Industrial Flowmeter

deltawaveC-2021 Update

2021 Update deltawaveC

Partner Training





systec CONTROLS

deltawaveC

Industrial Flowmeter

SS-Housing

- Nice look and feel
- Stainless steel, brushed surface
- Robust
- No „on-the flight“-botton-pressing
- IP65
- Ex (zone II) under testing (e.o.y.)
- No extra cost

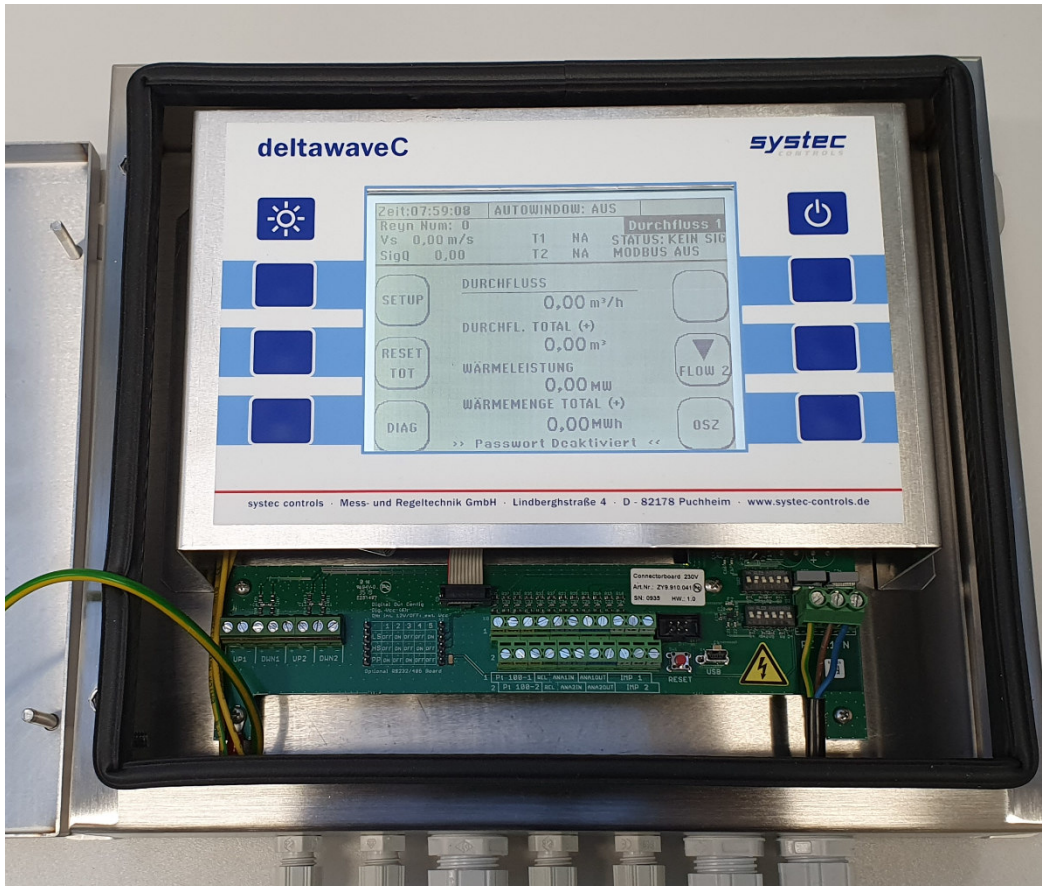


deltawaveC

Industrial Flowmeter

SS-Housing

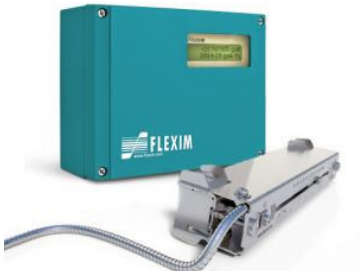
- internal keys and terminals as plastic housing
- No changes in the operation
- Better access than plastic housing
- All options available as before (1/2-channel, Modnus, M-bus, RS232/485, Analogue Input)



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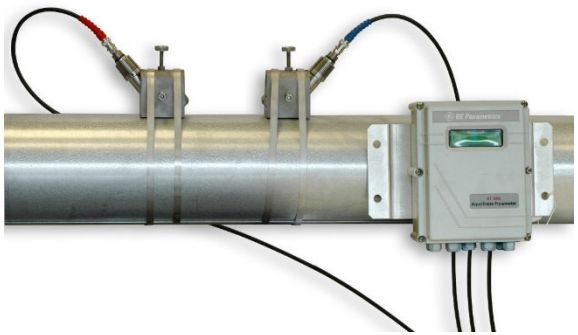
Industrial Flowmeter

