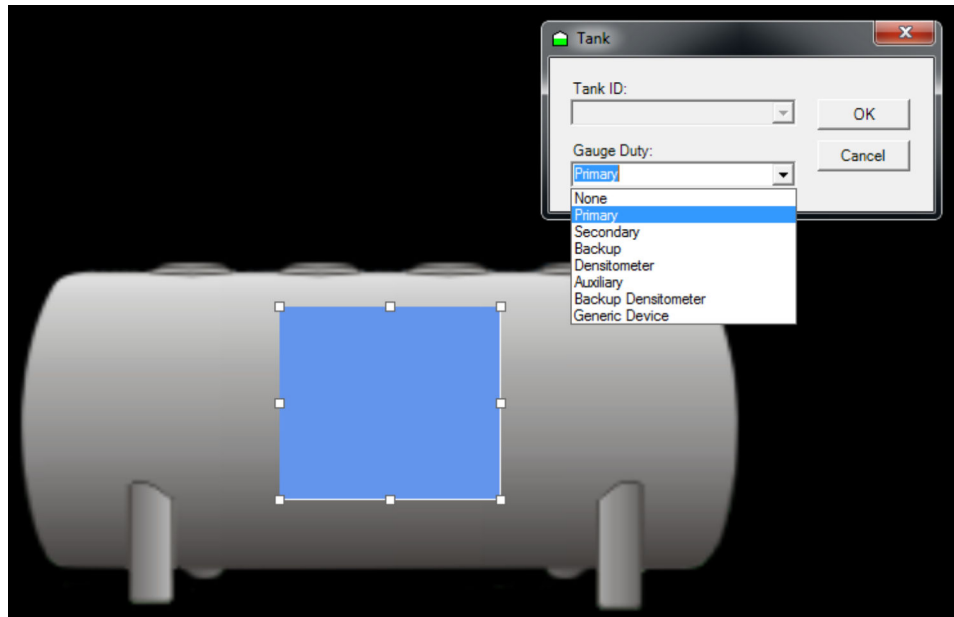
Right click the mouse button, on the main part of the page, to open up the menu selection. Select **Add Item** then **Add Flood** then **Tank** as shown in the following figure. A Flood Object will now be displayed. This can be dragged into position using the mouse and resized as required.



48 Add Flood

6.5.1 Animating the Flood Object

To select a specific Gauge, right click on the Flood object and select **Tank ID**. Select a gauge from the drop down menu and click ok as shown in the following figure.



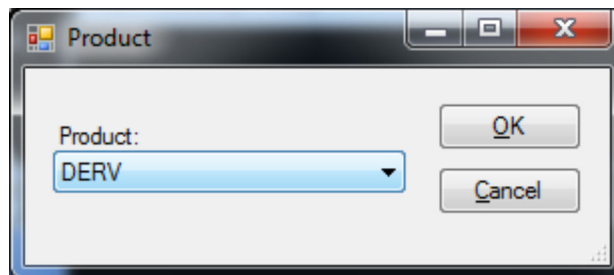
49 Animating Flood

Right click on the flood object and select **Display** then **Show Operating Levels**.

6.5.2 Adding a Product Totaliser Flood Object

A similar object can be added to display the total amount of a product. Right click the mouse button on the main part of the page and select **Add Item** then **Add Flood** then **Product Totaliser**.

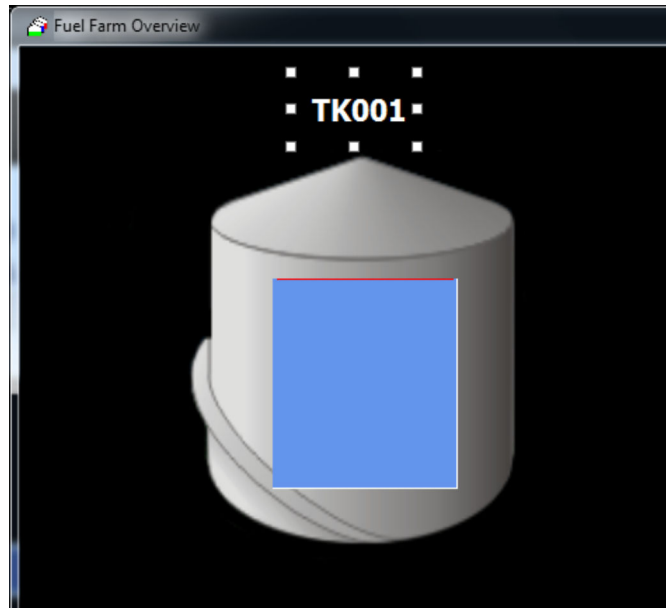
Select the applicable product by right clicking on the flood object and clicking **Product Name** as shownn in the following figure.



50 Select Product

6.6 Adding a Label

Right click the mouse button, on the main part of the page, to open up the menu selection. Select **Add Item** then **Add Label**. A resizable Custom Label will now be displayed as shown in the following figure.



