edaphic scientific
environmental research & monitoring equipment

pressure chambers

with an in-built gas cylinder

overview

- A in-built gas cylinder for portable leaf and stem water potential measurements
- Ideal for quad bikes, AUV’s and other motorised vehicles
- Refill the built-in gas cylinder from a larger gas cylinder
- The gold standard for measuring plant water potential
- Cited in over 1000 scientific publications over decades of research
- Measure leaf or stem water potential
- Ideal for irrigation management in vineyards and orchards

The PMS (Plant Measurement System) Instrument range of pressure chambers have been used by scientific researchers and industry for over 40 years. The pressure chambers are the gold standard for measuring leaf or stem water potential in any plant.

 **irrigation management**

The leaf and stem water potential chambers are ideal for irrigation management and scheduling. The chambers can determine the hydration level of crops and provide information on irrigation scheduling.

The leaf and stem water potential chambers are widely used, but not limited to, the following crops:

- Grapevines
- Almonds
- Citrus
- Walnuts
- Avocados
- and staples such as rice, wheat and corn

plant physiology and scientific research

The leaf and stem water potential chambers have been cited in many hundreds to thousands of peer-reviewed scientific papers. The chambers have been used by scientists and researchers for over 40 years in applications including:

- Ecohydrology
- Plant water relations
- Plant response to extreme events such as heatwaves
- Climate change
- Genetic variability and adaptation
- and much more.

model 615

The Model 615 or 615D Pressure Chamber Instrument is an old favourite, manufactured by PMS Instruments for over 40 years.

Instrument comes fitted with our most popular sealing gasket size – 1/4 inch Compression Gland Gasket and Insert. This gasket will seal a sample that is 1/4 inch in diameter down to a completely closed position. If you need other sealing options such as bladed grass or other semi-round sizes check our other options.

This is an excellent choice for routine water measurements for crop plants and light research in plants with little to moderate water stress. For extensive research projects you might consider a Model 1515D due to the large range of operating pressure. The instrument requires a nitrogen source. You can use it in a lab or green house with a large cylinder or buy our light weight Portable Tank to allow for field work.

specifications

- Maximum operating pressure: 40 bar
- Chamber construction: Hard Anodized Solid Stock Aluminum

- Read-out: Bourdon tube, Gauge bar, PSI scale
- Size (L x W x H): 33 x 28 x 24 cm
- Weight: 6kg
- Accuracy: 1/2 of 1%

Instrument comes complete with: 1/4 Inch Compression Gland Sealing System, 5 Extra 1/4 Compression Gland Gaskets, 6 foot Filling Hose, 1 – Solid Lab Stopper for instrument testing, O-Ring lubricant and Lithium Grease, 11/32 inch wrench and 3/32 inch Allen Key for Control Valve Adjustment and a colour, Operating Instructions Manual.

recommended accessories

- Extra Compression Gland Gaskets,
- Volume Reducer- depending on plant type,
- Lighted Hand Lens or
- Instrument Mounted Eye Lens.

model 1515D

- Measurement range: 0 to 100 bar
- Ideal for field measurements of trees and shrubs in arid zone or drier ecosystems
- Scientific research on water or drought stress
- Applications include ecohydrology and plant physiology

Model 1515D Pressure Chambers are a new release with changes that most users will appreciate.

It is a 100 bar digital instrument fully enclosed in a sealed case with an external tank (1515D).

The Control Valve and internal piping have been upgraded to now allow direct connection to Nitrogen Cylinders with 207 Bar/3000 PSI pressure. The instrument is fitted with a 100 Bar Digital Gauge that offers features such as backlighting and multiple pressure scales such as (Bar, Mpa and PSI).

Instrument comes fitted with our most popular sealing gasket size – 1/4 inch Compression Gland Gasket and Insert. This gasket will seal a sample that is 1/4 inch in diameter down to a completely closed position. If you need other sealing options such as bladed grass or other semi-round sizes check our other options.

This is an excellent choice for research due to the large range of operating pressure. It is good for work on high stress level plants, pressure volume curves but can also be used for routine water measurements for crop plants.

specifications

- Maximum operating pressure: 100 bar
- Chamber construction: Solid Stock Stainless Steel
- Read-out: Bourdon tube, Gauge bar, PSI scale
- Size (L x W x H): 56 x 38 x 26 cm
- Weight: 1505D: 8kg; 1515D: 16kg
- Accuracy: 1/2 of 1%

recommended accessories

Instrument comes complete with: 1/4 Inch Compression Gland Sealing System, 5 Extra 1/4 Compression Gland Gaskets, 6 foot Filling Hose, 1 – Solid Lab Stopper for instrument testing, O-Ring lubricant and Lithium Grease, 11/32 inch wrench and 3/32 inch Allen Key for Control Valve Adjustment and a colour, Operating Instructions Manual.

- Portable Tank,
- Extra Compression Gland Gaskets,
- Volume Reducer- depending on plant type,
- Lighted Hand Lens or
- Instrument Mounted Eye Lens.