Power transducer to get cavitation in water-type media at 25 – 30 kHz.

The name “cavitation” has been applied to the phenomenon of the appearance of holes in liquid (R. T. Beyer, Nonlinear Acoustics, published by ASA in 1997, copyrights of Navy, 1974). The reader can guess about possibility of several possible mechanisms of such phenomenon, and it is right. If you have any questions, comments, or ideas – please contact me at nick.solokhin@gmail.com

Low frequency cavitation (generated by inducing signal with frequency 25 – 30 kHz) forms short living cavities. Formation and collapse of such cavities generates wide band signals with very high intensity. Intensity of such noise-type signals is high enough to get surface erosion of metals in the cavitation area. Pressure amplitudes in this noise-type signal are higher than pressure amplitude of the inducing signal 25 – 30 kHz. Hence, radiating surface of our transducer demonstrates appearance and growing of such above noted erosion erosion.

Our transducers for cavitation look like our 100 kHz transducer on Fig. 4 in the section “ultrasonic transducers for acceleration of biological and chemical reactions”. But dimensions of the transducer for 25 – 30 kHz are larger. Actually, all such transducers were customized in according to requirements of our customers.

Electric impedance of the transducer is close to 50 Ohm due to inner matching circuit.

These transducers can be supplied with small generator and power amplifier.