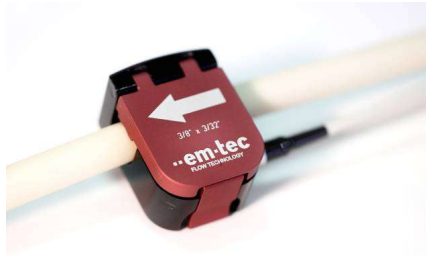


## BioProTT™ Clamp-On Transducer



- Non-invasive Clamp-On Transducers for flexible tubing
- Easy to install - no need to splice lines or stop process
- No pressure drop in system
- Does not induce additional shear stress
- Economical - reusable transducers last for years

### Technical Specifications

Size (HxWxL)	25 x 33 x 45 mm (tube inner diameter / ID < 1/2") 27 x 38 x 51 mm (tube inner diameter / ID = 1/2")
Total weight (incl. cable/plug)	137 g (tube ID < 1/2"), 153g (tube ID = 1/2")
Weight sensor head	52 g (tube ID < 1/2"), 72g (tube ID = 1/2")
Housing / lid material	Epoxy resin, aluminium, stainless steel
Cable length	2.9 m
IP-Code	IP65
Fluid types	Water, Buffer Solutions, Cell Culture Media, Fermentation Media, Non-Aerated Liquids
Tubing types	e.g. Silicon, PVC and Polyurethanes, including Tygon®, C-flex®, Pharmed®, others on request
Medium operating temperature	4 to 50 °C (40 to 122 °F)
Calibration tables	Up to 7 calibration tables can be stored in one sensor
Cleaning and disinfection	Disinfect easily using alcohol based surface cleaners
Compatible flow meters	BioProTT™ FlowTrack, FlowTrack plus, FlowTrack DINrail

### Transducer Sizes\* and Flow Measurement Range

Type	Maximum Flow Range**	Tube size in inch		Tube size in mm	
		ID x WT ["]	OD ["]	ID x WT [mm]	OD [mm]
BCT 1/8 x 1/16" A	up to ± 4	1/8 x 1/16	1/4	3.18 x 1.59	6.35
BCT 11/64 x 3/64" A	up to ± 6	11/64 x 3/64	17/64	4.30 x 1.25	6.80
BCT 3/16 x 1/16" A	up to ± 6	3/16 x 1/16	5/16	4.76 x 1.59	7.94
BCT 1/4 x 1/16" A	up to ± 8	1/4 x 1/16	3/8	6.35 x 1.59	9.53
BCT 1/4 x 3/32" A	up to ± 8	1/4 x 3/32	7/16	6.35 x 2.38	11.11
BCT 3/8 x 1/16" A	up to ± 10	3/8 x 1/16	1/2	9.53 x 1.59	12.70
BCT 3/8 x 3/32" A	up to ± 10	3/8 x 3/32	9/16	9.53 x 2.38	14.29
BCT 1/2 x 3/32" A	up to ± 20	1/2 x 3/32	11/16	12.70 x 2.38	17.46
BCT 1/2 x 1/8" A	up to ± 20	1/2 x 1/8	3/4	12.70 x 3.18	19.05

ID = inner diameter, OD = outer diameter, WT = wall thickness, BCT = BioProTT™ Clamp-On Transducer  
\*custom sizes available \*\* depending on medium and tube size

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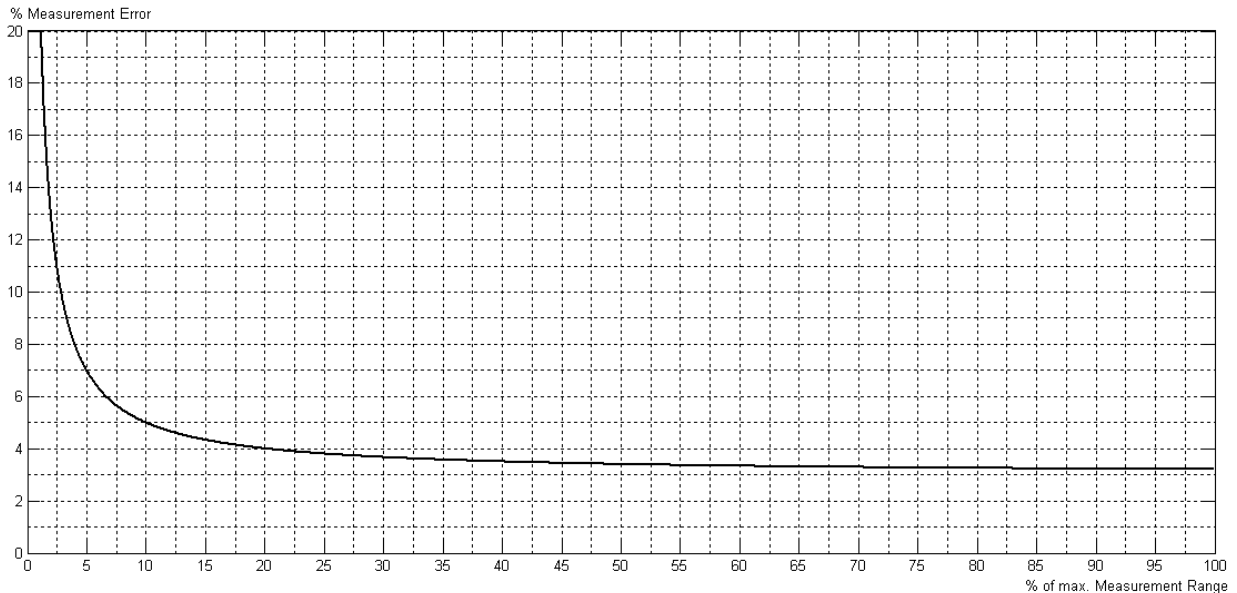
### Accuracy in combination with BioProTT™ flow meters

Accuracy  $\pm 3\%$  of reading  $\pm$  max. 20 ml/min

Reference conditions for above accuracy statement:

Liquid temperature	Calibration temperature $\pm 5K$
Ambient temperature	20 °C $\pm 5K$
Straight inlet section	10x ID of tubing, fully developed flow profile
Tubing	Raumedic-ECC-Blood Line PVC with acoustic couplant applied

Note: as the measurement allows a maximal flexibility with respect to positioning the sensor the given accuracy is a standard under the reference conditions.



Maximum Measurement Error versus Flow Rate (in % of max. Measurement Range of Sensor)

### Calibration

The BioProTT™ Clamp-On Transducer is factory calibrated to customer specific tubing, medium, and operating temperature. Certain setups allow higher levels of accuracy. An on site calibration adjustment is possible with a user adaptable calibration factor.

Factory calibration certificates and re-calibration services are available on request.

### Ambient Conditions

Air Pressure	70 to 106 kPa
Operating temperature range	10 to 40 °C (50 to 104 °F)
Storage temperature range	-20 to 45 °C (- 4 to 113 °F)
Transport temperature range	-20 to 55 °C (- 4 to 131 °F)
Humidity storage, transport and operation	10 to 96 % (non-condensing)