

Lysimeter Datasheet

Lysimeter Introduction (PE_1000)

A **Lysimeter** is a measuring System which is used to measure the amount of actual evapotranspiration which is released by plants (usually crops or trees). By recording the amount of precipitation that an area receives and the amount lost through the soil, the amount of water lost to evapotranspiration can be calculated.

Weighing Lysimeters

Weighing Lysimeter Components

1. Lysimeter Sub Soil Arrangement :
2. Lysimeter Housing
3. Load Cell Assembly
4. Load Cell Indicator/Panel
5. Leachate Tank

Lysimeter Components

1. Lysimeter Housing

Shape: Rectangular

Dimension: 1000mm x1000mmx 1000mm

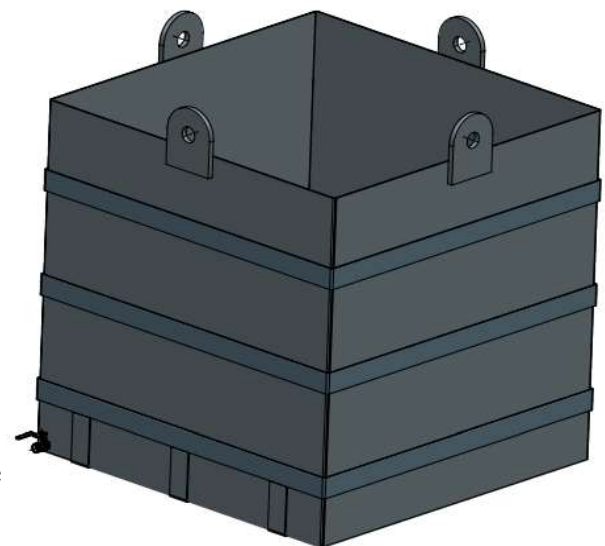
Material: SS-304

Thickness :4mm

Approximate Weight: 170 Kg

Bottom sheet/plate is with 22 ° slope for drainage

Of excess water, it is having a water valve which



Can be further connected to leachate tank.

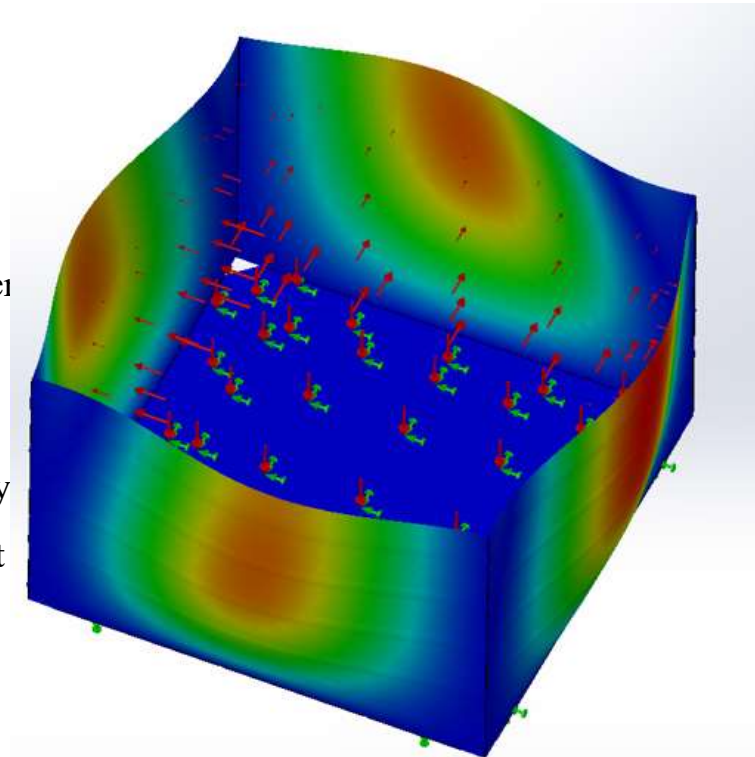
Simulation of Lysimeter Container

Volume: 1m^3

Clay Density: 1760 Kg/m^3

If we take the metal sheet not appropriate
Thickness (**<4mm**), Deformation in Lysimeter
Can be seen due to forces imposed by soil
And water in the container.

