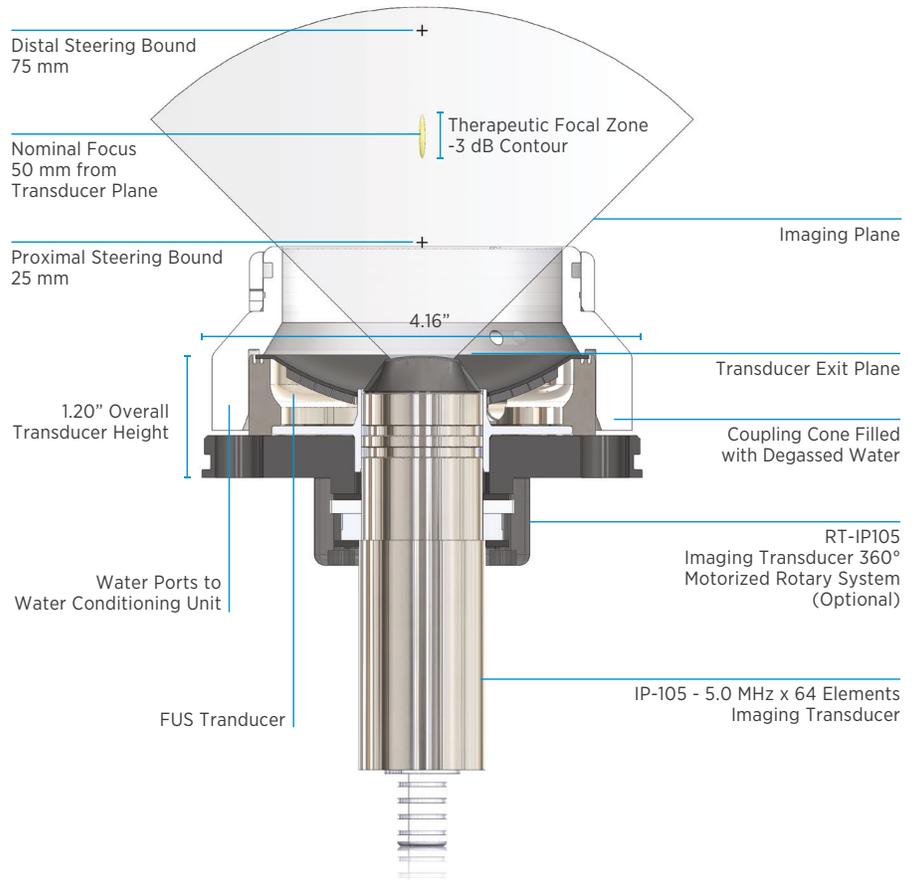


FUS -01, -02 & -03 Bundles (0.5, 1.1 & 2.0 MHz, respectively) include FUS and imaging transducers to provide 1D therapeutic focusing under ultrasound guidance. These solutions provide interleaving capability between the FUS therapy and imaging using Verasonics' FUS 2D GUI or FUS Elite 3000 3D GUI on the Vantage and Vantage NXT platform.

FUS Transducer Specifications

- Ø64 mm f/1.0 focused annular array transducer
- Transmit efficiencies up to 90% over a 40% bandwidth
- 50 mm (between 25 and 75 mm) of axial focal steering from the exit plane of the transducer, as defined -3 dB from acoustic maximum
- Includes coupling cone for non-immersion applications and target for self testing (CT-100)



	FUS-01	FUS-02	FUS-03
Fc (MHz)	0.5	1.1	2.0
# of Rings	3	4	8
Radius (mm)	64.0	64.0	64.0
I.D. (mm)	31.7	31.7	31.7
O.D. (mm)	64.0	64.0	64.0
Geometric Focal Distance* (mm)	52.0	52.0	52.0
Lateral Width (mm)	3.1	1.5	0.8
Axial Length (mm)	21.9	11.5	5.9
Pressure Focal Gain	13.8	27.6	55.1
TAP, Avg. (Watts)**	400	500	500
TAP, Peak (Watts)**	2000	2000	2000
Focal Pressure, Peak (MPa)*	6.0	15.0	28.0

* From the exit plane of the transducer
** TAP = Total Acoustic Power
* Linear calculation at maximum peak power



