CS Soft Basic

Manual Revision G

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Alterations page

Revision D	Alteration	Date	Caseworker
A	First edition	2011-07-21	TE
В	Description MergeMenu item Extras omitted	2011-09-14	TE
С	 Multiple Selection Load, save, delete settings Analysis: Cost input, dual rate 	2011-10-21	TE
D	Illustrations update	2011-10-24	TE
E	Analysis: shift report	2012-01-26	TE
F	Compressor analysisExtended functionalities	2013-03-14	AA
G	Update "Support and Service"	2014-10-01	TE

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Every year thousands of customers buy our high-quality products And they do this for good reason:

- We offer an excellent price-performance ratio. Reliable quality at a fair price.
- With a professional experience of over 20 years, we are able to provide you with the best possible measuring solutions.
- Our high demand towards quality.
- Of course all of our devices bear the CE Mark which is required by the EU.
- Calibration certificates, seminars and consulting.
- Even after you have purchased our products you can count to be there for you when you need us.

Through our service you are guaranteed to receive a quick assistance.

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1 Introduction

With the help of the CS Soft Basic software, measurement data from the new device series (starting from the DS500) can be retrieved, saved, visualized and evaluated.

2 Installation

To install the software execute the "Setup.exe" and follow the installation instructions. The software is installed automatically.

3 General

In this chapter the menu items are described that have the same functionality in all views.

3.1 Menu File

3.1.1 New

3.1.1.1 Read Recorded Data from Device

With the help of this menu item data can be read into CS Soft Basic from any device.

After clicking on the menu items the following screen to select the device will be opened. All devices which are present in the same network as the computer are displayed in the window.

Search		Connect to device with	IP Address		
IP	Туре	MAC			
192.168.0.242 192.168.0.241		00:00:00:00:DF 00:50:C2:D8:D0			
				ок	Cancel

Illustration 1: Automatic device devices

By double-clicking on the desired device or by selecting it and confirming with OK, a connection to the respective device will be established and a list of the available data displayed.

Prerequisite: The device must be connected to the same ethernet network as the computer.

	Name	Record ID	Comment	Start	End
	20111021_200401_realtime		20111021_200401_Realtime	10/21/2011 8:04:03 PM	10/21/2011 8:05:14 PM
	20111024_101955_realtime		20111024_101955_Realtime	10/24/2011 10:20:51 AM	10/24/2011 10:31:57 AM
	20111024_121601_realtime		20111024_121601_Realtime	10/24/2011 12:16:03 PM	10/24/2011 12:17:39 PM
	merged_file_1		Merge 13 + 15.10.	10/13/2011 12:19:32 PM	10/15/2011 11:59:59 PM
	merged_file_komplett		Merge merged + alle	10/13/2011 12:19:32 PM	10/16/2011 11:59:59 PM
Þ	messung_3	59	Messung 3	10/23/2011 12:00:00 AM	10/23/2011 11:59:59 PM
	messung_3_13	59	Messung 3	10/13/2011 12:19:32 PM	10/13/2011 11:59:59 PM
	messung_3_14	59	Messung 3	10/14/2011 12:00:00 AM	10/14/2011 11:59:59 PM
	messung_3_15	59	Messung 3	10/15/2011 12:00:00 AM	10/15/2011 11:59:59 PM
	messung_3_16	59	Messung 3	10/16/2011 12:00:00 AM	10/16/2011 11:59:59 PM
	messung_3_21	59	Messung 3	10/21/2011 12:00:00 AM	10/21/2011 11:59:59 PM
	messung_3_55	55	Messung 3	10/6/2011 5:41:49 PM	10/10/2011 11:59:59 PM
	messung_3_57	57	Messung 3	10/10/2011 6:01:35 PM	10/13/2011 11:59:59 PM
	messung_3_59	59	Messung 3	10/13/2011 12:19:32 PM	10/20/2011 11:59:59 PM

Illustration 2: Open file

In the list of all available files, a file can be selected by double-clicking or by selecting it and confirming with OK.

The files may contain data from a large time frame. It is possible to restrict the timeframe through the following function.

6	File Selecto	or X
	Select Time	Span
	From:	10/13/2011 🔻
	To:	10/23/2011 🔻
		OK Cancel

Illustration 3: File selection

After selecting the time frame and confirming with "OK" the following window will open.

🚱 Set	×
Filename	
messung_3	
Comment	
Messung 3	
1	
	OK Cancel

Illustration 4: Entering a file name

The default name for the "Filename" is automatically generated from the comment that was input into the device. For the "file name" only contain small letters and numbers without spaces or special characters may be used. Both the "Filename" and the "Comment" may be changed by the operator. As the default comment, the comment that was entered into the device for the measurement will be used.

After a confirmation with "OK" the data transfer will start. An individual file for every day will be stored internally in the device. These files are successively loaded and decoded.

CAUTION: For large amounts of data, data import may take some time to complete.

In order to load multiple files simultaneously, in the window Illustration 2, you can mark several files. For this, use the standard Windows keys "Ctrl" or "Shift".

When selecting multiple files, the time frame as shown in Illustration 3 can not be restricted.

3.1.1.2 Read Device File

If data has been transferred to a USB flash drive, it can be read via this menu item. The folders stored on the USB drive folders can be stored on any medium. The files in the "export" folder must always be stored in a single folder. The file names may not be changed.

After clicking on the menu item the following screen to select the data (RECORDS.LOG) will be opened:

🚱 Open				×
CS Instrur	nents GmbH 🔸 CS Soft Basic 🕨 data	👻 🐓 data durch	suchen	٩
Organisieren 🔻 Neuer	Ordner		•	2
Desktop 🔺	Name	Änderungsdatum	Тур	G
Downloads	RECORDS	24.10.2011 22:44	Textdokument	
 ➡ Bibliotheken ➡ Bilder ➡ Dokumente ➡ Musik ➡ Videos ➡ Heimnetzgruppe ▲ Computer ▲ Lokaler Datenträc 				
Ratmuark T		Desert		•
Dateir	aame: RECORDS	✓ Records	Abbrech	▼ nen

Illustration 5: open Records.log

Select the desired folder containing the RECORDS.LOG file and confirm by clicking on the button "open".

Just as described under 3.1.1.1 Read Recorded Data from Device, individual files and their time frames can now be selected.

3.1.2 Open

A file can be opened using this menu item. For this, the following dialog is displayed:

Name	Record ID	Comment	Start	End
20111021_200401_realtime		20111021_200401_Realtime	10/21/2011 8:04:03 PM	10/21/2011 8:05:14 PM
20111024_101955_realtime		20111024_101955_Realtime	10/24/2011 10:20:51 AM	10/24/2011 10:31:57 AM
20111024_121601_realtime		20111024_121601_Realtime	10/24/2011 12:16:03 PM	10/24/2011 12:17:39 PM
merged_file_1		Merge 13 + 15.10.	10/13/2011 12:19:32 PM	10/15/2011 11:59:59 PM
merged_file_komplett		Merge merged + alle	10/13/2011 12:19:32 PM	10/16/2011 11:59:59 PM
messung_3	59	Messung 3	10/23/2011 12:00:00 AM	10/23/2011 11:59:59 PM
messung_3_13	59	Messung 3	10/13/2011 12:19:32 PM	10/13/2011 11:59:59 PM
messung_3_14	59	Messung 3	10/14/2011 12:00:00 AM	10/14/2011 11:59:59 PM
messung_3_15	59	Messung 3	10/15/2011 12:00:00 AM	10/15/2011 11:59:59 PM
messung_3_16	59	Messung 3	10/16/2011 12:00:00 AM	10/16/2011 11:59:59 PM
messung_3_21	59	Messung 3	10/21/2011 12:00:00 AM	10/21/2011 11:59:59 PM
messung_3_55	55	Messung 3	10/6/2011 5:41:49 PM	10/10/2011 11:59:59 PM
messung_3_57	57	Messung 3	10/10/2011 6:01:35 PM	10/13/2011 11:59:59 PM
messung_3_59	59	Messung 3	10/13/2011 12:19:32 PM	10/20/2011 11:59:59 PM

Illustration 6: Open file

By double-clicking or by selecting and confirming the respective file will be opened.

Incorrect files can be clearly identified as such, if they do not contain any entries except for the name.

3.1.3 Merge

With this menu item different files can be merged.

	Name	Record ID	Comment	Start	End	
	merged_file_komplett		Merge merged + alle	10/13/2011 12:19:32 PM	10/16/2011 11:59:59 PM	
	messung_3	59	Messung 3	10/23/2011 12:00:00 AM	10/23/2011 11:59:59 PM	
	messung_3_13		Messung 3	10/13/2011 12:19:32 PM	10/13/2011 11:59:59 PM	
	messung_3_14	59	Messung 3	10/14/2011 12:00:00 AM	10/14/2011 11:59:59 PM	
۲	messung_3_15	59	Messung 3	10/15/2011 12:00:00 AM	10/15/2011 11:59:59 PM	
	messung_3_16	59	Messung 3	10/16/2011 12:00:00 AM	10/16/2011 11:59:59 PM	
	messung_3_21	59	Messung 3	10/21/2011 12:00:00 AM	10/21/2011 11:59:59 PM	

Illustration 7: Merging files

Select the files you want to merge.

After confirming with "OK" the following window will open.

¢	Set
	Filename
	nerged_file
	Comment Merge
	maile
	OK Cancel

Illustration 8: Enter a filename for the merged file.

The merged files will be stored in a new file.

Here you can assign any name for the new file. The "file name" may only contain small letters and numbers without spaces or special characters. Both the "file name" and the "comment" may be changed by the operator.

After confirming with "OK" the files will be merged.

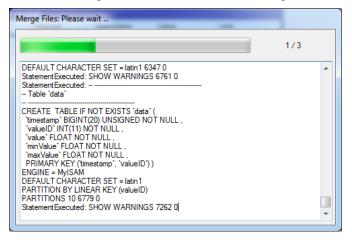


Illustration 9: Merging status

During the merge process, you will receive detailed information in the status window.

3.1.4 Export

3.1.4.1 Dump (CS Soft Basic):

This function is intended for moving a file to a different computer or to perform a data backup.

	Name	Record ID	Comment	Start	E
	20111021_200401_realtime		20111021_200401_Realtime	10/21/2011 8:04:03 PM	:
	20111024_101955_realtime		20111024_101955_Realtime	10/24/2011 10:20:51 AM	: '
	20111024_121601_realtime		20111024_121601_Realtime	10/24/2011 12:16:03 PM	1
۲	merged_file				
	merged_file_1		Merge 13 + 15.10.	10/13/2011 12:19:32 PM	
4				→	
R	esult file path: C:\User	s\tebner\Doci	uments\20111024_225953_me	erged_file_Dump.sql	 \$



The desired file can be selected in the dialogue. The target path must be specified additionally.

