

*UTM NEW EQUIPMENT:
ACQUIRED 2017
TO BE ACQUIRED 2018-19*



CSIC

CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS





* **SEISMIC**

* *Sparker Georesources (2017)*

* *Multichannel HR streamer (2017)*

* *Air compressors (2018)*

* **LABORATORY**

* *TDCR Liquid Scintillation Counter(2017)*

* *Flow Cytometer (2017)*

* *Spectrophotometer (2017)*

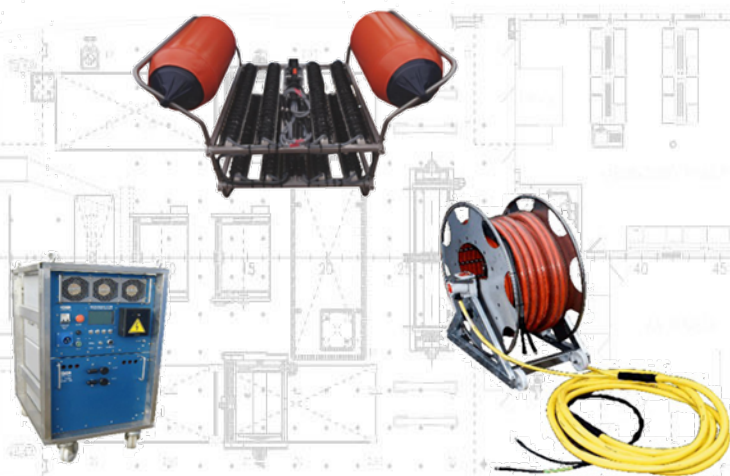
* **SAMPLING**

* *Vibrocorer (2018-19)*

* *CPT (2018-19)*

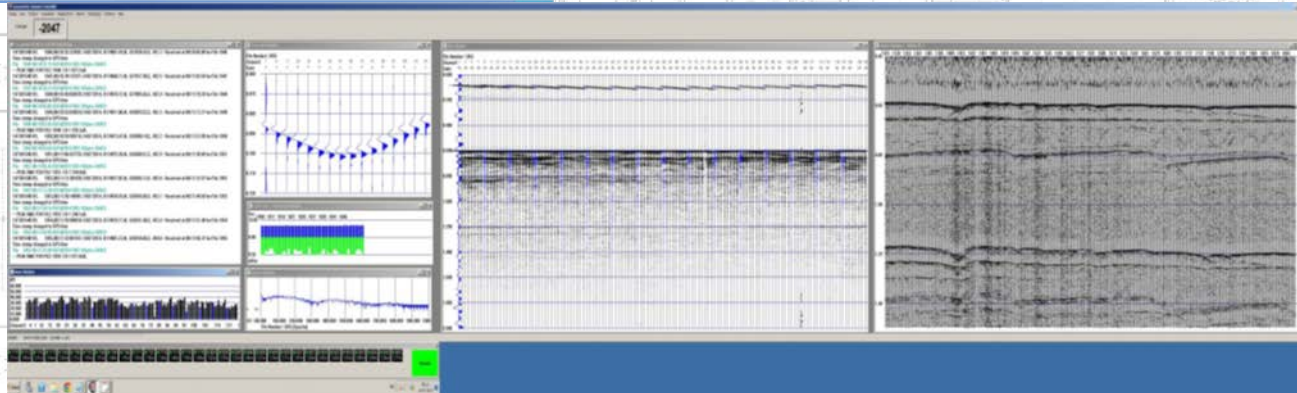
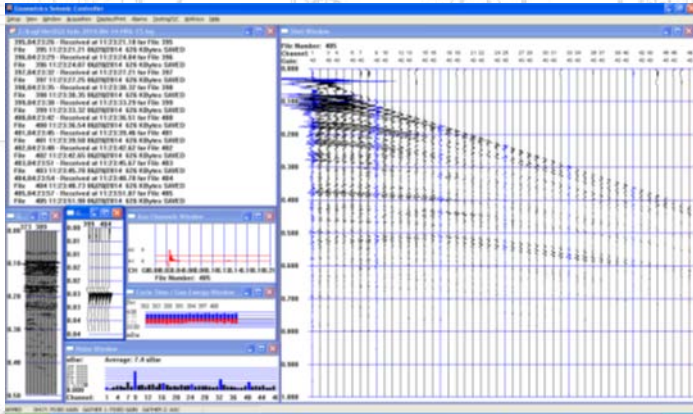
Sparker GMSS: GeoSpark 7000 XF + GeoSource 400 Dual

