## *Handbook to software*

# FLOSET 2.0
# FLOSET 2.1

The Floset 2.1 application is designed to run in operating systems Windows Vista, 7, 8 and 8.1 (32/64 bit versions). This version is functionally identical as Floset version 2.0. There is the “Floset 2.1” title in applications header which indicates version currently in use.

Floset – version “distributor” includes all modules.
Floset – version “customer” includes only module – Flowmeter Settings, module – Backup Settings and module – Flowmeter Diagnose.

# Content

# 1. Handbook to software FLOSET 2.0

Software FLOSET 2.0 is intended for setting, calibration, storing of Configuration file, zero setting of measured values and diagnostic of flowmeter. You will receive your own serial number along with the software. You will see older modules FLOSET 1.0 in the software when communicating with older flowmeters FLONET.

**Attention:**
Unsuitable setting of parameters can influence the correct measurement of flow. If you aren't sure, please, make changes of parameters, when the handbook of software is right studied!!!

**Recommendation:**
We recommend reading the "Configuration file" from flowmeter before making of changes of set parameters and safe it to your PC. These parameters you can already return to flowmeter. The name of "Configuration file" sets up from serial number and filename extension ".fln".

## *1.1. Help for application of FLOSET 2.0*

System requirements:

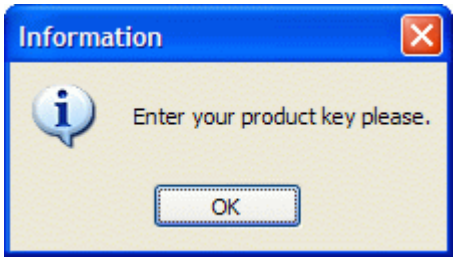
- computer IBM PC compatible (minimum PC486 133 MHz)
- serial USB or COM port
- operating system MS Windows 2000 or higher (32 bit only)
- connected flowmeter FLONET

Main features of the program:

- intended for starting additional installed modules with special functions
- initial connection with the flowmeter
- language selection for whole application

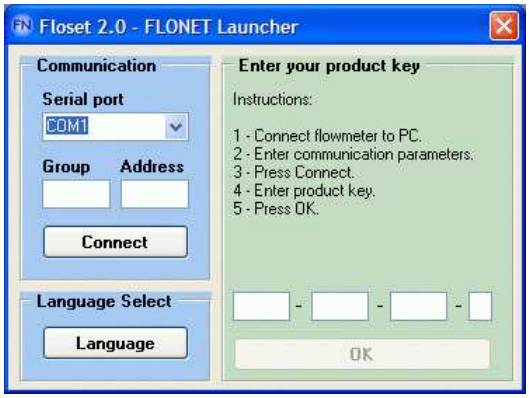
### 1.1.1. First start of the application

- Right after the start you are asked to enter the serial number, which you should received within the application you bought.
- You must enter the serial number with connected flowmeter!




### 1.1.2. How to enter the serial number?

- Connect flowmeter to the computer with the serial cable to free USB (COM) port.
- Connect the flowmeter to power supply.
- Start the application.




- Enter communication parameters. Serial port, group and address (COM*n*, 1 and 1).
- Press Connect.
- If the connection is successfully established, you can enter the serial number now.
- Press OK.


- If the serial number is accepted, you should see buttons with installed modules instead of serial number fields.

### 1.1.3. How to choose application language?

- Language button is active only when the communication with flowmeter is not established.
- After you press Language button, you should see a list of accessible language mutations.
- Choose your language and press OK.
- Application should immediately switch to the language you choose.

### 1.1.4. What is group and address?

- Group and address are numbers from 1 to 255 and say, which flowmeter will application communicate with, if there are more flowmeters connected to each other. Then every flowmeter in the net should have different combination of these numbers (for example: 1-1, 1-2, 1-3). Default setting from producer is value 1 for both group and address (if customer does not say other way).

### 1.1.5. How to connect flowmeter with computer?

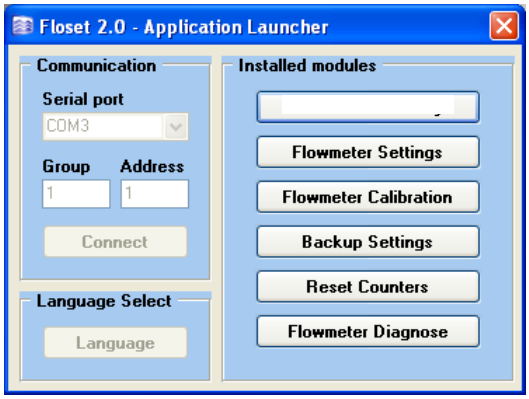
Old revision FN20XX

- You need only standard COM cable if the computer has integrated RS232 serial COM port.
- If the computer has only USB port, you must use any standard USB-COM converter which emulates COM port in operating system.

New revision FN20XX.1

- You need only standard USB2.0 with AB connectors (computer-periphery) if your computer has USB port integrated.

Both revisions can be also connected via RS485 interface if the flowmeter has one. Bud you will need converter which will translates RS485 to USB or RS232 COM in your computer.



