TD0190 Hydrophone / Projector

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The Colmar TD0190 is an high frequency spherical hydrophone / projector, suitable for a wide range of applications. As a receiver the frequency usable limits are 5Hz—170kHz., a pre-amplifier is recommended in order to enhance the S/N ratio and make the cable attenuation negligible. As a transmitter TD0190 offers omnidirectional pattern over the transmission resonant frequency bandwidth.

- Omnidirectional, high frequency hydrophone / projector. Usable over a wide frequency bandwidht, up to 170kHz
- Suitable for tank and free field calibrations
- Sensitivity unaffected by hydrostatic pressure down to the reccomended depth
- Custom cable lenght and connector type

Outside diameter :	19.0 mm (over insulation)
Molding material :	Polyurethane,
Cable Type:	50 Ohm Coax with internal kevlar reinforce ment and external poliurethane jacket
Resonance frequency at constant voltage :	149.5 kHz (nominal)
Transmitting sensitivity at constant voltage :	see Figure 3
Transmitting frequency range at constant current :	see Figure 4
Receiving sensitivity with 8m cable :	-208 dB //volt/µPa (@ resonance)
Horizontal beam pattern :	Omni ± 1 dB @50kHz, Omni ± 2 dB @149.5 kHz, (See figure 5) ,Omni ± 3 dB @170kHz
Source Level at resonance frequency :	143 dB// µPa/volt @1 m
Crushing depth :	5000 meters
Maximum operating depth :	3400 meters (need special cable)
Capacitance (at 1 kHz) :	3.94 nF (with cable 8m long)
Conductance at resonance :	4.35 mS
Susceptance at resonance :	2.97 mS (with cable 8m long)
Working temperature:	-5°C / + 80°C

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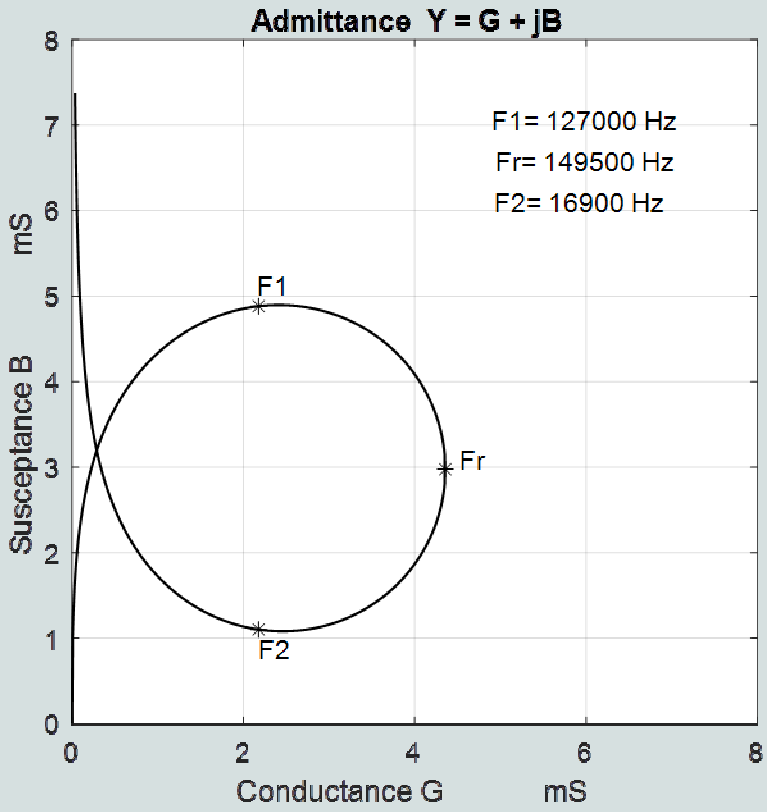

