

Soil moisture release curves

metergroup.com/environment/products/hyprop-2/



More data, more robust, more details

HYPROP 2*

The trouble with moisture release curves

Measuring soil water potential to create a moisture release curve has always been tricky. Even if you're an expert at traditional methods, these measurements require a tremendous amount of work. Plus, you still face limitations—like a lack of data points—that affect the final result. Some methods take several months just to complete a partial curve. And if that wasn't enough, there's never been an easy way to measure the range of soil water potential for an entire curve. Until the HYPROP 2.

Simply accurate. Simply fast. Simply automated.

As soil scientists who have made hundreds of moisture release curves, we wanted an instrument that delivered greater accuracy. And we demanded an instrument that was automated. The HYPROP 2 takes only days vs. months to generate a soil water characteristic curve in the wet range, and it does this automatically. Use it together with the WP4C (which measures the dry range), and you can create full, high-resolution moisture release curves.

On top of all that, we designed the HYPROP 2 to determine unsaturated hydraulic conductivity on undisturbed soil samples placed inside a standard 250 mL sampling ring. Used in tandem with the KSAT, it can measure the full unsaturated hydraulic conductivity curve. The resulting instrument winds up saving you time, hassle and worry.

Unrivalled accuracy

When it comes to soil water potential, measurements don't get any more accurate or detailed. That's because the HYPROP 2 produces more data points (over 100 data points in the 0 to -100 kPa range), higher resolution data, more detail, and better information in its moisture release curves—information that is missed when using the traditional pressure plates or hanging water column methods.

The HYPROP 2 uses two precision mini-tensiometers to measure water potential at different levels within a saturated soil sample while the sample rests on a laboratory balance. Over time, the sample dries, and the instrument measures the changing water potential and the changing sample weight simultaneously. It calculates the moisture content from the weight measurements and plots changes in water potential correlated to changes in moisture content.

Automated everything

The HYPROP 2 is a complex instrument, but it makes moisture release curves much simpler. While other methods require weeks of tedious drying and weighing, the HYPROP 2 can be set up to run automatically. Its software calculates values for dry range and saturation according to a selected model, and it even allows you to input data from other water potential instruments such as the WP4C to automatically fit the soil moisture release curves.

The faster, the better

After setup, the HYPROP 2 is capable of generating a moisture characteristic curve and determining the unsaturated hydraulic conductivity of soil samples in only three to five days versus three months. To save you even more time, it can operate while being left unattended.

The expert on moisture release curves (so you don't have to be)

Unparalleled accuracy. Automation. Far faster speeds. The HYPROP 2 meets the highest lab instrumentation standards, giving you results you can trust with far less work and hassle.

*Currently sold without light indicator.

[Get pricing](#)

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

Features

- More precise and robust
- Low time, cost, and effort
- Easy to handle and flexible
- Simultaneous measurement of water retention function and hydraulic conductivity
- High validity of the water retention function, especially in the area close to saturation
- The hydraulic functions are consistently verified by a large number of measuring values
- Reliable determination of unsaturated conductivity in the medium water potential

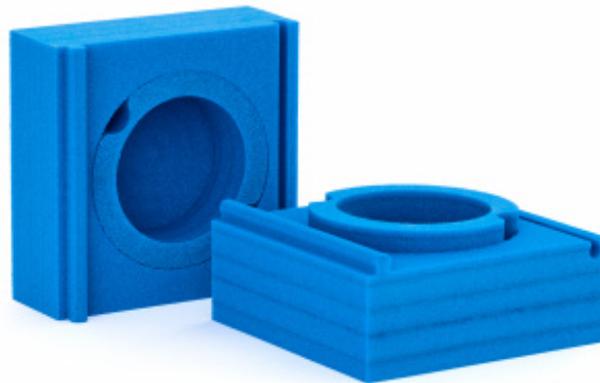
range—independent of model assumptions

- Tensiometers measure beyond typical cavitation point down to -250 kPa
- Tensiometers are positioned upside down in the soil sample (undisturbed evaporation and no impact on the tensiometer shafts)
- Reduced tensiometer water loss after reaching the cavitation phase

Specifications

Accuracy	1.5 hPa (0 hPa to 820 hPa)
Resolution	0.01 hPa
Measurement range for tensiometers	+20 hPa to -1200 hPa / -2500 hPa
Dimensions without sample ring	PA66GFK, h = 60 mm, 80 mm
Interface	RS485 tensioLINK

Accessories



Transport Box for HYPROP Samples



Sample Ring Insertion Tool



HYPROP Vacuum Pump



HYPROP Refilling Apparatus



HYPROP Balance



Extra HYPROP Sample Rings

Support

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

Phone US: +1 509-332-5600

Phone Europe: +49 89 12 66 52 0

FAQ's HYPROP

Downloads

[HYPROP Fit manual PDF / 2.39 MB](#)

[HYPROP Fit Software Download EXE / 60.48 MB](#)

[HYPROP Manual PDF / 3.57 MB](#)

HYPROP View Software EXE / 81.30 MB

[KSAT & HYPROP 2" Adapter Manual PDF / 1.12 MB](#)

Related Products



PARIO

The PARIO is the new method for automated and continuous analysis of the particle-size distribution of soils.

[Learn more](#)

[Get pricing](#)



WP4C

The WP4C measures water potential by determining the relative humidity of the air above a sample in a sealed chamber (conforms to ASTM 6836).

[Learn more](#)

[Get pricing](#)

© 2016 METER Group, Inc. USA