



APONIX – VERTICAL MODULAR AEROPONIC GROWING DEVICE

Discover the aeroponic growing barrel designed by aponix –
A cultivation system for small and large scale urban farming.

SYSTEM FOR FLEXIBLE AND SCALABLE SETUP OF
GROWSPACE IN HYDROPONIC AND AQUAPONIC FACILITIES

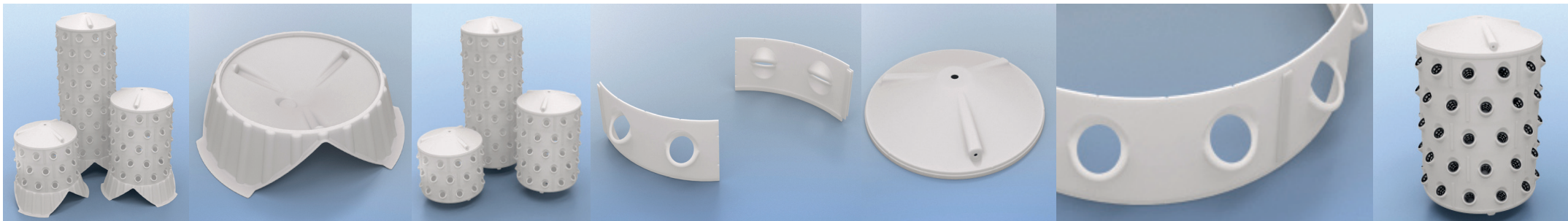


**„WE CHANGE HOW AND
WHERE SMALL VEGETAB-
LES, SALADS AND HERBS
WILL BE GROWN IN THE
FUTURE!“**

Marco Tidona
Inventor and director at aponix

Aponix provides the flexible, robust and cost-efficient solution for setting
up high density urban farming systems.

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Aponix is a project of Manticore IT GmbH, Heidelberg,
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INNOVATION BY APONIX

With increasing world population a comprehensive supply with high quality fresh organic food is more and more depending on efficient new growing methods. It will be critical to grow with high density, ecologically beneficial and close to the consumer.

Up to now, no convincing standard parts for professional flexible urban farming setups have been launched into the market.

With its new modular aeroponic barrel, aponix offers a vertically flexible base system, that can easily be integrated into existing hydroponic or aquaponic facilities.

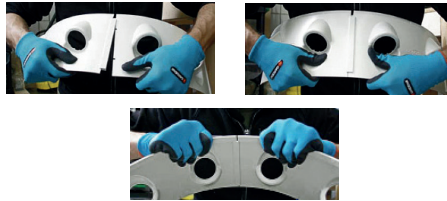
Modular Lego System

The barrel comes in two versions using 2-3 basic parts:

- A 1/6th part of a full plantable ring segment, that can be assembled using 5 more parts of this kind,
- one universal lid, which serves as top and bottom lid for the hanging version, and
- one stand for the standing version,

which serves as bottom lid at the same time.

The reduction to as few parts as possible has many advantages over existing systems: Compact elements can be stored and moved conveniently. And growspaces can quickly be provided by assembly and even disassembly thanks to the vertically modular design.



Vertical Cultivation

Each planting ring (consisting of 6 1/6th parts) has a diameter of 57 cm, a height of 15cm and provides 12 growspaces. Depending on available height one barrel can be stacked up as high as 5m to maximize the number of available growspaces in your production.

Example: A barrel with 14 planting rings has a height of 2,3m including lid and stand and provides 168 single

URBAN FARMING

Growing fresh organic food close to the consumer is an upcoming trend providing growing market potential. With increasing world population clever solutions will be needed and demanded to provide a reliable local supply and utilize environmental resources most efficiently.

Advantages: Organic food can be consumed fresh and full of vitamins and minerals, much less logistics involved, much less loss due to transportation of perishable goods from far away, no preventive herbicides and pesticides needed, independence from seasons, 70-95% less water compared to soil based agriculture, possible regeneration of land for forests of former farmland, no over fertilized farm land, less contaminated ground water or oceans, no crop rotation necessary, much more dense and also mixed cultivation possible in soilless systems, new job opportunities in urban areas and cities ...and there are many good reasons more.

The vision: In the end urban areas become bioproductive (again) and one day cities will also recycle their own generated waste and even produce its own electricity. First steps into that direction can be made using soilless vertical farming techniques using circulation systems.



growspaces. Its corpus is tightened by nylon ribbons and utilized as container for your plants. Each growspace provides an insert for a standard 2" netpot for a seedling.

Every growspace provides horizontal and vertical space of 30cm for your plants to mature until harvest. This size is appropriate for all kinds of leafy greens (herbs and salads), small vegetables and fruit like strawberries.

Aeroponic Nutrient Supply

To provide the nutrients for your plants, barrels are connected to your existing nutrient circulation system - hydroponics or aquaponics via additional pressure pump drawing liquid from your reservoir. Spray nozzles create a

drizzle inside each barrel to feed your plants.

Depending on the number of barrels on one pressure line, the layout of a pressure pump solution will probably be very individual.

ADVANTAGES

- simple assembly and even disassembly
- simple and flexible scaling of growspaces
- compact storage and transport of parts when disassembled
- easy integration into existing production systems
- flexible height and number of growspaces by stacking rings
- standing or hanging versions
- integrated aeroponic spray system
- high yield per available flat space, cost effective, robust, durable
- reduced water usage, soilless
- color can be adapted to corporate identity
- suitable for greenhouses or indoor growing with artificial lighting

EXAMPLE INTEGRATION INTO AN EXISTING PRODUCTION FACILITY

