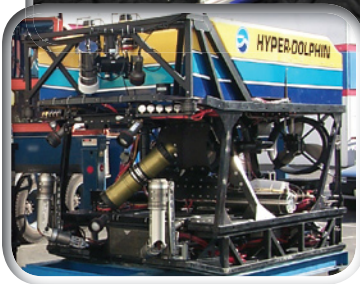


# SOSI

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# VARIABLE BALLAST SYSTEM

## » Model VBS-5000-120



As used in the HYPER-DOLPHIN, a remotely operated vehicle from ISE.



The SOSI Model VBS-5000-120 Variable Ballast System is rated to operate in 5000 meters of seawater and has a variable ballast capacity of 120 liters. The VBS is used to adjust the buoyancy of an ROV in both the pelagic and benthic environments at depth.

The VBS system consists of two large Ti-6Al-4V titanium ballast tanks equipped with internal level and pressure sensors that provide operator feedback through the ROV's telemetry system. The housings are connected to a high pressure water pump by heavily walled stainless steel tubing.

The VBS system includes an electrically operated water inlet, a water exhaust and a pressure vessel fill/drain solenoid valve system. The VBS also comes standard with various check valves placed to ensure proper system operation. Quarter turn stainless steel ball valves are used to fill and drain the housings, isolate components and allow different operational configurations. To enhance the systems life cycle, an input water filter is included to minimize particulate intrusion in the VBS system. This high pressure water pump is hydraulically operated and controlled by the ROV's servo valve pack which in turn is supplied hydraulic power from the host ROV.

Thank you for reviewing the VBS System. Please contact our helpful technical staff if you require assistance with this product. Our team of skilled engineers, designers and trained technicians are ready to assist you with product modifications and solutions to meet your most demanding requirements.

Be it an existing product or a customized package—our mission is to offer innovative engineering, design and quality manufacturing for our diverse and growing global customer base. Take action and make waves with SOSI today!

### Specifications:

- 240 lb. ballast exchange (120 lb. ballast per cylinder)
- Total VBS weight .....309 lb. in-water weight  
.....(less water ballast)
- 2-60 liter Ti-6Al-4V titanium ballast housings
  - Depth rating .....5,000 msw/16,400 fsw
  - Capacity .....120 L / 31.7 gal.
- Electrical requirements .....24 VDC @ 4 amps
- Integral pressure sensors .....4-20 mA output, 24 VDC
- Integral ballast level sensors .....38 discrete outputs, 24 VDC
- Inlet water filter .....25 µ
- High pressure water pump output:
  - 30 L/min. – 8 gpm max
  - 520 bar/7,550 psi
- High pressure water pump hydraulic requirements max:
  - 85 L/min. – 22.5 gpm
  - 190 bar/ 2,755 psi
- High pressure pump weight .....22 kg/48.5 lb.
- Ballast tanks
  - Outside diam. ....30.5 cm/12 in.
  - Overall length .....101.6 cm/40 in.
  - Weight in air .....115 kg/252 lb. each
  - Valving and piping .....~ 10 kg/22 lb.
  - Heavy wall stainless piping and fittings

### Options:

- Submersible HPU
- Stand Alone Control Servo Valve Pack
- Aluminum Ballast Tanks For Lower Depth Rating
- Custom Tool Sled
- Mounting Bracketry

\*Specifications subject to change