

Dimensions

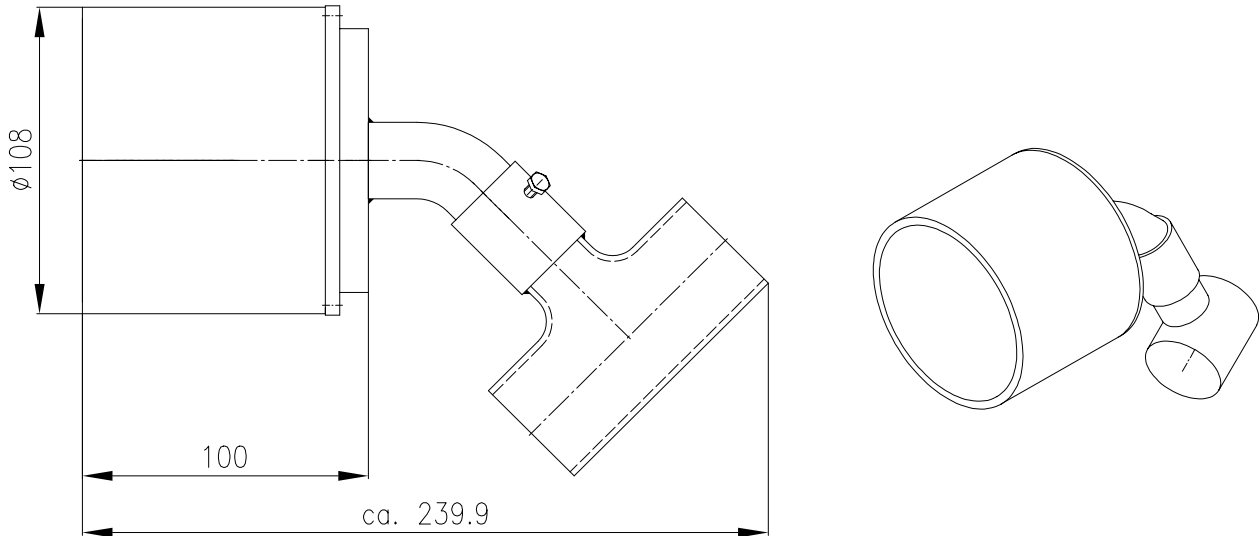


Figure 1: Channel Transducer

Dimensions in mm

Brief Description

The RISONIC 2000 channel transducers MFATAK02 serve alternately as transmitter or as receiver. The piezo-ceramic oscillator is excited with a voltage surge of 200kHz. The ultrasonic impulse propagates through the medium to be measured. On the opposite side of the channel, the impulse is received, converted into an electrical signal and further processed in the MFAPxxx processing unit.

The 200kHz transducers are normally connected to the processing unit via coaxial cables. Alternatively, the triaxial cable used with the 1MHz transducers can be used. Maximum cable lengths of 1000m are permissible. Protection tubes are foreseen in order to prevent damage to the cables.

Ordering Information for Channel Transducers

Channel transducers as in Fig. 1 are delivered in sets of 2 and can be used for one measuring path. For multi-path measurements, the respective number of transducer pairs should be ordered.

Path No.	RISONIC 2000 Channel Transducer (Figure 1)			
	Type	Part No.	Transducers	Weight [kg] [°]
1	MFATK02	P.MFATK02	2	Approx. 6.0

