

# TD0280 Hydrophone / Projector



The Colmar TD0280 is a mid-high frequency spherical hydrophone / projector, suitable for a wide range of applications. As a receiver the frequency usable limits are 5Hz—90kHz., a pre-amplifier is recommended in order to enhance the S/N ratio and make the cable attenuation negligible. As a transmitter TD0280 offers omnidirectional pattern over the transmission resonant frequency bandwidth.



- Omnidirectional, mid-high frequency hydrophone / projector. Usable over a wide frequency bandwidth, up to 90kHz
- Suitable for tank and free field calibrations
- Sensitivity unaffected by hydrostatic pressure down to the recommended depth
- Custom cable length and connector type

Outside diameter :	30.0 mm (over insulation)
Molding material :	Polyurethane,
Cable Type:	50 Ohm Coax with internal kevlar reinforcement and external polyurethane jacket
Resonance frequency at constant voltage :	64.3 kHz (nominal)
Transmitting sensitivity at constant voltage :	see Figure 3
Transmitting frequency range at constant current :	see Figure 4
Receiving sensitivity with 8m cable :	-196 dB //volt/ $\mu$ Pa (@ resonance)
Horizontal beam pattern :	Omni $\pm$ 1.5 dB @64kHz (see Figure 5)
Source Level at resonance frequency :	147 dB// $\mu$ Pa/volt @1 m
Crushing depth :	5300 meters
Maximum operating depth :	3600 meters (need special cable)
Capacitance (at 1 kHz) :	12,75 nF (with cable 8m long)
Conductance at resonance :	8.07 mS
Susceptance at resonance :	3.15 mS (with cable 8m long)
Working temperature:	-5°C / + 80°C

