

# EnviroLab 4.0 „Platin Line“

## Biotop in a Box



### Datasheet EnviroLab 890 and 1190

#### Dimension EnviroLab 890, 0,5m<sup>2</sup> Lysimeter:

Wide:	1,15m
Depth:	1,8m
Height:	3,0m
Weight:	400kg (without soil & liquids)

#### Dimension Lysimeter, 0,5m<sup>2</sup> Cylinder:

Diameter:	0,8m
Depth:	0,9m
Surface:	0,5m <sup>2</sup>
Volume:	450 L

#### Dimension Atmosphere Space:

Diameter:	1,1m
Height:	1,5m
Surface:	1,0 m <sup>2</sup>
Volume:	1,5 m <sup>3</sup>

#### Dimension EnviroLab 1190, 1m<sup>2</sup> Lysimeter:

Wide:	1,5m
Depth:	2,0m
Height:	3,5m
Weight:	500kg (without soil & liquids)

#### Dimension Lysimeter, 1m<sup>2</sup> Cylinder:

Diameter:	1,13m
Depth:	0,9m
Surface:	1m <sup>2</sup>
Volume:	900 L

#### Dimension Atmosphere Space:

Diameter:	1,35m
Height:	1,5m
Surface:	1,4 m <sup>2</sup>
Volume:	2,8 m <sup>3</sup>

Other dimensions of the EnviroLab 4.0 are possible on request. Just contact us for further information.

The atmosphere space is designed with 1,5m height to cover a wide range of plants. To fit in trees or other bigger plants the atmosphere space can be enlarged according your needs.

**LED Lighting System:**

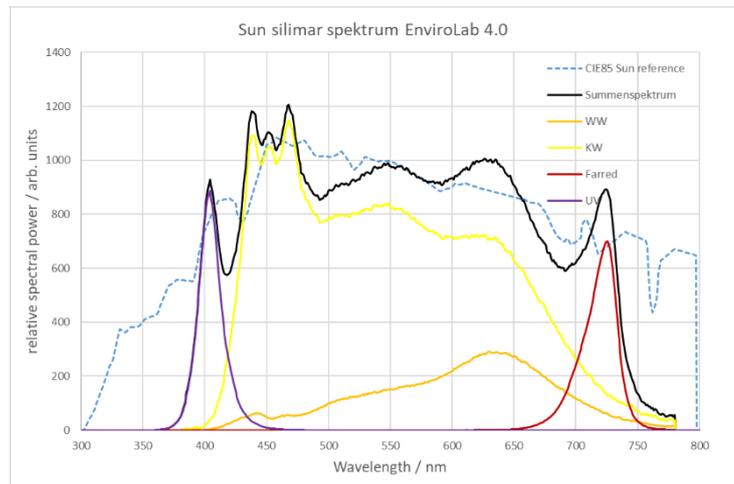
4-channel lighting system.

- o WW 6500K
- o KW 2700K
- o UV 420nm
- o Farred 730nm

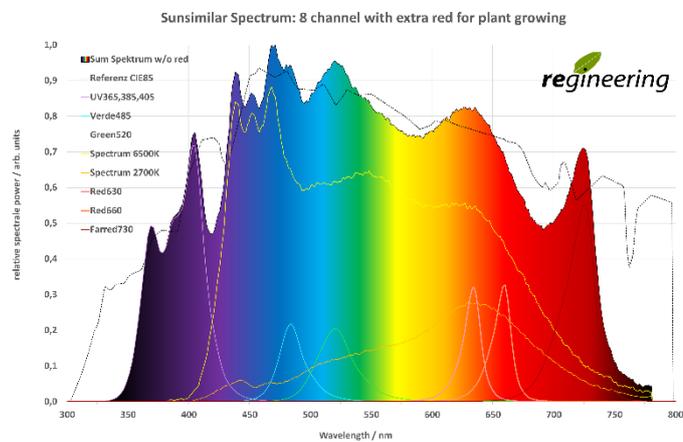
Each channel is seperatly dimmable.

Light intensity 1500µMol/m² in 1,5m distance (soil surface).

More light channels and higher intensity are possible. The wavelength can be adopted. Special solution on request. We have our own in house light design and production.



Exampel of a 8-channel light spectrum



**Climatisation parameter atmosphere:**

Temperature: +2°C to +40°C. Accuracy ±1K

Air humidity: >45%. Accuracy ±5%

CO<sub>2</sub> level: 380ppm – 1000ppm or higher if needed

Gradient air temperature: max. ±5K/h

Gradient air humidity: max. ±5%/h

Special full space ventilation system to guarantee homogeneous conditions in the whole space.

Cooling brine must be provided on site. Seperate cooling machine on request.

**Ambient climatisation (Gold Standard):**

Climatisation with enviroment air without active climatisation

Special full space ventilation system to guarantee homogeneous conditions in the whole space.

**Weighing system lysimeter:**

Precise lysimeter balance 1000kg/2000kg, three point measurement  
Resolution lysimeter balance: 10g  
Accuracy lysimeter balance: 100g

**Lower boundary control:**

Special ceramic cups with 1bar air entry point  
Lechate tank: 30 L  
Resolution lechate balance: 0,5g  
Accuracy lechate balance: 1,0g

**Soil temperature control system:**

Temperature at bottom of soil column: from +2°C to +20°C.  
Cooling brine must be provided on site. Seperate cooling machine on request.

**Irrigation:**

Irrigation by tripple irrigation or with spray nozzle.

**Sensor equipment:**

Matric potential, volumetric water content and temperature in three depth (10cm, 30cm, 80cm). Additionally sensors and other depth on request.

**Camera:**

4K webcam or different cam type optional.

**Root cam:**

Root cam tubes. Predesigned depth 15cm, 35cm, 75cm

**CO<sub>2</sub> or ozone enrichment**

Range according customer order. Optional

**Sap flow:**

Sap flow sensors can be added to divide transpiration and evaporation of woody plants. Optional

**Adapter lysimeter cylinder:**

Adapter to fit in a lysimeter cylinder with Ø800mm in the EnviroLab 1m<sup>2</sup>. Optional

**Phenotyping (optional):**

The EnviroLab 4.0 is the perfect plattform, to do phenotyping. We can offer all type of phenotyping with our partner.

Single modules can be added easily later on.

You need an individual tailored solution? We design, plan and realise it with you in close cooperation.  
Diamond Design make dreams come true.