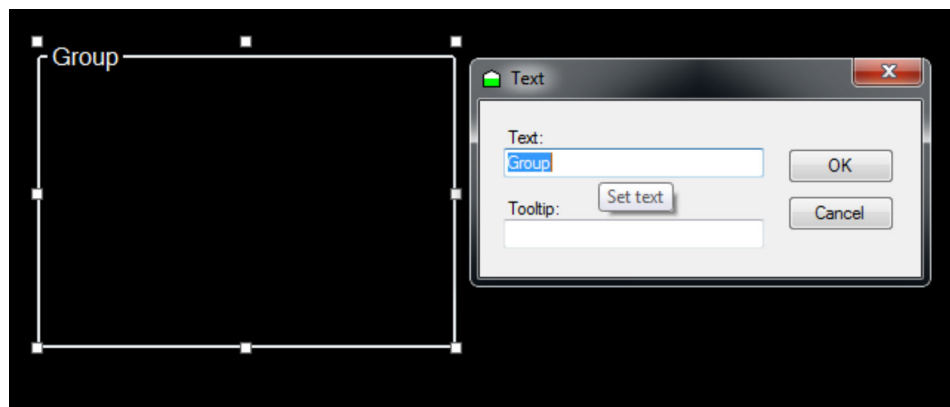
51 Add Label

Select Text to amend text.

Font, alignment, fore, background and border colours can all be modified as required. Fore colour sets the font colour.

6.7 Adding a Group

Right click the mouse button, on the main part of the page, to open up the menu selection. Select **Add Item** then **Add Group**. A resizable Custom Group will now be displayed. Right click on the Custom Group box and the option to rename the group and add a tooltip as shown in the following figure. The tooltip will appear on the screen when the mouse is hovered over the Custom Group.



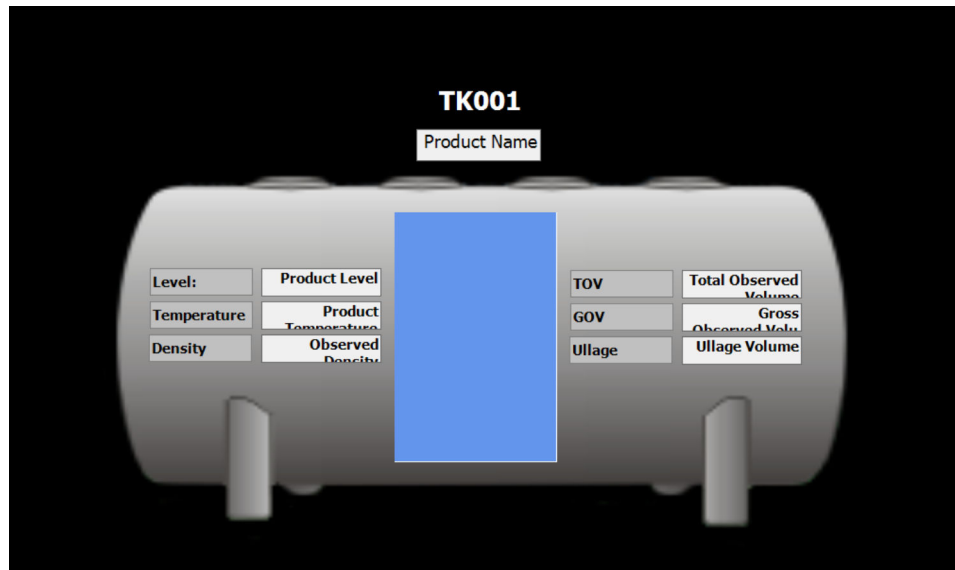
52 Add Group

6.8 Adding Data

To add Data to the display right click the mouse button, on the main part of the page, to open up the menu selection. Select **Add Item** then **Add Data**. A resizable Data Label will now be displayed.

To specify the data to be displayed, right click on the label to bring up a sub menu. Select **Data** and select the required data to be displayed.

Select **Display** then **Units**, if required, to ensure units are displayed alongside the data.



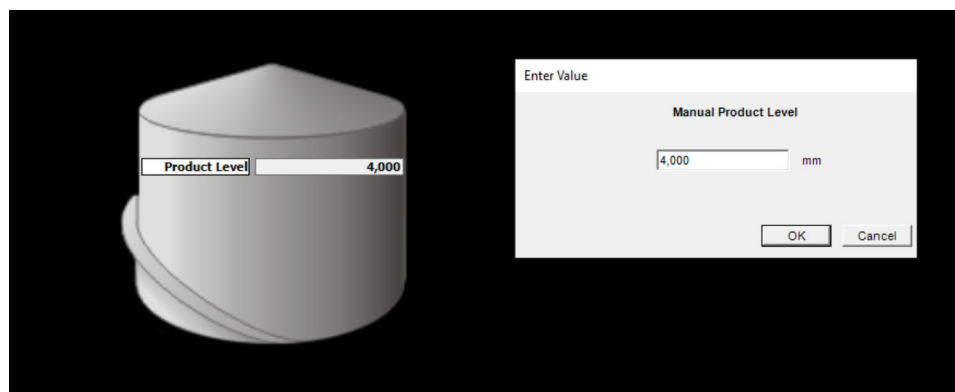
53 Single tank Data

In terms of formatting, the data label is set by default to change colour based on the status of the field selected. This ensures that manual data and invalid data are easily identified.

The back colour, fore colour (font) and border colour can be amended for each status by right clicking and selecting for example, “Normal” then “Colour” then “Fore Colour”.

