

Software for 20-I-Apparatus

7.1



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1 Installation

1.1 System requirements

KSEP is based on the “NET framework” from Microsoft. This “framework” is an integral windows component for the execution of applications of the new software generation (Microsoft Windows Vista ... 10). The .NET Framework will automatically be loaded to your PC if not already part of it.

Operating system:	„Microsoft-Windows“ XP ... 10 (32 und 64Bit)
Memory:	minimum 256 MB
Hard drive:	only 20 MB free space, if Framework already installed (Vista ... 10)
Graphics, monitor:	resolution minimum 1024 x 768, colors minimum 16 bit.
Interface:	RS232 (COMx)

1.2 Installing the KSEP - Software

- a) **Installing from CD-ROM:** Insert the installation-CD into the corresponding drive of your computer. The installation starts automatically. Otherwise start the file **KSEP71_setup.exe** manually.
- b) **Installing from Internet:** Execute file **KSEP71_setup.exe** in the unpacked ZIP-archive.



For installing the framework, you must have administrator rights.

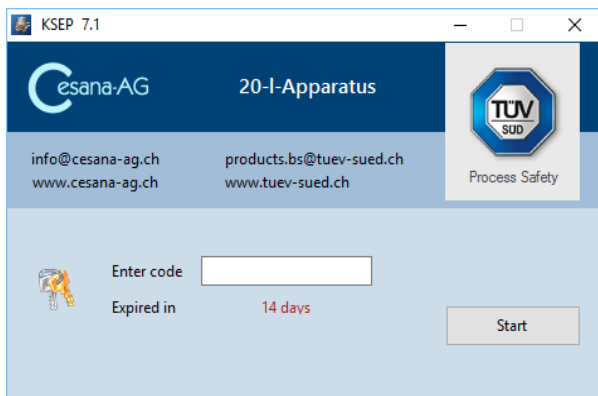


2 Configuration

2.1 Registration



Start now KSEP ...

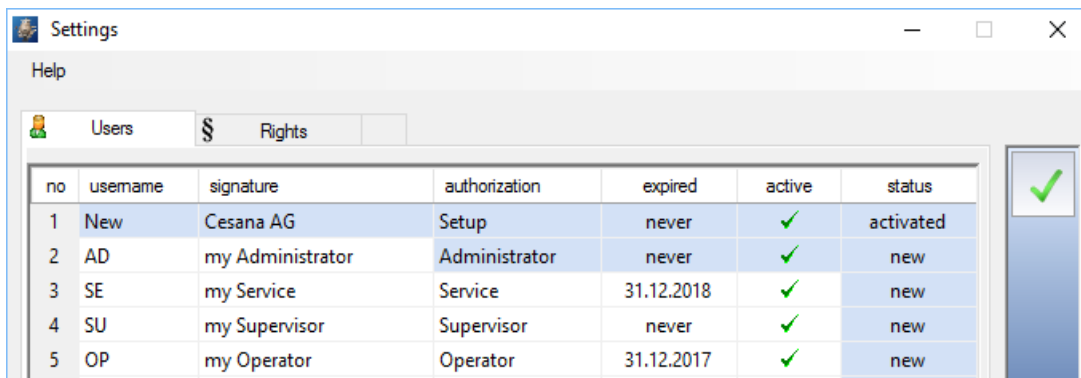


The free demo-version of KSEP can be used for 14 days without any restrictions. Afterwards it must be registered.

A purchased KSEP-CD has the code on the CD case.

2.2 User management

When first starting KSEP, the administrator has to define the users:



- username** A sensible short form.
- signature:** Full name. Will be inserted into the protocol.
- authorization:**
- "Administrator" for the administration of the users.
 - "Service" for calibration and maintenance.
 - "Supervisor" for supervision of processing.
 - "Operator" for all other users.
- see: [2.3 Rights](#)
- expired:** Expiry date of access right (authorization).
- active:** The administrator can also withdraw an access right ...
- status:** "new" or "activated"



The account of the administrator in row 2 never expires.

2.3 Rights

The administrator can freely define the rights for all accounts:

Users		Rights			
no	can do ...	Administrator	Service	Supervisor	Operator
1	New tests	✓	✓	✓	✓
2	Filemanager (new, save)	✓	✓	✓	✓
3	Table modification	✓	✓	✓	✓
4	Test conditions	✓	✓	✓	
5	System - Settings	✓	✓		
6	Software Update	✓	✓		
7	User Management (see: Users)	✓			
8	Set Access Rights (this table)	✓			



Save all entries and exit "Settings".

