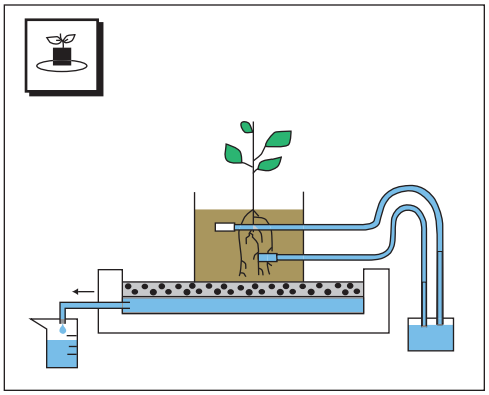
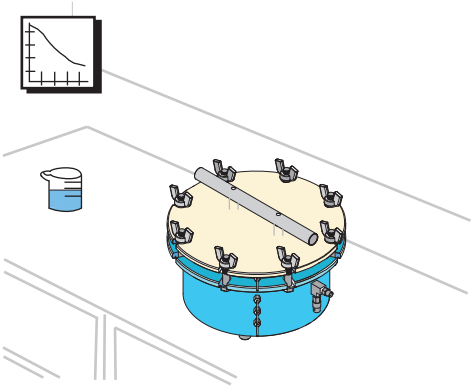
## APPLICATIONS AND USES

### Column work

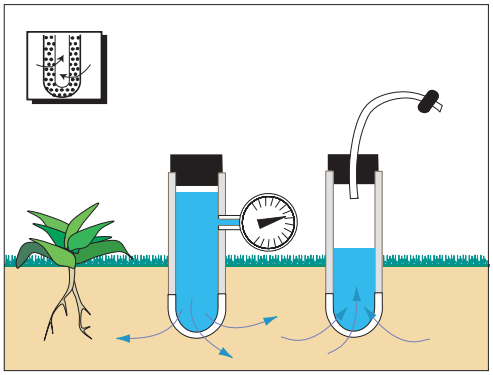


Laboratory soil columns or boxes are easily constructed and are a common way to simulate complex field conditions of interest. It's an easy way to monitor and see what's happening in real time. Whether the problem is field drainage, creating the proper matrix suction values for growth, or measuring changes in hydraulic potentials, Soilmoisture's porous ceramic products can help provide the answers.



### MOISTURE RETENTION CURVES

A basic of any soils study is the relationship between its water holding capability and the release of any held water. The universally recognized method for gaining this vital information is by using Soilmoisture Pressure Extractors, soil samples, and our porous ceramic plate or cup assemblies. The result of such testing, commonly known as a "moisture retention curve", is the relationship between volumetric or gravimetric water content and the extraction pressures necessary for a plant to remove that water. Soilmoisture has both the extractors and porous ceramic products you will need to run your own moisture retention curves.



### SOLUTION EXTRACTION OR TENSION MEASUREMENTS

Simply attaching a porous ceramic cup to the end of a piece of connecting tubing and sealing the end makes a simple device that will provide significant scientific information. If a vacuum measuring device is tied into the connecting tube while water is withdrawn through the porous cup, water tension is measured (a tensiometer). On the other hand, if a vacuum is induced within a closed connecting tube, it is now possible to pull in water from the surrounding soil or material (a suction lysimeter or "soil water sampler").

### PORE WATER INTERFACE

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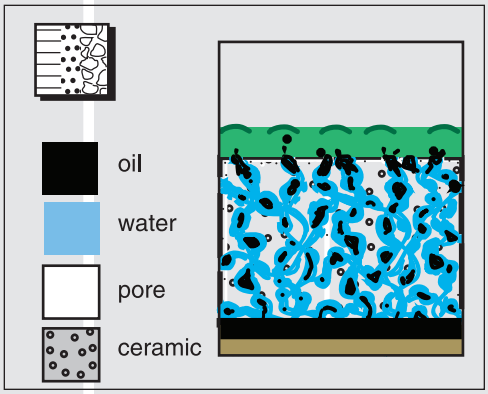
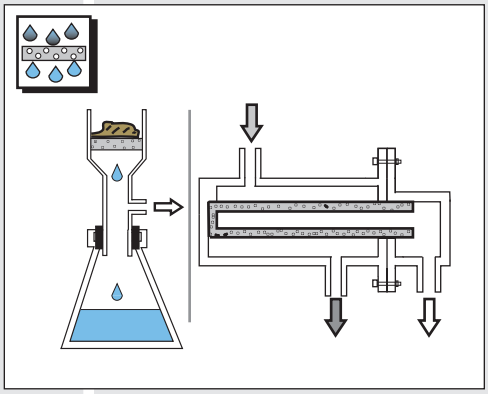
# POROUS CERAMICS