6.8.1 Data Entry

A Data Entry field is similar to a data field except that it allows the value to be modified as shown in the following figure. Only certain data values can be set for this type of field, such as manual data, manual mode, alarm setpoints etc.



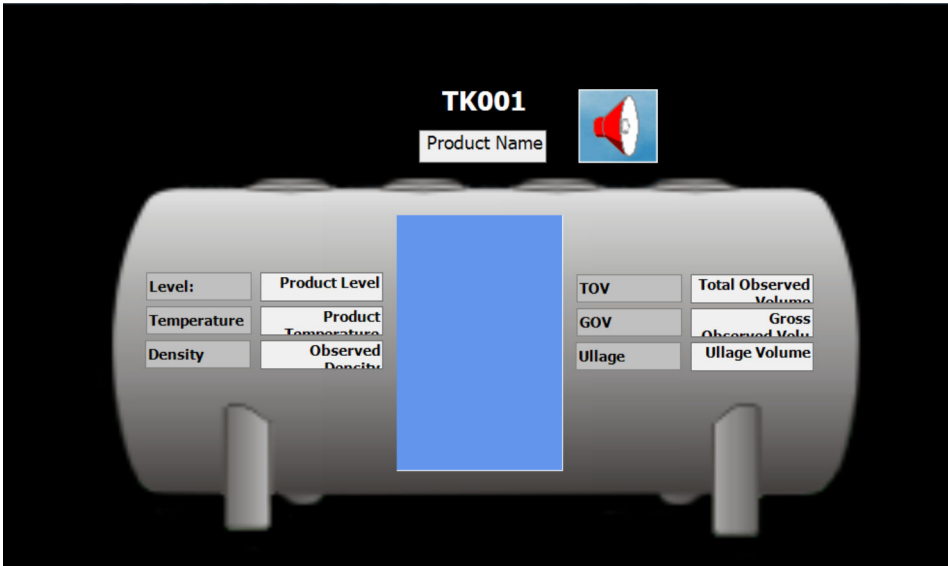
54 Amend Data

6.9 Adding an Alarm Indicator

To add an alarm indicator, right click the mouse button on the main part of the page, to open up the menu selection. Select **Add Item** then **Add Alarm** then **Tank**. An alarm picture will appear. Right click on the Alarm graphic and select **Stretch** to resize the image.



Once saved and the program is running, the alarm will only be displayed when an alarm event has occurred and will remain in view until the event that triggered the alarm is cleared.

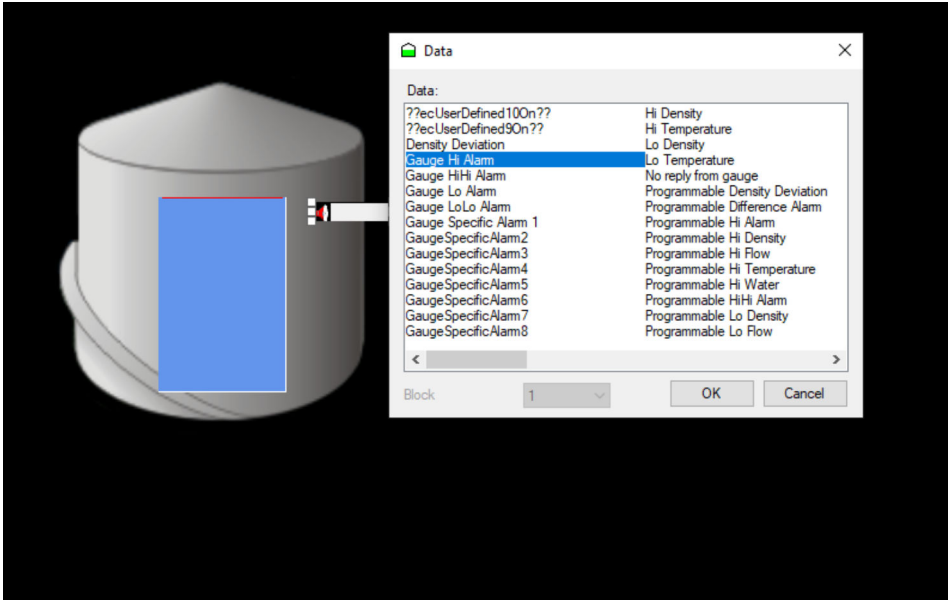


55 Add an Alarm Indicator

6.10 Adding a Status Label for an Alarm

To add an alarm status label, right click the mouse button on the main part of the page, to open up the menu selection. Select **Add Item** then **Add Alarm** then **Status**. A resizable Alarm Status Label will now be displayed.

To specify the alarm status to be displayed, right click on the label to bring up a sub menu. Select **Data** and select the required data for the alarm to be displayed as shown in the following figure. Select **Display** then **Picture**, if required, to ensure a picture is displayed alongside the data.



