

## Case Study – Total Grow Control Nutrient Delivery Systems



Total Grow Control supplies sophisticated but easy-to-use monitoring and control systems for horticultural operations. Their turnkey nutrient delivery systems monitor multiple parameters in the feedwater and the air. The aqueous parameters include nutrient concentration, (via conductivity), pH, temperature and flow. With the growth of the cannabis market Total Grow's business has increased explosively.

In its early days Total Grow settled on probes and controllers for these pH, conductivity, flow and temperature from one of the largest manufacturers of water quality instrumentation. Purchasing a single probe or controller required specifying several components and/or options, thus rendering the purchasing cumbersome and the cost higher than originally envisioned. The form factor of the controller prevented the latter from fitting into a standard cabinet. The shortened lifetime of the probes drove up the total cost of ownership.

Two years ago Total Grow switched to AquaMetrix probes and controllers. These included the AM-2250 TX transmitter, P575 pH probe, and AS-1 conductivity sensor. The 2250TX was compact enough to fit into a small enclosure and was easy to configure without the need to read the manual. In contrast to the previous manufacturer's system of ordering cards for each transmitter, the 2250TX came bundled with everything needed, including mounting hardware, for operation with a pH, ORP, conductivity or flow sensor. It is very energy efficient and can be loop-powered by just about any PLC.

Since switching over to AquaMetrix probes and transmitters Total Grow has been able to build its nutrient delivery systems faster and at lower cost. End-users report much less time maintaining the equipment and experience a higher level of satisfaction.

In the word of President Alan Waldheim, "For over thirty-five years I have been involved in analytical process control—from field services to OEM manufacturing. During these three and a half decades I have used a vast variety of analyzers, from the lower cost units to top-of-the-line analyzers. I asked my development team to look for a quality analytical line at a reasonable cost. After reviewing several options, I was impressed with the vast range of robust, reliable analytical products at reasonable pricing. My development team was impressed with the ease of navigating through the setup screens, as well as the calibration of the sensor. We have installed several units since then. We haven't had a single failure. We have incorporated their products exclusively into our systems."



*Total Grow panel consisting of two nutrient dosing reservoirs, each with a pH and conductivity sensor. The conductivity sensor is used to control the concentration of the nutrient solution.*