



User's Guide



iQ Single Pumpset Monitor

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 **EDWARDS**

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Welcome

Welcome to the iQ Single Pumpset Monitor. The iQ Single Pumpset Monitor enables you to monitor and control an Edwards iQ Drypumping system

About the User's Guide

This guide is divided into six sections:

- **Installing the iQ Single Pumpset Monitor**
Computer requirements and how to install or uninstall the iQ Single Pumpset Monitor.
- **About the iQ Single Pumpset Monitor**
The Single Pumpset Monitor windows and controls, and some of the terms used throughout this guide.
- **Using the iQ Single Pumpset Monitor**
How to use the Single Pumpset Monitor.
- **Datalogging**
How to set up parameters for the data to be logged and how to start or stop logging.
- **The Configuration Handler**
How to set up and use the Configuration Handler.
- **Troubleshooting**
How to rectify problems which may arise with the Single Pumpset Monitor.

Conventions

Document Conventions



Step by step procedures. To carry out the instructions, you can use the mouse or the keyboard.

bold type

Characters you must type exactly as shown.



Read carefully and take note of.

TAB, CTRL

Keyboard key names.

Units, Temperature

Select a menu (Units) and then an option from that menu (Temperature).

Automatic

Select the Automatic button.

Windows Conventions

This guide assumes that you are familiar with Microsoft Windows conventions, such as icons, windows and buttons. If you are not, you are advised to read the appropriate Microsoft Windows documentation before you attempt to install and use the Single Pumpset Monitor software.

Mouse Conventions

If you have a multiple-button mouse, the left button is the primary button, unless you have configured it differently. Any procedure described in this guide which refers to the secondary mouse button will refer to it as “the right mouse button”.

Point

Position the mouse pointer so that the tip of the pointer rests on whatever you want to point to.

Click

Press and immediately release the left mouse button, without moving the mouse.

Double-click

Press the left mouse button twice in quick succession.

Drag Click and hold the left mouse button, while moving the mouse.

Keyboard conventions

All key names are shown in small capital letters.

Shortcut keys	You can use keys in combinations or sequences as shortcut keys. For example, CTRL + END means hold down CTRL while pressing END.
RETURN and ENTER keys	These keys normally perform the same function and may be used interchangeably.
Arrow keys (← → ↑ ↓) HOME; END; PAGE UP; PAGE DOWN	These keys may be used singly or in combination with CTRL to move around the window/dialogue box.
Numeric keypad keys	If your keyboard has a numeric keypad, you can type numbers, provided that you first press the NUM LOCK key.

Installing the Single Pumpset Monitor



The iQ Single Pumpset Monitor software comes on two 3.5" floppy disks. Before you install the Single Pumpset Monitor, take backup copies of these disks.

Computer Requirements

You need the following hardware and software to run the Single Pumpset Monitor.

Computer	An IBM PC or equivalent with 486 DX/33 processor or better.
Operating systems	Windows 3.11 or later. MS-DOS 6.2 or later.
RAM	8 Megabytes (minimum).
Hard disk space	Approximately 3 Mbytes.
Mouse	A mouse that is supported by Windows.

Installing the Single Pumpset Monitor



Start Windows, if it is not already running.

Insert disk 1 into a floppy disk drive

In the Program Manager, choose File, Run

Type **a:\setup** (or the appropriate drive identifier)

2 Installing the Single Pump Monitor

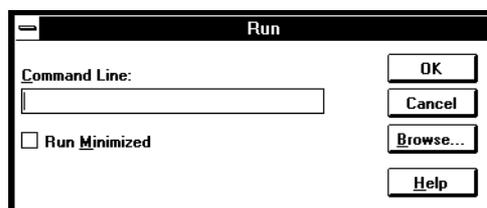
Follow the instructions which appear on the screen during installation. When the installation is complete, a new program group called EHVI Applications will appear in your Program Manager, containing two icons: iQ SPM, and iQ SPM Read Me.



The iQ SPM Read Me file contains information on the software release, including installation, passwords, new features, contact address and telephone numbers for technical support.

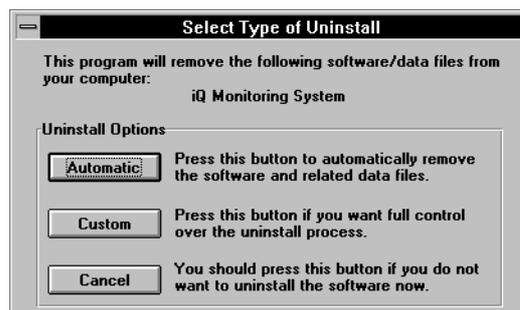
Uninstalling the Single Pumpset Monitor

- From the Program Manager, select File, Run.



Click on **Browse** and change to the EHVI_IQ directory. Double-click on UNINSTAL.EXE. Click on **OK**.

The Select Type of Uninstall dialogue box is displayed:



Choose **Automatic** to ensure that you do not accidentally delete files required by other applications installed on your computer.

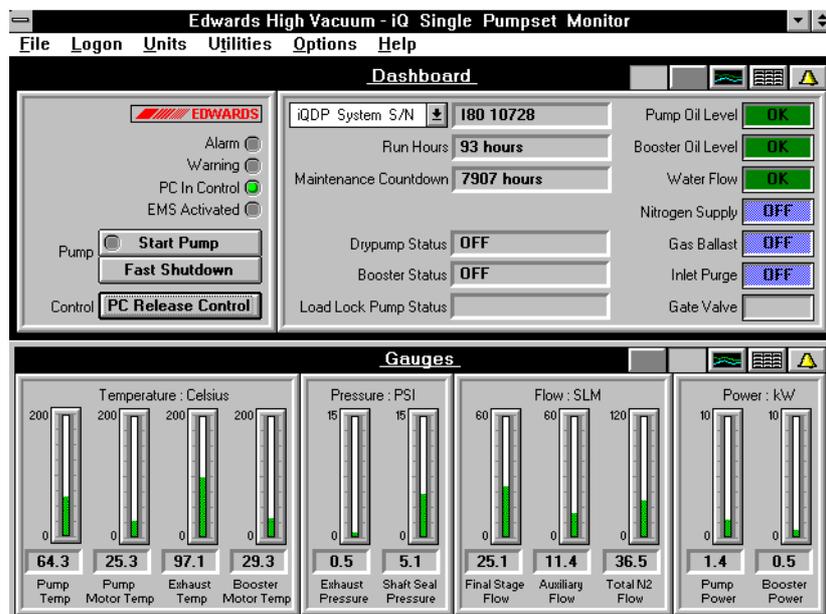
4 Installing the Single Pump Monitor

About The Single Pumpset Monitor

This section describes the iQ Single Pumpset Monitor windows and menus. It also covers the facilities available to different user levels.

The Single Pumpset Monitor Main Window

Double click on the iQ Single Pumpset Monitor icon . The Main window appears, which consists of the Menu Bar, and the Dashboard and the Gauges panes.



At the top of each pane is a number of buttons which open other panes. However, you can only have two panes open at any one time.



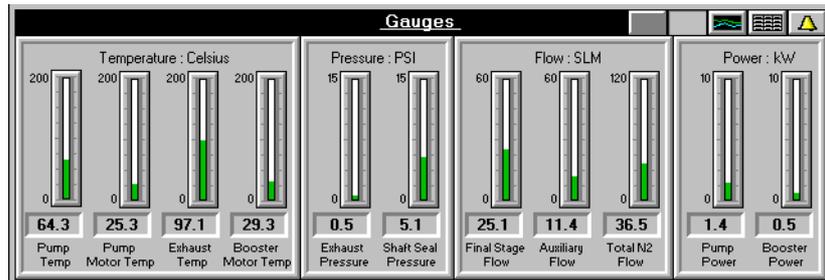
This button opens the Dashboard pane, which shows the current status of the iQ Drypumping system. You can control the system, start and stop the pump, provided that you are logged on as **Operator** or **Supervisor**.



The Dashboard pane



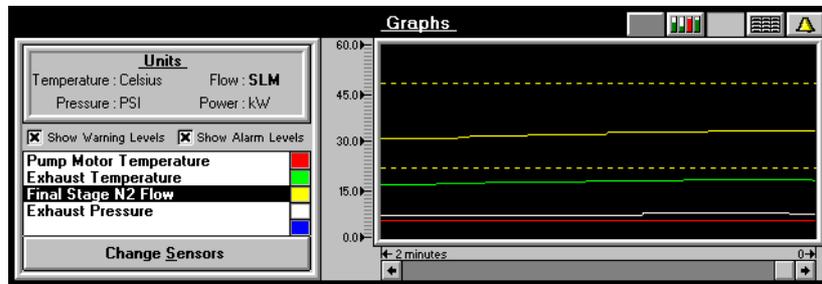
This button opens the Gauges pane, which shows the current values of the iQ Drypumping system in both gauge and digital form. The gauge indicators are coloured to show whether a parameter is within its limits (green), in a warning condition (yellow) or in an alarm condition (red).



The Gauges pane



This button opens the Graphs pane, which shows graphs for up to five parameters.



The Graphs pane



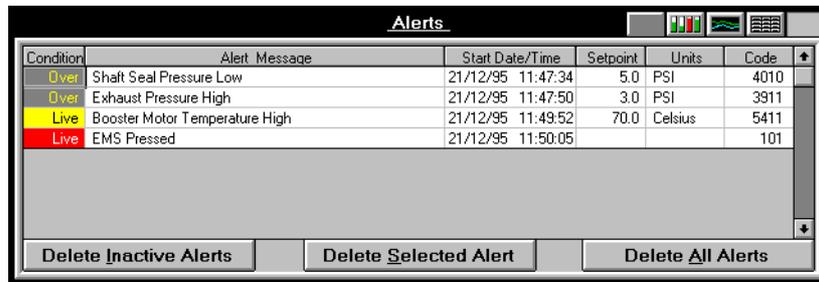
This button opens the Parameters pane, which shows the numerical readings and the current setpoints for iQ system parameters. It also allows you to change setpoints and update information, provided that you are logged on as **Supervisor**.

