JENCO

Understanding Jenco Products by Industry

Jenco products are used in a variety of industries and have an array of applications. By positioning the products in a way that resonates with your customers' unique challenges, you'll draw new leads to your company and boost sales.

We've outlined the top eight industries where Jenco products are used, the challenges the industries face, and the products that are most relevant to their needs to help you identify cross-sell and upsell opportunities, create bundling strategies, and branch out into new markets.

1. Pool and Spa Water Quality Monitoring

Water quality monitoring equipment is used in private residences and commercial-sized swimming pools to determine how clean the water is and how much sterilizer should be used to maintaining a safe swimming environment. In the pool and spa industry, users are typically interested in testing pH, oxidation reduction potential (ORP), free and combined chlorine, alkalinity, and temperature.

CHALLENGES

Commercial pools demand continuous water quality monitoring and need an efficient means of evaluating incoming data and adjusting pH and alkalinity levels. In addition, commercial facilities often require manual spot checks to confirm data supplied by inline monitors. Due to regulations preventing the use of glass in proximity to a pool in some countries/regions, this industry demands special precautions (such as attaching an electrode to a bypass) or alternatives to glass-bodied electrodes.

With regard to backyard pools and spas, users are typically untrained and don't have an in-depth knowledge of water quality testing or equipment. As such, they need a product that's easy to calibrate, intuitive to use, reliable, reasonably priced, and doesn't require upkeep.

DEFINING THE JENCO DIFFERENCE

We offer a range of products that can test for pH, ORP, residual chlorine, and temperature levels. Because pH readings can be affected by temperature, our testers automatically compensate for changes in temperature to provide more consistent and accurate results. The level of active chlorine present in a pool can be determined using ORP.

Inline monitors can be installed directly into the pool or in a separate bypass flow to take continuous water quality readings. Installing an inline meter in a bypass pipe adjacent to a pool eliminates the risk of glass being present in the main pool reservoir. These meters are also capable of automatically transmitting data to a central control room where it can be displayed, monitored, organized, and stored for future reference.

All of our Bluetooth and pen testers are low maintenance and are simple to operate. Bluetooth testers come with an intuitive smartphone app, which is ideal for consumers who don't have experience using water quality instruments. The fact that this app geotags and timestamps readings also makes it an asset to the professional market. In a commercial setting, the ability to browse and upload data directly to the cloud can streamline reporting and analysis efforts.

Jenco portable meters are compact, durable, and designed to be used for spot checking. Compared to testers, portable meters offer a more sophisticated testing range and can be paired with different electrodes to test a variety of substances. With superior recording, battery life, and data storage functionality, users can rest assured that all the data they collect in the field can be retrieved with ease.

BECAUSE OUR pH READINGS CAN BE AFFECTED BY TEMPERATURE, OUR TESTERS AUTOMATICALLY COMPENSATE FOR CHANGES IN TEMPERATURE TO PROVIDE MORE CONSISTENT AND ACCURATE RESULTS.

RECOMMENDED PRODUCTS FOR THIS INDUSTRY

Portable Testers and Meters

ORP650B

pH610B

630

610

650

6010M

6810

Bluetooth Testers

ORP650B

pH610B

Inline Meters

3621

3631

3671N

3675

3651

3661

6313

6311

6309POT

INLINE MONITORS CAN BE INSTALLED DIRECTLY INTO THE POOL OR IN A SEPARATE BYPASS FLOW TO TAKE CONTINUOUS WATER QUALITY READINGS. INSTALLING AN INLINE METER IN A BYPASS PIPE ADJACENT TO A POOL ELIMINATES THE RISK OF GLASS BEING PRESENT IN THE MAIN POOL RESERVOIR.

2. Wastewater Treatment

Wastewater treatment can be conducted in large-scale urban sewage treatment facilities, or in industrial facilities as a means of sanitizing and recycling wastewater created by the modern manufacturing process. Regardless of where treatment is taking place, users need a means of monitoring the wastewater sanitation process and ensuring the purity and safety of the end result.

