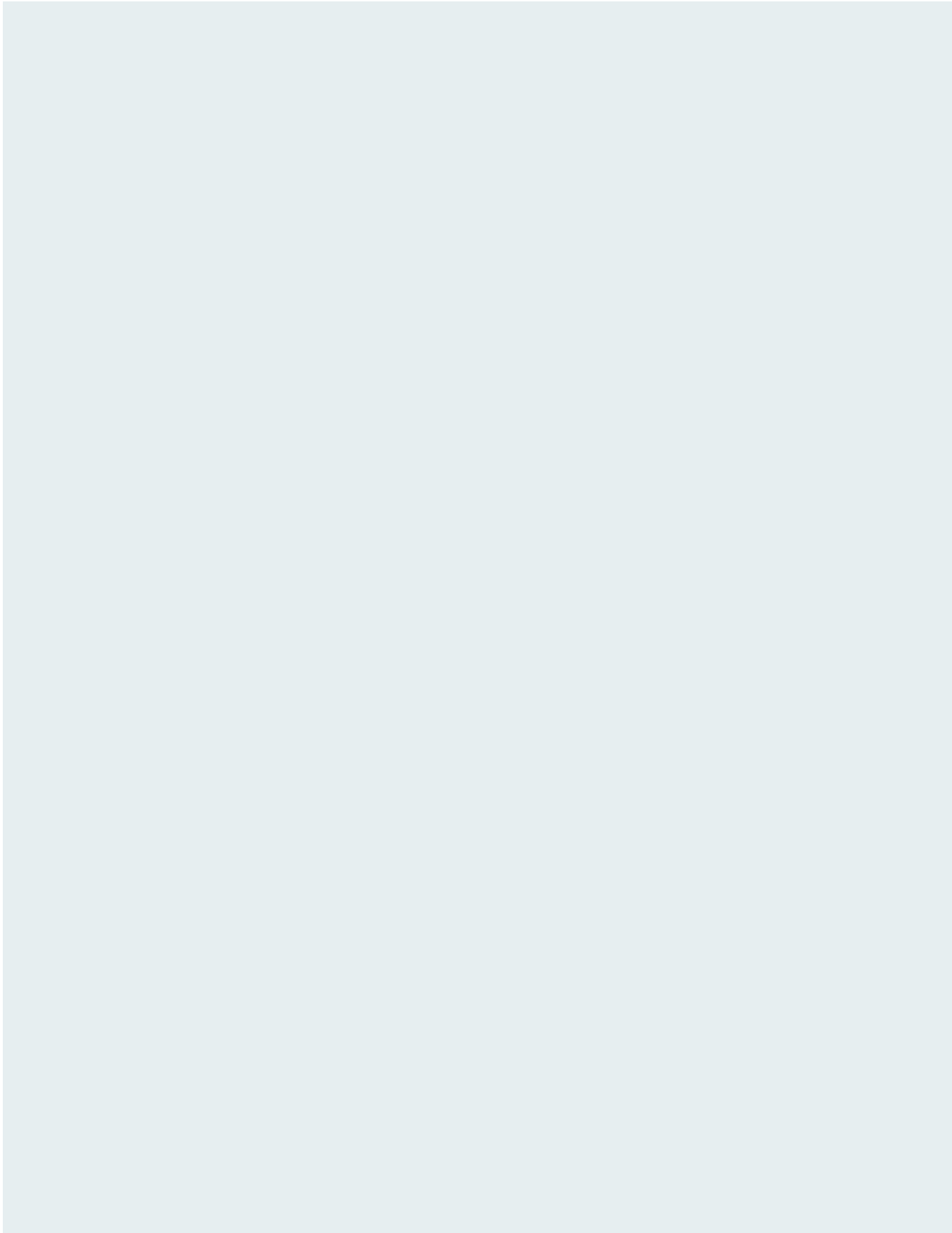# Medclair

DU2010
User Manual
Revision: A0

2020-11-03

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1. Start-up and shutdown

At the front of the control cabinet a touch display is placed showing operation status of the unit. There are also an operation switch and light indications for operation status.