Parameters							
	Sensor	Units	Reading	Lo Alarm	Lo Warning	Hi Warning	Hi Alarm
Update	Pump Power	kW	1.5	N/A	N/A	2.4	2.9
	Booster Power	kW	0.6	N/A	N/A	2.4	2.9
Modify	Pump Temperature	Celsius	66.1	N/A	60.0	88.0	94.0
	Pump Motor Temperature	Celsius	26.1	N/A	N/A	70.0	N/A
	Booster Motor Temperature	Celsius	30.2	N/A	N/A	70.0	N/A
	Exhaust Temperature	Celsius	98.8	N/A	N/A	200.0	N/A
	Exhaust Pressure	PSI	0.5	N/A	N/A	3.0	6.1
	Shaft Seal Pressure - All Gas Off	PSI		N/A	N/A	N/A	10.2
	Shaft Seal Pressure - N2 Supply Only	PSI		5.0	N/A	N/A	8.1
	Shaft Seal Pressure - Gas Ballast On	PSI	5.2	5.0	N/A	N/A	8.1
	Shaft Seal Pressure - Inlet Purge On	PSI		5.0	N/A	N/A	8.1

The Parameters pane



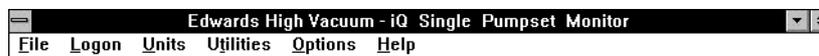
This button opens the Alerts pane, which shows all the acknowledged warnings and alarms. It also allows you to delete warnings or alarms, if you are logged on as **Supervisor**.



The Alerts pane

The Menu Bar

The menu bar contains pull-down menus which enable you to configure and operate the iQ Single Pumpset Monitor.



- File** Exit from the Single Pumpset Monitor
- Logon** Log on or off. There are three user levels available, which are differentiated by password
- Units** Change the display units for temperature, pressure or flow
- Utilities** Set up security levels, control datalogging and configuration handling
- Options** Save settings on exit; switch the datalogging and AutoAlert facilities on or off
- Help** Get help on using the iQ Single Pumpset Monitor.

Single Pumpset Monitor User Types

There are three types of user:

- **Viewer** can view each window/pane, but cannot carry out any changes to the set-up. The Logon and Help menus are available at viewer level.
- **Operator** can view all the windows/panes, change the display units and switch the iQ Drypumping system on or off. The Logon, Help and Units menus are available at the operator level.
- **Supervisor** can view all the windows/panes, change the settings, switch the system on or off, and upload or download system configurations. All menus are available at the supervisor level, although not all options within the menus are available. Unavailable (greyed out) options are for use only by Edwards engineers during iQ Drypumping system installation, commissioning and maintenance.

When you start up the iQ Single Pumpset Monitor, you are automatically logged on as a **Viewer**. You must log in at a higher level if you want to access any other facilities.

Setpoints, Warnings and Alarms

The iQ Drypumping system has a number of sensors which monitor, among other things, the dry pump body temperature and motor temperature, the shaft seal pressure and the power consumption.

Each sensor has four associated setpoints:

- upper limit for a warning (high warning setpoint)
- lower limit for a warning (low warning setpoint)
- upper limit for an alarm (high alarm setpoint)
- lower limit for an alarm (low alarm setpoint)

The iQ Drypumping system compares the readings from the sensors with the relevant setpoints to determine whether a warning or alarm condition exists. Any warning or alarm is communicated to the iQ Single Pumpset Monitor, causing it to display an 'alert'.

Refer to the iQ Drypumping System Instruction Manual for more information on warning and alarm conditions.

DataLogging

The iQ Single Pumpset Monitor can log the data provided by the sensors. The logged data is stored on the hard disk of the computer running the Single Pumpset Monitor and can be viewed when required.

Configuration Handler

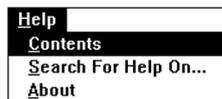
A configuration set is the data for a group of sensors within the iQ Drypumping system. You cannot create a new configuration set. This can only be done during the iQ system installation, commissioning and maintenance by Edwards engineers.

The Configuration Handler allows you to:

- view configuration sets
- import a configuration set from disk
- export a configuration set to disk
- upload the configuration set from the iQ Drypumping system
- download a configuration set to the iQ Drypumping system
- upload the configuration set from a Tool Interface Module
- download a configuration set to a Tool Interface Module

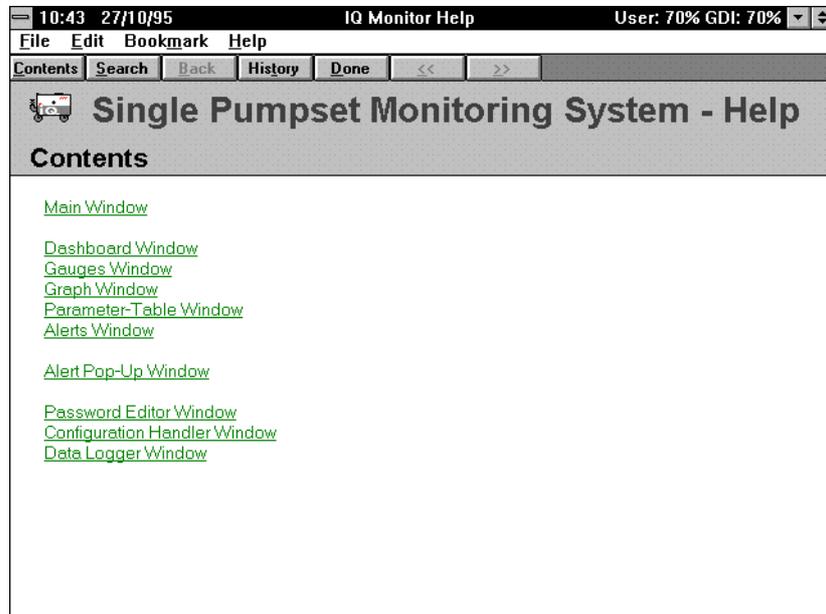
On-line Help

The iQ Single Pumpset Monitor has an on-line help facility, which you can access through the Help menu option.



Contents

Click on Contents to display the Help contents list.

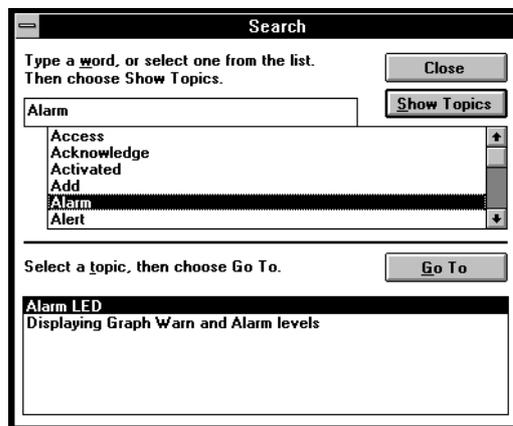


Double click on one of the listed topics to display its help screen. Alternatively, click on Contents, scroll down to the required topic and click on it or press ENTER.

Click on Done to leave Help, or select File, Exit.

Search for Help on...

Click on Search For Help On... to select a help topic from the list displayed.



Click on a topic in the top list box or type a word, or part of a word, in the textbox. A list of associated help screens will be displayed in the bottom list box.

To display a help screen, double click on any of the listed topics or select the topic and click on the **Show Topics** button.

About

Click on About to display information on the iQ Single Pumpset Monitor program



Click on OK to close the window.

Using the iQ Single Pumpset Monitor

You must log on to the iQ Single Pumpset Monitor before you can control the iQ Drypumping system. If you do not log on, you cannot operate the Drypumping system or exit the Monitor program.

Starting the Single Pumpset Monitor

- Double-click on the iQ Monitor icon  in the EHVI Applications group.

When you start the iQ Single Pumpset Monitor, you are automatically logged on as a **Viewer** until you log in at a higher user level. As a viewer, you will be able to view any window or pane, but you will only have access to the Logon and Help menus.

Logon/Logoff/Exit

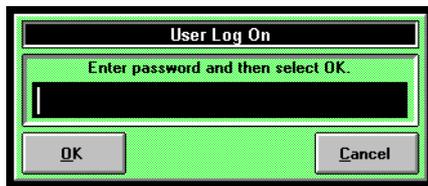
When you select the Logon menu, you see the current logon state, which defaults to Viewer when the iQ Single Pumpset Monitor is first started:



Logon

- To log on to a higher level:

Select Logon, Log on now

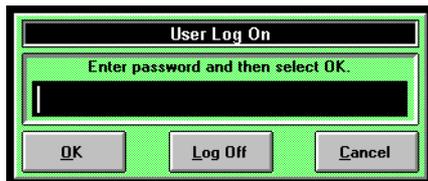


Type in the appropriate password: the default Supervisor password is Edwards, which should be changed as soon as the iQ Drypumping system has been installed and commissioned to prevent unauthorised use of the iQ Single Pumpset Monitor.

Log Off

- To log out of the iQ Single Pumpset Monitor

Select Logon, Log on now



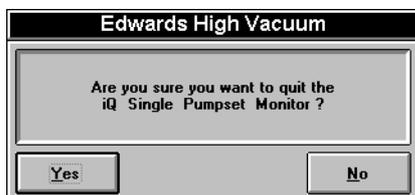
Click on Log Off.

You are now logged out of the iQ Single Pumpset Monitor (at **Viewer** level).

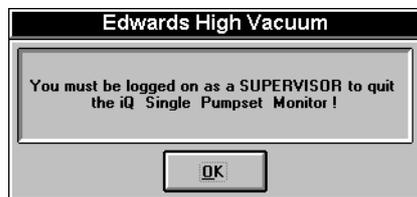
Exit

- To exit the iQ Single Pumpset Monitor, you must be logged in as Supervisor.

Select File, Exit



Click on OK. If you try to exit without logging in as Supervisor:



Click on OK, log in as Supervisor and go through the Exit procedure again.

Password Control

Each password is associated with a user level, either operator or supervisor, which determines the facilities available to that user. Using the **Security Setup** utility, you can enter a password and a user level, or you can remove a password which is no longer required.

Add Password

➤ Select Utilities



Select Security Setup



Click on Add Password



Type in the new password and select the user level to be associated with it, i.e. Operator or Supervisor. Click on OK to enter the password and the user level.

When the user enters his password at logon, he will have access only to those facilities associated with his user level.

Remove Password

- Click on Remove Password



Select the password to be removed and click on OK to delete it.

Change Units

You can change the units of measurement in which the Temperature, Pressure and Flow parameters are displayed.

- ☞ The units will be changed in all of the iQ Single Pumpset Monitor panes, the Configuration Handler and the DataLogger.

Temperature

- Select Units, Temperature. The current unit of measurement is ticked.

