KATRONIC

KATdata+
download software

Software Manual

Software Manual KATdata+
Version V09E1208

KATdata+
Software Manual

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1 Symbols used in this manual

Danger
This symbol represents an immediate hazardous situation which could result in a **serious injury, death** or **damage to the equipment**. Where this symbol is shown, do not use the equipment further unless you have fully understood the nature of the hazard and have taken the required precautions.

! **Attention**
This symbol indicates important instructions which should be respected in order to avoid damage or destroy the equipment. Follow the the precautions given in these instructions to avoid the hazard. Call our service team if necessary.

Call service
Where this symbol is shown call our service team for advise if necessary.

Note
This symbol indicates a note or detailed set-up tip.

● This symbol represents enumeration.

<**BRK**> Operator keys are printed in bold typeface and placed in pointed brackets.

2 Introduction

The **KATdata+ Download Software** is a utility program to download the datalogger content of the KATflow range of ultrasonic flowmeters to a Personal Computer (PC).
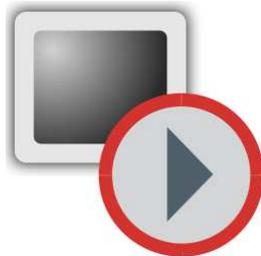

Illustration 1: KATdata+ program icon

The software is capable to store the downloaded information into binary files (*.kat) or comma-separated standard CVS files (*.cvs) suitable for further analysis in spreadsheet programs such as EXCEL or OpenOffice CALC. Furthermore, the logger information can also be exported as a text file (*.txt) readable by any word processor.

KATdata+ has features to sort the downloaded data sets according to a number of criteria and is also able to create new data set files from the downloaded information. These data can be displayed in table and graphic format for analysis and evaluation.

The program is available for use with Windows, Linux and optionally Mac operating systems.

3 Compatibility

The **KATdata+ Download Software** can be used with all KATflow type ultrasonic flowmeters featuring a graphic display (model designations KF100, KF150, KF170, KF200 and KF230).

Illustration 2: *Hand-held ultrasonic flowmeter KF200 with graphic display*

The software is not compatible with older KATflow models, which have a 2-line alphanumeric display.

Please contact customer support if you require assistance with compatibility issues.

4 Contacting Us

Katronic Technologies Ltd. provide <u>free</u> telephone life-time support for all KATRON-IC products and software sold.

Please contact us should you require assistance:

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5 About Our Company

Katronic Technologies Ltd. have been established in 1996 and specialise in process measurement technology, in particular clamp-on flowmeters and other products featuring non-invasive, non-intrusive and contact-less ultrasonic measuring techniques.

KATRONIC´s quality management system has been certified by SGS since 2003 to be in conformance with ISO 9001:2000 (Certificate No. GB035999). This also covers the manufacture of ATEX certified clamp-on flowmeters and hazardous area equipment as acknowledged by TRL Compliance Ltd. (QAN License Number TX061037).

We are members of general business organisations such as the Coventry and Warwickshire Chamber of Commerce, the Institute of Measurement and Control and the British Standards Institution (BSI) where we are actively involved with the development of industry specific standards.

Our company is a FPAL registered supplier to the north sea offshore industry.

Many of our products are exported to all parts of the world mainly through appointed distributors. Please contact us for details of distributors and agents in your area.

Our instruments and specific system solutions are used for applications spanning all branches of the process, manufacturing and municipal sectors. Typical industries are:

- Water supply and wastewater services
- Oil and gas
- Building services
- Petrochemical
- Pharmaceutical
- Power generation
- Food and drink
- Semiconductor
- Marine & shipbuilding
- Aircraft and aerospace industries
- Manufacturing and process industries

We are actively involved with local community projects and various sponsorships for healthy lifestyle and environmental projects, education, sports and the arts.