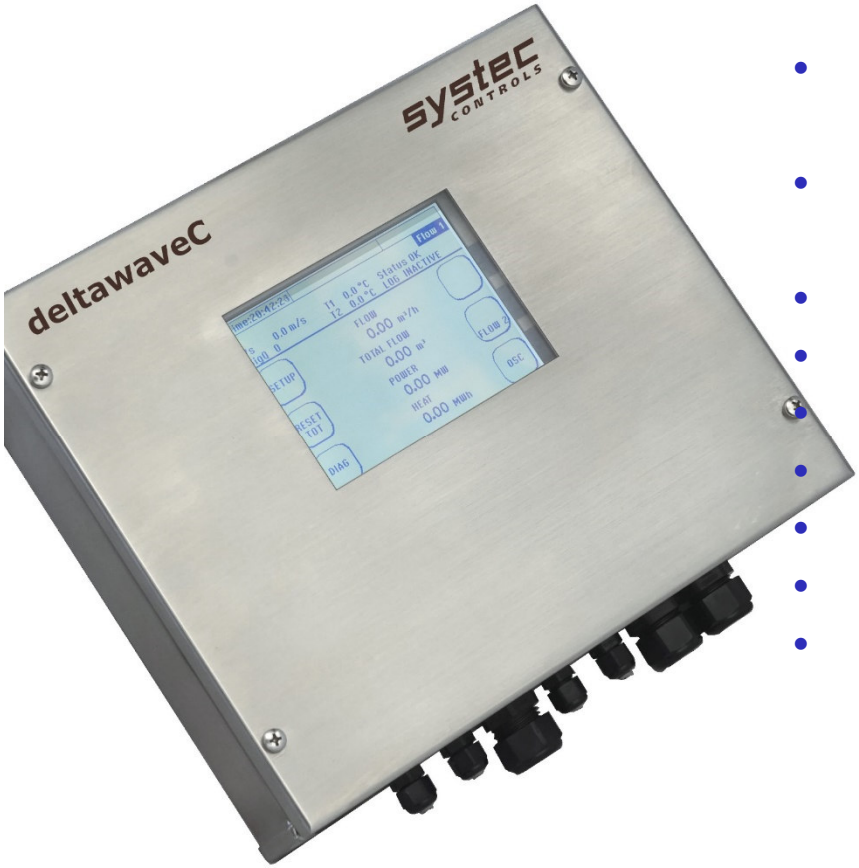
SS-Housing











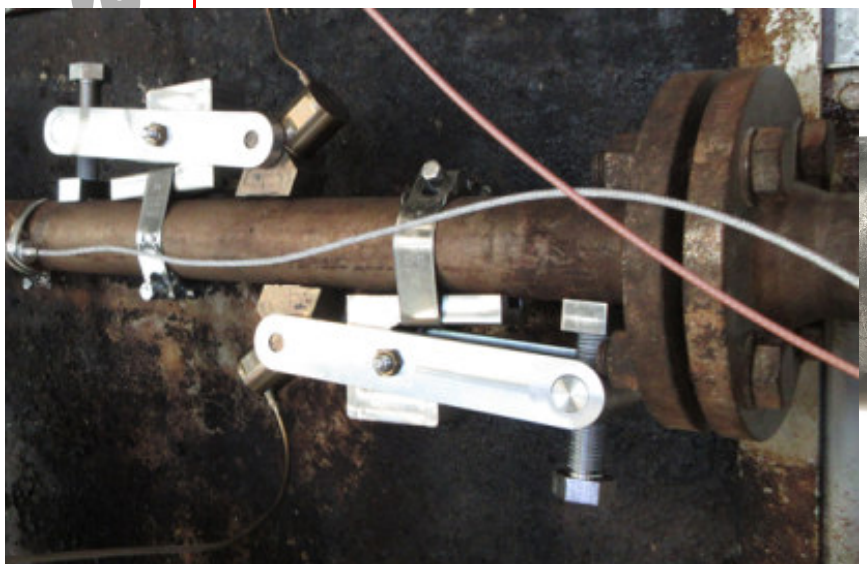
- **Bigger display, easiest startup of all meters**
- **Comprehensive diagnostics, signal oszilloscope**
- **1, 2, 4, and 8 path possible**
- **Robust, hygenic SS-hosing**
- **Ex zone II included (End 2021)**
- **Windows Setup Software included**
- **Mass flow calculation included**
- **Energy Meter included**
- **Lowest price**

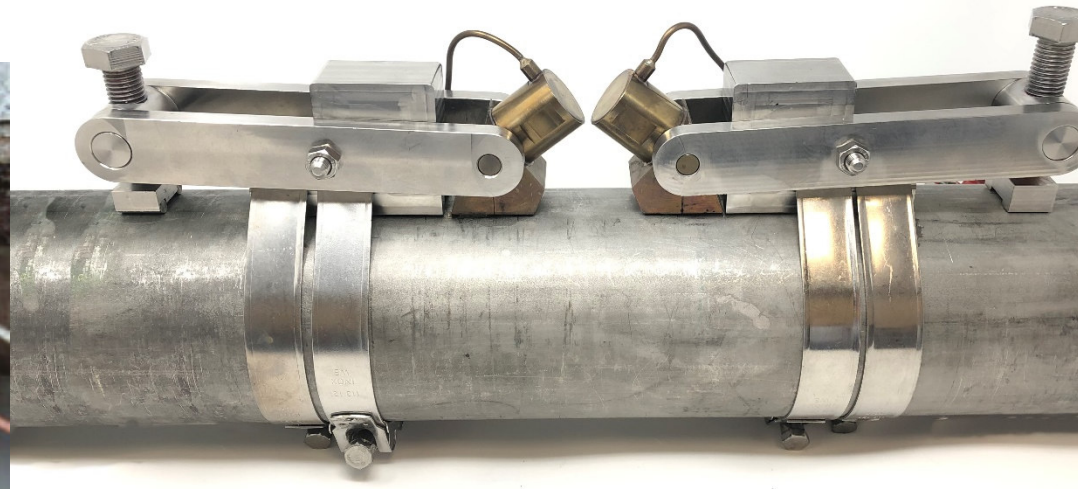
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Industrial Flowmeter

