PELAGIC
RESEARCH SERVICES

ROV ODYSSEUS 4K

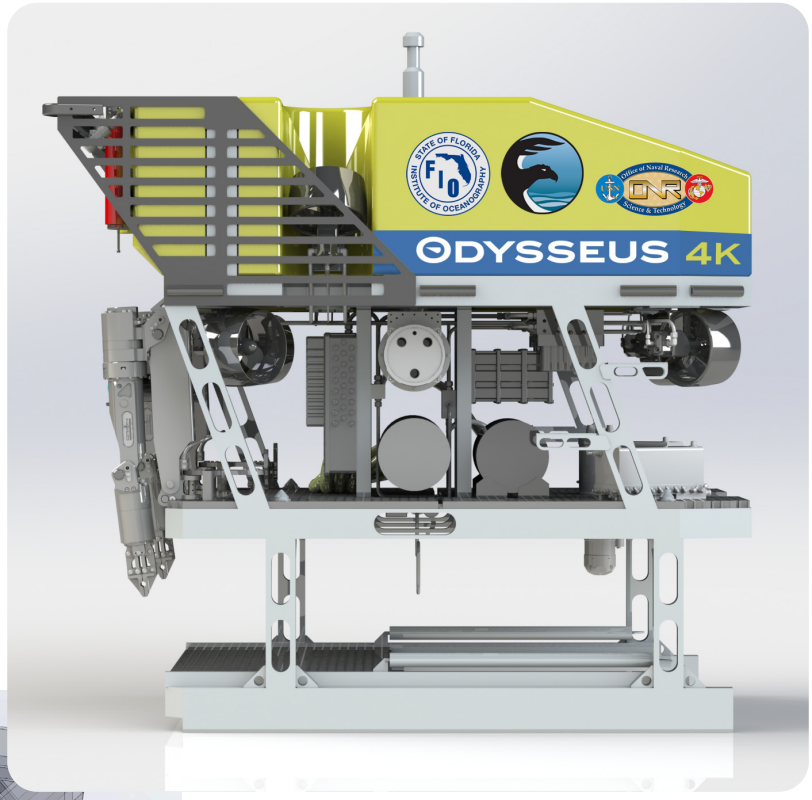
4000-meter depth rated ROV system

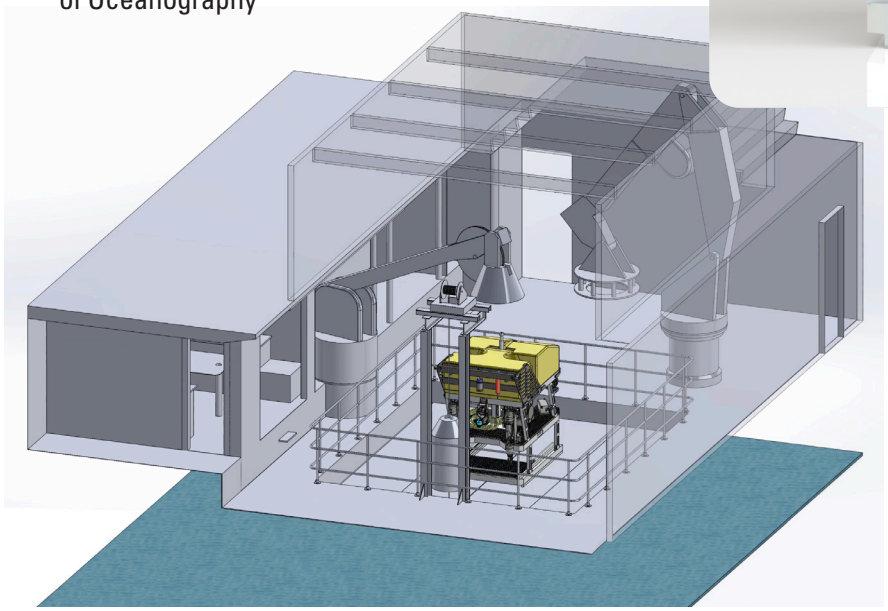
CONTINUING THE LEGACY

ROV Odysseus 4K is the highly-capable, deep-sea system built on the success and advanced features of the Odysseus 6K.

As an integral asset of the research vessel *Western Flyer*, the sophisticated Odysseus 4K is designed to reveal the deepest, most mysterious parts of the Gulf of Mexico. Launching through the *Western Flyer*'s moon pool, an opening in the hull that allows scientists to deploy the ROV, Odysseus 4K will be used to livestream video, data and shipboard activities using remote science technologies, with the goal of allowing people on land and on board the vessel to cooperatively conduct research in real time.