6 Quick Start Guide
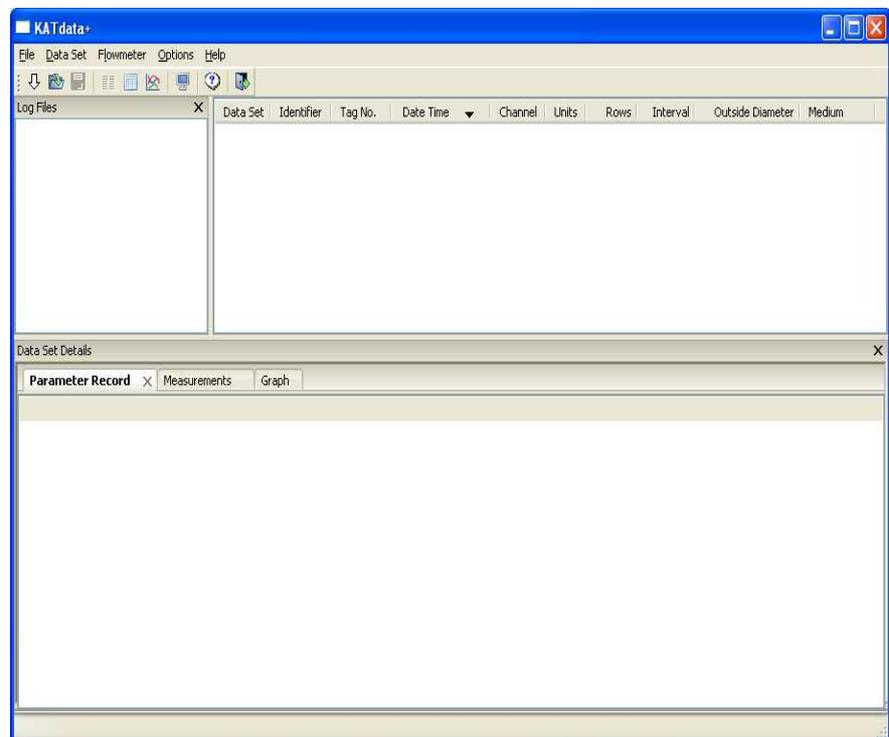
1. Start the KATdata+ program.

   Note: Locate this icon on your desktop.

2. At program start-up, on default the splash-screen is shown for a short while:
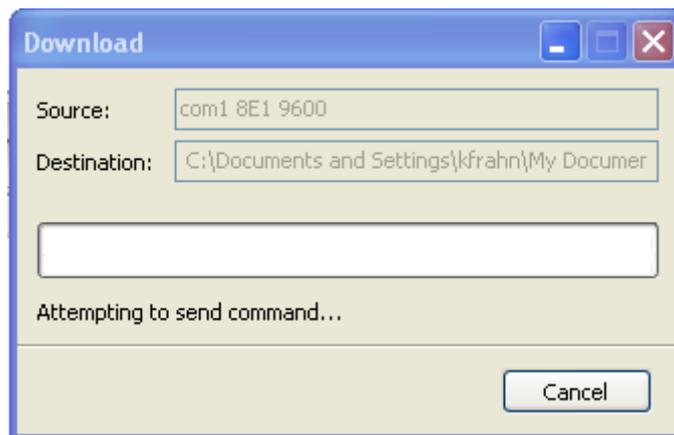

3. The main program window frame appears:

4. Switch flowmeter on or escape from the measurement display. Wait until the main menu appears.

MAIN MENU

Quick start	System
Installation	Diagnostics
Output	Datalogger
Input	Serial Comm

Example: KF150 Main Menu

5. Connect communication cable between flowmeter and PC.

6. Select menu *Flowmeter | Download*.

7. Store data to be downloaded into a file, give the file an appropriate name, e.g. KATflowDownload_01.kat.

8. KATdata+ software establishes communication with flowmeter.

Download

Source: com1 8E1 9600

Destination: C:\Documents and Settings\kfrahn\My Documer

Attempting to send command...