1.1. Start-up of the destructor

1. Turn operation switch from 0 to 1. The destructor will now start up and will be in status by-pass until the unit has reach operation temperature.
2. When the operation temperature is reached the destructor will switch to status operation and the dampers opens the way for incoming gas towards the reactor and purification of incoming nitrous starts.
    The green indication will light up.

1.2. Shutdown of the destructor

1. Turn operation switch from 1 to 0.
    The destructor will stop and the dampers will set the unit into status by-pass.

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2.   Log in

DU2010 is connected to an external server via an internal mobile modem (i.e. mobile coverage is needed at the installation site).
Through this connection can the unit be supervised, and measurement data read. Following sections in the document describes the different views available

Measurement data can be exported to Excel for future analysis.

There is also a Modbus interface available that can be used for connection of an operation center, tag list for the Modbus is delivered with the unit.

The log in page is found through the link below.

217.78.27.97/EXOscada/login.aspx?from=default&userlogout=true&command=undefined

The picture below shows the log in page where user name and password is to be inserted.
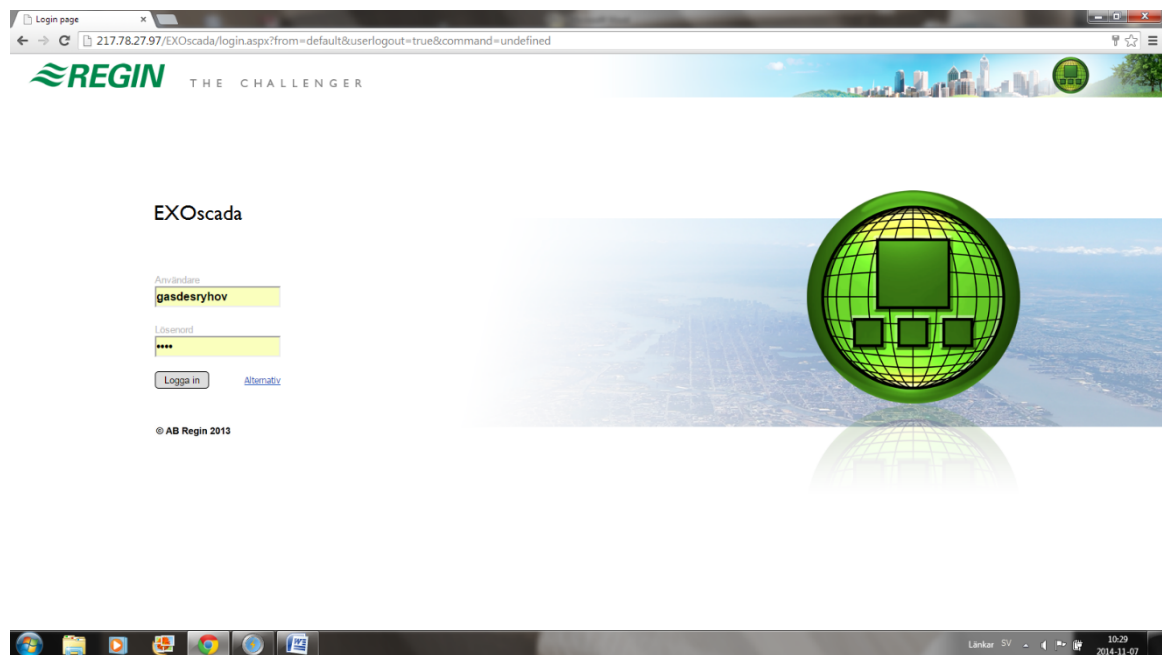
Username: x (obtained at submission of unit)
Password: x (obtained at submission of unit)

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3. Main page

After log in a flow chart and alarm status for DU2010 is shown.