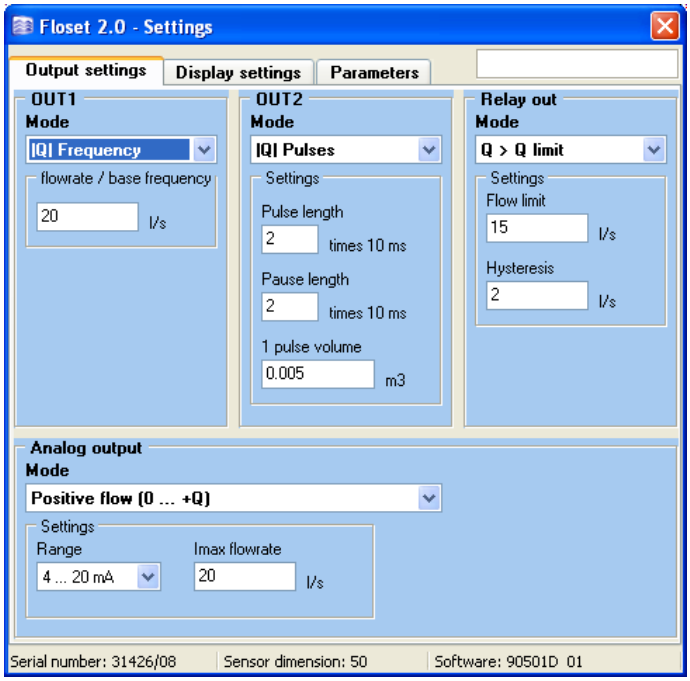

## *1.2. Help for application FLOSET 2.0 - module – Flowmeter Settings*

### 1.2.1. Main features of the module:

- set all parameters of the flowmeter

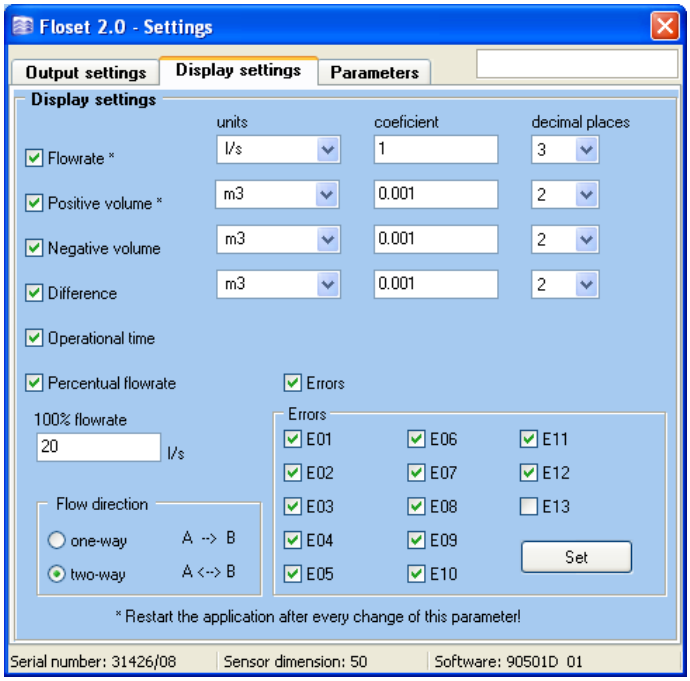
### 1.2.2. tab - Output settings

- Here you can in detail set every output of the flowmeter. It is OUT1, OUT2, Analog output and Relay out put



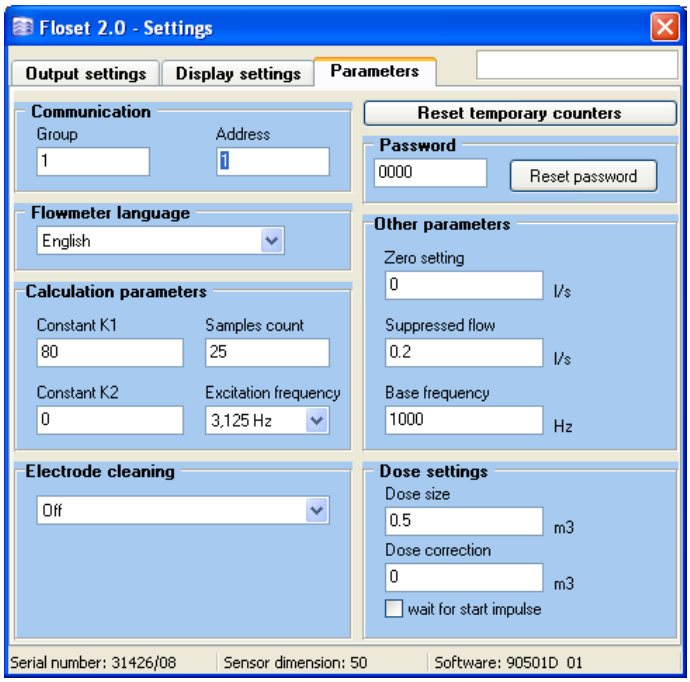
### 1.2.3. tab - Display settings

- You can choose what will be showed on display, in which units and how many decimal places.
- Flowmeter internally uses units l/s and other units are derived using coefficient. For example ml/s has coefficient 1000.
- If you would like to use other units then predefined, you have to rewrite the name of unit and enter your own coefficient.

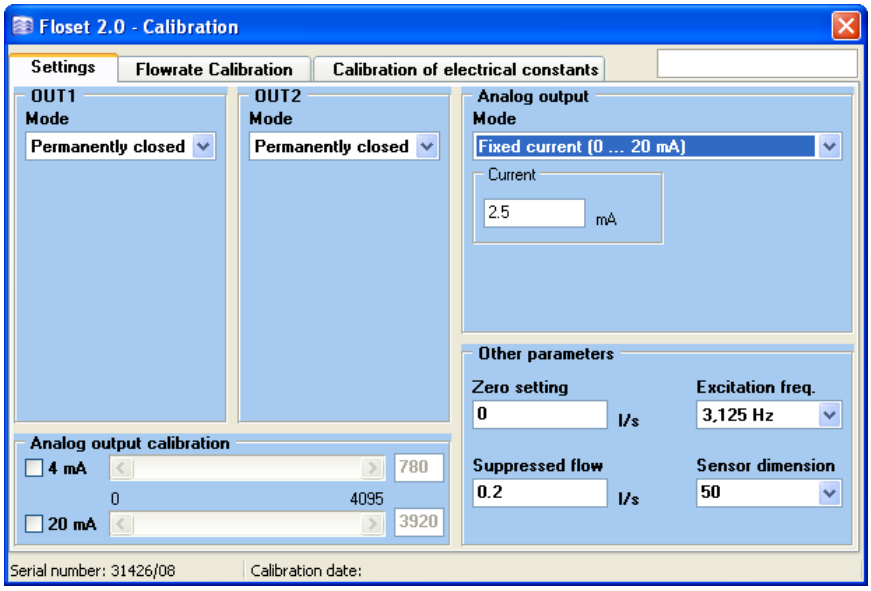



### 1.2.4. tab – Parameters

- Here you can change other parameters of the flowmeter including possibility to reset the password for entrance to service menu and reset the temporary counters.