High Temperature Transducers

- -55..380°C surface Temperature
- Direct Mount, no „hockey-sticks“
- Much easier Installation
- Higher sensitivity, better Signal
- Auto-Optimizer improoves signals a lot
- 30% less expensive than Flexim
- Only avaliable for fixed units, special firmware





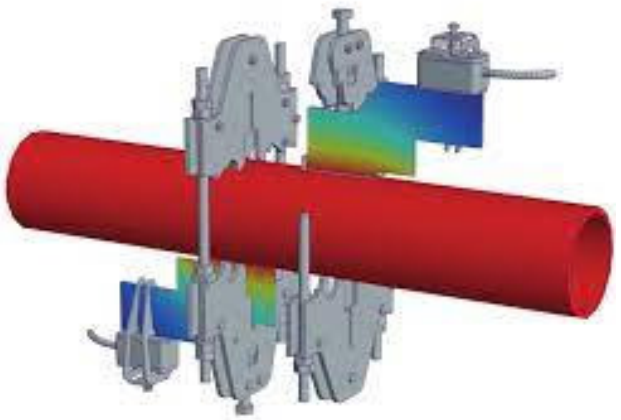
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Industrial Flowmeter

High Temperature Transducers

- **Flexim Solution 30% more expensive**
- **By „wave injector“ much lower signal, transducer distance from pipe very big!**
- **Installation very complicated**





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Industrial Flowmeter

High Temperature Transducers

- **Easy installation**
- **Best Signal Perfomance**
- **Budget system Price (List): 9.200 EUR**