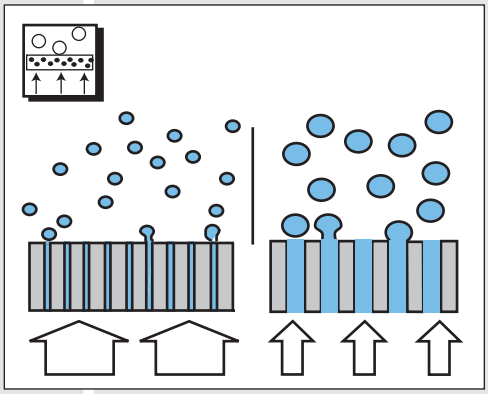



The unique characteristics of a wetted (pores filled with water) porous ceramic is its ability to join with wetted surfaces of materials nearby, therein creating a pore/water interface. With a wide variety of pore sizes, air entry values, shapes and sizes you are able to interface and measure hydraulic conductivity and flow rate properties without impedance from ceramic materials that are too fine or coarse for your work. The ability to monitor the interactive effects of water and 2 or 3 party systems having one or more immiscible liquids such as oils, etc., and their effects within natural pore structures are of great interest to oil and gas industries.



## FILTERS/DRAINS

Porous ceramics are a natural for a wide variety of filtering applications using liquids and pastes. Porous ceramics provide the tough and rigid capability suited to those filtering requirements that will not work with softer pliable paper or membrane filters. Because of their naturally hydrophilic surfaces, variety of fine pores sizes, and ability to be used under pressure or suction conditions, they assure that only the liquid portion of any phase mixture comes through.



## AERATORS

The infusion of gases into liquids and pastes are important to process industries. Control of the size and volume of those bubbles is very important and Soilmoisture's porous ceramics provide a rich selection of aeration materials. Whether it's air sparging to accelerate bacterial digestion deep in underground remediation wells or the foaming of a liquid in an infusion process, there is probably a porous ceramic to fit the need.

**POROUS CERAMICS 0600 TO 0699**

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- Hundreds of stock items in various formats
- A wide selection of tough rugged shapes and sizes
- Naturally wetting pores of very uniform sizes
- Standard tight tolerances or custom shapes with the precision you need
- Most can be modified by standard techniques
- Customs and Special available usually in 4 weeks.
- Glazing and machining to exacting standards.
- We'll create specialized assemblies to meet specific needs.

## FEATURES

The ceramic products offered in these sections are our most popular which have been sold for decades to discriminating customers like yourself who demand the very best. Each specialty area of our ceramics product line represents the finest quality products available to you as a consumer. Many of the items are used in the fabrication of our quality field and research laboratory equipment sold under the Soilmoisture name.

The unique characteristics and quality of our porous ceramics allow them to be used in a variety of applications. The natural wetting abilities of a porous ceramic, the uniform pore sizing, and inert raw materials provide an excellent finished product for research or industrial applications. Combine these attractive features with the strength and durability capabilities of a variety of ceramic shapes and you have a limitless number of excellent possibilities.

For your convenience, at the back of this ceramics section we have provided a compendium of accessories and materials that you might find helpful in completing your project. We are constantly adding new ceramic products, and we encourage you to consult our web site at http://www.soilmoisture.com in the ceramic section for these new additions. If you can't find the right product to meet your special porous ceramic needs, please send us a sketch including the tolerances and quantities required for a quick bid. For those O.E.M.s looking for large commercial quantities, Soilmoisture can provide your specialty item at substantial savings.

## TYPICAL APPLICATIONS


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