Cancel

9. Wait until the downloading window closes.

10. Downloading of data is completed.

11. Now, the collected data can be evaluated using the Parameter Record, Table and Graph tabs:
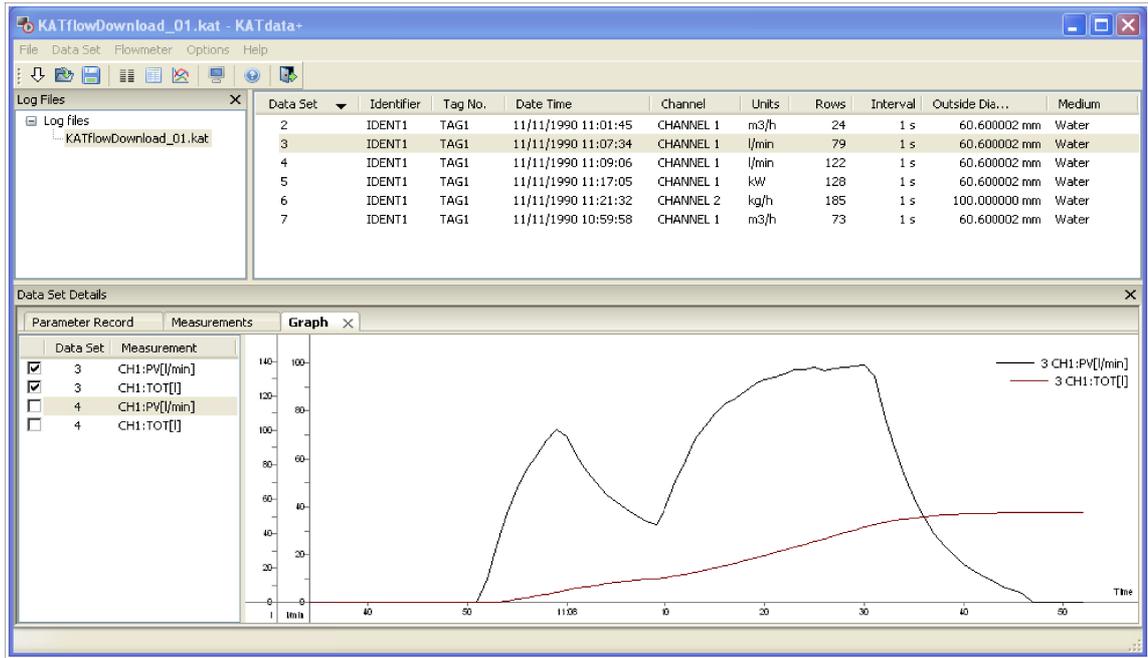
7 File Menu

New
Creates an unnamed file to accept data sets from other files. With the mouse, drag a measurement data set of interest from another file and drop it into the newly created file.

The software automatically opens a file save dialog should you choose to close the unnamed file. Then a new filename can be assigned.

Open
Opens an existing binary KATdata+ file (*.kat) or a comma-separated CVS file (*.cvs).

Save
Saves a newly created unnamed file.

Save As
Saves the selected file as binary KATdata+ file (*.kat) or comma-separated CVS file (*.cvs).

Export
Exports the selected file as standard text file (*.txt).

Print Graph
Prints the selected graph to the default printer.

Print Preview
Generates a print preview of the selected graph to be printed.

Print Setup
Invokes the standard print setup dialog.

Properties
Tab: Summary
Gives information of the logging file.

Tab: Flowmeter
Identification of flowmeter from which the logging files have been generated.

Close
Closes the selected logging file.

Quit
Quits the program.

8 Data Set Menu

Parameter Record
Displays the Parameter Record of the selected Data Set in a separate window.

Table
Opens a new window frame and displays the measurement data of a Data Set in table format.

Graph
Opens a new window frame and displays the measurement data of a Data Set in graphic format.