- Mains Power: 220- 240 V AC, 50-60 Hz, 16 A
- 95 kg for PS, 95 kg for Capacitor Bank
- Dimensions: H x W x D = 109 x 55 x 71cm
- High Voltage - 5600 V for real acoustic punch
- Energy Output selectable from 100 to 7000 J
- HV charging capability : 2 kJ / sec
- 1 shot every 4 sec at energy of 7000 J



Multichannel HR streamer: Geometrics recording system

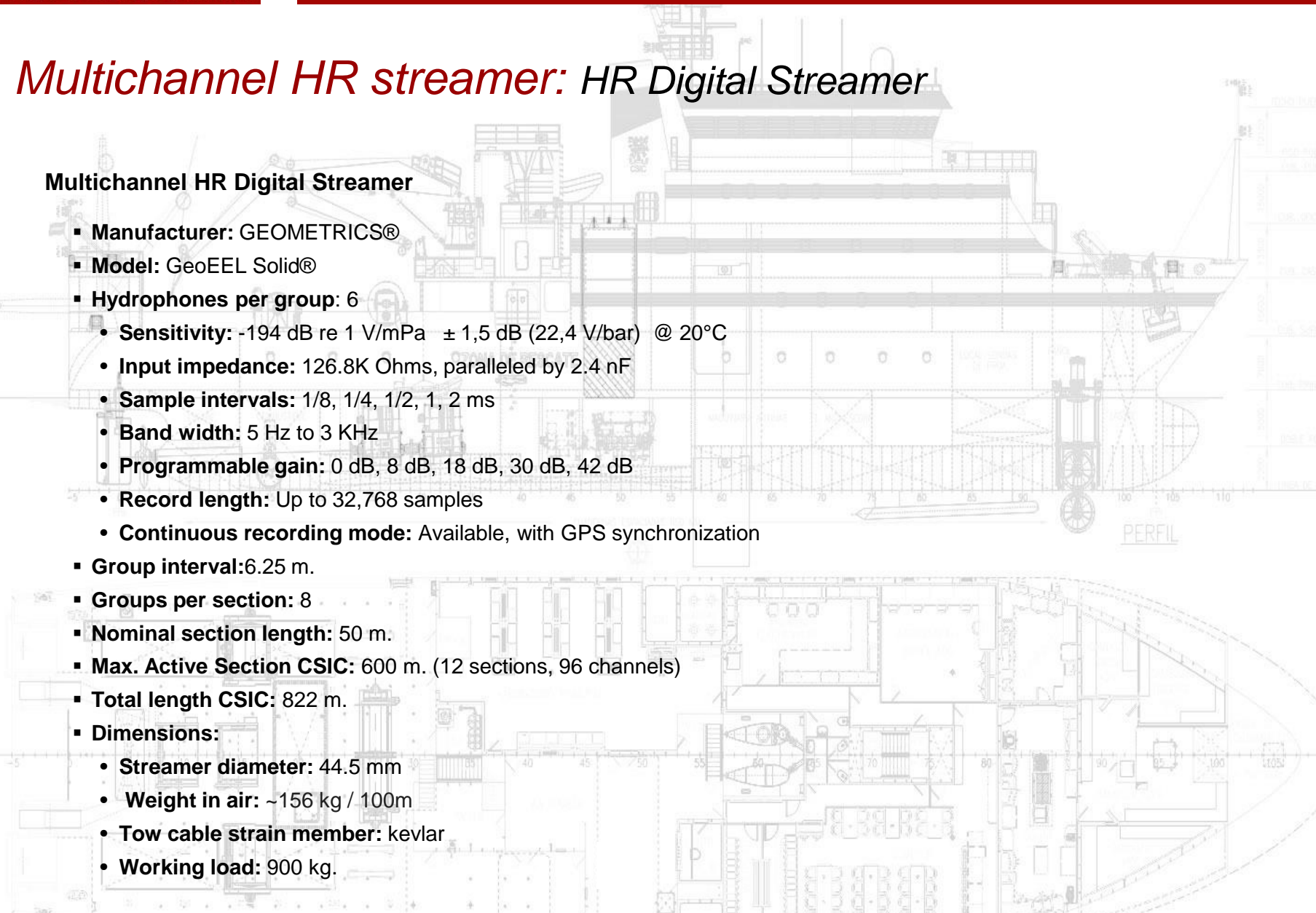
- ❖ CNT-2 Marine controller
- ❖ Storage media
- ❖ Streamer Power Supply Unit