CHALLENGES

Sewage treatment typically requires three distinct levels of processing. At each stage, dissolved pollutants are filtered from the water and/or additional sanitizing agents are added. To make sure that the correct conditions and chemical levels are maintained, specific tests must be done before the water can pass through to the next treatment phase. This process requires automatic and continuous monitoring from a centralized location to streamline the testing and data collection process and enable real-time visibility into results. Because treatment is conducted in sealed-off containers, it's important that the water quality instrument used can relay information from a remote or inaccessible location and withstand prolonged exposure to corrosive chemicals, pollutants, or extreme temperatures. In addition, all the data collected must be logged and organized in a coherent way for future reference by regulatory agencies.

Although wastewater treatment typically doesn't need extremely precise data, readings must be reliable and repeatable. In addition, the equipment used must have low downtime and maintenance requirements. Some facilities are equipped with labs to conduct additional water quality testing or require routine spot measurements to double-check the accuracy of inline meters.

The nature of the substance being tested and the environmental conditions can vary at different points in the wastewater treatment process. To ensure accurate measurements and prolong the useful life of your equipment, it's important to pair your meter with the right electrode for each context.

HOW JENCO PRODUCTS ADDRESSES THESE CHALLENGES

Our more advanced inline meters offer a range of testing functionality and have watertight housing. We also offer NEMA4 enclosures to further shield inline meters against corrosive elements and help them withstand extreme conditions.

Inline units are equipped with transmitters that are capable of relaying data to an online PLC for centralized programming and control, so no manual access to the meter is required. They can be connected to dosing pumps or solenoid valves (to automatically adjust chemical and sanitizer levels based on incoming data) or linked to alarms to sound an alert when extreme (user-defined) conditions are met. Because the needs and operating environment of different facilities vary, we work closely with our distributors to evaluate your customers' unique needs and recommend the right instruments and electrodes for your target market.

For facilities that require additional in-house lab testing, our benchtop meters are ideal. Benchtop meters are designed to be more user-friendly and provide a more sensitive testing range for greater precision.

Spot testing can be conducted in wastewater treatment facilities using portable meters and electrodes. All Jenco portable pH and DO meters are designed to be shock and water resistant. They also come equipped with a carrying case to make it exceptionally easy to transport your meter, electrode, and electrolyte solution to different measuring sites. Operating and calibrating portable meters can be done from any location using only a few buttons, and measurement data is timestamped and stored in the device's memory for future analysis.

RECOMMENDED PRODUCTS FOR THIS INDUSTRY

Inline Meters

3675

6313

6311

6308PT

6308OT

6309POT

6309PDT

3621

3631

3651

3661

3671N

pH3900

6TX

DO3910

3921

Inline Meters Cont'd

3931

3951

Benchtop Meters

6177

6173

6173R

6175

9173

9173R

Portable Meters

6010M

9010M

6230M

6810

Portable Meters Cont'd

9030M

9250M

Electrodes

IP-600-10

IR-500-8

Oxysens 120

3. Aquaculture

The Aquaculture industry is responsible for supplying over **44 percent** of all the seafood consumed today. In this multi-billion dollar industry, maintaining strict water quality standards is essential to production and profitability.

CHALLENGES

Because fish and other aquatic animals require specific levels of **dissolved oxygen** (DO) in order to survive and grow, aquacultural farmers must routinely check DO as well as pH levels which can also affect the water's ability to absorb oxygen. Although too little DO can be toxic to aquatic life, too much can lead to further contamination, so maintaining precise levels and accurate measurements is crucial. In addition, specific salinity levels must be maintained to support saltwater species.

Monitoring centers are typically not located at the aquaculture site, so farmers need a means of storing and/or relaying data for future analysis. Because aquatic lifeforms are so sensitive to changes in DO, pH, and salinity levels, it's important that water quality monitoring equipment can facilitate dosing adjustments when necessary.