Right click mouse ->

Fit to Window
Fits graph to available window

Zoom In
Increases graph detail

Zoom out
Decreases graph detail
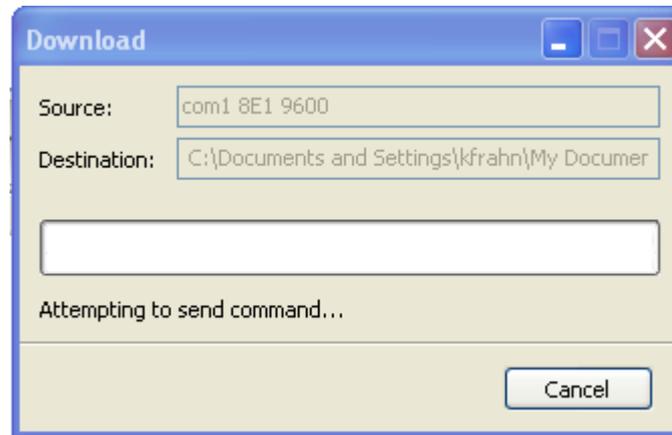
Print Print Graph
Opens graph print dialog

Print Preview
Opens print preview dialog

9 Flowmeter Menu

Download
Initiates data downloading from the flowmeter. First, a filename must be chosen, either in binary compressed format *.kat or as a comma-separated file *.cvs. Secondly, the data will be downloaded from the logger content of the flowmeter.

Terminal
Starts an associated terminal program for on-line data transfer, manual download-ing of the datalogger content and/or to operate the flowmeter command line inter-face.

10 Options Menu

Show Toolbar
Optional toolbar can be enabled or disabled.

Show Open File List
Open file list window is enabled or disabled.

Show Preview
Preview for tabs "Parameter Record", "Table" and "Graph" can be enabled or disabled.

Default Layout
Will arrange all windows to the default layout.

Preferences
Open program preferences tabs:

Tab: General
- Specifies terminal program command line.
- Enables splash screen at start-up.

Tab: Serial
- Sets the serial communication parameters. Default parameters are Com1, 9600 baud, 8 data bits, 1 stop bit, even parity, no handshake.

Tab: Export
- Specifies the text file export parameters. Default parameters are Tab Field Separator, Decimal Point, Flowmeter's Date Format, English.
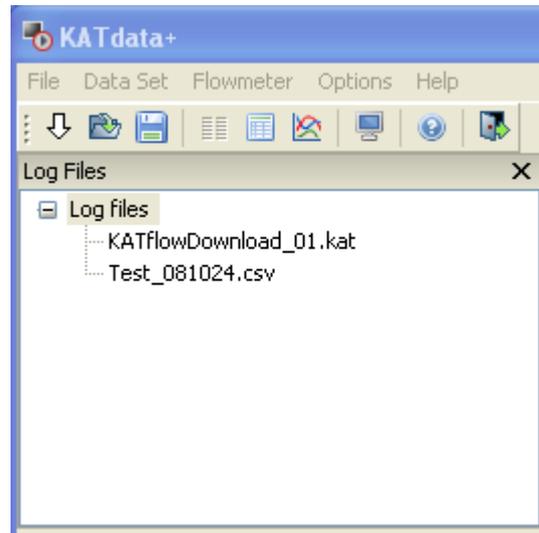
11 Help Menu

Help Contents
Invokes the help file.

About KATdata+
Gives brief program information, highlights contributions and shows program version number.

12 Log Files

In the log files area, the open data files are displayed.

File | New
Creates new logger file. Measurement data sets of interested can be dragged into the newly created file. Upon closing of the file, the user is prompted to enter a file name.

Highlight file with cursor, right click mouse ->

>   *Save*
>   Saves newly created or changed file.
>
>   *Saves As*
>   Saves file as *.kat compressed binary file or *.csv comma-separated text file
>
>   *Export*
>   Exports selected file as standard text file (*.txt).
>
>   *Properties*
>   Declares file properties.
>
>   *Close*

Closes selected file.