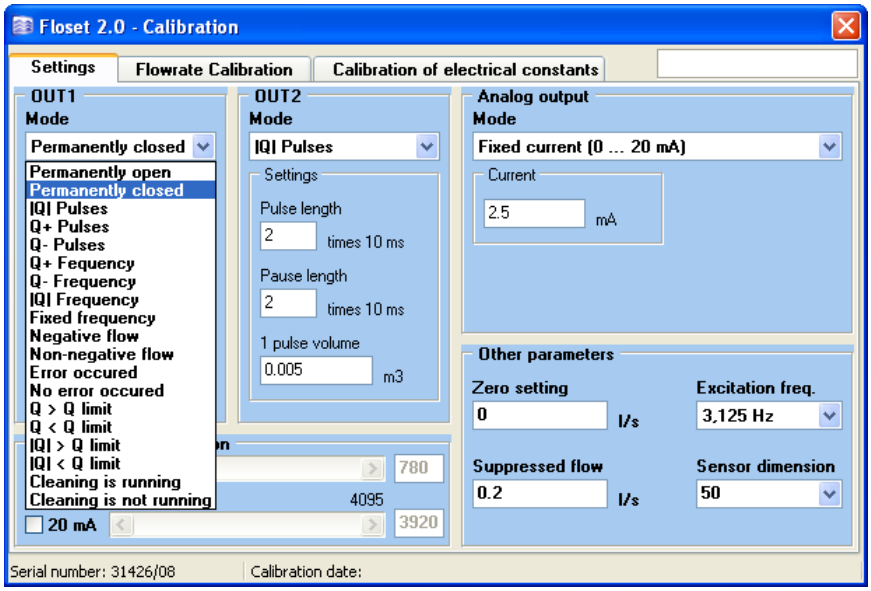
## *1.3. Help for application FLOSET 2.0 - module – Flowmeter Calibration*



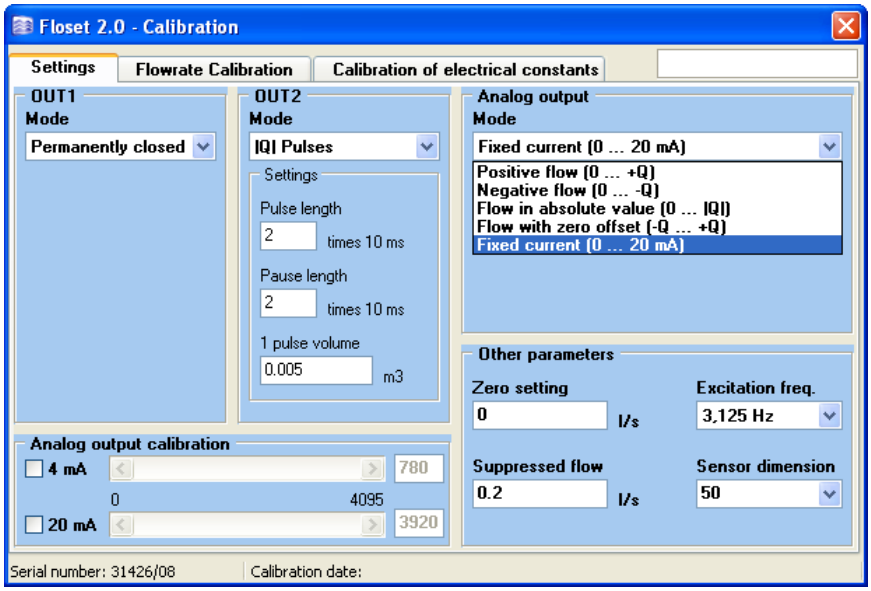

### 1.3.1. Main features of the module:

- setting of all outputs needed for calibration
- calibration of analog out put
- up to 10 points calibration
- possibility of show average flow rate during calibration

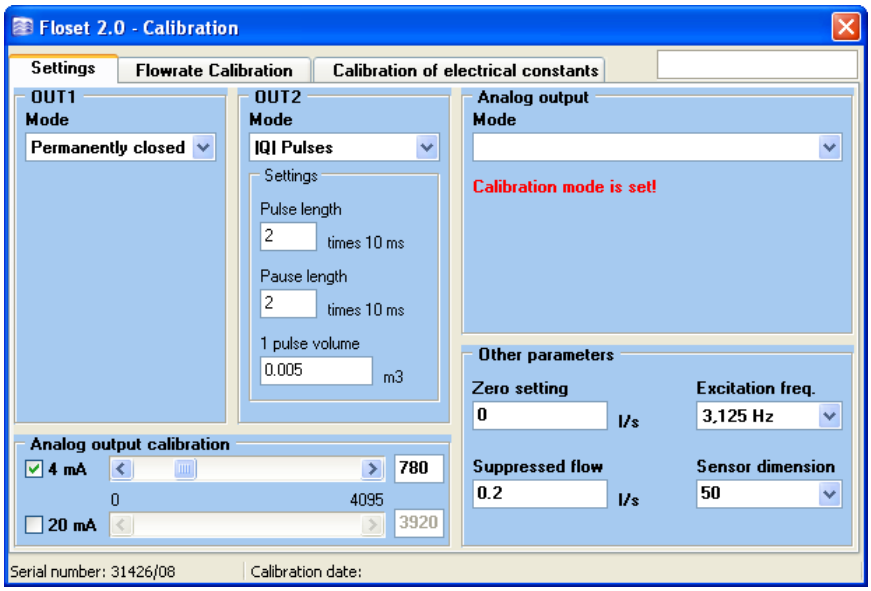
### 1.3.2. tab - Settings



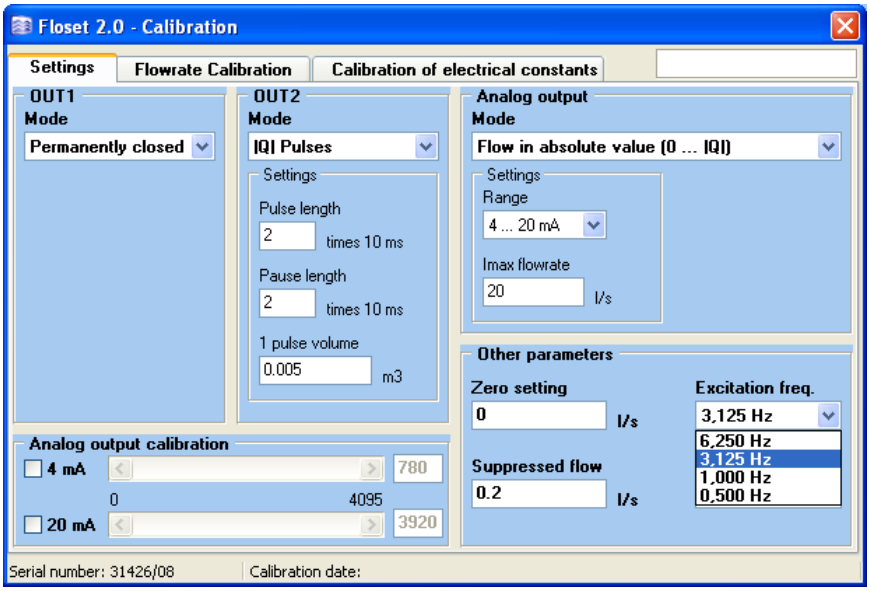

- Set modes of OUT1, OUT2 and analog outputs.