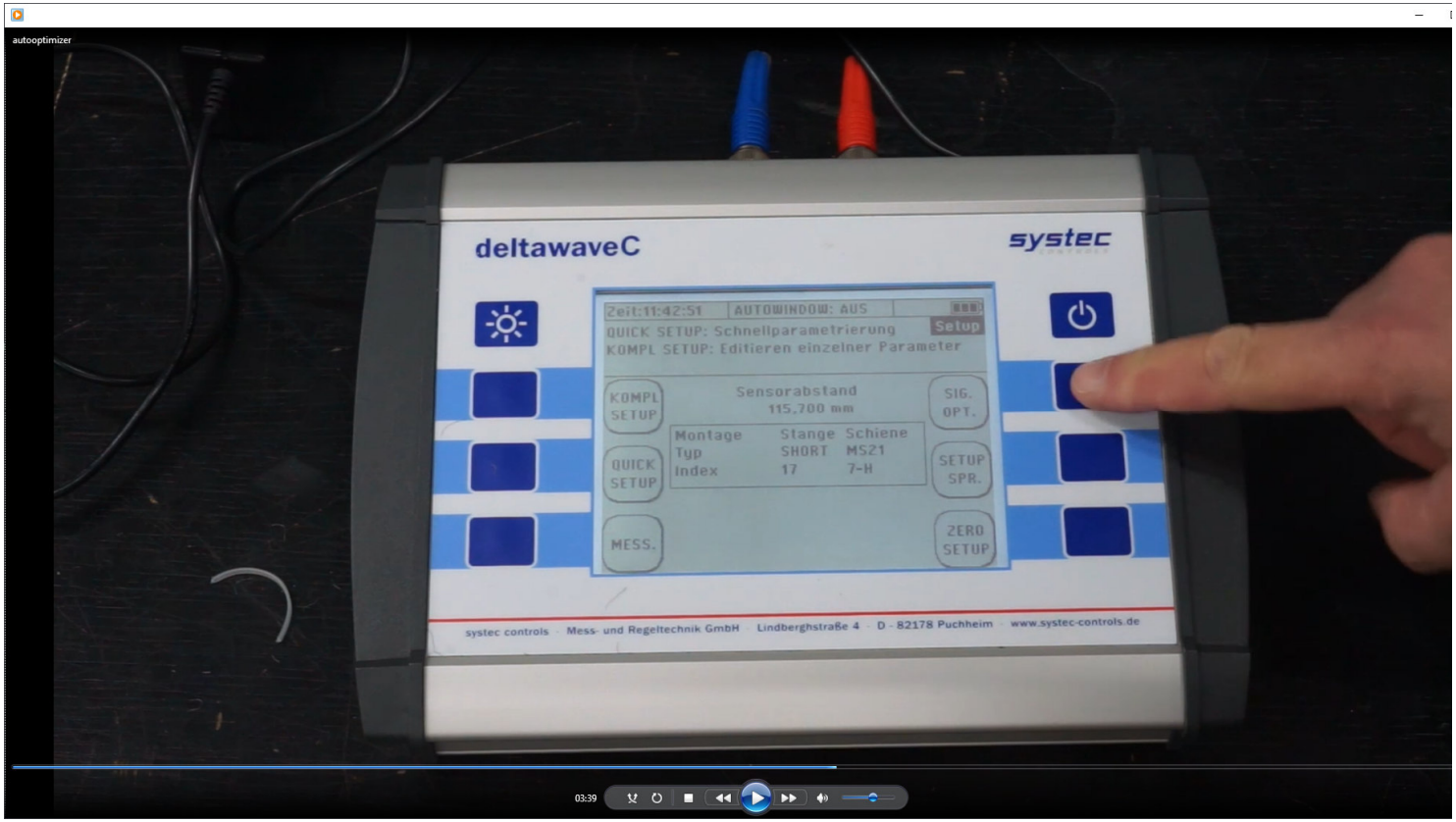


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Industrial Flowmeter

Auto Optimizer

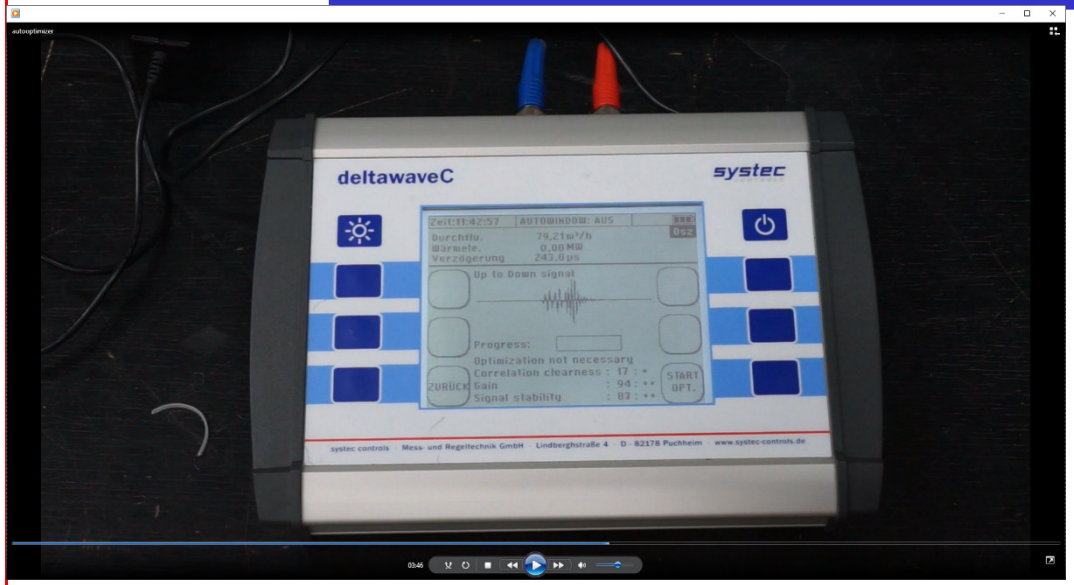
- one key to success
- can be used under flow, no shut down needed
- zero point stability +300% (no shut down)
- accuracy +1%
- much higher stability for difficult signals, nois reduction up to 80%



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Auto Optimizer Example



Before Auto-optimizer :

- **Accuracy 2%**
- **Zero Point: +/- 0,02m/s (no shut down)**
- **No damping fluctuation +/- 6%**

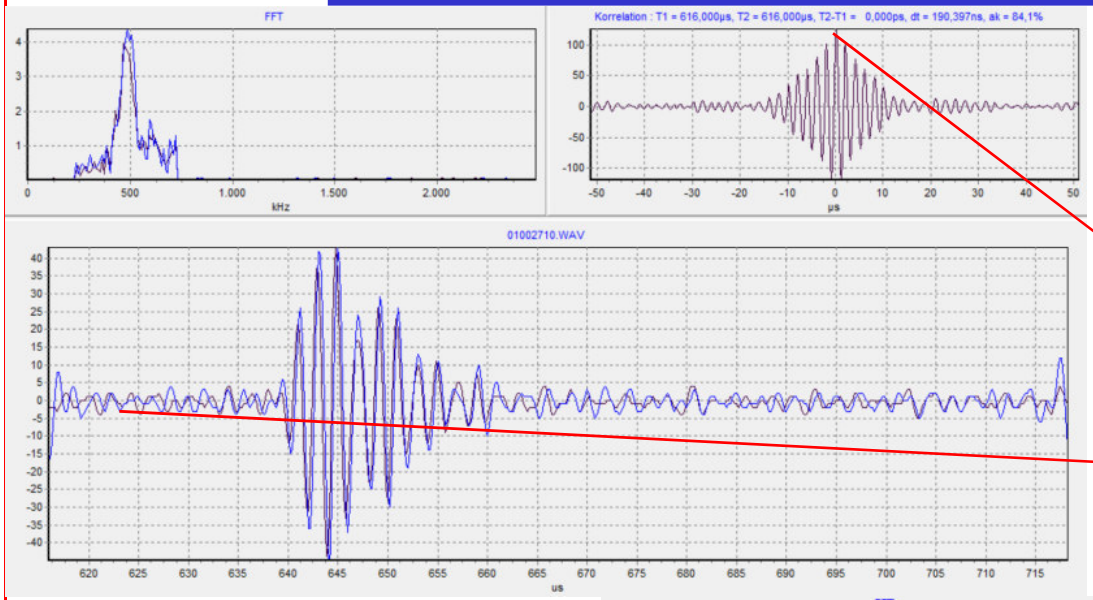
After Auto-optimizer :

