Datasheet

Fetch AZA – self-calibrating bottom pressure recorder

Fetch Ambient-Zero-Ambient (AZA) is a long-life subsea sensor logging node with an integrated acoustic modem for high speed wireless data extraction.

The high-quality pressure sensor is automatically recalibrated in situ by periodically returning it to one atmosphere and comparing its readings with a low-pressure reference sensor of similar quality. In effect, the ±0.2 mbar accuracy of the low-pressure sensor is transferred to the high-pressure sensors. This automatic recalibration ensures that, aside from other potential sources of error, the post-processed data can achieve up to 150 times greater accuracy throughout the deployment.

Other supported sensors include high precision temperature and sound velocity as well as inclination.

The 9,000 bps modem transfer rate enables logged data to be extracted in minimal vessel time, reducing operational costs.

The ultra-low power platform powers up sensors only when required, logging and timestamping the data to an internal SD memory card.

High-capacity primary lithium battery packs enable multi-year deployments, dependent on sensor selection and sampling rate.

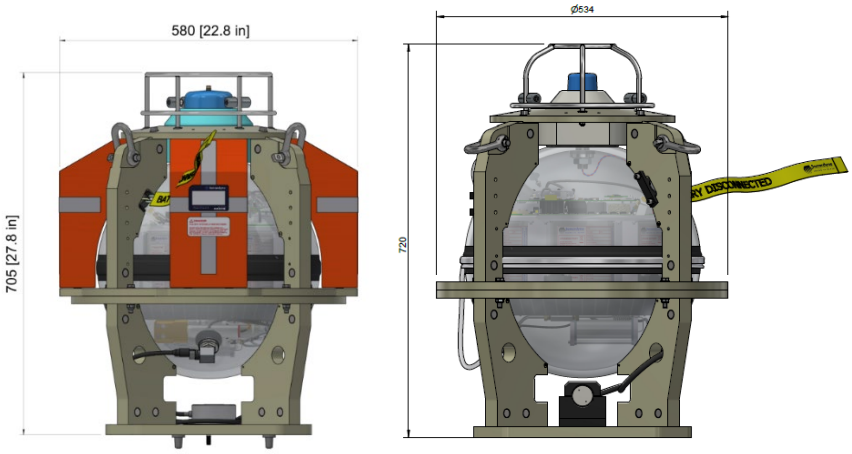
Fetch is compatible with Sonardyne's Ultra-Short BaseLine (USBL) positioning systems for precise positioning during deployment/recovery.

Key features

- Pressure data with drift-elimination
- Autonomous sensor logging with acoustic telemetry of data
- Low data recovery costs
- 3,000/6,000 m depth options
- Ultra-long-life – 10+ years with excellent corrosion resistance
- Integrated modem with data rates ranging from 100 to 9,000 bps in multiple frequency bands
- Easy to set-up with configuration and sampling period programmable via telemetry link
- Sonardyne Wideband® 2, Wideband 2+ and HPR 400 USBL mode compatible
- Integrated acoustic release
- Battery disconnect fob to disconnect battery for transport and storage

Specifications

Fetch AZA – self-calibrating bottom pressure recorder



Feature		Type 8306-Fetch AZA
Depth rating		3,000 or 6,000 m
Operating frequency		MF (20–34 kHz) LMF (14-19KHz)
Transducer beam shape		Directional Omni-directional
Transmit source level (dB re 1 µPa @ 1 m)		190–202 dB Directional 187–196 dB Omni-directional
Battery life (Capacity)[1]		2.61 kWh - up to 5 Years typical (single layer battery) 7.31 kWh - Up to 10 years typical (dual layer high-capacity version)
Mechanical construction		Glass sphere with titanium fittings
Operating temperature		-5 to +35°C
Storage temperature		-20 to +55°C
Weight in water[2]	Fetch	62 / 25kg (upthrust buoyancy, single battery pack variant)
	Stand	60 / 52 kg
Sensors and options		
AZA in-situ self-calibration mechanism		Standard
High precision temperature sensor (±0.015°C)		Standard
Transfer pressure sensor	Quartz, (±0.01%)	Standard
	2nd quartz	Option
Ambient pressure sensor	Strain gauge, (±0.01%)	Standard
	Strain gauge, (±0.19%)	Option
Low-range pressure sensor (strain gauge, 2 bar (±0.01%))		Standard
MEMS inclinometer (±1°)		Standard
Battery disconnect fob		Standard
Sound velocity sensor ±0.02 m/s accuracy under calibration conditions		Option
High precision inclinometer (±0.05°)		Option
Acoustic baseline ranging		Option
Release mechanism (screw-off)		Option
Stand/mud feet		Option

[1] Dependent on sensors and sampling interval
[2] Estimated weights.