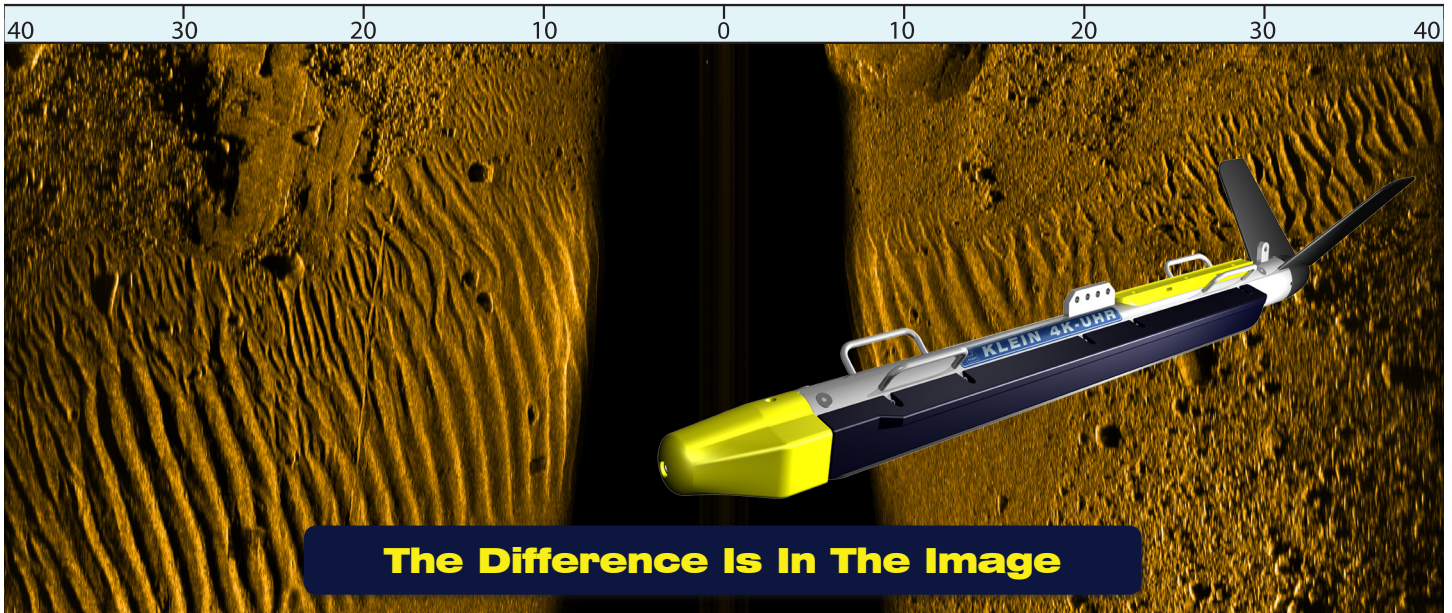




Klein Marine Systems
Underwater Mission Solutions

KLEIN 4K-UHR

**PROFESSIONAL FOCUSED TRANSDUCER ULTRA-HIGH RESOLUTION SURVEY
SIDESCAN SONAR WITH TRU-BOTTOM™ TRACKING**



The Difference Is In The Image

The KLEIN 4K-UHR is the latest product in Klein's series of Professional Survey Side Scan Sonars.

Designed specifically with Klein's innovative focused transducer technology to deliver Ultra-High Resolution surveys with improved range performance and motion tolerance. Produces MHz-type resolution without sacrificing range performance.

HIGH and ULTRA-HIGH RESOLUTION simultaneous modes of operation with optimized range and resolution dependent configurations.

Tru-Bottom™ tracking reduces data processing overhead, with a dedicated altimeter for optimized bottom tracking.

Klein's innovative focused transducer technology provides:

- Greatly improved along-track resolution comparable to sonars with much higher frequencies.
- 33% greater operational range over higher frequency competitor sonars.
- Klein's motion tolerant transducer design produces up to a 30% improvement in along-track resolution compared to competitor sonars.

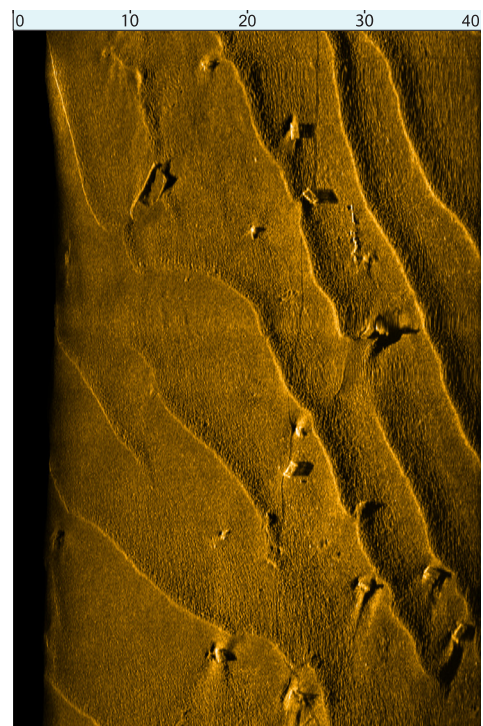
Compliant for Offshore Renewable/Oil/Gas, BOEM, NOAA, USACE & IHO specification surveys.