These forces/deformation can be countered by
Selecting appropriate thickness of metal sheet
And reinforcement clamps advised
By simulation of system in 3D Design and
Simulation Software.



2. Load Cell

Load Cell Type: Digital Load Cell

Resolution: 100±50gm

01 x Junction Box IP 65

04 x Load Cell 03 Ton IP 68 DIGITAL

01 x Weight Indicator

01 x (MS Platform) Fully Welded Modular

Designed Weighbridge Steel Structure

Importance of Precision Load Cell

Load cell assembly is one of the most important factor of Lysimeter System, to calculate minute and important changes in water exchange by weight sensing.

Effective Capacity:4 Ton (four 3 Ton Load Cell (3x4=12 Ton) for proper load distribution) for Creep Management , 2 ton is not enough for this permanent load creep will be develop after some time , which will affect the readings and study of evapourtranpiration.

Resolution/Accuracy: Accuracy is 100±50gm

Load cell Platform (Mild Steel) : 1200x1200mm



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Digital Load Cell Technical Specifications

Accuracy Class According To OIML R60		C3	Capacity	t	10,20,40,60,100
n max		3000	Rated Output	Counts	1000000
v min		E _{max} /10000	Measuring Speed Rate	Hz	112,56,28,14,7,3
Combined Error	%F.S	≤±0.020	Excitation	V DC	6~15
Creep Error	%F.S/30min	≤±0.016	Communication Interface		RS485/4 -wire
Temperature Effect On Sensitivity	%F.S/10°C	≤±0.011	Communication Baud Rate	Bps	19200
Temperature Effect On Zero	%F.S/10°C	≤±0.019	Max Communication Distance	m	1200
Temperature, Compensate	°C	-10~+50	Number of Bus Addresses		Max.32
Temperature, Operating	°C	-10~+70	Protection Class		IP68
Safe Overload	%F.S	150	Cable length	m	15
Ultimate Overload	%F.S	300	Type of Cable		6-wire shield cable, φ5mm

4. Load Cell Display

Display: 7-digit super brightness white light LED display, 10 status indicating lights.

Keyboard: Number keys 0~9 Function keys 24 (10 composite keys with number keys)

Clock: For displaying year, month, date, hour, minute, second, leap year/month automatically, without the influence from

Power break down.

Scoreboard display interface Transmission mode Serial output, 20mA electric current loop signal (constant-current

Source output)

5. Leachate Tank

Volume: 1.5 L(Customizable)

Housing: SS-304

Water level marking: Laser

Previous Project

Installation of 8 Lysimeter at Punjab Technical University

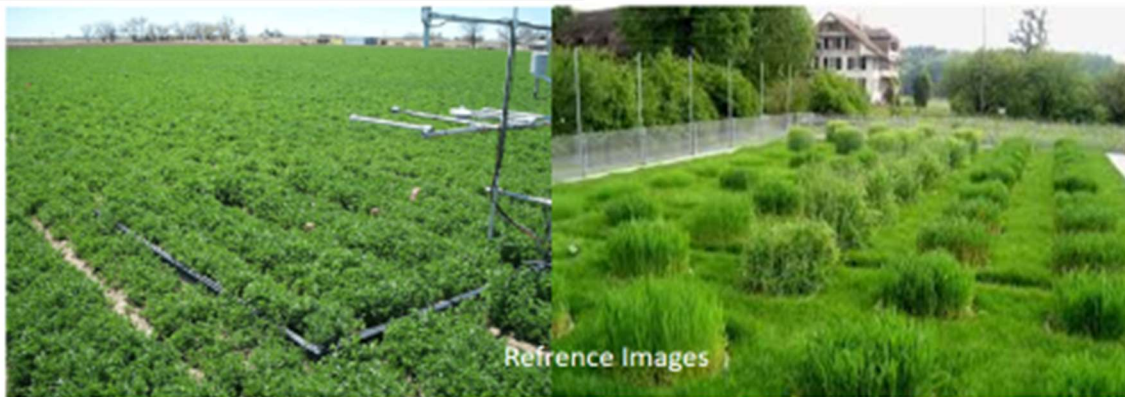
Lysimeter Installation Phases



Lysimeter Installation Phases



Lysimeter Installation Phases



Specification of any component can be changed in order to enhance quality and precision of complete setup.

Kindly contact us for any clarification.

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