The flow chart contains all available measurement points for the unit (in the flow chart the number of reactor units installed is shown, in this case four.
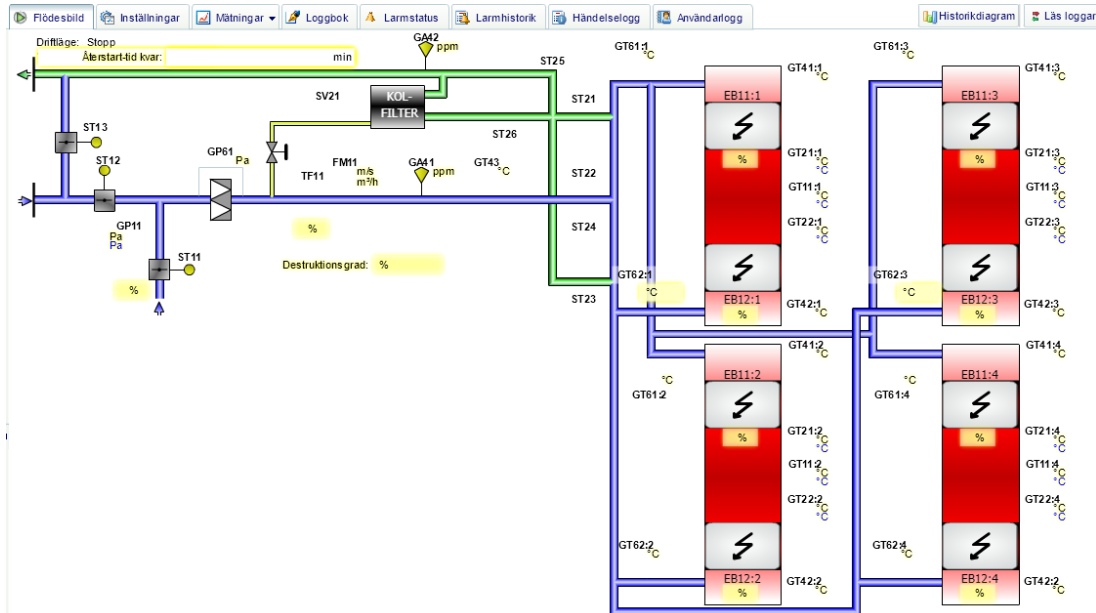
The page contains the tabs.

Flow chart   Gives an overview of the process and the measurement points

Settings   Shows the settings made for the unit.
Modifications of the values shown may only be performed by authorized personnel.

Measurements   Shows the measurement values specified for the unit.
             Normally energy consumption, gas in/out

Logbook   Here personal notes can be inserted

Alarms/actions   This tab contains the following choices:
    Alarm status   Shows actual alarm status
    Alarm history   Alarm history with date, time, priority and explaining text
    Action log   Action log according to predefined filter (onset, off) with date, time, priority and explanatory text.
    User log   Shows activities made by user with date, time and explanatory text.

It is also possible to define own measurements history information from a selection of different measurement points by using the tab (function) "Historikdiagram" which is found in the upper right corner of the page.

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3.1.   Measurements
Below a picture of the measurements always presented in this tab.

Totalmätning energi		Totalmätning gas in		Totalmätning gas ut	
Denna timme:	kWh	Denna timme:	g	Denna timme:	g
Föregående timme:	kWh	Föregående timme:	g	Föregående timme:	g
Idag:	kWh	Idag:	g	Idag:	g
Igår:	kWh	Igår:	g	Igår:	g
Denna vecka:	kWh	Denna vecka:	g	Denna vecka:	g
Föregående vecka:	kWh	Föregående vecka:	g	Föregående vecka:	g
Totalt:	kWh	Totalt:	g	Totalt:	g
Månadsmätning		**Månadsmätning**		**Månadsmätning**	
Januari:	kWh	Januari:	g	Januari:	g
Februari:	kWh	Februari:	g	Februari:	g
Mars:	kWh	Mars:	g	Mars:	g
April:	kWh	April:	g	April:	g
Maj:	kWh	Maj:	g	Maj:	g
Juni:	kWh	Juni:	g	Juni:	g
Juli:	kWh	Juli:	g	Juli:	g
Augusti:	kWh	Augusti:	g	Augusti:	g
September:	kWh	September:	g	September:	g
Oktober:	kWh	Oktober:	g	Oktober:	g
November:	kWh	November:	g	November:	g
December:	kWh	December:	g	December:	g