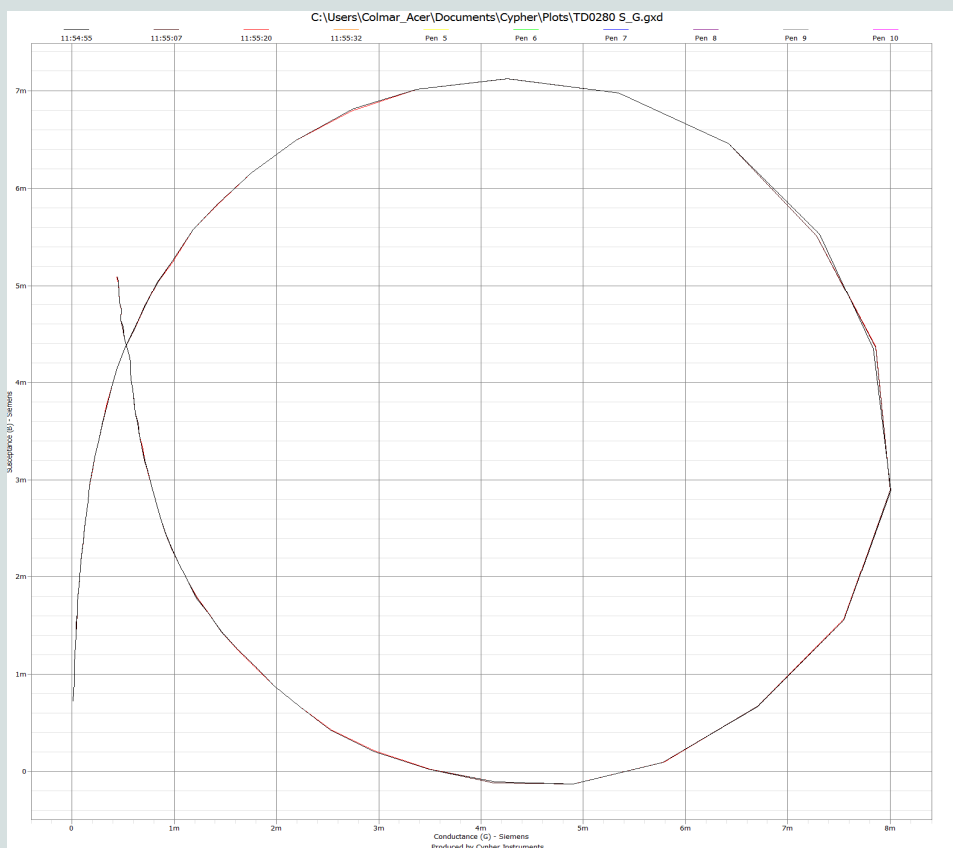


Fig. 1 - Admittance loop with motional resonance frequency

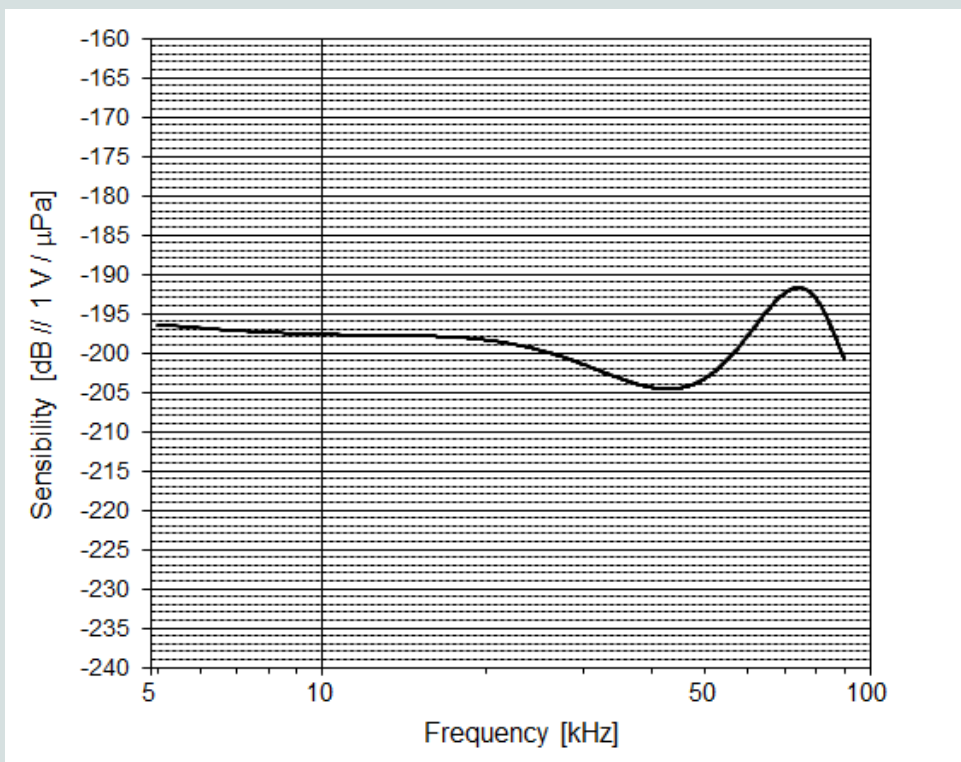


Fig. 2 – Receiving sensitivity at open circuit

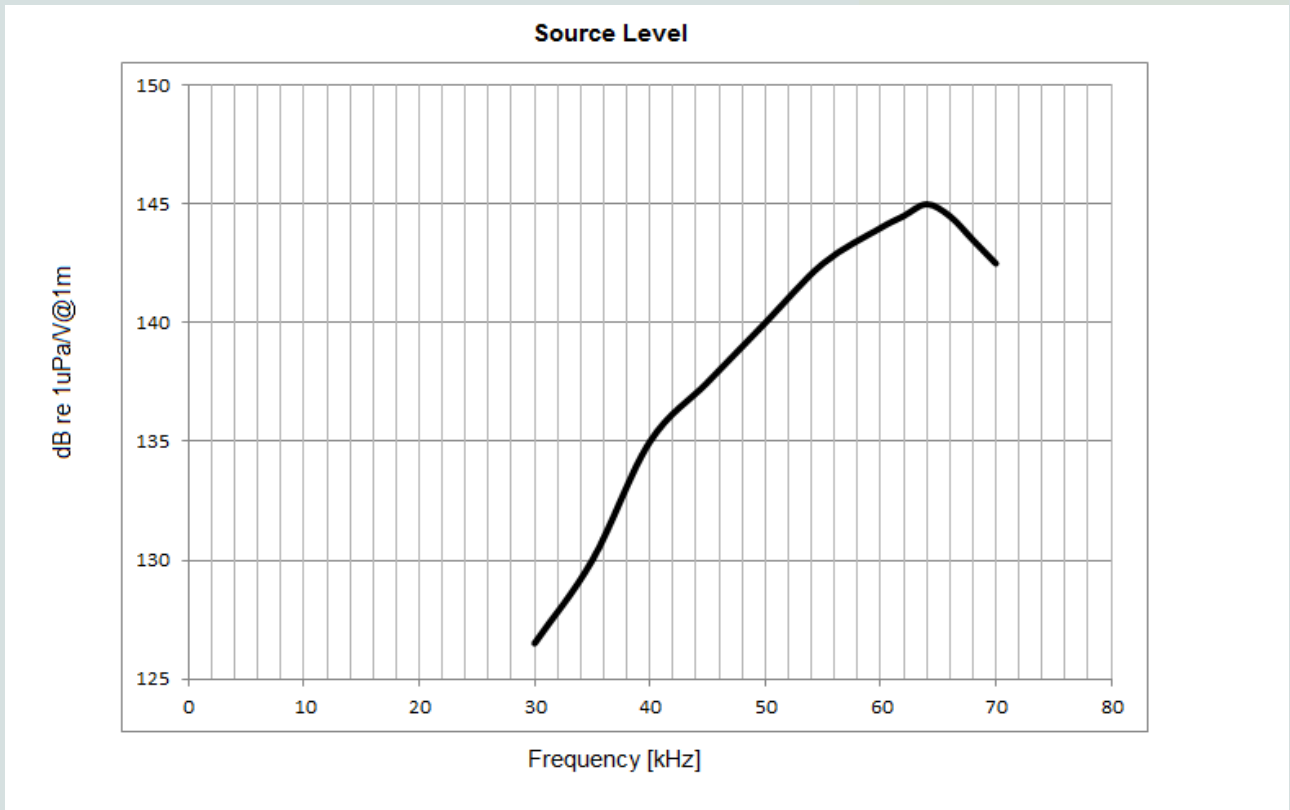