3.1.4.2 Data as *.csv

This function serves for viewing the raw data in spread sheet systems (e. g. Excel). Optionally the format can be selected in English or German notation. In order to export the data please mark the array/s and click to "Export".

€⁄ E	хрог	t Raw Data		x
S	elect	t Timespan		
F	rom:	1/12/2010 10:39:09	AM Date time format 01/01/2000 00:00:00	•
To: 1/19/2		1/19/2010 9:44:17 A	M Decimal separator point : "."	-
		Device	Channel name	1
•		DS300 (helimagesamt)	A1-1 1 1: Durchfluss(m³/min) [m³/min]	
		DS300 (helimagesamt)	A1-2 1 1: Verbrauch(m ³) [m ³]	
		DS300 (helimagesamt)	A2-1 2 2: Taupunkt(°Ctd) [°Ctd]	
		DS300 (helimagesamt)	A3-1 3 3: Strom(A) [A]	
		DS300 (helimagesamt)	A4-1 4 4: Strom(A) [A]	
		DS300 (helimagesamt)	B1-1 5 5: Strom(A) [A]	
		DS300 (helimagesamt)	B2-1 6 6: Druck 16 bar(bar) [bar]	
		Kompressor 3	5: Strom(A) 5 [A]	
		Kompressor 3	Leistung [kW]	
		Kompressor 3	Wirkarbeit [kWh]	*
			Export Cance	el

Illustration 11: Export of raw data as CSV file

Under 8 you will find a short instruction how to open the CSV file in Excel.

3.1.5 Import

In order to be able to use in exported file (Dump from CS Soft Basic or DS300-Data) it must first be imported.

3.1.5.1 Dump (CS Soft Basic Export)

Files which have been generated via the menu point File -> Export -> Dump (CS Soft Basic) (see 3.1.4.1), can be imported via this function.

🔄 Import Database	×
Database Dump File	
Path:	C:\Users\tebner\Documents\20111012_191243_messung_3C
	OK Cancel

Illustration 12: Importing

The file to be imported is selected via the button " \dots " and the import will be started via the button "OK".

3.1.5.2 DS300 data (csv file)

CSV files which have been issued by means of the software CSM-S can be imported via this menu point. So there is the possibility to analyse data which have been recorded by DS300 by means of the CS Soft Basic.

Import CSV-File from	DS300	
Selected CSV-File from	DS300	
C:\Users\aabt\Desk	top\Testdaten\Helimagesamt.csv	
Fileinfo		
Description	Helima 200100112-20100129	
Start Time	12.01.2010 10:39:09	
End Time	19.01.2010 09:44:17	
		Refresh
		Start

Illustration 13: Import of a CSV file

Upon selection of the DS300 CSV file to be imported you will find in the bottom some important information on the file.

After starting the import procedure a unique file name has to be allocated (Default: ds300):

🕼 Set	×
1/12/2010 10:39:09 AM-1/19/2010 9:44:17 AM	
Filename	
ds300	
Comment	
Helima 200100112-20100129	
	OK Cancel
	OK Cancel

Illustration 14: Creation of the database out of a CSV file

The designation of the single channels can be adapted during the import:

Set Parameter	×
Name	1: Durchfluss(m3/min)
Short name	1
Unit	m³/min 💌
	ок

Illustration 15: Adaptation of the data designation (Import of CSV file)

3.1.6 Delete

Old data can be deleted through this menu item. The file can be selected through the following dialog.

	Name	Record ID	Comment	Start	End	_
	20111021_200401_realtime		20111021_200401_Realtime	10/21/2011 8:04:03 PM	10/21/2011 8:05:14 PM	
	20111024_101955_realtime		20111024_101955_Realtime	10/24/2011 10:20:51 AM	10/24/2011 10:31:57 AM	
	20111024_121601_realtime		20111024_121601_Realtime	10/24/2011 12:16:03 PM	10/24/2011 12:17:39 PM	
	merged_file		Merge	10/13/2011 12:19:32 PM	10/15/2011 11:59:59 PM	
Þ	merged_file_1		Merge 13 + 15.10.	10/13/2011 12:19:32 PM	10/15/2011 11:59:59 PM	
	merged_file_komplett		Merge merged + alle	10/13/2011 12:19:32 PM	10/16/2011 11:59:59 PM	
	messung_3	59	Messung 3	10/23/2011 12:00:00 AM	10/23/2011 11:59:59 PM	

Illustration 16: File deletion

CAUTION: If the data was not secured previously with an export, the data will be irrevocably deleted!!!

3.1.7 Exit

Exiting CS Soft Basic.

3.2 View menu

• With this menu item a switching to the different views can be performed.

3.3 Info menu

3.3.1 Help

• Call-up of the help file (PDF file).

3.3.2 Language

• Opens the dialogue for the language selection:

C Select Language
Available Languages
English
OK Cancel

Illustration 17: Language selection

- In the ComboBox, all selectable languages will be displayed.
- The application will automatically be restarted after a different language has been selected.

3.3.3 License

- The current licensing information can be accessed via "Info->License".
- Further information regarding the licensing can be found under 9 Licensing.

3.3.4 About

• The current version information will be displayed.

4 Overview

- After the startup the "overview" view will always be displayed.
- If you are in a different view, you can always switch back to the overview through the menu item "View -> Overview".
- In this view the current measurement values of a device can be displayed.
- The real-time data recording can also be started in this view.

Menu item	Toolbar	Action
Edit -> Connect	Ŷ	Establish a connection to a device.
Edit -> Disconnect	*	Separates the connection.
Edit -> Real-time Data Recording	•	Real-time data recording

Table 1: Edit overview

- Using the context menu, the following actions can be performed:
 - Establish Connection: Establishes a connection to the device.
 - Separate the connection: Separates the connection.
 - Real-time data recording Starts the real-time data recording

4.1 Display current measurement values

- In order to be able to display the current measurement values of a device, a connection to that device must be established.
- The connection to a device can be established via the corresponding menu item, toolbar or the context menu (see 4 Overview).
- For the selection of the appropriate device the following dialog will be displayed:

🔄 Auto detect d	evices					x
Search		Connect to device with	IP Address			
IP	Туре	MAC				
192.168.0.242 192.168.0.241		00:00:00:00:DF: 00:50:C2:D8:D0				
				ок	Cancel	

Illustration 18: Establish connection

By double-clicking or respectively selecting and confirming with "OK", all the measurement values of the selected device will be displayed.

r Channel Kompressor Kompressor	Description A2a A2b	Value 14.53	Unit m³/h	_		
Kompressor		14.53	m³/h			
	A 26			_		
	A2D	8968	m³			
Kompressor	A2c	0.23	m/s			
Halle	Taupunkt	5.24	°Ctd			
Halle	Feuchte	29.19	%rH			
Halle	Temp.	24.51	°C			
Kunstoff	Verbrauch	0.00	kW			
Kunstoff	Gesamt	0.00	kWh			
Kunstoff	Frequenz	0.00	Hz			
Kunstoff 2	verbrauch	0.00	kg/h			
Kunstoff 2	gesamt	0.00	kg			
Kunstoff 2	frequenz	0.00	Hz			
	Halle Halle Kunstoff Kunstoff Kunstoff Kunstoff 2	Halle Feuchte Halle Temp. Kunstoff Verbrauch Kunstoff Gesamt Kunstoff Frequenz Kunstoff 2 verbrauch	Halle Feuchte 29.19 Halle Temp. 24.51 Kunstoff Verbrauch 0.00 Kunstoff Gesamt 0.00 Kunstoff Frequenz 0.00 Kunstoff 2 verbrauch 0.00	Halle Feuchte 29.19 %rH Halle Temp. 24.51 °C Kunstoff Verbrauch 0.00 kW Kunstoff Gesamt 0.00 kWh Kunstoff Frequenz 0.00 Hz Kunstoff verbrauch 0.00 kg/h	HalleFeuchte29.19%rHHalleTemp.24.51°CKunstoffVerbrauch0.00kWKunstoffGesamt0.00kWhKunstoffFrequenz0.00HzKunstoff 2verbrauch0.00kg/h	HalleFeuchte29.19%rHHalleTemp.24.51°CKunstoffVerbrauch0.00kWKunstoffGesamt0.00kWhKunstoffFrequenz0.00HzKunstoff 2verbrauch0.00kg/h

Illustration 19: Current measurement values

4.2 Record current measurement values

• In order to be able to record the current measurement values to a file, a connection to that device must be established.

In section 4.1 Display current measurement values this item is described step by step.

- The data recording can be started with the appropriate menu item, the toolbar or the context menu.
- After starting the data recording a file name must be specified. The filename must be unique and may only consist of small letters, numbers and underlines. If other characters are entered they will be ignored.

A comment can also be input.

¢	Set
	Filename
	20111024_230930_realtime
	Comment
	20111024_230930_Realtime
	OK Cancel

Illustration 20: Real-time data recording naming

• The real-time data is displayed in the following dialog. The operation is set up analogously to the data view. Respective details can be found under 5.1 Diagram View.

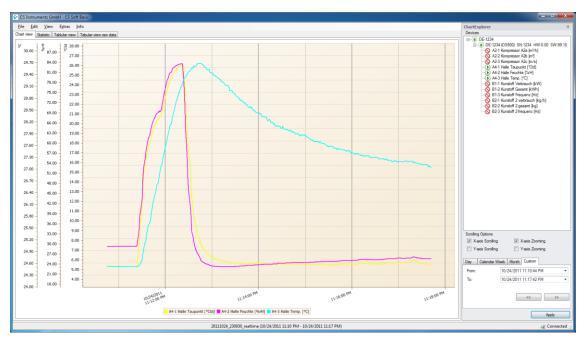


Illustration 21: Real-time data recording

• Closing the "Real-time data recording" dialogue will also cancel the data recording. All available channels are always logged independent from the number of currently displayed channels.

5 Data

- With the menu item "View -> Data" a switch to the data view can be performed.
- In the Diagram Explorer, the devices are displayed in a tree structure (range, device, measured value). The range name is automatically assigned and always corresponds to the host name of the device.
- With the Diagram Explorer data rows can be added or deleted by double-clicking on the appropriate measurement value.
- Data rows can also be added/deleted through the context menu.

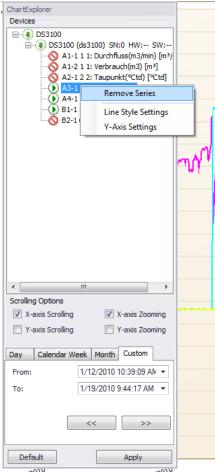


Illustration 22: Diagram Explorer

The line style can be changed via the context menu.
 If "Show Average" is selected then the data will be shown as average values. Otherwise the data will be shown as extremums (minimum and maximum values).
 If the data row is displayed as stacked area, the number under the checkbox will be the smoothing factor.