3.2.   Logbook
This tab contains the logbook to be used for activity information that is to be saved.

3.3.   Alarm status
This tab shows actual alarm status.
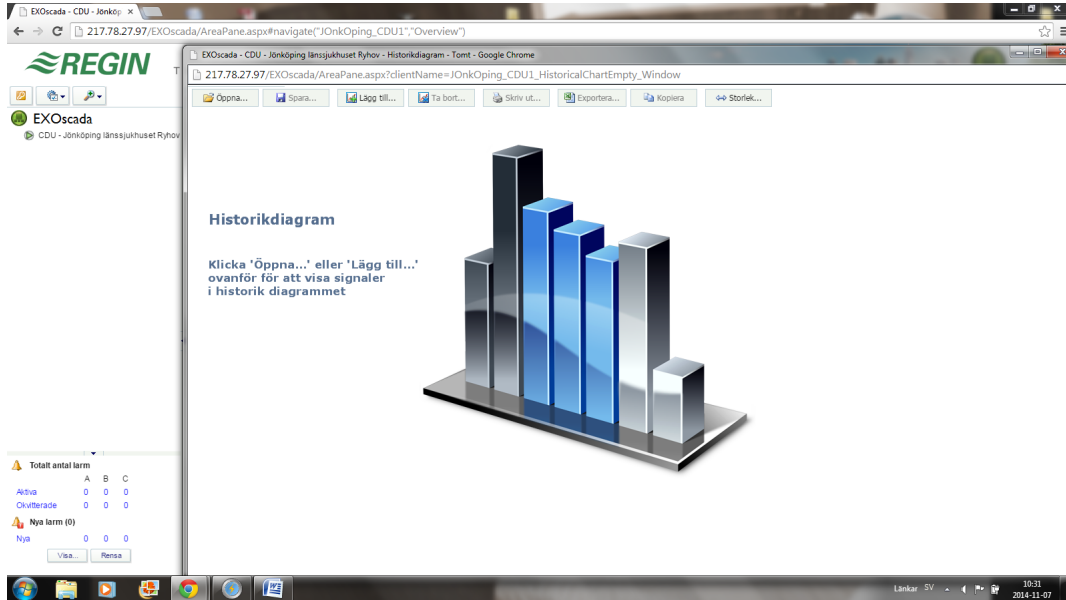
3.4.   Historical diagram
Beneath the tab "Historikdiagram" a user can chose specific measurement points from the process and get a graphical diagram showing variations over time. It is also possible to export the information to Excel.

How to use this functionality is described in following sections.

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3.5. Defining measurement points

First click the tab "Historikdiagram".

The information below will be shown on the screen.

The start page contains the following choices.

Open	Used for opening an earlier saved historical diagram
Save	Saves the defined historical diagram
Add	Used for adding measurement points
Delete	Used for deleting chosen measurement points
Print	Prints the diagram on the screen
Export	Exports measurement values to Excel for further usage
Copy	Copy an earlier defined historical diagram for editing
Size	Changes the screen resolution

Below is an example on how to create a historical diagram, we have chosen to look at the measurement points:

Gas in

Gas out

"Click" on "Add". A new page with a menu of choices will then be shown.

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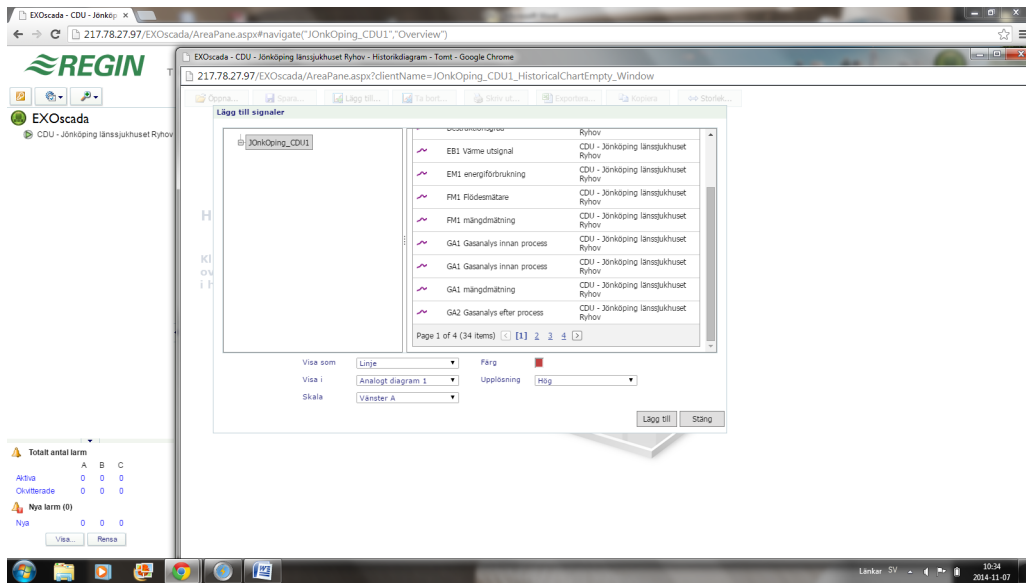
When the measurement point of interest is found, mark it and then click "Add" to add it to the list that you want the system to present.