12.1 Data Set List

Data Set ▾	Identifier	Tag No.	Date Time	Channel	Units	Rows	Interval	Outside Diameter	Medium
1	IDENT1	TAG1	11/11/1990 10:59:58	CHANNEL 1	m3/h	73	1 s	60.600002 mm	Water
2	IDENT1	TAG1	11/11/1990 11:01:45	CHANNEL 1	m3/h	24	1 s	60.600002 mm	Water
3	IDENT1	TAG1	11/11/1990 11:04:00	CHANNEL 1	m3/h	157	1 s	60.600002 mm	Water
4	IDENT1	TAG1	11/11/1990 11:07:34	CHANNEL 1	l/min	79	1 s	60.600002 mm	Water
5	IDENT1	TAG1	11/11/1990 11:09:06	CHANNEL 1	l/min	122	1 s	60.600002 mm	Water
6	IDENT1	TAG1	11/11/1990 11:12:14	CHANNEL 1	l/min	127	1 s	60.600002 mm	Water
7	IDENT1	TAG1	11/11/1990 11:15:05	CHANNEL 1	kW	40	1 s	60.600002 mm	Water
8	IDENT1	TAG1	11/11/1990 11:17:05	CHANNEL 1	kW	128	1 s	60.600002 mm	Water
9	IDENT1	TAG1	11/11/1990 11:20:40	CHANNEL 1	kW	42	1 s	60.600002 mm	Water
9	IDENT1	TAG1	11/11/1990 11:20:40	CHANNEL 2	kg/h	42	1 s	100.000000 mm	Water
10	IDENT1	TAG1	11/11/1990 11:21:32	CHANNEL 1	kW	185	1 s	60.600002 mm	Water
10	IDENT1	TAG1	11/11/1990 11:21:32	CHANNEL 2	kg/h	185	1 s	100.000000 mm	Water

In this display area, all the data sets of a logging file are displayed.

The data sets can be sorted by

- Data set number
- Identifier
- Tag. No.
- Date and time
- Channel
- Units
- Rows of measurements
- Logging interval
- Outside diameter
- Medium

in ascending and descending order. A triangle ▶ symbolises the sorting criteria and direction. Simply move the mouse cursor to the column header to select the sorting item and direction by clicking on the header item.

Highlight data set with cursor, right click mouse ->

> *Open (or double click selected data set with mouse)*
> Opens data set parameter record, measurement table and graph in separate window.

