부록 B 다양한 소형 ROV 사양으로 분석한 추력과 항력 관계

Table B1 Specifications of ROVs evaluated

System and Parameter	ROVO-2	Large ROV A	Small ROV A	Small ROV B	Large ROV B	Small ROV C	Medium ROV A
Max. Operation Depth [m]	200	150	100	150	350	150	300
Length [m]	0.76	0.60	0.25	0.35	0.99	0.53	0.47
Width [m]	0.50	0.38	0.17	0.22	0.45	0.24	0.35
Height [m]	0.33	0.25	0.15	0.20	0.45	0.25	0.35
Weight in Air [kg]	19.95	17.69	1.81	3.62	31.75	10.88	18.14
Thrust	6	4	3	3	4	4	4
Lateral Thrust	Yes	Yes	No	No	Yes	Yes	No
Propulsion Force [kg]	9.97	11.33	0.90	2.26	10.43	4.08	5.44
Tether Diameter [m]	0.011	0.013	0.003	0.011	0.016	0.007	0.008
Rear Camera	No	No	No	Yes	No	No	No
Lateral Camera	No	No	No	No	Yes	No	No
Power Requirement [W]	2	3	1	1	3	1	3

○ 유속변화에 따른 추력과 테더의 항력비교

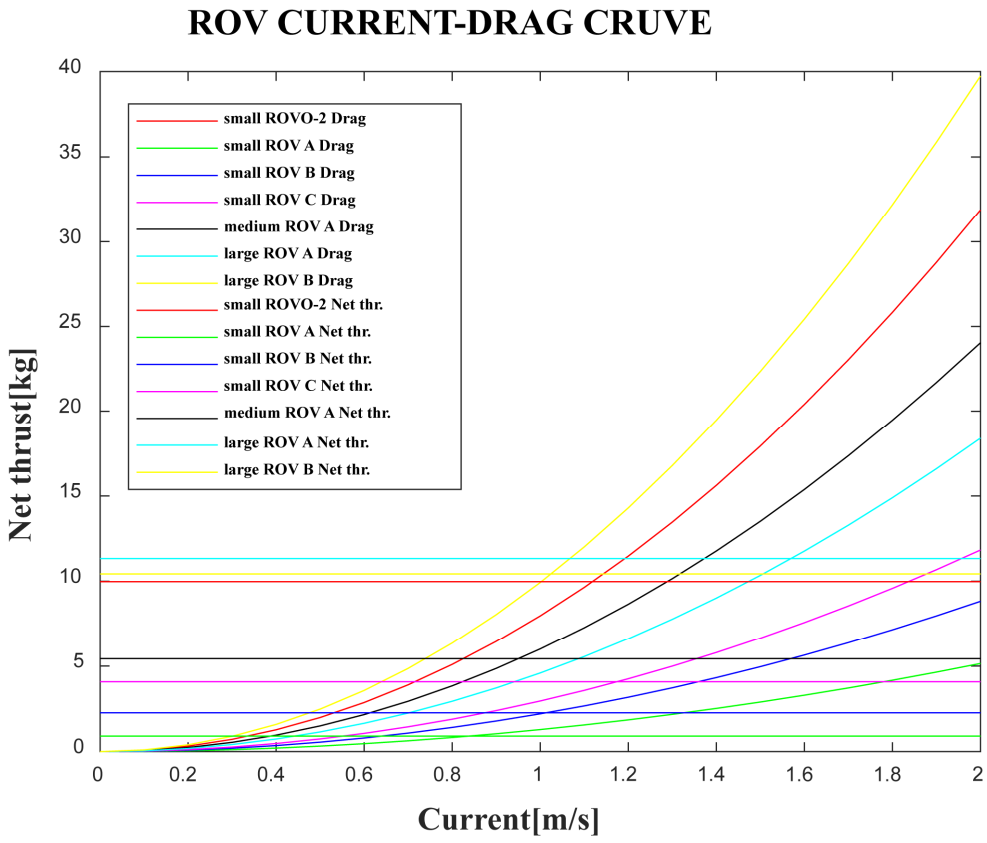

Fig. B1 Linear tether drag at varying speed with constant diameter

○ 유속 0.5m/s에서 2m/s까지 단계별 테더케이블 길이 변화에 따른 소요 추력의 변화. Net Thrust값이 0보다 작아지기 전 까지 ROV 운영가능.