If another measurement point is to be added, repeat action above.

**NOTE**: It is only possible to add one measurement point at a time.

Below the screen after choosing "Gas in" and "Gas out is shown.

- The measurement points that has been selected can be seen in the bottom of the page.
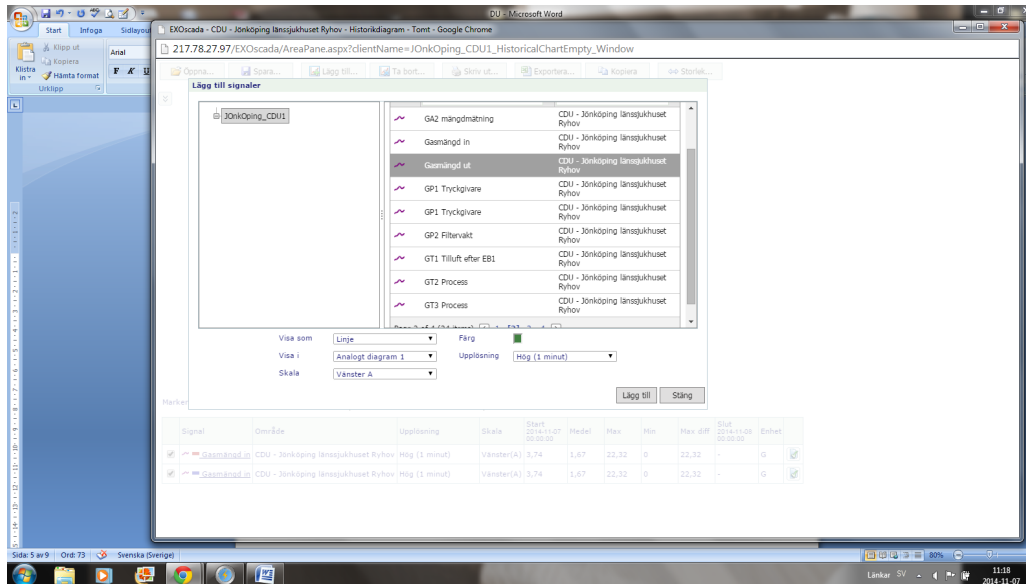
When you have made your choices click on the button "Close".

A historical diagram will now be presented on the screen from the choices that have been made.
It is now possible to refine the information to show the time interval that is of interest.
The scale can be changed by clicking the value of the Y scale.