Fig. 3 – Transmitting sensitivity at constant voltage (with and without parallel tuning)

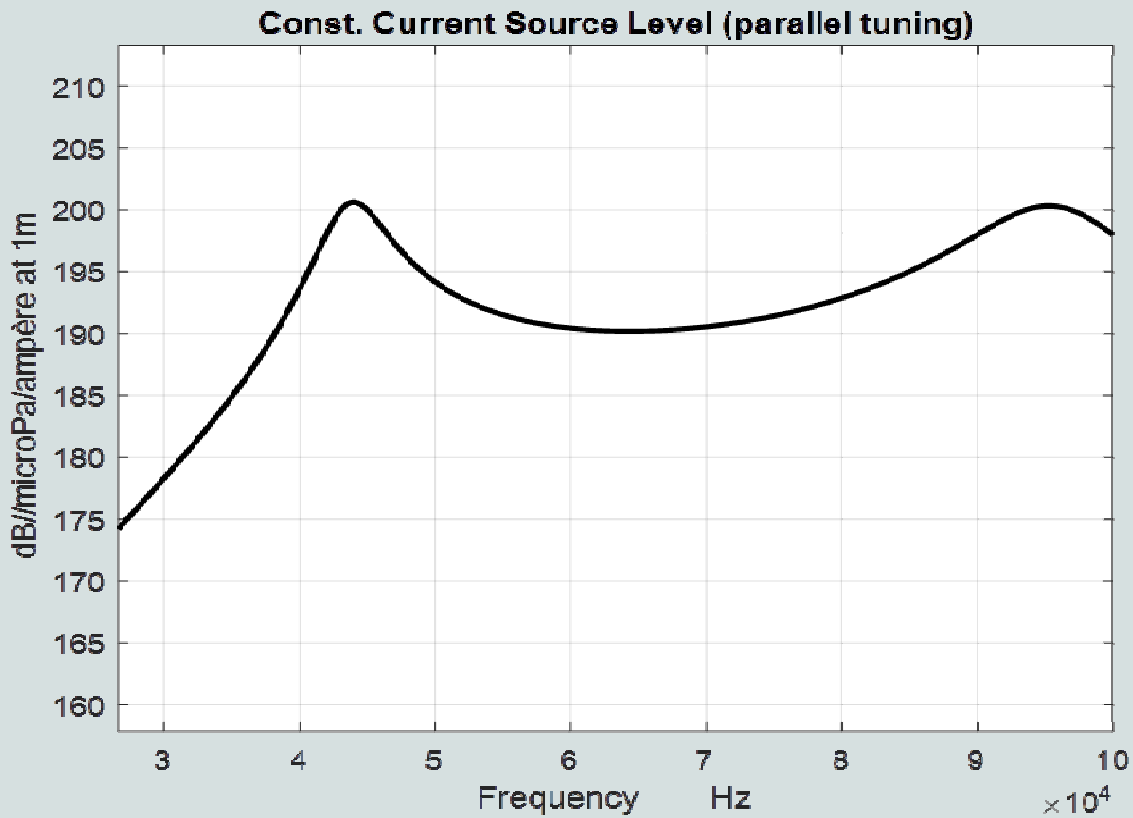


Fig. 4 – Transmitting sensitivity at constant current (with parallel tuning)

