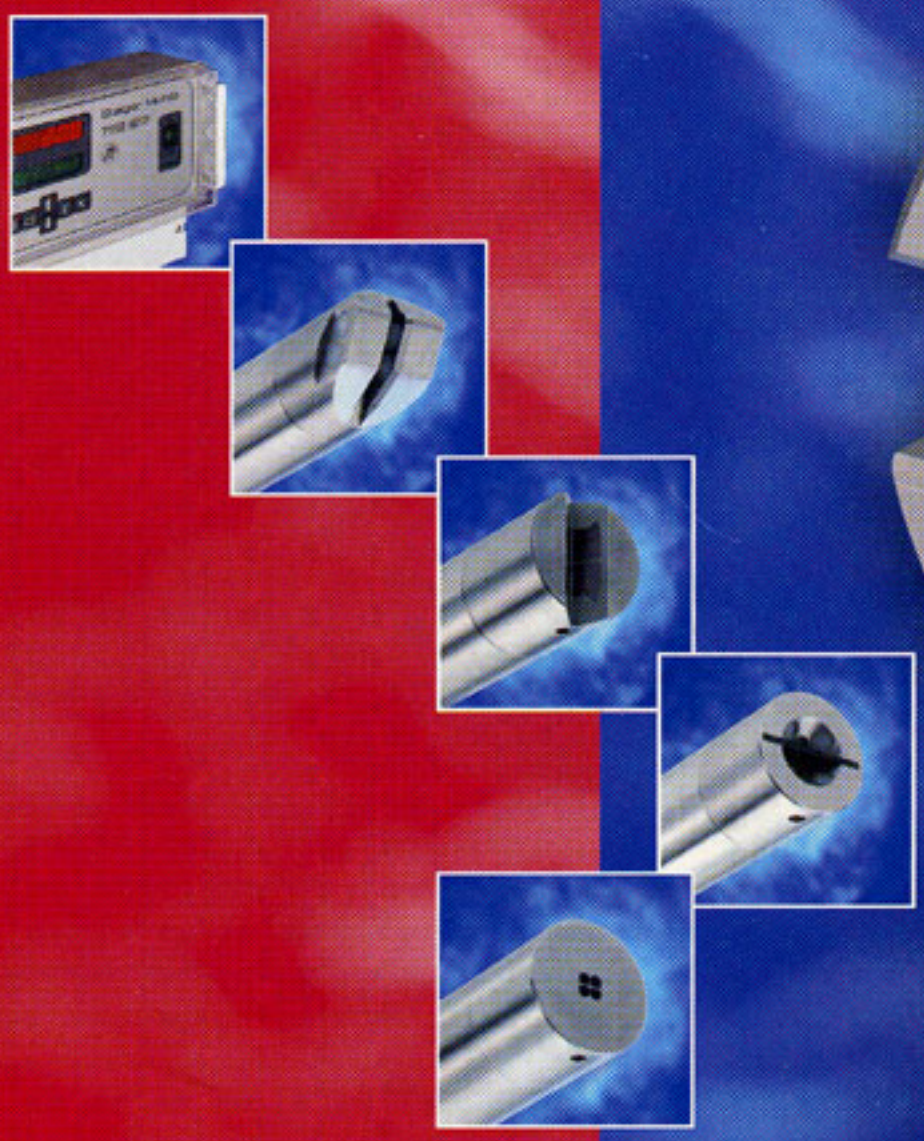
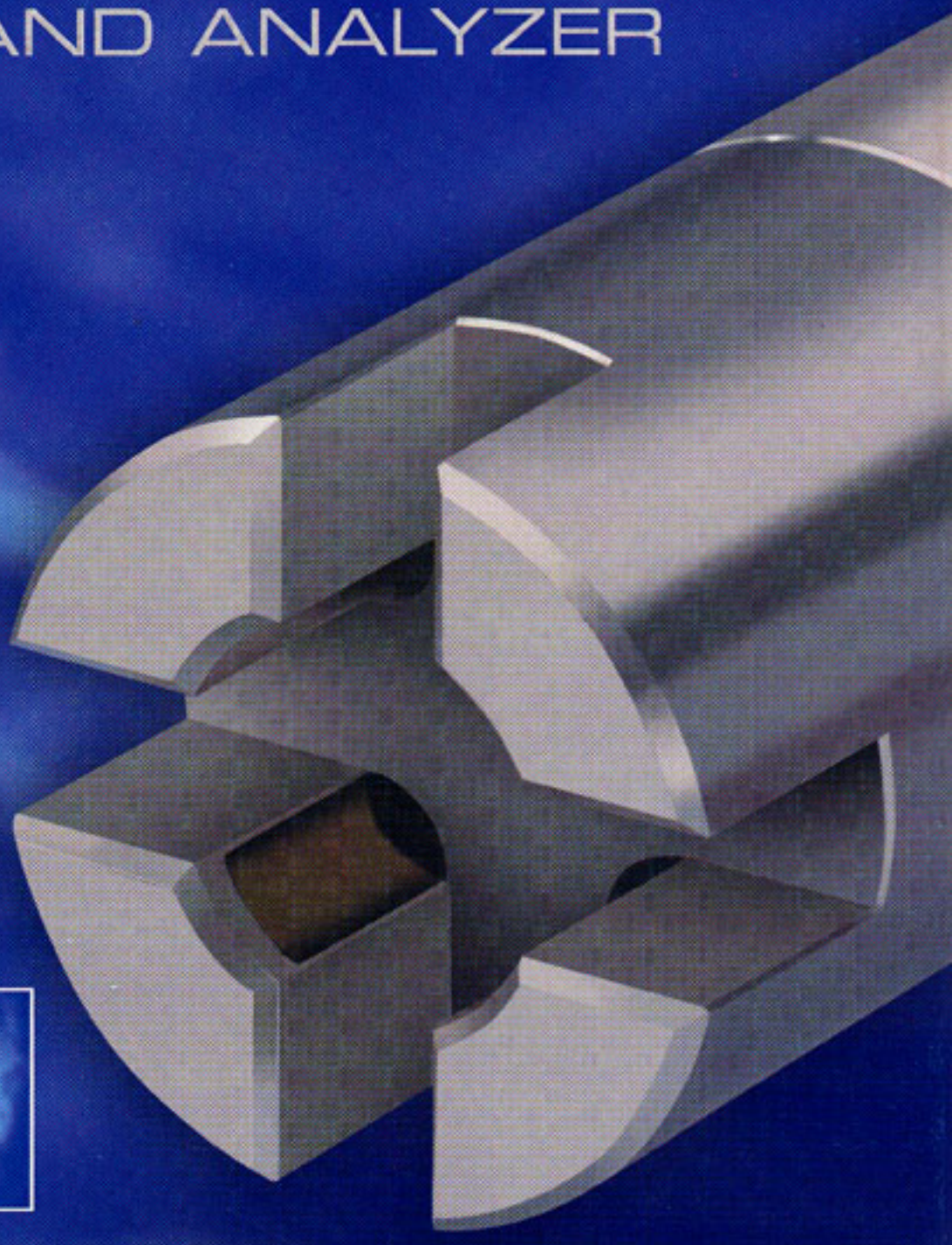
STAMOSENS® SENSORS

