

Monday 3rd April 2006		AC-ROV	Videoray	Seabotix	NOTES
MODEL	SP50	Explorer	150S	Current latest models	
Depth	75m	76m	150m		
Size (cm)	20.3 x 15.2 x 14.6	35.0 x 22.5 x 21	53.0 x 24.5 x 25.4		
Projected Volume (cm3)	4,500	16,540	32,980		
Weight (kg)	3	3.6	10.4		
Thrusters & Maneuverability	6	3	4		
Fwd / Aft Thrusters	4	2	2	With two vertical thrusters, the AC-ROV can be tilted for complete camera manipulation. The controller is single handed, 100% intuitive and palm sized. The Videoray and LBV have tilting cameras, so flight and camera control is a two handed operation.	
Port / Stb Thrusters	4	0	1		
Vertical Thrusters	2	1	1		
Thruster Type	Centre less	Shaft Mounted	Shaft Mounted	Shaft mounted thrusters are easily jammed with weed and line.	
Degrees of Freedom	5	3	4	This defines maneuverability, and the maximum is 6	
<b>Bench Mark Data (vs. AC-ROV)</b>					
Size	1.00	3.68	7.33	Videoray ROVs can not fly sideways or hold in a side current. The LBV side area is twice its frontal area, and with only a single lateral thruster it's sideways current holding capability is about 25% of its forward capability. The AC-ROV has equal Fwd, Aft and Lateral thrust. <b>THRUST FACTOR</b> (approx) = Effective Thruster Area (TA) DIVIDED by the vehicle area presented to the flow. Thrusters without nozzles OR with guarded nozzles; reduce TA by 25%. Thrusters with less than 100% clear, inline and fully open flow path extending to 6 times their diameter; reduce TA by 25%. For vectored thrusters, correct the TA proportional to flow direction vector.	
Power / Weight	1.00	0.83	0.63		
Power / Displacement	1.00	0.27	0.29		
Fwd / Aft Thrust Factor	1.00	0.6	1.05		
Lateral Thrust Factor	1.00	0	0.43		
Vertical Thrust Factor	1.00	0.35	0.33		
Camera	520 line x 0.1 lux colour	570 line x 0.3 lux colour	570 line x 0.2 lux colour		
Lights	4 x Cluster LEDs Camera Tracking Variable Intensity	2 x 20 watt Fixed Variable Intensity	1 x 50 watt Camera Tracking Variable Intensity		
FLY THROUGH diameter	190mm	320mm	365mm		
DROP THROUGH diameter	220mm	425mm	595mm		
Power (watts)	300	300	650		
Power Supply	100 - 240vac 50/60Hz Auto Ranging	100 - 240vac 50/60Hz	100 - 130vac or 200 - 240vac User select		
Power Settings	Low / Med / High	unknown	unknown		
IN WATER Voltage	36vdc	48vdc	HIGH VOLTAGE		
CE Marking	Standard	Option	?		
IP Rating	IP68 / IP65	IP67 / IP64	IP67 / IP64		
Tether diameter (mm) Neutral	9.3	10	7.6		
Tether diameter (mm) option	6.3	NA	NA		
Display Monitor	145mm	127mm	EXTRA		
Tether	80m	76m	75m		
Tether Deployment System	Included	EXTRA	EXTRA		
Tether Connection Options	rear/top/bottom	rear	rear		
System Packaging	18kg Hand Carry Case	Over 45kg Two Suit Cases	Over 54kg Two Suit Cases		

**STANDARD AC-ROV FLIGHT ASSIST CONTROLS**

Flight Freeze & Un-freeze / Progressive +/- Vertical Trim / Progressive +/- Pitch / Progressive Fwd / 3 stage Power Increment