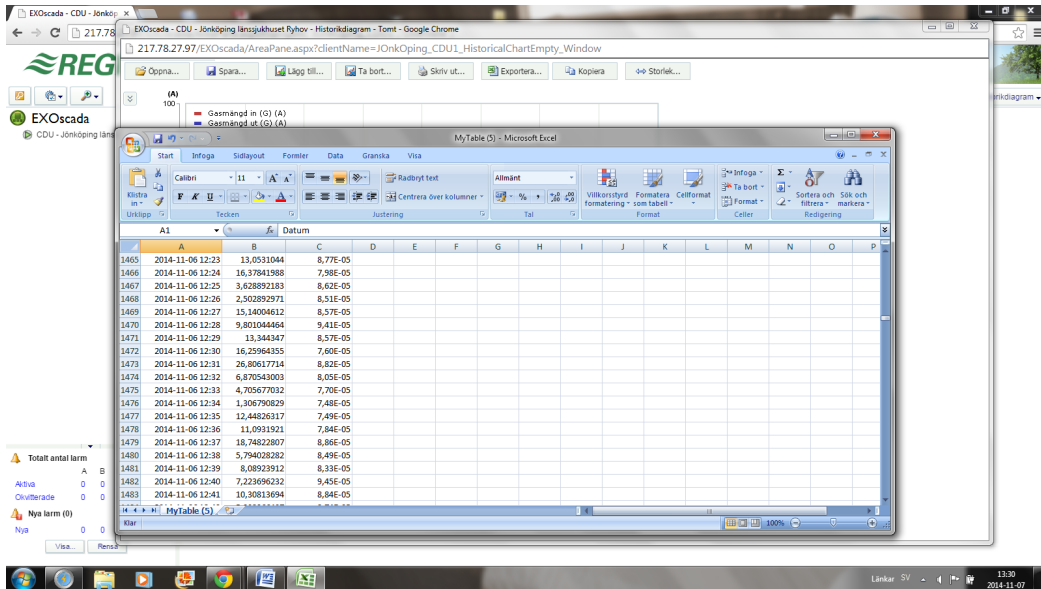Medclair
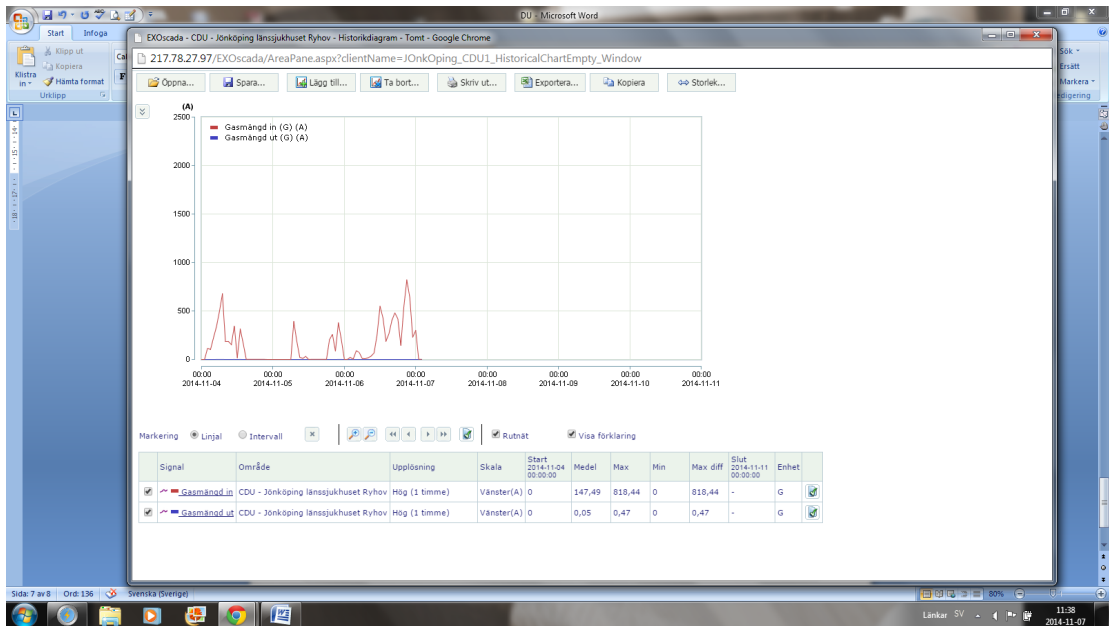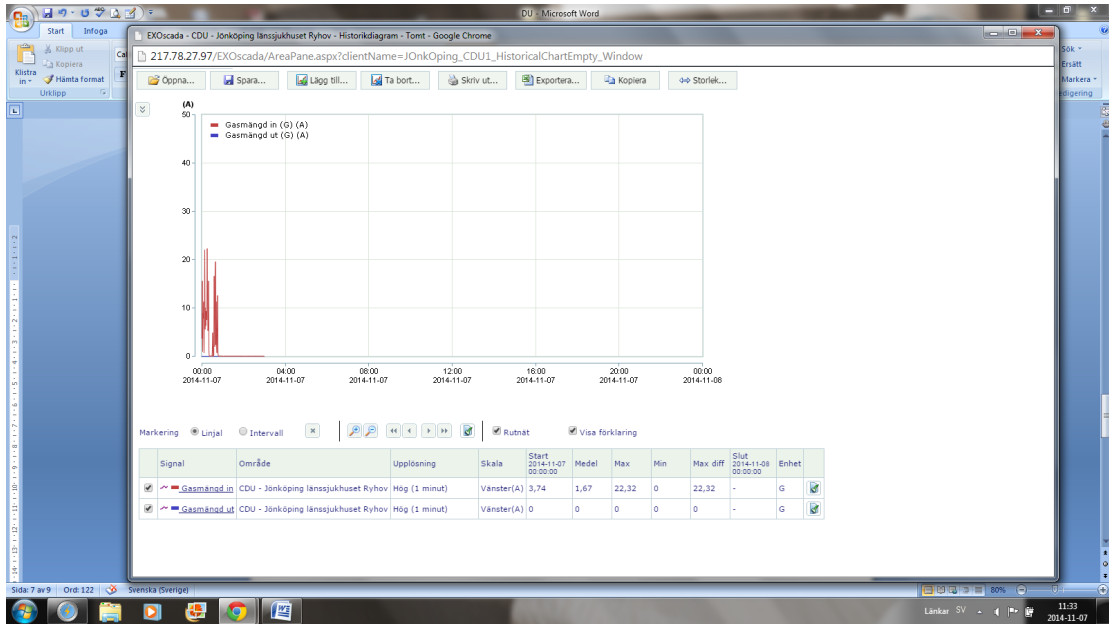
3.6. Export to Excel