> *Delete*
> Deletes selected data set from logging file.
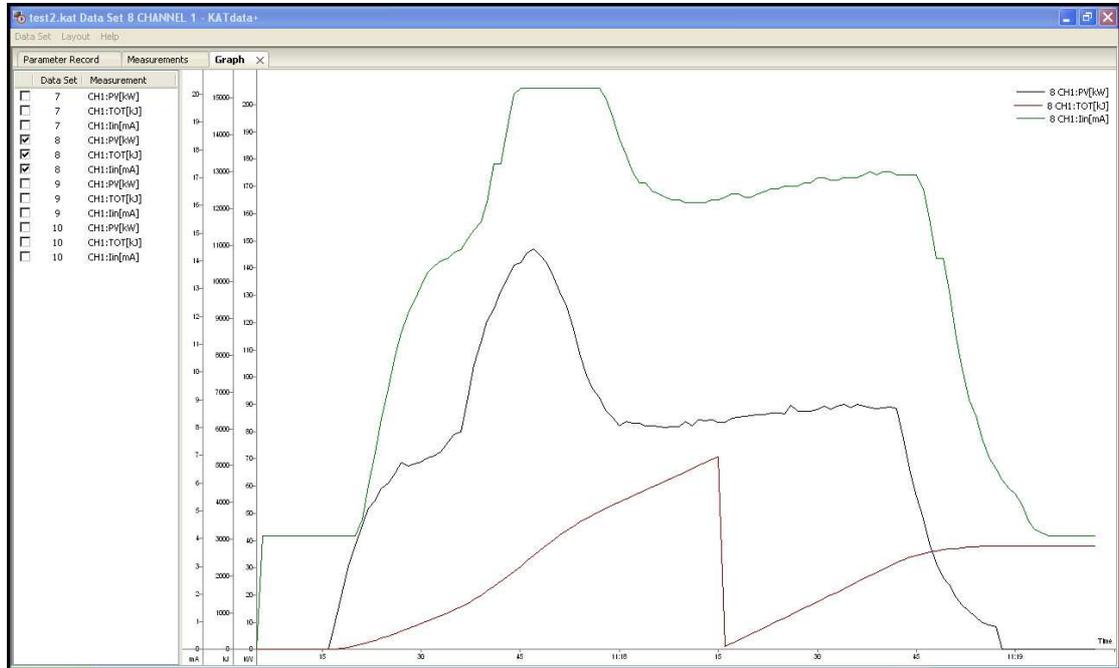
> *Properties*
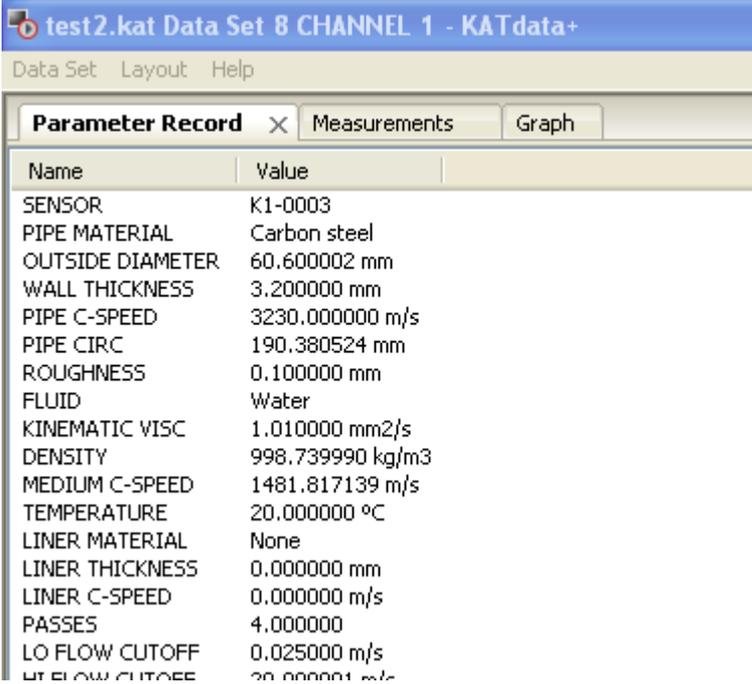> Declares data set properties.

☞ Selected data sets of particular interest can be dragged and dropped into other logging files with the mouse. 🙂

12.2 Data Set Details

Data set details can be shown in a separate window by double clicking or opening the selected data set within the data set list:

12.2.1 Parameter Record

Here, the parameter record settings of the chosen measurement data set are shown for documentation purposes.

12.2.2 Measurements

	Time	CH1:PV[kW]	CH1:TOT[kJ]	CH1:Iin[mA]
1	11:17:05	0.000000	0.000000	0.000000
2	11:17:06	0.000000	0.000000	4.100000
3	11:17:07	0.000000	0.000000	4.100000
4	11:17:08	0.000000	0.000000	4.100000
5	11:17:09	0.000000	0.000000	4.100000
6	11:17:10	0.000000	0.000000	4.100000
7	11:17:11	0.000000	0.000000	4.100000
8	11:17:12	0.000000	0.000000	4.100000
9	11:17:13	0.000000	0.000000	4.100000
10	11:17:14	0.000000	0.000000	4.100000
11	11:17:15	0.000000	0.000000	4.100000
12	11:17:16	0.000000	0.000000	4.100000
13	11:17:17	10.630000	10.600000	4.100000
14	11:17:18	21.372000	32.000000	4.100000
15	11:17:19	30.657000	62.700000	4.100000
16	11:17:20	38.329000	101.000000	4.100000
17	11:17:21	45.412000	146.400000	4.700000
18	11:17:22	51.712000	198.100000	5.900000
19	11:17:23	54.823000	252.900000	7.100000
20	11:17:24	59.135000	312.100000	8.300000
21	11:17:25	61.109000	373.200000	9.400000
22	11:17:26	64.828000	438.000000	10.600000
23	11:17:27	68.441000	506.400000	11.400000
24	11:17:28	67.401000	573.800000	12.100000
25	11:17:29	68.127000	642.000000	12.600000
26	11:17:30	68.874000	710.800000	13.100000
27	11:17:31	70.438000	781.300000	13.600000
28	11:17:32	71.143000	852.400000	13.800000
29	11:17:33	72.769000	925.200000	14.000000
30	11:17:34	76.129000	1001.300000	14.100000
31	11:17:35	78.828000	1080.200000	14.300000
32	11:17:36	79.976000	1160.100000	14.400000
33	11:17:37	92.585000	1252.700000	14.800000
34	11:17:38	104.500000	1357.200000	15.100000
35	11:17:39	112.578000	1469.800000	15.400000
36	11:17:40	120.601000	1590.400000	16.100000
37	11:17:41	124.043000	1715.300000	17.500000