56 Select an Alarm Status

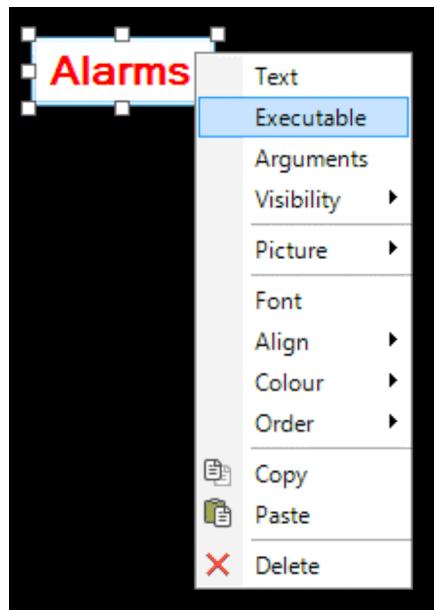
To ensure that Disabled, Active and Inactive alarm statuses are easily identified, the back colour, fore colour (font) and border colour can be amended for each status by right clicking and selecting for example, "Disabled" then "Colour" then "Fore Colour".

6.11 Adding Navigation Buttons

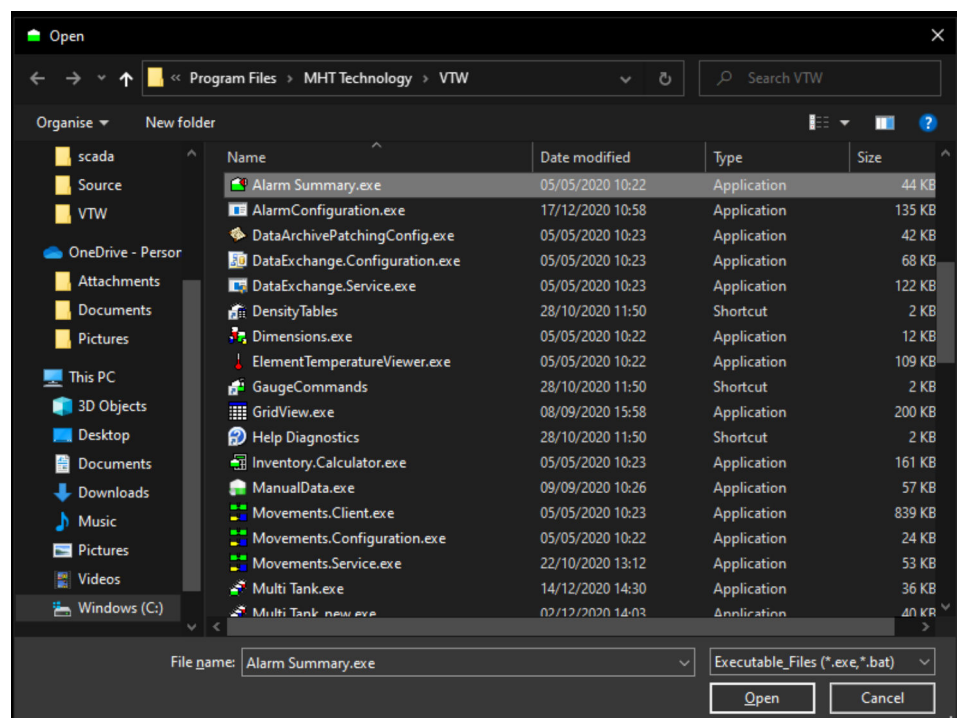
Navigation or shortcut buttons may be added to speed up navigation between screens or programs. To add a navigation button, right mouse click in the main screen area and select **Add Item** then **Add Button**.

Right click on the button to bring up the sub menu where the text, font alignment and colours can be modified.

To enable the shortcut to work select **Executable** from the sub menu and select the program required to run. In the following example the ALARMS button points to the **Alarm Summary.exe** program. All the executable files within VTW are installed by default in the folder "C:\program files\folder of installation".




57 Choose Executable

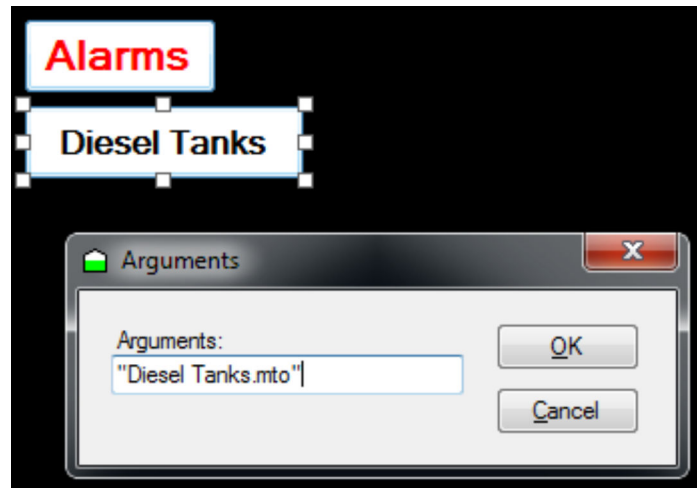


58 Choose file

6.12 Adding Navigation Buttons to Open Other STO Pages

To add a navigation button to open another Single Tank Overview (STO) page it is necessary to point the navigation at the program required to run the page (Single Tank.exe) and also select the page to be opened in the **Arguments** selection of the sub menu.

 If the page name you wish to open has spaces in it, then the name must be surrounded by quotation marks in the argument as shown in the following figure.

