



JW FISHERS MFG INC

1953 COUNTY ST.
E. TAUNTON, MA 02718 USA

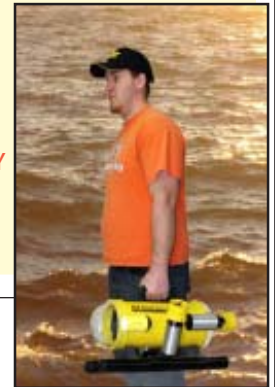
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TECHNICAL DATA SHEET



SYSTEM COMES COMPLETE AND READY TO GO WITH 250' OF CABLE AND 15" MONITOR

- PAN AND TILT COLOR FRONT AND REAR CAMERAS
- 1,000 FOOT DEPTH RATED (UP TO 1,500' CABLE)
- 50 DEGREE WIDE ANGLE LENS, 90 DEGREE TILT/PAN (140 DEG TOTAL VIEWING AREA)
- 15 INCH ULTRA BRIGHT COLOR MONITOR
- 200 WATT LIGHTING
- FOUR HI OUTPUT MOTORS, VARIABLE SPEED, REVERSIBLE
- 4 KNOTS FORWARD SPEED
- POWER BOOST CIRCUIT
- HIGHLY PORTABLE SYSTEM
- LEAK DETECTION CIRCUITRY
- SPARE WIRES IN UMBILICAL
- TWO YEAR WARRANTY



SeaLion-2 Remote Operated Vehicle

The SeaLion-2 is the next generation of Fishers very popular SeaLion ROV. More powerful than our SeaOtter, it has more options available, and can handle 1,000 foot depths and up to 1,500 feet of cable. With pan and tilt cameras in both front and rear (with optional side cameras available), it is perfect for pipeline inspections, river and ocean searches, dam inspections, oil and gas platform work, fish farms, inspection of hazardous sites, and almost every type of underwater search or inspection operation. This ROV can dramatically reduce search time and the high costs associated with diver based inspections. With the Sealion-2 your team can locate, inspect, and video tape a target without entering the water. The SeaLion can also narrow the search area so when divers are required, their time is spent on the target, instead of swimming grid patterns. When outfitted with a metal detector (JW Fishers RMD-1), the ROV can search for weapons, unexploded ordnance, pipelines, buried treasure, or other metallic objects.

Fishers ROVs are in use around the world by US and foreign military, state and federal agencies, search and rescue groups, and many commercial diving companies. These high performance underwater camera systems make public safety search operations less dangerous by assisting in the location of drowning victims and recovery of evidence. They help eliminate the need to dive in difficult or dangerous conditions, whether it be a low visibility environment or a dive beyond no-decompression limits.

The system is very user friendly and with just a little practice time in a pool, the operator will have the SeaLion-2 moving effortlessly through the water.

(continued on back side)

SPECIFICATIONS

DIMENSIONS/WEIGHTS:

- SeaLion 23L x 16W x 12H inches 43 lbs.
- Control Box 19L x 16W x 8.5H inches 15 lbs.
- Cable5 inches Dia x 250 to 1,500 feet .. 30/180 lbs.
- Monitor (built into case) 15 inches

PERFORMANCE/DESCRIPTIONS:

- Cameras/Lens ... 1/3" Super HAD CCD II color day/night, 4mm, 55 deg vertical by 70 deg horizontal lens, 700 lines, .0001 lux, 90 degree pan and tilt, auto iris.
- Monitor 15 inches, high resolution, ultra bright, color.
- Lighting Two 100w tungsten halogen (front).
..... Ultra bright LED ring (rear).
- Motors Four DC PM type, reversible, variable speed, proportional controlled, 7+lbs. thrust each motor, 4 knots.
- Operating Depth..1,000 feet.
- Color Yellow/black.
- Sealing Five separate housings, O-ring sealed, a leak detector in each housing, motors use "no maintenance" rotary seals.
- Power Req 120 vac, 8 amps, 900w max.

OPTIONS

- Up to 1,500 foot cable
- Cable reel with slip rings
- Spare parts kit
- Two color side cameras
- Manipulator arm
- Scan-650 scanning sonar
- Attached metal detector (RMD-1)
- Can be computer controlled
- On screen display (time, date, heading, depth, GPS, distance off bottom)
- External DVD recorder
- Internal DVR recorder
- Auto distance off bottom
- Auto Depth
- Video text overlay
- PAL camera and monitor (Europe)
- 220vac (Europe)

The ROV has a powerful and sophisticated four motor propulsion system; two motors for forward and reverse, and two motors for vertical and lateral thrust. The high output motors are reversible and operate at variable speeds. An off-the-shelf PS2 controller (supplied) operates the system. A joystick controls the horizontal motors (forward/reverse and turning) - it can hover "in place" and rotate 360 degrees; and the second joystick controls the vertical motors (up/down and lateral movement). A wireless PS2 controller can also be used.

When a high water current situation arises where extra power is needed, a button on the controller increases the maximum power available by 30%; significantly increasing thrust.



A PS2 Controller's joysticks and buttons control the ROV

The SeaLion-2 sends its video picture to a topside 15 inch high resolution ultra-bright color monitor which is built into the Control Box cover. A video output in the Control Box allows an additional remote monitor to be used simultaneously. An adjustable video amplifier on the Control Panel allows operator adjustment of the video picture to optimize picture quality for water clarity. A VCR/DVD can be connected to the Control Box to make a permanent record. The Control Box also contains an audio amplifier with an input jack on the Control Panel for audio recording.



