



LOW MAINTENANCE **COMPACT SIZE**



Scallop is dwarfed by a huge sea anemone

The ROV Scallop vehicle incorporates a high resolution color CCD video camera, two quartz halogen lights and three thruster motors. It carries no batteries. The vehicle is powered and controlled from the surface over a small-diameter, neutrally buoyant, umbilical cable.

Pressure housings are machined from marine grade 6061-T6 aluminum that is subsequently hard anodized for maximum protection. The Scallop system includes a kit containing tools and components required for routine maintenance.

Scallop is simple to operate. It's portable control system incorporates a "joystick" providing intuitive operator control for proportional speed and directional flight.

On the surface, Scallop's compact power supply provides safe, low voltage power to the vehicle. A simple connection to a video monitor (or television set) provides the operator with the "Scallop's eye view".

VERSATILE

Small and lightweight, the complete Scallop system can be carried, deployed, and operated by one person.

EASY OPERATION

Deployable from a boat, dock or beach, the Scallop vehicle can be maneuvered through water while providing fascinating, "real time" video images of the sub-aquatic surroundings.



Small and lightweight

TECHNICAL SPECIFICATIONS

	<i>Vehicle</i>	<i>Control Console</i>	<i>Umbilical</i>
Length	14" 350mm	20.5" 520mm	125ft 38m
Width	9" 230mm	17.5" 445mm	0.4" 10mm
Height	8.5" 216mm	8.5" (closed) 216mm (closed) 23" (opened) 584mm (opened)	N/A
Weight	8lbs (nom.) 3.6kg (nom.)	23lbs (nom.) 10.4kg (nom.)	10lbs (in air) 4.5kg (in air)

VIDEO CAMERA:

The ROV SCALLOP is equipped with a single, internally mounted, high resolution, NTSC format, colour video camera (PAL video format available on request). The camera is mounted on a remotely operated, motorized, tilting chassis that allows a vertical range of motion of +/- 60 degrees. In addition, the camera is provided with a remotely operated focus motor, and electronic iris.

CAMERA SPECIFICATIONS:

Pick-up Element:	1/3 in. CCD	Gamma:	0.45 -1
Number of Pixels:	768(H) X 494(V)	Video Output:	1V P-P, 75 OHMS (Unbalanced)
Scanning System:	2:1 Interlace	Electronic Shutter:	Auto with back-light comp.
Sync System:	Internal	Power:	12 VDC +/- 5%; 250 mA
Scanning Freq.:	15.735 Khz	Lens:	2.5 mm Micro
Resolution:	480 TV lines	Operating Temp:	- 10 deg. C to +45 deg. C
S/N Ratio:	More than 48 db		
Min. Illumination:	2 lux at F1.2		

PROPULSION:

The ROV SCALLOP incorporates three (3) variable speed thruster motors, each fitted with a four (4) blade propeller and removable, stainless steel thruster guard screens:

2 Horizontal Thrusters – Variable speed, bi-directional (fwd/rev)

1 Vertical Thruster - Variable speed, single direction (down)

Each thruster propeller is directly coupled to (no gears) and powered by an electric (DC) brushed permanent magnet motor. The thrusters each provide 1 lb. (nom.) thrust and vehicle speed through the water of 0 -1.5 knots.

HULL PENETRATIONS:

The basic SCALLOP vehicle has only three (3) hull penetrations; one (1) for the tether (umbilical) cable, which is permanently "potted" into the vehicle cable entry module and bonded to the hull, and; one (1) for each thruster/light housing which are permanently bonded to the hull.

To accommodate optional devices requiring external cabling, SCALLOP can be ordered with additional cables, factory potted into the cable entry module.

SCALLOP vehicles ordered with an optional depth gauge have one (1) additional hull penetration to accommodate the depth sensor which is bonded to the hull.

LANDING SKIDS:

The ROV SCALLOP is fitted with a welded, 6061-T6, powder coated, aluminum skid frame. The skid frame is attached (via machine screws) to the main hull. The skid frame also serves as the mount for the changeable, external ballast/trim weights and is specifically designed to protect the forward viewing camera port from damage.

UMBILICAL CABLE:

- 125ft/38m length neutrally buoyant in sea water
- Internal strength member (Kevlar or equivalent)
- Outer jacket is polyurethane

CONTROL CONSOLE:

The portable Control Console case houses the system power supply, surface microprocessor, and the required system circuit boards.

This case incorporates the system connections, displays and controls, including:

- System Power Cable Connection
- Vehicle Umbilical Connection
- Video output connection(s)
- Console mounted Depth Indicator (optional)
- Console mounted Heading Indicator (optional)
- Gripper control (open/close) pushbuttons (optional)
- Camera Selection (front/rear) switch (optional)
- System Power (on/off) Toggle Switch
- Horizontal Thruster Control Joystick
- Vertical Thruster Rotary Control
- Light Intensity Rotary Control
- Camera focus (in/out) control pushbuttons
- Camera Tilt (up/down) control pushbuttons



VEHICLE/TETHER CASE:

The ROV SCALLOP c/w umbilical cable, 16oz/450g external ballast weight, and standard tool/spares kit are transported and stored in a waterproof "Pelican" type case equipped with wheels for ease of handling.

Case Dimensions:	Length -	33 in. / 840mm
	Width -	21 in. / 535mm
	Height -	11 in. / 280mm
	Weight -	46 lbs / 21kg

MANUAL:

A complete system manual is provided with each SCALLOP system. The manual includes:

- Operating Instructions
- Maintenance/Repair Instructions
- Replacement Parts List
- Electrical Circuit Drawings
- Mechanical Assembly Drawings



OPTIONS AVAILABLE:

- Video Monitor (See Note)
- "Video Goggle" Head-set type operator's video monitor
- 125 ft/38m Extension Tether (not for underwater use)
- U/W umbilical/vehicle connector (allows umbilical to be unplugged from vehicle)
- Compass Heading Console display
- Vehicle Depth Console display
- "On-screen" heading, depth, time, date display
- MiniManip - Single function (open/close) remotely operated gripper
- Rear Camera/Lights - An internally mounted, stationary, rear facing, B/W video camera, c/w with 2 - 10W, externally mounted, rear facing lights
- Lock-wiring of external fastenings on vehicle
- Custom option requests will be evaluated for feasibility on request
- GM tube radiation sensor with console display

NOTE: The standard SCALLOP system provides an NTSC format video output (PAL format available on request) that can be readily interfaced with commercially available video monitoring and recording equipment.



Scallop Outfitted with a GM Tube Radiation Sensors