Table 1: Ordering Information

[°] Weight of transducers packed in a box

Applications for Single and Multi-path Measurements

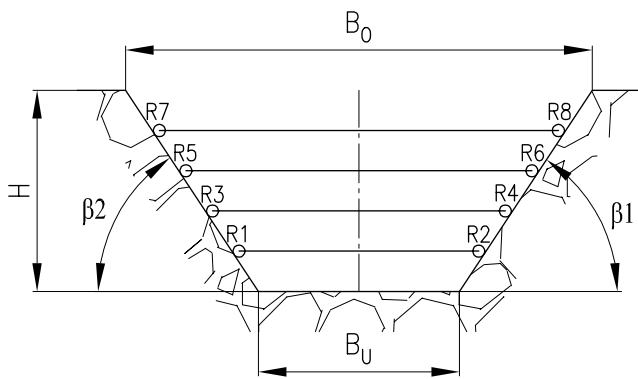


Figure 2: Example of a 1-Plane Measurement 1E4P

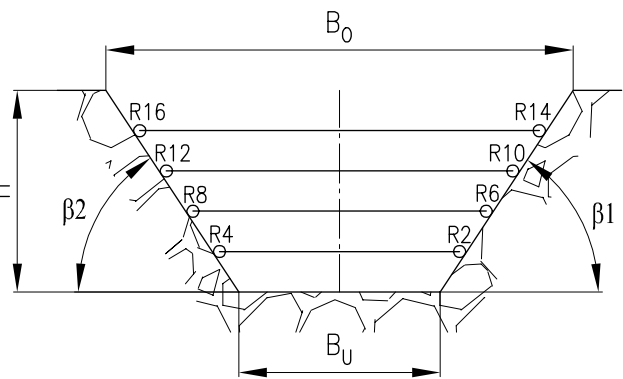


Figure 3: Example of a 2-Plane Measurement 2E8P

Technical Data

- Protection class transducer housing: IP68 to 10bar
- Oscillator frequency: 200 kHz
- Minimum channel width: 7 m
- Maximum channel width: 70 m
- Transducer material: Corrosion resistant steel 1.4301, epoxy
- Maximum permitted pressure: 10 bar
- Operating temperature: -30°C to +70°C
- Humidity: 100% relative humidity

Notes on the Correct Use of Channel Transducers

- The RISONIC 2000 channel transducers MFATK02 should be installed in accordance with the specifications from Rittmeyer. The position of the measurement is dependent on current and contamination. Depending on the application and accuracy, the customer can install the transducers himself or installation has to be carried out by Rittmeyer or their representative. The guidelines in the Assembly and Commissioning instructions are to be observed for measuring, installation and commissioning of the RISONIC 2000 channel transducers.
- For all channel dimensions, an alignment accuracy of greater than $\pm 2^\circ$ is necessary for the transducers. Determining the transducer positions is preferably to be carried out with a theodolite system.
- The liquid (typically clean fresh water) must be acoustically transmissive. It must have no significant gas portion and no strong contamination with particles or sediment.
- The surface of the embankments must be suitable for fixing the transducers and if necessary adapted.
- Suitable measures must be taken in order to protect the transducers from heavy objects carried with the current.

Technical Data Coaxial Cable (RG 59 B/U)

- Impedance: 75 Ω
- Temperature: -40°C to $+85^\circ\text{C}$ (for static laying)
- Weight: 5.3 kg / 100 m
- Internal conductor: Steel wire, copper-plated, \varnothing nom. 0.58 mm (0.26 mm²)
- Sheath: PUR, orange RAL 2003, Outer \varnothing nom. 6.15 mm
- Minimum bending radius: Single bend 25 mm
..... Multiple bend 50 mm
..... For flexible applications 120 mm
- Tensile force: During installation max. 9 kg

Technical Data Triaxial Cable

- Impedance: 75 $\pm 3 \Omega$
- Temperature: -40°C to $+70^\circ\text{C}$ (for static laying)
- Weight: 7.7 kg / 100 m
- Internal conductor: Bare copper wire, \varnothing 0.47 mm
- Sheath: PUR, orange RAL 2003, Outer \varnothing 7.35 mm
- Minimum bending radius: Single bend 40 mm
..... Multiple bend 75 mm
..... For flexible applications 150 mm
- Tensile force: During installation max. 20 kg

Permissible Contamination in the Water

Type of Contamination	
Concentration suspended particles	For max. measuring distance $\leq 0.2\text{g/l}$
Particle size	$\leq 0.5 \text{ mm}$


Table 2: Degree of Contamination

Accessories

Designation	Type	Part No.
Coaxial cable (max. length 1000 m)	MFATZKK	P.MFATZKK
Triaxial cable (max. length 1000 m)	MFUZKT	P.MFUZKT
Replacement transducer complete	---	0067150.001
Laser alignment channel measurement	MFUZKL	0065830.001
Support plate for dry mounting	MFATZKSP	0067168.001
Guide plate	MFATZKLB	0067170.001
Cover plate for concealed mounting	MFATZKAB	0067172.001
Assembly rail for wet mounting	MFATZKMS	On request

Table 3: Accessories

Rittmeyer AG Grienbachstr. 39 Postfach 2558 CH-6302 Zug	Rittmeyer GmbH Postfach 1908 DE-70709 Fellbach Raiffeisenplatz 6 DE-70736 Fellbach	Rittmeyer Ges.m.b.H Walküregasse 11/21 Postfach 73 AT-1152 Wien	Rittmeyer Italiana s.r.l. Via Valbona 43 IT-24010 Ponteranica (BG)	Rittmeyer S.A. Calle Julián Camarillo 26-3 ^o Apartado 35145 ES-28037 Madrid
--	--	--	--	---

	Data Sheet Hardware	DG D Kap Stamm-Bez. Var Ind F Sp
		22.210.0067150.001.01.4.4