Chart Properties	×
Settings	Advanced Settings
Color:	Show Stacked Areas
Style:	100
Marker:	Show Average
Thickness: 2	
	Add Series Cancel

Illustration 23: Line Style

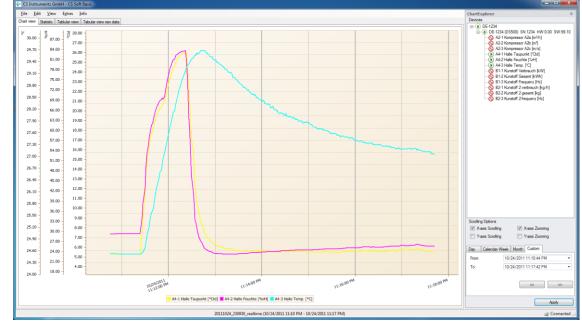
• In addition, the setting of the Y-axis is changed via the context menu. An Y-axis is added for each measured variable.

🚱 Axis Se	ttings	×
Axis-Y S	ettings	
🔽 Auto	Scale	
Max:	5.70	* *
Min:	5.40	* *
Min:	5.40 ОК	

Illustration 24: Y-axis scaling

- Depending on the selection of the TabControl in the Diagram Explorer, a different data field is loaded. The data is read optimized from the database (grouping of data the maximum number of possible data points (screen width)). With the button "<<" or ">>" the same time span before or after is read from the database.
- Using "Default" the range is set to the maximum range.
- The Diagram Explorer can be docked to the left or right, or used as a floating window (Windows standard).

5.1 Diagram View



• In the diagram view, the selected range is presented graphically:

Illustration 25: Diagram View

• View:

The measured values can be displayed either as average or as minimum / maximum values.

• Zoom:

Depending on the selection in the Diagram Explorer the X-axis (X-axis zoom) and/or Y-axis (Y-axis zoom) can be enlarged or reduced by using the scroll wheel. The selection can also be made via the context menu.

By pressing the Shift key and selecting the desired range, the selected range is enlarged.

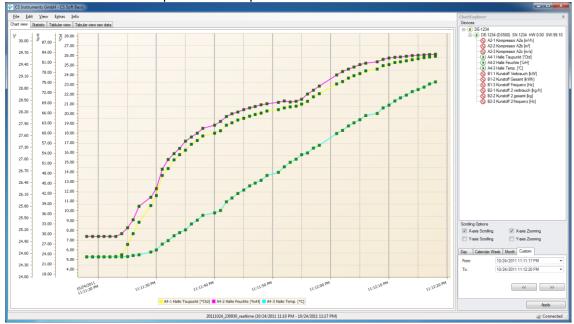
By pressing the shift key and clicking an enlargement by one increment will be made.

Pressing the ALT key and clicking will effect a reduction.

Pressing the STRG key and +-key will lead to an enlargement by one increment. Pressing the STRG key and – key will lead to a reduction by one increment.

Measuring points:

If the data does not have to be grouped for displaying, the raw data will be shown. The



measured value will be output in the tooltip.



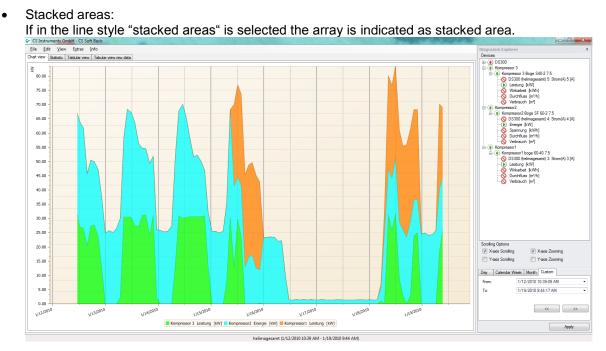


Illustration 27: Stacked areas

• Scrolling:

Depending on the selection in the Diagram Explorer a scrolling is carried out along the x-axis (X-axis scrolling) and/or the Y-axis. The selection can also be made via the context menu. Hold down the left mouse button for scrolling.

- Reset Y-scaling: Using the context menu "Zoom -> Reset Y-Axis scaling" all Y-axes are reset to auto scaling.
 Data reloading:
- After zooming, you can use the context menu " Apply current timespan" to load the maximum amount of data for the selected range.
- Moving average: Using the context menu or the menu "Edit -> Moving average -> Show Moving Average" the

moving average can be displayed/suppressed for all data rows. Using the menu "Edit -> Moving average -> Properties" the moving average can be configured.

Settings	
Indicator Type:	Simple Moving Average
Points count:	100
Kind:	Moving Average only
Envelope (%):	20
	OK Cancel

Illustration 28: Moving average

Export:

Through the context menu "Export ..." the current diagram can be exported in different document formats (PDF, HTML, MHT, Rich Text, Excel, CSV, text, graphic) or printed through the context menu "File -> Print ...".

- The chart diagram can be exported in the following formats:
 - a) Hourly: One chart diagram per hour.
 - b) Daily: One chart diagram per day.
 - c) Weekly: One chart diagram per week.
 - d) Selected timespan: print of current chart diagram.
- Settings:

The settings can be saved, loaded or deleted through the menu "Settings". The settings file contains the currently displayed data rows, the settings (color, width, scale ...) and the moving average.

Under "Settings->Load" only those settings files will be available which were saved with the identical device configuration.

5.2 Statistics

• The loaded files are statistically evaluated and can be displayed through the "Statistics" tab.

CS Instruments GmbH - Eile Edit View Eg Chart view Statistic Tablu								
	atistic Report <u>Timespan:</u> 10/24	/2011 11:11 P	M - 10/24/20	11 11:12 PM				
	-1234 (DS500)			Devicetyp: 1		Serialni	<i>imber:</i> 1234	U
ID	Value name	Unit	Average	Min	Time of min	Мах	Time of max	
4	A4-1 Halle Taupunkt	°Ctd	18.062	5.259	10/24/2011 11:11:18 PM	25.94	10/24/2011 11:12:18 PM	
5	A4-2 Halle Feuchte	%rH	62.851	29.22	10/24/2011 11:11:18 PM	83.45	10/24/2011 11:12:18 PM	
6	A4-3 Halle Temp.	°C	26.465	24.508	10/24/2011 11:11:18 PM	28.96	10/24/2011 11:12:18 PM	
4								÷
		2011	1024_230930_realtime (10/2	4/2011 11:10 PM - 10/24/20	11 11:17 PM)			🥪 Connected

Illustration 29: Statistical analysis

 The statistical analysis can be printed with or without a graphic through the context menu or the menu "File -> Print".

5.3 Tabular View

• The loaded measurement values are displayed in a tabular form and can be displayed through the "Tabular view" tab.

_		tras <u>I</u> nfo ar view Tabular viev	v raw data		
	Time	DE-1234 (DS500) A4-1 Halle Taupunkt [°Ctd]	DE-1234 (DS500) A4-2 Halle Feuchte [%r H]	DE-1234 (DS500) A4-3 Halle Temp. [°C]	
۲	10/24/2011 11:11:19 PM	5.26	29.23	24.51	
	10/24/2011 11:11:20 PM	5.27	29.24	24.51	
	10/24/2011 11:11:21 PM	5.27	29.25	24.51	
	10/24/2011 11:11:22 PM	5.27	29.26	24.51	
	10/24/2011 11:11:23 PM	5.29	29.28	24.51	
	10/24/2011 11:11:24 PM	5.36	29.59	24.51	
	10/24/2011 11:11:25 PM	5.78	30.62	24.51	
	10/24/2011 11:11:26 PM	6.79	32.35	24.53	
	10/24/2011 11:11:27 PM	7.84	34.82	24.55	
	10/24/2011 11:11:28 PM	9.00	38.46	24.57	
	10/24/2011 11:11:29 PM	10.49	40.79	24.64	
	10/24/2011 11:11:30 PM	11.43	43.15	24.68	
	10/24/2011 11:11:31 PM	13.25	48.10	24.81	
	10/24/2011 11:11:32 PM	14.19	51.41	24.91	
	10/24/2011 11:11:33 PM	14.99	53.33	25.01	-

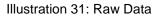
Illustration 30: Tabular view

- If a range is marked in the table, the current data range can be loaded additionally through the context "Apply current timespan".
- The table view can be output with the context menu "Export ..." or "File -> Print".

5.4 Raw Data

• In the tab "Tabular view raw data" of the raw data for the selected measurement values are output. If the number of data exceeds the width of the chart, the grouped data is output, otherwise the raw data.

i	ile <u>E</u> dit <u>V</u> iew E <u>x</u> t	-	-										
1	art view Statistic Tablula	ar view 🗍	abular view raw da	ta									
	Time	Area	Device	Modbus ID	Channel	Subchannel	Channel name	Value Name	Value	Value Max	Value Min	Unit	
Þ	10/24/2011 11:11:18 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	5.2595	5.2595	5.2595	℃td	
	10/24/2011 11:11:19 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	5.2603	5.2603	5.2603	⁰Ctd	
	10/24/2011 11:11:20 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	5.2677	5.2677	5.2677	⁰Ctd	
	10/24/2011 11:11:21 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	5.2746	5.2746	5.2746	⁰Ctd	
	10/24/2011 11:11:22 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	5.2809	5.2809	5.2809	℃td	
	10/24/2011 11:11:23 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	5.2951	5.2951	5.2951	°Ctd	
	10/24/2011 11:11:24 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	5.4722	5.4722	5.4722	⁰Ctd	
	10/24/2011 11:11:25 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	6.5450	6.5450	6.5450	⁰Ctd	
	10/24/2011 11:11:26 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	7.6641	7.6641	7.6641	⁰Ctd	
	10/24/2011 11:11:27 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	8.8521	8.8521	8.8521	℃td	
	10/24/2011 11:11:29 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	10.5475	10.5475	10.5475	⁰Ctd	
	10/24/2011 11:11:30 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	11.5694	11.5694	11.5694	⁰Ctd	
	10/24/2011 11:11:31 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	13.6708	13.6708	13.6708	℃td	
	10/24/2011 11:11:32 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	14.3766	14.3766	14.3766	℃td	
	10/24/2011 11:11:33 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	15.2716	15.2716	15.2716	℃td	
	10/24/2011 11:11:34 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	15.7858	15.7858	15.7858	℃td	
	10/24/2011 11:11:35 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	16.2461	16.2461	16.2461	℃td	
	10/24/2011 11:11:36 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	16.8509	16.8509	16.8509	℃td	
	10/24/2011 11:11:37 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	17.2542	17.2542	17.2542	℃td	
			DE 4004 (DOE00)					* 11	17 7000	47 7000	17 7000	0011	*