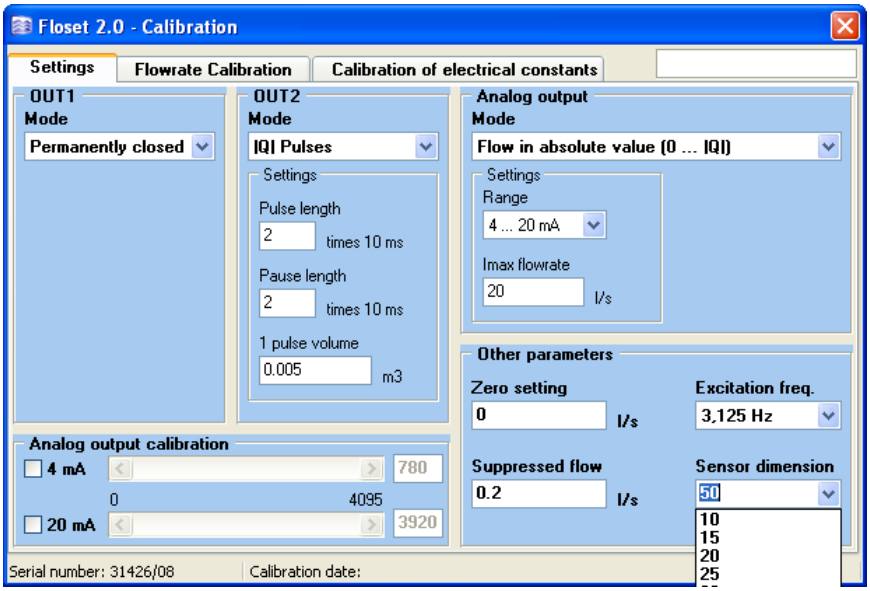



- If you calibrate analog output, the previous setting of the output will be lost.




- Set other needed parameters. After you choose Sensor dimension, constants K1 and K2 will be automatically overwritten by default values for this dimension.


Floset 2.0 - Calibration
Settings
Flowrate Calibration
Calibration of electrical constants
OUT1
Mode
Permanently closed
OUT2
Mode
IQI Pulses
Settings
Pulse length
2
times 10 ms
Pause length
2
times 10 ms
1 pulse volume
0.005
m3
Analog output
Mode
Flow in absolute value (0 ... IQI)
Settings
Range
4 ... 20 mA
Imax flowrate
20
l/s
Other parameters
Zero setting
0
l/s
Excitation freq.
3,125 Hz
6,250 Hz
3,125 Hz
1,000 Hz
0,500 Hz
Suppressed flow
0.2
l/s
Analog output calibration
4 mA
780
0
4095
20 mA
3920
Serial number: 31426/08
Calibration date:


Floset 2.0 - Calibration
Settings
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OUT1
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2
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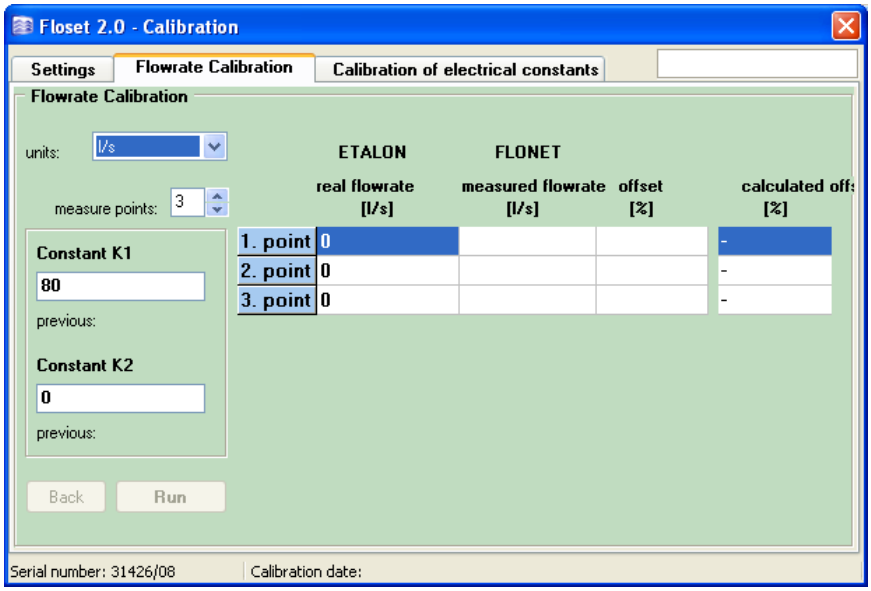
1 pulse volume
0.005
m3
Analog output
Mode
Flow in absolute value (0 ... IQI)
Settings
Range
4 ... 20 mA
Imax flowrate
20
l/s
Other parameters
Zero setting
0
l/s
Excitation freq.
3,125 Hz
Suppressed flow
0.2
l/s
Sensor dimension
50
10
15
20
25
Analog output calibration
4 mA
780
0
4095
20 mA
3920
Serial number: 31426/08
Calibration date:

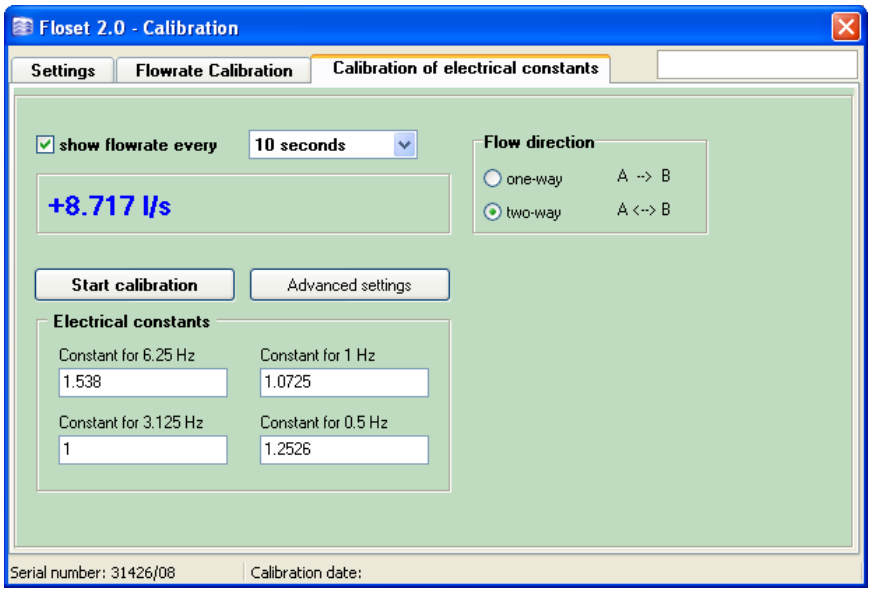
### 1.3.3. tab – Calibration



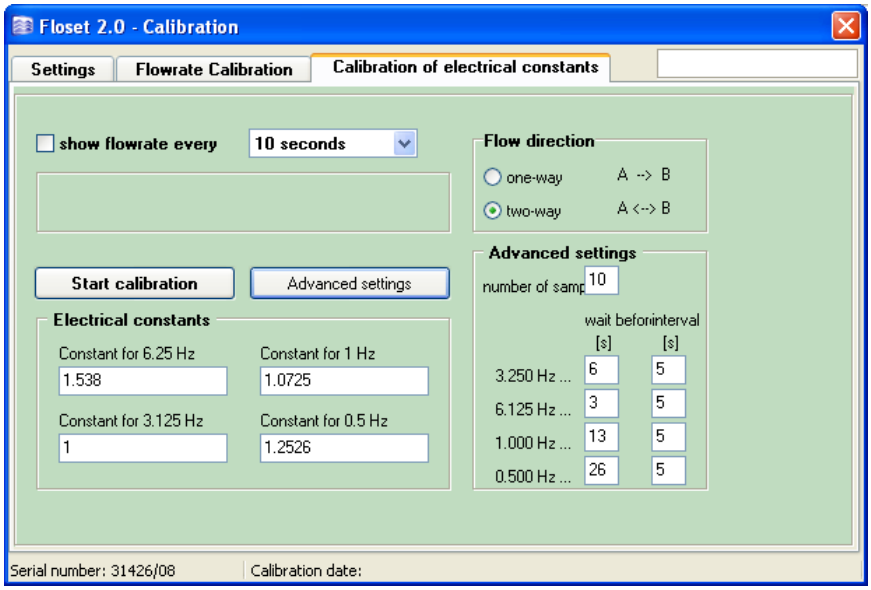

- Choose units which will be used during calibration.
- Choose measure points from 3 to 10.
- Fill in table of flow rates after you finish measuring. You can fill either offset or measured flow rate. The second item will always be automatically calculated.
- Press Run.
- Column Calculated offset shows new theoretical offsets from real flow rates.
- If the calibration was not successful you can press Back, write the previous constants to the flowmeter and repeat measuring.

### 1.3.4. tab – Calibration of electrical constants

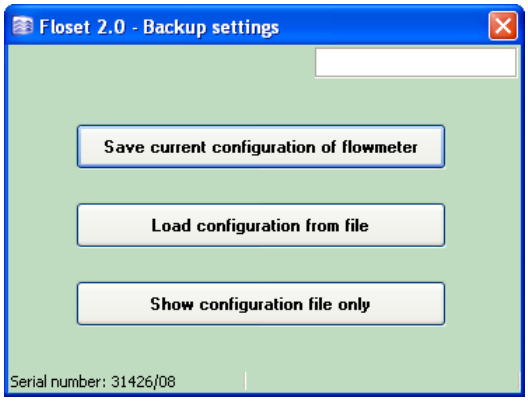
- If the flowmeter has no display installed it may be useful to watch average flow rate during calibration process.



- Calibration of electrical constant is important for measuring the same flow rate at different excitation frequencies.




## *1.4. Help for application FLOSET 2.0 - module - Backup Settings*

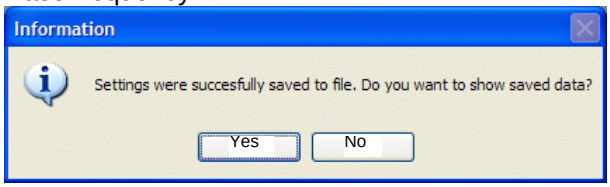



### 1.4.1. Main features of the module:

- save current state of all settings and counters of the flowmeter to single file
- load saved state back to the flowmeter
- show all items which are saved/loaded

## 1.4.2. List of all items which are saved

- Identification
- Serial number
- Software
- Production date
- Calibration date
- Sensor number
- Sensor dimension
- Address
- Group
- Language
- Password
- Constant K1
- Constant K2
- Samples count
- Excitation frequency
- Constant 4mA
- Constant 20mA
- Error - visible
- Operational time - value, visible
- Temporary time - value, visible
- Percentual flow rate - visible, 100% flow rate
- Flow rate - visible, coefficient, unit, decimal places
- Total positive volume - value, visible, coefficient, unit, decimal places
- Total negative volume - value, visible, coefficient, unit, decimal places
- Total difference - value, visible, coefficient, unit, decimal places
- Temporary positive volume - value, visible, coefficient, unit, decimal places
- Temporary negative volume - value, visible, coefficient, unit, decimal places
- Temporary difference - value, visible, coefficient, unit, decimal places
- Analog output - type, mode, Imax flow rate, fixed current
- OUT1 - mode, 1kHz flow rate, fixed frequency, flow limit, pulse length, pause length, 1 pulse volume, hysteresis
- OUT2 - mode, 1kHz flow rate, fixed frequency, flow limit, pulse length, pause length, 1 pulse volume, hysteresis
- Relay - mode, flow limit, 1 pulse volume, hysteresis
- Electrode cleaning - mode, time
- Zero setting
- Suppressed flow
- Dose - dose size, dose correction, dosing mode switch on
- Flow direction
- Activation / Deactivation of errors E1 - E13
- Electrical constants for 0.5 Hz, 1 Hz, 3.125 Hz, 6.25 Hz
- Base frequency




- These items are saved in file in special format *.fln and are readable only in this application.