2.4 Choice of user

Insert user name and password. New users will be requested to confirm the password.

Note: KSEP doesn't distinguish between upper and lower case characters.



automatic start:

After a renewed start of KSEP, the last user will be displayed and with a delay of one minute the system will automatically change to the main program.

Login

For further configuration of KSEP please log in with rights for "System - Settings" i.e. as "Administrator".

Start

... of the KSEP main program

Settings

... further settings (i.e. selection of interface)

2.5 Settings

Interface

1. The KSEP-apparatus is connected or will be simulated.
2. *RS-232 port on computer.* This setting is irrelevant if KSEP is simulated.

User

1. *Name of company:* will be used for the report
2. *Name of lab/site:* will be used for the report
3. *Identity:* automatic generated filenames starts always with the here defined identity. Thus, enter an abbreviation specific for your laboratory.
4. *Language for help:* The KSEP program always uses English. However, both English and German is available for the integral help.

Equipment

1. *Type of vessel:* 20-l-apparatus or 1m³-vessel
2. *Serial no / unit:* see nameplate on vessel
3. *Type of sensor:* default = "piezoelectric"
4. *Type of igniters:* Sobbe / Simex / ...
5. *Type of nozzle:* rebound / annular / ...

Directory


1. *KSEP-files:* The directory of the last KSEP-file is stored automatically. Therefore you can leave the preset directory.
2. *Report-files:* The directory of the last report mask is stored automatically. Therefore you can leave the preset directory.



Save all entries and exit "Settings".

3 Operation

3.1 Status bar

	OP	Operator	730 d	RS232	CaRoXX	AD_090213A.K20
1	2	3	4	5	6	
1.	The actual user,				see: 2.4 choice of user	
2.	The authorization of this user,				see: 2.3 rights	
3.	Access is expired after ...,				see: 2.2 user management	
4.	Interface,				see: 2.5 settings	
5.	The actual product					
6.	Filename					

3.2 Files

New file



At the start of a test with new dust, a new file is opened. The file name is automatically allocated by the program **(A)** or given by you **(B)**:

A: Automatic generated filenames starts always with identity (see: [2.5 settings](#)), followed by the date when the file is opened. The subsequent letter distinguishes files which are generated on the same day.

example 1:	Identity_161122A.K20	(apparatus = 20-l-sphere)
example 2:	Identity_161122B.K20	(created on the same day as example 1)
example 3:	Identity_161122A.1M3	(apparatus = 1m ³ -vessel)

B: example 4: my_Product.K20 (apparatus = 20-l-sphere)
example 5: my_Product.1M3 (apparatus = 1m³-vessel)



In the past the filename was limited by the operating system to only 8 characters. An assignment filename - product was difficult. Therefore the KSEP-program contains it's own file manager and also shows beside the filename the designation of the product. This has been very useful in the past so we decided to keep this feature in the actual software release.

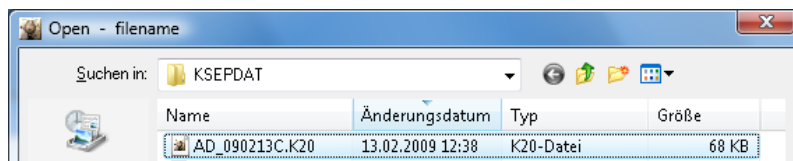
With modern operating systems this restriction becomes unnecessary. The filename can be much longer and can also contain the designation of the product. For which version (A or B) you decide is up to you.

Our recommendation: **B** is state of the art.