Multichannel HR streamer: HR Digital Streamer

Multichannel HR Digital Streamer

- **Manufacturer:** GEOMETRICS®
- **Model:** GeoEEL Solid®
- **Hydrophones per group:** 6
 - **Sensitivity:** -194 dB re 1 V/mPa \pm 1,5 dB (22,4 V/bar) @ 20°C
 - **Input impedance:** 126.8K Ohms, paralleled by 2.4 nF
 - **Sample intervals:** 1/8, 1/4, 1/2, 1, 2 ms
 - **Band width:** 5 Hz to 3 KHz
 - **Programmable gain:** 0 dB, 8 dB, 18 dB, 30 dB, 42 dB
 - **Record length:** Up to 32,768 samples
 - **Continuous recording mode:** Available, with GPS synchronization
- **Group interval:** 6.25 m.
- **Groups per section:** 8
- **Nominal section length:** 50 m.
- **Max. Active Section CSIC:** 600 m. (12 sections, 96 channels)
- **Total length CSIC:** 822 m.
- **Dimensions:**
 - **Streamer diameter:** 44.5 mm
 - **Weight in air:** ~156 kg / 100m
 - **Tow cable strain member:** kevlar
 - **Working load:** 900 kg.



Multichannel HR streamer: Streamer Winch

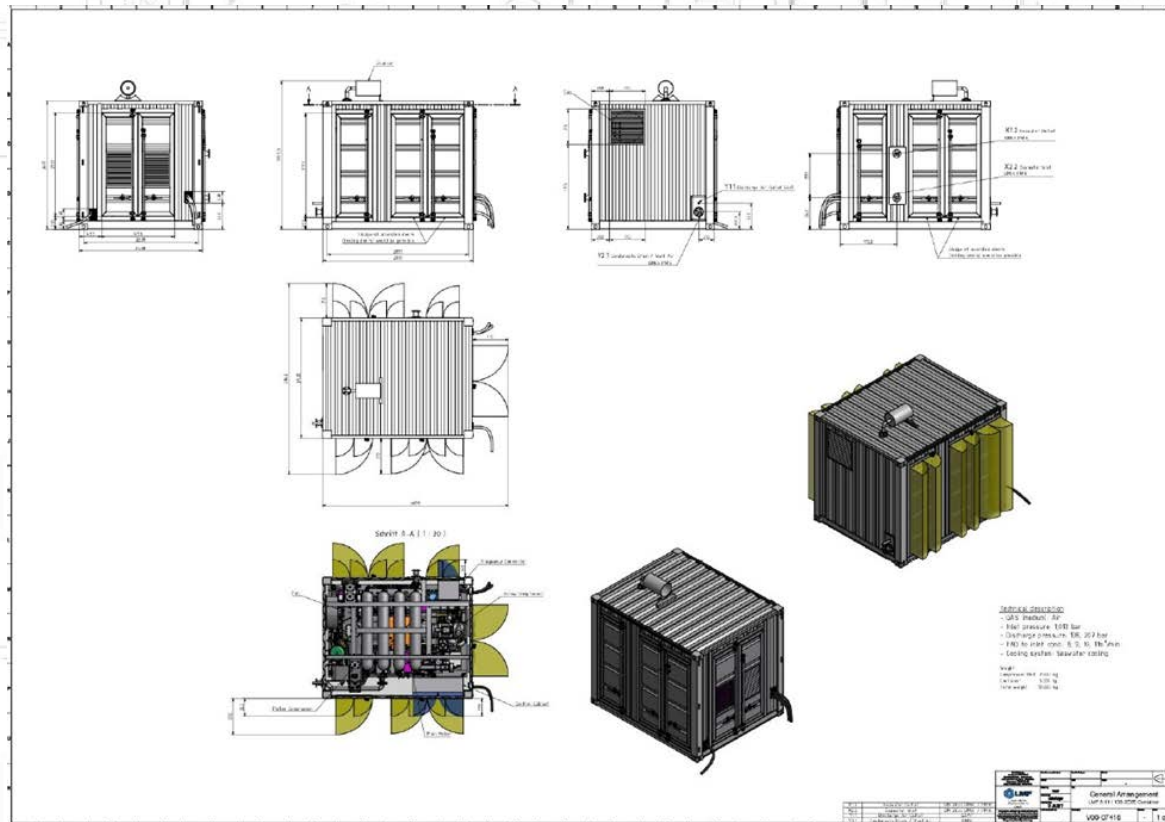


Multichannel Streamer Winch

- **Manufacturer:** HIVISA®
- **Model:** Sarmiento
- **Features:**
 - **Inner Diameter:** 1590 mm
 - **Outer Diameter:** 2400 mm
 - **Streamer length capacity:** 1500 meters