Fig. 1 - Admittance loop with motional resonance frequency and bandwidth limits

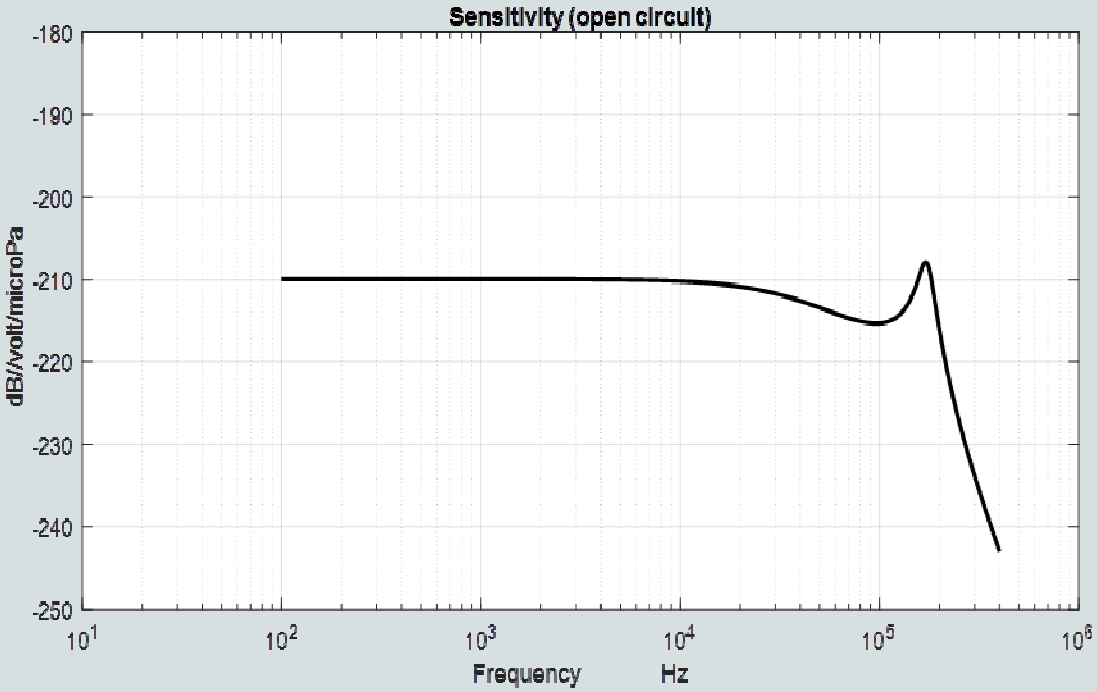

Fig. 2 – Receiving sensitivity at open circuit

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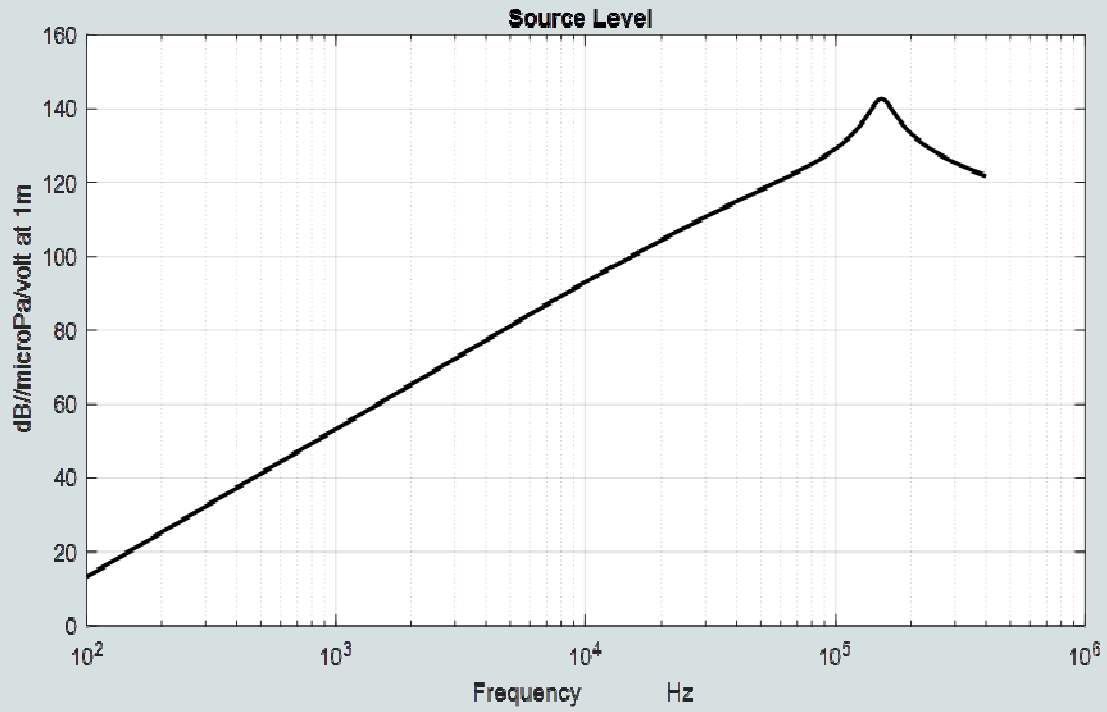