HOW JENCO ADDRESSES THESE CHALLENGES

Jenco offers portable meters and testers that are capable of measuring DO, saline, and pH. They can be easily transported to the testing site to take spot measurements and provide superior memory and battery life (ideal for collecting data from multiple locations).

Our inline controllers and monitors can be installed in aquaculture containers to take continuous measurements and relay data back to a central location. They can also be attached to dosing pumps to automatically adjust pH and DO levels based on incoming data, thereby reducing the amount of manual servicing required. In addition, our optical dissolved oxygen (ODO) probes are designed to be extremely low maintenance, requiring just one membrane cap change per year.

JENCO OFFERS PORTABLE METERS AND TESTERS THAT ARE CAPABLE OF MEASURING DO, SALINE, AND pH.

RECOMMENDED PRODUCTS FOR THIS INDUSTRY

Portable Meters

6010M

6230M

6810

9010M

9030M

9250M

pH Testers

610

pH610B

618N

630

Inline Meters

3621

3631

3651

3661

3671N

pH3900

6TX

6308PT

6309PDT

DO3910

3921

3931

3951

6308CT

4. Food and Beverage

In the food and beverage industry, water quality testing is integral to ensure the quality and safety of the consumable good. Contamination at any stage of the manufacturing process can have serious health implications for consumers—not to mention hefty financial consequences for the business. Because variations in quality can affect national health, water quality measurements and standards are regulated and overseen by the Food and Drug Administration (FDA).

CHALLENGES

Different foods and beverages have varying pH control ranges according to taste and other properties, so a single facility may require a collection of different specialized electrodes and meters. For instance, tea beverages have an average pH range of 6-7.5 pH, while carbonated beverages typically range from 2-4 pH.

Production lines often demand online pH testing to monitor data in real time from a central location. Furthermore, many food and beverage packaging lines use **Clean-in-Place (CIP)** sanitation systems (for instance, the beer industry) which require online non-contact conductivity or concentration meters.

These facilities need a means of conducting frequent, accurate water quality measurements from a variety of locations and in a variety of substances, both aqueous and semi-solid. Due to the significance of water quality testing in this industry, manufacturing facilities are typically equipped with factory laboratories. These on-site labs are used to conduct additional, more precise measurements than those taken by inline monitors.

Along with choosing the right meter, users must pair meters with the right electrode. High-temperature environments, steam sterilization practices, and protein-rich substances (all of which are common in this industry) can shorten the operating life of an electrode that's not built to withstand those conditions. To prolong the lifespan of testing equipment and ensure accurate measurement results, it's important to specialize the electrodes used within the facility.

HOW JENCO ADDRESSES THESE CHALLENGES

Our inline meters can be installed directly into containers on the manufacturing line to provide continuous quality monitoring data from inaccessible or hard-to-reach locations. These meters are capable of relaying testing information back to a central data system and can be connected to pumps to automatically adjust pH levels, or to alarms to alert overseers of a pending problem. In order to ensure that inline meters and electrodes remain sanitized, we offer special steam-sterilized electrodes for easy cleaning.

For use in factory labs, Jenco offers a large selection of pH benchtop meters that are exceptionally accurate and sensitive to a wide measurement range. Glass electrodes are typically paired with benchtop meters in this industry because they're easier to sterilize and can be used in both liquid and semi-solid substances.

Portable meters can be used to take spot readings throughout the facility and can be paired with sharp, pointed glass electrodes to penetrate meat, cheese, and other dense substances. To prevent protein-based substances from clogging or contaminating the reference junction, we offer double junction electrodes that are better suited for testing semi-solids.