Units	
Temperature	<input checked="" type="checkbox"/> Celsius
Pressure	Eahrenheit
Flow	Kelvin

Click on another unit to select it.

Pressure

- Select Units, Pressure. The current unit of measurement is ticked.

Units	
Temperature	
Pressure	<input checked="" type="checkbox"/> PSI
Flow	Bar
	kPa

Click on another unit to select it.

Flow

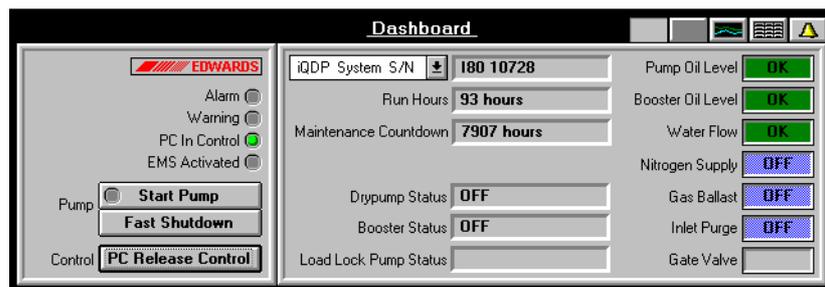
- Select Units, Flow. The current unit of measurement is ticked.

Units	
Temperature	
Pressure	
Flow	<input checked="" type="checkbox"/> SLM
	Pa.ls-1

Click on another unit to select it.

Dashboard Pane

The Dashboard pane shows the current status of the iQ Drypumping system and allows you to control and monitor it.



Take Control of the Pump

You can only take control of the pump if the PC Take Control button is active (not greyed out). If another device has control of the iQ Drypumping system, e.g. the hand-held Pump Display Module, the PC Take Control button is replaced with a box indicating which device has control.

- Click on PC Take Control. The PC in Control status indicator comes on and the PC Take Control button changes to PC Release Control.

If the indicator does not come on, the pump is already controlled by another module. Release control of the pump from the other module, then click on PC Take Control again.

Release Control of the Pump

- Click on PC Release Control to release control of the pump.

Start the Pump

-  Refer to the iQ Drypumping System Instruction Manual before attempting to start the pump. Make sure that the PC has control of the pump before you try to start it.
-  Click on **Start Pump**. The pump starts and the **Start Pump** button becomes **Auto Shutdown**.

Stop the Pump

-  Refer to the iQ Drypumping Instruction Manual before attempting to stop the pump. Make sure that it is safe to shut down the pump before you select either of the shutdown buttons.

If you are shutting down the iQ Drypumping system for maintenance, do not release control of it. If you release control, the system could be started by another module, e.g. the hand-held pump display module.

There are two methods of shutting down the pump: **Auto Shutdown** and **Fast Shutdown**.

Auto Shutdown

When you select **Auto Shutdown**, the iQ system is purged with nitrogen before the pumps are switched off, provided that the system has a **Gas-Ballast Module** or a **Gas System Module** fitted.

-  Click on **Auto Shutdown**.

The status indicator on the **Auto Shutdown** button goes off and the button changes to **Start Pump**.

Fast Shutdown

When you select **Fast Shutdown**, the iQ system is not purged with nitrogen, but is shut down as quickly as possible.

-  Click on **Fast Shutdown**.

The status indicator on the Auto Shutdown button goes off and the button changes to Start Pump. The Fast Shutdown button remains unchanged.

Interpreting the Dashboard Pane

The Dashboard pane indicators show the status of different parts of the iQ Drypumping system.

Status Indicators

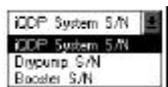
In the top left of the pane, there are four status indicators: Alarm, Warning, PC in Control and EMS (Emergency Stop) Activated.

Alarm	ON when the iQ system has registered an alarm condition. It will go out again when the reason for the alarm has been rectified
Warning	ON when the iQ system has registered a warning condition. It will go out again when the reason for the warning has been rectified
PC in Control	ON when the PC running the Monitor software has control of the iQ Drypumping system
EMS Activated	ON when the iQ Drypumping system has been shut down, either because the Emergency Stop has been pressed or because a safety sensor has been activated

Status Displays

In the centre of the Dashboard pane, the status displays give information on the individual iQ Drypumping system units and the overall system.

iQDP System S/N You can see the serial numbers of either the whole iQ Drypumping system, the dry pump or the booster pump. You cannot change these serial numbers: they are assigned during installation and commission, and are for reference only.



Run Hours The cumulative running time of the iQ system in hours

Maintenance Countdown The number of hours remaining before the iQ system needs maintenance

Drypump Status	The current status of the iQDP pump. This could be: OFF STARTING RUNNING AUTO-SHUTDOWN SHUTTING DOWN STOPPING
----------------	---

Booster Status	The current status of the iQMB mechanical booster pump, if it is fitted to the iQ system. The display is the same as for the Drypump
----------------	--

Load Lock Pump Status	The current status of the load-lock pump (if fitted). The display is the same as for the dry pump.
-----------------------	--

On the right of the Dashboard pane are the status displays and settings for various sensors and accessories of the iQ Drypumping system. If a device is not fitted, the associated status display is greyed out.

Pump Oil Level	Shows whether the oil level in the iQDP pump is OK (Green) or LOW (Yellow or Red depending on severity)
----------------	---

Booster Oil Level	Shows whether the oil level in the booster pump (if fitted) is OK (Green) or LOW (Yellow or Red depending on severity)
-------------------	--

Water Flow	Shows whether the cooling water is OK (Green) or LOW (Yellow or Red depending on severity)
------------	--

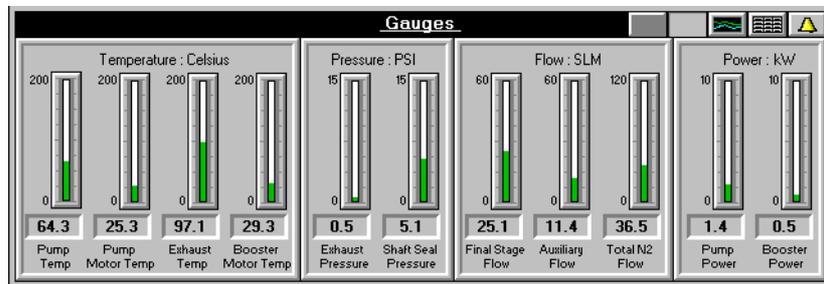
Nitrogen Supply	Shows whether the purge nitrogen supply solenoid valve in the iQ Gas Module is OPEN (Green) or CLOSED (Blue)
-----------------	--

Gas Ballast	Shows whether gas ballast is ON (Green) or OFF (Blue)
-------------	---

Inlet Purge	Shows whether inlet purge is ON (Green) or OFF (Blue)
-------------	---

Gate Valve	If the iQ system has a gate valve fitted, this shows whether the gate valve has opened or closed normally (OPEN or CLOSED on Green); or failed to open or close (OPEN or CLOSED on Yellow).
------------	---

Gauges Pane



The Gauges pane shows the current value of each of the following parameters, together with its unit type. The colour of the gauge indicator shows the current status of the parameter.

Green	Normal	The parameter is within the normal operating range
Yellow	Warning	The parameter is within the warning range and a warning condition exists (refer to the iQ Drypumping System Instruction Manual)
Red	Alarm	The parameter is within the alarm range and an alarm condition exists (refer to the iQ Drypumping System Instruction Manual)

The exact value for each parameter is shown in digital form below each gauge.

Temperature:

Pump Temp	iQDP pump body temperature
Pump Motor Temp	iQDP motor temperature
Exhaust Temp	iQ Drypumping system exhaust temperature
Booster Motor Temp	iQMB pump motor temperature (if fitted)

Pressure:

Exhaust Pressure	iQ Drypumping system exhaust pressure
Shaft Seal Pressure	iQ Drypumping system shaft-seal pressure

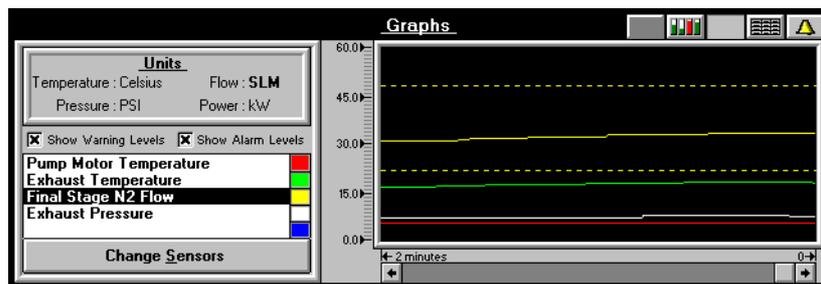
Flow

Final Stage Flow	iQ final stage purge nitrogen flow (shaft-seals purge flow + 3/4 interstage purge flow)
Auxiliary Flow	iQ auxiliary purge nitrogen flow (2/3 interstage purge flow + exhaust purge flow + inlet-purge flow)
Total N2 Flow	Total iQ purge nitrogen flow (final stage purge nitrogen flow + auxiliary purge flow)

Power

Pump Power	iQDP power consumption
Booster Power	iQMB power consumption (if fitted)

Graphs Pane

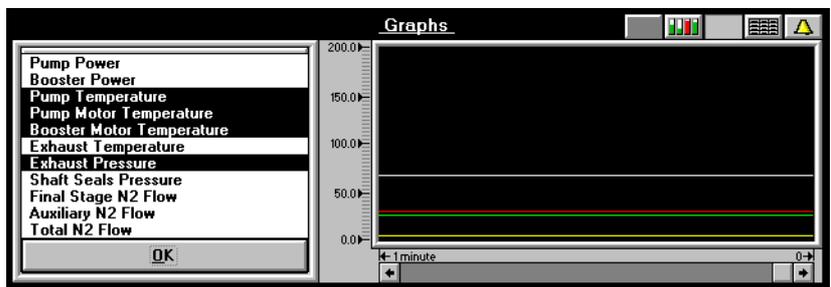


The Graphs pane shows how the values of up to five selected parameters have changed over a selected timescale (the right hand side of the graph pane is the current time). Each parameter is colour-coded for ease of identification (see the coloured boxes beside the parameters list).

Change Parameters List

The Graphs pane can show five parameters at any one time.

- To change the parameters on the list, click on the **Change Sensors** button.



