METER

HYPROP

Soil Moisture Release Curves

THE TROUBLE WITH MOISTURE RELEASE CURVES

Creating soil moisture release curves has always been tricky. Traditional methods require a ton of work, are limited by a lack of data points, and can take several months just to complete a partial curve. And there's never been an easy way to measure the range of soil water potential for an entire curve. Until HYPROP.

SIMPLY ACCURATE. SIMPLY FAST. SIMPLY AUTOMATED.

As soil scientists who have made hundreds of soil moisture release curves, we wanted an instrument that delivered greater accuracy. And we demanded an instrument that was automated. The HYPROP takes only days vs. months to generate a soil water characteristic curve in the wet range, and it does this automatically.

Use the HYPROP together with the WP4C (which measures the dry range), and you can create full, high-resolution moisture release curves across the entire range of soil moisture. Nothing else is capable of doing that—not at this level of detail.

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 –400 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
- Use the HYPROP/VARIOS Connector to calculate soil moisture release curves and thermal dryout curves simultaneously.

SPECS

Measuring Range	**Pressure transducer:** +0.3 kPa to –100 kPa (–400 kPa with boiling delay) **Temperature sensor:** -20 to 60 °C
Accuracy	**Pressure measurement:** 0.1 kPa (+0.3 kPa to –100 kPa using auto-zero calibration) **Temperature measurement:** 0.2 K (at -10 to 30 °C)
Resolution	**Pressure transducer:** 0.001 kPa **Temperature:** 0.01 °C
Volume of Soil	250 cm^3 / 100 cm^3
Measurement Interval (default)	10 min
Number of Sensor Units	**Multi-balance mode:** Max. 20 balances and sensor units / max. 10 per USB hub **Single-balance mode:** Max. 20 per HYPROP USB adapter
Power Requirements	**Voltage:** 6-18 V DC **Current:** 15 mA nominal, 200 mA max.
Computer Compatibility	Microsoft Windows 10 or newer
Sensor Unit	**Material:** POM **Dimensions:** Height 63 mm, Width 95 x 95 mm
Tensiometer Shaft	**Ceramic:** Al203 sinter; Ø 5 mm **Shaft material:** Acrylic glass; Ø 5 mm **Total length:** Short shaft: 24 mm; Long shaft: 49 mm
Polyurethane Tubing	**Outer diameter:** 6 mm **Inner diameter:** 4 mm **Length:** 0.3 m
Protection	**Housing with covered plug:** IP 65 splash waterproof
Chemical Resistance	**pH range:** pH 3- pH 10
Operating Temperature Range	10–30 °C
Required External Measurement	Dry soil weight Air-entry valve of tensiometer shafts
LABROS Balance	**Connection to computer:** USB
Weighing Range	2200 g
Readout	0.01 g
Reproducibility	0.01 g
Linearity	0.01 g
Adjustment	Internally
GSA	View GSA details

USA
2365 NE Hopkins Court, Pullman WA 99163
T 509.332.5984 **F** 509.332.5158
E sales.environment@metergroup.com **W** metergroup.com

Europe
Mettlacher Straße 8, 81379 München
T +49 89 1266520
E info.europe@metergroup.com **W** metergroup.com