Control Box cover with monitor can be removed for custom positioning or mounting

The system has two color cameras (front and back) with 4mm wide angle (50 degree) lens. The camera's 90 degree tilt allows a full 140 degree vertical viewing. The camera's 90 degree pan allows an additional 140 degrees of horizontal viewing. Both pan and tilt is controlled by pushbuttons on the PS2. Camera selection, front or back, is operator selectable from the Control Panel.

The Control Panel also contains a LCD readout which displays the overall status of the system.



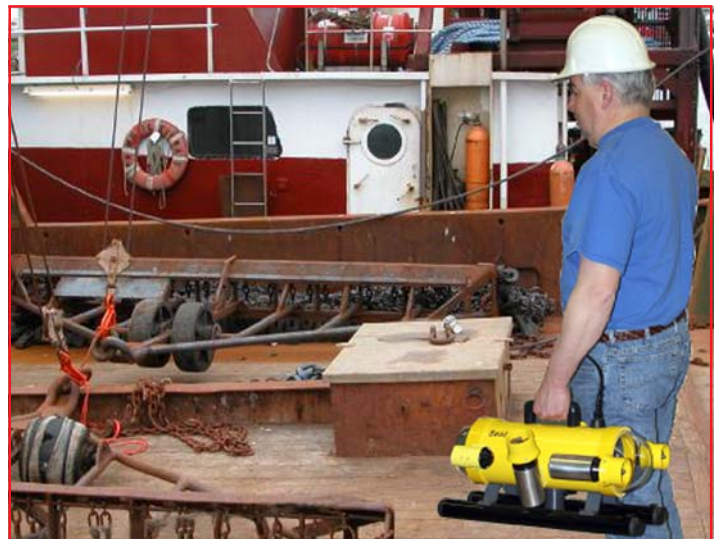
Control Panel's switches, controls, and interface connectors

Illumination is provided by two, 100 watt, fully adjustable (0 to 200 watts) tungsten halogen lamps for the front camera and a "ultra-bright" LED cluster for the rear camera.



Pan and Tilt Cameras (front and back) with 200 watts of adjustable Lighting

At 43 lbs, the ROV is highly portable and very "user friendly". With the optional spare parts kit, the ROV is completely field maintainable. *JW Fishers* SeaLion-2 ROV system represents a major breakthrough in cost/performance for a commercial grade ROV. This high performance system competes with systems more than twice the price. The SeaLion-2 is covered by a TWO YEAR WARRANTY.



Fishers ROVs are in commercial use Worldwide



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Underwater Search Equipment it **Pays** to Own



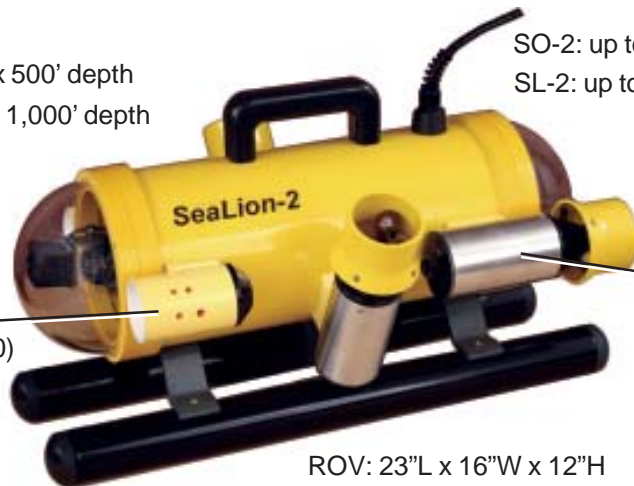
— Comparison of SeaOtter-2 to SeaLion-2 —



SO-2: max 500' depth
 SL-2: max 1,000' depth

SO-2: up to 500' of cable
 SL-2: up to 1,500' of cable

SO-2: 100w of lighting (on/off)
 SL-2: 200w of lighting (variable 0-200)



SL-2: Hi performance motors

— See complete list on back —

Features of SeaOtter-2 and SeaLion-2

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SeaOtter-2

- 500' depth rating
- 250' cable length standard
- Cable reel with slip rings
- 3 mph forward speed
- 4 motors (variable speed/reversible)
- 100 watt of lighting (on/off)
- 2 color cameras (front and rear)
- Pan and tilt (both front and rear cameras)
- Built in 10.4" flat "ultra bright" screen monitor
- PS2 joystick controlled (can be wireless)
- Spare twisted pair in umbilical
- Ground fault and leak detection circuitry

Options:

- Up to 500' total cable length
- On-screen-display (time, date, heading, depth, GPS)
- Auto depth control
- Manipulator arm
- Attached metal detector (our RMD-1)
- Scanning sonar (our SCAN-650)
- Basic spares kit
- DVD recorder

SeaLion-2

- **1,000** depth rating
- 250' cable length standard
- Cable reel with slip rings
- **4 mph+** forward speed
- **4 Hi Output motors** (variable speed/reversible)
- **Power boost Circuit (for short bursts of extra thrust)**
- **200 watt of lighting (0 to 200 variable)**
- 2 color cameras (front and rear) and both sides)
- Pan and tilt (both front and rear cameras)
- Built in **15"** flat "ultra bright" screen monitor
- PS2 joystick controlled (can be wireless)
- Ground fault and leak detection circuitry

Options:

- Up to **1,500'** total cable length
- On-screen-display (time, date, heading, depth, GPS, **and distance from bottom**)
- **2 color side cameras (4 cameras total)**
- Auto depth control
- **Auto distance off bottom**
- **Can be controlled by computer**
- **Video text overlay**
- Manipulator arm
- Attached metal detector (our RMD-1)
- Scanning sonar (our SCAN-650)
- Basic spares kit
- External DVD recorder
- Built-in DVR recorder

Note: Items in red are only available on the SeaLion-2



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