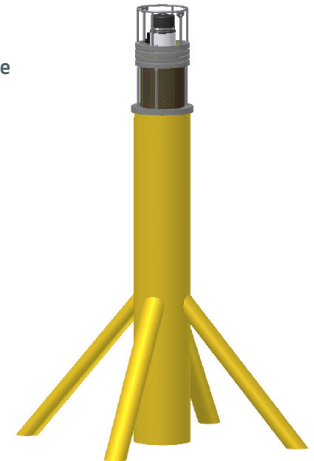


## NASNet® Mini Stations (MS)

NASNet® Mini Stations (MS) are designed to be deployed on the seabed in networks to provide accurate positioning throughout the water column, from seabed to surface. NASNet® MS can be deployed in frames or secured to the seabed in weighted buoyancy collars. The system is used in conjunction with NASNet® and is a ready alternative to traditional LBL beacons, offering all the advantages of NASNet® Simultaneous Operations (SIMOPS) between multiple vessels and subsea targets. A NASNet® MS deployment is an ideal solution for smaller scale or shallower water projects and is particularly suited as a localised subsea array for Dynamic Positioning Reference (DPR) where positioning activities through the water column benefit from the reliable long range capability of ADS<sup>2</sup> signalling, allowing ranges in excess of 7,000m to be used for positioning.

### Features & Benefits

- Long range capability
- Fully compatible with all NASNet® system functions
- Ideal for use as a stand-alone array
- Configurable deployment methods using seabed frames or acoustic release
- Signalling uses ADS<sup>2</sup> technology
- Up to two years battery capability in a single deployment
- Fewer seabed assets makes accurate full field positioning operationally and economically viable
- Full field coverage for life-of-field operations
- Ideal solution for subsea ROV and structure positioning for deepwater construction activities
- Robust (independent of GPS) position reference for surface positioning e.g. DPR
- Reliable communications due to advanced digital signalling techniques
- True multi-user positioning system with unlimited tracked objects
- Fast update rate in any water depth and no acoustic interference
- No frequency management issues with highly automated functionality



### NASNet® Mini Station Technical Summary

Operating frequency	10kHz with a 3kHz spread	Part number	8006-9300 (MS alkaline)
Signalling	ADS <sup>2</sup>		8006-5400 (MS lithium)
Power output	Programmable 157-196dB re 1µPa	External dimensions	1140 x 244mm (diameter)
Pulse rate	Up to every 1 second range pulse	Weight in air	66kg
Transmitter beam width	210 degrees	Weight in water	28kg
Depth rating	4000 msw	Replacement battery options	256-206-000 alkaline 0114-3626 lithium

### Operational Battery Life (at 5 second pulse rate) Note: stations may be operated at power output levels between 157-190 dB which will affect battery prediction

Output power dB re 1 µPa	Alkaline		Lithium	
	Days (continuous)	Number of pulses	Days (continuous)	Number of pulses
180	193	3,327,153	399	6,903,154
181	161	2,787,718	353	6,097,807
182	134	2,315,167	326	5,624,863
183	110	1,907,995	297	5,129,161
184	90	1,562,126	247	4,260,686
185	74	1,271,873	205	3,537,072
186	60	1,030,760	171	2,950,576
187	48	832,159	124	2,149,990
188	39	669,712	97	1,677,186
189	31	537,595	69	1,190,897
190	25	430,643	47	798,611

	Acoustic Release	Buoyancy	MS Adapter Stab
Part number	8006-5203 (MS-AR alkaline) 8006-5500 (MS-AR lithium)	8006-5202	8006-5103
External dimensions	1280 x 244mm (diameter)	929 x 654 x 612mm	354 x 178mm (diameter)
Weight in air	76kg	165.6kg	6kg
Weight in water	31kg	92.1kg ± 6.8kg net buoyancy	0.8kg

## Smart Solutions

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