C:\Documents and Settings\weinfurt\Dokumenty\31426-08.fln

| | |
|---|---|
| Identification | Elis 3 |
| Production date | 1. 4.2009 |
| Serial number | 31426/08 |
| Software | 90501D 01 |
| Sensor number | 31427/08 |
| Sensor dimension | 50 |
| Password | 0000 |
| Calibration date | |
| Address | 1 |
| Group | 1 |
| Constant K1 | 80 |
| Constant K2 | 0 |
| Samples count | 25 |
| Excitation frequency | 3,125 Hz |
| Constant 4mA | 780 |
| Constant 20mA | 3920 |
| Language | English |
| Operational time | 22h 33m 8s |
| Operational time - visible | yes |
| Temporary time | 22h 38m 2s |
| Temporary time - visible | yes |
| Error - visible | yes |
| Percentual flowrate - visible | yes |
| Percentual flowrate - 100% [l/s] | 20 |

C:\Documents and Settings\weinfurt\Dokumenty\31426-08.fln

| | |
|---|---|
| Percentual flowrate - 100% [l/s] | 20 |
| Flowrate - visible | yes |
| Flowrate - coefficient | 1 |
| Flowrate - unit | l/s |
| Flowrate - decimal places | 3 |
| Total positive volume [litre] | 103489.658903 |
| Total positive volume - visible | yes |
| Total positive volume - coefficient | 0.00100000004749745 |
| Total positive volume - unit | m3 |
| Total positive volume - decimal places | 2 |
| Total negative volume [litre] | -3431.442786 |
| Total negative volume - visible | yes |
| Total negative volume - coefficient | 0.00100000004749745 |
| Total negative volume - unit | m3 |
| Total negative volume - decimal places | 2 |
| Total difference [litre] | 106921.101689 |
| Total difference - visible | yes |
| Total difference - coefficient | 0.00100000004749745 |
| Total difference - unit | m3 |
| Total difference - decimal places | 2 |
| Temp. positive volume [litre] | 103489.658903 |
| Temp. positive volume - visible | yes |
| Temp. positive volume - coefficient | 0.00100000004749745 |
| Temp. positive volume - unit | m3 |

C:\Documents and Settings\weinfurt\Dokumenty\31426-08.fln

| | |
|---|---|
| Temp. positive volume - unit | m3 |
| Temp. positive volume - decimal places | 2 |
| Temp. negative volume [litre] | -3431.442786 |
| Temp. negative volume - visible | yes |
| Temp. negative volume - coefficient | 0.00100000004749745 |
| Temp. negative volume - unit | m3 |
| Temp. negative volume - decimal places | 2 |
| Temp. difference [litre] | 106921.101689 |
| Temp. difference - visible | yes |
| Temp. difference - coefficient | 0.00100000004749745 |
| Temp. difference - unit | m3 |
| Temp. difference - decimal places | 2 |
| Analog output - type | 4..20 mA |
| Analog output - mode | for positive and negative flow in absolute |
| Analog output - Imax flowrate [l/s] | 20 |
| Analog output - fixed current [mA] | 2.5 |
| OUT1 - mode | permanently close |
| OUT1 - flowrate [l/s] / base frequency | 20 |
| OUT1 - fixed frequency [Hz] | 10 |
| OUT1 - flow limit [l/s] | 250 |
| OUT1 - pulse length [times 10ms] | 2 |
| OUT1 - pause length [times 10ms] | 2 |
| OUT1 - 1 pulse volume [litre] | 100 |
| OUT1 - hysteresis [l/s] | 10 |

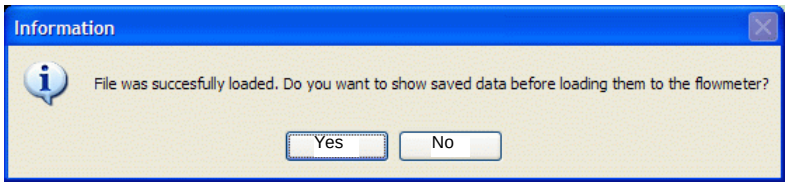
C:\Documents and Settings\weinfurt\Dokumenty\31426-08.fln

| | |
|---|---|
| OUT1 - hysteresis [l/s] | 10 |
| OUT2 - mode | \|Q\| Pulses |
| OUT2 - flowrate [l/s] / base frequency | 500 |
| OUT2 - fixed frequency [Hz] | 10 |
| OUT2 - flow limit [l/s] | 250 |
| OUT2 - pulse length [times 10ms] | 2 |
| OUT2 - pause length [times 10ms] | 2 |
| OUT2 - 1 pulse volume [litre] | 5 |
| OUT2 - hysteresis [l/s] | 10 |
| Relay - mode | Q > Q limit |
| Relay - flow limit [l/s] | 15 |
| Relay - 1 pulse volume [litre] | 100 |
| Relay - hysteresis [l/s] | 2 |
| Electrode cleaning - mode | off |
| Electrode cleaning - time [days] | 255 |
| Zero setting [l/s] | 0 |
| Suppressed flow [l/s] | 0.200000002980232 |
| Dose size [litre] | 500 |
| Dosing mode switch on | no |
| Dose correction [litre] | 0 |
| Flow direction | A <-> B |
| constant for 6.250 Hz | 1.53799998760223 |
| constant for 3.125 Hz | 1 |
| constant for 1.000 Hz | 1.07249999046326 |

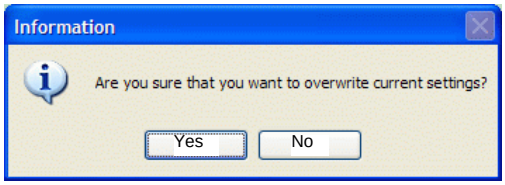
C:\Documents and Settings\weinfurt\Dokumenty\31426-08.fln

| | |
|---|---|
| Suppressed flow [l/s] | 0.200000002980232 |
| Dose size [litre] | 500 |
| Dosing mode switch on | no |
| Dose correction [litre] | 0 |
| Flow direction | A <-> B |
| constant for 6.250 Hz | 1.53799998760223 |
| constant for 3.125 Hz | 1 |
| constant for 1.000 Hz | 1.07249999046326 |
| constant for 0.500 Hz | 1.2525999546051 |
| Error E-01 | active |
| Error E-02 | active |
| Error E-03 | active |
| Error E-04 | active |
| Error E-05 | active |
| Error E-06 | active |
| Error E-07 | active |
| Error E-08 | active |
| Error E-09 | active |
| Error E-10 | active |
| Error E-11 | active |
| Error E-12 | active |
| Error E-14 | not active |
| Base frequency [Hz] | 1000 |