Fig. 3 – Transmitting sensitivity at constant voltage (with and without parallel tuning)

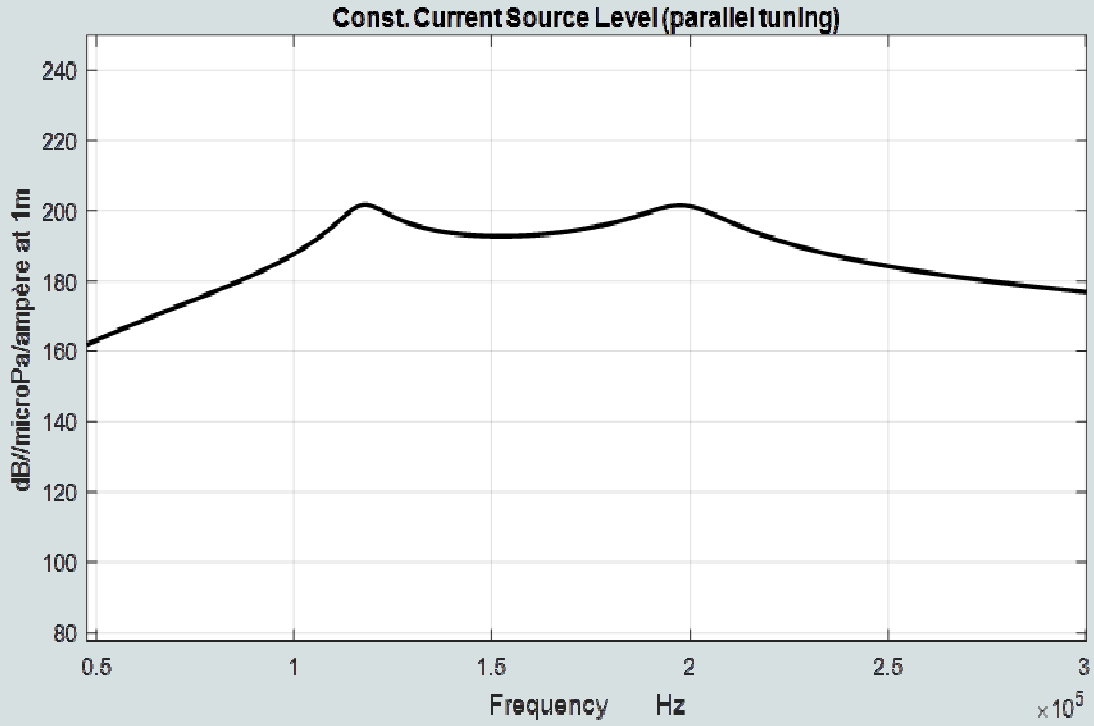

Fig. 4 – Transmitting sensitivity at constant current (with parallel tuning)

