



GROW
MACHINES

2026

EBB & FLOW SYSTEM

**AN ADAPTABLE HYDROPONIC SYSTEM
FOR SEEDLINGS, NURSERY PLANTS, LIVE
PLANT DISPLAYS AND SPECIALISED
CROPS**

The Grow Machines Ebb & Flow system is an adaptable, recirculating growing system in which plants are irrigated from below at programmed times and then allowed to drain.





WHAT IS THE EBB & FLOW SYSTEM?

01

The Grow Machines Ebb & Flow system is an adaptable, recirculating growing system in which plants are irrigated from below at programmed times and then allowed to drain.

The purpose-designed tank consists of a lower reservoir and an integrated upper Ebb & Flow tray. Depending on the application, plants are placed on the upper tray in propagation trays, pots, suitable containers or crates.

HOW DOES IT HELP YOU?

At pre-set times, the system pumps water containing dissolved plant nutrients into the upper tray. The water rises to the adjustable overflow level, irrigates the growing medium from below and then drains back into the reservoir.

The system:

- reduces the need for hand watering;
- allows the growing medium to drain between cycles;
- recirculates the water and plant nutrients; and
- is built around a fixed, standard base-system size.

Because all the plants are supplied from the same reservoir, the pH, nutrient concentration and water level can be measured and adjusted at one central point.

The Ebb & Flow system can be used with different plant types, containers and growing media.





HOW DOES THE SYSTEM WORK? 02

1. THE SYSTEM IS FILLED

Water and plant nutrients are mixed in the lower reservoir. The pH and nutrient concentration are adjusted to suit the plants.

2. THE PUMP SWITCHES ON

The timer switches on the pump. Water and plant nutrients are pumped into the upper tray.

3. THE PLANTS ARE IRRIGATED

The tray fills to the required level. The plants' roots absorb water and nutrients from below.

4. THE WATER RETURNS TO THE RESERVOIR

When the pump switches off, the water flows back into the reservoir. It is reused during the next cycle.

The cycle is repeated automatically according to the programmed schedule.

THE FLOOD LEVEL IS ADJUSTABLE

The water level and timing can be adjusted for different plants, pots, trays and crates.

THE OPTIONAL POLYCARBONATE DOME

A polycarbonate dome with an aluminium frame can be added to protect the plants from the weather and create a more protected, greenhouse-like growing environment. The correct flood level and timing depend on the plants and growing conditions.





ONE SYSTEM WITH MULTIPLE APPLICATIONS 03

The Ebb & Flow system can be used for a variety of applications:

1. SEEDLING PRODUCTION

The standard seedling configuration accommodates approximately

1,820 SEEDLING POSITIONS

The seedlings can later be transplanted easily into a suitable NFT system.

2. LIVE PLANT DISPLAYS

Vegetables, herbs and flowers can be displayed as living plants while continuing to receive water and plant nutrients.

3. TUBER CROPS IN CRATES

Tuber crops can be grown in crates containing a suitable growing medium. Water flows into the crates from below and then drains back into the reservoir.

4. NURSERY PLANTS

The system is suitable for plants grown in pots or other containers, including:

- vegetables and herbs;
- flowers;
- young fruit trees; and
- bonsai trees.

The plants are irrigated automatically according to a pre-set schedule.

IMPORTANT

The capacity of approximately 1,820 seedling positions applies only to the standard seedling configuration. The number of plants that can be accommodated in pots, crates or larger containers will depend on the container size and layout.

ARE YOU READY TO TAKE YOUR NURSERY OR PRODUCTION PROJECT TO THE NEXT LEVEL?

Tell us what you would like to grow and how many plants you need to accommodate. We will help you plan an Ebb & Flow system that suits your available space and production goals.





SYSTEM REQUIREMENTS, INSTALLATION AND SUPPORT

04

The Grow Machines Ebb & Flow system is a standard system suitable for a variety of applications, including seedling production, nursery plants, young trees and bonsai, vegetables, herbs and flowers, live plant displays, and tuber crops grown in crates. The standard base system remains the same. A polycarbonate dome can be added as an optional system configuration to create a more protected growing environment.

The number of plants and the type of containers may vary according to the application. The flood level and irrigation cycles are adjusted to suit the plants, containers and growing medium.

FOR GOOD RESULTS, YOU WILL NEED:

- good-quality water;
 - a reliable 230 V electricity supply;
 - a level site with good drainage;
 - suitable pots, trays or crates;
 - the correct growing medium; and
 - regular monitoring of the pH, nutrient concentration, water level and plant health.
- The system reduces the need for hand watering, but the plants and system must still be checked regularly.



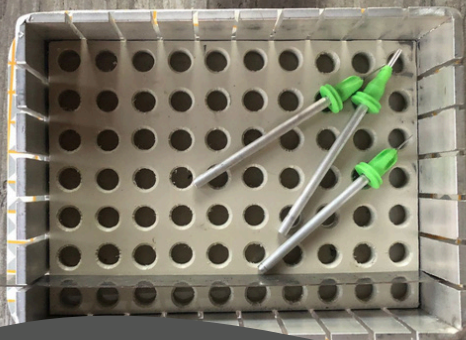
INSTALLATION AND SUPPORT

The Ebb & Flow system is straightforward to install, and Grow Machines provides telephone support during setup and initial use.

If you prefer, we can also install and commission the system for you. Installation costs are quoted according to the project location and scope. Following commissioning, Grow Machines provides support to help clients use the Ebb & Flow system correctly and understand its day-to-day management.

A formal course covering the fundamentals of hydroponics is also available for clients who would like to learn more about hydroponic production.





GROWERS FOAM PLANTER

05

UNIFORM SEEDLING PREPARATION

The Grow Machines Growers Foam Planter is a manually operated tool used to cut Growers Foam uniformly and create accurately positioned seed holes.

HOW DOES IT WORK?

The Growers Foam is placed in the Planter and cut in both directions to form individual seedling plugs. A thin base layer keeps the plugs together as a single block during germination.

Using a stencil and a suitable punch, seed holes are created according to the crop and seed size. The seeds are placed by hand, after which the prepared Growers Foam is placed in reusable propagation trays.

When the seedlings are ready, the plugs are separated and transplanted directly into a suitable Grow Machines NFT system.

WHY GROWERS FOAM?

Growers Foam is a lightweight, porous growing medium that helps maintain a suitable balance of moisture and air around the roots. It:

- keeps the seed in position;
- supports young roots;
- drains after Ebb & Flow irrigation;
- contains no loose soil particles; and
- is transplanted into the NFT system together with the plant.

Growers Foam is a single-use growing medium. The Planter, propagation trays and LDPE plant holders can be reused.

BENEFITS OF THE PLANTER

- Uniform seedling plugs
- Accurate, repeatable positioning of seed holes
- Less root disturbance
- A clean, organised workflow
- Direct transfer from Ebb & Flow to NFT





CONTACT DETAILS



www.growmachines.co.za



Darling Farm, Standerton,
Mpumalanga, South Africa

WYNAND BEZUIDENHOUT:



info@growmachines.co.za



+27(0) 82 338 2051

RIKA BEZUIDENHOUT:



rika@growmachines.co.za



+27(0) 76 895 4879



SCAN HERE



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*Commercial seedling
production, nursery and live
plant displays, or even
hydroponic
experimentation—the
adaptable Ebb & Flow
system is the place to start.*



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