

Data Sheet



Description

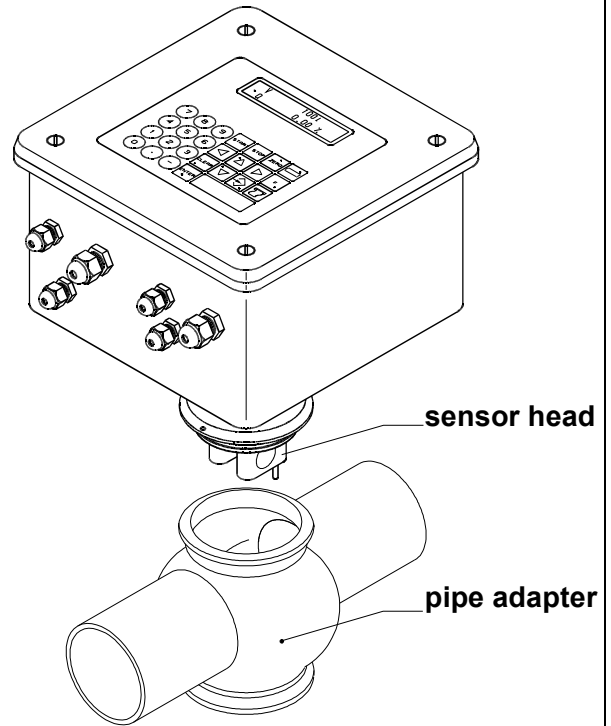
The ultrasonic meter type **DI-CHECK** is a process meter for the analysis of liquid products.

Simultaneously and with high precision the sound velocity and the temperature are measured directly within the pipeline. The required material concentration is determined from the measuring values via suitable calibration curves.

As an IN-LINE meter no additional units for blending or a bypass pump are required. The rugged sensor head is completely installed made of stainless steel and can be cleaned without any problems (CIP/SIP). Being in correspondence with the HACCP standards, the **DI-CHECK** is absolutely safe from the bacteriological side of view. By means of the display, measured values can be indicated, various calibration curves can be selected or calibrations can be done.

The measured value can be supplied as 4...20 mA analog signal. A serial data transmission is available as well.

The metering system is used for the product control for quality assurance, e.g. before the filler and after the filter. It is especially suitable for an effective phase separation of, e.g., product and water.



The standard applications are the measurement of hot or cold wort, original gravity in beer, alcohol in beer and wine, Brix content in soft drinks or other liquid foodstuffs, such as dairy products, for example.

Thus, blending control systems dependent on concentration can be arranged.

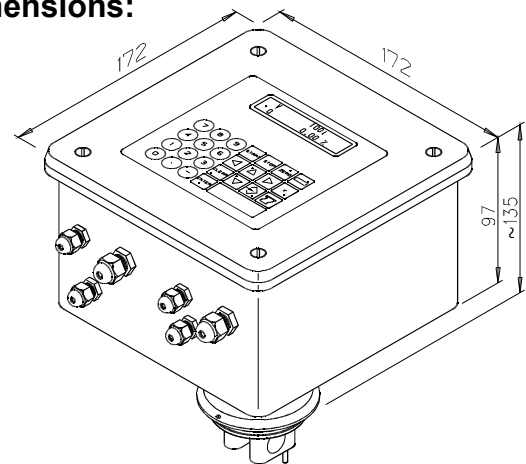
2 digital limit signals as well as 1 disturbance output are available for control purposes.

Special features:

- direct „IN-LINE“ measuring method without bypass lines, i.e. quality assurance without any bacteriological quality risk
- rugged measuring method; insensitive to contamination, no mobile parts built in, smooth internal surface, no dead spaces
- suitable for CIP/SIP without any problems
- universal tank or pipe installation possible as from nominal width DN 50 mm
- short response time, thus also suitable for stop & go operation
- user friendly due to incorporated display
- analog or serial transmission of measured value
- operation as single unit or in connection with several units (extendable)
- for various applications 16 calibration curves are available which can be selected externally
- wide range for temperature compensation possible

- option: one analog input for additional compensation purposes (e.g. CO₂, density)
- special additional linearization possibilities
- 3 control signals for limit value control

Dimensions:



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Ultrasonic Meter Type
DI-CHECK

D 23.13 E

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Technical Data

a) Device Technology

Transmitter			
Installation	by means of IN-LINE housing as from DN 50 (Varivent) (option) Clamp adapter for welding, e.g. into a tank (option)		
Materials	Pipe adapter: stainless steel no. 1.4404 (AISI 316L)		
	Sensor head: stainless steel no. 1.4571 (AISI 316 Ti)		
Admissible pressure	10 bar max.		
Product temperature/CIP	120°C max.		
Converter			
Housing	aluminium cast	Protection type	IP 67
Supply voltage	a) 115/230 V AC 0,10 A / 0,05 A b) 16...34 V DC 0,6...0,3 A		
Fuse protection	AC supply T315 mA DC supply M2.5 A		
Ambient temperature	-15°C ... +55°C		
Analog output	active, 500 Ohm max. load		
	0/4...20 mA	for the concentration of the main component	
	0/4...20 mA (Option)	for the temperature or 2 nd component	
Digital output	passive, optocoupler (10...30 V DC / max. 80 mA)		
	2 x limit value control (3 rd limit value control (option))		
	1 x error message		
Digital input	passive, optocoupler (activation above 10...30 V DC)		
	1 x measurement interruption (e.g. at Stop&Go)		
	1 x cleaning	(option)	
	4 x product sort selection (option)		
Analog input (option)	0/4...20 mA, 120 Ohm load		
	e.g. for compensation of the CO ₂ contents		
Serial interface	Type: RS485:	GEA Diessel-CS3-Bus-interface	
	Type: TTY loop:	Protocol: (acc. to agreement) (option)	

b) Measuring Technology

Measuring parameters		Meas. accuracies	Total meas. range	
Sound velocity:		± 0,1 m/s	800 m/s ... 3000 m/s	
Temperature:		± 0,03 °C	-10 ... +120°C	
Typical Applications	Measuring accuracies *)	Reproducibility	typical meas. range	typ. temp. range
Original gravity in beer	± 0,05 °Plato	± 0,02 °Plato	0 - 20 °Plato	-5 ... 15 °C
Alcohol in beer	± 0,06 % vol.	± 0,03 % vol.	0 - 10 % vol.	-5 ... 15 °C
Alcohol in water	± 0,1 % vol.	± 0,05 % vol.	0 - 20 % vol. or 50 - 100 % vol.	15 ... 30 °C
Sugar in soft drinks	± 0,1 °Brix	± 0,05 °Brix	0 - 20 °Brix	10 ... 30 °C
Syrup	± 0,1 °Brix	± 0,05 °Brix	45 - 70 °Brix	10 ... 30 °C
Original gravity in wort	± 0,15 °Plato	± 0,05 °Plato	0 - 20 °Plato	65 ... 95 °C 80 ... 100 °C
Other products		on demand		
Temperature range		Standard: -5 ... 25°C or 10 ... 30°C (Special calibration: 65 ... 95°C or 80 ... 105°C)		
Response time		1 sec. (in the running process)		

*) under observance of the marginal conditions

GEA Diessel reserves itself the right to make changes serving the technical progress without previous announcement.