RECOMMENDED PRODUCTS FOR THIS INDUSTRY

Portable Meters

6010M

6230M

6810

Benchtop Meters

6177

6173

6173R

6175

PORTABLE METERS CAN BE USED TO TAKE SPOT READINGS THROUGHOUT THE FACILITY AND CAN BE PAIRED WITH SHARP, POINTED GLASS ELECTRODES TO PENETRATE MEAT, CHEESE, AND OTHER DENSE SUBSTANCES.

Inline Meters

6311

6313

6308PT

3621

3631

3651

3661

6TX

5. Environmental Monitoring

Environmental monitoring and research is a vast field with many unique subsets. In order to monitor and study changes to groundwater, surface water, stormwater, soil, and other natural resources, researchers need to be able to take consistent water quality measurements in a variety of environments and locations.

CHALLENGES

In this industry, equipment mobility, reliability, and accuracy are important. Researchers need a means of taking accurate readings from a variety of natural locations and require robust equipment that can withstand exposure to natural elements like dirt and rain as well as excessive movement. Data memory storage, battery life, and meter readability are exceptionally important for field testing due to varying weather conditions and the remote nature of collection sites.

Many researchers in this industry are also actively seeking out ways to automate more of the data collection process rather than relying solely on manual testing and sample collection. That said, finding a durable yet accurate product and relaying data from the remote site to a research facility can be challenging without access to a power grid.

HOW JENCO ADDRESSES THESE CHALLENGES

For field testing, our portable meters offer superior durability, easy calibration, automatic timestamping and temperature compensation, advanced data recording technology, and substantial battery life. In addition, backlit screens enable calibration and readability in low lighting without monopolizing battery power. Along with timestamping data, Jenco's Bluetooth testers are able to record the GPS location of where a reading was taken and enable users to browse and share data remotely via an intuitive smartphone app.

Depending on the conditions where measurements need to be taken, inline meters can be placed inside weatherproof NEMA4 enclosures at the site. These meters can be connected to Global System for Mobile Communications (GSM) centers to provide immediate data transfers using power supplied by solar panels. Because the NEMA4 enclosures are water-resistant, inline meters can also be attached to floating buoys in natural reservoirs to collect readings in hard-to-reach areas.

On the lab research side of operations, samples can be taken from different locations and analyzed in the lab using benchtop meters. Jenco benchtop models are capable of providing research-grade accuracy and cater to a wide measurement range. They can also be paired with specific electrodes to offer a more custom testing range based on the nature of the substance and test in question.

RECOMMENDED PRODUCTS FOR THIS INDUSTRY

Portable Meters

6010M

9010M

9030M

3020M

pH610B

EC110B

EC111B

EC115B

6810

6230M

6250

6360

3010M

9250M

Benchtop Meters

6177

6173

6173R

6175

Inline Meters

6311

6309PDT

6308PT

DEPENDING ON THE CONDITIONS WHERE MEASUREMENTS NEED TO BE TAKEN, INLINE METERS CAN BE PLACED INSIDE WEATHERPROOF NEMA4 ENCLOSURES AT THE SITE.