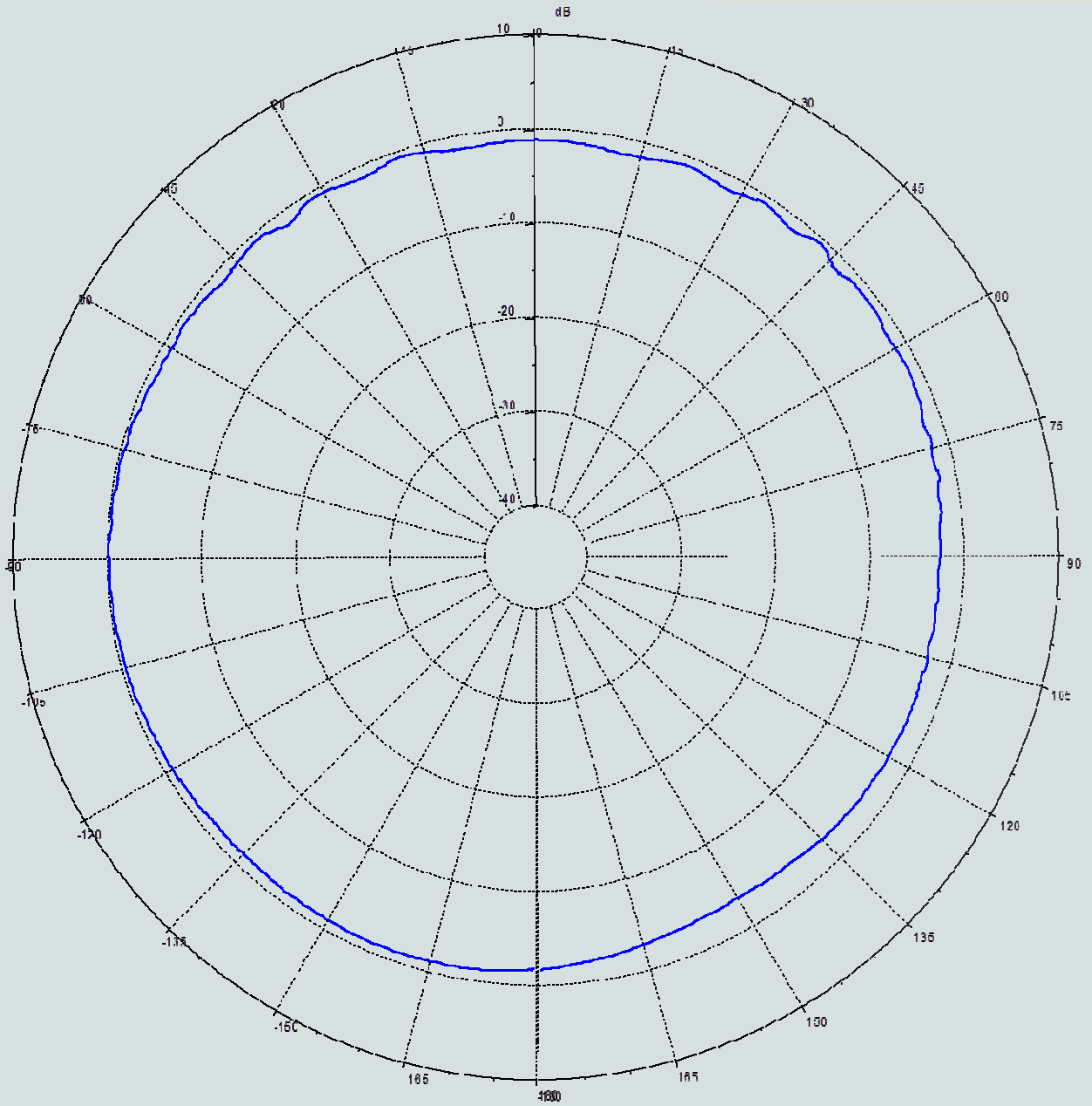


Fig. 5 – Directivity pattern on horizontal plane at resonant frequency (64kHz)