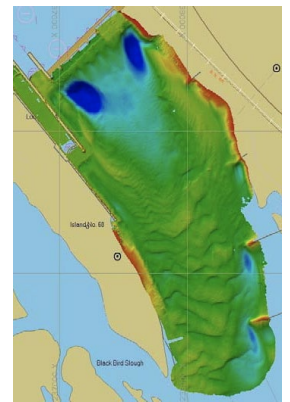


**Dual Head SONIC™ 2020-V Plus** is a compact, lightweight, and economical solution for small surface vessels, providing extensive swath coverage capability for general mapping applications in shallow waters. Factory fitted with an embedded high accuracy INS, dual GNSS antennas, high accuracy sound velocity (SV) probe, all cables and a dual head mounting bracket with adjustable outward tilt capability.



### User Benefits Include:

- ▶ Ultra Compact & Lightweight, less than 10kg
- ▶ Frequency Agile from 200-700kHz
- ▶ Highly productive with up to 12x water depth coverage in shallow water
- ▶ 2048 independent soundings per ping for increased sounding density
- ▶ Dual / Quad Mode soundings for increased sounding density
- ▶ Beamwidths to 1° x 1° possible
- ▶ Roll & Pitch Stabilized
- ▶ AC or DC power input
- ▶ Embedded high accuracy Inertial Measurement Unit with dual GNSS antennas included
  - Eliminates need for multiple patch tests
  - Roll / Pitch / Heave accuracy to 0.015°, Heave 2cm
- ▶ Standard 3-year warranty, with option to extend to 6-years
- ▶ High accuracy Sound Velocity Probe included
- ▶ Compact dual head mount bracket with 10° / 20° / 30° outward tilt included



Dual Head Sonic 2020-V PLUS  
Survey Lock and Dam



Dual Head  
Sonic 2020-V PLUS Installed

Easy to Integrate on any platform



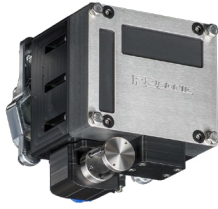
USV



Survey Vessel

Extra Light & Compact!





1. Compact VOX-IM with embedded INS/GNSS and break-out panel

2. Standard VOX-IM

### Sonic™ 2020-V PLUS

Selectable Frequencies	Frequency Agile 200-700 kHz
Number of soundings	Up to 2048 soundings per ping
Max speed (vessel)	11 knots (*)
Near-field focusing	Yes
Roll stabilized beams	Yes
Pitch stabilized beams	Yes
ROBO Automated Operation	Yes Auto Power, pulse width, RangeTrac, GateTrac, SlopeTrac
Saturation monitor	Yes
Swath Coverage	Up to 12 x water depth
Sounding Patterns	Equiangular Equidistant single / double / quad modes Ultra High Density (UHD)
Sounding Depth**	up to 200m
Ping rate	up to 60 kHz
Immersion Depth	50m / 100m
Bottom Detect Resolution	3mm

### Sonic-V Plus Series INS Accuracy (with RTK)

Roll & Pitch	0.015°
Heading	0.015° with 4m antenna baseline, 0.03° with a 2m antenna baseline
Heave	5cm or 5% real-time, 2cm or 2% delayed heave
Position	Horizontal: 1cm + 0.5 ppm, Vertical: 1.5cm + 1 ppm

### Electrical Interface

Mains	90-260V AC, 45-65Hz, or 10-55V DC
Power consumption	20W avg
Uplink/downlink	10/100/1000Base-T Ethernet
Sync in, Sync out	TTL
Deck cable length	15m, optional 25m and 50m

### Mechanical Specifications

Sonar Dimension (LWD) per sonar head	140 x 161 x 133.5 mm
Sonar Mass per sonar head	4.4kg
VOX-IM Interface Module (LWH) & Mass	212 x 160 x 70.5 mm; 2.9kg

(\*) The speed of the survey is primarily limited by the installation of the MBES.

(\*\*) Depending on environmental conditions.