



VPONIC™

HYDRO-AGRICULTURE SOLUTIONS

Building a sustainable future



C O N T E N T S

Company Profile -----	2
uPVC Pipe Technical Specifications -----	3
VPONIC™ Channels and Gutters -----	4
VPONIC™ Trays -----	5
VPONIC™ R&D Centre -----	6
Capabilities and Certifications -----	7





OUR STORY

Founded in 1993, Vicplas Holdings - a Singapore based manufacturing company specialised in uPVC piping systems - is a wholly owned subsidiary of Vicplas International Ltd which is listed on the Singapore Stock Exchange (SGX).

To better serve our local and regional customers, Vicplas offers a comprehensive range of quality uPVC pipes & fittings, channels/gutters and trays that are **SUSTAINABLE** and **SAFE** to use in a agriculture environment.

LEAD FREE uPVC piping system

Our core commitments to ensuring a more sustainable and safer future:

-  **Environmentally friendly:** Our **lead-free** pipes, channels/gutters are non-toxic, heavy-metals-free and suitable for long term operational use in hydro-agriculture.
-  **Built to last:** It is designed with an extended **lifespan** and minimal maintenance.
-  **ZERO waste management:** We strive to **reduce, recycle** and **reuse**. The polymers we use are fully recyclable.
-  **Excellent flow properties and weathering resistance:** The pipes & fittings and channels/gutters allow for the **free-flow** of water with enhanced weathering properties.



uPVC pipes SS213 / SS141

LEAD FREE

Singapore Standard - SS213 (non-pressure / typical sizing)

Nominal Size (mm)	Size inch	Mean OD (min) mm	Incl. Ovality (min) mm	Wall Thickness (min) mm
80	3	82.3	82.1	3.0
110	4	110.0	109.6	3.2
160	6	160.0	159.5	4.0

Singapore Standard – SS141 (pressure / typical sizing)

Normal size		Mean	Wall Thickness				
Inch	(mm)	OD (min) mm	Class B 0.6Mpa (mm)	Class C 0.9Mpa (mm)	Class D 1.2Mpa (mm)	Class E 1.5Mpa (mm)	Class O Non-pressure (mm)
1/4	8	13.6	-	-	-	1.3	-
3/8	10	17.0	-	-	-	1.5	-
1/2	15	21.2	-	-	-	1.7	-
3/4	20	26.6	-	-	-	1.9	-
1	25	33.4	-	-	-	2.2	-
2	50	60.2	-	2.5	3.1	3.9	1.8
3	80	88.7	2.9	3.5	4.6	5.7	1.8
4	100	114.1	3.4	4.5	6.0	7.3	2.3
5	125	140.0	3.8	5.5	7.3	9.0	2.6
6	155	168.0	4.5	6.6	8.8	10.8	3.1

The pipes are suitable for hydroponic farming and irrigation systems and have been tested safe for potable water (drinking water).

The complete range of pipes & fittings are listed here: www.vicplas.com.sg/products

The content of this publication is for general information only. It is the user's responsibility to determine the suitability of any products for the purposes intended. Maintaining a policy of continual product development, we reserve the right to change specification, design and material of products listed in this publication without prior notice.



Channels & Gutters

(uPVC – suitable for potable water)

LEAD FREE

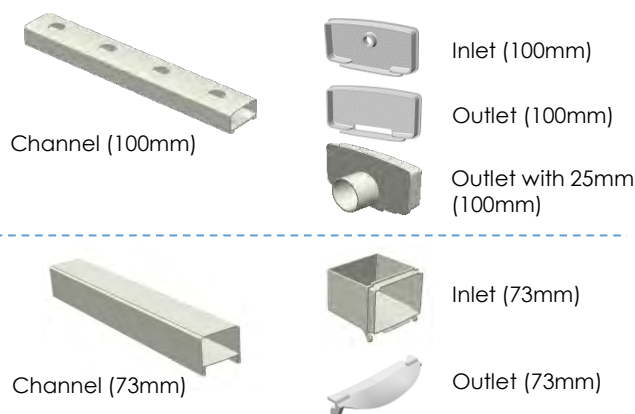
Channel / End Cover Inlet & Outlet

VPONIC™ series of channels have been developed for high yield farming, operating on both the mobile and static hydroponic systems. Each channel has enhanced properties to reduce ultraviolet (UV), improve water flow and promote oxygenation. This series is further designed to use low levels of water to maximise the resources and reduce cultivation costs.

Optional items include end cover inlet/outlet for water management (73mm channel only).

Channel (suitable for mobile or static system)

A	100mm (W) x 54mm (H) x 46mm (D)
B	73mm (W) x 63mm (H) x 50mm (D)



Gutter / End Cover

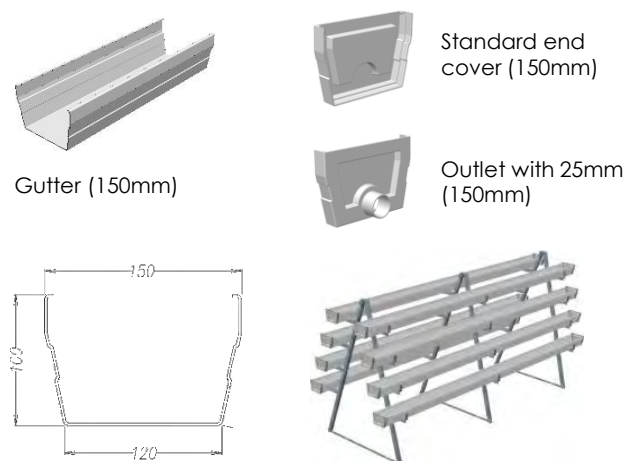
VPONIC™ series of gutters are suitable for an A-frame rack to maximise the yield within limited space. Developed with enhanced properties to reduce ultraviolet (UV), improve water flow and with increased depth and wall thickness, it effectively manages and supports the crops that are exposed to high external temperatures.

