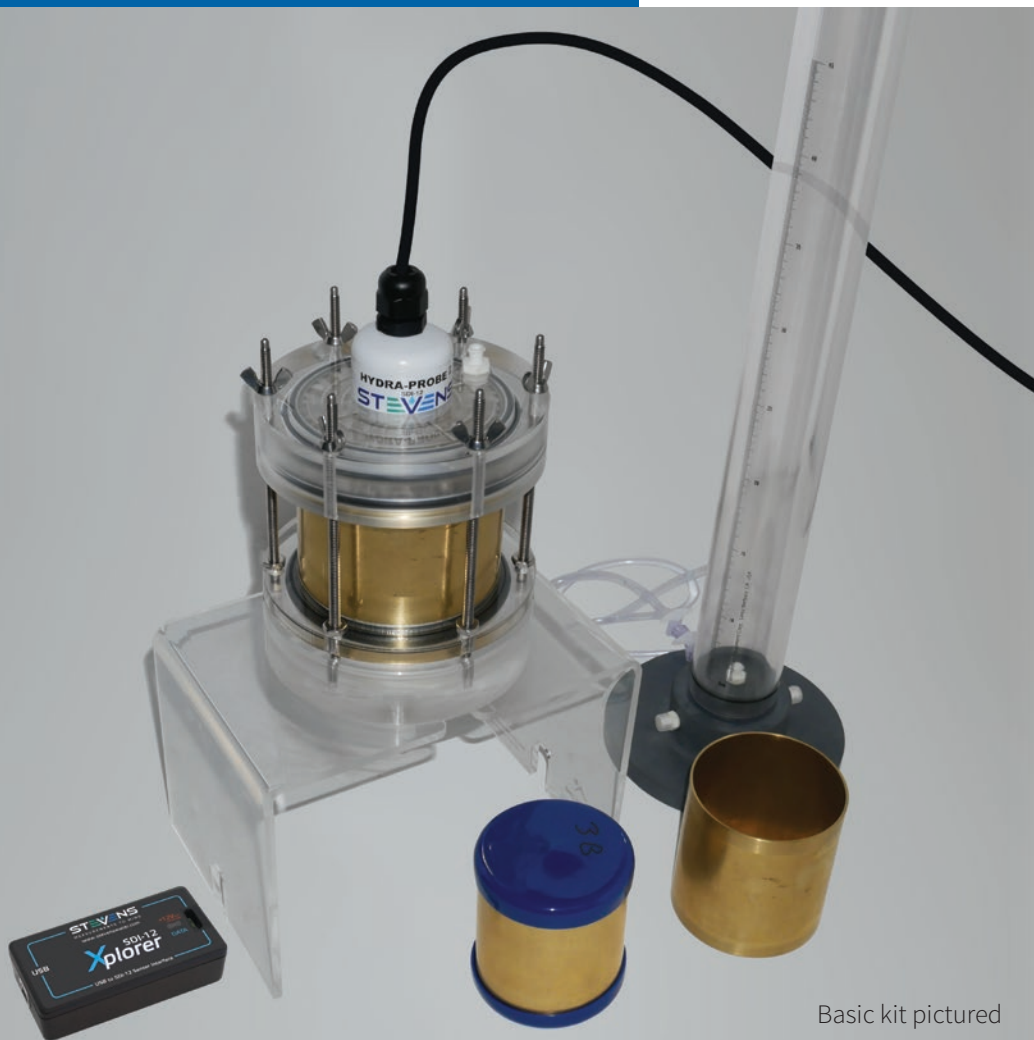


Stevens Tempe Cell System

STEVENS
MEASUREMENTS TO MIND

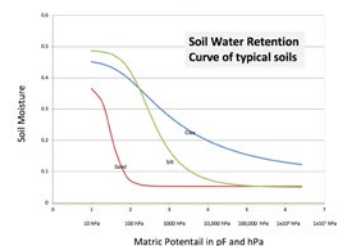
Soil Moisture Analysis System



Basic kit pictured



The Stevens Tempe Cell System is a complete kit used to determine soil water holding characteristics, validate the accuracy of a soil moisture sensor, and determine volumetric soil moisture gravimetrically.



The Stevens Tempe Cell System can employ five different methods to eliminate the uncertainties from soil moisture measurements and achieve the highest level of accuracy. This system uses an enhanced gravimetric method to measure soil moisture to obtain the actual volumetric water content and develop a soil moisture calibration equation to validate and/or program into soil moisture sensors. In addition, the system's outputted data can be used to develop a soil-specific calibration curve, and to develop an algorithm to determine the soil's matric potential using the HydraProbe.

The Stevens Tempe Cell is ideal for mesonets, climate reference networks, and soil monitoring stations.

Five Uses of the Stevens Tempe Cell

1. Provide a traditional gravimetric method for determining soil water content.
2. Determination of bulk density, porosity and saturation of soil.
3. Develop soil-specific calibration equations to adjust and/or validate soil moisture sensors using an enhanced gravimetric/volumetric soil moisture determination.
4. The system's volumetric water content data output can be used to develop a soil-specific calibration curve*
5. A soil-water retention curve up to 2 bar can be developed and curve-fit to the output of HydraProbe sensors enabling the HydraProbe to output matric potential for specific soils.*

* Advanced soil retention curve development option required.

KIT	Basic kit, non-pressurized	Advanced soil retention curve development option
USES	Determination of soil bulk density, calibration development and validation.	Soil water retention curves, field capacity determination, and more calibration points.
INCLUDED <i>Note: drying oven and balance are not included.</i>	<ul style="list-style-type: none"> • Brass coring rings • Tempe base • Reservoir • SDI-12 Xplorer • HydraProbe 	All items from basic kit, plus: <ul style="list-style-type: none"> • Ceramic plates for retention curves • Top assembly for pressurization • Pressure manifold • Compressor • Other accessories to pressurize Tempe Cell
PART NO.	51169-100	51169-200

All components can be purchased separately or in a kit.

Applications

- Agriculture/agricultural research
- Climate reference monitoring
- Soil carbon and gas flux monitoring
- Soil contaminate remediation
- Satellite ground-truthing
- Drought, flooding and climate modeling
- Soil water infiltration
- Mining
- Use a HydraProbe to measure matric potential eliminating the need of tensiometers

TECHNICAL SPECIFICATIONS

Tempe cell max. pressure:	2 bar
Coring ring inner dimensions:	9 cm L x 8.56 cm Ø
Coring ring volume:	517.9 cc
Coring ring outer diameter:	8.89 cm
Tempe stand holding fixture:	19cm x 13cm



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