

# CENTURY GEOPHYSICAL LLC.

## PRODUCT DESCRIPTION

### 9722 E-M Flowmeter



**Background Information**

The E-M Flowmeter tool is used in the environmental and hydrology industries to measure fluid movement in a borehole. The instrument measures flow rates using the principal of Faraday's Law of Induction. The downhole probe consists of an electromagnet and two electrodes located 180 degrees apart and 90 degrees to the magnetic field inside of a hollow cylinder. The voltage induced by a conductor moving at right angles through the magnetic field is directly proportional to the velocity of the conductor (water) through the field. The tool is capable of measuring low velocity flow rates down to less than 50 ml/min and increased flow rates to 40 liters/min, through the tool's 1 inch inside diameter sensor. When using the tool to measure low velocity flow rates a rubber skirt is attached to the outside of the sensor to block off the bore hole and force the fluid to pass through the 1 inch diameter opening inside the sensor coil. The Compu-View Software program is designed to allow the automatic collection of data at selected static stations in the borehole. When measuring faster flow rates the rubber skirt is typically removed and the tool is run in either the static station or dynamic mode. The tool has no moving parts.

Features	
Properties Measured (see diagram)	Tool Specifications
<b>1. Flowmeter:</b> Electromagnetic Offset: 139 cm (54.75 in.) <b>2. Fluid Resistivity:</b> Offset: 112.7 cm (44.375 in.) <b>3. Temperature &amp; Delta Temperature :</b> Offset: 112.7 cm (44.375 in.)	<b>Length:</b> 153.7 cm (56.5 in.) <b>Temperature:</b> 60 C (140 F) <b>Diameter:</b> 41.3 mm (1.625 in.) <b>Sensor Housing:</b> 50.8 mm (2.0 in.) <b>Weight:</b> (13.5 lbs.) <b>Tool Voltage Required:</b> 64 VDC <b>PRESSURE:</b> 2500PSI

**Sensor Response Ranges**

Sensor	Response Limits	Accuracy
Flowmeter (EMF)	50 ml./min. to 40 liters./min.	+/-20 ml/min. (High Gain)
Temperature (TEMP)	0 C to 60 C (32 to 140 F)	+/-5%
Fluid Resistivity (FR)	0-100 ohm meters	+/-5%

**Tool Information**

Item	Model #	Part #
Tool with EMF, TEMP, FR	9722	300500A
(included) 6.5 in. Diameter Flow Diverter Skirt (modifiable for use in hole from 3.75 in. to 6.25 in. diameter)		
(included) Centralizer		
(included) Weighted Section		