Below is an example of exporting information to an Excel sheet.
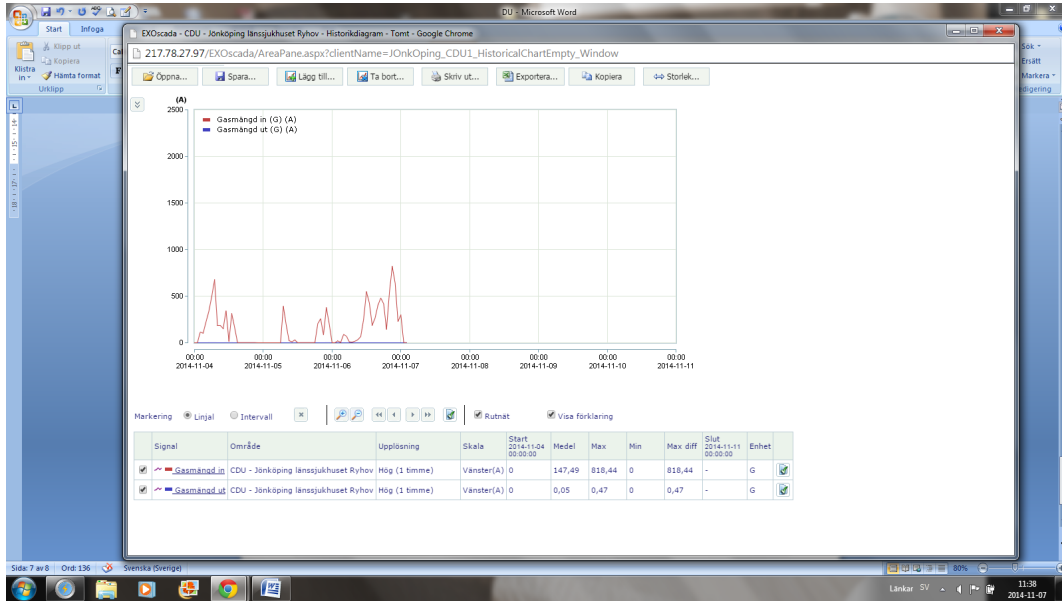
Click on the function "Export".

For security reason the system will ask if you really want to open this file now, choose "Yes".
Excel will now open and the information will be presented as numbers for the measurement points chosen.
Below is an export example for gas in/out, the columns shown is date, time, gas in and gas out"

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4. Special symbols

The symbol below could be seen in the flow chart, Medclair support have taken manual control of a part of the operation.

   Text that is shown in the flow chart "Varning – Ej i automatisk drift"

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Medclair, founded in 2013, is a Swedish research and development company with leading-edge expertise in process gas purification, gas measurement, ventilation and control. We solve healthcare and environmental challanges through innovation.

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