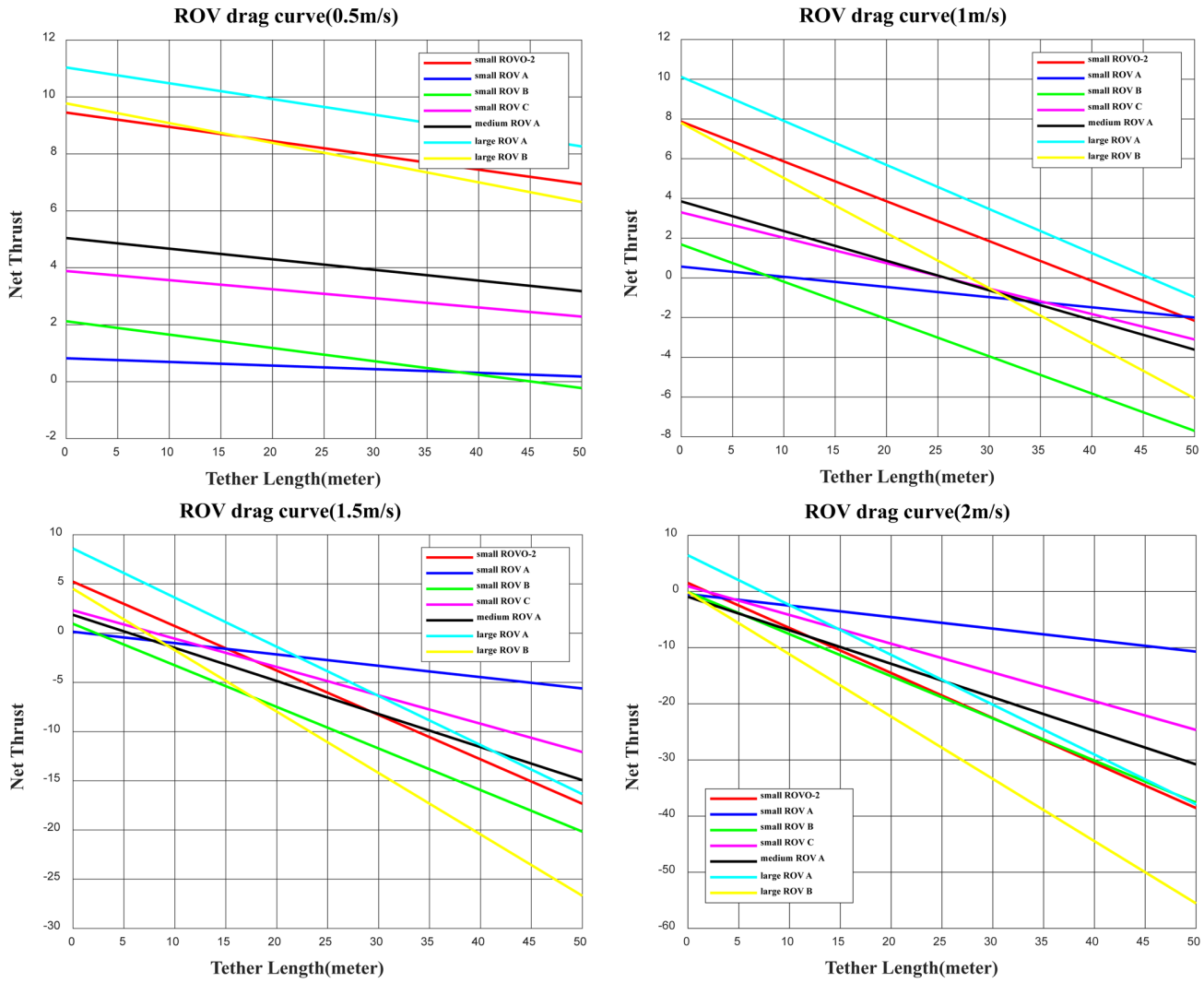

Fig. B2 Drag curves of systems tested at 0.5 m/s, 1 m/s, 1.5 m/s, 2 m/s