2x Air Compressors in 10 feet container

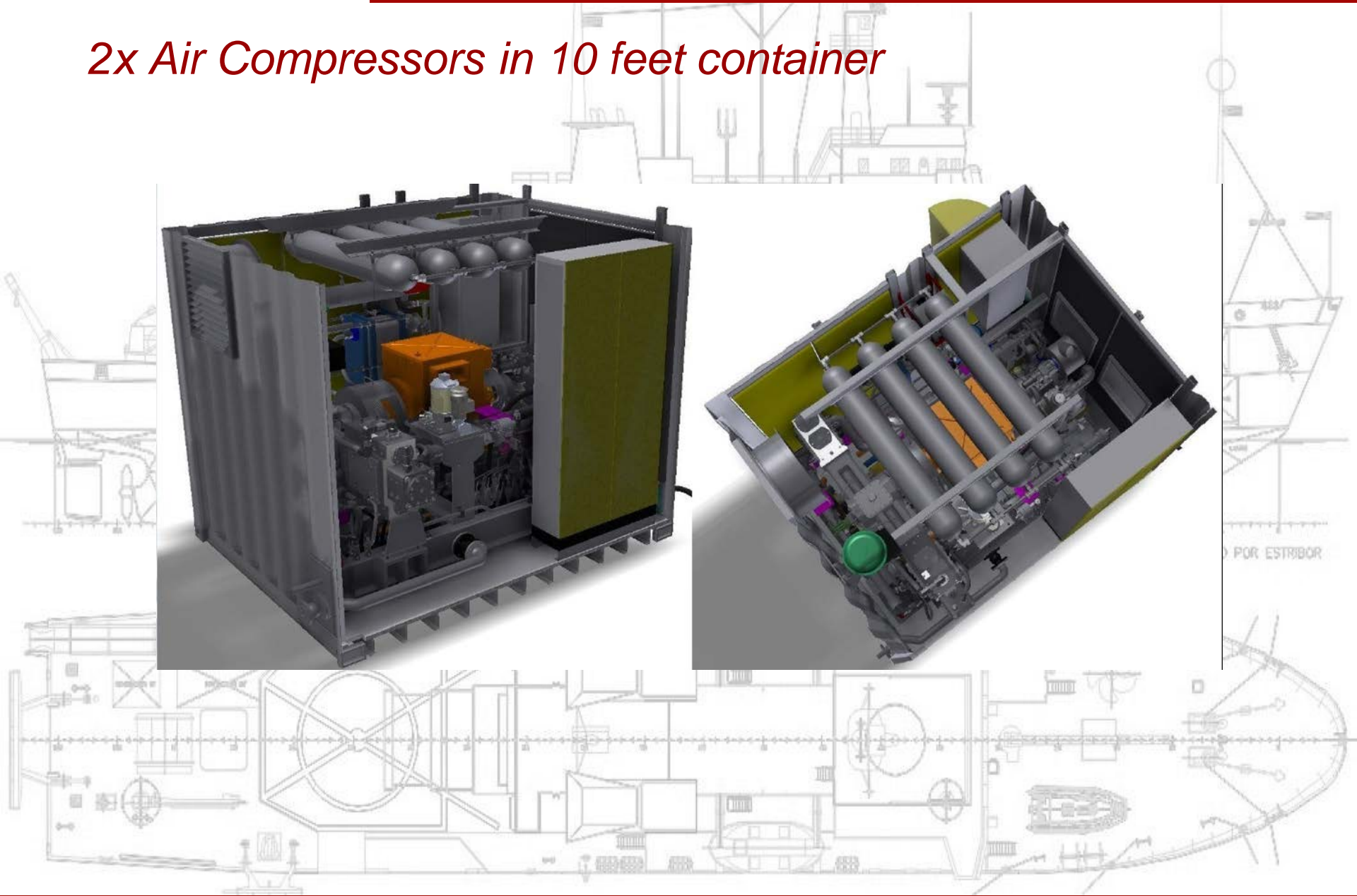
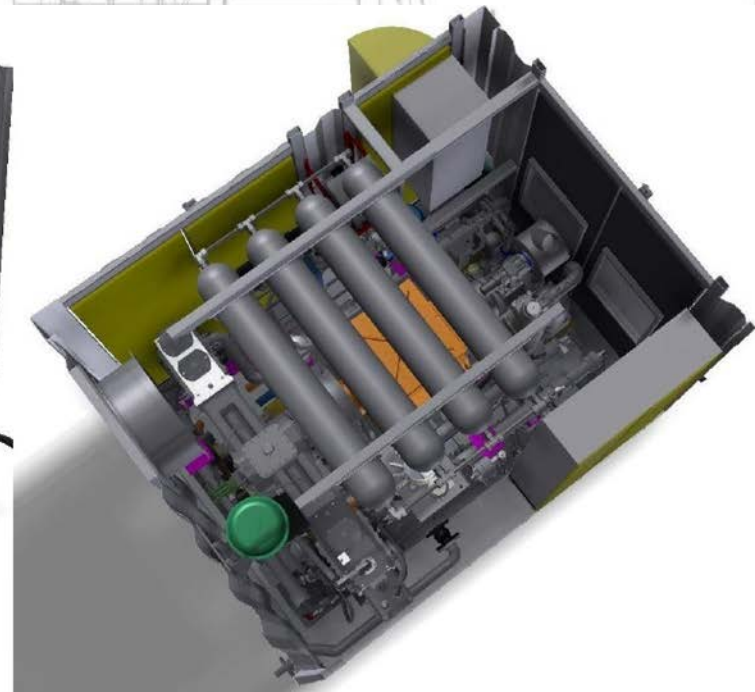