Open file - by filename



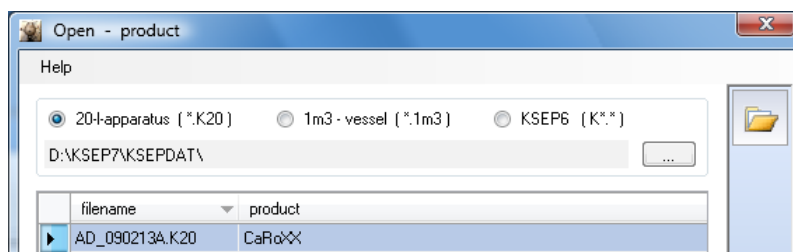
An index of KSEP-files is shown according to the Windows-Standard:



Open file - by product (KSEP 7 - files)



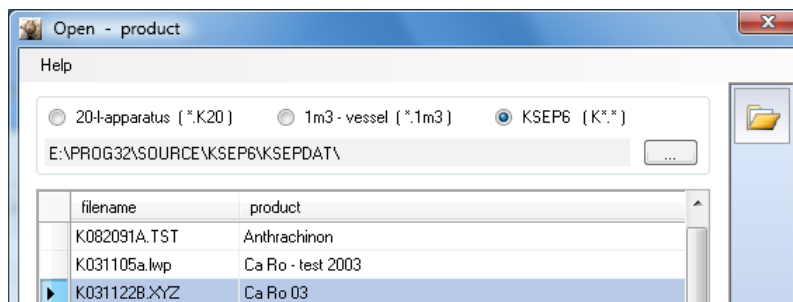
An index of KSEP-files is shown with filename and product. You can sort the fields (ascending or descending, "filename" or "product") by a click on the corresponding field.



Open file - by product (KSEP 6 - files)



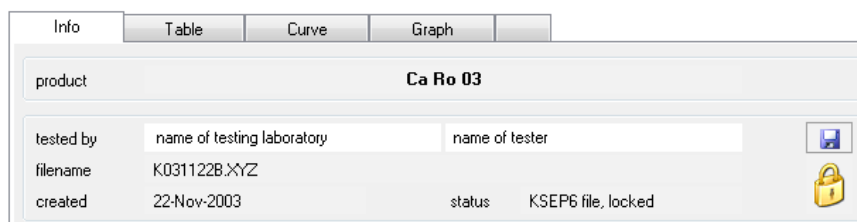
An index of old KSEP-files is shown with filename and product. You can sort the fields (ascending or descending, "filename" or "product") by a click on the corresponding field.



KSEP 6 - files are always **locked**. You cannot add test series, manipulate the table or add comments, except view and printout - as it is.

The name of testing site and tester was in the past not explicitly written to the file.

You can now get rid of this drawback:



Fill out the fields "tested by" and save the file.

3.3 Authorization



unlocked

You have full access: you can add series, manipulate data and add comments.



locked

All manipulations of data are locked, except view, export and printout.



When creating a new file, all **activated** users are transferred to the file. i.e. the supervisor can open this file on his workplace and manipulate the data and add comments. Provided that he is activated in the list of users on the KSEP-apparatus.

To activate an user enter username and password:

KSEP 7.1 login window for user SU. The window shows the Cesana-AG logo, contact information, and a login form with fields for Username (SU) and Password (masked with dots). A 'Login' button and a checked 'automatic start' checkbox are also visible.

KSEP 7.1 login window for user OP. The window shows the Cesana-AG logo, contact information, and a login form with fields for Username (OP) and Password (masked with dots). A 'Login' button and a checked 'automatic start' checkbox are also visible.

i.e. The users SU and OP are now activated (status = **activated**). For these the KSEP-file is unlocked on each PC with KSEP-Software, provided that username and password are the same.

Settings window showing a table of users. The table has columns: no, username, signature, authorization, expired, active, and status. A green checkmark icon is visible on the right side of the table.

no	username	signature	authorization	expired	active	status
1	New	Cesana AG	Setup	never	✓	activated
2	AD	my Administrator	Administrator	never	✓	new
3	SE	my Service	Service	31.12.2018	✓	new
4	SU	my Supervisor	Supervisor	never	✓	new
5	OP	my Operator	Operator	31.12.2017	✓	new