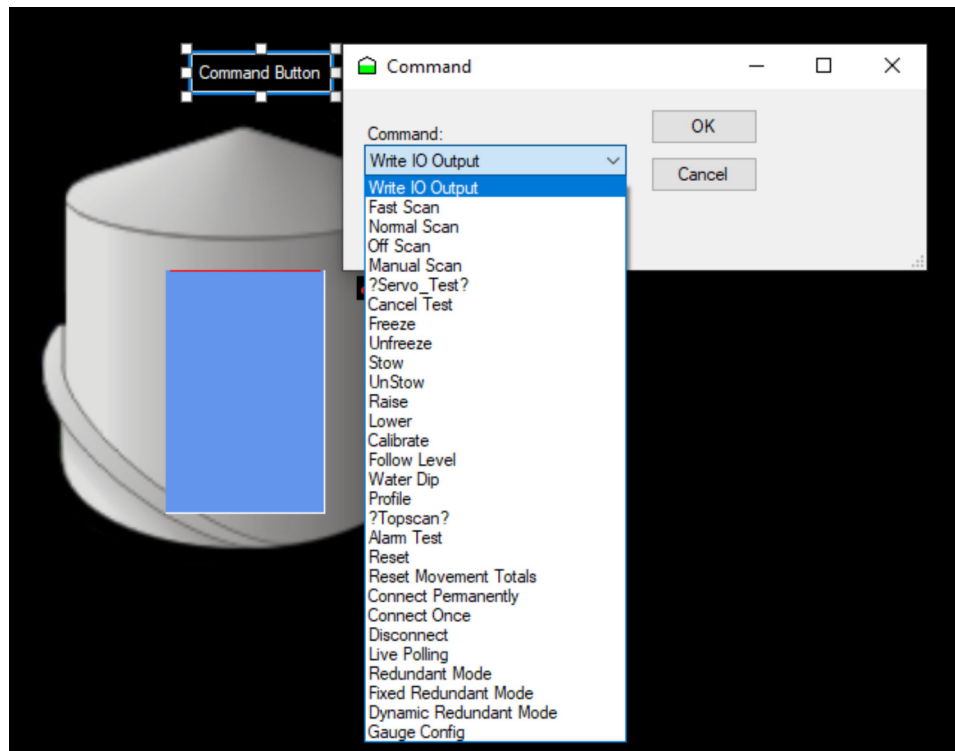


 59 Adding Navigation Buttons to Open Other STO Pages

6.13 Adding a Command Button

Using the mouse, right click on the main area of the screen and select **Add Item** then **Add Command Button**. Add text and format the button as desired using the right click menu.

To set the command, right click on the command button and select **Command**, then choose a command from the drop down menu as shown in the following figure.



60 Adding a Command Button

6.14 Saving

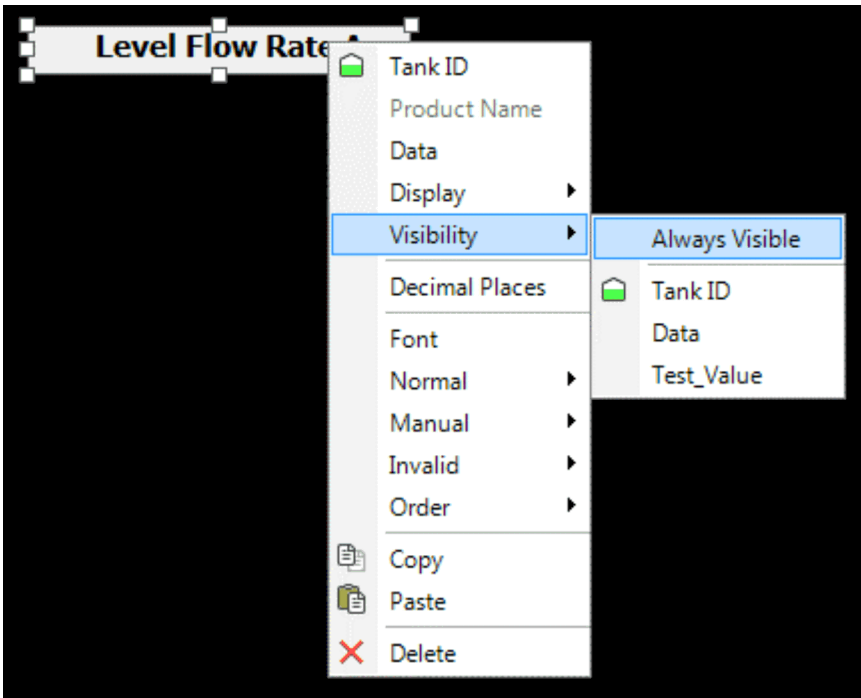
To save your design, right click on the main section of the screen and select **Save**. You will be given the option to name your design or overwriting the existing design if you have previously named and saved your design.

To exit the screen, click on the close box in the top right of the screen. You will be asked if you wish to save before exiting. Click **yes** and a screen giving you the option to rename your project will appear. Type in a name for your project and select **OK**. The file will be saved in Single Tank Overview (.sto) format. It is highly recommended that you save your work at regular intervals.