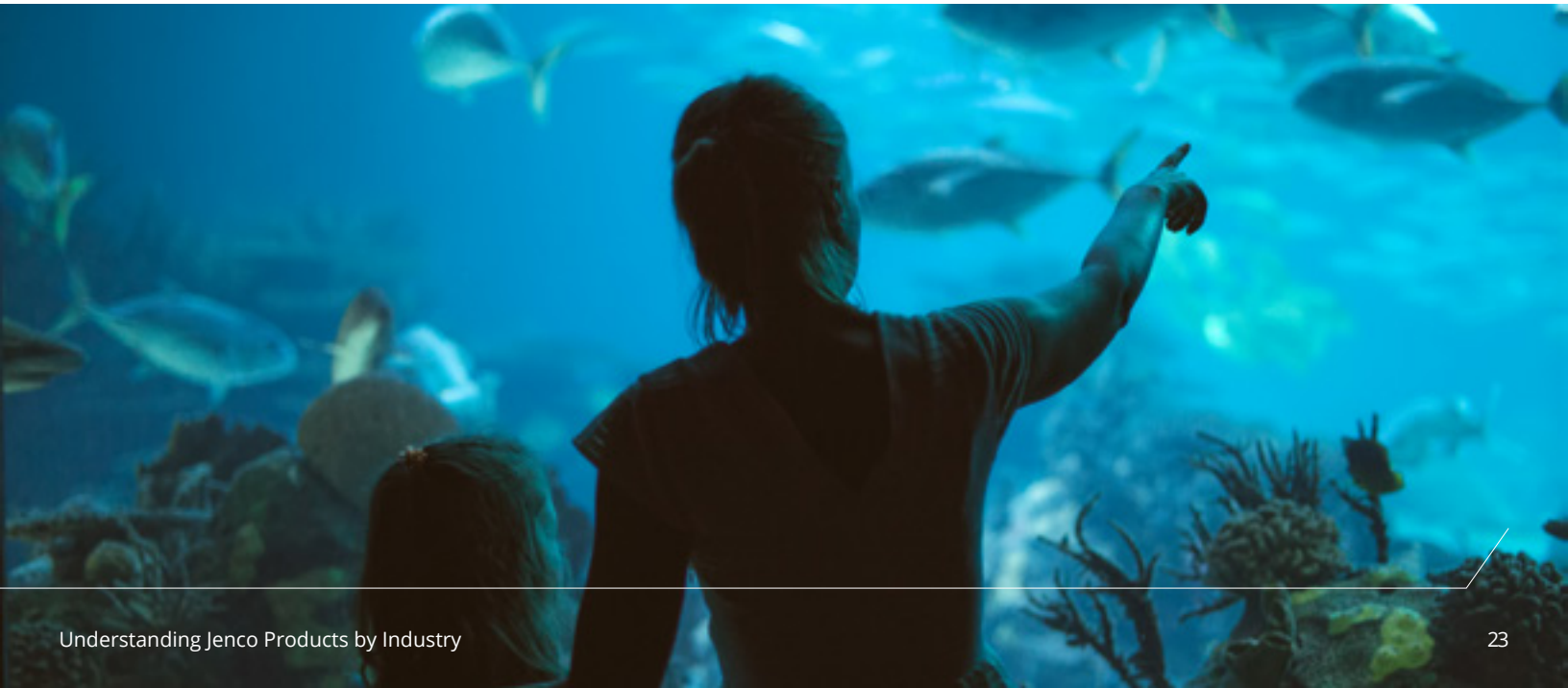
6. Aquariums and Fish Tanks

Similar to the aquaculture industry, aquariums and fish tanks require frequent pH, ORP, DO, salinity, and temperature monitoring to support aquatic life. Users in this industry include individual consumers with fish tanks, as well as large-scale public aquariums.

CHALLENGES

For individual consumers who have residential fish tanks, price and ease of use are key. Because consumers aren't well-versed in water quality monitoring technology, it's important that the tool they use can guide them through calibration and make it easy for them to access and understand the data they need.

With regards to large aquariums, the type of water quality equipment used depends on the complexity of the ecology housed within the tanks. In addition to monitoring pH, ORP, DO, salinity, and temperature, large aquariums must maintain specific turbidity levels and varying amounts of natural seawater and artificial seawater depending on the species of animals present. Aquarium businesses seek out tools that can provide constant monitoring and may need an efficient means of adjusting seawater or chemical levels based on measurements. Typically, large aquariums also manually spot measurements to verify the accuracy of inline measurements.



HOW JENCO ADDRESSES THESE CHALLENGES

For a residential fish tank owner, portable testers are ideal. In addition to being less costly, Bluetooth testers are easy to calibrate and use without any prior experience.

All of our portable testers are equipped with built-in, non-refillable electrodes, so novices don't have to worry about storing a separate electrode or refilling it with electrolyte solution. These users are less likely to use data tracking software to keep track of measurement results, so the smartphone apps used with Bluetooth testers provide a more convenient data tracking interface.