AND ANALYZER





STAMOSENS® 7110 MTF
Analyzer for turbidity and solids contents

STAMOSENS® 7510 SAM
Light-absorption sensor for medium solids contents (mlss)

STAMOSENS® 7510 SAH
Light-absorption sensor for high solids contents

STAMOSENS® 7520 SAV
Light-absorption sensor for maximum solids contents

STAMOSENS® 7540 SRH-E
Back-scattered light sensor for maximum solids contents

STAMOSENS® 7530 SSN
90° Light-scattering sensor for low turbidity

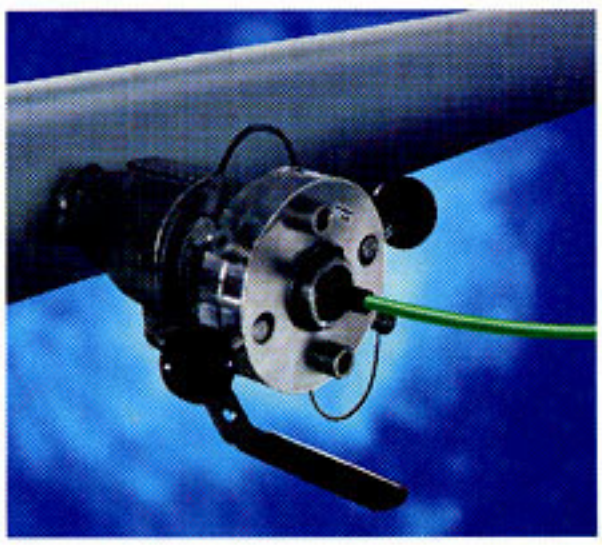
Staiger Mohilo

STAMOSENS® 7110 MTF

Art.Nr. 2513

Suspended Solids Content or Turbidity Measurement

The model 7110 is a continuous „on-line" analyzer that measures suspended solids content or turbidity. Depending on the model of probe being used, the measurement is displayed in mg/l or g/l, %, ppm or FTU. Measured values are preproceeded in the probe to minimize signal transmission errors.