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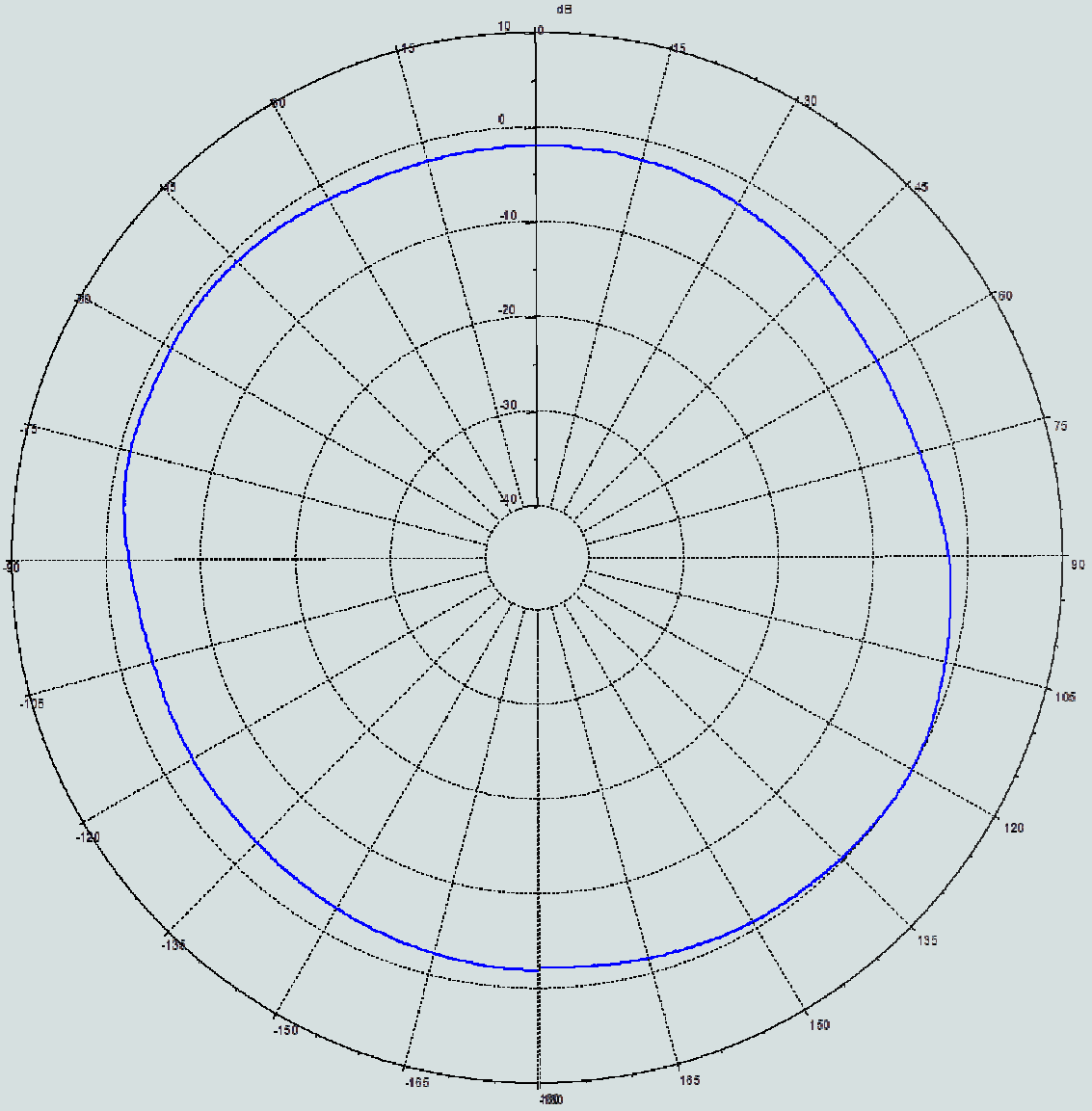

Fig. 5 – Directivity pattern on horizontal plane at resonant frequency (149.5 kHz)

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