



The *Hydroponica* concept

Bringing together convenience and crop-specific knowledge



Software-guided nutrient solutions for open drain hydroponic cultures

The Hydroponica concept is SQM's latest concept bringing together convenience and most recent crop specific knowledge in a range of water-soluble NPKs for open drain hydroponic cultures. Through its versatility, the Hydroponica concept is key to high-tech hydroponic systems with open drain as it can be used for various crops and substrates to secure high yield and income. By making fertigation easy again, the Hydroponica concept offers convenience to innovative growers wanting to take the most out of their crops at no extra cost.

The two pillars of the Hydroponica concept are crop specific water-soluble NPKs (Ultrasol® Crop Hydroponica) and software-guided crop specific nutrient solutions generated by Hydroponica CalQ. Hence, this concept provides crops with all the macro nutrients (N, P, K, S, Ca and Mg) and micro nutrients (B, Cu, Fe, Mn, Mo and Zn) needed for optimal growth and yield.

Ultrasol® Crop Hydroponica: convenience at its best

Away are the days of mixing up to 15 straights, a handling that is time consuming and prone to errors. With only two to three Ultrasol® fertilizers, the grower can fully focus again on his greenhouse operation.

The crop specific water soluble NPKs are an essential part of the Hydroponica concept. Ultrasol® Crop Hydroponica are specifically

designed for tomato, sweet pepper, eggplant, cucumber, melon, lettuce, strawberry or flowers grown on inert substrates, such as stone wool, coco peat or sandy soils, in open drain systems. Ultrasol® Crop Hydroponica – complemented with Ultrasol® Calcium, Ultrasol® Magsul or Ultrasol® Magnit – enables growers to provide their crop all season long with all required macro and micro nutrients for optimal plant growth and development.

Maximal accuracy with Hydroponica CalQ

Hydroponica CalQ delivers accurate nutrient recommendations (for the A and the B tank) for main fruiting vegetables and flower crops. The nutrient recommendations generated by this software take into account the crop stage, substrate, water quality, required EC and tank size and are, hence, grower specific. The Hydroponica concept is based on the latest insights in plant nutrition bundled in our manual Nutrient Solutions for Greenhouse Crops available for free at sqmnutrition.com.

A cost-effective solution to minimize crop failure and income loss

The Hydroponica concept is a proven cost effective solution for securing early plant establishment, small-size high-tech greenhouses that value convenience and for greenhouse operations with less technically educated personnel striving for error free dosing. Growers aiming at minimizing the risk of crop failure due to suboptimal fertigation of their valuable crop benefit from this total approach to crop specific fertigation for hydroponics.



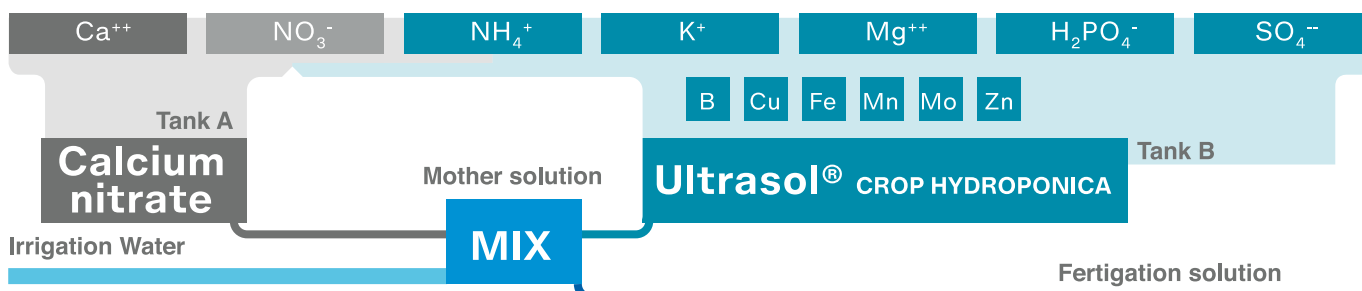


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Fertigating hydroponic cultures with the Hydroponica concept

Hydroponic production systems allow full control of the nutrient solution in the root zone of the crop. This requires accurate determination and production of the nutrient solution in function of the crop's nutritional needs at every growth stage.



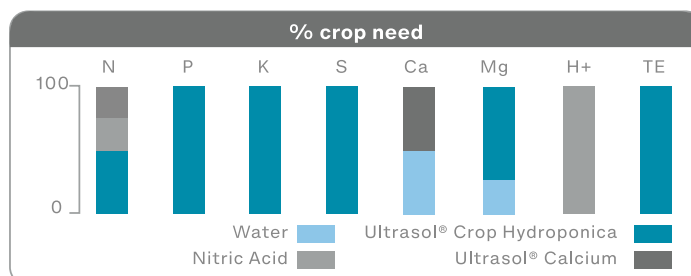
The Hydroponica concept integrates **Hydroponica CalQ** that enables every grower to receive a nutrient solution proposal with Ultrасol[®] Crop Hydroponica, Ultrасol[®] Calcium, Ultrасol[®] Magsul or Ultrасol[®] Magnit for the A and the B tank in three easy steps using his unique production data. This innovative tool significantly reduces the risk of errors in the preparation of the stock solution and as such helps safeguarding the grower's income from accidental mistakes.

HYDROPONICA



The Hydroponica concept applied in the greenhouse

A general composition of a stock solution is shown on the right with the source of the constituting nutrients. Based on the quality of the irrigation water the content of calcium, magnesium and bicarbonate is known. These quantities should not be supplied anymore by fertilizers to the stock solution to fulfill the crop's need for these nutrients.



In function of the growth stage of the crop Ultrасol[®] Crop Hydroponica, the main component of every stock solution for open drain hydroponics, is supplied. Nitric acid can optionally be added to the stock solution to neutralize the bicarbonate content of the irrigation water.

Ultrасol[®] Calcium supplements the crop's need in calcium and nitrate. Optionally, Ultrасol[®] Magsul or Ultrасol[®] Magnit complete the magnesium demand of the plants. In general, for every recommendation calculated by Hydroponica CalQ only two to three fertilizers from the Ultrасol[®] range are needed to make a complete and balanced fertigation solution.

The complete Ultrасol[®] Crop Hydroponica range

SQM offers a complete range of water-soluble NPKs for use in open hydroponic systems with free drainage of water for the main fruiting vegetables and flower crops. Each Ultrасol[®] Crop Hydroponica provides macro and micro nutrients in one single formula for maximal convenience and accuracy.

Ultrасol [®] Crop Hydroponica	Crops	Composition (%)												
		N-NO ₃	N-NH ₄	N-Total	P ₂ O ₅	K ₂ O	MgO	S	B	Cu EDTA	Fe DTPA	Mn EDTA	Mo	Zn EDTA
Cucumber	Cucumber, eggplant, melon	10,2	0,6	10,8	8,8	38,0	2,4	2,0	0,028	0,005	0,085	0,056	0,005	0,033
Flower	Rose, Gerbera	8,6	1,6	10,2	11,6	34,0	2,6	3,1	0,043	0,006	0,261	0,037	0,006	0,035
Lettuce	Lettuce	7,8	0,0	7,8	9,6	40,7	1,8	4,3	0,040	0,006	0,206	0,035	0,009	0,042
Strawberry	Strawberry	9,1	0,6	9,7	11,1	35,8	2,9	2,4	0,017	0,008	0,269	0,088	0,008	0,073
Tomato	Tomato, sweet pepper	7,5	0,0	7,5	9,0	38,9	3,5	5,5	0,028	0,004	0,073	0,048	0,004	0,028

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