- **Accuracy 0,6%**
- **Zero Point: +/- 0,007m/s (no shut down)**
- **No damping fluctuation +/- 2%**



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Auto Optimizer Example

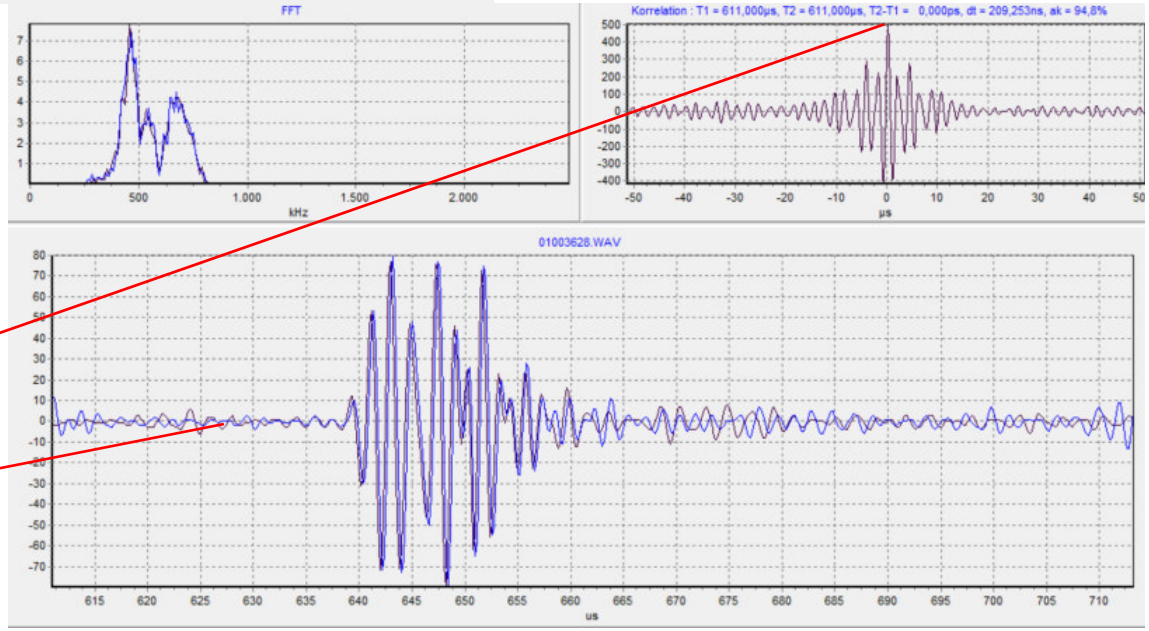


Before: 500kHz, Barker 5

Maximum ok (15%)

S/N-Ratio ok (1:10)

After: 555kHz, Barker 7



Maximum perfect (80%)

S/N-Ratio better (1:20)

MetawaveC

Industrial Flowmeter

Auto Optimizer

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Auto-Optimizer:

- Now available for ALL ultrasonic meters from systec, also clamp on gas, deltawave2, deltawave2-Lean, Portable and ficed units
- No extra cost
- Best flowmeter technology on the market

Benefits:

- More difficult applications can be solved
- Higher Accuracy
- Better zero point stabilit without shut down of the pipe
- Lower fluctuation of the undamped signal