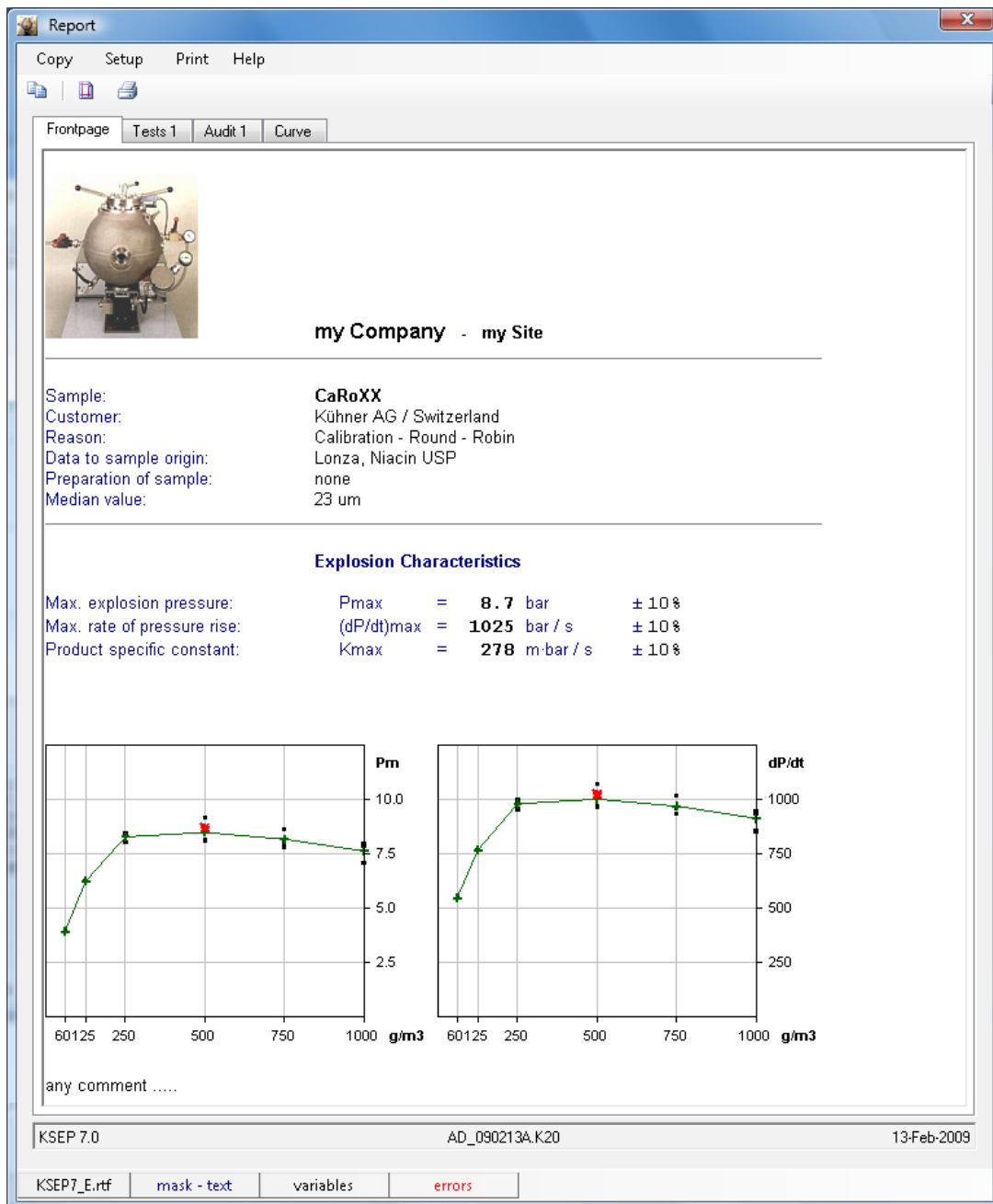
You can also see the activated users on page "Audit":

username	signature	authorization
AD	my Administrator	Administrator
SU	my Supervisor	Supervisor
OP	my Operator	Operator

3.4 Test report



Select a mask. The test results and graphics are then inserted automatically by the program in the mask and a report is produced. This can be edited as a whole and then printed out.



We recommend to enter all comments and other information's (customer, reason, sample preparation, median value etc.) in the corresponding fields in the window „info“ rather than to edit the report. Changes in the report, e.g. added comment, would be lost !