- The raw data can be output with the context menu "Export ..." or "File -> Print".
- With the context menu or the table heading the raw data can be output:

a) sorted

6	CS Instruments GmbH -	CS Soft B	asic								l	- 0		x
_		ras <u>I</u> nf	o Fabular view raw da	t										Chart
		ar view 1 Area	Device	Modbus ID	Channel	Subchannel	Channel name	Value Name	Value	Value Max	Value Min	Unit	*	ChartExplore
Þ	10/24/2011 11:11:18 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	5.2595	5.2595	5.2595	⁰Ctd	- 0	4
	10/24/2011 11:11:18 PM	DE-1234	DE-1234 (DS500)	1	A4	2	Halle	Feuchte	29.2195	29.2195	29.2195	%rH		
	10/24/2011 11:11:18 PM	DE-1234	DE-1234 (DS500)	1	A4	3	Halle	Temp.	24.5080	24.5080	24.5080	°C		
	10/24/2011 11:11:19 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	5.2603	5.2603	5.2603	⁰Ctd		
	10/24/2011 11:11:19 PM	DE-1234	DE-1234 (DS500)	1	A4	2	Halle	Feuchte	29.2250	29.2250	29.2250	%rH		
	10/24/2011 11:11:19 PM	DE-1234	DE-1234 (DS500)	1	A4	3	Halle	Temp.	24.5080	24.5080	24.5080	°C	-	
			20111024_2	30930_realtim	e (10/24/2)11 11:10 PM -	10/24/2011 11:1	7 PM)				🧝 Con	necte	d:

Illustration 32: Chronological sorting ascending

b) filtered

<u> </u>		CC C-A T										- 0		x
~	Canadamena ambre as sone base													
E	ile <u>E</u> dit <u>V</u> iew E <u>x</u> t	ras <u>I</u> nf	0											Ch:
Ch	art view Statistic Tablula	ar view	abular view raw da	ta										IntExp
	Time 🔺	Area	Device	Modbus ID	Channel 📍	Subchannel	Channel name	Value Name	Value	Value Max	Value Min	Unit	*	ChartExplore
Þ	10/24/2011 11:11:18 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	5.2595	5.2595	5.2595	°Ctd	U	-
	10/24/2011 11:11:18 PM	DE-1234	DE-1234 (DS500)	1	A4	2	Halle	Feuchte	29.2195	29.2195	29.2195	%rH		
	10/24/2011 11:11:18 PM	DE-1234	DE-1234 (DS500)	1	A4	3	Halle	Temp.	24.5080	24.5080	24.5080	°C		
	10/24/2011 11:11:19 PM	DE-1234	DE-1234 (DS500)	1	A4	1	Halle	Taupunkt	5.2603	5.2603	5.2603	°Ctd		
	10/24/2011 11:11:19 PM	DE-1234	DE-1234 (DS500)	1	A4	2	Halle	Feuchte	29.2250	29.2250	29.2250	%rH		
)	🕻 📝 [Channel] = 'A4'											Edit Filter	-	
	20111024_230930_realtime (10/24/2011 11:10 PM - 10/24/2011 11:17 PM)													

Illustration 33: Filter - channel "A4"

c) grouped

<u>د</u> ک	S Instruments	GmbH -	CS Soft	Basic										x
Eil	e <u>E</u> dit <u>V</u>	iew E <u>x</u>	tras <u>I</u> n	fo										Ch:
Char	t view Statist	ic Tablu	ar view	Tabular view raw da	ta									artEx
Cł	hannel 🔺											/	/	ChartExplorer
1	Time	*	Area	Device	Modbus ID	Subchannel	Channel name	Value Name	Value	Value Max	Value Min	Unit		
	Channel:	A4												
				20111024_23	30930_realtin	ne (10/24/2011	11:10 PM - 10/2	4/2011 11:17 P	M)				🧟 Connec	ted 🔡

Illustration 34: Grouping "channel"

5.5 Extras

5.5.1 Settings

The settings of the actual diagram view can be saved via the menu point "Extras -> Settings -> Save".

The load of stored settings is effected via the menu point "Extras -> Settings -> Load".

Via the menu point "Extras -> Settings -> Delete", saved settings are deleted.

This function is very helpful in order to avoid a permanent fade-in and fade-out of any arrays or doing a permanent adaptation of the layout.

6 Analysis

• With the menu item "View -> Analysis" the consumption analysis can be started.

🚱 Analysis			
Eile Extras			
Configure analysis Available devices	devices for report		
Image: Provide devices Image: Provide devic			
Timespan Calendar Week Month Year	Calculation	eur	
Month: October Vear: 2011	canoncy	CUI	Generate Report
			Cancel

Illustration 35: Consumption Analysis

- In the left area all the devices with consumption sensors are listed which are not considered during the consumption analysis.
- In the right area all the devices with consumption sensors are listed which are evaluated during the consumption analysis.
- By double-clicking complete ranges or just individual units or measuring channels can be moved from left to right or from right to left. Likewise be selected range/device/measuring channel can be marked and moved with the "left arrow" or "right arrow" buttons.
- The order of the ranges, devices and measuring channels can also be defined. For this, use the "up arrow" or "down arrow" buttons.
- Through the menu item "Extras->Config->Price" a price per unit as well as the rate selection/rate definition can be defined for every consumption channel.

Area	Device	Channel	Channel name	Value	Unit	Dual tariff	Tariff 1 Price per unit [eur]	Tariff 2 Price per unit [eur]	Tariff 1 Start	Tariff 1 End	Tariff 2 Start	Tariff 2 End
 DE-1234	DE-1234 (DS500)	A2	Kompressor	A2b	m³		1.0000					
DE-1234	DE-1234 (DS500)	B1	Kunstoff	Gesamt	kWh		1.0000					
DE-1234	DE-1234 (DS500)	B2	Kunstoff 2	gesamt	kg		1.0000					

Illustration 36: Consumption Analysis configuration

• Up to 5 shifts can be defined via the menu point "Extras->Config->shift work". The shifts have to be carried out within one day and are not allowed to overlap, otherwise there will be an

error message when confirming the input with the "OK" button.

The starting point of the first shift is allocated to the current day or the following day via the list field "Allocation of the shift start 1 to".

Example:

Example 1	Example 2
Start of shift:22:00 hEnd of shift:6:00 hAllocation:next day	Start of shift:22:00 hEnd of shift:6:00 hAllocation:actual day
If the first shift e.g. starts on Sunday at 22:00 h and ends on Monday at 6:00 h the shift in this example will be allocated to Monday.	If the first shift e.g. starts on Sunday at 22:00 h and ends on Monday at 6:00 h the shift in this example will be allocated to Sunday.

<u>د</u>	Configuration :	shift work	-		• X
co	ount of shifts	3	▲ ▼		
	Number	Name	Start	End	
•	1	shift 1	00:00:00	00:00:00	
	2	shift 2	00:00:00	00:00:00	
	3	shift 3	00:00:00	00:00:00	
Ma	apping start of sl	nift 1 to	actua	OK	Cancel

Illustration 37: Configuration shift work

- Please observe that devices which are located in a main or sum branch may not be included if a correct sum-calculation is to be performed.
- Additionally, in order to perform a correct sum calculation only consumption variables with the same unit may be included.
- The configuration can be saved with the menu "File->Save" or with the respective icon. At a later point in time a saved configuration can be loaded through "File-> Open". The file extension "*.csua" is used for the configuration files of the consumption analysis. A new configuration is created with the menu "File->New".

- Depending on the selection of the tab control, a weekly, monthly or annual report will be created.
- When selecting the tab control "custom" a consumption analysis of the pre-selected type will be generated for the selected period of time.
- The generation of the shift report can be activated/deactivated via the check box "shift report".

Con	sump	otion Analy	ysis of M	10nth 10	/2011				
					calen	lar week			
Channe	Unit	Description		41		43			Total
DE-1	234								
DE-12	34 (DS50								
DE-12									
	m ³	start count			5825	6779	8763		
Sor	m ³	end count			6779	8763	8763		
A2 Kompressor	m ³	total			954	1984			2938
đ	m³/h	average			16.0	11.8	0.0		4.6
\$ Ko	m³/h	min			0.0	0.0	0.0		
A2	m³/h	max			21.4	204.4	0.0		
	eur	costs				338.10	0.00		338.10
sum	m ³	consumption			954	1984			2938
	eur	costs	0.00	0.00	0.00	338.10	0.00	0.00	338.10

Illustration 38: Consumption Analysis

• Through the menu "File" the preview can be output in different document formats (PDF, HTML, MHT, Rich Text, Excel, CSV, text, graphic) or printed.

7 Option Compressor Analysis

The compressor analysis is only available if a license for the CAA module is bought.

• Via the menu point "View -> Analysis -> CS Soft Energy Analyzer" the compressor analysis is started.

Comp	ressed	Air Analyzer						<u>_</u> 2
<u>F</u> ile	E <u>x</u> tras							
Select	Compre	ssor						
	Idx	Compressor Type		Name	Manufactur	rer	Manfacturer Description	Press
I 🗆	1	Load/Unload Compres	ssor	compressor 1	Boge		60-40	
		Piston Compressor		compressor2	-		50-30	
	3	Frequency Controlled	Compressor	Kompr. 3	Kompr. 7,5	bar - 37kW	Kompr. 3	
-								F
- Total f	ow rate					Additional	Reports	
Su	m of sele	ected compressors				Cover		
⊚ flo	w sensor	r				Param	eter of compressor	
						Analys	sis cumulative	
flow ra	te		None		•	Analys	sis of load	
consur	mption		None		•	🔲 Journa	al of measurement	
						day		-
Leaka	-							
📃 an	alysis ac	tive						
			0.00	m³/h	Set			
- Timesp	ban							
From:		1/19/2010 9:39:0			•			
To:		1/19/2010 9:44:1	7 AM		•			
				F	leset		Generate R	eport

Illustration 39: Compressor analysis

- All configured compressors are listed in the table.
 - In the area "Total flow rate" it is fixed how the calculation of the flow is done.
 - Sum of selected compressors:
 - Summation of the calculated compressor air delivery
 - Flow sensor:
 - Physical measured value of the used sensors in the total pipeline.
- For calculation of the leakage costs the check box "Analysis active" has to be activated. The leakage is graphically adjustable via the button "Set" (see 7.4).
- The evaluation period of the compressor analysis is fixed in the area "timespan". By means of the button "Reset" the evaluation period is fixed to the maximum period of time of the actual database.
- In the normal case solely the report "energy and cost evaluation" is generated. If additional reports are desired they can be activated via the corresponding check boxes in the area "additional reports" (details to the reports please see 7.5).
- By means of a right-click onto the header of the table the compressors can be assorted and filtered.