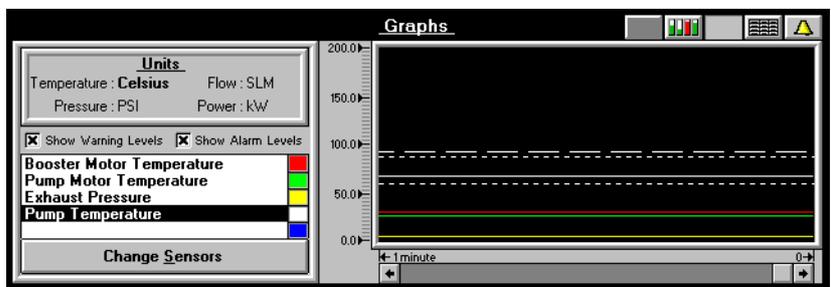
The currently selected parameters are highlighted.

Clicking on a highlighted parameter deselects it; clicking on a non-highlighted parameter selects it. When you have selected the parameters you want, click on OK.

Show Warning and Alarm Levels

You can show warning and/or alarm levels on the graphs for the selected parameter, which is helpful when checking how closely some parameters approach their setpoints.

- Click on the Show Warning Levels and/or Show Alarm Levels checkboxes to select them.

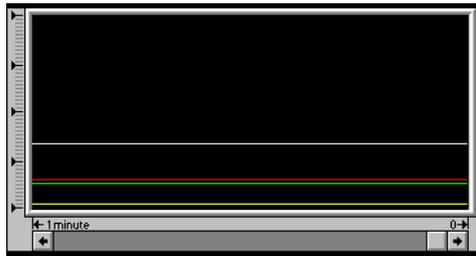


Click on the checkboxes again to turn the Warning/Alarm Levels display off.

Change the Time Axis

The graph displayed is a window on the overall timescale which is 10 hours, with the current time (0) towards the right hand side of the window.

- Click on the arrows at either end of the scroll bar or drag the slider to change the window position over the timescale.



Parameters Pane

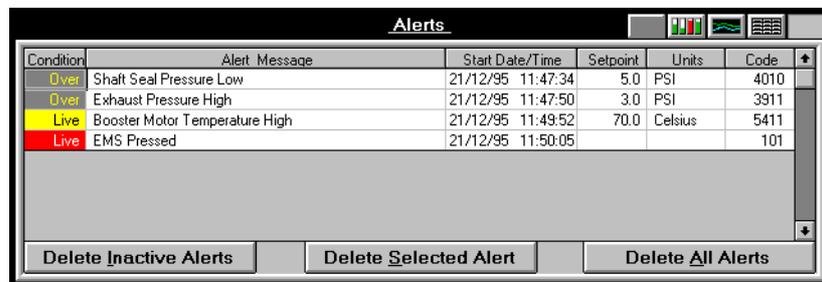
The Parameters pane displays information for each of the listed iQ sensor parameters.

Parameters							
	Sensor	Units	Reading	Lo Alarm	Lo Warning	Hi Warning	Hi Alarm
Update	Pump Power	kW	1.5	N/A	N/A	2.4	2.9
	Booster Power	kW	0.6	N/A	N/A	2.4	2.9
Modify	Pump Temperature	Celsius	66.1	N/A	60.0	88.0	94.0
	Pump Motor Temperature	Celsius	26.1	N/A	N/A	70.0	N/A
	Booster Motor Temperature	Celsius	30.2	N/A	N/A	70.0	N/A
	Exhaust Temperature	Celsius	98.8	N/A	N/A	200.0	N/A
	Exhaust Pressure	PSI	0.5	N/A	N/A	3.0	6.1
	Shaft Seal Pressure - All Gas Off	PSI		N/A	N/A	N/A	10.2
	Shaft Seal Pressure - N2 Supply Only	PSI		5.0	N/A	N/A	8.1
	Shaft Seal Pressure - Gas Ballast On	PSI	5.2	5.0	N/A	N/A	8.1
	Shaft Seal Pressure - Inlet Purge On	PSI		5.0	N/A	N/A	8.1

Units	Currently selected units of measurement
Reading	Current parameter value
Lo Warning	Low warning setpoint
Hi Warning	High warning setpoint
Lo Alarm	Low alarm setpoint
Hi Alarm	High alarm setpoint

Alerts Pane

The Alerts pane displays information about the warning and alarm conditions.



Condition	Alert Message	Start Date/Time	Setpoint	Units	Code
Over	Shaft Seal Pressure Low	21/12/95 11:47:34	5.0	PSI	4010
Over	Exhaust Pressure High	21/12/95 11:47:50	3.0	PSI	3911
Live	Booster Motor Temperature High	21/12/95 11:49:52	70.0	Celsius	5411
Live	EMS Pressed	21/12/95 11:50:05			101

Buttons: Delete Inactive Alerts, Delete Selected Alert, Delete All Alerts

Condition	Whether the alert is active (LIVE) or inactive (OVER)
Warning/Alarm Message	Summary of the alert condition
Start Date/Time	Date and time at which the alert was first detected
Setpoint	Value of the setpoint which was exceeded
Units	Units of measurement
Code	iQ error number. For more details see the iQ Drypumping System Instruction Manual

Delete Alerts

If you have logged on as Supervisor, you can delete some or all alerts.



Ensure that the causes for alerts have been rectified before deleting them.



Click on **Delete Inactive Alerts** to delete only inactive (OVER) alerts.

Select the alerts you want to delete by CTRL + Click for each alert required. Then click on **Delete Selected Alerts**.

Delete all alerts by clicking on **Delete All Alerts**.



Deleting an alert on the iQ Single Pumpset Monitor does not reset the iQ Drypumping system. It only removes the alert from the iQ Single Pumpset Monitor alerts list.

AutoAlert

The AutoAlert option displays a message in a pop-up window whenever an alert is triggered. An alarm alert is displayed in a flashing red-bordered window; a warning alert is displayed in a flashing yellow-bordered window.



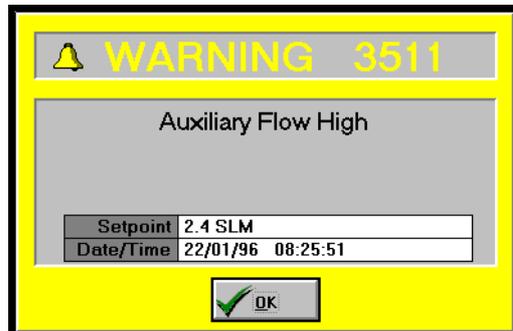
Click on Options

Options
Save Settings On Exit
DataLogger Is Off
AutoAlert Is Off

Select AutoAlert Is Off to change it to AutoAlert Is On.

Options
Save Settings On Exit
DataLogger Is Off
✓ AutoAlert Is On

When an alert is triggered, a descriptive message is displayed on the screen: e.g.

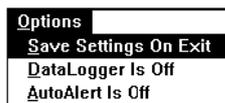


Click on OK to close the message.

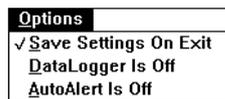
Save Settings On Exit

If you select **Save Settings On Exit** from the Options menu, any specific changes you have made to the Graphs pane settings, the Units and the iQ Single Pump Monitor main window, e.g. which panes are displayed, will be saved.

➤ Click on Options



Select **Save Settings On Exit**. A tick appears beside the option when it is selected.



All changes to the settings will be saved whenever you exit the iQ Single Pumpset Monitor, until you deselect this option.

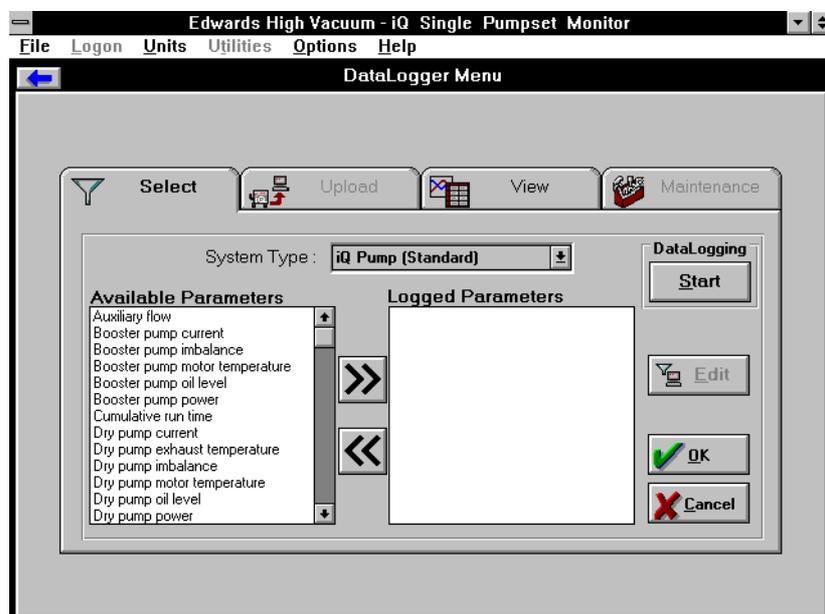
DataLogging

If you want to check whether an iQ Drypumping system is operating efficiently, you can use the DataLogger to save the data from selected parameters over a period of time and view it as required. You must log in as **Supervisor** to use the DataLogger.

- To bring up the DataLogger, select Utilities.



Select DataLogger. An Initialising message is displayed until the DataLogger menu appears:



Click on  to return to the main window.

There are four tabs on the DataLogger Menu: **Select**, **Upload**, **View** and **Maintenance**.

Select The Select tab lists all the parameters which can be logged. You can compile a list of parameters for logging.

Upload For use only by Edwards engineers.

View The View tab allows you to customise the display format and to view the logged data.

Maintenance For use only by Edwards engineers.

If you are logged in as **Supervisor**, you can use the **Select** and **View** tabs.

To use the DataLogger, select the parameters you wish to log, turn DataLogging on in the **Options** menu, and view the resulting logged data.

Select Parameters to Log

- Click on the **Select** tab, if not already displayed.

Select System Type.

Either double-click on the desired parameter in the **Available Parameters** list to move it automatically to the **Logged Parameters** list, or click on the

parameter and then on  to move it. Use **CONTROL + CLICK** to select more than one parameter.

