

Thursday 27th January 2011		AC-ROV	Videoray	Seabotix	NOTES
MODEL	100	Explorer	150-4	Current latest models	
Depth	100m	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	4.1	11		
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	
Bench Mark Data (vs. AC-ROV)					
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. THRUST FACTOR (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	0.73	0.91		
Power / Displacement	1.00	0.27	0.45		
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	550 line x 0.1 lux colour	570 line x 0.3 lux colour	560 line x 0.3 lux colour		
Lights	4 x 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	1000		
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	progressive		
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	8		
Tether diameter (mm) option	6.3	NA	NA		
Display Monitor	145mm	127mm	EXTRA		
Tether	80m	40m	100m		
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 55kg Two Suit Cases		

STANDARD AC-ROV FLIGHT ASSIST CONTROLS

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