For commercial aquariums, Jenco's inline meters are capable of monitoring pH, salinity, DO, and turbidity levels and can be connected to dosing pumps to automatically adjust levels based on incoming data. They can also be connected to a central data hub so that users can monitor and record data for a variety of tanks from a single interface.

To conduct spot tests, portable meters and electrodes are preferred. Compared to testers, portable meters offer a more sensitive testing range and a wider range of functionality for more sophisticated testing. All data collected using a portable meter is stored within the device for future retrieval and analysis.

RECOMMENDED PRODUCTS FOR THIS INDUSTRY

Testers

610

110

111

pH610B

EC110B

EC111B

EC115B

Inline Meters

6311

6313

6308PT

6309POT

Inline Meters Cont'd

3621

3631

3651

3661

6TX

6308OT

3921

3931

3951

6308CT

FOR COMMERCIAL AQUARIUMS, JENCO'S INLINE METERS ARE CAPABLE OF MONITORING PH, SALINITY, DO, AND TURBIDITY LEVELS AND CAN BE CONNECTED TO DOSING PUMPS TO AUTOMATICALLY ADJUST LEVELS BASED ON INCOMING DATA.

7. General Research

Beyond environmental research, water quality monitoring equipment is a staple in a variety of other research laboratories around the world, including life sciences research, biological research, pharmaceuticals, medical research, cell culture, and much more.

CHALLENGES

Although the specific needs of each organization depend on the nature of the research in question, lab science typically demands highly accurate equipment and a wide variety of specialized measurement solutions. Efficient data recording, organization, and storage are vital to all types of research, as is maintaining the consistency and frequency of measurements across an extended period of time.

HOW JENCO ADDRESSES THESE CHALLENGES

Jenco offers single and multi-parameter benchtop meters, which are the industry standard for laboratory use. These meters can be paired with function-specific electrodes for niche applications, including an Ion-Selective Electrode (ISE) for ion measurements. For projects that require extreme precision, we offer meters and electrodes that provide 0.001 accuracy and are suitable for ion measurements.

To simplify the data collection, analysis, and oversight process, many of our benchtop meters are equipped with ports to connect directly with both PC and Mac computers. In addition, Bluetooth benchtop models connect to apps for wireless data sharing.

BEYOND ENVIRONMENTAL RESEARCH, WATER QUALITY MONITORING EQUIPMENT IS A STAPLE IN A VARIETY OF OTHER RESEARCH LABORATORIES AROUND THE WORLD, INCLUDING LIFE SCIENCES RESEARCH, BIOLOGICAL RESEARCH, PHARMACEUTICALS, MEDICAL RESEARCH, CELL CULTURE, AND MUCH MORE.

RECOMMENDED PRODUCTS FOR THIS INDUSTRY

Benchtop Meters

6177

6173R

6175

3173

3177

6219N

JENCO OFFERS SINGLE AND MULTI-PARAMETER BENCHTOP METERS, WHICH ARE THE INDUSTRY STANDARD FOR LABORATORY USE.

8. Hydroponics

Hydroponics is a growing technique that uses a nutrient-enriched, water-based solution in place of soil. Hydroponic systems can be commercial in scale, or made at home using something as simple as a tupperware container or jar.

Rather than harvesting nutrients from soil, plants are provided with all their essential nutrients via a water-based solution. This streamlined form of nutrition allows them to grow taller and fuller at an accelerated speed. In hydroponic systems, the growing solution and plant roots are housed in an opaque container that blocks out light and prevents the growth of harmful algae and bacteria. A hole is present at the top of the container to allow the plant to grow, but air exposure is typically limited. As an added bonus, this enclosure also slows evaporation, making hydroponics much more sustainable and cost-effective than traditional growing techniques. The fact that plants are cultivated in an enclosed system rather than on open-air farms also reduces susceptibility to environmental risks.