Select	Compre	ssor			
	Idx	Compressor Type		Name N	Manufactu
• 🗆	1	Load/Unload Compr	21	Sort Ascending	
	2	Frequency Controlle	Á+	Sort Descending	
	3	Load/Unload Compr		Clear Sorting	
			8	Group By This Column	
4 =			-	Show Group By Box	
Total	flow rate	•		Remove This Column	ort
Su	um of se	lected compressors		Column Chooser	
Io	w senso	or	₽	Best Fit	of
flo	w rate	1: Durchfluss(m		Best Fit (all columns)	um
со	nsumpti	on None	7	Filter Editor	la
				Show Find Panel	
Leaka	age			Show Auto Filter Row	
V	analys	is active			
	23	15.00 <mark>⇔</mark> m³∕h	(Set	

Illustration 40: Context menu 'group by this column'

• One further possibility to filter and assort is to click onto the filter (marked red) in the table header.

Se	lect (Compre	SSOF	0
		Idx	Compressor Type	C
۲		1	Load/Unload Compressor	

Illustration 41: Filter

The following menu is indicated:

Custom AutoFilter	×
Show rows where: Compressor Type	
like	▼ (Enter a value)
<u> </u>	
(Select an operator)	▼ (Enter a value)
0	

Illustration 42: Example of a user-defined filter

• The order of the compressors can also be defined. For this purpose please use the button "arrow up" and the button "arrow down".

Idx	Compressor Type	Name	Manufacturer	Manfacturer Description
1	Frequency Controlled Compressor	Kompressor2	Boge	SF 60-2
3	Load/Unload Compressor	Kompressor 1	boge	60-40

Illustration 43: Compressors assorted according to type

• Please observe that this order of assortation is also taken over for the graphic indication in the diagram view.

7.1 General settings

- The general settings of the compressor analysis can be done in the menu point "Extras -> Config -> Common".
- The units which have to be used for the values to be calculated can be fixed under "Unit".
- The number of hours per year with which the CS Soft Energy Analyzer calculates the statistics for one year can be entered.

Config Common	X
Unit of pressure Unit of engine output Unit of current Unit of energy Currency Hours of year	bar ▼ m³/h ▼ A ▼ m³ ▼ € 8700.0 ↓
	OK Cancel

Illustration 44: Definition of general parameters for the compressor analysis

• The tariff costs are fixed under "Price".

Config Common	-	_	-		×
Unit Price					
Tariff1 Fro Pri	m: 6:00:00 AM ce 0.08	↓ [kWh]	To:	6:00:00 PM	\$
Tariff2 Fro Pric	m: 6:00:01 PM ce: 0.03	€ ▼ [kWh]	To:	5:59:59 AM	\$
				ОК	Cancel

Illustration 45: Price definition

7.2 Compressor configuration

The different compressors are defined under "Extras -> Config -> Compressor configuration". Via the flag (load/unload compressor, piston compressor and frequency controlled compressor) the different compressor types can be selected.

All already defined compressors of the corresponding compressor type are listed in the table.

The compressor parameters are indicated/set in the lower area.

.oad/Unload Cor	npressor	Piston Compressor	Frequency Con	trolled Compre	essor		
Name	Manufa	cturer Manfactu	urer Description	Pressure	Unit of pressure	Compressor Type	1
compressor	1 Boge	60-40		7.5	bar	Load/Unload Compresso	
Common							
Name	Dummy		Pressure			7.	50 🛓 bar 🔻
Manufacturer	Dummy		Manufac	turer Descripti	on	Dumm	/
Assigned Value	s						
Current	3: Strom	(A) -	Flow			1: Durchflus	s(m³/min) [m³/ 📼
			Consump	otion		1: Verbrauc	h(m³) [m³] 🛛 👻
Characteristic \	/alues						
Supply Voltage		400.00	V Air deliv	ery at Load		2.50	m³/h 📼
			Current [A]	cos phi			
Load		>	27.71 🚖	0.86 ÷	16.5		
Unload			5.78 🔶	0.50 ÷	4.00	Insert kW	Limit Value
Stop		<	J./8	1.00	4.00		
						Accept	Reject

Illustration 46: Configuration of the compressor

- Adding a compressor: Click to . You can either choose to edit the compressor in the above screen or to access to a pool of already defined compressors in the compressor database (see Chapter 7.3).
- The compressor is edited with the button "Accept" and the necessary measured values are calculated. The added compressor is indicated in the diagram explorer. The measured values of the compressor can be indicated as usual in the diagram view (see 5.1).
- Editing of a compressor: Click to a.
 By means of "Accept" the alterations will be saved.
- **Deletion** of a compressor: Click to **I**.
- Important: If the flow or the consumption are set to "none" these values are calculated by means of the "air delivery at load".
- "Air delivery at load" is the theoretical value specified in the configuration.
- The threshold values can be stored graphically under ""Limit value" (see 7.4).
- If the threshold values are not to be entered in amps but rather in kW, then the radio button on the right side can be used to either select "Insert A" or "Insert kW".

7.3 The compressor database

The compressor database contains all compressors defined on the computer. There is an own database for each compressor type.

	File Edit Pr						Parameters			
	- 1	🗙 🗈					Þ	Supply	400	
	Index	Manufacturer	Manfacturer Description	Compressor Type	Pressur	•		CosPhi	0.96	
Þ	1	Kompr. 7,5 bar - 22kW	Kompr. 1	Frequency Controlled Compressor				Delivery unit	m³/min	
	2	Kompr. 7,5 bar - 30kW	Kompr. 2	Frequency Controlled Compressor				energy unit	kW	
	3	Kompr. 7,5 bar - 37kW	Kompr. 3	Frequency Controlled Compressor				energy minimum	7.5	
	4	Kompr. 7,5 bar - 45kW	Kompr. 4	Frequency Controlled Compressor		J		delivery minimum	0.9	
	5	Kompr. 7,5 bar - 55kW	Kompr. 5	Frequency Controlled Compressor				energy p1	13.42	
			Kompr. 6	Frequency Controlled Compressor				delivery p1	1.77	
			Kompr. 7	Frequency Controlled Compressor			_	energy p2	19.56	
		Kompr. 7,5 bar - 110kW		Frequency Controlled Compressor				delivery p2	2.63	
		Kompr. 7,5 bar - 132kW	•	Frequency Controlled Compressor				energy maximum	26.5	
		Kompr. 7,5 bar - 160kW		Frequency Controlled Compressor				delivery maximum	3.5	
		Kompr. 7,5 bar - 200kW		Frequency Controlled Compressor						
		Kompr. 7,5 bar - 250kW		Frequency Controlled Compressor						
4		Kompr. 10 bar. 20kW	•	Englightly Controlled Compressor		-				

Illustration 47: Survey compressor database

- Basic functions: Add a new compressor: Edit an existing compressor: Delete an existing compressor: Copy an existing compressor:
- Editing of compressors: As an alternative the compressors can also be edited via a menu.

🚱 Com	presso	ordatabase ·	Fre
File	Edit		
i 🚛 🛙		Add	1
Inde:		Edit	
•		Delete	22
		Сору	30
	3 Ko	mpr. 7,5 bar	- 37

Illustration 48: Edit compressor

- The compressor databases are stored as XML files on the computer. So it is possible to edit the database manually via a text/XML editor. The XML files can be exchanged between different computers without any problems.
- The compressor database can be exported resp. imported via the corresponding manu points (File -> Export, File -> Import).



Illustration 49: Import / Export XML files

7.4 Graphic settings of threshold values

The leakage and the load, unload and stop range of compressors can be also fixed graphically.

- General functions: Like in case of the diagram view (see 5.1) the data are read-out optimized from the database. It is also possible to boost or to scale down the view.
- At the left edge the unit of the channel is indicated. Via a red bar the treshold values resp. the leakage can be set.
- As an alternative the threshold values can also be set in the corresponding fields which are in the right upper edge.
- The timespan can be selected like in case of the Tabcontrol in the diagram view.

If the selected timespan is out of the period of measurement the corresponding field is marked in red color.

If "Default" is selected the timespan is reset to the maximum period of measurement which is indicated under "Info.



Illustration 50: Leakage

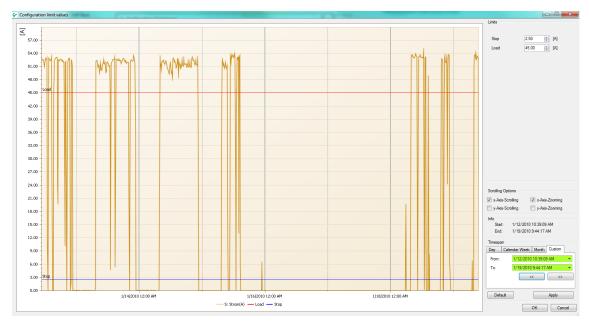


Illustration 51: Threshold values load/unload compressor

7.5 Compressor analysis: Reports

Cover sheet



Company Name

Company Address D-12345 Company City Company Phone Number Company Fax Number Company Email Address



Measurement Time: 1/19/2010 9:39 AM - 1/19/2010 9:44 AM



Customer Name

Customer Contact Person Customer Address D-12345 Customer City Customer Phone Number Customer Fax Number Customer Email Address

Annotations:

Illustration 52: Example for a report (cover sheet)

• Compressor parameters

Data of Load/Unload Compressors

C1 : Kompressor 3

Туре	Load/Unload Compressor
Manufacturer	Boge
ManufacturerDescription	540-2
Pressure	7.5 [bar]
Assigned Values	
Current	5: Strom(A) 5 [A]
Flow	None
Characteristics	
Supply Voltage	400 [V]
Delivery Load	279.00 [m³/h]

	Current	Cos Phi	Power
Load	45.00 [A]	0.86	26.81 [kW]
Unload		0.50	
Stop	2.50 [A]	1.00	1.73 [kW]

Illustration 53: Example for a report (compressor parameters)

• Energy and cost analysis

Analysis	of Compressor	-Energy	and -Costs
----------	---------------	---------	------------

