

# Field Saturated Hydraulic Conductivity

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[metergroup.com/environment/products/saturo/](https://metergroup.com/environment/products/saturo/)



## Automated measurement - Simplified data analysis

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### SATURO

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#### **Get more out of every field visit**

Saturated hydraulic conductivity is a pain to measure in the field. And the field measurement is only the beginning. When you get back to the office, you need to convert the raw data into hydraulic conductivity and infiltration rates.

We think you should spend less time on complex measurement processes and more time being productive. That's why we automated almost everything in the new SATURO.

#### **Set it up, and leave**

The SATURO Infiltrometer does almost everything for you. It's fully automated and doesn't require post-processing of data. Install the ring, connect the hoses, and push "start". It's that simple.

The infiltrometer automatically measures infiltration rates, and the control unit calculates saturated hydraulic conductivity (Kfs) on the fly. That means if you need a value right away, it's there. If you want to dig deeper, you can always download the raw data.

#### **One person can do everything**

Unlike double ring systems, the SATURO is designed for one person to carry and set up. And, you can run multiple instruments simultaneously, allowing you to maximize the efficiency of your time in the field.

## Eliminate guessing

Water flows through soil in three dimensions. In the early days, it was difficult to solve three-dimensional equations. Infiltrimeters were created to try and force water to flow in one dimension and required the use of estimated parameters to get reasonable hydraulic conductivity values.

Thanks to some mathematical magic, single ring measurements are now possible, making the whole process simpler and more efficient. The best part is, you don't have to rely on any dubious assumptions.

## A simple, precise solution

The SATURO combines automation and simplified data analysis together in one system. It even computes infiltration rates and saturated hydraulic conductivity on the fly. The SATURO makes life a little easier for those who need a faster, more accurate way to measure  $K_{fs}$  in the field.

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[Features](#) [Specifications](#) [Accessories](#) [Support / Downloads](#)

### Features

- Fully automated
- Capable of unattended measurement
- $K_{fs}$  values calculated and graphed in real time, no data post-processing is necessary
- Portable
- Includes self-contained water reservoir

### Specifications

Infiltration rate range	0.0038 cm/hr to 115 cm/hr
Infiltration rate resolution	0.0038 cm/hr
Infiltration rate accuracy	±5 % of reading
$K_{fs}$	The range of $K_{fs}$ values that can be effectively measured by SATURO are limited by the minimum and maximum infiltration rates listed above. These depend on the pressure heads applied to the water during infiltration and to the three-dimensional flow characteristics of the soil, so the measurement range of $K_{fs}$ cannot be specified explicitly. SATURO will generally be able to make measurements on poorly to moderately structured soils as coarse as medium sand, but the maximum infiltration rate can be exceeded by soils with excessive structure and especially by soils with significant macropores.
Water level	Maintained at 5 cm
Pressure head ranges	0 to 40 cm

Operating temperature	0 to 50 °C
Charging adapter	18 V 2.2 Amps; Range 18 to 24 V DC Output: USB

## Accessories

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## Y Connector Water Bag

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## SATURO Insertion Ring

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### Support

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Have a question or problem? Our support team can help.

We manufacture, test, calibrate, and repair every instrument in house. Our scientists and technicians use the instruments every day in our product testing lab. No matter what your question is, we have someone who can help you answer it.

Email: [support.environment@metergroup.com](mailto:support.environment@metergroup.com)

Phone US: +1 509-332-5600

Phone Europe: +49 89 12 66 52 0

### Downloads

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SATURO Firmware Updater EXE / 1.57 MB

[SATURO MANUAL PDF / 1.32 MB](#)

SATURO QUICK START PDF / 467.98 KB

SATURO Software Downloader EXE / 23.18 MB

SATURO Software Downloader EXE / 23.18 MB

Related Products

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## HYPROP 2\*

The improved version of the evaporation method in the lab to determine the pF curve and the unsaturated conductivity of soils sets a new benchmark. HYPROP makes highly precise, simultaneous measurements of hydraulic characteristics during the natural desiccation of the soil. Thus, HYPROP delivers data with high resolution in a minimal period of time under natural conditions.

[Learn more](#)

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