

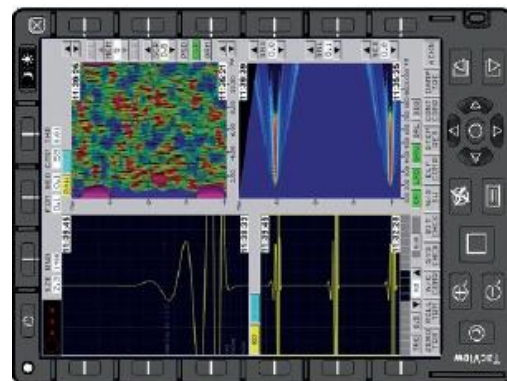


Brican's TD100-ASW employs the CAE MAD-XR magnetometer for detection of submarines. The agility and the long duration flight capability of the Brican TD100 aerial platform combined with the ultra-sensitive MAD-XR delivers unparalleled magnetic anomaly detection capabilities.

The MAD system consists of 3 highly sensitive magnetometers designed to sense changes in the earth's magnetic field relative to metallic objects in the immediate vicinity. The detection range of the MAD system is approximately 1,200 metres. When the MAD system detects a magnetic anomaly it alerts the RPAS ground crew and provides contact and range information in real-time. Multiple UAV's can be managed by the ground control system to swarm areas increasing the effective search area. Launch and recovery at sea from a Heli Pad is standard.

CAPABILITIES:

- Automatic Magnetic Anomaly detection for ASW and reporting in real-time
- Audio alert and visual indication of a MAD contact including estimated position
- Compensates for magnetic disturbances related to the manoeuvring of the UAV
- Automatic switching between sensors avoids "dead-zones" during detection
- Compensates for heading errors based upon orientation between sensor and Earth's magnetic field
- Advanced signal processing to enhance the anomaly signal and to suppress noise generated by other sources
- Interfaces with the autopilot to recommend the best flight path that optimizes target localization and detection
- High bandwidth frequency to digital conversion provides better detection due to reduced background noise in higher frequencies
- The system is designed to meet MIL Spec standards



MAD System Components:

The Brican\CAE MAD-XR is a fully integrated sensor system containing:

- **Scalar Sensor** – Total field magnetometer to monitor the earth's magnetic field and detect changes created by magnetic anomalies
- **Vector Magnetometer** – monitors the transverse, longitudinal, and vertical vectors of the earth's field relative to the aircraft's position and orientation for sensor compensation relative to aircraft manoeuvres
- **Interface Unit** – Performs sensor control, digital data acquisition, health monitoring and provides digital inputs to an on-board processing unit or to a ground station via the UAS digital link

Brican Flight Systems Inc. - ASW

The BFS-ASW is a fully integrated RPAS package specifically engineered to provide an effective magnetic anomaly target detection solution. Working with DRDC, CAE and NRC (National Research Council) engineers, the TD100 design was engineered to eliminate aircraft generated magnetic noise making it suitable for the MAD-XR sensor detection technology. The TD100 series design meets the current MTOW requirements of Transport Canada (Small UAV Category). The TD100-ASW can be equipped with either an Electric motor or a Multi Fuel engine capable of operating on Bio-fuel, Diesel and a variety of other fuels.

The entire ASW sensor package is built into Brican's high performance UAV aerial systems platform and delivers affordable and accurate data in even the most remote and harsh environments.

Launch and recovery is managed by a custom mobile launcher and a portable landing strip all of which are easily transported and therefore provides unrestricted operations on land, sea or snow.

TD100 SPECIFICATIONS

Weight:

Electric 15.87 Kg/ 35lb
Multi Fuel 15.87 Kg/ 35lb

Max take-off: 25 kg/ 55 lb

Useful Payload: 9.1 kg / 20 Lbs

Wingspan: 5.0 m/ 16'

Length: 2.0 m/ 6' 6"

Air frame: Composite Carbon Fibre

Autopilot Options: Cloud Cap Piccolo
Rockwell Collins Athena 111m

Ground Control: MaxVision Portable Computers



SPECIFICATIONS AND PERFORMANCE CRITERIA:

	Electric	Multi Fuel
• Payload Cruise Speed	83 kph (45 knots)	83 kph (45 knots)
• Max Speed	185 kph (100 knots)	185 kph (100 knots)
• Ceiling	7600 m	7600 m
• Endurance	Up to 2.5 hrs	Up to 23 hrs
• Range	Up to 200 km (108 nm)	Up to 1945 km (1050 nm)
• Operating Temperature	-20 ⁰ C to 45 ⁰ C (-4 ⁰ F to 113 ⁰ F)	

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Designed and built to be RPAS compliant that meets Canadian Best Practice Standards and Certifications

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