https://youtu.be/4XOI_wWfUrE

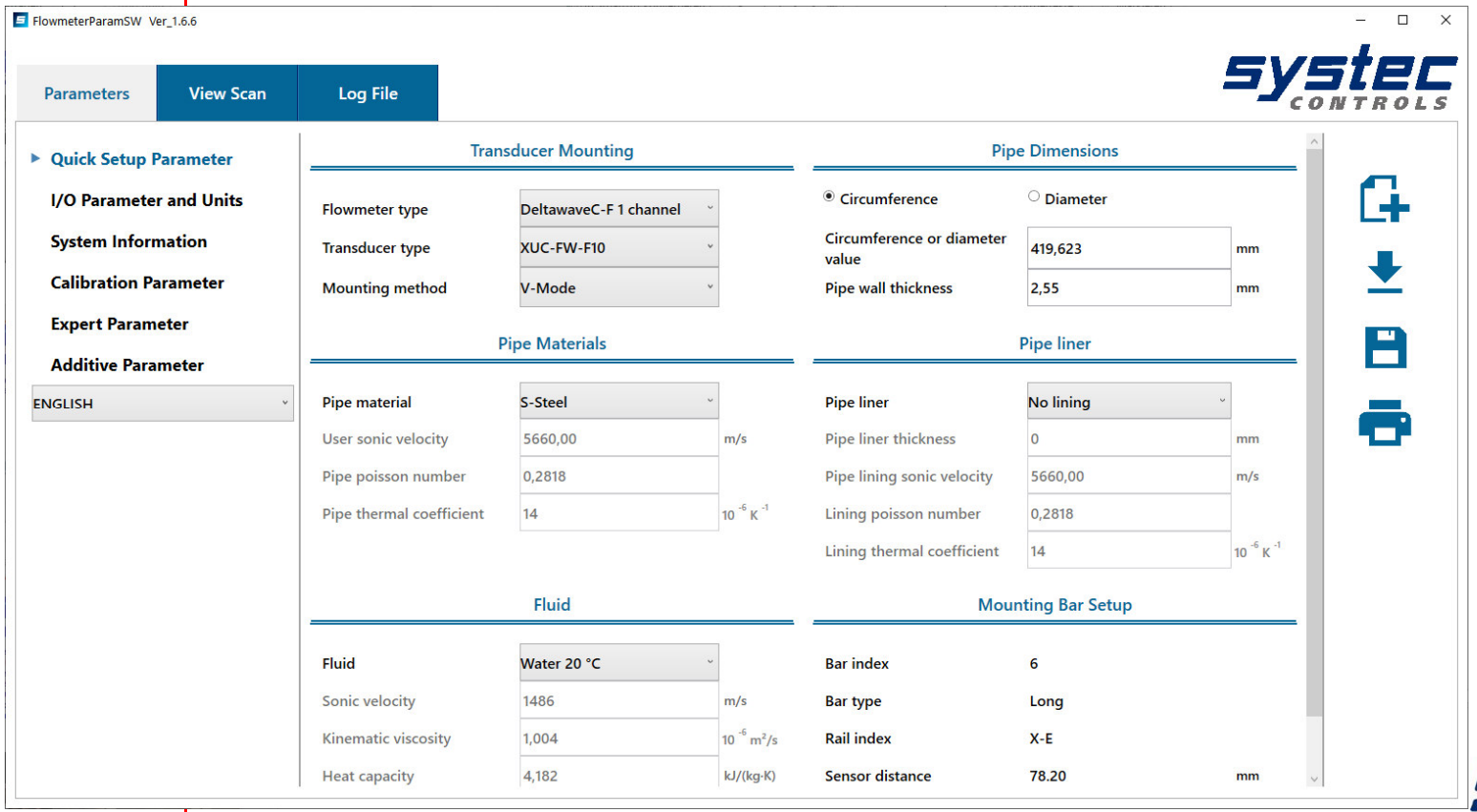
Youtube: systec controls deltawave auto-optimizer

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Industrial Flowmeter

deltawaveC Windows Software

- **Free Windows Software**
- **Complete Meter Setup on the PC**
- **Analysis of customer setup**
- **Setup up/donwload on the Meter by USB/SD-card**