6.15 Setting the Visibility of an Object Dynamically

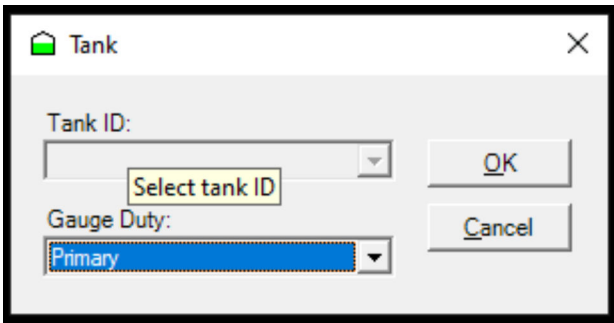
Objects can be dynamically displayed or hidden depending on the outcome of a test. For example, to display an average flow rate if there is a positive flow rate present.

Right click on the object you want to dynamically display. Select **Visibility** then **Always Visible** to clear the tick mark displayed. This will make further options **Tank ID**, **Data**, **Test Value** become available to select as shown in the following figure.



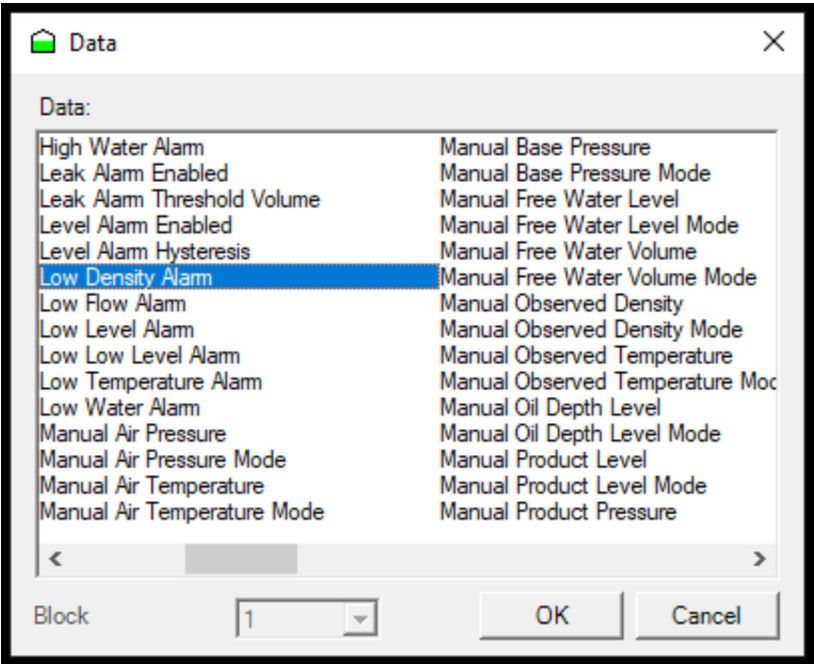
61 Visibility sub menu

In this case you do not need to select a tank, but you can select a Gauge if applicable using the standard method as shown in the following figure.



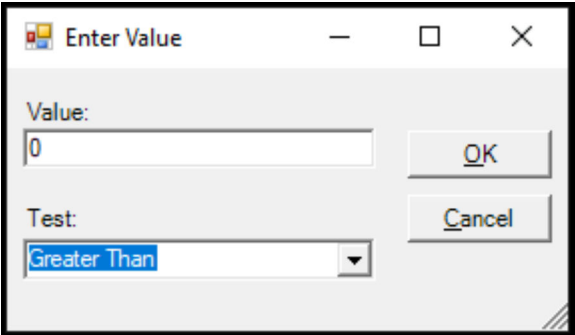
62 Choose Gauge

Select the Data field you wish to test by right clicking and selecting **Visibility** then **Data** and select the required data as shown in the following figure.



63 Visibility Test Variable

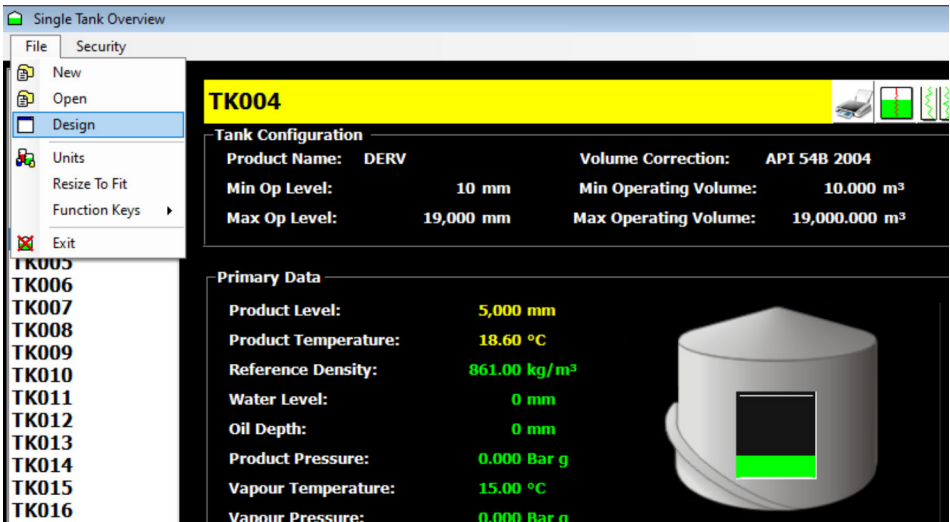
Select a value to test by selecting the test method e.g. **Greater than** from the drop down box and the value to test against. e.g. **Greater than 0, Equal to 100** as shown in the following figure.



