PRECISION ACOUSTICS
A Coda Octopus Company

HIFU transducers

High Intensity Focussed Ultrasound (HIFU) is of considerable interest in both medical research and high-power applications. Precision Acoustics Ltd supplies a range of HIFU Transducers, all of which are designed for immersion use.

These devices are suitable for continuous wave or pulsed application and are highly resonant, narrowband ultrasound sources that are intended for use at, or very near, their centre frequency.

Applications include:

- Tissue ablation
- Neurostimulation
- Cavitation
- Histotripsy
- MR guided therapy
- Targeted drug delivery
- Microbubble activation
- Sonochemistry

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FEATURES OF HIFU TRANSDCERS FROM PRECISION ACOUSTICS LTD:

- High power acoustic output with tight focal spot.
- All devices (>1 MHz) produce focal outputs greater than 1 kW/cm^2.
- Designed for immersion use.
- Impedance matched to 50 Ω.
- Impedance matching network is integrated into case (no need for external matching network).
- A 1.5 metre co-axial cable (BNC terminated) is supplied as standard but other options are available on request.
- Each device is supplied with an in-house calibration certificate including transverse and axial beam profiles as well as frequency and power calibrations using a radiation force balance.

TYPICAL PROPERTIES

Frequency (MHz)	Focal Intensity* (W/cm^2)	6dB Focal diameter* (mm)	Focal length (mm)	Element diameter (mm)
0.66	600	4.3	75	60
1	1200	2.3	19	19
1	1700	2.9	75	60
1.5	3000	1.2	48	60
2.5	3500	0.9	50	60
3.5	2000	1	35	23
5.0	20000	0.35	19	19

Typical values – focal intensities and spot sizes may vary between devices.

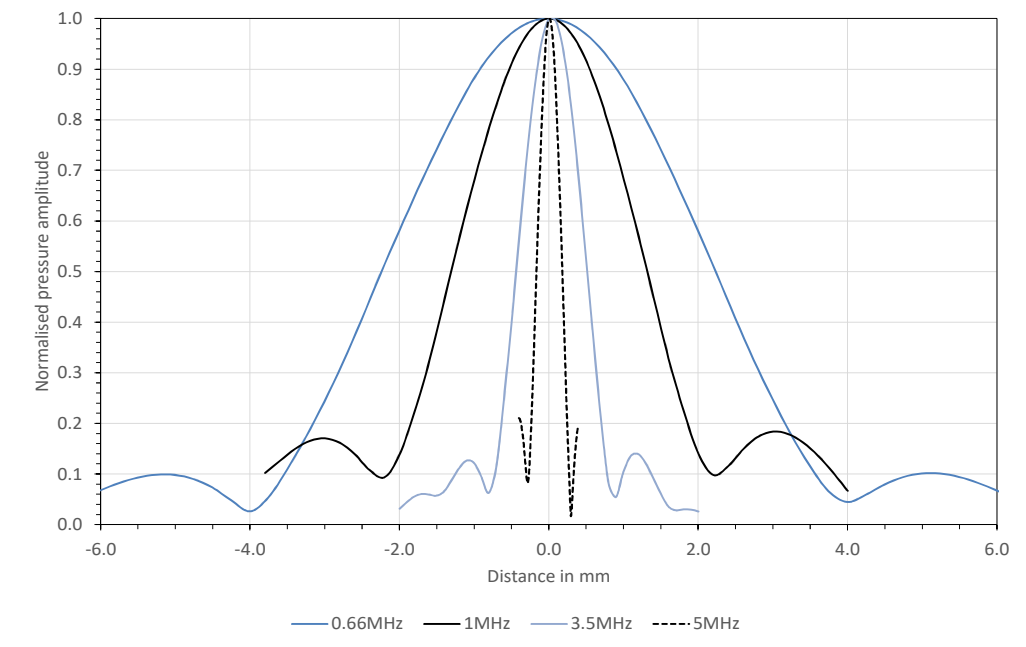

Figure 1 – Typical transverse profiles for a selection of PA HIFU transducers

All information is based on results gained from experience and tests, and is believed to be accurate but is given without acceptance of liability for loss or damage attributable to reliance thereon as conditions of use lie outside the control of Precision Acoustics Ltd or Acoustic Polymers Limited.