### 1.4.3. Loading saved settings to the flowmeter




- **CAUTION!!! Loading the saved state will overwrite all counters including total volumes and operational time!**



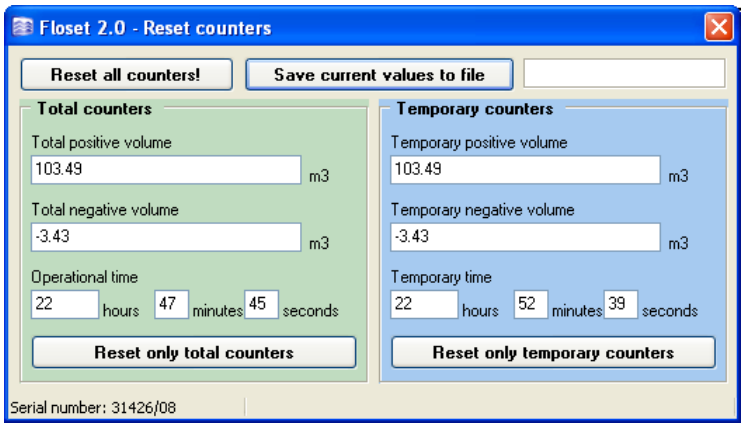
## *1.5. Help for application FLOSET 2.0 - module - Reset Counters*

### 1.5.1. Main features of the module:

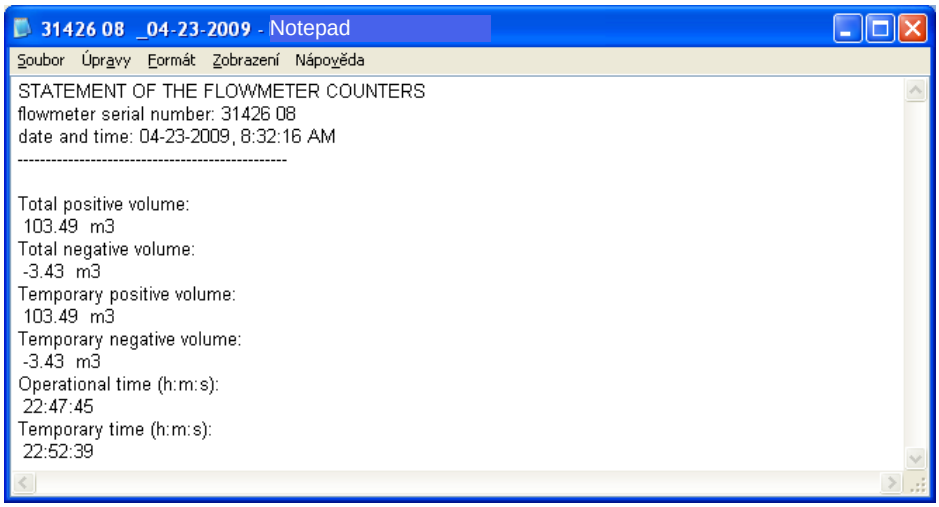
- reset all volumes and times
- save current state of counters to the file

### 1.5.2. Button Reset all counters!

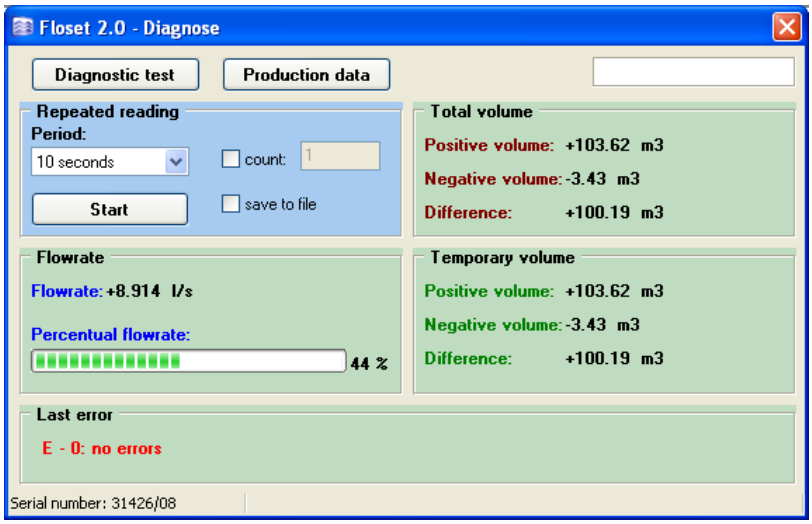
- This button resets all currently displayed values.




### 1.5.3. Button Save current values to file



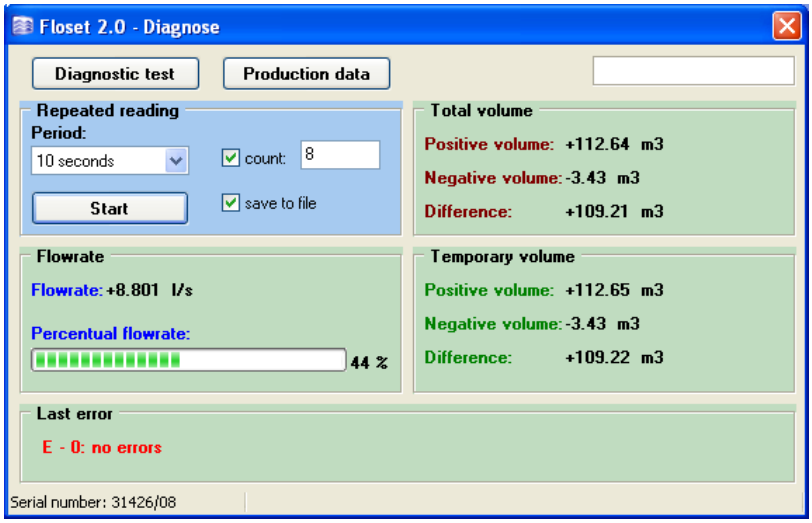
## *1.6. Help for application FLOSET 2.0 - module – Flowmeter Diagnose*