Timespan: Timespan		Irs:		l/12/2 L44	010 1	2:00 P	M - 1/	18/20	10 12:	00 PM			Т	ariff1		6:00 A 0.08€	M - 6:	00 PM	l		
Total flow	rate:		5	Sum of	selec	ted co	mpres	sors					Т	ariff2			M - 5:	59 AM			
Limit of lea	akage		2	235.00												0.03€					
	Ca	pacity	[h]	Swit	ches			Energy	,			Flow			(Costs [€]			Leakage	
Compressor	Load	Unload	Stop	Starts	Load/Unload	Load [kWh]	Unload [kWh]	Stop [kWh]	sum [kWh]	Spec. Power [kWh / m³]	avg [m³/h]	max [m³/h]	Sum [m ³]	Load	Unload	Stop	Sum	Costs per m ³	avg [m³/h]	Sum [m³]	Costs [€]
C1: Kompressor 3	47.0	0.3	96.7	21	37	1460.24	3.57	0.51	1464.33	0.122	91.12	279.00	12005.33	97.84	0.22	0.03	98.09	0.008			
C1: Komplessor 5	32.65%	0.22%	67.13%	21	3/	99.72%	0.24%	0.03%	100.00%	0.122	51.12	2/5.00	12005.33	100.00%	0.00%	0.00%	100.00%	0.008	-		
C2: Kompressor2	97.7	0.6	45.7	52	53	1958.66	1.95	54.10	2014.71	0.095	155.00	411.21	21222.90	116.46	0.11	2.94	119.50	0.006			
	67.84%	0.40%	31.76%			97.22%	0.10%	2.69%	100.00%					97.00%	0.00%	2.00%	99.00%				
C3: Kompressor1	17.9	0.0	126.1	5	5	580.33	0.00	0.03	580.36	17.694	0.31	2.50	32.80	38.49	0.00	0.00	38.49	1.173			
Summary	12.43% 162.6	0.00%	87.57% 268.5	78	95	99.99% 3999.23	0.00% 5.52	0.01% 54.65	100.00%	5.970	246.43	692.71	33261.0 3	100.00%	0.00%	0.00% 2.97	100.00%	0.396	71.67	9802.51	491.43

Illustration 54: Example for a report (Energy and cost analysis)

• Cumulated energy and cost analysis

Cumulated Analysis of Compressor-Energy and -Costs

Timespan:	1/12/2010 12:00 PM - 1/18/2010 12:00 PM (144 h)	Tariff1:	6:00 AM - 6:00 PM 0.08 €
Cumulated Timespan:	8700.0 h	Tariff2:	6:00 PM - 5:59 AM 0.03 €
Total flow rate: Limit of leakage:	Sum of selected compressors 235.00		

	Ca	pacity ([h]	Swit	ches			Energy				Flow				Costs [€	1			Leakage	•
Compressor	Load	Unload	Stop	Starts	Load/Unload	Load [kWh]	Unload [kWh]	Stop [kWh]	sum [kWh]	Spec. Power [kWh / m³]	avg [m³/h]	max [m³/h]	Sum [m³]	Load	Unload	Stop	Sum	Costs per m ³	[h/=m] ava	Sum [m³]	Costs [€]
	2840.34	19.33	5840.80			88228	216	31	88475					5911	13	2	5927				
C1: Kompressor 3	32.65%	0.22%	67.13%	1260	2220	99.72%	0.24%	0.03%	100.00%	0.122	91.1	279.0	725362	100.00%	0.00%	0.00%	100.00%	0.0082			-
	5902.43	34.44	2763.01	2422	24.00	118342	118	3269	121729					7037	7	178	7220				
C2: Kompressor2	67.84%	0.40%	31.76%	3120	3180	97.22%	0.10%	2.69%	100.00%	0.095	155.0	411.2	1282288	97.00%	0.00%	2.00%	99.00%	0.0056			-
	1081.52	0.00	7618.96	300		35064	0	2	35065					2326	0	0	2326				
C3: Kompressor1	12.43%	0.00%	87.57%	JUU	300	99.99%	0.00%	0.01%	100.00%	17.694	0.3	2.5	1982	100.00%	0.00%	0.00%	100.00%	1.1735			
Summary	9824.3	53.8	16222.8	4680	5700	241633	334	3301	245269	5.970	246.4	692.7	2009632	15274	20	179	15472	0.3958	71.67	592267.62	29692.21

Illustration 55: Example for a report (energy and cost analysis cumulated to 8700 hours)

Load analysis

Analysis of Compressor-Load

Timespan: 1/12/2010 12:00 PM - 1/18/2010 12:00 PM



	Lo	ad	Uni	oad	St	ор	Su	m
	Time	%	Time	%	Time	%	Time	%
	47.01	32.65%	0.32	0.22%	96.67	67.13%	144.00	100.00%
Kompressor 3							0.00 % 67.00 %	33.00 %
	97.69	67.84%	0.57	0.40%	45.73	31.76%	144.00	100.00%
Kompressor2							68.00 % 0.00 %	32.00 %
	17.90	12.43%	0.00	0.00%	126.10	87.57%	144.00	100.00%
Kompressor1							88.00 %	0.00 %

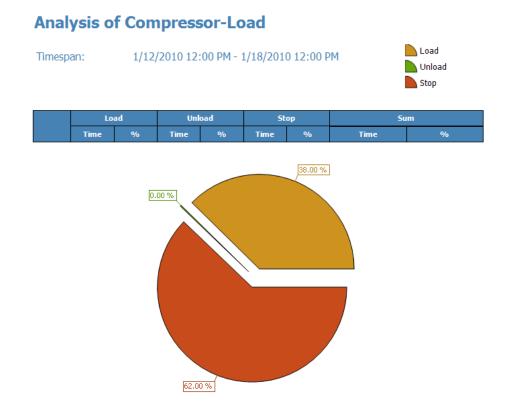


Illustration 56: Example for a report (load analysis)

Daily Measurement Analysis

Timespan: Timespan		1/1 24	8/2010 12:	UU AM - 1/	10/2010 1	T19A bw		Tariff1:	0.08	0 - 17:59 EUR		
rinespan	in nours.	24										
Total flow	rate:	Sun	n of selecte	d compres	sors			Tariff2:	18:0 0.04	0 - 05:59 EUR		
		Capacity [h]			Fl	ow				Energy		
Time	Load	Unload	Stop	min [m³/h]	avg [m³/h]	max [m³/h]	Sum [m³]	Load [kwh]	Unload [kWh]	Stop [kWh]	sum [kWh]	Spec. Power [kwh/ m³]
3: compressor2												
fonday, January 18,	2010											
00:00 - 00:59	0.0	0.0	1.0	0.00	0.00	0.00	0.00	0.00 NaN	0.00 NaN	0.00 NaN	0.00 NaN	NaN
01:00 - 01:59	0.0	0.0	1.0	0.00	0.00	0.00	0.00	0.00 NaN	0.00 NaN	0.00 NaN	0.00 NaN	NaN
02:00 - 02:59	0.0	0.0	1.0	0.00	0.00	0.00	0.00	0.00 NaN	0.00 NaN	0.00 NaN	0.00 NaN	NaN
03:00 - 03:59	0.0	0.0	1.0	0.00	0.00	0.00	0.00	0.00 NaN	0.00 NaN	0.00 NaN	0.00 NaN	NaN
04:00 - 04:59	0.0	0.0	1.0	0.00	0.00	0.00	0.00	0.00 NaN	0.00 NaN	0.00 NaN	0.00 NaN	NeN
05:00 - 05:59	0.1	0.0	0.9	0.00	0.24	3.50	0.24	2.09	0.00	0.02	2.11	8.752
06:00 - 06:59	0.0	0.0	1.0	0.00	0.00	0.00	0.00	0.00 NaN	0.00 NaN	0.00 NaN	0.00 NaN	NaN
07:00 - 07:59	0.7	0.0	0.3 29.25%	0.00	2.47	3.50	2.48	22.86 99.94%	0.00	0.01	22.87	9.240
08:00 - 08:59	1.0	0.0	0.0	3.50	3.50	3.50	3.50	32.57 100.00%	0.00	0.00	32.57 100.00%	9.317
09:00 - 09:59	1.0	0.0	0.0	3.50	3.50	3.50	3.50	32.58 100.00%	0.00	0.00	32.58 100.00%	9.319
10:00 - 10:59	1.0 100.00%	0.0	0.0	3.50	3.50	3.50	3.50	32.41 100.00%	0.00	0.00	32.41 100.00%	9.270
11:00 - 11:59	1.0	0.0	0.0	3.50	3.50	3.50	3.50	32.33 100.00%	0.00	0.00	32.33 100.00%	9.247
12:00 - 12:59	1.0	0.0	0.0	3.50	3.50	3.50	3.50	32.50 100.00%	0.00	0.00	32.50 100.00%	9.295
13:00 - 13:59	1.0	0.0	0.0	3.50	3.50	3.50	3.50	32.26 100.00%	0.00	0.00	32.26 100.00%	9.228
14:00 - 14:59	0.8	0.0	0.2	0.00	2.97	3.50	2.97	27.33 99.97%	0.00	0.01	27.34	9.214

4/8/2013 12:01 PM

helimagesamt (1/12/2010 10:39 AM - 1/19/2010 9:44 AM) - comment: Helima 200100112-20100129

2/3

Timespan: Timespan		1/1 24	8/2010 12:	:00 AM - 1/	'18/2010 1	1:59 PM		Tariff1	: 06:0 0.08	0 - 17:59 EUR		
Total flow	rate:	Sun	n of selecte	d compres	sors			Tariff2	: 18:0 0.04	0 - 05:59 EUR		
		Capacity [h]			Fk	ow				Energy		
Time	Load	Unload	Stop	min [m³/h]	[4/sm] gve	max [m³/h]	[≋m] muS	Load [kWh]	Unload [kWh]	Stop [kWh]	Sum [kWh]	Spec. Power [kWh / m³]
C 3: compressor2												
Monday, January 18,	2010											
15:00 - 15:59	1.0	0.0	0.0	3.50	3.50	3.50	3.50	32.17 100.00%	0.00	0.00	32.17 100.00%	9.201
16:00 - 16:59	1.0 100.00%	0.0	0.0	3.50	3.50	3.50	3.50	32.30 100.00%	0.00	0.00	32.30 100.00%	9.238
17:00 - 17:59	1.0	0.0	0.0	3.50	3.50	3.50	3.50	32.44 100.00%	0.00	0.00	32.44 100.00%	9.280
18:00 - 18:59	1.0	0.0	0.0	3.50	3.50	3.50	3.50	32.45 100.00%	0.00	0.00	32.45 100.00%	9.281
19:00 - 19:59	1.0 99.85%	0.0	0.0 0.14%	0.00	3.49	3.50	3.49	32.17 99.97%	0.00	0.01	32.19 100.00%	9.227
20:00 - 20:59	1.0 98.73%	0.0	0.0	0.00	3.45	3.50	3.45	31.61 99.94%	0.00	0.02	31.63 100.00%	9.169
21:00 - 21:59	1.0	0.0	0.0	3.50	3.50	3.50	3.50	32.34 100.00%	0.00	0.00	32.34 100.00%	9.249
22:00 - 22:59	0.7	0.0	0.3 30.54%	0.00	2.43	3.50	2.42	22.52 99.96%	0.00	0.01	22.53 100.00%	9.293
23:00 - 23:59	0.0	0.0	1.0	0.00	0.00	0.00	0.00	0.00 NaN	0.00 NeN	0.00 NaN	0.00 NeN	NaN
Summary	15.3	0.0	8.7	0.00	2.23	3.50	53.50	494.93	0.00	0.08	495.01	6.534

Daily Measurement Analysis

4/8/2013 12:01 PM

helimagesamt (1/12/2010 10:39 AM - 1/19/2010 9:44 AM) - comment: Helima 200100112-20100129

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Illustration 57: Daily Measurement Analysis

7.6 Evaluation using an example

In this sample file, the current consumption of 2 compressors has been measured with the DS 500 mobile and 2 current probes.