64 Specify a Test Data

6.16 Editing an Existing Design

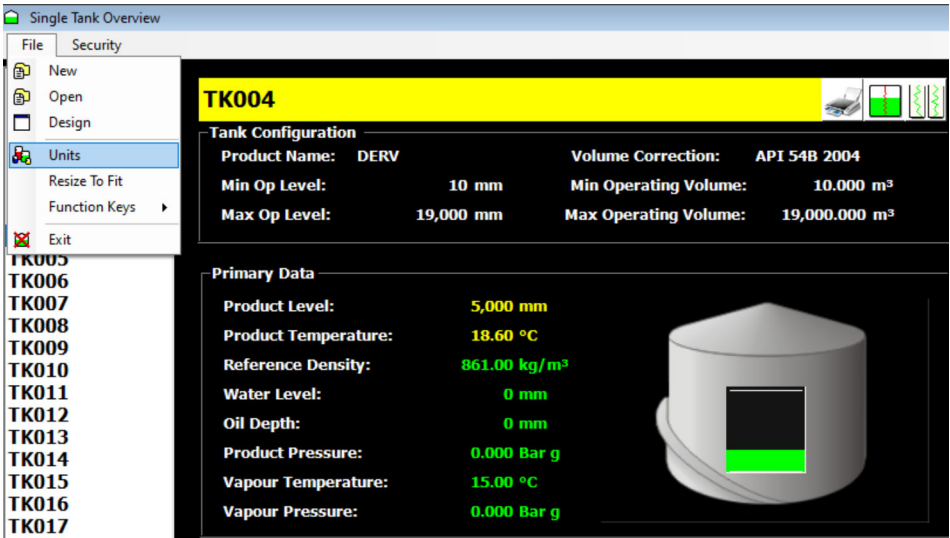
To edit an existing design, open up the page you wish to edit and select **File** and then **Design** from the drop down menu as shown in the following figure. This will open up the design page from which the existing graphics and text can be modified and additions to the design can be made.



65 Editing an existing design

6.17 Changing the display units

To configure the display units open up the page you wish to edit and select **File** and then select the Units option from the drop down menu as shown in the following figure.

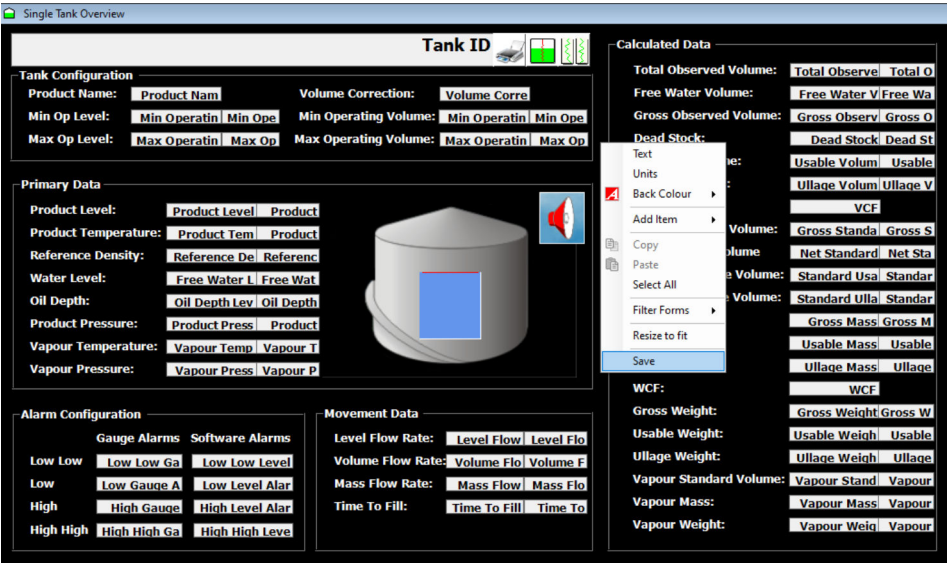


66 Display Units

The units for each data type may be configured and are then used in the Tank Gauging system to format live data in the system.

6.18 Saving the display

To save the display configuration, either close the Display Editor or right click on a blank section of the editor and select **Save** from the menu as shown in the following figure.

