

TECHNICAL SPECIFICATION

LIBERTY SIDEMOUNT



DIVESOFT

Dimensions	800 mm (2,62 ft) length - shortened scrubber, 880 mm (2,89 ft) length - standard scrubber, 205 mm (0,67 ft) height, 220 mm (0,72 ft) width
Weight	Weight empty no cylinders: shortened scrubber – 12,9 kg (28,4 lb), standard scrubber 13,8 kg (30,4 lb) Weight empty with EUR cylinders: shortened scrubber – 19,2 kg (42,3 lb), standard scrubber 20,2 kg (44,5 lb) Weight ready to dive: shortened scrubber – 22,8 kg (50,3 lb), standard scrubber 23,7 kg (52,2 lb)
Oxygen sensors	4 in total in O ₂ block (individually sealed) 2 sensors for each control unit, Sensor type: DIVESOFT R22D Smart voting logic for four sensors
Helium sensors	2 Helium sensors – redundant method to calculate PPO ₂
Pressure sensors	4 in total inside of head, two for each side Calibrated to 300 m
Solenoids	2 in total – Interconnected with manifold Fed from left side O ₂ inlet
Batteries	2 Li-ion batteries 3,6 V, 5,85 Ah, individually sealed and tested to 300 m Work time: 20 hrs, Charging time: 8 hrs Batteries are equipped with OPV, so in case of a failure, any excess gas is vented outside the rebreather
Computers	2 individually sealed and independent control units communicating with each other located in the head
Handsets	2 handsets – Divesoft – redundant, waterproof connectors
Buddy display	On top of the head – red, green
Heads Up Display (HUD)	Yes, red, blue, green, possibility of colorblind diver setting. Can show emergency, hypoxia, hyperoxia and PO ₂ value display, PPO ₂ coding by Smithers code
Scrubber canister	Type: Radial Size: SHORTENED – 2,5 kg (5,58 lb) – provides between 4-6 hours of runtime (compact size) STANDARD – 2,5 kg (5,58 lb) – provides between 4-6 hours of runtime EN 14143:2013 – stress test - 2 h 48 min at 4°C, breathing 40 l/min, CO ₂ production 1,6 l/min
Type of Soda Lime	Sofnolime 797 manufactured by Molecular Products

Oxygen cylinder	Right side of the unit - exhalation side 2 L steel cylinder, 105 mm diameter / 200 bar USDOT approved for US Cylinders
Oxygen cylinder valve	230 bar / M26x2 / DIN for USA / Burst Disk equipped for USA
Diluent cylinder	Left side of the unit - inhalation side 2 L steel cylinder, 105 mm diameter / 200 bar USDOT approved for US Cylinders
Diluent cylinder valve	230 bar / DIN G 5/8" / Burst Disk equipped for USA
Counter lungs volume	2 counter lungs with total approximate volume of 6 L
Direction of breathing	Left to right (diver wearing the unit)
Frame	Titanium
Regulators	Apeks Flight
Depth rated	EN 14143:2013: 100 m (330 ft), precision test: 350 m (1,150 ft), Pressure test of all components: 300 m (984 ft)
Oxygen control	3 setpoint ranges: High + Low + descent, can be switched to any range between 0,4 – 1,6 bar anytime during the dive
Oxygen warnings	0,3 bar (low) – 1,6 bar (high)



LIBERTY ADVANTAGES

The Liberty in the Sidemount configuration demonstrates an entirely encompassed system with gas delivery systems fully enclosed within the system. The unit in Sidemount configuration weights ready to dive with shortened scrubber 22,8 kg (50,3 lb) thus making the unit optimal for travel and expedition.



The Liberty in the Sidemount configuration can work as an extreme bailout rebreather system and the electronics can be set to remain in a bailout configuration to monitor decompression obligations and maintain a preset PO_2 within the loop for when needed in a bailout situation.



The Liberty in a Sidemount configuration has one of the industries best work-of-breathing of any Sidemount rebreather while encompassing all gas systems on board the unit and maintaining a neutral trim orientation of the diver.