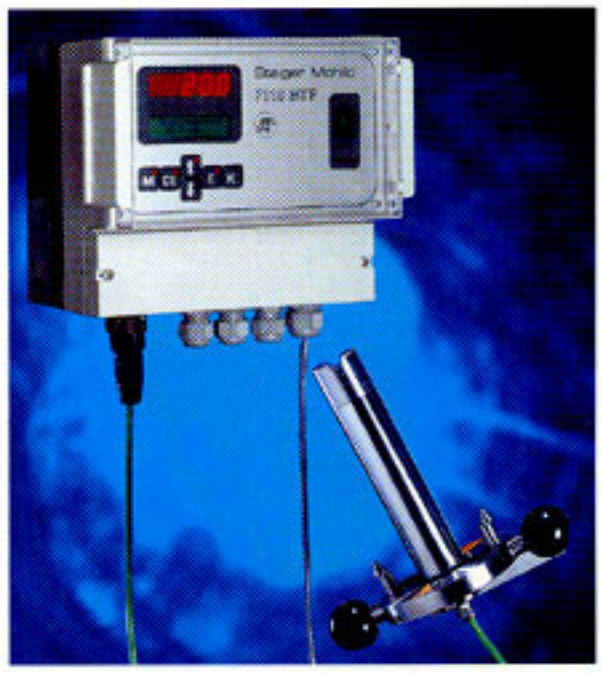
4-Beam-Pulsed-Light Measurement Technique

Depending on the probe model, suspended solids concentration is measured using a patented light absorption or scattered light technique. Two monochromatic LEDs are pulsed at a frequency of several KiloHertz. The signals from two photodetectors are separately converted into logarithmic functions and analyzed relative to each other. This reliable, field-proven measurement technique compensates for probe fouling and aging of the optical components.

STAMOSENS®
7900 KHE
Suspend solid measurement in return activated sludge.

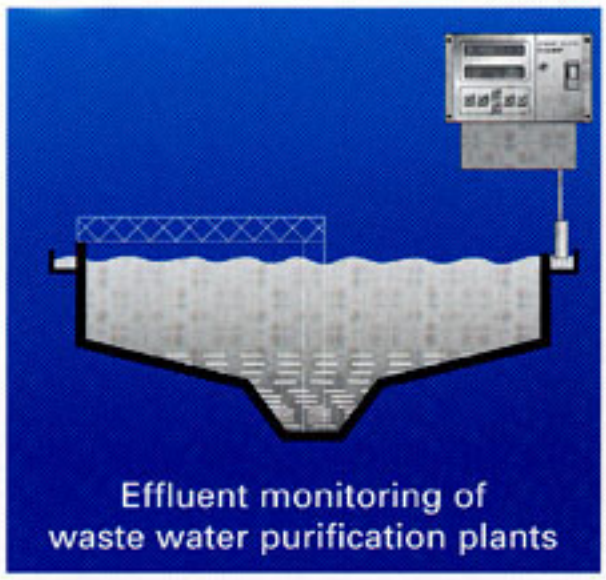
Long Transmission Distance

Preprocessing the measurement signal directly in the probe permits the probe and analyzer to be separated by up to 656 feet (200m).

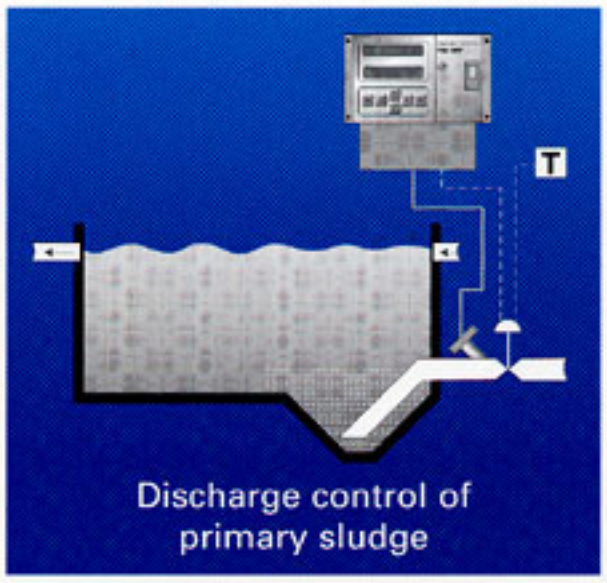


STAMOSENS® 7110 MTF
Analyzer accepts all sensors of Stamosens to cover different applications.

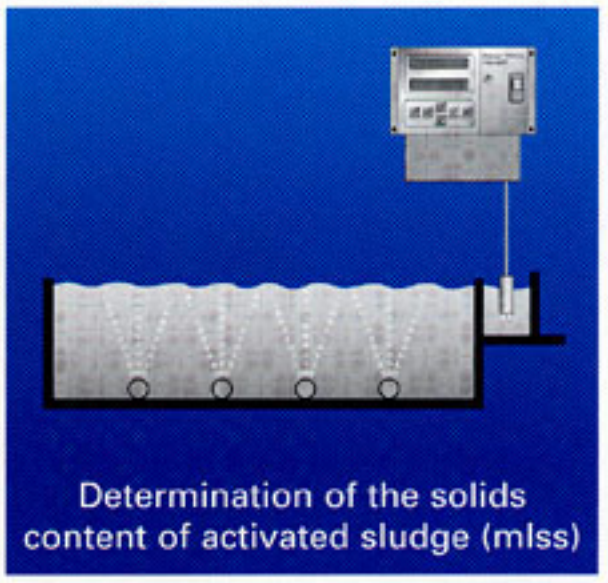
Proven effectiveness with modern technology



