SYSTEM 4000 Powered by Klein *BLUE* TECHNOLOGY
SIMULTANEOUS – DUAL FREQUENCY - MULTI-PURPOSE - SHALLOW OR DEEP WATER

KLEIN *BLUE* TECHNOLOGY™

Klein's **next generation** Single Beam Side Scan Sonar is purpose built to meet the demanding requirements for long range's, deep-water operations and optimized shallow water performance. Condensing our 50 years of design knowledge into a system that combines Klein's iconic imaging with unprecedented towing options and range performance for unsurpassed search and survey efficiency.

Klein *BLUE* TECHNOLOGY™ represents innovations in transducer, signal conditioning and processing design producing unmatched image quality and range performance. These enhancements also allow for motion tolerant performance in heavy sea states where vessel motion impacts tow fish stability. Klein *BLUE* design optimization achieves a new level of acoustic performance for our workhorse Klein 4000 System.

What the system 4000 can do for you.

Salvage/Wreck hunters: Whether you work in deep sea salvage or are looking for a historical wreck the System 4000 is without equal at long ranges minimizing your search effort.

Rental Companies: Unknown customer capabilities of cables and winches are a thing of the past with Klein's Smart Telemetry technologies' ability to adapt to any limitations and to still provide a system that works. Both keel weight and depressor wing options are available.

Surveyors: For pipeline and communication cable site survey or in support of a hydrographic survey the versatility of the 4000 system shines through.

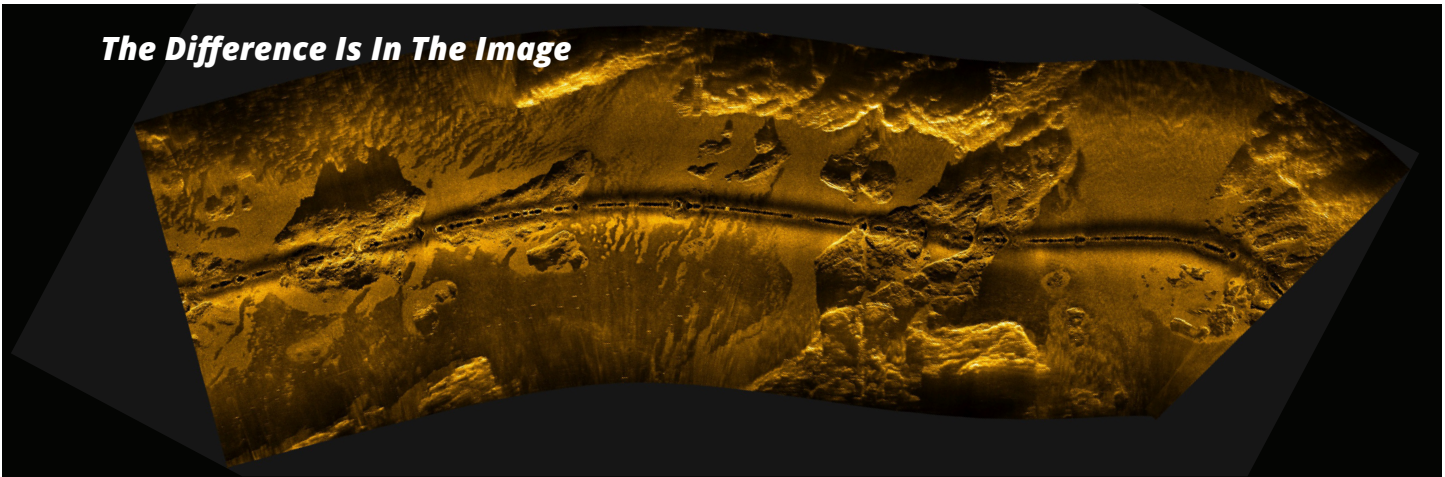| Key Features	
Dual Simultaneous Frequency	Frequencies of 100 kHz and 400 kHz were chosen to provide the most versatility of range capability and resolution
Variable Transmit Power	The system's ability to automatically adjust transmit power improve both frequency separation and short range performance
CHIRP and CW	Advanced Broadband CHIRP processing combined with our propriety algorithms provide both industry leading long-range capability as well as Klein's iconic seafloor images
Smart Telemetry	Automatically Adapts to the electrical properties of cable, winch and slip ring to provide a working system in cases of degraded cables and connections where a fixed telemetry system would not work at all.
Depth Performance	Depth rated to 2000 meters with options for both keel weights and depressor wings to reach your needed depth
Hydrodynamic Design	Designed for reliability and tow stability to achieve exceptional image performance out to a full range of 600 meters
Easy Operation	Klein's SonarPro® software provides all the advanced functionality needed while still providing the easiest to use interface on the market
Ergonomic Design	Four handles make the System 4000 the easiest sonar to handle, without sacrificing the perfomance you need. The system is easily set on deck with no fear of rolling away or damage without a cradle

SYSTEM 4000 SIDE SCAN SONAR

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The Difference Is In The Image

Specifications:

Side Scan Sonar Specifications	
Technology	Single Beam
Frequency	100 kHz/400 kHz (Dual Simultaneous)
Pulse Type	FM CHIRP and Selectable CW
Horizontal Beam Width	1° @ 100 kHz 0.3° @ 400 kHz
Vertical Beam Width	50°
Across Track Resolution	9.6 cm @ 100 kHz 2.4 cm @ 400 kHz
Maximum Operating Range (Per Side)	600 m @ 100 kHz 200 m @ 400 kHz
Vertical Beam Center	Tilted down 25° from horizontal
Output Data Format	Klein SDF (Sonar Data Format) XTF (Extended Triton Format) Both or Selectable

Towfish Construction	
Towfish	Electro-Polished 316 Stainless Steel
Body Length	1.42 m (56 in)
Outer Diameter	8.9 cm (3.5 in)
Weight (in air/in water)	32 kg (70 lbs) / 16.8 kg (37 lbs)
Maximum Depth Rating	2000 m
Standard Towfish Sensors & Accessories	Heading, Roll and Pitch Sensor Depth (Pressure) Sensor, 0-2000 m Water Temperature Sensor: 0-35° C Safety Cable
Towfish Options	• Multiple Keel Weights • K-Wing I • K-Wing II • Responder Interface • Magnetometer Interface • Power Fail Emergency Pinger Interface

	4000-SP	4000-RM
Transceiver Processing Unit (TPU)	Splash Proof (IP-65) 50.8 cm (20 in) x 40.6 cm (16 in) x 19.05 cm (7.5 in)	19 in rack mount, 2U
Input Voltage	12 Vdc or 110/220 Vac (50-60Hz)	110/220 Vac (50/60 Hz)
Workstation PC	Laptop Computer with SonarPro® installed (Ruggedized options available)	19 in rack mount PC, 21.5 in LCD monitor, keyboard and mouse with SonarPro® installed

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