Schmidt Ocean Institute
ROV Subastian Specification

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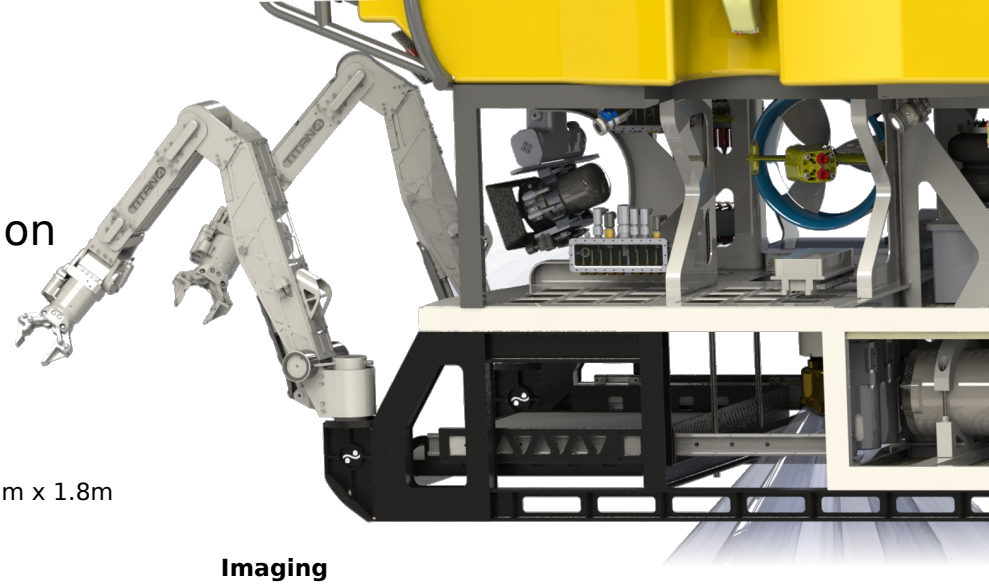

Mechanical specifications

Maximum operating depth	4500m
Overall dimensions	2.7m x 1.8m x 1.8m
Maximum transit speed	3 knots
Vehicle weight in air	3200kg
Payload weight in air	200kg

Electrical requirements

Topside PDU	370/390/410V three-phase 50/60Hz, ~90A typical
Support van	240/390/480V single-phase 50/60Hz, ~30A typical

Control system

Operator interface	Greensea Systems Balefire
Control modes	Conventional open-loop thrust or closed-loop position/velocity
Logging facility	All navigation and core science sensors logged via. black box
Still image capture	Situational and science cameras, with annotation queue facility
Video recording	Situational and science cameras, plus four auxiliary cameras

Hydraulic system

HPU	45hp motor with 100cc pump
Manipulators	2 x Schilling Titan 4 (T4)
Thrusters	5 x SubAtlantic, orthogonal
Thruster valve pack	6ch proportional, 60Lpm
Tooling valve pack	8ch proportional, 15Lpm
Science valve pack	8ch proportional, 15Lpm

Sonar

Scanning sonar	Tritech Super SeaKing DST
Imaging sonar	Teledyne BlueView M900

Lighting

Spot lighting	4 x CathX APHOS 16, 28,000lm
Strobe lighting	2 x CathX APHOS 32, 100,000lm
Flood lighting	10 x DSPL SeaSphere, 8,500lm
Local lighting	6 x DSPL SeaSphere, 6,000lm

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Imaging

Situational camera	SULIS H100
- video standard	4K UHD 2160p
- still image resolution	12 megapixels
- actuator facility	Vertical tilt only
Science camera	SULIS Z70
- video standard	4K UHD 2160p
- still image resolution	20 megapixels
- actuator facility	Pan / tilt / extend
- zoom facility	12X optical zoom
- scaling lasers	10cm spacing
Auxiliary cameras	
- port side peripheral cam	DSPL MSC (HD)
- stbd side peripheral cam	DSPL MSC (HD)
- umbilical monitor cam	DSPL MSC (HD)
- rear view cam (wide fov)	DSPL MSC (HD)
- manipulator arm cam	Wrist cam (SD)
- tooling/payload cam 1	DSPL MSC (SD)
- tooling/payload cam 2	DSPL MSC (SD)
- tooling/payload cam 3	DSPL MSC (SD)

Navigation sensors

MRU	Sonardyne Lodestar
INS	Sonardyne SPRINT
DVL	Sonardyne Syrinx
USBL	Sonardyne WMT 6G
Depth	Valeport miniIPS
SV	AML SV Xchange

Core science sensors

Temperature	PT100-based High-T probe
Depth	Paroscientific DigiQuartz
CTD	SeaBird FastCAT SBE49
O2	Aandera O2 optode 4831

Physical sampling

Biological collection	Large and small sealed boxes
Water sampler	Niskin bottles, 4 x 5L samples
Suction sampler	Cellula Robotics, 8 x 2L samples
Push core tubes	MBARI design, 24 x 10" cores

Available interfaces

AC power	230V AC up to 2400W (other voltages via. transformers)
DC power	24V DC up to 350W (other voltages via. DC converters)
Serial ports	8 ports, RS-232 / RS-485
Ethernet (10/100)	2 ports via. science junction box
Ethernet (Gigabit)	3 ports via. dedicated connectors
Fiber optics	2 available single-mode dark fibers