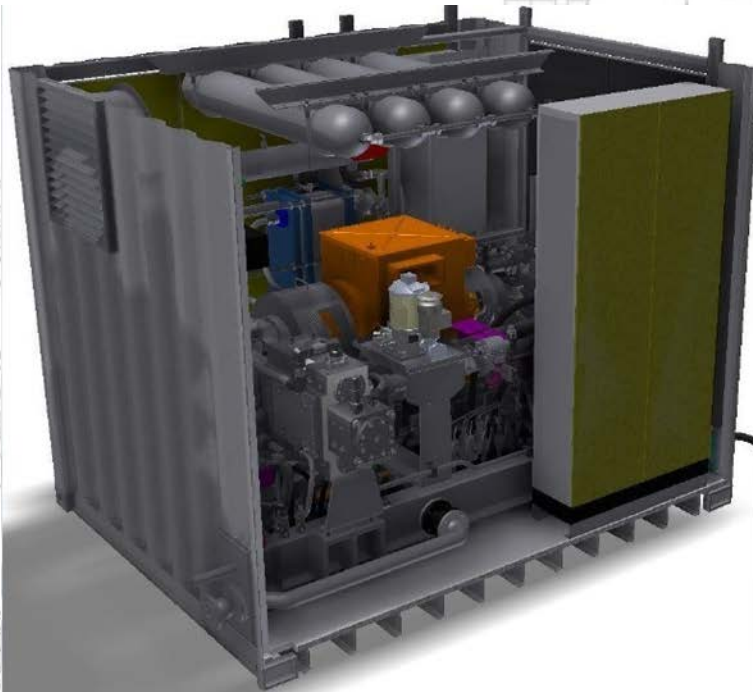
Manufacturer: LMF
Model: LMF11sL / 138-207 E