Optional items include outlet end-cover for concealed water runoff.

We can also offer custom design and fabrication for channels, gutters, trays and other uPVC, PS, & PET (plastic) profiles based on customers' specifications.

Gutter (Suitable for surface, drip or sub irrigation system)

A	120mm (bottom) x 100mm (H) x 150mm (top)
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Trays

(uPVC/PS/PET – suitable for potable water)

LEAD FREE

Tray / End cover inlet/outlet

VPONIC™ series of tray-492 is suitable for flood irrigation systems, nursery, micro greens and/or racking support. Highly durable and with an extruded length of up to 2m.

Designed with ribs to elevate planter trays and to promote water flow. End caps for drainage and extension connectivity.

Tray-492 (Suitable for flood irrigation system or base support) - material uPVC

A 492mm (W) x 53mm (H) x 3.2mm (thickness) x customisable (L) up to 2m



Base w/ end-caps (492mm)

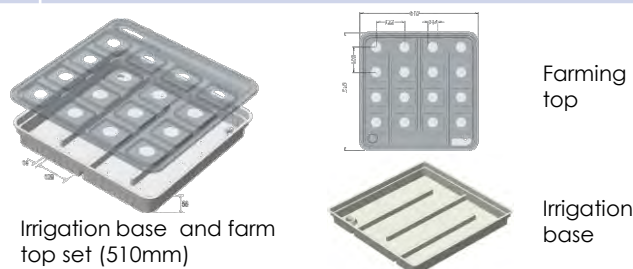
Components (492mm)

Growing Tray / 16 hole

VPONIC™ series of tray-510 is built for an indoor racking system both with mobile and/or static capabilities. The base is designed with water controlled flow elements to manage the growing conditions and resource usage. In addition, the individual trays allow for lower maintenance and down-time.

Tray-510 (Suitable for indoor farming racks both mobile or static) – material PS / PET

A Set – 510mm x 510mm x 54mm (W x H x L)



Irrigation base and farm top set (510mm)

Irrigation base

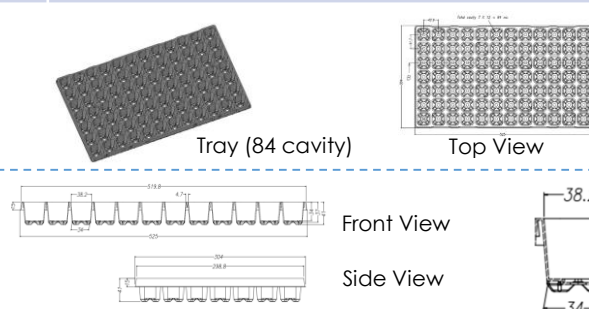
Seedling Tray / 84 cavity

VPONIC™ series seeding tray-84 is specially designed for planting seedlings. It features 84 cavity spaced to maximise space while keeping separation. Increased wall thickness to improve the durability and longevity of the tray.

We can also offer custom design and fabrication for channels, gutters, trays and other uPVC, PS, & PET (plastic) profiles based on customers' specifications.

Seedling tray-84 (Suitable for peat, coir pith, wood fibers, bark, composted materials) material PS / PET

A 525mm x 304mm x 41mm (W x H x L)



Tray (84 cavity)

Top View

Front View

Side View



Research & Development

LEAD FREE

VPONIC™ Research and Development Centre

Our professional team works on continual product improvements and new designs to meet market needs and raises the bar to higher expectations.

To fulfil our commitments, we look at our solutions and processes with sustainability in mind:

- ✓ *Are they environmentally friendly and ethically produced?*
- ✓ *Are they cost-efficient enough to meet consumers' demands?*
- ✓ *Are they designed and built to last with minimal maintenance?*
- ✓ *Are we guided by the tenets of Reduce, Recycle and Reuse?*
- ✓ *Are we improving minimal waste management efforts?*

Indoor



Outdoor



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Capabilities & Certifications

LEAD FREE

We can also offer custom design and fabrication for channels, gutters, trays and other uPVC, PS, & PET (plastic) profiles based on customers' specifications.

Product Design

We develop practical, cost-efficient solutions that evolve with the changing needs of our customers.

Processing Techniques

We are proficient across a range of polymer processing techniques and are able to offer injection, extrusion, thermal forming and fabrication processes.

Tool Fabrication

We offer customised fabrication, using innovative design thinking to develop creative solutions for unique requirements.

Material Science

We have extensive working knowledge of polymeric materials such as engineering plastics, specialty elastomers, composites and more.

International Organization for Standardization (ISO)



Our pipes & fittings under SS213 and SS141 are certified with SGBC 3 ticks rating.



Vicplas Holding's products/processes are all certified by international testing bodies to meet the industry standards.



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