Applications:

- Offshore Renewable and Oil & Gas Survey (UXO, hazard and boulder detection surveys)
- Engineering Site Surveys
- High-resolution Hydrographic Charting Survey
- High-resolution Search & Recovery Surveys

Key Features:

- Dual-mode operation:
Focused Transducer High Resolution/
Ultra-High Resolution (600/900 kHz)
- Enhanced motion tolerance
- Depth rated 300m
- Accurate target positioning
- Tru-Bottom™ Tracking



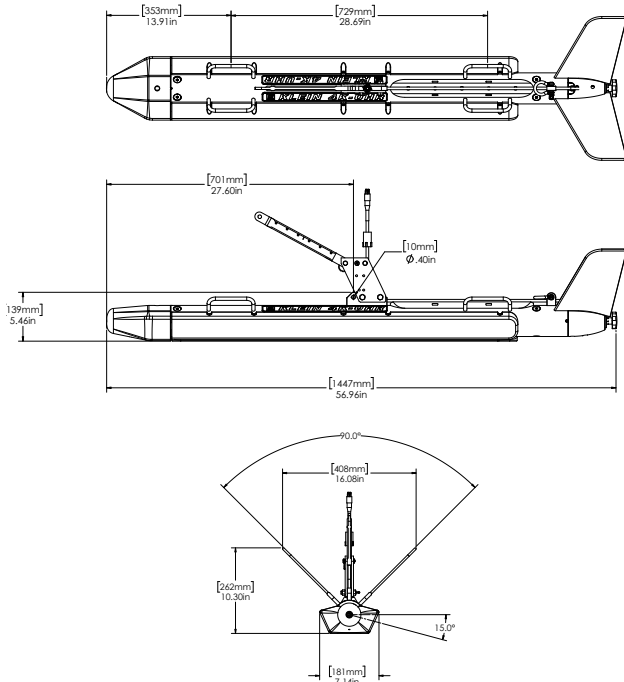


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PROFESSIONAL FOCUSED TRANSDUCER ULTRA-HIGH RESOLUTION SURVEY
SIDESCAN SONAR WITH TRU-BOTTOM™ TRACKING

Specifications:

Side Scan Sonar Specifications	
Technology	Klein Blue Focused Transducer Technology, Dual Simultaneous, Single Beam SSS
Frequency	Focused 600 & 900 kHz (equivalent to 900/±1500 kHz resolution)
Maximum Range (Per Side)	120m @ 600kHz 40m @ 900kHz (Environment Dependent)
Tow Speed and Object Detection	1m Object: 50m Scan Range - 7.8 knots 0.5m Object: 40m Scan Range - 4.9 knots 0.3m Object: 30m Scan Range - 3.9 knots
Pulse Type	FM CHIRP
Horizontal Beamwidth	0.23° @ Focused 600kHz 0.23° @ Focused 900kHz
Vertical Beamwidth	50°
Across Track Resolution	2.4 cm @ Focused 600 kHz 1.2 cm @ Focused 900 kHz
Along Track Resolution	Focused 600 kHz @ 50m: 20cm Focused 900 kHz @ 20m: 8cm
Vertical Beam Center	15° Down from Horizontal
Altimeter	360 kHz: Up to 100 m (Environmental Dependent)

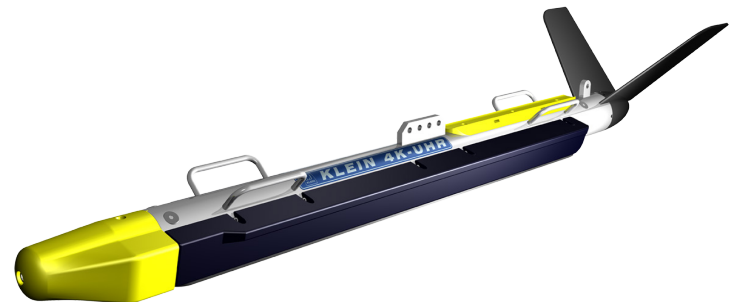


System 4K-UHR Towfish	
Construction	Electro-Polished 316 Stainless Steel
Body Length	1.45 m (57 in)
Outer Diameter	8.9 cm (3.5 in)
Weight (in air / in water)	27 kg (59.5 lbs) 14 kg (35 lbs)
Maximum Depth Rating	300 m
Operating Temperature (In-Water)	-2 to 38° C
Storage Temperature	-20 to 65° C
Input Voltage	12VDC or 110/220 VAC (50/60Hz)
Output Data Format	Klein SDF or XTF or Both
Standard Towfish Sensors & Accessories	Heading, Roll and Pitch Sensor Depth (Pressure) Sensor: 0-300 m Water Temperature Sensor: 0-35° C AmSteel® Safety Cable

Optional Accessories

- Keel Weight
- K Wing I or II Depressor Wings
- Responder Interface
- Magnetometer Interface
- Winch, Launch and Recovery System

For additional information about Klein 4K-UHR, visit kleinmarinesystems.com or contact us directly.



Klein Marine is deeply committed to customer support. We are currently servicing valued customers in 80 countries, and relying on a network of competent International Representatives to meet and exceed the service needs of our customers around the world. We provide 24 hour / 7 day a week support.

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