Effluent monitoring of waste water purification plants



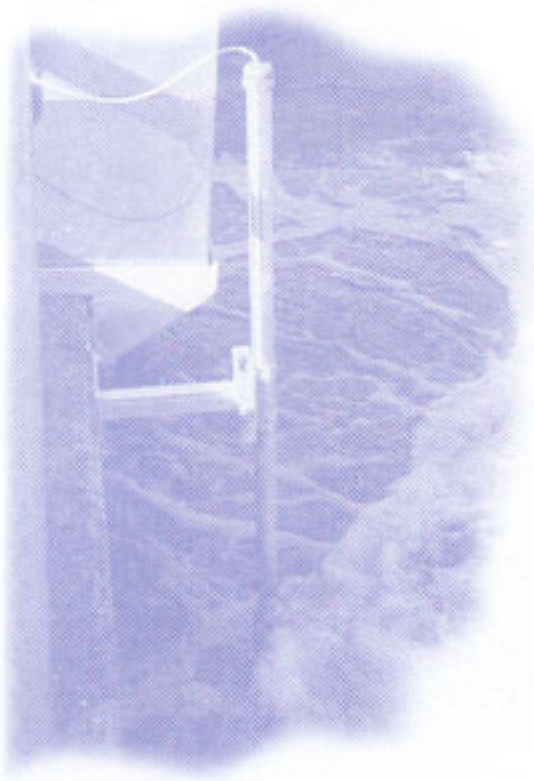
Discharge control of primary sludge



Determination of the solids content of activated sludge (mlss)

Calibration

If a sensor for low turbidity is connected to the 7110 MTF, then the possibility exists of selecting between different measurement ranges in NTU (nephelometric turbidity units) or mg/l.
If it is required to determine the solids content of a certain material, e.g. activated sludge (mlss), then it must be taken into consideration that solids content is not always a linear function of turbidity.
For this purpose, calibration with up to 8 measurement points can be selected.



Suspended solid measurement in aeration basin (mlss)

Programming

Calibration of the 7110 MTF and input of parameters are performed with a special menue-driven routine. The operator is guided from step to step by messages in plain language.

Multiple Language Capability

Menu screens can be selected for display in English, French, German, Spanish, Danish and Swedish. All calibration data and parameters remain intact when the unit is powered down and in the event of power failure (RAM with battery backup).

Probe Mounting Accessories

Extension cable 7900 VLK
Cable is terminated with MS-type quick-disconnect plug and receptacle at each end. Specify required cable length (up to 200 meters) in whole meters.

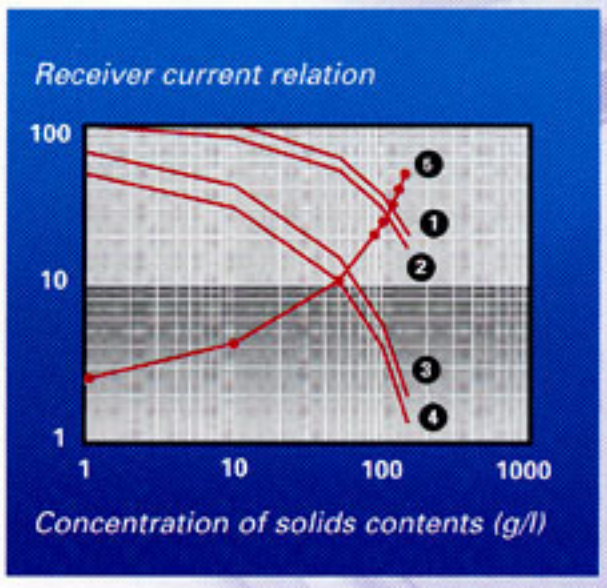
Support Bracket 7900 SHG
Use this bracket to mount a submersion style probe in an aeration basin or vessel.

Stainless Steel Extension Pipe 7900 SVR
Use this 3 foot (1m) long pipe to mount a submersion style probe. Other lengths are available.