If you have selected the wrong parameter, either double-click on it in the

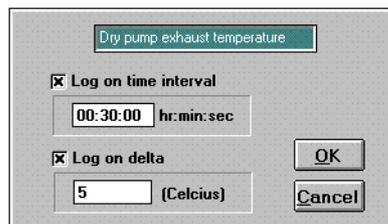
Logged Parameters list, or click on it once and then click on  to return it to the **Available Parameters** list.

When you have completed your parameter selection, click on **OK** to save it or on **Cancel** to abort the process.

Edit Log Settings

You can set up logging conditions for each parameter.

- Click on the parameter you want to edit in the Logged Parameters list, e.g. Dry pump exhaust temperature, and click on Edit.



The screenshot shows a dialog box titled "Dry pump exhaust temperature". It contains two checked checkboxes: "Log on time interval" and "Log on delta". The "Log on time interval" checkbox is followed by a text box containing "00:30:00" and the label "hr:min:sec". The "Log on delta" checkbox is followed by a text box containing "5" and the label "(Celcius)". There are "OK" and "Cancel" buttons at the bottom right of the dialog.

You can log data:

- at regular intervals (Log on time interval)
- when the current parameter value has changed by a specified amount since the last logged value (Log on delta)
- on both of the above.

In the above example, the dry pump exhaust temperature will be logged every 30 minutes and whenever the change in temperature exceeds 5° C.

Log on delta is not appropriate for those parameters which have no value, but are either on or off, e.g. gas ballast on/off. These parameters have a Log on change option instead of Log on delta. Click in the checkbox to select/deselect Log on change.



The screenshot shows a dialog box titled "Gas ballast and 2/3 purge". It contains two checked checkboxes: "Log on time interval" and "Log on change". The "Log on time interval" checkbox is followed by a text box containing "00:30:00" and the label "hr:min:sec". The "Log on change" checkbox is followed by no text box. There are "OK" and "Cancel" buttons at the bottom right of the dialog.

Click on OK to return to the **Select** tab. Click on OK to save all edits or click on **Cancel** to abort them.

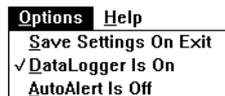
Start/Stop Logging

You can turn DataLogging on or off by pressing the **Start** button in the **Select** tab or by using the **Options** menu.

- Click on **Options**.



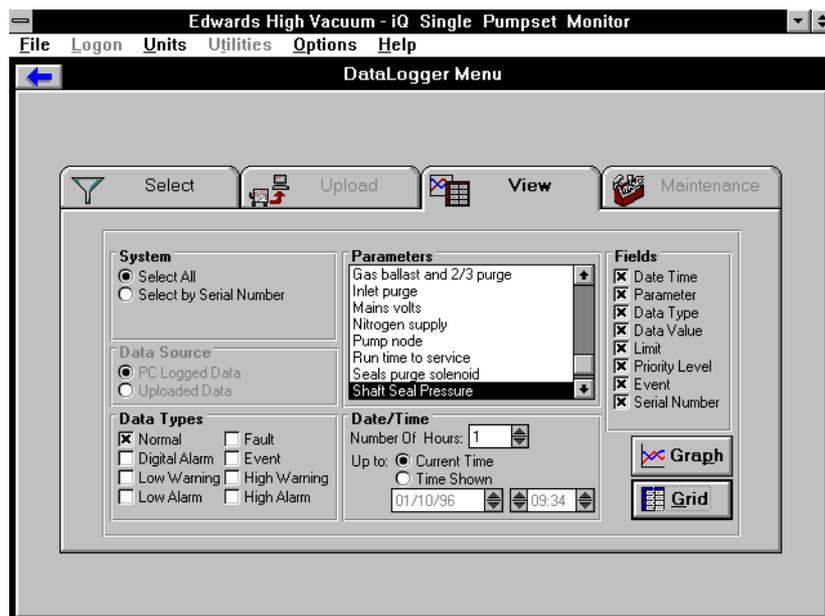
Click on **DataLogger Is Off** to change it to **DataLogger Is On**. This option toggles between off and on. A tick appears beside the option when it is on.



Once it has been switched on, DataLogging will continue until the option is deselected.

View Logged Data

- Click on the View tab.



Select System: either select all logged data or, if the PC has been used for more than one iQ Drypumping system, select the logged data by the Drypumping system serial number.

Select the Data Types you want to view (some or all, as required).

Set up the Date/Time: enter the number of hours of logged data you want to view, and the time up to which it was logged.

Select the Fields: these are the headings of the data display columns.

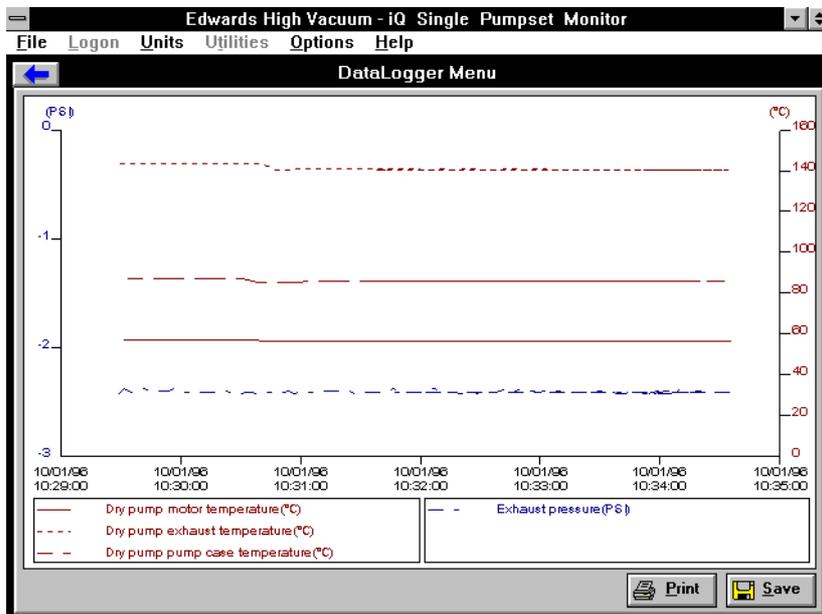
Select the Parameters whose logged data you want to view.

When you have made all your selections, click on Graph to display the information as a graph or Grid to display it as a table.

Click on Graph. A message is displayed while the view is built up.



Then the graph is displayed.

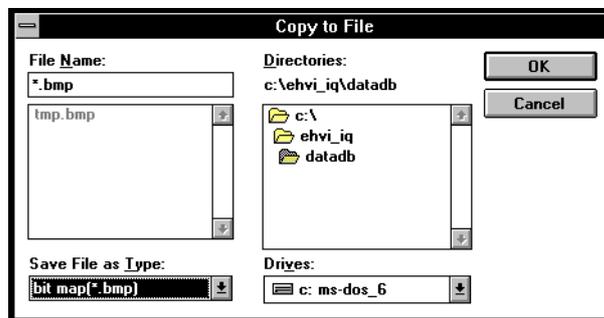


To print out the graph, click on Print.



Click on OK to print out the graph on the default printer.

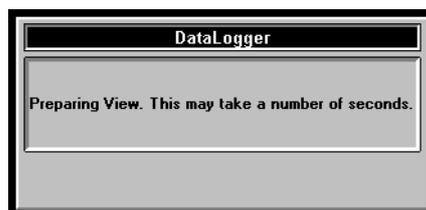
To save the graph to a file, click on **Save**.



Type in the filename and click on **OK**. The file is saved in the standard Windows bitmap format.

Click on  to return to the DataLogger Menu View tab.

To display the logged data in table format, click on **Grid**. A message is displayed while the view is built up.



Then the grid view is displayed.

Date/Time	Parameter	Serial Number	Data Type	Value	Unit
10/01/96 10:29:29	Exhaust pressure	I80 10728	normal	-2.4	PSI
10/01/96 10:29:30	Dry pump exhaust temperature	I80 10728	normal	143.3	°C
10/01/96 10:29:32	Exhaust pressure	I80 10728	normal	-2.4	PSI
10/01/96 10:29:32	Dry pump motor temperature	I80 10728	normal	57.3	°C
10/01/96 10:29:34	Dry pump pump case temperature	I80 10728	normal	87.1	°C
10/01/96 10:29:35	Exhaust pressure	I80 10728	normal	-2.4	PSI
10/01/96 10:29:37	Dry pump exhaust temperature	I80 10728	normal	143.3	°C
10/01/96 10:29:38	Exhaust pressure	I80 10728	normal	-2.4	PSI
10/01/96 10:29:39	Dry pump motor temperature	I80 10728	normal	57.3	°C
10/01/96 10:29:42	Exhaust pressure	I80 10728	normal	-2.4	PSI
10/01/96 10:29:42	Dry pump pump case temperature	I80 10728	normal	87.1	°C
10/01/96 10:29:44	Dry pump exhaust temperature	I80 10728	normal	143.2	°C
10/01/96 10:29:45	Exhaust pressure	I80 10728	normal	-2.4	PSI
10/01/96 10:29:46	Dry pump motor temperature	I80 10728	normal	57.4	°C
10/01/96 10:29:48	Exhaust pressure	I80 10728	normal	-2.4	PSI
10/01/96 10:29:49	Dry pump pump case temperature	I80 10728	normal	87.2	°C
10/01/96 10:29:51	Exhaust pressure	I80 10728	normal	-2.4	PSI
10/01/96 10:29:50	Dry pump exhaust temperature	I80 10728	normal	143.3	°C
10/01/96 10:29:53	Dry pump motor temperature	I80 10728	normal	57.2	°C
10/01/96 10:29:54	Exhaust pressure	I80 10728	normal	-2.4	PSI
10/01/96 10:29:56	Dry pump pump case temperature	I80 10728	normal	87.2	°C

You can drag the wide column divider between the Parameter and Serial Number columns to freeze columns you want to see permanently on the left side of the screen. You can also drag the column dividers and row dividers in the heading row/column to size the data cells.

The scroll bar at the bottom of the screen can be used to display columns outside the field of view.

You can use the scroll bar to the right of the screen or the buttons at the bottom left of the screen to move down the records of the logged data.

-  Go to the first record in the logged data file
-  Go to the previous screen of data records (page up)
-  Go to the previous data record
-  Go to the next data record
-  Go to the next screen of data records (page down)
-  Go to the last record in the logged data file

After you have viewed the logged data, you can delete it or export it in various formats.