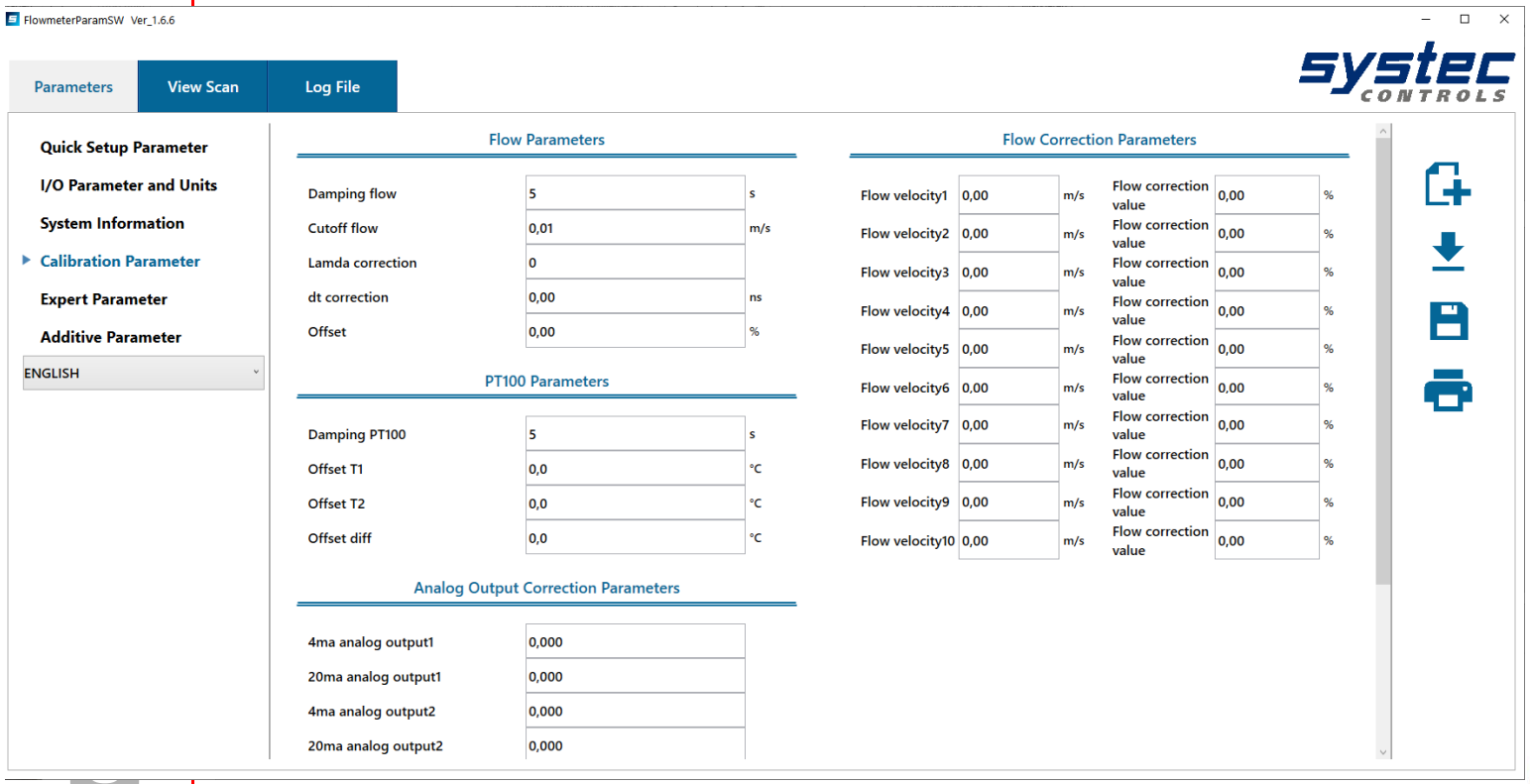


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Industrial Flowmeter

deltawaveC Windows Software

- comprehensive calibration possibilities
- Setup of individual Fluids (Hydrocarbons)
- Density/Temperature Tables for T-cpompensates Massflow
- Multipoint flow calibration