Stainless Steel Ball Valve Ass'y 7900 KHE-DN 40

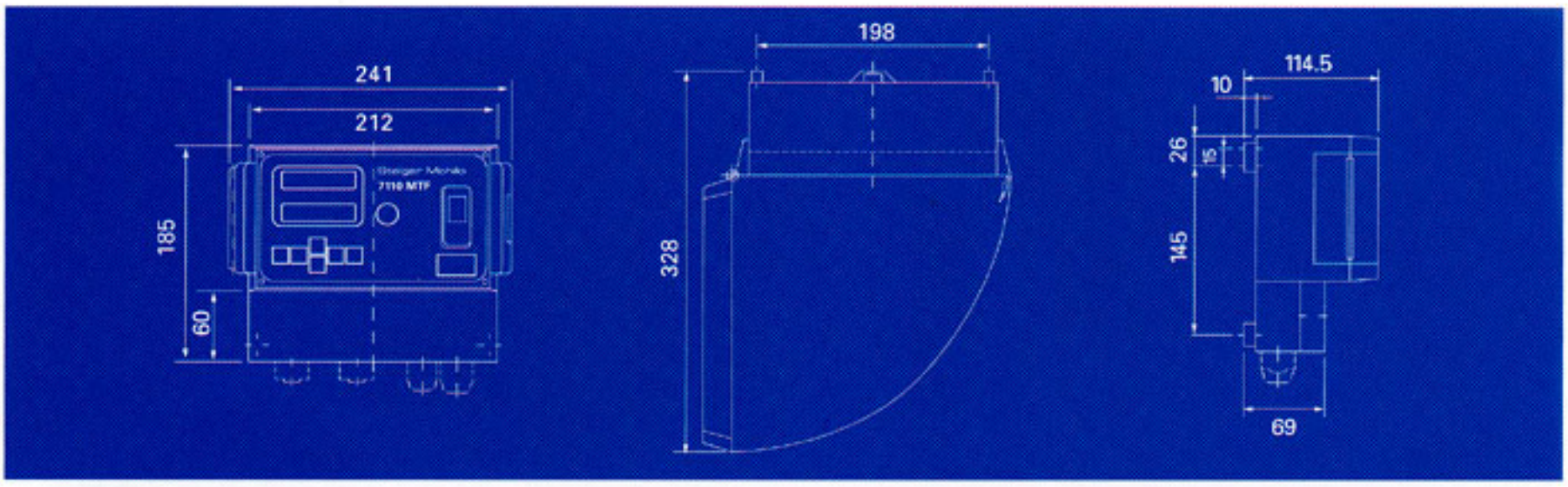
This assembly enables probe insertion and removal without interrupting the process flow. It has a flange (mates to the on style probe flange), Viton O-rings, and a safety lock.

The measurement is converted in the sensor into a frequency. This allows a signal transfer free of error and larger distances. Special cables are not required.



Typical curve:
Photodetector currents: 1, 2, 3, 4
Raw probe signal,
calculated from the four photodetector currents: 5

Technical data



Specification Model 7110 Analyzer

Measurement principle . . . . . .Four-beam pulsed-light, infrared light with wave length of 880-920 nm
Measuring range . . . . . .Dependent on connected sensor
Power supply . . . . . .230/115 V, 50/60 Hz, +6 ... -10% or 24 V/AC/DC
Power consumption . . . . . .20 VA max.
Accuracy . . . . . >+1%
Repeatability 0.5%
Analog output . . . . . .isolated 0/4 - 20 mA
Max. load . . . . . .500 Ω max.
Relays: . . . . . .2 alarm contacts, 1 contact for sensor cleaning, 1 contact for diagnostics
Contacts . . . . . .230 VAC, 3 A