3.5 Audit

The screenshot shows the KSEP 7.0 Audit window. It features a menu bar (File, Procedures, Tools, Help) and a tabbed interface with 'Info', 'Table', 'Curve', 'Graph', and 'Audit' tabs. The 'Audit' tab is active, displaying a table of audit events.

no	date	time	cause	event	value
1	13.02.2009	10:59	OP	New file created	
2	13.02.2009	10:59	System	20-l-sphere	98734.5
3	13.02.2009	10:59	System	K332 - 9916	100101.28
4	13.02.2009	10:59	System	Sensors	piezoelectric
5	13.02.2009	10:59	System	Dispersion	rebound
6	13.02.2009	10:59	System	Igniters	Simex control
7	13.02.2009	10:59	System	Procedures	default
8	13.02.2009	11:00	OP	Test - 1	Test check
9	13.02.2009	11:01	OP	Test - 2	Dust: Pmax, Kmax

Below the table is a section for user information:

username	signature	authorization
AD	my Administrator	Administrator
SU	my Supervisor	Supervisor
OP	my Operator	Operator

At the bottom left, there is a section for test results:

Pmax	7.4	bar	± 10%
(dP/dt)max	586	bar/s	± 12%
Kmax	159	m-bar/s	± 12%

At the bottom right, there is a table for procedure tests:

procedure	tests
Test check	1
Dust: Pmax, Kmax	1
Dust: LEL	0
Dust: LOC	0
Dust: Explosibility	0

The status bar at the bottom shows: OP | Operator | 730 d | RS232 | CaRoXX | AD_090213B.K20

All activities are automatically recorded. An example:

- 1 OP starts a new file and with it a new audit
- 2...7 Detailed data of apparatus and control equipment
- 8...9 Each added test will be recorded



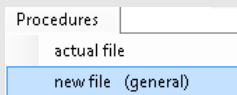
The data of the audit are stored manipulation proof in the KSEP-file.

3.6 Procedures

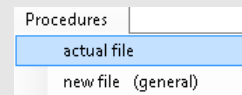
It is no longer necessary to change the test parameters each time another type of test is selected. Choose the procedure and the relevant pre-defined parameters will be activated. The procedure name, the size and designation of parameters and the coordinates of the graphic display can be pre-set using this tool.

We distinguish between:

General procedures for a new file



Procedures of the actual file



Procedures - new file (general)

File Help

Procedure: 1 Dust: Pmax, Kmax

Fuel: conc. 60 unit g/m3 inertgas

XPar: name unit maximum

Ignition source: chemical igniters IE [J] 10k tv [ms] 60

Criterion: no ignition (no explosion); Pex [bar] < 2.0 Pm [bar] < 0.4

Graph 1: Y Pm X Conc.

Graph 2: Y dP/dt X Conc.

Calculate: ☒ Pmax ☐ LEL ☒ dP/dt ☐ LOC ☒ Kmax ☒ t1 min

Graph 1, 2: tests mean maximum interpolate linear

default ... 20-l-sphere

Procedures - actual file

Help

Procedure: 1 Dust: Pmax, Kmax

Fuel: conc. 60 unit g/m3 inertgas

XPar: name unit maximum

Ignition source: chemical igniters IE [J] 10k tv [ms] 60

Criterion: no ignition (no explosion); Pex [bar] < 2.0 Pm [bar] < 0.4

Graph 1: Y Pm X Conc.

Graph 2: Y dP/dt X Conc.

Calculate: ☒ Pmax ☐ LEL ☒ dP/dt ☐ LOC ☒ Kmax ☒ t1 min

Graph 1, 2: tests mean maximum interpolate linear

AD_090213B.K20 SU 13-Feb-2009 20-l-sphere



All procedures are an integral part of the respective KSEP-files.

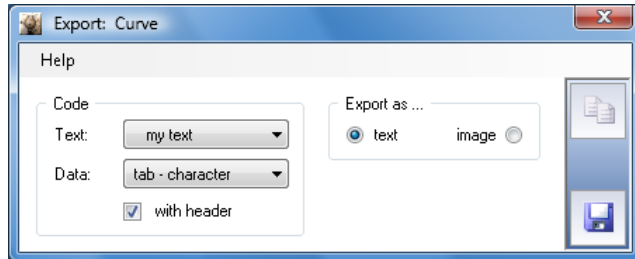
New settings will only be active in a new KSEP-file.

3.7 Export

You can easily export data to other software.

Select first a page (*Info, Table, Graph, Curve, Audit*).

The Export-Menu is in "File / Export".



Text: Text with or without quotation marks.

Data: Define here the character which separates numbers.

with header: Shall a header be added to the columns ?



The data is written into a text file (*.txt).



The data are copied according to your instructions directly in the Windows-clipboard. From there you can paste it into any other program i.e. Excel, Word.

In the following example the values of the curve are sent to the clipboard and then directly inserted into an Excel-sheet:

