METER

KSAT
SATURATED HYDRAULIC CONDUCTIVITY OF SOIL IN LAB

Avoid painstaking, complicated setups

Saturated hydraulic conductivity isn't an easy measurement to make, mostly because of the lack of a simple-to-use tool. Many soil scientists and engineers resort to cobbling together their own contraptions that are either complicated and finicky, or simple and crude. Neither has proven to be an effective setup in terms of accuracy or convenience.

Saturated hydraulic conductivity - simplified

The ASTM D2434-compliant KSAT is the only easy-to-use automated setup for taking saturated hydraulic conductivity measurements in the lab. In its simplest form, it's an instrument that uses both the falling head (automated) and constant head (non-automated) methods on a soil core. Best of all, it's completely integrated, so you're also assured of software- controlled engineering that's fully tested.

Integration: the key to convenience

Unlike typical contraptions, the KSAT comes with everything you need to make a measurement, meaning you can set it up right out of the box. This type of integration also allows the KSAT to take up minimal bench space. But perhaps its biggest benefit is how, as part of the LABROS system, it complements the HYPROP. Both the HYPROP and the KSAT can use the same soil core because they share compatible sampling rings. This enables you to take saturated and unsaturated hydraulic conductivity measurements and generate a soil moisture characteristic curve to get a complete picture of a sample's properties, simplifying both processes.

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Easy and automatic

As the only simplified automated instrument on the market, the KSAT makes measurements a lot more convenient. The easy-to-use software performs all calculations, including temperature corrections based on the viscosity of water. You can also look forward to eliminating the need to time outflow, weigh beakers, and make judgment calls, which collectively add up to significant time savings.

A higher degree of accuracy

The KSAT boasts a wide range of measurement conductivities from 5,000 to 0.01 cm/d. Plus it reads and stores data automatically on your computer via USB, so human error is reduced. And because the data is temperature-corrected, data quality is also dramatically improved for results you can truly rely on.

Superior saturated hydraulic conductivity measurements

Full integration. Simple automation. Improved accuracy. The KSAT finally checks off all the boxes you care about when it comes to measuring saturated hydraulic conductivity in a compact instrument that saves you time, hassle, and worry.

Features

- Accurate
- ASTM D2434 compliant
- Removes human error
- Directly calculates Ksat
- Temperature corrections
- Completely integrated package
- Small footprint
- Automated
- Uses both constant and falling head methods
- Easy-to-use software
- Compatible with HYPROP
- Wide range of conductivities
- Complies with DIN 19683-9 and DIN 18130-1

Specifications

Measurable Ksat values (min.)	0.01 cm/d
Measurable Ksat values (max.)	5000 cm/d
Hydraulic conductivity (Ks) of the porous plate	Ks = 14000 cm/d
Typical statistical inaccuracy at constant environmental parameter and constant flow resistance of the soils	approx. 2% (in practice 10%)
Pressure sensor accuracy	1 Pa (0.01 cm WC or 0.0001 psi)
Temperature sensor accuracy	0.2 °C
Sampling ring (also fits with HYPROP)	**Volume:** 250 ml **Height:** 50 mm **Inside Diameter:** 80 mm **With separate adapter:** 100 ml sampling rings possible

For more information and resources about SATURATED HYDRAULIC CONDUCTIVITY OF SOIL, please look at the below link:
https://www.metergroup.com/en/meter-environment/products/ksat-saturated-hydraulic-conductivity