The data set measurements are listed in table format.

12.2.3 Graph
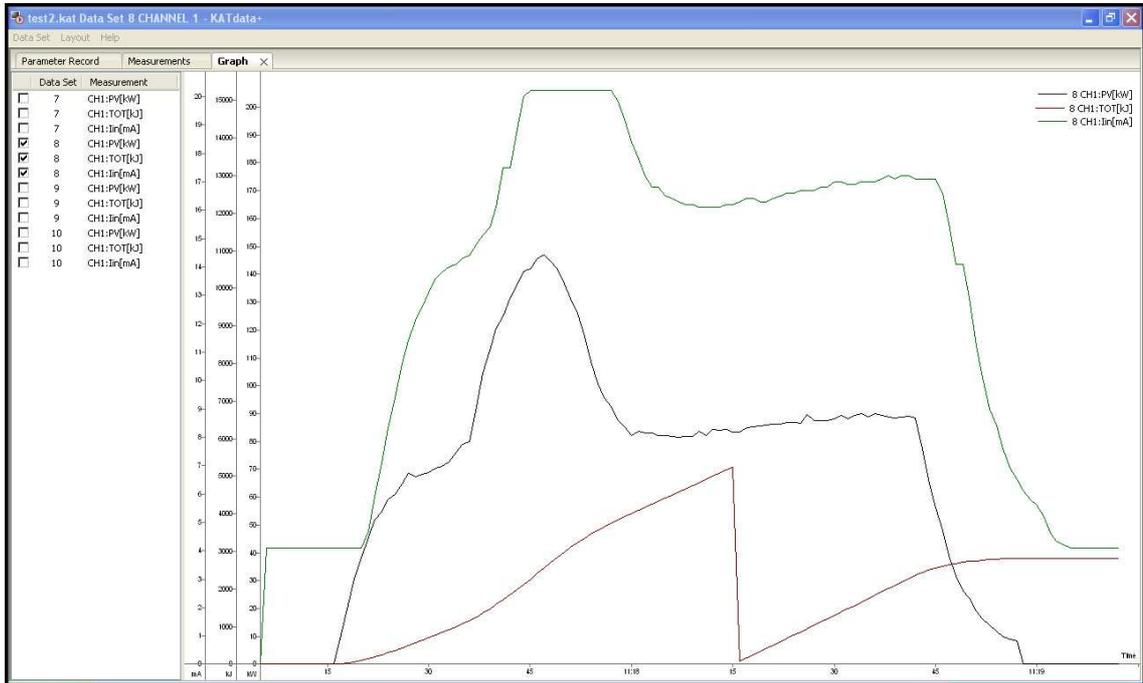
The measurements of a chosen data set (in this example data set 8) are shown in graphic format.

The data set can contain more than one column of measurements (in our example, there are 3 columns/graphs). The user can select and deselect measurement columns as per specific requirements.

In addition, all compatible measurement data sets can be included in the graph. This is in order to be able to compare or combine readings which have been taken at different times, but might be providing useful information for the user (e.g. for pump performance tests).

Compatibility of data sets is given if the following equation and parameters are equal:

Compatibility = Identifier <u>and</u> Tag <u>and</u> Unit <u>and</u> Logging Interval <u>and</u> Outside Diameter <u>and</u> Medium.