CHALLENGES

All the benefits associated with hydroponic systems are contingent on the grower's ability to maintain specific water quality levels. If the nutrient balance is altered or the growing solution becomes too acidic or basic in nature, plants can die at a rapid rate. For commercial operations, any changes in water quality can translate to serious financial risk.

In addition to maintaining strict pH and nutrient levels, oxygen levels are also important. Despite the fact that plants perform photosynthesis (converting carbon dioxide into oxygen) they also respirate (take in oxygen and give off carbon dioxide) at a very low rate. In order to survive, they must intake a certain amount of oxygen from their environment. In a traditional soil-based growing system, a plant absorbs all the oxygen it needs to survive from the air and loosely packed soil. In static hydroponic systems, however, the growing enclosure and solution limits the amount of oxygen available.

To solve this problem, some growers choose to create aeroponics systems (whereby the nutrient solution is continuously drained and refilled to expose

the roots to oxygen) or a continuous-flow system (in which the solution is circulated and aerated through constant movement). Other growers choose to use a static solution culture (a hydroponic system where the solution remains fixed) that's been equipped with an underwater aeration system.

In a static and continuous-flow system, testing dissolved oxygen (DO) levels is the key to ensuring that the solution is working effectively. Because hydroponic systems are fully enclosed, it can be challenging to access the solution in order to manually test pH, nutrient, and DO levels.

Water temperature is also important to hydroponics for a couple reasons. Firstly, temperature directly influences pH readings, so compensating for temperature is vital in order to maintain accurate and consistent measurements. Secondly, if the solution becomes too warm, the nutrient-rich environment can become a breeding ground for algae and bacteria that will harm the plant.

HOW JENCO ADDRESSES THESE CHALLENGES

For commercial hydroponic systems, inline water quality meters are the ideal solution. These meters can be placed into hydroponic reservoirs in different locations to provide continuous water quality measurements. In addition to measuring pH, temperature, and DO, electrical conductivity (EC) tests can be taken to determine the nutrient levels present in parts per million (ppm).

In the event that the solution becomes imbalanced, inline meters can trigger alarms or dosing pumps. This automatic dosing response helps to ensure that plants remain healthy, even when there's no one present to adjust nutrient concentrations. The reliability and speed of this system are exceptionally important when you consider how fast plants can deteriorate without access to the right nutrients.

In addition to inline meters, many commercial hydroponic facilities will conduct a spot test to confirm the accuracy of inline readings. A spot test can be taken using portable meters, or water samples may be retrieved and tested in on-site laboratories using benchtop meters. All pH meters should provide automatic temperature compensation to eliminate the need for manual calculations and reduce the likelihood of human error. For each test, portable and benchtop meters should be paired with a specialized electrode to ensure accurate readings.

For home hydroponic operations, Bluetooth testers provide a more intuitive and cost-effective solution. These testers can be controlled via a smartphone app, making it easy for inexperienced users to calibrate their tester, browse data, and interpret test results.

