



***Plantima***<sup>®</sup>

***PlanTower***<sup>™</sup>

Product Information

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## **Plantima<sup>®</sup>**-Advanced T.I.S. Plant Tissue Culture Container

To overcome the shortages of semi-solid medium, a new generation plant tissue culture vessel, Plantima<sup>®</sup>, adopt the concepts of liquid culture has been developed by our company. The main feature of Plantima is the design of separate compartments for reserving liquid medium and for plant growth. By automatic adjustment of air pressure, the liquid medium is delivered to the growth compartment to achieve temporary immersion and then return to the liquid holding compartment. Vitrification that often occurs in traditional liquid culture is prevented.

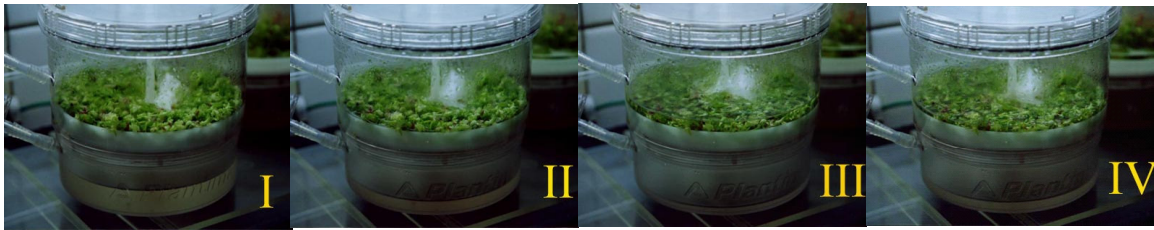
The advantages of Plantima<sup>®</sup> include:

- \*Periodic medium immersion: Temporary immersion of propagules in the growth compartment achieved by the forced inlet of ambient air will provide uniform supply of nutrients. This can prevent vitrification and poor aeration around roots.
- \*Gaseous exchange: Different from the suffocative closed system, the gas exchangeable Plantima culture system can improve the autotrophic development of plants and shorten the period of acclimation needed in traditional culture system.
- \*Growth adjustable: Through the control of the interval and duration of immersion, the production stage can be programmed as desired.
- \*Culture uniformity: The diffusion of nutrients in Plantima promotes uniform growth of propagules and hence more profitable.  
Plants propagated in the Plantima system will grow faster, higher in yield, better in quality, and also reduce production cost.

How Plantima<sup>®</sup> system works / Operation includes four stages:

- I. Static state / Stand-by
- II. Aeration: Air is pumped into liquid medium zone from side gas inlet. The increased gas pressure forced the liquid medium enter the culture zone above to supply nutrients.
- III. Aeration and immersion: liquid medium is directed into the culture room (zone). Airflow continually agitates and oxygenates the liquid medium and forces the renewal of gas in the culture vessel.
- IV. Flow-back of liquid medium: when the airflow stops, the liquid

medium returns to the reservoir at the bottom of the vessel by gravity.



***Plantima*** consists of the following components:

Item	Component	Quantity	Material
P01	vessel	1	PC
P02	O ring	1	NBR
P03	partition funnel	1	PC
P04	basket (optional)	1	PP
P05	lid	1	PC
P06	0.45 $\mu$ m air filter	2	PP
P07	silicone tube	15 cm	silicone
P08	non-woven fabric (optional)	10 sheets	rayon
P09	stop cock	1	silicone, PVC

all parts are autoclavable (121° C, 15 psi, 20 min) except P09, P04, P08 are optional items



### **Instructions for assembly:**

1. When fitting the partition funnel (P03) into the vessel (P01),  
Grasp the partition funnel by inserting your fingers in nick. Press the partition funnel down to the vessel firmly, the tube downward to the bottom.
2. When putting on the lid (P05),  
Align the triangular mark on the side wall of lid (05) and vessel (01), turn 1/2 turn further to tight up, over tightening will cause difficulty in removal.
3. When using basket (P04) and non-woven fabric (08),  
A small piece of silicone tube (P07) could be inserted at the tip of the handle of basket. This attachment can help to manipulate the basket by

forceps. There are six incisions on the rim of non-woven fabric sheet that could be fitted to the six corresponding teeth of the basket.

4. The silicone tube (07) connecting the air filter (P06) to the airflow inlet should not be too long. Drooping of the air filter may accumulate moisture and affect the passage of air.
5. The volume of culture medium added should not exceed 500 ml. The marks of volume are approximate.

#### Medium Dispensing, Autoclaving and Cleaning

1. Generally, it is not necessary to autoclave the medium and Plantima separately except for specific media treatment.
2. Press the partition funnel down to the vessel firmly, then pour the pre-mixed medium (150-500ml suggested, without gelling agent). Then put the basket may fit with the non-woven fabric to the vessel. Inserts the filters to the air inlets and then screw the lid on. Do not tighten the lid during autoclaving.
3. Do not write or put stickers on the container. That would be difficult to wipe off or remove. Labels shall be stick on the air filter.
4. The autoclave condition is: 121° C, 15 psi, 20-30 mins. After autoclaving, wait for the container to cool down. If the container is not being used immediately, it is advisable to seal the gap between the lid and container with PVC film.
5. The container and parts can be washed with neutral detergent and rinsed thoroughly with water. Avoid using corrosive solvents or scouring pads to scrub the container.