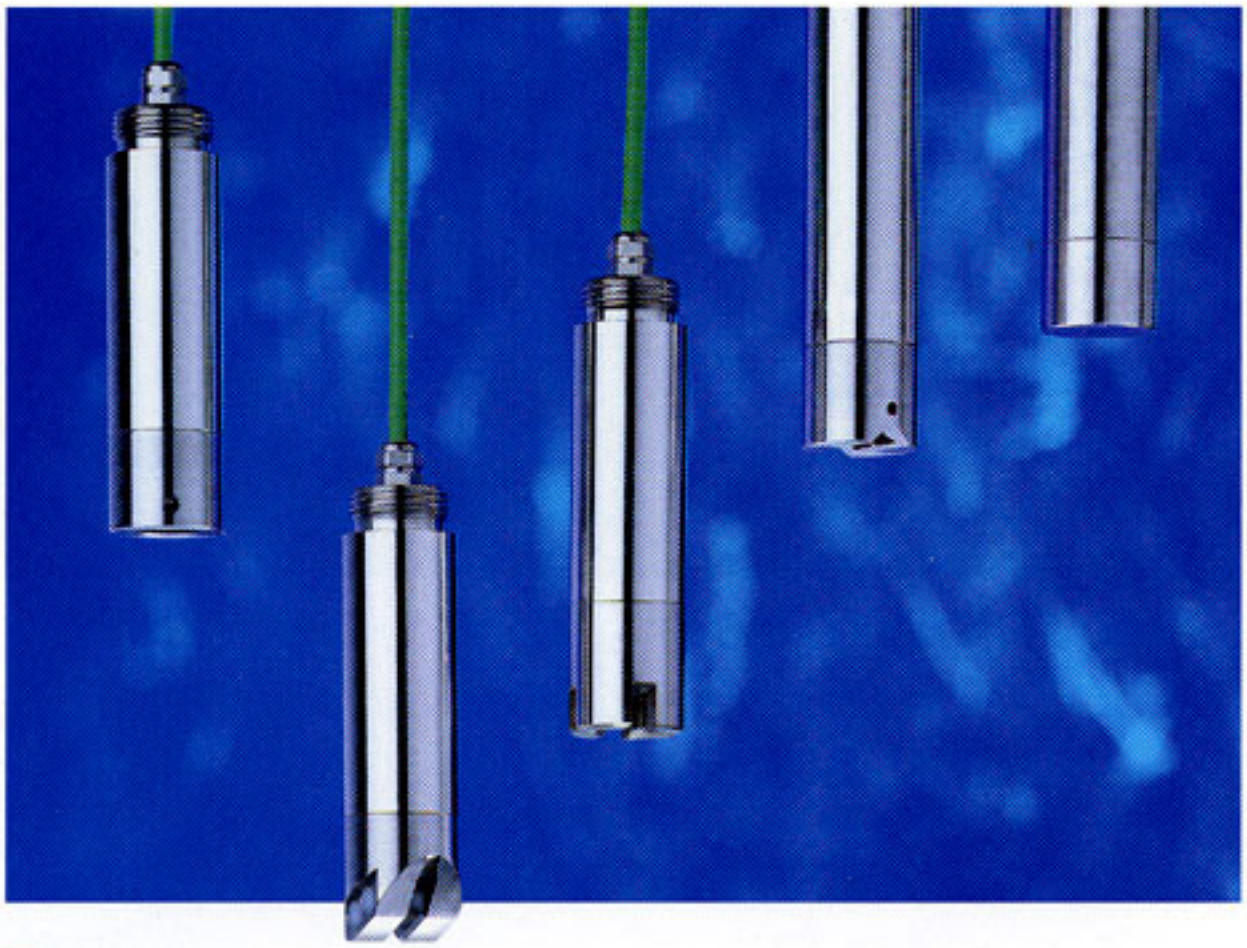
Ambient conditions . . . . . .-4 to +140° F (-20 to +60° C)
Programming . . . . . .Menu-driven, microprocessor-controlled
Displays (two) . . . . . .LED (14 mm) for meas. value, 2-line liquid-crystal display
. . . . . .(5 mm) for programming
Meas. value display . . . . . .selectable in NTU, g/l, mg/l, % and ppm
Keypad . . . . . .Dust- and watertight foil covered keypad with 6 keys for calibration and parameter entry
Max. signal transmission distance . . . . . .200 m between sensor and analyzer
Connectors . . . . . .IP 65 plug connectors for cable between probe and electronics unit

Outdoor enclosure . . . . . .NEMA X4 (IP 65)

Weight: . . . . . .1.6 kg

Analyzer is available in »duo-version« to connect <u>two</u> sensors

STAMOSENS® SENSORS



Both the insertion and immersion probes are available on request with a flushing nozzle for auto-clean.

Applications

- Activated sludge (mlss)
- Return sludge concentration
- Presettling sludge concentration
- Sludge liquor concentration
- Centrifuge effluent concentration

Special features

- Light-absorption measurement / 90° Light-scattering sensor / Backscattered light sensor
- Multibeam pulsed-light method
- Pulsed infrared light
- Soiling is compensated
- No moving parts
- Signal processing in the sensor
- Large distances are possible beween probe and electronics (up to 656 ft.)(200m)
- Surface-mount technology
- Robust design due to use of stainless steel, EPOXY and POM
- Low-maintenance

Variety of Probe Models and Styles

To suit your specific application requirements, the Model 7110 analyzer can be used with five probe models, each with an inherently different measuring range. Each probe model is offered in submersion and insertion styles. The submersion style has a threaded probe body at the cable end for attaching onto an extension pipe. The insertion style probe includes a flange with integral safety lock pins that mates to the flange of an optional stainless steel ball valve assembly.

Preproceeded Probe Signal

Electronics in all probe models preprocess the measurement signal to compensate for temperature, fouling, and ambient light. Also, the signal for each probe model is uniquely encoded, enabling automatic recognition by the analyzer for correcting measurement range scaling.

Probe Mounting Accessories

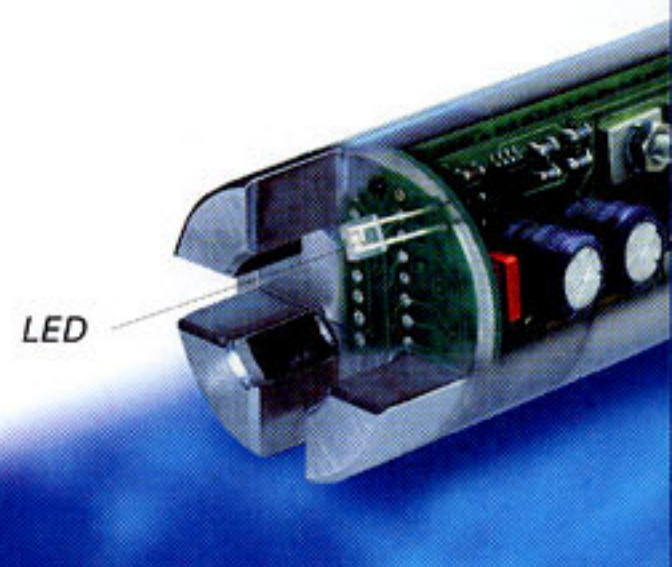
An optional support bracket and stainless steel extension pipe are offered, making submersion style probes simple to install. Insertion style probe can be easily installed, and then inserted and removed without interrupting the process flow, by using an optional stainless steel ball valve assembly with Viton O-rings and safety lanyard.