RECOMMENDED PRODUCTS FOR THIS INDUSTRY

Testers

110

111

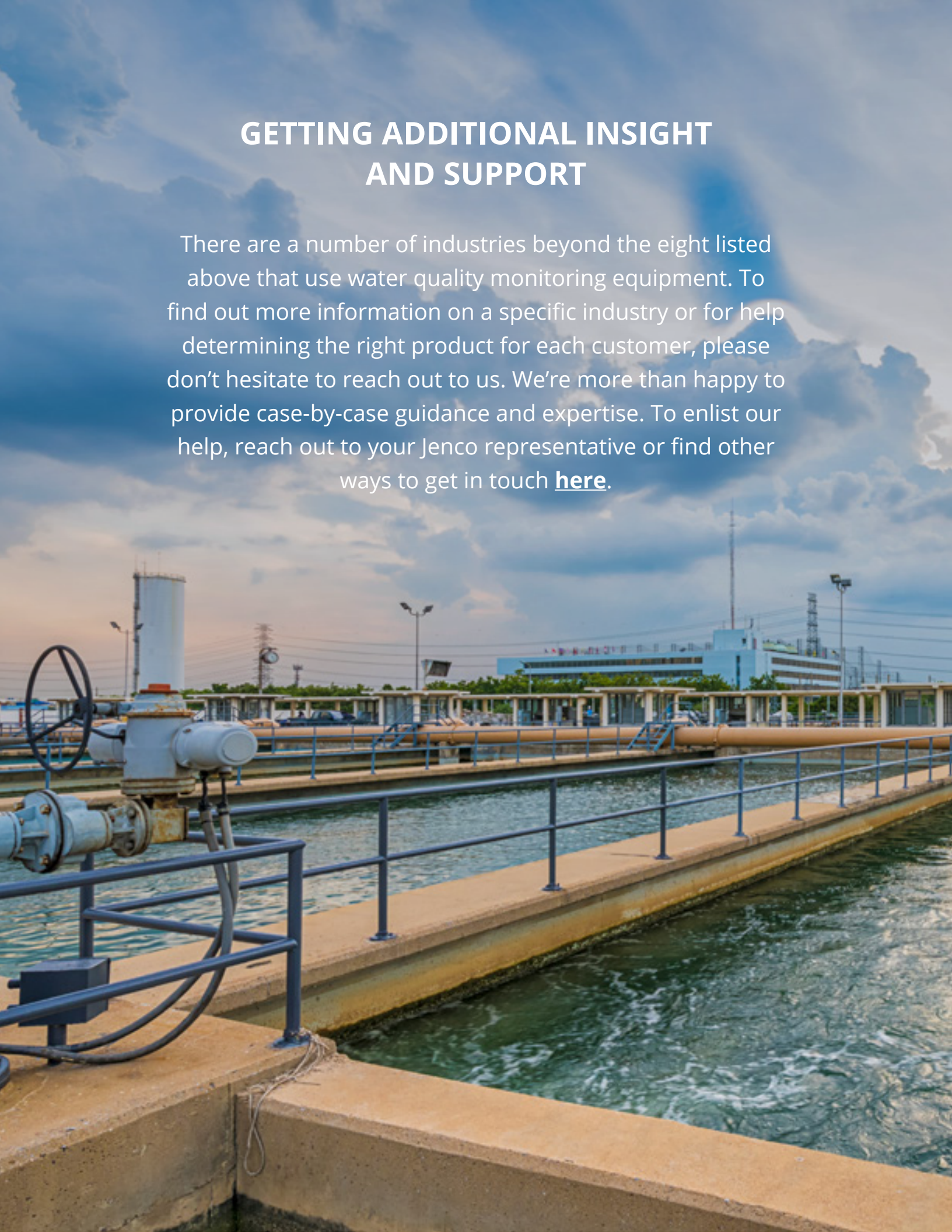
pH610B

EC110B

EC111B

EC115B

FOR COMMERCIAL HYDROPONIC SYSTEMS, INLINE WATER QUALITY METERS ARE THE IDEAL SOLUTION. THESE METERS CAN BE PLACED INTO HYDROPONIC RESERVOIRS IN DIFFERENT LOCATIONS TO PROVIDE CONTINUOUS WATER QUALITY MEASUREMENTS.



GETTING ADDITIONAL INSIGHT AND SUPPORT

There are a number of industries beyond the eight listed above that use water quality monitoring equipment. To find out more information on a specific industry or for help determining the right product for each customer, please don't hesitate to reach out to us. We're more than happy to provide case-by-case guidance and expertise. To enlist our help, reach out to your Jenco representative or find other ways to get in touch **here**.

JENCO

Jenco is a family owned water quality instruments manufacturer that's on a mission to bring innovation to anyone who works with analytical instruments.

CONTACT US