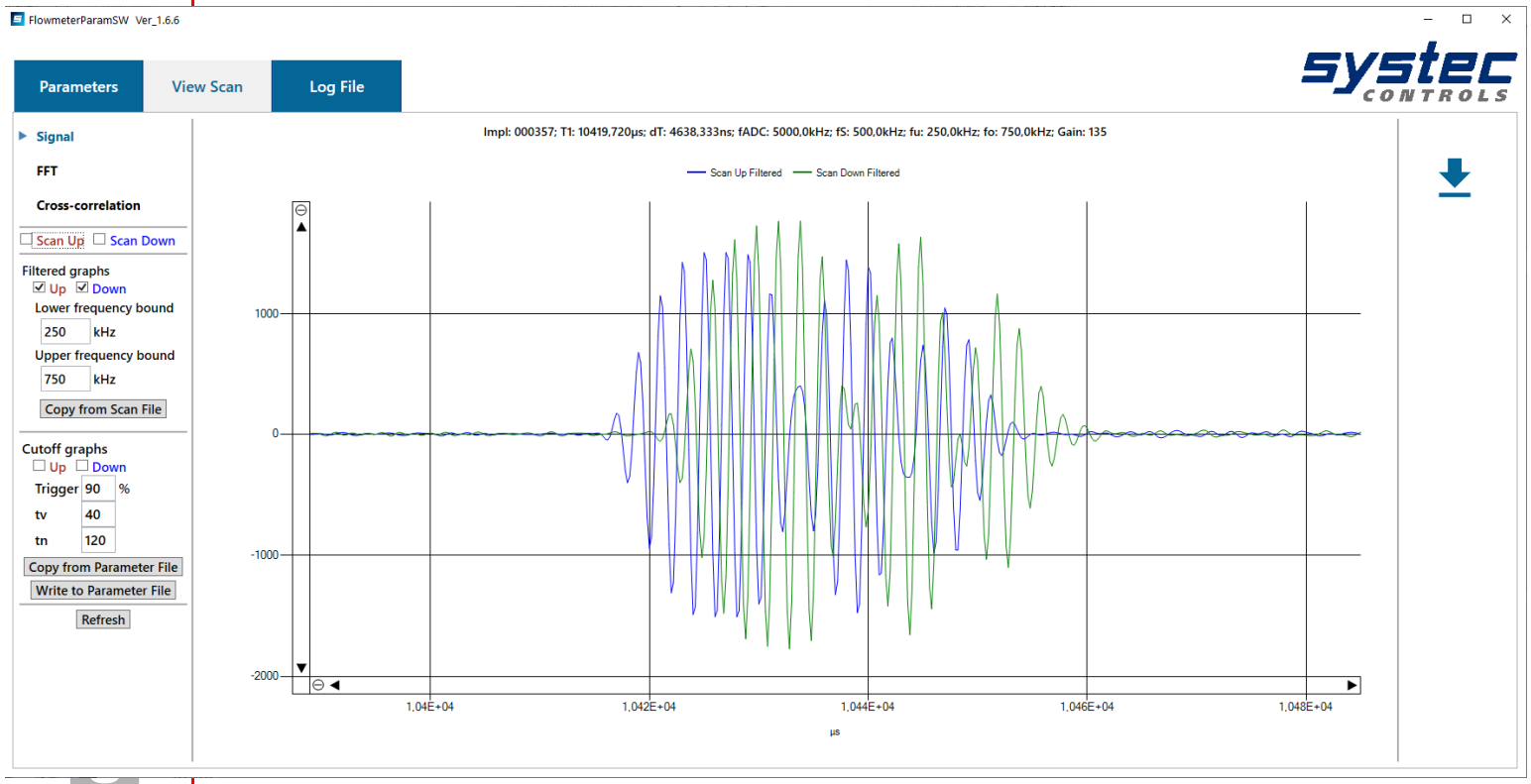


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Industrial Flowmeter

deltawaveC Windows Software

- **Professional Signal Analysis**
- **Filter and cut-off optimization**
- **FFT and correlation result can be reviewed directly**
- **(Auto-optimizer is doing this job)**



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Industrial Flowmeter

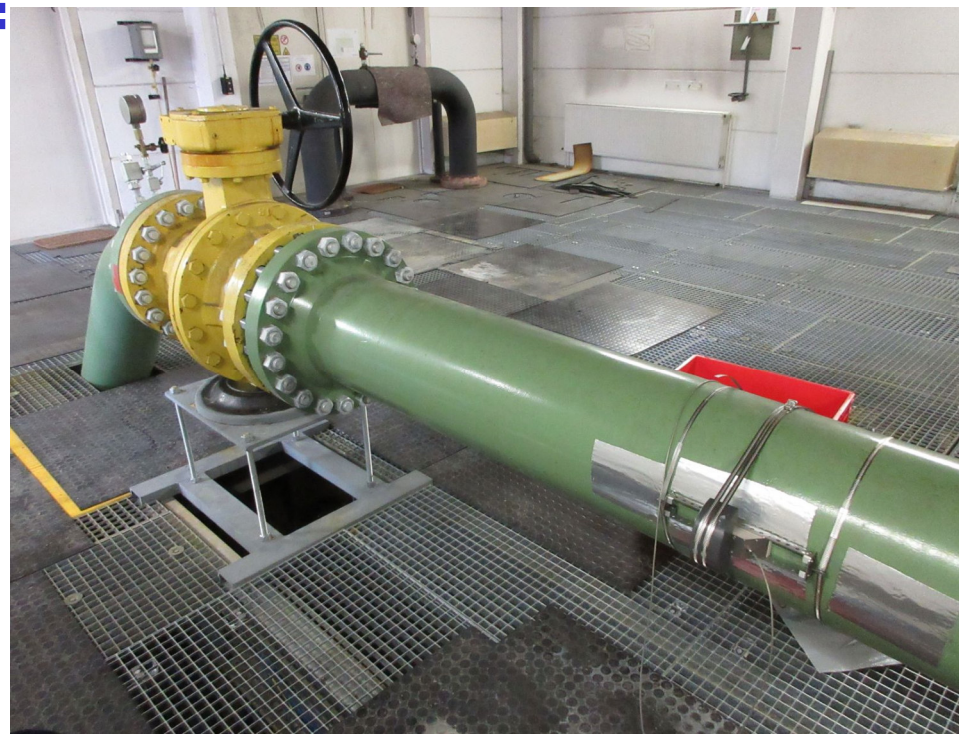
Clamp-on Gas

Clamp on gas

- Most sophisticated techology, low signal, high noise
- Auto-optimizer is perfect for this technology!!!
- systec‘s installation tools are very simple and stable
- Installallation needs more quality than clamp-on liquid!
- Steel-ipes: min pressure 5barg, plastic 1barg

Clamp on gas applications:

- Natural Gas HP Pipeline
- Natural Gas MP district pipeline
- Pressurized air
- Fracking / Wellhead



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Clamp-on Gas

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Clamp on gas advantages

- No cutting of the pipe
- No pressure loss
- No wear and tear
- Easy to install (2h) (needs more precision as for clamp on liquid, Z-Mode)

- DN40 to DN600
- 3 transducer types
- Accets p&T input for mass flow calculation
- AGA / GERG included



Industrial Flowmeter

Clamp-on Gas

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Status:

- currently only fixed meter (Basis deltawave2)
- 3 types of trasducers, 0,3 / 0,5 and 1Mhz, same Geometry.
- Trasducertype selected by pipe wall thickness (not diameter)
- Basic Budget Price (List): 6.200 EUR +

Outlook:

- Ex for Trasducers (Zone I) expected by the end of 2021
- Ex for Electronics (Zone 1) in Eexd housing by the end of 2021
- Ex for Electronics (Zone 2, SS Housing) Expected for End 2021
- Portable/ deltawaveC-Hardware: Expected for Spring 2022

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Industrial Flowmeter

Clamp-on Gas



Clamp-on gas:

- DN40-DN600
- 5barg-500barg
- -40..80°C
- All Gases (Gerg/AGA included)
- With p&T input for mass flow calculation
- 2-30mm wall thickness, 3 transducers