Delete Logged Data

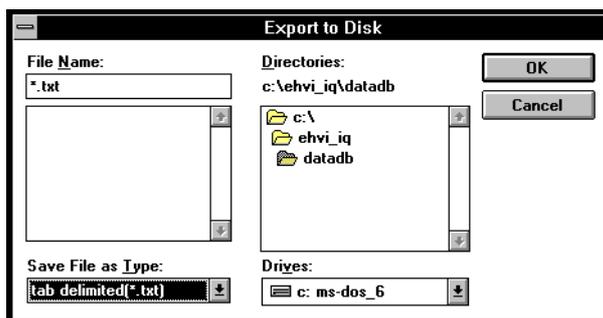
Click on Delete to remove the data.



Click on No to retain the logged data or Yes to delete it.

Export Logged Data

Click on Export to export the data.



Click on the Save File as Type box to select the format of your data file. The options are:

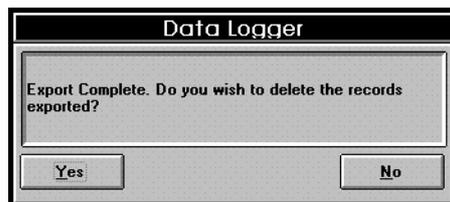
- | | |
|------|---|
| .TXT | Tab delimited text file |
| .CSV | Comma delimited text file |
| .MDB | Microsoft Access database file |
| .EDW | Edwards database file - the same format as the iQ Drypumping system |

If you type a filename and extension in the **File Name** box, the file will be saved in the format of the extension, even if a different extension is selected in the **Save File as Type** box.

Enter a path, filename and extension in the **File Name** box and click on **OK**. A message is displayed while the file is being exported.



Click on **Cancel** to abort the export process. When the export is complete, you can choose whether to delete or retain the exported data.



Click on **Yes** to delete the data and return to the **View** tab or **No** to retain it.

Click on  to return to the main window.

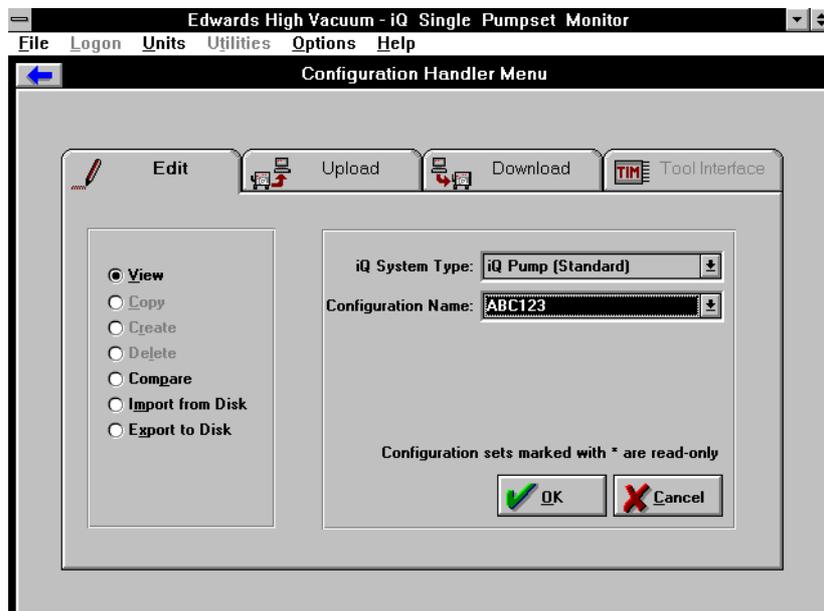
Configuration Handler

Using the Configuration Handler, you can view, import or export configurations and upload or download configurations from the iQ Drypumping system. You must be logged in as Supervisor to access the Configuration Handler.

- To bring up the Configuration Handler, click on Utilities.



Select Configuration Handler. An Initialising message is displayed until the Configuration Handler menu appears:



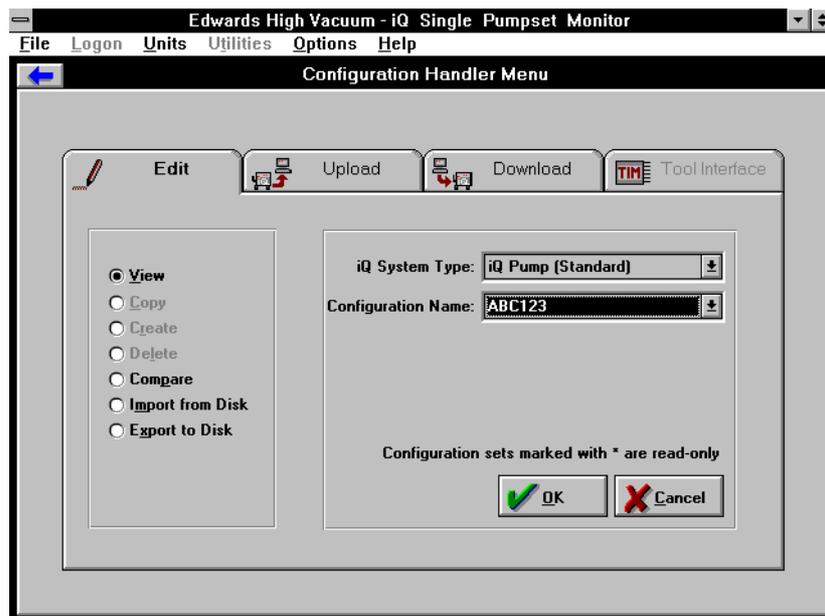
Click on  to return to the iQ Single Pumpset Monitor main window.

There are four tabs in the Configuration Handler Menu: Edit, Upload, Download and Tool Interface.

Edit	The Edit tab allows you to select and view a configuration for an iQ Drypumping system, to compare configurations and to import or export a configuration from/to disk. Greyed out options are for use only by Edwards engineers
Upload	The Upload tab allows you to select and upload a configuration or a parameter from either the iQ Drypumping system or from the Tool Interface Module.
Download	The Download tab allows you to select and download a configuration or a parameter to either the iQ Drypumping system or the tool interface or both.
Tool Interface	For use only by Edwards engineers.

Edit Tab

Click on the Edit tab in the Configuration Handler Menu

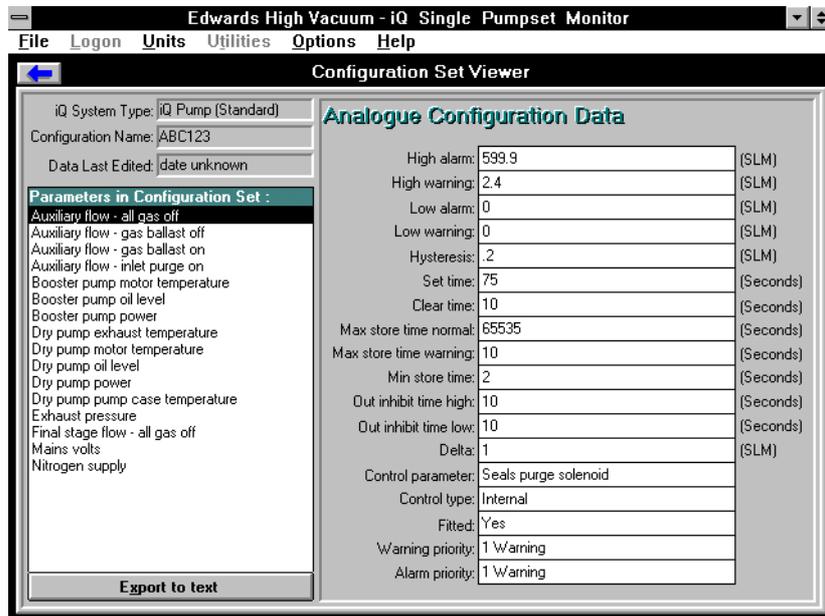


View Configurations

➤ Select View.

Select the iQ System Type and the Configuration Name.

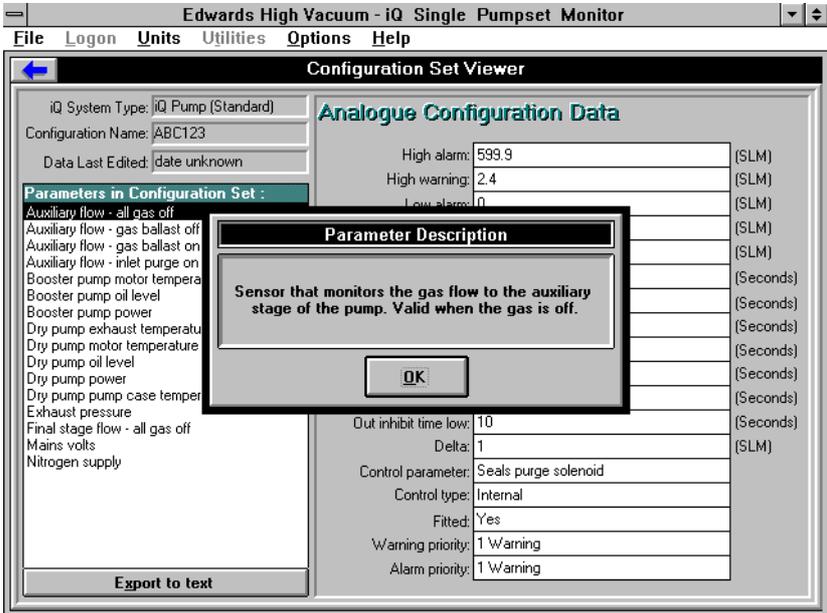
Click on OK.



You cannot edit this data, but you can export it as text.

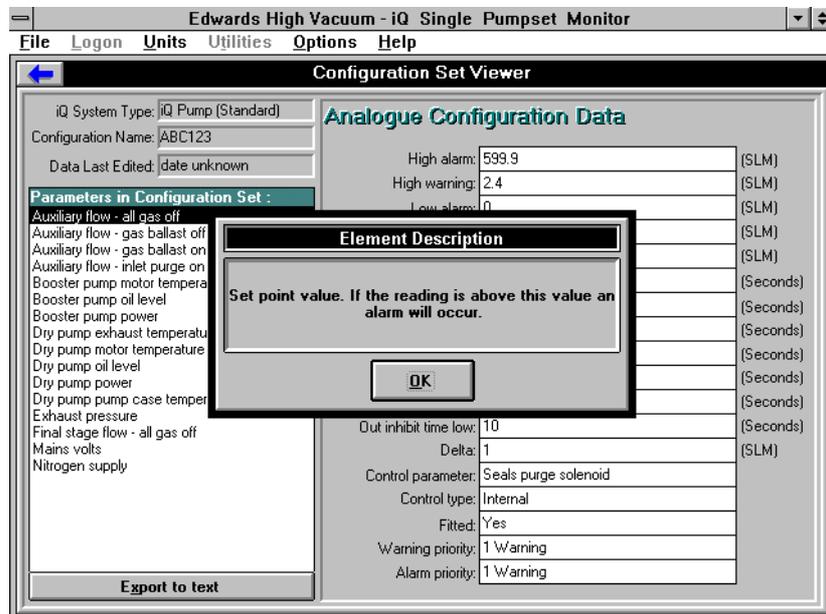
Click on a parameter in the list on the left of the screen: its configuration data is displayed on the right.

