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-

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Resonant Frequency  and Impedance | Housing type | Band width, % | Beam width3db,deg | Transmit/Receive Response, dB// uPa/ Volt @ 1m | Impedance plotnear resonant frequency orImpedance andConductance plotfor Doppler sensors | Beam pattern plot |
|  270 kHzZ=190-210 Ohm;  |  SKIPPER DL-2 housing | 12-14 | 270kHz 8-9 deg; |  270kHzTVR= 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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Resonant Frequency  and Impedance | Housing type | Band width, % | Beam width3db,deg | Transmit/Receive Response, dB// uPa/ Volt @ 1m | Impedance plotnear resonant frequency orImpedance andConductance plotfor Doppler sensors | Beam pattern plot |
|  270 kHzZ=160-210 Ohm;  900kHzZ=75-90 Ohm |  SKIPPER DL-2  | 12-1412-14 | 270kHz 8-9 deg;2.3 - 3.0 deg |  270kHzTVR= 168-169dB//µPa/V @1meter(Skipper water tank; measured on 2 element sensor) 900kHzTVR= 171-172dB//µPa/V @1meter(Skipper water tank; measured on 2 element sensor) |  Impedance Conductance  ImpedanceC:\Users\Sabir\Desktop\z_900.jpgConductanceC:\Users\Sabir\Desktop\G_900.jpg |  Ch1 – 270kHz C:\Users\Sabir\Desktop\270kHz_Black-White.jpgCh2 – 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.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Resonant Frequency  and Impedance | Housing type | Band width, % | Beam width3db,Deg | Transmit/Receive Response, dB// uPa/ Volt @ 1m | Impedance plotnear resonant frequency orImpedance andConductance plotfor Doppler sensors | Beam pattern plot |
|  710kHZ=100 Ohm   |  SKIPPER DL-1 housing | 12-14 | 710kHz 7-8 deg; |  715 kHzTVR= 171.2-171.4 dB//µPa/V @1meter(SKIPPER water tank; measured on 2 element sensor) |  Impedance  Conductance  |  NA |