General Specifications

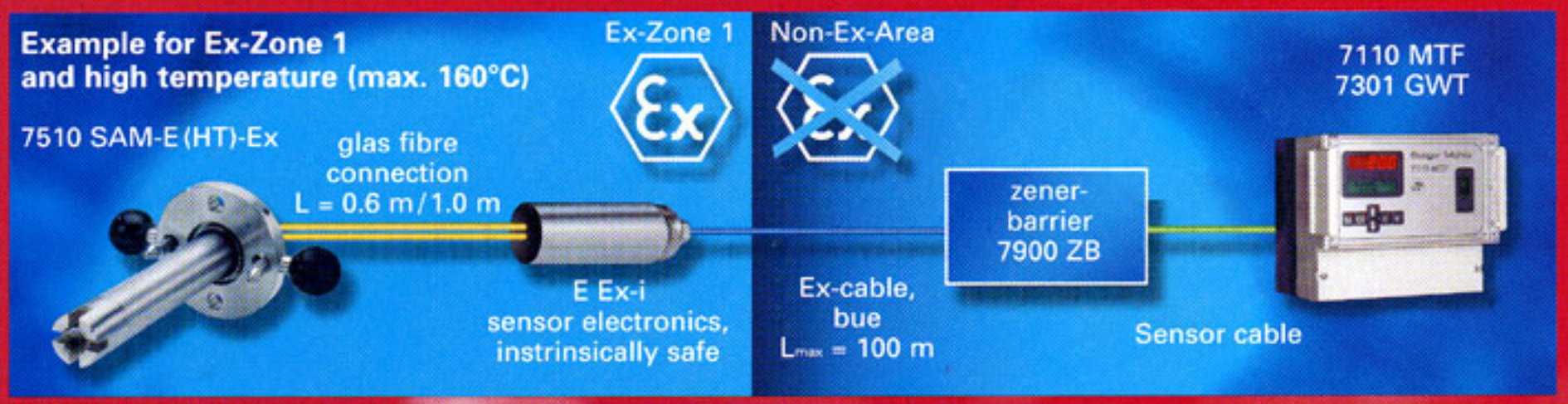
Light source:	Infrared-LEDs
Wavelength:	880-920 nm
Temperature:	32-122°F (0 to 50°C)
Operating pressure:	87 PSI (6 bar)
Cable length:	2.5 ft. (0.8 m) insertion probe
Cable length:	42.5 ft. (13 m) immersion probe
Measurement accuracy:	≤± 1%
Repeatability:	0.5%

Materials:

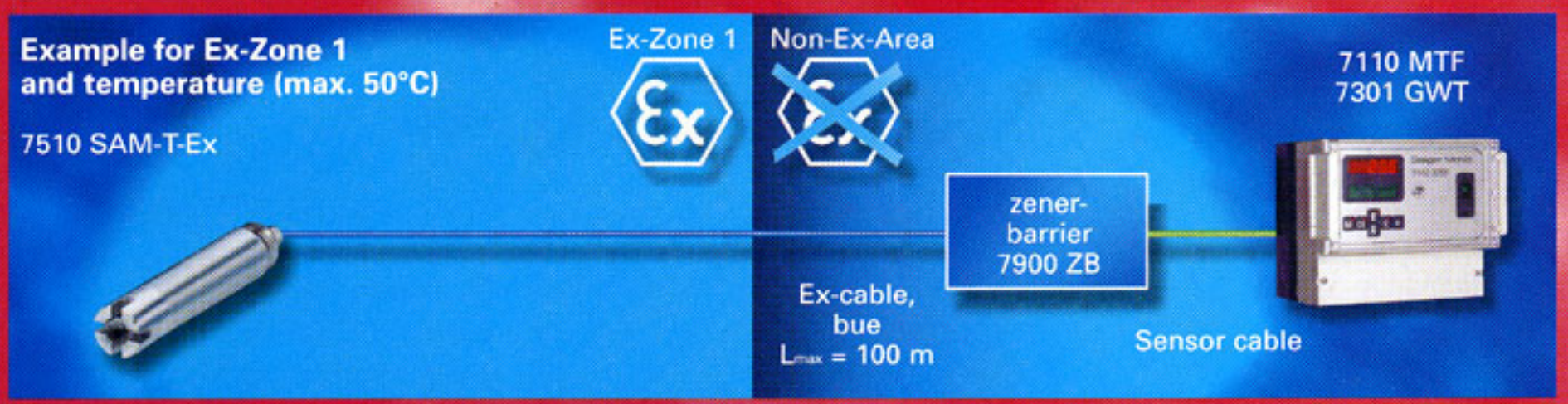
Probes made of stainless steel (1.4571) SS 316.
Probe windows made of POM and EPOXY.
Other materials available on request e.g. for industrial applications.



