ECC OZONE SONDE

This lightweight, compact balloon-borne instrument is the tool used around the world for measuring atmospheric ozone.

Unlike some ozonesondes, ECC sondes do not require an external electrical potential. The ECC gets its driving electromotive force from the difference in the concentration of the potassium iodide solutions in the instrument's cathode and anode chambers. When ozone enters the sensor, iodine is formed in the cathode half cell. The cell then converts the iodine to iodide, a process during which electrons flow in the cell's external circuit. By measuring the electron flow (i.e., the cell current) and the rate at which ozone enters the cell per unit time, ozone concentrations can be calculated.

For flight, the instrument is directly coupled to Meteomodem's M20 radiosonde via its specific interface board.
SR10 ground sounding system support ozone measurement. Measured parameters are ozone, sonde pump temperature, air pressure, air temperature, humidity, and wind data.

General features

- **Easily prepared for use**
- **Accurate, precise, high-resolution ozone measurements**
- **Unique design that allows pump operation without ozone-destroying lubricants**
- **Easily coupled with M20 radiosonde for parameters such as GPS, pressure/altitude, temperature, and relative humidity**

ECC Ozone sonde with Meteomodem interface for M20 radiosonde

Technical specifications

Parameter	Specifications
Method	Electrochemical process that generates electrical current in proportion to ozone concentrations
Ozone sonde Model	ENSCI Model Z with modem interface for M20 radiosonde
Measured Parameters	Parts Per Billion (PPB)
Operating Pressure	1050-4 hPa
Operating Temperature	+ 60°C to – 90°C
Sensitivity	< 3 ppb by volume
Precision	< ± 10%
Power supply	Alkaline battery Lithium battery (in option)
Dimensions (without M20)	19.1 cm – 19.1 cm – 25.4 cm
Weight (including: ECC, M20 interface and battery)	510g (with lithium battery) 550g (with Alkaline battery)
Total weight with M20 radiosonde	586 g

Measurements details

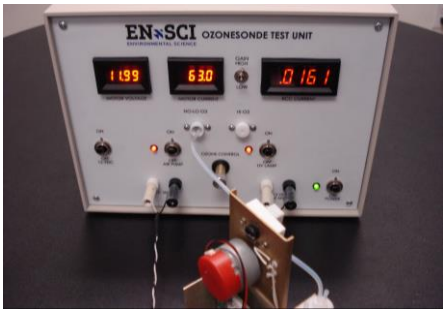
Hpa	Accuracy	Precision	Resolution
1000	± 5%	± 4%	0.3 km
100	± 5%	± 3%	0.3 km
10	± 5%	± 3%	0.4 km
4	± 10%	± 10%	0.4 km

Necessary equipment for an ozone sounding

ECC ozone sonde Z with M20 interface

M20 radiosonde

SR10 Ground system



Ozonizer/test unit

Chemicals and laboratory equipment