IP-105 Imaging Transducer Specifications

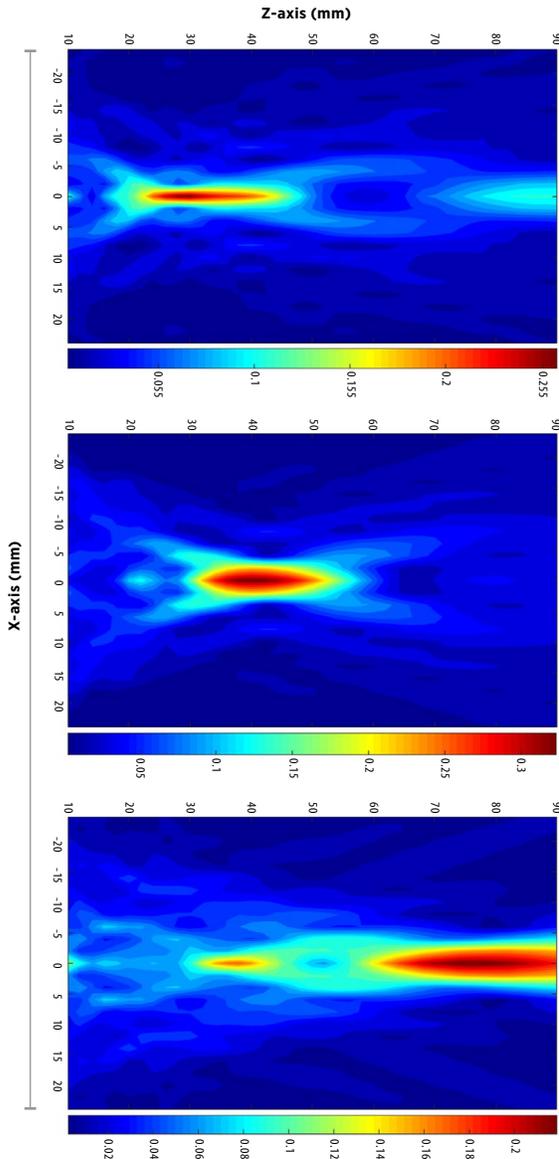
- Single crystal technology
- 64-element phased array
- 5.0 MHz center frequency
- Watertight housing with rotational and vertical adjustability

	IP-105
Fc (MHz)	5.0
Bandwidth (%)	95
Pitch (mm)	Lambda/2
Aperture Elevation (mm)	10.0
Aperture Azimuth (mm)	9.6
Elevation Focus (mm)	65.0



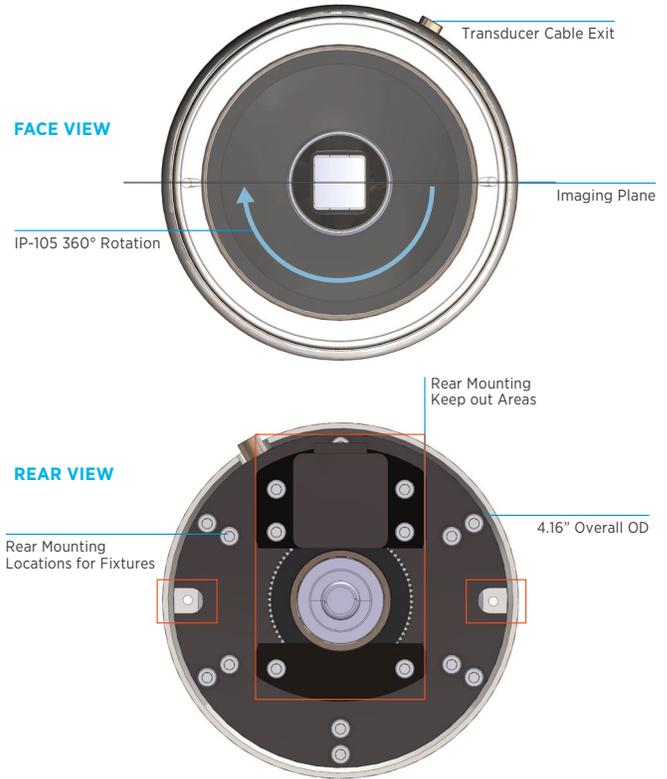
Dynamic Focal Depth Steering

The acoustic pressure field maps (below) illustrate software-controlled spatial modulation of the FUS-01 along the transverse plane. The FUS coherent focus is shown at 30 mm (top), 40 mm (mid), and 75 mm (bottom) depths.



3D Rotary and Rear Mounting

The Small Rotary Motion Apparatus and FUS Elite Adapter can be added to the FUS-01, -02, or -03 and is controlled via the FUS Elite 3000 3D GUI for 3D therapy planning and delivery.



FUS Full-screen Graphical User Interface for USgFUS Workflow

Workflow Step	Capability	FUS 2D	FUS Elite 3000 3D
GUIDANCE	B-Mode Imaging (Plane waves, Wide Beams, Scanline)	✓	✓
	Doppler Imaging (Color Flow, Color Power)	✗	✓
	Harmonic Imaging (Nonlinear imaging via pulse inversion)	✗	✓
PLANNING & DELIVERY	Motorized Rotary Movement of Imaging Plane	✗	✓
	2D Treatment Planning & Delivery	✓	✓
	3D Treatment Planning & Delivery	✗	✓
MONITORING	Thermal strain imaging (thermometry via user calibration)	✗	✓
DATA MANAGEMENT	Experimental event logging, data capture & recall	✓	✓



Verasonics designs, manufactures, and markets Vantage™ Research Ultrasound Systems for academic and commercial investigators. These real-time, software-based, programmable ultrasound systems accelerate research by providing unmatched speed and control to simplify the data collection and analysis process. Individuals across the globe rely on the flexibility of the Vantage platform for ultrasound-driven research and development in biomedical, materials science, earth sciences, and the physics of acoustics.



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