- a) Open the file and switch to the chart View.
- b) Via the menu point "View -> Analysis -> Compressed Air" you will reach the compressor analysis.

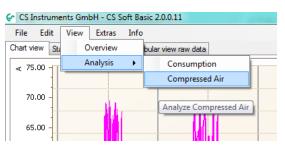


Illustration 58 : select compressor analysis

c) Select in the "compressor analysis" window the menu point "extras -> Configuration -> Common".

🔄 Com	pressed Air Analyze	r
File	Extras	
	Config 🕨	Compressor
Selec	ct Compressor	Common

Illustration 59 : Select common configuration for compressor analysis

 d) Here, the units, the currency and the number of hours per year, with which the CS Soft Energy Analyzer calculates the statistics for one year, can be entered.
 Under the "Price" tab, the price per kWh, with which the software should calculate, can be entered.

Config Common	X
Unit Price	
Unit of pressure	bar 💌
Unit of engine output	m³/min 💌
Unit of current	A
Unit of energy	m ³ •
Currency	Euro
Hours of year	8700.0
	OK Cancel
	OK Cancel

Illustration 60 : Common configuration for compressor analysis

e) In the compressor analysis window, select "Extras -> Configuration -> Compressor".

File	Extras	
	Config 🕨	Compressor
Sele	ct Compressor	Common

Illustration 61 : Select configuration compressor

- f) In the "Configuration compressor" screen, 3 different types of compressors (full/no load compressor, piston compressor or speed-controlled compressor) can be configured. Already configured compressors can be stored in a compressor database. In this example, 2 new compressors of the type "full/no load compressor" will be created. With the button i you will reach the compressor database.
- g) Perform the adding with the button 📕 or via the menu "Edit -> Add".

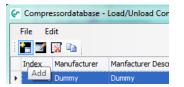


Illustration 62 : Add compressor to database

h) In this window, all the relevant data of the compressor can be entered according to the manufacturer's specifications. Provided that at this point still no statement can be made regarding at which current consumption the compressor will be operating under load and at what power consumption the compressor will be idling, or respectively switched to the stop mode, this can also be corrected at a later point in time. With the "Apply" button, the compressor will be added to the database.

In this example, a compressor with a power of 7.5 kW (usually the mechanical shaft power is specified by the manufacturer) was created.

The threshold limit settings were made as follows:

If the current consumption is > 10 amps this time will be calculated by the software as under load. Hereby, the power calculation is performed with a cos phi factor of 0.86.

If the current consumption is < 10 amps this time will be calculated by the software as idle. Hereby, the calculation is performed with a cos phi factor of 0.5.

If the current consumption falls below 0.5 amps, the compressor will be in standstill and if anything, only the controller etc. will be running. This time will be calculated by the software as a stop time.

If the threshold values are not to be entered in amps but rather in kW, then the radio button on the right side can be used to either select "Insert A" or "Insert kW".

🚱 Add - Load/Unload Cor	npressor	X
Common	7.50 🚔 bar	
		lanufacturer Description GA 7
Characteristics		
Supply Voltage	400.00 V De	elivery Load 0.95 📄 m³/min 🔻
Current [/		_
Load > 10.00		
Unload	0.50	⊘ Insert kW
Stop < 0.50	€ 1.00 € 0.35 €	
		Accept Reject

Illustration 63 : Edit compressor

i) After the compressor was taken over from the compressor database, further detail settings can be performed under "Configuration compressor". For this, enable the entry fields with the 🖾 "Edit" button.

Under "Assigned values" the measurement channel of the DS500 with which the compressor was measured must be assigned to the compressor. In this example, the compressor GA 7 was measured on the DS500 A2a measuring channel with a current probe.

If the actual delivered quantity of air was measured with a volume flow probe on this compressor, this measurement channel must also be assigned to this compressor under "Flow and consumption". If, as in this case, the actual amount of air supplied by the compressor was not measured, the delivered quantity will be calculated by the software with the theoretical value of 0.95 m³/min, as specified in the configuration.

The unit of pressure and air delivery can be changed too. If the unit is changed (from m^3/h to m^3/min) the values related to the unit are converted automatically.

If the limit values for distinguishing load/idle and stop are to be corrected again, or graphically determined, press the button "Threshold limit" to access the graphic configuration area for the threshold limits.

After performing the settings press the "Apply" button.

	Compressor Pis	ston Compressor	Frequency	Controlled Co	ompressor		
Name	Manufacturer	Manfacturer D	escription	Pressure	unit of pressure	e Compressor Type	
▶ GA 7	Atlas Copco	GA 7		7.5	bar	Load/Unload Comp	ressor
							E
Common							
Name	GA 7		Pres	sure		7.50	bar 🔻
Manufacture	Atlas Copco		Man	ufacturer Des	cription	GA 7	
Assigned Va	alues						
Current	A2a	-	Flow	,		1: Durchfluss (m ³ /m	iin) [m³, 💌
Current	A2a	Ŧ		sumption		1: Durchfluss (m³/m 1: Verbrauch(m³) [m	
Current	A2a	Ŧ					
		Ŧ					
Characteris	tic Values		Cons	sumption	4	1: Verbrauch(m³) [m	1 ³] v
	tic Values	▼ 400.00 ▲	Cons		d		1 ³] v
Characteris	tic Values age	400.00 <u>+</u>	Cons V Air d	sumption elivery at Loa	d	1: Verbrauch(m ^a) [m	1 ³] v
Characteris	tic Values age Current [A]	400.00 ÷	Cons V Air d	sumption	d @ Insert A	1: Verbrauch(m ³) [m 0.95 📩 m ³ /m	1 ³] v
Characteris Supply Volt	tic Values age Current [A]	400.00 ÷	Cons V Air d	elivery at Loa		1: Verbrauch(m ³) [m 0.95 📩 m ³ /m	1 ³] v
Characteris Supply Volt Load >	tic Values age Current [A]	400.00 × cos phi 0.86 × 0.50 ×	Cons V Air d	elivery at Loa	Insert A	1: Verbrauch(m ³) [m 0.95 📩 m ³ /m	in v

Illustration 64 : compressor added from database

j) In order to see the details it is often required to first zoom in to the picture. Hereby, with the zoom function (hold down the shift key while simultaneously pressing the left mouse button and dragging a box across the area to be enlarged) zoom into the image as desired. With the right mouse button in the pop-up menu select "Apply current timespan" as soon as the zooming procedure was completed. Then the detailed graph will be created with the current measurement values for this time period.

The graph below shows the typical behavior curve of a "full/no load compressor".

Now, the threshold limit for the current consumption with which the software can distinguish between load and idle time can be moved graphically, and thus the software is able to calculate the appropriate times. Simply hold and move the red line with the mouse. Alternatively, the value can be set by using the arrow keys on the right side of the screen.

The same applies for the threshold limit "Stop".

To jump to the left and right on the timeline the arrow keys on the	~<	>>	bottom right
can be used. Alternatively, the time period there can also be chose	en rando	mly.	



Illustration 65 : set limit values

k) The second compressor, in this case a Compair LS 05 is also configured analog to the procedure of the first compressor. In this case, the current probe with which this compressor was measured, was connected to channel A3a of the DS500 (refer to "assigned measurements"). Also for this compressor the actual measurement of the delivered amount of air was not carried out with a volume flow probe, so that the assigned values for the volume flow and consumption are set to "none".

.oad/Unload Compressor Piston Compressor Frequency Controlled Compressor						
Name	Manufacturer	Manfacturer Descrip	tion Pressure	unit of pressure	Compressor Type	ssor ssor
GA 7	Atlas Copco	GA 7		bar	Load/Unload Compres	ssor
LS 05	Compair	LS 05	7.5	bar	Load/Unload Compres	ssor
Common -						
			_			
Name	LS 05		Pressure		7.50 🔶 b	ar 🔻
Manufactu	Compair		Manufacturer Des	cription	LS 05	
Assigned \	/alues					
Current	A2a	~	Flow		1: Durchfluss (m³/min)	r_2
Current	Aza	Ŧ				(m-) *
			Consumption		1: Verbrauch(m ³) [m ³]	Ŧ
Characteri	istic Values					
Supply Vo	ltage	400.00 🐥 V	Air delivery at Load	d	2.50 _ m³/min	-
	Current [A]	cos phi	Power [kW]			
	> 6.25		3.72	Insert A		
Load		0.50		Insert kW	Limit \	/alue
Load Unload		1.00 🔶	0.35			
Unload	< 0.50	1.00 -				
Unload	< 0.50	1.00 🔻	Ţ	_		

Illustration 66 : second compressor added from database

 After both compressors are configured and saved, they will be available for selection in the "Compressor analysis". By clicking on the appropriate checkmark the individual compressors can be included in or omitted from the evaluation.

Under "Overall flow" the radio buttons can be used to select if the total amount of air/flow of all compressors was measured with a volume flow sensor. Whereas in this case select the radio button "Volume flow sensor" and then select the appropriate measuring channel of the DS500 to which this sensor was connected, or whether the total amount of air/flow rate was not measured with a volume flow sensor and should be calculated by the software on the basis of the theoretical delivery quantity of the selected compressors.

Under "Leakage", the measured leakage rate can be set so that the software is able to include this amount of leakage into the statistical analysis, including leakage costs. This however requires that an actual volumetric flow measurement is performed with a volume flow sensor. For this, the sensor must be installed downstream from the pressure tank in the main supply line to the compressed air consumers, so that during the operational stop times the compressed air that is

still delivered corresponds to the leakage quantity. (The installation of the sensor between compressor and the pressure tank is not recommended for this measurement because the flow sensor will then not be able to measure the amount of leakage, but rather only the amount that is supplied by the compressors).

Under "Timespan" a selection can be performed for what time period the statistic is to be created. For the analysis of the compressor station it is advisable to always set the time frame to exactly 7 days (or alternatively 14 days), because the software extrapolates the statistics based on these 7 days for an entire working year (8700 hours).