Odysseus 4K will be maintained and operated by Pelagic Research Services for the Florida Institute of Oceanography





STATE OF FLORIDA INSTITUTE OF OCEANOGRAPHY FIO

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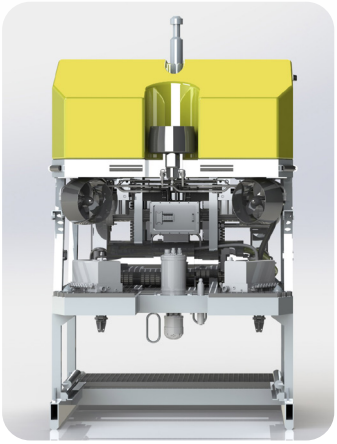
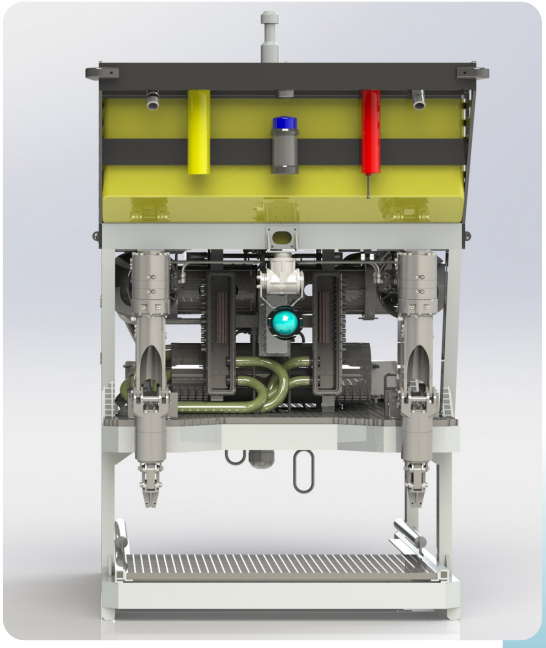




ODYSSEUS 4K

KNOWN SPECS

GENERAL

Depth Capability: 4000 Meters

Size: (with basic science skid)

Length:	93.125" (2365 mm)
Width:	55" (1400 mm)
Height:	84" (2134 mm) (TBD)

Weight (in air): 3,500 to 4,200lbs (TBD)

Payload: 150 to 250lbs (TBD)

Through Frame Lift

(Ratings are for the "in air" weight of the package being deployed or recovered.)

- Vehicle rated for 1500lbs
- 2 load releases, rated for 750lbs each
- Vehicle frame designed to accommodate customizable project specific work and science skids

PROPULSION

Seven hydraulic thrusters powered by 18.6Kw (25HP), 2,000 PSI hydraulic system

Fore/Aft/Lateral	Four Axial Mounted, 10-inch ducted thrusters, each providing 590N (133LBF)
Vertical	Three, 10-inch ducted thrusters, each providing 590N (133LBF)

INSTRUMENTS/TOOLING

Manipulators

Vehicle designed to accommodate 2 Schilling Orion 7P manipulators (1 now, 1 future)

- 1 Schilling Orion 7P Manipulator mounted on starboard side
- 1 5-function, rate-controlled manipulator on port side

Hydraulic

- 2000 PSI system
- 1ea 6-position auxiliary valve-pack at 700 PSI
- 1ea spare bidirectional port at 2000 PSI
- Connection points for additional valve pack (future)

Video

- 4K Insite Pacific Mini Zeus on dedicated fiber
- 2 Imenco Dusky Shark parallel green lasers (10cm spacing)
- 4 Analog Deep Sea Power & Light (DSPL) Cameras
  These utilize 4 of the 6 total available analog video channels
- 2 IP HD DSPL Multi SeaCams

Lighting

- 5 DSPL LED 90CRI High Output SeaLites(9600 Lumens each)
- 3 DSPL LED 70CRI High Output SeaLites(13000 Lumens each)
- Vehicle wiring allocated for 10 lights, but only 8 lights and receptacles included

Heading and Attitude

- TBD – Vehicle designed to accommodate an INS

Pressure Sensor

- Paroscientific Digiquartz pressure transducer

Altitude

- Tritech PA200/20

Doppler Velocity Log

- Vehicle designed to accommodate a future DVL (connected to an INS)

Sonar

- Tritech Super SeaKing DST sonar, dual frequency (325 and 675kHz), range 0.4 – 300 M

Data

- 4 spare RS232 channels at J-boxes
- 2 spare RS485 channels at J-boxes
- 2 GB Ethernet connections at Main Bottle

Power

- 24VDC at junction boxes for spare RS232 and RS485 channels

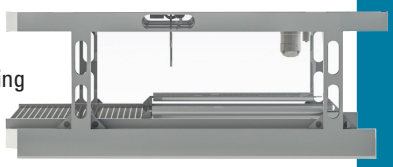
Unused

- 23 unused wires from Main Bottle to Port J-box
- 4 blanked Port J-box connectors
- 18 unused wires from Main Bottle to Stbd J-box
- 3 blanked Stbd J-box connectors

SCIENCE SKID

Usable Width:	48" (1219 mm)
Usable Length:	30.25" (768 mm)
Usable Height:	18" (457 mm)

Outfitted with hydraulic tray to accommodate various science kit including push cores, bio boxes, etc. Basic design feature is for the skid tray to retract so video field in front of the ROV is free and unobstructed.



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