Acoustic specification of the DL Sensors

21.6.2022

DL850S – SKIPPER version

The DL850 sensor has three elements spaced at 120° at an angle 30 degrees from the vertical-

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| Resonant Frequency  and Impedance | Housing type | Band width,  % | Beam width  3db,  deg | Transmit/Receive Response,  dB// uPa/ Volt @ 1m | Impedance plot  near resonant  frequency  or  Impedance and  Conductance plot  for Doppler sensors | Beam pattern plot |
| 270 kHz  Z=190-210 Ohm; | SKIPPER DL-2 housing | 12-14 | 270kHz  8-9 deg; | 270kHz  TVR= 168-169  (SFU water tank; measured on 3 element sensor) | Impedance    Conductance | 270 kHz  (SFU water tank; measured on 3 element sensor) |

# DL2S

The DL2S sensor has a transducer pointing ahead and to starboard (0° and 90°). Tilted at 30 degrees from the vertical

Each element has the following specification

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| Resonant Frequency  and Impedance | Housing type | Band width,  % | Beam width  3db,  deg | Transmit/Receive Response,  dB// uPa/ Volt @ 1m | Impedance plot  near resonant  frequency  or  Impedance and  Conductance plot  for Doppler sensors | Beam pattern plot |
| 270 kHz  Z=160-210 Ohm;    900kHz  Z=75-90 Ohm | SKIPPER DL-2 | 12-14  12-14 | 270kHz  8-9 deg;  2.3 - 3.0 deg | 270kHz  TVR= 168-169  dB//µPa/V @1meter  (Skipper water tank; measured on 2 element sensor)  900kHz  TVR= 171-172  dB//µPa/V @1meter  (Skipper water tank; measured on 2 element sensor) | Impedance    Conductance    Impedance  C:\Users\Sabir\Desktop\z_900.jpg  Conductance  C:\Users\Sabir\Desktop\G_900.jpg | Ch1 – 270kHz C:\Users\Sabir\Desktop\270kHz_Black-White.jpg  Ch2 – 270kHz  C:\Users\Sabir\Desktop\270kHz_White-Orange.jpgSFU water tank; measured on 2 element sensor,  July 30, 2015 |

# DL1S

The DL1 sensor has 2 beams fwd and aft (0° and 180°) each tilted at 30 degrees from the vertical.

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| Resonant Frequency  and Impedance | Housing type | Band width,  % | Beam width  3db,  Deg | Transmit/Receive Response,  dB// uPa/ Volt @ 1m | Impedance plot  near resonant  frequency  or  Impedance and  Conductance plot  for Doppler sensors | Beam pattern plot |
| 710kH  Z=100 Ohm | SKIPPER DL-1 housing | 12-14 | 710kHz  7-8 deg; | 715 kHz  TVR= 171.2-171.4 dB//µPa/V @1meter  (SKIPPER water tank; measured on 2 element sensor) | Impedance    Conductance | NA |