If you double-click on the parameter, a short description is displayed.



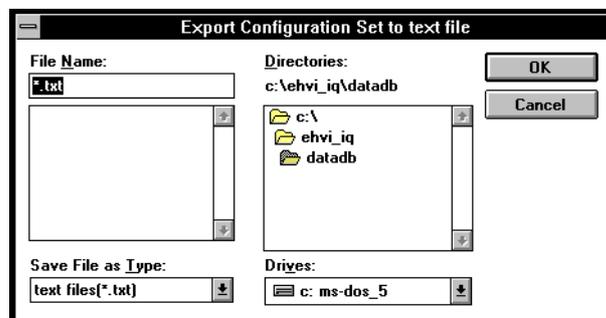
Click on OK to close the Parameter Description box.

If you double-click on a Configuration Data label, e.g. High alarm, a short description is displayed:



Click on OK to close the Element Description box.

If you want to export the configuration to a text file, click on Export to text.



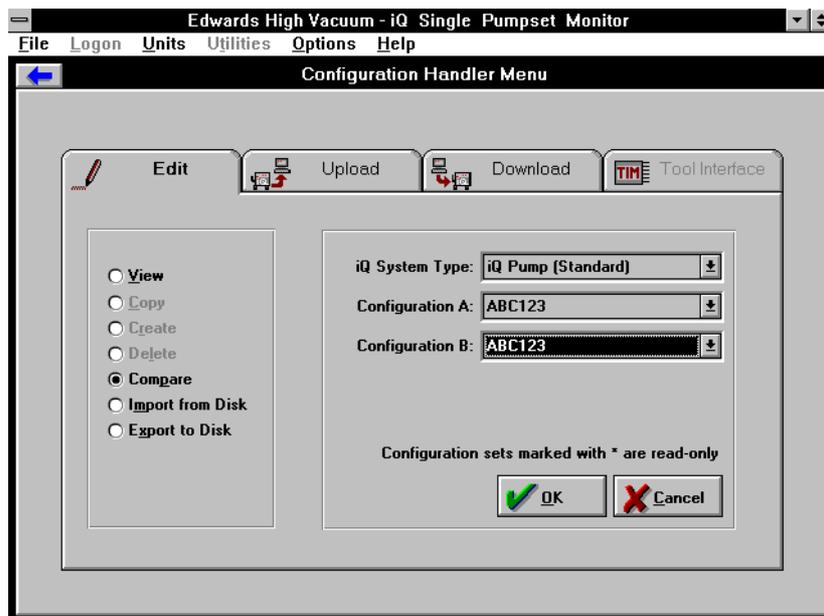
Type in the filename and include a **.TXT** extension. Click on OK. A message 'Exporting configuration set to text file' is displayed while the file is saved

Click on  to return to the Configuration Handler Menu Edit tab.

Compare Configurations

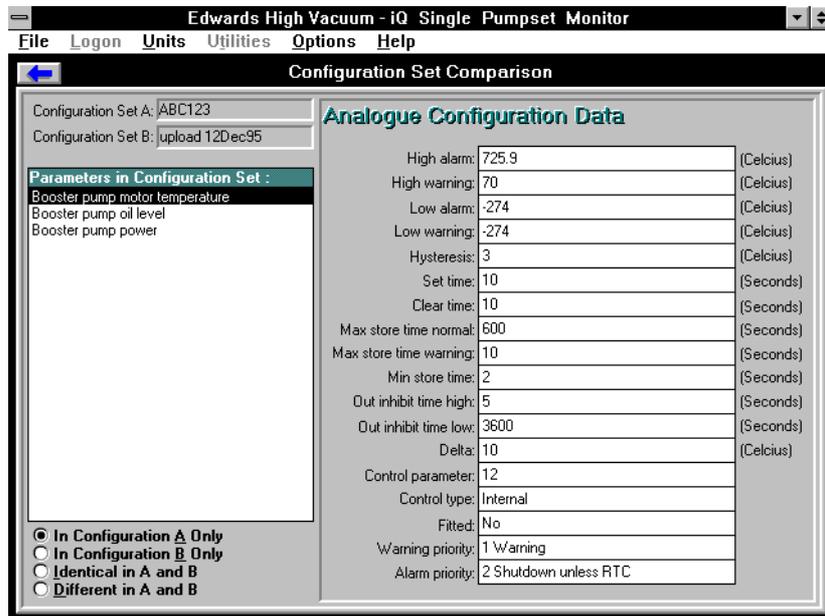
You can compare two configuration sets.

- Select Compare.



Select the iQ System Type, Configuration A and Configuration B.

Click on OK. A message 'Comparing Configurations' is displayed until the comparison is complete.

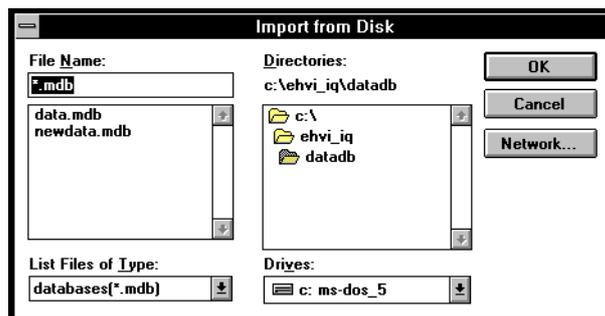


There are four filter buttons shown at the bottom left of the screen. The parameters shown above them are those which fit the filter selected. Click on each filter to display its associated parameters.

Click on  to return to the Configuration Handler Menu Edit tab.

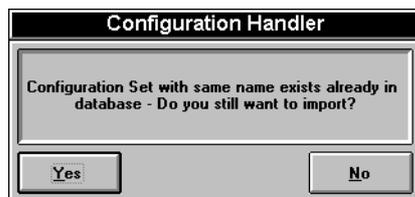
Import Configurations from Disk

- Click on the Import From Disk button in the Configuration Handler Menu Edit tab.

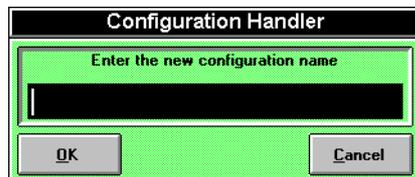


Select the database file containing the configuration set you wish to import and click on OK. You are returned to the Configuration Handler Menu Edit tab.

Select a configuration set and click on OK. If the name already exists, a commentary box will be displayed:



Click on No to return to the Configuration Handler Menu Edit tab. Click on Yes to bring up the new name dialogue box.



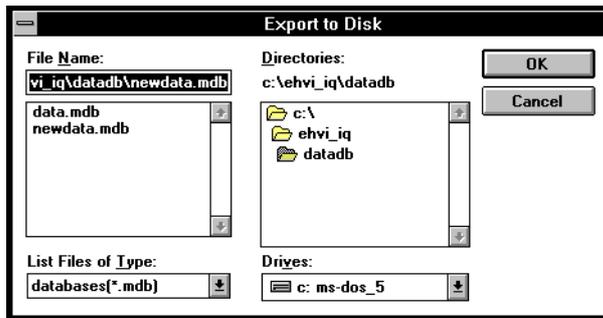
Type in a new name and click on OK.



Click on OK.

Export Configurations to Disk

- Click on the Export To Disk button in the Configuration Handler Menu Edit tab.



Either select a filename from the list or type a new name in the File Name box and click on OK. If the file does not exist, it can be created.



Click on No to return to the Edit tab or Yes to create a file.

If the file does exist, the configuration set is appended to it. You are returned to the Edit tab. Select a configuration set to export and click on OK.

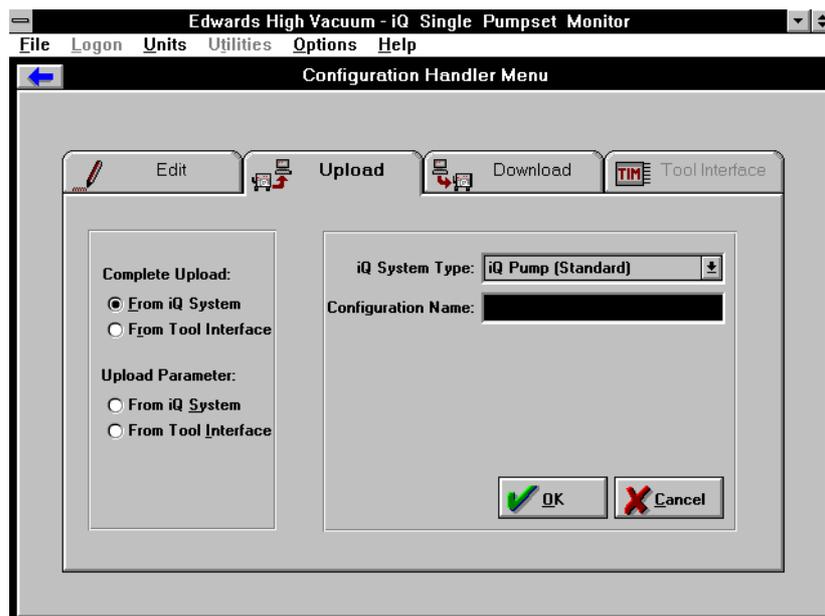


Click on OK.

Upload Tab

You can upload, save and view complete configuration sets or upload and view individual parameters from the iQ Drypumping system.

- Click on the Upload tab in the Configuration Handler Menu.