In addition to the statistics, other reports can be created. These can be selected or deselected with the appropriate checkmark.

	Extras								
Select	Compre		1	-					-
	Idx	Compressor Type	Name	Manufacturer		turer Description	Pressure	unit	
\checkmark		Load/Unload Compresso		Atlas Copco	GA 7			bar	
1 🗹	2	Load/Unload Compresso	r LS 05	Compair	LS 05		7.5	bar	
Total flow rate Additional Reports Image: Sum of selected compressors Image: Cover Image: Sum of selected compressor Image: Cover Image: Cover Image: Cover Image: Cover Image: Cover Image: Cover Image: Cover Image: Cover Image: Cover									
consur Leakag	mption ge	tive	lone	m³/min Set	•	Analysis of loa	ad		•
consur Leakag	mption ge alysis ac	tive	0.35 - 1 AM	m ³ /min <u>Set</u>	•	Analysis of loa	ad		•

Illustration 67 : start compressor analysis

8 HowTo: Import CSV-Datei in Excel 2010

- 1. Data -> from text
- 2. Select CSV file
- 3. Settings for text conversion:

	sistent - Schritt 1 von 3				
Der Textkonvertierungs	-Assistent hat erkannt, dass Ihre Daten mit Trennzeichen versehen sind.				
Wenn alle Angaben korrekt sind, klicken Sie auf 'Weiter ', oder wählen Sie den korrekten Datentyp.					
Ursprünglicher Datentyp					
Wählen Sie den Dateityp, der Ihre Daten am besten beschreibt:					
Getrennt - Zeichen wie z.B. Kommas oder Tabstopps trennen Felder (Excel 4.0-Standard).					
Eeste Breite - Felder sind in Spalten ausgerichtet, mit Leerzeichen zwischen jedem Feld.					
Import beginnen in Zeile	:: 1 Dateiursprung: Windows (ANSI)				
Vorschau der Datei C:	\Users\aabt\Desktop\20121030_155222_realtime.csv.				
1 SoftBasic 2.0	.0.5				
2 Timespan: 30.	10.2012 15:52:25 - 30.10.2012 15:53:06				
	(DS500): A1-2 Anlage62 Alb [%rF];DE-0005 (DS500): A1-3 Anlage62 A :52:35;30.1094543314539;23.6454374194145				
	:52:40;30.1096737028565;23.66323967278				
•	• III				
	Abbrechen < Zurüdk Weiter > Fertig stellen				
Te diama diama A	victorit Schritt 2 your 2				
Textkonvertierungs-As	sistent - Schritt 2 von 3				
	licht es Ihnen, Trennzeichen festzulegen. Sie können in der Vorschau der markierten Daten sehen,				
wie Ihr Text erscheinen					
Trennzeichen					
Trennzeichen	wird.				
Trennzeichen	wird.				
Trennzeichen Tabstopp V Semikolon	wird.				
Trennzeichen Tabstopp Semikolon	wird.				
Trennzeichen Tabstopp Semikolon Komma	wird.				
Trennzeichen	wird.				
Trennzeichen Tabstopp Semikolon Komma	wird.				
Trennzeichen Tabstopp Semikolon Komma Leerzeichen Andere: Datenvorsghau	wird.				
Trennzeichen Tabstopp Semikolon Komma Lerzeichen Andere: Datenvorsghau FoftBasic 2.0.0	wird. □ Aufeinanderfolgende Trennzeichen als ein Zeichen behandeln Textqualifizierer: .5				
Trennzeichen Tabstopp Semikolon Komma Leerzeichen Andere: Datenvorsghau SoftBasic 2.0.0 Timespan: 30.10 Time	wird. □ Aufeinanderfolgende Trennzeichen als ein Zeichen behandeln Textqualifizierer: .5 .2012 15:52:25 - 30.10.2012 15:53:06 pE-0005 (DS500): A1-2 Anlage				
Trennzeichen Tabstopp Semikolon Komma Leerzeichen Andere: Datenvorsghau SoftBasic 2.0.0 Timespan: 30.10 Time 30.10.2012 15:5	wird. ■ Aufeinanderfolgende Trennzeichen als ein Zeichen behandeln Textqualifizierer: * 2012 15:52:25 - 30.10.2012 15:53:06 DE-0005 (DS500): Al-2 Anlage 30.1094543314539				
Trennzeichen Tabstopp Semikolon Komma Leerzeichen Andere: Datenvorsghau SoftBasic 2.0.0 Timespan: 30.10 Time	wird. ■ Aufeinanderfolgende Trennzeichen als ein Zeichen behandeln Textqualifizierer: * 2012 15:52:25 - 30.10.2012 15:53:06 DE-0005 (DS500): Al-2 Anlage 30.1094543314539				
Trennzeichen Tabstopp Semikolon Komma Leerzeichen Andere: Datenvorsghau SoftBasic 2.0.0 Timespan: 30.10 Time S0.10.2012 15:5	wird. □ Aufeinanderfolgende Trennzeichen als ein Zeichen behandeln Textqualifizierer: ■ 2012 15:52:25 - 30.10.2012 15:52:25 - 30.10.2012 15:53:06 DE-0005 (DS500): 2:35 30.1094543314539 2:40 30.1096737028565				
Trennzeichen Tabstopp Semikolon Komma Leerzeichen Andere: Datenvorsghau SoftBasic 2.0.0 Timespan: 30.10 Time S0.10.2012 15:5	wird. □ Aufeinanderfolgende Trennzeichen als ein Zeichen behandeln Textqualifizierer: ■ 2012 15:52:25 - 30.10.2012 15:52:25 - 30.10.2012 15:53:06 DE-0005 (DS500): 2:35 30.1094543314539 2:40 30.1096737028565				

4. Define the data format for all columns as a standard:

Textkonvertierungs-Assistent - Schritt 3 von	3
Dieses Dialogfeld ermöglicht es Ihnen, jede Spal Datenformat der Spalten Standard Text Datum: TMJ Spalten nicht importieren (überspringen) Datenvorschau	te zu markieren und den Datentyp festzulegen. Die Option 'Standard' behält Datums- und Zahlenwerte bei und wandelt alle anderen Werte in Text um. Weitere
Standard	Standard
SoftBasic 2.0.0.5 Timespan: 30.10.2012 15:52:25 -	30.10.2012 15:53:06
Time 30.10.2012 15:52:35 30.10.2012 15:52:40	DE-0005 (DS500): A1-2 Anlage 30.1094543314539 30.1096737028565 •
•	4
	Abbrechen < Zurück Weiter > Fertig stellen

5. Set further options via button ""Further ..." as follows:

Weitere Textimporteinstellungen						
Bei numerischen Daten verwendete Trennzeichen						
Dezimaltrennzeichen:						
1000er- <u>T</u> rennzeichen: ,						
Hinweis: Zahlen werden entsprechend den numerischen Einstellungen in den Ländereinstellungen der Systemsteuerung angezeigt.						
Zurücksetzen 🛛 Nachstehendes Minuszeichen für negative Zahlen						
OK Abbrechen						

- 6. Mark column A
- 7. Select context menu "Formate cell"
- 8. Select category "user-defined" :

Zellen formatieren	? <mark>×</mark>
Zahlen Ausrichtung Kategorie: Standard Zahl Währung Buchhaltung Datum Uhrzeit Prozent Bruch Wissenschaft Text Sonderformat	Schrift Rahmen Ausfüllen Schutz Beispiel SoftBasic 2.0.0.5 Typ: TT.MM.JJJJ hh:mm:ss MMM JJ h:mm AM/PM h:mm:ss AM/PM hh:mm:ss
Sonderformat Benutzerdefiniert	hh:mm:ss TT.MM.JJJJ hh:mm mm:ss,0 @ [h]:m:ss * #.##0 €;_* #.##0 €;_* *.* €;@ ▼
Geben Sie Ihr Zahlenform Ausgangspunkt.	nat ein, unter Verwendung eines der bestehenden Zahlenformate als OK Abbrechen

Fix type of formatting to "TT.MM.JJJJ hh:mm:ss" in order to ensure that also the seconds are indicated.

Zellen form	natieren			-			8 -	x
Zahlen	Ausrichtung	Schrift	Rahmen	Ausfüllen	Schutz			
	d gung chaft ormat rdefiniert e Ihr Zahlenform	Typ: TAMMJ h:mm AN h:mm:ss hh:mm:ss,0 @ [h]:mm:s * #.#	ÁM/PM ss JJJJ hh:mm ss #0 €;-* #	 :.##0€;		₽ en Zahlenformate	Löschen	A .
						ОК	Abbrech	en

9 Licensing

• After the installation you will automatically have a test version which is valid for 10 days. At the start of CS Soft Basic the remaining evaluation time will be displayed in the following dialog.



Illustration 68: Info test version

- •
- With "?" you can select a different language.
- If you downloaded the software from our homepage you can purchase a serial number in our online shop with the button "Purchase a serial number".
- If you have a serial number, you can activate the software.
- There are four ways to activate the software:

Activation of CS Soft Basic				**
6	How do	o you want	to activate	the product?
	Online	e Activation		
Select the preferred activation method.	An In	ternet connection fro	m this computer is requ	ired to do this.
	© E-Mai	Activation		
	An E-	Mail application should	d be available on this co	mputer to do this.
	© Fax A	ctivation		
	A fax	or printer should be o	connected to this comp	uter to do this.
	Phone	e Activation		
	Provid	de all necessary inforr	mation on the phone.	
		Pert	Next	-
0		Back	Next	End

Illustration 69: Activation options

- Please use in the "Online Activation" option if you're computer has an Internet connection. If your computer does not have Internet access, you can use "E-mail Activation" to activate any computer via e-mail.
- With the e-mail the activation code will be sent to you within 15 minutes.
- Please use the registration by fax or telephone only if you do not have Internet access.
- In the next step (independent from your activation option) please enter your activation data.

		Please enter the activation data
(C	Serial Number	Where do you find your Serial Number?
Please enter all required information		
for the activation process.	Customer Numbe	r 🛛
	Company	
	Salutation	
	First Name	
	Last Name	
	Country	
	E-Mail Address	F
0		Back Next End

Illustration 70: Activation data

• With the "Online Activation" the registration is automatically completed, otherwise you must enter the activation key that has been sent to you at a later point in time through "Info->Licence button "Activation Key".

If the software was activated online, there is the possibility of using the button "Transfer License" to transfer the software from computer A to computer B.

10 Support and Service

If you have questions about our products or require technical support for the installation or use of our software, please contact us by e-mail:

info@cs-instruments.com

or by phone call:

+49 461 7002025

Phone support and Teamviewer access (15 minutes = 30 Euro, minimum 45min)

We will answer all inquiries within 24-48 hours.