LMF11sL / 138-207 E

- Rpm: 1700
- Max. Pressure (bar): 207 / 138
- Delivery FAD (m³/min): 11
- Delivery FAD (scfm): 388

2x Air Compressors in 10 feet container



TDCR Liquid Scintillation Counter

Manufacturer: Hidex
Model: 300 Super Low Level

Super Low Level
#425-020

Sample capacity, 20mL/7mL	40/96
Counting efficiency $^3\text{H}/^{14}\text{C}$ (%)	70/96
Background ^3H in water (CPM)	3
Dimensions, W/H/D (cm)	52/68/63
Weight (kg)	180

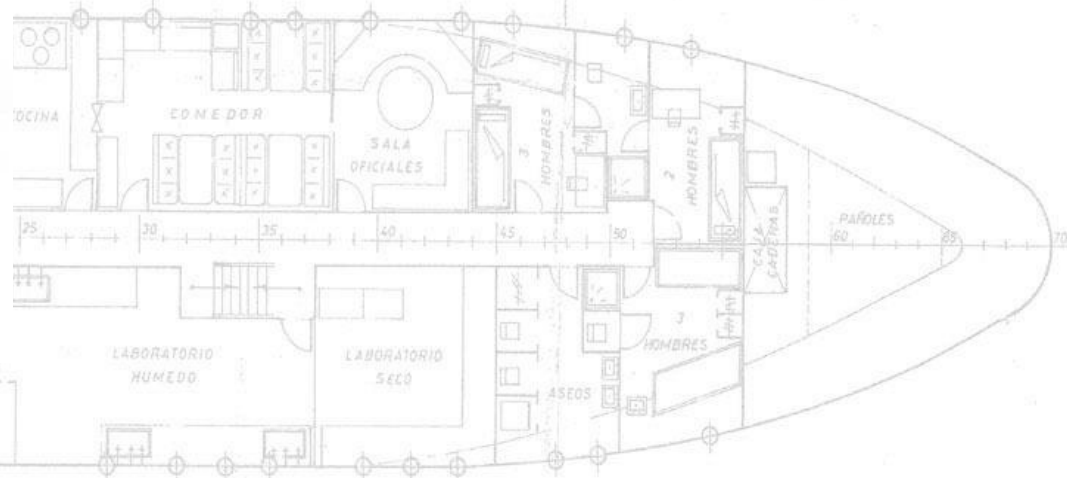


Flow Citometer

Manufacturer: Becton Dickinson
Model: Accuri C6 Plus



- Dimensions: 27.9 x 37.5 x 41.9 cm
- Weight: 13.6 kg
- Optics
 - Laser Excitation: 488 nm, 640 nm
 - Laser Profile: 10 x 75 μm
- Fluidics
 - Flow Cell: 200- μm ID quartz capillary
 - Minimum Detectable Particle Size: 0.5 μm



Spectrophotometer

Manufacturer: *Jasco*

Model: *V-750*

- *Optical system*
- Single monochromator
- Fully symmetrical double beam type
- Wavelength range: 190 to 900 nm
- Wavelength accuracy: ± 0.2 nm (at 656.1 nm)
- Photometric range: -4~4 Abs
- Photometric accuracy
 - ± 0.0015 Abs (0 to 0.5 Abs)
 - ± 0.0025 Abs (0.5 to 1 Abs)



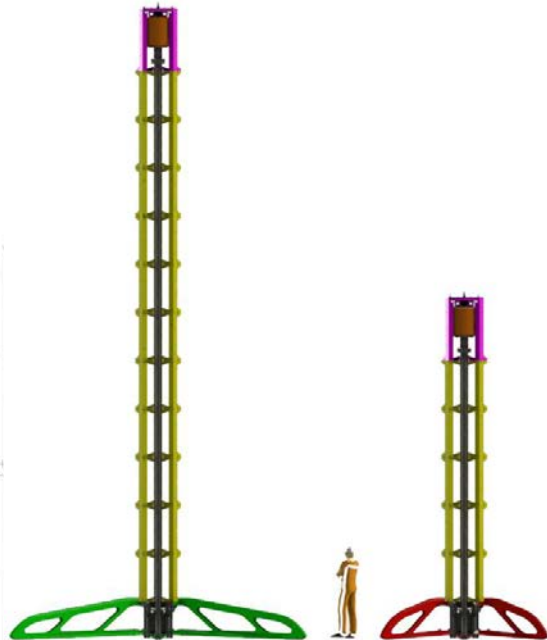
INTE

CUADERNAS

CADA 500 MM

Vibrocorer

- Variable frequency of 0–30Hz
- High power with adjustable thrust up to 75kN
- Change barrels with the frame laid both horizontally and vertically on deck
- 1 – 12m modular construction (in 1m increments)
- Real time data display including inclination, penetration, settlement, power and altitude



	Barrel length				
	2m	3m	6m	9m	12m
Weight in water	1,142kg	1,437kg	1,697kg	1,968kg	2,395kg
Weight in air	1,470kg	1,845kg	2,145kg	2,476kg	3,017kg
Base frame diameter	1.8m	1.8m/3.0m	3.0m	3.0m/6m	6m
Overall height	3.2m	4.3m	7.2m	10.2m	13.2m

CPT Cone Penetrometer Test

Used to determine the geotechnical engineering properties of soils and delineating soil stratigraphy

- Capable of 250kN thrust
- Operational depths of up to 2000m
- Variable sounding speed of 15 – 26 mm/sec
- Variable retracting speed of 15 – 90 mm/sec
- Real time data display





Unfortunatly no Autonomous vehicles in 2018

THANK YOU