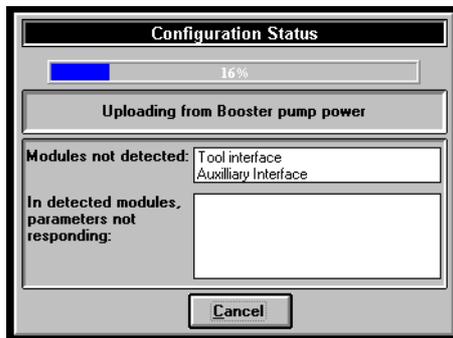
Complete Upload

- ☞ It is important to carry out the steps in this section in the order given.
- Select either From iQ System or From Tool Interface in the Complete Upload area

Select the iQ System Type.

Enter the Configuration Name.

Click on OK.



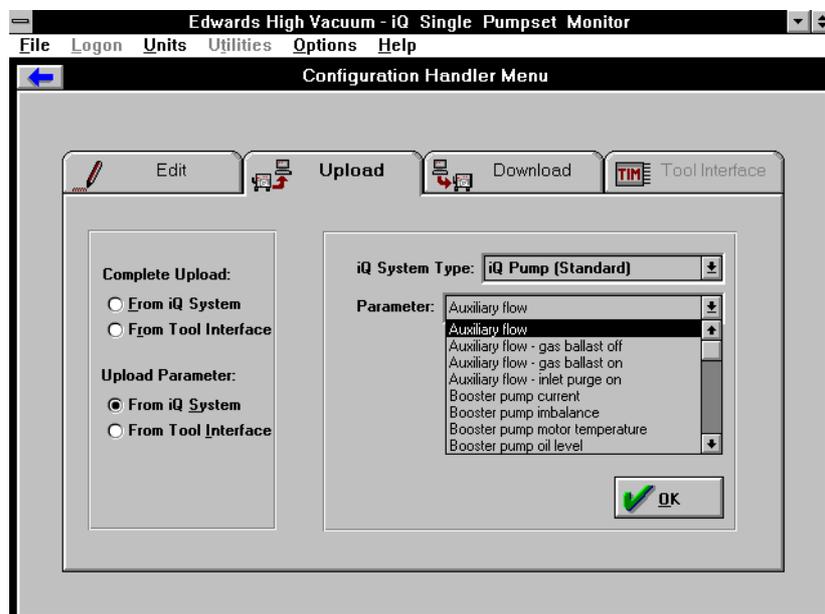
You can press **Cancel** to abort the process during uploading.

When the configuration set has been uploaded, an **OK** button appears in the status window. Click on **OK** to return to the Configuration Handler Menu Upload tab.

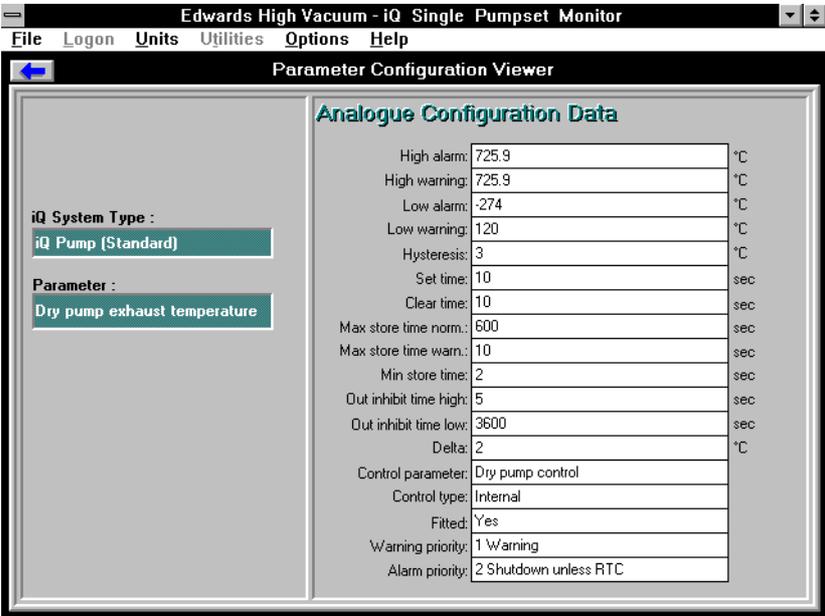
Upload Parameter

- Select Upload Parameter.

Select either From iQ System or From Tool Interface.



Select the parameter you want to upload from the list displayed and click on Upload.

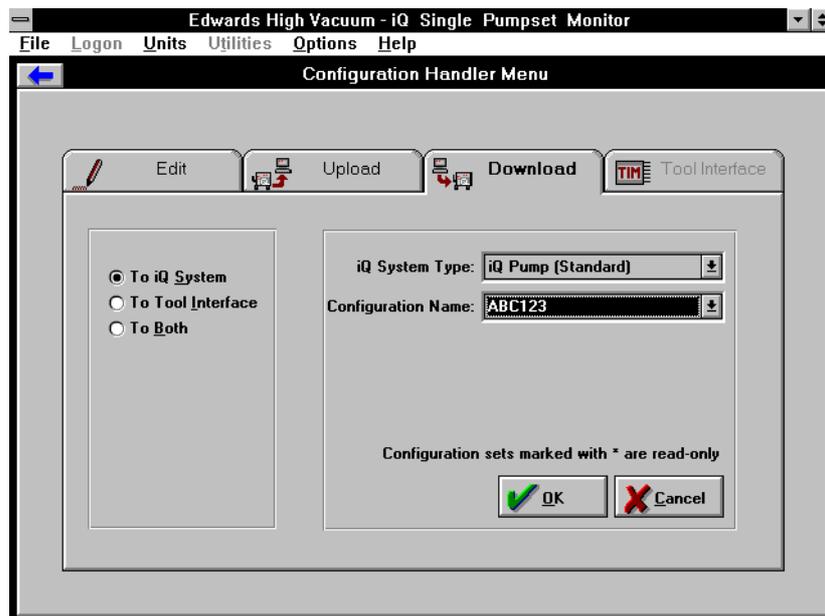


Click on  to return to the Configuration Handler Menu Upload tab.

Download Tab

You can download selected configuration sets to the iQ Drypumping system or to the Tool Interface Module, or to both in the same operation.

- Click on the Download tab in the Configuration Handler Menu.



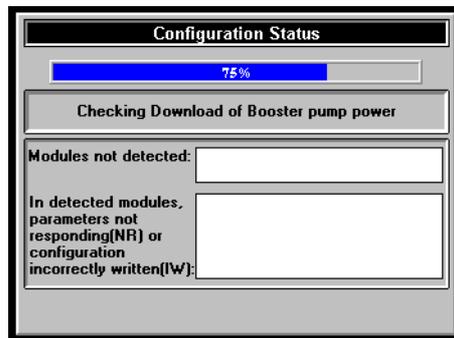
- ☞ It is important to carry out the steps in this section in the order given.

- Select the destination of the download: To iQ System, To Tool Interface or To Both.

Select the iQ System Type.

Select the Configuration Name.

Click on OK.



When the configuration set has been downloaded, an OK button appears in the status window. Click on the OK button to return to the Configuration Handler Menu Download tab.

Click on  to return to the iQ Single Pumpset Monitor main window.

Troubleshooting

General

Problem	Possible solutions
You cannot take control of the iQ system.	Another module may have control. Release control from the other module and then try again from the Single Pumpset Monitor.
You cannot switch on the iQ system.	The Single Pumpset Monitor may not have control. Take control and then try to switch on again.
You cannot switch off the iQ system.	The Single Pumpset Monitor may not have control. Take control and then try to switch off again.

Alerts

For further information about the alerts shown in the Alerts pane, take note of the code number shown against the alert in the pane. This code number is the error number shown in the iQ Drypumping System Instruction Manual.

Refer to the fault-finding section of the iQ Drypumping System Instruction Manual for a description of the fault and recommendations on how to clear it.

Single Pumpset Monitor Problems

Problems arising from communications between the Single Pumpset Monitor/PC and the iQ Drypumping system produce a **Network Status Update** message box.

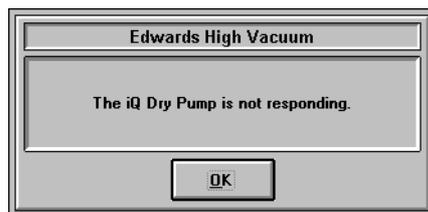
Communication between the iQ Drypumping system and the computer running the iQ Single Pumpset Monitor software is via a LONTalk adaptor.

A PC LONTalk Adaptor Card is installed inside the system box of a PC.

A Serial LONTalk Adaptor is connected to a Laptop computer.

For more information on the LONTalk Adaptors, refer to the PC Interface Kit Instruction Manual - Doc. No: D372-18-880

Error Messages and Actions



Possible Causes	Actions
The LONTalk Adaptor is not connected to the pumping system.	Check the lead between the LONTalk Adaptor and the iQ Drypumping system.
The iQ Drypumping system is not switched on.	Switch on the iQ Drypumping system.



Other symptom(s): Values are not updated in the Single Pumpset Monitor Parameters, Gauge and Graphs panes

Possible Causes	Actions
The Serial LONTalk Adaptor is switched off.	Switch on the electrical supply to the Serial LONTalk Adaptor.
The electrical supply to the Serial LONTalk Adaptor has been temporarily interrupted.	Switch the Serial LONTalk Adaptor off and on again to reset it.
The RS232 cable between the PC and the Serial LONTalk Adaptor is disconnected.	Reconnect the cable.



Possible Causes	Actions
The Serial LONTalk Adaptor is switched off.	Switch on the Serial LONTalk Adaptor and click on Retry .
The electrical supply cable is disconnected from the Serial LONTalk Adaptor.	Reconnect the electrical supply cable to the Serial LONTalk Adaptor and click on Retry .
The electrical supply to the Serial LONTalk Adaptor is switched off.	Switch on the electrical supply to the Serial LONTalk Adaptor and click on Retry .
The RS232 cable between the PC and the Serial LONTalk Adaptor is disconnected.	Reconnect the RS232 cable and click on Retry .
The LONTalk Adaptor driver has been corrupted or deleted.	Click on the Abort button. Restore the Serial LONTalk Adaptor driver. Reboot the PC. Switch the Serial LONTalk Adaptor off and on again to reset it. Restart the Single Pumpset Monitor.
The LONTalk Adaptor is broken.	Replace the Adaptor.
The LONTalk Adaptor Driver is missing from CONFIG.SYS.	Refer to the LONTalk Adaptor manual.

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