

**HIFU Transducers in closed metal housing (HIFU = High Intensity Focused Ultrasound).**

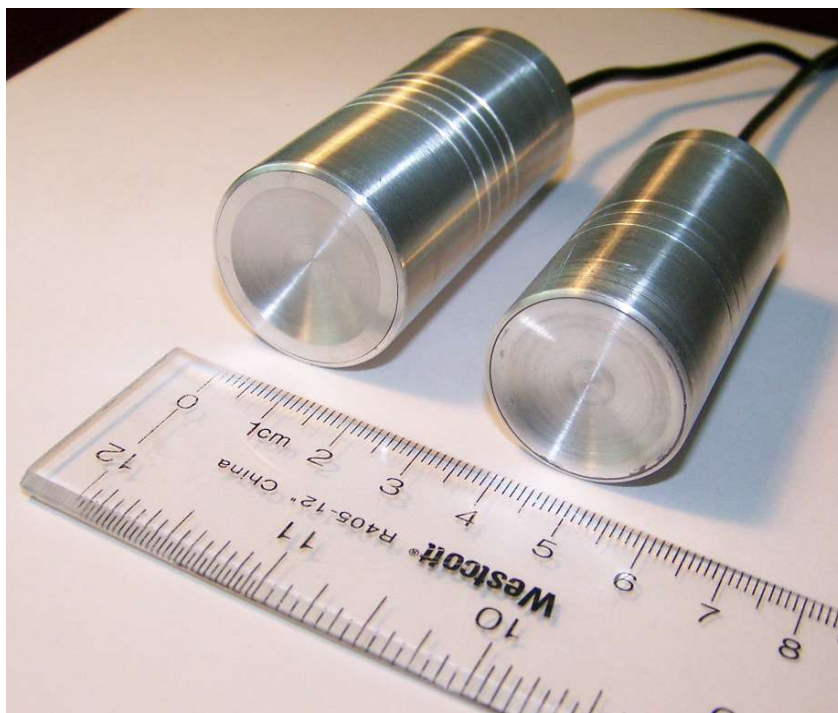


Fig. 1 HIFU transducers in housings with diameter 30.0 mm and 25.4 mm. Each transducer contains water protected Aluminum housing with installed cable RG-174/U (~1.2 m) and BNC connector at the end. This coaxial connector is shown on Fig. 2 - below.

Each transducer contains inner electric matching circuit to get electric impedance 40 – 60 Ohm at its work frequency. Work frequency can be done in according to customer requirement. This frequency can be done in a frequency range 3.0 – 3.6 MHz.

Focal distance is 27 – 30 mm.

Each transducer demonstrates efficiency 50 – 60% in respect to feeding electric power.

Each transducer has certificate of test.

Each transducer should be operated at contact with water – at least in partial contact with the water. Maximal feeding power in quasi-pulse mode is 25 – 30 W. Quasi-pulse mode is CW mode for 5 – 7 seconds with following brake time not less than 45 – 50 seconds – for the cooling of the transducer.

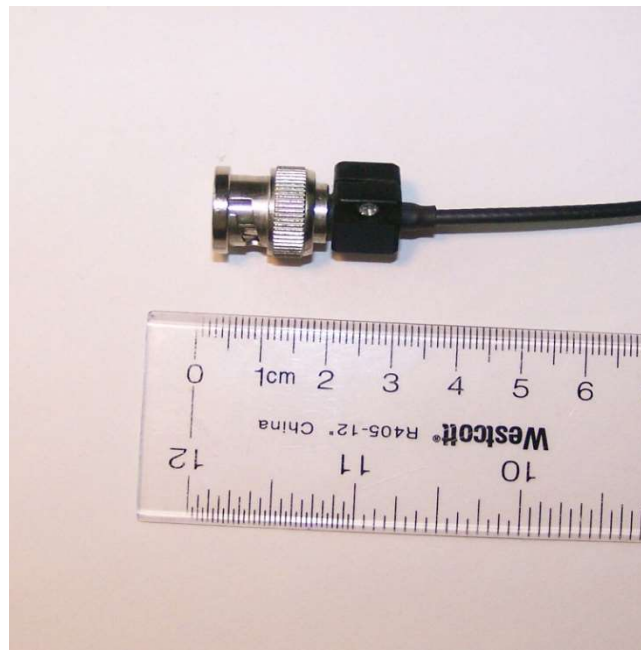


Fig. 2. The BNC coaxial connector. There is black plastic clamp to get reliable connection with the coaxial cable RG-174/U.

**NOTE 1.** Our tests demonstrate reliable lesion formation in biological tissue for 5 sec at feeding electric power 25 W and work frequency 3 – 3.5 MHz. Formation of the lesion was done at depths 5 – 10 mm in biological tissue (pork meat). Formation of the lesion below 3 MHz is going more slowly – because this action is thermally induced decomposition of biological tissue. It can be done at local heating to 80 – 90 °C. We recommend do not exceed + 90 °C in this local heating – it allows to avoid local boiling with formation of local bubbles with diameter > 0.1 mm. Local boiling is accompanied by very undesirable local increasing of the lesion's volume.

**NOTE 2.** We can make customized versions of the HIFU transducers. We provide consulting in many problems of ultrasonic treatment.