Design details that ensure repetitive results
The M9500 includes many special design details that ensure repetitive test results. The M9500 system is guaranteed to repeat the benchmark long-term conductivity measurement of Ohio 20/40, 40/60 White Sand.

Multiple precise proppant thickness measurement per cell
By providing at least 2 high-precision proppant-gap measurements at both ends of the testing cell, the M9500 provides crucial information to monitor and validate proper loading of proppant.

Years of hands-on conductivity testing experience
Our experienced technicians provide hands-on training to customers, including all necessary details for obtaining repetitive test results.

Multiple DPs validate accurate testing
The standard M9500 configuration includes 6 DP transducers per cell. This provides a very wide and accurate measurement range, suitable for conductivity testing from standard proppant long-term conductivity to polymer reaction with proppants. By providing at least 3 DP transducers per cell, the M9500 can easily verify the accuracy and consistency of test measurement.

Additionally, the M9500 hardware can be scaled back to reduce the number of DP transducers from 12 to 6 or even 2, in order to reduce the instrument size and save laboratory space.

Specifications
Fracture Conductivity System:
- Flowing Pressure: Atm to 3,000 psi
- Closure Stress: Atm to 20,000 psi
- BP Regulators: Atm to 3,000 psi
- Accum. Pressure: Atm to 3,000 psi
- Accumulator Volume: 2,000 mL

Leak-off System:
- Back Pressure: Atm to 3,000 psi
- Digital Pressure Transducer: ±0.1% accuracy of full scale or better
- Closure Stress: Closure stress up to 20,000 psi
- Temp. Range: Atm to 400 °F with ±1 °F accuracy
The M9500 can perform fracture conductivity or leak-off testing separately or they can be run together as part of a pre-programmed test sequence:

1. Fracture Conductivity Testing
   The Fracture Conductivity system injects proppant fluids into multiple stacked test cells. Temperature and pressure are displayed on digital readouts as well as being displayed within M9500 PC.
   - Manual bleed valves for each cell
   - Blanketed reservoirs for deoxygenation of KCl brine
   - Inline heaters ensure that fluid enters test cells at target temperature
   - Backpressure control and electronic balances capable of measuring 0.1 g/min

2. Leak-off Testing
   The Leak-off testing system enables backpressure to be maintained against rock wafers in order to test leak-off rate.
   - Handles multiple stacked cells
   - Individual heating elements for cells and controllers
   - 316 stainless construction for all components exposed to injected brine
   - Computer-controlled pump for pressurization and control

3. Flow-back Testing
   The Flow-back test is run to measure the flow-back properties of a proppant using one or more test fluids.
   - Measures the movement of particles in fluid
   - Test fluids include silicate additives or corrosives
   - Multiple cells can enable simultaneous tests
   - Software can create multiple sequence steps for detailed flow-back analysis

4. Beta factor measurement (non-Darcy flow)
   - Automatic calculation of Beta factor under various flow rate
   - Max pressure rating: 1,000 psi
   - All stainless steel for those components exposed to N2 injection
   - Automatic mass flow controller controllable range min 1-300L/min
   - Automatic Beta factor calculation

The 9000 series of products are all highly customizable, so all specifications should be regarded as approximate, depending on individual customer requirements.