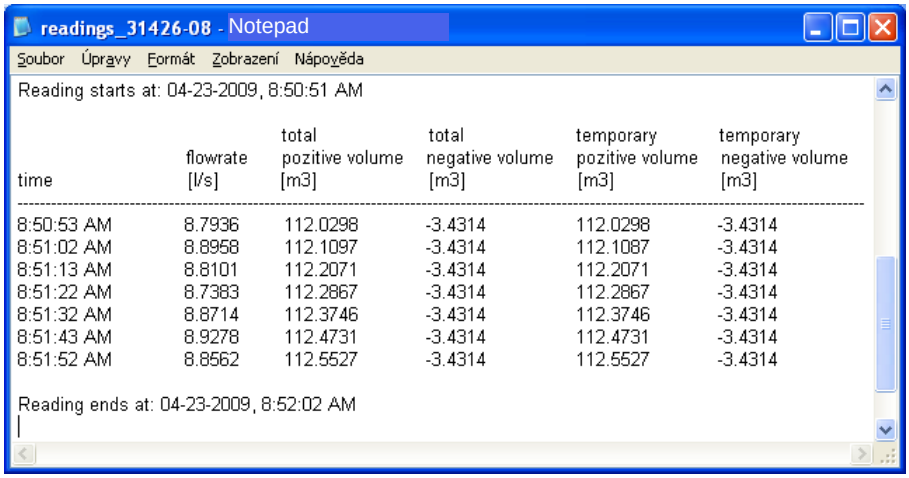

### 1.6.1. Main features of the module:

- readings of all flow rates, volumes and errors
- possibility of log repeated readings to file
- show production data of the flowmeter
- diagnostic test and printing the diagnostic protocol

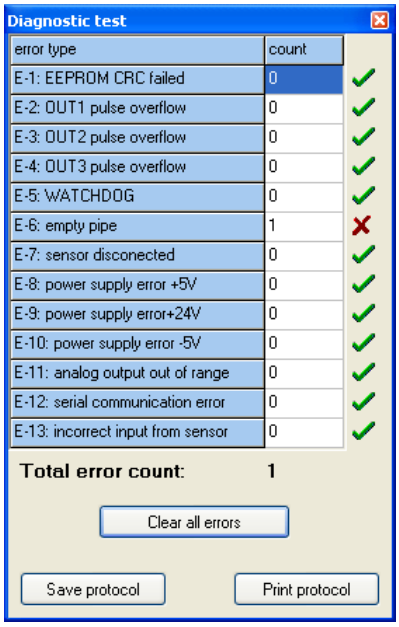
### 1.6.2. Repeated Reading



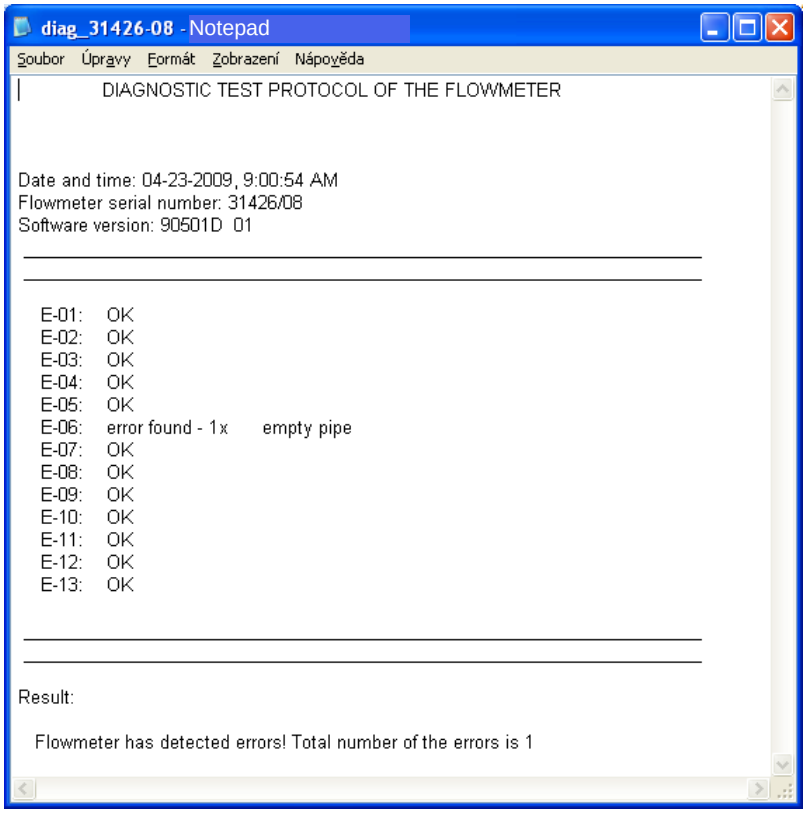

- Choose the period of time.
- You can select how many readings you want. Otherwise readings will be infinite.
- You can log readings to the file. Then check the appropriate checkbox and choose the file.

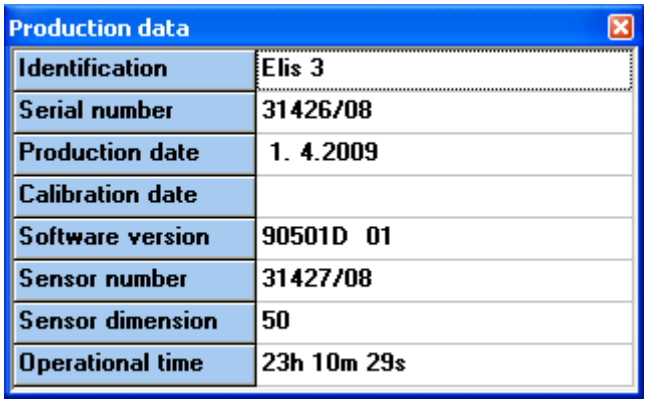



## 1.6.3. Diagnostic test




- After you press Diagnostic test, overall check of the flowmeter will run and then you can see results in the list of possible errors.
- You have a choice to save the protocol to text file or print it immediately.


diag_31426-08 - Notepad
Soubor Úpravy Formát Zobrazení Nápověda
DIAGNOSTIC TEST PROTOCOL OF THE FLOWMETER
Date and time: 04-23-2009, 9:00:54 AM
Flowmeter serial number: 31426/08
Software version: 90501D 01
E-01: OK
E-02: OK
E-03: OK
E-04: OK
E-05: OK
E-06: error found - 1x empty pipe
E-07: OK
E-08: OK
E-09: OK
E-10: OK
E-11: OK
E-12: OK
E-13: OK
Result:
Flowmeter has detected errors! Total number of the errors is 1


Production data
Identification
Elis 3
Serial number
31426/08
Production date
1. 4.2009
Calibration date
Software version
90501D 01
Sensor number
31427/08
Sensor dimension
50
Operational time
23h 10m 29s

# Manufacturer's address:

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Issue No. 2