Options Sensors are available for ex-zone 1 and high temperature (max.160°C)

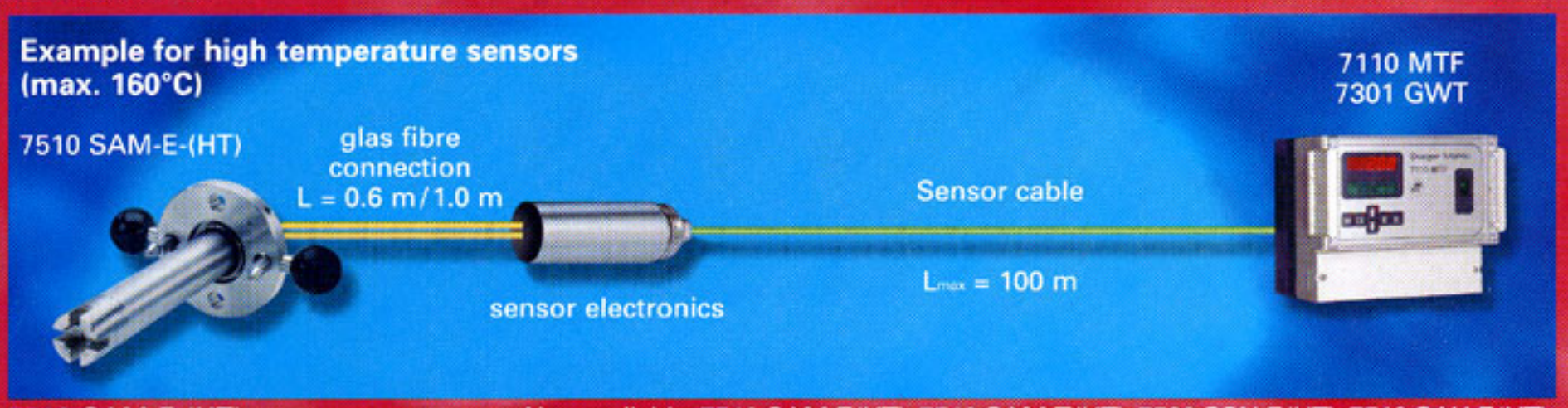


7510 SAM-E (HT)-Ex



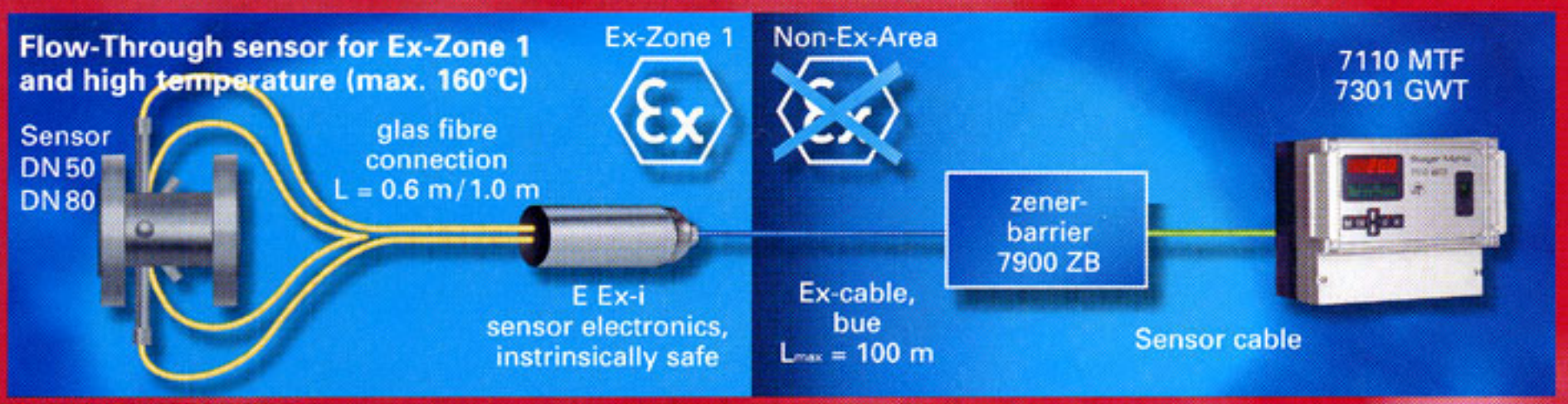
7510 SAM-T-Ex

For all Standard sensors



7510 SAM-E-(HT)

Also available: 7510 SAM-E(HT); 7510 SAM-T(HT); 7530 SSN-E(HT); 7510 SAH-E(HT)



7550 SAD / 7560 SSD

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