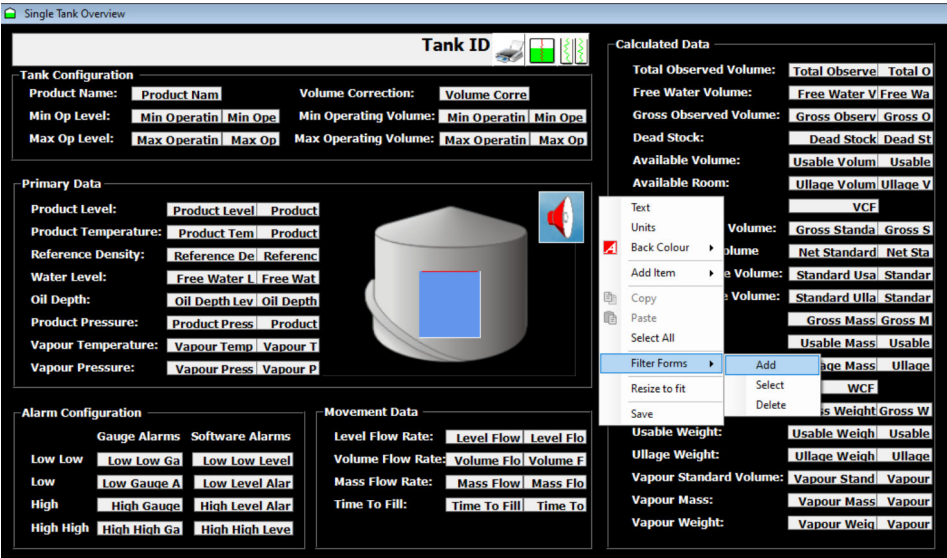


67 Save the Display

The display is saved to a file of type .sto and the file name and destination can be specified. If a new file name is specified in the SAVE AS screen (i.e. a new file name) then the configuration data will be saved to the new file and a new display will have been added to the list of single tank displays. The changes will not have been saved in the original file. Leave all details in this screen and select Save. Select **Yes** to overwrite the existing file.

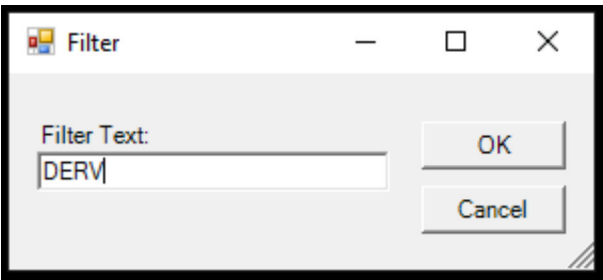
6.19 Creating a Sub Form

In some cases you may wish to display different data for certain tanks, or product types. For example, if the tank contains LPG, you may wish to display different pressure and / or temperature information. To create a sub form, use the mouse to right click and select **Filter Forms** then **Add** as shown in the following figure.



68 Filter Form

You will be prompted to enter a filter. Enter either a product type (e.g. LPG, DERV) or a Tank Name (e.g. TK001) as shown in the following figure.

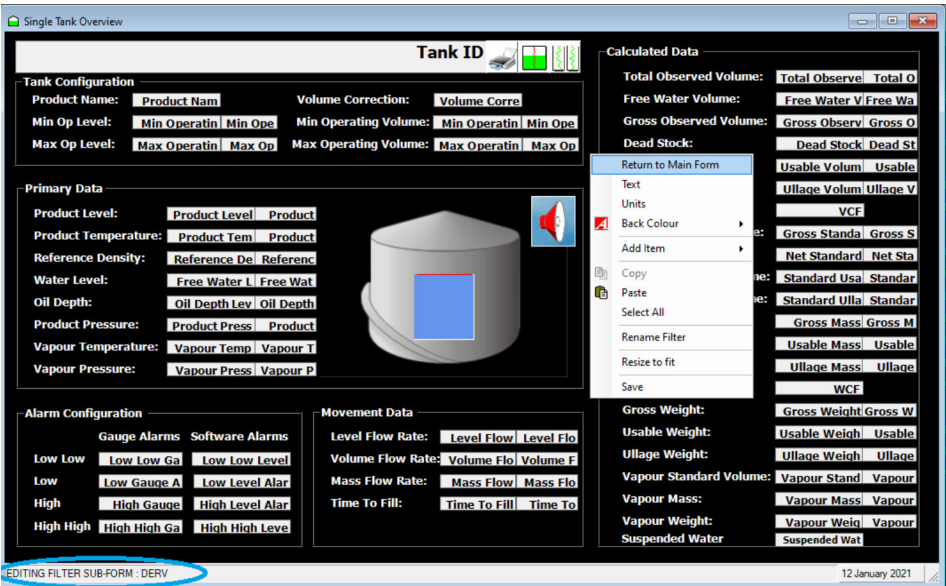


69 Sub Form Filter

This will create a sub form which will be displayed for all tanks with the criteria you have just entered. In this example, all DERV tanks will use the sub form we have created, rather than the main form.

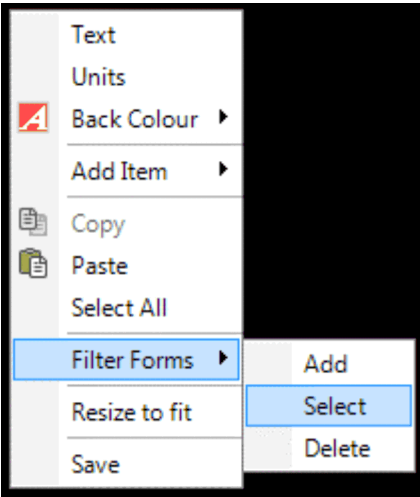
The sub form will be created in the same format as the main form initially. You can identify which form you are editing by checking the details in the bottom left hand corner of the screen.

Change the form as you wish (in the example below we have added a suspended water) then use the mouse to right click and select **Return to main form**.



70 Switching into forms

If you wish to reopen the sub form for editing, use the mouse to right click and select **Filter Forms** then **Select** as shown in the following figure. This will bring up a screen with a drop down box, select the sub form you wish to edit and click **ok**.



 71 *Select a Sub Form*

Filter forms are saved within the main form. To save, ensure you have returned to the main form and then save in the usual way.

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