



- Transit-time ultrasonic liquid flow measurement
- Non-invasive Clamp-On Transducers for flexible tubing
- Easy to install – no need to splice lines or stop process
- Does not induce additional shear stress
- Economical – reusable transducers last for years.

Technical Specification

Features	up to OD 5/8"	up to OD 3/4"	up to OD 1-1/8"	up to OD 1-5/8"
Size (H x W x D)	25 x 33 x 45 mm	27 x 38 x 51 mm	35 x 43 x 69 mm	46 x 56 x 84 mm
Weight transducer head	52 g	72 g	140 – 160 g	295 – 315 g
Total weight (incl. cable / plug)	137 g	153 g	225 – 245 g	380 – 400 g
Cable length	2.9 m	2.9 m	2.9 m	2.9 m
IP-Code	IP 67	IP 67	IP 67	IP 67
Housing / lid material	Epoxy resin, aluminum, stainless steel		Polymeric compound, aluminum, stainless steel	
Cleaning and disinfection	Disinfect easily using alcohol based surface cleaners			
Compatible FlowMeters	All BioProTT™ FlowTrack or FlowMCP			

Accuracy and Resolution (in Combination with BioProTT™ FlowMeters)

Outer Tubing Diameter (OD)	Accuracy	Resolution
up to OD 3/4"	± 3% of reading ± 20 ml/min	2 ml/min
up to OD 7/8"	± 3% of reading ± 80 ml/min	2 ml/min
up to OD 1-1/8"	± 3% of reading ± 200 ml/min	3 ml/min
up to OD 1-5/8"	± 3% of reading ± 400 ml/min	4 ml/min

Calibration

Tubing types	Flexible tubing, e.g. (platinum cured) silicone, thermoplastic elastomers (TPE), PVC, polyurethane
Medium types	Liquids including buffer solutions, cell culture media, fermentation media, hydrocarbons, nutrition media, saline solutions, water, blood, blood substitutes
Medium operating temperature	4 to 50 °C (40 to 122 °F)
Calibration Tables	Up to seven (7) calibration tables can be programmed in each transducer's electronic storage. On-site calibration adjustment with user adaptable calibration factor to enhance accuracy

Note:

The specified accuracies were determined under following conditions: Medium: Water, Medium temperature: Calibration temperature ± 5 °C (± 9 °F), Straight inlet section: 10 x inner diameter (ID) of tubing, fully developed flow profile, Tubing: Raumedic-ECC-Blood Line™ PVC (3/8" x 3/32") with acoustic couplant applied. As the measurement allows a maximum flexibility with respect to positioning the sensor, the given accuracy is a standard under the reference conditions.

BioProTT™ Clamp-On Transducer

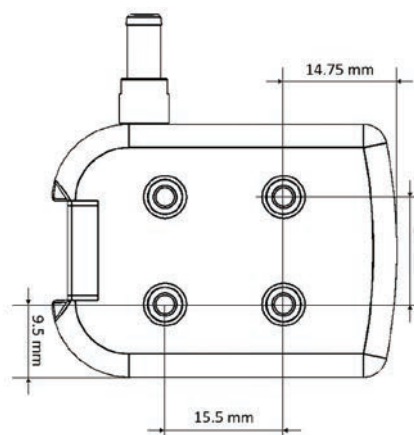
Transducer Sizes and Flow Measurement Range

Type	Maximum Flow Range*	Tube Size					
		ID [in]	WT [in]	OD [in]	ID [mm]	WT [mm]	OD [mm]
BioProTT™ Clamp-On Transducer	[l/min]						
BCT 1/8 x 1/16"	up to ± 4	1/8	1/16	1/4	3.18	1.59	6.35
BCT 11/64 x 3/64"	up to ± 6	11/64	3/64	17/64	4.30	1.25	6.80
BCT 3/16 x 1/16"	up to ± 6	3/16	1/16	5/16	4.76	1.59	7.94
BCT 1/4 x 1/16"	up to ± 8	1/4	1/16	3/8	6.35	1.59	9.53
BCT 1/4 x 3/32"	up to ± 8	1/4	3/32	7/16	6.35	2.38	11.11
BCT 3/8 x 1/16"	up to ± 10	3/8	1/16	1/2	9.53	1.59	12.70
BCT 3/8 x 3/32"	up to ± 10	3/8	3/32	9/16	9.53	2.38	14.29
BCT 3/8 x 1/8"	up to ± 10	3/8	1/8	5/8	9.53	3.18	15.88
BCT 1/2 x 3/32"	up to ± 20	1/2	3/32	11/16	12.70	2.38	17.46
BCT 1/2 x 1/8"	up to ± 20	1/2	1/8	3/4	12.70	3.18	19.05
BCT 1/2 x 3/16"	up to ± 20	1/2	3/16	7/8	12.70	4.76	22.23
BCT 3/4 x 1/8"	up to ± 50	3/4	1/8	1	19.05	3.18	25.40
BCT 3/4 x 3/16"	up to ± 50	3/4	3/16	1 - 1/8	19.05	4.76	28.56
BCT 1 x 1/8"	up to ± 100	1	1/8	1 - 1/4	25.40	3.18	31.75
BCT 1 x 3/16"	up to ± 100	1	3/16	1 - 3/8	25.40	4.76	34.93
BCT 1-1/4 x 3/16"	up to ± 100	1 1/4	3/16	1 - 5/8	31.75	4.76	41.28

Note: Custom sizes on request. * Qmax depends on medium and tube size and can be customized for every calibration table.

Ambient Conditions

Air pressure	70 to 106 kPa
Operating altitude	up to 3000 m (9842 feet)
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)



Optional Mounting Feature

Thread size	M3
Recommended thread length of the screw in the base body	4 mm
Tightening torque	max. 0.7 Nm
Maximum load	2 kg

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