

## Sub-bottom Profiling System with Combined Klein Powered Side Scan Sonar *Fully Integrated, Cost-effective, Compact Solution*

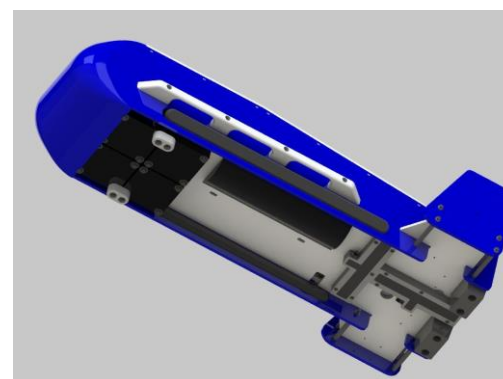
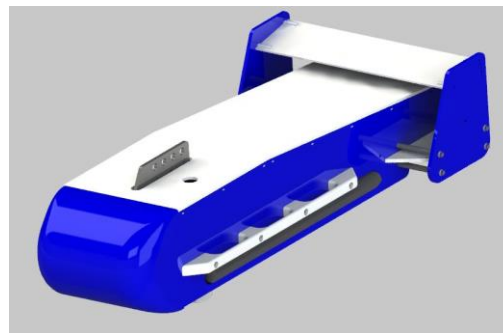
The HMS-625 Multi-Sonar Tow System is designed for applications that require high resolution side scan and sub-bottom imagery in depths of up to 3,000m. This combined side scan and sub-bottom survey tool offers a fully digital platform capable of collecting high resolution Klein powered side scan with FSI HMS-621 sub-bottom data, as well as a range of customer selected sensor data. The long range, high resolution side scan and sub-bottom CHIRP data along with the ancillary sensor capability provide the surveyor with a cost effective solution over multiple system and sensor surveys resulting in savings in both instrument cost and survey time.

### Single Workstation

- Klein powered side scan sonar, operating at 100/400 KHz simultaneously, allows 1,200 meter or greater swath, with resolution equivalent to much higher frequency systems at longer ranges.
- FSI HMS-621 CHIRP/CW based sub-bottom profiler, operating in the 1 to 10 KHz region, allows for extended sediment penetration with greatly improved resolution over conventional CW systems.
- Range, Gain, TVG, Pulse Width, and other programmable parameters are under user friendly software GUI control.
- Integrated CHIRPceiver True 24-bit data acquisition.>110 dB dynamic range.

### Rugged Tow System

- A fully integrated digital platform with high performance CHIRP side scan and sub-bottom transducer arrays, digital multiplexor, subsea electronics, and RS-232 and power ports for optional sensors.
- Ruggedized, stable tow vehicle includes pitch, roll and heading sensors, optional position responder / transponder, plus other customer selected sensors.
- Broadband CHIRP match filter processing, combined with a narrow side scan sonar horizontal radiation pattern provides optimal cross-track and along track resolution.
- Horizontal beam width of 1° at 100 KHz and .3° at 400 KHz
- Tow System will operate in depths up to 2,000 meters (deeper versions available) and features low-maintenance construction



# SYSTEM SPECIFICATIONS

## TOWFISH

Sonar Frequency	100 / 400 KHz <b>Klein Powered Sidescan</b>
Operating Depth	2,000 meters <b>Deeper Options Available</b>
Range	25 to Over 600 meters on each channel
Range Settings	25 to 750m in 12 steps
Side Scan CHIRP frequency Range	Simultaneous 100 KHz and 400 KHz CHIRP or CW
Side Scan Transducers	Multi-element array, dual channel 100 / 400 KHz, Horizontal beam width of 1° at 100 KHz and .3° at 400 KHz; Vertical beam 60°
Sub-Bottom Transducer	2X2 Transmit projector array; dipole dual hydrophone array; 30° conical radiation pattern Selectable CHIRP bands from 1 KHz to 10 KHz (2 KW output), synchronous with side scan
Frequency Resolution Processing	Calibrated transmit waveform; CHIRP or CW signal processing True 24-bit data acquisition with >110dB dynamic range
Standard Sensors	Fully calibrated Precision Pressure Sensor Module, Heading, Pitch, and Roll
Optional Input	Magnetometer input optionally available Stainless steel, polyethylene
Construction	
Length	208.7 cm (82 inches)
Width x Height	38.4 cm X 53.3 cm (15.125 in X 21 in)
Weight in air	Approximately 158 Kg (350 lbs)
Weight in water	Approximately 45 Kg (100 lbs)

## TOPSIDE DATA ACQUISITION COMPUTER

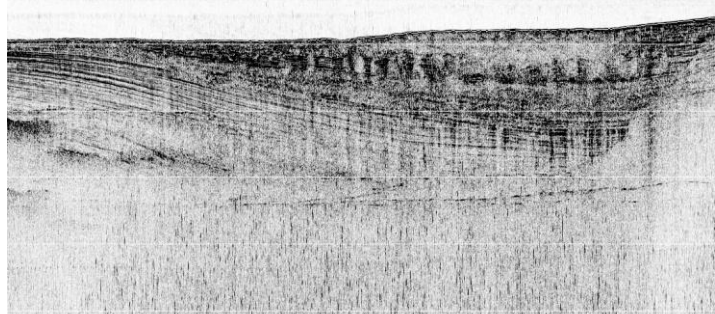
Operating System	MS Windows OS
Storage	Large internal hard drive, writeable CD/DVD
Network Interface	100/1000 base T Ethernet (compatible with ADSL communication interface)
I/O Ports	Four (4) RS-232 serial I/O ports, Multiple USB Ports
Display	>24" Flat Panel LCD Display with video output for second display

## TOPSIDE TRANSCIEVER

Power Supply	Auto-sensing 100-240 VAC; output 380 VDC maximum
Network Interface	Ethernet
Dimensions	2U Rack Mount 48.3 cm (19 inches)

## CABLES

Deck Cable (Kevlar)	75 meter coax
Armored Tow Cable	Coax up to 8,000m



**SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE**  
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